

# Crystallina Nera East Neighbourhood Structure Plan

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Office Consolidation November 2013

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***PREPARED BY:***

***CURRENT PLANNING BRANCH  
SUSTAINABLE DEVELOPMENT  
CITY OF EDMONTON***

**Bylaw 15801 was adopted by Council in September 2011. In November 2013, this document was consolidated by virtue of the incorporation of the following bylaws, which were amendments to the original Bylaw 15801**

Bylaw 15801      Approved Sept 2, 2011 (To adopt the Crystallina Nera East NSP (formerly Joviz NSP))

Bylaw 16640      Approved Nov 4, 2013 (To replace all references to "Joviz" in the NSP with "Crystallina Nera East"  
and to replace all references to "Crystallina Nera" in the NSP with "Crystallina Nera West")

## Editor's Note:

This is an office consolidation edition for the Crystallina Nera East NSP, as approved by City Council on September 2, 2011. For the sake of clarity a standardized format was utilized in this Plan. Private owner's names have been removed in accordance with the Freedom of Information and Protection of Privacy Act. All text changes are noted in the right margin and are italicized where applicable. Furthermore, all reasonable attempts were made to accurately reflect the original Bylaw.

This office consolidation is intended for convenience only. In case of uncertainty, the reader is advised to consult the original Bylaws, available at the Office of the City Clerk.

**City of Edmonton  
Sustainable Development**



# Crystallina Nera East

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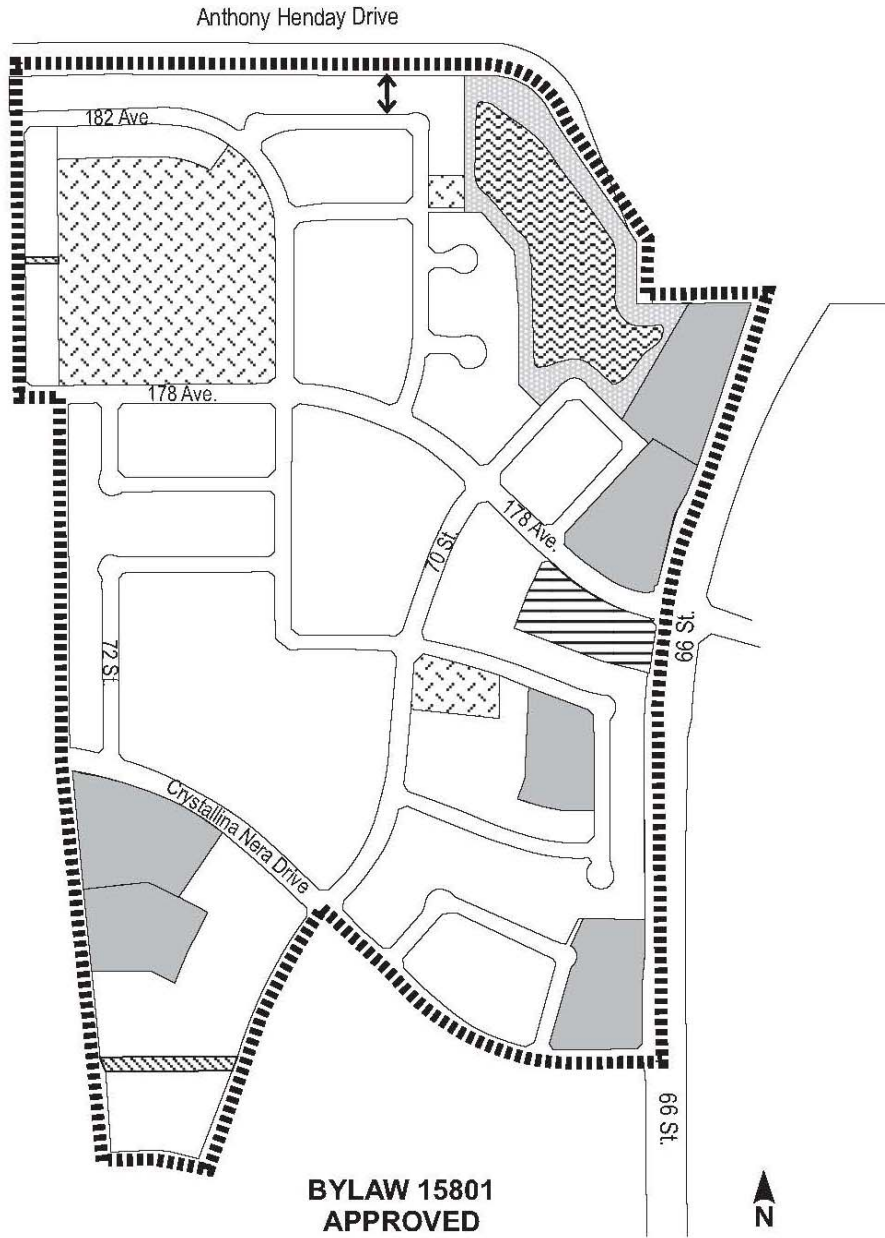
## Neighbourhood Structure Plan

**Prepared for:** Genstar Development Company









**Presented by:** Select Engineering Consultants Ltd.

**Project Number:** RPT1-10-09083-8.0-JovizNSP-110518.docx

**Date:** August 2011



**BYLAW 15801  
APPROVED  
CRYSTALLINA NERA EAST  
Neighbourhood Structure Plan  
(as amended)**

- |   |                                 |   |                              |
|---|---------------------------------|---|------------------------------|
|  | Low Density Residential         |  | Potential Pedestrian Access  |
|  | Medium Density Residential      |  | Greenway - Municipal Reserve |
|  | School/Park - Municipal Reserve |  | Boundary of NSP              |
|  | Neighbourhood Commercial        |   |                              |
|  | Stormwater Management Facility  |   |                              |

**Note:**  
Location of collector roads and configuration of stormwater management facilities are subject to minor revisions during subdivision and rezoning of the neighbourhood and may not be developed exactly as illustrated.



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## 1.0 Administration

### 1.1 Purpose

The purpose of this Neighbourhood Structure Plan is to establish a land use framework and servicing objectives for the Crystallina Nera East neighbourhood. This NSP specifies the following:

- the manner in which environmental features and natural areas are linked;
- the location, configuration and area of residential, commercial, school, parks and open space and public utility land uses;
- density of development;
- pattern and alignment of the collector roadways and pedestrian walkway systems;
- a utility infrastructure concept; and
- the sequence of development.

The Crystallina Nera East NSP will guide future subdivision and zoning within the neighbourhood.

### 1.2 Authority

This NSP has been prepared in conformity with Section 633 of the Municipal Government Act, “The Way We Grow” Bylaw No. 15100 and the Edmonton North Area Structure Plan (ASP). The Crystallina Nera East Neighbourhood Structure Plan is the ninth and final neighbourhood in the Edmonton North Plan Area.

### 1.3 Timeframe

The build out of Crystallina Nera East Neighbourhood will be determined by future economic conditions and market demands. It is estimated Crystallina Nera East Neighbourhood would be developed over the next 10 years.

### 1.4 Interpretation

All symbols, locations, and boundaries shown in the Crystallina Nera East Neighbourhood Structure Plan figures shall be interpreted as conceptual unless otherwise specified in the document, or where they coincide with clearly recognizable physical or fixed features within the plan area.

For each subsection under Land Use Concept, a description of applicable land use strategies (e.g. Urban Design) and types (e.g. Residential) is provided for the plan followed by applicable objectives, policies, implementation, rationale, and technical summary.

A policy statement(s) containing “shall” is mandatory and must be implemented. Where a policy proves impractical or impossible, an applicant may apply to amend the plan. A policy statement(s) containing “should” is an advisory statement and indicates the preferred objective, policy and/or implementation strategy. If the “should” statement is not followed because it is impractical or impossible, the intent of the policy may be met through other agreed-upon means.

### 1.5 Amendment

Future amendments that may be required to the Crystallina Nera East Neighbourhood Structure Plan document involving policies, text or mapping shall be completed in accordance with the Municipal Government Act, and all other applicable bylaws, policies and procedures.



## 2.0 Plan Context

### 2.1 Location

Crystallina Nera East is located in northeast Edmonton, immediately south of the Transportation and Utility Corridor Right-of-Way/Anthony Henday Drive and west of 66 Street. Crystallina Nera West is approved to the west, Schonsee neighbourhood is under development to the south and the McConachie neighbourhood is approved east of 66 Street. The Crystallina Nera East plan area includes the majority of the NE3-54-24-W4 and the entire portion of the SE10-54-24-W4 which lies south of the Transportation and Utility Corridor. Crystallina Nera East comprises approximately 66.14 hectares. **(See Figure 1)**

### 2.2 Background

The Lake District Area Structure Plan, originally approved in 1979, created nine neighbourhoods in north Edmonton. The name Lake District was revised to Edmonton North Area Structure Plan in one of several amendments made since its inception. Even though Crystallina Nera East will be the final neighbourhood to be approved in the North Edmonton ASP it is identified as Neighbourhood 4 in the ASP. The land uses proposed in this Crystallina Nera East NSP conform to the currently approved Edmonton North Area Structure Plan Bylaw No. 15226. **(See Figure 2)** The Edmonton North ASP is bordered by the Transportation and Utility Corridor on the north, 97 Street on the west, 66 Street on the east and 153 Avenue on the south. Five of the neighbourhoods are completely built out and three neighbourhoods, Klarvatten, Schonsee and Crystallina Nera West are under active development. Because Crystallina Nera East and Crystallina Nera West share a common boundary preliminary planning, engineering and transportation issues related to Crystallina Nera East were addressed during the Crystallina Nera West review and approval process. Crystallina Nera West NSP Bylaw 14599, west of Crystallina Nera East, was adopted by Council in July 2007. **(See Figure 3)**

Supplementary technical reports submitted with the Crystallina Nera East NSP generally address the entire Plan area. Reports are marked with an asterisk (\*) when information was not available on some of the smaller landholdings due to lack of access. The following technical studies have also been accepted as complete or updated in support of the Crystallina Nera East NSP:

#### Environmental Reports

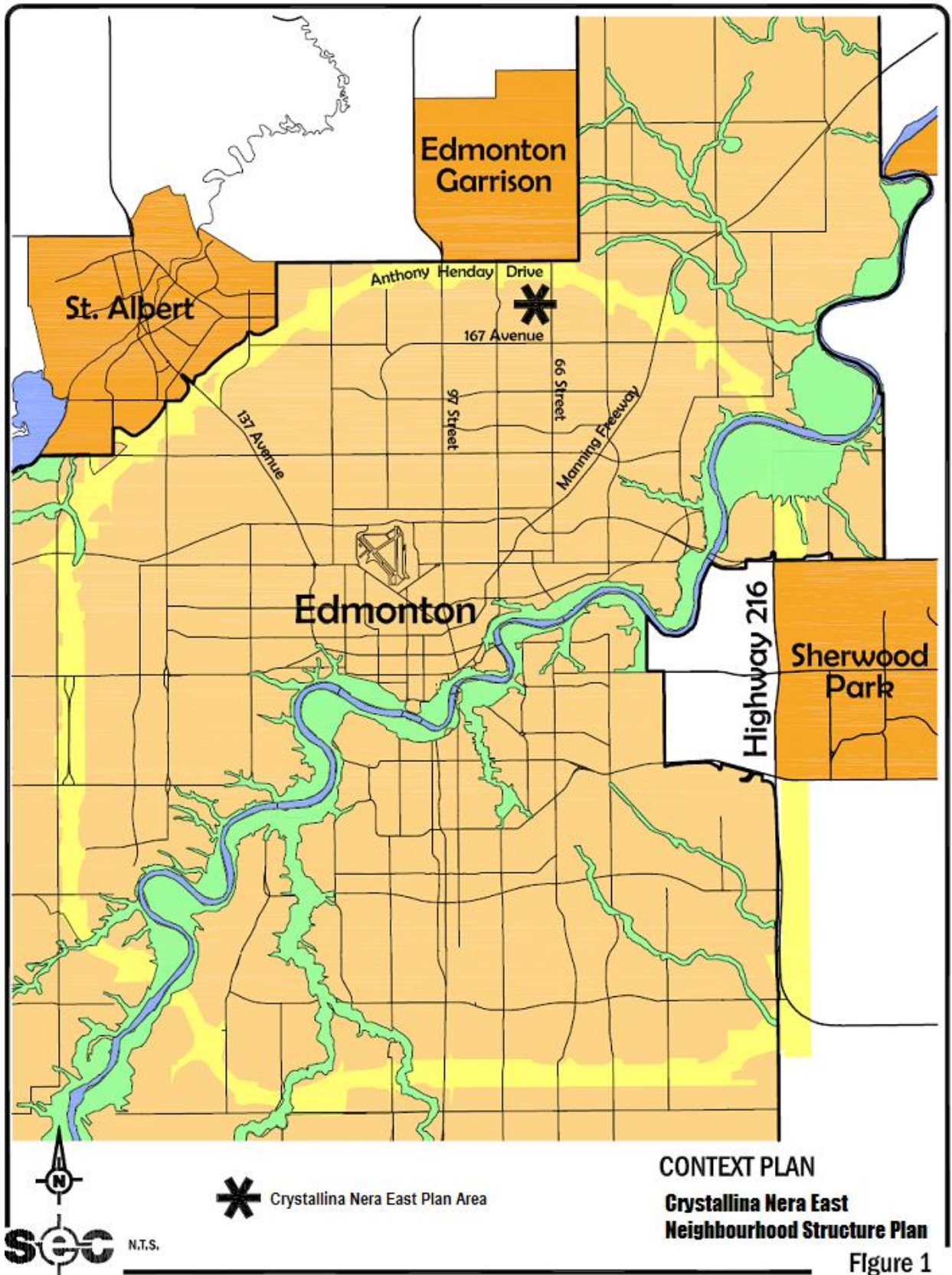
- \*Wetland Function and Value Assessment
- \*Preliminary Biological Resource Assessment
- \*Natural Site Assessment Phase 2
- Historical Resource Overview
- Environmental Network Report

#### Engineering Reports

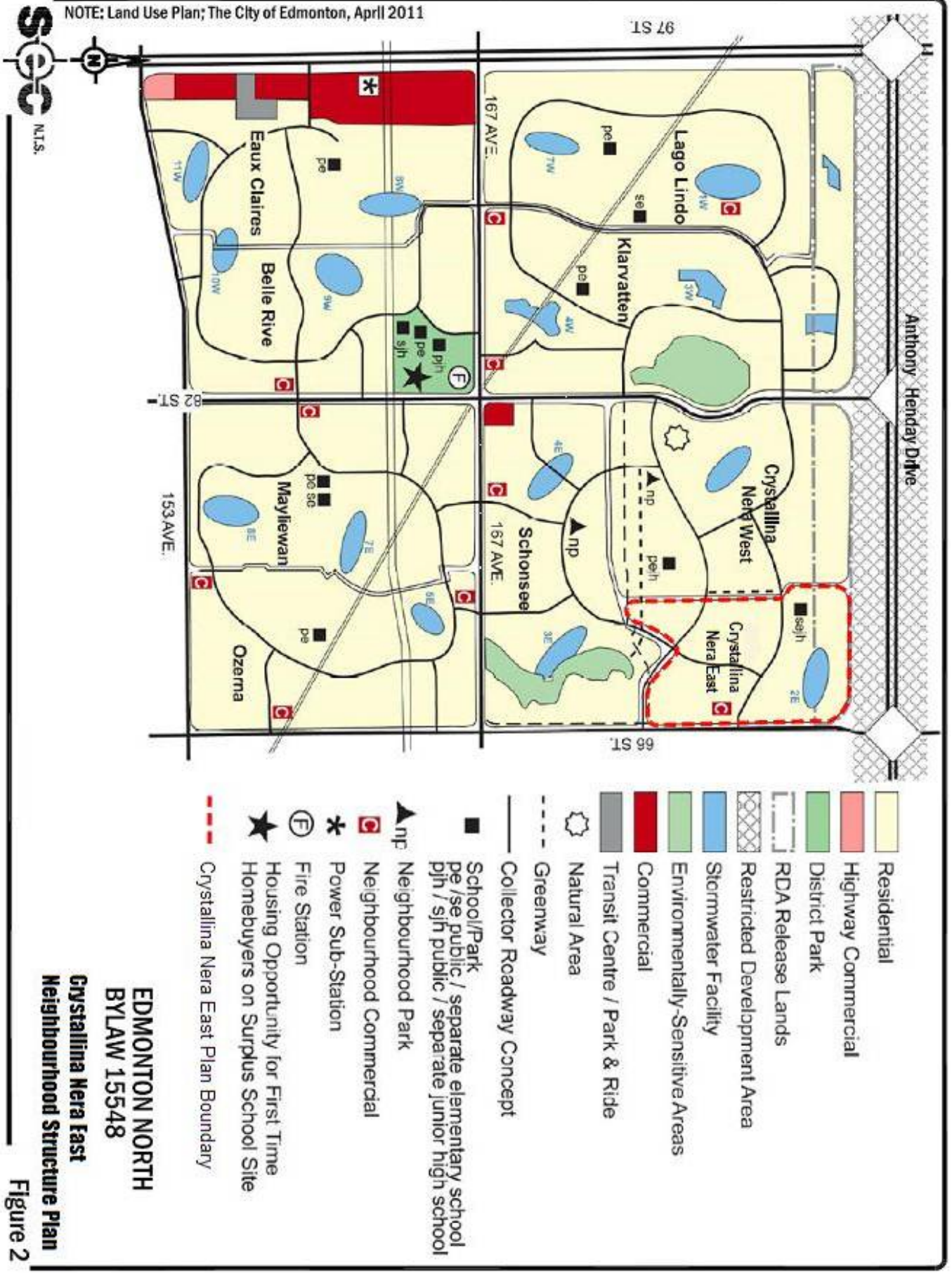
- \*Environmental Site Assessment
- \*Geotechnical Evaluation
- Neighbourhood Design Report
- Stormwater Management Report
- Traffic Impact Assessment
- Hydraulic Network Analysis

#### Planning Reports

- Crystallina Nera East Neighbourhood Structure Plan
- Parkland Impact Assessment



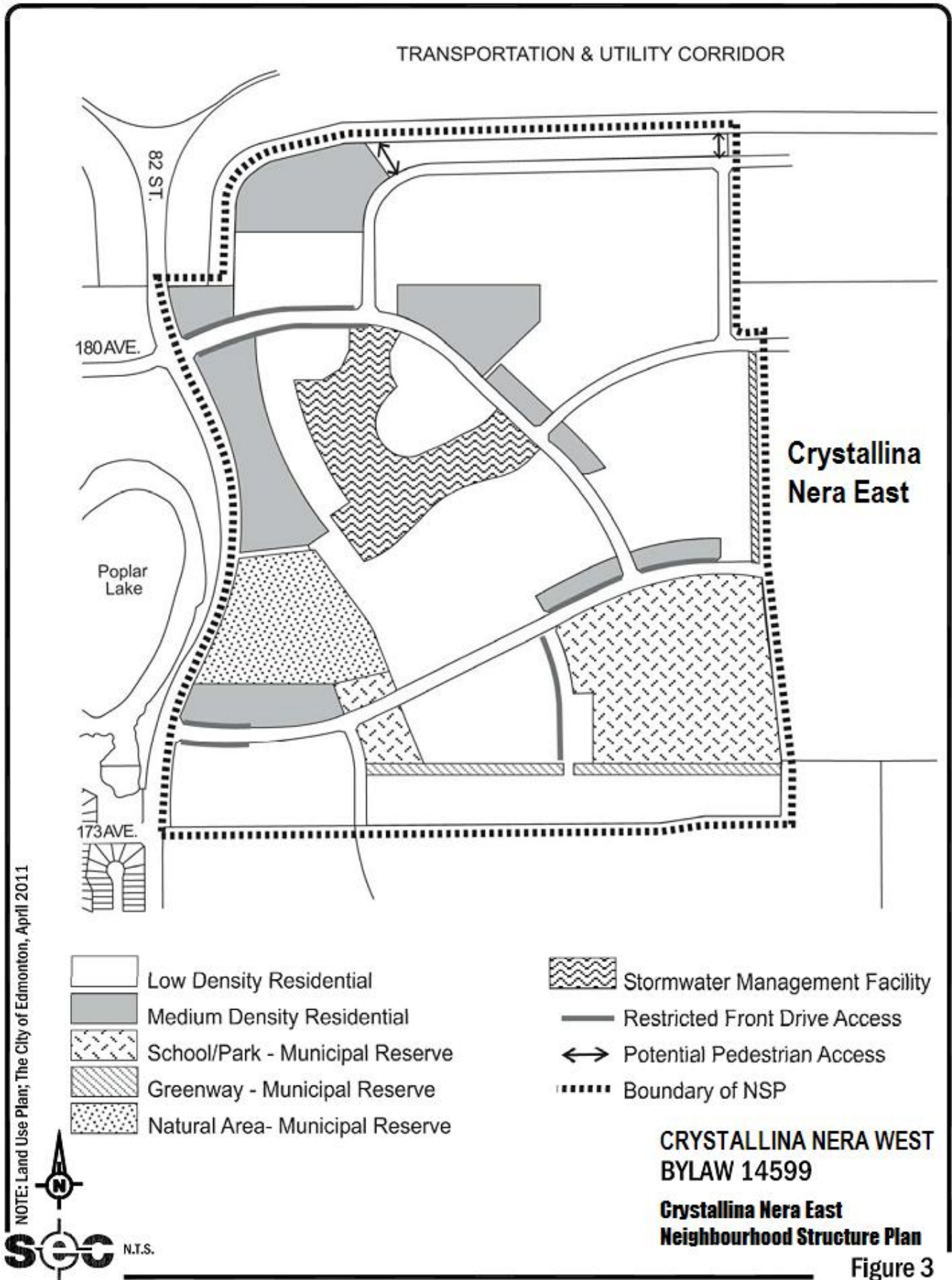




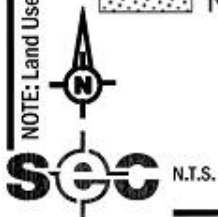
- Residential
- Highway Commercial
- District Park
- RDA Release Lands
- Restricted Development Area
- Stormwater Facility
- Environmentally-Sensitive Areas
- Commercial
- Transit Centre / Park & Ride
- Natural Area
- Greenway
- Collector Roadway Concept
- School/Park  
pe/se public / separate elementary school  
pjh / sjh public / separate junior high school
- np Neighbourhood Park
- Neighbourhood Commercial
- \* Power Sub-Station
- (F) Fire Station
- ★ Housing Opportunity for First Time Homebuyers on Surplus School Site
- Crystallina Nera East Plan Boundary










**EDMONTON NORTH**  
**BYLAW 15548**  
**Crystallina Nera East**  
**Neighbourhood Structure Plan**

Figure 2



NOTE: Land Use Plan; The City of Edmonton, April 2011



-  Low Density Residential
-  Medium Density Residential
-  School/Park - Municipal Reserve
-  Greenway - Municipal Reserve
-  Natural Area- Municipal Reserve
-  Stormwater Management Facility
-  Restricted Front Drive Access
-  Potential Pedestrian Access
-  Boundary of NSP

**CRYSTALLINA NERA WEST  
BYLAW 14599**

**Crystallina Nera East  
Neighbourhood Structure Plan**

**Figure 3**



## 2.3 Land Ownership

The majority of the 66.05 hectare NSP land area is held by two private corporate landowners. (see **Figure 4**) Five other smaller remnants are held under different private, corporate and government land titles. Land ownership is listed below in Table 1: Land Ownership.

Table 1 - Land Ownership					
	Legal Description	COT #	Owner	Area (ha)	% Total
1.	SE Sec. 10-54-24-W4M	042 409 159 +45	Private - Corporate	15.19	23.0%
2.	NE Sec. 3-54-24-W4M	002 013 693 +2	Private - Corporate	47.44	71.9%
3.	Block D, Plan 2887AQ	092 376 367 +67	Private - Corporate	1.14	1.7%
4.	Area A, Plan 102 5058	102 421 965	The City of Edmonton	0.95	1.4%
5.	Lot 1, Block 2, Plan 932 0734	102 142 863	The City of Edmonton	0.14	0.2%
6.	66 Avenue	N/A	Gov. Road Allowance	1.19	1.8%
<b>TOTAL</b>				<b>66.05</b>	<b>100.0%</b>

Source: Certificate of Title Search; March 2011.

Note: Areas used for land ownership in the Neighbourhood Structure Plan are taken from digital survey data and may not match registered certificates of title areas exactly.

## 2.4 Site Context

### 2.4.1 Topography

The existing topography and site features of the neighbourhood are described in detail in the Neighbourhood Design Report (NDR). A ridge is located immediately west of the neighbourhood boundary and runs northwest to southeast. This ridge separates the natural drainage patterns into east and west directions. Flows to the west are accommodated in the Crystallina Nera West storm basins. The natural drainage within the neighbourhood boundary is divided into north and south. The elevation of the land varies from a high of 687.5 m to a low point in the northeast of 682.0 m and a low point in the southeast of 684.0m. (See Figure 5)

### 2.4.2 Soil and Groundwater Conditions

Some projects in north Edmonton have recently encountered high levels of bentonite in their developments. So in addition to the standard geotechnical recommendations required by the City of Edmonton, the majority landowner has conducted an intensive investigation to determine and define the extent of bentonite in the Crystallina Nera East neighbourhood.

Based on preliminary geotechnical investigations, high plastic clay soils, high plastic clay shale and sandstone bedrock are encountered at relatively shallow depth within the plan area. In conjunction with groundwater levels, special consideration will be required in the design and construction of residential structures and infrastructure.

Each subdivision and development stage will require additional geotechnical investigation and a separate detailed report which may include, but not be limited to proper engineer design, inspection, and quality assurance monitoring, and suitable local construction techniques and practices to address the unique site specific geotechnical conditions, as directed by City of Edmonton.



### **2.4.3 Wetland Assessment**

There are several small isolated intermittent wetlands scattered throughout the area. A Wetland Function and Value Assessment as well as a Preliminary Biological Resource Assessment completed by the majority landowner have determined the size and function of the existing wetlands in the neighbourhood do not warrant retention within the context of the proposed development. Genstar is in the process of completing the compensation requirements for the loss of wetland with Alberta Environment in order to obtain Water Act approval for the draining and grading of the existing wetlands in Crystallina Nera East.

Alberta Sustainable Resource Development has not claimed wetlands in the Plan area.

### **2.4.4 Existing Land Uses**

The neighbourhood is currently used for agricultural purposes.

### **2.4.5 Department of National Defense**

The Edmonton Garrison Heliport Zoning Regulations were approved on April 22, 2004. Stormwater Management Facilities within Crystallina Nera East are identified as “excluded land located within the bird hazard area” (Edmonton Garrison Heliport Zoning Regulations Part 6 Division 3). The “excluded lands” clause permits use of the two neighbourhood lakes in Crystallina Nera West and Crystallina Nera East, as open water reservoirs but large permanent water bodies are generally discouraged. Under these regulations, SWMFs with a normal water level under 2.5 ha do not generally require DND approval but DND must still be satisfied that every reasonable measure has been explored to eliminate potential bird hazards. In consideration of these regulations for manmade facilities, the size of the SWMF is minimized in Crystallina Nera East and it will be developed as a naturalized facility limiting open water areas.

### **2.4.6 Historical Resources**

Altamira Consulting Ltd. was retained to conduct a Historical Resources Overview: an investigation of existing records of historical and archaeological sites on the property in 2005. Past investigations previously identified three known archaeological sites within the Crystallina Nera West and Crystallina Nera East neighbourhoods and also included information on a farmhouse located just north of the woodland in Crystallina Nera West. The sites were discovered in 1978 during the Edmonton North Survey completed by Stuart Baldwin. Although the exact extent of the survey is unknown it appears that all the Crystallina Nera West and Crystallina Nera East lands were surveyed at that time. The practice of recording homesteads to record the presence of a house before it was removed was common. All houses recorded this way received a site number for inclusion in the inventory of historic buildings. These houses are not formally designated as historic sites in any way. As such, they have no protected status and there are no implications concerning their potential removal.

In 2005 Altamira Resources initially completed a Historical Resource Overview which recommended a Heritage Resource Impact Assessment (HRIA) but Alberta Community Development did not support that recommendation. Altamira Consulting Ltd. provided the Cultural Facilities and Historical Resources Division (CFHRD) of Alberta with a “Historical Resource Overview” package regarding the development plans for the Crystallina Nera West neighbourhood are part of NE3 and 10-54-24-W4. Staff of the Heritage Resource Management Branch of the CFHRD reviewed the potential for the proposed residential development to impact historical resources and concluded that a Historical Resource Impact Assessment was not required. Therefore Crystallina Nera West and Crystallina Nera East did not require a Historical Resources Act clearance. A November 23, 2005 letter to that affect is included under Appendix A.



Altamira Consulting Ltd. confirmed that this 2005 Historical Resource Act clearance is still valid for the Crystallina Nera East area in 2010. No heritage resources are identified in the City of Edmonton Heritage Resources Inventory for Crystallina Nera East either.

## **2.5 Public Involvement**

On September 27, 2010, an advance notification was sent to the surrounding property owners, the Horse Hill, Kilkenny, and Lago Lindo Community Leagues, the Area Council No.17 Area Council and the Clareview and District Area Council advising them of the application to adopt the Crystallina Nera East NSP.

A public meeting was hosted by the City of Edmonton's Sustainable Development on March 22, 2011 at the Lago Lindo Community League Hall. Information was provided regarding the planning process, proposed land use pattern, and the proposed realignment of 66 Street.

Landowners have also been notified of the Public Hearing and given the opportunity to provide either written or verbal comments to City Council.

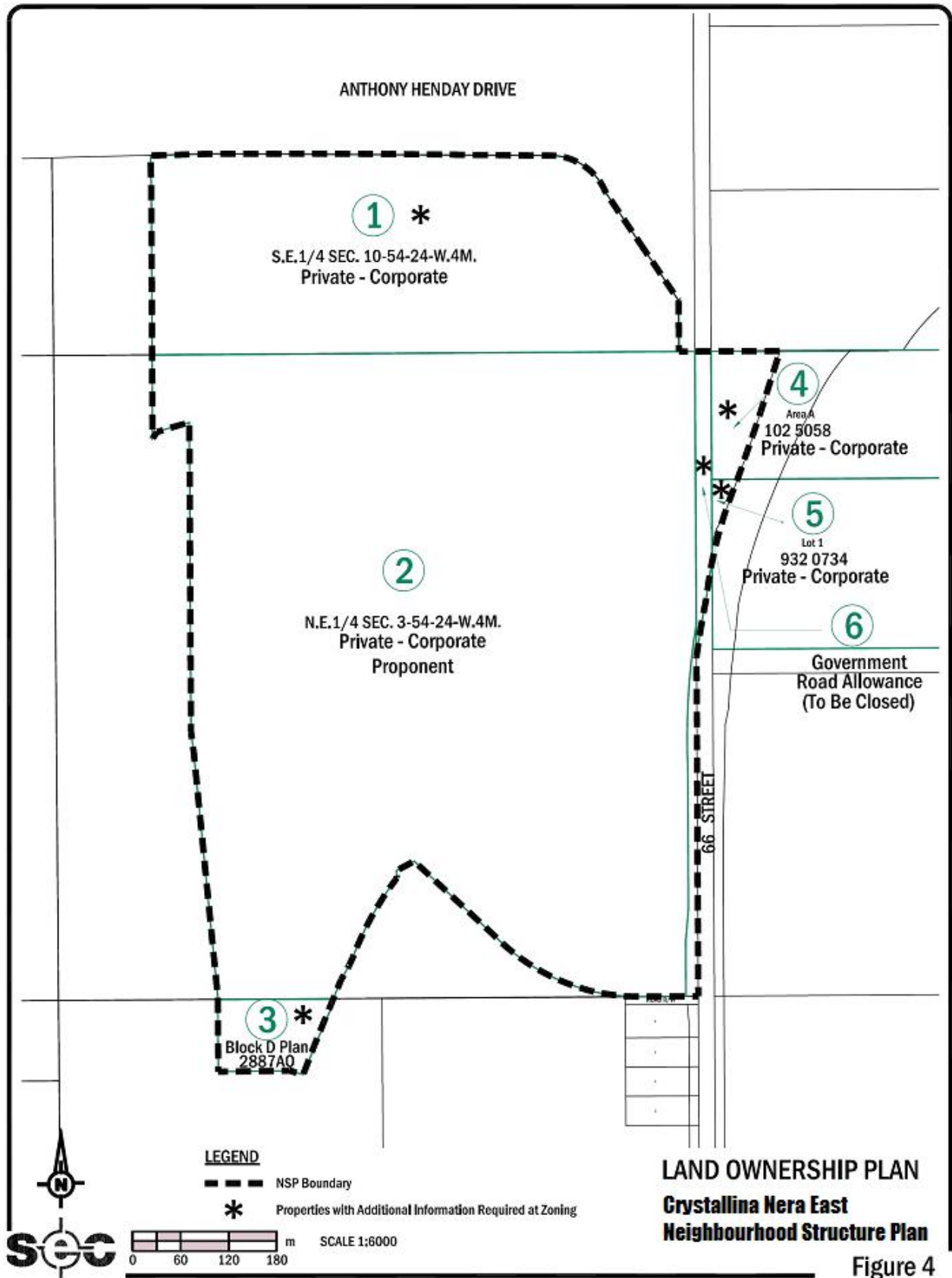


Figure 4

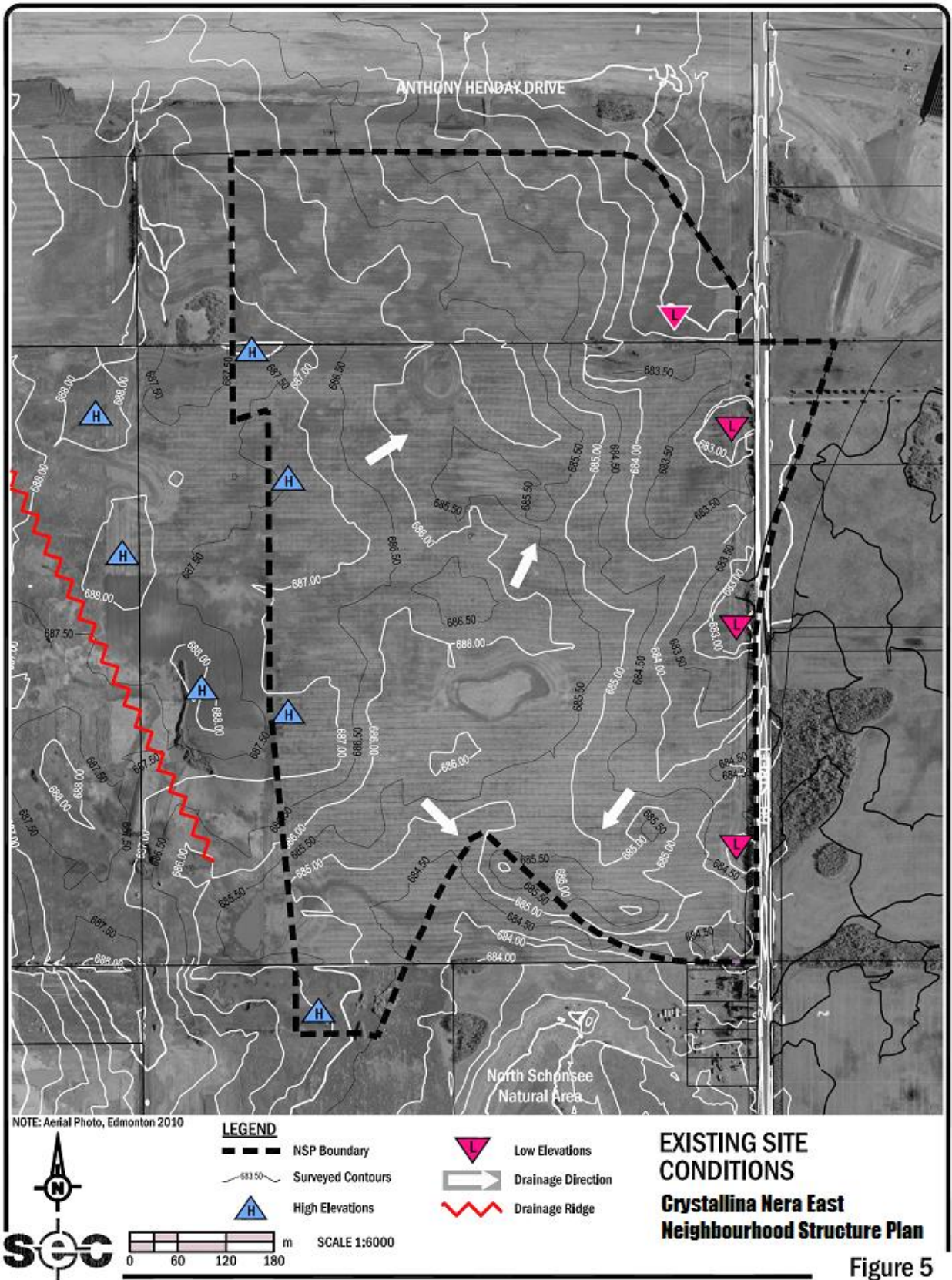


Figure 5



## 3.0 Land Use, Transportation, and Servicing

### 3.1 Land Use Concept and Population Statistics

Crystallina Nera East is a primarily residential neighbourhood with opportunities for a variety of low and medium density housing forms currently in demand in Edmonton. **(See Figure 6)** The residential nodes are generally defined in the Development Concept by the collector road system and the parks and open space system. The majority of the medium density residential uses in Crystallina Nera East is clustered in the eastern portion of the neighbourhood, along 66 Street, to take advantage of the superior access provided to Anthony Henday Drive. A neighbourhood commercial site and a small park are both located in proximity to this cluster of medium density residential. This commercial site and a small park in the east central Plan area provide walkable destinations for the entire Crystallina Nera East community and also allow residents to conveniently access daily services. Another small cluster of medium density residential is located in the south Plan area immediately east of the school site approved in Crystallina Nera West.

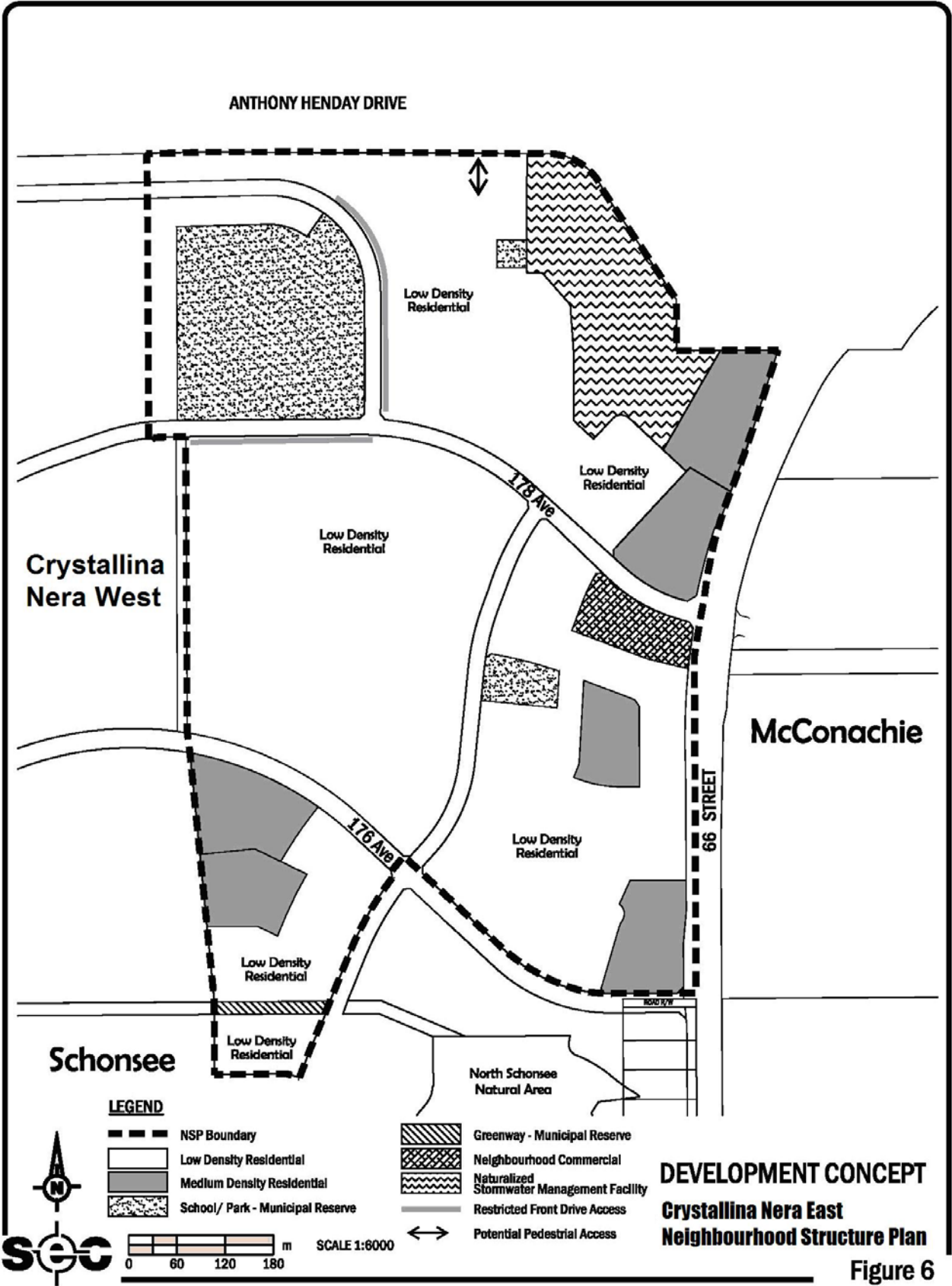
Another small park is designated adjacent to the stormwater management facility in the northeast Plan area. This combination of stormwater management facility and park will provide a major open space amenity in the community and create a buffer between the Anthony Henday interchange and residences in its proximity. A large school and community park site designated in the north Plan area provides space for active recreation in the community. A north/south Greenway approved in Crystallina Nera West connects its large school site with the school site proposed in Crystallina Nera East.

The land use statistics for this NSP area are defined below.

Table 2 – Population Statistics								
Use	Ha	%	Units/ ha	Unit s	%	People/ unit	Pop	%
<b>Gross Area</b>	<b>66.05</b>							
Environmental Reserve	0.00							
66 Street Road Widening	0.64							
Subtotal	0.64							
<b>Gross Developable Area</b>	<b>65.41</b>							
Municipal Reserve (School / Park)	6.16	9.4%						
Greenways	0.22	0.3%						
<b>Subtotal- Municipal Reserve</b>	<b>6.38</b>	<b>9.7%</b>						
Stormwater Management Facility	4.49	6.8%						
Neighbourhood Commercial	0.93	1.4%						
Circulation	11.69	18.0%						
<b>Subtotal- Other Uses</b>	<b>17.11</b>	<b>26.2%</b>						
<b>Residential</b>								
Low density Residential*	34.79	53.2%	25	870	59.3%	2.8	2,436	68.5%
Medium Density Residential **	1.02	1.6%	45	46	3.1%	2.8	129	3.6%
Medium Density Residential ***	6.11	9.3%	90	550	37.5%	1.8	990	27.8%
<b>Subtotal - Residential</b>	<b>41.92</b>	<b>64.1%</b>		<b>1,466</b>	<b>100.0%</b>		<b>3,555</b>	<b>100.0%</b>

For purposes of the Capital Region Board, Net Density is 35 upnha (based on 1,466 units divided by 41.92 hectares of Net Residential Area). The Capital Region Board minimum requirement is 30 upnha.





**DEVELOPMENT CONCEPT**  
**Crystallina Nera East**  
**Neighbourhood Structure Plan**

Figure 6



**Residential Density**

Low Density Residential\* 25 units / ha  
 Medium Density Residential\*\* 45 units / ha  
 Medium Density Residential\*\*\* 90 units / ha  
 \*This land use is further prescribed under RF1, RPL, RSL, RF2, RF3, RF4 Zoning and includes triplex and fourplex dwellings  
 \*\* This land use is further prescribed under RF5 and UCRH Zoning  
 \*\*\* This land use is further prescribed under RF6 and RA7 Zoning

**Population Density**

Low Density Residential 2.8 persons / unit  
 Medium Density Residential (RF5 and UCRH) 2.8 persons / unit  
 Medium Density Residential (RF6 and RA7) 1.8 persons / unit

**Sustainable Measures**

Population Density (ppnha) = 84.8  
 Unit Density (upnrha) = 35  
 Low Density / Medium Density Unit Ratio = 59% / 41%  
 Population (%) within 500m of Parkland =100%  
 Population (%) within 400m of Transit Service = 100%  
 Population (%) within 600m of Commercial Service = 95%

Presence/ Loss of Natural Area features = Minor wetland features present, features will be developed and compensation provided to Alberta Environment.

Protected as Environmental Reserve (ha)= 0.0 ha  
 Conserved as Naturalized Municipal Reserve (ha) = 0.0 ha  
 Protected through other means (ha) = 0.13 ha (SWMF)  
 Lost to Development (ha) = 0

**Student generations**

**Student generations**

	<u>Elementary</u>	<u>Junior High</u>	<u>Senior High</u>	<u>Totals</u>
<b>Public</b>	131	65	65	261
<b>Catholic</b>	65	33	33	131
<b>TOTAL</b>	<b>196</b>	<b>98</b>	<b>98</b>	<b>392</b>

	<u>Elementary</u>	<u>Junior High</u>	<u>Senior High</u>
<b>Public</b>	2 students per gross developable hectare	1 students per gross developable hectare	1 students per gross developable hectare
<b>Catholic</b>	1 students per gross developable hectare	0.5 students per gross developable hectare	0.5 students per gross developable hectare



## 3.2 Vision

Crystallina Nera East provides the missing neighbourhood link that will facilitate an unprecedented “Green” connection all the way across North Edmonton from 82 Street east to 50 Street.

## 3.3 Goals and Objectives

The following goals and objectives have shaped the design of the Crystallina Nera East neighbourhood and informed preliminary engineering. The overall goals of the Crystallina Nera East Neighbourhood are:

1. **Integrate parkland systems and encourage stewardship by the community**
2. **Create a compact, walkable neighbourhood**
3. **Create an attractive, liveable community**
4. **Create a balanced transportation system**
5. **Provide infrastructure in an efficient and contiguous manner**

The following objectives will guide development in the Crystallina Nera East neighbourhood in achieving the above noted goals:

### Green Development and Ecology

- Maintain linkages within Crystallina Nera East and between Crystallina Nera East and adjacent neighbourhoods to connect natural areas.
- Strengthen North Edmonton’s ecological network.

### Urban Design

- Utilize landscape design to create distinctive areas within the neighbourhood to provide visual coherence.
- Create an entrance into the neighbourhood that identifies a sense of arrival and place.
- Provide a transition between residential uses of significantly different densities.
- Develop amenity spaces and naturalized stormwater management facilities that are visually appealing and physically accessible to all residents.
- Site buildings to optimize and/or enhance public views and vistas.

### Environment

- Ensure that the environmental status of the lands within the Crystallina Nera East boundary is suitable for residential development.
- Ensure that Environmental Site Assessments are complete and up-to-date.

### Historical Resources

- Identify and protect items and sites with historical significance, such as buildings and areas of cultural significance, in the Crystallina Nera East neighbourhood.

### Residential

- Locate medium density residential development with good access to, and in support of, public transit facilities.
- Establish affordable housing in the Crystallina Nera East Neighbourhood.
- Establish increased residential densities in support of Neighbourhood intensification.



- Provide a range of housing densities, types and choices in a variety of physical forms to meet the needs of different age and income groups.

### **Neighbourhood Commercial**

- Minimize the impact of commercial development on adjacent land uses.
- Provide convenient pedestrian access to commercial services to promote walkability.

### **Parkland, Recreation Facilities, Schools and Open Space**

- Provide a variety of parkland and open spaces to support passive and active recreation, and promote wellness.
- Establish dispersed park spaces within the neighbourhood, through dedication of municipal reserves, to provide opportunities for passive and active recreation for residents.
- Maintain greenways to provide connectivity with and beyond Crystallina Nera East.
- Provide a straightforward and understandable configuration of open spaces, greenways, school/park sites and walkway connections.
- Provide opportunities for passive and active recreation for all users.
- Design park spaces to meet the needs of all users within the community.
- Provide a site for a school within the community.
- Design safe park space in accordance with the Design Guide for a Safer City and UPMP.
- Design a connected and integrated open space system that encourages active modes of movement (e.g. pedestrians, wildlife and bicycles).
- Design greenways and walkway connections to complement on-street sidewalk routes and connections.
- Stormwater management design will need to be approved by the City of Edmonton and Department of National Defense.
- Equitably address the MR dedication requirements for landowners within the NSP area, considering park and open space proposed to create the interconnected open space network.

### **Transportation**

- Implement the City of Edmonton road hierarchy system of an integrated arterial, collector and local roadway network.
- Mitigate the impact of vehicle traffic associated with medium density residential and commercial development on the neighbourhood roadway network.
- Avoid the development of long cul-de-sacs wherever possible.
- Establish internal roadway connectivity and discourage the development of “exclusive” residential enclaves.
- Create adequate locations for neighbourhood access by a variety of modes, such as automobiles, transit, bicycle and pedestrian connections.
- Promote pedestrian accessibility to parks, open spaces, and future transit corridors.
- Integrate land use and circulation patterns considering safety of both pedestrians and cyclists.
- Provide public access to tie into the Schonsee Wetland south of Crystallina Nera East.
- Provide public transit stops within 400 m walking distance from all residences and schools.
- Provide noise attenuation where residential uses back onto major transportation corridors.



## Infrastructure Servicing and Staging

- Ensures that the Crystallina Nera East Neighbourhood is serviced to a full urban standard and servicing is provided in an efficient and logical manner.

## 3.4 Policy

### 3.4.1 Planning and Policy Context

This section outlines how the Crystallina Nera East NSP supports the policies of the relevant higher level planning documents including the Capital Region Growth Plan and Edmonton’s Municipal Development Plan (The Way We Grow).

#### Capital Region Growth Plan

The primary purpose of the Capital Region Land Use Plan is to manage sustainable growth that protects the region’s environment and resources, minimizes the regional development footprint, strengthens communities, increases transportation choice and supports economic development. The Crystallina Nera East NSP complies with the following Growth Plan Policies:

Capital Region Plan Policy	NSP Compliance
<b>I. Protect the Environment and Resources</b>	
<b>B. Preserve and Protect the Environment</b>	
<p><b>Policy (ii)</b> Any development which fragments contiguous natural features, functions and habitat, such as water systems, moraines, forests, wetlands and wildlife habitat and corridors shall be discouraged.</p>	<p>The Crystallina Nera East NSP has been designed to support the creation of an interconnected open space and Greenway system which protects natural features and supports retention of an ecological network in north Edmonton.</p>
<b>II. Minimize Regional Footprint</b>	
<b>B. Concentrate New Growth Within Priority Growth Areas</b>	
<p><b>Policy (i)</b> Most new growth shall occur within priority growth areas.</p> <p><b>Policy (ii)</b> Priority shall be given to accommodating growth in major employment areas and in locations that meet at least three of the following four criteria:</p> <ul style="list-style-type: none"> <li>• Existing and proposed multimovement corridors, including transit nodes;</li> <li>• Adjacent to existing and proposed major employment areas;</li> <li>• Redevelopment and intensification opportunities within existing urban areas; and</li> <li>• Locations that utilize existing infrastructure and servicing capacity or logical and efficiently extend that infrastructure.</li> </ul> <p><b>Policy (v)</b> Priority growth areas shall incorporate intensive forms of development that significantly exceed existing development patterns.</p>	<p>The Crystallina Nera East NSP area is located in Priority Growth Area “B” which sets a minimum density target of 30 – 45+ units per net residential hectare.</p> <p>The NSP meets the density target by providing approximately 35 units per net residential hectare.</p> <p>The Crystallina Nera East NSP area is situated next to Anthony Henday Drive, west of 66 Street, and takes advantage of existing infrastructure and servicing capacity in Edmonton’s north east.</p> <p>The NSP will function as an extension of the ongoing development in north Edmonton.</p>
<b>D. Support Expansion of Medium and Higher Density Residential Housing Forms</b>	



<p><b>Policy (i)</b> New residential development shall provide a greater proportion of higher density residential units.</p> <p><b>Policy (iii)</b> Greenfield development shall make provision for a mixture of uses including a diversity of housing forms, community services, local retail and employment opportunities.</p> <p><b>Policy (iv)</b> Transit accessibility must be included in the design of all new developments.</p>	<p>The Crystallina Nera East NSP area has been planned to provide approximately 41% of the overall number of residential units as medium density housing, in highly accessible locations adjacent to transit service and in proximity to commercial land uses.</p> <p>The Crystallina Nera East NSP area is planned to include a diversity of housing forms such as single detached, semi-detached, rowhousing and low-rise apartments. A School/Park site is planned in the north west portion of the neighbourhood and local retail and employment opportunities are provided through a future neighbourhood commercial site in neighbourhood.</p> <p>The NSP area is bounded to the east by 66 Street, and will all provide transit service. In addition, the internal collector roadway network has been designed to accommodate transit routing through the neighbourhood, bringing all areas of the NSP area within 400 m of public transit routes.</p>
<p><b>III. Strengthen Communities:</b></p>	
<p><b>A. Create Inclusive Communities</b></p>	
<p><b>Policy (iii)</b> Integrate uses with adjacent developments to improve connectivity and accessibility to local parks, open space, commercial and community services.</p>	<p>The Crystallina Nera East NSP is planned to support and enhance an interconnected open space system of Greenways, shared use paths, natural areas, park and school sites and naturalized stormwater management facilities.</p> <p>Roadways within the Crystallina Nera East NSP area are planned to provide logical connectivity between adjacent neighbourhoods for vehicles, transit and pedestrians.</p>
<p><b>B. Support Healthy Communities</b></p>	
<p><b>Policy (ii)</b> Improve accessibility to community services by providing sidewalks, bicycle trails to encourage walking and cycling and locate these services within proximity to transit, where possible.</p>	<p>The interconnected trail and open space system planned for the Crystallina Nera East NSP area, and north Edmonton, will provide residents the opportunity to choose alternative modes of transportation other than the private vehicle, with great access to transit.</p>
<p><b>C. Support Public Transit</b></p>	
<p><b>Policy (i)</b> Provide a mix of higher intensity land uses along transit corridors, at nodes, and employment centres.</p> <p><b>Policy (iii)</b> New developments shall be designed</p>	<p>Higher residential densities have been located adjacent to arterial and/or collector roadways, planned also as transit routes, to support walkability and transit usage.</p>



for connectivity and accessibility to transit facilities.	
<b>D. Support Innovative and Affordable Housing Options</b>	
<b>Policy (ii)</b> All residential developments shall provide a greater variety of housing types.	The Crystallina Nera East NSP area has been planned for the development of a range of residential housing types including single detached, semi-detached, rowhousing, and low-rise apartments.
<b>IV. Increase Transportation Choice:</b>	
<b>A. Integrate Transportation Systems with Land Use</b>	
<p><b>Policy (ii)</b> Ensure the integration of Public Transportation Infrastructure and land use development.</p> <p><b>Policy (iii)</b> Design transportation infrastructure to support multiple modes of transport.</p> <p><b>Policy (iv)</b> Support development of inclusive communities to reduce the need for travel.</p>	<p>The planned School/Park site, multi-family housing areas and neighbourhood commercial uses have been located primarily along major roadways which are planned for transit routes.</p> <p>A network of roadways, along with sidewalks, walkways and shared-use paths will provide residents with the ability to drive, walk, or cycle, through the neighbourhood or into the surrounding region.</p>
<b>B. Support the Expansion of Transit Service in Various Forms</b>	
<p><b>Policy (i)</b> Expand and extend the level, quality and range of public transportation options available to serve the Region.</p> <p><b>Policy (iv)</b> Support multi-modal transportation options by providing multiuse streets sufficient to accommodate bicyclists, motorists and pedestrians.</p>	<p>A network of roadways, along with sidewalks, walkways and shared-use paths (potentially including a shared use path within the Anthony Henday Drive right-of-way) will provide residents with the ability to drive, walk, or cycle, through the neighbourhood or into the surrounding region.</p>

**Edmonton’s Municipal Development Plan “The Way We Grow”**

The Way We Grow, approved in May 2010, is the City’s strategic growth plan. Through implementation of this plan, the City will shape urban form and direct the development and implementation of more detailed plans. The Crystallina Nera East NSP complies with the following policies:

<b>Municipal Development Plan Policy</b>	<b>NSP Compliance</b>
<b>3.1.1.8</b> - Proponents for a new Neighbourhood Structure Plan will seek Council’s authority to prepare the plan. The information supplied by the applicant and administration will allow Council to provide direction and permission in accordance with Council's Vision.	At the February 2, 2011, City Council Meeting authorization was granted to proceed with the Crystallina Nera East NSP, as a plan which was in the development process prior to Council approval of the MDP.
<b>3.2.1.4</b> - Provide an open planning process which involves residents in policy development and planning for growth and change.	Public consultation for the Crystallina Nera East NSP was completed in cooperation with the City and in accordance with current City requirements and included a Public Open House held March 22, 2011.



<p><b>3.6.1.6</b> - Support contiguous development and infrastructure in order to accommodate growth in an orderly and economical fashion.</p>	<p>The Crystallina Nera East NSP represents contiguous development in north east Edmonton, and services and infrastructure will be extended in an orderly and economical fashion.</p>
<p><b>4.3.1.1</b> - The City of Edmonton will take municipal reserve, school reserve or municipal and school reserve, or cash-in-lieu in accordance with the Municipal Government Act and will use the land or money for purposes as defined by the Municipal Government Act.</p>	<p>Provision of Municipal reserve in the Crystallina Nera East NSP area shall be provided as described in Section 3.4.11 - Parkland, Recreation Facilities, Schools and Open Space.</p>
<p><b>4.3.1.9</b> - Ensure that public facilities are located to be accessible by a variety of modes of transportation, including public transit.</p>	<p>The School/Park site planned within the Crystallina Nera East NSP area is located adjacent to a collector roadway which is also a future bus route. It is also connected to the larger interconnected open space system planned for North Edmonton through a planned north-south Greenway in the Crystallina Nera West neighbourhood.</p>
<p><b>4.4.1.1</b> - Provide a broad and varied housing choice, incorporating housing for various demographic and income groups in all neighbourhoods.</p>	<p>The Crystallina Nera East NSP area has been planned to provide for a range of residential housing types, including single/semi-detached, rowhousing and, low-rise apartments.</p>
<p><b>4.6.1.1</b> – Support Corporate initiatives to improve walkability and other active transportation modes.</p>	<p>The NSP area is planned to include an integrated roadway network and open space system, interconnected to the adjacent neighbourhoods, which provides future residents the opportunity to choose modes of transportation other than the private vehicle.</p>
<p><b>4.6.1.3</b> – Support the design of accessible and safe active transportation networks in accordance with best practices in universal design.</p>	<p>The network of roadways, sidewalks, walkways and shared-use paths will be designed according to City standards.</p>
<p><b>5.5.1.2</b> - Incorporate sustainable neighbourhood design principles, low impact development and ecological design approaches when planning and building new neighbourhoods.</p>	<p>To the greatest extent practicable, low impact development approached will be implemented in the development of the Crystallina Nera East NSP area.</p>
<p><b>5.6.1.4</b> – Design density, land uses and buildings to benefit from local transit service by minimizing walking distances to transit service and by providing safe and comfortable pedestrian streetscapes and high quality transit amenities.</p>	<p>Commercial and multi-unit residential areas have been located near arterial and/or collector roadways and bus routes to promote walkability and transit use. All other uses will be within 400 m of transit service.</p>
<p><b>5.6.1.9</b> - Integrate park use into the everyday experience of residents by designing parks and adjacent development to complement one another and by seeking opportunities to locate City facilities adjacent to parkland.</p>	<p>An interconnected park and open space network is planned for the Crystallina Nera East neighbourhood integrated all park spaces with the interconnected open space network planned for north Edmonton</p>





<p><b>5.7.1.2</b> - Support the design of street systems to be easily navigated by pedestrians, cyclists and vehicles and to provide clear and direct connections between major activity areas in the community.</p>	<p>Streets within the Crystallina Nera East NSP area have been designed to provide a high degree of connectivity providing logical routes between activity areas in the neighbourhood.</p>
<p><b>6.2.1.4</b> - Plan for retail centres that meet the daily needs of residents in area and Neighbourhood Structure Plans.</p>	<p>A neighbourhood commercial site is planned within the Crystallina Nera East NSP area to serve the daily needs of residents.</p>
<p><b>7.1.1.7</b> - Public projects, new neighbourhoods and developments will protect and integrate ecological networks, as identified in the Natural Connections Strategic Plan, by adopting an ecological network approach to land use planning and design.</p>	<p>Within the Crystallina Nera East NSP area, connections are provided to complete an ecological network for north Edmonton as further described in Section 3.4.2 – Green Development.</p>
<p><b>7.4.1.1</b> – Link parks and open spaces with natural systems through development and design to strengthen the connectivity of Edmonton’s ecological network, where feasible.</p>	<p>Parks, stormwater facilities, natural areas, and other open spaces in the Crystallina Nera East NSP area are interconnected with those in adjacent areas of north Edmonton creating neighbourhood destinations for pedestrians and cyclists and providing passive recreation opportunities while at the same time enhancing ecological connectivity.</p>
<p><b>7.5.1.2</b> - Work proactively with the Province to ensure that Crown interests in water bodies are addressed as early as possible in the planning process.</p>	<p>A Wetland Function and Value Assessment as well as a Preliminary Biological Resource Assessment completed by the majority landowner have determined the size and function of the existing wetlands in the neighbourhood do not warrant retention within the context of the proposed development. Genstar is the process of completing the compensation requirements for the loss of wetland with Alberta Environment in order to obtain Water Act approval for the draining and grading of the existing wetlands in Crystallina Nera East.</p>
<p><b>8.1.3.1</b> – Plan for residential and economic development within the City which supports the Capital Region Growth Plan.</p>	<p>The Crystallina Nera East NSP area falls within Priority Growth Area “B” of the approved Capital Region Growth Plan. Priority Growth Areas are lands where new growth is to be concentrated with the goal of minimizing the Region’s footprint.</p>
<p><b>8.1.7.3</b> – Upon provincial approval of the Capital Region Plan Addendum, Edmonton’s new Area Structure and Neighbourhood Structure Plans in the Capital Region Plan’s priority growth area B, F, Cw or Ce will be required to meet or exceed the Capital Region’s minimum density targets.</p>	<p>The Crystallina Nera East NSP area falls within Priority Growth Area “B” of the approved Capital Region Growth Plan, which sets a minimum density target of 30 – 45+ units per net residential hectare. The Crystallina Nera East NSP meets this target with a proposed density of 35 units per net residential hectare.</p>



### 3.4.2 Green Development and Ecology

Connectivity required to link ecological units found within and outside of the Plan area were key factors in the development and approval of Crystallina Nera West NSP Bylaw No. 14599. The green infrastructure proposed in Crystallina Nera East will complete the extension of the greenway as originally proposed in the Crystallina Nera West plan. The extension of the greenway system in Crystallina Nera East will facilitate an ecological link all the way from Poplar Lake in Klarvatten to the Schonsee wetland and beyond. The continuous Greenway approved through Crystallina Nera West will link its Natural Area to the Schonsee wetland south of Crystallina Nera East and be continued on through areas approved for conservation in the future McConachie neighbourhood east of 66 Street. The establishment of this major natural greenway is unprecedented in north Edmonton.

Objective	NSP Policy	Implementation
<b>3.4.2.1</b>		
Maintain linkages within Crystallina Nera East and between Crystallina Nera East and adjacent neighbourhoods to connect natural areas.	Establish ecologically friendly connections between the adjacent natural areas and development that enhance the characteristics of both.	The Development Concept Figure-6 and trail network Figure-8 will guide future application of the planned green infrastructure in the NSP area. The specific location and detail design of the greenway will be determined during the subdivision and rezoning staging.
<b>3.4.2.2</b>		
Strengthen North Edmonton's Ecological network.	a) Maintain connectivity for the movement of native species among the significant habitat areas in adjacent neighbourhoods. b) Incorporate diverse areas of nature throughout the greenway link by utilizing natural vegetation for the planned parks and open space network, where feasible.	a) The Development Concept Figure 6 and Green Infrastructure Figure 8 illustrate the ecological connection within the Crystallina Nera East Neighbourhood. b) Specific species for landscaping should be determined between the developer and City Administration at the time of review of landscaping plans and as part of Engineering Drawing or Development Permit review.

#### Rationale

The design of Crystallina Nera East recognizes the value of creating and preserving ecological connections between natural areas and their surroundings in order to integrate with the greater ecological network in North Edmonton.

The incorporation of a designated greenway for the primary purpose of facilitating the movement of wildlife and sustaining ecological processes represents a further innovation in the conservation of Natural Areas in Edmonton. The term Green Infrastructure was coined in Crystallina Nera West to recognize this effort and environmental innovation and it continues to be used in Crystallina Nera East. Green Infrastructure in Crystallina Nera East consists of four elements:

- School and Community Park;
- Pocket Park;
- Greenway; and
- Stormwater Management Facility.



The Greenway in Crystallina Nera East will connect the future residents with the natural environment as it forms an extension of the east/ west Greenway approved in Crystallina Nera West NSP area to the east through Crystallina Nera East where it ultimately will connect into the Schonsee Natural Area. The Greenway that continues through Crystallina Nera East is approximately 12.0m wide and will include a recreational pedestrian trail. The Greenway extends east from the Crystallina Nera West neighbourhood to the Schonsee Natural Area and on to the Natural Area in McConachie neighbourhood east of 66 Street. To fulfil the ecological purpose of the east west Greenway while providing for universal access, a paved shared use path will be provided within the Greenway which will otherwise be maintained in its natural state to the greatest extent practicable. In addition to serving the daily pedestrian needs of the community, the Greenways have the potential to act as a primary link in a regional network of Natural Areas in north Edmonton.

These following recommendations by Spencer Environmental are also included in the Crystallina Nera West NSP. These recommendations, intended to maximize the ultimate functionality of the Greenways, continue to be relevant in Crystallina Nera East.

- Provide as wide a Greenway as possible to allow for the movement of more species;
- Provide vegetation structures suitable for the species that currently inhabit the Natural Areas beyond Crystallina Nera East;
- Minimize or eliminate the presence of mowed strips along recreational trails and fence lines allowing native vegetation to grow up to the trail or fence;
- Minimize the impact of recreational trails by minimizing their width and locating them at the edge of the Greenway and consider leaving trails unpaved; and
- Minimize the presence of gaps in the Greenways (such as roads) to the extent possible by providing features that will reduce habitat fragmentation and maximize connectivity. This could include trees with canopies that overhang the roadway and culverts that accommodate the passage of small animals.

With consensus of the Sustainable Development, Transportation Services and the developer, the Crystallina Nera East NSP will respect these recommendations to the extent possible as development proceeds.

## Technical Summary

No specific technical requirements were further identified.

### 3.4.3 Urban Design

Crystallina Nera East incorporates relevant principles of urban design to establish a community that is attractive to future residents and supports the environment.

Objective	NSP Policy	Implementation
<b>3.4.3.1</b>		
Utilize landscape design to create distinctive areas within the neighbourhood to provide visual coherence.	a) Each residential cell will include distinctive architectural and landscape features and parkland components.  b) Public and private spaces should complement and enhance the inherent natural elements of the area and feature high quality landscape architecture to create spaces that are comfortable and enjoyable.	a) The Development Concept Figure 6 will guide the location of parks, walkways and open spaces at the zoning and subdivision stage. Architectural guidelines may be established to define a theme throughout the community and to create a sense of place for its residents.  b) Detail landscaping plans will be submitted at the development permit stage.



Objective	NSP Policy	Implementation
<b>3.4.3.2</b>		
Create an entrance into the neighbourhood that identifies a sense of arrival and place.	Neighbourhood entrances shall include signage and design features that distinguish entry into the plan area.	Entrance features and signage shall be developed in accordance with the Zoning Bylaw and applicable policies.
<b>3.4.3.3</b>		
Provide a transition between residential uses of significantly different densities.	Variations in height and density will be incorporated appropriately to minimize transitions between MDR and LDR	The Development Concept Figure 6 illustrates land use transitions.
<b>3.4.3.4</b>		
Develop amenity spaces and naturalized stormwater management facilities that are visually appealing and physically accessible to all residents.	<p>a) The naturalized stormwater management facilities shall be designed to be attractive, safe to the public, and accessible through public lands.</p> <p>b) CPTED shall be considered in the design of amenity spaces. Pedestrian spaces should be well lit at night and designed to meet CPTED guidelines.</p>	<p>a) and b) The location of the facilities are established prior to Plan adoption but the exact shape and size may be refined upon completion of more detailed engineering prior to rezoning.</p> <p>Design of the facilities shall consider the safety of residents, opportunities for passive recreation and development of pedestrian walkways. This is to be outlined in the NSP and confirmed at the subdivision stage of development in conjunction with Drainage Services of Infrastructure Services and Transportation Services.</p>
<b>3.4.3.5</b>		
Site buildings to optimize and/or enhance public views and vistas.	Site planning and design should take into consideration opportunities for maximizing public views and vistas.	The Development Officer shall have regard for the placement of buildings relative to maintaining public views and vistas where opportunities may occur.

## Rationale

### ***Landscaping***

- Native landscaping shall be utilized to enhance the character of the buildings and create a positive relationship with the buildings while reducing requirements for irrigation and fertilization.

### ***Built Form***

- The architectural design of buildings should create local identity and character.
- Perceived height and massing should be minimized by utilizing variations in building setback variations at the upper levels, building orientation, roof treatment, and the choice of exterior materials and colours.
- Building façades should use compatible and harmonious exterior finishing materials, and building colours should provide visual interest.



- Dwellings and other elements of the development shall be sited and oriented to the extent possible to minimize their impact on other dwellings, considering such things as daylight, sunlight, ventilation, quietude, visual privacy, and views.

**Amenity Space**

- Provide amenity space that is aggregated to function as useable space.
- Amenity spaces shall be distinct and separate from parking areas.

**Technical Summary**

No specific technical requirements were further identified.

**3.4.4 Environmental**

To ensure that lands within the Crystallina Nera East Neighbourhood is suitable for development, Environmental Site Assessment (ESA) reports are required prior the to any land development applications.

Objective	NSP Policy	Implementation
<b>3.4.4.1</b>		
Ensure that the environmental status of the lands within the Crystallina Nera East boundary is suitable for residential development.	Determine the likelihood, types and location of environmental concerns that may be present on the lands prior to rezoning.	ESA's and any follow up will receive sign off from the City administration prior to the rezoning stage of development.
<b>3.4.4.2</b>		
Ensure that Environmental Site Assessments are complete and up to date	ESA Phase 1 reports older than 1 year from the date of rezoning application shall be updated and any Phase 2 report older than 5 years from the date of rezoning shall be redone.	ESA's will be submitted prior to zoning.

**Rationale**

Land within the plan area must be proved suitable for development or remediated prior to rezoning.

**Technical Summary**

The major landowner previously completed a Phase 1 Environmental Site Assessment for the remainder portion of his property in Klarvatten, Crystallina Nera West and Crystallina Nera East in July 2004. No significant environmental concerns related to the subject property in NE and NW 3-54-24-W4 were identified through that Phase 1 Environmental Site Assessment and no further investigation was recommended at that time. A second review was also conducted on May 31, 2005 and it determined that the property was in good condition and there were few findings of significance arising from the 2005 site visit. Copies of these all these assessments are submitted to the City under separate cover. (File Number BI-274-20-NE-CRYS)

A full new Environmental Site Assessment was conducted by the same major landowner on the Crystallina Nera East neighbourhood and submitted to the City of Edmonton in May 2010. No significant environmental concerns related to the subject property were raised and no further investigation was recommended.



The five smaller landowners have not provided Phase 1 Environmental Site Assessments (ESA) for their lands within this Crystallina Nera East NSP. These landowners will be required to complete full Phase 1 ESA's to the satisfaction of the City of Edmonton prior to future zoning and subdivision of their properties. Figure 4 identifies parcels that have not completed ESA's at the time of this NSP.

### 3.4.5 Historical Resources

Historical Resource investigations involve the evaluation/ report of existing historical resources and review of potential impact of the proposed residential development to historical resources in the NSP area.

Objective	NSP Policy	Implementation
<b>3.4.5.1</b>		
Identify and protect items and sites with historical significance, such as buildings and areas of cultural significance, in the Crystallina Nera East Neighbourhood.	Review past and current activities within the Crystallina Nera East Neighbourhood to identify items of historical significance.	A Historical Resources Overview (HRO) for the Crystallina Nera East Neighbourhood was conducted, submitted and reviewed prior to Plan adoption.

#### Rationale

A Historical Resources Overview was conducted for the Crystallina Nera West and Crystallina Nera East neighbourhoods in 2005 and received Historical Resource Act clearance at that time. Altimira Consulting Ltd confirmed that this clearance is still valid for the Crystallina Nera East area in 2010. No heritage resources are identified in the City of Edmonton Heritage Resources Inventory for Crystallina Nera East either.

#### Technical Summary

No specific technical requirements were further identified.

### 3.4.6 Residential

Boundaries of residential nodes are generally defined in the Development Concept by the collector road system and the parks and open space system. Approximately 41.92 hectares of the Plan area is designated for residential land use, 34.79 hectares is Low Density Residential and 7.13 hectares is Medium Density Residential.

Objective	NSP Policy	Implementation
<b>3.4.8.1</b>		
Locate medium density residential development with good access to, and in support of, public transit facilities.	MDR parcels should be located abutting collector roadways and transit routes.  MDR development shall be located within 400 m walking distance of public transit facilities.	The Land Use Concept Figure 6 will guide the MDR development to be located at the edge of the neighbourhood, at neighbourhood entrances, and along collector and arterial roadways (along possible transit routes).



<b>3.4.6.2</b>		
Establish affordable housing in the Crystallina Nera East Neighbourhood.	a) When the City has an approved policy for affordable housing, it shall apply to this bylaw if the area has not been rezoned for development.	a) When adopted, the City's affordable housing policy will be applied to Crystallina Nera East development prior to rezoning.
<b>Objective</b>	<b>NSP Policy</b>	<b>Implementation</b>
	<p>b) The Neighbourhood Structure Plan proposes a wide variety of housing types—with a wide range of prices—to make it a more inclusive neighbourhood.</p> <p>c) Expanded opportunities for secondary suites development in low density residential structures shall be pursued through the Edmonton Zoning Bylaw for the Crystallina Nera East Neighbourhood Structure Plan.</p>	<p>b) The Land Use Concept Figure 6 will guide the different types of residential land use designations.</p> <p>c) The approved Secondary Suite Zoning Bylaw amendments regulate the provision of secondary suites in the Crystallina Nera East neighbourhood.</p>
<b>3.4. 6.3</b>		
Establish increased residential densities in support of Neighbourhood intensification.	The Crystallina Nera East Neighbourhood Structure Plan exceeds Capital Region Board Net Residential Density Requirement.	The Land Use Concept Figure 6 will guide the locations and densities of residential development within the neighbourhood.
<b>3.4. 6.4</b>		
Provide a range of housing densities, types and choices in a variety of physical forms to meet the needs of different age and income groups.	<p>A variety of housing choices will be supported to provide a more compact and comprehensive neighbourhood.</p> <p>A mix of low and medium density residential uses are provided, allowing consumer choice, and a range of housing options.</p>	The Land Use Concept Figure 6 illustrates the various land use designations.

### Rationale

Low density residential is the primary land use in Crystallina Nera East. Low Density residential can include semi detached or single family housing. These units may be owned or rented and may be a mix of front drive garage and rear access units. Low density residential may be zoned (RPL) Planned Lot Residential Zone, (RSL) Residential Small Lot Zone, (RF1) Single Detached Residential Zone or (RF4) Semi-Detached Zone. The low density residential has a density of 25 units per hectare and there are 870 units.

Medium density residential sites are primarily clustered along 66 Street in proximity to the Neighbourhood Commercial site and a small park. These medium density residential sites are located to take advantage of safe and convenient access from the proposed collector roadway network to 66 Street and north to Anthony Henday Drive. Two other smaller medium density residential sites are identified on the



southwest boundary of Crystallina Nera East, south of the south collector and east of the school park site approved in Crystallina Nera West. The medium density residential in Crystallina Nera East may include a mix of townhouse, multiplex and 4 storey apartment style developments and may be zoned RF5, UCRH, RF6 or RA7. The medium density residential density is averaged at 75.3 units per hectare and approximately 596 units are projected. These units are further defined by zoning category for the engineering section of this report.

### Technical Summary

No specific technical requirements were further identified.

### 3.4.7 Neighbourhood Commercial

A 0.93 hectare neighbourhood commercial site is designated at the intersection of 66 Street and the northern collector roadway in Crystallina Nera East. The commercial site is convenient to the cluster of medium density housing adjacent to 66 Street, supporting a walkable destination to a range of neighbourhood shops and services for the greater community.

Objective	NSP Policy	Implementation
<b>3.4.7.1</b>		
Minimize the impact of commercial development on adjacent land uses.	<p>a) Activity areas associated with commercial development shall be oriented towards the abutting arterial or collector roadway(s) and away from the residential land uses.</p> <p>b) The separation distance between residential development and abutting commercial development shall be maximized through site orientation.</p>	<p>a) The Development Officer will have regard for building placement and activity areas in assessing and conditioning development applications for commercial development within the neighbourhood.</p> <p>b) The Subdivision Officer will have regard for orienting adjacent dwellings such that residential lots are designed to back onto commercial development.</p>
<b>3.4.9.2</b>		
Provide convenient pedestrian access to commercial services to promote walkability.	Provide for commercial and service uses in proximity to higher density residential development to promote walkability and reduce reliance on the private automobile.	The Land Use Concept Figure 6 guides the location and densities of residential and commercial land uses and the location of public spaces to promote walkability.

### Rationale

Impacts associated with commercial development should be minimized and carefully integrated with surrounding residential development. Attention to site design at the detailed design stage will separate incompatible use activities and minimize potential issues.

### Technical Summary

No specific technical requirements were further identified.





### 3.4.8 Parkland, Recreation Facilities, Schools and Open Space

A variety of green and open spaces have been planned for the NSP area to accommodate different recreational needs of the residents. The following objectives have been identified to guide the development of these spaces:

Objective	NSP Policy	Implementation
<b>3.4.8.1</b>		
Provide a variety of parkland and open spaces to support passive and active recreation, and promote wellness.	Municipal Reserves (MR) owing for the Crystallina Nera East Neighbourhood shall be dedicated in agreement with Parks Planning of the Sustainable Development and the Edmonton Catholic School Board.	The parks and open spaces identified in the Land Use Concept Figure 6 will be dedicated to the City of Edmonton as Municipal Reserve (MR) at the time of subdivision.
<b>3.4.8.2</b>		
Establish dispersed park spaces within the neighbourhood, through dedication of municipal reserves, to provide opportunities for passive and active recreation for residents.	Ensure a balanced spatial distribution of neighbourhood parks and open spaces.	The Land Use Concept Figure 6 and trail network Figure 8 will guide future application of neighbourhood parks and open spaces.
<b>3.4.8.3</b>		
Maintain the greenways to provide connectivity within and beyond Crystallina Nera East.	The Neighbourhood Structure Plan provides greenway linkages to Natural Areas in proximity to Crystallina Nera East.	The Land Use Concept Figure 6 and trail network Figure 8 will guide future application of neighbourhood parks and open spaces. The specific location and configuration of these areas will be determined during the subdivision and rezoning stages.
<b>3.4.8.4</b>		
Provide a straightforward and understandable configuration of open spaces, greenways, school/park sites and walkway connections.	The NSP shall follow the guidelines for the hierarchy and distribution of park spaces as prescribed within the UPMP. All park spaces shall be connected to the trail network system within the neighbourhood.	The parks and open spaces identified in the Development Concept Figure 6 will be dedicated to the City of Edmonton as Municipal Reserve (MR) at the time of subdivision.



<b>3.4.8.5</b>		
Provide opportunities for passive and active recreation for all users.	Neighbourhood parks and open spaces will be evenly distributed throughout the neighbourhood.	The Development Concept Figure 6 and trail network Figure 8 will conceptually guide future application of neighbourhood parks and open spaces.
<b>Objective</b>	<b>NSP Policy</b>	<b>Implementation</b>
<b>3.4.8.6</b>		
Design park spaces to meet the needs of all users within the community.	Park space shall be designed to accommodate active and passive recreation activities for various age groups.	Design and development of future parks and open spaces shall consider programming needs of the community and be implemented based on requirements of Parks Planning of Sustainable Development.
<b>3.4.8.7</b>		
Provide a site for a school within the community.	Provide a Municipal Reserve site for a school.	The Development Concept Figure 6 identifies the size and location of the Crystallina Nera East Neighbourhood school site.
<b>3.4.8.8</b>		
Design safe park space, in accordance with the Design Guide for a Safer City and UPMP.	Park space shall have frontage along public roadways to ensure sightlines, natural surveillance, and adequate lighting. Landscaping and design of park spaces shall take into consideration basic CPTED principles and design principles included in the Design Guide for Safer City and UPMP.	Design and development of future parks and open spaces shall consider safety needs of the community and be implemented based on the requirements of Parks Planning of Sustainable Development.
<b>3.4.8.9</b>		
Design a connected and integrated open space system that encourages active modes of movement (e.g. pedestrians, wildlife and bicycles).	Crystallina Nera East Neighbourhood shall incorporate various pedestrian linkages along sidewalks, walkways, greenways and shared use path corridors that link all park spaces and stormwater facilities.	The Development Concept Figure 6 and trail network Figure 8 will guide future application of neighbourhood parks, open spaces and pedestrian connections.



<b>3.4.8.10</b>		
Design greenways and walkway connections to complement on-street sidewalk routes and connections.	The design of the trail network within the neighbourhood should avoid duplication between sidewalk connections, yet maintain some off-street connections for major linkages through the neighbourhood.	The Development Concept Figure 6 and Parks and Open Space Pedestrian Linkage Figure 8 will guide future application of neighbourhood parks, open spaces and pedestrian connections.
<b>3.4.8.11</b>		
Stormwater management design will need to be approved by the City of Edmonton and Department of National Defense.	The landscape design of the stormwater management system may be restricted in the type of materials that may be approved.	Stormwater management designs are subject to further discussion with City of Edmonton Departments and Department of National Defense.
<b>Objective</b>	<b>NSP Policy</b>	<b>Implementation</b>
<b>3.4.8.12</b>		
Equitably address the MR dedication requirements for landowners within the NSP area, considering park and open space proposed to create the interconnected open space network as illustrated in Figure 7 – Green Infrastructure.	The City will work with landowners in the NSP area to acquire lands needed, in excess of those to be provided through MR dedication requirements, to create the interconnected open space network as illustrated in Figure 7 – Green Infrastructure.	The City will acquire land in excess of MR dedication requirements, through purchase or land swap, in consensus with landowners.

## Rationale

### **School and Community Park Site**

Due to the close physical proximity of Crystallina Nera West and Crystallina Nera East, school and park allocations for both neighbourhoods were essentially confirmed with the approval of Crystallina Nera West. The boundaries of the neighbourhoods were set to ensure that each neighbourhood had a school site. A 9.46 hectare Edmonton Public K-9 School and Community Park and Community League Facility is approved in Crystallina Nera West and an approximately 5.54 hectare Edmonton Catholic School and Community Park site is located in the northern area of the Crystallina Nera East neighbourhood. The School Boards also agreed that the sites could be separated and joined by a Greenway which was approved in Crystallina Nera West. **(See Figure 7)**

### **Greenway**

The Greenway approved north through the Crystallina Nera West neighbourhood links the two school sites and also provides a critical link north to the Transportation and Utility Corridor. **(See Figure 8)** The



level of landscaping approved for the north/south Greenway to the Crystallina Nera East school site in the Crystallina Nera West NSP may be more manicured and less naturalized than the east west Greenway to the Schonsee Natural Area and final landscaping will be established at the detailed design stage. In addition to providing a natural community focus through provision of trail facilities, the connection and variety of Green Infrastructure may contribute to a reduction of public costs for stormwater management, flood control and other forms of built infrastructure. The unique Greenways form an integral neighbourhood element that will contribute immensely to the well being of the residents of Crystallina Nera West, Crystallina Nera East and North Edmonton. The neighbourhood review conducted as part of the Crystallina Nera West NSP ensured that, with the cooperation of the City of Edmonton, the extensive greenways could be retained as MR and still maintain adequate municipal reserve for school and park needs in both Crystallina Nera West and Crystallina Nera East.

### ***Pocket Park***

An approximately 0.50 hectare Pocket Park is designated in the east central portion of Crystallina Nera East. This pocket park has been located in proximity to the cluster of medium density residential and the neighbourhood commercial uses to ensure safe and convenient access to a range of passive recreational activities for these more intensive land uses. This pocket park will be located on a corner site to provide frontage, to improve access and to enhance safety.

### ***Pedestrian Network***

The proposed pedestrian network is comprised of an interconnected trail and sidewalk network within the Greenways and roadway network and the Stormwater Management Facility. An enhanced access is provided to the northwest area of the naturalized stormwater management facility through provision of a small park space north of the PUL access to the facility.

For additional information refer to Section 3.4.9 – Internal Roadway Circulation.

### ***Stormwater Management Facilities***

Although it is designated as a public utility the approximately 4.50 hectare stormwater management facility in the northern Plan area will make a major visual and functional addition to Crystallina Nera East's Green Infrastructure. To address Department of Defense concerns related to open water in the vicinity of the flight path this SWMF will be designed as a naturalized facility.

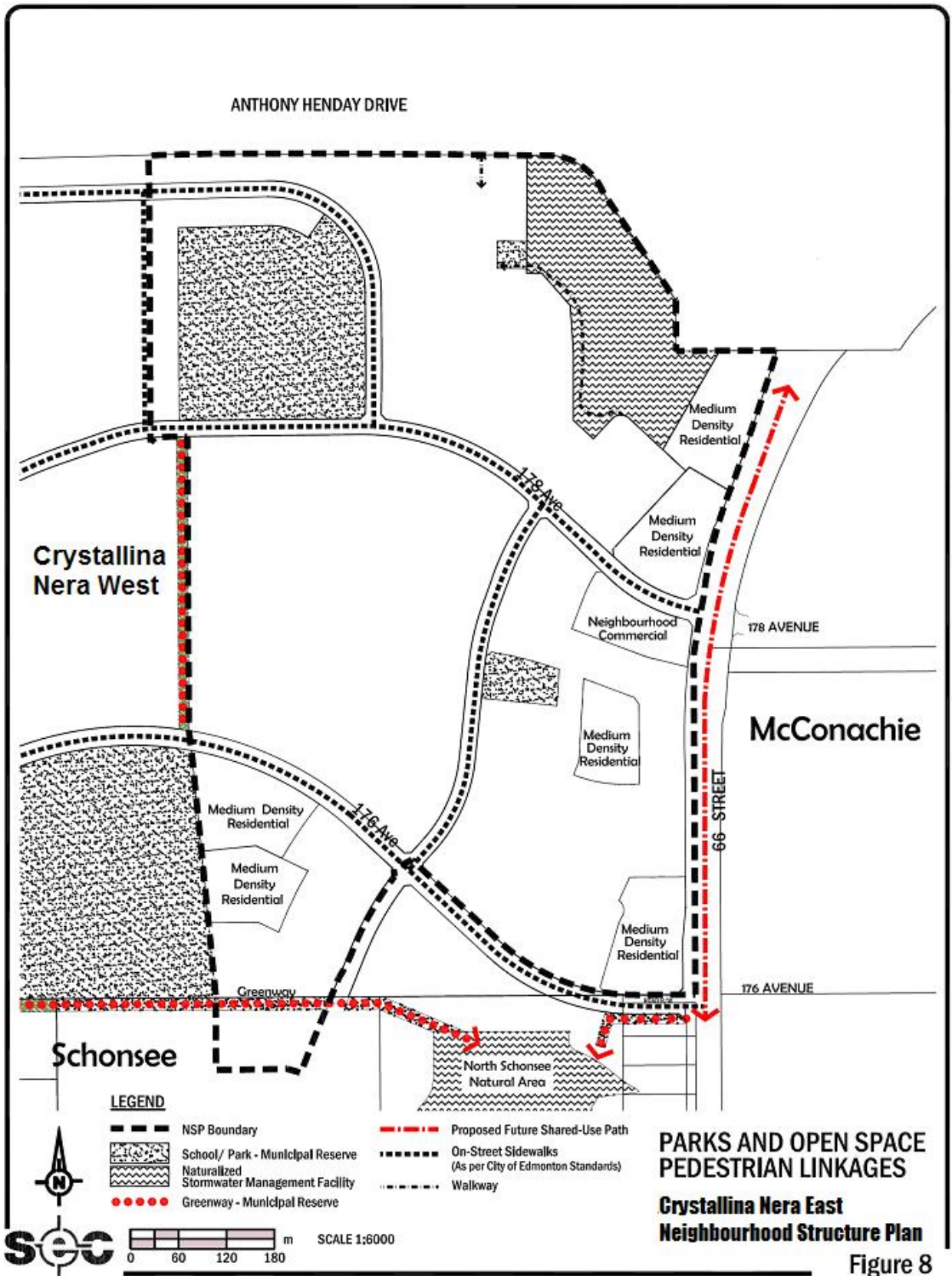
### **Technical Summary**

A Parkland Impact Assessment (PIA) is submitted to the City of Edmonton under separate cover.



**GREEN INFRASTRUCTURE**  
**Crystallina Nera East**  
**Neighbourhood Structure Plan**

Figure 7

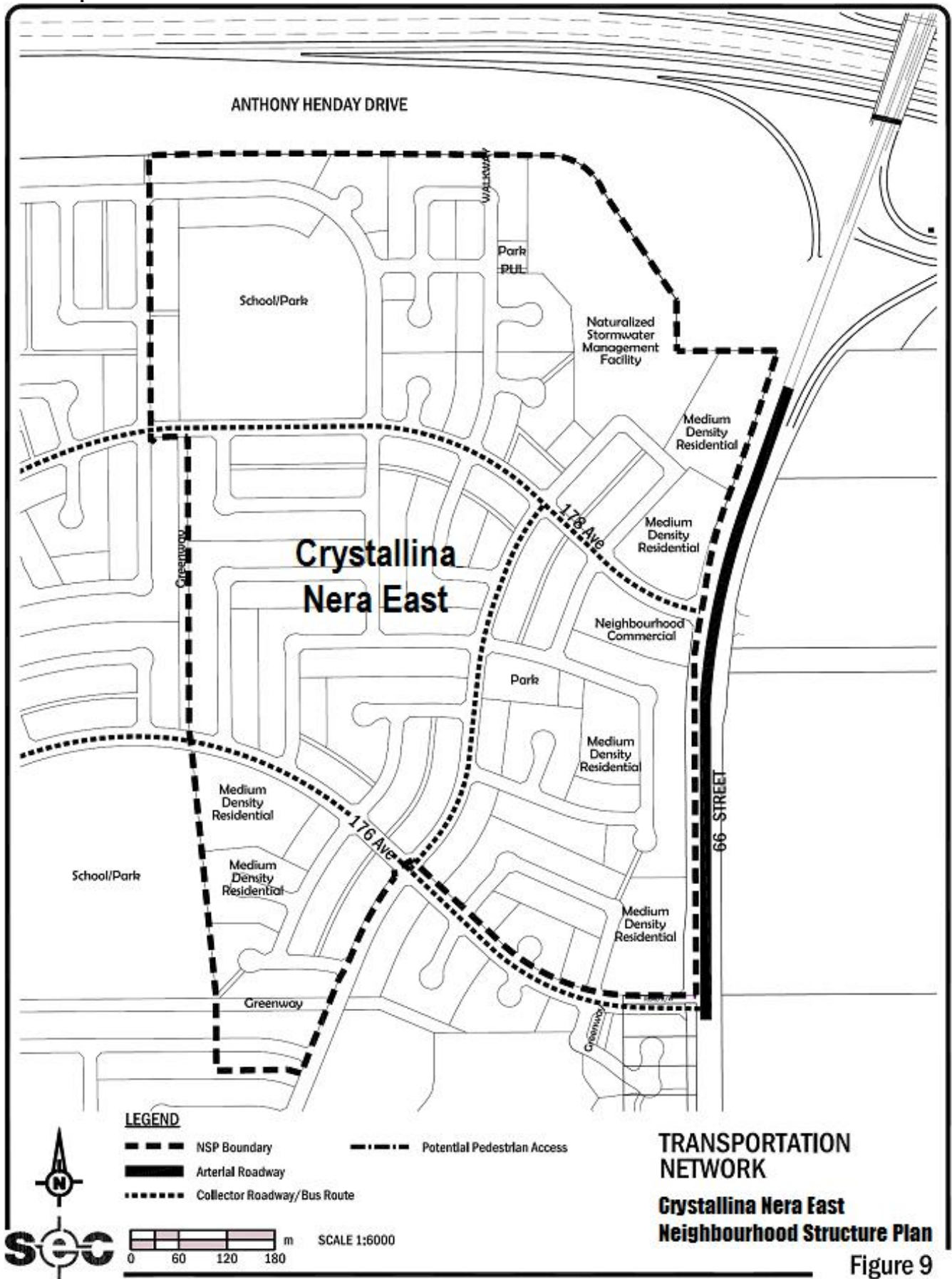




### 3.4.9 Transportation

The transportation network of the Crystallina Nera East NSP is designed to provide safe and efficient vehicular, transit and pedestrian circulation.

Objective	NSP Policy	Implementation
<b>3.4.9.1</b>		
Implement the City of Edmonton road hierarchy system of an integrated arterial, collector and local roadway network.	A well-integrated system of arterial, collector and local roadways shall be established for vehicular and pedestrian circulation within the NSP boundaries and the adjacent neighbourhoods.	Road Right-of-Way and Arterial Road Widening shall be dedicated to the City of Edmonton in accordance with the NSP at the subdivision stage of development.
<b>3.4.9.2</b>		
Mitigate the impact of vehicle traffic associated with medium density residential and commercial development on the neighbourhood roadway network.	Locate commercial and medium density residential parcels to facilitate access from collector roadways to the greatest extent possible.	Ensure medium density residential and commercial development is accessed via abutting collector roadways to the greatest extent possible and minimizing access via local roadways to the greatest extent possible at the subdivision stage.
<b>3.4.9.3</b>		
Avoid the development of long cul-de-sacs wherever possible.	Ensure the maximum length of cul-de-sacs in residential settings does not compromise City emergency response plans, operations and maintenance.	Maximum cul-de-sac lengths in residential settings will be determined and adhered to at the subdivision stage.
<b>3.4.9.4</b>		
Establish internal roadway connectivity and discourage the development of "exclusive" residential enclaves.	Ensure internal roadways have ample vehicular and pedestrian connections and form accessible residential developments where practical.	Subdivision design in residential settings will be determined prior to subdivision approval.
<b>3.4.9.5</b>		
Create adequate locations for neighbourhood access by a variety of modes, such as automobiles, transit, bicycle and pedestrian connections.	Ensure that collector roadways have adequate access to arterial roadways in order to maintain appropriate traffic flow in and out of the neighbourhood.  A network comprising of pedestrian linkages including greenways, walkways and shared use paths shall be established where possible.	The Transportation Network Figure 9 identifies collector roadway accesses to arterial roadways.  Subdivision design in residential settings will be determined prior to subdivision approval.







Objective	NSP Policy	Implementation
<b>3.4.9.6</b>		
Promote pedestrian accessibility to parks, open spaces, and future transit corridors.	The greenway system has been extended east/west and north/south through Crystallina Nera East to promote walkability and access to future transit corridors.	The Subdivision Officer should have regard for the dedication of walkways to promote walkability and appropriate access to future transit corridors.
<b>3.4.9.7</b>		
Integrate land use and circulation patterns considering safety of both pedestrians and cyclists.	Ensure pedestrian crossings are safe, convenient and developed at visible locations.	Pedestrian crossings shall be identified at the subdivision approval and/or development permit stages.
<b>3.4.9.8</b>		
Provide public access to tie into the Schonsee Wetland south of Crystallina Nera East.	Access to the natural areas shall be provided through an acceptable combination of dedicated greenways shared use paths (MUT), pedestrian access points and parks.	Greenways will be dedicated to the City of Edmonton as municipal reserve at the time of subdivision.
<b>3.4.9.9</b>		
Provide public transit stops within 400 m walking distance from all residences and schools.	Ensure the location of all residential land uses are within 400 m of a transit route.	Future transit routes will be established based on the proportion of trips to be generated from within the neighbourhood and adjacent areas.
<b>3.4.9.10</b>		
Initiate transit service in the initial stages of development of the neighbourhood.	Encourage the landowner to provide developer funded transit at the initial stages of development.	The Developer will consider developer funded transit in the initial stages of development and discuss it with the Transportation Services at the subdivision stage.
<b>3.4.9.11</b>		
Provide noise attenuation where residential uses back onto major transportation corridors.	Appropriate noise attenuation shall be provided for residential uses adjacent to Anthony Henday Drives and 66 Street.	Transportation Services will determine if a noise level evaluation is required for residential development at the subdivision stage.



## Rationale

### ***Regional Network Accessibility***

The Transportation and Utility Corridor (TUC) is an integral part of Edmonton's future Ring Road. (see **Figure 9**) The south boundary of Edmonton's Transportation and Utility Corridor forms the north boundary of Crystallina Nera East. The construction of the portion of the Anthony Henday Drive north of Crystallina Nera East and its associated tie into 66 Street is scheduled for completion in 2011. An interchange will be constructed at 66 Street as part of Anthony Henday Drive. No roadway access, other than 66 Street, will be allowed from Crystallina Nera East to the Transportation and Utility Corridor.

Two "Potential Pedestrian Access Locations to the TUC" are identified in the approved Crystallina Nera West NSP. One of these potential access locations is in the northeast corner of Crystallina Nera West, immediately adjacent to Crystallina Nera East. Potential exists to provide an additional Pedestrian Access Location to the TUC. These approved and potential pedestrian accesses to the TUC may be restricted, and will be determined at the time of subdivision with the consensus of Alberta Transportation and the City of Edmonton.

Future vehicle access to this major transportation system could provide a critical link to major employment opportunities in the Heartland for the residents of Crystallina Nera East and could reduce commute lengths and peak hour congestion in other areas. Proximity of housing to these major employment opportunities is an important consideration in the marketing and development of Crystallina Nera East.

### ***Perimeter Access***

Primary access to Crystallina Nera East will be provided from two points off the 66 Street arterial on the east boundary of the Plan area. The location of these two access points were generally established in the Transportation Impact Assessment completed with Crystallina Nera West. These locations have more recently been confirmed through the conceptual design of 66 Street. Collector links approved in both the north and south Plan area of Crystallina Nera West will ultimately connect all the way from 82 Street to 66 Street.

In addition there are collector roadway links approved west through Crystallina Nera West to 82 Street and south through Schonsee to 167 Avenue.

### ***Internal Roadway Circulation***

The internal transportation system is comprised of collector roads and a system of local roads.

The two major collector roadways approved in Crystallina Nera West are extended east through Crystallina Nera East to 66 Street. The collectors identified through Crystallina Nera East will generally be a 20 meter cross section with a separate walk. The cross sections will be widened as recommended in the TIA as they approach intersections to accommodate turn bays and medians.

The local road network will offer safe and convenient access throughout the neighbourhood. Local roads will include sidewalks and be designed in accordance with the City of Edmonton design standards.

Boulevard and /or median landscape treatment at the main entry points will create and enhance a sense of entry to Crystallina Nera East as a distinct, identifiable neighbourhood.

In the vicinity of the School/Park site, low density residential units north of the collector either back onto or flank onto the school site. Lots south across the collector are serviced by a lane. To accommodate school facilities and parking and drop off, approximately 42.3% of the perimeter of the school site has collector frontage.



The transportation network has been designed to meet current City of Edmonton's guidelines and standards. The collector roadway network provides efficient and convenient access to residential areas and is designed to prevent short-cutting traffic through the neighbourhood. This serves to further reinforce a local 'sense of place' among residential sub-areas, reduce traffic volume and speeds, and establish a pedestrian-oriented streetscape (i.e. walkable environment).

**Parking:** Parking for vehicles will generally be provided off-street in conjunction with residential development applications.

**Truck Routes:** Anthony Henday Drive is a 24 hour truck route / dangerous goods route and 66 Street is a restricted truck route.

**Public Transit:** Public transit services will be extended into the Neighbourhood Structure Plan area in accordance with City of Edmonton Transit System Guidelines and demands. The internal collector roadways will be developed to a suitable standard to accommodate transit service and provide readily accessible service to all areas of the neighbourhood. All residential areas will be within 400 m walking distance from transit service. The School in the northwest portion of the Neighbourhood Structure Plan has been designed to ensure adequate school transit service through its location on the collector roadway network.

**Pedestrian Network:** An efficient and continuous walkway network consisting of trails and sidewalks within the open spaces, greenways and roadways will connect activity nodes within the Neighbourhood Structure Plan and provide pedestrian circulation throughout the neighbourhood. All local and collector roadways in the Crystallina Nera East Neighbourhood will be developed with sidewalks in accordance with City standards, providing pedestrian access throughout the Neighbourhood Structure Plan area.

A 2.5m shared use path (SUP) is currently proposed by The City of Edmonton on the east side of 66 Street north of 167 Avenue. This SUP will extend north along 66 Street past Crystallina Nera East. The trail system proposed in the Greenway in Crystallina Nera East will eventually link to this SUP in 66 Street and the North Schonsee Natural Area. A Natural Area approved in the McConachie neighbourhood will allow the pedestrian network to continue to extend to the east. The Greenway system will connect Crystallina Nera East with North Edmonton and extensive pedestrian and bicycle link with the surrounding area.

The proposed combination trails and sidewalks create opportunities for interesting and diverse recreation experiences within the Crystallina Nera East neighbourhood. All pedestrian linkages will be developed in consensus with Current Planning and Parks Planning of Sustainable Development and Transportation Services and will be developed to the City of Edmonton standards at the time of subdivision.

The provision of pedestrian access to the TUC and a shared-use path within the TUC will be explored by the developer with the Province and City at the zoning or subdivision stage. If a future SUP is allowed within the TUC, the trail will be built by the developer at their expense at the time of subdivision of the lands adjacent to the TUC. The development of a trail within the TUC may require additional pedestrian connectors from the neighbourhood.

**Greenways:** When Crystallina Nera West and Crystallina Nera East are built out, dedicated greenways will traverse the Plan area north/south and east/west. A north/south greenway approved in Crystallina Nera West creates the west boundary of Crystallina Nera East and connects the proposed School/Park sites in both neighbourhoods to the overall open space network. A short east-west segment of Greenway designated in the south Plan area of Crystallina Nera East completes a major link between Crystallina Nera West and the Schonsee wetland. The east west greenway is intended to be a more naturalized and ecologically friendly system but may include grassed or naturalized planting, park furniture (e.g. benches, garbage receptacles), trees and shrub beds, and directional and interpretive signage. The level of development allowed on these greenways will be established with the City of Edmonton at a more detailed design stage.



**Bicycle circulation:** Bicycle circulation within the Neighbourhood Structure Plan is designed to follow collector and local roadways within the neighbourhood area. Bicycle routes will be integrated with SUP corridors and walkways connecting internal and adjacent residential areas and amenities. Routes will be clearly marked using appropriate signage and markings in order to minimize potential conflicts between vehicles, cyclists, and pedestrians in the neighbourhood.

**Noise Attenuation:** A noise attenuation needs assessment will need to be carried out in accordance with City of Edmonton's Urban Traffic Noise Policy to address noise attenuation requirements adjacent to Anthony Henday Drive and 66 Street. This policy requires that the noise levels in the outdoor amenity areas do not exceed 60 dBA.

A noise attenuation study will also be carried out for the residential lots adjacent to the naturalized stormwater management facility, in the northeast portion of the plan area, immediately adjacent to Anthony Henday Drive, to ensure that noise levels in the outdoor amenity area do not exceed 60 dBA.

Further noise level evaluations will be carried out through the detailed design phase to verify if these and other locations merit noise reduction measures. If during the course of these further evaluations the locations are confirmed to exceed the 60 dBA objective, noise attenuation will be provided at these locations at the expense of the developer. Should the developer be required to construct noise attenuation adjacent to Anthony Henday Drive, the province has indicated that they will not generally permit noise attenuation berming within the TUC. Should the developer be required to construct berming adjacent to Anthony Henday Drive, the land for the berm must be within the Crystallina Nera East plan area.

If required by Transportation Services, noise level evaluations will be carried out by the developers prior to subdivision application at the design phase of the project. Based on the results of the study, noise attenuation may be required. At a minimum, a 1m berm and a 1.8 m double board no gap fence (min. density 20 kg/m<sup>3</sup>) will be required along all residential lots adjacent to Anthony Henday Drive and 66 Street.

## **Technical Summary**

Due to the interface and proximity of the two neighbourhoods, the TIA approved by the City of Edmonton for the approval of Crystallina Nera West included the entire Crystallina Nera East plan area. The TIA included trip rates, origin/destination assumptions, collector networks, and the tabulation of initial volumes anticipated at the arterial to collector accesses. The TIA was updated for Crystallina Nera East to reflect the status of Anthony Henday Drive and resubmitted to Transportation Services.



### 3.4.10 Infrastructure, Servicing and Staging

Objective	NSP Policy	Implementation
<p><b>3.4.10.1</b></p> <p>Ensure that the Crystallina Nera East Neighbourhood is serviced to a full urban standard and servicing is provided in an efficient and logical manner.</p>	<p>a) Sanitary and stormwater servicing will be provided in accordance with the approved Neighbourhood Design Report (NDR)</p> <p>b) Water Servicing to the NSP area will be provided in accordance with the approval of a Water Network Analysis (WNA).</p> <p>c) Shallow utilities will be extended into the plan area as required.</p>	<p>a) Approval of engineering drawings and servicing agreements will be required for installation of servicing and stormwater servicing.</p> <p>b) Approval of engineering drawings and servicing agreements will be required for installation of water servicing.</p> <p>c) Installation of shallow utilities will be executed through servicing agreements.</p>

#### Rationale

##### Sanitary Servicing

The NSP area will generally drain to two connection points. The sanitary mains for the Crystallina Nera East neighbourhood will connect to the 525 mm trunk on 66 Street. The on-site sanitary network will follow the internal roadway network and associated public utility lots to the sanitary sewer trunk. (See Figure 11)

##### Stormwater Management Facility

The majority of the storm drainage for Crystallina Nera East drains to the northeast and discharges into a naturalized stormwater management facility proposed in the north-eastern portion of the Plan area. Both major and minor storm flows within the area will drain into this stormwater management facility. (See Figure 10)

Approximately 24.0 hectares in the southern area of Crystallina Nera East drains into a major wetland stormwater management facility approved in the Schonsee neighbourhood.

##### Water Servicing

Initial water supply will be available from a future 450 mm water main to be extended east along 178 Avenue and a 300mm water main along 82 Street and then east along 176 Avenue. A future watermain is proposed to connect to the Schonsee neighbourhood to the south. (See Figure 12)

##### Shallow Utilities

Shallow utilities, such as natural gas, power, telephone and cable TV are available for extension into the NSP area from adjacent lands. Gas, power, telephone and cable TV lines will be located within the road right of way or through easements on private land.

##### Staging

The anticipated sequence of development for the Crystallina Nera East Neighbourhood is shown in Figure 13 – Staging Plan. Development could proceed west from 66 Street to east through Crystallina Nera West. Individual stages will be based on current market conditions. Zoning and Subdivision will be required for successive stages of development.

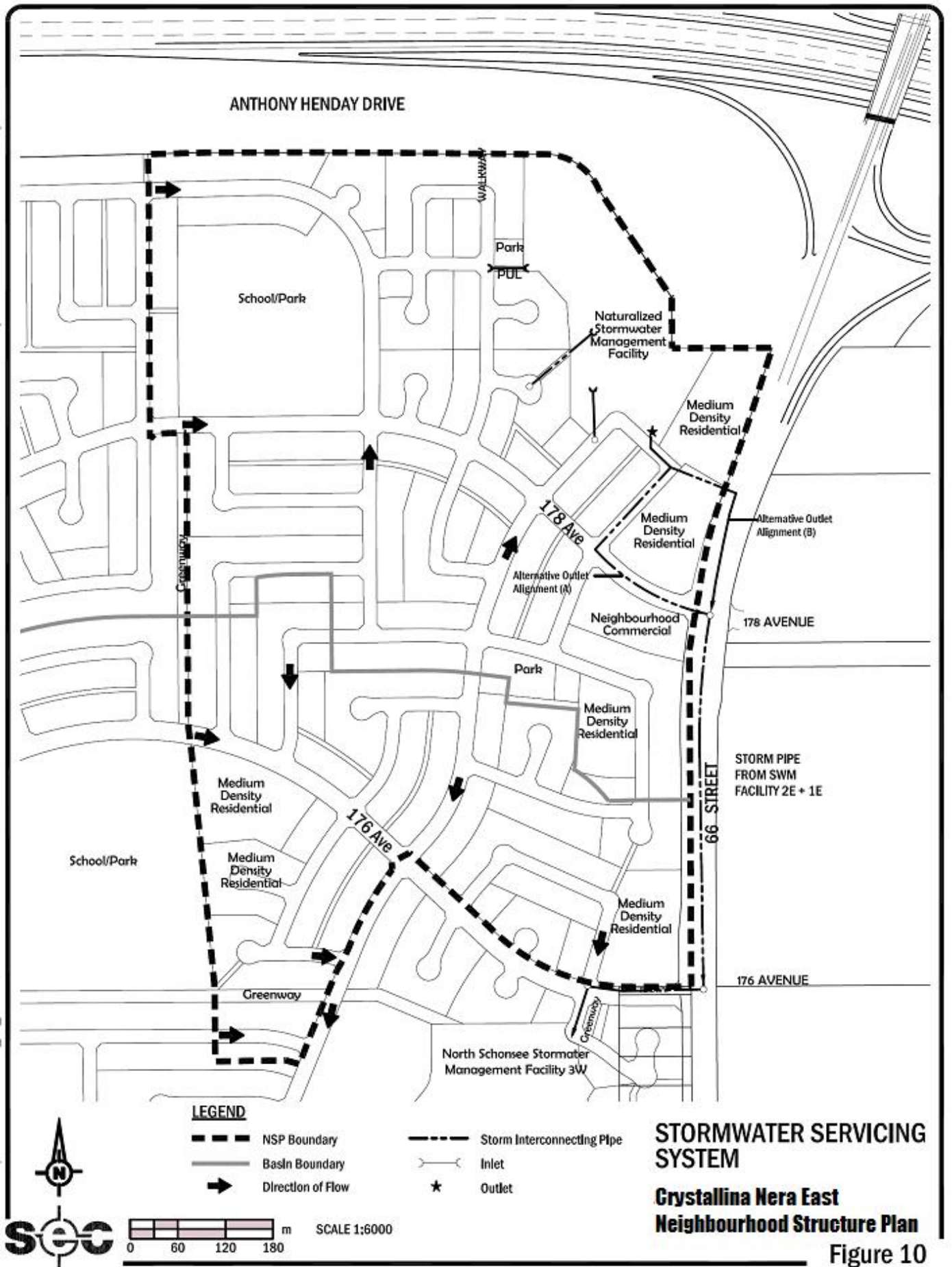


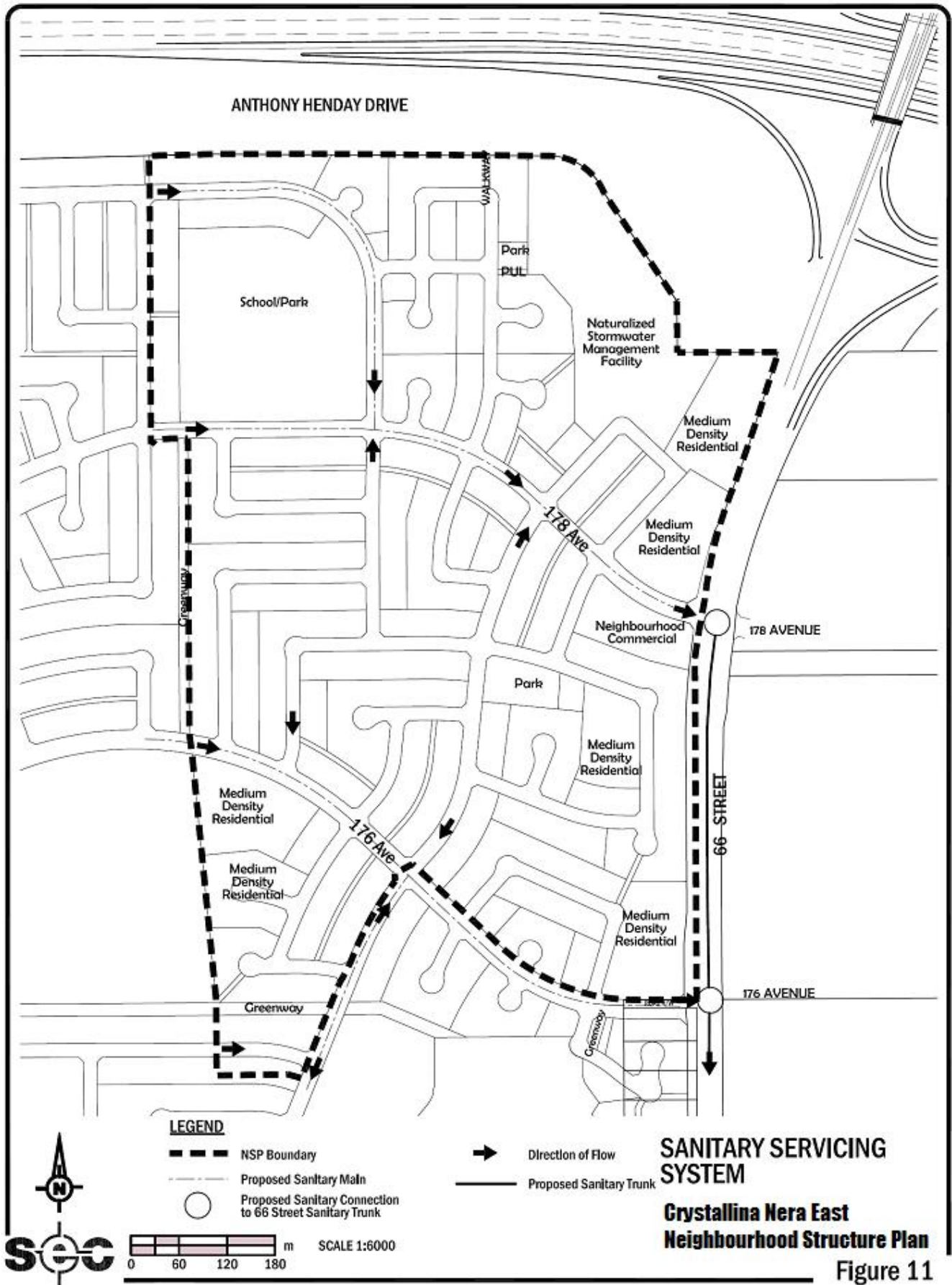
## Technical Summary

The Stormwater Management facility in Crystallina Nera East will meet Alberta Environment and the City of Edmonton's standards required for their design and operation. Further information on the system is provided in the Neighbourhood Design Report submitted to Infrastructure Services, Drainage Services Branch, for review.

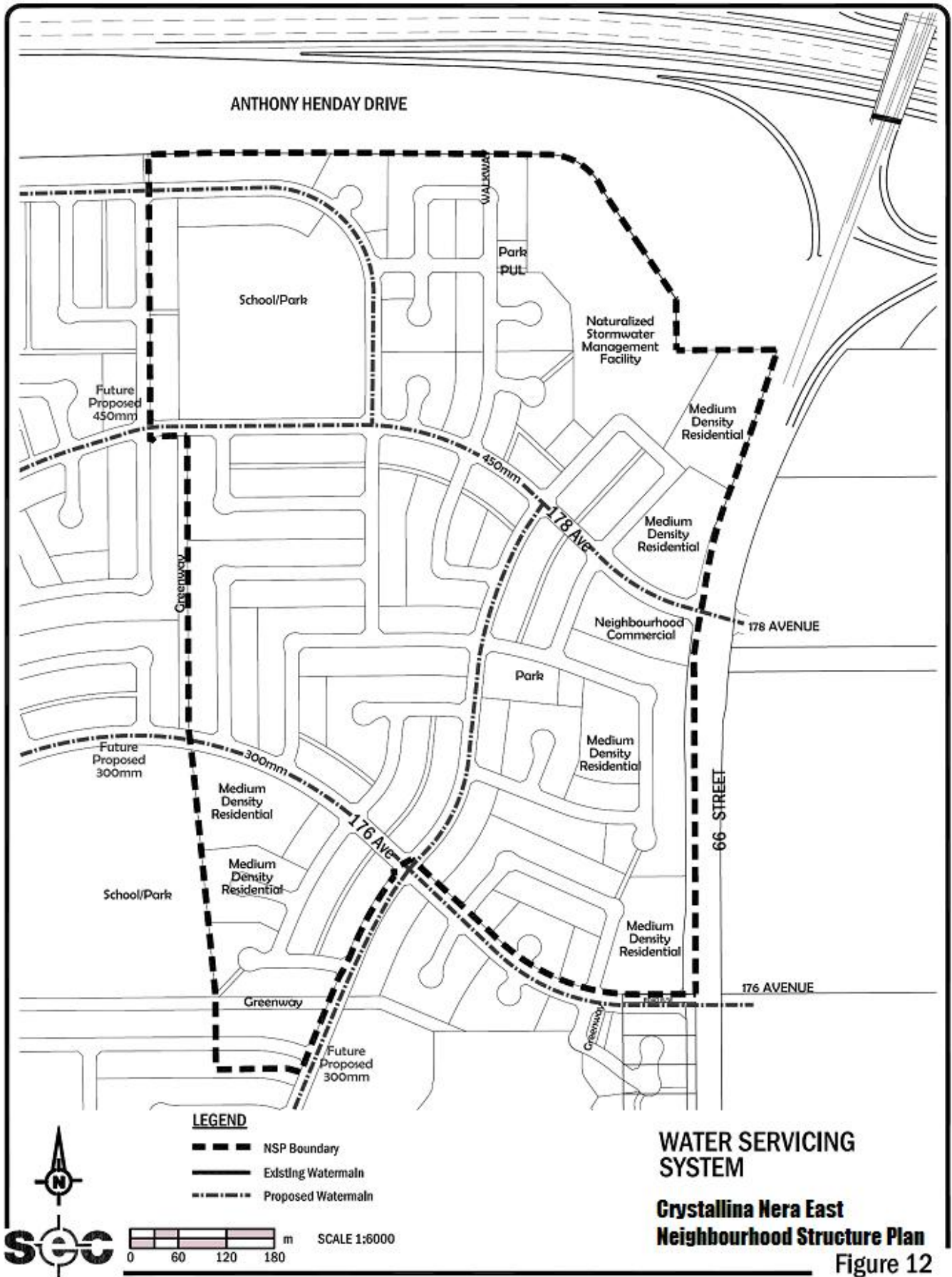
The long and narrow shape of the stormwater management facility has been created in consideration of Department of National Defence regulations for manmade facilities within the Edmonton Garrison Heliport Zoning Regulations. Under these regulations, SWMFs with a normal water level under 2.5 ha do not require DND approval. Engineering design criteria related to the development of the facility will have to gain the approval of municipal, provincial and federal authorities. Department of National Defense still reserve the right to initiate changes at the engineering design stage if they believe the design of the facility will attract birds.

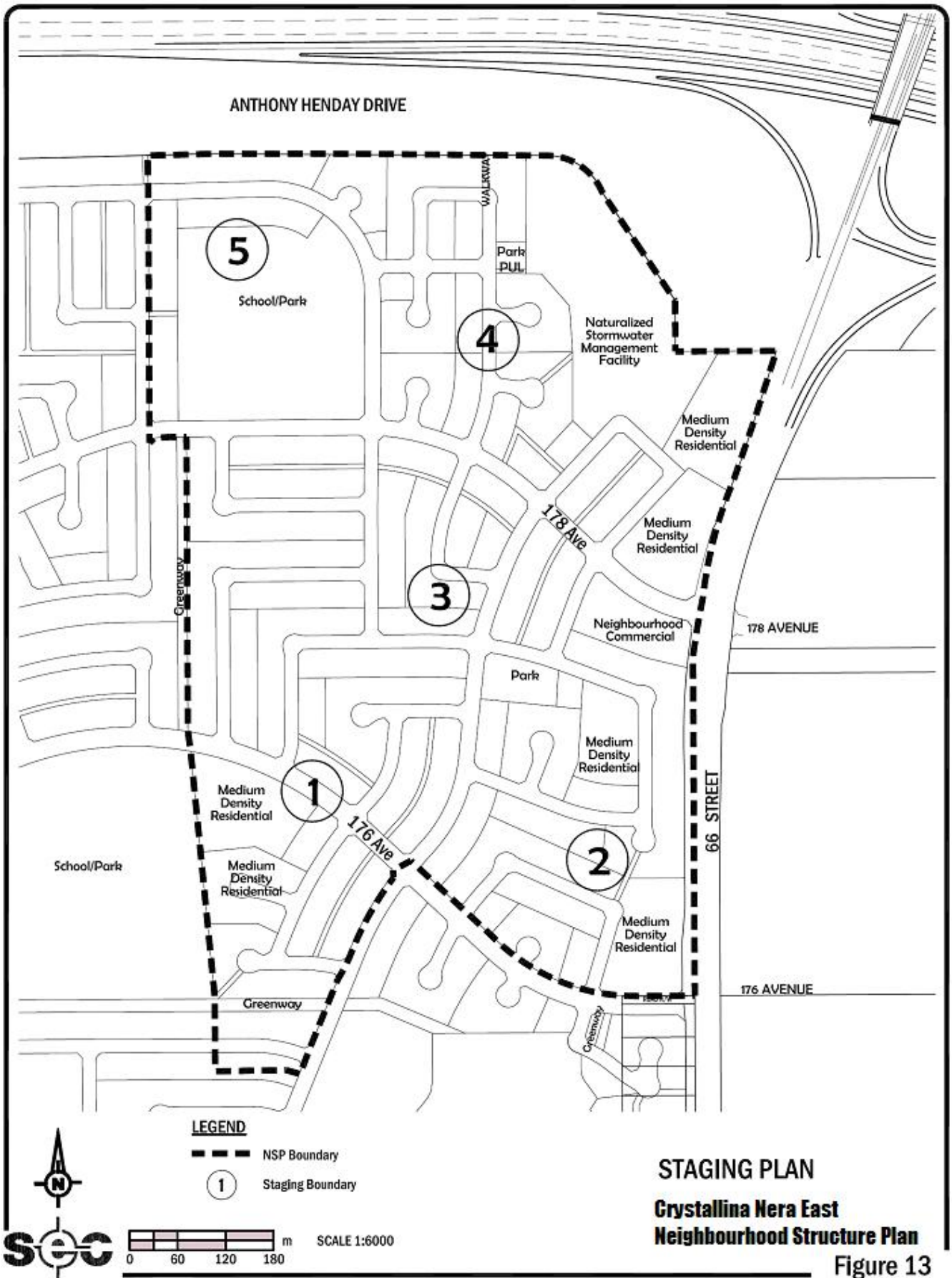
A Hydraulic Network Analysis report (HNA) was submitted to EPCOR Water for review in support of this NSP application. EPCOR Water approved the HNA and advised that submission of interim Hydraulic Network Analysis Report is required with each stage of development before Rezoning and/or Subdivision applications.













## **Appendix A**

### **Historical Resources Overview**

November 23, 2005

Project File: 4835-05-215

Mr. Andrew Forrest  
Spencer Environmental Management Services Ltd.  
# 801, 970 - 110 Street  
Edmonton, Alberta  
T5K 2L9

Dear Mr. Forrest:

**SUBJECT: SPENCER ENVIRONMENTAL MANAGEMENT SERVICES LTD.  
CRYSTALLINA NEIGHBOURHOOD  
SECTIONS 3 & 10, TOWNSHIP 54, RANGE 24, W4M  
SUBDIVISION DEVELOPMENT  
HISTORICAL RESOURCES ACT CLEARANCE**

Altamira Consulting Ltd. has provided the Cultural Facilities and Historical Resources Division ("CFHRD") of Alberta Community Development with an "Historical Resources Overview" package regarding Spencer Environmental Management Services Ltd.'s development plans for the Crystallina Neighbourhood in parts of sections 3 & 10-54-24-W4M. Staff of the Heritage Resource Management Branch of the CFHRD have reviewed the potential for the proposed residential development to impact historical resources and have concluded that a **Historical Resource Impact Assessment is not required**. Therefore, Spencer Environmental Management Services Ltd. has *Historical Resources Act* clearance for Crystallina Neighbourhood.

#### ***HISTORICAL RESOURCES ACT REQUIREMENTS***

**Reporting the discovery of historical resources:** Pursuant to Section 31 of the *Historical Resources Act*, should any archaeological resources, palaeontological resources and/or historic period sites be encountered during any activities associated with land surface disturbance operations, please contact Margret Ingibergsson at (780) 431-2374, (Protection & Stewardship Section, Heritage Resource Management Branch, Cultural Facilities and Historical Resources Division, Alberta Community Development, 8820 - 112 Street, Edmonton, Alberta, T6G 2P8), fax (780) 427-3956 or by e-mail at margret.ingibergsson@gov.ab.ca. It will then be necessary for the CFHRD to issue further instructions regarding the documentation of these resources. On behalf of the Cultural Facilities and Historical Resources Division, I would like to thank officials of the Spencer Environmental Management Services Ltd. for their cooperation in our endeavour to conserve Alberta's past.

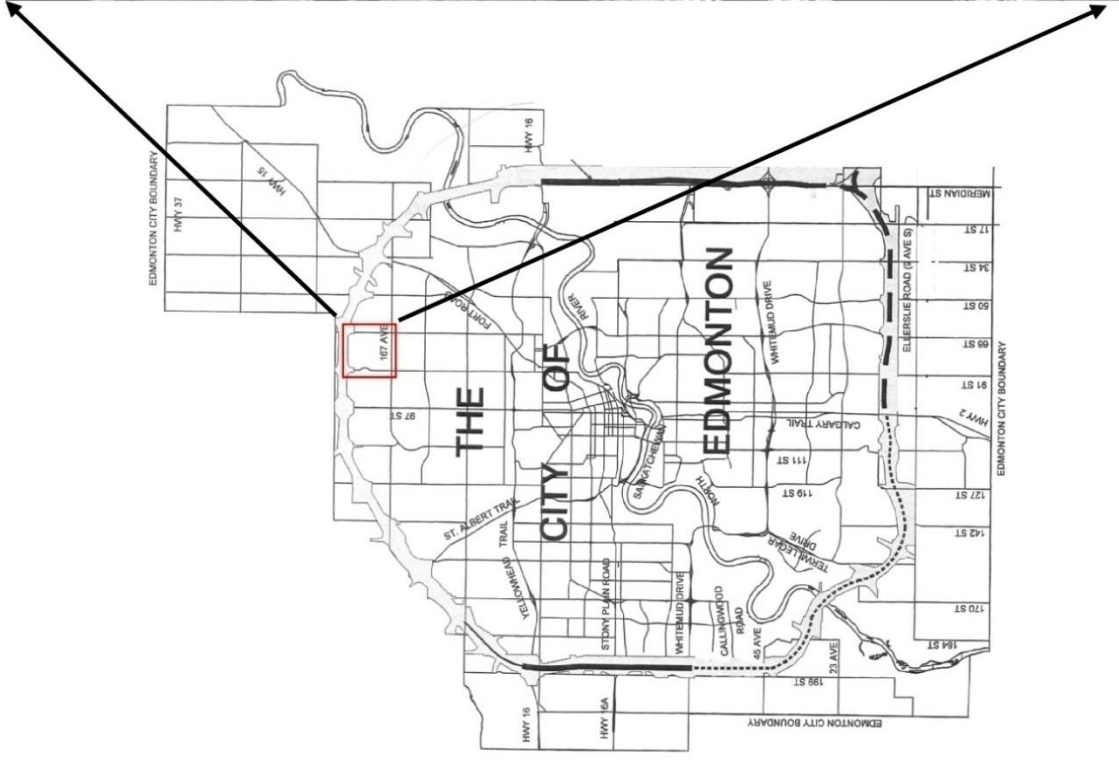
Sincerely,



Larry Pearson  
Manager, Protection & Stewardship Section

Attachment

cc: Tara Young, Altamira Consulting Ltd.



**Figure 1-1. Location of Crystallina Neighborhood**

Air Photo Scale 1:16,000 (circa 2003)  
 Map Source: Spencer Environmental (2004)



**Appendix B**  
**Crystallina Nera West / Crystallina Nera East Municipal Reserve**  
**Allocation Table**



## Municipal Reserve Allocation

The extraordinary combination of Green Infrastructure created in Crystallina Nera West and Crystallina Nera East to accommodate the Natural Area and buffers, the Greenways, large school sites and pocket park requires more than the 10% municipal reserve allotted. The municipal reserve adjustment and deferment in Klarvatten, west of Crystallina Nera West, is possible because the same landowner owns the majority of land in both areas. The shortfall of 0.17 hectares municipal reserve in the Crystallina Nera East neighbourhood will not negatively impact provision of open space as this is more than made up for through over dedication of municipal reserve in the adjacent Crystallina Nera West neighbourhood. Crystallina Nera East will have a school site and the Greenways will link Crystallina Nera East to the nearby open space in Crystallina Nera West and the Schonsee neighbourhood. Following is a summary of the municipal reserve dedication as presently allocated in the Crystallina Nera West and Crystallina Nera East neighbourhoods.

MR to be Carried Over to Crystallina Nera West from Klarvatten .....	2.77*
Crystallina Nera West (GDA 100.90 ha) .....	10.09
Crystallina Nera East (GDA 65.41) .....	6.54

### **Total Combined Area Available for MR between the Crystallina Nera West/Crystallina Nera East NSP's .....**

Approved Crystallina Nera West Gross Developable Area .....	100.90(10.09 MR)
School/Park .....	9.36
Park .....	1.15
Greenways .....	1.46
<b>Total MR Approved in Crystallina Nera West (11.86%) .....</b>	<b>11.97</b>

### **Crystallina Nera West Over-dedication (11.97-10.09).....**

Crystallina Nera East Gross Developable Area .....	65.41(6.54 MR)
School/Park .....	5.54
Pocket Park .....	0.50
Access Park	
0.12	
Greenways .....	0.22
<b>Total MR Proposed in Crystallina Nera East .....</b>	<b>6.38</b>

### **Crystallina Nera East Under-dedication (6.54-6.38).....**

Amount of MR Req'd to provide school/parks in Crystallina Nera West/Crystallina Nera East	18.35
10% Municipal Reserve Available .....	19.40

### **Remaining Crystallina Nera West/Crystallina Nera East MR Available .....**

Natural Area to be maintained in Crystallina Nera West .....	4.45
Buffer (10.0m) to be maintained in Crystallina Nera West.....	0.45

Amount of Remaining MR Available to be applied to maintain natural areas in Crystallina Nera West .....

### **Land Req'd in Excess of MR Available to Protect Natural Area / Buffer (Compensation Req'd) .....**

\* Note: Final amounts of Deferred Reserve will be established through the subdivision process.



The total combined area (19.92 ha) available for Municipal Reserve for Crystallina Nera West and Crystallina Nera East is not enough to allow the Crystallina Nera West Natural Area be retained and fulfil the school/park needs too. Agreement has been reached in principle between the City of Edmonton and the private land owner for an area of approximately 3 hectares to be swapped to fulfil the shortfall. Negotiations between the two parties will be determined the final terms of the swap.

A December 22, 2006 City of Edmonton Memorandum, **Potential Acquisition of Tree Stand in Crystallina Nera West Neighbourhood** was included in the Crystallina Nera West NSP to recognize the City's interest in acquiring "*natural area lands in excess of the MR obligation*". This original memorandum was reviewed as part of a meeting with Parks Planning of Sustainable Development on May 18, 2011. This meeting confirmed the City's continued commitment to acquiring lands in excess of the MR obligation in Crystallina Nera West and Crystallina Nera East and it was estimated that the total over-dedication would be approximately 3.84 hectares. Exact details related to the compensation of MR over dedication will be confirmed and addressed with individual owners as required through the zoning and subdivision process. The original memorandum confirming the City's intentions are included under Appendix B.

In order to assemble the school and community park site and provide a small access park to complement the stormwater management facility the northern property owner will be compensated in cash for any municipal reserve land required over their 10% municipal reserve. (Approximately 0.35 hectares)

Compensation for land over the 10% municipal reserve allocation in the central owner's land holdings will be provided primarily through an exchange of developable land. (Approximately 3.49 hectares)  
Discussions are underway with the City of Edmonton to exchange developable land for a portion of the municipal reserve over-dedication.





**Appendix C**  
**Letter of Intent for**  
**Municipal Reserve Overdedication**



December 22, 2006

TO: SHAUNA KUIPER  
Planning and Development

FROM: GRANT PEARSELL  
Office of Natural Areas

SUBJECT: Potential Acquisition of Tree Stand in Crystallina Nera Neighbourhood

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Senior Administration confirms that the City is interested in negotiating a land exchange for all or a portion of the Crystallina tree stand. This parcel is situated directly to the east of Poplar Lake and is owned by Genstar. The maximum amount of land which the City would be negotiating for is approximately 3 hectares in size. These 3 hectares are natural area lands which are in excess of the MR obligations for this property.

As was previously discussed between Mr. Jim Kristensen (Genstar) and Mr. Phil Sande (City) the land exchange will be based on a value for value basis.

We must emphasize that we can not approve an NASP application which includes a statement pertaining to the City agreeing to the above suggested land exchange as this would inappropriately fetter the Councillors sitting on the Transportation and Public Works Committee (TPW). Assuming that a land exchange agreement is reached for the entire 3 hectares (7.41 acres), then TPW would have to vote on the agreement, if the market value of the Genstar land is in excess of \$1 million. We can not fetter the Councillors ability to approve or refuse this agreement.

Negotiating an acquisition which has a land exchange set the compensation to be paid for the natural area would not change the necessity for TPW to approve or refuse the agreement, specifically if the lands the City is purchasing are valued in excess of \$1 million.