Report to: Development Services Committee Meeting Date: May 30, 2022

SUBJECT: Victoria Square Boulevard – Project Status Update

PREPARED BY: Alberto S. Lim, Sr. Capital Works Engineer, Ext. 2860
Alain Cachola, Senior Manager, Infrastructure and Capital Projects, Ext. 2711

RECOMMENDATION:

1. That the report entitled "Victoria Square Boulevard – Project Status Update" be received;
2. That the tendering process for the additional design and relocation of additional existing utilities on Victoria Square Boulevard (Phase 1) be waived, in accordance with Purchasing By-Law 2017-8, Part II, Section 11.1(c), Non-Competitive Procurement which states "when the extension of an existing Contract would prove more cost effective or beneficial" and Part II Section 11.2 "Requests for Tenders, Requests for Proposals and requests for Quotations may not be required for goods and services to be provided by any of the following (a) Hydro Electric Corporations and (b) Utilities;
3. That Purchase Order PD-19403 issued to Ainley Group be increased by $269,679.01, inclusive of HST, to cover the additional design work required to change the Active Transportation Facility from an MUP to separated sidewalks and cycle tracks;
4. That the contingency Purchase Order PD-19404 issued to Ainley Group for the detailed design of Victoria Square Boulevard reconstruction be increased by $26,967.90, inclusive of HST, to cover any additional design work required for the project and that authorization to approve expenditures of this contingency amount up to the specified limit be in accordance with the Expenditure Control Policy;
5. That the 2018 Engineering Capital Account 18059 (Victoria Square Boulevard Design) be increased to cover the additional design work in the amount of $296,646.91, inclusive of HST, and be funded from City Wide Hard Development Charges Reserve;
6. That staff be authorized to increase the purchase orders to the various utility companies (Alectra, Rogers Cable Communications Inc., Bell Canada, and Enbridge Gas Distribution Inc.) as identified in the financial consideration section, for the relocation of their facilities in the amount of $568,970.21 , inclusive of HST;
7. That a 10% contingency in the amount of $56,897.02, inclusive of HST, be established to cover any additional costs to deliver the utility relocation work for Phase 1, and that authorization to approve expenditures of this contingency amount up to the specified limit, be in accordance with the Expenditure Control Policy;
8. That the Engineering Department Capital Administration Fee in the amount of $74,644.85, inclusive of HST, be transferred to revenue account 640-998-8871 (Capital Admin Fees);

9. That the 2021 Engineering Capital Account 21213 (Victoria Square Boulevard – Phase 1 Utility Relocation) be increased to cover the additional utility costs in the amount of $700,512.08, inclusive of HST, and be funded from City Wide Hard Development Charges Reserve,
10. That the 2022 Engineering Capital Account 22031 (Victoria Square Boulevard – Culvert Construction) be increased to cover the additional culvert construction costs in the amount of $344,584.80, inclusive of HST, and be funded from City Wide Hard Development Charges Reserve;
11. That the incremental estimated amount of $175,709 be included in the 2024 operating budget for cycle track, MUP and sidewalk maintenance, subject to confirmation at time of construction award and Council approval;
12. That Staff be authorized and directed to do all things necessary to give effect to this resolution.

PURPOSE:

The purpose of this report is to obtain Council approval to award the additional design work to Ainley Group for professional services associated with Victoria Square Boulevard, increase the purchase orders to the various utilities for the relocation of existing facilities, and request additional budget for the design, utility relocation and culvert construction works.

BACKGROUND:

Victoria Square Boulevard is an existing north-south collector road, approximately 3 km in length from Woodbine Avenue (South) to Woodbine Avenue (North). Refer to Attachment 'A' for Location Plan. Victoria Square Boulevard is a 2-lane roadway with varying cross sections. This road was formerly Woodbine Avenue, which was part of the York Region road network. Jurisdiction of the road was transferred from York Region to the City of Markham in January 2016, after the Region assumed jurisdiction of the newly constructed Woodbine Bypass (now renamed Woodbine Avenue).

A Municipal Class Schedule 'C' Environmental Assessment (EA) Study for the improvements of Victoria Square Boulevard was carried out in December 2015 and completed in June 2018. Full approval of the Environmental Study Report (ESR) for EA Study was received from the Minister of the Environment, Conservation and Parks (MECP) in May 2020. The detailed design was awarded to Ainley Group in November 2019 and the detailed design commenced in December 2019. The consultant achieved the 90% completion milestone for the project in June 2021.

The proposed road reconstruction of Victoria Square Boulevard is tied to the future development of the North Markham Future Urban Area (FUA) as there are a number of future collector roads from the FUA that will eventually link to Victoria Square Boulevard as identified in the FUA transportation studies. The original schedule was to commence construction in Victoria Square Boulevard in 2021 but was partly delayed due to the delayed approval of the Municipal Class EA. The updated schedule and phasing are outlined further in the report.

DISCUSSION:

Environmental Assessment (EA) Process

The final EA document identified an Active Transportation Facility as part of the proposed road improvements. During the EA process, two (2) options were considered: a multi-use-path (MUP) or a separated sidewalk and cycle tracks. In addition, the general consensus from the public and the recommendation from the consultant carrying out the EA Study following the 2nd Public Information Centre (PIC) in June 2017 was to provide separate sidewalks and cycle tracks on the boulevard on each side of the road. However, during internal circulation of the draft Environmental Servicing Report (ESR), there were concerns that the project will not be able to provide a continuous separate facility due to property restrictions within Victoria Square Boulevard, as well as, the use of separated facility will have a higher operations and maintenance costs relative to a MUP. The final EA Study recommended a 3.0m MUP on both sides of the road. The ESR was submitted in June 2018 and approved by the MECP in May 2020.

The detailed design of Victoria Square Boulevard commenced in December 2019 and it incorporated the 3.0m MUP on both sides of the road. In June 2021, the design consultant achieved the 90% completion milestone. Full design was expected at the end of the year 2021, and the project was to be tendered in the spring of 2022 with the road construction to start soon afterwards in the summer of 2022.

The 90% design plans were reviewed in August 2021 and as part of the review, the following items were identified regarding the design:

1) Limited tree canopy on both sides of the road
2) High potential for conflicts between cyclist and pedestrians in a 3.0m MUP
3) Streetlighting and streetscape works
4) Construction Staging review

As part of the on-going review and development of the City's Active Transportation Master Plan and as well as the Council's feedback, staff reviewed the feasibility of implementing a separated facility on Victoria Square Boulevard. The following are the results of the feasibility review from staff:

- The 3.0m MUP on both sides of the road can be replaced with separate sidewalk and cycle track facilities where possible
- A transition from separated cycling and sidewalk facilities to 3.0m MUP will still be required at locations where there are right-of-way constraints and significant utility conflicts;
- A double rows of trees, instead of a single row of trees as currently designed, can be installed where possible.
- The streetlighting and landscape features can be revised accordingly based on the new locations of the sidewalk and cycle tracks on the boulevards.
- Consideration for alternate low-level lighting along Victoria Square Boulevard particularly the ceremonial route fronting Cathedraltown development.

The proposal to revise the design from a continuous MUP to separate sidewalk and cycle track facilities would not trigger an amendment to the approved ESR as an amendment to the EA is required for two reasons:

1) Significant modifications to the project or the environment settings which may trigger negative environmental impacts;
2) A lapse of over 10 years from the time of filing of Notice of Completion of the ESR.

The option of having a separate cycle track and a sidewalk was reviewed during the EA study and reverting back to this recommendation from the EA does not change the overall intent of the project. There are no negative environmental impacts to reverting to separate facilities and since the time lapse has not been violated, an addendum to the EA is not required.

Revised Design Considerations

Staff determined that installing a separate sidewalk and cycle track within the boulevards on each sides of the road was feasible for most of the Victoria Square Boulevard. There is a stretch of Victoria Square Boulevard, approximately 300m in length and located north and south of Elgin Mills where continuous separated cycle track and sidewalk facilities could not be achieved due to both right-of-way constraints and existing utility infrastructures. The design will have to revert to a MUP for this 300m stretch which represents approximately 5% of the entire section of Victoria Square Boulevard. The MUP, north of Elgin Mills on the east boulevard, must be at 2.4m in width in order to avoid very costly relocations of existing underground and aboveground Bell infrastructures. The MUP south of Elgin Mills on the east boulevard will be increased to 3.0m in width. This will be determined at the revised design stage. With the proposed MUP on this 300m stretch of Victoria Square Boulevard, there will be no need for any property acquisitions.

Refer to Attachment ‘B’ for the location of where the MUP design is to be retained.

Initial design on Phase I has at least a 0.6m concrete splash strip for most of Victoria Square Boulevard. All attempts will be made to increase the splash strip widths where possible in order to provide space for snow storage so that snow load and haul would be minimized. For the purpose of this report, a 1.0km length of snow load and haul is assumed. The actual length will be confirmed during re-design and O&M costs will be adjusted at a later date

Refer to Attachment ‘C’ for typical cross-sections between the original design and the revised design.

The design consultant has submitted a proposal to carry out the full detailed design revision incorporating a separated cycling and sidewalk facility which is estimated to cost an additional $296,646.91. The proposal includes the following consultant activities:

1. Project Management & Coordination of re-design work.

2. Project Meetings related to redesign.
3. Utility Coordination & Assistance for redesign of utility relocations.
4. Civil Re-Design
5. Streetlight Re-Design
6. Traffic Signal Re-Design for both permanent and temporary signals
7. Landscape Re-Design
8. Utility impact analysis and review
9. Stormwater management review

The rates provided by the consultant for the additional design work are in line with the costs included in the original RFP.

Project Phasing/ Schedule

The initial plan for Victoria Square Boulevard reconstruction at the commencement of detailed design was for the full length of the road to be completed under one contract. However, in July 2020, following Engineering Staff discussions with York Region staff and the Developer representatives for the FUA regarding the timing and coordination of various Markham and Regional infrastructure to service the FUA as well as coordination with the Elgin Mils EA Study, staff made a decision to schedule the Victoria Square Boulevard reconstruction into 3 phases. The extents of these phases and the proposed construction schedules are as follows:

- Phase 1 – Woodbine Avenue (South) to Stoney Hill Avenue (2022 to 2023)
- Phase 2 – Prince of Wales Drive to Woodbine Avenue (North) (2023 to 2024)
- Phase 3 – Stoney Hill Avenue to Prince of Wales Drive (2024 to 2025)

See Attachment ‘D’ for this original construction phasing plan.

The Elgin Mills EA Study is close to being finalized and filed with the Ministry and will be proceeding into detailed design. The detailed design work for Elgin Mills is scheduled to be issued by spring 2022. Together with further discussions with developer representatives for the FUA, staff has revised the project phasing for reconstruction of VSB with the following phasing of construction and schedules:

- Culvert Construction (2022)
- Phase 1 – Road Construction (including underground infrastructures) – Elgin Mills Road to Woodbine Avenue (South) - (2023 to 2024)
- Phase 2 – Road Construction (including underground infrastructures) - Elgin Mills Road to Woodbine Avenue (North) - (2025 to 2026)

See Attachment ‘E’ for the revised construction phasing plan.

Staff has obtained approval in the 2022 Capital Budget process for the culvert construction and is now proceeding with the tendering process for this work with construction scheduled to commence in August 2022 and an anticipated completion date of mid-December 2022.

The construction of the revised Phase 1 Road Construction is scheduled to commence in the spring of 2023, pending Council approval of the 2023 Budget. It is anticipated that the road construction will require two (2) seasons to complete. The construction of revised Phase 2 Road Construction is scheduled to commence in the spring of 2025. It is anticipated that the road construction will also require two (2) seasons to complete. The work proposal submitted by the design consultant incorporates the revised construction phasing in their design and tendering process.

Utility Relocation (AT Facility Change)

In May 2021, Council approved the budget and purchase order for the utility relocation work for the original Phase 1 from Woodbine Avenue (South) to Stony Hill Blvd. in the amount of $878,337.57, inclusive of HST. Individual P.O.'s were issued thereafter to Bell, Alectra, Enbridge Gas and Rogers to complete the utility relocation designs within the original Phase 1 limits. All utility relocation designs in the original Phase 1 were completed by July 2021. Bell and Enbridge Gas completed the utility relocation works in 2021. The completed works were in locations not affected by the proposed scope change discussed previously.

Alectra was scheduled to commence their relocation construction in September 2021 and Rogers was scheduled to commence once Alectra completed their construction work. However, the City requested that the relocation construction by both Alectra and Rogers be deferred until the revised detailed design for the separated cycling and sidewalk was finalized.

The proposed revisions on Victoria Square Boulevard will impact the current designs by the utility agencies for the full road corridor. The designs by the utility agencies therefore will require revisions to account for the new locations of sidewalks and cycle tracks on the boulevards on each side of the road. A cost estimate of the construction increase on the utility relocation resulting from the design change is deemed to be at **$240,662.40** (**this will be requested as part of the VSB road construction budget in 2023**). This increase cost can be attributed to the following:

1) Additional design cost for Alectra to revise their design.
2) Increase costs along the corridor to accommodate the boulevard design changes:
    - Adjustment of existing manholes
    - Change existing lids to more design friendly
    - Adjustment or relocation of pedestal boxes
    - Additional support poles
    - Additional guy wires
    - Miscellaneous items

Advancement of Utility Relocation for the Phase 1 extension

The proposed extension of the original Phase 1 limits from Stony Hill Blvd. to Elgin Mills R. increases the length of utility relocations on Victoria Square Boulevard from 900m to 1750m. Attachment 'F' for the increase in length of utility relocations.

The utility agencies have submitted estimates on the relocation of infrastructure within the revised Phase 1 and the increase above the original approved budget is $700,512.08.

Staff is requesting that the Engineering Capital Account 21213 be increased in the amount of $700,512.08 to include the advancement of the utility relocation for the Phase 1 extension.

The table below provides the breakdown in the Utility Relocation Costs for the project.

Table 1 – Utility Relocation Cost Breakdown

Description	Original Cost	Incremental Cost of Phase 1 Extension	Revised Cost
Phase 1 Utility Relocation			
Utility Relocations Costs (Project 21213)	$ 878,337.57	**$ 700,512.08**	$ 1,578,849.65
Phase 2 Utility Relocation			
Utility Relocations Costs (Budget to be requested in 2023)			$ 1,327,879.22
Total VSB Utility Relocations Costs			**$ 2,906,728.86**

The revised cost estimate for the design and advancement of utility relocations are included in the City Wide Hard Development Charge Reserve.

A detailed breakdown of the utility relocation costs is shown in Attachment H.

Culvert Construction and Creek Restoration

The design consultant has completed the structural design for the 8.5mx1.5m cast-in-place box culvert that is to replace the existing 1.25mx1.25m open footing box culvert which crosses Carlton Creek, and located approximately 200m south of Stony Hill Blvd. The restoration of the creek upstream and downstream of this culvert is included in this scope of work. The tender documents have been reviewed and finalized, and is ready to be issued upon approval of this report.

The culvert was to be part of the original Phase 1 road construction, however, due to the delay in the completion of the Phase 1 design as a result of the proposed design revisions, staff was decided to proceed with tendering and constructing the culvert in 2022, ahead of the road construction, now scheduled for 2023. A budget for the culvert construction was requested for 2022 based on estimates provided by the consultant in June 2021 for the Phase 1 road construction. Upon completion of the culvert construction design in early 2022, the consultant provided a revised construction cost estimate in the amount of $2,276,234.91, which is $344,584.80 higher than the approved budget of $1,931,650.14.

The increase in costs is attributed to the road work and environmental work components required for the culvert works and creek restoration. The road work components include construction layout, traffic control, asphalt removal, and road pavement restoration. Environmental work components include installation, maintenance and removal of erosions sediment control and tree protection fences and restoration of existing roadway ditches,

Staff is requesting that the Engineering Capital Account 22031 be increased in the amount of $344,584.80 to include the road construction component of the culvert construction, and to be funded from the Development Charges Reserve.

The culvert construction will be tendered in June once this budget increase is approved. Construction is scheduled to commence in mid-August and completion is anticipated to be by the middle of December.

CAPITAL PROJECT COST AND FUNDING

The table below is a summary of the total project cost and the comparison between the original cost estimate and revised cost estimate as a result of the AT facility change.

Table 2 – Overall Project Cost

	Original Cost Estimate	**Revised Design Cost Estimate**	**Variance**
Construction Costs (Budget to be requested in 2023)			
a) Above-ground	$ 24,540,000.00	$ 25,639,312.26	$ 1,099,312.26
b) Underground	$ 8,177,010.85	$$ 8,177,010.85	$ 0.00
Sub-Total:	**$ 32,717,010.85**	$ 33,816,323.11	$ 1,099,312.26
Utility Relocation Costs (Budget partially approved in Project 21213, this increase will be requested as part of the 2023 budget process).	$ 2,666,066.46	$ 2,906,728.86	$ 240,662.40
Total Construction Cost:	$ 35,383,077.31	$ 36,723,051.98	$ 1,339,974.66
Design Cost (Project 18059)	$ 1,247,940.40	$ 1,544,587.31	$ 296,646.91
Total Project Cost:	**$ 36,631,017.72**	**$ 38,267,639.29**	$ 1,636,621.57

The construction costs includes the road reconstruction costs, underground infrastructures (storm sewers, sanitary sewers and watermain) and the culvert construction cost. All costs includes a 10% contingency, contract admin and Engineering Fees. A detailed breakdown of these costs are shown in Attachment ‘G’. The total project cost will be funded from the City Wide Hard Development Charge Reserve.

The original capital construction cost estimate for the Victoria Square Boulevard Project was estimated at **$32,717,010.85**, where **$24,540,000.00** (approx. 75% of total cost) was the estimated capital construction cost for the aboveground/road infrastructure, including streetscape components. The separation of the sidewalk and cycling facility could increase the aboveground/road infrastructure cost estimate by $**864,960.00** for the entire VSB corridor. This construction variance cost is based on the following anticipated items that may be required to accommodate the design change:

1) Capital cost difference between construction of MUP vs. separate sidewalk/ cycle track on the boulevards ($213,696).
2) Additional lighting ($244,224)
3) Potential retaining wall to accommodate grading within existing ROW ($152,640)
4) Additional landscape works including double rows of trees, where possible. ($50,880)
5) Miscellaneous items (approx.. $203.520):
    - Additional grading work
    - Restoration of private driveways due to grading impact
    - Additional landscape work on private property
    - Restoration of existing features along private property

FINANCIAL CONSIDERATIONS

The tables below provide a detailed summary of the financial requirements for this report:

Table 3 – Design Cost Increase

Description	Amount	Comments
Original Design RFP	$ 615,648.00	PD 19403
Original Contingency	$ 64,108.80	PD 19404
Sub-Total:	**$ 679,756.80**	
PO Increase #1 (January 2021)		
Culvert Structural Design	$ 151,115.13	Design to avoid costly relocation of existing Bell infrastrures
Excess Soil Management	$ 86,496.00	Required by MECP
Phasing the Project	$ 134,323.20	Preparation of 3 tender contracts
Sub-Total	**$ 371,934.33**	
Total	**$ 1,051,691.13**	
Design Revision (Proposed)	$ 269,679.01	
10% Contingency	$ 26,967.90	
Total:	**$ 296,646.91**	**Funded from Account 18059**

*Note: The proposed Purchase Order increase is calculated based on rates consistent with the original 2019 RFP rates.

Table 4 – Utility Relocation Advancement

Description	Amount	Comments
Utility Relocation Advancement (from Stony Hill to Elgin Mills)	$ 568,970.21	Advancement cost for the utility relocation work due to revision of Phase 1 limits (850m)
10% Contingency	$ 56,897.02	
Engineering Capital Admin Fee	$ 74,664.85	640-998-8871
Total:	**$ 700,512.08**	**Funded from Account 21213**

The following are the current financial summary for the Victoria Square Boulevard capital accounts:

Table 5 – Financial Summary (Account 18059, 21213 & 22031)

Capital Account	Description	Approved Budget	Additional Funding	Total Budget
18059	VSB - Detailed Design	$1,247,941	$296,647	$1,544,588
21213	VSB – Utility Relocation (Phase 1)	$878,338	$700,512	$1,578,850
22031	VSB – Culvert Construction	$1,929,000	$344,585	$2,273,585
	Total:	**$4,055,279**	**$1,341,744**	**$5,397,023**

Based on the above, staff recommends that:

1. Project 18059 (Victoria Square Boulevard Design) budget be increased by **$296,647,** inclusive of HST.
2. Project 21213 (Victoria Square Boulevard – Phase 1 Utility relocation) budget be increased by **$700,512,** inclusive of HST, and.
3. Project 22031 (Victoria Square Boulevard – Culvert Construction) budget be increased by **$344,585**, inclusive of HST. All the budget increases are to be funded from City Wide Hard Development Charge Reserve.

$41,000,000 has been included in the 2022 Development Charge Reserve Background Study for Victoria Square Boulevard Project as compared to the latest estimate of $38,267,277.16 (refer to Table 2). There is therefore sufficient funding for this proposed budget increase, based on the latest cost estimate and inclusive of requested budget increase, subject to Council approval of the 2022 Development Charge Background Study.

OPERATING BUDGET AND LIFE CYCLE IMPACT

The estimated annual costs for operations and maintenance of the facilities and life cycle replacement cost are identified as follows:

Table 6 – O&M Costs: MUP vs. Separate Cycle Track / Sidewalk Facilities

Original Design (Consistent 3.0m MUP)			
Facilities	**Length (m)**	**Annual Cost/m ***	**Total Cost**
3.0m MUP	5600	$ 6.25	$ 35,000.00
		Total	**$ 35,000.00**

Revised Design (Separate Cycle Track/ Sidewalk)			
Facilities	**Length (m)**	**Annual cost /m ***	**Total Cost**
1.8m Cycle Track	5300	$ 20.53	$ 108,804.12
1.5m Sidewalk	5300	$ 6.25	$ 33,125.00
2.4m MUP	300	$ 12.50	$ 3,750.00
1.8m Cycle Track (Snow load and haul)	1000	$ 30.03	$ 30,030.00
		Total	**$ 175,709.12**

Based on the preliminary information above, the operation and maintenance costs of a cycle track are approximately 5 times as much as MUP because of the level of service requirements. Staff will continue to review and refine these costs through the detailed design phase.

Operating budget impacts noted above will be included in future operating budget for consideration and will be included in the overall staff award report for construction.

The useful life of concrete sidewalks and concrete cycle tracks are 40 years and therefore there are no incremental life cycle impact over the next 25 years.

Permanent durable thermoplastic MUP centre line markings - Life Cycle Impact (Operations). The useful life of permanent durable thermoplastic MUP centre line markings on concrete MUP is estimated 3 years. The cost for repainting every 3 years is $30,240.00 (unit cost of $5.40/m x 5600m) with a total 25 year impact of $241,920 ($30,240 x 8 replacements within 25 years).

Permanent durable pavement markings (Green MMA) - Life Cycle Impact (Operations). The useful life of permanent durable pavement markings (Green MMA) is estimated 10 years. The cost for repainting every 10 years is $96,408.00 (unit cost of $164.80/m2 x 585m2), with a total 25 year impact of $192,816.00 ($96,408 x 2 replacements within 25 years).

If the Green MMA is implemented on the separate cycle track under the revised design, the cost for repainting every 10 years is $57,680.00 (unit cost of $164.80/m2 x 350m2), with a total 25 year impact of $115,360.00 ($57,680 x 2 replacements within 25 years).

The life cycle costs as noted above will be included in the next Life Cycle Reserve Study update.

The comparative life cycle costs are as follows:

Table 7 – 25-Yr. Life Cycle Costs: MUP vs. Separate Cycle Track / Sidewalk Facilities

Facilities	Quantity	Unit cost / m	Total Cost
Original Design (Consistent 3.0m MUP)			
3.0m MUP	5600 m	$ 125.00	$ 700,000.00
MUP Centreline Marking	8 occurrences	$30,240.00	$ 241,920.00
Green MMA (3.0m wide)	2 occurrences	$96,408.00	$ 192,816.00
		Total	**$ 1,134,736.00**
Revised Design (Separate Cycle Track/ Sidewalk)			
1.8m Cycle Track	5300 m	$ 90.00	$ 477,000.00
1.5m Sidewalk	5300 m	$ 75.00	$ 397,500.00
2.4m MUP	300	$ 110.00	$ 33,000.00
Green MMA (1.8m wide)	2 occurrences	$ 57,680.00	$ 115,360.00
Retaining Wall			$ 150,000.00
		Total	**$ 1,172,860.00**

ALIGNMENT WITH STRATEGIC PRIORITIES:

The proposed work for the Victoria Square Boulevard are required to continue to accommodate development in the City of Markham and southern York Region, particularly within the North Markham Future urban Area. As such, the recommendations align with the City's Strategic Plan goals of "Safe & Sustainable Community" and "Stewardship of Money & Resources".

BUSINESS UNITS CONSULTED AND AFFECTED:

The Finance Department and Operations Department were consulted and their comments have been addressed in this report.

RECOMMENDED BY:

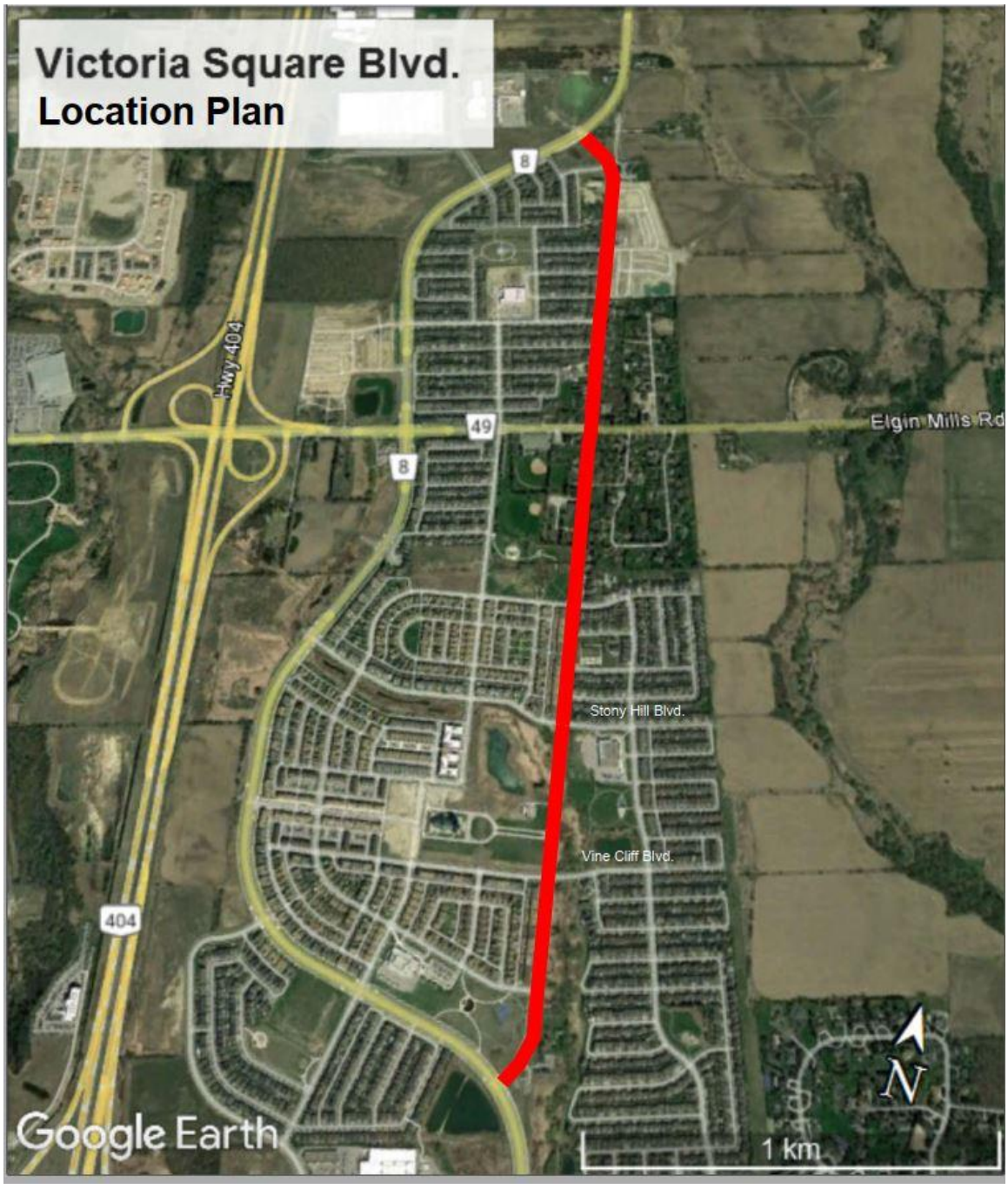
Frank Clarizio, P. Eng.
Director of Engineering

Arvin Prasad, MCIP, RPP
Commissioner, Development Services

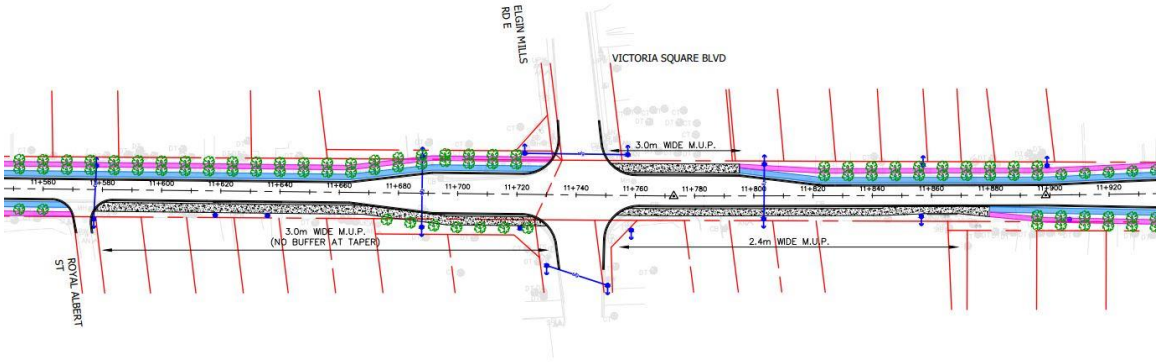
ATTACHMENTS:

Attachment ‘A’ – Victoria Square Boulevard Location Plan
Attachment ‘B’ – Victoria Square Boulevard where MUP is retained under revised Design
Attachment ‘C’ – Typical Cross-Sections (Original Design vs. Revised Design)
Attachment ‘D’ – Original Construction Phasing Plan
Attachment ‘E’ – Revised Construction Phasing Plan
Attachment ‘F’ – Utility Relocation Advancement
Attachment ‘G’ – Overall Project Cost
Attachment ‘H’ – Utility Relocation Costs

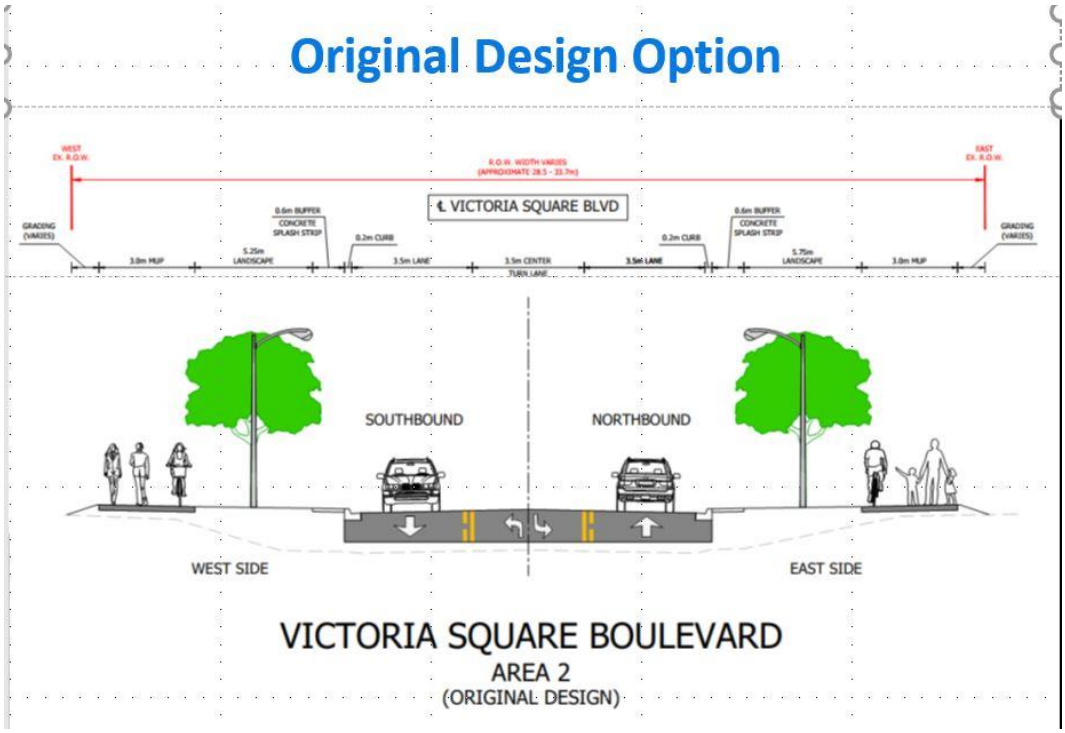
Attachment A - Square Boulevard Location Plan

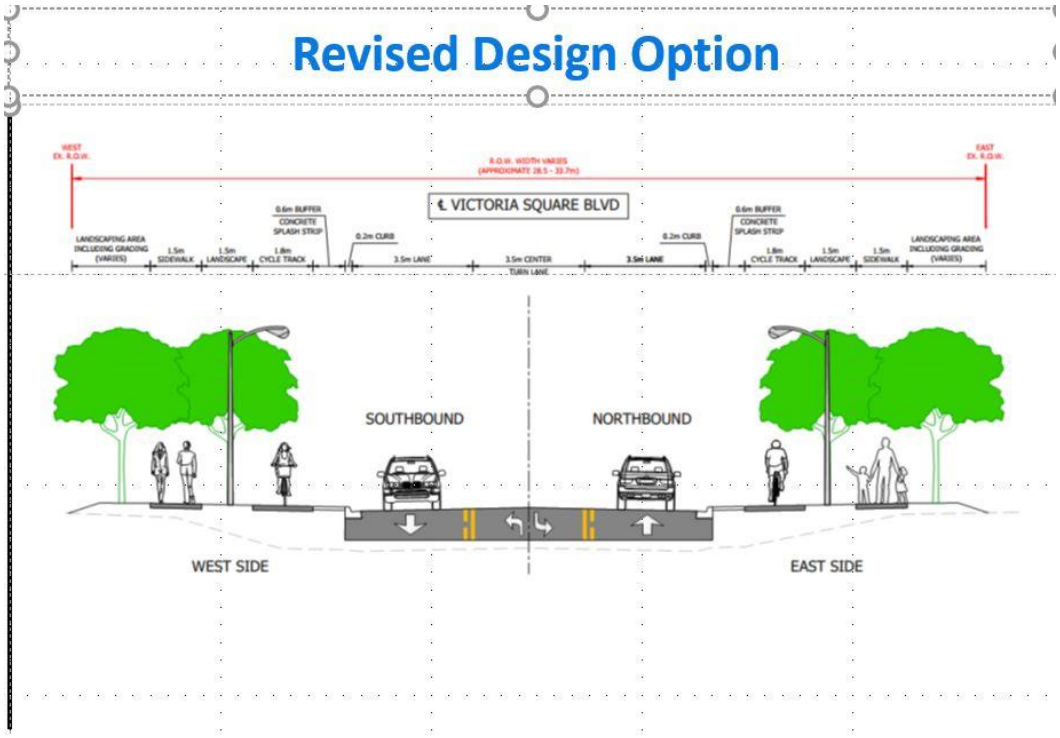


Attachment B - Victoria Square Boulevard where MUP is retained under revised design

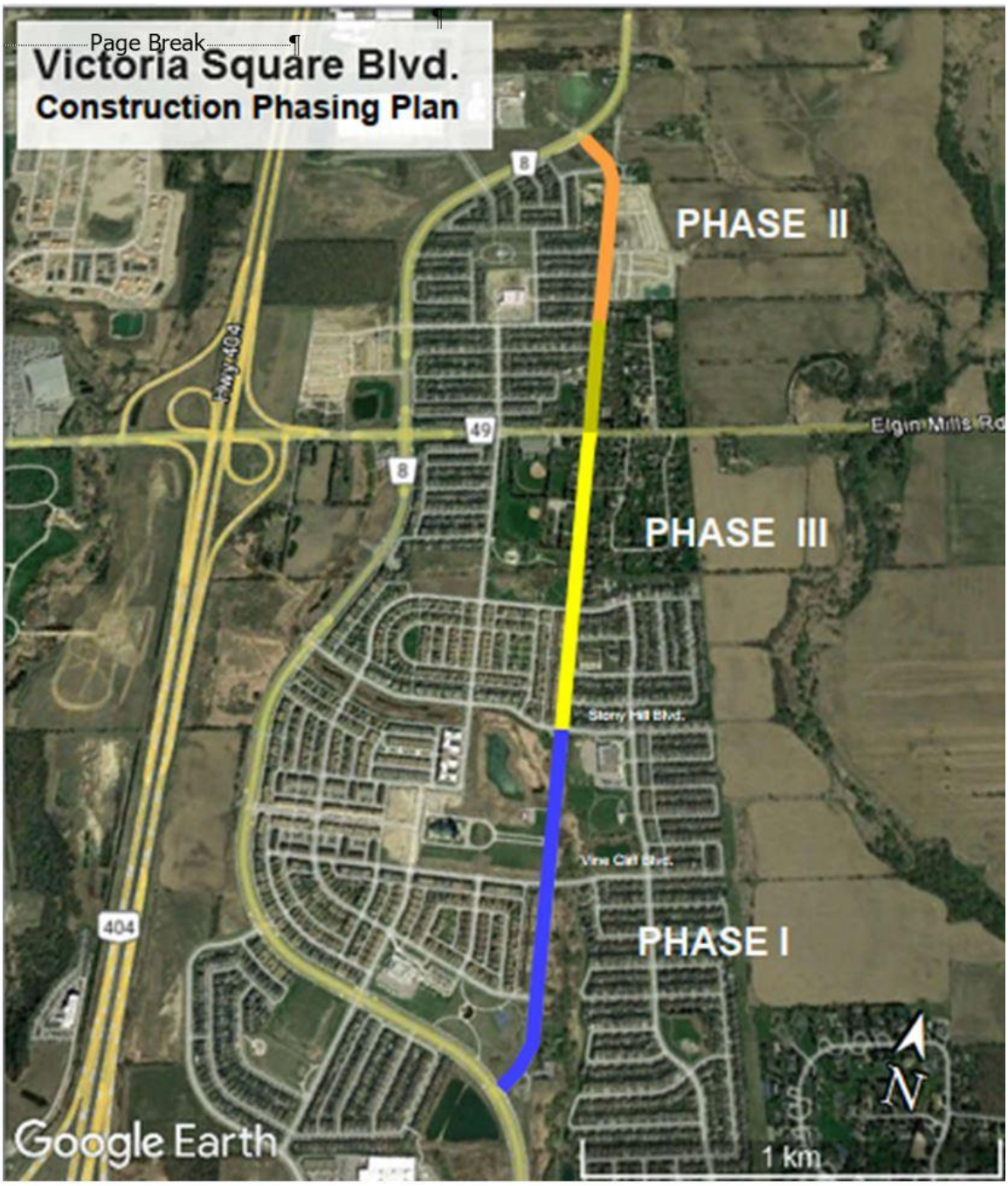


Attachment 'C' – Typical Cross-Sections (Original Design vs. Revised Design)

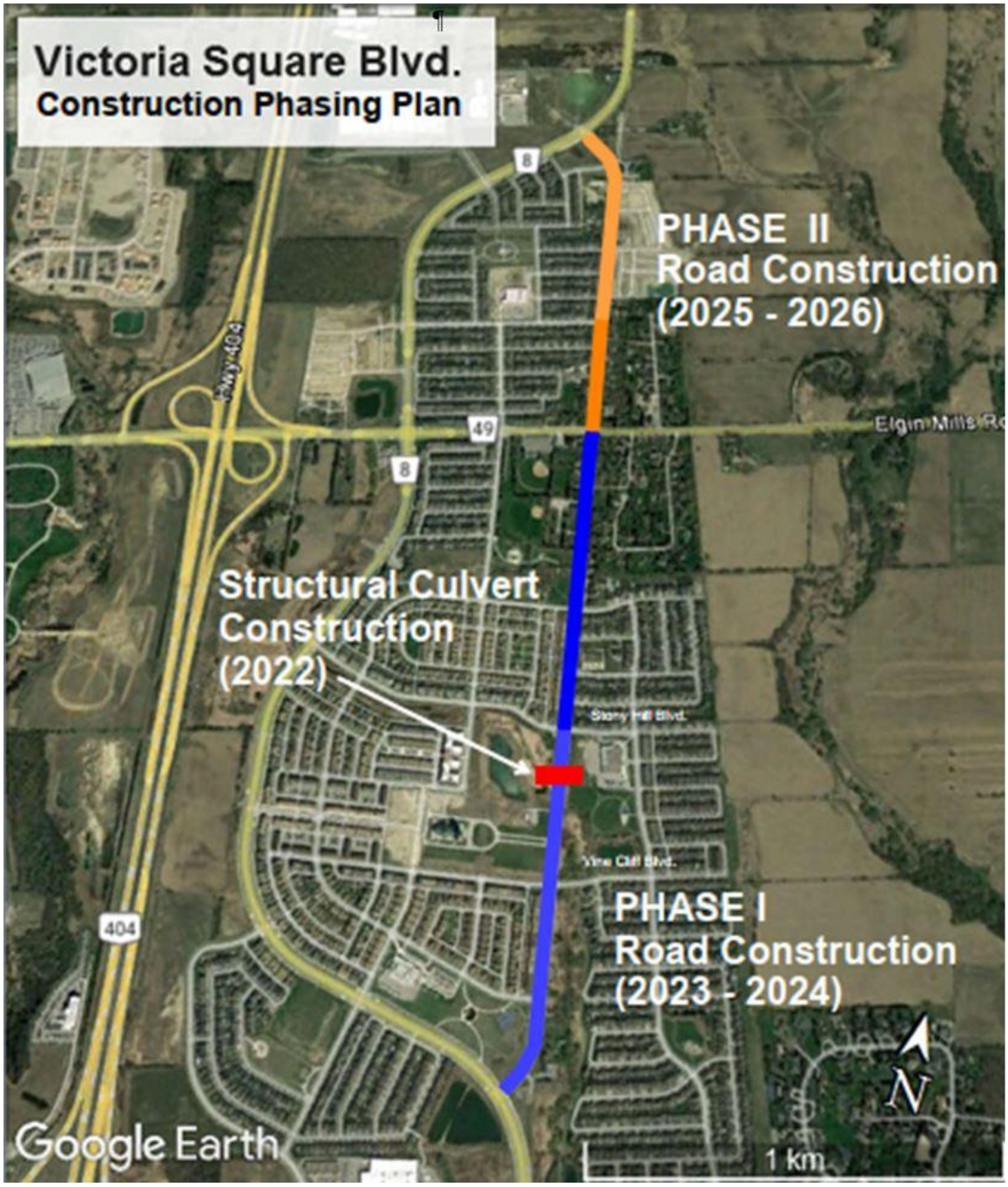




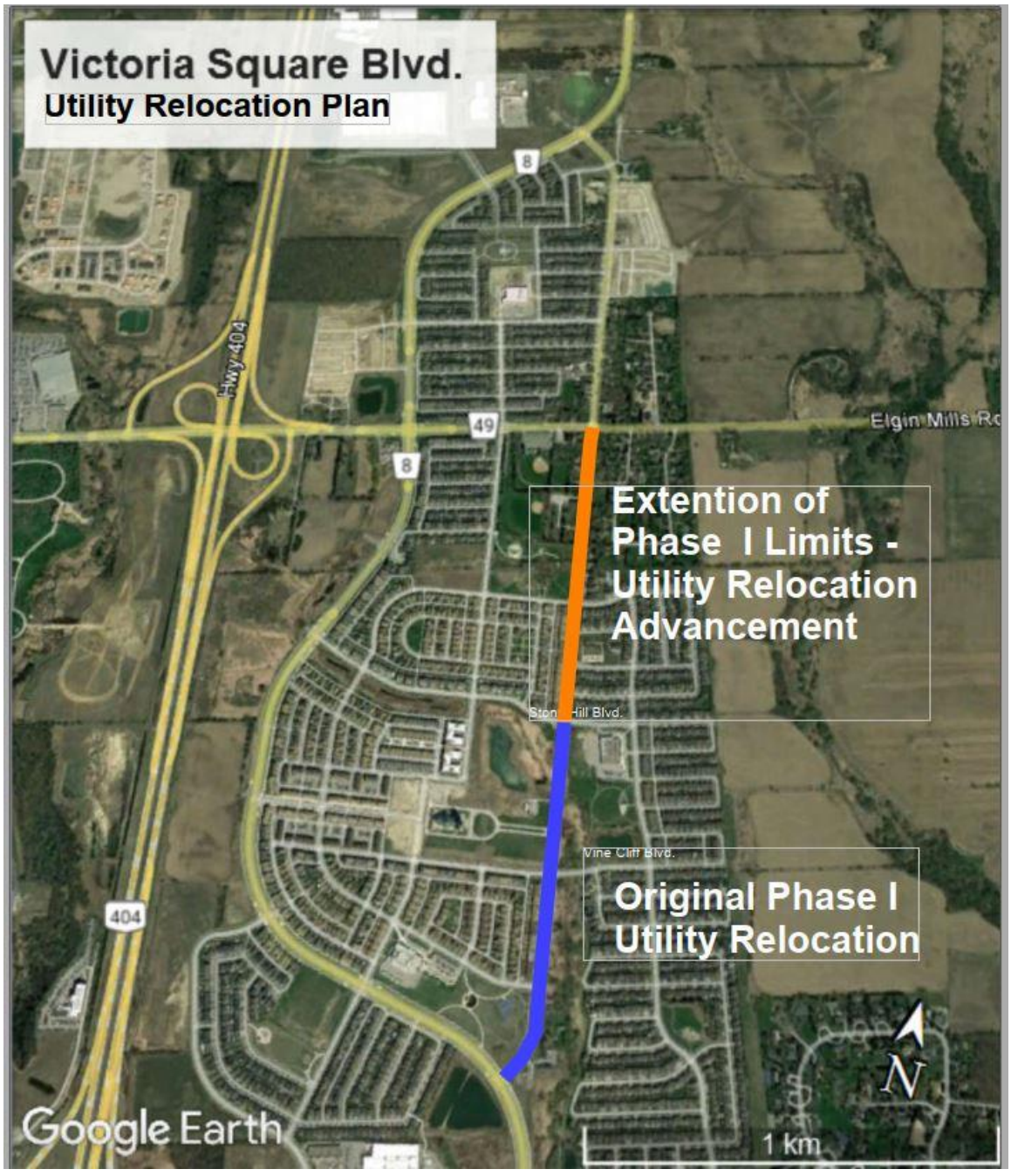
Attachment 'D' – Original Construction Phasing Plan



Attachment 'E' – Revised Construction Phasing Plan



Attachment 'F' – Utility Relocation Advancement



Attachment 'G' – Overall Project Cost

Description	Original Cost Estimate	Revised Design Cost Estimate	Variance
VSB Construction			
Construction	$ 25,727,960.45	$ 26,592,920.45	$ 864,960.00
10% Contingency	$ 2,572,796.04	$ 2,659,292.04	$. 86,496.00
Contract Admin.	$ 1,698,045.39	$ 1,755,132.75	$. 57,087.36
Sub-Total	**$ 29,998,801.88**	**$ 31,007,345.24**	**$ 1,008,543.36**
Engineering Fees	$ 2,718,208.97	$ 2,808,977.87	$ 90,768.90
Total Construction Costs:	**$ 32,717,010.85**	**$ 33,816,323.11**	**$ 1,099,312.26**
Utility Relocation			
Utility Relocation (City share)	$ 2,226,203.52	$ 2,429,723.52	**$ 203,520.00**
10% Contingency	$ 222,620.35	$ 242,972.35	$ 20,352.00
Sub-Total	$ 2,448,823.87	$ 2,672,695.87	$ 223,872.00
Engineering Fees	$ 217,242.59	$ 234,032.99	$ 16,790.40
Total Utility Relocation Costs:	**$ 2,666,066.46**	**$ 2,906,728.86**	**$ 240,662.40**
Total Construction Cost:	**$ 35,383,077.31**	**$ 36,723,051.98**	**$ 1,339,974.66**
Design Costs			
Design (Account 18059)	$ 1,013,022.33	$ 1,282,701.34	$ 269,679.01
Contingency (10%)	$ 101,302.23	$ 128,270.13	$ 26,967.90
Sub-total:	$ 1,114,324.56	$ 1,410,971.47	$ 296,646.91
Engineering Fee	$ 133,615.84	$ 133,615.84	$ -
Total Design Cost:	**$ 1,247,940.40**	**$ 1,544,587.31**	**$ 296,646.91**
Total Project Cost:	**$ 36,631,017.72**	**$38,267,639.29**	**$ 1,636,621.57**

Attachment 'H' – Utility Relocation Costs

Description	Original Phase 1 Cost	Incremental Cost of Phase 1 Extension	Revised Phase 1 Cost
Phase 1 Utility Relocations			
Utility Relocation	$ 717,281.71	$ 568,970.21	$ 1,286,251.92
10% Contingency	$ 71,728.17	$ 56,897.02	$ 128,625.19
Engineering Fees	$ 89,327.69	$ 74,644.85	$ 163,972.54
Total Phase 1 – Utility Cost:	**$ 878,337.57**	**$ 700,512.08**	**$ 1,578,849.65**
Phase 2 Utility Relocations			
Phase 2 (Revised)			$ 1,143,471.60
10% Contingency			$ 114,347.16
Engineering Fees			$ 70,060.45
Total Phase 2 - Utility Costs:			**$ 1,327,879.22**
Total Utility Relocations Costs			$ 2,429,723.52
10% Contingency			$ 242,972.35
Engineering Fees			$ 234,032.99
Total Utility Relocations Costs:			**$ 2,906,725.86**