

North Dinosaur Trail
AREA STRUCTURE PLAN

BYLAW NUMBER 26-08

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1.0 INTRODUCTION

The North Dinosaur Trail Area Structure Plan was originally adopted in 1983 to provide a framework for future planning and development along North Dinosaur Trail (Secondary Highway 838) within the Town of Drumheller. Since that time many changes have occurred within the plan area including the major developments of the Royal Tyrrell Museum and associated tourist developments and the Drumheller Health Centre. Infrastructure upgrades have also occurred over this time frame resulting in potential development opportunities that may not have been possible in 1983. The purpose of the current revisions are essentially as an update based on current development trends and development potential taking into account existing land uses in the plan area.

1.1 Plan Purpose

The purpose of the North Dinosaur Trail Area Structure Plan is to provide future planning direction and a policy framework for the lands surrounding North Dinosaur Trail (Secondary Highway 838). This policy shall be used as a framework for the evaluation of future subdivision and development applications within the plan area.

1.2 Plan Objectives

The principal objectives of the plan are as follows:

- (1) To ensure that the review of any development proposals are conducted on the basis of approved policies and guidelines for the Plan area;
- (2) To define a land use strategy that is in accordance with the overall goals and objectives as stated in the Municipal Development Plan Bylaw 11-08;
- (3) To conform to the guidelines set forth in the Municipal Government Act;
- (4) To effectively incorporate existing land uses into an overall development strategy for the Plan area where appropriate.

1.3 Study Area

The North Dinosaur Trail Area Structure Plan includes an area of approximately 71.24 hectares located entirely within the Town of Drumheller. The northern valley escarpment defines the northern boundary whereas the southern boundary follows existing lot lines, roadways and the Red Deer River. The Midland Provincial Park eastern limits provide the western boundary with the eastern boundary given by Highway 9. The Plan area is illustrated in Figure 1.

For the purposes of this plan, the boundaries contained herein shall be considered as approximate only, and minor variations shall not require an amendment to the Plan.

1.4 Plan Implementation and Amendment

The North Dinosaur Trail Area Structure plan, passed by Bylaw in accordance with the Municipal Government Act shall become a statutory document of the Town of Drumheller.

While this plan is designed to establish firm long-term development and land use strategies for the plan area, future conditions may require the Council to make minor amendments from time to time. When considering an amendment, the Council will review the effect of plan modification on this or any other adopted statutory plan. Pursuant to the Municipal Government Act, the Council shall hold a public hearing prior to giving the proposed amendment second reading.

1.5 Plan Interpretation

The policy framework contained in the plan, although structured, is a broad statement. This is purposeful as it enables the plan to retain a measure of flexibility, permitting it to respond to social, political and economic changes that may occur in the region. Similarly the plan is able to facilitate alternative development options that may arise as a result of change.

In this plan;

1. Pursuant to a resolution of Council, a person or committee may be authorized to act on behalf of the Council. In this case where a policy reads; “to the satisfaction of Council” substitute; “to the satisfaction of the individual or committee authorized to act on their behalf pursuant to a resolution of Council.”
2. “Plan” means the North Dinosaur Trail Area Structure Plan.
3. “Land use Bylaw” means the Town of Drumheller land Use Bylaw.
4. “Council” means the council of the Town of Drumheller.
5. “Tentative Plan preparation stage” – that stage of the land development process in which detailed site analysis is undertaken; local planning needs and development philosophy are identified and a framework for subdivision design or development is prepared.
6. “Tentative plan” is a detailed proposal for development of a site and may form the basis for application to subdivide.
7. All other words and expressions have the meanings assigned to them in the Land Use Bylaw or the Municipal Government Act.

2.0 SITE INVENTORY

2.1 Biophysical Features

2.1.1 Topography – Land Form Analysis

The plan area is subdivided into three significant landform types based on their morphology and topographic position relative to the Red Deer River. These landform types are; escarpment lands bench lands or paleo-river terraces and bottom lands containing the flood plain lands of the Red Deer River. Escarpment lands form the outer walls of the Red Deer River Valley and are generally identified as badlands topography. Severely eroded bedrock faces, steep sided eroded hills standing as outliers are common. Bench lands or paleo-river terraces are generally flat or gently sloping areas elevated above the valley floor. Bottom lands are identified as those lands that extend from the toe of the escarpment slope to the banks of the Red Deer River. This flood risk area is identified by the Land Use Bylaw as lying below the 1:100 year flood event contour as defined by Alberta Environment. Figure 2 illustrates the location of these development constraints and the plan area. Clearly, further division of these types can be undertaken to include such features as outliers and protrusions, however it would be outside the scope of this plan to include this degree of analysis. For specific detail the Land Use bylaw should be consulted.

2.1.2 Soil and Vegetation

In discussing soils of the plan area much of the background information has been interpreted from preliminary soil surveys undertaken for the Midland Provincial Park. This park lies immediately west of the Plan's western boundary.

Prairie lands above the valley generally have been found to have well developed soil profiles. Within this landscape, Orthic Brown Chernozems predominate. Much of this area is under cultivation and native grassland vegetation has been replaced by forage and cereal crops.

Within the valley, soils of the escarpment lands exhibit much poorer development than the surrounding prairie. Regosolic soils predominate. Vegetation is sporadic, limited to individual species or clusters of small plant communities occupying gullies or protected niches in the escarpment face. Plant vigor is generally impaired by the numerous limiting factors present at the site. Lack of moisture and extreme temperature are two examples of these factors. Where communities have developed it is assumed a number of these constraints to growth have been ameliorated at a micro-site level.

Accordingly, soil development has been more pronounced in these areas. It is interesting to note, many of the soils found capping outliers and level intermediate benches exhibit soil development very similar to the surrounding prairie lands.

River terrace lands extending from the toe of the escarpment slope to the flood plain lands can be classified under a variety of soil orders. Where the land has not been disturbed; regosollic, solonetzic and chernozemic soils are often found.

Vegetation patterns and species composition in this area are diverse. Native grasses, small shrubs, and deciduous trees can be observed growing in this landscape. Clearly, the most profuse and diverse growth occurs adjacent to the River where moisture is available and limiting factors of the site are moderate.

2.1.3 Drainage

Figure 3 illustrates the drainage regime within the plan area. Major drainage courses can be found in the plan area severely constraining development of some lands. Soil in the plan area is easily eroded by the action of running water, resulting in deeply eroded channels leading to the Red Deer River. Currently, the Town of Drumheller has channelized a number of these drainage courses to increase flows and minimize the effects of erosion. As urban development replaces the raw land, run-off volumes will increase, making it necessary to preserve and upgrade these drainage routes. On-site or development related storm water management may be a requirement based on the storm water management guidelines of Alberta Environment to control the flow volumes and/or quality of storm water from a development site.

2.2 Utilities and Services

2.2.1 Existing Urban Infrastructure Systems

Sanitary Sewage Disposal

The sewage collection system is comprised of small diameter gravity mode sewers which collect raw sewage from buildings and transport it to a sanitary lift station. Sewage is then pumped via collector sewer's to the 19th Street North Drumheller lift station where it is pumped to the sewage treatment plant. Figure 4 shows the elements affected by the plan.

Currently, the 19th Street lift station is under review for upgrades with improvements to be completed in 2008 and 2009. Local lift stations located in Newcastle and Midland have been upgraded to handle inflow capacities.

Growth proposed along the North Dinosaur Trail is not anticipated to cause hydraulic loading problems however problems currently exist at the 19th Street East lift station but is planned for upgrades in 2008 and 2009 to remedy any current problems.

Water Supply and Treatment

There are no restrictions on development from a water supply view. A 12" water supply line is located parallel to North Dinosaur Trail on the north side of the roadway and is capable of servicing the potential land uses for the area.

Storm Sewers

Growth in the plan area will not necessitate connection to existing buried storm sewers in Drumheller. Existing drainage control ditches to and along North Dinosaur Trail are located within the proposed development area. There is a

need to preserve and upgrade these ditch systems as a part of development. Storm water Management Plans will be required as a part of any development to ensure the current systems are capable of handling any increase in runoff and to ensure the adequacy of existing crossing locations along North Dinosaur Trail for the increased flows.

2.2.2 Systems within the Plan Area

System elements within the plan area are shown in Figure 4.

Conditions of the systems are as follows:

Sanitary Sewers – currently no sanitary sewers exist within the Plan area except at the west end where a sewer line crosses North Dinosaur Trail serving that part of Midlandvale north of North Dinosaur Trail. At 14th Street N.W. an additional crossing may be planned eastbound via Marshall Estates subdivision.

Waterworks –A 300mm PVC water main parallels North Dinosaur Trail from Poplar Street in North Drumheller on Michichi Drive to 9th Street, on 9th Street with a river crossing connecting to south Drumheller and from 9th Street to 14th Street N.W. in Midland.

Surface Run-off Control – Along North Dinosaur Trail a roadway ditch system is in place to control surface run-off. This system not only drains the proposed development area, but also a significant drainage basin north of the development area and located above the valley rim. Figure 3 shows the location of major drainage channels. It is important to note the Dinosaur Trail acts as a dam and a diversion during periods of heavy run-off and that the only five major crossings are:

1. North of 19th Street NW
2. Through Site 1 and Site 10 to the Red Deer River
3. Through Site 2 to the Red Deer River
4. Through sites 3 and 7 along Michichi Drive to Michichi Creek
5. Along Site 4 to the Michichi Creek crossing

The crossings for run-off transport are in reasonable condition. Heavy siltation occurs along the highway ditches that require annual maintenance. Without this maintenance storm water drainage is compromised. It is the responsibility of the Province to ensure the drainage ditches along North Dinosaur Trail are maintained.

The ability of the systems to absorb growth are as follows:

Waterworks – All sites are serviced or are in close proximity to a major waterline.

Surface Run-off Control – the ability of the storm water and run-off system along the North Dinosaur trail to absorb the impact of development is questionable. Much of the run-off carried by the system originates outside the development area. As a part of the development along North Dinosaur Trail, improvements in the storm water system to reduce channel bends and to reduce the tendency for water to be detained in ditches along the north side of the highway should be

implemented. Storm water management plans will be required for future development north of North Dinosaur Trail to ensure the calculated run off is consistent with culvert crossings and siltation maintenance is considered.

In light of the growth potential identified by this plan, upgrading of the existing services will be necessary. The upgrades suggested are:

Sanitary Sewers – A new sanitary main was installed from 9th St. and Michichi Drive to the North Drumheller lift station as part of the Drumheller Health Centre requirements. Additional upgrades are being completed in 2008 and 2009 for the North Drumheller Lift Station and no further upgrades are anticipated.

The sanitary sewer system flowing through the North Drumheller system will require extensions from 9th Street and Michichi Drive to service sites 2 and 3. Sites 1, 10, 11 and 12 will need to be serviced as extensions from the Midland system.

Waterworks – A 300mm water main has been installed to connect North Drumheller and Midlandvale. Water capacity and servicing is not a concern.

Surface Drainage – In order to minimize the hydraulic loading on the roadway ditch system, and parallel to the Highway, it is recommended that proposed developments include storm water retention and silt removal systems in the design. On-site storm water management may be required for individual developments by Alberta Environment.

2.2.3 Transportation

North Dinosaur Trail is the major arterial roadway of the area. 2007 average annual daily traffic statistics compiled for the Trail range from 5120 vehicles in the east to 1320 vehicles near the western Town boundary. Currently, traffic is predominantly public and commercial vehicles. The area is not served by public transportation.

2.2.4 Franchise Utilities

Telephone/ internet Service – Telus provides telephone service for the plan area. The telephone/ internet systems are available to provide services within the Plan area. The Supernet and Shaw also have distribution lines within the plan area.

Electricity – ATCO Electric supplies electric power for the plan area. Distribution voltage in this area is provided by 25kv feeder lines which are capable of serving three phase and single phase services to any load which may be proposed in the plan area.

Other franchise utilities existing in the plan area are natural gas lines and cable television lines.

2.3 Community Services

Residents of urban communities have diverse wants and needs. Recreational facilities are desired. School facilities for all grades are required. For many residents, the quality of life in a community is dependent on how their wants and needs are met. Thus community services are often considered to be the basic elements of a successful community.

New development should recognize the importance of these facilities. While many services are available within easy access of the plan area, new growth will require careful expansion of existing facilities and the provision of new facilities.

3.0 DEVELOPMENT CONSTRAINTS

3.1 Flood Risk Area

Much of the land area located south of North Dinosaur Trail is located within the flood risk area as determined by Alberta Environment. The flood risk area is determined to be those lands that are within the 1:100 year flood risk area. Where the risk of a flood has a 1% chance of meeting or exceeding in any given year. Due to the natural topography and morphology of the Red Deer River Valley within the Town of Drumheller there are many areas within the flood risk area throughout the Town of Drumheller.

Land areas within the flood risk area are separated into the floodway and the flood fringe. The floodway is the portion of the flood risk area where natural river flows would occur. These areas should not contain any permanent development as the risk of flood damage is high. The flood fringe is the area where pooling may occur due to a flood situation but flood water flows would not be evident. Development in the flood fringe may be acceptable with flood proofing measures in place.

3.2 Topographical Constraints

Much of the area north of North Dinosaur Trail contains the natural valley walls. These areas are undevelopable due to the steep slopes involved and provide a natural badlands scenic characteristic unique to the Red Deer River valley. The valley walls should be protected wherever possible from development to retain this natural characteristic of the Drumheller Valley. Siltation and run-off are development related issues due to the natural slopes and run-off that is produced during spring melt and rainfall situations. These constraints need to be engineered at the time of development.

3.3 Undermining

Areas within the Town of Drumheller contain undermining from historical coal mining that occurred within the valley. Potential development sites with undermining potential are shown in Figure 2. Preliminary reports and studies have been compiled for many sites within the area to determine the types of development that may be feasible based on the undermining that exists. Site 1 has been determined to be available for residential land use only due to the undermining activity that has occurred on this site historically.

4.0 SITE EVALUATION

A number of development possibilities may appear to exist for any site identified in the plan. Upon analysis, basic constraints and opportunities provided by physical and man-made features may alter and narrow these choices. Previous sections of this plan have directed attention to a number of potential bio-physical features in the plan area that should be considered in evaluating development choice. Site specific analysis will be necessary to ensure a proposed development will be compatible with the physical potential of the site.

The Concept plan as illustrated in Figure 5 is the proposed land use concept for the plan area. During the preparation of this plan it was recognized that the properties fronting North Dinosaur Trail would require access restrictions and possibly road improvements such as intersection improvements as required by Alberta Transportation and the Town of Drumheller to allow for safe access and egress onto this major arterial roadway.

The speed limit along North Dinosaur Trail is 70km/hr throughout the plan area. The speed limit is raised to 80 km/hr west of the plan area as development is limited beyond this point. The 2007 Transportation Master Plan contains policies for road improvements and traffic considerations throughout the Town of Drumheller. This Plan should be considered with any subdivision and/ or development plans within the area.

The plan has identified key land use associations that should be considered in the evaluation of subdivision and development within the plan area. Unique concerns arise from the relationship of roadway to adjacent land uses. Clearly the prime function of North Dinosaur Trail is to facilitate vehicular traffic. This functional integrity must be protected from intrusion that could impair the ability to conduct traffic or jeopardize the safety of the motoring and pedestrian public. Similarly, unique concerns arise from the relationship of adjacent land use to roadway. In the case of residential land use, a very different set of parameters are used to judge the success of this land use. Principally, a “people place”, residential land-uses need to be buffered from intrusions created by vehicle traffic. Noise and pedestrian hazards are two examples of these intrusions. Another relationship is created at the interface of the major roadway and adjacent lands. This opportunity allows for a number of lots to have good highway visibility and access to associated developments that require vehicular transportation such as the existing Drumheller Health Centre and tourist developments that maintain good accessibility with limited impacts on residential land uses set further back from the major roadway. Improper designation of land to accommodate development can lead to conflicts with surrounding land uses. Additionally, improper siting can have negative impacts on the functioning of the roadway. Numerous points of egress is one example of the safety hazard to motorists using the roadway. These are some of the reasons that the Transportation Master Plan is updated frequently. A paved pedestrian pathway is located parallel on the south side of North Dinosaur Trail through the plan area to connect North Drumheller and Midlandvale and to ensure pedestrian traffic is not using the roadway. This pedestrian pathway is maintained year round to ensure it is accessible to pedestrians at all times to keep pedestrians off of the roadway.

Site evaluation of individual sites to determine the most appropriate land use based on adjacent land uses, site constraints and configuration are to be determined to provide a comprehensive land use framework for future development along North Dinosaur Trail.

Site 1:

Site 1 is currently vacant. This parcel is located adjacent to an existing developed residential area to the west, North Dinosaur Trail to the south, valley wall to the north and vacant land (Site 2) to the east. The location of this parcel is conducive to continuing residential development from the west. Site constraints include undermining from historic coal mining sites and topography within the north portion of the parcel. Due to the undermining constraints it has been determined through preliminary studies that commercial development is not practical on this site due to the necessity for deep concrete piles to withstand the larger loads of commercial buildings. A Concept Plan will be required to determine a residential design for the property prior to subdivision and development.

Site 2:

Site 2 is currently vacant. The characteristics of Site 2 are similar to Site 1 with topography within the north portion and undermining as constraints. The undermining on this site has been determined to be less intrusive than Site 1 and is suitable to larger buildings according to recent studies completed for development initiatives. As residential is the proposed use for Site 1 and commercial land use for Site 3, Site 2 may be utilized as a commercial site for tourism related development such as a hotel or amusement park or as a buffer between commercial and residential uses by means of a suitable development that meets the criteria. Institutional/ Community Service land uses are located within the plan area such as the Drumheller Health Centre. The Drumheller Health Centre is located adjacent to commercial uses such as the Badlands Motel and the amusement centre. Institutional uses are similar in character to commercial uses in many ways. They contain larger buildings such as a hospital, school or museum and require vehicular access for bussing or employees and contain residential characteristics as they service local and regional residents. Site 2 would be compatible as a buffer between the residential to the west and the commercial potential on Site 3 as an institutional/ community service land use or as a tourist commercial land use.

Site 3:

Site 3 currently contains a sand and gravel operation. The existing operation has been in the current location since the 1970's and includes sand and gravel storage, crushing and screening and hauling of materials. The existing industrial land use is no longer compatible with the adjacent land uses and the vision for the area as a tourist corridor and sensitive land uses such as the Drumheller Health Centre adjacent to the south across North Dinosaur Trail. Initiatives should be undertaken for the relocation of the operation to an appropriately designated industrial area. The west portion of the parcel is relatively flat with topographical constraints (valley escarpments) in the north portion. The developable property narrows from west to east as the escarpment encroaches further into the property on the east side. Tourist commercial land uses would be appropriate for the site and compatible with the surrounding land uses and developments.

Site 4:

Site 4 currently contains billboard signs advertising local businesses and tourist developments in the valley. This site has limited development potential as the developable area is very narrow due to the escarpment encroachment. Due to the nature of the parcel the existing use of billboard signage is an appropriate land use with further definition. A number of the existing billboard signs are in disrepair and are not consistent in appearance or setback/ location. It would be beneficial to have specific

signage standards for this area that entail the road setback, size, sign base landscaping, and sign content to promote local tourism themes. The furthest easterly portion of Site 4 contains an existing residence.

Site 5:

Site 5 currently contains a campground and manufactured home park. The campground was recently expanded in 2007 and appears to be a suitable use for the area as tourist accommodation. Michichi Creek is located along the west boundary of the parcel and may contain flood risk constraints. The location of the parcel at the intersection of Highway 9 and North Dinosaur Trail is a high traffic area and may be conducive to further commercial development.

Site 6:

Site 6 currently contains a Motel operation (Badlands Motel) and a vacant parcel. The Motel is located in the centre of the parcel and additional commercial development would be appropriate on the east or west side of the existing development. Flood risk considerations may be necessary as the property is significantly lower than North Dinosaur Trail in the west portion. A historical site identification sign is located in the north west corner of the parcel recognizing the Hy-Grade Coal Mining Company. The remaining vacant portion of the parcel is conducive to further commercial or tourist oriented development potentials.

Site 7:

Site 7 contains the Drumheller Health Centre. The Health Centre was opened in 2002. During development, the site required extensive fill to be above the 1:500 year flood risk elevation requirements of the Province. The Health Centre contains emergency services, doctors, and extended and palliative care facility. The health centre is located on a large parcel of land. Approximately 30 acres of land is vacant but remains in the ownership of the Province as one parcel. This land may be developable as residential and may be considered for additions to the extended care functions of the Health Centre. The health centre would provide a buffer between North Dinosaur Trail and residential land uses. The remaining site is located within the flood fringe and would require flood proofing measures for development to proceed in this location.

Site 8:

Site 8 contains an existing museum (Homestead Museum) and a recreational commercial land use (Funland) including mini-golf, bumper boats and a convenience/souvenir shop. The current land uses are oriented toward the tourist industry and no further site development is anticipated.

Site 9:

Site 9 is a part of the North Dinosaur Trail (Highway 838) road right-of-way and the land is located within the flood way and is not developable for permanent land use. No development is anticipated in this area.

Site 10:

Site 10 contains existing large lot residential land use. The existing dwellings are setback from North Dinosaur Trail and gain access from a service road or directly from North Dinosaur Trail. The southerly undeveloped portion has flood risk concerns as it is low land adjacent to the Red Deer River to the south. Further development potential is not likely due to the established residential land uses on the higher bench.

Site 11:

Site 11 contains a tourist related development (Fossil and Dig Centre). The existing use was established in 2006 and expansion received development approval in 2007 for a further tourist related service business including a tourist park and museum function. The site features large replica dinosaurs fitting with the tourism corridor theme. Further site development beyond the expansion permit is not anticipated for the site.

Site 12:

Site 12 is currently vacant. The surrounding land uses include residential to the north and east, residential to the south of North Dinosaur Trail and the Midland Provincial Park to the west including the Provincial Park office on the adjacent parcel. Site constraints include topography in the northerly portion of the site and undermining potential. Potential land uses for the site include commercial or institutional adjacent to North Dinosaur Trail for site access and exposure and residential land use in the north portion of the developable site area to complement the existing residential land uses.

5.0 PLAN POLICY

5.1 General Policy Framework

- a) All developments shall conform to statutory documents adopted by the Town of Drumheller or the successors thereto.

Bylaw No. 10-08 being the Land Use Bylaw of the Town of Drumheller.

Bylaw No. 11-08 being the Municipal Development Plan of the Town of Drumheller.

- b) All developments shall be required to meet the Town of Drumheller development standards and underwrite their share of the development costs. This may take the form of off-site levies. The terms of these responsibilities shall be in accordance with Town policy.
- c) All developments shall provide to the Development Authority satisfaction a safe, livable and attractive environment for all private and public lands.
- d) All developments shall be controlled with regard to access to North Dinosaur Trail in accordance with the joint Alberta Transportation and town of Drumheller Transportation Master Plan . Where possible service roads and shared points of access shall be utilized. Alberta Transportation shall be consulted on all subdivision and development applications.
- e) Where applicable, all developments shall promote and encourage compatible integration with existing and proposed rights-of-way and the proposed development. The terms of this integration shall be determined at the tentative plan stage and be to the satisfaction of the Development Authority.
- f) Any proposed developments shall be required to follow Figure 5 Land Use Concept

5.2 Residential Land Use Policies

- a) All residential developments, in addition to Environmental Reserve shall give consideration to overall open space requirements for recreational and other uses through the dedication of Municipal Reserve.
- b) All residential developments located in areas where the conflict of noise is anticipated to be a problem, suitable noise attenuation measures (ie. Berming or landscaping) shall be undertaken. The nature of these measures shall be determined by the Development Authority and will generally follow the criteria developed by the International Standardization Organization:

Below 45 dba Leq – there is no problem, nor is any action required;

Between 45 and 50 dba Leq – no problems are identified, but consideration should be given to future problems;

Between 55 and 60 dba Leq – noise problems begin to arise, but the seriousness is not sufficient to warrant major action;

Between 60 and 70 dba Leq – noise between these levels is intolerable and major action is required to reduce it;

Over 70 dba Leq – noise between these levels is intolerable and major action is required to reduce it.

A development agreement may be necessary to ensure these measures are undertaken.

- c) All residential developments adjacent to a commercial land use shall provide some form of buffering to avoid possible conflicts between the land uses. The nature of the buffer to be determined by the Development Authority.
- d) All residential developments shall provide a variety of lot sizes and building sites. This will enable a mix of housing types and lifestyles to be accommodated.
- e) All residential developments shall endeavor to maximize the energy conservation practices offered by good urban design and other factors.
- f) All residential development shall give consideration to the natural features of the site. Existing vegetation, topography, soil and drainage characteristics should be considered in the overall design of the development at the tentative plan stage.
- g) All residential developments shall provide a range of housing types to provide housing for various housing markets. Where applicable, some multiple unit and medium density housing should be included in new development areas.
- h) Within residential developments, provision shall be made for the establishment of a safe and pleasant pedestrian transportation system. Where possible, the pedestrian system should become an integral part of a comprehensive pedestrian network.
- i) To ensure linkages with the communities separated by the presence of North Dinosaur Trail, developer's may be required to contribute to the development of a series of lighted and user-controlled crosswalks as warranted through traffic impact assessments at the subdivision or development stage.

5.3 Commercial Land Use Policies

- a) All commercial developments adjacent to a residential land use shall provide adequate buffering to avoid conflicts between the two land uses. The nature of the buffer to be determined by the Development Authority.
- b) Where different commercial enterprises occupy one building or site there shall be an integration of signage design relating to the site. When possible, the developer is strongly urged to develop a strategy and plan for sign design at the time the development permit is applied for.
- c) Where a commercial development proposes to disturb existing trees, the developer shall notify the Town prior to removing the trees to enable the Town to examine the site and determine the need for protection of this vegetation. Where the Town deems appropriate, it shall provide as a condition of development approval what measures it deems reasonable for the protection, replacement and/ or compensation for the disturbed trees.
- d) All proposed commercial developments should clearly indicate the market they are orientated toward. This will enable the development to be sited appropriately to address the desired market and have the least negative impact on or from surrounding land uses.

- e) Commercial land uses shall take into consideration that North Dinosaur Trail is a tourist corridor and all developments should apply unique architectural or site features to enhance the tourist related themes of the Drumheller Valley.
- f) All commercial developments shall provide to the Development Authority's satisfaction a landscaping plan in accordance with the Town of Drumheller Landscaping Policy to increase the aesthetics of North Dinosaur Trail as an established tourist corridor.

5.4 Community Service/ Institutional Land Use Policies

- a) Institutional developments may require buffering from adjacent incompatible land uses to reduce the potential for conflict. The nature of the buffer to be determined by the Development Authority.
- b) Institutional land such as a hospital, museum or school may be utilized as a transitional land use between residential and commercial land uses due to the nature of the institutional use.
- c) Institutional land uses shall take into consideration that North Dinosaur Trail is a tourist corridor and all developments should apply unique architectural or site features to enhance the tourist related themes of the Drumheller Valley.
- d) All institutional developments shall provide to the Development Authority's satisfaction a landscaping plan in accordance with the Town of Drumheller Landscaping Policy to increase the aesthetics of North Dinosaur Trail as an established tourist corridor.