

RIVERCREST

NEIGHBOURHOOD PLAN

MAY 2017

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Assisted by PlanPro Corporation to September, 2016

Assisted by B&A Planning Group as of January, 2017

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NEIGHBOURHOOD PLAN

PLAN VISION / EXECUTIVE SUMMARY

The Rivercrest Neighbourhood Plan creates a vision for a well-designed and planned residential neighbourhood surrounded by the wonderful Town of Cochrane setting.

This plan is built on a series of technical studies with a review of the site and the surrounding area including: terrain and drainage overview, biophysical impact assessment, geotechnical evaluation, an environmental site assessment, historical resource impact assessment, stormwater management assessment, and a transportation impact assessment. In addition, both landowner input and comments from nearby residents add to the final plan.

It recognizes and takes into account the hierarchy of planning, such as the Municipal Development Plan and the River Heights Area Structure Plan, which both direct and mold this plan to fit into the existing, as well as any future aspirations of the Town of Cochrane. This plan additionally considers the surrounding areas; how best to relate to and create connections to these areas.

Another key “shaper” of this plan is sustainability, which both forces and encourages this plan to carefully take into account how all aspects fit into the five pillars of sustainability. The built and natural environment, economic, social, governance and cultural aspects; both now and for the foreseeable future, looking ahead for 50 years must be considered.

This plan contains a diversity of housing types including Single Detached, Townhomes, and Condominium development placed in interesting settings. It contains a series of amenities including:

- a variety of meeting spaces incorporated and encouraged within the residential design
- a tot lot is proposed. It will be included in the detailed design of the Townhomes/Condo development (R-3) site
- a park space has been incorporated at the North end of Rivercrest Drive
- an eight acre Rocky View school with its associated soccer field
- both active and passive open space including a park, an environmental reserve area and a variety of local and regional trails.

Trails supply local access to this neighbourhood as well as regional linkages to all of Cochrane. Use of trails provides opportunities for not only recreation but a means to get to work or to shop.



INTRODUCTION

The Rivercrest Neighbourhood Plan (RNP) outlines the ideas and ways in which this small area overlooking the Bow River and the Town of Cochrane will grow. The entire site is just over 93 acres and it will be developed primarily for residential use. The RNP represents the next step towards a residential community following the direction of the River Heights Area Structure Plan (RHASP), approved in September 2011.

PURPOSE OF THE PLAN

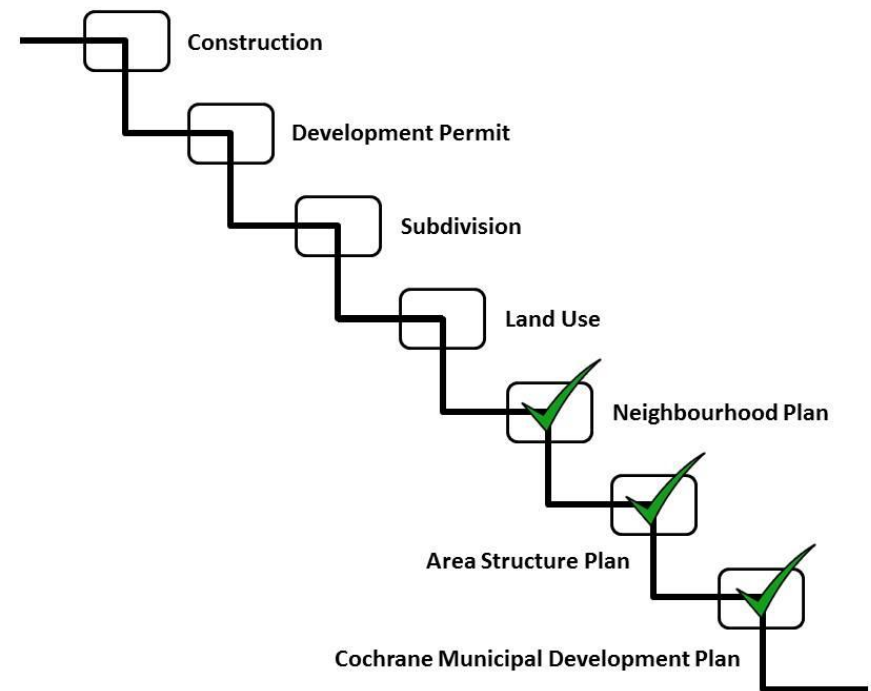
This plan outlines both the concept and the technical details concerning how lands within the Rivercrest Neighbourhood Plan should be developed. Growth within the plan area is intended to be developed within a comprehensive directive framework ensuring a high quality and diverse residential development accompanied by appropriate amenities such as a school, a park (as outlined in Appendix 2 of the Neighbourhood Plan) and an integrated pathway system.

POLICY CONTEXT

The Rivercrest neighbourhood must not only be developed within the guidelines of this plan but is also subject to and must follow the established requirements of the hierarchy of plans and processes within the Town of Cochrane as shown on the accompanying sketch. Each step in planning must adhere to both the immediate step below as well as all of the previous steps or stages. This neighbourhood plan follows the requirements of the Municipal Development Plan (MDP), approved in October 2008, which is the overall guiding planning document for the Town of Cochrane. In turn the MDP creates guidelines and requirements for the River Heights Area Structure Plan (RHASP) and the neighbourhood plan. The initial steps containing the Municipal Development Plan and the River Heights Area Structure Plan are both statutory in nature.

In addition, although not a statutory requirement, this neighbourhood plan was prepared with recognition for the adjacent Willows of River Heights Neighbourhood Plan, approved in June 2012. This will ensure that planning for the two communities will dovetail together in an appropriate manner – especially for transit, collector roads, regional trails, and other access points.

Finally, in terms of key documents that the neighbourhood plan is subject to, the Cochrane Sustainability Plan, adopted in May 2009, provides guidance to ensure that sustainability measures are “built into the development of the Town of Cochrane”. Chapter 7 includes the sustainability measures incorporated in this plan.



MUNICIPAL DEVELOPMENT PLAN (MDP)

Section 14.3.2(b) of the Town of Cochrane's Municipal Development Plan (MDP) outlines the requirements for an Area/Neighbourhood Structure Plan to be adopted in Cochrane. Each plan shall address those matters identified in the Municipal Government Act, as well as, but not limited to, the following points:

- Parks and open space
- Utilities
- Conflicts between incompatible uses
- Interface with highway and railway rights-of-way
- Urban design
- Ecologically significant areas
- Sustainability standards



With respect to specific provisions of the Town of Cochrane's MDP, the Rivercrest provides guidance for development in the following areas:

- Pipeline setbacks
- Park, open space and walkway connectivity concepts
- Preservation of the environmentally sensitive lands within the plan area
- Providing complete communities through a variety of land uses including public facilities, a variety of housing forms and services
- Connectivity to the broader Cochrane area
- An effective transportation plan, employing the most current road standards and designs
- Appropriately designated land uses
- Slope lands and associated development setbacks

The Rivercrest Neighbourhood Plan adheres to the guiding policies found within the Town of Cochrane's MDP.

FIGURE 1: LOCATION WITHIN THE TOWN OF COCHRANE

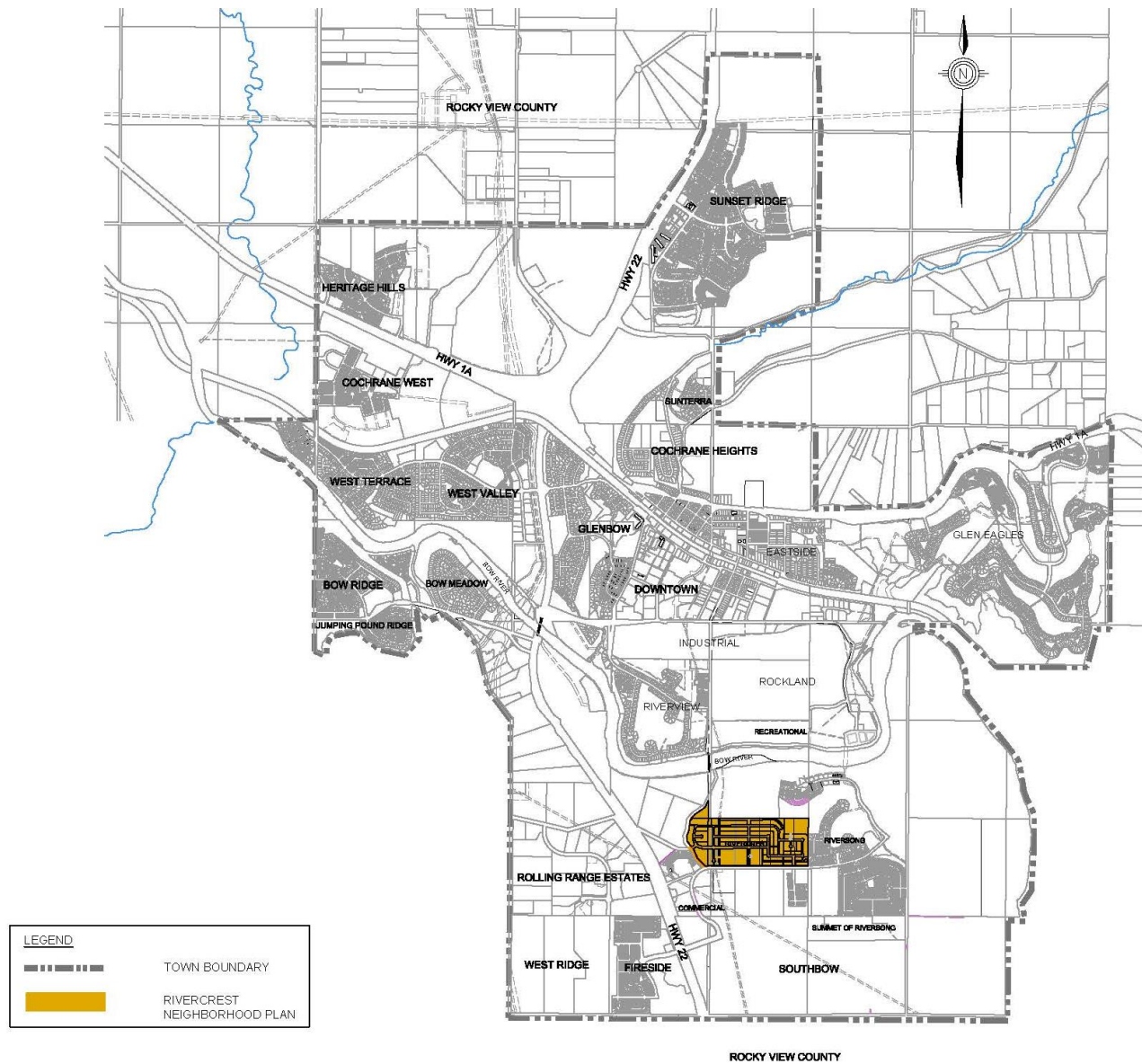
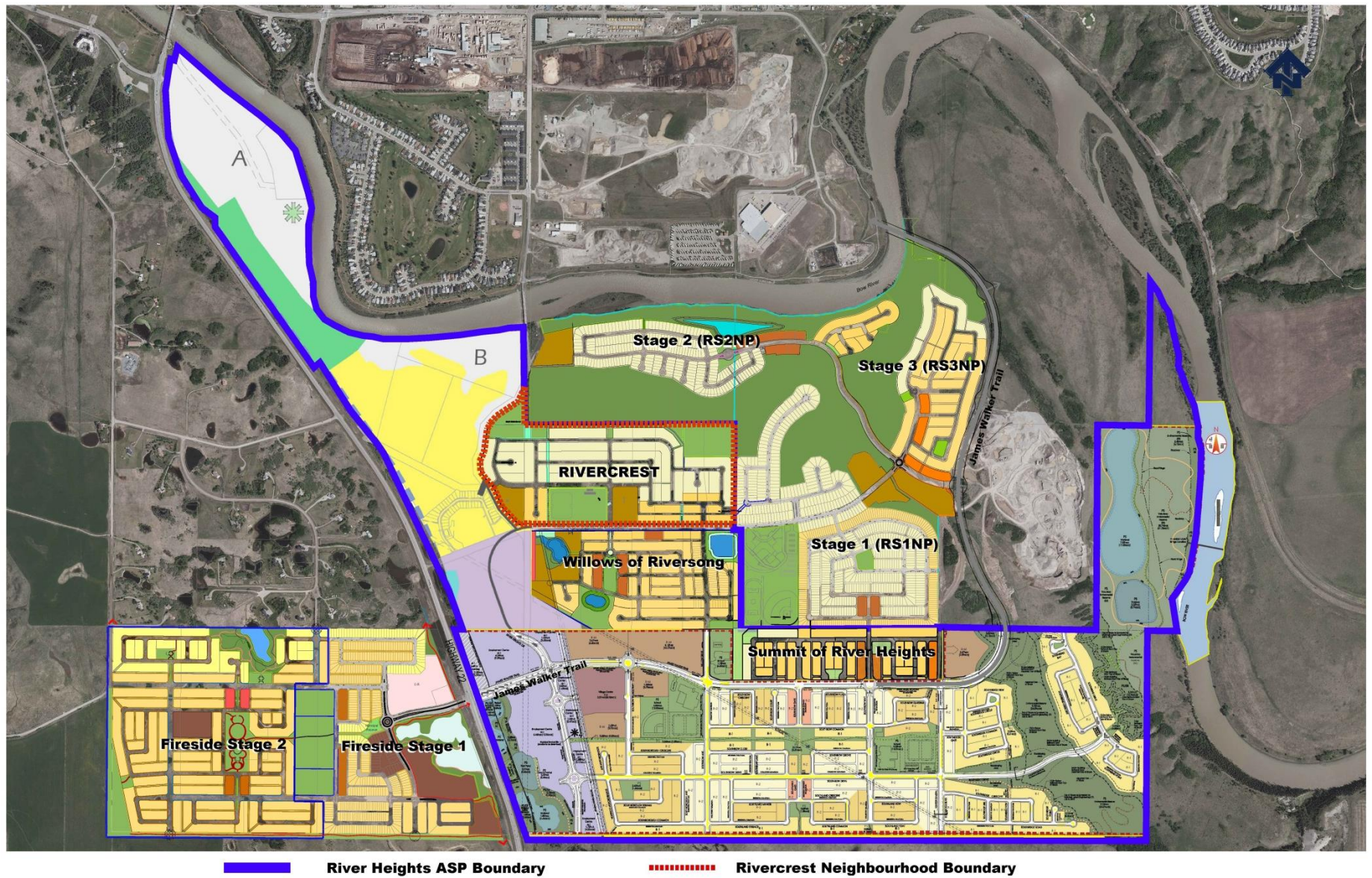


FIGURE 2: LOCATION WITHIN THE RIVER HEIGHTS AREA STRUCTURE PLAN



COCHRANE SUSTAINABILITY PLAN (CSP)

The Cochrane Sustainability Plan (CSP) was adopted in 2009 and details six interconnected systems of sustainability that act as the guideposts for development in the Town of Cochrane.

- Culture
- Social
- Natural environment
- Economic
- Built environment
- Governance

The six systems of sustainability were grouped into four categories. Thirteen pathways toward sustainability were then developed to help implement each category. The policies of the Rivercrest Neighbourhood Plan dovetail with the pathways set forth by the CSP and build upon these policies to create the parameters for development that will help Cochrane work towards achieving its sustainability targets. Alignment to the CSP can be found in the Appendix.



BACKGROUND AND THE PLAN AREA

INTRODUCTION TO PLAN AREA AND DESCRIPTION

The Rivercrest Neighbourhood Plan is part of a newly developing River Heights area immediately south of the Bow River and on the east side of Highway 22 in the Town of Cochrane. Figure 1 shows the specific location that the neighbourhood plan encompasses north of River Heights Drive. The plan encompasses 38.17 ha (94.28 ac).

LAND OWNERSHIP

Seven land owners are included within the Rivercrest Neighbourhood Plan boundary. The Summary of Land Ownership Statistics of the seven land owners is listed in Table 1. In addition, land ownership is shown on Figure 3.

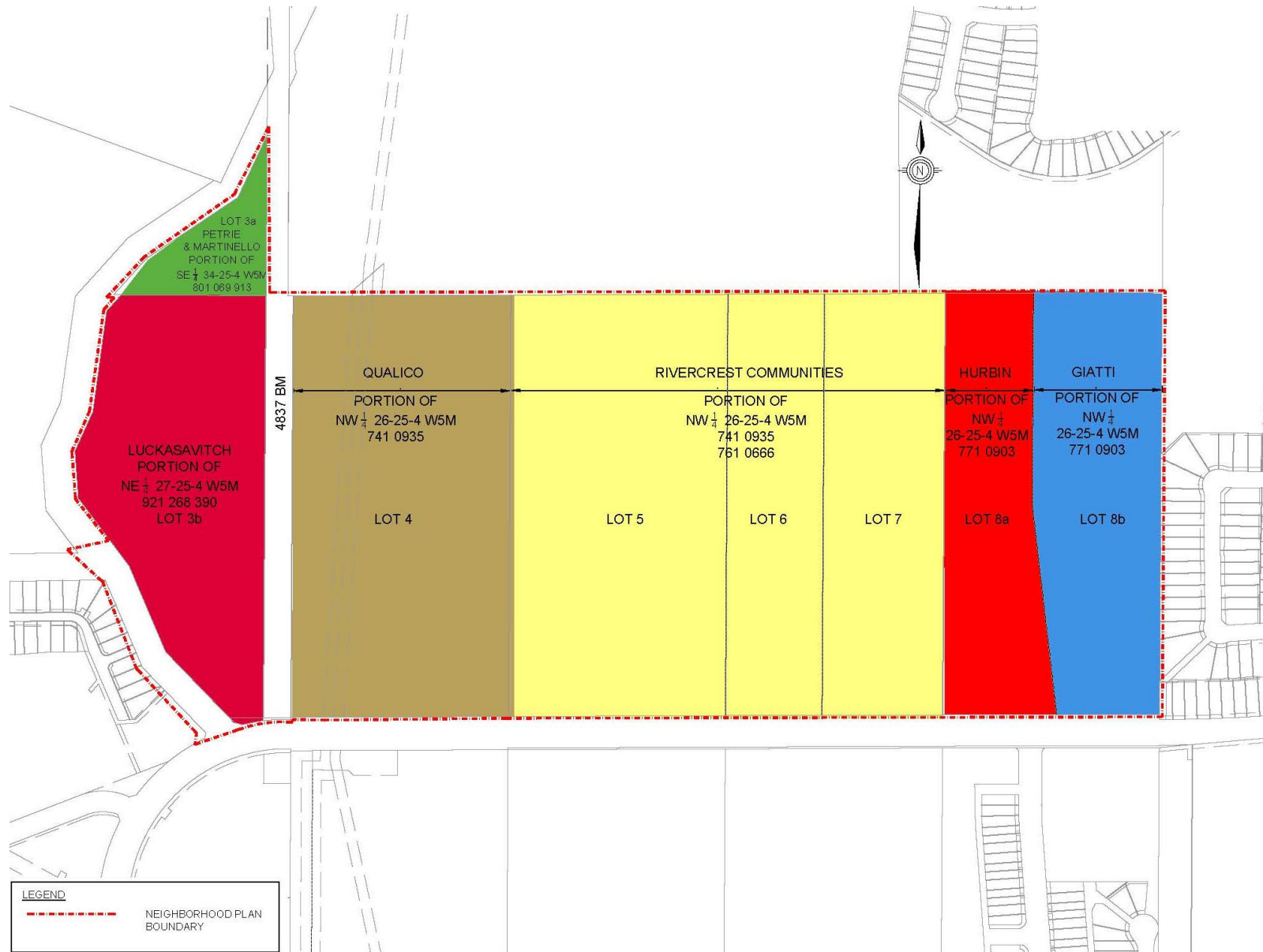
Table 1 - Summary of Land Ownership Statistics

LAND OWNER	AREA (HA)	AREA (ACRES)	PERCENTAGE	LOT NUMBER AS DETERMINED IN SPECIALIZED STUDIES
Petrie & Martinello	1.21	2.98	2.89	3a
Luckasavitch	5.26	12.99	13.12	3b
Qualico Communities	7.73	19.10	20.48	4
Rivercrest Communities Inc.	15.46	38.20	40.96	5,6,7
Hurbin	3.38	8.35	8.96	8a
Giatti	4.34	10.73	11.50	8b
Government of Alberta	0.79	1.95	2.09	Road Allowance
TOTAL	38.17 *	94.28 *	100%	

*Numbers are rounded; areas of road widening registered on title are deducted.

All private properties do not include all mines and minerals. All notations of hectares (ha) and acres (ac) are noted as more or less on the Certificates of Title.

FIGURE 3: OWNERSHIP MAP



COMMUNITY CONTEXT AND LAND USE

Currently this neighbourhood planning area is used for country residential enjoyment. The current land use district is Residential Urban Reserve. As shown on Figure 2, River Heights Area Structure Plan Boundary, the neighbourhood plan area borders almost entirely on lands redeveloped in a range of density from, moderately low to moderately high, urban residential, highway commercial or public service. To the southwest both a Public Service District and a nearby Highway Commercial District influence this neighbourhood plan. The Willows of River Heights Neighbourhood Plan, which is located south of River Heights Drive, contains a range of residential densities and related amenities. Situated to the southeast and east are the Bow Valley High School and Riversong residential development. Riversong also wraps to the north around this neighbourhood plan with residential building progressing near the Bow River. Trees and sloping terrain provides a large buffer to the Riversong area to the north. The Riversong areas form part of the South Ridge Area Structure Plan.

The intended land uses for this Rivercrest Neighbourhood Plan are determined by the River Heights ASP. Land uses included are: residential development; special study areas; a school site; and protected area/open space areas.

SUMMARY OF ENVIRONMENTAL IMPACT STATEMENT

As required by the Municipal Development Plan for the Town of Cochrane and based on all of the information collected for this plan, an Impact Statement was prepared. The results of this Environmental Impact Statement are contained in Appendix A.

SUMMARY OF STUDIES COMPLETED FOR NATURAL CONDITIONS

Slope Stability, Geotechnical and Subsoil, Environmental and Biophysical investigations were completed for the neighbourhood plan area. They are summarized in the sections following. Figures 4, 5 and 6, highlight key factors to be considered in the development of the neighbourhood plan concept. Please refer to Figure 3 – Ownership Plan, for lot reference.

TERRAIN AND DRAINAGE OVERVIEW

The terrain of this area could be described as post glacial “kettle” topography. The land and accompanying drainage generally slope down from the south side of the plan area along River Heights Drive to the northern edge of the neighbourhood plan. In total, the differential height between the highest southern (1198 m) and lowest northern (1145 m) edge of the plan area is approximately 50 metres.

The natural drainage is towards the Bow River to the north. In general, the western half of the plan area drainage is towards the northwest and in the eastern half towards the north-east.

Table 2 - Summary of Natural Conditions Studies

ASSESSMENTS	LOT 3A&3B PETRIE & LUCKASAVITCH	LOT 4 QUALICO COMMUNITIES	LOT 5 RIVERCREST	LOT 6 RIVERCREST	LOT 7 RIVERCREST	LOTS 8A&B HURBIN & GIATTI
Biophysical Impact	Yes 3B Only 2010, 2014	Yes 2008, 2010, 2014, 2015	Yes 2008, 2010, 2014	Yes 2008, 2010, 2014, 2015	Yes 2008, 2010, 2014	Yes 2010
Wetland Impact	3A Yes 3B Yes	Yes 2015	N/A	N/A	N/A	Required
Environmental Site Assessment	Yes 3B Only*	Yes	Yes	Yes	Yes	No
Geotechnical Subsoil Investigation	Yes 3B Only	Yes	Yes	Yes	Yes	Yes 8A**
Slope Stability	Yes 3B Only	Yes***	Yes	Yes	Yes	Yes

*Lot 3a was not included in the Environmental Site Assessment

**A geotechnical subsoil investigation was completed for Lot 8 in January, 2013, 3 test holes drilled on Lot 8a including 2 on the border with Lot 8b

***Slope Stability Report prepared June, 2013 and included in the Rivercrest Communities Reports

GEOTECHNICAL SHALLOW SUBSOIL AND SLOPE STABILITY ASSESSMENT

Subsoil site investigations were completed by Almor Engineering Associates Ltd. in July 2007 for lot 4, in February 2008 for lots 5, 6, 7 (please refer to Figure 3) and subsequently for lot 8a in Jan 2013.

Five test holes were drilled on Lot 4. Organic topsoil was found in thicknesses ranging from 100 mm to 400 mm. Glaciolacustrine clay was encountered in all 5 test holes. This material contained variable amounts of silt, sand and gravel in a clay matrix. The clay was stiff to hard in consistency with an average plasticity index of 36 and 27% moisture index. The predominant soil encountered under the surficial topsoil was a silty clay (till like) deposit that contained variable amounts of silt, sand and gravel in a clay matrix. Drilling was terminated at 6.2 m below the existing grade. The tests classify the soil as medium plastic clay however; high plastic clay seams or pockets were found at variable depths.

A total of seven test holes were drilled on lots 5, 6 and 7. Topsoil ranged between 100 mm to 300 mm in thickness. Glaciolacustrine clay was encountered in all test holes. This material contained variable amounts of silt, sand and gravel in a clay matrix. The clay was stiff to hard in consistency with an average plasticity index of 32 and 24% moisture index in a clay matrix. The predominant soil encountered under the surficial topsoil was a silty clay (till like) deposit with variable amounts of silt, sand and gravel in a clay matrix having an average plasticity index of 18 and 18% moisture index. Drilling was also terminated at 6.2 m below the existing grade. The tests classify the soil as medium plastic clay however; high plastic clay seams or pockets were found at variable depths.

A total of three test holes were drilled in lot 8a. Topsoil formed the first layer in all three holes to a depth of between 200 mm to 300 mm. In test holes 1 and 3 approximately 1 m of sandy silt was found below the topsoil layer. The next layer in all three holes was silty clay. In holes 1 and 3 the silty clay extended to 6 m while in hole 2, silty clay till was found in the last 2 m. Test hole three was extended to a depth of 12 m, and revealed sandy silt followed by silty clay with traces of gravel.

A total of four test holes were drilled in lot 3b. Top soil ranged from 100 mm to 400 mm in thickness. In test 1 and 2 silty clay was encountered of approximately 1 m depth followed by silty clay in test hole 1 and silty clay (till like) in test hole 2. Test hole 3 was silty clay (till) after the initial topsoil, while test hole 4 showed silty clay (till like) for approximately 1 m followed by silty clay for approximately 1.5 m with silty clay (till) forming the final layer.





Studies for lots 3b, 4, 5, 6, 7, and 8a concluded that the subsurface conditions were suitable for foundation support for the planned development using standard excavation and construction practices. The evaluations provide design recommendations for earthworks, underground installations, and backfilling recommending that geotechnical monitoring be conducted during construction and development. In summary, no geotechnical concerns exist for the 5 lots investigated by Almor Engineering.

Several site investigations for slopes, subsoil and stability were carried out for Lots 3b, 8a and 8b (Almor Engineering and Rangeland Conservation). The results are summarized by Figure 4 for overall slope stability including the 15% slope line before and after grading, through three slope zones included on Figure 7 and Figure 8 which are described below.

Additional testing has been completed, as per the request of the Town of Cochrane, to ensure developability and safety of the site. E2K has reviewed all the reports prepared by Almor and Rangeland which agree that the Rivercrest Communities site is developable, as proposed.

A summary of the three zones follows.

- Zone 1 is level to gently sloping and has no development restrictions from a stability perspective. If development on Zone 1 is placed next to an ungraded Zone 1A area, all permanent habitable structures should be set back a minimum of 3 m from the Zone 1A land. This allows for both adequate protection as well as sufficient access should any local slope repairs be necessary.
- Zone 1A contains slopes between 11 degrees and 15 degrees. As a result, development of Zone 1A land is considered possible with minor grading providing the overall gradient is reduced to 11 degrees or less. All proposed grading plans should be reviewed and approved by a qualified geotechnical engineer.
- Zone 2 includes moderately steep slopes (15 to 20 degrees). Since development in this zone would likely require major grading, no development of these lands is recommended from a slope stability perspective.

FIGURE 4: GRADING PLAN

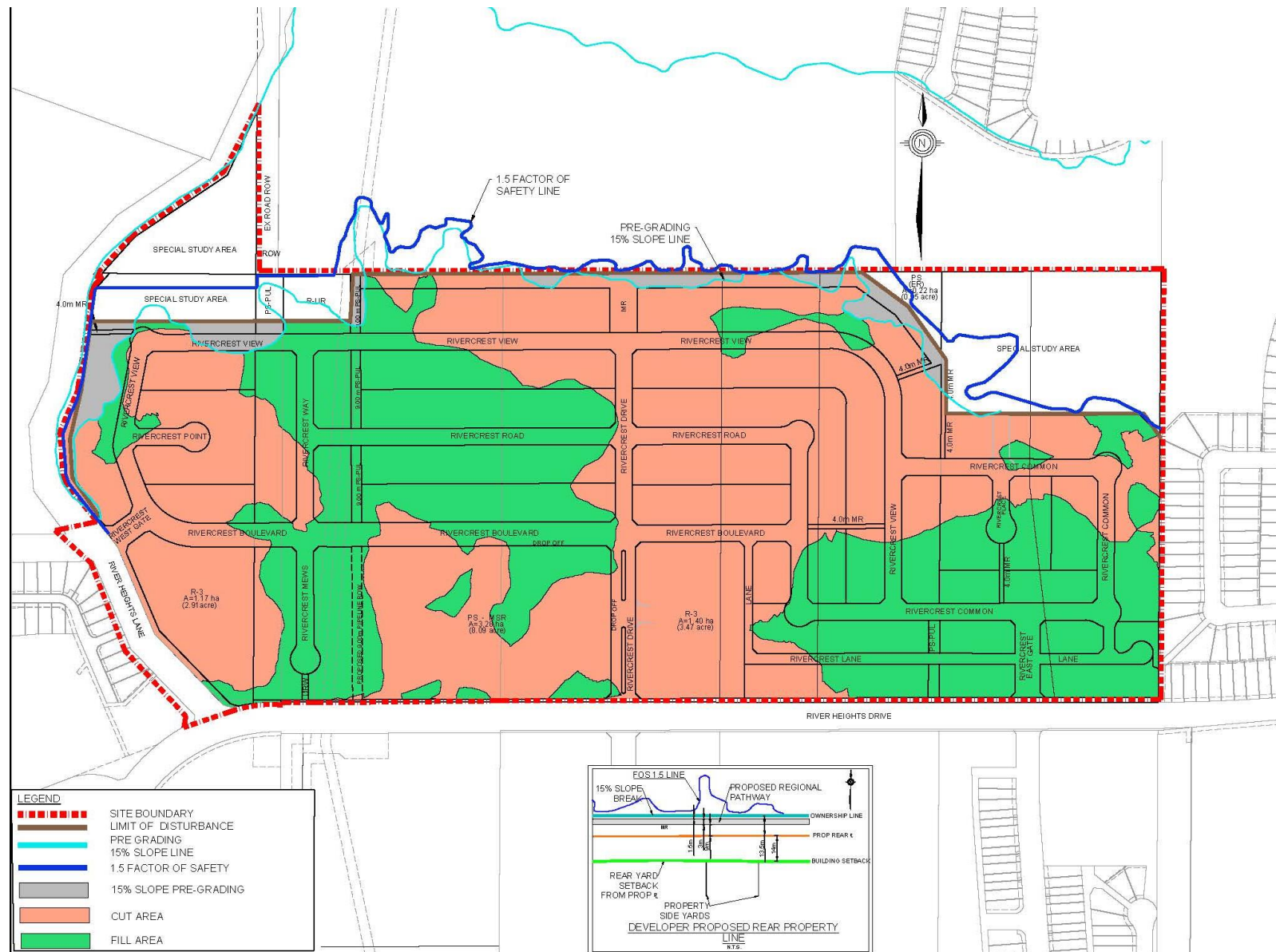


FIGURE 5: CROSS SECTION OF NORTHERN PROPERTY LINE AND LINEAR MR

For the northern lots adjacent to the northern property line, a restrictive covenant will be registered on these lots to ensure that the building envelope does not encroach on the agreed upon set-back. Further, the restrictive covenant will include a restriction on grades to a maximum of 10% and that engineered retaining walls will not be permitted. The following figure illustrates the setback from the 15% line. Please note that the 15% line is, in most cases, north of the ownership line indicated on the Figure 4.

In summary, the slope break line (top of slope) within the plan area varies greatly and is difficult to define in some parts of the plan due to the gentle rolling nature of the slope. Given this, the FOS line was determined to be the best indicator of the slope stability. The Cochrane MDP requires development boundaries to be set at a minimum 1.5 FOS. In the case of Rivercrest, the 1.5 FOS is mostly located north of the Rivercrest property boundary, and additionally there is a desire to provide public access via a linear municipal reserve between the back of residential lots and the escarpment. Given this, the plan offers a 13.5m linear municipal reserve parkway between the north Rivercrest boundary and the development property lines. The actual FOS at the development property lines varies from 2.0 – 8.9. This greatly exceeds the MDP requirement of 1.5.

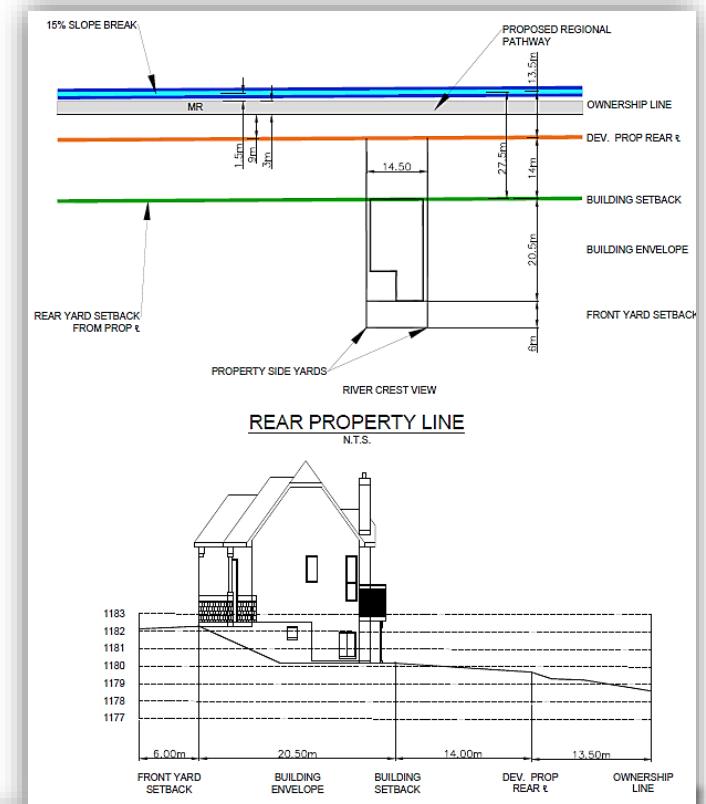


FIGURE 6: FACTOR OF SAFETY ALONG NORTH PROPERTY LINE AND DEVELOPMENT PROPERTY LINE – WEST ZONES

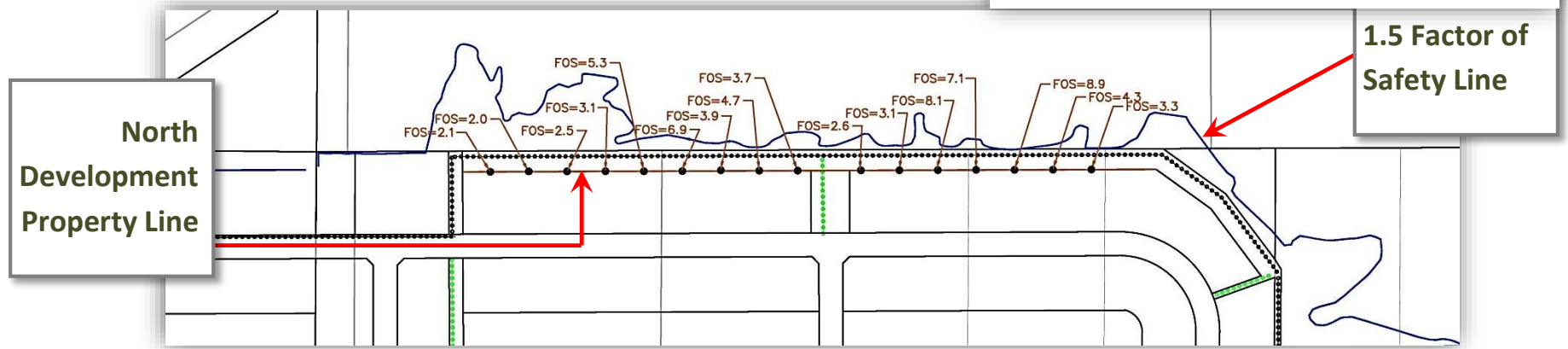
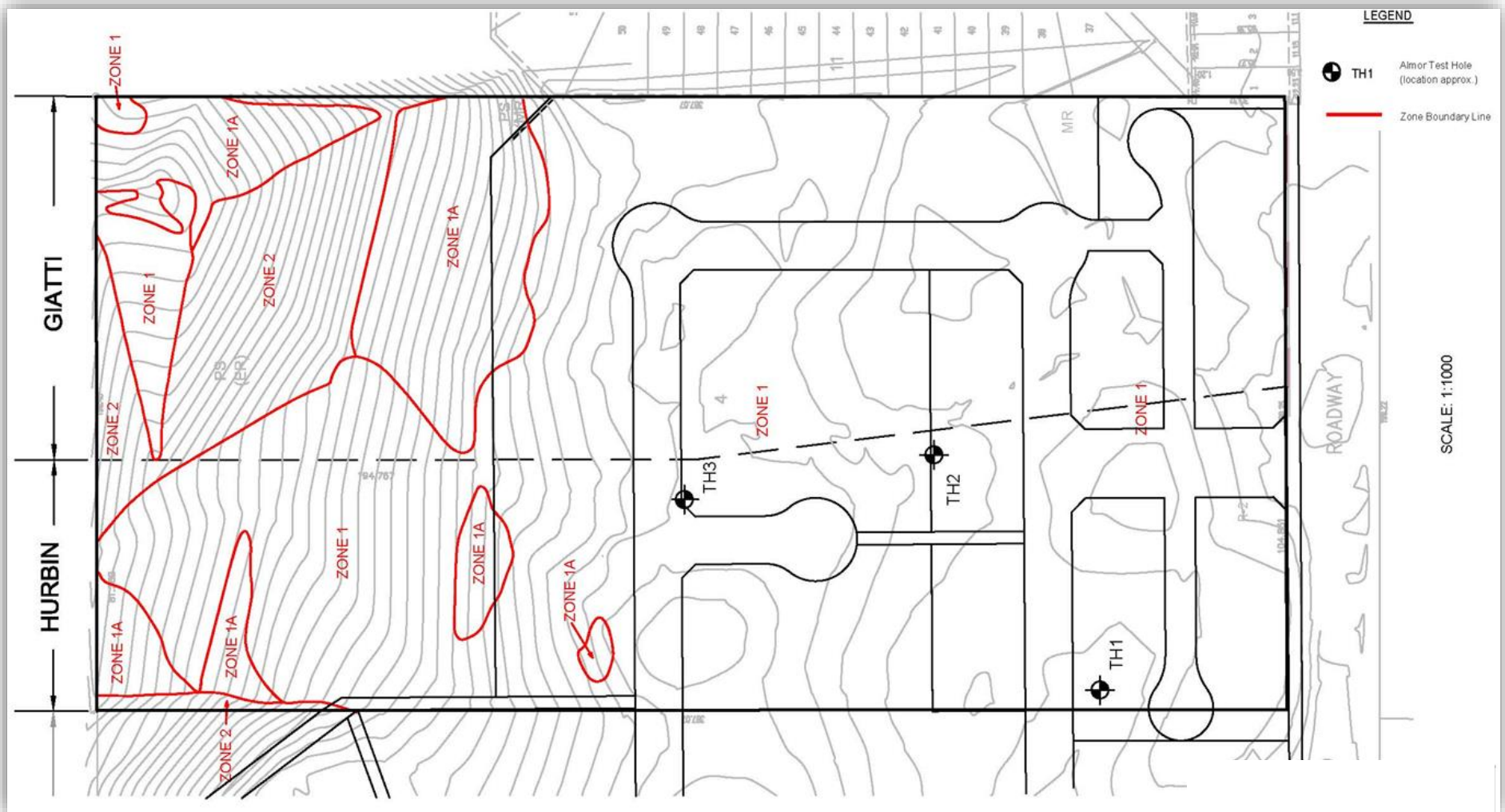
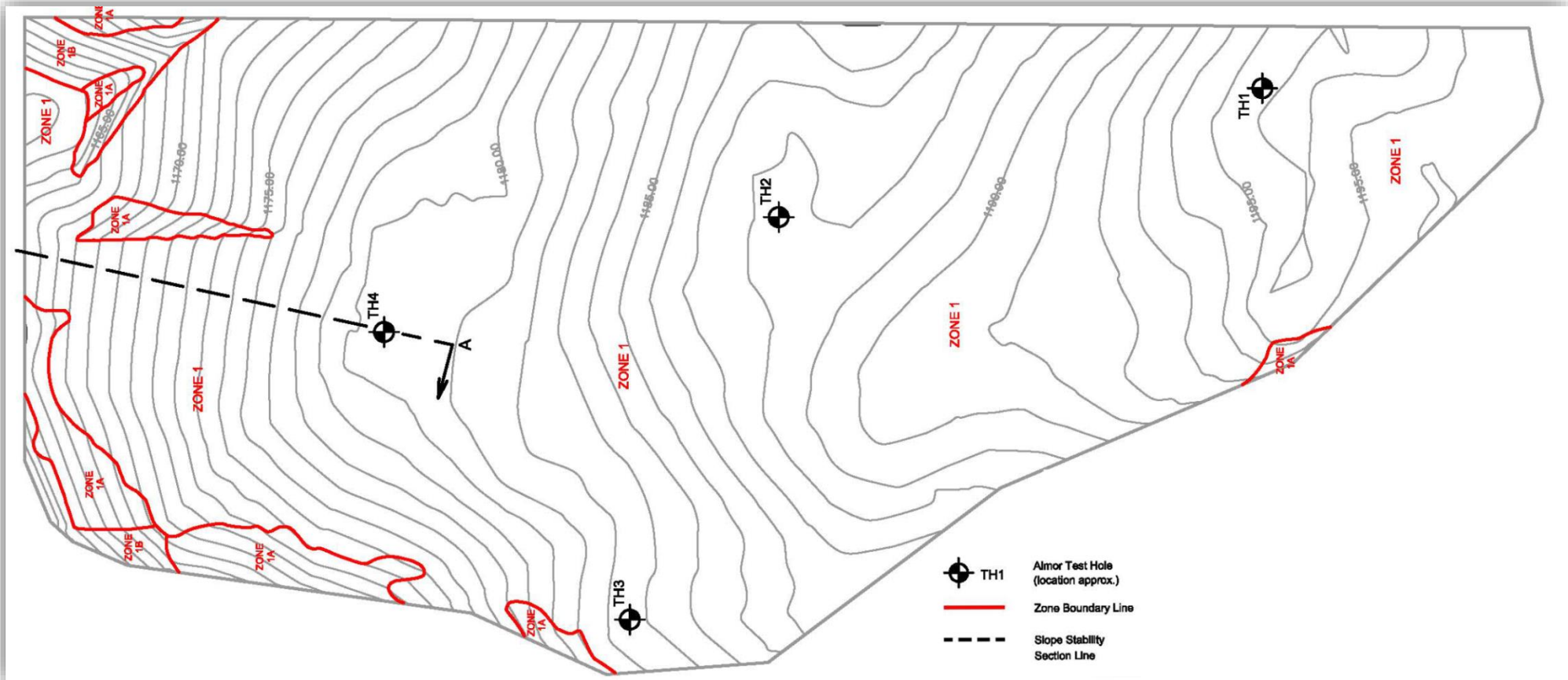


FIGURE 7: TEST HOLES | EAST ZONES





As contained in the Rangeland Report, other development guidelines recommended for all planned development on or near escarpment slopes include:

- No unauthorized fill should be dumped on the slopes, without the prior review and approval of a qualified geotechnical engineer;
- No cuts should be permitted on or at the toe of the slopes, without the prior review and approval by a qualified geotechnical engineer;
- If surface runoff cannot be conveyed into the local storm sewer system, it should be collected and discharged in a controlled manner down the slopes. Alternatively, provided the runoff is not concentrated, it may be discharged as sheet flow down the slopes.

As a required part of a re-designation application for parcels 3a and 8b, a Shallow Subsoil and Groundwater Site Assessment must be completed by a qualified professional and submitted to the Approval Authority.

As a required part of a re-designation application for parcel 3a, a Slope Stability Assessment must be completed by a qualified professional and submitted to the Approval Authority.

ENVIRONMENTAL SITE ASSESSMENT

The objective of an Environmental Impact Assessment is to identify any possible health hazards which may be caused by past or current use of the land proposed for development and need to be resolved before development can begin.

Three Phase One Environmental Site Assessments (ESAs) have been performed by Base Property Consultants Ltd. Together, these three assessments provide information on lots 3b, 4, 5, 6 and 7 but not for lots 3a and 8.

Phase One ESA dated May 18, 2007 includes lot 4. This ESA states that there is no significant environmental impairment on the site and that no further environmental investigation is needed.

The second Phase One ESA dated October 23, 2007 includes lots 3b, 5 and 6. This ESA finding is that there is no significant environmental impairment on the site and that no further environmental investigation is needed.

The third Phase One ESA includes lot 7 and is dated November 15, 2007. This ESA determines that there is no significant environmental impairment on the site and that no further environmental investigation is required.

In summary, no environmental concerns exist for lots 3b, 4, 5, 6 and 7. As a required part of a re-designation application for parcels 3a, 8a and 8b, a Phase One ESA must be completed by a qualified professional and submitted to the Approval Authority.

BIOPHYSICAL/WETLAND IMPACT ASSESSMENT

Two biophysical impact assessments were completed by HAB-TECH Environmental Ltd in May of 2008 (which includes lots 4, 5, 6 and 7). A third impact assessment was completed for River Heights by Sweetgrass Consultants in October 2010 which included all lots in the neighbourhood plan area (as part of a larger study area examined). For the studied areas, habitat loss was considered significant in the local context but insignificant in the regional context.

Table 3 indicates the Proportion of Habitat Types found in the Plan Area (excluding lots 3 and 8). The information contained in Table 3 is based on the HAB-TECH Environmental Ltd. study results.

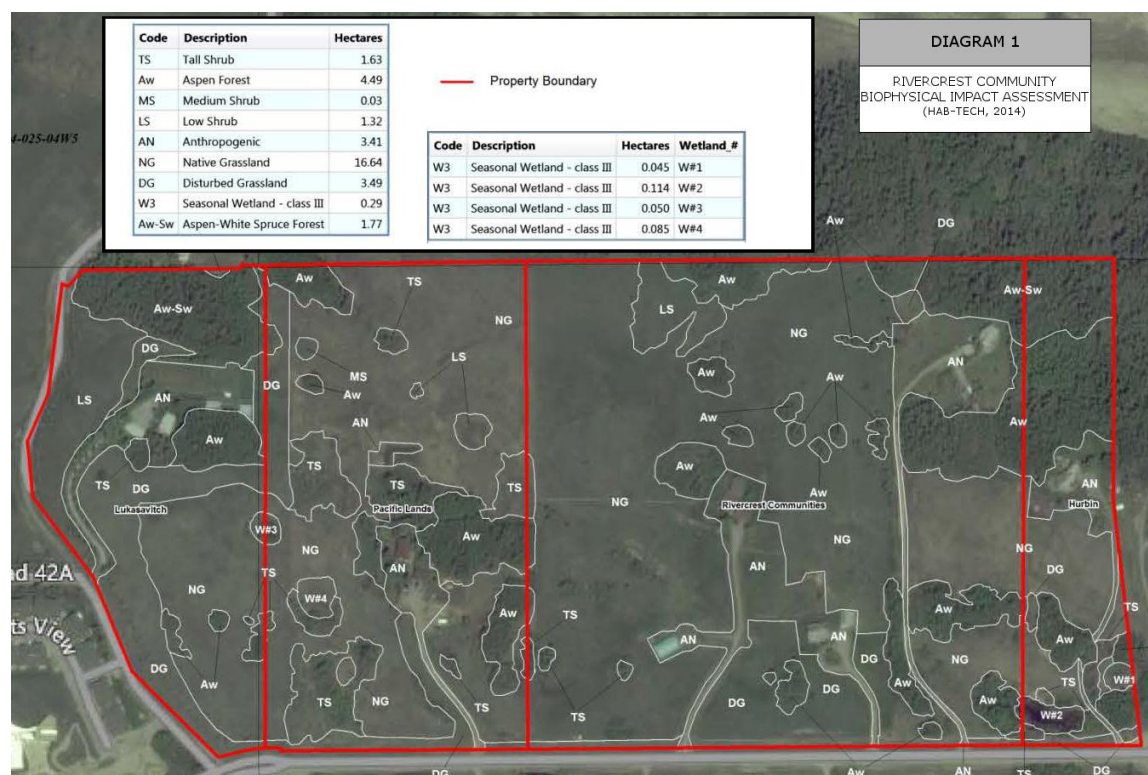
In 2014 a Biophysical Impact Assessment (Hab-Tech) identified four wetland sites in the RNP area. All four are Class 3 seasonal wetlands. No Class 4, or higher sites were identified. Compensation will be paid for any Class 3 wetland in the development. This report confirms the findings in the 2010 Sweetgrass Consulting River Heights Habitat Study. All four are Class 3 seasonal wetlands and are included in Diagram 1.

Further requirements coming out of these studies were:

- 1) An opportunity exists to retain nationally significant valley habitats.
- 2) Clearing of lands and wetland work should be conducted outside of the nesting season to comply with the Migratory Birds Convention Act.

Table 3 - Proportion of Habitat Types

HABITAT TYPE	PROPORTION (EXCLUDING LOTS 3A, 3B & 8A, 8B)
Disturbed Grassland	5.77%
Anthropogenic	9.74%
Native Grassland	61.70%
Low Shrub	1.81%
Medium Shrub	0.11%
Tall Shrub	6.07%
Aspen Forest	12.74%
Aspen – White Spruce	2.07%



SUMMARY OF EXISTING OTHER STUDIES COMPLETED

Other studies including Historical Resource Impact and Transportation Impact Assessment (TIA) are also part of the neighbourhood plan. They are summarized in the sections following, along with the ATCO gas pipeline and servicing considerations. Table 4 indicates the lots included in the completed studies.

Table 4 - Summary of Other Studies

ASSESSMENTS	LOT 3A & B PETRIE & LUCKASAVITCH	LOT 4 QUALICO COMMUNITIES	LOT 5 RIVERCREST COMMUNITIES	LOT 6 RIVERCREST COMMUNITIES	LOT 7 RIVERCREST COMMUNITIES	LOTS 8A & B HURBIN & GIATTI
Historical Resource Impact Assessment	Yes 3B Only	Yes	Yes	Yes	Yes	No
Transportation Impact Assessment	General	General	General	General	General	General

HISTORICAL RESOURCE IMPACT ASSESSMENT

A report prepared by Lifeways of Canada Ltd in June 2008 and in August, 2014 examined selected portions of Lot 3b, 4, 5, 6 and 7 of the neighbourhood plan area. Minor findings were reported in Lot 5 in sub-surface excavations.

The report concluded that no further work on these sites is required and that full Historical Resource Clearance be granted for Lots 3b, 4, 5, 6 and 7 by the Alberta Historic Management Branch.

A Historical Resource Impact Assessment has not been completed for Lots 3a, 8a and 8b.

As a required part of a re-designation application for parcels 3a, 8a and 8b, a Historical Resource Impact Assessment must be completed by a qualified professional and submitted to the Approval Authority.

TRANSPORTATION IMPACT ASSESSMENT (TIA)

Rivercrest is a 37.74 ha property that was taken into consideration during a Traffic Impact Assessment (TIA) prepared by Bunt and Associates, entitled River Heights Residential Development Transportation Impact Assessment Final Report, dated February 2008. Note that two Traffic Impact Assessments have been completed by Bunt & Associates for this area; the most recent update was prepared in 2014. Included in the report were a series of recommendations that were developed based on the analysis undertaken as part of that study. The report confirms that the proposed internal and external road networks will provide acceptable level of service.

The following recommendations were indicated within this report. When the 2009 background traffic conditions were applied, no improvements were necessary in the short term to the transportation network.

The long term, 2026 road improvements necessitated by River Heights Drive site traffic include:

- 1) Highway 22/Relocated River Heights Drive;
 - a. Widening of the westbound approach to accommodate dual left-turn lanes.
- 2) East West Road/Old River Heights Drive;
 - a. Widening of the E/W road to accommodate a third through lane for the westbound approach.
- 3) Old River Heights Drive/North-South Road;
 - a. Widening of the eastbound and northbound approaches to accommodate separate right turn lanes.

Since this report was completed, the widening of the east-west road has taken place to the west corner of River Heights Drive and River Heights Lane. The design and preparation of documents for the construction of the ultimate build out of River Heights Drive is underway. Further, the intersection has been constructed at Highway 22 and James Walker Trail to provide access to River Heights Drive and the surrounding communities.

Bunt and Associates completed a review (February, 2014) of the Traffic Impact Assessment (TIA) to ensure that the February 2008 report is current. That update is included under separate cover.





GAS PIPELINE

Two high pressure gas pipelines and related right-of-way (9 m) operated by ATCO Pipelines traverses the plan on lot 4 in a north-south direction. Note that the pipelines will be reduced from the existing two pipelines to a single high pressure pipeline and will be relocated as per the proposed concept (Figure 10) further, homes will be setback from the centerline of the ATCO Pipeline to the structure a distance of 12 m. ATCO Pipelines have agreed to an asphalt neighbourhood pathway being placed adjacent to the pipeline. An existing ATCO Gas supply line to the existing homes in lots 3a and 3b will be abandoned once the service is brought through the proposed development. The existing homes will be reconnected with the new line.

EXISTING SERVICING CONNECTIONS

This is a green field site with no existing underground services. Riversong however, has completed the construction of the underground utilities in River Heights Drive for the Willows of River Heights and Rivercrest. Stubs to property line were installed for all deep utilities. Rivercrest will tie into the existing water distribution stub at the junction of River Heights Drive and Rivercrest Drive, as well as at the emergency access. Additional connections will be made for storm and wastewater in the existing infrastructure in River Heights Rise.

NEIGHBOURHOOD PLAN PROCESS

The neighbourhood plan development was initiated by Slokker Canada West Inc. After technical studies were completed, an initial concept was prepared. This was reviewed with the Town of Cochrane Planning Department for their feedback. After modifications to the concept, and initiated during the fall of 2012, landowners were contacted to provide feedback including conceptual design comments. Meetings and follow up discussions with each landowner within the neighbourhood plan were held. Follow up telephone discussions have ensued with all of the private landowners within the neighbourhood planning process.

A public consultation session was held on June 16, 2015 at the Cochrane Ranch House. The intent of the consultation session was for the landowners and the general public to both obtain information on the proposed neighbourhood plan and also to provide feedback on the design and accompanying information. 34 people attended this Open House. Valuable feedback was obtained and the overall impression of the plan was positive. Appropriate adjustments based on the public consultation session were made to the Neighbourhood Plan, including a small park addition to the regional trail connector to Riversong.



NEIGHBOURHOOD PLAN

RIVER HEIGHTS AREA STRUCTURE PLAN LAND USE REQUIREMENTS

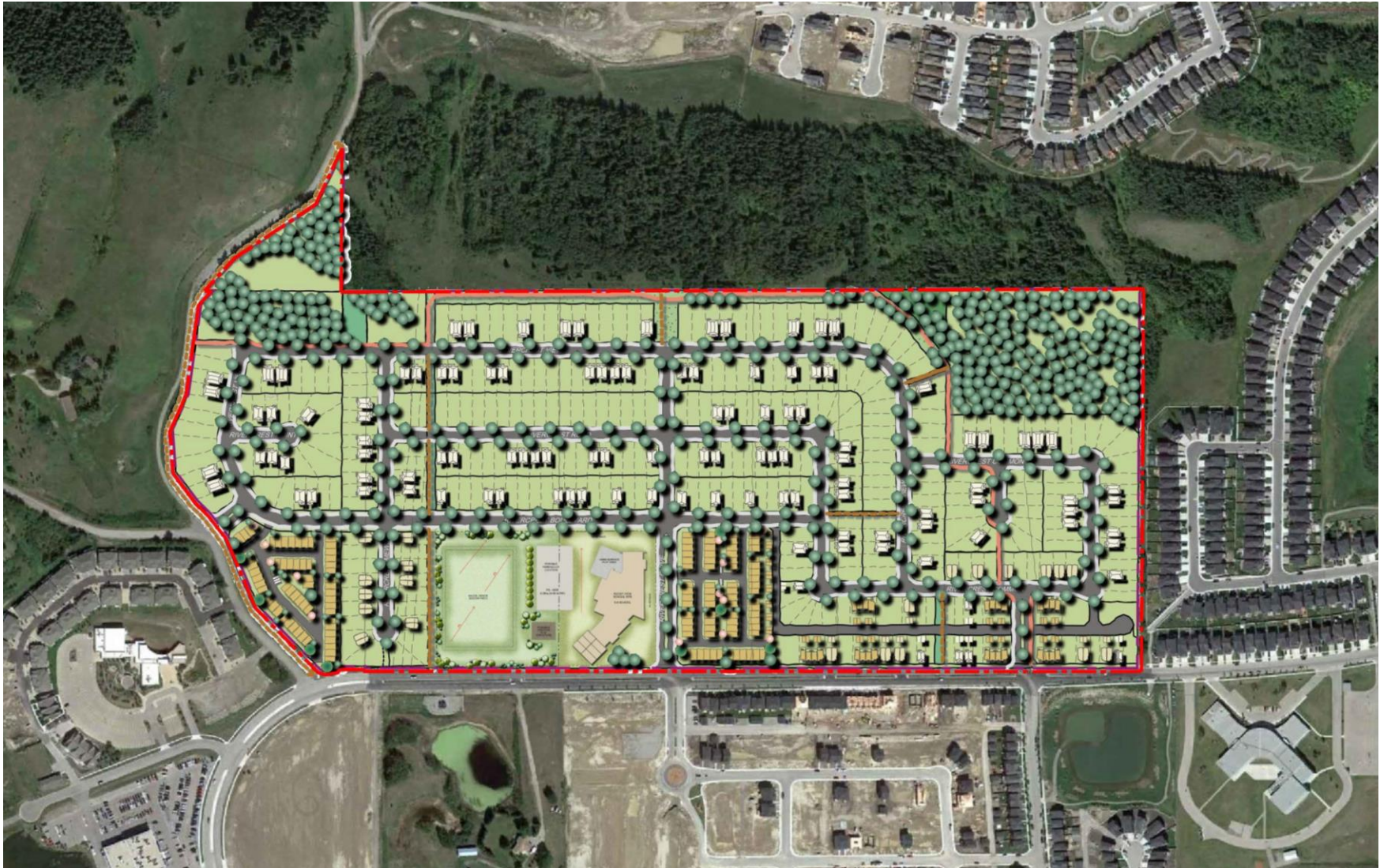
The neighbourhood plan is required to follow all of the policies contained within the River Heights Area Structure Plan (ASP). The River Heights ASP includes a series of maps that provide a wide range of instructive data including: the area that must be contained within each neighbourhood plan; design considerations; generalized land use concepts; road network; open space and regional trail network; and water, sanitary and storm servicing. The land use required by the River Heights Area Structure Plan for this area is primarily residential, with a Rocky View School site, a Special Study Area, and an area of protected lands and open space.

PLAN OBJECTIVES

To create the neighbourhood plan, the following design objectives were carefully considered.

- Respect for each landowner including opportunities to be involved in the process and to have input as to how their lands are included in the development of the Concept Plan. In addition, each landowner has the opportunity to develop their land on an equitable basis
- Design an attractive and welcoming neighbourhood
- Create a sense of place within this neighbourhood plan
- Incorporate a gathering place such as a school
- Utilize Municipal Reserve to provide the school site, trails and parks and through any additional parks created as a result of the special studies
- Ensure that a diversity of residential housing types are included within the plan area
- Provide townhouse units fronting River Heights Drive east of the school site to mirror the adjacent Willows residential land use
- Ensure that a complete community is initiated for the first phase for development and then in a completed state by the end of Phase 3. The only exclusion to this would be some of the roads, regional and local pathways and parks that are included in phases 4 to 7
- Incorporate a storm water facility into the design
- Incorporate both local and regional pathways. Address regional pathways linkages as shown on the River Heights Area Structure Plan, as included in the Cochrane Open Space Master Plan and with respect to modifications of the regional trail location within the Willows neighbourhood.
- Appreciate the value of natural capital and try to minimize areas of trees disturbed by residential development
- Treat environmentally sensitive areas with respect and ensure minimal disturbance to any areas identified as regionally significant.
- Identify the future transit stop location and ensure it is situated in a highly accessible area
- Ensure that the intent and policies of the River Heights Area Structure Plan are followed
- Create an appropriate phasing plan that efficiently uses service connections and brings development land on stream in an effective manner.

FIGURE 9: RIVERCREST CONTEXTUAL CONCEPT PLAN



COMMUNITY NAME

Rivercrest is the name selected for this neighbourhood plan area. Rivercrest is located on a height of land substantially elevated above the Bow River. In general, the neighbourhood plan area slopes gradually towards the north. At the edge of the developable area the slope becomes much steeper and descends to the River. The name, Rivercrest, signifies the special tie which this neighbourhood has to the Bow River below.

CONCEPT PLAN

Based on the policies contained with the River Heights Area Structure Plan, site characteristics, input from the landowners and plan design objectives, a concept plan was prepared - Figure 10, Neighbourhood Concept. As outlined as part of the concept plan, the Rivercrest Neighbourhood Plan contains a variety of special features. At the heart of this neighbourhood is well designed and planned residential housing with a diversity of types from single family to multi-family development.

Three main access points serve this neighbourhood at the south and west edges of the plan.

CONCEPT PLAN RESIDENTIAL

The Concept Plan includes a range of low single family homes, townhomes, and multi-unit dwellings at an overall moderate density. Single family housing flows through the entire site.

Town houses and semi-detached homes are situated along the north side of River Heights Drive surrounding Rivercrest East Gate access point. This mirrors the town homes included in the Willows of River Heights on the opposite side of River Heights Drive.

Two multi-unit sites, with up to three stories in height, provide urban highlights within the site. Multi-unit dwellings, composed of a mix of bachelor, one, two, and 3 bedroom dwellings, form a welcoming and pedestrian friendly entrance along the east side of Rivercrest Main and West Gates.

OPEN SPACE

The main open space feature of this neighbourhood plan is an 8 acre Rocky View School Site located in the south-west corner of the plan area. The school will serve as an integral part of the community and provide nearby educational opportunities for families with young school age children. The nearby transit stop will provide a long term means of access to the site.

A linear municipal reserve space with a connected neighbourhood park adjacent to the escarpment on the north side of the plan area will create a significant amenity for the community offering public access to this local natural feature. An additional passive neighbourhood park will offer connectivity to the adjacent community of Riversong.

[illegible]

SPECIAL STUDY AREAS

As shown in the River Heights Area Structure Plan, a special study area is included in the northwest corner of the Rivercrest concept plan, to address the special requirements needed for any residential development to occur as well as determining what portions of the area need to be preserved and/or protected. Further studies will be required to support future development proposals on this area. In addition, another special study area has also been identified in the northeast corner of the Rivercrest Neighbourhood Plan. In the River Heights ASP this area is shown within the Protected Areas/Open Space category. The geotechnical study however, indicated developability of a portion of these lands. If this property is considered for development, a special study will be required.

Figure 29 contains a chart indicating the additional reports required with any application for development for any parcel of land within the special study area.

Figure 28, indicates the overall Phasing Plan, including the first phase of development.



FIGURE 11: SPECIAL STUDY AREAS



LAND USE DISTRICTS

RESIDENTIAL

R-1, Single Detached District forms the predominant land use within the plan area. Overall the R-1 District contains 5.51 ha (13.61 ac) of single family homes. These single family areas are configured in a mainly east-west layout to take advantage of the sloping topography.

R-2, Residential Single and Two Dwelling District can be found along the southeast portion of the plan, as an interface with River Heights Drive and mirroring the built form across the street in the Willows of River Heights.

R-3, Multi-Unit Dwelling District site is located east of Rivercrest Drive, with frontage on River Heights Drive, and in the southwest corner of the plan. The R-3 District is intended to be developed in a variety of townhouse sites of up to three storeys, which may use both clustered and linear patterns.



FIGURE 12: LAND USE DISTRICTS

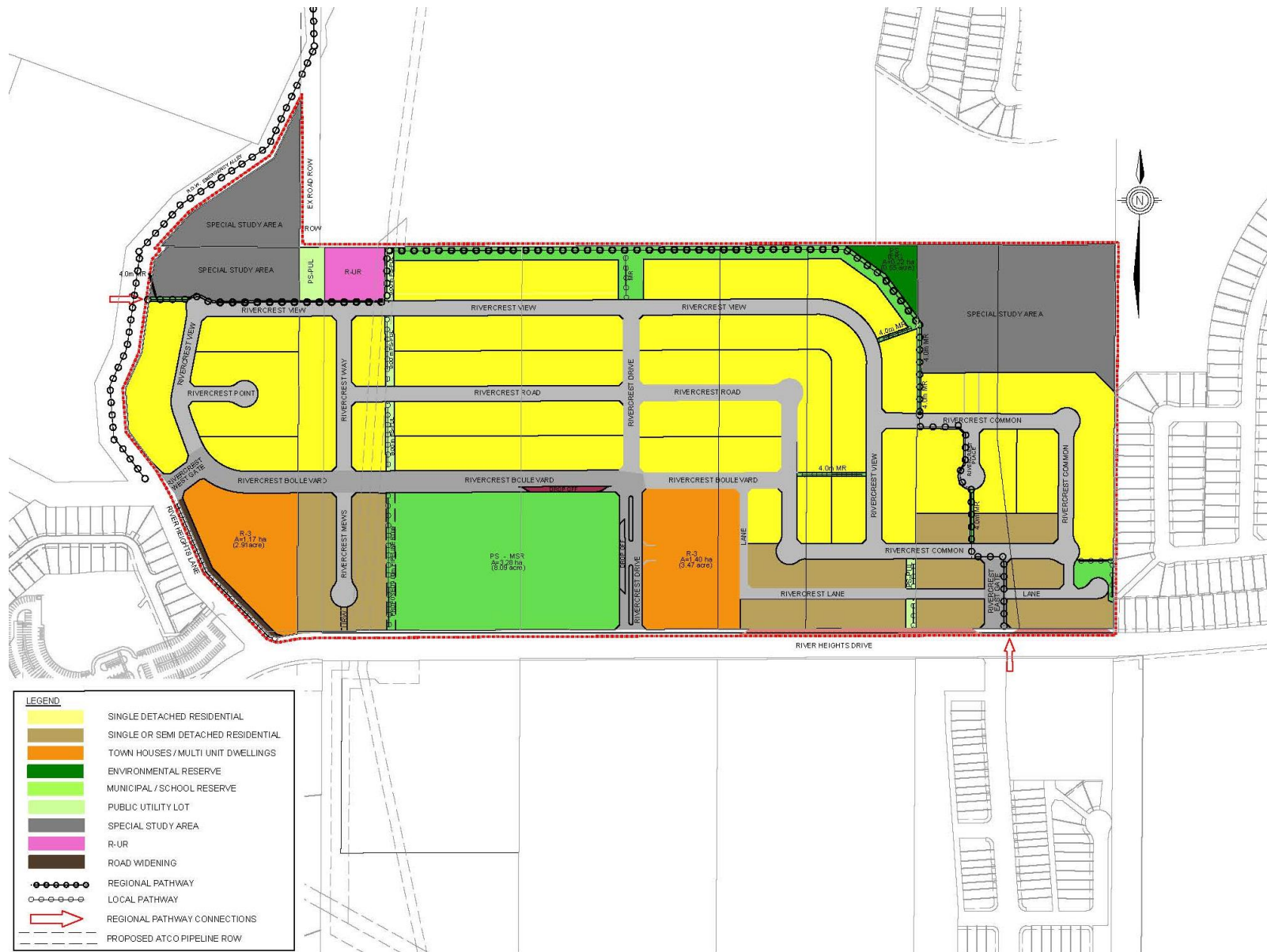


FIGURE 13: OPEN SPACE KEY PLAN



MUNICIPAL RESERVE – SCHOOL (MR – SCHOOL)

- A Rocky View School site is situated along River Heights Drive, west of Rivercrest Drive. The school site is intended to provide an educational facility for 900 children. It includes all of the typical facilities such as soccer fields, play areas, room for portables in addition to the school building and related parking area proposed for this site. Children from this neighbourhood will be able to reach the school using the sidewalks and trails on site. School buses are expected to access the site via bus drop off zones along Rivercrest Boulevard. Parents drop off zone is expected to be located along Rivercrest Drive
- The 3.28 ha (8.10 ac) school site represents almost the entire 10% Municipal Reserve dedication required for the entire site and substantially more than required for Phase 1 (please refer to Figure 28).
- The provision of Municipal Reserve lands in Rivercrest is not spread proportionately across each Land Owner's property, and there is over dedication of MR by individual landowners. In order to compensate for over dedication of MR by individual landowners, compensation will be required from future landowners developing within the Plan area. The compensation will be provided to the landowners that have over dedicated. This compensation will be triggered by a Subdivision application and be included as a condition of approval. The compensation will continue to be a condition of subdivision until such time as the landowners are adequately compensated. When determining compensation amounts to be provided the proportionate share of MR required from each individual landowner will be used.

FIGURE 14: SCHOOL SITE CONCEPT PLAN



MUNICIPAL RESERVE – PARKS AND TRAILS (MR – PARK & TRAILS)

- One passive Neighbourhood Park provides a link to the regional and local trail system within the adjacent community of Riversong. Within the constraints of limited reserve dedication in addition to the school site, it responds to public comments about their wish for some buffer space while ensuring an attractive interface and opportunity to connect with Riversong.



FIGURE 15: EAST NEIGHBOURHOOD PARK CONCEPT PLAN: SCHOOL SITE CONCEPT PLAN

- An additional Municipal Reserve park is provided at the north end of Rivercrest Drive providing a link to the Municipal Reserve and Regional Pathway along the north edge of the Rivercrest community.
- The balance of the Municipal Reserve area is made up of both local and regional trails which provide for recreation opportunities. The trails are interconnected through the neighbourhood plan. At the north edge of the plan area the regional trail is located just inside the site area. The Cochrane Open Space Master Plan indicates that a regional pathway will be located along the west side of the Rivercrest Neighbourhood Plan. Due to the topography in this area, the regional pathway is accessed from River Heights Rise and will connect to the Rivercrest View – roadway (Phase 4). As part of the boundary condition, the developer of Lot 3b will be responsible for the regional pathway along his property and the connection to the regional pathway on the west edge of Rivercrest. The Open Space Master Plan also indicates that a conceptual connection will link to this area via the east edge of the Willows. This connection was relocated within the Willows to the west side of the north easterly storm water pond. This connection extends north via a regional pathway within the Rivercrest Neighbourhood Plan.
- In total the Municipal Reserve is 4.21 ha (10.40 ac), which represents a 12.63% dedication of the gross developable area.
- The provision of Municipal Reserve lands in Rivercrest is not spread proportionately across each Land Owner's property, and there is over dedication of MR by individual landowners. In order to compensate for over dedication of MR by individual landowners, compensation will be required from future landowners developing within the Plan area. The compensation will be provided to the landowners that have over dedicated. This compensation will be triggered by a Subdivision application and be included as a condition of approval. The compensation will continue to be a condition of subdivision until such time as the landowners are adequately compensated. When determining compensation amounts to be provided the proportionate share of MR required from each individual landowner will be used.

FIGURE 16: NORTH NEIGHBOURHOOD PARK CONCEPT PLAN

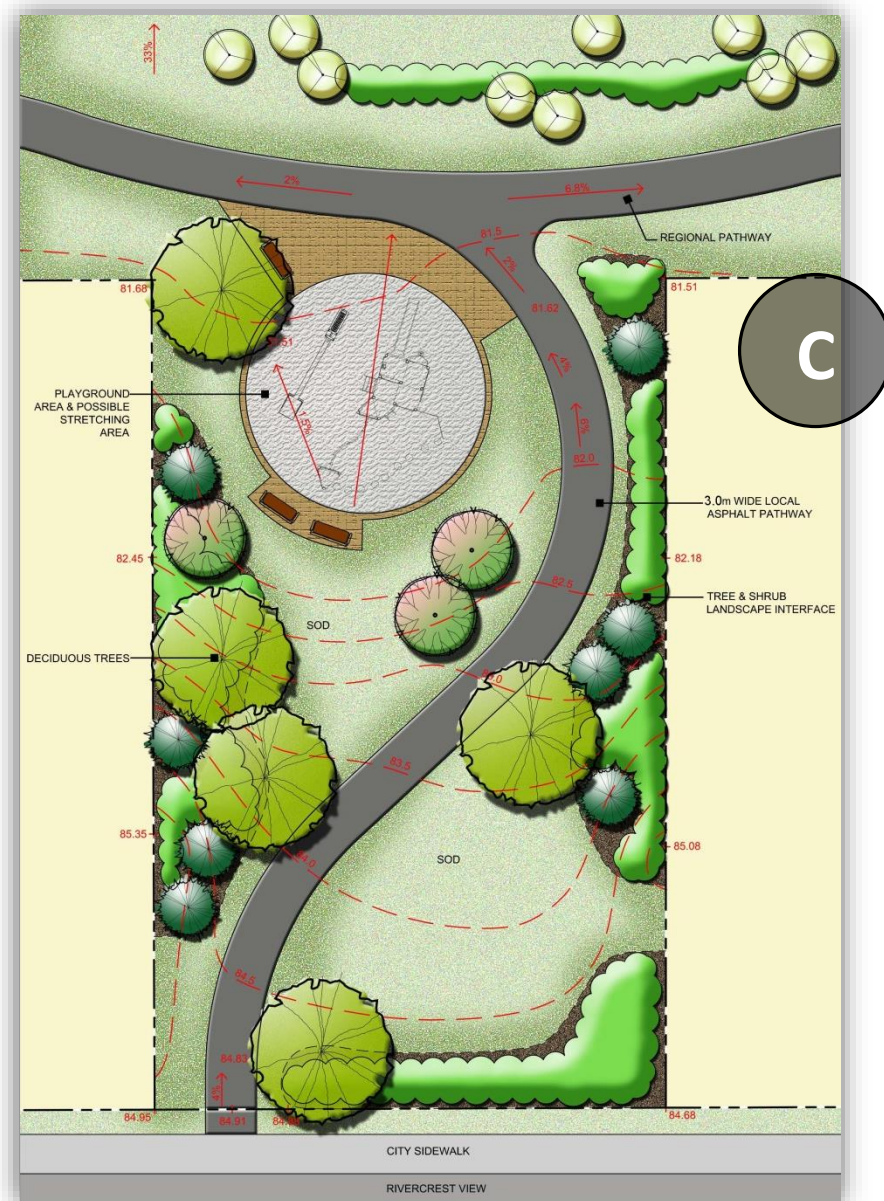


FIGURE 17: CROSS SECTION OF LINEAR PARK ALONG THE ESCARPMENT

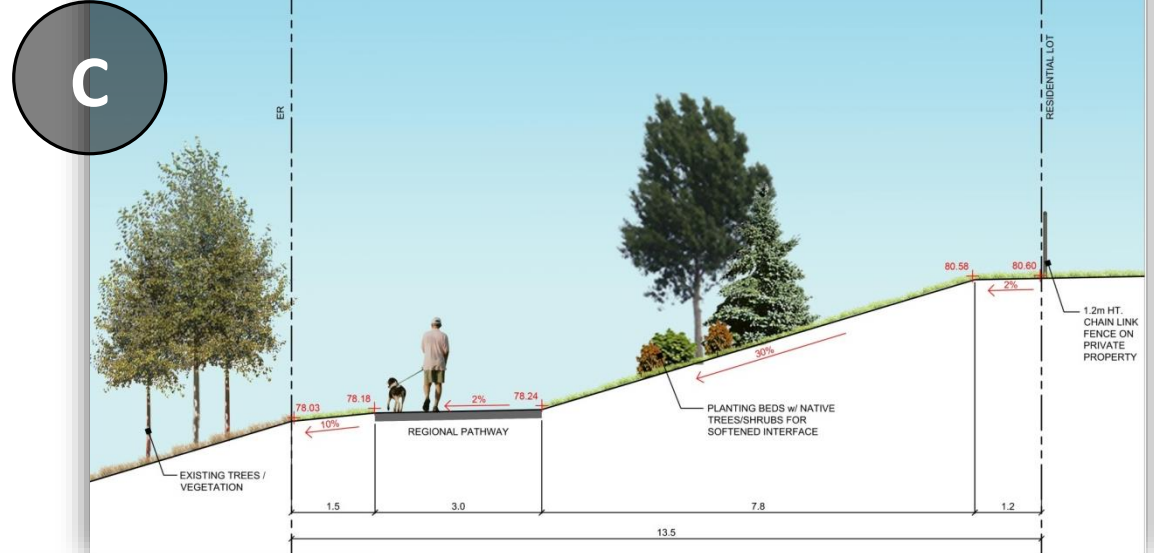


FIGURE 18: VIEW LOOKING TOWARD NORTH NEIGHBOURHOOD PARK



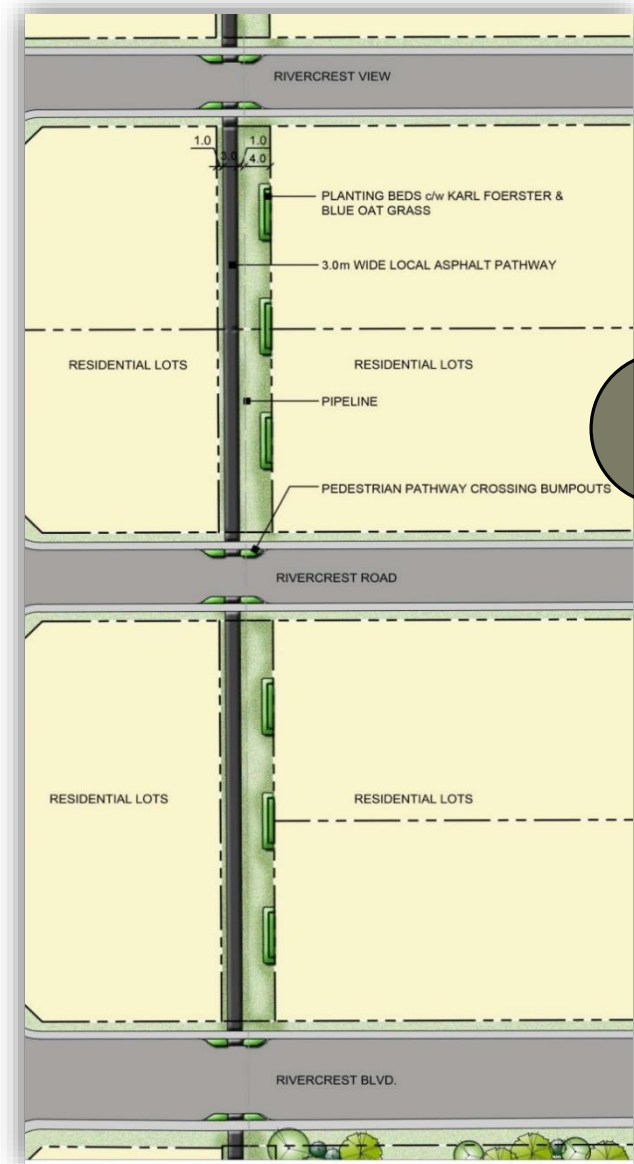
FIGURE 19: PUL CONCEPT PLAN

ENVIRONMENTAL RESERVE (ER)

- An area of 0.22 ha (0.55 ac) in the north-east corner of Phase 3 (please refer to Figure 28) of the neighbourhood plan is anticipated to be set aside for Environmental Reserve. The dedication of this area is respectful of the River Heights Area Structure Plan's notation of the setting aside of areas of slopes greater than 15% unless specific geotechnical studies indicate safe areas for development. The trail system is located on the periphery of this space in order to lessen any impact on vegetation.

PUBLIC UTILITY LANDS (PUL)

- The High Pressure Gas Line PUL's will be developed into a linear open space with low impact planting and a local asphalt pathway in accordance to the Town and ATCO Pipelines specifications.



PLAN DENSITY AND SUMMARY STATISTICS

The River Heights Area Structure Plan has determined that the minimum residential density, calculated for each Neighbourhood Plan area, shall be 19.9 units per net developable hectare or 8 units per acre. The same minimum density is also noted in the Municipal Development Plan. The Land Use Summary Statistics shown on Table 5 indicate that the overall density expected will be 19.99 per net developable ha or 8.09 units per acre. This table outlines the type of development by phase along with the expected associated range of numbers of units.

In addition, the Neighbourhood Statistics table notes an MR dedication of 12.6% which is 2.6% over the required 10% dedication, which results in an additional 0.88ha (2.17ac) of green space beyond what is required by the Municipal Government Act.

Table 5: Neighbourhood Statistics

ALL AREAS ARE APPROXIMATE, LOT NUMBERS AND FINAL DENSITY TO BE DETERMINED AT THE SUBDIVISION STAGE

	ha	ac		
Total Area	38.17	94.32		
Environmental Reserve/Special Study Area	4.85	11.98		
Gross Developable Area (GDA)	33.32	82.33		
Residential by Phase	ha	ac	units	% of GDA
<i>Phase 1</i>				
R-1	5.51	13.62	122	
R-2	2.08	5.14	92	
R-3	1.40	3.46	94	
<i>Phase 2</i>				
R-1	3.07	7.59	68	
<i>Phase 3</i>				
R-1	2.32	5.73	51	
<i>Phase 4</i>				
R-1	2.18	5.39	48	
R-3	1.17	2.89	79	
<i>Phase 5</i>				
R-1	0.18	0.44	4	
R-2	1.31	3.24	58	
<i>Phase 6</i>				
R-1	2.27	5.61	50	
Total				
R-1	15.53	38.37	343	
R-2	3.39	8.38	150	
R-3	2.57	6.35	173	
Residential Area	21.49	53.10	666	64.5%
Total Municipal Reserve	4.21	10.40		12.6%
School Site	3.28	8.09		
Park	0.93	2.31		
PUL Area	0.28	0.69		0.8%
Road Area	7.34	18.14		22.03%
Density		19.99 upha		8.09 upa

RESIDENTIAL DESIGN ELEMENTS

GENERAL

The intent is to encourage visually attractive single, semi-detached and multi-family development and, at the same time, ensure the residential densification of the Town of Cochrane occurs through the development of highly livable, human-scaled single and multi-family residences.

The neighbourhood concept will include a range of types of houses throughout the plan to create vibrant and changing vistas. A variety of housing within each density will also add to the visual interest such as R-2 areas which can contain both single family and semi-detached. The addition of garden suites is another way to add variety to the lower density areas however garden suites are possible only where rear lane access is available.

The building exterior finishes at the entrance are enhanced to promote an aesthetically pleasing 'gateway' to the development. Buildings located at the site entranceway step down with the topography to create an approachable pedestrian scale entrance.

Situate as many R-2 lots with rear yard garages, as possible, to enhance the pedestrian realm. This allows pedestrians to freely use the main street area without any impediment of driveways as well as to create a more welcoming environment.



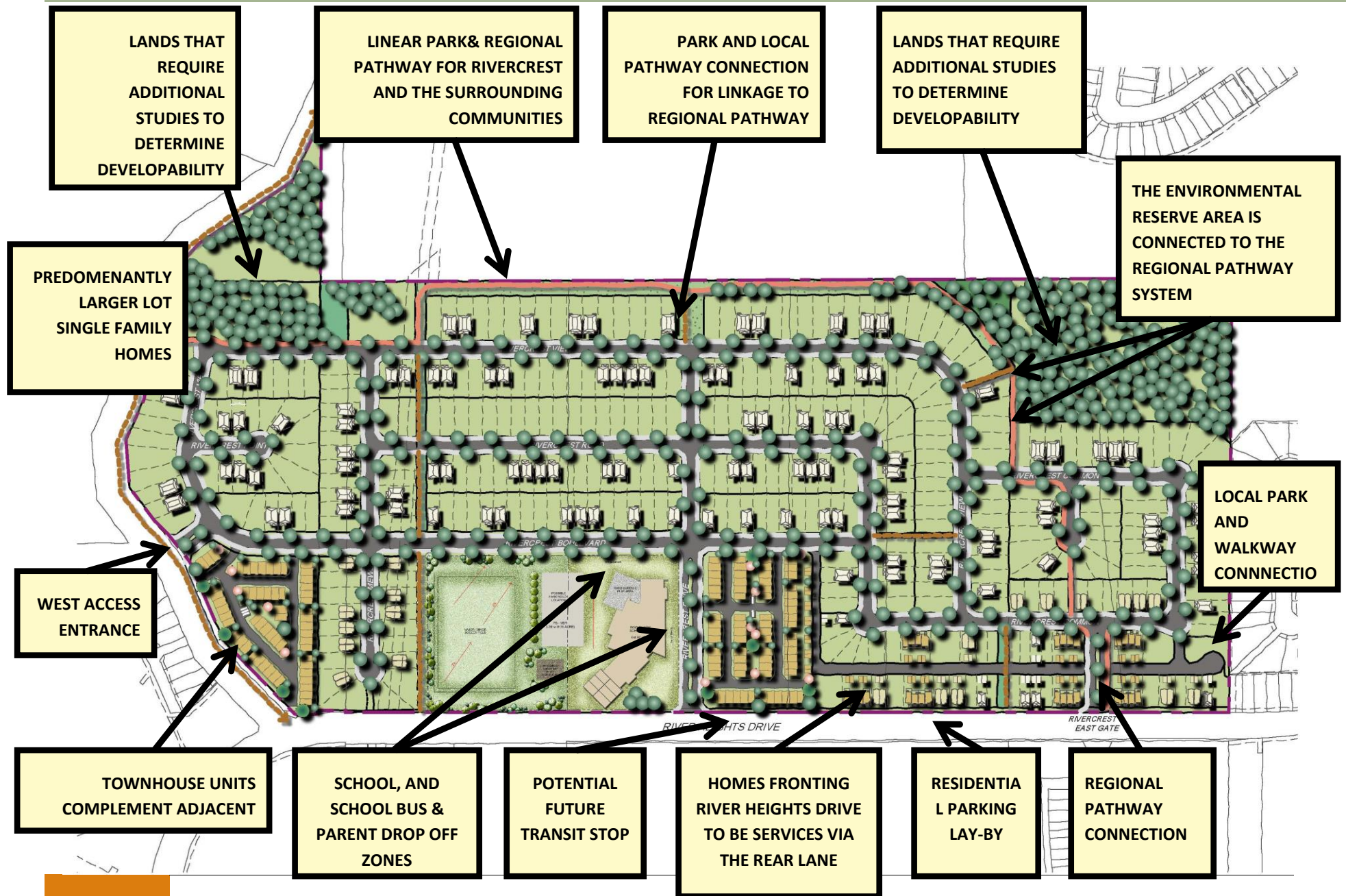
R-3 should be developed in a variety of clustered and linear forms to create diversity and variety in the community.

Townhouse neighbourhoods with more than 70 units are encouraged to provide a tot lot within their green space. Townhouse developers will also be encouraged to provide a small communal space attached to one of the townhouse buildings.

Several cul-de-sacs are included to provide variety and choice in housing location. Walkways, in addition to sidewalks, are encouraged in order to provide more than one access to a home (Crime Prevention through Environmental Design).

High quality landscaping is provided throughout the site and adjacent land uses are appropriately screened.

FIGURE 20: NEIGHBOURHOOD DESIGN ELEMENTS



SPECIAL STUDY AREAS

Before any development is contemplated in either of the special study areas and as a requirement of any re-designation application, a professional geotechnical study must consider and provide direction on where development may be possible, and if so, describe the requirements to ensure that all proposed building sites and related servicing areas/connections can be constructed to ensure long term stability.

OPEN SPACE ELEMENTS

The Rocky View school site is designed to contain the normal school building footprint with adjacent parking as well as amenities such as a soccer field. While situated to enhance pedestrian access to the site, it is expected that a parent drop off/pick up area for students will be located along Rivercrest Main Gate at the east edge of the school area. It is expected that, over the long term, bussing will approach this area by River Heights Drive and use bus bays located on Rivercrest Boulevard. The school is placed in a highly visible area with eyes on the site from the surrounding residential housing.

Environmental Reserve area contains open space which can be accessed by sensitively located regional trail. Trails should avoid steeply sloping areas and care should be taken in the trail design to try to avoid the removal of mature trees.

Municipal Reserve Areas including the Trail System require lighting to be provided as a part of each pathway for both safety and extended use (Crime Prevention through Environmental Design). Linear MR areas will vary from 4 – 13.5 m wide and will contain a 3-metre-wide asphalt path.

The entry area at Rivercrest Drive will feature cobblestone stamped coloured concrete pavement. This will highlight the main entry to this community. The access will also feature a boulevard with appropriate landscaping. Signage and lighting will create an attractive feature.

Street and Entrance Lighting will use downward facing, energy efficient lights. Street lighting will be provided as a part of each roadway.

Some street side parking in the community will be accentuated by coloured asphalt or stamped coloured concrete. Unobstructed roadway sight lines to enhance personal safety for pedestrians, cyclists and drivers are encouraged (Crime Prevention through Environmental Design).

TRANSPORTATION

An overview of the transportation system is included on Figure 23, Roadway Network and Pathways.

TRANSIT

A transit stop, for residents, will be established east of the intersection of River Heights Drive and Rivercrest Main Gate on the west bound lane of River Heights Drive.

INTERNAL TRANSPORTATION NETWORK

The Rivercrest road network provides residents with multiple routes to choose from. The internal network is enhanced with pedestrian sidewalks/pathways that are connected in two locations to the Town's planned regional pathway system. Although the development is modest in size, the internal network was designed with divided entrances on River Heights Drive, and River Heights Lane that will allow for two-way traffic into the internal road network. A dual mono-sidewalk will provide pedestrians with a means to traverse the development and tie into both the internal and surrounding external regional pathway system and adjacent communities.



FIGURE 21: ILLUSTRATION OF THE INTERSECTION OF RIVER HEIGHTS DRIVE AND RIVERCREST DRIVE

EXTERNAL TRANSPORTATION NETWORK

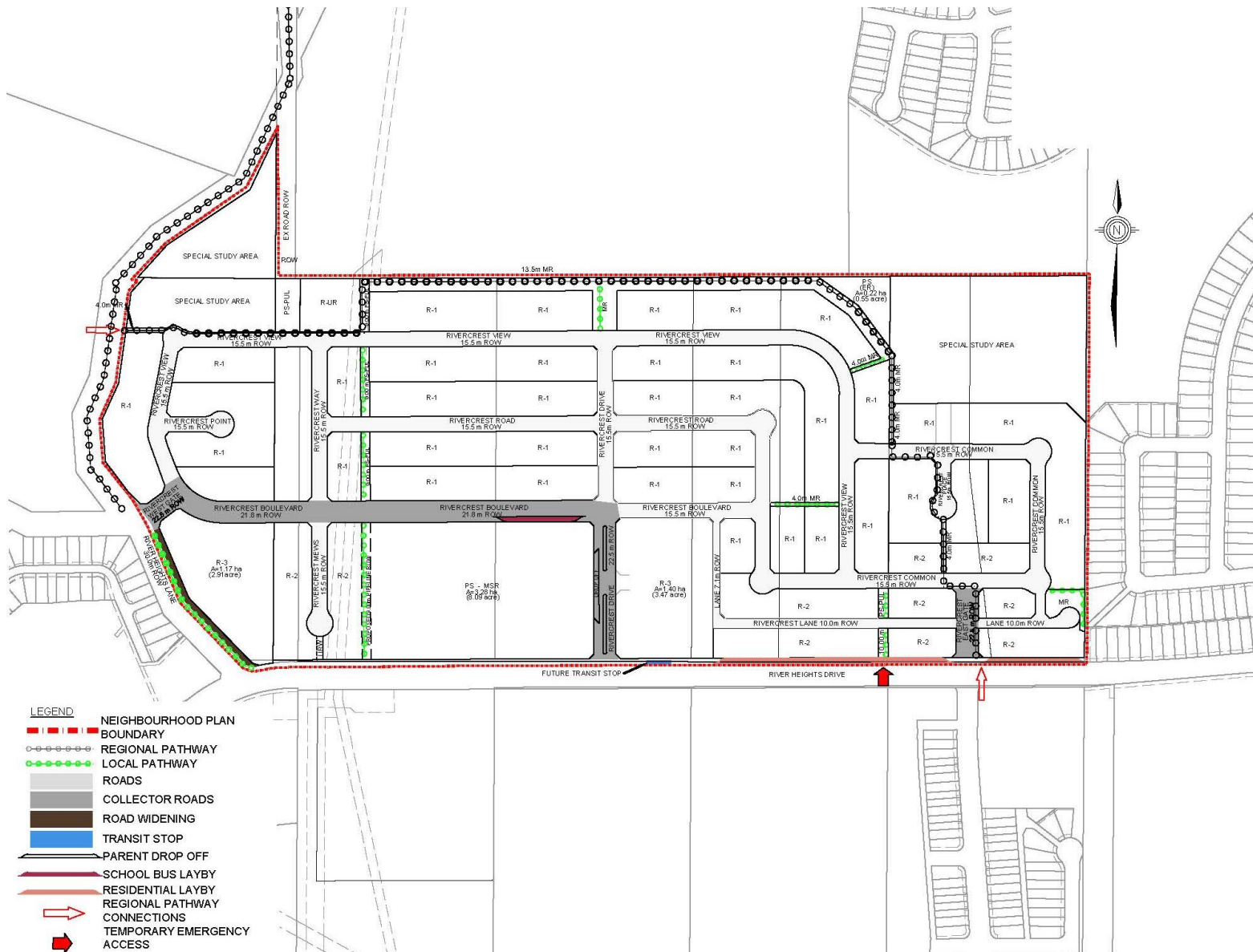
Access to Rivercrest will be from River Heights Lane and River Heights Drive. Bunt and Associates completed an initial TIA in 2008 and a revised TIA in 2013 to their previous Traffic Impact Assessment (TIA) to update recommendations. A further revision to the 2013 TIA update has been completed and prepared by Bunt & Associates. Further discussions with the Town have indicated that a 5 m road widening would be required on River Heights Lane, please see Figure 23.

INTERIM EMERGENCY ACCESS

The first access to Rivercrest will be from River Heights Drive into Rivercrest Drive via an undivided approach. This is specifically designed for emergency vehicles. An emergency access lane, with breakaway gates, will be constructed on the east edge of Phase 1 in order to provide a second interim access to the site. The Emergency Access will be constructed to The City of Calgary Guidelines and standards. Ultimately three main routes will be built at the completion of the final phase.



FIGURE 22: ILLUSTRATION OF THE PARKING LAY-BY ALONG RIVER HEIGHTS DRIVE



PARKING

Parking will be provided on both sides of the street. No parking will be permitted on lanes. Garbage pickup will be street side with no parking permitted during waste pickup days within cul-de-sacs. Signage will be required. Two residential lay-bys will be added on the north side of River Heights Drive in order to add to the R-2 parking to the north. An example of the lay-by can be seen on Figure 22.

PEDESTRIAN MOVEMENT

The site is to be developed as a mix of single detached, semi-detached, and multi-family units. Internal sidewalks and pathways will be constructed to the Town of Cochrane design standards providing interconnectivity within the development. These sidewalks will connect to the regional pathway which in turn will ultimately connect to the overall regional pathway – see Figure 23.

SERVICES – DESIGN CONSIDERATIONS

Figure 24, Deep Utility Servicing, illustrates a summary of the municipal infrastructure within the Rivercrest Neighbourhood Plan.

POTABLE WATER

St. Mary's reservoir and pump house, located to the west of the development, will supply the Rivercrest with potable water through the distribution main located in River Heights Drive, as shown on Figure 25.

Fire protection will be provided through fire hydrants that will be installed along the water distribution system. The hydrants will be sized and spaced appropriately, to allow for an adequate supply of water for firefighting purposes, as specified by the Town of Cochrane.

The developer will be eligible for the recovery of an appropriate portion of the costs associated with any utility oversize or distribution main construction if applicable.

WASTEWATER

Wastewater for Rivercrest will be provided by a gravity main system. The system will connect the existing wastewater main in two locations at River Heights Rise (NW of proposed development) and River Heights Drive (SE of the proposed development), as shown on Figure 27. Wastewater is conveyed across the Bow River and connects to the forcemain to Calgary, as specified in the 2005 Sanitary Master Plan Drawing. The method of construction for the connection from the north property boundary to River Heights Rise wastewater main will be directional drill.

The developer will be eligible for the recovery of an appropriate portion of the costs associated with any utility oversize or main construction if it applies.

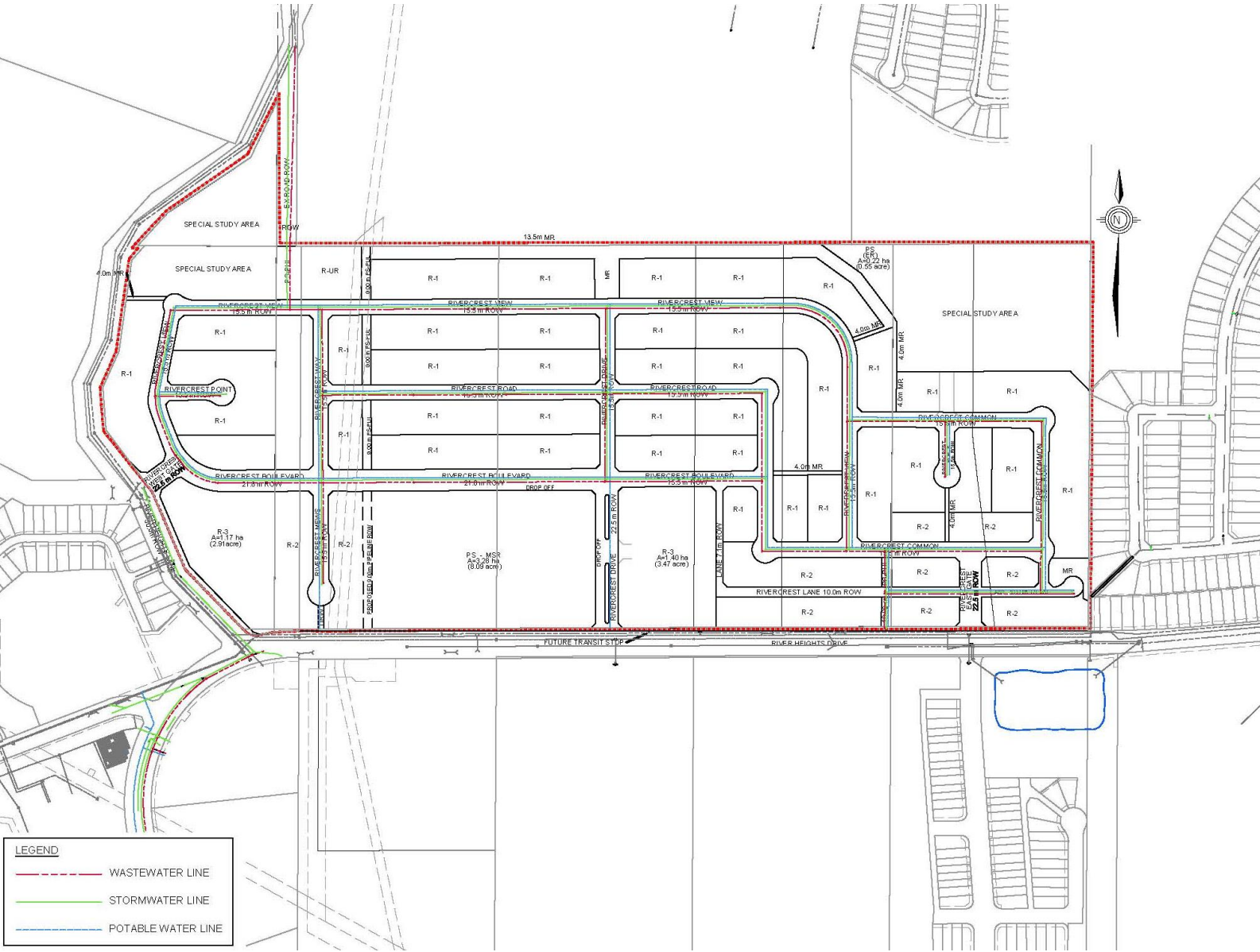


FIGURE 25: POTABLE WATER LAYOUT

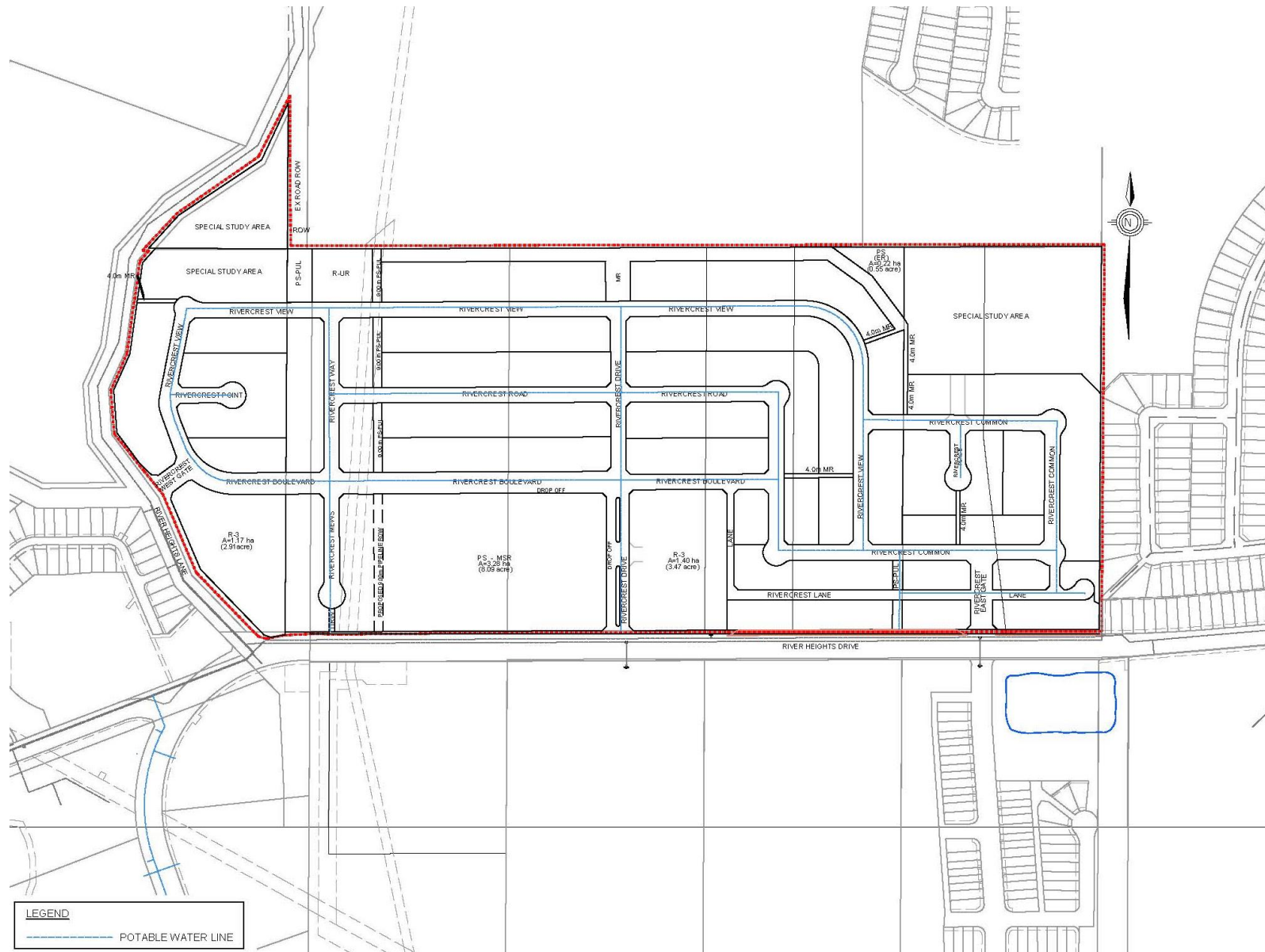
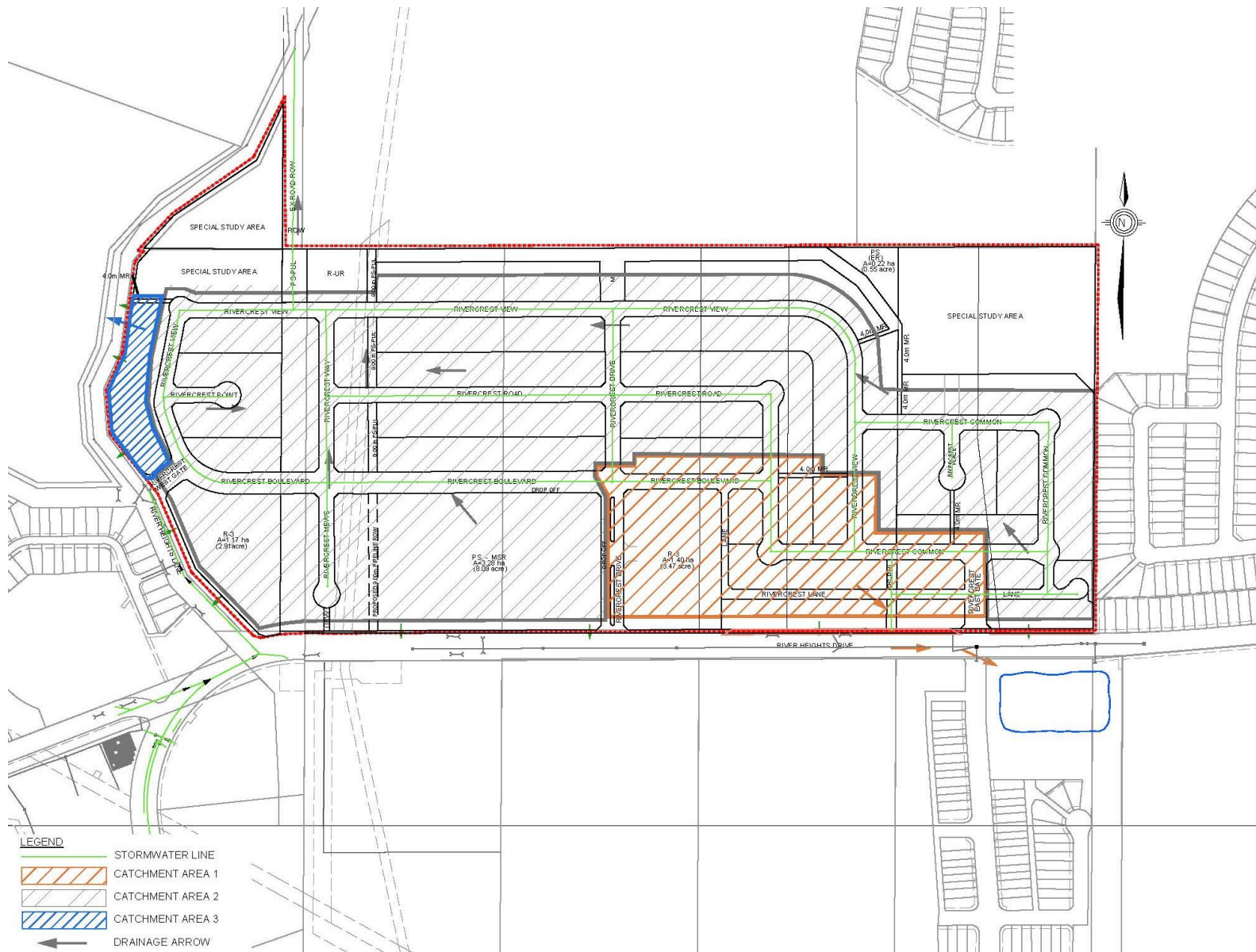
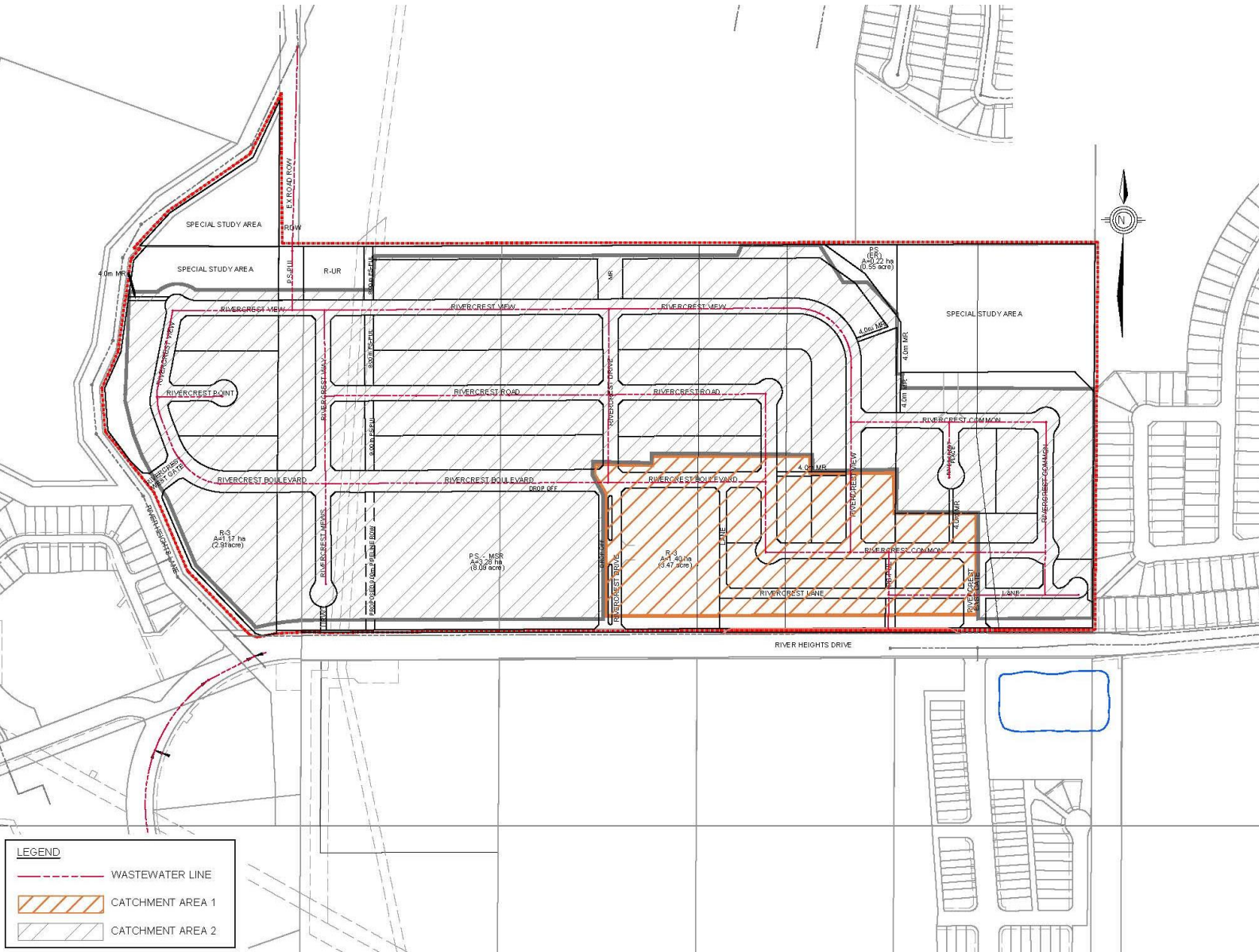


FIGURE 26: STORMWATER LAYOUT & CATCHMENT BOUNDARIES







STORMWATER

Stormwater will be managed by a series of trap lows that will direct the water to the gravity system. The collected stormwater will be conveyed through a series of underground pipes to two water quality control facilities, one facility, an oil grit separator, will be located in the community at the closed road ROW and Rivercrest View and the second one, a storm pond, located in the Willows of River Heights subdivision, where the water will be treated to Alberta Environment specifications. From these facilities the treated stormwater will be released at a rate specified in the ASP for River Heights, through a series of underground pipes to the stormwater main in two locations, one at River Heights Rise (NW of the site) and the second at River Heights Drive (SE of the proposed development). The details of the stormwater system are shown on Figure 26, Stormwater Layout and Catchment Boundaries. The method of construction from the oil grit separator at the north property boundary to the main in River Heights Rise will be directional drilling.

Emergency overland drainage will be directed to the emergency route access at the north-west corner of the property and into the south ditch along River Heights Rise. The Stormwater Management Plan is included under separate cover and contains best management practices such as;

- All roof drainage from single family houses and garages to be directed to landscape areas prior to draining to streets or lanes;
- A minimum of 300 mm of topsoil to be provided for all landscape areas;
- The above management practices outlined are required at subdivision.

SHALLOW UTILITIES	EARTHWORKS	LANDSCAPING	PHASING
Shallow utilities for the Rivercrest Communities will be an extension of the existing lines located in River Heights Drive and Rise which provide services to the community. All power, telephone, cable and power lines will be buried within the development.	The site will be contoured to provide positive drainage as per a storm water management report, which will be prepared for the development permit along with engineering design during the Stripping and Grading stage of the development.	Landscaping will be completed once the residential construction is finished and will be in compliance with an approved landscaping plan which will be included in Development Agreements.	Development for the various properties within the Neighbourhood Plan will be initiated according to the direction of those property owners. The expected order for development anticipated is noted on Figure 28, Phasing Plan. This may change in response to a number of variables including market conditions.
All roadways / upgraded roadways will have street lighting included.	The subdivision will be designed without the use of engineered retaining walls. Landscape walls could be used to enhance the rear of lots for future residents, in accordance with Town of Cochrane specifications.		The community is designed be able to stand alone in terms of a community with the development of Phase 1 and the development of each additional phase. It should be noted that the completion of Phases 1 through 3 will yield a community core with an extensive amenity base including a school site and regional and local pathways. A variety of types of housing will form the heart of the community. The development of Phase 1 will create an interim agricultural / residential interface. This will result in residential use beside an area currently used to graze horses. In order to ease any potential conflicts and to be a good neighbor, the developer of Lot 4 will be required to construct fencing in a form agreed upon with the adjacent landowner of Lot 3b. This will be a 6 foot custom landscaping fence on the west side of the road allowance boundary.

IMPLEMENTATION STRATEGIES

DEVELOPMENT IN THE RIGHT OF WAY AREA

Directional drilling will be used to ensure minimum disturbance and replacement trees will be provided if any are removed during development.

PROTECTION OF LANDS WITHIN THE SPECIAL STUDY AREAS

Land within the Special Study Areas located in the north-west and north-east corners of the site will remain as Urban Reserve – Residential (UR-R) unless slope stability analysis and geotechnical evaluation determines that development is possible and that evaluation is part of an approved re-designation application. If a development is permitted in this area as part of a re-designation application, then it will be considered a minor adjustment to both the River Heights Area Structure Plan and this Neighbourhood Plan.

PHASING

The phasing will occur as shown on Figure 28. The numbering of phases does not necessarily denote sequencing, but generally demonstrates how the community will develop.

ADDITIONAL STUDIES REQUIRED AT REDESIGNATION

On parcels 3a, 8a, and 8b a variety of special studies are required to be completed and submitted at the re-designation Application stage. These studies are outlined on Figure 29.

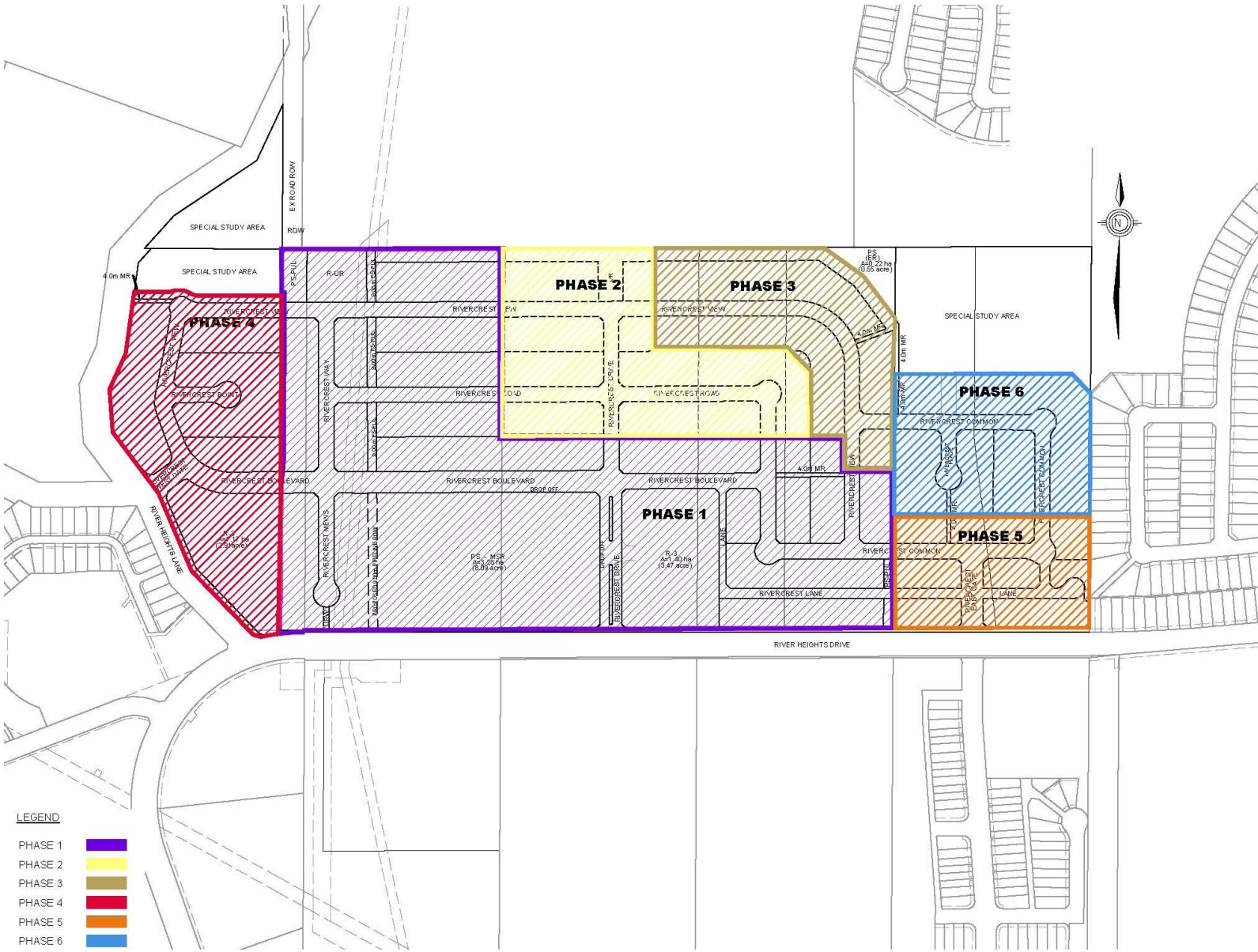
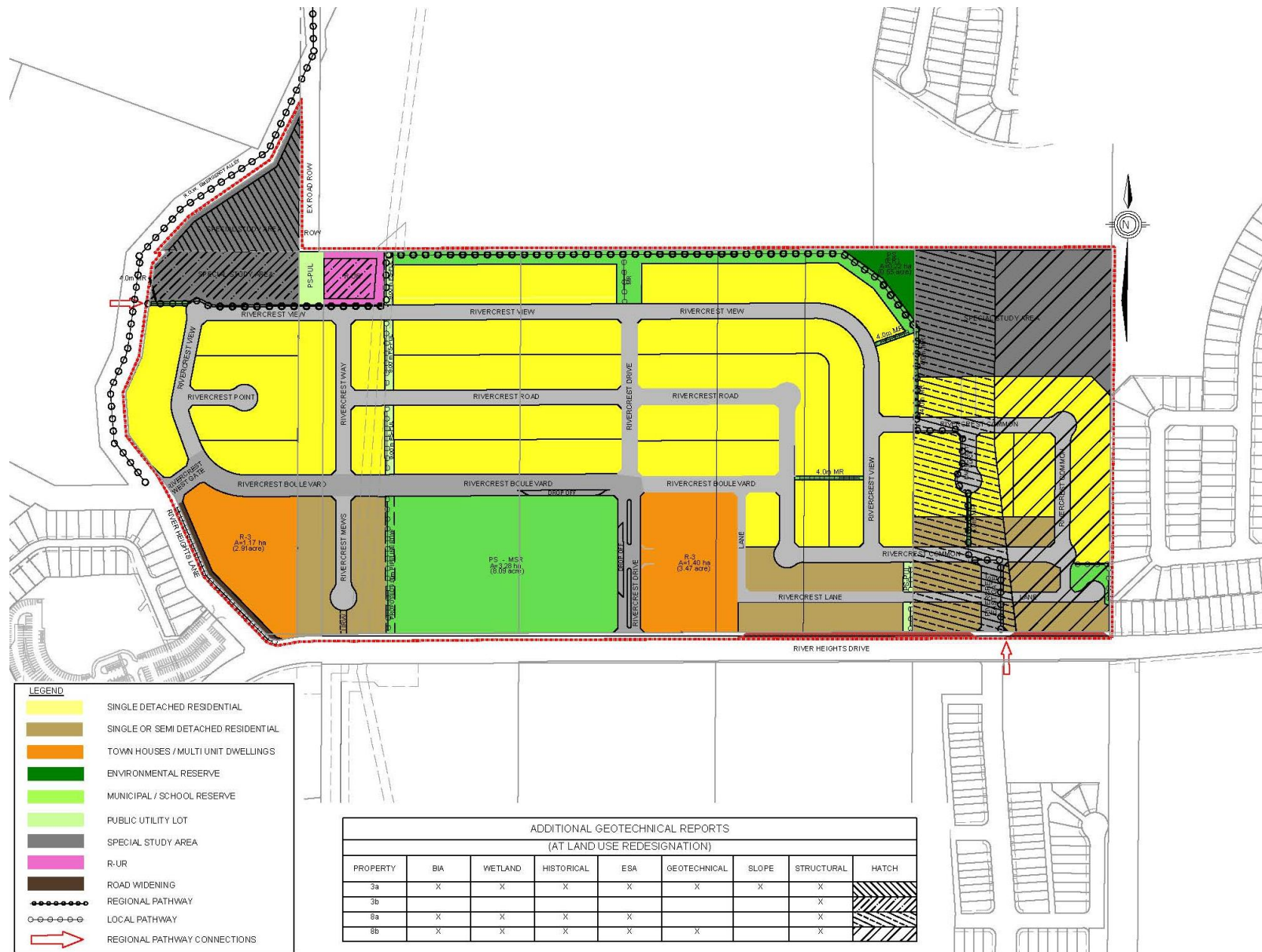


FIGURE 29: IMPLEMENTATION REQUIREMENTS



APPENDIX A

COCHRANE SUSTAINABILITY PLAN

Sustainability is kept at the forefront of planning within the Town of Cochrane through the Cochrane Sustainability Plan (adopted May, 2009). The sustainability plan was developed looking ahead for 50 years, within a Systems Thinking integrated approach which combines the: built environment; natural environment; economic; social; governance; and culture.

The Sustainability Plan contains 13 pathways to the future as an integrated approach to drive actions in the town. These are individually listed below along with the manner in which the Rivercrest Neighbourhood Plan addresses the pathway, noted in bold.

WE BUILD A CULTURE OF RESPONSIBILITY

Pathway 1 – We are a socially responsible and empowered community:

A variety of housing will respond to a diverse population; including a community garden will not only provide local produce but can be used for teaching purposes and additional food may be donated to the food bank.

WE ARE RESPONSIBLE CITIZENS OF THE PLANET

Pathway 2 – We treat water as a precious resource and will reduce the per capita water use:

Protecting the Bow River from runoff through an effective stormwater management plan;

Create water efficiencies by using water efficient appliances throughout each house. Additionally the developers will offer a Rain Barrel program through EQWell to each home to encourage water reuse for private landscaping.

Pathway 3 – We use energy responsibly and innovatively and will reduce the per capita energy use:

Builders will be encouraged to use best industry practices to reduce energy use.

Pathway 4 – We contribute to the solution on climate change and will decrease community greenhouse gases:

A transit stop is included within the neighbourhood plan design. It is located just east of the main access. Most homes are included within a 400 metre radius;

Encourage the town to use the transit stop as a commuter bus stop in the interim;

Encourage walking/cycling within the neighbourhood on local trails and sidewalks as well as on regional trails;

Encourage walking/cycling to employment areas, and commercial sites.



WE LIVE LOCALLY

Pathway 5 – We consume the bounty of our local economy and increase local consumption:

Encourage the Rocky View School to develop a community garden;

Upon completion of Phase II, (or later, depending on the site selected for the community garden), the developer will provide fencing, planting soil, water and demarcation for the first ten garden plots of about 40 square feet each.

Pathway 6 – Our local economy is healthy and diverse:

A diversity of houses will be created to enable people of many income levels to live in this neighbourhood.

Pathway 7 – Everyone has an opportunity to pursue their potential in Cochrane:

Multifamily sites have an opportunity to contain a community gathering centre/space.

Pathway 8 – We are a caring community that lives and celebrates together:

Live and play will take place in relatively compact neighbourhoods;

The green spaces, transit, trails, amenities and services of this neighbourhood will enable healthy, outdoor/indoor interaction;

In order to encourage the development of a community association, the developer is willing to contribute \$50 for each Single Family home and \$25 for each higher density home unit, in the event that a Community Association is established, for use within the plan area.

Pathway 9 – Everyone has a roof over their head; the housing is diverse, accessible, safe and affordable:

A variety of housing types and densities in a master planned community will ensure delivery of this description of success;

Cochrane still has a higher percentage of children and youth compared to provincial average. Some housing components are designed to cater to this population group through affordable homes and appropriate open spaces such as a school, parks and walkways.

Pathway 10 – There is enough room for everything a community should have:

Cochrane wants to achieve a target of 60% residential /40% non-residential by 2039. To do this the predominant majority of the future development of town wide Urban Reserve has to be residential along with related uses such as open space and protected environmental sensitive areas. This is the directed goal of this neighbourhood plan; the Rocky View School in the neighbourhood will ensure that education facilities are nearby.

COCHRANE IS A COMPLETE COMMUNITY

Pathway 11 – Wherever you are in Cochrane, you're close and connected:

The increased density in this community responds to the overall municipal target of increasing density;

A minimum of 8 units per gross developable acre will be achieved;

The planned transit stop on River Heights Drive will ensure that the target of having 50% of population within 400 m and/or a 5 minute walk to a transit stop by 2029 will be achieved. The actual percentage of population will be approximately 80% within 400 m of this transit stop;

Through the dedication of open space including the school site and setting aside of appropriate environmental areas, the target of having 100% of community within 400 m of open space by 2029 will be met.

Pathway 12 – There are diverse options for getting around:

To meet the target by 2029 of a complete interconnected mode and corridor network throughout the Town of Cochrane and its region that is accessible to the full range of vehicular and non-vehicular uses/uses will be addressed through the following:

The transit ready design will be incorporated in this neighbourhood plan;

The encouragement for the Town of Cochrane to use this transit stop as commuter bus stop in the interim, prior to this location becoming a regular transit stop;

The local and regional pathways within the neighbourhood plan and the connections to regional pathways outside this community will connect pedestrians and bicycle riders to areas both within and outside of this community.

Pathway 13 – We build Cochrane on the strengths of our natural and cultural heritage:

The target by 2020 that natural areas and habitat are maintained or increased will be addressed by the setting aside a substantial amount of natural area. The specific amount will be determined within the special study areas. It should be noted that the biophysical report indicates that the environmentally significant lands noted in the Area Structure Plan are not regionally significant;

The target of including Western Heritage values is encouraged to be addressed in areas designed for the public.

MUNICIPAL ENVIRONMENTAL IMPACT STATEMENT (MEIS)

6.3.2 Municipal Environmental Impact Statement (From Municipal Development Plan)

(a) A municipal environmental impact statement (MEIS), paid for by the developer, shall be required for all developments, subdivisions, or other areas as determined by the Town. Where other studies have been completed, they can be submitted as part of the MEIS document. The MEIS shall address the following:

(i) A description of existing environmental conditions, the proposed development, and the significance of potential short- and long-term environmental impacts, including impacts of construction and operating activities.

(ii) Identification of appropriate and feasible mitigation measures, including land use planning, project design, construction techniques, and operational practices, to reduce or eliminate potentially adverse effects on the environment. Issues to be addressed include, but are not necessarily limited to, the following:

❖ Fish and wildlife

The proposed development lies outside the significant wildlife corridors of the region and the proposed development will have little or no impact on those existing corridors. The development has no impact on fish. Section 3.5.4

❖ Vegetation

With the proposed environmental reserves, a large proportion of the biodiversity will be preserved. As documented in the referenced reports, some species can be preserved through transplant prior to construction. Section 3.5.4

❖ Ecologically significant lands

The BIA has shown that habitat loss was considered significant only in the local context. Section 3.5.4

❖ Surface and bedrock geology

The geotechnical evaluations show that the subsurface geology is organic topsoil over silt and lacustrine clay deposits which overlay glacial till. Section 3.5.2

❖ Soils and terrain

The geotechnical evaluation found organic topsoil ranging in thickness from 100mm to 400 mm. The site is gently rolling with some low lying wet areas. No significant wetlands exist in the development area. Section 3.5.2

❖ Slopes

The largest height differential in the Plan area is 50m. Natural drainage is northward into the Bow River. Section 3.5.1. The top of slope line is added to Figure 4. Provisions for development on slopes are included in the Rangeland reports.

❖ Geotechnical investigation

Geotechnical survey investigations were completed by Almor Engineering Associates Ltd in July 2007 for Lot 4 and subsequently in February 2008 for Lots 5, 6, and 7. Most recently Almor conducted a geotechnical study for Lots 8a and 8b in January 2013 and Lot 3b in June 2014. Section 3.5.2

❖ Flood potential and proposals for mitigation

None of the proposed development lands are subject to flooding.

❖ Stormwater Study

The stormwater boundaries are included on Figure 26. It is anticipated that the two stormwater facilities, one in Rivercrest and one in the Willows of River Heights, will capture and treat the water to the Town of Cochrane's standards. Stormwater Reports will be completed as required by the LGN Rivercrest Staged Master Drainage Plan, 2013.

❖ Water quantity and quality

The stormwater management facilities proposed in the development have been designed to provincial standards to ensure release rates and water quality standards are met.

❖ Air quality

There are no expected reductions in air quality beyond those normally associated with residential development.

❖ Visual resources

The proposed development will retain most of the visually appealing characteristics of the existing land and terrain.

❖ Land and resource use

By using sound planning principles the land is effectively used with higher density residential areas and protected open space.

❖ Cultural and heritage resources

The historical resource impact assessment completed by Lifeways of Canada recommended that full Historical Resource Clearance be granted for the project of Lots 3b, 4, 5, 6 and 7 by the Alberta Historic Management Branch. Section 3.6.1

❖ Construction and demolition waste management

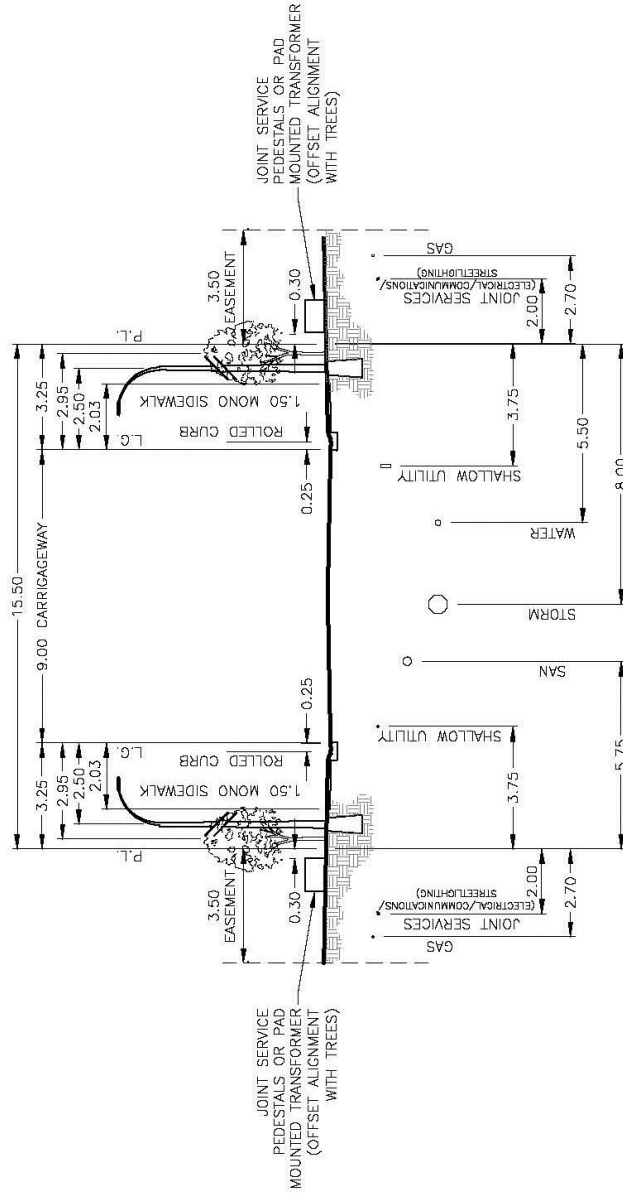
The construction and waste management plan will be submitted with the Development Permit Application at the time of construction.

(iii) Identification of residual impacts, monitoring requirements, and the need for more extensive environmental impact assessment work.

(b) Where necessary, the Town may refer the MEIS for review to Alberta Environment, to professional consultants retained by the Town at the developer's cost, or to other advisory groups with appropriate experience and qualifications.

APPENDIX B

RESIDENTIAL - FRONT DRIVE



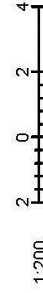
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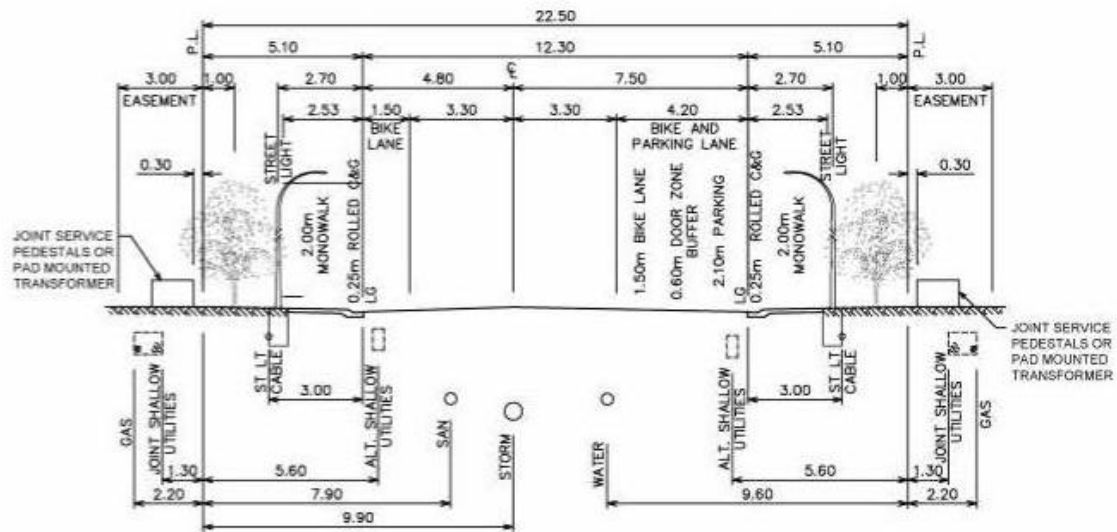
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ISSUED FOR
INTERNAL REVIEW
January 21, 2014
URBAN systems

URBAN
systems
urbansystems.ca

Client/Project		TOWN OF COCHRANE
RESIDENTIAL STREET STANDARD REVIEW		
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RESIDENTIAL - FRONT DRIVE		

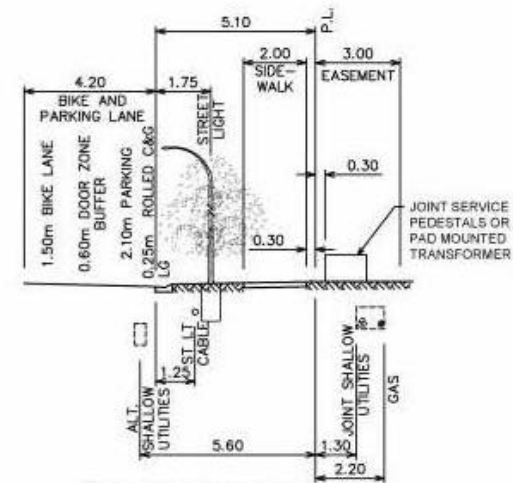




PARKING ONE SIDE AND BIKE LANES

NOTES:

1. THE RECOMMENDED LOCATIONS FOR THE SHALLOW UTILITIES WITHIN THE EASEMENT ARE SHOWN WITH DASHED LINES.
2. ALT. UTILITIES IS AN ALTERNATIVE LOCATION FOR ANY UTILITY THAT CANNOT BE ACCOMMODATED IN THE EASEMENT.
3. UTILITY LINE ASSIGNMENTS MUST BE CONFIRMED DURING THE PLANNING STAGE OF UTILITIES AND PRIOR TO THE APPROVAL OF TENTATIVE PLAN.
4. HYDRANTS ON 1.05m LINE WITH 2.00m MONOWALK OR 3.00m LINE WITH 2.00m SEPARATE WALK.
5. HYDRANT VALVES 1.00m FROM WATER LINE.
6. SERVICE VALVES ON 1.90m LINE WITH 2.00m MONOWALK OR 3.00m LINE WITH 2.00m SEPARATE WALK.
7. HYDRANTS AND SERVICE VALVES SHALL MAINTAIN A MINIMUM 3.00m SEPARATION TO CENTRELINE OF POWER POLES, STREETLIGHTS, TREES, AND THE EDGE OF TRANSFORMERS, PULL BOXES, JUNCTION TERMINALS AND OTHER SURFACE STRUCTURES.
8. TREE AND STREET LIGHT POLES SHALL BE PLACED WITH A MINIMUM OF 4.5m APART DEPENDING ON THE TREE SPECIES.
9. TREES OFFSET MINIMUM 1.00m FROM SIDEWALK.
10. TREES SHALL BE OF A SPECIES AS APPROVED BY PARKS AND ALL TREES TO BE SHALLOW ROOT SPECIES.
11. NON CANOPY TREES PERMITTED UNDER OVERHEAD POWERLINES WITH CONSENT OF UTILITY OPERATOR.
12. BUS LOADING ZONES MUST BE CONSIDERED WHEN LOCATING TREES AND UNDERGROUND/SURFACE UTILITIES.
13. TYPICAL 2% GRADE FOR ROAD CROSS-SLOPE AND BOULEVARD.
14. WATER MAIN WILL BE INSTALLED ON THE OPPOSITE SIDE OF THE ROAD FROM STORM AND SANITARY LINES.
15. ADDITIONAL SEPARATION MAY BE REQUIRED BETWEEN STORM AND SANITARY SEWERS IF EXCESSIVE VERTICAL DIFFERENCE OCCURS.
16. THE AVERAGE VEHICULAR WHEEL PATHS ARE BETWEEN 1.05m (PASSENGER VEHICLES) AND 1.30m (BUSES/TRUCKS) FROM CENTRELINE OF DRIVING LANES. MANHOLES IN ROADWAY SHOULD BE INSTALLED OUTSIDE OF VEHICULAR WHEEL PATHS AND BIKE LANES.
17. PRE-SERVICED DEEP UTILITY CONNECTIONS TO BE INSTALLED 3.50m INSIDE PROPERTY LINE, OR AN ADDITIONAL 1.50m BEYOND AN EXISTING UTILITY EASEMENT.
18. OFFSETTING ROADWAY CENTRELINE WITHIN THE RIGHT-OF-WAY IS NOT RECOMMENDED DUE TO POTENTIAL FUTURE UTILITY CONFLICTS.
19. ROAD AND BOULEVARD WIDTH MAY VARY TO ACCOMMODATE BICYCLE FACILITIES.
20. POSITIONING AND VISIBILITY OF REQUIRED SIGNAGE MUST BE CONSIDERED RELATIVE TO ALL SURFACE STRUCTURES AND PLANTINGS.
21. THIS STANDARD IS INTENDED AS A GUIDELINE FOR NEW DEVELOPMENT, WHERE NOT APPLICABLE MAKE ADJUSTMENTS AS REQUIRED.



SEPARATE SIDEWALK

PERMIT TO PRACTICE THE CITY OF CALGARY Signature: _____ Date: _____ PERMIT NUMBER: P-4428 The Association of Professional Engineers, Geologists and Geophysicists of Alberta		THE CITY OF CALGARY ROADS DIMENSIONS ARE METRES UNLESS OTHERWISE NOTED Metres FILE: C:\pwwork\5055_01\pwwork\5055\000\000.dwg DATE: Wednesday, January 21, 2015 2:53:11 PM REC: UNREVIEWED	Rev:	Date:	Revision:	App'd:	Drawn: AL Date: 2014-12 Designed: EW Checked: EW Scale: NTS	CROSS SECTION COLLECTOR STREET PARKING ONE SIDE	Figure 23 File Number 454.1008.065

