THE CITY OF
CALGARY
LAND USE PLANNING & POLICY

November 4, 2013

Re: Employment Areas Growth and Change 2013

Please find enclosed a link to a copy of *Employment Areas Growth and Change 2013 (EAGC)*. This year's update continues the monitoring of industrial areas for long range land use planning purposes.

The EAGC (2013) monitors industrial area growth and tracks remaining inventories of land planned for industrial growth. In this year's report, industrial land demand has accelerated. Over 615 hectares of industrial land have been developed (or 205 hectares per year).

This year work has been done to align the information presented in the report with the *Growth Management Framework.* At the same time, the previous approach to cataloging industrial land inventories has been retained to allow monitoring of longer term trends.

Part 1 of the report documents land demand and remaining supply using the older serviced land definition that includes water, storm and sanitary 'servicing' (i.e. no additional City infrastructure is required).

In Part 2, fire *and* transportation infrastructure have been added to the definition of serviced land. The additional two leading municipal services reduce the serviced industrial land inventory in some areas (compared with the traditional approach provided in Part 1) however, tracking lands with all five municipal services does provide a more realistic indication of land supply that is ready for development.

Overall, 4,198 hectares of total gross land remains for industrial development in Calgary, which is significant for Calgary's future economic success. Of this total, 986 hectares (Framework approach) or 1,206 hectares (traditional approach) are serviced and available for development.

The 2013 Employment Areas report should be read along with the Suburban Residential Growth & Change and the forthcoming Developed Areas Growth & Change reports, to obtain a city-wide picture of growth and change over the last three years.

Please contact me if you have any questions, suggestions or concerns about the current *Employment Areas Growth and Change* report.

Sincerely,

Jim Francisco
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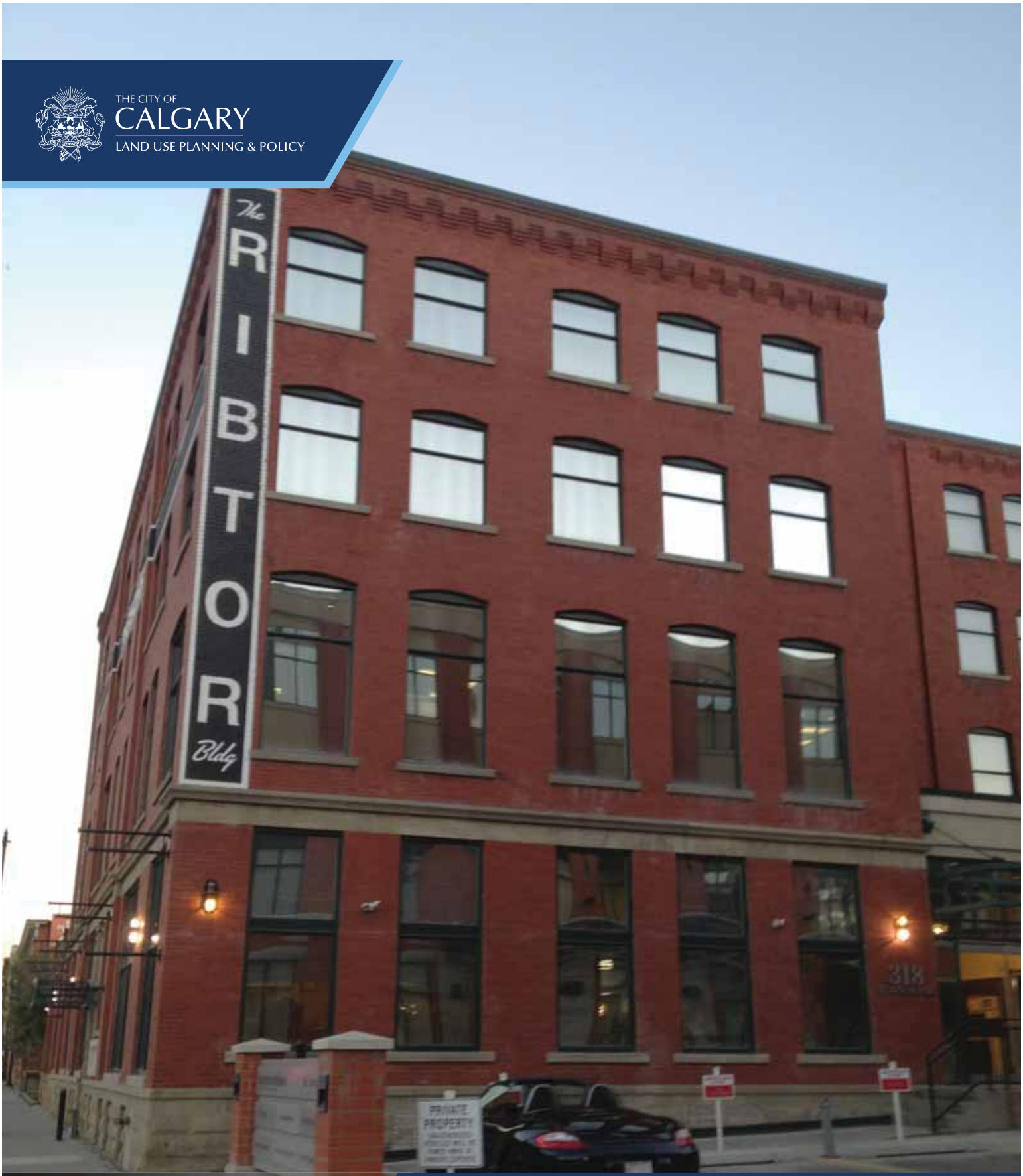
THE CITY OF
CALGARY
LAND USE PLANNING & POLICY



Onward/ *We will provide a basis for effective and strategic decision making by monitoring and reporting on the progress made towards achieving the goals and objectives of the MDP.*

EMPLOYMENT AREAS GROWTH & CHANGE 2013

MONITORING GROWTH AND CHANGE SERIES

PUBLISHING INFORMATION

TITLE:	**EMPLOYMENT AREAS GROWTH & CHANGE 2013**
AUTHOR:	LAND USE PLANNING & POLICY PLANNING, DEVELOPMENT & ASSESSMENT
STATUS:	FINAL ISC: UNRESTRICTED
PRINTING DATE:	2013 NOVEMBER
ADDITIONAL COPIES:	THE CITY OF CALGARY RECORDS & INFORMATION MANAGEMENT (RIM) DEVELOPMENT & BUILDING APPROVALS P.O. BOX 2100, STN “M”, #8115 CALGARY, ALBERTA T2P 2M5
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ACKNOWLEDGEMENTS & CONTACTS

This information update is prepared by an inter-departmental team.

CITY OF CALGARY

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Cover Photo:

Photo Info: Massey-Harris Co. Warehouse Building, 318 11 AV SE, Built: 1912.

Further info: The Massey Harris warehouse played an important role in the maturation of Calgary’s wholesale district. In 1902, Calgary was given a competitive freight rate advantage by the C.P.R. By 1906, there were 64 wholesale houses around the C.P.R. right-of-way, and at the apex of the boom, when this building was constructed, over 160. Massey Harris, an important national company formed in 1891, favoured Calgary as its district centre as early as 1903. Keeping pace with population growth and the demand for agricultural implements by homesteaders, they opened a large distribution centre on 9 Avenue S, designed by architect William Dodd. (see Heritage file 01-128, 02-112, 01-180, and 01-132). Source: Heritage on-line building inventory.

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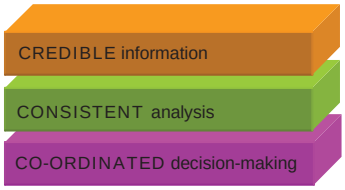
Monitoring Growth and Change Series



The City of Calgary is responsible for managing and coordinating the planning and investment needed to accommodate growth. Planned development should be orderly, well managed, and equitably financed.

City Wide Planning & Design has developed a research program to analyse growth expectations and coordinate plans for infrastructure and services to support growth. The result of this program is a series of information documents collectively titled, *Monitoring Growth & Change*. This series includes two annual publications: *Suburban Residential Growth and Strategic Growth and Capital Investment (on hold)*, and two triennial publications (2010, 2013, etc.): *Employment Areas Growth and Change and Developed Areas Growth & Change*.

Strategic Growth and Capital Investment will not be produced this year and the requirements for its annual production are being evaluated through the *Corporate Growth Management Framework* project. A better understanding of how all four documents listed below relate to one another and to the *Corporate Growth Management Framework* process will be resolved over the coming year.

These information products are intended to be used by both the Administration and City Council to better coordinate municipal capital investment priorities in growing areas of the city.

The Monitoring Growth and Change series provides City Council, the Administration, developers and the public with the base information they need to plan for growth and change.

The series is not intended to directly support business development. For business development, investment and site selection inquiries please contact:

Calgary Economic Development
Phone: 403) 221-7831 or 1-888-222-5855
Website: ww.calgaryeconomicdevelopment.com

The *Monitoring Growth & Change* series provides City Council, the Administration, private developers and the public with the base information they need to plan for growth and change. The four documents share some common information, but each has a specialised focus as the following table highlights:

Report Title	Suburban Residential Growth	Strategic Growth and Capital Investment	Developed Areas Growth & Change	Employment Areas Growth & Change
Release	**Annual - SPRING**	**Annual -SUMMER (on hold pending re-evaluation)**	**Triennial - 2013**	**Triennial - 2013 (next update)**
Focus	Suburban residential development (last five years and next five years)	Mapping The City's 10-year Capital Plan in relation to expected growth in new and established areas	Developed areas (providing a better understanding of how they are growing and changing)	Industrial land supply and growth expectations (last five years and next five years)
Content	• City approach to managing residential land supply • Suburban residential land inventory including: planning approval status, infrastructure servicing status and plans for water, wastewater, and transportation • Historical suburban residential development activity • Methodology for growth forecast distributions	• Overview of infrastructure financing required for growth included in The City's 10-year capital plan • Growth-related capital projects by location for all business units • Operational framework for The City's growth management processes • Three-year base document with annual updates (2009-2011 complete; next edition begins 2012-2014 cycle)	• Historical trend information including data on population, age cohorts, dwelling units, residential development activity, occupancy rates, vacancy rates and dwelling unit density • Census data presented by MDP typology and individual community • Development activity data by MDP typology	• City approach to managing industrial land supply • Industrial land inventory including: planning approval status, infrastructure servicing status and plans for water, wastewater, and transportation • Current industrial development activity • Recommendations for industrial policy studies and research
Key Info	• Five-year population and housing projections by city sector. • Existing land supply and expected future demand	• Five, 10, and 15-year population projections for new and established areas. Growth-related capital projects by location.	• MDP typology based summaries and profiles of growth and change in the established areas	• Existing land supply and expected future demand

Executive Summary

Total industrial land supply is estimated at 4,198 hectares (excluding business parks). The vacant industrial inventory is allocated between the northeast (1,764 ha), southeast (1,587 ha), central (12 ha), and northwest industrial sectors (835 ha). An estimated 34 years of industrial land supply remain within the city limits. Sufficient serviced land inventories are available to meet the proposed 3 to 5 year supply target for serviced industrial land (five services), the planned land supply target (15 years) and the 30 year target for total industrial land supply.

Land demand has been significant over the past three years with a total of 615 hectares (an average of 205 ha per year) developed since the last report in 2010. This demand is largely for industrial purposes (315 ha). Non-industrial use of industrial lands is significant. Enhanced wetland conservation requirements, environmental reserve dedications, demand for larger warehouse/distribution sites and continued non-industrial use are all factors contributing to sustained higher industrial land consumption. Tracking job growth across the city through the Place of Work Survey (2011) indicates dramatic job growth in industrial areas that outpaces job growth in any other Municipal Development Plan (MDP) typology areas (including the Centre City). This growth indicates the importance of industrial areas to Calgary's continued economic growth and prosperity. However, a significant proportion of non-industrial uses (i.e. office and retail) could be re-directed to higher intensity typology areas (i.e. Corridors, Major and Community Activity Centres) where access to the Primary Transit Network (PTN) and adjacent residential communities would more fully support complete communities. Further, if accomplished, industrial lands would be reserved for industrial purposes. Non-industrial use also draws residential traffic from other city quadrants into industrial areas, congesting the goods movement corridors necessary for industrial function.

Annual industrial land consumption is estimated at 124 hectares and is based on the average land demand in Calgary as monitored over the last 10 years. Trends in industrial land demand will be reviewed again in early 2014 through scheduled updates required by the *Growth Management Framework*. Regular monitoring is required to help ensure that the City of Calgary retains sufficient industrial land for industrial purposes.

MDP POLICY

5.2.2 (b) Strategic Decisions

Maintain within The Cities jurisdiction at least a 30-year supply of developable land for all uses.

5.2.3 Planned land supply

Objective Broaden The City's practice for determining planned land supply and maintain The City's practice for serviced land supply.

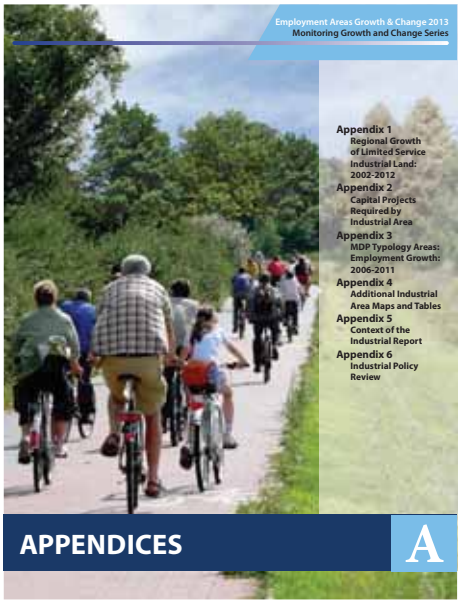
The City's practice is to maintain up to a 15-year planned land supply (i.e., land with approved policy plans in place) and up to five years of serviced suburban land (i.e., land with infrastructure in place).

Policies

a. Endeavour to maintain up to a 15 year planned land supply to support a healthy, competitive land market throughout the city.

b. Endeavour to maintain 3 - 5 years of serviced suburban land.

Source: The City of Calgary Municipal Development Plan



Introduction

Employment Areas Growth & Change provides information required to monitor the 'Planned Land Supply' policy 5.2.2 and 5.2.3 of the Municipal Development Plan (MDP) for developed and greenfield employment areas. Council policy requires a 30 year supply of annexed land (i.e. land within The City's jurisdiction) and a 15 year supply of planned land within the municipal boundary. As stated in the MDP this comprehensive information should "facilitate better decisions regarding city-wide growth and change" (MDP, April 2010 Office Consolidation, Section 5, page 6). The three year report on Employment Areas and additional updates required through the *Growth Management Framework* provide the Corporation tools to evaluate whether the current land supply is sufficient to meet policy targets as set forth by City Council and the MDP.

This report builds on past work, by documenting the change in industrial land supply and land absorption over the past three years, continues work required for the ongoing *Growth Management Framework* and, provides a more general discussion of current industrial policy in a selection of City of Calgary policy documents. This document is a monitoring report and does not propose any new industrial policy. Work on city-wide industrial policy will be coming back to Council in April of 2014 in response to the "Central Industrial Areas" PUD report (September 6, 2013).

The document is divided into the following sections:

- Part 1, Updated industrial land supply information; and,
- Part 2, Corporate Growth Management Framework Update.

The appendix provides additional information and research on Calgary industrial development including:

- A1 – Capital Projects required by Industrial Sector (Roads and Water Resources);
- A2 – MDP Typology Areas: Employment Growth: 2006-2011;
- A3 – Additional Industrial area maps (water servicing and building permits by sector); and,
- A4 – Policy recommendations from the original Industrial Areas Report (2000).
- A5 – Industrial policy summary and discussion.

The report should be read along with the Developed Area Growth & Change report (due out in draft by December 2013) and the Suburban Residential Growth & Change report for a more complete view of Calgary's development.

Industrial Land Summary

Land Supply: Definitions and Methods

An inventory of vacant industrial land supply was compiled in the first quarter of 2013. The update was based upon the previous year's inventory and utilized records of building permits processed from 2010 to the end of 2012, remote imagery, field surveys and discussions with various industrial land stakeholders to determine the extent and location of industrial development that occurred from 2010 to the end of 2012. Absorption of industrial land is defined as:

- Vacant industrial land parcels with an active building permit application for a new structure(s).
- All land, previously designated as industrial, that has been redesignated to non-industrial uses through a land use amendment, subdivision or outline plan;
- All land, previously designated as industrial that has been designated for storm water ponds, environmental reserve or municipal reserve in approved policy plans (Area Structure Plan or Area Redevelopment Plan) or lands identified for non-employment uses in a Regional Context Study (RCS).
- Industrial vacant land absorption includes all changes to gross land areas originally planned for industrial use, even when that land is utilized for non-industrial purposes. This definition allows monitoring of gross industrial land absorption and tracking of lands remaining for industrial purposes.
- The land inventory is tracked and changed by building permit applications for new structures, not when end users acquire the land for industrial purposes. Land identified as 'vacant' has yet to be developed. It may however, not be available to other users or available for acquisition. Land identified as vacant also, may be in the possession of the final user and may not be available on the market for development. "Vacant land" therefore is available for industrial development but may not be available for purchase.
- Discussions with various municipal business units (i.e., Water Resources, Water Services, and Roads) were held to determine the status of major utility upgrades and road improvements.

Industrial vacant land absorption includes all changes to gross land areas originally planned for industrial use, even when that land is utilized for non-industrial purposes.

In Part One, vacant land is summarized into three general municipal service categories:

- *Immediate*
- *Short term*
- *Long term*

Vacant Land Supply by Service Level

Tables 1 and 2 and Maps 2 to 5 summarize total land supply in each service category and the change from the Industrial Area Growth 2010 report. The three categories of supply by municipal servicing status are: immediate, short term and long term. (For a summary of land supply as used in the *Growth Management Framework*, please refer to Part 2 of this report).

Immediate Supply includes fully serviced land that does not require additional City investment in the three major utilities (water, storm and sanitary) or servicing studies/agreements. However, private service connections to individual properties may be required.

Short term supply includes partially serviced lands lacking one of the major underground services. Further planning and/or infrastructure studies in these locations may be required.

Long term supply includes lands that have no major services in place.

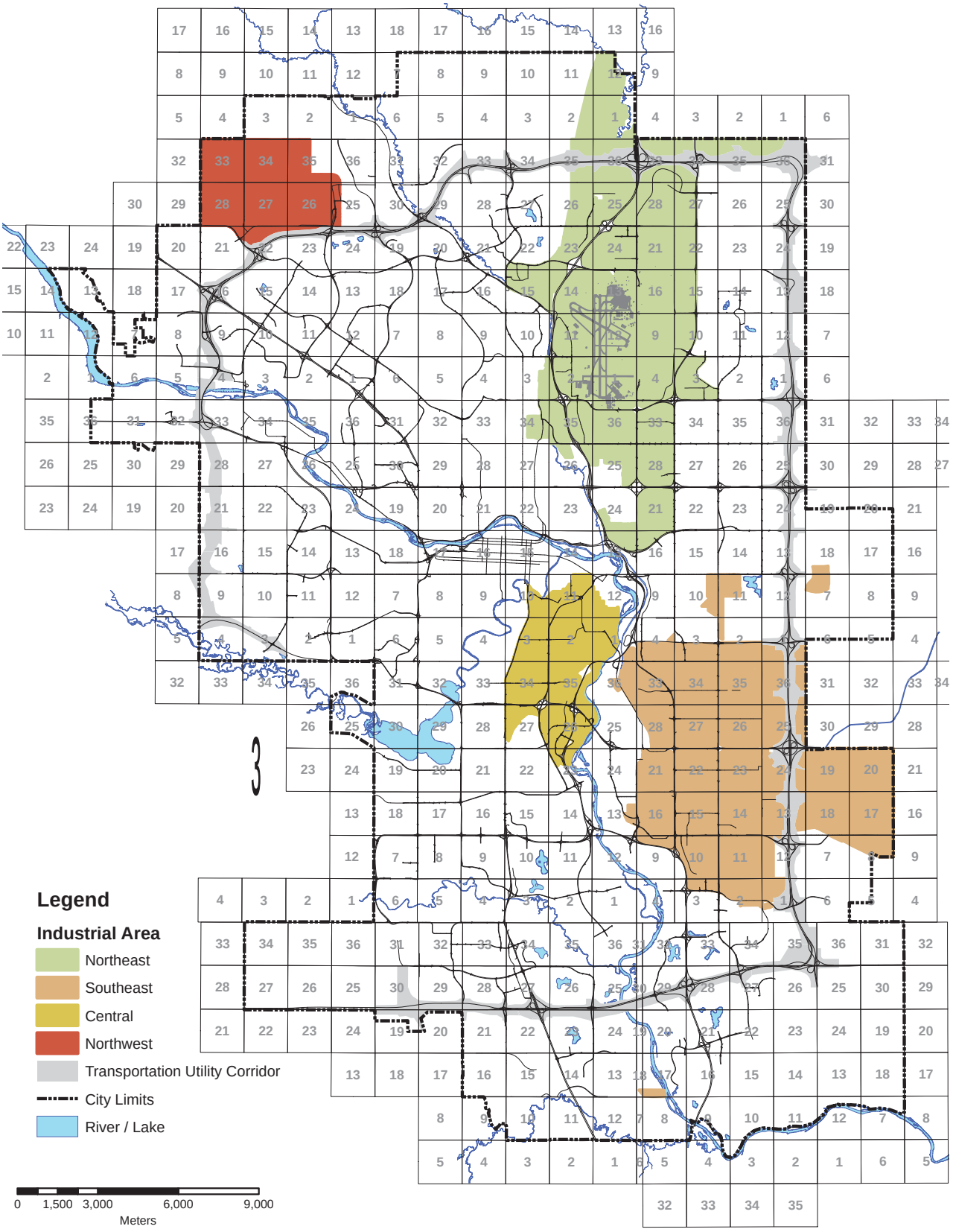
Gravel Extraction lands are gravel mining operations in the northwest sector that have no major services in place. The timeframe for completion of gravel operations remains indefinite.

Recent Absorption (illustrated in yellow on Maps 2 through 5) indicates vacant industrial land developed between 2010 and the end of 2012.

The West Memorial Trunk Sanitary Catchment impacted area is illustrated on the northwest industrial sector maps. In 2010 The City's Water Services, embarked on a study of Calgary's northwest wastewater system to evaluate the impacts of growth to its infrastructure. The study determined that the main sanitary sewer line is working at capacity. City Council received a PUD report in July (2013) stating that to protect public safety, property and the environment a case-by-case review of all planning, development and building applications in the northwest is required. When an existing use is replaced by a new use, and it can be demonstrated to the satisfaction of Water Services that the new development will not contribute additional net flow to the sanitary system, the application for the replacement use can be approved. New development applications, in industrial areas (that do not replace existing uses) and which increase flow to the sanitary system will not be permitted until an upgrade of the sanitary system is complete. Water Services is upgrading the sanitary system, with work estimated to be complete in 2017.

This report also includes information on industrial land supply as required by the *Growth Management Framework project*. The analysis in **Part 1** is provided to align with previous industrial reports. The results provided in **Part 2** provide the categories of land supply proposed in the *Growth Management Framework*. The key difference between the numbers reported as 'serviced' supply in Part 1 and Part 2 is that the definition of 'leading City infrastructure' in Part 2 includes all five major City services (i.e. water, storm, sanitary, fire and roads).

Map 1: Industrial Sectors



City Council policy requires the provision of a 30-year supply of potentially developable land within the city limits, including land for industrial uses.

Vacant Land Inventory

Land Supply

The City of Calgary has 15,420 hectares (roughly 60 sections) of industrial land within its municipal boundary. Of this total 11,107 ha (71%) is developed, leaving 4,313 hectares of vacant gross land supply available for future industrial and business park development. Total land supply in Business Parks is 115 hectares.

All lands identified for an industrial purpose, which have not been developed or assigned another purpose through a planning process are considered 'vacant' in this report.

Potential developable land within city limits, including land for industrial uses

Table 1: Total Vacant Industrial Land Supply as of January 1, 2013 (ha)

Industrial Sector	Industrial	Business Park	Total
Northeast Industrial	1,764	88	1,852
Southeast Industrial	1,587	-	1,587
Central Industrial	12	-	12
Northwest Industrial	835	27	862
Total	**4,198**	**115**	**4,313**

* Aurora Business Park and Royal Vista (OLSH), 115 ha, are excluded from the inventory

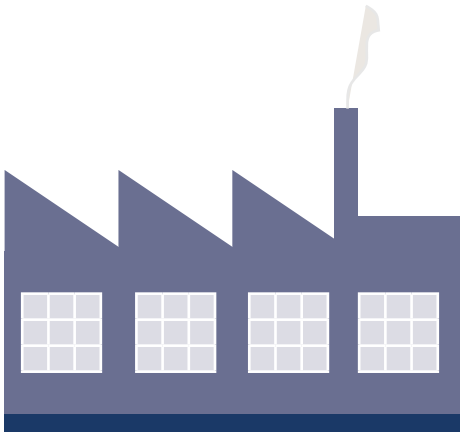
**Includes 641 ha of potential industrial development currently held for gravel operation.

Table 2: Vacant Industrial Land by Supply Category as of January 1, 2013 (ha)

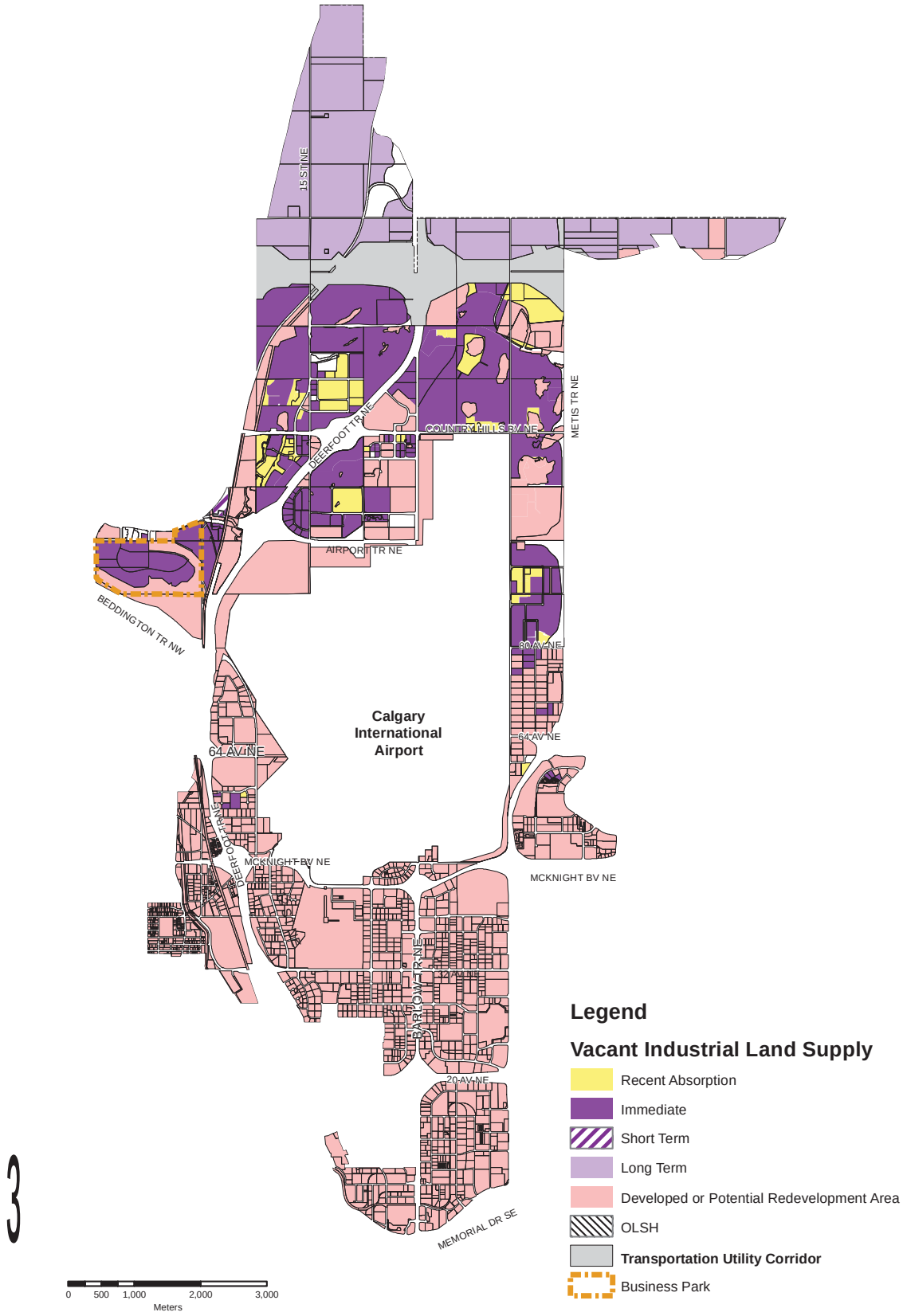
Industrial Sector	Immediate	Short-Term	Long-Term	Business Parks	Gravel Extraction (CRDP)	Total
Northeast Industrial	882	7	875	88	-	1,852
Southeast Industrial	288	154	1,145		-	1,678
Central Industrial	12	-	-		-	12
Northwest Industrial	24	-	170	27	641	862
Total	**1,206**	**161**	**2,190**	**115**	**641**	**4,313**

** Business Park lands are excluded from the industrial years of supply

The total inventory of vacant land is 4,198 hectares (excluding Business Park lands). Of this vacant supply, a total of 1,206 ha are available for development "Immediately" with the bulk of this capacity in the northeast and southeast sectors. Only 161 hectares of land remain in "short term capacity ".



Map 2: Vacant Industrial Land Supply by Supply Category - North/Northeast Industrial Sector



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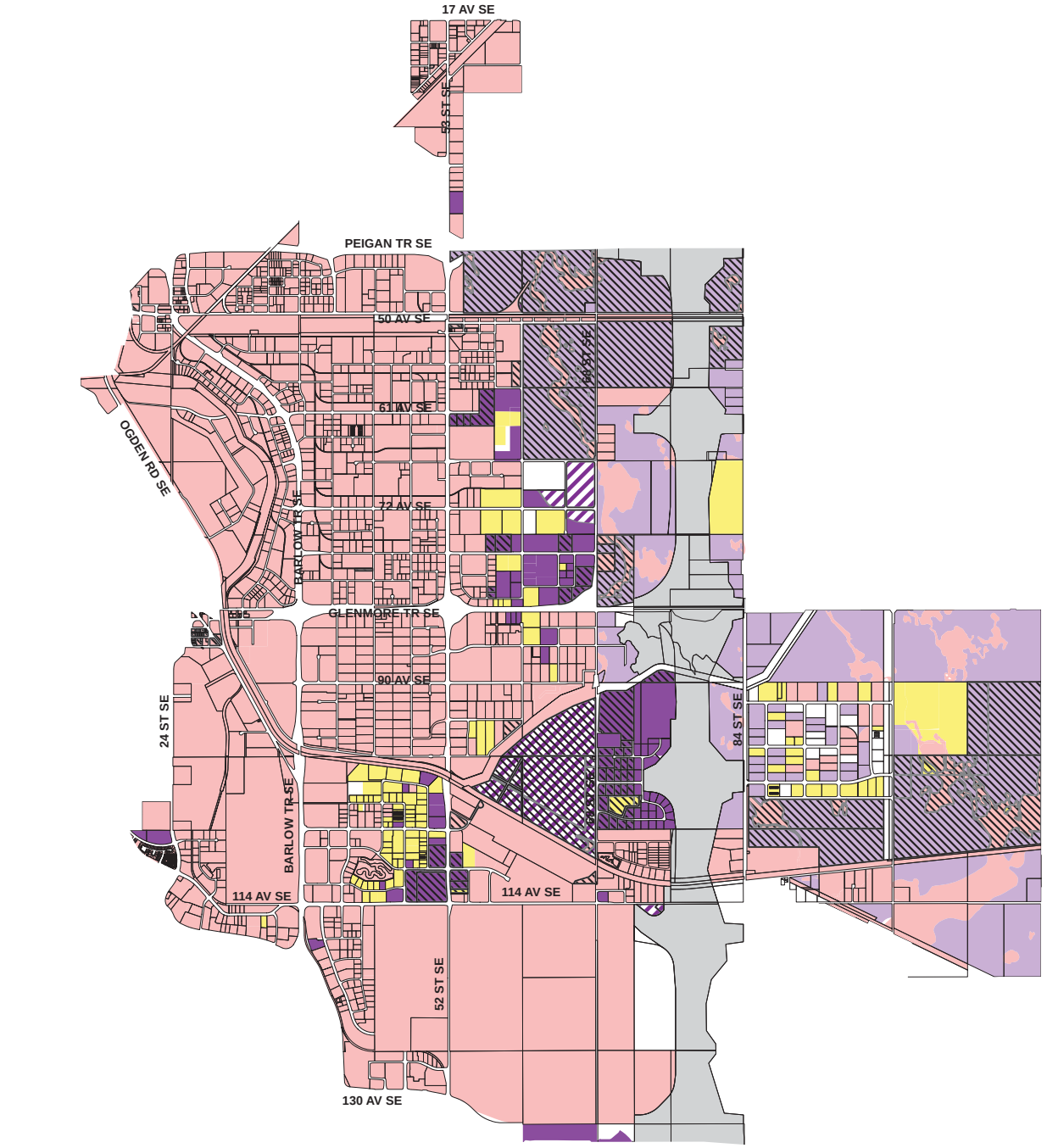
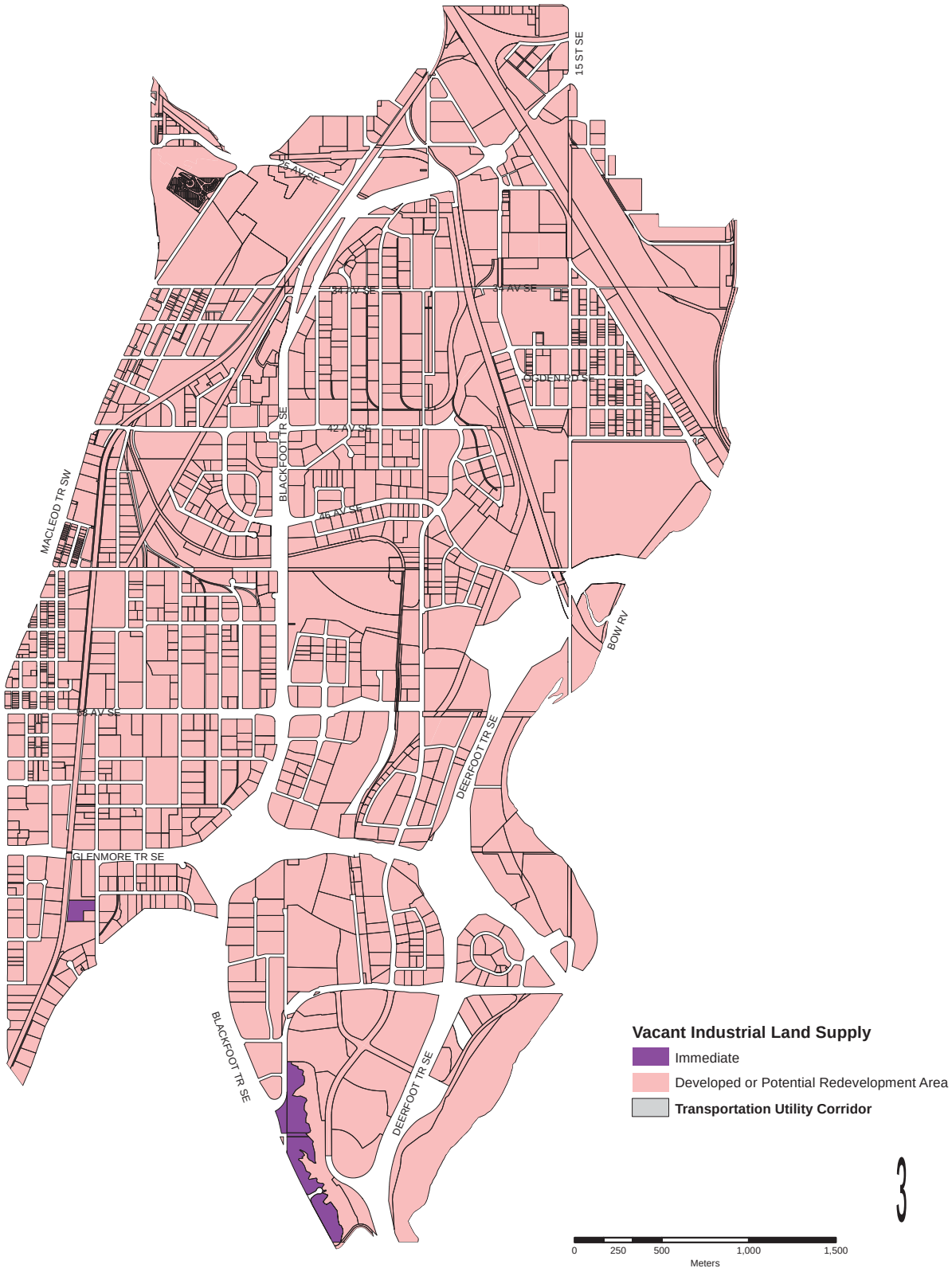
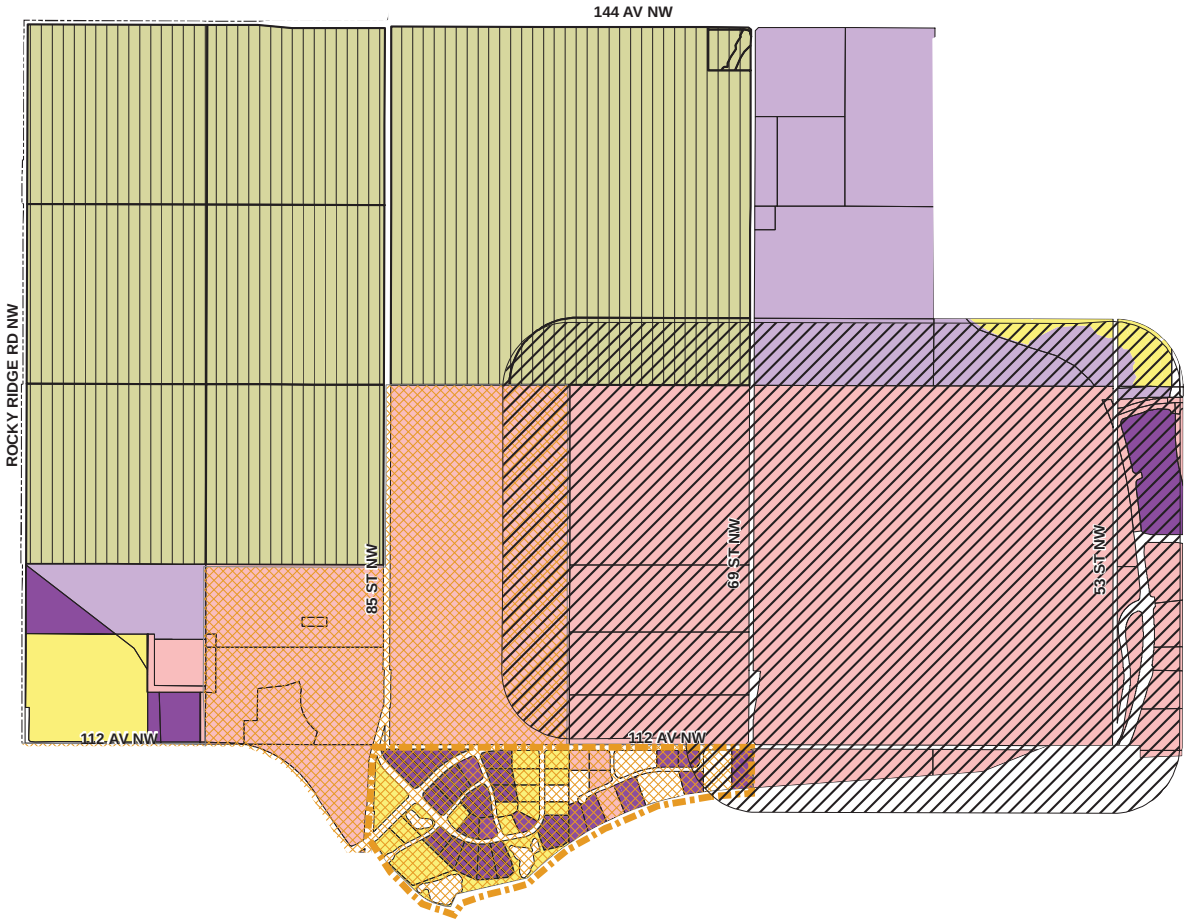
Map 3: Vacant Industrial Land Supply by Servicing Category - Southeast Industrial Sector



Map 4: Vacant Industrial Land Supply by Servicing Category - Central Industrial Sector



Map 5: Vacant Industrial Land Supply by Servicing Category - Northwest Industrial Sector



Vacant Industrial Land Supply

- Recent Absorption
- Immediate
- Long Term
- Developed or Potential Redevelopment Area
- Vacant Gravel Operation
- OLSH
- Regulated Landfill Areas
- West Memorial Sanitary Impact Area
- **Transportation Utility Corridor**
- Business Park

3

0 245 490 980 1,470
Meters

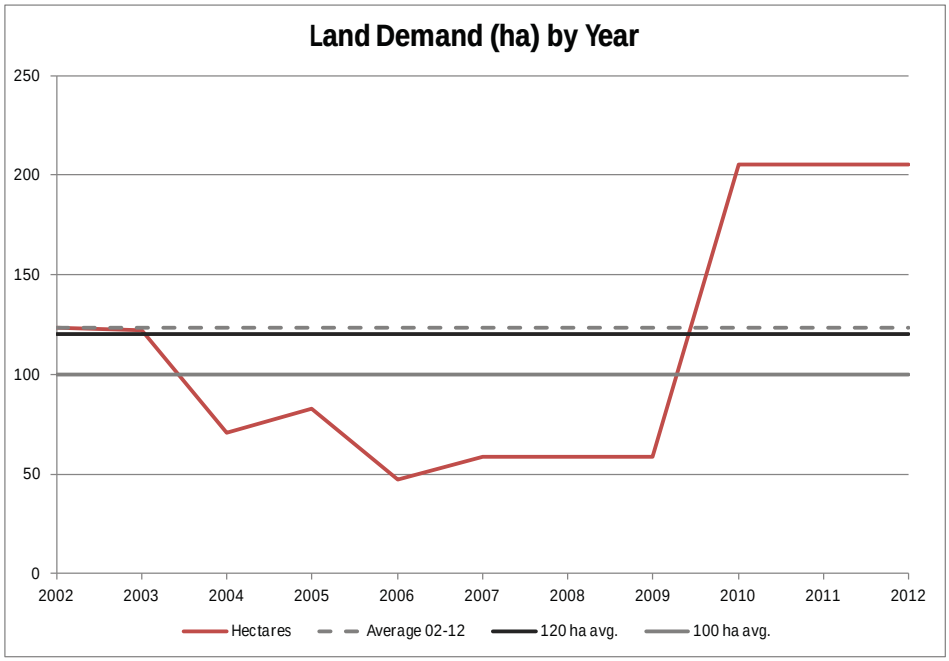
Land Demand

Demand Forecast

Over the past decade (2002 - 2012) industrial land demand has averaged 124 hectares per year. The past decade has been extremely volatile for industrial activity, with periods of low demand (2007-2009) and over the past three years (2010-2012) high demand (205 hectares per year). The chart provided below illustrates the last ten years of land demand as tracked by the Employment Growth and Change reports.

Over the latest reporting period (2010 through 2012) industrial land absorption has more than doubled to 205 ha per year.

Industrial Land Demand (ha) 2002-2012



This report will use the average demand for the last 10 years as an estimate of future demand for forecasting purposes (i.e., 124 hectares per year). This industrial land requirement accounts for net losses to rights of way, environmental reserve, industrial , commercial and institutional uses. Evidence from an assessment of aerial photo information gathered from 1951 to 2012 indicates that an average of 120 gross hectares per year have been planned, developed and utilized for growth in industrial areas (a total of 7,400 hectares over this 61 year period). Together the corroborating information gained from the long term average as well as average demand for the past decade indicate that using the last decades 124 hectares average demand per year for forecasting purposes is high but close to historical norms.

Non-industrial uses of the industrial land inventory totalled 176 ha or 29% of all industrial land absorption. Lands set aside for rights-of-way and road requirements (124 ha) account for an additional 20% of all land absorption.

Land Demand Update

Absorption of land for the years 2010 through 2013 by industrial area is provided in Table 3.

Table 3: Land Demand: 2010-2013 (hectares)

Industrial Sector	Industrial Use	ROW	Commercial	Institutional/ Environmental	Total
Northeast Industrial	56	70	44	69	239
Southeast Industrial	249	52	-	17	318
Central Industrial	-	-	-	-	-
Northwest Industrial	10	2	3	43	58
Total	**315**	**124**	**47**	**129**	**615**

** Business Park lands are excluded from the industrial years of supply

Of the total land absorption of 615 hectares in the latest reporting period, 47 hectares was utilized for commercial development (ranging from C-C2 and C-R3 to C-COR3 and related DCs). Natural areas (S-UN), special areas (S-SPR), (S-R) and community infrastructure (S-CRI) accounted for an additional 129 hectares of land demand. Together, non-industrial use of the industrial land inventory totalled 176 hectares (29%) of all industrial land absorption. Lands set aside for rights-of-way and road requirements (124 ha) account for an additional 20% of all land absorption. The use of industrial land supply to accommodate non-industrial uses and other requirements has grown significantly in the current reporting period. Rights-of-way requirements are high as a result of expressway development (Metis Trail and Stoney Trail) and similar takeouts are not anticipated in the next five year forecast. However, the loss of land to non-industrial uses over the current reporting period is significant. The impacts of increasing reserve requirements resulting from growth into areas abutting Nose Creek and other sloped sites, stronger policy preserving wetland areas in the Wetland Conservation Plan (2004) and non-institutional use of industrial land, has dramatically decreased vacant industrial land supply.

A recently completed report by Cushman & Wakefield (2012) assumes gross to net conversion land losses of 35%[1]. Other general industry rules of thumb on this plan for 20% losses from gross to net industrial developable area. Gross to net conversion rates have been significantly higher in Calgary than these general industry norms over the 2010 to 2012 reporting period. If gross to net losses remain high, the forecast absorption of 124 ha/year will need to be increased to account for long term sustained gross to net land losses. Trends in gross to net land conversion (and annual industrial land demand) will continue to be monitored.

The annual 124 ha absorption rate may need to be increased in keeping with new land conservation policies and the persistent use of serviced land for non-industrial purposes.

Sectoral Demand Update

Over the past three years the Northeast industrial sector land demand has increased significantly (239 hectares or 80 hectares per year). However, this demand is primarily for non-industrial uses and rights-of-way. The removal of non-industrial uses and other rights-of-way dedications and easements, reduces total industrial use of northeast industrial area lands to 56 ha. Rights of way (for the Metis Trail Expressway) and other setback areas or easements identified in outline plans/subdivisions required 70 hectares (or 29%) of total northeast sector absorption.

Despite declining inventories of serviced land available in the Southeast industrial sector, this sector was again the top sector for industrial land absorption (318 ha). Of this total 52 hectares of land was allocated to rights-of-way, easements or other required setback areas. Of the remaining 266 ha, 249 hectares (93%) of land was used for industrial development. Commercial development was limited (1 ha). Seventeen hectares of land (9%) was used for S-CRI (community infrastructure), S-UN (natural areas), and S-SPR (recreational facilities) or rights-of-way.

1 The Central Industrial Areas Land Review (Part 1 and 2), City of Calgary, prepared with Cushman and Wakefield Ltd. and the Planning Partnership (C&W file: 11-6852), December 2012,

Years of Supply

Table 4 indicates years of remaining land supply by supply category, based on average demand estimates of 124 hectares per year. Immediate supply is 1,206 ha, or 10 years of supply of a total inventory of 4,198 hectares. Using a land demand average from the past ten years (124 ha)/year), there remains 34 years supply of industrial inventory within the municipal boundary. A total of 161 hectares of supply (+1 years) are available in short-term (lands with one or two services in place). This limited short term inventory should be increased through a refresh of the three year budget (BPBC4). Significant tracts of land are available in long-term supply (2,190 hectares or an estimated 18 years of supply).

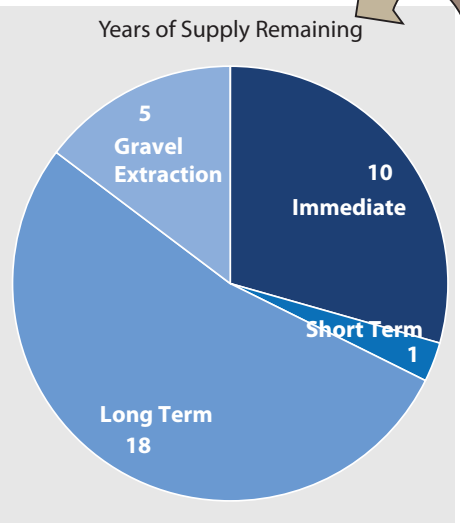


Table 4 Estimated Years of Land Supply

Industrial Sector	Immediate	Short Term	Long Term	Gravel Extraction (CRDP)	Total	Total (Excluding Gravel Extraction)
Total Supply	1,206	161	2,190	641	4,198	3,557
Years of Supply Remaining	10	1	18	5	34	29

** Business Park lands are excluded from the industrial years of supply

The gravel extraction lands and lands included in the 'Calgary Research and Development Park' have been identified for industrial employment in the North Regional Context Study (RCS) with the CRDP uses established in an ASP. The Calgary Research and Development Park lands total 384 hectares. Industrial land capacity from gravel extraction lands is 641 hectares with 54 hectares reserved for future employment use within the landfill setback area. The 641 hectares of potential industrial capacity has not been secured through a statutory planning exercise.

Excluding gravel extraction areas from the remaining inventory leaves an inventory of 3,557 hectares of vacant land, or 29 years of supply. Monitoring of gravel extraction, and securing these lands for industrial purposes upon depletion of remaining gravel deposits is important to ensure sufficient long term supplies of industrial land.

Table 5: 3 and 5-Year Forecast Absorption of Serviced Land by Industrial Area (2013 through 2017)

Industrial Sector	Demand (3 Yr)	Demand (5 Yr)	Remaining Capacity (serviced inventory) 5+	Remaining Short and Long Term Capacity	Remaining Capacity including Gravel Ext. & CRDP
Northeast	140	250	632	882	882
Southeast	190	330	(42)	1,299	1,299
Central	5	10	2	-	-
Northwest	12	30	(6)	170	811
Total	347	620	586	2,351	2,992

** Business Park lands are excluded from the industrial years of supply

The City of Calgary has a healthy inventory of industrial land available for future industrial development.

Summary of Land Supply and Growth Outlook

The City of Calgary has a significant inventory of industrial land available for future industrial development. The current vacant inventory of 4,198 hectares (excluding business park lands) is sufficient to meet Corporate land supply targets. However, if losses of land to non-industrial use (commercial, institutional, environmental) and road rights-of-way persist, current estimates of years of supply will need to be re-evaluated. Gravel extraction lands are important lands to ensure sufficient long range capacity remains within the municipal boundary.

The following recommendations are based on the existing vacant inventory and the forecast of industrial land demand :

- Historically high estimates of absorption and gross/net losses land inventory still leave 34 years (including gravel extraction lands in the long term inventory) of industrial land supply within the City of Calgary. An update on land supply is required in late 2014 for the *Growth Management Framework project* and will monitor whether these trends (in absorption and gross/net loss) continue.
- Industrial users –warehouse/distribution, manufacturers, and suppliers– require some measure of security when investing in land and buildings. Small one-off and seemingly isolated land use approvals can have larger 'knock-on' effects throughout an entire contiguous industrial area. Industrial operators often require and expect to be able to run facilities over a 24 hour period without generating complaints from adjacent less compatible uses. They anticipate the industrial use of major roadways, largely free of residential/retail traffic. Commercial use of industrial land should continue to be discouraged and new legislative tools and resources employed to secure industrial areas for industrial use.

Commercial use of industrial land should continue to be discouraged and new legislative tools and resources employed to secure the land base for industrial expansion.

- The industrial inventory should continue to be protected from limited service industrial development. Industrial-Outdoor (I-O, limited service) land uses should continue to be discouraged from locating within the municipal boundary.
- Discussion of 'effective' or 'market' industrial land supply continues with various industry representatives. For some, effective supply is severely constrained by larger institutional investors (Pension Funds, REITS, and national/international holding companies) that are not as timely in the delivery of industrial product to the market as smaller more local industrial companies. For others, the concerns are in the type, location, and other qualitative attributes of the existing industrial land supply. Large blocks of monolithic industrial land supply, segregated from residential areas, do not accord well with current planning theory on complete communities, or the provision of a broad array of employment types within new greenfield communities. Further, critics suggest that retaining an inventory of large blocks of monolithic industrial land supply is a legacy remaining from a bygone industrial area of strict land use segregation resulting from the industrial revolution. In addition, the city needs an expanded array of industrial /business service and office type jobs within residential areas. However, the urban metropolitan areas do require traditional industrial areas. Having the luxury of large contiguous stretches of industrial land is an asset other major metropolitan areas in Canada and the U.S. have lost and this loss is not celebrated. These cities cannot recover their older industrial areas. Once lost, they are gone. Calgary needs industrial areas, centrally located industrial lands as well as greenfield employment lands developed alongside greenfield residential areas to provide a broader array of job opportunities.
- Redevelopment of select areas within the developed industrial inventory is required as redevelopment pressure increases over time. Opportunities for intensification of industrial districts exists across the existing developed industrial land inventory. Examination of these opportunities has begun and reported to the SPC on Planning and Urban Development (PUD report 2013-0570). An Administration implementation team will be created to follow up on the consulting teams' recommendations, and a follow-up report will be prepared for Council review by April, 2014.

Growth Management Framework Update

The Growth Management Framework (The Framework) requires an updated residential and industrial land inventory as a component of the evaluation process for infrastructure planning and budgeting. The Framework evaluates all available land in three major categories: "Land with Leading Infrastructure in Place", "Land with Leading Infrastructure Budgeted (to 2015)"; and, "Land with Future Leading Infrastructure Required"(either with or without policy in place). Leading infrastructure includes **all five major City infrastructure services**: the three Water Resources utilities- water, storm and sanitary; as well as Fire, and Roads. Leading infrastructure delivery of these City services means that the City does not need to install any additional infrastructure for any of these five services for industrial development in these areas to proceed. Additional privately financed and constructed infrastructure may still be required, but the 'leading' City infrastructure is in place. For example, a major interchange may be completed with major roads and a collector system in place, but local roads to be provided at developer expense may not be in place. Based on this definition, the following Maps illustrate the status of all vacant industrial land in the city, according to the Framework definitions.

The Framework evaluates all available land in three major categories:

1. *Land with Leading Infrastructure in Place*
2. *Land with Leading Infrastructure Budgeted (to 2015)*
3. *Land with Future Leading Infrastructure Required (with or without policy in place)*

The Growth Management Framework section (Part 2) provides the industrial inventory updated by the 'leading infrastructure' definitions

Land Supply by Growth Management Framework Categories

The total industrial supply (4,198 hectares) is illustrated on Map 6. This inventory is broken into categories based on whether "leading City infrastructure" is in place (meaning all five major City services are in place or budgeted) - 986 ha; 'Leading City infrastructure is Budgeted with Policy in Place' (4 ha); 'Future infrastructure is required (with Policy in place)'– 2,379 ha- and whether lands have "No policy in place" -830 ha.

Table 6: Years of Supply by Leading City Infrastructure Status

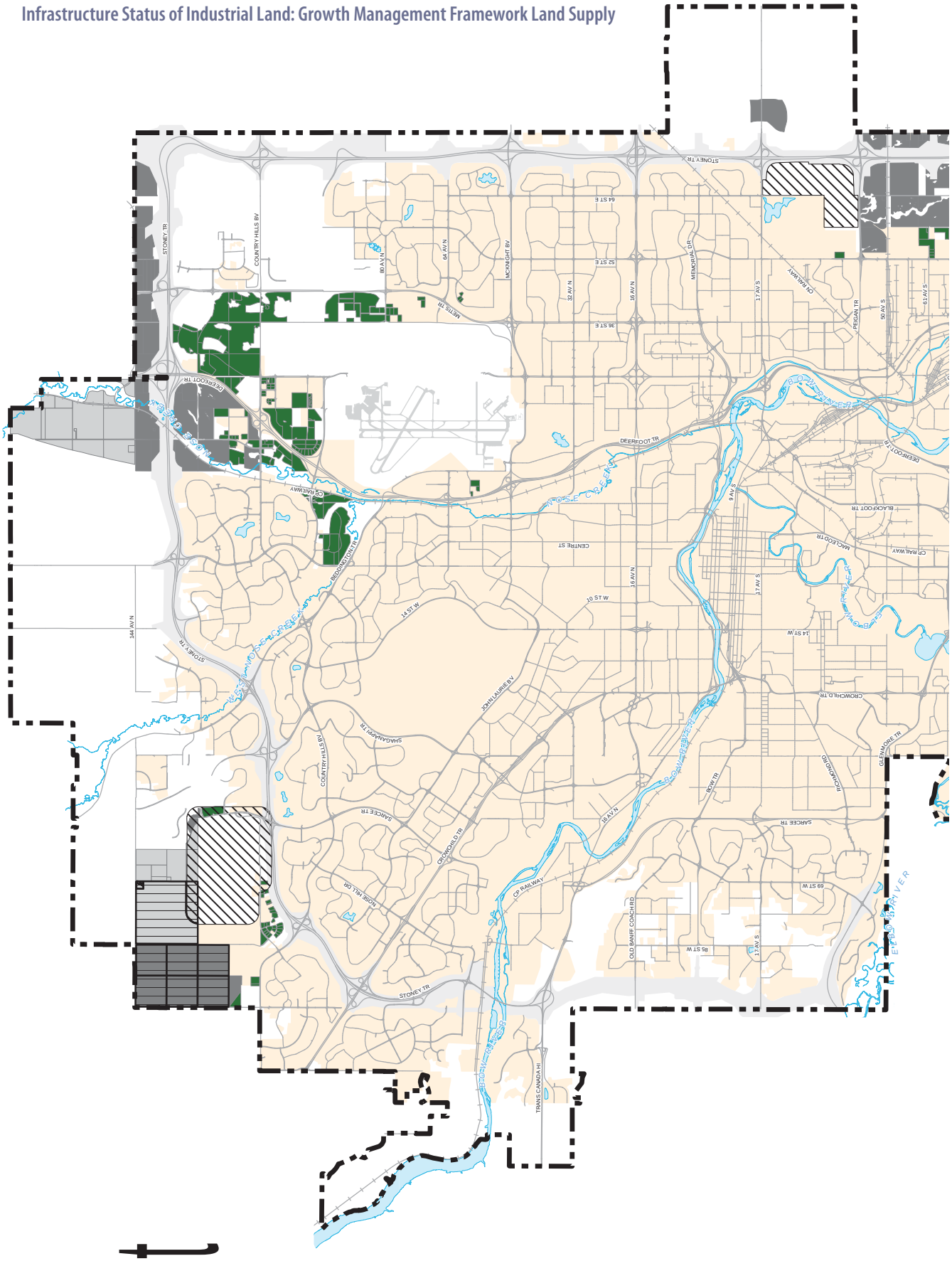
Categories	Leading City Infrastructure in Place (2013)	Leading City Infrastructure Budgeted (2013-2015)	Future Leading City Infrastructure Required (2015+) with Policy in Place	Future Leading City Infrastructure Required (2015+) with Policy in Progress	Future Leading City Infrastructure Required (2015+) with NO Policy in Place	Total of all areas of the Industrial Planned Land Supply
Hectares	986	4	2,379	0	830	4,198
Years of Supply	8	0	19	0	7	34

@ 124/ha per year

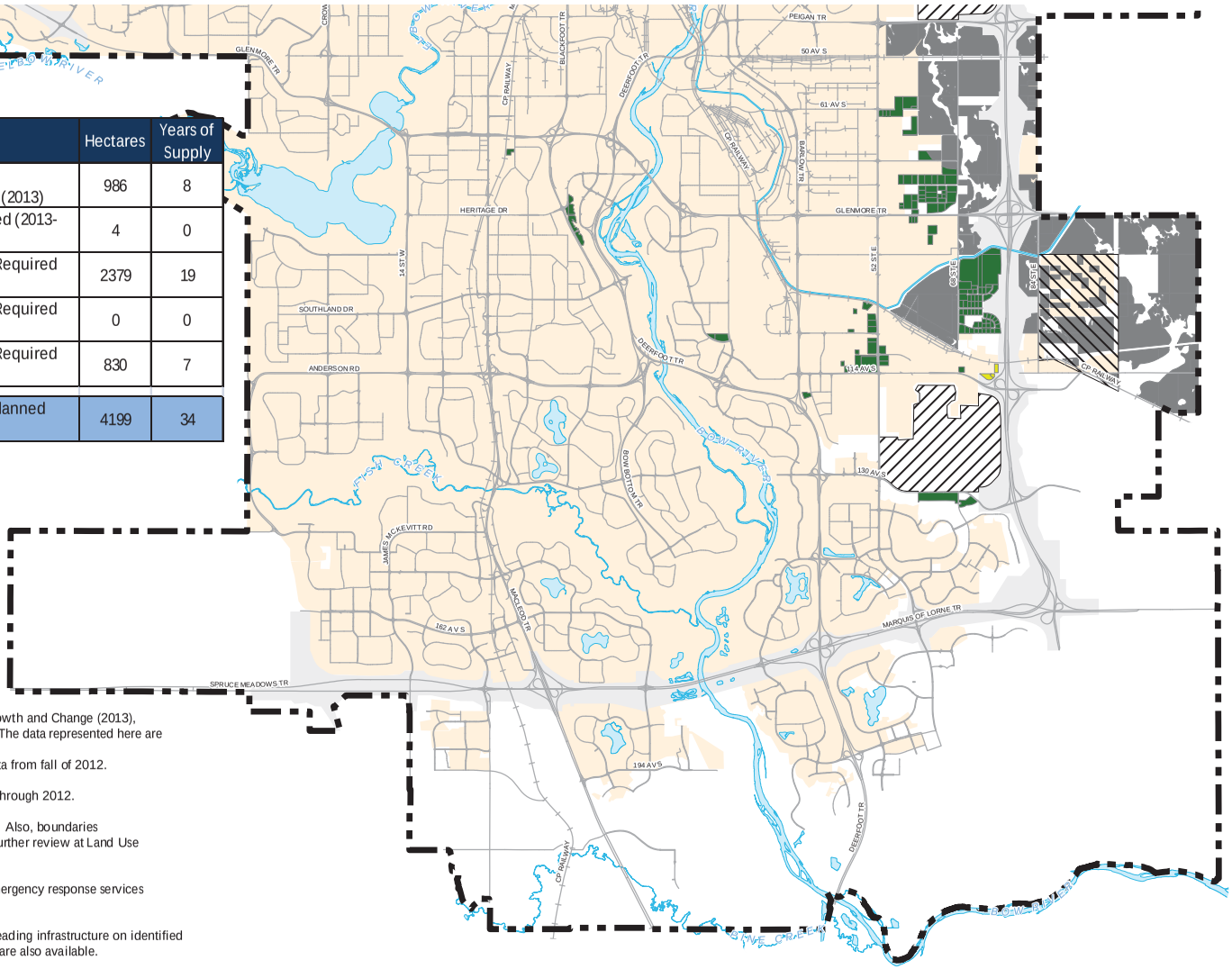
Discussion with industry continues on how best to report on industrial land supply and on specific sub-markets for industrial land demand. The dialogue to date has led to the following changes in how industrial land is reported:

- The framework process has identified the need for a 3 to 5 year industrial land supply target. Industrial representatives generally agree that this is a reasonable metric that will help ensure a sufficient supply of serviced land.
- Map 6 represents the industrial inventory by Framework categories that influence the ranking of industrial areas. In addition, major infrastructure projects required to service industrial areas and the estimated cost of providing the required infrastructure is provided in Appendix 1 (as identified in the Framework process and in Transportation documents).
- Maps 7 through 9 provide an overview of OLSH properties held for industrial development as well as lands held privately. The City has a long history of involvement in providing industrial serviced land to the Calgary market. The recent OLSH *2013-22 Industrial Land Strategy: For the Development of City-owned lands*, is Council approved and documents the history, the rationale for continued City involvement in the industrial land market and the priorities of OLSH investment for the next decade. (A summary of the report and its policy direction is provided in Appendix 5 of this report).
- General discussions with the industry have also led to the identification of business park lands as a specific sub-market that functions largely independent of general industrial activity and that these lands should be inventoried separately. In this report the OLSH Aurora and Royal Vista business park lands (~115 hectares) have been excluded from the land supply totals.
- Some stakeholders question the market availability of lands included in the inventory. The inventory is based on a broad understanding of vacant industrial land, and has not made assumptions about land ownership or tenure. Discussions about this issue are continuing.

Map 6: Infrastructure Status of Industrial Land: Growth Management Framework Land Supply



Categories	Hectares	Years of Supply
Leading City Infrastructure in Place (2013)	986	8
Leading City Infrastructure Budgeted (2013-2015)	4	0
Future Leading City Infrastructure Required (2015+) with Policy in Place	2379	19
Future Leading City Infrastructure Required (2015+) with Policy in Progress	0	0
Future Leading City Infrastructure Required (2015+) with NO Policy in Place	830	7
Total of all areas of the Industrial Planned Land Supply	4199	34



Built Form as of 2012

Regulated Areas

Interim Servicing

Vacant Gravel Operation

NOTES

1. Industrial area maps are based on the Employment Areas Growth and Change (2013), the City's official document for tracking industrial land supply. The data represented here are current as of the following dates:
   a. Vacant lot data (Jan. 1, 2013) updated by aerial photo data from fall of 2012.
   b. Land servicing data (August, 2012)
   c. Years of Supply based on average land absorption 2010 through 2012.

2. Land Categories and estimated timings are subject to change. Also, boundaries may reflect capacity for partial buildout and may be subject to further review at Land Use or subdivision approval stage.

3. Leading City infrastructure refers to water, sanitary, storm, emergency response services and transportation infrastructure required prior to development.

4. This map is part of a suite of maps that monitor City-funded leading infrastructure on identified lands. Maps of suburban residential areas and developed areas are also available.

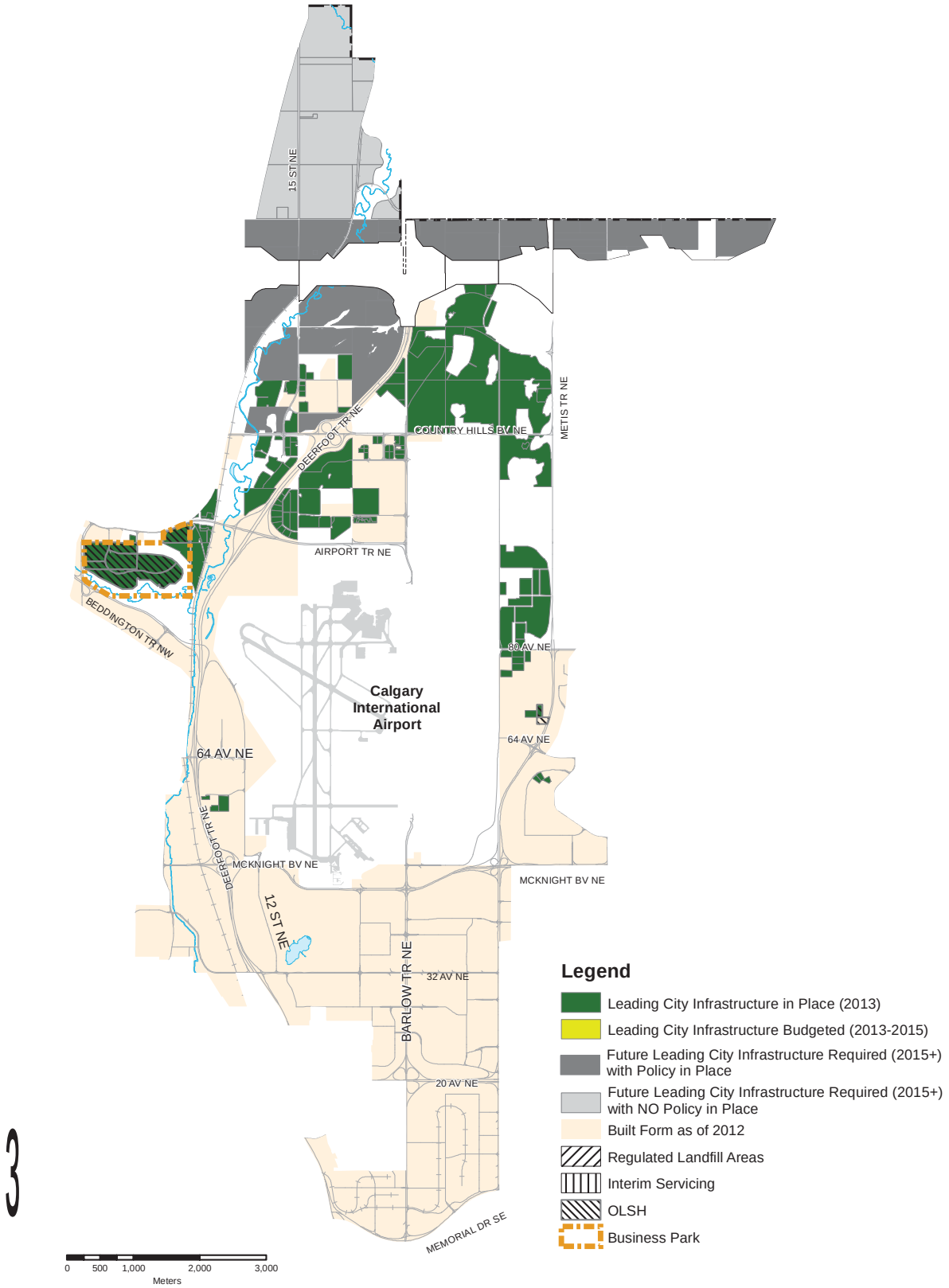
5. For this map, infrastructure funding reflects capital costs only; required operating costs are not included.

6. Status of southeast industrial lands could change based on access to Stoney Trail, a Provincial roadway.

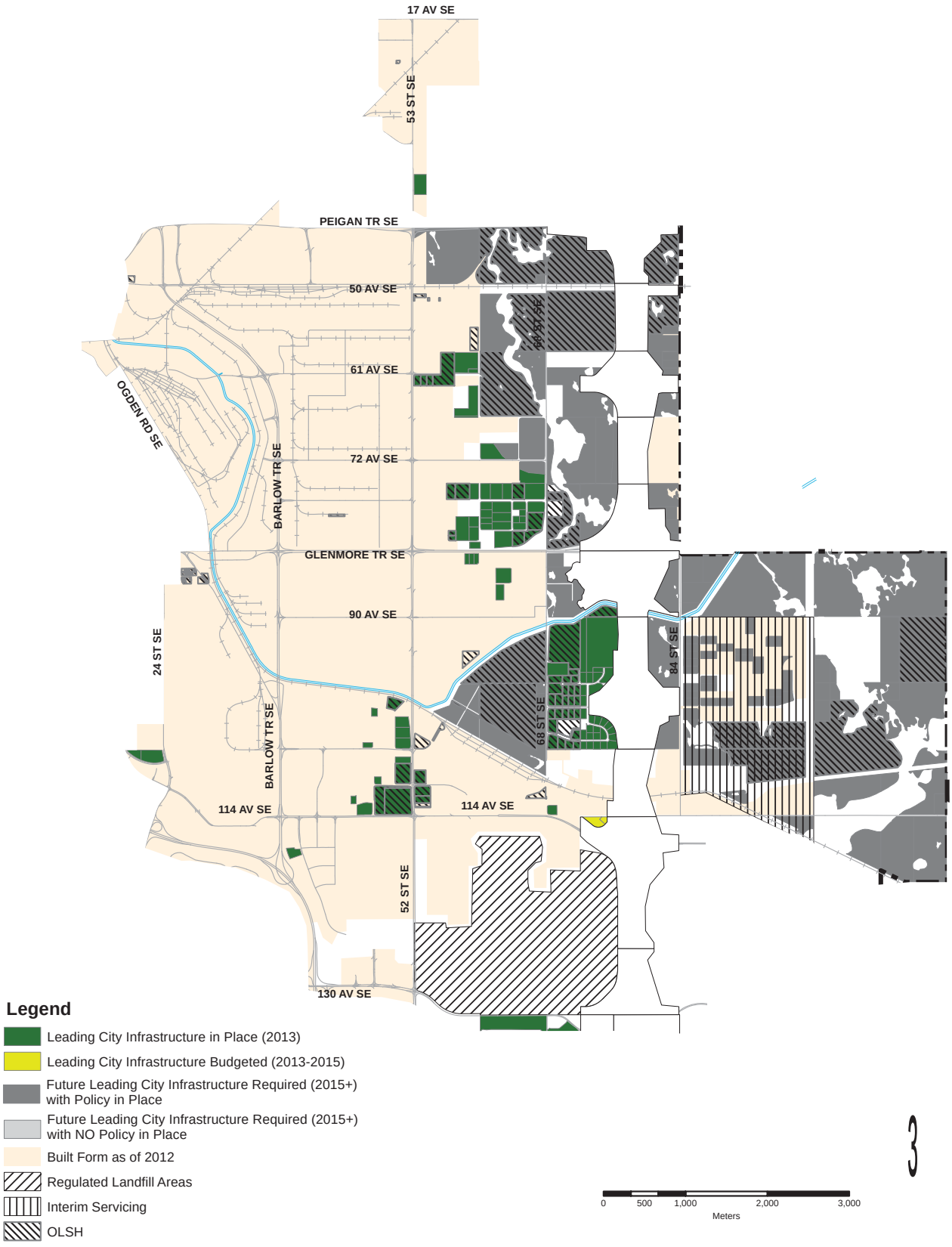
7. A small minority of industrial lands are self-serviced and typically do not require storm, sanitary or water servicing.

8. Mapping of land supply utilizes the Fire Department's 10 minute response time not the more restrictive 7 minute response time boundary.

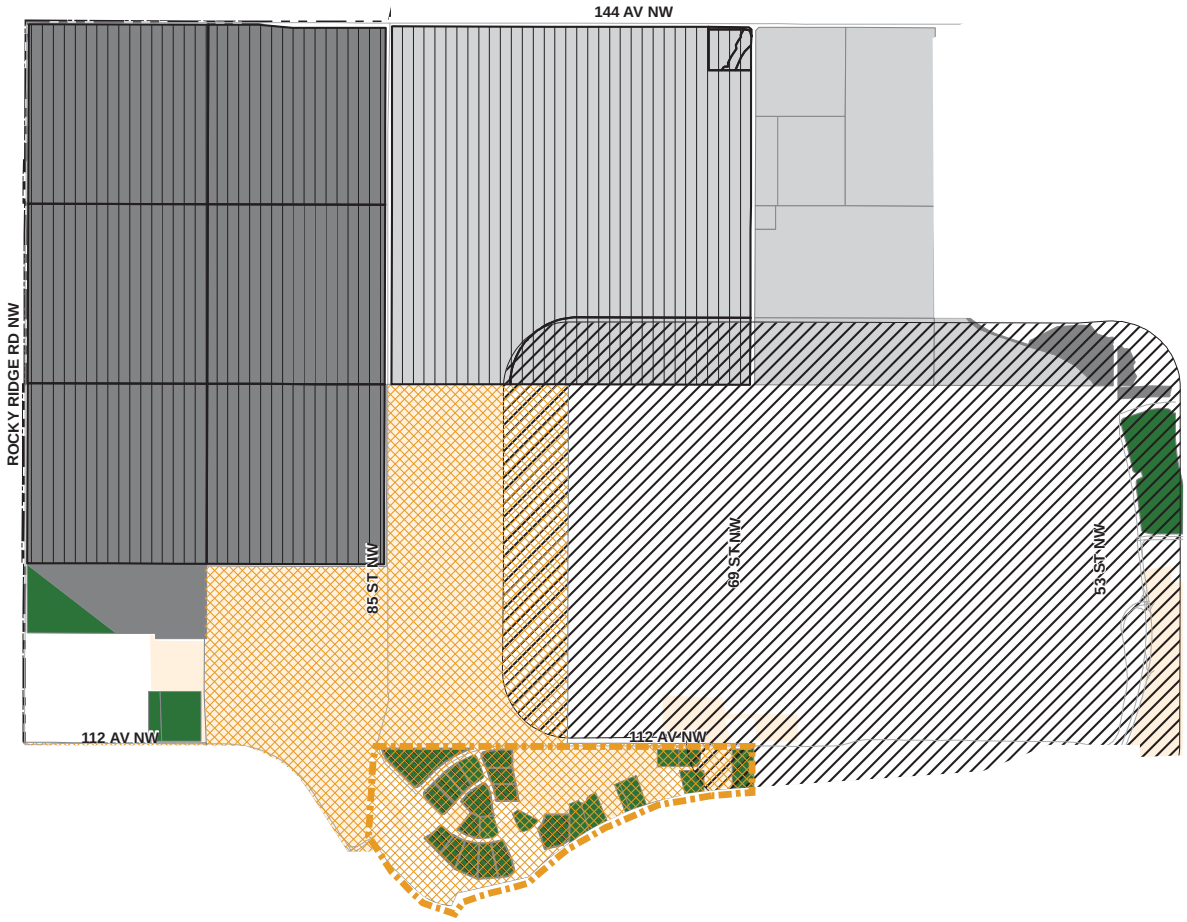
Map 7: Northeast Industrial Area: OLSH Land Inventory

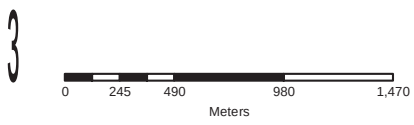


Map 8: Southeast Industrial Area: OLSH Land Inventory



Map 9: Northwest Industrial Area: OLSH Land Inventory





Legend

- Leading City Infrastructure in Place (2013)
- Leading City Infrastructure Budgeted (2013-2015)
- Future Leading City Infrastructure Required (2015+) with Policy in Place
- Future Leading City Infrastructure Required (2015+) with NO Policy in Place
- Built Form as of 2012
- Regulated Areas
- OLSH
- Vacant Gravel Operation
- West Memorial Sanitary Impact Area
- Business_Park

Appendix 1
Capital Projects Required by Industrial Area

Appendix 2
MDP Typology Areas: Employment Growth: 2006-2011

Appendix 3
Additional Industrial Area Maps and Tables

Appendix 4
Context of the Industrial Report

Appendix 5
Industrial Policy Review

APPENDICES

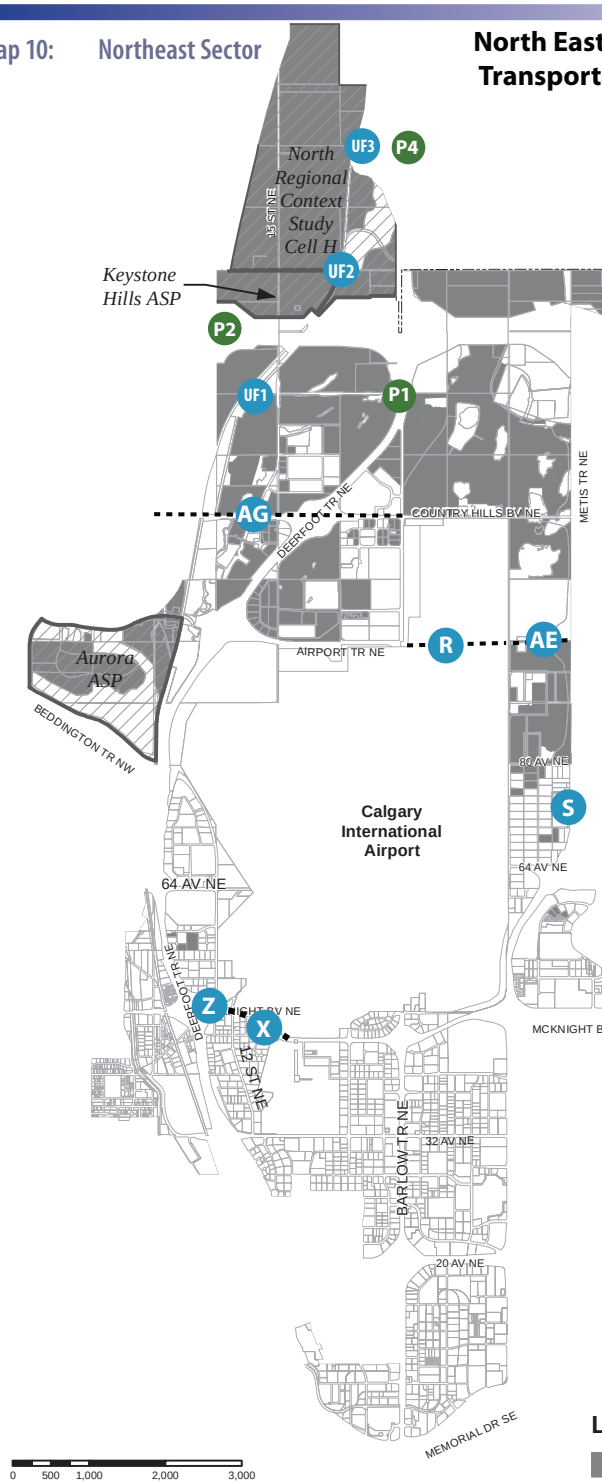
A

Capital Projects Required by Industrial Area

Appendix 1

Map 10: Northeast Sector

North East Industrial Lands Servicing Transportation Infrastructure Status



City Funded / Unfunded Projects

Funded

- R — Airport Tunnel Construction - $97M
- S — Métis Trail (64 Ave. to 80 Ave NE) - $2M
- X — McKnight Blvd. widening (12 St. to19 St. NE) - $7M

Unfunded

- AE — Airport Tr. NE Phase 2 - Connection to Métis Tr. and Interchanges - $72M
- AG — Country Hills Blvd. Widening (Barlow Tr. to Coventry Blvd) - $20M
- Z — McKnight Blvd. & 12 St. NE Interchange - $60M
- UF1 — 11 St. NE rail/creek crossing - $20M
- UF2 — 144 Av. NE rail/creek crossing - $35M
- UF3 — 160 Av. NE rail/creek crossing - $53M

Provincial / City Projects*

- P1 — 128 St. NE & Deerfoot Tr. 1/2 Interchange - $60M
- P2 — 11 St. NE and Stoney Tr. 1/2 Interchange - $40M
- P3 — Stoney Tr. and 60 St. NE Interchange - $40M
- P4 — 160 Av. NE and Hwy. 2 - $30M

*Responsibility to be determined

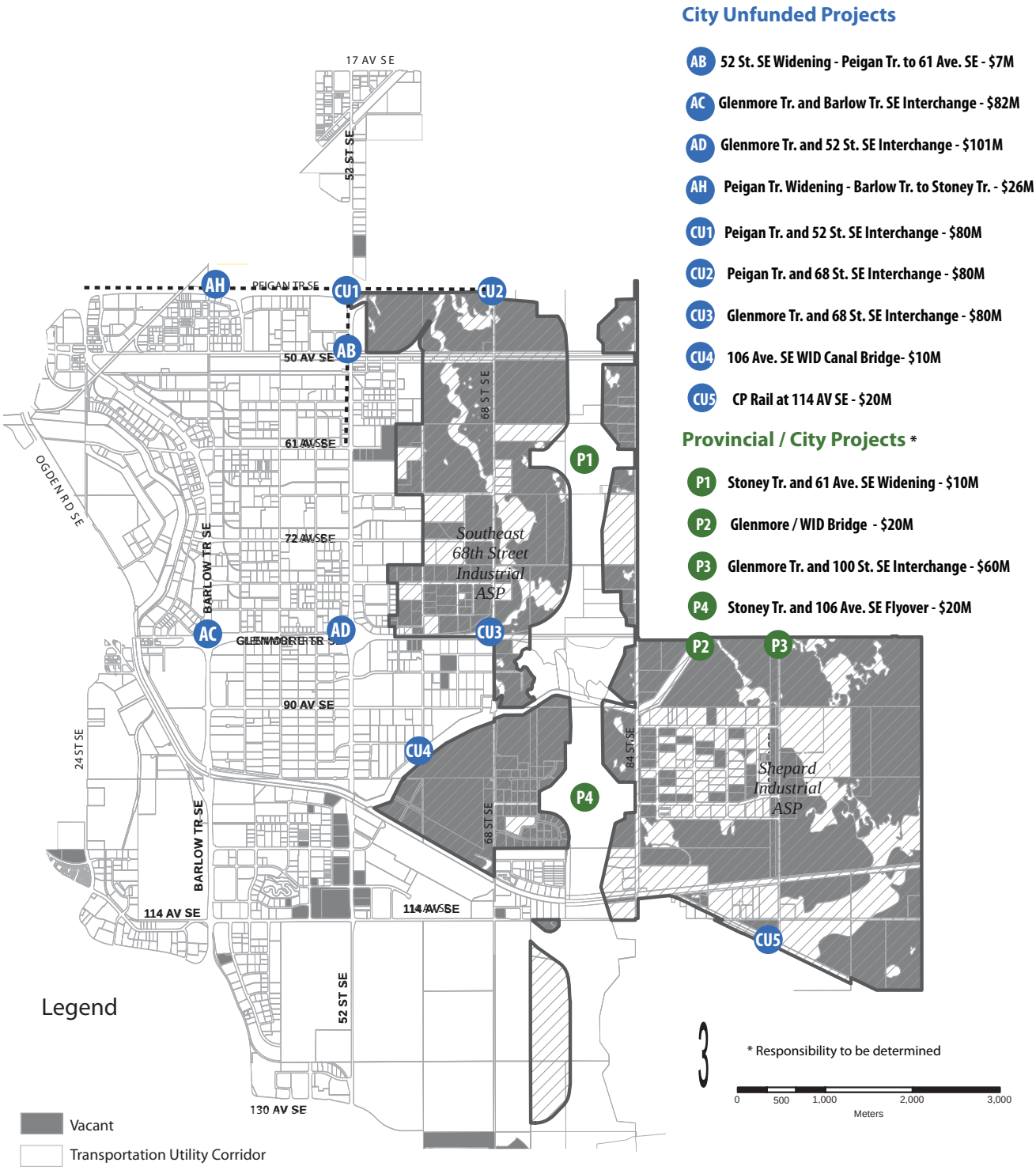
Legend

- Vacant
- Transportation Utility Corridor

3

Map 11: Southeast Sector

South East Industrial Lands Servicing Transportation Infrastructure Status



City Unfunded Projects

- AB 52 St. SE Widening - Peigan Tr. to 61 Ave. SE - $7M
- AC Glenmore Tr. and Barlow Tr. SE Interchange - $82M
- AD Glenmore Tr. and 52 St. SE Interchange - $101M
- AH Peigan Tr. Widening - Barlow Tr. to Stoney Tr. - $26M
- CU1 Peigan Tr. and 52 St. SE Interchange - $80M
- CU2 Peigan Tr. and 68 St. SE Interchange - $80M
- CU3 Glenmore Tr. and 68 St. SE Interchange - $80M
- CU4 106 Ave. SE WID Canal Bridge- $10M
- CU5 CP Rail at 114 AV SE - $20M

Provincial / City Projects *

- P1 Stoney Tr. and 61 Ave. SE Widening - $10M
- P2 Glenmore / WID Bridge - $20M
- P3 Glenmore Tr. and 100 St. SE Interchange - $60M
- P4 Stoney Tr. and 106 Ave. SE Flyover - $20M

Map 12: Northwest Sector

North West Industrial Lands Servicing Transportation Infrastructure Status

City Unfunded Projects

AJ 85 St. NW Realignment at Country Hills Blvd. - $4m

Legend

Vacant

City Limits

3

0 265 530 1,060 1,590

Meters

Table 7: Water Service Infrastructure Requirements by Plan Area

Plan Area	Infrastructure Item	Estimated Cost (1,000's)
NRCS Cell A	Storm: Catchment 12 flows south to existing infrastructure at 112 Ave, Catchment 8 flows northeast to future trunks in Cells C and D with outfall at West Nose Creek	$3,780
	Sanitary: Catchment 10 is prov. Funded for University Campus, Catchment 9 uses existing sewer mains from south, Catchment 8 uses Cell B trunk to Cell C and D	$6,900
	Water: Pump station upgrades $0.2M (needed after major growth in the area)	$200
Subtotal		**$10,880**

Plan Area	Infrastructure Item	Estimated Cost (1,000's)
NRCS Cell H	Sanitary: Catchment 2 and 3 use extension (144 Ave NE Storm Trunk) to Nose Creek San. Trunk, Catchment 2 has a Dev. Paid lift stn, Catchment 1 uses a siphon to cross Nose Creek $3.1 M	$3,300
	Nose Creek Trunk Upgrades - portion of the downstream infrastructure upgrade outside of Cell H that is required for growth of this area $1.9 M (Cell H's portion)	$1,900
	Water: N. Hill P. zone - Only requires relocation of water meter chamber from the south to current city limits $0.1 M	$100
	Upstream water infrastructure outside of the ASP required for growth of the Keystone development $36.5 M (Country Hill Blvd FM, Nose Hill FM, Bearspaw Pump	$36,500
Subtotal		**$41,800**

Plan Area	Infrastructure Item	Estimated Cost (1,000's)
Keystone Hills ASP	Storm (East section): 144 Ave NE Trunk to Nose Creek	$14,600
	Storm (West section): North Beddington Storm Trunk to West Nose Creek	$8,700
	Sanitary (East section): Drain East - Extension to existing Nose Creek Trunk north of TUC - 144 Ave NE Sanitary Trunk	$8,300
	Sanitary (West section): Drain south - Extension to the existing Panorama Hills Trunk - North Beddington Sanitary Trunk Ph 2	$7,000
	Nose Creek Trunk upgrade - portion of the downstream infrastructure upgrade outside of the ASP required for growth of the Keystone development ($4.7 M of $44.7 M)	$4,700
	Water (East section): tie into existing 900 mm Airdrie FM (North Hill P. Zone), existing water meter chamber needs to be relocated northward	$500
	Water (West section): North Ridge FM (Spy Hill East P. Zone) Phases 1 and 2	$34,650
	Water (West section): North Ridge Reservoir (land costs to be added)	$23,100
	Upstream water infrastructure outside of the ASP required for growth of the Keystone development (Country Hill Blvd FM, Nose Hill FM, Bearspaw Pump Station #12 and Pump Station 30E- $36.5 M of the $153 M)	$36,500
Subtotal		**$138,050**

Plan Area	Infrastructure Item	Estimated Cost (1,000's)
Aurora	Additional buses (years 5, 10, 16)	$450
Subtotal		**$450**

Plan Area	Infrastructure Item	Estimated Cost (1,000's)
SE 68 Street Industrial ASP	Storm: S. of Peigan Trail SE and N. of WID Canal - Forest Lawn Creek catchment area (currently at capacity for 1:100 year design flows) requires future upgrades of Forest Lawn Creek Trunk to the Shepard Diversion Channel through the Shepard underdrain and to the Shepard Ditch	$8,610
	Sanitary: N of WID Canal - 52 St SE Trunk extension of Great Plains Trunk along 68 St	$3,500
	East Calgary sanitary upgrades offsite	$9,700
	Water: Foothills P. zone - N. of WID Canal - need p. reduced connections to existing FM on 52 St, SE and 50 Ave, SE (developer funded); S. of WID Canal and N. of CP Railway - need to extend FM at 52 St, SE and Glenmore Trail, SE, the Shepard FM, (Can use some of the Dufferin North Infrastructure)	$7,400
Subtotal		**$29,210**

Plan Area	Infrastructure Item	Estimated Cost (1,000's)
Shepard Industrial ASP	Storm: Natural channel conveyance (to be updated with SRDP)	$28,200
	Sanitary: Extension from 52 St SE and 114 Ave to past 100 St, Shepard Forcemain; Shepard Industrial Lift Station;	$41,200
	East Calgary sanitary upgrades offsite	$6,000
	Water: Most of the ASP area is within the Foothills Pressure Zone and requires the East Mackenzie Feedermain (to be built within the current 2012-2014 budget cycle), the Shepard Feedermain and the feedermain along the east side of the TUC to connect to the East Mackenzie Feedermain, reservoir storage and pump stations	$31,000
Subtotal		**$106,400**

A2

MDP Typology Areas: Employment Growth: 2006 - 2011

Appendix 2

There has been significant change in employment area from 2006 to 2011. The following table indicates the increase (decrease) in jobs, the share of total growth captured and the percent change by typology area.

Over the past five years (2006-2011), employment growth increased moderately due to the 2008-2010 global recession.

Table 8: Citywide Employment Growth and Change (2006-2011) by MDP Typology

MDP Typology	2006	2011	Growth 2006 to 2011	Share of Total Growth	Percent Change in Typology
Centre City	156,988	161,444	4,456	11.5%	2.8%
MACs	78,189	84,288	6,099	15.7%	7.2%
CACs	25,282	29,381	4,099	10.6%	14.0%
CORRIDORs	52,671	52,182	(489)	-1.3%	-0.9%
Industrial	145,513	175,294	29,781	76.8%	17.0%
Industrial Greenfield	764	2,776	2,012	5.2%	72.5%
Industrial Intensive	26,259	30,513	4,254	11.0%	13.9%
Industrial Standard	118,490	142,005	23,515	60.7%	16.6%
Established	100,879	90,807	(10,072)	-26.0%	-11.1%
Inner City	29,556	25,766	(3,790)	-9.8%	-14.7%
Future Greenfield	531	882	351	0.9%	39.8%
Planned Greenfield	15,395	21,379	5,984	15.4%	28.0%
Other (Open Space, Utilities)	3,305	5,650	2,345	6.0%	41.5%
Total	**608,309**	**647,073**	**38,764**	**100.0%**	**100.0%**

Source: Place of Work (POW) Survey, 2006 and 2011, internal sample survey expansions completed by Transportation Forecasting, Land Use and Planning Policy (Geodemographics). POW 2011 prepared in consultation with HBA Specto.

Over the past five years (2006-2011), jobs increased by 38,764. This is modest growth compared to past five year periods in Calgary and is a result of the 2008-2010 global recession.

Industrial areas captured the majority of the jobs increase (i.e., 29,781 or 77%). Total increase in the higher density typology areas (i.e, Activity Centres (Major and Community), Urban and Neighbourhood Corridors, and the Centre City) was 14,165 jobs (36.5%). The urban and neighbourhood corridor typology is the one higher density urban typology that experienced a modest decline

Change from 2006 through 2011 does provide benchmark information by typology area and starting points for further analysis of ongoing employment trends.

loss (-7%). Developed residential areas (Established and Inner City typologies) declined by approximately the same amount as MACs, CACs and CORRIDORS increased (-13,862 jobs; -36%).

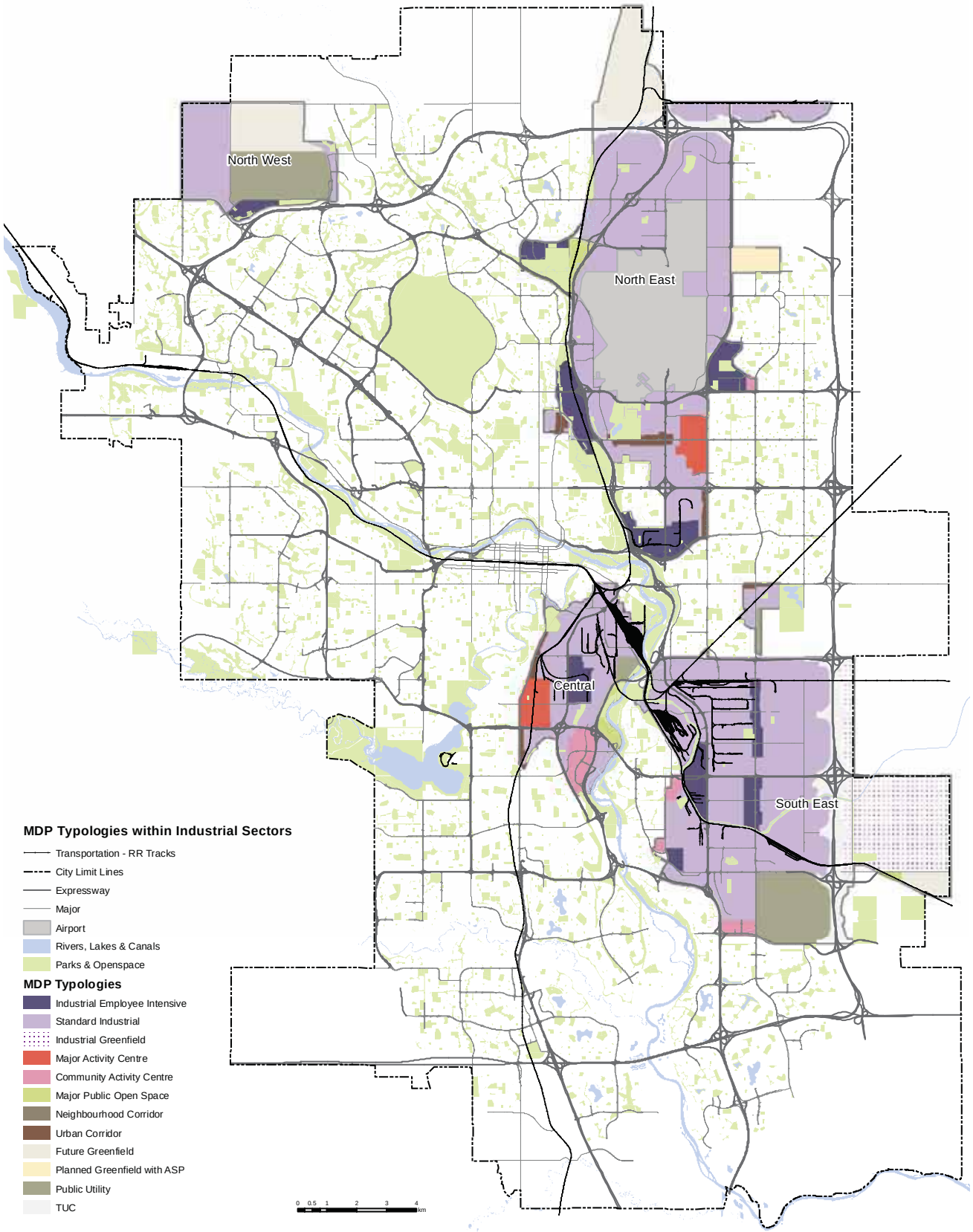
Conclusion

The results gained from the 2011 Place of Work survey provide an estimate of job growth (and decline) spanning years before and after approval of the MDP. Only four years have passed since MDP approval and job change has been driven by policy decisions made prior to the MDP. Nevertheless, change from 2006 through 2011 does provide benchmark information by typology area and baselines for further analysis of ongoing job growth trends.

The growth of jobs in the Centre City from 2006 through 2011, reflects some increase in office and retail employment (2.8%). Relatively modest increases in the other higher density typologies indicate the need for continued monitoring and tracking of citywide retail and office development.

The majority of the job growth in Calgary over the 2006-2011 period was captured in industrial areas. Commercial (office and retail) and institutional development continues to be located in industrial areas despite various efforts by the Administration through the land use bylaw and development control. Commercial and institutional development should be re-directed, where and when possible, from industrial areas to other MDP higher density typology areas. Higher density areas provide better access to the primary transit network and other amenities (i.e. retail goods, restaurants, personal services, etc.) for employees and institutional residents. Retaining industrial areas for industrial purposes would also extend the inventory of industrial lands for industrial use.

Map 13: MDP Typologies by Industrial Sector



A3

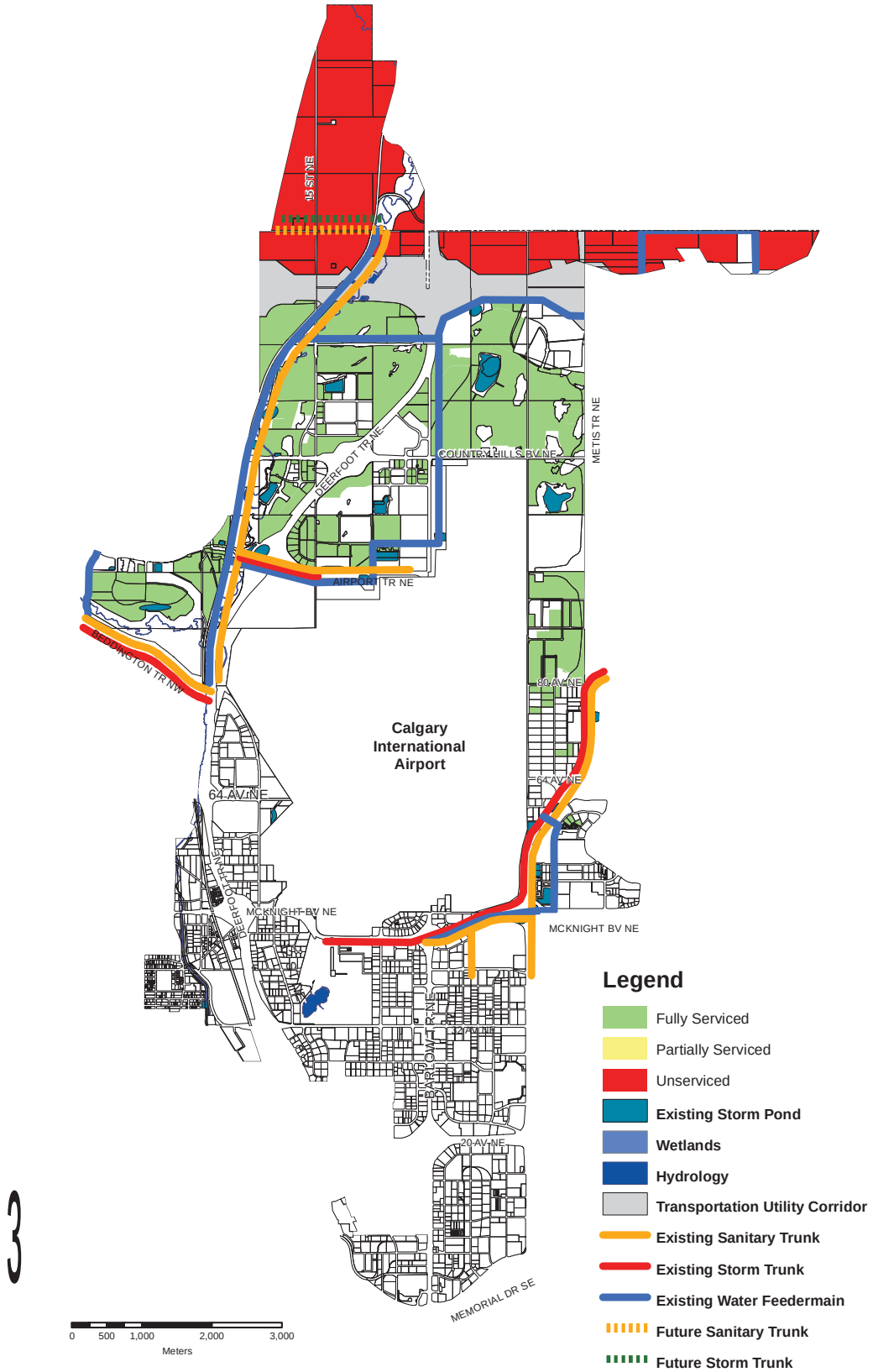
Additional Industrial Area Maps and Tables

Appendix 3

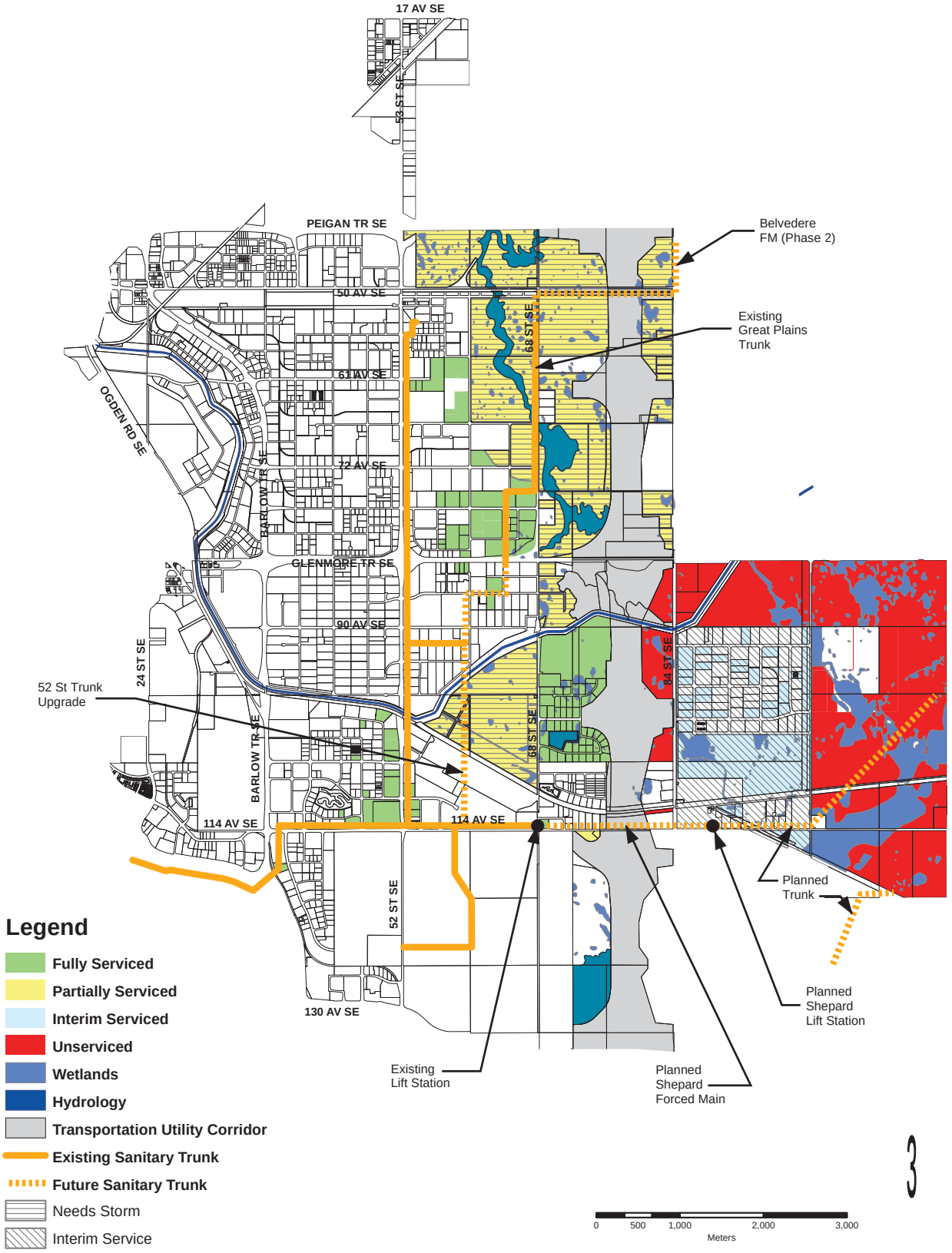
You will find in this section maps which show the Development and Sub Area for the four sectors listed below:

- **North/Northeast**
- **Southeast**
- **Central**
- **Northwest**

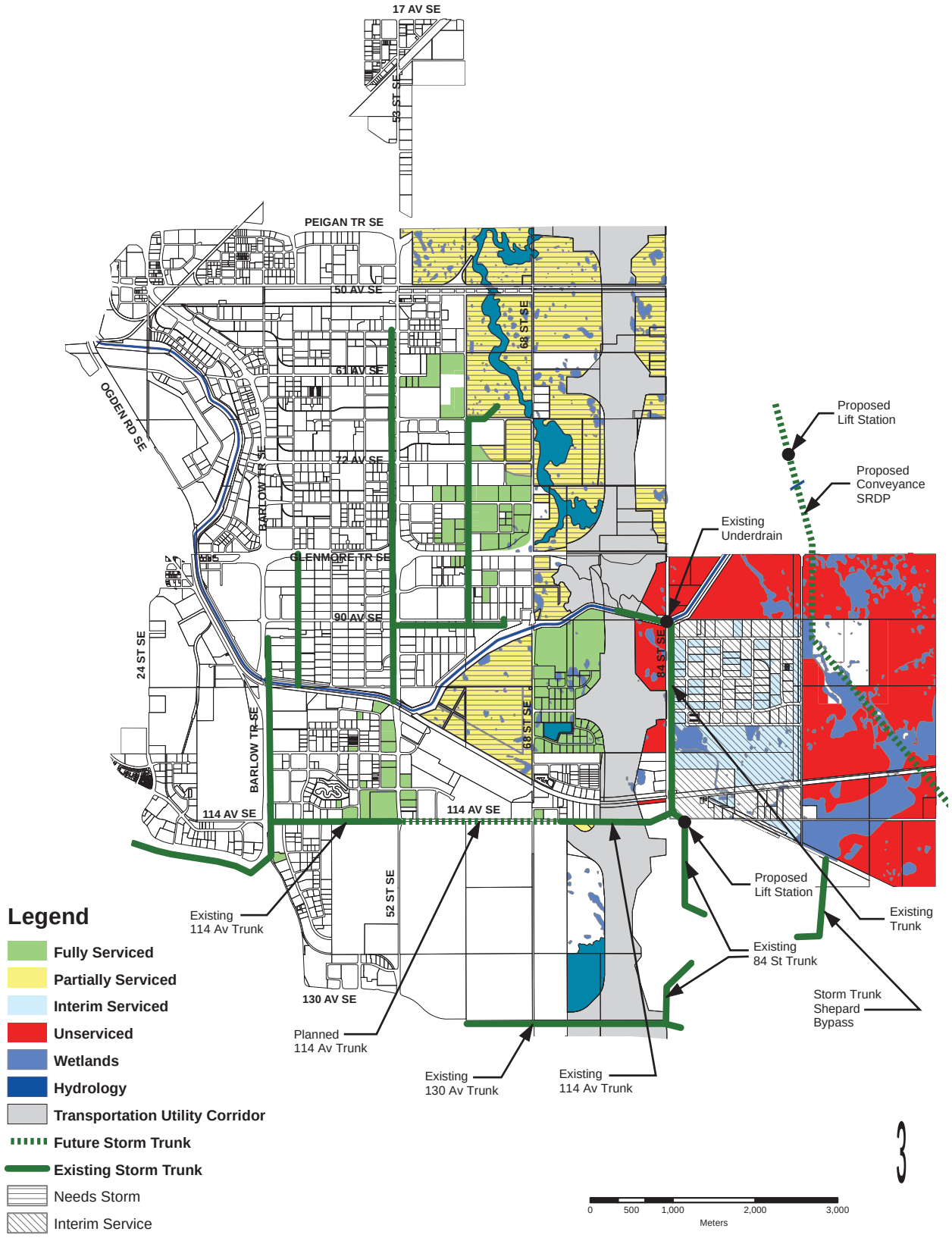
Map 14: North/Northeast Industrial Area Storm, Sanitary and Water Servicing



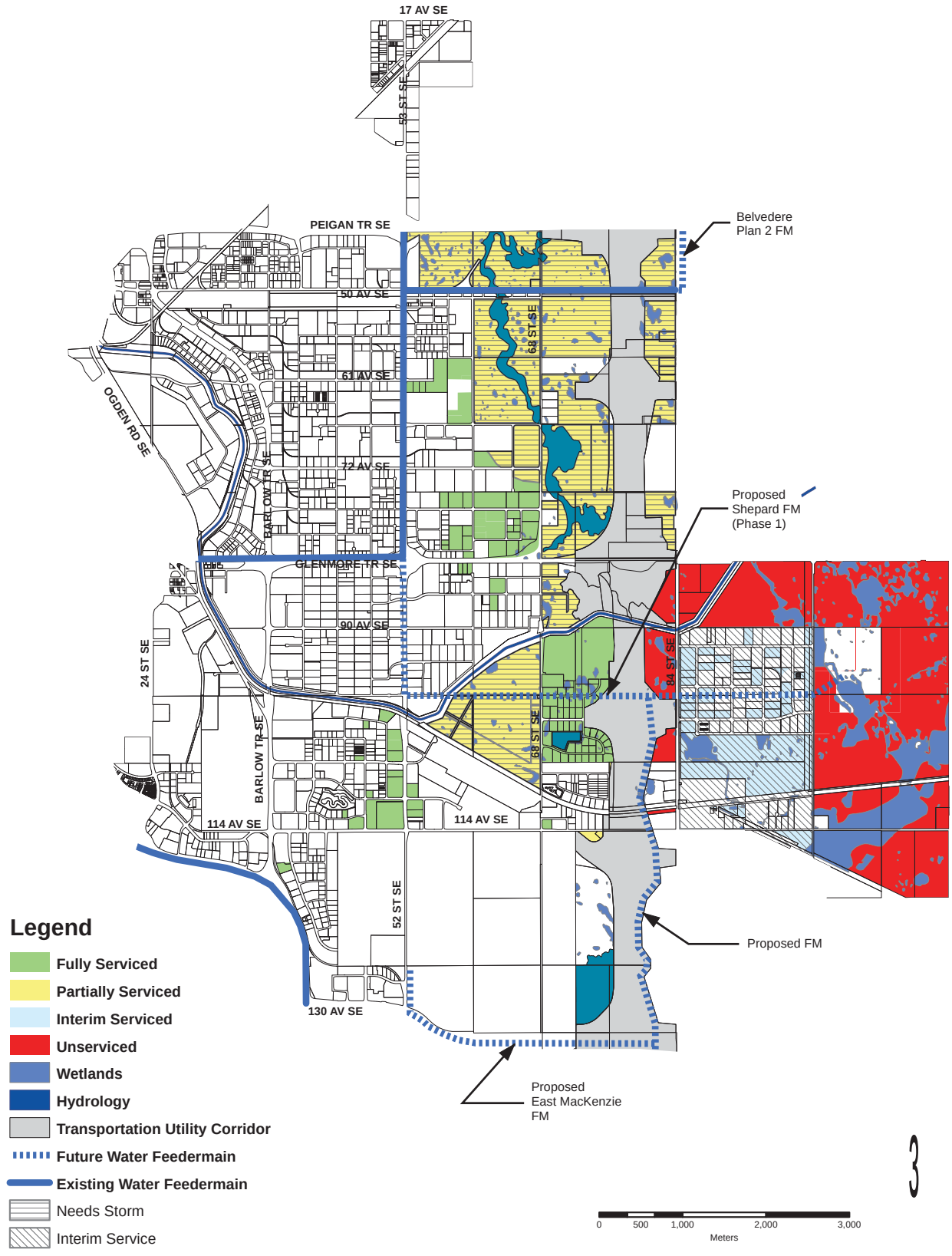
Map 15: Southeast Industrial Area Sanitary Servicing



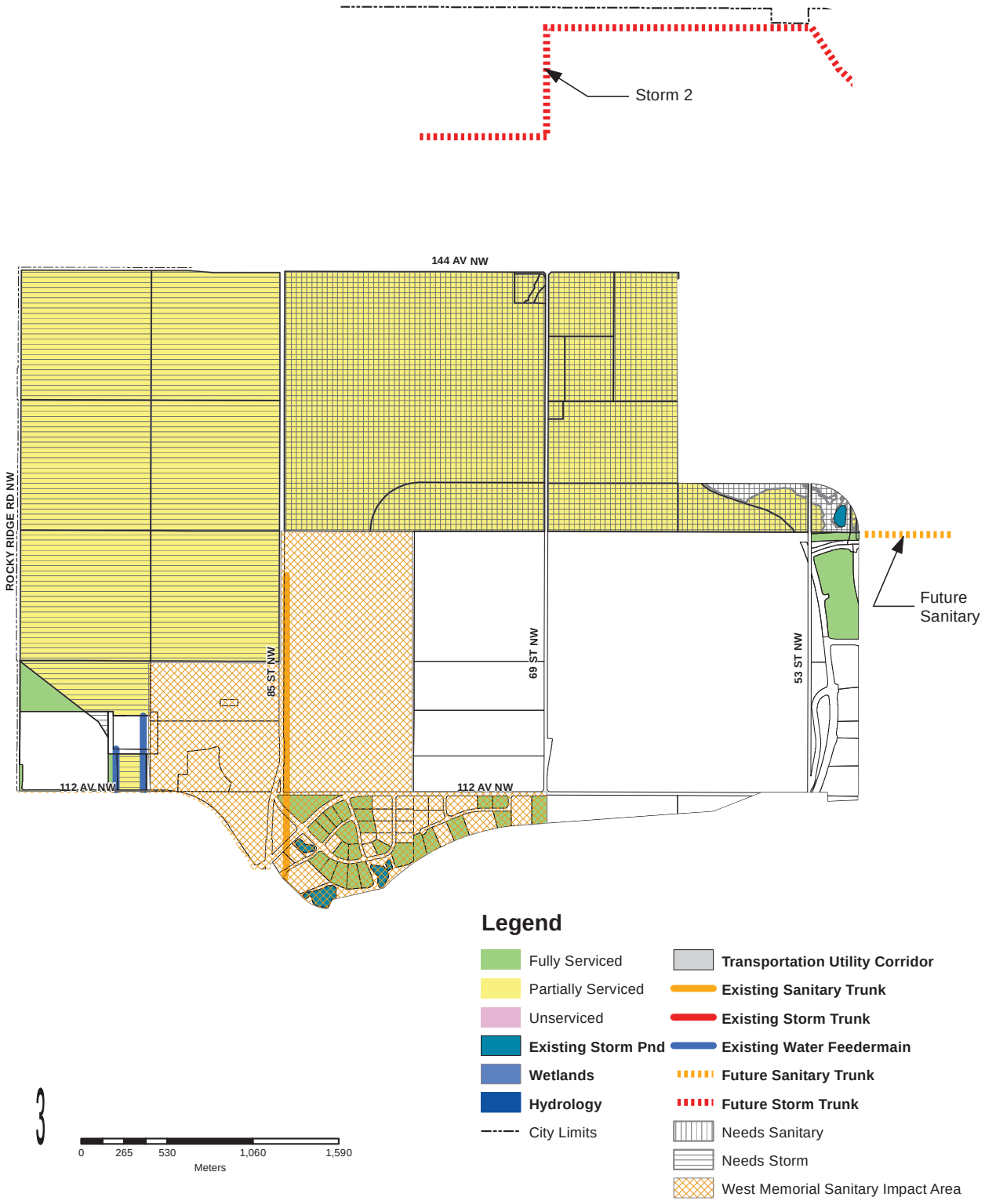
Map 16: Southeast Industrial Area Storm Servicing



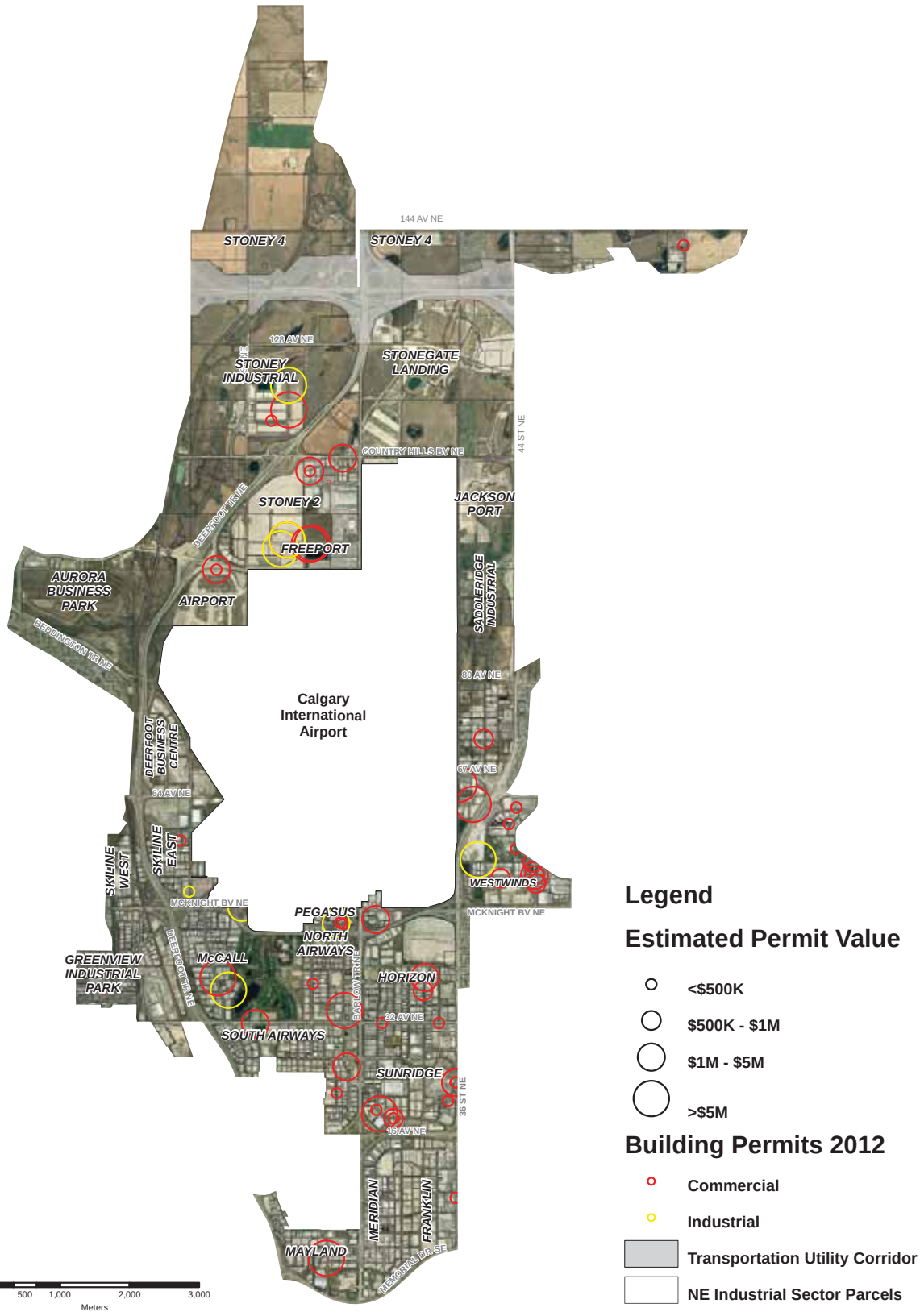
Map 17: Southeast Industrial Area Water Servicing



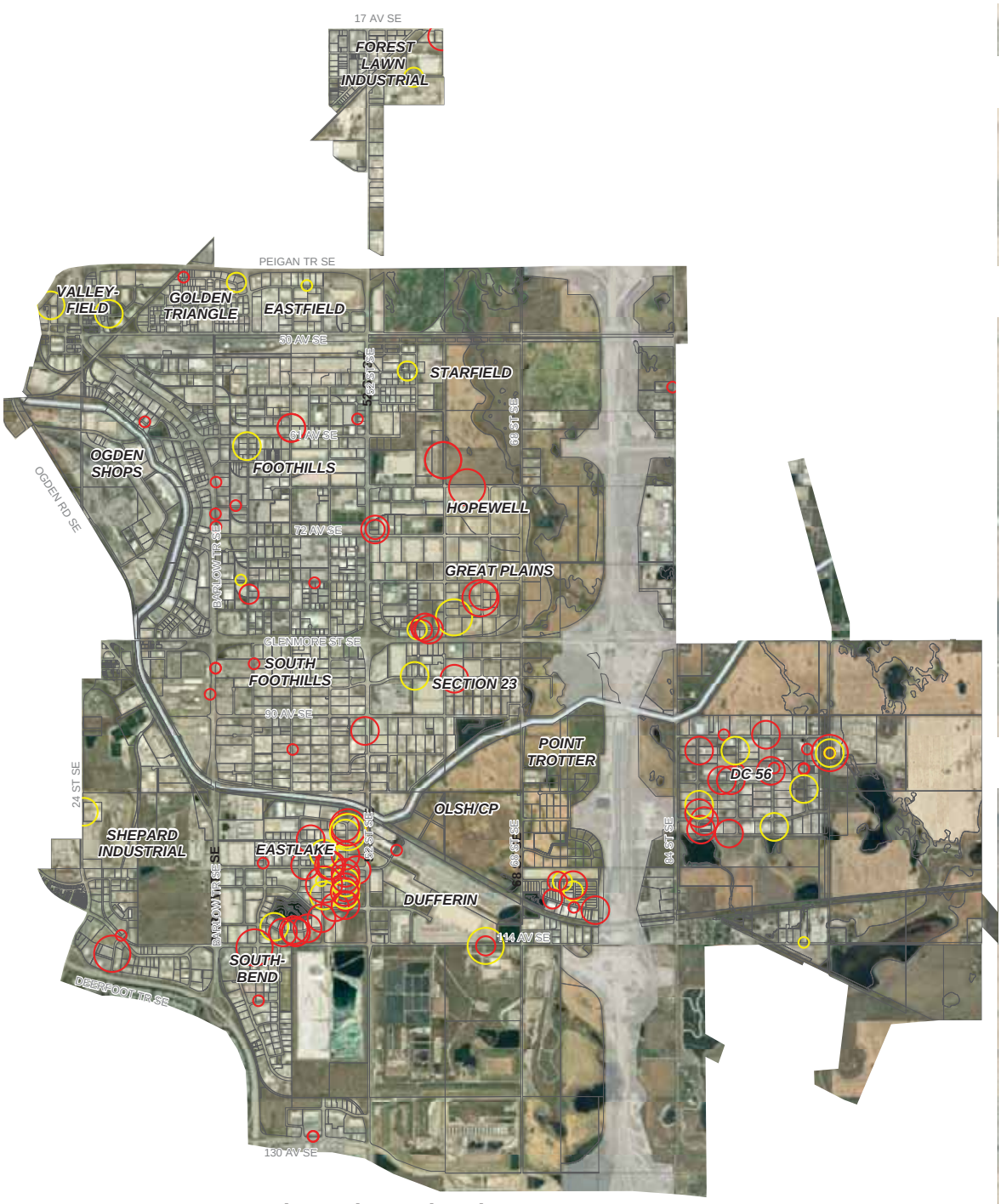
Map 18: Northwest Industrial Area Storm, Sanitary and Water Servicing



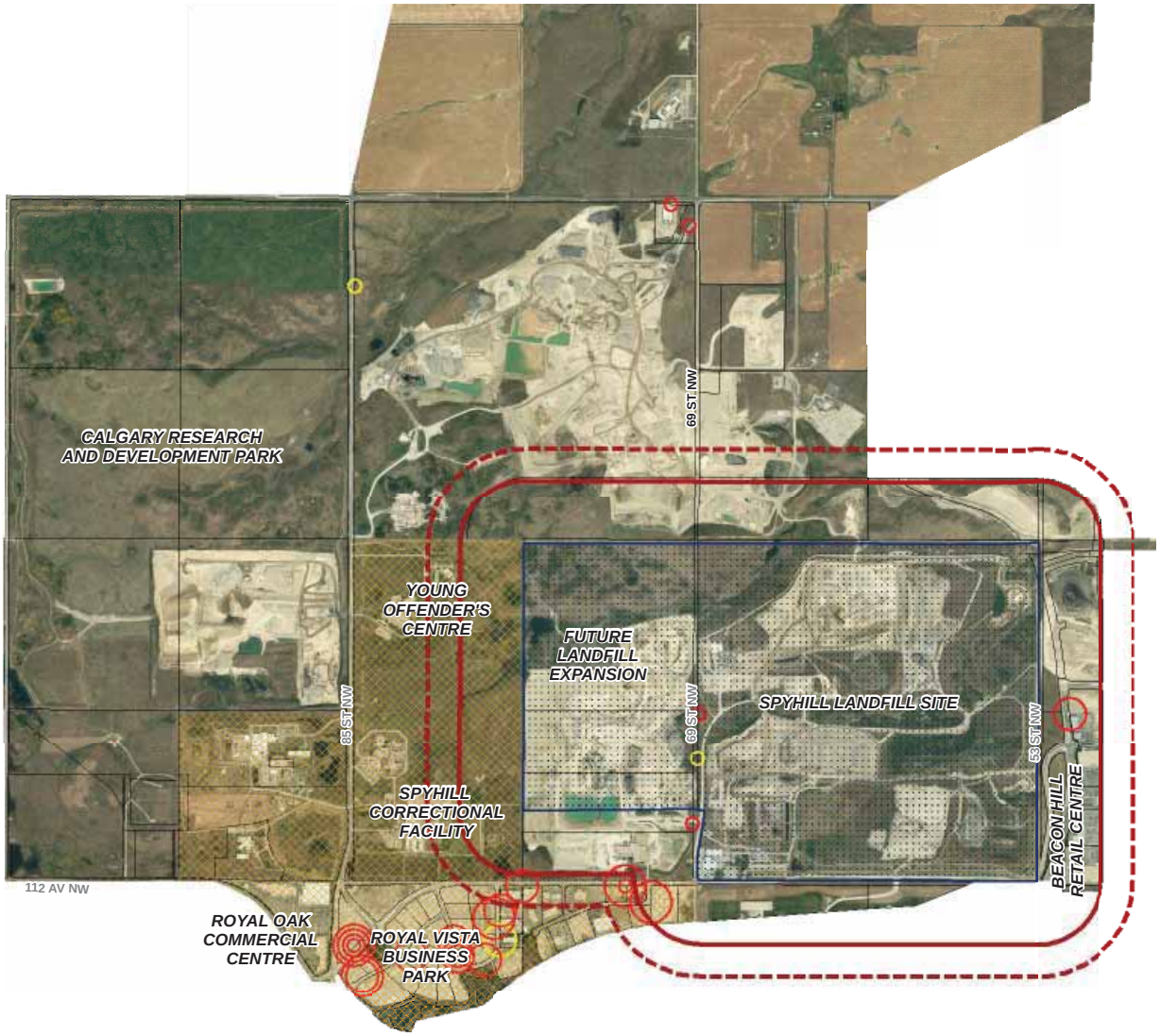
Map 19: Northeast Industrial Area, Building Permit Activity (2010-2012)



Map 20: Southeast Industrial Area, Building Permit Activity (2010-2012)



Map 21: Northwest Industrial Area, Building Permit Activity (2010-2012)



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Context of the Industrial Report

Appendix 4

Council Policies on Industrial Lands (2000)

Specific industrial policies were approved by Council in 2000 as a key result of the original Industrial Lands Policy report. These policies are listed below:

- The City of Calgary supports the provision of a full range of industrial uses suitable within an urban municipality. In this context, The City of Calgary should ensure that up to date area structure plans are in place sufficient to accommodate industrial growth demands in all industrial areas through the medium-term (i.e. a 15-year supply).
- Review and amend existing area structure plans to reduce the amount of industrial land with policy support for limited serviced industrial uses, helping to better reflect the appropriate need for this form of industrial development within the city.
- Through future planning processes, explore the merits and opportunities for serviced, high-quality, linear industrial development to locate along the city's existing and future expressways so that they may take advantage of the visibility and access these roads provide.
- The City of Calgary shall endeavour to maintain a supply of serviced industrial land and a variety of readily available parcels in a variety of sizes and locations, to meet the broad industrial market demand in the short-term.
- Consider the limited provision of non-industrial uses in industrial areas that support industrial development, but recognize the primacy of industrial uses. Re-examine the I-2 land use district to ensure the list of uses are appropriate within industrial areas.
- The City will monitor and analyse the supply of vacant fully serviced/ serviceable industrial lands, vacant potentially serviceable industrial lands and vacant unserviceable industrial lands in the short-term in order to fully inform industrial planning and development decisions. The information base of this Strategy should be updated on an annual basis.
- To facilitate development, decisions on capital expenditures relating to the extension of Municipal Water, Sanitary and Storm and Transportation systems are made through the normal budgeting process. These decisions will be made strategically by considering:
    - Within the context of the overall capital budget, the relative importance of capital expenditures supporting growth in the industrial sector of the city's economy;

The City endeavours to:

- **support** the provision of a full range of industrial uses suitable within an urban municipality
- **review** and **amend** existing area structure plans
- **explore** the merits and opportunities for serviced, high-quality, linear industrial development
- **maintain** a supply of serviced industrial land and a variety of readily available parcels
- **monitor and analyse** fully serviced/serviceable industrial lands, vacant potentially serviceable industrial lands and vacant unserviceable industrial lands in the short-term
- **facilitate** development

- If identified, an assessment of growth priority areas resulting from the Strategy;
- The capital cost implications of infrastructure extensions and improvements including The City's financial capability;
- If identified and explored, alternative infrastructure funding options;
- An understanding of industrial land supply and demand in all industrial areas of the city and surrounding region; and
- The impact of the provision for shallow utilities and other services.

Industrial Policy Review

A number of City of Calgary documents influence industrial development in the city. The purpose of this review is to summarize existing industrial policy in one document and provide an introduction to what policy currently exists and identify areas where further work is required. The policy documents reviewed in the following section include:

The Municipal Development Plan (2009), City of Calgary, Land Use and Planning Policy, Part 3: Typologies for Calgary's future urban structure, specifically section 3.7, "Industrial Areas".

The City of Calgary Land Use Bylaw: 1P2007 (2007), general rules for industrial districts and industrial districts: Industrial General (I-G), Industrial-Business (I-B), Industrial-Edge (I-E), Industrial-Commercial (I-C), Industrial-Redevelopment (I-R), Industrial- Outdoor (I-O) and Industrial –Heavy (I-H).

The Short Term Growth Management Strategy (STGMS): Industrial (2000-2004), City of Calgary, Land Use and Planning Policy (LUPP), September, 2001;

The 2013 -22 Industrial Land Strategy For the Development of City-Owned Lands, Office of Land Servicing and Housing (OLSH), 2013, February.

The Central Industrial Areas Land Review (Part 1 and 2), City of Calgary, prepared by Cushman & Wakefield Ltd. and The Planning Partnership (C&W file: 11-6852), December, 2012.

The Growth Management Framework, ongoing, City of Calgary, and the MDP implementation plan; www.calgary.ca/PDA/DBA/Pages/Corporate-Framework-for-Growth-and-Change.aspx .

The 2020 Sustainability Direction Annual Report (2012), PFC2013-0300 Year-end Report on Business Plans and Budgets, CMO, City of Calgary, 2013.

Various City of Calgary departmental policy documents and information reports from Planning and Development Approvals (PDA), Land Use and Planning Policy (LUPP) and others, including the Stoney Industrial Area Structure Plan (ASP), North Regional Context Study, East Calgary Regional Policy Plan, [Shepard Industrial ASP, Southeast 68th Street ASP], Southeast Industrial ASP, Aurora Business Industrial land use and outline plan, and Royal Vista Business Industrial land use and outline plan were also reviewed. This brief overview provides a short summary of industrial policy currently influencing industrial project approvals at the City of Calgary.

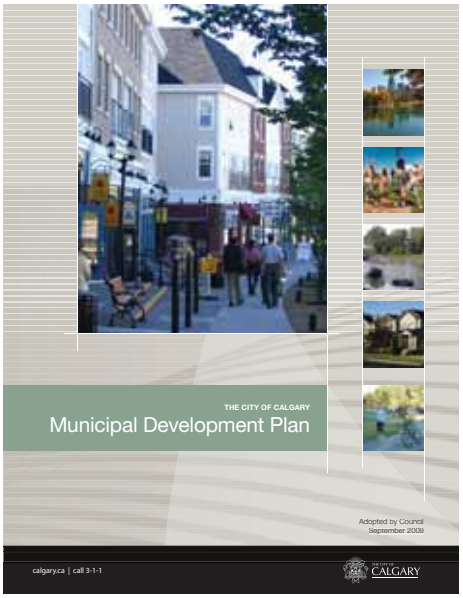
The Framework evaluates all available land in three major categories:

❶ Land with Leading Infrastructure in Place

❷ Land with Leading Infrastructure Budgeted (to 2015)

❸ Land with Future Leading Infrastructure Required (with or without policy in place)

The Municipal Development Plan (MDP) (2009)



The MDP is the core document for citywide growth and development policy. It has policies that apply citywide as well as area specific strategies by typology area. For industrial areas the major typologies include: standard industrial areas, greenfield industrial areas, and employment intensive areas. Policies vary by industrial typology area. Generally, however, there is an approach, particularly in the "Standard Industrial" typology area to protect industrial areas from non-industrial encroachment and to provide broad flexibility for a range of industrial building form and function. This approach is designed to acknowledge the complexities of economic growth, technological change and to facilitate economic growth (MDP growth principle #1).

General industrial growth policy direction provided in the MDP includes the following:

- Industrial areas must **offer flexibility** to support the variety of uses required in industrial areas (both existing and future uses)
- Industrial areas need to be **preserved from** ongoing encroachment by commercial (retail and office) and residential development
- The Standard Industrial areas are the **'base' policy environment** for all industrial areas and should secure a range of uses, in a range of forms and land use intensities (i.e. Job densities per hectare). A broad range of parcel sizes should be provided in industrial areas; regional recreational uses should be accommodated; and redevelopment opportunities to non-industrial use should be limited to areas abutting residential areas or aligned with the Primary Transit Network. In addition, eco-industrial and or business parks should be encouraged that utilize newer 'greener' production methods, water and energy conservation design, and best practices in building technology and recyclable materials.

The MDP is the core document for citywide growth and development policy.

- The MDP was prepared in conjunction with the Calgary Transportation Plan (CTP) and the road and transit system needed to facilitate general industrial development (and employee access to jobs) along with an emphasis on ensuring the Goods Movement Network (GMN) is protected and that base transit service is supplied to all industrial areas. In addition, intermodal facilities requiring convenient access to the skeletal road system should be located within 1600 metres of the GMN.
- Employment Intensive areas are existing industrial areas which because of their location next to future Primary Transit Network investments (LRT/BRT) should be locations for higher job intensity industrial and employment businesses. These areas should over time attain 100 jobs per gross developable hectare while supporting primarily industrial uses (i.e. limiting retail and office development).
- Eco-industrial areas and business parks are also identified for policy support. Low impact development (managed storm outflow); 'clean' industry; businesses with reduced energy requirements; maximizing energy efficient building envelopes; and best practices in green building technology are all identified as setting the bar for a new level of industrial building quality.

Short Term Growth Management Strategy (2001)

The Industrial STGMS policies were approved by Council in 2001, and provide policy direction through seven policy statements. These policies address issues related to limited-service industrial development which were to be limited to existing areas. Non-industrial use of industrial land was 'strongly' discouraged. Retail uses were to be limited to 'local' demand only and office uses were permitted as accessory uses within larger industrial operations. The strategy called for annual monitoring of industrial land supply (serviced and planned land) to more fully inform ongoing planning decisions. The strategy outlined a strategic approach to informing capital infrastructure decisions and, insisted that new ASPs secure a 15 year supply of planned industrial land.

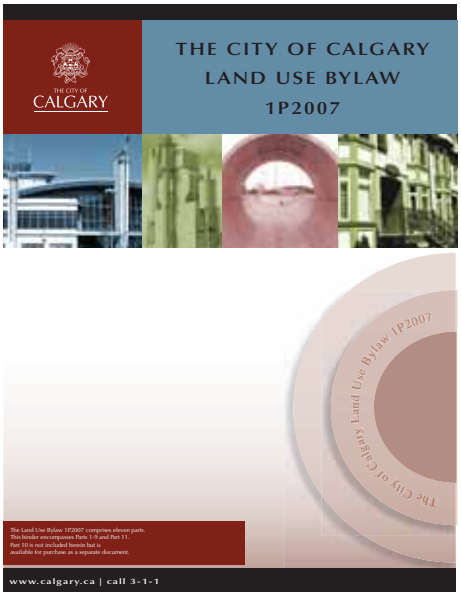
Following this approved direction, the administration did succeed in controlling the spread of I-4 (Limited Service Industrial) within the City. The result has been increased expansion of limited service industrial development in the region.

There have been mixed results on limiting non-industrial uses from industrial areas. Lower land costs continue to attract commercial and institutional uses to industrial areas.

The Industrial STGMS did not identify a serviced land supply target.

7 Policy Statements:

1. **support** the provision of a full range of industrial uses suitable within an urban municipality
2. **review** and **amend** existing area structure plans
3. **explore** the merits and opportunities for serviced, high-quality, linear industrial development
4. **maintain** a supply of serviced industrial land and a variety of readily available parcels
5. **monitor and analyse** fully serviced/serviceable industrial lands, vacant potentially serviceable industrial lands and vacant unserviceable industrial lands in the short-term
6. **limit** encroachment of non-industrial uses in industrial areas.
7. **facilitate** development and coordinated capital investment planning.



The Calgary Land Use Bylaw (2007)

The rewrite of the 2P80 land use bylaw was a multi-year effort resulting in a number of new industrial districts that addressed a range of strategic planning and operational issues in industrial areas. Conflicts over the interface between industrial areas and neighbouring residential areas stimulated number ideas incorporated into the I-E (Industrial-Edge) and I-R (Industrial – Redevelopment) districts. Attempts to constrain commercial activity to primary transport corridors and protect industrial enclaves from office and retail traffic was behind the I-C (Industrial-Commercial) and I-B (Industrial-Business) districts. The largely unconstrained list of uses (both permitted and discretionary) available within the old I-2 district in land use bylaw 2P80 were curtailed in the newer I-G (Industrial-General) district designed to replace it. This has led to some difficulties with industrial developers and tenants that face a narrowed list of permitted and discretionary users. Nevertheless, the new bylaw has been somewhat successful in redirecting non-industrial activity to appropriate areas, while requiring land use redesignations for significant land use changes. Monitoring the conversion of industrial lands to non-industrial use will continue to help evaluate the success and strength of this policy protection. Industrial lands in other jurisdictions are facing the same pressures, and the loss of industrial land and higher value manufacturing jobs to lower value employment typical in retail areas, is now being actively discouraged in other larger Canadian municipalities like Vancouver and the in Toronto.

2013-22 Industrial Land Strategy: For the Development of City-Owned Lands

The policy direction for City-owned lands is not public policy but direction outlined in the Office of Land, Services and Housing (OLSH) business plan. The strategy applies only to city-owned land and is not policy for privately owned industrial land. Nevertheless, this direction is important to understand industrial land development in Calgary. The City, through OLSH, is a significant industrial land owner, often 'sets the bar' for industrial development standards and practise, and has the resources from its' land sales program to invest in new market opportunities (i.e. business parks and eco-industrial development). The City has some limited experience in industrial development involving joint planning and other cost sharing initiatives. Regardless of how serviced land is brought to the market, OLSH helps ensure that serviced industrial land is available for sale to a variety of end users.

OLSHs strategy (approved by Council in March, 2013) outlines a corporate vision to create sustainable industrial parks that support economic development in Calgary and maximize long-term benefits for all Calgarians. OLSH will accomplish this vision by:

- Supporting local economic development (by ensuring a supply of serviced small to medium sized lots for sale);
- Achieve corporate City objectives (by applying the triple bottom line approach to all business transactions, while supporting the fiscal sustainability of the City);
- Operate within financial capacities (by funding OLSH initiatives from land sales, and better forecasting project financial costs and returns);
- Foster a fair and transparent business environment (by clearly defining The City's business in industrial land, clarifying OLSHs approach to land development, and promoting greater awareness of this strategy); and,
- Attracting the right business to Calgary.

Implementing the strategy requires collaboration between various agencies involved with land development, marketing and servicing in Calgary. Calgary Economic Development is a key player in the local market along with NAIOP, BOMA and UDI. All understand, through their collective membership, various aspects of industrial land and building delivery to industrial users in the Calgary market. Greater efforts to pull together the development community involved in developing industrial land requires the ongoing collaboration of all these organizations and their membership. As growth throughout the larger Calgary region continues, increasing collaboration will also be required with all regional neighbours directly and through the Calgary Regional Partnership. All of these organizations have a stake in a growing and cooperative industrial land market.

Conversions to non-industrial use do not indicate industrial decline in these areas, but "… the dynamic tension of the Calgary land market"

Central Industrial Areas Land Review (2012)

This recent internal report is not a policy document but its' recommendations provide the context for policy work by LUPP over the next year in developed industrial areas. Existing inventories of industrial land are significant and concerns about the residential/industrial interface in many older communities continues. The report, advises caution in promoting rapid and wholesale change in industrial districts that show no sign of significant decline. However, select areas for more targetted land use evaluation need to be examined.

The report prepared by consultants in collaboration with the Land Use and Planning Policy section, provides its findings in two parts: Part 1 Market Overview and Demand Forecast; and Part 2: Conclusions and Recommendations. The Market Overview profiles a number of select older industrial areas formed prior to the 1960s, in particular: Alyth/Bonnybrook; Fairview; Greenview Industrial; Highfield; Manchester Industrial and the Meridian Industrial area. They conclude, after evaluating several indicators of industrial health, that these areas are generally stable or growing in terms of investment, development applications, employment statistics and rental values per square foot. Although the built product available in these areas is less suitable for modern industrial operations (i.e., largely built prior to or during the 1960s), these areas continue to attract investment and interest with "… little vacancy and few properties for sale" (pg. 5). These areas have also over time "… experienced substantial conversion of their primary industrial function" (pg. 5) to non-industrial service, institutional and commercial uses. Despite this conversion the central areas continue to account for 23% of total industrial built inventory (25.3 MSF). In conclusion to the market overview, "… persisting low vacancy levels and high achievable rental rates point to a healthy market…" (pg. 15) in these older central areas. Conversions to non-industrial use do not indicate industrial decline, but "… the dynamic tension of the Calgary land market …rather than these older industrial areas losing their appeal…. Overall, the centrally located industrial submarkets remain a desirable location for industrial activity…despite the redevelopment pressures for conversion away from the historic industrial function of these areas." (pg. 36).

The major learnings obtained by Cushman & Wakefield from consultations with industry representatives include the need for:

- Protection of lands with stable employment from disruptive pressures of incompatible land use conversion where industrial areas are healthy (pg. 52);
- Stronger legislative tools to prevent conversion of stable industrial areas (pg. 53); and,
- More efficient and intense forms of development on existing industrial lands. (pg. 53)

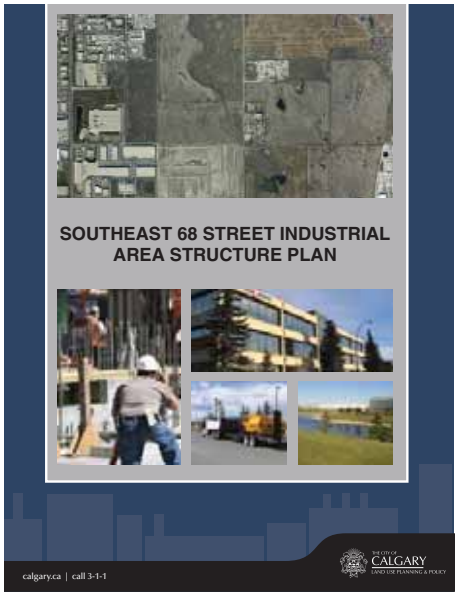
In order to implement more intensive use of existing industrial land, the report recommends The City of Calgary persue select redevelopment plans in three areas: Greenview, Highfield and Alyth/Bonnybrook. These ARPs are required to: protect stronger industrial areas from incompatible land use conversion; assess where conversion is appropriate; ameliorate land use conflicts; and, ensure proper circulation of development applications to all City Departments and affected agencies.

The SPC on Planning and Urban Development report (PUD 2013-0570) has summarized the results of the consulting report and LUPP has identified projects to incorporate into their work program.

2020 Sustainability Direction Annual Report (2012)

The report lists the 2020 corporate objectives and progress towards these goals since the original Sustainability report in 2010. The strategy promotes a 'Prosperous Economy' by arguing for "…supports [for] locally owned and operated businesses that re-invest back within the city". (pg. 6). Investing in locally "owned and grown" businesses brings many direct and in-direct benefits to the City. Supporting locally owned and grown industrial businesses also supports the 'Focus on Business and Enterprise' objective of the direction document to 'keep it local' where possible, and support the value chain of local jobs and local services directed to the needs of the local community (2020 Sustainability Direction, pg. 18). (The updated OLSH strategy to assist in the provision of raw serviced land for owner-occupied businesses fits well with this sustainability objective).

Investing in locally owned and grown businesses brings many direct and in-direct benefits to the City.



Southeast 68th Street Industrial ASP

This land use policy report identifies the area, also known as the Forest Lawn Creek area, as a potential site for eco-industrial development. Eco-industrial development is understood by the industry, generally, as the effort to redirect one industries waste (product/energy) that would have otherwise not been used as another industries supply stream. The range of anticipated benefits is broad (and identified here www.cardinalgroup.ca/cein/benefits.html). These benefits have been difficult to realize. A diverse range of unique conditions in each eco-industrial potential park development requires detailed specific local knowledge and participation of a range of competitors. Opportunities for eco-industrial development require extensive pre-work, consultation and trail and error. Some strides are being made in select areas with incentive programs for select businesses with unique operational characteristics. These opportunities are localized and industry specific and need to be identified, where possible, prior to business location or made by a large vertically integrated industrial corporation that can identify and internalize the costs and upstream and downstream benefits. The Ontario Bruce Energy Centre, in Tiverton Ontario, is one current example of an eco-industrial park. The park offers clean energy (waste heat from power plant energy production) to adjacent industrial users (http://www.bruce-eco.com/). Opportunities may exist for similar co-use of waste energy in the form of steam from local gas fired power plants to adjacent industrial users in the Balzac (Nexen/Calpine) and Shepard industrial areas (which lies west of the new Enmax gas plant). Burnside industrial park in Nova Scotia, a joint venture with Dalhousie University, is a second example. Product exchanges (reuse of packaging materials) and reuse, repair, recovery and remanufacture of used materials is practised by on-site companies. The Taiga Nova eco-industrial park in Alberta is built to provide more sustainable industrial sites adjacent to oil sands operations. The park is based on site engineering redesign that allows for district energy, enhanced stormwater management (swales vs. underground pipes) and redesigned roadway standards (www.ecoindustrial.ca).

Eco-industrial networking, on the other hand, offers more immediate benefits to a broad range of existing industrial businesses. Similar to business revitalization zones, eco-industrial networking provides members the opportunity to collaborate and share information with other local area industrial producers/suppliers for mutual benefit. Identification of new local suppliers or markets within the same industrial park location is one such benefit. Group purchasing of product, group delivery and bulk ordering are other advantages. Various consulting and marketing organizations offer assistance in setting up these types of organizational structures, including the Canadian Eco-Industrial Network (www.ecoindustrial.ca/what.html). Building concensus support and promoting the benefits of an eco-industrial Business Revitalization Zone should be tested.

Framework for Growth and Change

A three to five year serviced land target is being discussed with industrial and public representatives. In addition, the industrial inventory of serviced land includes city infrastructure for all five services: water, storm, sanitary, roads and fire. A three to five year target is useful to the industry and manageable for City infrastructure delivery and are the same targets set for residential land.

Additionally, ongoing work will be required to provide appraisal of the ranking of factors in the growth matrix, as they impact the ranking of industrial growth areas. It is being proposed, that a committee (including UDI, BOMA, NAIOP, and other industry members) be called on, as required, to provide review of current market trends and challenges in meeting serviced land supply targets by sector. The committee would also provide a market oriented review of the ranking of industrial development and redevelopment areas. The same committee could also provide advice of existing and future industrial growth policy. The committee could also provide updates on viable trends Calgary should be capitalizing on in industrial sub-markets (i.e. owner occupied smaller parcels, high-tech manufacturing and design, smaller scale distribution facilities, etc.) and how the industrial development of the region will impact local job markets and alter economic growth prospects for the City and region.

An industrial growth committee would provide an external voice for industrial land supply, servicing, advice and consultative review of current and future industrial growth policy.

What is growth management?

Growth management is the deliberate and integrated use of planning, regulatory and fiscal authority of local governments to influence the pattern & timing of growth and redevelopment in order to accommodate development that achieves broad public goals.

What is prioritization of growth?

Prioritization of growth is the systematic assessment of the various areas for potential growth on a city-wide basis. A system of prioritization allows The City to establish the sequence of City investments necessary to facilitate development and redevelopment, and accommodate growth within The City's funding constraints.

Having a system to prioritize where and when growth happens in Calgary means that communities across the city will have enough funding for immediate, future and ongoing infrastructure needs. This infrastructure includes water and sewer infrastructure, fire stations, sanitary collection system and transportation network.

Conclusions: An Overview of Industrial Policy Directions

INDUSTRIAL LAND SUPPLY

Targets for industrial land supply:

- A three to five year supply of industrial land is proposed through the *Growth Management Framework* process. This official policy direction provides concrete direction to the administration and helps to ensure sufficient industrial land is provided to the industrial market.
- The MDP sets targets for planned land supply (15 year target) and a 30 year target for all annexed lands (Section 5.2, page 5-5). Industrial targets will continue to be monitored by the Administration and reported on through ongoing work on land supply required in the *Growth Management Framework*. Recent work on refining these targets will provide context for further discussion of a more practical 15 year land supply target.
- OLSH endeavours to ensure that one year of serviced industrial land is available.

INDUSTRIAL AREAS

Industrial areas should be retained for industrial uses over the long term:

- The MDP provides a layered approach to guide future industrial growth. Standard and Greenfield industrial areas are to remain industrial with non-industrial uses prohibited, or at least strongly discouraged.
- Industrial intensive areas in proximity to the Primary Transit Network are to provide land for higher employment intensity industrial development (a minimum of 100 jobs/hectare).
- Thirdly, distribution/warehousing facilities are to be located within 1,600 metres of the Primary Goods Network (PGN).

SUSTAINABLE INDUSTRIAL DEVELOPMENT

Directions for sustainable industrial development:

- OLSH is determining the additional infrastructure requirements, park, reserve and eco-industrial market potential of the 68th Street Industrial ASP area. Opportunities for Eco-Industrial development and eco-industrial business associations or business revitalization zones should be investigated by the City. Informal networks exist for information sharing around the 'eco-industrial' topic (e.g. www.ecoindustrial.com) but assistance is required to generate broader business community interest, support and sustained benefits.
- Opportunities for more intensive industrial redevelopment are being investigated for select central industrial areas by LUPP. This work builds on the Central Industrial Area report prepared by Cushman/Wakefield (2012) and planning work is proceeding in these areas in the current and proposed LUPP work program.
-

INDUSTRIAL STAKEHOLDER INVOLVEMENT

Directions for Industrial Stakeholder Involvement:

- *Corporate Growth & Change Framework* stakeholder meetings with members from NAIOP, UDI, BOMA, Civic Camp, other urban interest groups, real estate professionals and land owners have benefited the Administration. Ongoing collaboration is required. Ongoing consultation will continue, in addition to meetings required for the *Growth Management Framework* to assist in:
  - Informing the Administration of trends and changes in industrial land use and land requirements;
  - Informing the Administration of specific bottlenecks and shortfalls in the delivery of serviced land, planned land and annexed land.
  - Informing the Administration of opportunities for joint participation in developing new lands and/or partnerships in developing more sustainable forms of industrial development.

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