



REPORT TO INFRASTRUCTURE, INVESTMENT AND DEVELOPMENT SERVICES COMMITTEE

TO:	INFRASTRUCTURE, INVESTMENT AND DEVELOPMENT SERVICES COMMITTEE
PREPARED BY AND KEY CONTACT:	J. NEWBURN, FACILITY CAPITAL PROJECT SUPERVISOR L. WORTON, MANAGER OF FACILITY PLANNING & DEVELOPMENT
SUBMITTED BY:	R. PEWS, P. ENG., DIRECTOR OF CORPORATE FACILITIES D. FRIARY, DIRECTOR OF ROADS, PARKS AND FLEET
GENERAL MANAGER APPROVAL:	D. MCALPINE, GENERAL MANAGER OF COMMUNITY & CORPORATE SERVICES D. FRIARY, ACTING GENERAL MANAGER OF INFRASTRUCTURE AND GROWTH MANAGEMENT
CHIEF ADMINISTRATIVE OFFICER APPROVAL:	M. PROWSE, CHIEF ADMINISTRATIVE OFFICER
DATE:	JUNE 18, 2018
SUBJECT:	SALEM SATELLITE OPERATIONS YARD & FERNDALE OPERATIONS YARD CONCEPTUALIZATION STUDY (P28/16 & P3/17)

RECOMMENDED MOTION

1. That the site location, program and facility concepts for the Salem Satellite Operations Yard, and the phased approach for immediate and future operational growth at the R.A. Archer Operations Centre as identified in the Report to IIDSC dated June 18, 2018, be endorsed in principal subject to future capital prioritization and approvals.
2. That the \$1.7M currently approved as design phase for renovations at the R.A. Archer Operations Centre within capital project #000282 (Operations Centre Renovations) be reallocated to construction phase, for immediate use to construct a salt-sand storage building at the R.A. Archer Centre totalling \$1.7M, allowing for the deferral of the larger redevelopment project to 2022 and 2023, subject to future capital prioritization.

PURPOSE & BACKGROUND

Report Overview

3. The purpose of this report is to provide Council with validated recommendations with respect to the location and size of lands required to accommodate the Salem Satellite Operations Yard, as well as a phasing strategy to address immediate and future operational growth at the existing R.A. Archer Operations Centre located on Ferndale Drive.



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4. In 2017, a conceptualization study was undertaken by Rebanks Pepper Littlewood Architects (RPLA) to develop a detailed functional program and concept design to ensure site fit at the recommended location. The proposed program and concepts will inform future decision making, planning, and design development of the Salem Satellite Operations Yard, and renovations to the existing Operations Centre.
5. The conceptualization study includes a site block plan, analysis of co-location opportunities on the Salem satellite yard site, a functional program analysis, a proposed concept for each facility, a Class D ($\pm 25\%$) cost estimate, a phasing strategy, and validation of timing based on the latest available growth information.

Background

6. On June 27, 2016, City Council adopted motion 16-G-165 regarding the Operations Master Plan as follows:

"That the Service Delivery Model #1 (Location B), as described in Staff Report FCT003-16 be adopted, and that this model be used as a basis to plan the delivery of Roads, Parks and Fleet operations with timing subject to future Capital Plans."

And,

"That staff be authorized to further investigate co-location opportunities and land acquisition costs for Service Delivery Model #1 (Location B), and report back to General Committee with a proposed strategy."
7. The Operations Master Plan identified the short term and long term growth needs of the R.A. Archer Operations Centre, and included GIS route times and operational analysis to improve functionality of service to the City of Barrie with the introduction of a Salem Satellite Operations yard facility.
8. The City of Barrie is expecting significant growth from its current population of 147,000 to an estimated 210,000 by 2031. Much of this growth will be located within the Hewitt and Salem development areas. The geographic area of the City has expanded from 77 sq. km to 100 sq. km with the annexation of 2,293 hectares in 2010. There are a total of 1500 lane road kilometres within the boundary of former Barrie today, and this number is expected to reach a total of 2,037 lane road kilometres by 2031.
9. The Roads, Parks and Fleet Department is currently located in a centralized Operations Centre located at 165 Ferndale Drive, in the northwest area of the City of Barrie. The existing site is comprised of an administrative building with an adjoining operations garage, adjacent to several storage buildings, varying in size and structure. The grounds include various outdoor storage areas utilized by different operations branches in addition to a snow storage and storm water pond.
10. The Ferndale facility was originally constructed in 1972. There have been a limited number of capital projects completed on the main administrative building through the years (roof replacement, electrical servicing and emergency structural repairs). The overall condition of the facility is rated as fair to poor, based on facility condition assessment data, and it will require significant improvements as many building components have reached or exceeded their useful life.

11. In addition there is significant discontinuity within the existing space, causing internal adjacency issues and a disproportionate allocation of interior spaces within each branch. Currently, the facility does not comply with AODA (Accessibility for Ontarians with Disabilities Act) and the internal reception is located on the second floor with stair access for staff and contractors. The Right of Way Permit counter is located on the first floor, with poor access and limited space to provide service to the public. Accommodating future growth at the facility is not possible without expansion and reorganization to achieve an optimized program of interior space and create more efficiency for future growth.
12. Due to the predicted increase in development at the south of the City (Salem & Hewitt Lands), it was found that the existing facility will suffer from capacity constraints, extended travel distance to service the new areas, as well as a series of other issues that will reduce its operational efficiency and hinder the City's ability to provide quality services to its residents.

Salem Site Location

13. Location B, as endorsed by Council in staff report FCT003-16 for the Operations Master Plan, was the site used in the conceptualization study as the preferred location for satellite operations yard, and a reference map of the City identifying this location has been attached to this staff report as Appendix "A".

Co-Location Opportunities

14. Staff were directed by Council to investigate co-location opportunities, and as a part of the conceptualization study for the Satellite Operations Yard, the consultant examined program sizes and test-fitted the suitability on the preferred site alongside the Roads, Parks & Fleet program. Parks operations, Roads operations, Snow Management and other support functions were included in this exercise.
15. Staff met with the Recreation, Environmental Services, and Barrie Fire & Emergency Services departments to seek their input on the potential co-location opportunity. As a result, facility programs were investigated and validated by the consultant during the conceptualization study.
16. Due to the forecasted timing of 2027 for the Salem Community Centre, the Recreation department has identified a need for recreation baseball diamonds in the Salem lands area, and the conceptualization study validated that the proposed location is able to accommodate this program size on the preferred site.
17. With the changes coming in the waste management legislation, the Barrie Sustainable Waste Strategy has identified that Environmental centre will be looking to set up a satellite waste transfer station to accommodate the City's future recycling, waste and organics capacity needs.
18. Area for the permanent Fire Station 5 is also identified in the Conceptualization Study. With the proposed development in the Salem area, the Barrie Fire & Emergency Services Master Plan identified the need for a station within the Salem lands, which is in close proximity to the proposed Satellite Operations Yard site. Currently Fire Station 5 is located in a leased facility. The decision to lease a facility was made prior to the finalization of growth plans, to avoid a substantial capital outlay in a location that may not be optimum for the community at full build out of the Salem area.



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Scope of Conceptualization Study

19. This study builds on Service Delivery Model #1 as described in the City of Barrie Roads, Parks & Fleet Operations Master Plan completed in May 2016. The Master Plan study was undertaken to determine if the Roads, Parks & Fleet Department's operations would benefit from a satellite location versus the current centre of operations located in the North West area of the City.
20. In addition to establishing goals regarding the function, performance, project schedule and budget of a satellite facility, the consultant considered the function and performance of the current Operations Centre at 165 Ferndale Road North to determine how operations at both sites might work together to best meet current and future needs.
21. The Salem Satellite Operations Yard Conceptualization Study examined several aspects of these future facilities through the following deliverables:
 - a. Collect, evaluate, and integrate input from various project stakeholders through discussions, meetings and focus groups.
 - b. To visualize and conceptualize a functional co-located site, facilities, siting adjacencies and spatial relationships and uses within the footprint.
 - c. Identify program needs and requirements.
 - d. Identify unique project and system performance requirements. Complete land validation in regards to size, location, and feasibility.
 - e. Establish initial project scope and priorities.
 - f. Identify key phasing requirements to increase capacity at the Ferndale site in parallel with the construction of the Salem site.
 - g. Develop a preliminary project schedule.
 - h. Confirm projected allowable costs, through a Class D ($\pm 25\%$) cost estimate, based on the elements outlined above.

ANALYSIS:

22. The following section of the report identifies the preferred site and ideal layout as a result of the study conducted by RPLA.

Salem Preferred Site - Characteristics & Fit

23. The property is currently zoned as General Industrial land and is removed from residential development, which is optimal for a potential Operations satellite yard. It is currently undeveloped, except for a few small structures in the southeast corner.
24. It is important that vehicle traffic to and from the schools stay removed from operational vehicle traffic on and around the site.

The proposed site (96 acres) would be divided roughly as follows:

- a. Area required for project components – **(46.8 acres)**
- b. Area of public roads within site boundary – **(5.0 acres)**
- c. Area of storm water management ponds within site boundary – **(9.4 acres)**
Total required area – **(61.2 acres)** unused area – **(34.8 acres)** of which **(23.6 acres)** is Natural Heritage System



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The roughly **(62 acres)** of programmed space as identified in Appendix "B", would be broken up as follows, if co-location is supported:

- a. Satellite Operations Yard – 54,810 m² **(13.5 acres)**
 - b. Environmental Transfer Station – 37,000 m² **(9.0 acres)**
 - c. Bulk Water Fill Station – 3,500 m² **(0.9 acres)**
 - d. Area for potential future expansion of the Satellite Operations Yard – 17,690 m² **(4.4 acres)**
 - e. Snow Management Facility – 28,800 m² **(7 acres)**
 - f. Sports Fields – 16,340 m² **(4.0 acres)**
 - g. Future fire hall or potential use for a third ball diamond until needed– 11,115 m² **(2.5 acres)**
25. During the study, RPLA also reviewed a 34 acre site currently owned by the MTO. City staff provided information that confirmed it is considered an active waste site. Because of the efforts and time needed to apply and receive an active Environmental Assessment on new lands for a transfer station, this was viewed as an important factor to consider test-fitting a site for this use.
26. Although this active Environmental Assessment is important and challenging to receive, the current approved residential development that plans to surround the site make it less attractive for City operations.

Salem Satellite Operations Yard

27. As proposed, the Salem Satellite Operations Yard will accommodate the local operations of the City of Barrie's Roads, Parks & Fleet Department in the Salem Lands. The Satellite Yard will primarily house/service staff from the Roads division.
28. With the planned growth in the Salem lands, roads operations is expecting a large increase in winter maintenance activities which include:
- | | |
|---|---------------------|
| a. 105,000 m ² additional snow | e. 72 crosswalks |
| b. 1,350 km new lane roads | f. 113 bus shelters |
| c. 570 km of sideways | g. 708 bus stops |
| d. 25 parking lots | |
29. Provisions will be made for Parks materials & equipment storage and compost production while Fleet will retain primary operations out of Ferndale, with only a satellite repair bay and one wash bay to service vehicles operating in the Salem Lands. All divisions will have access to Common Areas & Shared Amenities, admin space and equipment storage.
30. Roads operations projects the need for 25 city owned heavy vehicles to operate out of the Salem yard as well as 23 contracted winter maintenance vehicles.
31. A concept plan of the satellite yard is attached as Appendix "C", and would include a Roads garage with drive through capabilities that houses offices, common indoor areas and staff amenities at its west end, garage space for operational vehicle and equipment storage at its center, and wash and maintenance/repair bays.
32. The satellite yard would also include a large sand/salt storage building for winter maintenance activities, covered storage for Parks materials and equipment as well as some covered for compost and aggregates.

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33. There is also allocation for waste transfer bins, a soil/decanting facility and an outdoor wash bay on the west side with a salt, sand & brine storage building and a Bulk Water Fill Station with separate operational access from the Yard. Vehicle circulation has been accounted for within the Yard, to allow for adequate separation of staff/public and operational traffic as well as counterclockwise movement for large vehicles.
 34. With the projected growth in the Salem & Hewitt lands, winter maintenance operations can expect to have to remove and excess of approximately 13,500 square metres of snow from new lanes ways, bus shelters and parking lots in the south end. To meet service delivery and environmental requirements, this will require the snow to be trucked and stored somewhere.
 35. The proposed satellite yard site concept has allocated a snow management facility, which consists of an outdoor pad and melt pond where snow can be collected, stored and disposed of in an efficient and environmentally responsible manner.
 36. Engineering, Traffic services and Greenhouse operations would remain at the R.A. Archer Operation Centre. Administration support would also remain at Ferndale.

Opportunities for Co-location – Recreation & BFES

37. The growth update completed in 2017 for the Recreation Master Plan has identified a shortage of recreation fields and a demand in programming, specifically for baseball diamonds, in the south lands of the City.
38. In a test-fit concept for the preferred Location B, RPLA were able to validate that two baseball diamonds, ancillary storage for users, and associated parking for attendees has been factored into the size allocation of approximately 4.0 acres.
39. A test-fit of Fire Station 5 was also included in RPLA's study, including for a drive-through bay configuration, as well as staff/public access and parking that is separate from fire vehicle access and parking.
40. Should the Fire Station 5 facility be deferred due to a favourable extension of the current leased space which minimizes capital costs, then the allocation for this program at Location B could double as a third sports field or potential training location until the site is required for the permanent Fire Station 5.

Opportunities for Co-location – Environmental Transfer Station (ETS)

41. To service the Salem & Hewitt lands, and support the operations of the City of Barrie's Environmental Services department at the Barrie Landfill & Environmental Centre at 272 Ferndale Drive North, a proposed Environmental Transfer Station (ETS) at Salem would accept recyclable materials, non-recyclable materials and household hazardous waste. Organic waste and landfill items would not be accepted and would be diverted to the Barrie Landfill & Environmental Centre.
42. The Environmental Centre receives an average of 6,800 loads per month from its residential and ICI sectors at the landfill site in 2017 and with an expected 30% percent increase in population by 2031, the city should expect the same 30% increase in receivables at the Environmental Transfer Station.

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43. The proposed ETS provides for three separate streams of circulation: operational, public-general and public-household hazardous waste.
 44. The separation of the two public streams is intended to streamline the waste transfer process and reduce wait times. Even so, a queueing area designed to accommodate several hundred cars – as shown along the far eastern edge of the ETS – is required and dedicated queueing/access lanes along the proposed road should be considered.
 45. In a test-fit concept for the preferred Location B, RPLA benchmarked other municipalities with similar sized service facilities, and were able to validate that an Environmental Transfer Station site would fit as a co-located element in the future with a site area of approximately 9.0 acres.

Phasing Strategy

Overall Approach – R.A. Archer Operations Centre is Priority

46. The Operations Centre at 165 Ferndale Drive North was originally built in the 1972 requires expansion and renovation in order to meet the current and future needs of the City of Barrie's Roads, Parks and Fleet Department as they serve a growing population.
47. RPLA have reviewed the priority and potential phasing of both R. A. Archer Operations Centre and the Satellite Operations Yard projects, and recommend that a reconfiguration of the site at Ferndale and renovations of the facility take place first. This will accommodate capacity needs and coming stresses that will be put on the Roads, Parks and Fleet group as the City ramps up development in the Salem & Hewitt lands.
48. This strategy would also provide opportunity to extend out the requirement to break ground in the Salem lands with a new Satellite yard, which would ease capital expenditure pressures until such time as it is affordable without relying on debt.
49. The existing site at Ferndale is comprised of an administrative building with an adjoining operations garage, adjacent to several storage buildings, varying in size and structure. The grounds include various outdoor storage areas utilized by different departments in addition to a snow storage area and melt water pond.
50. There are deficiencies and current capacity constraints on the Operations Centre building. Some of this issues include: lack of sand/salt storage, Fleet storage, internal adjacency issues, poor space sizing for staff and lack of accessibility as per the AODA standards – and many of the spaces are either undersized or oversized for their current occupancy.
51. Overall, the current layout does not support user's needs; a physical reorganization on both levels would help to create more efficiencies. Furthermore, accommodating future growth is not possible without expansion and reorganization.
52. The Operations Centre site also falls short of meeting current needs, particularly with regards to allowing for safe and efficient vehicle circulation. The current facilities also does not meet many of the accessibility needs with no elevator to the second floor where public reception is located or egresses into the building. Much of the mechanical and electrical infrastructure in the building was never intended to service the amount of staff and the size of operation that Ferndale has become.

Phase-by-Phase Approach

53. Subject to city-wide capital prioritization, as outlined in phasing of Appendices "D", "E", and costing summary of Appendix "F", the following phasing strategy identifies a sequence of activities at Ferndale (and has validated that all phases of the project are possible within the current approved forecast for project #000282) to improve efficiencies and condition of facility assets:
- a. **Phase One** is recommended to commence immediately in 2018 under the approved budgeted project #000282 Ferndale Operations Centre Renovations, and would include the replacement of a much deteriorated sand & salt dome with a new Sand/Salt storage building at the Ferndale Operations Yard, to provide adequate storage area available for salt, sand & brine as well as for vehicles and equipment that require out-of-weather storage.
 - b. **Phase Two** is recommended to follow in 2019, budgeted at \$250,000 and would include site reconfigurations and pavement installations to improve vehicle circulation on the site and relocation of outdoor storage.
 - c. **Phase Three** is recommended to follow with design in 2019 and construction in 2020, budgeted at \$2M, to replace the existing greenhouse facility on the site. The condition of the current greenhouse at Ferndale has many building system components close to failure, with significant capital maintenance required immediately. Also, with a constraint in current and future capacity, the intended strategy would be to allow for current greenhouse operations to continue while the new one is being constructed.
 - d. **Phases Four to Six** recommends the design and construction of a new administrative office block with a greenhouse link, budgeted at \$15M. The new office and amenities block would be constructed between the current administrative wing of the Operations Centre and the new greenhouses.
54. The proposed building expansion will provide:
- a. A replacement of greenhouse space
 - b. A new administrative facility
 - c. Revitalized and upgraded vehicle bay space
 - d. Improved overall efficiency and quality of work space
 - e. Improved flexibility of use, allowing for greater viability as needs change
 - f. Inclusion of an elevator and barrier-free access for accessibility

ENVIRONMENTAL MATTERS

55. The following environmental matters have been considered in the development of the recommendation:
- a. The site is largely surrounded by a Natural Heritage System of lands and about 20 acres wooded NHS lands. Bear Creek and adjacent NHS watercourse setback overlap the property at the south west corner.
 - b. The location of environmentally protected NHS lands on and around the site will affect future development, as development abutting the Natural Heritage System must be sensitive to impacts on the surrounding natural systems.

- c. Factors that impact storm water management, such as the design of impervious surfaces, are of particular concern. The proximity of EP lands to the site will also regulate the amount of development that can occur adjacent in future.

ALTERNATIVES

56. The following alternatives are available for consideration by General Committee:

Alternative #1

Do nothing: The Committee could choose to receive this report and take no further action.

This alternative is not recommended. Not addressing the deterioration of the R.A. Archer Operations Centre and future growth needs of Roads, Parks & Fleet would leave staff, residents, and the development community with uncertainty with respect to the timing, location of facilities and associated land requirements. It would also not provide open space for Recreation to program, and would require that another property be purchased for BFES.

Alternative #2

Alternate Site: The Committee could recommend that staff pursue the alternate site identified within the analysis section of the staff report.

This alternative is not recommended, as there are synergies and economies of scale realized when choosing the preferred site, as the opportunity for co-locating the other facility programs would not be possible on the alternative site due to size constraints. If the programs are separated, there would be a potential increase in overall project costs as well.

FINANCIAL

57. Project #000282 (Ferndale Operations Centre Building Renovation) and project #000283 (Operations Satellite Yard New Development) excluding land costs, are currently included as forecasts within the 10 year Capital Plan, and have been funded as per the current Development Charge Background Study. This conceptualization study will form the basis of updates to the 2019 DC background study.
58. Project #000284 (Municipal Co-Located Campus Site Development) identifies the land purchase for the satellite yard and co-located facilities, however due to priority works at Ferndale which will optimize interim growth, the forecasted start date of this project will be adjusted as part of the 2019 capital planning process.
59. Appendix "F" includes a table outlining the Class D (=/- 25%) estimate provided by RPLA for the Satellite Operations Yard project. Though the updated estimate indicates an increase from the Master Plan it is still generally in line with the program and is an order of magnitude estimate at this time. The budget will not be adjusted in the City's forecast. With the recommended deferral in start of development at the satellite facility due to priority capital improvements at R.A. Operations Centre, this number will be refined to meet the forecasted budget through the capital budget process closer to the project start date.



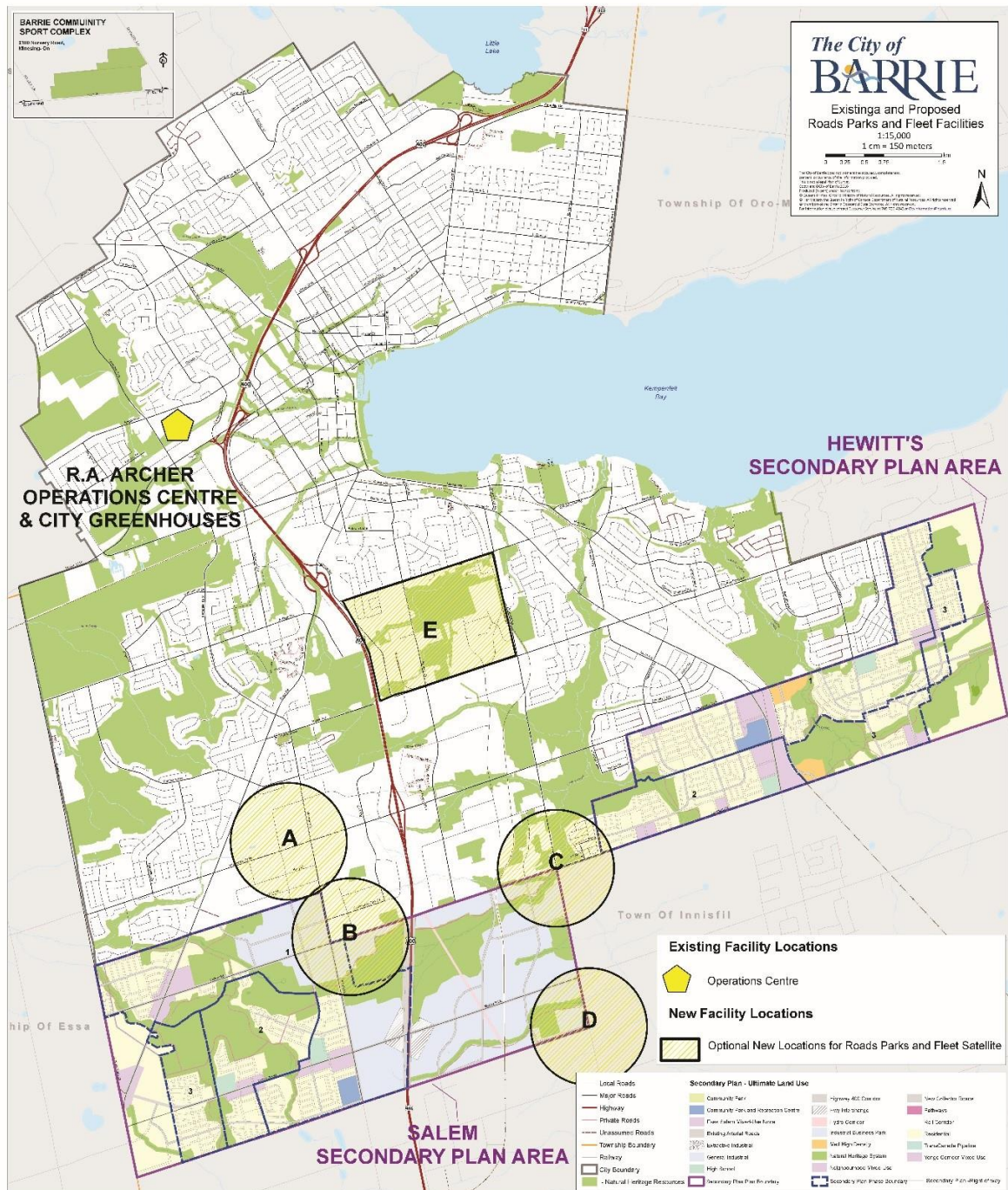
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LINKAGE TO 2014-2018 STRATEGIC PLAN

60. The recommendation included in this Staff Report support the following goals identified in the 2014-2018 Strategic Plan:
- ☒ Inclusive Community
 - ☒ Responsible Spending
61. The co-located components collectively support both the Inclusive Community and the Responsible Spending goals, through an efficient and accessible co-located facility that will provide multiple City services, through a cost effective development which avoids duplication of costs if built separately as standalone sites.

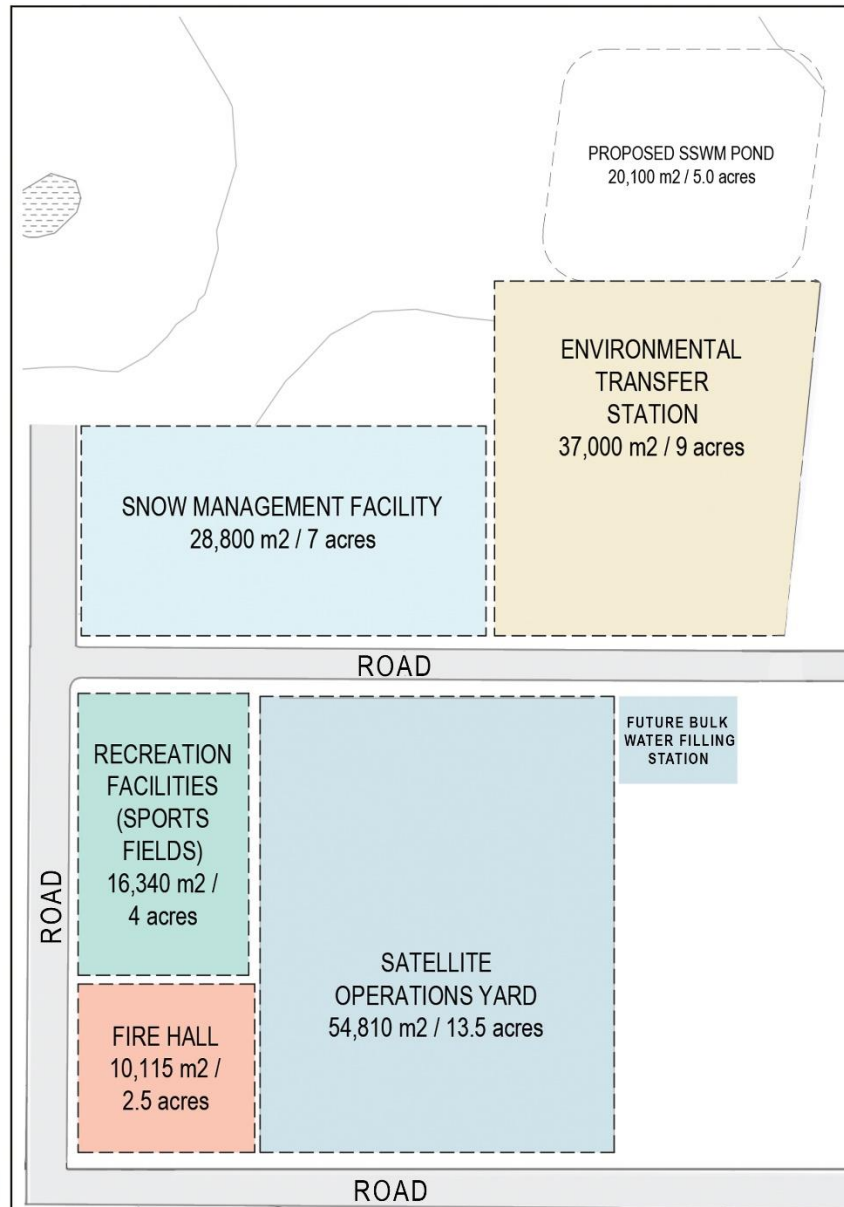
APPENDIX "A"

Preferred Satellite Yard Location "B" from 2016 Operations Master Plan



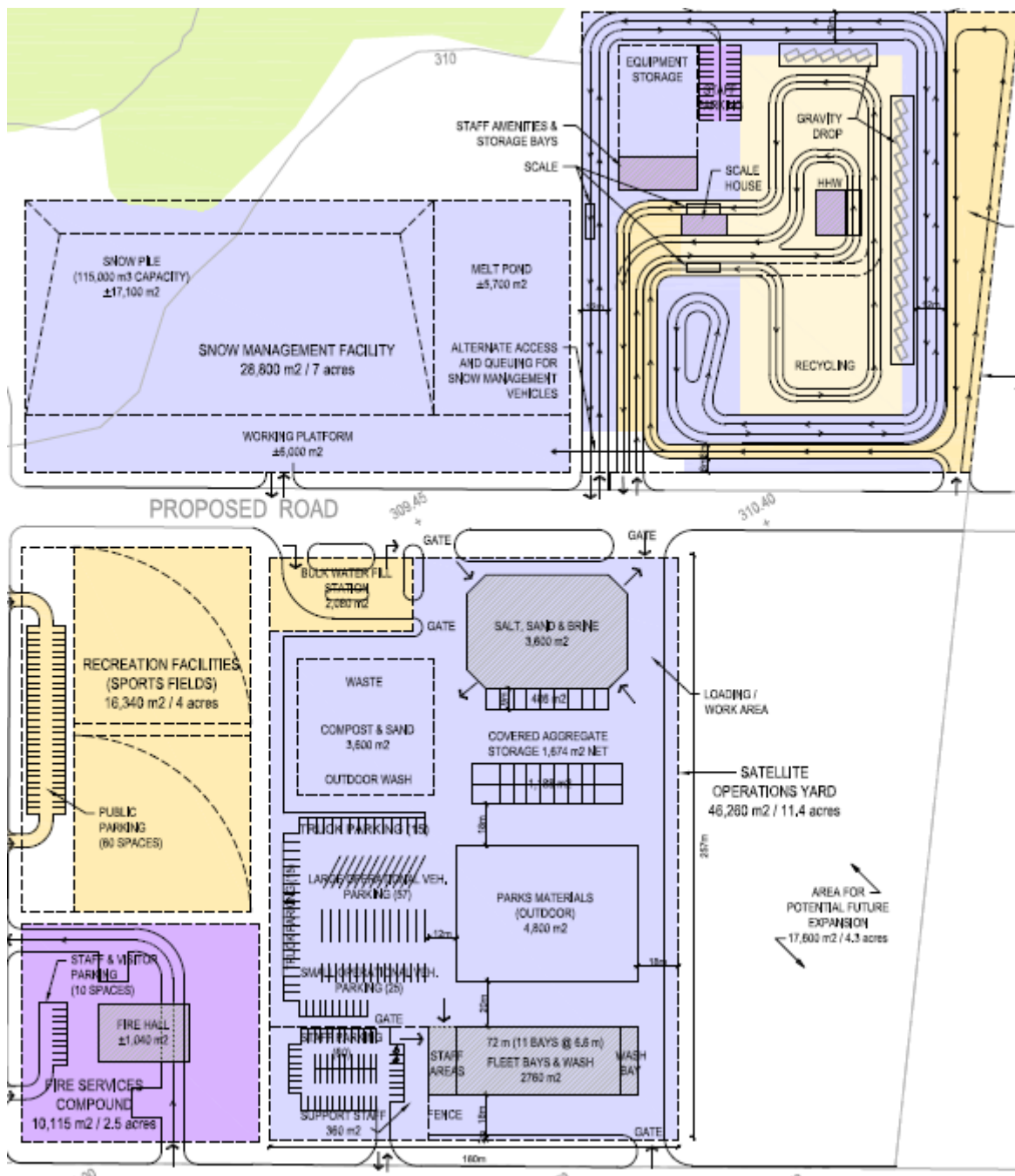
APPENDIX "B"

Co-Located Site Concept



APPENDIX "C"

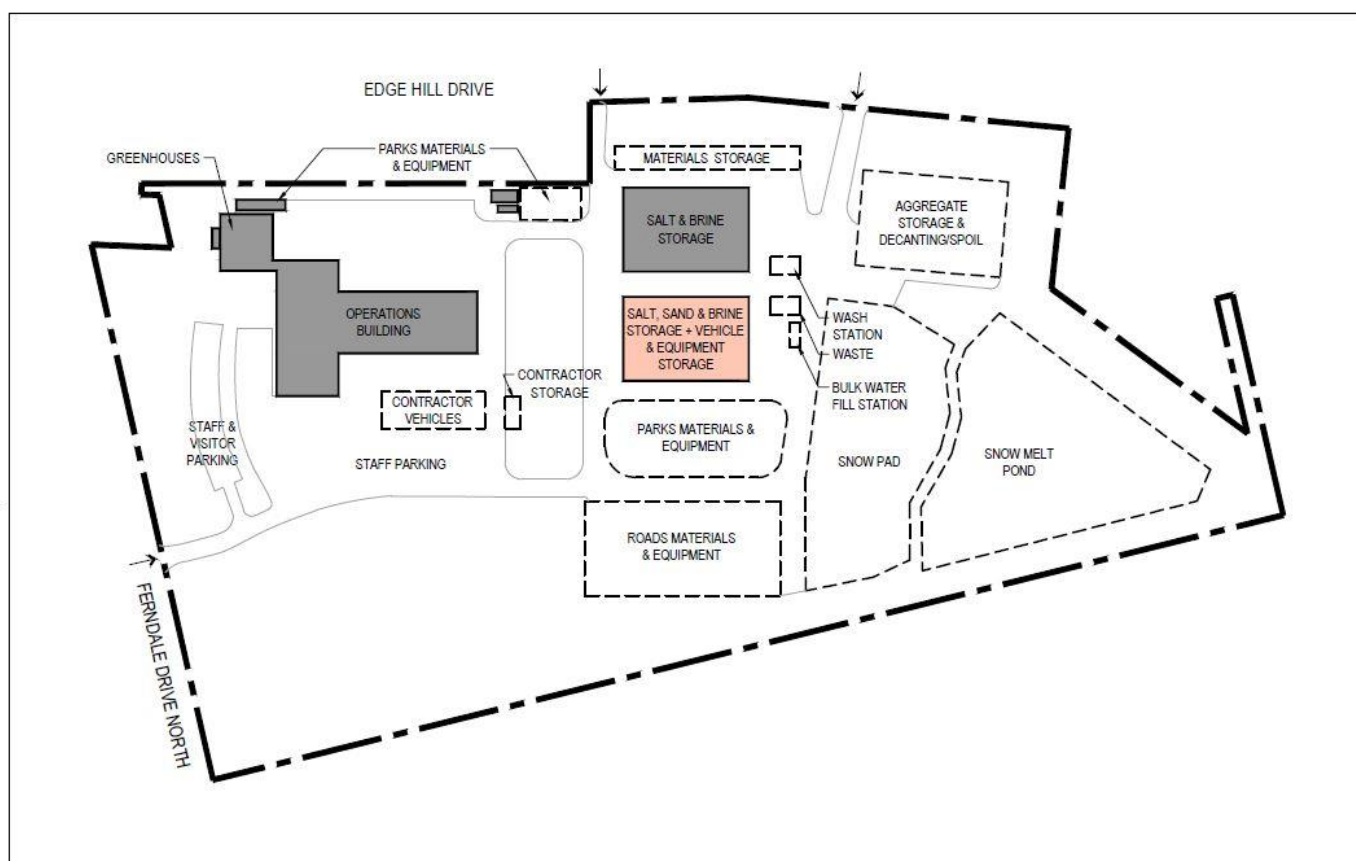
Satellite Operations Yard Site Concept






APPENDIX "D"

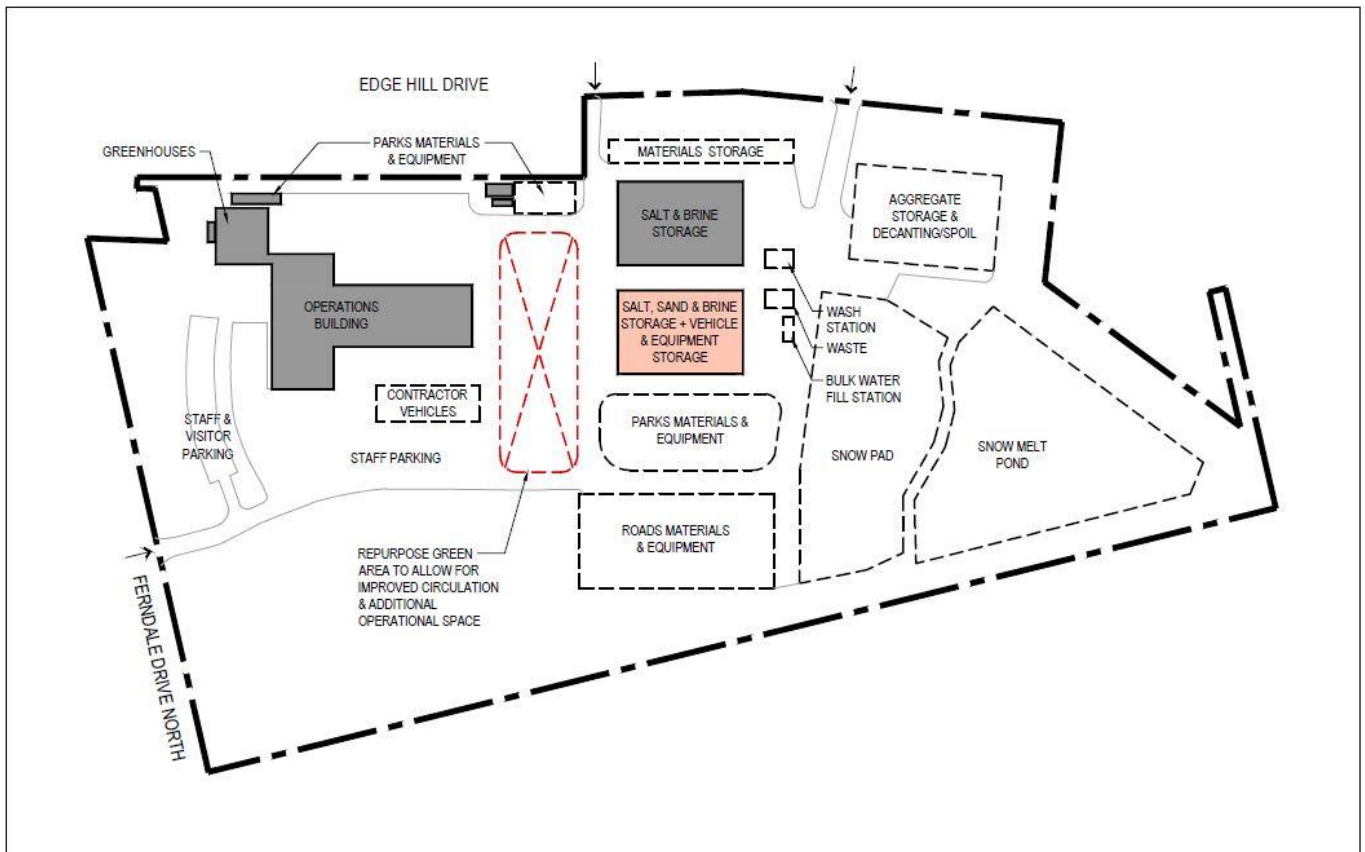
Ferndale Operations Centre – Site Phasing Plan




PHASE ONE – DEMOLISH + REPLACE EXISTING SALT / SAND DOME



LEGEND	
	EXISTING BUILDING TO REMAIN
	EXISTING BUILDING TO BE REMOVED
	NEW CONSTRUCTION

PHASE TWO – SITE RECONFIGURATIONS TO IMPROVE CIRCULATION

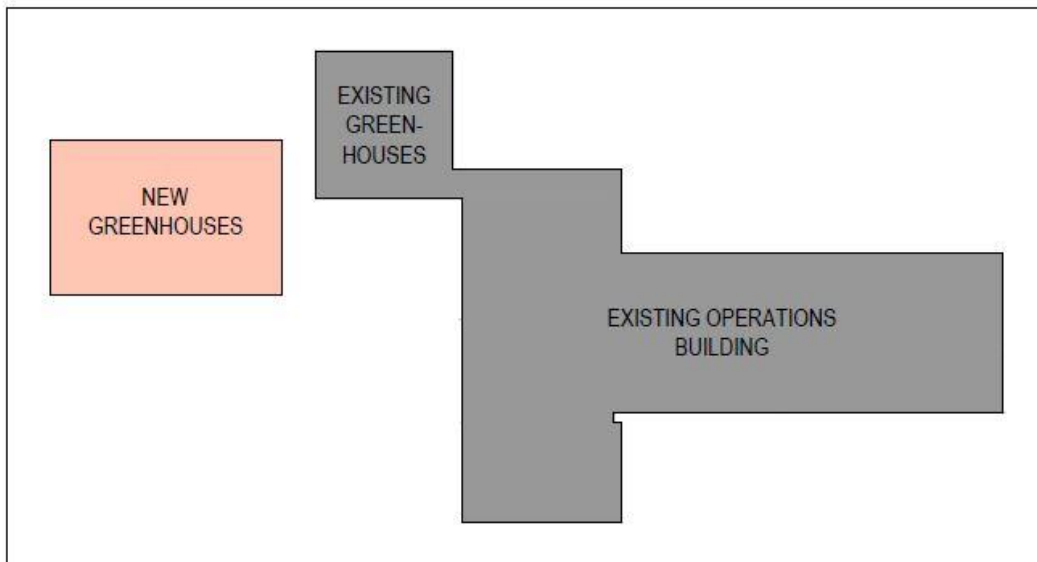


LEGEND	
	EXISTING BUILDING TO REMAIN
	EXISTING BUILDING TO BE REMOVED
	NEW CONSTRUCTION

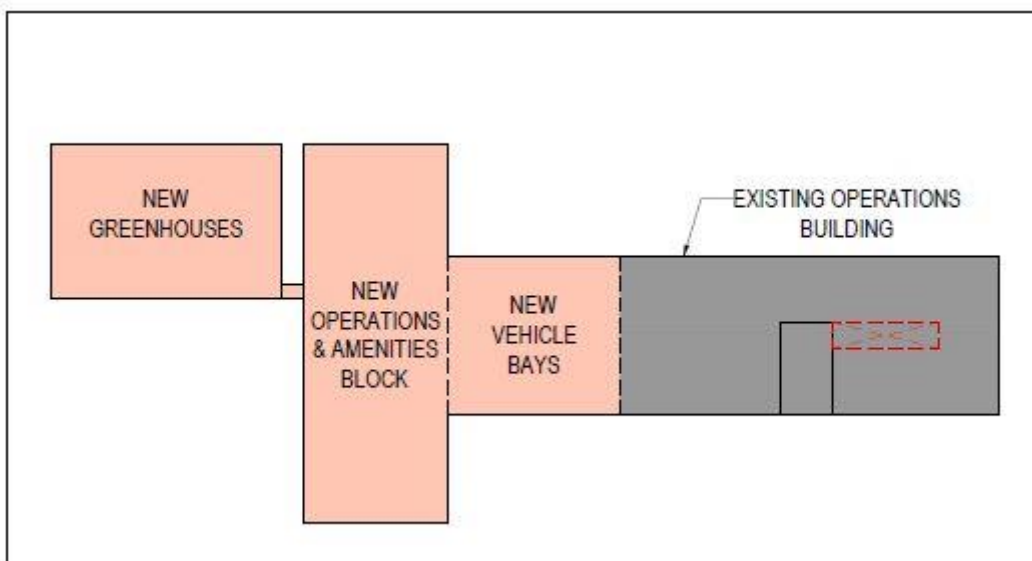
APPENDIX E

Ferndale Operations Centre – Building Phasing Plan

PHASE THREE – BUILD NEW GREENHOUSE THEN DEMOLISH EXISTING



PHASE FOUR – ADMIN BUILDING ADDITION & VEHICLE BAY RENOVATION





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APPENDIX "F"

Class "D" Budget Estimate Summary +/- 25%

1.

2. Satellite Operations Centre

BUILDINGS & STRUCTURES			Sqm GFA	Sf GFA	Unit Cost	Est. Cost	
1	Admin & Support Spaces	240 + 60 sqm net	400	4,300	\$215	\$900,000	Conditioned space
2	Fleet Building	7 bays 6.6m x 30m, wash bay, tools	2,000	21,600	\$185	\$4,000,000	Partly-conditioned
3	Aggregate Storage	Roof only, no sides	1,700	18,300	\$60	\$1,100,000	Roof over bins
4	Salt/sand	Pre-fab with pressure wall base	2,000	21,600	\$100	\$2,200,000	
5	Subtotal - Buildings		6,100	65,800		\$8,200,000	
PAVED & LANDSCAPED AREAS							
6	Outdoor storage	Parks materials	4,800	52,000	\$8	\$400,000	
7	Operational vehicles	Total 82 vehicles	5,600	60,000	\$15	\$900,000	
8	Other areas	Waste, compost, outdoor wash, etc	3,600	39,000	\$8	\$300,000	
9	Staff parking	60 vehicles	1,600	17,000	\$12	\$200,000	
10	Driveways & circulation		11,000	119,000	\$15	\$1,800,000	
11	Water dispensing		2,100	23,000	\$15	\$300,000	Could be deferred
12	Soft landscaping	(incl. snow storage, SWM)	9,000	97,000	\$10	\$1,000,000	
13	Undeveloped		3,000	32,000	\$2	\$100,000	
Subtotal - Paved & Landscaped			40,700	439,000	\$11	\$5,000,000	
Site Total Area			46,800			\$13,200,000	
			11.6	Acres			