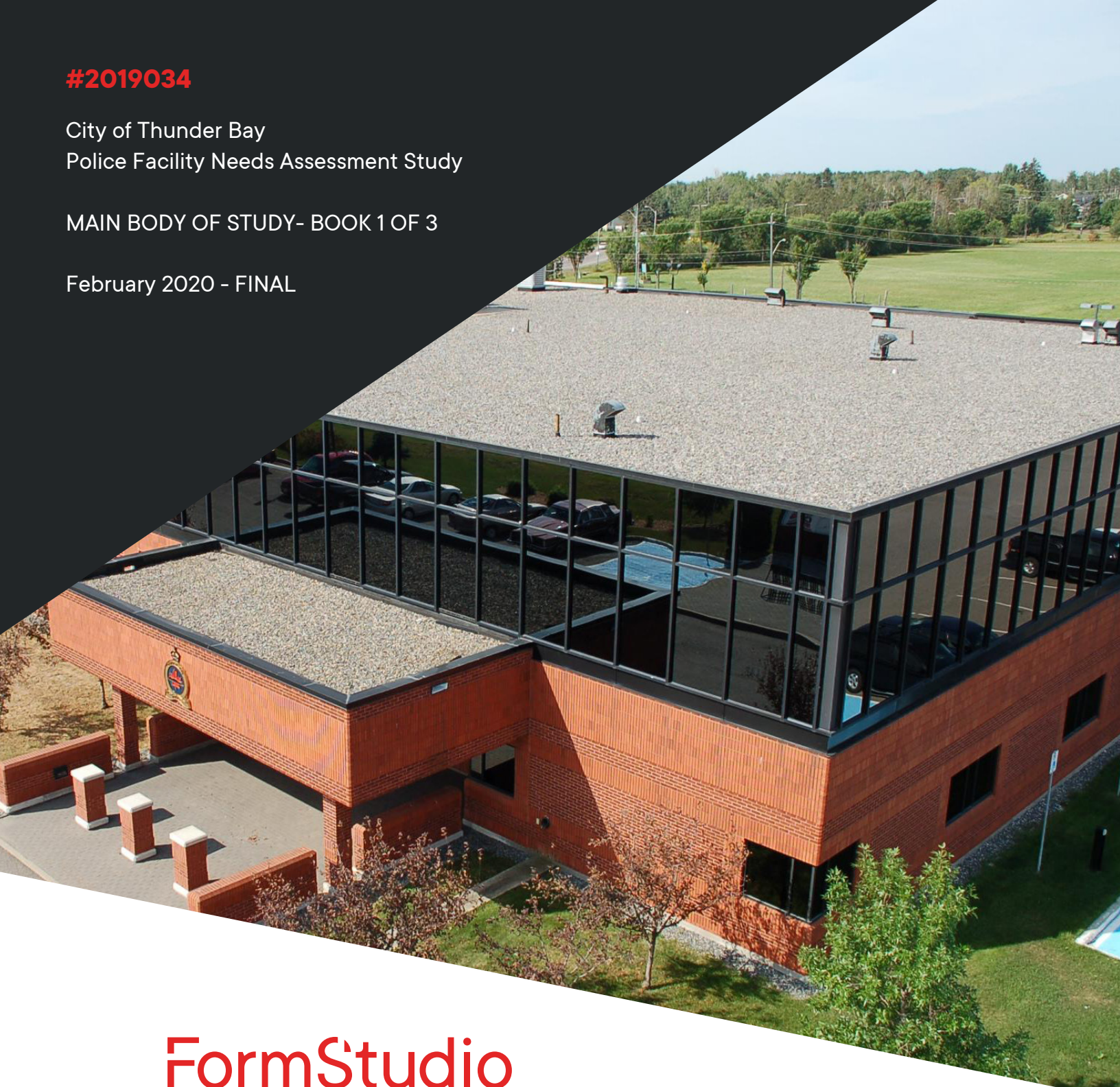


#2019034

City of Thunder Bay
Police Facility Needs Assessment Study

MAIN BODY OF STUDY- BOOK 1 OF 3

February 2020 - FINAL



FormStudio Architects

Prepared for:



TABLE OF CONTENTS

	PAGES
TABLE OF CONTENTS	1-4
Executive Summary.....	5
1 PART 1 - INTRODUCTION	8-10
1.1 Project Team.....	8
1.2 Project Outline.....	8
1.3 Goals and Vision.....	10
1.4 Facility Options Under Review	10
2 PART 2 – BACKGROUND INFORMATION & ANALYSIS.....	11-25
2.1 Inventory of Existing Facility Functions.....	11
2.2 Methodology.....	11
2.3 Codes, Standards and Guidelines.....	11
2.4 Analysis.....	12
2.4.1 Balmoral Street Building Condition Assessment.....	12
2.4.1.1 Overview and Methodology.....	12
2.4.2 Existing Building - Code and Regulatory Compliance	13
2.4.2.1 Ontario Building Code Compliance	13
2.4.2.2 Ontario Building Code Post Disaster Compliance.....	13
2.4.2.3 Detention Area Compliance	12
2.4.3 Facility Location & Travel Time	13
2.4.3.1 Methodology.....	13
2.4.3.2 Illustration of Travel Time	14
Central Site	15
South Core Site	16
2.4.4 Inventory of non-TBPS required destinations.....	17
2.4.4.1 Methodology	17
2.4.4.2 Data	17
2.4.4.3 Analysis.....	17
2.4.5 Staffing Requirements	19
2.4.5.1 Methodology	19
2.4.5.2 Data.....	19
2.4.5.3 Analysis.....	19
2.5 Public Engagement Session	22
2.5.1 Methodology.....	22
2.5.2 Engagement Sessions.....	23

2.5.3 Get Involved Website.....	24
2.5.4 Summary.....	25
3 PART 3 –SPACE PLANNING	26-53
3.1 General / Methodology / Area Definitions.....	26
3.2 Codes, Standards, Agencies and Guidelines	26
3.3 Functional Program.....	27
3.3.1 TBPS Organizational Chart	28
3.3.2 Functional Program Summary Chart.....	30
3.4 Blocking & Stacking Descriptions & Construction Phasing Breakdown	31
DD.06 Option 1 Reno /Add - layout.....	34
DD.07 Option 1 anticipated construction phasing plan.....	35
DD.08 Option 2 New Facility – typical layout.....	36
3.5 General Planning and Design Elements	37
3.5.1 General Design.....	37
3.5.2 Functional Performance.....	37
3.5.3 Physical Performance	37
3.5.4 Environmental Performance	37
3.5.5 Flexibility, Adaptability & Expandability.....	37
3.5.6 Functional Narratives of Operational Areas.....	38
3.5.7 Site Design.....	38
3.5.8 Vehicular Access.....	38
3.5.9 Parking.....	38
3.6 Candidate Sites.....	Appendix E
3.6.1 Methodology / Criteria.....	Appendix E
3.7 Site Longlist	Appendix E
3.8 Site Shortlist	Appendix E
3.8.1 Shortlist	Appendix E
3.8.2 Description of Candidate Site Criteria	Appendix E
3.8.3 Summary and Ranking.....	Appendix E
3.8.4 Candidate Site Evaluation Matrices.....	Appendix E
3.9 Candidate Site Blocking and Stacking Test Fits.....	Appendix E
Candidate Site Conclusions	Appendix E
4 PART 4 - COST	40-43
4.1 General/ Methodology	40
4.2 Construction Cost Comparison.....	40

4.3 Firing Range	41
4.4 Forensic Identification Unit.....	41
4.5 Summary of Estimated Project Costs.....	41
4.5.1 Cost Summary Table.....	42
5 PART 5 – FINANCIAL ANALYSIS	44-61
1.1 Introduction	44
1.2 Procurement and Scheduling Assumptions.....	44
1.3 Risk Assessment and Escalation.....	44
1.4 Sources of Information.....	45
1.5 Market Conditions	45
1.6 Limitation of Scope	45
2. Business Case Analysis (Evaluation) Process	45
3. Business Case – Facility Alternatives (Options).....	46
3.1 Options Overview.....	46
3.2 Description of Options.....	46
3.2.1 Base Case - Current Facility with Renovations (Repairs and Maintenance).....	47
3.2.2 Option 1 – Addition / Renovation to Existing Building on the Existing Site.....	47
3.2.3 Option 2 – New Facility Constructed on a New Site	47
3.3 Other Option Considerations.....	48
3.3.1 Off-site Shooting Range.....	48
3.3.2 Space Allocation for each Option.....	48
4. Financial Assessment of Options	48
4.1 Key Financial Assumptions.....	49
4.2 Capital Costs.....	50
4.2.1 Base Case – Current Facility with Renovations (Repairs and Maintenance)	50
4.2.2 Option 1 - Addition / Renovation to Existing Building on the Existing Site	51
4.2.3 Option 2 – New Facility Constructed on a New Site	52
4.3 Facility Operating Costs Analysis.....	53
4.3.1 Current and Projected Police Facility Annual Operating Costs	53
4.4 Capital Renewal - Facility Repairs and Maintenance Costs	54
4.5 Net Present Value Analysis.....	54
5. Evaluation of Facility Options.....	55
5.1 Option Comparison.....	55
5.1.1 Base Case – Current Facility (Repairs and Maintenance Only).....	55
5.1.2 Option 1: Addition / Renovation to Existing Building on the Existing Site.....	56
5.1.3 Option 2: New Facility Constructed on a New Site	56
5.2 Evaluation Matrix.....	58
5.2.1 Methodology and Purpose of the Evaluation Criteria.....	58
5.2.2 Determination of the Evaluation Criteria.....	58

5.2.3	Weighting and Scoring of the Evaluation Criteria	58
5.3	Scoring of Alternatives.....	59
5.4	Business Case Summary	59
6.	Business Case Conclusion	60
7.	Appendices - Documents List & Net Present Value Analysis worksheets	refer to Appendix G
6	PART 6 – CONCLUSIONS	62-63
6.1	Facility Needs Assessment Study Conclusions.....	62
7	PART 7 - APPENDICES	BOUND SEPARATELY AS BOOK 3 OF 3
	APPENDIX A	
	Building Condition Report	
	APPENDIX B	
	Staff & Space Summary	
	APPENDIX C	
	Public Engagement Session - Scan of ballot box comments	
	City of Thunder Bay Corporate Communications – Get Involved Website Survey Report	
	APPENDIX D	
	Functional Program	
	Functional Program Narratives	
	Tables Illustrating Unit Locations	
	APPENDIX F	
	Class D Construction Estimates	
	APPENDIX G	
	MNP – Documentation List and Net Present Value Analysis worksheets	
	APPENDIX E - CONFIDENTIAL	
	Candidate Sites	BOUND SEPARATELY AS BOOK 2 OF 3

EXECUTIVE SUMMARY

This report was prepared to assist the City of Thunder Bay in its ongoing process of reviewing options for upgrading and/ or replacement of the existing Thunder Bay Police Services (TBPS) Facility on Balmoral Street.

This report considers the specific context of the existing facility on the centrally located Balmoral Street site. It incorporates operational information gathered from the TBPS, data from the review of the existing building, and direction received from the City of Thunder Bay Asset Management Division and the TBPS Steering Committee in order to establish a base case and two potential courses of action for the future of the facility. These two courses of action were then reviewed relative to the base case and compared with each other to evaluate potential costs and operational efficiency. A financial, business case analysis was completed in order to provide summary recommendations to assist with the City of Thunder Bay's capital projects decision-making process.

Existing Facility Condition Assessment and Upgrading Recommendations

On-site review with visual assessment and non-destructive investigation carried out by Architectural, Mechanical and Electrical consultants found that many building systems and components in the existing facility have reached end of life condition. Detailed recommendations for required capital improvements and building code upgrading, complete with class D level probable cost estimates, are included in the Building Condition Report in Appendix A. The Building Condition Report considers only required repairs, replacement and upgrading for Ontario Building Code Compliance of the existing building in order to create a baseline for costs. It was determined that the Base Case alone will not support current and future TBPS operational needs.

A summary of the minimum capital improvements recommended resulted in an estimate of probable Project Costs (Construction Hard Costs and Project Related Soft Costs) of approximately \$10.06 million.

Operational Needs Assessment and Functional Space Program

Consultants conducted in depth departmental reviews including inventories of non-departmental destinations in order to gain an understanding of the operational needs of the TBPS. Current staff allocations (sworn and non-sworn staff) were assessed relative to current needs and potential, new policing initiatives that may occur over the next 20 -25 years. Future growth was based on trends in policing across the country as opposed to changes in population.

This analysis determined that the program area available in the existing building of 5,984m² (64,385 sf) was insufficient to support current operational requirements. The development of the detailed functional program, broken down by department and staff, concluded that the existing building would require extension by an additional area of 6,221m² (66,935sf) combined with a substantial interior reorganization in order to adequately support TBPS operations, now and into the future. It was further concluded that the construction of a new facility with a total area of 10,703m² (115,161 sf) would best support the most efficient and effective operation of the TBPS.

Base Case – Existing Facility with Required Repairs and Maintenance

This base line option considers the scope of work needed to complete the capital upgrading required to maintain and upgrade the current state of operations at the facility now and twenty-five years into the future. This scope of work is considered the base line and is presented as a basis for understanding Options 1 and 2 and is not a viable course of action on its own. Even with the recommended capital improvements, a functionally unchanged facility will no longer support efficient and effective policing activities to current required standards and best practices and does not have the capability to accommodate the growth of the police services projected for the future.

Option 1 – Renovation & Addition to the Existing Facility

The first option considers the impacts of maintaining police operations during an extensive renovation and addition to the facility and site on Balmoral Street. This report illustrates that attempts to transform the existing facility into a state-of-the-art modern policing facility, while achieving improvements, will not do so without sacrificing operational efficiencies and energy efficiency targets, and will result in increased construction project costs and higher facility operating costs compared to a greenfield new-build. As well, during the extended, phased construction activities required for this option, the potential for risks to evidence storage and to staff and public safety during construction were also raised as significant concerns with this option.

Option 2 – New Building on a New Site

The second option considers the construction of a completely new facility on a new site at three potential locations. This report shows that this option has the potential to provide the most efficient and operationally desirable building layout of the two options under consideration. When compared with Option 1, construction project costs were determined to be lower (using place-marker land procurement cost).

COST SUMMARY			
	BASE CASE	OPTION 1	OPTION 2
TOTAL PROJECT COSTS	\$10,061,190	63,788,684	\$52,150,084

Site Location Options Analysis

For the new-build option (Option 2), a long list of fourteen possible site locations were identified and evaluated at a high level. From this long list, three potentially viable site location options were more thoroughly assessed using weighted criteria approved by the TBPS Steering Committee. The criteria considered the potential impacts of the proposed locations on the broad community context, both positive and negative.

Refer to Confidential Appendix E for location analysis.

A generic “New Site” was used in Option 2 for comparison with Option 1 in the financial analysis. It was determined that Option 2 ranked the highest in ability to satisfy the evaluation criteria of Construction Costs/ Cost Benefit, Operating and Facility Costs, Schedule, and Operational Continuity During Construction.

FINANCIAL EVALUATION MATRIX			
	BASE CASE	OPTION 1	OPTION 2
PERCENTAGE OF MAXIMUM SCORE	not applicable	53%	100%

Conclusion

Option 2, which proposes a new police services building on a new site, has been shown in this study to provide a future proofed, operationally optimized facility for the police service that reflects the most beneficial short and longer term financial analysis and is the option that best supports the City’s drive towards sustainability targets.

PART 1 - INTRODUCTION

1.1 Project Team

Steering and Review for this Study:

- Thunder Bay Police Services (TBPS)
- Indigenous Relations and Inclusion Unit
- Thunder Bay Police Services Board

- City of Thunder Bay City Council
- City of Thunder Bay Asset Management Division, Community Services Department

Consultants who prepared this Study:

- Form Studio Architects Inc.
- RPL Architects Inc.
- Cuthbertson Engineering
- AG Engineering
- MNP Financial Consulting
- PQS Postma Quantity Surveying

Constituencies recommended for additional consultation moving forward

- Community of Thunder Bay
- Fort William First Nation
- Nishnawbe Aski Police Service (NAPS)
- Anishinabek Police Service (APS)

- Nishnawbe Aski Nation (NAN) (ᐱᓂᓂᓄᓂ ᐱᓂᓂᓄᓂ ᐱᓂᓂᓄᓂ ᐱᓂᓂᓄᓂ ᐱᓂᓂᓄᓂ) (Anishinaabe-aski Ishkoniganan Ogimaawin)
- Ministry of Solicitor General (former Ministry of Community Safety and Correctional Services)
- Ministry of the Attorney General
- RCMP
- Ontario Provincial Police

1.2 Project Outline

The City of Thunder Bay and the Thunder Bay Police Service asked Form Studio Architects Inc. to assemble a team of consultants to complete a facility needs assessment study for the existing Balmoral Street Police Services Building.

The following issues in police facility performance are reviewed in this report:

The Balmoral Street building has reached a point in its service life where replacement parts and ongoing maintenance is frequently more costly and less efficient than completely new components. Low energy efficiency due to aging building systems has resulted in a high carbon footprint with proportionally high ongoing operating costs, which has both financial and environmental impacts on the community.

- Action: A review of the existing facility building components was conducted and a building condition report was created providing recommendations for repair and replacement including probable capital costs to maintain basic building function. A 25year forecast for future capital renewal has been provided for cost comparison.

The existing building and site are failing to support policing services to the community in a way that meets current best practices and standards in a cost effective way. Both quantitative needs (physical area) and qualitative needs (human interaction with the space) are no longer being met by the existing facility.

- Action: The existing facility program was compared to requirements for efficient workflows in similar contemporary police operations. A new functional program based on the current needs of the Police Service was developed and blocking and stacking test fits were created for two proposed scenarios - a large scale renovation and addition on the existing Balmoral site, and a new facility constructed on a new site. Comparative cost estimates for these two options have been provided.

Changes around community involvement in policing, barrier free accessibility to government services, and the public face of policing have made the existing building outdated in both public perception and actual function, which is perceived to reflect negatively on the public perception of the Thunder Bay Policing Service.

- Action: A Public engagement session was held to inform the community of the why the Police Facility Needs Assessment is required, its purpose and process, and to elicit feedback from the community.
- Action: Sample blocking layouts have been provided to illustrate appropriate functional areas and relationships between secure and public functions.

Potential costs for capital renewal of the existing building versus potential costs of construction of a new facility must include review of potential locations for the facility and a comparison of business cases for each scenario.

- Action: A set of criteria for site selection was established and a review of response times was created. A longlist of candidate sites was created including non-weighted analysis of criteria. A shortlist with weighted criteria was then developed by the Police Services Steering Committee and a test fit for a new facility was created. Test fits for both existing and new sites have been provided.

- Action: Business case summaries have been created to allow comparison between different facility models / options.

1.3 Goals and Vision

The Goal of this report is to provide information to support capital renewal decision making on long term facility requirements for the Thunder Bay Police Services.

The Vision is for a Policing Services Facility that supports open, safe, inclusive and service oriented policing compliant with current codes, standards and best practices in addition to the creation of a safe and efficient workplace environment that plays a strong role in the health and retention of both sworn and civilian employees.

1.4 Facility Options Under Review in this Study

Base Case – Repairs and Maintenance

Minimum maintenance and repair to keep the existing building operating at current level. Upgrade of existing building components to meet required codes, where possible.

Option 1 - Addition / Renovation to Existing Building on the Existing Site:

Renovate and add to the existing building and upgrade the site to accommodate area requirements for current policing standards and practices.

Option 2 - New Facility Constructed on a New Site:

Construction of a new police services facility on a new site including evaluation of central and south core candidate sites.

PART 2 – BACKGROUND INFORMATION AND ANALYSIS

2.1 Inventory of Existing Facility Functions

An inventory of the current departments and staff was created as a baseline for department and staff analysis.

2.2 Methodology

- Consultants conducted interviews with staff and completed tours of the existing Headquarters to gain an understanding of the organizational and operational requirements of the Thunder Bay Police Service. Workshops with sworn and civilian staff were conducted by consultants on May 9th & 10th, June 13th & 14th, and July 18th and 19th, 2019 for in depth review of operational processes. All departments were reviewed, and a draft functional program was presented and sanctioned by the Steering Committee September 12th, 2019.
- Consultants used the Organizational Chart provided by the TBPS for departmental reference to verify current department relationships. Consultants created a detailed account of current operational structures and departments in place in the TBPS. This structure was used as the basis for the functional program development and space planning requirements.
- Previous Police Station design study was reviewed for background information on ongoing space and operational issues.
- Existing functional layouts were assessed with respect to compliance with applicable codes, standards and guidelines.
- Layout plans were created to represent the existing building and site and used to verify departmental requirements.

2.3 Codes, Standards, Guidelines

- Ontario Building Code – Regulates minimum building quality and life-safety standards to be met in the province of Ontario. For example
 - Combustible versus non-combustible building materials.
 - Fire Separations and Fire Suppression Systems.
 - Exit distances and widths.
- Ontarian's With Disabilities Act – Regulates and mandates minimum "accessibility standards" to be provided in the workplace. For example
 - Provision of accessible height service counters for persons in wheelchairs/scooters.
 - Provision of ramps and elevators for persons with mobility issues.
 - Provision of automatic door operators and other assistance devices.
- Police Adequacy Standards – Regulates how police services across the province are required to deliver policing services. For example:
 - Maintaining the integrity of exhibits (evidence).
 - Officer Safety.
 - Officer Training.
 - Policies and Procedures

- Care and custody of the accused.
- Occupational Health and Safety Act – Regulates minimum health and safety standards in the workplace. For example:
 - Provision of handwashing stations, eye washing stations and decontamination showers.
 - Minimum clearances for servicing of equipment.
 - Provision of safety barriers and warning signs.
- LEED (Leadership in Energy and Environmental Design) – An accreditation system to facilitate buildings to be designed and constructed in an environmentally sustainable manner with the goal of reducing a building’s carbon footprint. Design per LEED Gold principles without certification has been mandated by the City of Thunder Bay for this project.
- Space and Design Standards and Guidelines - Were based upon best practices and past, completed police facility projects carried out by RPL Architects:
 - OPP Accommodation Guidelines
 - Niagara Regional Police Headquarters
 - Saskatoon Police Headquarters
 - Halton Regional Police Headquarters
 - Kingston Police Headquarters

2.4 Analysis

2.4.1 Balmoral Street Building Condition Report

2.4.1.1 Overview / Methodology

Form Studio Architects Inc. together with RPL has been retained by the City of Thunder Bay (CTB) to assess the existing CTB Police building within the greater scope of the Police Facility Needs Assessment project. Form Studio has met with representatives of the CTB Facility Services on several dates in September 2019 to review and evaluate the condition of the existing building. The interviewed staff were Keith Trodd and John Marassutti. During site visits, consultants also spoke with Chief Hauth.

On-site review with visual assessment and non-destructive investigation was carried out by Architectural, Mechanical and Electrical consultants. A mechanical review report was completed by Cuthbertson Engineering. An electrical review report was completed by AG Engineering. Current capital renewal was identified and a twenty-five year forecast for future capital renewal was included. These reports were combined with Form Studio’s review of the building exterior and interior to form the content of the Building Condition Assessment Report attached in Appendix A. Refer to Part 5 Business Case for discussion of capital renewal forecasts relative to the business plans for the individual Options under review.

Summary

A summary of recommended capital upgrading, including descriptions of the upgrading scope and related costs is provided in the Building Condition Report attached in Appendix A.

2.4.2 Existing Building - Code and Regulatory Compliance

2.4.2.1 Ontario Building Code Analysis (Existing Building)

Summary:

The onsite review conducted by consultants also included reporting on building elements that require upgrading in order to achieve compliance with the current Ontario Building Code (2012). Detailed descriptions of the recommended compliance upgrading, including associated costs, were included within the Building Condition Report in Appendix A.

2.4.2.2 Ontario Building Code Post Disaster Compliance

Summary:

A Post Disaster Analysis Report was completed by KGS Group in 2018 and provided to Form Studio by the City of Thunder Bay as background information for this report. The report states that the existing Thunder Bay Police Services Building, located at 1200 Balmoral Street, “meets the Post-Disaster requirements of the latest edition of the Ontario Building Code. The building should remain operational in the unlikely case of an unprecedented snowfall event, wind event or earthquake event.” Report file reference: KGS 18-0023-005
Based on this report, additional upgrades to the existing building in order to achieve current OBC Post Disaster compliance are not required and therefore no costs are associated with this element of building code compliance. A full report of findings including associated costs is included in the Building Condition Report in Appendix A.

2.4.2.3 Detention Area Compliance Report

Summary:

Kach Inc. security and detention equipment consultant conducted a review of the existing holding cell area on October 17, 2019. An inspection of the existing holding cell area, sliding door components, cell front glazing was conducted in order to identify any obvious security risks and safety concerns (ligature points, etc.) and offer recommendations / remedies. A full report of findings including associated costs to remedy are included in the Building Condition Report in Appendix A.

2.4.3 Facility Location & Travel Time

2.4.3.1 Methodology

The Travel Time Maps were developed using the ‘Directions’ tool of Google Map. The address of the chosen police station location was entered as a starting point. A five minute route was defined, then the destination cursor was moved from street to street. A mark was added on the map each time the Google time estimate changed from 4minutes to 5minutes. Once all the points were located, the time zone was simply drawn by linking them correctly. The operation was then repeated with a 10 minutes travel and 15 minutes travel.

Notes:

1. The Directions tool of Google Map calculates travel times that take into account the real time road traffic. The contours of the areas are therefore subject to slight changes depending on the day and time of day when the survey is taken.
2. The study assumes no delay by train passage at level crossings.
3. The impact of the special priority given to police vehicles was not included in the study.

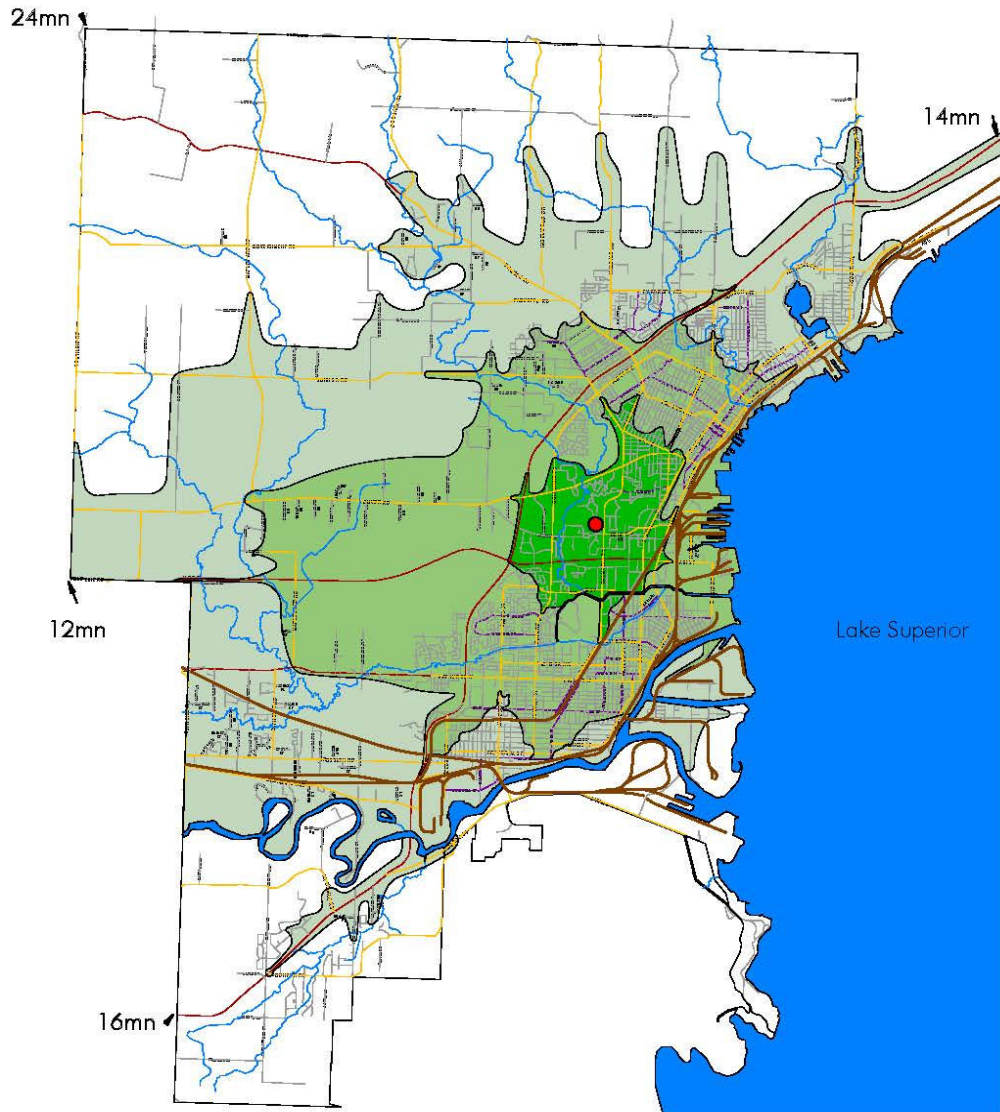
2.4.3.2 Illustration of Travel Time

Illustrations of travel time within the city of Thunder Bay are shown on the next two pages. Travel times are shown for dispatch from the current Police Services Facility location in central Thunder Bay, and for dispatch from a generic location in the South Core, in the general area of Miles and Simpson street. Railway lines are shown.

It is evident from a comparison of this graphic analysis that the extent of areas reachable within city limits in all three time categories is significantly reduced for the south core location. Additionally, the location in the south core creates high potential for restriction of police vehicles at main arterials where the rail lines cross at grade, specifically where the CN rail line crosses Memorial Avenue, Fort William Road, and the Harbour Expressway.

Two key risks are associated with the location of the Police Services Facility relative to rail lines and level rail crossings. These are:

- Risk: rail line adjacent to the facility
 - Rail lines in close proximity to the Police Services Facility have the potential to severely impact and possibly incapacitate the operation of the facility in the event of an accident or derailment, particularly involving dangerous goods. It is not recommended that the police services facility to be located within a 1km range of a railway corridor.
- Risk: level rail crossings on major roads
 - When trains cross at level rail crossings, all traffic flow is blocked including police vehicles. Vehicles can often be stopped for a significant amount of time by a train even of medium length and therefore there is potential for negative impacts on critical outcomes if police are impeded in their response time to calls for service. It is not recommended that the police services facility to be located such that viable alternate routes are not available should their main response route be blocked by rail traffic.

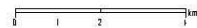


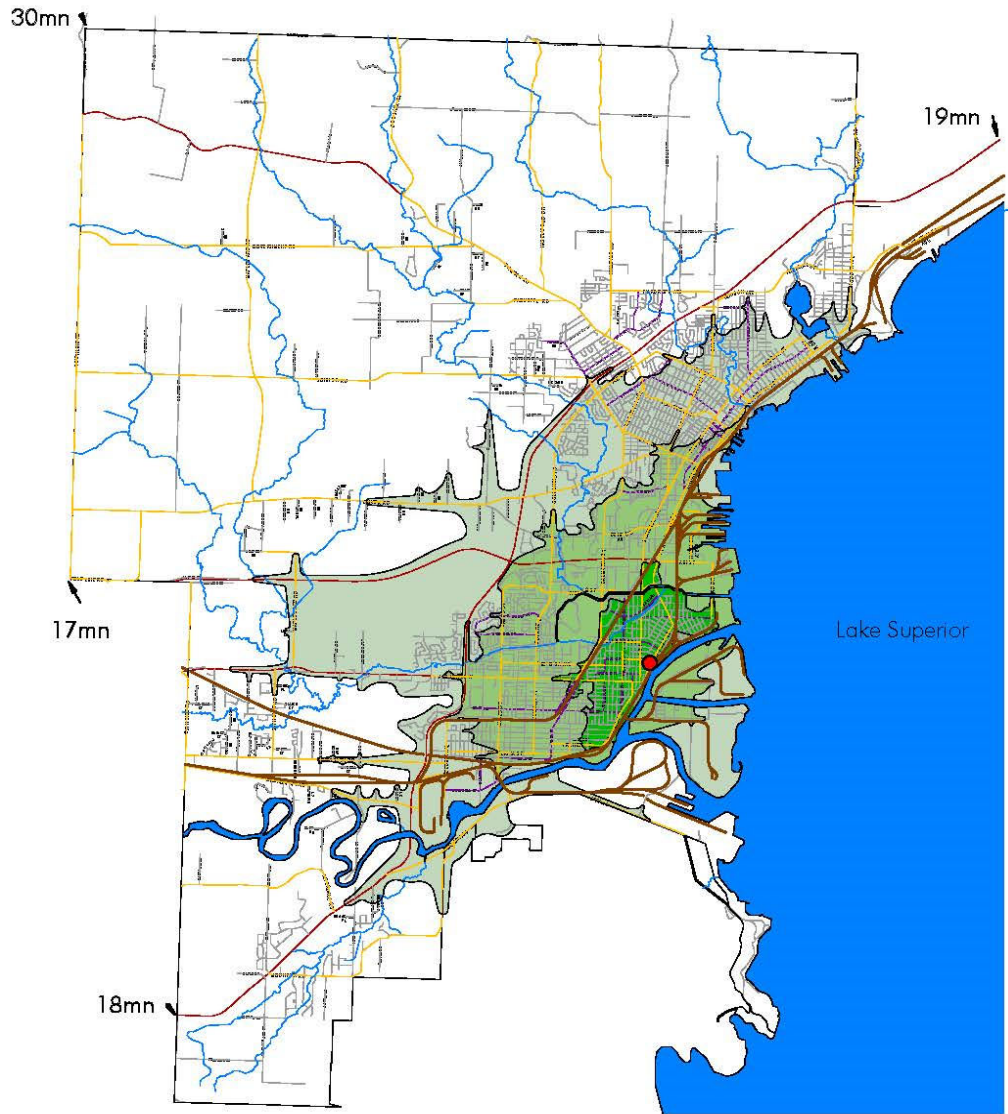
LEGEND

- RIVER, CREEK
- CITY LIMITS
- HIGHWAY
- ARTERIAL

- COLLECTOR
- STREETS
- TRAIN TRACKS

- AREA REACHABLE UNDER 5 MINUTES
- AREA REACHABLE UNDER 10 MINUTES
- AREA REACHABLE UNDER 15 MINUTES
- POLICE SERVICES FACILITY LOCATION
- XXmn** TRAVEL TIME FROM POLICE STATION



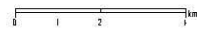


LEGEND

- RIVER, CREEK
- CITY LIMITS
- HIGHWAY
- ARTERIAL

- COLLECTOR
- STREETS
- TRAIN TRACKS

- AREA REACHABLE UNDER 5 MINUTES
- AREA REACHABLE UNDER 10 MINUTES
- AREA REACHABLE UNDER 15 MINUTES
- POLICE SERVICES FACILITY LOCATION
- XXmn TRAVEL TIME FROM POLICE STATION



2.4.4 Inventory of Non-TBPS Required Destinations

2.4.4.1 Methodology

General / Methodology

Through discussions with TBPS staff it was determined that the TBPS currently has staff operating out of four locations outside of the main headquarters on Balmoral Street, as follows:

- The Oliver Paipoonge substation located at 4569 Oliver Road, Murillo, Ontario, from which the TBPS provide policing services to the community of Oliver Paipoonge.
- The OPP Forensic Unit located at 615 James Street in Thunder Bay, Ontario for which the TBPS have an ongoing agreement to share labs and office space.
- The Provincial Court House located at 125 Brodie St. N, at which the TBPS has an agreement in place with the Province of Ontario to provide court security.
- Firearms Range located at 792 Hwy 588, Nolalu which is approximately 45 minutes from the TBPS Facility on Balmoral Street. The TBPS carry out fire arms training at this location.

2.4.4.2 Data

Staffing at each of these locations is as follows:

- The Oliver Paipoonge sub-station has 6 staff operating out of it. Staff assigned to Oliver Paipoonge generally begin and end their shift at the substation. Staff at Oliver Paipoonge occasionally travel to the TBPS HQ to transport prisoners or for other administrative purposes.
- The TBPS Forensic Ident Unit has 7 staff operating of the OPP's Forensic Ident Facility. Staff assigned to the FIU generally begin and end their shift at the substation, however travel between the OPP FIU and the TBPS HQ is required daily to transport exhibits, as well as to carry out occasional administrative functions.
- The TBPS has approximately 26 Court Officers operating out of the Provincial Courthouse. Staff assigned to Court Security generally begin and end their shift at the courthouse, but frequently visit the TBPS headquarters for the purpose of pick-up/dropping off prisoners or carrying out occasional administrative functions.
- Presently the TBPS do not have a firing range of their own to carry our regular training. As such they pay a fee to the owner of a gravel pit to carry out firearms training in a designated area of the range.

2.4.4.3 Analysis

- Policing of Oliver Paipoonge is contracted out to the TBPS and is contingent upon having a base of operations in the community that citizens can easily access. As well, given the TBPS Headquarters is approximately 25 Km (+/- 25 min) away from Oliver Paipoonge, in order for acceptable response times to be maintained, its necessary for the sub-station to be maintained. Aside from staff assigned to Oliver Paipoonge maintaining a locker at the TBPS HQ, the Oliver Paipoonge policing operations have minimal influence on the planning of a new TBPS HQ.

- The TBPS currently does not have its own Forensic Labs. Forensic Labs are specialized spaces that contain Bio and Chemical Labs, as well as other specialized spaces for processing, analyzing and storing exhibits. Forensic Labs are specially designed to ensure cross contamination of exhibits does not occur, as well as to ensure staff are protected from potentially unknown pathogens. Sharing a space with the OPP for Forensic purposes currently works for the TBPS but is inconvenient due to its remoteness from the TBPS HQ. Given the TBPS are a tenant in a facility owned by the OPP, OPP operations (access to labs) takes priority over TBPS needs. As well, there is the potential that at some point in the future the OPP could choose not to renew their lease agreement with the TBPS. For this reason, it is advisable that planning for the new TBPS HQ be done in a manner that can incorporate a Forensic Ident Unit now, or at some time in the future, with minimal impact.
- The TBPS provides security at the Provincial Courthouse for the Province of Ontario as required by the Police Services Act. No change to this requirement is anticipated for the foreseeable future. While amenity space including lockers and the provision of physical office space for Court Officers is provided at the Courthouse, the only minimal influence the Court Officers have in the planning of a new TBPS HQ is the provision of lockers at the TBPS HQ.
- The Police Services Act requires police services provide appropriate training of their officers. In the case of firearms, officers typically have to be requalified a minimum of once a year, however more training/requalifying is encouraged. For officers associated with the ETU, significantly more training is warranted and encouraged; at times and when schedules permit, ETU officers train as often as weekly, and use range time to verify the sights on their array of guns. By not having an indoor range in close proximity to the TBPS HQ the TBPS are impacted in the following manner:
 - They are limited in their ability to carry out impromptu training during periods of low activity, as the range is a 45-minute drive, each way.
 - They are at the mercy of the weather as rain, snow and severe cold weather can impact the ability to train or limits the effectiveness of training.
 - They are without convenient access to ancillary spaces used before and after training such as classroom/briefing room, gun cleaning & armory.
 - They are at risk of losing access to the current range with little to no notice.

It's for these reasons that an 8 lane, 50 m indoor firing range is proposed for a new TBPS HQ.

2.4.5 Staffing Requirements

2.4.5.1 Methodology

The City of Thunder Bay currently has a population of approximately 108,000 people and for the next 20-25 years population growth is expected to remain flat, or decline slightly. For this reason, it's more likely that TBPS staffing will fluctuate to suit new policing initiatives, as opposed to changes in population. For this reason, when meeting with representatives from individual units it was confirmed what the current staffing allocations are and it was discussed, what potential staffing growth could occur over the next 20-25 years, as it relates to trends in policing across the country (Increase in criminal activity using computers for example), as well as crime challenges faced by the City of Thunder Bay (domestic violence for example).

2.4.5.2 Data

The Staff and Space Summary found in Appendix B quantifies the current TBPS staffing compliment as of September 2019 on a unit by unit basis. Total current accounted for at the HQ is 309.8 and over the next 20-25 years there is potential that staffing could increase to approximately 400.8. It is to be noted that FTE's noted in the Program may not match exactly with the FTE in City of Thunder Bay budgeting numbers. Thunder Bay Police Service actual numbers may be higher as they have to replace certain FTE personnel in anticipation of retirements (due to the length of time it takes to recruit, educate, and train) or to replace persons who are off on long term absences such as LTD or WSIB and who are still counted as authorized personnel.

Current Sworn & Civilian Staffing is as follows:

- Total Sworn Police Officers: 225 (does not take into account 8 Constables assigned to Court Security at the Thunder Bay Courthouse)
- Total Civilian Members: 94.7 (does not take into account 12 Special Constables assigned to Prisoner Management at the Thunder Bay Courthouse)
- Current Total Complement: 319.7 members (based out of police hq) + 20 members (based out of courthouse) = 339.7

2.4.5.3 Analysis – From the Staff and Space Summary noted above, the following allowances/assumptions have been made to rationalize potential future staffing.

	Current FTE	Future FTE	Diff.	Explanation
100 Senior Administration				
101 Senior Command	3	3	0	No change anticipated
102 Senior Admin	2	3	+1	Add 1 Administrative Assistant
103 Senior Management	6	8	+2	Add 1 Superintendent and 1 Administrative Assistant
200 Administration Bureau				
201 Professional Standards	4	4	0	No change anticipated

202 Training Admin	1.6	2.6	+1	Add 1 Sergeant
221 Technology Services	5	7	+2	Add 2 Technicians
222 Finance	2	3	+1	Add 1 Payroll Clerk
223 HR	4	6	+2	Add 2 Recruitment Positions
224 Courts & Records	28.6	49.5	+20.9	Add 7.5 Civilians to Records. Add 1 Court Admin Position and 8 Transcribers. Refer also to narrative below for examples of future potential staffing growth.
231 Exhibits	3	4	+1	Add 1 Clerk
241 Communications	33	48	+15	Add 9 Oper. & Alt Resp. (Call takers and dispatchers). Add 4 911 Texting. Add 1 Supervisor. Refer also to narrative below for examples of future potential staffing growth.
300 Uniform Patrol				
301 Patrol Division	106	126	+20	Add 20 Constables. Currently 22 per platoon. Potentially 28 Constables per platoon in the future. Add 6 Constables x 4 platoons = 24 Future Growth. Refer also to narrative below for examples of future potential staffing growth.
302 Watch Command	4	4	0	No change anticipated
303 Community Services	21	26	+5	Add 2 Community Response Const. Add 3 ALU/SRO/ Constables. Add 1 Traffic Constable. Refer also to narrative below for examples of future potential staffing growth.
304 ETU/Canine	1	1	0	No change anticipated
311 Criminal Investigations	45	60	+9	Add 6 Det. Constables to General Investigations. Add 3 Support Staff to Computer Crimes. Refer also to narrative below for examples of future potential staffing growth.
312 Criminal Intelligence	14.6	17.6	+3	Add 2 Investigation Constables. Add 1 Tech Constable.
321 Forensic Identifications	9	9	+2	Add 2 Forensic Constables
400 Common Areas/Amenities				
Front Desk/Service Centre	9	15	+6	Add 4 Cadet Constables & 2 VICARS
500 Detention Zone				

501 Cell Block	4	4		No change anticipated
600 Custodial & Bldg Service				
601 Custodial & Bldg Service	0	0		Staffed by CoTB
700 Fleet				
701 Fleet	1	1.6		Add 1 part time Mechanic
Totals	309.8	400.8	+91	

2.4.5.4 Examples & explanations of areas of potential significant future staffing growth are as follows:

1. 224 – Courts and Records - The Thunder Bay Police Service Court Administration section presently occupies the Thunder Bay Courthouse. That represents 5 Clerks. The offices that are currently occupied by Court Administration (4th floor of the courthouse) are designed to be quickly converted into courtrooms based on growth past the 15 courtrooms that currently exist. This means that the 5 clerks plus 1 future clerk, would have to relocate back to the police HQ.
2. 224 – Courts and Records - The Thunder Bay Police Service will be deploying body worn cameras to all front-line officers in 2020. In addition, in-car cameras will also be installed in front line police vehicles and the TBPS will also be initiating other ventures such as acquiring video evidence via computer generated hyperlinks. All of this will require the formation of a digital evidence management unit. This unit will also be responsible for the downloading and processing for prosecution purposes of next generation 911 calls. Conservatively speaking, a digital evidence management unit will consist of 5 – 8 transcribers and a manager.
3. 224 Courts and Records - The Thunder Bay Police Service currently contract out Criminal Records Checks (all three levels) to another law enforcement agency. Should that contract end, the TBPS would have to once again provide full on-line intake but more importantly, processing criminal records check applications. This would be a minimum of 4.5 persons with corresponding work stations.
4. 241 – Communications – Presently the Thunder Bay Police have 32 Civilians working in Comm's as Call Takers and Dispatchers. Staff work in shifts and utilize 7 consoles. In the future its envisioned that 2 additional consoles will be required necessitating an additional 9 Civilians. As well, given the proliferation of communication devices, space for 4 – 911 Testing consoles is being allowed for.
5. 301 – Patrol Division – Presently the Thunder Bay Police Service operate with 4 Platoons each having 22 Constables. In the future this could increase to 28 Constables per Platoon. An increase of 24 Constables. It should be noted however that the only effect this has on the building design is the space required to accommodate additional lockers. Note: Refer to Part 3 – Space Planning for an understanding of how staffing may numbers influence the size of a new TBPS Headquarters.

2.5 Public Engagement Session

2.5.1 Methodology / Overview

City of Thunder Bay Corporate Communications Guidelines for Public Engagement were applied. A Public Engagement Session was held on December 12, 2019 at Thunder Bay City Hall and was attended by Kim McKee (Form Studio). A post was created for the City's "Get Involved" website which included Current State – Future State illustration boards and a single question survey. Consultants answered questions from the public and presented the illustration boards to small groups of attendees. Public feedback was obtained through: comments written and posted on illustration boards, comments written on provided comment forms and inserted into a ballot box, comments posted to the survey on "Get Involved" website.

Stated Goals

- To inform the public of the process for the review of the TBPS facility on Balmoral Street
- To receive comments / feedback from the public
- To outline the next steps in the review

Notes on information made available to the public:

1. Information on probable construction cost estimates comparing new construction costs with costs to renovate and extend the existing building were not provided at the public engagement session.
2. Information on candidate sites for a new police facility was not provided at the session, and feedback on potential sites / opinion on location was not requested from the public.
3. Public input on site location, costs, and other important issues related to a new police services facility must be part of a future design and development process. Public input sessions are anticipated to form a significant part of any implementation strategy.

2.5.2 Engagement Sessions

Goals:

- ▶ To inform the public of the review process for the Thunder Bay Police Services facility on Balmoral Street
- ▶ To receive comments & feedback from the public
- ▶ To outline the next steps in the review

The Issue:

The existing police services facility on Balmoral street is reaching the point in its service life where many systems and building elements require some form of significant upgrading or total replacement. In general, the facility no longer easily supports efficient policing activities to current required standards and best practices.

Possible Courses of Action:

- ▶ Update the existing building to current building and services codes (if possible), complete all necessary maintenance and equipment replacement.
- ▶ Renovate and add to the existing building, and determine whether or not the existing site is large enough to support a renovation / addition that would support modern policing needs.
- ▶ Evaluate new sites for development in order to select the ideal candidate and construct a new police services facility.

What we need from you....

We would like your feedback on what you would like to see in a modern Thunder Bay Police Services facility.

have your say

- Write a comment on a sticky note and stick it on the board
- Write a comment on paper and put it in the ballot box
- Post a comment to the city's Get Involved website:

www.thunderbay.ca/getinvolved

Benefits to the Community:

- 1 Design of the new Police Services Facility will be open and welcoming to all members of the community, including people with diverse abilities.
- 2 The design service life of the new facility and components for performance without unforeseen costs or disruption for standard maintenance or repair will match or exceed current standards for durability.
- 3 The construction maintenance and operation of the new site will address components of sustainability through energy efficient design and operation.
- 4 The site will be large enough to provide adequate staff and public parking as well as secure outdoor storage and allow future expansion, if required.
- 5 The Police Services building will have a strong Civic presence as a highly visible part of the community encouraging community pride and inclusion
- 6 Building design will provide transparency to allow Public views into the non-secure activities within the building.
- 7 The site chosen will be a location that maximizes efficiencies in relationships and distances to related services.
- 8 Adequate space for community activities will be provided in an appropriate area of the facility.

FormStudio
Architects

The Public Engagement Session held at the City of Thunder Bay City Hall on December 12, 2019 was attended by approximately 25-30 people. Seven written comments were received in the ballot box made available to the public. Recorded comments are attached in Appendix C.

- 1) The session ran from 4pm – 8pm. The two verbal presentations were proposed for the session, however the presentations took the form of simply answering questions from the public and presenting informally to small groups throughout the evening, as this seemed more effective.
- 2) Sessions were supported by the following hardcopy material
 - a. 24x36 aerial photo with site overlay of the existing police station site on Balmoral
 - b. Current state / future state aspirational photo boards
 - c. 24 x36 plot of the time to response analysis
 - d. 24x36 Functional Program Summary
 - e. Post it notes will be available for the public to write and post comments on boards.
 - f. Written comment sheets were available for the public to submit their comments (anonymously or named).

Graphic Support: Refer to Appendix C for the Current State / Future State Illustration Boards:

- PE.01 Public Entrance / Exterior
- PE.02 Public Lobby & Front Desk
- PE.03 Building Circulation & Services
- PE.04 911 Communications Centres
- PE.05 Detention Cells
- PE.06 Community Room
- PE.07 Evidence & Stores
- PE.08 Locker Rooms and Firing Range / Training Facilities
- PE.09 Investigative Offices, Record Storage, and Report Writing

2.5.3 Get Involved Website and Comments

PDFs of the Current State – Future State illustration boards were uploaded to the City of Thunder Bay “Get Involved” web site for viewing. A one question survey prompted public feedback.

The “Get Involved” webpage hosted by the City of Thunder Bay between December 12, 2019 and January 2, 2020 was visited 378 times. There were 68 responses to the question. City of Thunder Bay Corporate Communication provided web site responses. The City of Thunder Bay Corporate Communications Report with responses is attached in Appendix C.

Scan of responses received in the ballot box is attached in Appendix C.

A short interview with Form Studio was televised by TBT News on December 12, 2019. Contact Jodi Wright JodiWright@thunderbay.ca at Corporate Communications for the electronic file.

2.5.4 Summary

Comments can be characterized by the following general themes:

- Comments regarding a new facility: Comments were generally equally split between a new building being too expensive and a new building being a desirable enhancement for the community. One comment proposed additional satellite police stations.
- Comments regarding the existing building: The majority of comments indicated desire to see the existing building upgraded. Several comments wanted to see reuse of other existing city buildings for police services.
- Comments regarding the interior environment of the facility: Several comments related to very specific items such as colour of glass, need for heated floors in cells, dislike of interior colour scheme. Several comments regarding a desire for more natural light and a welcoming entrance. Several comments noted the need for improved areas where the police interact with the public. Majority of

comments noted that space must be made adequate for current operations and take future requirements into account.

- Comments regarding police services in general: Comments were generally in favour of more police staff to respond to a perceived increase in need. There were several positive comments on the need to provide a healthy work environment with amenities for officers and staff. One negative comment citing personal experience with lack of respect from police staff.

It is anticipated that additional public meetings will form a significant part of any future implementation strategy.

PART 3 – SPACE PLANNING

3.1 General/ Methodology

Functional Program Definitions:

Net Area (N.A.) – Area of a space as measured to the inside face of the walls that form a room. In the case of a workstation it allows for the footprint size of the desk and associated file cabinet(s) and space for a chair to maneuver to access the surface area of the desk.

Usable Area (U.A.) Sum of Net Areas for a group of rooms with a circulation factor applied.

G.F.A. (Gross Floor Area) – Overall floor plate area or multiple floor plate areas, inclusive of all Net Areas and Circulation Factors. In theory the G.F.A should be close to the final design solution floor plan(s) as measured to the outside face of the exterior perimeter walls.

3.2 Codes, Standards, Agencies, Guidelines and Best Practices

- Ontario Building Code (OBC) 2012, including amendments
- Accessibility for Ontarians with Disabilities Act (AODA), 2005 – Integrated Accessibility Standards Regulation (Accessibility Standard for the Design of Public Spaces – Built Environment)
- City of Thunder Bay – Space Planning Guidelines, Community Services Department November 2016
- City Of Thunder Bay Zoning By-Law 100-2010, As Amended
- City of Thunder Bay Official Plan, 2018
- City of Thunder Bay Urban Design Guidelines
- CAN/CSA B651-12 Accessible Design for the Built Environment, 2012
- Occupational Health and Safety Act
- Police Adequacy and Standards Regulation / Ontario Police Services Act
- CSA S478 “Guideline on Durability in Buildings”.
- Canadian Green Building Council LEED Green Building Rating System (Leadership in Energy and Environmental Design v4.1 for Building Design and Construction) – Gold design principles only, Certification will not be pursued.
- Crime Prevention Through Environmental Design (CPTED) Principles
 - ‘eyes on the street’ natural surveillance to reduce unwanted behaviour
 - Increasing visibility through / between urban spaces to eliminate blind spots

- Territorial reinforcement, target hardening
- Best Practices – based upon specialized project experience on completed police facility projects carried out by RPL Architects:
 - OPP Accommodation Guidelines
 - Niagara Regional Police Headquarters
 - Saskatoon Police Headquarters
 - Halton Regional Police Headquarters
 - Kingston Police Headquarters
- Accessibility - Design of the Police Services Facility and site shall be open and welcoming to all community members including people with diverse abilities and backgrounds.
 - Barrier Free design standards shall be applied to the design of the facility and site for the benefit of all community members, including those members:
 - with neural differences
 - using wheelchairs, walkers, mobility aids and strollers
 - with reduced hearing, vision and /or speech
 - with compromised stamina, strength, dexterity
 - Where a standard for barrier free design conflicts with any other referenced standard or guideline, the most restrictive standard or regulator providing the higher level of accessibility will apply, unless otherwise noted.

3.3 Functional Program

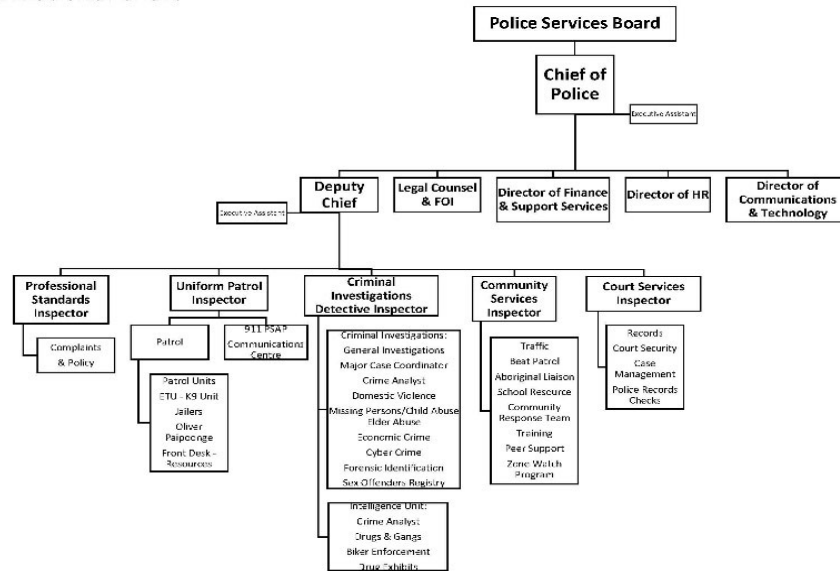
3.3.1 Functional Program

The Program was developed in close concert with the Project Steering Committee and representatives from each functional unit. For planning purposes, to determine the staff, space and facility needs of each functional unit, we have organized the Staff and Space Schedules in a manner similar to the TBPS Organization Chart, but have translated it into operational areas of a building.

The TBPS Organizational Chart is shown below:



TBPS Organizational Chart



As of 2018

The program was developed in a manner that addresses shortcoming of the existing facility, with an eye towards planning a new facility that will meet and optimize operations, likely for the next 20-25 years.

Primary issues identified with the existing Thunder Bay Police Facility and addressed by the functional program include:

- Overcrowding in offices and locker rooms.
- Facility layout has evolved over the years and has disjointed adjacencies that are operationally inefficient.
- Lack of availability of space for training space and community activities.
- Ligation and self harm issues in Detention Area.
- Lack of adequate Interview Rooms.
- General security issues (confidentiality).

3.3.2 Functional Program Summary

The Staff and Space Schedule Summary lists current and future staffing and space requirements for each functional unit.

- The existing TBPS HQ has a gross area of 64,385 sq.ft. (5,982 sq.m).
- Per the program summary, a new or renovated HQ would require approximately 131, 320 sq.ft. (12, 200 sq.m.); a facility roughly twice the size of the existing facility.

Note, the area for the Forensic Identification Unit is not captured in the Summary as it is deemed to be a future consideration, should the current sharing arrangement with the OPP conclude at some point in the future. If a Forensic Identification Unit was to be incorporated, it would require an additional 9,260 sq.ft. (860 sq.m) of space.

The Functional Program / Space Summary Chart is shown below:

City of Thunder Bay
Police Facility Needs Assessment Study
February 2020

Staff & Space Summary				Thunder Bay Police Service HQ		
TBSHQ-Program-Final Report.xls						06-Feb-20
	Current	Future		Proposed Req'd Usable Area	Proposed Net Area	Approx. Existing Net Area
100-Senior Administration						
101-Senior Command	3	3		100	74	137
102-Senior Administration	2	3		60	48	59
103-Senior Management	6	8		170	139	154
104-Senior Administration Shared Areas	-	-		100	79	87
	11	14		430 sq.m	339	436
200-Administration Bureau						
201-Professional Standards	4	4		90	69	38
211-Training Admin.	1.6	2.6		40	33	18
212- Training Classrooms	-	-		300	277	-
213-Physical Training	-	-		280	252	-
214-Indoor Firing Range	0	0		950	861	-
221-Technology Services	5	7		180	168	77
222-Finance Division	2	3		40	31	40
223- HR	4	6		80	66	55
224-Court & Records	28.6	49.5		510	465	378
231-Exhibits	3	4		670	611	397
241-Communications	33	48		300	241	161
	81.2	124.1		3,440 sq.m	3,073	1,163
300-Patrol Division						
301-Patrol Division	106	126		340	287	220
302-Watch Command	4	4		20	18	23
303-Community Services	21	26		280	219	224
304-ETU/Canine	1	1		130	121	31
311-Criminal Investigations	51	60		640	494	452
312-Criminal Intelligence	13.6	16.6		410	312	188
321-Forensic Identifications	7	9		-	-	-
	203.6	242.6		1,820 sq.m	1,451	1,139
400-Common Areas/Staff Amenities						
401-Public-Access Spaces				110	104	58
402-Front Desk/Service Centre	9	15		250	197	109
403-Community/Multipurpose Room	-	-		160	149	147
411-Lockers	-	-		500	458	355
412-Fitness Facilities	-	-		130	120	81
413-Staff Amenities	-	-		90	83	123
414-Shared Meeting Rooms	-	-		80	71	-
415-Common Washrooms	-	-		-	-	-
	9	15		1,320 sq.m	1,182	873
500-Detention Zone						
501-Cell Block	4	4		1,090	838	392
601-Custodial & Building Services						
601-Custodial & Building Services	0	0		440	404	275
				440 sq.m	404	275
Total (Excluding Fleet & Indoor Parking)						
Total Current and Future Staff	309	400		8980 sq.m	7689	4552
				Grossing Factor	1.25	1.25
				Grossing Floor Area	11,230 sq.m	9,610
					120,880 sq.ft.	103,440
						61,250
701 - Fleet & Indoor Parking						
701 - Fleet & Indoor Parking	0	0		790	722	375
	0	0		790 sq.m	722	375
Total (Including Indoor Parking)						
				9,770	8,411	4,927
				1.25	1.25	1.25
				12,210	10,510	6,160
				131,430 sq.ft.	113,130	66,310
Project# 2019034						
				Actual Existing Ground Floor GFA	32,581	sq.ft.
				Actual Existing Second Floor GFA	31,804	sq.ft.
				Actual Total Existing HQ GFA	64,385	sq.ft.

3.3.2 The full Functional Program is included in Appendix D. For each functional unit, current and future staffing is broken out according to roles and responsibilities, individual room/space types, quantities and sizes. Spaces highlighted in green exist in the existing facility. Spaces that are highlighted in purple are new spaces that the current facility lacks.

3.4 Blocking and Stacking Plans

3.4.1 Development of Blocking and Stacking Plans

In order to determine what functional units go on what level, 3 scenarios were considered as follows:

- Scenario #1 – 3 Storeys (No Basement)
- Scenario #2 - 2 Storeys with Basement
- Scenario #3 - 2 Storeys (No Basement)

Tables illustrating what units would go on what levels can be found in Appendix D. When speaking with representatives from the various functional units, most of them expressed a desire to have their particular unit on the ground floor. Once a building gets to a certain size however this becomes impractical as it increases the foot print of the building, which subsequently increases construction costs, as well as requiring more land. Locating units on the ground floor therefore needs to be prioritised on the basis what functionally make the most sense; to facilitate ease of access for the public; to facilitate vehicle access directly into their unit for deliveries (ie. The Detention Area Sallyport or loading area for Exhibits) or spaces that have very specific design considerations that necessitate being located on the ground floor. These priorities then have to be managed with the most desirable adjacencies that allow for optimal functionality within the facility. Of these 3 scenarios, Scenario #3, 2 stories with no basement was selected by the Steering Committee to be the preferred direction to take and it was this scenario that was used for blocking/stacking exercises to test fit sites to determine a sites feasibility.

The following finalized Blocking and Stacking Plans based on Scenario #3 are shown on the following pages:

DD.06 Option 1 Addition / Renovation

DD.07 Option 1 Addition / Renovation – Phasing Plan

DD.08 Option 2 New Facility (typical)

DD.06 Option 1 Addition / Renovation and DD.07 Option 1 Addition / Renovation – Phasing Plan:

- These plans illustrate the application of the developed functional program to Option 1 which proposes a largescale renovation and addition to the existing police services facility while the facility remains operational. The anticipated construction phasing plan that would be required with this option is also provided.

DD.08 Option 2 New Facility (typical)

- This plan illustrates the application of the developed functional program to Option 2 (typical) which proposes a completely new facility on a new site. This option shows the optimum layout required to support the most efficient workflows and police services operations.

3.4.2 Description of Construction Phasing

Comparison of Option 1 - Phased Renovation of Existing Headquarters with Option 2 - New Build

Implementing Option #1, a phased renovation addition to the existing headquarters will be a complex, risky (potential for cost overruns) and disruptive proposition that will likely take 3 plus years to implement versus Option #2, construction of a new headquarters on a new site, which can likely be constructed in as little as approximately 18 months, with far less risk and disruption to ongoing police operations. As well, given the nature of having to work with an existing structure, it has to be recognized that Option #1 will require compromises in the layout, which will mean Option #1 will be less operationally efficient than Option #2.

A phasing scenario for Option #1 would likely be as follows:

Phase 1 – Likely Duration +/- 14 months

1. Relocate Fleet and Indoor Parking Function off site temporarily to facilitate the construction of the new Detention Area. The Fleet and Indoor Parking Area would be reinstated back into the HQ at the conclusion of Phase 2.
2. Relocate the Property and Exhibits Area off site temporality to facilitate the construction of the new Patrol Area/Front Desk Area. A small Property Exhibits staging area would need to be maintained somewhere in the building to assist with maintaining operations. The Property Exhibits Area would be reinstated back into the HQ at the conclusion of Phase 2.
3. Construct a new 2 storey addition to the south side of the exiting HQ to house the new Public Entry, Community Room, Front Desk, Patrol Area and Watch Commanders Office on the ground floor and Senior Admin, H.R., finance and Professional Standards Offices on the second floor.
4. Construct a new Sallyport at the southwest side of the building and renovate the space presently occupies by Fleet, some lockers and the Parade Room to become the new Detention Area.

Phase 2 – Likely Duration +/- 14 months

5. (2A) Demolish the existing Sallyport and construct a new addition at the west face of the existing HQ to accommodate the new Firing Range, Physical Training, Fleet and Indoor Parking Area at ground level.
6. (2A) Renovate the former Detention Area to become the new Property/Exhibits Area.
7. (2B) Relocate Records into the space formerly occupied by H.R., Finance, Professional Standards etc.
8. (2b) Renovate the former Records Area to become the new Communications and Technology Services Area.

9. (2c) Relocate Criminal Intelligence to the second floor space previously occupied by Senior Administration.
10. Note, from Phase 2 onward a temporary structure/trailer would be required for Lockers/Washrooms as well as to accommodate misc. offices that get displaced as construction progresses.

Phase 3 – Likely Duration +/- 4 months

11. Relocate Community Services to the former Criminal Intelligence space as well as the new second storey addition at the west side of the HQ.
12. Relocate Criminal Intelligence to the former Senior Admin space as well as the new second storey addition at the west side of the HQ.
13. Renovate the space formerly occupied by Comm's and Professional Standards on the second floor to become new Classroom Area.

Phase 4 – Likely Duration +/- 3 months

14. Renovate former Criminal Investigations Area on ground floor to become new Male and Female Locker Area.
15. Complete renovations of corridors, service spaces etc.

Note the aforementioned does not take into account disruptions associated with removal and replacement of mechanical and electrical and other critical infrastructure such as the generator or site works.

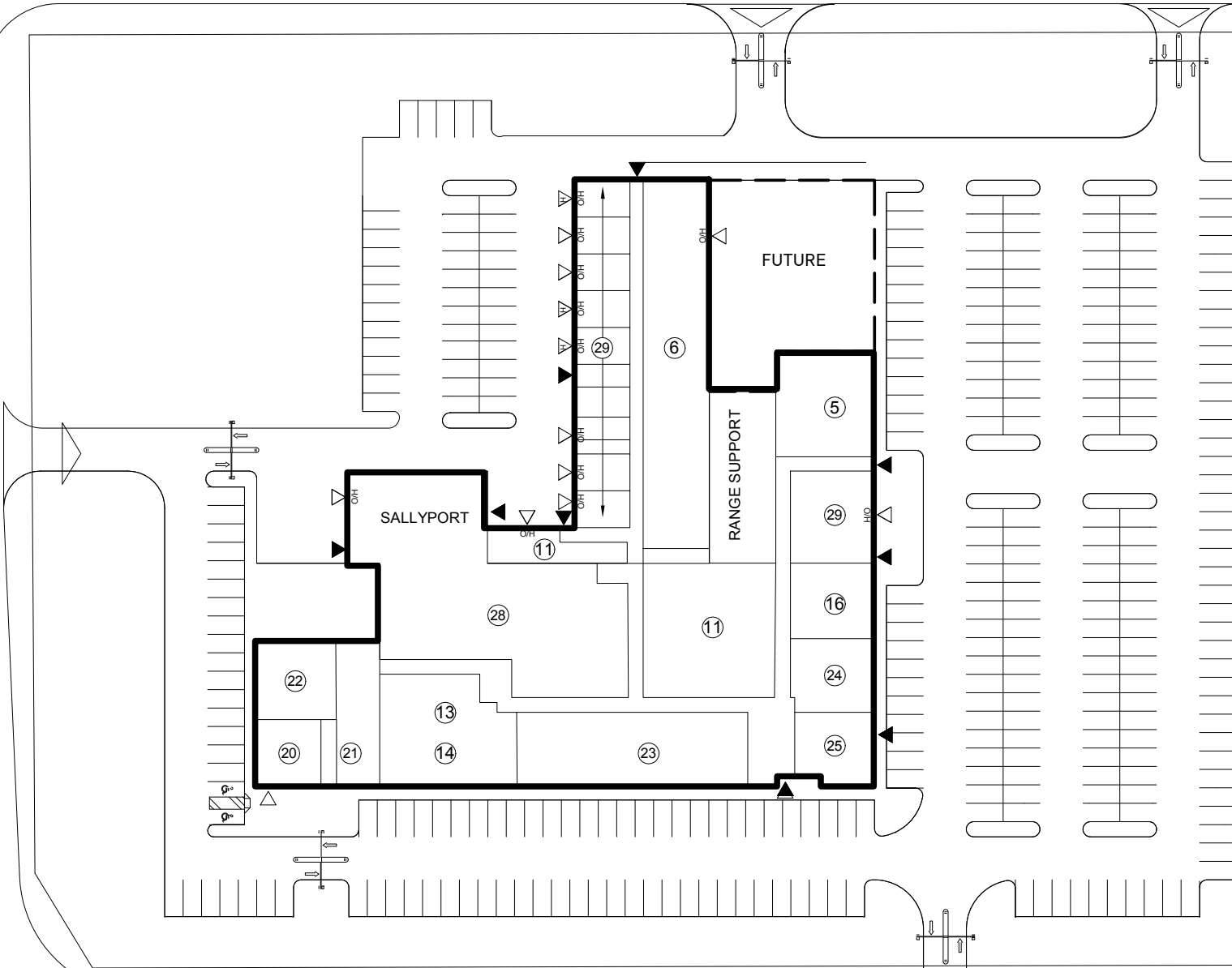
Refer to Phasing Plan DD.07 below.

KEY NOTES

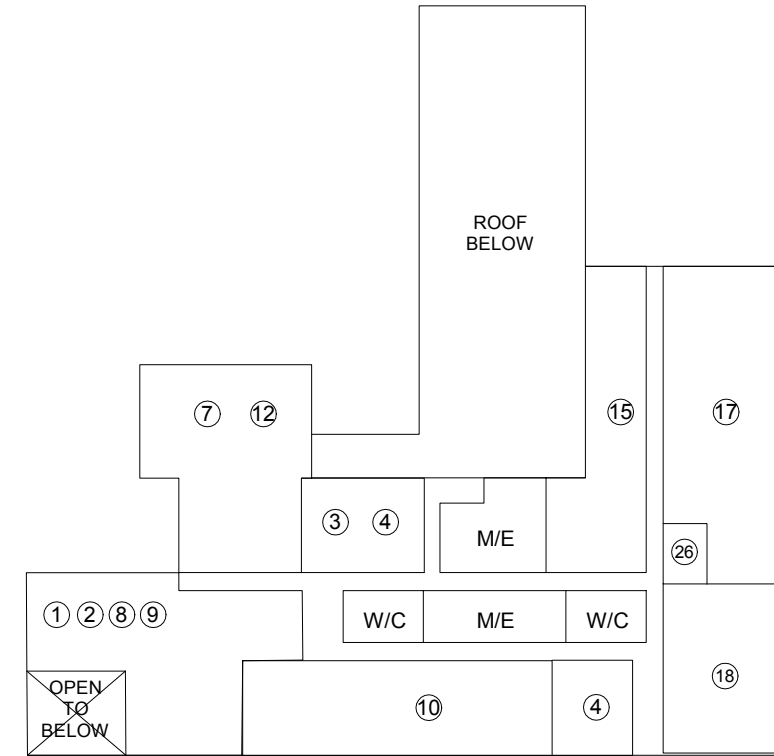
- ① 100-SENIOR ADMINISTRATION
- ② 201-PROFESSIONAL STANDARDS
- ③ 211-TRAINING ADMIN.
- ④ 212-TRAINING CLASSROOM
- ⑤ 213-PHYSICAL TRAINING
- ⑥ 214-FIRING RANGE
- ⑦ 221-TECHNOLOGY SERVICES
- ⑧ 222-FINANCE DIVISION
- ⑨ 223-HR
- ⑩ 224-COURT & RECORDS
- ⑪ 231-EXHIBITS
- ⑫ 241-COMMUNICATIONS
- ⑬ 301-PATROL DIVISION
- ⑭ 302-WATCH COMMAND
- ⑮ 303-COMMUNITY SERVICES
- ⑯ 304-ETU/CANINE
- ⑰ 311-CRIMINAL INVESTIGATIONS
- ⑱ 312-CRIMINAL INTELLIGENCE
- ⑲ 321-FORENSIC IDENTIFICATIONS
- ⑳ 401-PUBLIC ACCESS SPACES
- ㉑ 402-FRONT DESK/SERVICES CENTRE
- ㉒ 403-COMMUNITY/MULTIPURPOSE ROOM
- ㉓ 411-LOCKERS
- ㉔ 412-FITNESS FACILITIES
- ㉕ 413-STAFF AMENITIES
- ㉖ 414-SHARED MEETING ROOM
- ㉗ 415-RECORDS
- ㉘ 501-CELL BLOCK
- ㉙ 701-FLEET & INDOOR PARKING

CENTRAL AVENUE





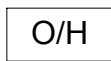
REAUME STREET

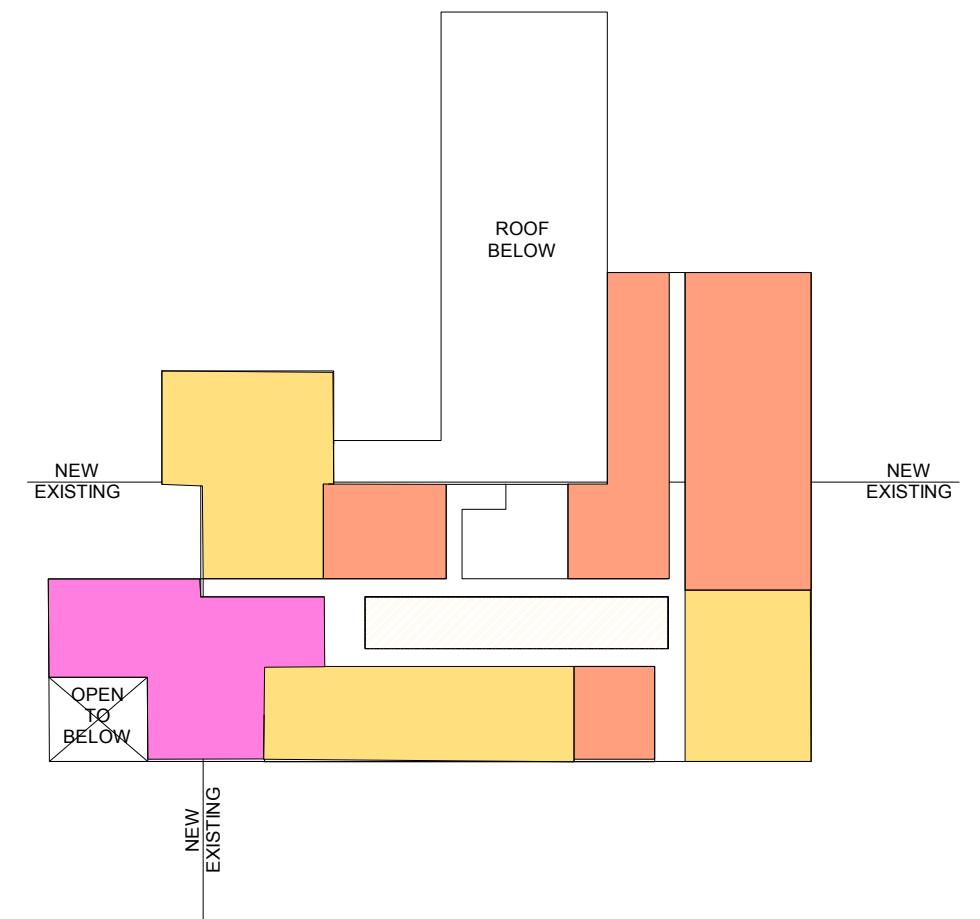
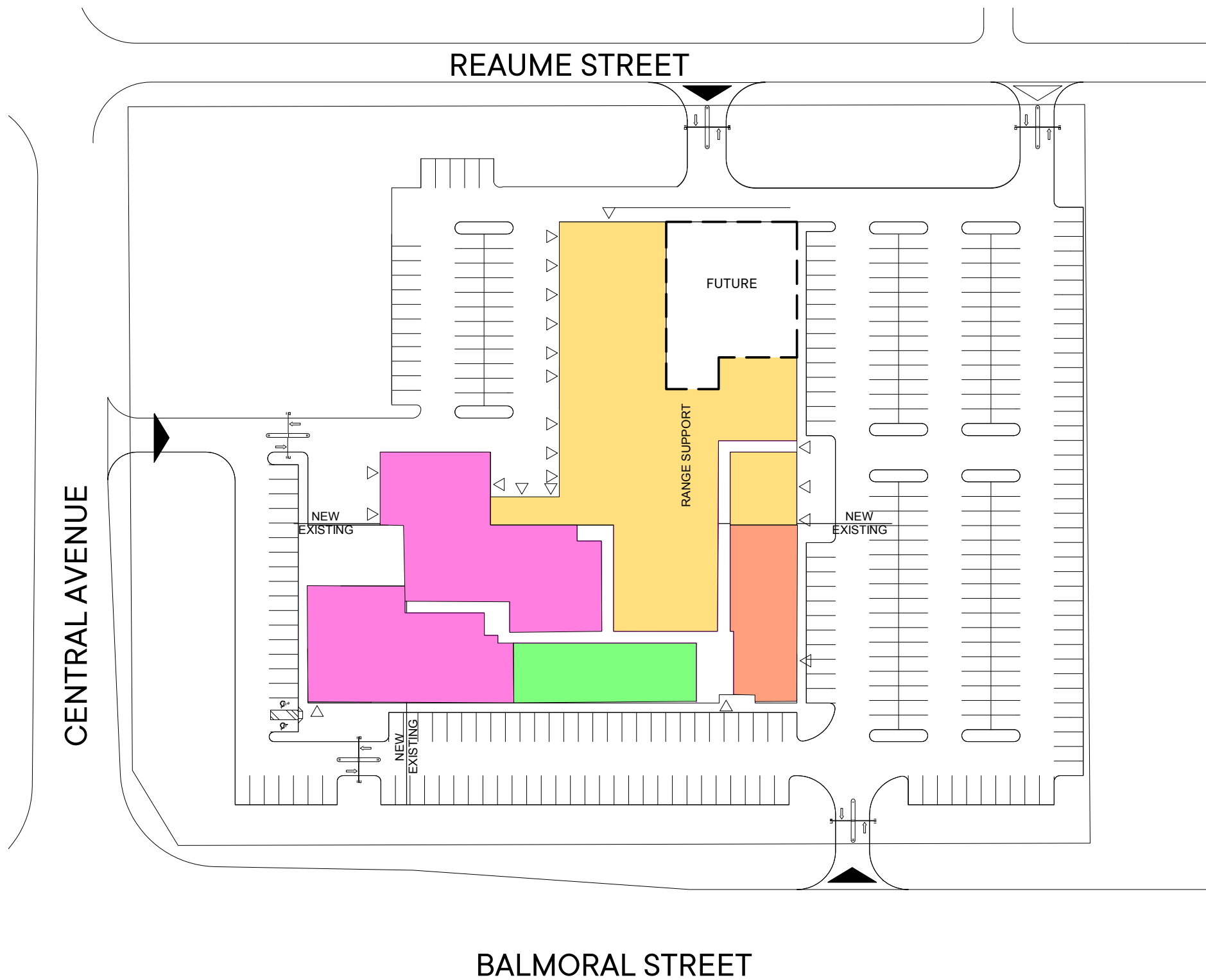


BALMORAL STREET



LEGEND

-  PERSON DOOR
-  VEHICLE ACCESS / LOADING
-  VEHICLE ACCESS & HOIST
-  SITE ENTRANCE
-  O/H OVER HEAD DOOR




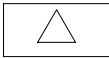


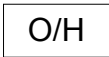
LEGEND

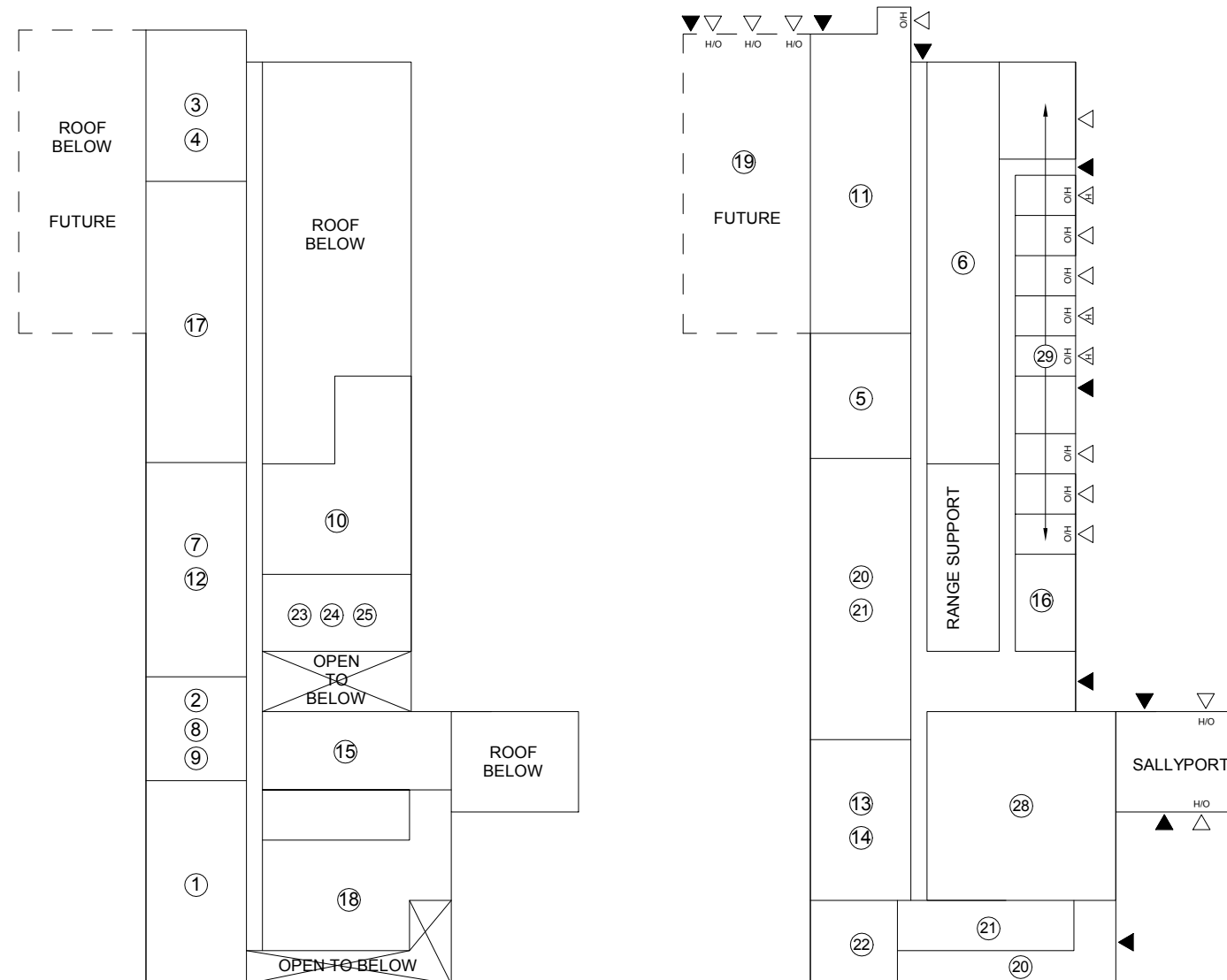
- PHASE 1
- PHASE 2
- PHASE 3
- PHASE 4

KEY NOTES

- | | | | | |
|------------------------------|---------------------------|-------------------------------|-----------------------------------|------------------------------|
| ① 100-SENIOR ADMINISTRATION | ⑦ 221-TECHNOLOGY SERVICES | ⑬ 301-PATROL DIVISION | ⑰ 321-FORENSIC IDENTIFICATIONS | ⑳ 413-STAFF AMENITIES |
| ② 201-PROFESSIONAL STANDARDS | ⑧ 222-FINANCE DIVISION | ⑭ 302-WATCH COMMAND | ⑱ 401-PUBLIC ACCESS SPACES | ㉑ 414-SHARED MEETING ROOM |
| ③ 211-TRAINING ADMIN. | ⑨ 223-HR | ⑮ 303-COMMUNITY SERVICES | ㉒ 402-FRONT DESK/SERVICES CENTRE | ㉒ 415-RECORDS |
| ④ 212-TRAINING CLASSROOM | ⑩ 224-COURT & RECORDS | ⑯ 304-ETU/CANINE | ㉓ 403-COMMUNITY/MULTIPURPOSE ROOM | ㉓ 501-CELL BLOCK |
| ⑤ 213-PHYSICAL TRAINING | ⑪ 231-EXHIBITS | ⑰ 311-CRIMINAL INVESTIGATIONS | ㉔ 411-LOCKERS | ㉔ 701-FLEET & INDOOR PARKING |
| ⑥ 214-FIRING RANGE | ⑫ 241-COMMUNICATIONS | ⑱ 312-CRIMINAL INTELLIGENCE | ㉕ 412-FITNESS FACILITIES | |

LEGEND

-  PERSON DOOR
-  VEHICLE ACCESS / LOADING
-  VEHICLE ACCESS & HOIST
-  SITE ENTRANCE
-  OVER HEAD DOOR



3.5 General Planning and Design Requirements

3.5.1 General

Performance Requirements – Properly designed facilities are an essential support component of providing efficient and effective policing, which is an essential public service, requiring facilities to be operational or in a state of readiness 24 hours a day, 7 days a week, 365 days a year. Police work is complicated, dangerous and governed by a myriad of regulations and demand that the facilities perform in an optimal manner.

There are essentially three aspects of Facility performance that are to be optimized for a future TBPS HQ:

- Functional Performance
- Physical Performance
- Environmental Performance

3.5.2 Functional Performance: Policing is very "process" oriented and demands clear separations and adjacencies between spaces occupied by the police, the public and the accused, in a manner that supports the sequencing of procedures intrinsic with staff carrying out their duties. The facilities must be able to integrate the current various functional units in a manner that allows for easy coordination between units, both physically and electronically and support future flexibility by being able to adapt to future organizational and technological change.

3.5.3 Physical Performance: The TBPS HQ requires a high level of quality and durability so as to withstand daily abuse and potential threat from people, as well as the environment. Abuse can be inflicted accidentally, knowingly or as an act of God. It also requires redundancy systems to ensure uninterrupted delivery of policing services. The physical construction of each Facility must also be secure so as to protect Facility personnel, assets and operations.

3.5.4 Environmental Performance: Policing can be stressful and it is essential that a healthy environment be provided for staff in a manner that will ensure the well-being and comfort of building users and visitors. As well, the City of Thunder Bay has mandated a new HQ is apply LEED® Gold level design principles (without certification) for the welfare of the community and benefit of the environment.

3.5.5 Flexibility Adaptability and Expandability - A major challenge in planning and designing a police facility is how to plan for inevitable changes in service demands created by short term surges/long term growth in a community or operational changes to how services will be delivered. For the most part, the Space Summary include for some "projected" potential growth. Never-the-less it is prudent that the new facility be designed and constructed to accommodate future flexibility and expandability.

Two key factors influence the requirements of flexibility and adaptability:

- The rate of growth
- The rate of change of services

Both of these factors are influenced by demographics and/or changes to service delivery. As stated in Section 2.5, Thunder Bay is not anticipated to undergo any significant fluctuations in population. Staffing projections in the Functional Program are primarily to address potential changes to service delivery, which may be related to specialized crime units being set up to address issues such as organized crime activity or new initiatives such as 911 Text Consoles in the Communication Centre.

Ultimately if growth does materialize, it needs to be accommodated in one of two ways; through external expansion or internal conversion. Expansion requires planning and consideration of the Facility and its components to enable future horizontal additions. Structural systems, corridors, mechanical and electrical systems distribution and capacity all require consideration in appropriate future planning. In the case of the TBPS, for this assignment planning has been done to allow a Forensic Identification Unit to be added at a later date. Similarly, internal conversion requires areas to be able to be reconfigured, quickly and easily with little disruption to the HQ ongoing operations.

3.5.6 Functional Narratives of Operational Areas – Refer to Appendix D.

3.5.7 Site Design - The site should ideally be divided into three distinct zones. A public zone at the front on the building that projects an image of openness and transparency to the public where visitor parking can be provided and facilitates easy access into the buildings Public Lobby. A secure zone that provides a fenced and gated compound for staff/operational vehicle parking, access to the Sally Port, the Staff Entry and any other areas that have heavily used access points into the building. A semi secure zone should be created for special access points into the building such as at Exhibits, Property, and Quarter Master Stores where the public or outside agencies can make pick-ups/deliveries in a controlled manner. Delineation between all three zones should incorporate Crime Prevention Through Environmental Design (CPTED) measures and incorporate barriers, landscaping, medians, signage and fencing to provide a visual delineation between each zone.

3.5.8 Vehicular Access - The preferred number of site access/egress points is to have one access/egress point dedicated exclusively to the visitor parking area and a minimum of two access egress points exclusive to the staff/operational parking area.

3.5.9 Parking – Will have to conform to local zoning requirements, however given the 24/7 nature of a police facility that's required to accommodate a fleet of operation vehicles and also needs to provide parking for staff personal vehicles, that work shifts, the following rational was used:

- 89 Staff personal vehicles based on typical day shift
- 36 Staff personal vehicles for Patrol staff at shift change over
- 27 Staff personal vehicles for civilian staff at shift change over (Records, Comm's and Cadets)
- 152 Total staff personal vehicles to be accommodated
- 70 Vehicles in TBPS fleet

- 222 Total staff and operational vehicles
- 22 10% Surplus Allowance
- 244 Minimum Amount of parking required for Staff and Operational Vehicles

Additionally, parking for approximately 20 visitors (public) is recommended to be provided.

PART 4 - COST

4.1 General/ Methodology

Class D construction estimates for the renovation / addition and new construction options were developed by Postma Quantity Surveying Ltd., a licensed quantity surveyor.

General Assumption for construction: The building is assumed to be constructed on pad footings, slab on grade, structural steel frame with steel deck and toppings to 2nd floor, and steel deck and modified bitumen flat roof. Exterior finishes are a combination of composite panel, metal cladding and brick veneer, curtain wall glazing. (refer to Class D estimate in Appendix F for full list of estimating assumptions). The construction estimate excludes HST, furniture and any consulting fees.

The pricing reflects probable construction costs obtainable in the location of the project as of the date of this estimate and is a determination of fair market value for the construction of this project and should not be taken as a prediction of low bid. This pricing assumes competitive bidding for every portion of the construction work including all subcontractors as well as the general contractor and assumes a minimum of four (4) general bidders. If fewer bids are received, the bid results can be expected to be higher.

Quantity Surveyors do not have control over the cost of labour, material or equipment, over a contractor's methods of determining bid prices, or over competitive bidding, market or negotiation conditions and therefore cannot, and do not, warrant or represent that bids or negotiated prices will not vary from this or any subsequent estimate of construction cost or evaluation. It is generally acknowledged that a Class D estimate is within the range of plus or minus twenty (20%) percent.

For clarity, costs have been broken into 'Hard Costs' and 'Soft Cost' categories.

Hard Costs include the construction estimate and the FF&E (furniture, fixtures and equipment) allowance and typically do not include HST or land costs unless otherwise noted. Soft Costs include, but are not limited to, consultants fees, legal fees and permits, and project contingencies.

Refer to the Estimated Cost Summary Notes for additional information on specific methodologies employed to develop various costs.

4.2 Construction Cost Comparison

Base Case: Repairs and Maintenance = 64,385 sf (5,984 m²)

\$7,592,624 (refer to Cost Summary Chart in Building Condition Report, Appendix A for breakdown)

Option 1: Exist. building reno/addition = 64,385 sf (5,984 m²) + 66,935 sf (6,221 m²) add @ \$364/sf (\$3,917/m²)

\$47,806,105

Option 2 (typical): New Building = 115,161 sf (10,703 m²) @ \$391/sf (\$4,207/m²)

\$45,025,668

These values include a 15% design contingency and 9% escalation to 2022 plus and a 10% contingency allowance added to existing building renovation and addition option and a 5% contingency allowance added to new building option.

For Full Class D Construction Cost estimate refer to Appendix F.

4.3 Breakout of estimated hard costs for the Firing Range from the overall Class D estimate:

A breakout of the costs for the range component from the Class D estimate was requested. RPL provided the following information based on the Class D estimate developed by Postma Quantity Surveying and their own specialist consulting experience with completed projects of the same or similar type:

- To deduct the Firing Range component, apply a credit of \$4,567,800
 - based on 10,226 sq.ft (950 sq.m) x \$300 / sq.ft = \$3,067,800
 - + \$1.5 million containment and targeting system

4.4 Future Forensic Identification Unit Addition:

Probable construction costs (hard costs only) to add the Forensic Identification Unit were developed by RPL based on the Class D estimate provided by Postma Quantity Surveying and their own specialist consulting experience with completed projects of the same or similar type. The probable cost value does not include costs associated with escalation due to unknown date of construction.

- To add in the Forensics component, apply an extra of \$5,091,350
 - based on 9,257 sq.ft. (860 sq.m) x \$550 / sq.ft

4.5 Summary of Estimated Project Costs

4.5.1 General Assumptions:

- Start date for all Options – January 2022.
- Base Case Repairs & Maintenance: construction procurement (design, bid build) = 12 months + 18 months construction = completion July 2024
- Option 1 Reno/ Add: construction procurement (design, bid, build) = 18 months + 35 months construction = completion July 2026
- Option 2 (typical for a, b and c): construction procurement (design, bid, build) = 18 months + 20 months construction = completion September 2024

4.5.2 Table – Summary of Estimated Costs

2019034 CTB Police Facility Needs Assessment - Cost Summary				
February 2020				
Form Studio 2019034				
Construction Hard Costs	Note Ref.	Base Case Existing	Option 1 Reno / Add	Option 2 New Construction
Estimated Construction	Note 3-7	\$ 7,592,624.00	\$ 47,806,105.00	\$ 45,025,668.00
Estimated Furniture (FF&E)	Note 2	\$ -	\$ 1,500,000.00	\$ 1,500,000.00
Land Acquisition Cost (est.)	Note 7	\$ -	\$ -	\$ 716,000.00
Revenue from Land Sale (est.)	Note 12	\$ -	\$ -	\$ 3,100,000.00
Total Hard Costs without HST		\$ 7,592,624.00	\$49,306,105.00	\$ 44,141,668.00
construction costs + HST, - land	Note 7, 8	\$ 8,579,665.12	\$ 55,715,898.65	\$ 52,574,004.84
Project Related Soft Costs				
Move allowance	Note 10	\$ 100,000.00	\$ 200,000.00	\$ 150,000.00
Consultants - core design team	Note 8	\$ 1,158,254.79	\$ 6,964,487.33	\$ 4,731,660.44
Consultants - specialist	Note 8	\$ 171,593.30	\$ 1,114,317.97	\$ 1,051,480.10
Additional Services	Note 9	\$ 85,796.65	\$ 557,158.99	\$ 525,740.05
Subtotal soft costs		\$ 1,515,644.74	\$ 8,835,964.29	\$ 6,458,880.58
5% soft cost contingency		\$ 75,782.24	\$ 441,798.21	\$ 322,944.03
Total Soft Costs		\$ 1,591,426.98	\$ 9,277,762.51	\$ 6,781,824.61
Subtotal Hard & Soft Costs		\$ 9,184,050.98	\$ 58,583,867.51	\$ 50,923,492.61
Non-recoverable HST	Note 1	\$ 161,639.30	\$ 1,031,076.07	\$ 938,211.87
Operations Inefficiency Factor	Note 11	\$ 715,500.00	\$ 4,173,740.00	\$ 397,500.00
Total Project Costs	Note 1	\$ 10,061,190.28	\$ 63,788,683.57	\$ 52,259,204.48

Notes

1. Total Project Costs include non-recoverable HST @ 1.76% where applicable (does not include land acquisition cost).
2. FF&E = furniture, fixtures and equipment. This value represents only probable furniture procurement costs and assumes all new furniture unless otherwise noted. Refer to detailed construction estimate for Fixtures and Equipment costs.
3. Estimated Construction costs do not include HST. Refer to individual Class D construction estimates for detailed cost breakdown and estimating assumptions.
4. Estimates indicate anticipated probable costs and are not a guarantee of actual project costs.
5. Estimates do not include site remediation required by future environmental assessments.
6. Refer to Building Condition Assessment Report for detailed cost breakdown for Base Case.

7. Land acquisition costs are not included in HST calculation for Consultant fees.

8. Consultant fees are based on RAIC Handbook of Practice for Architects fee schedule for Architectural Services and Fees, section 2.1.10, and incorporate typology complexity factors, renovation factors, and local A&E industry conditions for competitive bidding. HST on Construction Costs (hard costs) are included in the calculation of consultant fees. Consultant fees assume standard Design/ Bid/Build construction procurement.

9. Additional Services factor of 1% is intended to cover legal and accounting services, project expenses including disbursements and unforeseen project costs, and is based on specialist consulting experience with development costs for completed projects of a similar typology.

10. The Move Allowance is intended to cover movement of the TBPS into a new facility (new building or new renovation / addition). IT and furniture teardown & removal, furniture and filing movement, equipment relocations; mobilization / remobilization for new furniture set up, and typical move logistics. Value is based on consultant experience with completed projects of the same or similar scope.

11. Operational Inefficiency is a percentage factor applied to the annual TBPS payroll intended to cover operational risks and inefficiencies associated with the renovation option. These are costs related to human resources - items such as rental of temporary office trailers and other physical support are covered in the construction estimate.

This factor was based on input from Project Management Service Providers, Move Managers and specialist consulting experience with completed projects with similar, phased construction requiring the service facility to remain operational during construction.

Project examples - operational facilities during phased construction:

- MNRF Thunder Bay Fire Management Headquarters
- MNRF Dryden Fire Management Centre
- TBIAA Thunder Bay International Airport

Included in the factor: TBPS staff down time for movement into temporary facilities; department head move management; staff ramp up time and equipment move management; temporary IT services & connection management; temporary security protocols familiarization, temporary departmental workflow protocols familiarization; temporary storage familiarization & logistics; ongoing coordination of available facility space; TBPS liaison during construction

Base Case	1% on an annual payroll of \$47.7M, construction duration of 18 months
Option 1	3% on an annual payroll of \$47.7M construction duration of 35 months
Option 2	0.5% on an annual payroll of \$47.7M, construction duration of 20 months

12. Anticipated value received for sale of existing site at a future time. Refer to Section 5 business case for evaluation methodology.

PART 5 – Financial Analysis

1.1 Introduction

MNP was retained by FORM Studio Architects (FORM) to develop the financial analysis component of the City of Thunder Bay Police's Facility Needs Assessment study. This analysis is based on the documentation provided by FORM and the City of Thunder Bay.

The existing police services facility on Balmoral Street is nearing the end of its useful service life and will require significant and costly upgrades in order to be fit for continued use. In general, the facility no longer easily supports efficient policing activities to current required standards and best practices. The City is in the process of reviewing options for upgrading and/or replacement of the facility.

The Base Case: The Base Case consists of maintaining the current facility (built in 1985) but with key repairs and renovations to bring the facility up to OBC standards and to provide a workable space maintaining the current square footage. This is not considered a realistic go forward scenario but will be defined as a base case for the purpose of this report.

In reality there are two possible scenarios to analyze:

- Option 1: Renovation/ Addition to Existing Building on the Existing Site: This option includes renovation and significant addition to the existing building, redevelopment of the site to better suit current policing needs and bringing the facility up to current building codes where possible;
- Option 2: New Facility Constructed on a New Site: This option includes the evaluation and purchase of a new site for development and construction of a new police services facility.

1.2 Procurement and Scheduling Assumptions

For the three outlined scenarios, construction cost estimates include all direct construction costs and contractor's overhead and profit. The pricing assumes competitive bidding for every portion of the construction work including all subcontractors as well as the general contractor and assumes a minimum of four (4) general bidders. If fewer bids are received, the bid results can be expected to be higher. We also assume that the project will be completed in a reasonable time frame and have not included any premiums required for "fast-tracking" or phasing of the project.

1.3 Risk Assessment and Escalation

A 15% design contingency has been added in the costing model as well as a 3% escalation to 2020 for the Base Case. A 10% contingency allowance is added to Option 1. For Option 2 a 5% contingency allowance is included.

1.4 Sources of Information

The analysis is based on the Functional Program that was conducted by RPL, the Binder CTB Police Station Class D Estimates (Option 1 and 2), the Draft Condition Report for Costing (Base Case), list is included in Appendix A of this report and supplemented by discussions with FORM. Additionally, historical financial data for the Base Case was provided by the City of Thunder Bay Financial Department. It reflects December 2019 current dollars and present market/local conditions.

1.5 Market Conditions

The analysis uses the result of estimates based on normal competitive conditions and is intended to fall within a range of bids received from a number of competitive contractors. Adverse local and global market conditions, proprietary specifications, single sourcing of materials and equipment, or lack of bidders may cause bids to vary from reasonable estimates based on normal competitive conditions.

1.6 Limitation of Scope

MNP Limitation on Financial Forecasts

All financial modelling assignments typically include predictions, estimates, assumptions or other information that might be considered forward-looking. While these forward-looking statements represent our best current judgment on what the future holds, they are subject to risks and uncertainties that could cause actual results to differ materially. The client is cautioned not to place undue reliance on these forward-looking statements, which reflect our opinions only as of the date of the forecast completion. Please keep in mind that we are not obligating ourselves to revise or publicly release the results of any revision to these forward-looking projections in light of new information or future events. Furthermore, until more clarity about the actual operations and revenues of the Administrative Authority are known, the forecasts presented in this report should be viewed as informed estimates only, and do not constitute an informal or formal opinion of projected expenditures or achievable revenues.

2. BUSINESS CASE ANALYSIS (EVALUATION) PROCESS

The business case analysis is based on a financial analysis of all three scenarios as well as cost-related evaluation criteria that were considered in the evaluation and comparison of all three scenarios. The financial analysis has been conducted with a 25-year financial projection of each of the scenarios.

To further augment the analysis, and to more accurately represent the “time value” of money, a net present value (NPV) comparison of the two options has been prepared. Parallel financial models were prepared over a period of ten years to compare the net value of the associated income (or in our case, recoveries on energy costs and other operating costs) and costs (capital and operating) of each option in today’s dollars or the “net present value”.

The analysis concludes with a high-level evaluation of pros and cons of each option.

3. BUSINESS CASE – FACILITY ALTERNATIVES (OPTIONS)

3.1 Options Overview

There are two options for the City of Thunder Bay Police Facility. The first one involves the existing facility and the second scenario is the construction of a new facility on a new site. The benefits and costs of each of these will be part of the evaluation criteria and will inform the final recommendation of the preferred scenario. The Base Case will be used for comparison purposes.

Reasons why the current facility needs upgrading:

Many things have changed since 1985 when the original building was built, and since 1992 when the second floor was added;

- The police service has expanded to 244 staff in 1987 to a current service of 360 with future staff being estimated at 419 in the future;
- Policing and policing standards have changed and improved;
- Public interactions with police have changed;
- Requirements for public safety and barrier free accessibility have changed;
- Equipment that was new in 1985 and in 1992 is reaching 'end of life' and requires replacing.

The current building has been assessed as not large enough and doesn't have the right spaces to adequately and efficiently support current requirements for today's police services. Based on current programming and staff, the required square footage has been determined to be 130,140 sq.ft. The current facility has 64,385 sq.ft. Specific issues have been identified under the following categories:

1. Operational Issues – overcrowding, disjointed facility layout, lack of available space for training, for interview rooms and general security issues
2. Physical Building Issues – many components have exceeded their useful life, repair costs are higher than new components, low energy efficiency and carbon footprint due to aging systems
3. Public Interface Issues – building entrance, service counters accessibility and intimidating, lack of confidentiality in lobby, no public meeting or briefing areas
4. Existing Site Issues – poor drainage, insufficient parking, limited control to public access

3.2 Description of Options

3.2.1 Base Case – Current Facility with Renovations (Repairs and Maintenance)

The Base Case will be used for comparison purposes and represents the Base Case with the bare minimum of repairs and maintenance to be completed to allow continued occupation of the existing building. The Base Case consists of maintaining the current facility (built in 1985) but with critical repairs and renovations to bring the facility up to OBC standards and to provide an optimized space to meet the police services' critical

needs of today, within the current footprint. There are several issues as mentioned previously, operational, physical building and public interface and existing site issues that would be partly addressed as best as possible with the repairs and renovations. The issues of overcrowding, lack of space for training and interview rooms, a disjointed facility layout, repairs of aging infrastructure, in addition of the lack of parking and exterior lockup space will remain. The age of the building also contributes to low energy efficiency and high carbon footprint, due to the aging systems, which impacts operating costs. The shooting range is housed off-site in a rented facility. For all these reasons, this will remain as a basis of comparison for the two facility options.

3.2.2 Option 1 – Addition / Renovation to Existing Building on the Existing Site

The first option proposes renovation and an addition to the existing building on the existing site. This involves extensive renovation and addition to the existing building done while the building remains operational which will have to be carefully planned. Operational efficiency would be severely compromised during construction, the proposed construction timeline is estimated at 35 months as it needs to allow for operations to continue throughout. Although the renovations and additions will provide more square footage, the operating efficiency will be less than optimal once complete. The construction costs include the addition of a shooting range which decreases the costs related to the rental of the off-site facility now being used and provides the opportunity for rental income with other police forces, should they choose to rent it.

3.2.3 Option 2 – New Facility Constructed on a New Site

The second option is the construction of a new facility on a new site in another location in the City. This option provides the flexibility to design and build to specifications that are compliant to up-to-date standards and provide a facility that meets all the requirements and future needs of the police services. The location will be a central site, as this is critical for efficient dispatch and travel times to all areas of the city. This new facility includes a shooting range on-site, such as in Option 1 and as explained in Option 1 this decreases costs related to the current use of an off-site facility and may also provide the opportunity for rental income with other police forces. The construction maintenance and operation of the new site will address sustainable environmental, social and economic benefits through efficient design and operation. There will be increased parking and outdoor storage and allow for future expansion, if needed. The design service life of the new facility will be 30 years without unforeseen costs or disruptions for standard maintenance and repairs. As this is a new build, the existing facility remains operational during the construction, with minimal disruption therefore there is no change to operating efficiency during construction. As the new build will done to code with current energy efficiency standards, it will have optimal energy efficiency once completed. A sale revenue for the existing facility is also considered in the analysis of this option, as well as a land purchasing cost.

3.3 Other Option Considerations

3.3.1 Off-site Shooting Range

At present time, as can be seen in the Base Case, there are costs associated with the rental of facilities off-site for the shooting range. A variety of costs currently associated with the rental of a shooting range facility off-site will not be required in Options 1 and 2. These costs include rental costs, travel time and costs for resource and van rental. Additionally, moving this facility onsite will simplify logistics relating to officer traveling and scheduling. These current costs will be eliminated with Options 1 and 2 and are considered in the overall evaluation of the options.

1.3.2 Space Allocation for each Option

2. Option	Total Space (Square Feet)
Base Case	64,389
Option 1	115,161
Option 2	120,672

4. FINANCIAL ASSESSMENT OF OPTIONS

The financial assessment of the three options was conducted using key assumptions. These were evaluated over a horizon of 25 years with a start date for all three of January 2022. The three scenarios had variable construction timelines with varying levels of disruption, which was factored into the analysis. The operating costs benefits that will be recovered over time have been calculated for the 25 year period. The Net Present Value (NPV) analysis will consider this and allow for a better comparison of the two options. Base Case shows the timing required for the maintenance work and allows for a comparison with the two Options. The timing for each option is as follows:

- Base Case
 - 12 months pre-construction planning + 18 months construction = completion July 2024
- Option 1
 - 18 months pre-construction planning + 35 months construction = completion July 2026
- Option 2
 - 18 months pre-construction planning + 20 months construction = completion September 2024

4.1 Key Financial Assumptions: The key assumptions for each alternative were as follows:

Universal Financial Assumptions			
Assumptions			
Discount rate (Borrowing rate)	4%, set at the rate of borrowing (or cost of capital) to bring expenditures in later years into today's dollars		
Interest Rate	4%, provided by the COTB as their current rate of long-term borrowing		
Term	20-years, typically a 10-30-year term is used for similar infrastructure projects, 20 was used as the middle point.		
Debt Funding	The assumption was that 100% of the capital project will be financed through debt		
Inflation	2%, the Bank of Canada's target rate		
Time Frame	The analysis was developed over a 25-year time horizon		
Escalation	3% per year was used to escalate capital costs.		
Soft Costs	15% of total hard costs excluding the cost of land acquisition was used.		
Scenario Specific			
Assumptions	Base Case	Option 1	Option 2
Revenue from Sale of Existing Facility	N/A	N/A	\$15,542,179
SQFT	64,389	115,161	120,672
Shooting Range (time, visits wage)	1,279 total visits a year at 90 minutes per round trip and an average hourly wage cost of \$65.68. Wages and number of visits were increased at 3% a year to accommodate an increase in wages & range users.	N/A	N/A
Total Capital Costs (including land)	\$10,061,190	\$63,788,684	\$55,250,085
Energy Efficiency (per sq. ft.)	0% improvement compared to current efficiency.	30% improvement compared to current efficiency.	60% improvement compared to current efficiency.
Land Costs	N/A	N/A	\$716,000
Inefficiency	1% of payroll during construction period.	3% of payroll during construction period.	0.5% of payroll during construction period.
Construction period	18 Months	35 Months	20 Months

4.2 Capital Costs

The project team (FORM with the support of Postma Quantity Surveying Ltd.) developed detailed capital cost estimates for each Police Facility improvement option. A summary of the capital cost requirements for each option is provided below.

Detailed assumptions regarding the design and capital cost assumptions for each option are included in the balance of this Functional Program and Needs Assessment Study Report developed by FORM, which accompanies this financial business case.

Based on the proposed options of each alternative, the capital cost breakdown for the three individual options are as follows:

4.2.1 Base Case – Current Facility with Renovations (Repairs and Maintenance)

The total estimated cost of Base Case is approximately \$10.06 million. A breakdown of the facility repairs and maintenance costs in Base Case is provided in Figure 1 below.

Figure 1- Breakdown of the CTB Police Facility Project Costs - Base Case

Base Case	
Description	Cost
Architectural Facility Site	\$2,642,650
Architectural Building Exterior & Roof	\$1,735,000
Architectural Building Interior (Ground Floor)	\$433,335
Architectural Building Interior (Second Floor)	\$51,400
Mechanical Upgrades/Repairs	\$1,500,000
Electrical Upgrades/Repairs	\$380,000
Sub Total	\$6,742,385
Contingency	\$690,239
Planning Costs	\$674,239
Total Project Costs	\$8,106,862
Compliance Costs	\$160,000
Compliance Soft Costs	\$16,000
Total Hard Project & Compliance Costs	\$8,282,862
One-time Capital sale	\$0
Move Costs	\$100,000
Soft Costs	\$801,189
Operational inefficiencies during construction	\$715,500
Non-Recoverable HST	\$161,639
Total Hard and Soft Project Costs	\$10,061,190

4.2.2 Option 1 - Addition / Renovation to Existing Building on the Existing Site

The total estimated cost of Option 1 is approximately \$63.8 million. A breakdown of the facility repairs and maintenance costs in Option 1 is provided in Figure 2 below.

Figure 2 - Breakdown of the CTB Police Facility Project Costs - Option 1

Option 1	
Description	Cost
Other	\$6,728,060
Site Work/Signage	\$1,819,709
Demolition	\$359,077
Structural	\$3,931,663
Millwork	\$263,720
Metal Panels & Roofing	\$2,263,290
Doors & Windows	\$1,295,100
Drywall and Metal Studs	\$1,429,088
Flooring & Tile Work	\$771,156
Painting	\$374,465
Specialties/Furnishings	\$2,236,346
Elevator & Stairs	\$151,200
Mechanical	\$6,555,335
Electrical	\$4,968,060
Sub Total	\$33,146,269
Fixtures, Furniture and Equipment	\$1,500,000
Escalation	\$4,645,118
Contingency	\$4,346,010
Design Contingency	\$5,668,708
Total Hard Project Costs	\$49,306,105
One-time Capital sale	\$0
Move Costs	\$200,000
Soft Costs	\$9,077,763
Operational inefficiencies during construction	\$4,173,750
Non-Recoverable HST	\$1,031,076
Total Hard and Soft Project Costs	\$63,788,684

4.2.3 Option 2 – New Facility Constructed on a New Site

The total estimated cost of Option 2 is approximately \$55.3 million, there is also \$3.1 million of revenue from the sale of previous facility. The net costs for this option are evaluated at \$52.2 million.

Figure 3 - Breakdown of the CTB Police Facility Project Costs – Option 2

Option 2	
Description	Cost
Other	\$5,163,731
Site Work/Signage	\$1,890,820
Demolition	\$0
Structural	\$7,050,280
Millwork	\$263,720
Metal Panels & Roofing	\$2,517,400
Doors & Windows	\$966,150
Drywall and Metal Studs	\$1,543,800
Flooring & Tile Work	\$807,696
Painting	\$353,100
Specialties/Furnishings	\$2,280,786
Elevator & Stairs	\$246,700
Mechanical	\$5,976,112
Electrical	\$5,149,189
Land Acquisition	\$716,000
Total Hard Costs	\$34,925,484
Fixtures, Furniture and Equipment	\$1,500,000
Escalation	\$3,078,854
Contingency	\$2,144,079
Design Contingency	\$5,593,251
Total Hard Project Costs	\$46,525,668
Move Costs	\$150,000
Soft Costs	\$6,631,825
Operational inefficiencies during construction	\$397,500
Non-Recoverable HST	\$829,092
Total Hard and Soft Project Costs	\$55,250,084
One-time Capital sale	-\$3,100,000
Total Borrowing	\$52,150,084

4.3 Facility Operating Costs Analysis

To provide a net present value analysis of the respective options, operating costs are considered. Operating costs and potential gained efficiencies (due to energy costs, resource travel-time, response-time, potential rental revenue, etc.) have been estimated for each of the three options.

4.3.1 Current and Projected Police Facility Annual Operating Costs

The projected annual facility operating costs for each option has been estimated based on the particularities of each redevelopment option, these estimates were provided by FORM. A comparison of the projected annual facility operating costs to the costs for the 2019 fiscal year is provided in Figure 4 below.

Figure 4 - Comparison of Current Annual Facility Operating Costs to Projected Annual Facility Costs for Each Option

	Current Operating Costs	Base (\$38.00/sqft)	Option 1 (\$33.32/sqft)	Option 2 (\$28.47/sqft)
Marketing	\$30,000	\$30,000	\$30,000	\$30,000
Parking	\$10,000	\$10,000	\$10,000	\$0
Communications	\$300,000	\$300,000	\$300,000	\$300,000
Utilities	\$241,459	\$241,459	\$302,298	\$181,008
Gasoline	\$330,000	\$330,000	\$330,000	\$330,000
Repairs and Maintenance	\$41,853	\$41,853	\$57,581	\$30,168
Computer	\$250,000	\$250,000	\$250,000	\$250,000
Office Supplies	\$100,000	\$100,000	\$100,000	\$100,000
General	\$144,875	\$144,875	\$230,322	\$181,008
Miscellaneous	\$50,000	\$50,000	\$50,000	\$50,000
Materials and Services	\$6,439	\$6,439	\$9,213	\$7,240
Contracted Services	\$300,000	\$300,000	\$300,000	\$300,000
Rent	\$40,000	\$40,000	\$40,000	\$40,000
Range Cost	\$138,377	\$138,377	\$0	\$0
Interest	\$0	\$308,617	\$1,827,943	\$1,609,777
Total	\$1,983,003	\$2,291,620	\$3,837,356	\$3,409,201
Change vs. Current State	\$0	\$308,617	\$1,699,353	\$1,271,198

The only difference between the current costs and the Base Case operating costs is the additional interest expense on the renovation related debt. Options 1 and 2 incur higher interest costs as the project costs are significantly higher. Utilities expenses for Option 2 have been estimated being lower than Option 1 because of the high efficiency of the new build as opposed the Option 1 current facility plus addition. In Option 1, although there is an assumed 30% energy efficiency gain in the new addition, the existing portion of the building will have the same resulting efficiency as in Base Case, after repairs and maintenance. Also, since the total facility size in Option 1 is forecasted to be 79% larger than the current footprint, its utility costs increase to reflect the larger area. In Option 2, the footprint is 87% larger than the current space, however because the entire facility is new, there is an assumed 60% gain in energy efficiency.

4.4 Capital Renewal - Facility Repairs and Maintenance Costs

The Project Team projected the estimated repairs and maintenance costs for each option for the next 25 years of operations. Capital renewal for the existing facility (Base Case and Option 1) has been assumed at 1.25% of replacement cost per annum, and 1.0% of build cost per annum for any new structures (Option 1 and 2), over 25 years.

4.5 Net Present Value Analysis

To more accurately represent the ‘time value’ of money a Net Present Value (NPV) comparison of the three options has been prepared. Parallel financial models were prepared over a period of twenty-five (25) years which then allowed for a Net Present Value (NPV) cost-benefit analysis for each facility option. The NPV is based on three components including capital costs, facility operating costs and facility repairs and maintenance costs (capital renewal).

The NPV analysis was conducted with capital costs and soft cost assumptions provided by FORM. The facility operating costs, facility repairs and maintenance were provided by the City of Thunder Bay Finance team.

The following key assumptions were used in the NPV analysis:

- A cost escalation rate of 3% per year
- A discount rate of 4% over 25 years.
- A time period of 25 years

The following table shows the Net Present Value results for each option. Additional detail on the NPV analysis is included as Appendix D.

Figure 5 - Net Present Value Comparison Over 25-year Lifetime

Operating 25-year Lifetime Present Value					
	Facility Size (Sqft)	Operating	Capital	Capital Renewal	Total
Base	64,389	\$49,940,051	\$10,811,899	\$3,026,778	\$63,778,728
Option 1	115,161	\$58,021,938	\$67,358,926	\$9,434,026	\$134,814,890
Option 2	120,672	\$53,960,544	\$50,280,339	\$7,221,090	\$111,461,973

Discount Rate:	4%
-----------------------	-----------

Figure 5 demonstrates that the total net present value of the cost of ownership (operating, capital and capital renewal costs) for Base is approximately \$71.0 million less than Option 1 and \$47.7 million less than Option 2. Option 2 is approximately \$23.4 million lower than Option 1.

5. EVALUATION OF FACILITY OPTIONS

As this is a risk-based decision, it is not the intent of the Project Team to recommend one alternative over another. Rather, the role of the Project Team is to outline the feasibility and impact of each option based on the financial, operational and community impacts and to present said facts to the Steering Committee. This input from the Project Team will allow the Steering Committee to propose a preferred scenario to Council with sufficient information to enable them to make informed decision regarding the future direction they will take for the City of Thunder Bay Police Facility. Only Council is in a position to decide on the level of investment and risk they are willing and able to make.

5.1 Option Comparison

5.1.1 Base Case – Current Facility with Required Renovations (Repairs and Maintenance)

The Base Case consists of maintaining the current facility with critical repairs and renovations to bring the facility up to standards and to provide an optimized space to meet the police services’ critical needs of today. The shooting range will continue to be housed off-site in rented facilities.

Key capital costs associated with the base case include:

- Improvements to facility site: drainage, asphalt and curbs, exterior entrance sign, flammable storage and vehicle lockup – most of the cost here is asphalt and drainage
- Building exterior and roof: walls, doors windows and curtain walls, roof and canopy – windows and roof are the highest costs
- Building interior areas (ground floor): general repairs in most areas, public entrance and reception and holding cells are the two major costs
- Building exterior areas (second floor): general repairs throughout

Pros	Cons
<ul style="list-style-type: none"> • This is the lowest cost scenario 	<ul style="list-style-type: none"> • Space requirements for parking, police vehicles outdoors, and for operational needs inside the facility are not met
<ul style="list-style-type: none"> • All upgrades required are done to conform to OBC standards 	<ul style="list-style-type: none"> • Significant upgrades required to building elements and outdoor site.
<ul style="list-style-type: none"> • Improvements to the facility include the parking and drainage, entrance and mechanical upgrades 	<ul style="list-style-type: none"> • Capacity to renovate to better suit is very limited within the walls of the current facility and the disjointed layout
	<ul style="list-style-type: none"> • No capacity for growth, limited to what they currently have in space, which no longer easily supports policing activities to current required standards and best practices.

5.1.2 Option 1: Addition / Renovation to Existing Building on the Existing Site

This first option maintains the current facility with the added investment of renovations and a significant addition. This is the most disruptive on operating efficiency through the construction phase and is the most expensive scenario. The shooting range is included in the addition and which provides potential savings on related expenses to the current off-site facilities and potential rental revenue to other forces. Key capital costs associated with this alternative include:

- All the same work noted in Base Case would be included in the Option 1 except for replacement of curtain wall glass, which is not included;
- Additionally, this option includes all costs related to the construction of an addition, which includes permits, demolition (4 phases while occupied), site work, and all direct construction costs which includes an important investment in mechanical construction.

Pros	Cons
<ul style="list-style-type: none"> • Significant increase in space (indoor and outdoor) and allowing for future expansion in programming 	<ul style="list-style-type: none"> • Cost is high and still have a facility that was built in 1985 which has limitations
<ul style="list-style-type: none"> • Additional outdoor and indoor space 	<ul style="list-style-type: none"> • Limited expansion potential
<ul style="list-style-type: none"> • Updated space and mechanical systems 	<ul style="list-style-type: none"> • Disruption during the course of the renovations and build
<ul style="list-style-type: none"> • Shooting range is housed onsite, eliminating travel and rental expenses 	<ul style="list-style-type: none"> • Limited ability to modify the facility layout
<ul style="list-style-type: none"> • Potential revenue from shooting range rental to other police forces – not included in financial analysis 	

5.1.3 Option 2: New Facility Constructed on a New Site

The second option is the construction of a new facility on a new site in another location in the City. The design for the new facility will support the programming needs and operational requirements of the police services. This new facility includes a shooting range with savings on related expenses to the current off-site facilities and potential rental revenue to other forces. The design service life of the new facility will be 30 years without unforeseen costs or disruptions for standard maintenance and repairs. This option includes the revenue on sale of existing facility and the purchase of land.

Key capital costs associated with this alternative include:

- Land acquisition and site work and preparation

- Design and construction of new building and finishing to support the programming needs and operational requirements
- Specialties and furnishings (i.e. gun lockers, gun range material, lockers, etc.)
- All mechanical and electrical costs, as well as accessibility features (elevator, etc.)

Pros	Cons
<ul style="list-style-type: none"> • Significant increase in space (indoor and outdoor) and allows for future expansion 	<ul style="list-style-type: none"> • Disruption with moving to the new facility but still minimal and can be minimized with phased transfer of operations from the current to the new facility
<ul style="list-style-type: none"> • New design to suit facility, that will support the programming needs and operational requirements of the police services 	
<ul style="list-style-type: none"> • Designed to accommodate future modifications to services or workflow adjustments. Has flexibility and is expected to have a 30-year life without unforeseen costs. 	
<ul style="list-style-type: none"> • Operating costs are optimal with new energy efficient design/build and mechanical equipment which will lead to savings on operational costs and maintenance. 	
<ul style="list-style-type: none"> • Workflow is optimized 	
<ul style="list-style-type: none"> • Shooting range is housed onsite, eliminating travel and rental expenses 	
<ul style="list-style-type: none"> • Potential revenue from shooting range rental to other police forces – not included in financial analysis 	
<ul style="list-style-type: none"> • Central location will be ideal for service delivery and response times for all areas of the city. 	
<ul style="list-style-type: none"> • Minimal disruption as moving to the new facility would be more efficient than working around renovations and additions. 	

5.2 Evaluation Matrix

5.2.1 Methodology and Purpose of the Evaluation Criteria

The purpose of developing the evaluation criteria is to provide an unbiased tool and a documented process for evaluating the financial implications of alternative scenarios for the Police Facility. Evaluation criteria were derived from the project objectives, financial implications and analysis, identified by the Project Team.

The Project Team was asked to determine the relative weight for each evaluation criteria. These individual scores were then averaged to determine the final weighted score for each criterion.

The following table (Figure 6) identifies the evaluation criteria used in the analysis and their associated weights. With the weights established, this facilitates quantifying the analysis and comparison of the three scenarios and helps identify the preferred alternative.

Figure 6: Weighted Evaluation Criteria

Weighted Evaluation Matrix	
Evaluation Criteria	
Economy/ Financial	Weighting (1-10)
Construction Costs /Cost Benefit	10
Operating and Facility Costs	8
Schedule	5
Operational Continuity During Construction	7
Range Travel/Rental Costs	6
Economy/ Financial Score	Maximum Score-180

5.2.2 Determination of the Evaluation Criteria

Evaluation criteria were derived from the Municipal and Steering Committee vision and policies as well as the project goals, objectives and principles identified previously by the Municipality, as well as through best practice research. A relative weight was then assigned to each evaluation criteria.

The team evaluated the scenarios and ranked each of them against the same weighted criteria. In this section, we will evaluate the financial criteria and rank them accordingly.

5.2.3 Weighting and Scoring of the Evaluation Criteria

Evaluation criteria were derived from the Municipal vision and policies as well as the project goals, objectives and principles identified previously by the Municipality, as well as through best practice research. A relative weight was then assigned to each evaluation criteria based on its importance in the decision-making process.

5.3 Scoring of Alternatives

Each of the options described above was ranked based on its ability to satisfy the evaluation criteria. These rankings were then multiplied by the weights established by the Project Team. After scoring the two alternatives, Option 2 was ranked the highest with a score of 150 and a 100% of maximum score potential. See figure 7 below.

Figure 7 - Final Economy and Financial Evaluation Matrix

Economy/ Financial Evaluation Matrix				
Evaluation Criteria	CTB Police Facility Options (Max Score 5)			
	Weighting (1-10)	Base Case	Option 1	Option 2
Construction Costs /Cost Benefit	10		4.0	5.0
Operating and Facility Costs	8		4.5	5.0
Schedule	5		0.0	5.0
Operational Continuity During Construction	7		0.5	5.0
Total Weighted Score (Individual Criteria Weight x Raw Score)	Maximum Score-150		79	150
Percentage of Maximum Score	100%		53%	100%

5.4 Summary

These various comparisons provide the Police Facility Steering Committee with the information to determine the best scenario for them based on their risk tolerance and funding capacity. Alternatives have been compared against each other and against the base case, on operational impact, cost-benefit impact (financial net present value), potential repairs and maintenance costs and other soft costs.

6. BUSINESS CASE CONCLUSION

The financial analysis component of the business case has raised several points that will play a critical role in the final recommendations in the business case. To be noted, the Base Case is used here for comparison purposes only as it really isn't a viable scenario offering no real solution;

- There is a wide variation in total cost of ownership for each of the scenarios and the base case. These differences are due to significant differences in the facility options themselves, which directly impacts total project costs;
- Base Case- \$10.1M
- Option 1- \$63.8M
- Option 2- \$55.3M (\$52.2M net of building sale)

Building size and operating costs;

- Base Case- 64,389 sqft and annual operating expense of \$2.3M
- Option 1- 115,161 sqft and annual operating expense of \$3.8M
- Option 2- 120,672 sqft and annual operating expense of \$3.4M

The key differences in operating costs, between base case and options are the utilities costs and interest expense.

- o While Option 2 is assumed to be 60% more efficient per sq.ft. than the Base Case, the footprint of the facility is 87% larger leading to a relatively small decrease in annual cost (Base Case \$241K vs. Option 2 \$181K) than would be initially assumed. Option 1 is also assumed to be more efficient than the Base Case but only by 30%, and the footprint of the building is 79% larger, leading Option 1 to have higher annual utilities costs than the Base Case or Option 2 (Option 1 \$324K).
- o The debt terms for each option are the same so the interest expense is directly related to the capital costs net of any asset sale where applicable. This means the annual interest expense for Option 2 will be the lowest (\$1.3M), followed by Option 1 at (\$1.8M).

The Base Case shows the lowest cost of ownership, it is also the smallest footprint and could lead to more operating inefficiencies and requirement for outside space, at an additional cost, in the future. This is again why we are using for comparison purposes only. Options 1 and 2, while more costly, offer more square footage to accommodate growing needs.

- A key cost saving element of Option 1 and 2 is having the shooting range in-house and not use an outside facility. This saves not only the expense of renting the range but also the wages associated with the 90-minute roundtrip travel the range (\$125K in year for the Base Case). Having the shooting range on site is also forecasted to save officers 73,559 hours of travel time over the 25-year timeframe of our analysis.
- The total cost of ownership for Option 2 is approximately \$23.4M lower than Option 1 over 25 years due to lower operating costs for Option 2 and lower capital costs which are offset by the sale of the current

facility in Option 2. In addition to having a significantly lower total cost of ownership, Option 2 would also be an entirely brand new, purposed designed facility with more square footage.

- A key point which is outside the scope of this analysis is the funding (debt) capacity of the City of Thunder Bay. Whether or not the City is able or willing to fund the construction projects for options (1 or 2) will have a material impact on the final decision.

Considering the above and the analysis conducted, Option 2 was determined to be the preferred option from a financial perspective. Although this option represents a significant investment, it is less expensive than Option 1. Option 2 also provides for all the facility requirements identified by the Police Facility Steering Committee and Project Team.

PART 6 – NEEDS ASSESSMENT STUDY CONCLUSIONS

To support the City of Thunder Bay in their capital project decision making process, this study considered three courses of action governed by the physical requirements of the existing facility and the operational requirements of the TBPS. The Consultant team provides the following conclusions:

The Base Case – Existing Building with Repairs and Maintenance

The Base Case considers completing recommended repairs and replacement of components in the existing building at an estimated probable cost of approximately **\$10.1 million**. The scope of work required in the Base Case must be completed regardless of the choice of Option 1 or 2 and this scope of work does not address significant and complex TBPS operational needs, now or in the future and is not considered a viable option to produce an optimal operational environment for the TBPS. The business case analysis also sets this issue aside.

The limited scope of work in the Base Case is unable to fully address requirements for current policing standards and practices, nor does it address ongoing cost and training availability issues related to the remote firing range. It does not easily allow accessible public interaction and activities within the facility or effectively enhance public perception and civic presence. Equally critical, it will not meet the City of Thunder Bay's energy efficiency and sustainability targets. The Base Case is not evaluated as a viable course of action.

Option 1 - Addition / Renovation to Existing Building on the Existing Site:

Option 1 contemplates an extensive renovation and addition to the existing building and site for a probable cost of approximately **\$63.8 million** and includes an indoor firing range. While this option negates the need for site acquisition, it also requires the compromise of some TBPS operational elements in order to work with an existing structure and site. This option is predicted to result in significant additional project costs related to the extended construction phasing that would be required to allow the TBPS to remain operational during construction. This option also has risks for potential security issues during construction and will fall short of the City of Thunder Bay's energy efficiency and sustainability targets for equivalent new construction. Option 1 is not recommended by the Consultant team.

Option 2 - New Facility Constructed on a New Site:

Option 2 considers construction of a new TBPS facility on a new site. Probable costs for this option were determined to be approximately **\$52.2 million** and includes the indoor firing range. Actual site acquisition costs were unknown at the time of this report and therefore a place marker site cost was used for the purposes of this report (refer to Confidential Appendix E for site information). Probable costs will be impacted by future site acquisition costs with potential to be offset by sale of the existing facility, estimated to be approximately \$3.1 million in today's dollars.

This option allows an optimized departmental layout matching the operational requirements of the TBPS and would fully support efficient and effective workflows. The TBPS could achieve an efficient and simple transfer of the service from their current building and site to the new site after a standard construction period. This purpose built option would support all desired functions and activities for both the service and the public. It is anticipated that this option would achieve the City of Thunder Bay energy efficiency and sustainability targets, and in fact would allow an even greater leadership role in Green Building with a target of carbon neutrality. Option 2 is recommended by the Consultant Team.

It should be noted that other site development options exist beyond the concepts evaluated in this study (refer to Confidential Appendix E), however, the TBPS considers the proximity of rail lines to be such a significant potential risk to the operations of the police services that it effectively eliminates a large area of the south core from consideration as a viable location for a new policing services facility.

End of Section