DECISION **2024 NSUARB 131**
M11418

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF THE PUBLIC UTILITIES ACT

- and -

IN THE MATTER OF AN APPLICATION by the **HALIFAX REGIONAL WATER COMMISSION** for approval of a capital funding request for the Burnside Operations Centre, in the amount of $86,335,000 for a total project cost of $89,100,000

BEFORE:	Steven M. Murphy, MBA, P.Eng., Panel Chair Richard J. Melanson, LL.B., Member Jennifer L. Nicholson, CPA, CA, Member
APPLICANT:	**HALIFAX REGIONAL WATER COMMISSION** James MacDuff, Counsel
INTERVENORS:	**CONSUMER ADVOCATE** David J. Roberts, Counsel Michael Murphy, Counsel
BOARD COUNSEL:	William L. Mahody, K.C.
HEARING DATE(S):	April 16-17, 2024
FINAL SUBMISSIONS:	May 22, 2024
DECISION DATE:	**July 18, 2024**
DECISION:	**The application is approved as amended by the Board for an additional $70,773,241 in approved project funding for an amended total project cost of $73,538,200.**

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1.0 SUMMARY

[1] On November 3, 2023, the Halifax Regional Water Commission (Halifax Water) applied to the Nova Scotia Utility and Review Board for approval of a capital funding request for the Burnside Operations Centre, in the amount of $86,335,000. The Board previously approved $2,765,000 for this project. If that request from Halifax Water is approved, the total project cost would be $89,100,000. Halifax Water is a body corporate, incorporated under the *Halifax Regional Water Commission Act*, S.N.S. 2007, c. 55 (*Act*). It is a public utility regulated under the *Public Utilities Act*, R.S.N.S. 1989, c. 380 (*PUA*), and has responsibility for the supply of municipal water and fire protection services, municipal wastewater services and municipal stormwater services within the Halifax Regional Municipality (HRM).

[2] The public hearing was duly advertised in the Chronicle Herald on December 30, 2023 and January 3, 2024. The Consumer Advocate (CA) requested, and was granted, standing as an intervenor. Board Counsel also participated in the proceeding, and engaged consultants CBRE Limited, William Brown and James Goldstein. On February 26, 2024, Halifax Water responded to Information Requests (IRs) from the CA, Board Counsel consultants and Board staff. CBRE and Brown and Goldstein filed evidence on March 11, 2024, and March 15, 2024, respectively. CBRE subsequently responded to Halifax Water IRs on April 2, 2024. After reviewing the evidence and IRs responses filed by the Board Counsel Consultants, Halifax Water filed its Rebuttal Evidence on April 9, 2024, in which it agreed to adjust the total project cost to $87,765,800.

[3] The hearing for the application was held on April 16 and 17, 2024. Halifax Water presented a witness panel which included Robert Gillis, Halifax Water's Manager

of Structures and Special Projects, and Craig Webber, Principal and CEO of Group2 Architecture Interior Design (Group2 Architecture). Board Counsel called Alison Castellano, Director of Cost Consulting with CRBE and Deborah Sperry, Senior Project Manager with CBRE.

[4] Following the hearing, both Halifax Water and CBRE filed Undertakings on May 8, 2024. Closing Submissions were filed by Halifax Water and the CA on May 15, 2024, and a Reply Submission was filed by Halifax Water on May 22, 2024.

[5] This decision aims to address the key issues raised through this proceeding, and assesses the reasonableness and prudence of the estimated project costs.

[6] The Board approves the application with an amended total project cost of $73,538,200. The Board directs Halifax Water to file semi-annual (i.e., every six months) reports with the Board providing a detailed breakdown of project costs spent to date. The first such report is to be filed by January 31, 2025.

2.0 BACKGROUND

[7] Halifax Water services a large geographic area that is organized into three service regions: the East, West and Central regions. A common operations depot at 455 Cowie Hill Road serves as a base for the Utility's West region's water, wastewater and stormwater, metering, and water quality staff. Halifax Water's East and Central regions are currently serviced by four aging depots with one water depot and one wastewater/stormwater depot in each region. The depots are located at 35 Neptune

Crescent (including a vacant lot on Ragus Road), 213 Bissett Road, 2 Park Avenue and 1 Mann Street.

[8] In 2009, Halifax Water conducted a review of its existing facilities inventory, including 20-year growth projections, and an assessment of the limitations of the facilities. The review concluded that the four depots in the East and Central regions require replacement due to poor condition, as well as to address insufficient building size, features and yard space for materials storage and parking.

[9] In response to the 2009 review, Halifax Water's consultant, AMEC, in 2013, prepared a report entitled "*Assessment of the Potential to Combine Central and Eastern Regions Water, Wastewater and Stormwater Operations Centers"* that assessed the potential to combine the Central and Eastern regions' Operations Centres. This report supported the findings of the 2009 review. Specifically, the report found that three of the four existing operational facilities within the East and Central regions were either at the end of their useful life, undersized for current operations, or in the process of being acquired by the Province for highway rights-of-way. The report recommended replacing the existing four facilities with a single combined operations facility. Halifax Water then completed a *Facilities Consolidation Study* in 2015, which supported a single, combined East/Central operations facility, optimally located within the Burnside Business Park.

[10] Based upon recommendations of the *Facilities Consolidation Study,* available lots within the Burnside Business Park were investigated in 2018 and 2019. In 2019, it was estimated that the design and construction costs for an approximately 6,400 sq. m. (69,000 sq. ft.) building would be $27,500,000, not including the land purchase. A 14-acre site on Jennett Avenue, located in Burnside Business Park, was identified to meet

the project requirements. In a letter to Halifax Water dated February 26, 2020, the Board approved Halifax Water's request to purchase the land on Jennett Avenue, to be the site of the combined operations facility, in the amount of $4,242,000. The new amalgamated facility, referred to as the Burnside Operations Centre, will replace the four existing depots servicing the Utility's East and Central regions.

[11] Following the land purchase in April 2020, Halifax Water issued a public Request for Qualifications for consulting services for the new operations facility, based upon a Design-Bid-Build methodology, with EastPoint Engineering (EastPoint) selected as the preferred proponent. The professional services for the design and construction portions of the project were planned for implementation in three phases. Phase 1 included the preliminary design, Phase 2 included the detailed design and tender phase services, and Phase 3 included construction and commissioning phase services. On January 12, 2021, the Board approved funding for Phase 2 of the professional services for design and construction of the project in the amount of $810,000. Phase 1 funding in the amount of $190,000 was previously approved by the Halifax Water Board. Further, in March 2021, the Halifax Water Board and NSUARB approved the sale of the lands and premises for the Central Wastewater & Stormwater services depot located at 1 Mann Street in Bedford to the Province for the Province's Highway 107 extension project. Halifax Water is currently leasing the building and a portion of the lands from the Province. The lease is up for renewal in March of 2026 with flexibility to extend the term until Halifax Water's new building is completed and commissioned.

[12] After EastPoint's review of Halifax Water's building requirements, the *Burnside Operations Facility Final Concept Design Report* was prepared. This report

showed options for building layouts to meet Halifax Water's operational needs, and summarized building energy performance and sustainability targets that could contribute to achieving LEED Silver designation, aligning with HalifACT 2050 new building goals. Halifax Water and EastPoint reviewed workflow practices at each of the Utility's current operations depots to aid in determining the optimum building area for the new Burnside facility. This included a review of operations at the 455 Cowie Hill facility, that has been operating as the West region's combined depot since 2013. The overall needs analysis in the *Burnside Operations Facility Final Concept Design Report* resulted in an increase in space from the original estimate of 69,000 sq. ft. to 87,900 sq. ft. Halifax Water explained that the increase in space needs was due to both operational requirements and improvements and availability of operational support roles, as the Utility moves strategically towards a "One Team One Water" culture. Space was identified for Information Technology staff and a backup data centre, SCADA and ICS Security staff, Electrical and Instrumentation staff, Human Resources support services, and vehicle maintenance areas and technicians. The Utility noted that the proposed design for the building would be able to support 145 personnel and another 55 persons, if needed, without significant renovations.

[13] EastPoint also engaged Hanscomb Limited (Hanscomb) to provide an order of magnitude estimate of construction costs and lifecycle cost estimates for the building performance options. Hanscomb noted a steady rise in construction labour costs, coinciding with the onset of the COVID-19 pandemic in March 2020, and prepared a memorandum dated May 12, 2021, based on Statistics Canada data, that described the trend in construction cost escalation as unprecedented. Hanscomb stated that the

increase in costs was due to several risk factors, including supply chain issues, material manufacturing and labour availability due to increased demand. It noted that the increased demand for construction materials translated into a 5% to 6% increase in overall construction costs. Due to this uncertainty in the construction market, Hanscomb recommended that owners carry an annual 4% escalation rate and a 5% to 7% overall construction budget increase. In August 2021, the estimated order of magnitude construction costs for the recommended Burnside Operations Centre options ranged from $39,914,000 to $41,415,000, based on a total building space of approximately 8,166 sq. m. (87,900 sq. ft.). At that time, Halifax Water explained that the increase in cost from the 2019 estimate was due to an increase in building area, building energy and sustainability initiatives, and market conditions due to COVID-19 and supply chain impacts on construction.

[14] In November 2021, after further review, EastPoint recommended a reduced building area of 7,170 sq. m. (77,200 sq. ft.), resulting in an overall estimated construction budget of $40,500,000. This estimate for the construction phase was included in Halifax Water's 2022/23 Capital Budget. However, Halifax Water noted there were still risks associated with increases in project costs and longer construction schedules due to the large scale of the project and continuing volatility in the construction market.

[15] Halifax Water continued to monitor these risks after November 2021. Upon reviewing 2021 tender results, and in consultation with EastPoint, Halifax Water concluded that the risks had continued and would continue into 2022 and the foreseeable future. Therefore, the Utility began evaluating alternative project delivery methodologies that it believed would be more advantageous in the volatile construction climate. Based

on a recommendation from another of its project consultants, The Procurement Office, Halifax Water concluded that an Integrated Project Delivery (IPD) model would be the most appropriate delivery model for the project. Halifax Water changed the project execution to the IPD methodology from Design-Bid-Build. In December 2022, Halifax Water described the IPD model as one that aligns teams, addresses risk transparency, and integrates the owner in the process, making it suited to projects with risks and uncertainties, where a collaborative framework can be used.

[16] Between November 2021 and April 2022, Halifax Water continued to review its operational processes and needs for the proposed Burnside facility. As such, the size of the building was revised to 8,080 sq. m. (87,000 sq. ft.) to provide space for growth and improved interconnections of spaces. Halifax Water also confirmed that the revised size and building design would support the Utility's "One Team One Water" culture and provide flexible spaces to accommodate changes to business practices, support functions and responsibilities. In April, 2022, Halifax Water issued a public Request for Information (RFI) soliciting interest in the Burnside Operations Centre project through an IPD process. The RFI identified the gross floor area for the facility as 8,080 sq. m. (87,000 sq. ft.). The RFI also stated that the facility would be a two storey operation office area and a double-height vehicle storage and maintenance area. The Utility received responses from seven general contractors and five consulting firms confirming interest to participate in the planned public Negotiated Request for Proposals (NRFP) process for the IPD project. The Utility noted that this project would be the first IPD project delivered by Halifax Water this way, and possibly the first in the region, adding that there has been positive success with the methodology worldwide and in Canada.

[17] In a letter dated December 8, 2022, Halifax Water requested Board approval to spend $2,765,000 associated with the Design Validation Phase (DVP) for the proposed Burnside Operations Centre IPD project. In its letter, the Utility provided a table summarizing the estimated Burnside Operations Centre schedule, showing construction completion by the third quarter of 2025/26 and occupancy by the fourth quarter of 2025/26. Halifax Water also provided a table showing the estimated budget for the project, indicating that an amount of $5,402,000 of the total estimated project cost of $57,402,000 had been approved to date. The remaining estimated cost of $52,000,000 consisted of the IPD Phase 1 – DVP ($2,765,000) and IPD Phases 2, 3 and 4 – Detailed Design and Procurement, Construction, and Warranty ($49,235,000). The estimated $52,000,000 cost to construct the new facility represented a 28% increase from the November 2021 estimate, which Halifax Water explained was due to 12% additional space and an estimated 16% increase in material, labour and fuel costs, along with escalations and contingencies due to market volatility. On February 14, 2023, the Board approved the capital expenditure associated for the DVP in the amount of $2,765,000.

[18] In September 2022, Halifax Water issued the NRFP, seeking a multi-party IPD team consisting of a General Contractor, Architect, Structural Designer, Civil Engineer, Mechanical Engineer, Electrical Engineer, Interior Designer, Energy Modeler, Mechanical Contractor, and Electrical Contractor. Based on the results of this procurement process, in April 2023, Halifax Water executed a multi-party contract with Bird-Chandos Joint Venture, Atlantica Mechanical Contractors, Group2 Architecture, CBCL and FBM as IPD Team partners.

[19] On November 3, 2023, Halifax Water applied for Board approval of $86,335,000 in additional project funding. In its application, the Utility recognized that the previously estimated total Project cost was $52,000,000, as presented by Halifax Water when the Board approved $2,765,000 for Phase 1 of the IPD Project (Design Validation Phase) in February 2023. However, the Utility noted that since that time, the DVP process resulted in the building gross area becoming larger (9,230 sq. m. (99,350 sq. ft.) vs 8,080 sq. m. (87,000 sq. ft.)). The Utility stated that the building and yard design has been optimized through the design validation process, and any increase in building size since February 2023 can be attributed to the addition of functions consistent with Halifax Water's business plan or due to building code requirements. Halifax Water further believes the larger area creates a better and more efficient space.

[20] Halifax Water also indicated that the construction cost is considerably higher than the original estimate. The application noted that the updated building construction cost estimate resulting from completion of the DVP is $75,112,030. Consequently, with the inclusion of additional costs associated with insurance, owner’s contingency, owner’s equipment, solar funding, moving, recommended additional spend items, net HST, Halifax Water contract administration, and overhead, the total project cost for which Halifax Water sought Board approval in its application was $89,100,000.

[21] In response to IR-4a) from Brown and Goldstein and IR-18c) from Board staff, Halifax Water decided to eliminate one element from its application. Specifically, the Utility stated that it would remove the proposed dewatering building from the project scope. In its Rebuttal Evidence, Halifax Water indicated this change would result in the requested project approval amount being reduced to $87,765,800.

3.0 ANALYSIS AND FINDINGS

3.1 Integrated Project Delivery (IPD)

[22] In January 2021, in Matter M09930, the Board approved the detailed design phase of the Burnside Operations Centre (BOC) at a cost of $810,000, using a Design-Bid-Build (DBB) project delivery methodology. At that time, the estimated total project cost was $31,900,000.

[23] As the project evolved in 2021 and 2022, Halifax Water concluded that there were significant risks related to increasing project costs and construction timelines. As such, the Utility decided that the IPD model was the most appropriate project delivery methodology for the BOC. The Utility, therefore, changed the project delivery methodology from DBB to IPD. On February 14, 2023, in Matter M10895, the Board approved funding for the IPD Design Validation Phase (DVP) based on this new delivery method for an estimated cost of $2,765,000. At that time, the estimated project cost was $52,000,000. Halifax Water explained the increase in cost from the estimate presented in Matter M09930 was due to an increase in building area, building energy and sustainability initiatives, market conditions due to COVID-19, and supply chain impacts on construction.

[24] Halifax Water described the IPD model as a relatively new project delivery method for Atlantic Canada that aligns teams, addresses risk transparency, and integrates the owner in the process, making it suited to projects with risks and uncertainties. It said it is a collaborative approach that involves close cooperation and integration of key stakeholders, including the owner, architect, general contractor, and other relevant parties from the early stages of a project. In an IPD model, all team members work together towards shared goals, such as maximizing project efficiency, reducing waste, and enhancing project outcomes.

[25] Halifax Water hired The Procurement Office as its advisor to provide a recommendation on the best project delivery methodology and to help evaluate IPD proposal submissions. In its Probity Report, which was submitted as Undertaking U-4, Attachment 1, The Procurement Office noted that the budget for the project was set at $46.5 million. The Procurement Office further described the project as a "budget-based negotiated RFP process, and, therefore, proponents did not submit proposed overall pricing but were instead required to commit to the pre-established pricing envelope prescribed by Halifax Water."

[26] The Probity Report outlines the process that was followed to award the IPD contract to the selected proponent Bird-Chandos Joint Venture. However, the report does not describe the process that was followed to choose the IPD methodology over other possible project delivery options.

[27] The second attachment to Undertaking U-4, entitled "Halifax Water Procurement Plan", outlines the recommended procurement process of Negotiated Request for Proposals. It also generally describes how the IPD process is potentially better than other project delivery methodologies. The attachment does not, however, provide any detail describing the specific features and reasons associated with the BOC project that make it distinctively suited for IPD over another delivery methodology.

[28] There were many questions about the IPD methodology throughout the IR process and during the oral hearing, as the Board and intervenors tried to understand this new approach and if it, in fact, results in lower costs and better project delivery than the DBB method.

[29] During the hearing, the Board asked Mr. Webber whether there have been any studies done or evidence to support that the IPD approach is more cost effective than the traditional DBB approach. Mr. Webber noted:

> There are a number of studies and most of them can be found on the IPD Alliance's website. They're independent studies that have been done with third-party university education facilities, and they do show that on the -- on the whole, most of these projects are delivered more effectively from both a budget and schedule perspective for the teams as a result of that.
>
> [Transcript, p. 158]

[30] In response to NSUARB IR-10, Halifax Water said that as far as it knows, this is the first time the IPD methodology has been used in Atlantic Canada. It said the IPD Alliance (IPDA), a Canadian not-for-profit organization working toward the advancement of IPD, is currently tracking more than sixty projects nationally and is working on compiling available data about IPD projects in Canada. The IPDA says the data that currently exists is high level, and only shared voluntarily based on an owner's willingness and confidentiality requirements.

[31] The IPD Alliance has verified that more than 110 IPD projects have been undertaken in Canada with over 80% of those being initiated by public sector clients. IPD projects have included long-term care facilities, affordable housing, fire halls, RCMP stations, municipal buildings, wastewater treatment plants, secondary and post-secondary education facilities, recreation facilities and office buildings.

[32] Halifax Water referenced and provided a link for a report entitled "Investigating Factors Leading to IPD Project Success In Canada" reviewing Canadian IPD projects from the IPDA website. This report provides a detailed analysis of three previously completed IPD projects. On page 16 of this report there is a discussion of the

attributes of the subject projects that made them good candidates for the IPD methodology:

> All three projects had distinct qualities that lend themselves to IPD as an optimal delivery mode. The CGAC project was a renovation project with a high level of uncertainty that necessitated an intensive early investigation by the entire team. The TCSH's project consisted of two schools that were to be aligned with the concept of 21st-century learning. The BSESC project was the first experience for the two owners in a joint capital project involving three different end-users. All three projects had high aspirational goals for their respective building.
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> [Exhibit H-6, PDF; p. 489]

[33] In its Closing Submission, Halifax Water said it is confident that the use of the IPD model will benefit ratepayers and that the cost increases of the BOC project are not due to the change in the procurement method from DBB to IPD.

[34] In its evidence [Exhibit H-10], Board Counsel Consultant CBRE stated that based on its review of the project and its experience managing projects of similar size and complexity, the BOC project may not be complex enough to warrant an IPD approach. CBRE also stated that complexity is not the only factor to consider when deciding on the appropriate project delivery methodology. They noted that the proposed IPD project team is experienced and well regarded, but said that there appeared to be an overlap of services by discipline that should be closely monitored.

[35] Halifax Water asked for further detail in its IR-2 to CBRE about this apparent overlap in services. CBRE replied that the current IPD team has two IPD leads, Bird-Chandos and Group2. CBRE further noted that how the IPD Lead's responsibilities are divided and allocated should be reviewed to ensure all aspects of the project are properly covered, and, if the IPD Leads' responsibilities overlap, then who takes responsibility for misses or lack of communication.

[36] In response to Halifax Water's IR-1(b), CBRE stated that for a number of reasons it does not have experience with the IPD methodology. First, IPD is a new methodology in Atlantic Canada and most Canadian projects are in the western provinces, whereas CBRE works with clients predominantly in central and eastern Canada. Furthermore, IPD teams typically do not engage third-party cost consultants or project management teams because these services are managed internally by the IPD team. Therefore, there would typically be no reason for CBRE Cost Consultancy services or Project Management services to be engaged in an IPD project.

[37] CBRE recommended that Halifax Water continue with the IPD methodology with a few "guardrails". These include ensuring that budget allocations are adjusted to align with similar building construction standards. Further, the building must be right-sized to align with Halifax Water's functional needs. And lastly, the IPD team should have a solid understanding of building functional needs and, therefore, the size requirements for each area upon completion of the validation phase.

[38] The CA expressed concerns about the IPD methodology in its Closing Submission:

> …Halifax Water has acknowledged that this project represents the first use of the IPD model for a construction project in Atlantic Canada. Halifax Water also acknowledges that the IPD model is "just starting to emerge as a new construction model." Halifax Water further acknowledged that it was unaware of any prior precedents where this model was used by a cost of-service utility, and confirmed that IPD projects are "significantly weighted towards private sector development in healthcare and those types of projects postsecondary." Given the lack of any precedents, it appears that the risks of proceeding with the IPD approach for a cost-of-service utility are unknown.
>
> By comparison, the Design-Bid-Build process is well-defined, and Halifax Water has significant experience operating under that model. While there may be some benefits to using the IPD model generally, it remains the case that the "Design-Bid-Build process is the more common way to deliver a project like the Halifax Water Burnside facility." In that regard, it is the Consumer Advocate's understanding that one crucial difference between the Design-Bid-Build model and the IPD model is that costs may be underestimated when using the Design-Bid-Build model (as the proponents would be seeking to err on the side of lower estimates in order to secure the work).

> The IPD model is intended to provide a more accurate estimate of costs, as well as a more accurate schedule. However, the Consumer Advocate respectfully submits that there is also a risk with the IPD model that costs may be over-estimated or inflated at the outset, since the higher the estimate the more likely it is that there will greater "savings," and therefore greater "profits" for the participants.
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> It is the Consumer Advocate's position that Halifax Water should approach capital spending conservatively, and should generally avoid employing new or novel methodologies for such projects, especially where the costs are significant. It may be the case that the IPD model works well for private, for-profit commercial enterprises, where cost savings can, in fact, affect the company's "bottom line" and help to increase profits. In that regard, the project owner would have a considerable incentive to ensure savings are achieved, and to keep costs as low as possible – both at the Design Validation stage, and afterwards. However, these kinds of considerations do not readily translate into a cost-of-service environment.
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> Given these concerns, the Consumer Advocate states that if Halifax Water is to use the IPD model, it is critically important for the utility to take every reasonable precaution to ensure, from the outset, that the requirements and estimated costs provided for this project are accurate.
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> [Closing Submissions, Consumer Advocate, pp.5-6]

[39] In its Reply Submission, Halifax Water reiterated its comments from its Closing Submission that to the extent there are any "profits" for the participants, Halifax Water will share equally in such profits to the benefit of ratepayers, unlike Design-Bid-Build or Design-Build projects where any project savings go directly to increasing the profit of the General Contractor. Halifax Water also said that through the IPD process all cost savings achieved will accrue directly to Halifax Water's "bottom line" to the benefit of ratepayers, while preserving greater certainty on the costing and schedule than traditional procurement methods. Finally, Halifax Water agreed with the CA that it is critically important for the Utility to take every reasonable precaution to ensure, from the outset, that the requirements and estimated costs provided for this project are accurate. However, Halifax Water cautioned that further procedural delays to conduct additional design, scope, or budget validation would only serve to increase the ultimate cost of the BOC project.

3.1.1 IPD Issues

[40] The Board has a number of issues about the use of the IPD methodology for this project which we have described as follows.

Significant Project Cost Increase

[41] When the Board approved the IPD Design Validation Phase in early 2023 (M10895), it was based on a project budget of $52,000,000 for the Design Validation Phase, Detailed Design, Procurement, Construction and Warranty, and other Halifax Water related costs. Further, as noted in The Procurement Office's Probity Report, NRFP proponents submitting on the IPD project committed to a construction cost similar to what was quoted in Matter M10895. One of the IPD benefits stated by Halifax Water in Matter M10895 is the ability to take an exit ramp if the projected construction costs at completion of the Design Validation Phase exceed those that had been previously estimated and identified in the NRFP.

[42] In this matter, Halifax Water is requesting approval for significantly more than that amount. The use of the IPD methodology has produced a construction cost that does not match the commitment noted in the Probity Report and in M10895.

Project Complexity

[43] The IPDA report showcased three projects which are not at all similar to the BOC project. All the sample projects have complexities which do not appear to be present in the BOC project. Halifax Water has asserted that the complexities of the BOC project warrant using the IPD methodology. However, the Board finds that these complexities have simply not been fully identified by Halifax Water. The Board finds the BOC project to be a relatively straightforward building project. Further, the reasons described by Halifax Water for the transition from DBB to IPD related to uncertainty about cost

escalations and supply chain issues are present in all projects, regardless of project delivery methodology. As such, it remains unclear to the Board why these issues would warrant an IPD approach specifically for the BOC project.

Lack of IPD Experience

[44] The Burnside Operations Centre project appears to be the first use of the IPD methodology in the Atlantic Canada, and, perhaps, the first use of this method for a regulated utility in Canada. The Board is concerned about Halifax Water, a cost-of-service utility, being a "testing ground" for a new methodology that could, potentially, result in higher costs for customers.

3.1.2 Findings

[45] The Board is not entirely convinced that IPD is the most appropriate project delivery methodology for the Burnside Operations Centre for the preceding reasons. Nevertheless, despite these reasons, the Board approves the use of IPD for the BOC project because there is risk associated with delaying the project further to use another project delivery methodology. During the hearing, the Board asked Mr. Gillis about the potential to exit the IPD approach and use the documentation prepared during the DVP in a new Design-Build tender. He replied that it would take 12-18 months to change to a Design-Build methodology and that it would likely cost more in the end:

> --- that would be up to you. But I'm just wondering how much -- what the cost would be to take these documents as they currently are and to -- I'm not asking for an exact cost; I'm asking for a rough estimate. How much work would it take to take these documents, put them over for design-build tender?
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> A. (Gillis) I think it's more associated with time. I think we're going to take 12 to 18 months by the time we actually go through this process.
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> Q. Twelve (12) to 18 months?
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> A. (Gillis) Correct.

> Q. Okay.
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> A. (Gillis) The procurement of the IPD team started preparations in April of 2022 and didn't have a document on the street until September 2023, and that was a very high-level document. And then going through the negotiated RFP process to get to the point where we were able to award, which wasn't until the following April. So I would say if we go through a preparation of tender and then do the tender documents and do all that aspect of things, and possibly some value engineering at the end of that process, you're looking at 12 to 18 months. And I would say you're not going to have the same price; you'll have a higher price.
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> [Transcript, pp. 359-360]

[46] Similarly, during questioning from the Board, CBRE stated that it did not see a benefit at this point in changing from IPD to Design-Build. CBRE also agreed that if the project delivery methodology were to be now changed to DBB, the schedule would be extended.

[47] The Board agrees that the time that has passed since the DVP was completed, as well as the time it would take to start again with a Design-Build, DBB or another delivery methodology, could result in even higher project costs and certainly further project delays. In addition, potential suppliers and subcontractors are aware of the current project cost in the request for Board approval of the IPD project. As such, this information could be used by these parties as a baseline cost in another procurement methodology. This could result in no construction cost savings, compared to the IPD price, if another methodology were to now be used to deliver the project. It could also put the IPD team at a disadvantage, if it opted to bid on the project if another methodology were now used.

3.2 Building Size and Project Cost

[48] Halifax Water's East and Central regions are currently serviced by four aging depots with one water depot and one wastewater/stormwater depot in each region. The depots are located at 35 Neptune Crescent (including a vacant lot on Ragus Road),

213 Bissett Road, 2 Park Avenue and 1 Mann Street. In 2009, Halifax Water conducted a review of these facilities, including 20-year growth projections, complete with an assessment of the limitations of each facility. The review concluded that the four depots require replacement due to poor condition, as well as to address insufficient building size, features, and yard space for materials storage and parking.

[49] In response to the 2009 review, in 2013 Halifax Water commissioned a study to assess the potential of combining the Central and East regions Operations Centres. The study reaffirmed the findings of the 2009 review and found that three of the four operational facilities within the East and Central regions were either at the end of their useful life, undersized for current operations, or in the process of being acquired by the Province for highway rights-of-way. The study report recommended replacing the four facilities with a single combined operations facility. Halifax Water then completed a *Facilities Consolidation Study* in 2015, which supported a single, combined East/Central operations facility, optimally located within the Burnside Business Park.

[50] Halifax Water subsequently identified a 14-acre site on Jennett Avenue, in the Burnside Business Park, that would meet the requirements for a consolidated Centre. In a letter to Halifax Water dated February 26, 2020, the Board approved Halifax Water's request to purchase the land on Jennett Avenue, in the amount of $4,242,000. Further, in March 2021, the Board approved the sale of the lands and premises for Halifax Water's Central Wastewater and Stormwater services depot located at 1 Mann Street in Bedford to the Province for the Province's Highway 107 extension project. Halifax Water is currently leasing the building and a portion of the lands from the Province. The lease is

up for renewal in March of 2026 with the ability to extend the term until Halifax Water's new building is completed and commissioned.

[51] Following the Jennett Avenue land purchase in April 2020, Halifax Water engaged EastPoint to provide professional services related to a Design-Bid-Build project delivery methodology for the proposed operations facility. EastPoint's services for the design, and construction portions of the project were planned for implementation in three phases. Phase 1 included the preliminary design, Phase 2 included the detailed design and tender phase services, and Phase 3 included construction and commissioning phase services.

[52] After EastPoint's review of Halifax Water's building requirements, the *Burnside Operations Facility Final Concept Design Report* was prepared. This Report presented options for building layouts to meet Halifax Water's operational needs, and summarized building energy performance and sustainability targets that could contribute to achieving LEED Silver designation, aligning with HalifACT 2050's new building goals. The overall needs analysis in the *Burnside Operations Facility Final Concept Design Report* resulted in a building space requirement of 87,900 sq. ft. In August 2021, the estimated order of magnitude construction cost for the 87,900 sq. ft. Burnside Operations Centre options ranged from $39,914,000 to $41,415,000.

[53] In 2022, Halifax Water began evaluating alternative project delivery methodologies that it believed would be more advantageous in the volatile construction climate that existed at that time. Based on a recommendation from another of its project consultants, The Procurement Office, Halifax Water concluded that IPD would be the

most appropriate delivery model for the project. Halifax Water, therefore, proceeded to change the project execution to the IPD methodology from Design-Bid-Build.

[54] Between November 2021 and April 2022, Halifax Water continued to review its operational processes and needs for the proposed Burnside facility. During this period, EastPoint and Halifax Water revised the size of the building to 87,000 sq. ft. to provide space for growth and improved interconnections of spaces. In April 2022, Halifax Water issued a public Request for Information (RFI) soliciting interest in the Burnside Operations Centre project through an IPD process. The RFI identified the gross floor area for the facility as 87,000 sq. ft. The RFI also stated that the facility would be comprised of a two storey operations office area and a double-height vehicle storage and maintenance area. The Utility received responses from seven general contractors and five consulting firms confirming interest to participate in the planned public Negotiated Request for Proposals process for the IPD project.

[55] In a letter to the Board dated December 8, 2022, Halifax Water requested Board approval to spend $2,765,000 associated with the Design Validation Phase for the proposed Burnside Operations Centre IPD project. In its letter, the Utility provided a table summarizing the estimated Burnside Operations Centre schedule, showing construction completion by the third quarter of 2025/26 and occupancy by the fourth quarter of 2025/26. Halifax Water also provided a table showing an updated budget for the project, indicating that an amount of $5,402,000 of the total estimated project cost of $57,402,000 had been approved to date. The remaining estimated cost of $52,000,000 consisted of the IPD Phase 1 – DVP ($2,765,000) and IPD Phases 2,3 and 4 – Detailed Design and Procurement, Construction, and Warranty, and other Halifax Water related costs

($49,235,000). On February 14, 2023, the Board approved the capital expenditure associated for the DVP in the amount of $2,765,000.

[56] In April 2023, Halifax Water executed a multi-party contract with the selected IPD team of Bird-Chandos Joint Venture, Atlantica Mechanical Contractors, Group2 Architecture, CBCL and FBM as IPD Team partners. Based on IPD team project pricing, on November 3, 2023, Halifax Water applied for Board approval of $86,335,000 in additional project funding. In its application, the Utility noted that the DVP process with the IPD team resulted in the building gross area becoming larger (9,230 sq. m. (99,350 sq. ft.) vs 8,080 sq. m. (87,000 sq. ft.)).

[57] The size and cost of the proposed Burnside Operations Centre has increased significantly since the Board approved the Design Validation Phase. As such, to assess the best value for ratepayers, the Board must address a number of questions related to both the building size and the project cost.

3.2.1 Is a Consolidated Operations Depot the Best Option?

[58] In their IR-1, Brown and Goldstein noted the significant increase in size and cost of the proposed Burnside Operations Centre. Consequently, Brown and Goldstein asked Halifax Water whether a consolidated operations facility remains the most cost-effective option. In response, Halifax Water stated:

> Yes. A consolidated operations facility is still the most cost-effective solution when compared with non-consolidated facilities. Halifax Water still needs to replace three of its existing four depots, and the fourth needs updating. All four are undersized and/or lack sufficient yard and parking space. While the cost to construct the single depot has increased, the basics of the business remain the same and constructing/upgrading two or four facilities would be subject to the same cost pressures as the single depot. An alternative considered was to delay the building's construction. However, given the fact that one of the buildings has already been sold, the other buildings are currently inadequate

> and undersized, and construction costs are increasing every year with inflation, delaying the project would not be a prudent business or fiscal decision.
>
> [Exhibit H-9, Response to IR-1b.]

[59] Further, in its Rebuttal Evidence, the Utility noted that the existing depots are in poor condition and do not meet the latest building code requirements. Halifax Water also stated that these facilities lack amenities that are required to meet changing regulatory and staffing needs.

[60] The CA expressed concerns about the increase in size and cost of the proposed operations facility. Nevertheless, in his Closing Submission, he continued to support Halifax Water's plan to consolidate its four existing and aging depots into one consolidated facility. In their evidence, Brown and Goldstein similarly noted that they believe a consolidated facility is still a more cost-effective approach than upgrading the existing operations depots.

[61] In its evidence, CBRE stated that consolidating the four existing depots in a single, new building is a good and reasonable business strategy. However, CBRE also noted that consolidation space saving resulting from eliminating duplication of lunchrooms, meeting rooms, training rooms, vestibules, washrooms, change rooms, workshops, mechanical and electrical rooms, communications rooms and stores does not seem to have been effectively realized in the proposed building size now put forward by Halifax Water. CBRE also noted that the proposed Burnside Operations Centre is almost 2.75 times the combined size of the existing depots. Even with a 20-year outlook, CBRE stated that this increase in size is difficult to justify.

3.2.1.1 Findings

[62] In its Rebuttal Evidence, Halifax Water responded to CBRE's concerns about the size of the proposed Burnside Operations Centre compared to the combined size of the existing depots. The Utility noted that such a direct comparison is not instructive. The Board agrees. As noted by Halifax Water, the existing depots are too small, in poor condition, and do not meet the latest building codes. Further, if any one of the existing depots were to be replaced, it would not be replaced at the same size, as all the depots are currently undersized for existing staffing and do not include the necessary spaces and amenities that would be required to meet Halifax Water's needs.

[63] In its Closing Submission, Halifax Water stated that Brown and Goldstein "found Halifax Water's responses explaining the reasons for the substantial growth in the size and cost of the proposed facility to be compelling, and believe it is still the most cost-effective option." The Board believes Halifax Water has taken Brown and Goldstein's finding somewhat out of context. When read in full, their evidence was not, in fact, suggesting that Halifax Water's proposed facility, as currently presented in this matter, is the most cost-effective consolidated facility option. On this point, Brown and Goldstein deferred to the findings of CBRE. Instead, Brown and Goldstein's conclusion is more nuanced, finding that the proposed consolidated facility is the most cost-effective option when compared to the option of upgrading the Utility's existing depots.

[64] This notwithstanding, Halifax Water's existing depots in its East and Central Regions are in poor condition, and do not meet the Utility's future needs. In addition, a consolidated operations facility should provide Halifax Water with various benefits, including more space to accommodate employees, optimization of services, an improved work environment for Utility staff, and other economies of scale. The Board, therefore,

agrees with Halifax Water, the CA, and Board Counsel consultants, that a single consolidated operations facility is preferred over upgrading and continued use of the Utility's four existing depots.

3.2.2 Are Halifax Water's Future Staffing Projections Adequately Reflected in the Proposed Build Size?

[65] As presently proposed, the Burnside Operations Centre has been sized to accommodate a current Halifax Water staff complement of 145. In response to Brown and Goldstein's IR-2, Halifax Water noted that this can easily be expanded to 200 with the addition of, or changes to furniture. Further, with the construction of the proposed additional shell space and an additional bay, the facility could have a capacity of roughly 250 staff with only internal renovations.

[66] Halifax Water asserted that the proposed facility appropriately balances existing staffing requirements and the need to accommodate growth in staff numbers, while maintaining maximum flexibility. Brown and Goldstein's evidence stated that based on the material filed in this proceeding, it is difficult to verify the Utility's assertion. Brown and Goldstein noted several drivers of Halifax Water's staffing needs. These include general population growth within HRM, the level of Halifax Water's expected future capital spending, and the degree to which the Utility is successful with staff recruitment and retention. Brown and Goldstein also noted that each of these drivers involves significant uncertainties. They, therefore, recommended that Halifax Water complete a review and validation of its forecasted staff and associated space requirements to assess whether the proposed Burnside Operations Centre sizing warrants any fine-tuning.

[67] The CA did not dispute the potential validity of building a larger facility to accommodate potential future growth (to the extent that doing so may ultimately save

costs in the future). However, he agreed with Brown and Goldstein that Halifax Water did not provide sufficient evidence to support its position that the projected amount of growth is reasonable. He also suggested that there is a real possibility the operations facility could be “over-built”, and ultimately result in unnecessary costs to ratepayers. The CA, therefore, agreed with Brown and Goldstein’s recommendation.

3.2.2.1 Findings

[68] The Board acknowledges the uncertainties noted by Brown and Goldstein related to the factors that drive Halifax Water’s staff growth. As noted by Halifax Water in response to Brown and Goldstein’s IR-2(g), these uncertainties include changes to staffing mix as technology changes, population density, infrastructure age and condition, and whether provincial population growth targets can be sustained. These issues make it difficult to forecast staffing projections with certainty. Consequently, the Board finds that completion of the work recommended by Brown and Goldstein may not result in any better balance between initial building size and cost vs future upgrade needs to meet actual staffing needs.

[69] Further, in its Reply Submission, Halifax Water argued that it has already appropriately carried out the work recommended by Brown and Goldstein. The Utility submitted that this work began with the 2014 Facilities Consolidation Study, and has been further confirmed through the work completed by EastPoint and in the IPD team’s DVP and detailed design work completed to date. As such, Halifax Water argued that no further study or review of its staffing projections are required to ensure the facility is sized appropriately to meet space requirements.

[70] The Board agrees with Halifax Water on this point. It appears to the Board that the size of the Burnside Operations Centre has been informed by the projected staffing levels over a reasonable design period. In fact, as will be discussed later in this decision, the work completed by both EastPoint and the IPD team presented building options that can accommodate the Utility's existing staffing complement of 145, with the ability to support up to 200 staff without significant renovations. This suggests to the Board that both these entities, and Halifax Water, are satisfied with such projections.

[71] At this point the Board is comfortable with the staffing complements that can be accommodated by both the EastPoint and the IPD team designs that allow for an approximate 38% increase in Halifax Water staff at the operations facility (i.e., 145 staff to 200 staff) without requiring significant renovations. The inclusion of additional shell space to accommodate a further increase of 50 staff is discussed in the following section of this decision.

3.2.3 Is the Proposed Operations Centre Oversized?

[72] As noted above, the size of the proposed Burnside Operations Centre has changed significantly since the Board approved Halifax Water's proceeding with the DVP. In September 2022, Halifax Water issued a Negotiated Request for Proposals seeking a multi-party IPD team for the project. This NRFP was based on EastPoint's design work, and identified a building size requirement of 87,000 sq. ft. Further, in December 2022, Halifax Water requested Board approval to spend $2,765,000 associated with the Design Validation Phase of the project. This request also identified a building size requirement of 87,000 sq. ft. based on the design work completed by EastPoint. The Board approved Halifax Water's request on February 14, 2023.

[73] On November 3, 2023, Halifax Water applied for Board approval of $86,335,000 in additional project funding (the subject of the current matter before the Board). In its application, the Utility noted that the DVP process resulted in the building gross area increasing to 99,350 sq. ft. The Utility stated that the building and yard design has been optimized through the DVP, and any increase in building size since February 2023, was attributed to the addition of functions consistent with Halifax Water's business plan or due to building code requirements. Halifax Water further noted that it believes the larger area creates a better and more efficient space.

[74] The significant increase in the proposed building size was canvassed extensively throughout this proceeding. In its response to NSUARB IR-8a), and in its Rebuttal Evidence, Halifax Water stated that the 87,000 sq. ft. building size developed by EastPoint was only a concept design. The Utility further stated that it was understood at the time that this concept design would require further refinement, validation and advancement. This particular work would involve continued engagement with building users (i.e., operations staff) and Halifax Water leadership during the Design Validation Phase. In addition, Halifax Water noted that it went through an organization structure change in 2021 entitled “One Team One Water”. The goal of this reorganization was to obtain better efficiencies and effectiveness between water, wastewater and stormwater operations. The Utility noted that this reorganization had to be considered in an update of the EastPoint design.

[75] In its application, Halifax Water stated that the building gross floor area increase between the EastPoint design and the DVP design results from functional floor plan layout improvements, operational process improvements, business practice

changes and improved accessibility standards. Specifically, the DVP resulted in additional space for an Emergency Operation Centre (EOC), a special features room, a wet lab, an occupational health and hygiene assessment (OH&HA) room, watershed management storage space, and a bike room (which is required to conform to HRM By-laws). The shop bay area was also increased to provide a more functional layout to allow staff to walk through the bays and allow vehicles to park end to end inside the building. Other areas of the proposed building that increased in size include the boot washing area, the locker/change rooms, mechanical and electrical rooms, entrance and exit spaces, and stairwells. The improved accessibility standards, and related floor area increase, result from a change in the design to meet the latest version of *CSA-B651 – Accessible Design for the Built Environment*, as well as select criteria from the *Rick Hansen Foundation Accessibility Certification (RHFAC) Handbook*.

[76] Halifax Water's application also recommended that several additional scope items be added to the proposed building. These items include:

- Expansion of the second floor over the first-floor single height areas on the east and west sides of building, as a shelled vacant space, with inclusion of additional solar PV on the added roof areas.
- Inclusion of another bay in the warehouse with additional solar PV on the added roof area.
- Construction of a covered parking canopy on the east side of the lot.

Halifax Water noted that the additional shelled vacant space on the second floor and the additional bay represent an opportunity to include expansion space in the building that will serve Halifax Water for years to come. The Utility also believes that inclusion of these spaces and services now will be much less expensive than doing so in future. Further, in response to NSUARB IR-24c), Halifax Water stated that the purpose of the parking canopy is to shield vehicles and equipment from snow, rain and direct sunlight. The

canopy can also be used as a location for future solar PV panel installations, and has been identified as a potential location for future electric fleet charging stations.

[77] CBRE took issue with Halifax Water's justification for the increase in building size of the proposed operations facility, as compared to the EastPoint design. This is reflected in the following excerpt from its evidence:

> …it seems that the IPD team was unable to confirm and validate the adequate size of each area for the functional needs of Halifax Water through the process.
>
> …
>
> The IPD team has documented what has been added to the currently proposed floor plan which led to the increase in building size; however, it is unclear what has been added to the functional program to "create significant improvements in the operations in both the office and shop bays". It is also unclear how the additional requirements effectively increase the size of the building and how the increase was validated and approved to ensure alignment with budget targets.
>
> [Exhibit H-10, p. 7]

Given that CBRE found the increase in building size did not appear to align with the reasoning presented by Halifax Water, it recommended that more design and scope validation be completed to confirm the required sizes of proposed building spaces. CBRE stated that this work should be completed before the Board considers the project approval any further.

[78] As it relates to the impact of improved accessibility standards on the increase in building size, CBRE stated that the inclusion of some of the more stringent accessibility enhancements of the Rick Hansen Foundation are admirable and positive. However, CBRE IR-5e) asked Halifax Water to describe the accessibility items over and above the Nova Scotia Building Code that have been included in the proposed building design. CBRE noted in its evidence that the items Halifax Water listed in response to the IR should not generate additional cost, as most of these items would be required as part

of the National Building Code. As such, CBRE recommended that the benefits of these items should be weighed against the associated cost.

[79] CBRE's evidence also presented industry benchmarks of similar office maintenance depot facilities:

> a. **Sq ft per person.** Benchmark data of similar facilities targets 150 sq.ft. per person for the office area and 400 sq.ft. for the building including the maintenance spaces. With a 20 year growth plan target of 200 people, the total building size should be close to the original 8,129m2 (87,500 sq.ft.). Eastpoint's estimated building size was 8,080m2 (87,000 sq.ft.) which accommodated growth and also aligned with HalifACT 2050's new building goals.
>
> [Exhibit H-10, p. 15]

CBRE noted that since Halifax Water cannot clearly articulate how the increase in building size will benefit the operations of the new facility, the original EastPoint recommended size of 87,000 sq. ft. should effectively meet the needs of the Utility for the next 20 years.

[80] With regards to the additional scope items recommended by Halifax Water, CBRE noted that the covered parking canopy was included in the EastPoint Technical Design Guidance document included in the NRFP as a required scope item. Therefore, CBRE believes this item should have been included as an original scope item rather than a recommended additional scope item. CBRE also stated that the proposed addition of a second-floor shell space and another bay seems excessive given the building is already designed to accommodate a 20-year growth plan. Therefore, CBRE recommended that any additional expansion spaces should remain as "wish list" items and only be constructed if the actual costs come in below the target budget.

[81] As noted earlier in this decision, Halifax Water has decided to delete the proposed dewatering building from the project scope. Given the land area that this removal makes available, Brown and Goldstein believe it would be worthwhile to assess whether the building and site designs can be further optimized to maximize the expansion

potential of the facility. They, therefore, concurred with CBRE's recommendation to conduct further design and scope validation, including an assessment of opportunities to further maximize the building's future expansion potential. Similarly, the CA supported CBRE's recommendation on this issue.

[82] In its Rebuttal Evidence, Halifax Water disagreed with CBRE's recommendation to complete further design and scope validation. The Utility believes that as currently proposed, the Burnside Operations Centre is right-sized and aligns with Halifax Water's functional needs. In particular, the Halifax Water stated:

> The proposed changes to the building size are because of additional spaces that were deemed necessary operationally. These changes were vetted by the existing depot Managers, Managers of Information and Technology Services, Senior Managers and finally at the project Steering Committee level which included General Manager representation. The sizes of the spaces are appropriate and have been validated by the users of each space. Refinements of spaces will be reviewed as part of the Detailed Design & Procurement phase.
>
> [Exhibit H-13, p. 10]

[83] In addition, Halifax Water's Rebuttal Evidence acknowledged that there are many ways to design and practice disability inclusion in the workplace and that some accessibility standards may be more practical for some organizations than others. The Utility also agreed with CBRE that not all the proposed building accessibility initiatives included are covered by applicable building codes and therefore were not included in the EastPoint design. Inclusion of these measures results in building size and cost increases. Nonetheless, the Utility believes the proposed building achieves the right balance of design and cost based on a blend of building code requirements, CSA B-651 standards and some of the recommended enhancements by the Rick Hansen Foundation. Halifax Water stated that it wants to have an accessible building for its present staff, future staff, and any visitors to the building.

[84] Halifax Water also disagreed with CBRE's recommendation to place the additional expansion spaces on a "wish list" and only be constructed if the actual costs come in below the target budget. The Utility stated that such an approach would not be cost effective:

> … Items on the Wish list are provided within a Last Responsible Moment decision category. The Last Responsible Moment represents the timing for decisions that will not impact proposed cost, schedule or scope of any other items currently in progress. The timing for this expansion decision needs to be made before the extent of potential project savings will be known because it impacts the early works trade packages of structural steel and foundations. Therefore, the decision to invest into the project budget is required now.
>
> [Exhibit H-13, pp. 13-14]

3.2.3.1 Findings

[85] The size of the proposed Burnside Operations Centre has increased by 14% (12,350 sq. ft.) since EastPoint completed its work and the Board issued its approval in February 2023 for Halifax Water to proceed with the Design Validation Phase. Nonetheless, Halifax Water believes that through its continued staff engagement process and ongoing refinement of interiors, the proposed building is now right-sized and aligns with the Utility's functional needs. The Utility further submitted that the current design results in a purpose-built building which includes additional shelled space that will provide Halifax Water with modern amenities and future growth flexibility that will be needed. As such Halifax Water disagrees with CBRE's recommendation that further design and scope validation is required to confirm building size needs.

[86] This notwithstanding, the Board is drawn to building design related activities that preceded the Design Validation Phase. Specifically, in describing these activities, the DVP Report, submitted as an attachment to Halifax Water's current application, states:

> Over the course of 2021, an extensive internal stakeholder engagement process was undertaken to gather building requirements and an understanding of Halifax Water's current and future internal processes. With this information, EastPoint presented various iterations of the space program for additional review and feedback to ensure all

requirements were captured. The resulting “Burnside Operations Facility Final Concept Design Report" (“BOCFFCDR") presented a summary of the functional spaces desired, as well as three different building and lot layout approaches to meet operational needs. The report also provided a summary of building energy performance and sustainability targets that would contribute to reduced operational costs and could align with HalifACT 2050's new sustainable building goals.

…

The building design had the capability to support the then 145 personnel assigned to the building but the capability to support another 55 persons if needed without significant renovations.

The move to the 'One Team One Water' organizational structure and culture promotes a consistent high quality of service and effective utilization of resources (people, spaces and equipment), and impacted the requirements for the concept building space and functional needs in the following ways:

- Appropriate training and meeting room spaces for training and project planning.
- Common office spaces for operation personnel.
- Function-focused workshops instead of region focused.
- Reduction in space for general and specialty use tools and equipment by reducing quantity of standby/backups.
- Shared storage areas.
- Areas to encourage knowledge sharing and improved communication.
- Reduction in yard space through consolidation of materials by function rather than region.
- Dual purpose spaces to further encourage employee engagement and collaboration (e.g., lunchroom as a work dispatch area; wash bays part of indoor vehicle parking allotment).
- Allocation of space for operational support services from other departments such as IT and HR.

…

The concept design for the Burnside Operations Centre (“BOC") that was put forth by EastPoint aimed to achieve sustainable goals by incorporating various energy saving and Green House Gas (“GHG") reduction measures.

[Exhibit H-4, DVP Report, pp. 7-8]

[87] Further, the Board notes the following information that was provided by Halifax Water in its application for Board approval of the Design Validation Phase (Matter M10895):

> Halifax Water Staff and EastPoint have undertaken significant effort to understand the current and future workflow practices at each of the depots and to gather more specifics on the functions each area in the building are required to meet. The engagement effort included visits to all the depots and separate and combined meetings with the managers and supervisors. These engagement sessions included provisions of functional space requirement iterations and draft floor planning exercises to optimize the layout, workflow patterns and space dimensions.
>
> The efforts also included sessions with current managers and supervisors operating from the 455 Cowie Hill Operational Depot as well as a review of recommendations made in the ***Facilities Consolidation Report*** in 2014. As 455 Cowie Hill facility has been operating as a combined depot for the last 9 years, it was used as a baseline to understand how spaces functioned well, where improvements could be made to the workflows, and how the building layout could improve and support the work being conducted.
>
> The Concept Design Report reflected the overall needs analysis conducted which resulted in a 28% increase space (and capital cost) from initially estimated. This increase is not only due to operational requirements but due to improvements and availability of operational support roles. Space has been identified for Information Technology staff and a backup data centre, SCADA and ICS Security staff, Electrical and Instrumentation staff, Human Resources support services, and vehicle maintenance areas and technicians. [Emphasis in original]
>
> [Matter M10895, Exhibit H-1, p. 4]
>
> Halifax Water staff continued with operational and business support staff engagement since November 2021 to gain improved understanding of the current and future operational processes. The new facility is now estimated at 8,080 m^2 (87,000 ft^2) to provide additional space for growth, as requested by the Halifax Water Board, and improvements to the interconnection of spaces. The universal spaces such as locker rooms, washrooms, storage and shower facilities were also further developed for a diverse workforce that will be appropriate for all present and future employees.
>
> Staff also confirmed that the design would support the One Team One Water culture, and that the proposed concept building lot and floor plan designs would include space for personnel and vehicular growth to accommodate the growing serviceable boundaries for water, wastewater and stormwater services. The design would provide flexible spaces to accommodate changes to business practices, support functions and responsibilities. Space remains identified for Information Technology staff and a backup data centre, SCADA and ICS Security staff, Electrical and Instrumentation staff, Human Resources support services, and vehicle maintenance areas and technicians.
>
> [Matter M10895, Exhibit H-1, pp. 7-8]

[88] In approving the DVP, the Board relied upon this pre-DVP work and the assurances provided by Halifax Water in Matter M10895 that the facility had been right-sized at 87,000 sq. ft. to meet Halifax Water's functional needs and future growth requirements. As such, the Board has significant concerns related to the proposed new 99,350 sq. ft. size of the facility. These concerns were expressed during hearing

questioning by the Board. In its Closing Submission, Halifax Water stated that it understands and appreciates these concerns. But the Utility submitted that it now has a more complete understanding of the overall needs for the BOC, and it was only following the DVP that it became apparent the additional space would be required.

[89] Mr. Gillis identified several of the reasons for the building size increase in his responses to hearing questions from the Board. These responses noted the building floor area was impacted by additional requirements for the EOC, a special features room, a wet lab, and OH&HA areas, adjustments to the lunchroom and locker room areas, improved accessibility standards, and to provide functional shop bays and bike room (which was required to conform to HRM By-laws). But Mr. Gillis also stated the following in his hearing testimony:

> A. (Gillis)…we still continued with that evolution. As you read, engagement with our staff was important and we needed to double check our numbers before we hit go and build the building and finalize the design and build the building. So we talked about staffing growth. There is only -- there wasn't very much growth associated with the operational staff except for the confirmation of Water Small Systems group moving in. There was some growth expectations that were part of the technology services group and information services based on that, so we had to create a larger area.
>
> …
>
> So, yes, it's a fair question. We -- you know, this gives us some assurance there, but, again, that was at a point where we haven't -- there was still some engagement left to happen to confirm.
>
> …
>
> Q (Murphy) But you also understand when the Board approved the DVP stage, that the Board approved it based on all the assurances I just read, that the facility was the right size to meet Halifax Water's functional needs.
>
> A. (Gillis) M'hm.
>
> Q. (Murphy) You understand that?
>
> A. (Gillis) I understand that.
>
> [Transcript, pp. 282-285]

[90] The Board understands Halifax Water's submissions and hearing testimony, but they do not lessen the Board's concerns about the increase in building size since Board approval of the DVP in February 2023.

[91] Much of the work that Halifax Water said needed to be completed in the Design Validation Phase had already been completed by EastPoint. Through this work, Halifax Water assured the Board that the proposed facility had been right-sized at 87,000 sq. ft. Even with its consideration of the evidence and submissions filed in this proceeding, and the related hearing testimony, it remains unclear to the Board why Halifax Water needed to go through basically the same exercise with the IPD team as it did with EastPoint. This is particularly relevant considering what Halifax Water told the Board would occur during the Design Validation Phase:

> Validation is an iterative process - a constant cycling between design, estimating, and constructability analysis. The goal is to develop the project design only to the degree necessary to achieve confidence. Validation is a process that establishes collective confidence for the IPD team: it proves or disproves whether the team can meet the full range of the owner's conditions of satisfaction (CoS) within the owner's **allowable cost** and schedule constraints. [Emphasis added]
>
> [Matter M10895, Exhibit H-1, Attachment 1, p. 6]
>
> Target Value Design (TVD**)** is a philosophy of **designing to a budget**, instead of budgeting a design. Cost estimating becomes a crucial part of design development, with constant checks against the target budget." [Emphasis added]
>
> [Matter M10895, Exhibit H-1, Attachment 1, p. 7]

[92] The DVP did not produce a result that confirmed the project could be built to the target budget established at the NRFP stage. Therefore, under the terms of the DVP approval, Halifax Water was afforded the opportunity to take the "exit ramp" provision of the project and go no further with the IPD team. Instead, the Utility opted to increase the building size and cost significantly. When asked at the hearing why Halifax Water did not take the exit ramp provision, the Utility simply stated:

> …because we need to build a new building. The building has to be built.
>
> …
>
> So the IPD team was well aware of what the initial budget was. They -- as we worked through it, they shared their budgets, they shared ways to save costs, but it still needs to be a functional building and those four depots need to be replaced. We have to move into a building. So what we felt was, at that stage is, we know the budget is going to be more, but we want to make sure it's a functional building and it's cost-effective and reasonable. And so we continued on with budget refinements and looking at different ways to solve it, and then what we have before you right now is the budget being requested.
>
> [Transcript, pp. 355-356]

[93] The Board agrees that the new Burnside Operations Centre needs to be built. But that does not mean it has to be built at any cost. Nor does it mean that the building size needs to be increased beyond what Halifax Water had told the Board was a right-sized facility design prepared by EastPoint. The Board approved the DVP based on its understanding that the project would be designed and constructed to the scope (building size) and budget presented in the DVP application, with an exit ramp provision if it could not. There was no indication that when the DVP was approved by the Board that the size and cost of the proposed building would change appreciably from what was conveyed by the Utility in its DVP application for Board approval. Indeed, there could very well had been a different decision in that Matter had the Board been aware at that time that the project scope and cost would actually increase to the level now before the Board.

[94] One reason noted by Halifax Water for the increase in building size was that the Utility had to consider the impact of the corporate reorganization to "One Team One Water" on the EastPoint design. The Board does not find this reason valid. As noted above, Halifax Water's application in the current matter acknowledged that this reorganization was considered and incorporated into EastPoint's design. This was also confirmed in Halifax Water's DVP application for Board approval in Matter M10895 where the Utility confirmed that the Eastpoint design supported the "One Team One Water"

culture and accommodated any related changes to business practices, support functions and responsibilities.

[95] In addition, in response to NSUARB IR-8b), Halifax Water confirmed that EastPoint's scope of work was to size the building to meet the Utility's current needs and allow for future growth to create a safe, healthy work environment. In response to Brown and Goldstein's IR-1a), Halifax Water also stated that between November 2021 and January 2022, the building requirements were further refined and enlarged to the 87,000 sq. ft gross area included in the Utility's December 2022 application to the Board for approval of the DVP. This was done at the suggestion of the Halifax Water Board to ensure that the building was not too small.

[96] As it relates to the proposed additional space for an EOC, a special features room, a wet lab, an OH&HA room, and watershed management storage space, Halifax Water submitted that these areas were not included in EastPoint's design but are, in fact, needed to meet the functional needs of the Utility. Given the extensive planning and design related work completed by EastPoint, which involved extensive stakeholder engagement similar to what was conducted by the IPD team, the Board is unsure why these areas were not identified by Halifax Water as needed functional space at the time EastPoint conducted its work. Furthermore, the Board is also unclear why Halifax Water considers these spaces to be functional needs now. As noted by CBRE's Ms. Sperry in her testimony:

> A. (Sperry) It's challenging to answer that question in that it is unclear to -- it's unclear what the full functional program of the new building is. And I'll -- and I just want to give an example. They have laid out the space plan. They have said that they reviewed a lot of the areas and are redoing them to align better with some of the comments that CBRE has made. But it's still unclear what the functional program requirements are for each one of those areas to validate some of the sizes of the spaces that they have indicated. So if they have presented new datasheets that explained what, in fact, a lot of those rooms required,

> it would be easier for us to validate whether the spaces that they have requested could have fit in the original building size that Eastpoint had recommended.
>
> It's unclear -- it's really unclear at this point, to me, where the increase in size has occurred, and it's not just in these spaces. I think there are other areas that they have denoted have increased in size, but we don't have a functional -- full functional program or date sheets to say those rooms are right sized or not.
>
> [Transcript, pp. 441-442]

[97] If Halifax Water truly believes that these spaces are required, the Board believes they should have been identified as such by the Utility when EastPoint was conducting its work. Further, during the Design Validation Phase, if these spaces were identified as being needed, but would result in the scope and budget for the project exceeding what was identified in the NRFP, these items could have been added to the "wish list". Then as the IPD team design evolved and other areas were found where cost savings could accrue, the items could have been added to the project scope if the related cost to incorporate them could be offset by the savings found elsewhere and remain within the total NRFP budget envelope. In fact, this could still be done as the IPD team works through the detailed design process, provided the cost of these spaces offsets cost savings found elsewhere and does not cause the overall project cost to exceed the amount approved by the Board.

[98] The proposed DVP design accommodates a current Halifax Water staff complement of 145, which can easily be expanded to 200 with the addition of or changes to furniture. Halifax Water's DVP application to the Board likewise noted that the EastPoint design could support 145 personnel with the capability to accommodate another 55 staff without significant renovation. Even though both building designs can reportedly accommodate the same staff complement, the Board notes that the EastPoint

design is 12,350 sq. ft. less in gross floor area than the DVP plan currently before the Board.

[99] During the hearing, the Board asked Halifax Water for its comments on the "sq. ft. per person" benchmarks that CBRE presented in its evidence, and CBRE's contention that the original EastPoint recommended size of 87,000 sq. ft. should effectively meet the needs of the Utility for the next 20 years. In response, Mr. Gillis indicated that Halifax Water is unsure of the source of the standards referenced by CBRE. As such, he stated that he could not disagree with the standards without knowing the source. Mr. Gillis also stated that he did not think CBRE is familiar with the work that will be done at the proposed operations facility.

[100] In Undertaking U-10, CBRE provided the source of this benchmarking data. CBRE obtained the data from HOK Inc. and Gensler Architecture & Design Canada. Both HOK and Gensler are reputable global design, architecture, and planning firms. As noted by CBRE, these firms typically issue workplace benchmarking data whitepapers on a regular basis to ensure data is current and relevant. In its Closing Submission, Halifax Water referenced Ms. Sperry's hearing testimony where she indicated that she did not know how the size of the proposed locker room area compared to industry standards. The Utility also referenced Mr. Gillis' hearing testimony where he stated he did not think CBRE is familiar with the work that will be done at the proposed operations facility, and that Halifax Water believes the OH&HA space needs more than a chair, desk and scale. However, Halifax Water did not address the specific industry benchmarks noted in the preceding paragraph, or the source of that data, in its Closing Submission or Reply

Submission. The Board finds no reason to dispute these benchmarks, which only adds to the Board's concerns related to the increase in building size.

[101] Throughout this proceeding, Halifax Water has argued that the proposed Burnside Operations Centre needs to be a purpose-built building. This point was re-iterated by Mr. Gillis during his hearing testimony when he stated: "And really, it's really a purpose-built building. That was the focus from day one, is it's got to be a purpose-built building for our operational staff, for Halifax Water." The Board notes that if this was, in fact, the focus from day one, then that focus surely would have been addressed in the extensive stakeholder engagement, functional planning and preliminary design work completed by EastPoint. Further, there is nothing before the Board in this Matter to suggest that Halifax Water is appreciably different from other similar utilities in terms of its operations requirements. As such, the Board does not believe that Halifax Water has any significantly special or unique operational needs. Therefore, the Board concludes that the facility space needs of Halifax Water should be relatively consistent with industry benchmarks and standards.

[102] As noted previously, the Board agrees with Halifax Water that the proposed Burnside Operations Centre needs to be built. However, given all of the above, the Board finds that the proposed building does not need to be as large as currently put forward by Halifax Water and the IPD team. The Board believes that the operations facility was right-sized by EastPoint, as presented in the NRFP documents. Given this finding, the Board does not consider it necessary for Halifax Water and the IPD team to conduct any further design validation.

[103] This notwithstanding, the Board commends Halifax Water for its consideration of incorporating improved accessibility standards into the proposed building. The Board believes these are important considerations that will make the building welcoming and usable to everyone. The Board agrees that Halifax Water has achieved the right balance of design and cost based on a blend of building code requirements, CSA B-651 standards and some of the recommended enhancements by the Rick Hansen Foundation. The Board, therefore, finds that it is appropriate to include these improved standards into the building design, recognizing that they were not included in the EastPoint design.

[104] The Board also approves the addition of the proposed bike room. The Board understands that this room was not included in EastPoint's design, but is now required to conform to HRM By-laws. The Board has assumed that the cost for this room is included in the "code change" cost line noted on page 16 of Halifax Water's application.

[105] With regards to the recommended additional space, the Board agrees with Halifax Water that the proposed expansion space (i.e., the shelled vacant space and the additional bay) will provide Halifax Water and its ratepayers with significant flexibility for the future to accommodate growth at a fraction of the cost if the approach is approved now as part of the current construction plan. The Board also agrees that including these items only as "wish list" items, as recommended by CBRE, would not be cost-effective. Further, the Board believes that these spaces will also provide some "buffer" should Halifax Water grow faster than expected. Therefore, the Board finds that these expansion areas are to be included as part of the Board approved project cost. The Board recognizes that its findings above related to the overall size of the proposed building could require a

change to the current design of these expansion spaces. Nonetheless, as noted in later sections of this decision, the Board has approved the requested funding amount for these spaces, as identified in Halifax Water's Closing Submission and response to NSUARB IRs. If a design change is required for these expansion areas, Halifax Water will need to make the re-design, and related construction cost, work within the confines of these approved amounts. Based on Halifax Water's cost benefit analysis, the Board also approves the solar PV that will be installed on these expansion areas.

[106] With regards to the proposed additional space associated with the covered parking canopy, CBRE's evidence noted that the covered parking was included in Section 6.4 (5.h) of EastPoint's July 8, 2022, Technical Design Guidance document. Further, the IPD contract, included as Attachment 7 to NSUARB IR-10, included this guidance document, which showed a covered parking area for 25 stalls at the northeast end of the site. As such, the Board is unsure why this item is not included in the IPD team's construction price, instead of an additional scope item. Indeed, the IPD team's "Sitework" pricing provided in Exhibit H-5 shows a line item for "Covered Parking" but does not appear to have a related cost. However, the "wish list" items included in Exhibit H-5 do include a covered parking area item and an associated cost.

[107] Nevertheless, page 43 of the DVP Report included in Halifax Water's application identifies the covered parking canopy as a "wish list" item. However, page 48 of the DVP Report says this area could also be an uncovered asphalt parking and storage area. The Board does not see a huge benefit of this additional space, particularly given the significant increase in the overall cost of the project and that Halifax Water even

acknowledges the area can simply be an asphalt parking area. As such, the Board does not approve the cost of the addition of the covered parking canopy.

3.2.3.2 Project Costs

[108] To assess the reasonableness of Halifax Water's application, in addition to reviewing the justifications Halifax Water advanced for the proposed increase in building size discussed in the previous section, the Board has analysed the various available cost information and estimates for the proposed building. The task of making an apples-to-apples comparison was made difficult by the different ways in which cost estimates were presented. Explaining the costs variations in this decision is also challenging, because many of the construction cost components are confidential. This is necessary to prevent influencing the eventual contract prices by revealing these details at this stage.

[109] As a starting point, the Board looked at the estimates provided by EastPoint in Matter M10895. In that matter, Halifax Water advised the Board that in August 2021 EastPoint provided an order of magnitude estimate (with an anticipated accuracy within +/-30%), through an engagement with Hanscomb Liscomb, ranging between $39,914,000-$41,415,000, based on building configuration, lot orientation, and building size. Halifax Water told the Board this estimate included increases from a 2019 estimate for such matters as building and energy performance and sustainability initiatives, market conditions due to the COVID pandemic, and supply chain impacts on construction costs [see: Matter M10895 Exhibit H-1, p.3]. In that matter, Halifax Water also said that EastPoint updated their estimate to $43.77 million in April 2022. The revised estimate was for the three remaining phases of the project (Detailed Design, Procurement, Construction and Warranty). It included an amount for construction allowance, escalation

and contingency. The estimate was based on previous Hanscomb Quality Surveyors order of magnitude estimates and market conditions EastPoint was witnessing. [see: Matter M10895, Exhibit H-3, PDF p. 10]

[110] As the proposed building size has increased from the 87,000 sq. ft to 99,350 sq. ft, the Board prorated the EastPoint estimate upwards by 14%. This would equate to an order of magnitude estimate of approximately $49.9 million for a 99,350 sq. ft building in April 2022. Halifax Water suggested the April 2022 EastPoint estimate was not escalated and, therefore, was based on 2021 dollars. If Halifax Water means the 2022 EastPoint estimate was based on Q1 2021 dollars, this comes as a surprise to the Board, as there was no indication this was the case in Matter M10895. It was advised escalation was included in the April 2022 EastPoint estimate. As well, in response to NSUARB IR-23b), Halifax Water said the cost escalation in Figure 2 of the application "…provides for cost increases between Q4 2021(i.e., cost carried in December 2022 submission) to Q2 2023 when the Design Validation Phase began." In any event, even if the Board bases its analysis on the assumption the EastPoint April 2022 estimate was not escalated to the end of 2021, which the Board believes is unlikely, the result is interesting.

[111] In response to NSUARB IR-13a) vi), Halifax Water provided the Building Construction Price Index data for Halifax. The index in Q1 2021 was 110.1 and in Q3 of 2023, when the IPD target pricing was prepared, it was 134.4. There was, therefore, a 22.1% increase in the index during this period. Prorating the $49.9 million figure for this escalation gives a result of $60.9 million. The Board has also added an additional escalation of 4% to account for an additional construction year producing an order of magnitude estimate of $63.3 million. The Total Construction Estimate from the IPD team

is $73.8 million, inclusive of the dewatering facility. However, the Board has deducted the cost of the dewatering facility and ready to move-in costs, that were not included in the EastPoint estimate. This means there is still a difference of approximately $7.8 million when these various adjustments are made. The variance would be even higher, if escalation was included to Q4 of 2021 in the EastPoint April 2022 estimate, which the Board believes is likely.

[112] The Board put the foregoing analysis to Mr. Gillis, who said it was a fair comparison but that the EastPoint estimate "…lacked construction insight…" and was not accurate, based on the current understanding of the market and awareness of commodity price escalation volatility. The Board has some difficulty with this explanation, as the Halifax Building Construction Price Index provided by Halifax Water was used for the escalation amount.

[113] CBRE completed an analysis of the $46,535,000 estimate in the EastPoint Report. Adjusting the EastPoint estimate for actual published escalation figures to Q4, 2023, and projected escalation over five quarters to Q2 of 2025, CBRE arrived at total design and construction costs of $49.4 million. If the Board adjusts this figure for the 14% increase in building size, the resulting amount is $55.3 million.

[114] The Board realizes the EastPoint estimate and the IPD estimate were not prepared on the same basis insofar as the estimated level of accuracy. As well, the CBRE analysis was primarily done to derive a cost per sq. ft for the hard construction costs. That said, the magnitude of the variances warranted further review by the Board.

[115] The Board, therefore, conducted an analysis of an estimate prepared by Altus Group Limited (Altus). Halifax Water asked Altus to provide an independent Class

C estimate for the Burnside Operations Centre. The goal was to verify whether the IPD team estimate for the project was reasonable. The estimate was prepared as of Q3 of 2023, the same period as the IPD estimate. While Altus worked independently, it was provided the same information about the project details as was available to the IPD team. Altus Group prepared a report dated October 3, 2023. In response to NSUARB IR-30, to address an error in the square footage of the building, Altus provided a revised report dated February 16, 2024 (Altus Report). Altus provided a project construction cost estimate of $67,480,000. The Altus Report says:

> The estimate includes all direct and indirect construction costs and general conditions, as well as contractor's overheads and profit. The provisions for contingencies are based on the information provided and defined within the body of this report.
>
> The estimate includes the following contingencies, which are defined within the body of this report.
>
> - 15% for design and pricing contingency
>
> - 5% for post-contract contingency
>
> - 8% for escalation contingency
>
> [Exhibit H-6, PDF p. 1022]

[116] The Altus Report estimate executive summary provided a further cost estimate breakdown:

[redacted]

EXECUTIVE SUMMARY

$67,480,000
PROJECT TOTAL

$7,311/m²
TOTAL /m²

$679/sf
TOTAL /sf

9,230 m²

99,351 sf
PROJECT GCA

Building Component	Area (m²)	Area (SF)	Total/SF	Total
Halifax Water Operations Centre	9,230 m²	99,349 sf	601 /sf	$59,716,937
Pre-contingency Subtotal (GCA)	9,230 m²	99,351 sf	$601 /sf	$59,716,937
Design and Pricing Contingency (11.8%)	9,230 m²	99,351 sf	71 /sf	$7,065,640
Design Contingency Subtotal (GCA)	9,230 m²	99,351 sf	$672 /sf	$66,782,577
Escalation Contingency (8.0%)	9,230 m²	99,351 sf	48 /sf	$4,777,350
Construction Contingency (5.0%)	9,230 m²	99,351 sf	30 /sf	$2,985,847
Total Construction Cost (GCA)	9,230 m²	99,351 sf	$679 /sf	$67,480,134
				EXCLUDED
Total Construction Cost	**9,230 m²**	**99,351 sf**	**$679 /sf**	**$67,480,000**

[Exhibit H-6, NSUARB IR-30, Attachment 1, PDF, p. 1032]

[117] Halifax Water said the Altus estimate was very close to the IPD team estimate, once reconciliations were made to adjust for the fact different methodologies were used for these estimates. Halifax Water provided different versions of the cost estimate comparisons, adjusted to respond to NSUARB IR-30, and in Undertaking U-7. Halifax Water said the adjustments and reconciliations in the cost comparison attached to Undertaking U-7 should address the Board's concerns about how comparable the two cost estimates are to each other. The cost comparisons were provided on a confidential basis because some of the detailed cost estimates, that could influence competitive bid pricing, could be derived from this information.

[118] The Board notes that the Net Construction Estimate figure from the Altus Report was not transposed correctly into the cost comparison in the Undertaking U-7 attachment. This is a discrepancy of approximately $170,000 that does not materially impact the analysis.

[119] Despite the adjustments made to reconcile what was included and excluded in the Altus and IPD estimates in the attachment to Undertaking U-7, the Board is concerned some contingency categories in the comparisons are still not readily reconcilable. When Ms. Castellano was asked by the Board if only comparing hard construction costs was a fair way of comparing the two estimates, she testified that hard costs included overhead, general requirements, and contingencies. She agreed that a good basis for a fair comparison between the Altus and IPD team estimates was to remove the escalation contingency out of both estimates and the construction contingency out of the Altus estimate, if the two estimates were prepared at the same time. The evidence confirms they were. Ms. Costellano said that with the IPD team estimate, the design fees had to be taken out (which was done) and only the contracted portion of profit should be added in.

[120] Halifax Water said that removing contingencies, as suggested, does not provide an accurate picture, because the estimates were prepared on a different basis. The Altus estimate is a Class C estimate while the IPD estimate will be incorporated in the contract price. Halifax Water said the corresponding contingencies, based on the methodologies, form an integral part of each estimate. The Board understands Halifax Water's argument. Nevertheless, it is of the view that when comparing estimates prepared using different methodologies, hard construction costs, as defined by Ms. Castellano, provides a more apples-to-apples comparison.

[121] The Board analyzed Halifax Water's revised comparison of the Altus and IPD team estimates in Undertaking U-7. The comparison in this undertaking showed the IPD team estimate to be slightly less than that of Altus. If the Board, however, ignores

contingencies and only considers net construction costs, general requirements and fees, and overhead and profit, the Altus estimate is considerably less than the IPD team estimate. Nevertheless, given the differing opinions of Halifax Water and CBRE about whether contingencies should be included in such a comparison, the Board looked at benchmarking as another cost comparison test.

[122] CBRE performed project cost benchmarking exercises. First CBRE looked at the EastPoint estimate presented as of April 2022. The hard construction budget showed a cost of $535/sq. ft. Adjusted for escalation to the midpoint of construction in Q2 of 2025, the figure increased to $568/sq. ft. Based on Halifax Water's revised funding request in its IR responses, CBRE calculated the IPD team's hard construction costs at $768/sq. ft. CBRE then isolated the building construction costs from the site development costs. This required an analysis of the confidential detailed IPD team line item. CBRE then analysed industry benchmark publications and calculated what, in its opinion, was a reasonable construction cost benchmark for a building with approximately "…2/3 type office type space and 1/3 industrial/garage type space." CBRE arrived at a reasonable benchmark figure of between $323/sq. ft. and $527/sq. ft. for the building component of the project in isolation. The IPD figure, excluding site development costs, falls within the upper half of that range, as shown in the confidential part of CBRE's Undertaking U-11.

[123] In reviewing CBRE's analysis in Undertaking U-11, the Board is unsure how CBRE developed its number for the IPD team's estimated site development costs. The Board's own analysis of the IPD team's detailed line item pricing suggest that the estimated site development costs for the IPD team may be lower than that identified by CBRE. If that is the case, the $/sq. ft building cost, excluding site development costs,

calculated by CBRE would be higher than it identified in Undertaking U-11. Nevertheless, it would still be within the reasonable benchmark range.

[124] CBRE also expressed some concern about to the amount of overhead included in the IPD team estimate. CBRE noted that contractor overheads are typically called “general conditions”. Since the IPD team estimate includes a line item for general conditions and a separate line item for overhead, CBRE was concerned that there may be some “double counting” in the IPD price that could inflate the overall project cost. Halifax Water addressed this concern by noting that the IPD overhead amount line item is calculated in accordance with the guide published by the IPDA in October 2022 entitled “Considering Overhead and Profit in IPD – A Position Paper”. The Board has reviewed this paper and remains unclear how the IPD team overhead is different than its general conditions. Further, the Board can find no explanation detailing why the IPD team’s overhead cost as a percentage of net building cost is appropriate. Nevertheless, there is nothing on the record in this proceeding challenging this amount.

[125] The IPD team’s estimated site development costs form a significant amount of the overall hard construction costs. In Undertaking U-11, CBRE explained in their initial report, they had not benchmarked the site development costs, as this component of the Burnside Operations Centre “…includes numerous outbuildings and items that wouldn’t normally be included in the site servicing industry benchmarks. Industry benchmarks are originally restricted to underground utility infrastructure, lighting, grading, asphalt, and curbs.

[126] In Undertaking U-11, CBRE looked at the comparable sitework and flatworks components shown in the application’s detailed construction estimates in Exhibit

H-5. CBRE found that the total amount of the IPD siteworks budget was significantly higher than the industry benchmarks. As requested, CBRE also reviewed the detailed construction estimates to determine a total for siteworks, flatworks, fencing and landscaping. CBRE said "…this amount has no relevant comparison to any of the industry benchmarks noted above."

3.2.3.3 Findings

[127] As expressed above, the Board has numerous concerns about the calculations and comparisons arising from the EastPoint, Altus, and IPD team cost estimates. The EastPoint and Altus estimates, when adjusted for a more apples to apples comparison, tend to suggest that the total cost of construction put forward by the IPD team is high. That said, the Board takes some comfort that, CBRE, an independent expert, said the projected costs, on a per square foot basis, for the building component alone, are within the industry benchmarks, albeit on the higher end. In the circumstances of this case, these industry benchmarks may contain the most objective and more readily verifiable information. The Board notes it has placed greater weight on the benchmarks provided by CBRE. The individual project examples Halifax Water provided as potential benchmarks in response to NSUARB IRs were quite different when compared to the Burnside Operations Centre. As well, individual projects often have their own particularities that industry averages can smooth over.

[128] The area of most concern to the Board is the site development cost component of the project. This component significantly impacts the overall cost per square foot and is difficult to assess. Halifax Water suggested the size of the asphalted surface, and the use of thicker asphalt because of the equipment it uses, accounts for

most of this higher cost. The difficulty with this is that, presumably, some of the industry benchmarks would use the same thick asphalt. While the size of the parking lot is an individual characteristic, the CBRE analysis was based on a per acre figure. CBRE recommended further cost justification for this component should be required of Halifax Water. While this is a reasonable recommendation, further delay in completing and vetting such an analysis could jeopardize the project's costs beyond any benefit gained from further assessment.

[129] Another area of concern presented by CBRE is that the proposed increased building size seemed to generate higher costs per square foot than the smaller building that was originally proposed to the Board. The Board agrees with Ms. Castellano that, because of economies of scale, one would expect the cost per square foot to be less for a larger building. As the Board has not approved the size of the building proposed by Halifax Water, this issue is less of a concern.

[130] Aside from the more general analysis of project costs, there are specific cost items that must be addressed. These are various costs associated with building code changes, a proposed dewatering building, and EV charging stations.

[131] In the application, Halifax Water had included a dewatering building as part of the Burnside Operations Centre design. In response to IRs from the Board and Brown & Goldstein, Halifax Water said it was removing this building from the scope of work. The utility indicated it had subsequently determined the "…Burnside Operations Centre may not be the optimal location for this building." This reduces the capital costs by approximately $1.3 million.

[132] Halifax Water attributed certain increased project costs to building code changes to comply with the 2020 version of the National Building Code. It was anticipated that this version of the National Building Code would be adopted in 2024. The Province has announced a delay in the adoption of this version of the code. While the implementation of the new version has been delayed, there is no indication it will not ultimately be approved. The building code in force at the time of construction is applicable. However, the Board agrees with Halifax Water that it would be more expensive to bring a built building up to code if substantial renovations are needed in future. The amount involved is not enough to take such a risk.

[133] Halifax Water proposes to have 10 electrical vehicle charging stations at the Burnside Operations Centre. Halifax Water currently owns no electric vehicles. Halifax Water employees who own electric vehicles would have to pay for charging personal vehicles. While the uptake of electric vehicles in Nova Scotia has been slow, they factor into the climate change response. The case for approval of this cost is marginal. That said, the capital cost is very minor and could provide future benefits to Halifax Water's vehicle fleet. The Board will, therefore, allow this cost.

[134] The Board will make one final comment on costs. Halifax Water originally requested Board approval of this project by April 30, 2024. The Utility said that a delay to July 2024 could create additional costs due to price escalation issues. CBRE thought the amount of cost escalation suggested by Halifax Water was high. In any event, in the Board's opinion, any delay in approving this application was the result of Halifax Water applying for something that was substantially different from what had been considered in Matter M10895. If Halifax Water had submitted an application for substantially the same

building at substantially the same costs reviewed in Matter M10895, there would likely have been no need for an independent expert to review it. There would likely have been a more expedited paper process. In these circumstances, the Board would likely not look favourably on any request for additional costs that could result from the time it took for the Board to properly review and process this application.

3.3 Approved Project Costs

[135] The goal of the Burnside Operations Centre project is to provide a functional, practical and safe operations depot that services the east and central water, wastewater and stormwater operations staff and Halifax Water as a whole. The building and site need to meet Halifax Water's current needs and the projected needs for the foreseeable future as best as possible. This goal, however, must be balanced against project costs. Ratepayers are currently facing cost pressures everywhere and do not need to be further burdened with excessive costs associated with a building that the Board finds is oversized. As such, the Board is not prepared to approve the project cost currently submitted by Halifax Water for approval. Instead, the Board approves a reduced project cost based on its calculations derived from the evidence, described as follows.

[136] As noted previously in this decision, the Board has found that the proposed Burnside Operations Centre was right-sized at 87,000 sq. ft, as part of EastPoint's scope of work. Therefore, the Board finds that the proposed building does not need to be as large as currently put forward by Halifax Water and the IPD team. The size of the building currently put forward by Halifax Water and the IPD team is 99,350 sq ft. The Board, therefore, bases its approved project cost on a reduction of 12,000 sq. ft. in the building's gross floor area.

[137] In its application, Halifax Water provided Figure 2. This figure shows an incremental project cost of $9.9 million associated with the increased 12,000 sq. ft. gross floor area between the EastPoint design and the IPD team's design. However, in its response to NSUARB IR-23a), Halifax Water noted that this incremental cost includes some elements that do not, in fact, affect the building's gross floor area. These items include the dewatering building (which has now been removed from the project scope by Halifax Water), a cell tower foundation and a walkway. The IR response identified the cost associated with each of these items. Therefore, as a starting point in determining a project cost reduction, the Board has taken the $9.9 million incremental gross floor area cost identified by Halifax Water, and deducted the cost of each of these items.

[138] In addition, Halifax Water noted that one of the drivers for the increased building size is related to improved accessibility standards. The Board has found the inclusion of these improved standards to be appropriate. In its response to NSUARB IR-19b), Halifax Water identified the incremental cost to incorporate these improvements into the overall project scope. The Board, therefore, has also deducted this cost from the $9.9 million incremental cost associated with the increased building size in calculating a project cost reduction.

[139] As it relates to the proposed bike room, Halifax Water indicated that inclusion of this area results in an increase in the building size. While this may be the case, the Utility also noted that this space is needed to conform to HRM By-laws. As such, the Board has assumed that the incremental cost for this space is included in Figure 2 of the application under the "Cost Escalation & Code Changes" line rather than the "Gross

Floor Area Increase" line. The Board has, therefore, not deducted the cost associated with the bike room from the $9.9 million incremental gross floor area increase cost.

[140] With the cost reductions from the $9.9 million figure taken into account, the Board has calculated a cost reduction for the project which it refers to as the "net hard construction cost reduction". The Board notes, however, that there are other costs associated with the building size increase that are not "hard construction" costs. The Board must add these costs to the "net hard construction cost reduction" to calculate a total cost reduction for the project associated with reducing the building size.

[141] The first of these other costs relates to associated "Contractor Insurance". Exhibit H-5 identified the IPD team's cost for this item. The Board has calculated the percentage that this cost represents of the IPD team's "Net Building Cost". The Board has then used that percentage to calculate a project cost reduction associated with "Contractor Insurance" on the "net hard construction cost reduction". Similarly, the Board has calculated project cost reductions for "Permits", "Solid Waste Charges", and "RDC's for Wastewater and Water" associated with the "net hard construction cost reduction". These reductions are based on the $/sq. ft. numbers identified for these items in the IPD's pricing in Exhibit H-5.

[142] In response to NSUARB IR-30, Halifax Water provided an updated project cost estimate completed for the IPD team by Altus. In that estimate, Altus identified a percentage of "Net Construction Cost" plus "Design and Pricing Contingency" that "General Requirements" typically represent for similar construction projects. The IPD team's pricing in Exhibit H-5 includes "General Conditions" costs as part of "General Requirements" costs. As such, the Board has applied the same methodology to calculate

a further project cost reduction for “General Conditions” associated with the “net hard construction cost reduction”.

[143] A project cost reduction is also warranted for “Risk Contingency” associated with the “net hard construction cost reduction”. The Board has calculated the percentage that “Risk Contingency” cost represents of the IPD team’s “Net Building Cost”. The Board has then used that percentage to calculate a project cost reduction associated with “Risk Contingency” on the “net hard construction cost reduction”.

[144] The Board notes that IPD team’s pricing in Exhibit H-5 clearly shows that escalation contingency has been applied to “Contractor Insurance”, “Permits”, “Solid Waste Charges”, “RDC’s for Wastewater and Water”, “General Conditions” and “Risk Contingency”. As such, the Board has calculated a further project cost reduction related to escalation on these items associated with the “net hard construction cost reduction”. This cost reduction has been determined using the same methodology employed by the IPD team in calculating its “Escalation Contingency” in Exhibit H-5.

[145] During his hearing testimony, Mr. Gillis confirmed that $9.9 million incremental cost associated with gross floor area increases, represents hard construction costs only, and excludes any associated contractor overhead and profit. The Board has, therefore, calculated additional project cost reductions for contractor overhead and profit associated with the “net hard construction cost reduction”. These reductions have been determined using the same methodology used in the IPD pricing in Exhibit H-5.

[146] The Board has also calculated a project cost reduction for “Design Fees” associated with the “net hard construction cost reduction”. The Board believes that the scope of design work is more closely related to building size, rather than building cost. As

such, the Board has based its “Design Fees” project cost reduction on the change in building size instead of the change in building cost. A reduction in building size of 12,000 sq. ft. represents roughly 12.1% of the Halifax Water proposed building size of 99,350 sq. ft. Therefore, the Board has reduced the project “Design Fees” by this percentage to reflect the Board’s finding that a smaller building size is appropriate. Similarly, the Board has reduced the project “Design Risk Contingency” associated with the reduced “Design Fees”. The Board has also applied an escalation factor to these amounts using the methodology employed by the IPD team in calculating its “Escalation Contingency” in Exhibit H-5.

[147] As noted previously, the Board has not approved the inclusion of the proposed covered canopy parking in the additional project scope items. Therefore, the Board has reduced its approved project cost by the amount identified for this item in Halifax Water’s Closing Submission and in response to NSUARB IR-24a).

[148] Halifax Water has proposed including an underground rainwater harvesting system as part of the Burnside Operations Centre project. The Utility intends to use the captured water from this system in its vacuum trucks and other water-carrying fleet vehicles. Halifax Water believes this would save 4,600 cubic meters of domestic water with an estimated water cost savings of $15,580 per year. In response to NSUARB IR-20, Halifax Water provided a cost analysis of this proposed system.

[149] In their filed evidence, Brown and Goldstein noted that the rainwater harvesting system costs analysis presented by Halifax Water suggests the system is not cost-effective. They stated that the payback period for such a system would be a minimum of 45 years. With such a long payback period, Brown and Goldstein indicated that the

system does not appear to be a wise investment, and recommended that it be deleted from the project.

[150] The Board agrees with Halifax Water that the proposed rainwater system demonstrates environmental stewardship by the Utility. However, demonstration of this stewardship must be considered against costs and benefits to ratepayers. The Board agrees with Brown and Goldstein that this system is not cost-effective. It is, therefore, not in the best interests of ratepayers. As such, the Board has reduced the approved project cost to remove this element from the project scope. This amount was identified in Halifax Water's Closing Submission and its response to NSUARB IR-20.

[151] Halifax Water has agreed to remove the proposed dewatering building from the project cost. The Utility, therefore, reduced its requested amount for Board approval by $1,334,200 to account for this scope reduction. In response to NSUARB IR-18c), Halifax Water indicated that this amount was calculated based on the "net building cost" of the dewatering building plus related contractor insurance, contractor overhead, profit, net HST and Halifax Water overhead. The Board notes, however, that this amount excludes any costs related to permits, risk contingency and escalation contingency associated with the dewatering building. The Board has, therefore, included an additional project cost reduction for these items.

[152] Finally, the Board notes that Halifax Water has requested Board approval of a 3% "Owner's Contingency" for the project. Further to Halifax Water's response to NSUARB IR-15a), the 3% is applied to the IPD team's Total Construction Estimate. The Board has, therefore, calculated a related 3% project cost reduction for "Owner's Contingency" associated with the "net hard construction cost reduction".

[153] The Board has combined all the cost reductions noted above related to the Board's finding that the proposed Burnside Operations Centre was right-sized by the work completed by EastPoint and does not need to be as large as presented in Halifax Water's current application to the Board. The sum total of these cost reductions is approximately $14.23 million, inclusive of Net HST and Halifax Water overhead.

[154] In removing the dewatering building from the project scope, Halifax Water modified its total project funding request for Board approval to $87,765,800. With the Board's project cost reductions, the Board approves the total Burnside Operations Centre project funding in the amount of $73,538,240, as summarized in the following table:

CATEGORY	APPROVED FUNDING
IPD Phases 2 to 4	$61,784,732
Insurance, Contingency (3%), Owner Equipment, ICIP Solar PV Funding and Moving Costs	$3,578,565
Halifax Water's Recommended Additional Spend	$2,849,736
Sub-Total	$68,213,033
Net HST	$2,923,611
Halifax Water Contract Administration	$350,000
Overhead	$682,130
Sub-total	$72,168,774
Deduct for removing Dewatering Building from Scope	($1,395,533)
Approved Additional Funding	$70,773,241
Previous Funding Received for IPD Phase 1 and partial Phase 2	$2,765,000
Total Approved Project Cost	$73,538,241
Total Approved Project Funding (Rounded)	$73,538,200

[155] The Board wishes to make it very clear to Halifax Water that it will be expected to manage the project within the Board-approved project cost.

[156] The Board notes that its approved project cost for "IPD Phase 2 to 4" for an 87,000 sq. ft building, results in $/sq. ft. building cost that is not appreciably different than

that of the 99,530 sq. ft. building proposed by Halifax Water and the IPD team (per the "IPD Phase 2 to 4" cost noted in Halifax Water's response to NSUARB IR-15a)). In this context, the Board highlights the following statement from page 20 of Halifax Water's application: "With execution via the IPD methodology, this will most likely be the last request for funding because all contingency and profit must be exhausted by the IPD team before Halifax Water would require additional funding." Further, in its response to NSUARB IR-28, the Utility described the project financial tracking and controls procedures that will be used during the IPD construction phase to keep the project on budget. As such, the Board expects that Halifax Water's assertion about the use of the IPD methodology resulting in no further project funding approval applications with the Board will hold true.

[157] Finally, the Board directs Halifax Water to file semi-annual reports (i.e., every six months) with the Board providing a detailed breakdown of project costs to date. The first such report is to be filed six months from the date of this decision.

4.0 CONCLUSION

[158] The Board approves the application for an additional $70,773,241 in approved project funding for an amended total project cost of $73,538,200. The Board directs Halifax Water to file semi-annual reports (i.e., every six months) with the Board providing a detailed breakdown of project costs to date. The first such report is to be filed by January 31, 2025.

[159] An Order will issue accordingly.

DATED at Halifax, Nova Scotia, this 18th day of July, 2024.

Steven M. Murphy

Richard J. Melanson

Jennifer L. Nicholson