City of Burnaby

Engineering Department

Engineering Development Submission Requirements

> What to submit, at which application stage, and in what form. For developers and their consulting engineers.

Revision Date	Status
July 2026	Applies to all applications made on or after July 1, 2026.

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ABOUT THIS DOCUMENT

This document sets out the City of Burnaby's (the "**City**") engineering submission requirements for development applications. It specifies what materials must be submitted, the application stage at which they are required, and the format in which they must be provided. Applicants are expected to use this document as a checklist to ensure their submission package is complete.

The Planning Department's Development Application Guide provides information on application types, procedures, timelines, and fees. This document does not repeat that material. Instead, it supplements the Development Application Guide by defining the submission requirements associated with development applications.

These requirements apply to all applications subject to engineering servicing review, including Rezoning, Subdivision, and Building Permit applications, submitted on or after July 1, 2026.

Know the Process? Quick Start Guide: Schedule E

Start with Schedule E to find the checklist for your current submission stage. Work through each item to confirm your package is complete before submission. Where additional detail is required, each checklist item refers you to the corresponding section of this document for full requirements, specifications, and submission standards.

SECTION 1: ENGINEERING FRAMEWORK

1.1 ALIGNMENT WITH DEVELOPMENT APPROVAL FRAMEWORK

The City's Engineering Department participates in the development application process at the stages outlined below. Applicants should refer to the City's Development Application Guide for a complete overview of the planning and approvals process, including application procedures, review timelines, and approval requirements:

Application Stage	Engineering Role
Development Inquiry	Engineering does not review submissions or provide formal comments at this stage, and no submissions are required. This stage is reviewed and managed solely by the Planning Department.
Initial Application	Preliminary submissions, generally representing approximately **30% progress**, are required at this stage. Engineering reviews these materials to assess feasibility, identify servicing requirements, and establish the scope of information required for subsequent submissions. Requirements are communicated through the Initial Conditions Letter, which outlines submission requirements for a Complete Application.
Complete Application	Detailed submissions, generally representing approximately **90%** and **100% progress** are required. This stage includes the City's comprehensive review of servicing, transportation, and related infrastructure requirements. Engineering conditions are finalized, legal and financial security requirements are established, and servicing agreements and other required instruments are prepared.

1.2 Off-Site and On-Site Works

For the purposes of this document, **"Off-Site Works"** refers to all works and services located within, or connecting to, municipal streets, rights-of-way, and easements that are required to service a development (including but not limited to water, sanitary, rainwater management, and road), designed and constructed by a developer under a Servicing Agreement, as a requirement of the *Burnaby Works and Services Bylaw 2026*, or as a condition of a rezoning approval, intended to be ultimately owned and operated by the City. The following work categories are collectively designated as Off-Site Works and are governed by the *Burnaby Works and Services Bylaw 2026*:

1. Water Servicing
2. Sanitary Servicing
3. Storm Servicing (Off-Site Rainwater Management)
4. Municipal Green Rainwater Infrastructure (GRI) / Rainwater Management Amenities (RMA)
5. Transportation and Road Works
6. Landscaping (Within Municipal Right-of-Way)
7. Street Furniture and Appurtenances
8. Third-Party Utilities

"On-Site Works" refers to works constructed within the boundaries of the parcel or development site served by them, whether delivered by a private developer, the City, or another public entity, regardless of parcel ownership, and includes the On-Site Rainwater Management System and groundwater management. On-Site Works govern the rate, volume, and quality of flows discharged to the municipal system and, in the case of groundwater, affect the integrity of adjacent properties and municipal assets. On-Site Works are required under the *Burnaby Works and Services Bylaw 2026* and remain the owner's responsibility.

1.3 Preliminary vs. Detailed Submissions

Engineering submissions progress through defined design milestones, each serving a distinct purpose in the City's review process. Submission requirements increase with each milestone as the design advances from preliminary feasibility to final construction. Submissions that do not meet the required level of completeness for the applicable milestone may be deemed incomplete and returned.

Application Stage	Milestone	Purpose and Required Completeness
Initial Application	Preliminary 30% progress	This submission is a precursor application. The Initial Application must provide sufficient data for the City to evaluate the overall feasibility of the proposed development and identify servicing requirements, constraints, and design considerations. The submission must include preliminary studies, design report/briefs, drawings, and the schedules identified in Section 2 of this document. Based on this review, the City issues an Initial Conditions Letter outlining the engineering requirements for the Complete Application stage.
Complete Application	90% Design progress	This submission forms the basis for the City's formal engineering review and associated cost estimates, required securities, and bonds. Reports must include a Class A (±10%) cost estimate. The submission must include updated engineering design report/briefs and detailed design drawings that are substantially complete and suitable for comprehensive technical review.
	100% Design	This submission incorporates all City comments and represents the completed engineering design. All reports, drawings, and supporting documentation must be finalized, signed, and sealed by the appropriate Qualified Professional. The 100% submission forms the basis for execution of the Servicing Agreement, preparation of approval documents and Final Adoption reports.

1.4 Submission Requirements at a Glance

Category	Initial Application (Preliminary 30%)	Complete Application (Detailed 90% and 100%)
Water	• Preliminary Water Servicing (Section 2.2)	• Detailed Water Servicing (Section 2.2)
Sanitary	• Preliminary Sanitary Servicing (Section 2.3)	• Detailed Sanitary Servicing (Section 2.3)
Storm (Off-Site Rainwater Management)	• Preliminary Storm Servicing (Section 2.4)	• Detailed Storm Servicing (Section 2.4)
On-Site Rainwater Management (RWMP)	• Preliminary On-Site RWMP (Section 2.4)	• Detailed On-Site RWMP (Section 2.4)
Municipal Green Rainwater Infrastructure (GRI) and Rainwater Management Amenities (RMA)	• Not required. Requirement is identified through the Initial Application assessment (Section 2.5)	• Municipal GRI/RMA Design Report, Design Drawings, Boulevard Tree Planting Plan, and RMA Irrigation Design Drawings where applicable (Section 2.5)
Groundwater Management	• Groundwater Screening Checklist (Schedule C) (Section 2.6)	• Final Groundwater Management Plan (GWMP), where required (Section 2.6)

Category	Initial Application (Preliminary 30%)	Complete Application (Detailed 90% and 100%)
Transportation and Road Works	• Preliminary Road Geometric Design, including Preliminary Design Report, Roadway Key Plan, and Geometric Design • Preliminary Subdivision Plan • Draft Transportation Impact Study • Preliminary Roadway Design Drawing • (Section 2.7)	• Detailed Road Geometric Design, including Final Design Report and Final Roadway Design Drawings • Final Subdivision Plan • Transportation Impact Study • Final Electrical Design Drawings • Final Roadworks Design Drawing • Roadworks Typical Construction Details, including rehabilitation treatment and asphalt coring table • Pavement Design Report or Rehabilitation Assessment Report, reflecting changes in road classification or traffic conditions (Section 2.7)
Landscaping and Invasive Plant Management	• Preliminary Landscape Plan • Preliminary Arborist and Tree Management Plan	• Final Landscape Design Summary Report • Final Landscape Drawings, including plant schedules and specifications • Final Arborist and Tree Management Plan • Invasive Plant Management (if applicable) (Section 2.8)
Street Furniture and Structures	• Preliminary Street Furniture and Structures Plan (Section 2.9)	• Detailed Street Furniture and Structures Design Summary • Final Street Furniture and Structures Drawings • Detailed Schedules and Specifications • Final Construction and Structural Details Drawings (Section 2.9)

Category	Initial Application (Preliminary 30%)	Complete Application (Detailed 90% and 100%)
Flood Management Review and Dike Management Act Review	• Not required. Requirement is identified through the Initial Application assessment	• Floodproofing measures (including Flood Construction Levels), flood hazard assessments, and Dike Management Act reviews, where required by the City Engineer for properties located within the Fraser River Floodplain, Still Creek Floodplain, or Burrard Inlet Coastal Floodplain.
Third-Party Utilities	• Preliminary Standard Street Work (SSW) (Section 2.10)	• Detailed Third-Party Servicing Design submissions (Section 2.10)

1.5 Professional Responsibility

Submissions must be prepared by a Qualified Professional (QP) registered and in good standing with Engineers and Geoscientists BC (EGBC) and practising under a valid EGBC Permit to Practice. All submissions requiring professional certification must be signed and sealed by the responsible QP.

The City relies on the information and certifications contained in engineered submissions when carrying out its review. The City's acceptance or approval of a submission does not transfer responsibility for the design to the City, relieve the applicant or the QP of their obligations, or waive compliance with any applicable bylaws, the Design Criteria Manual (the "**DCM**"), policy, or any other legal requirement.

SECTION 2: SUBMISSION REQUIREMENTS

This Section sets out the submission requirements for each engineering work category. Each package must independently satisfy the general drawing standards in Section 2.1 and be accompanied by the applicable Schedules and forms identified in Section 2.

2.1 General Drawing Standards (Applies to All Categories)

All drawing packages must include a standardized cover page containing the following information:

1. Site civic address
2. Planning / permit application reference number
3. Developer / owner's name
4. Consulting engineering firm and designer name
5. Drawing revision number and date

Mandatory for ALL Resubmissions

To assist the City's review and ensure changes can be efficiently identified and assessed, the following requirements apply to all resubmissions:

- **Redline Copy:** every subsequent revision of a design brief or report must be submitted with a clear "redline" copy showing all changes from the previous submission in a clearly distinguishable contrasting colour, alongside the final signed and sealed copy.
- **Drawing Revision Tracking:** all changes made to revised drawings must be clearly identified using clouding or other approved revision-marking conventions. Each change must reference the applicable revision number, which must be recorded in both the drawing title block and the revision history table.

2.2 Water Servicing

Initial Application (Preliminary 30% submission)

An Initial Application must include:

1. A Preliminary Design Report, which includes:
2. A Preliminary Water Servicing Plan showing the existing water infrastructure (specifying asset age, diameter and material of water mains) and the proposed water infrastructure, including water mains, service connections and hydrants
    - Preliminary Water System Design Profiles

NOTE: Schedule D - Servicing Design Loading Summary (Water) must be printed directly onto the drawings.

> **Material and Age Checks**
> - Non-approved water main materials (per Section 3.17 of the DCM) in the vicinity of the development must be explicitly labelled on the drawings.
> - Existing water mains in the vicinity older than 60 years, and existing water service connections older than 25 years must be flagged and labelled on the drawings.

Complete Application (Detailed 90% and 100% submissions)

A Complete Application must include:

1. A Final Design Report, submitted at 90% and updated at 100%, which includes:
    - A Final Water Servicing Plan
    - Final Water System Design Profiles
2. Final Water Demand (based on fixture counts) and Fire Underwriters Survey (FUS) Calculations to support water infrastructure sizing.

> **Security Estimate**
> - The 90% Detailed Submission must include a Performance Security Estimate (Engineer's Opinion of Probable Construction Cost), prepared at a Class A level (±10%) for every proposed off-site work.

2.3 Sanitary Servicing

Initial Application (Preliminary 30% submission)

An Initial Application must include:

1. A Preliminary Area Catchment Plan showing:
   - The existing sewer system, including the age, diameter, and material of all existing sewer assets
   - The proposed sewer system, including proposed sewer mains, manholes, and delineated catchment boundaries, clearly identified and labelled
2. A Preliminary Sanitary Sewer System Analysis Sheet (Schedule D-2) prepared in strict accordance with Section 4.4 of the DCM, indicating results and including identification of any deficient sewers, being sewers that do not satisfy the level of service criteria set out in Section 4.4.2 of the DCM.
3. Preliminary Design Drawings showing the proposed sewer profiles

NOTE: Schedule D - Sanitary Sewer System Analysis Sheet must be printed directly onto the drawings.

> **Material and Age Checks**
> - Non-approved materials, specifically Vitrified Clay and Asbestos Cement, in the vicinity of the development must be explicitly labelled on the drawings.
> - Sewer mains older than 60 years in the vicinity, and sewer service connections older than 40 years must be flagged and labelled on the drawings.

Complete Application (Detailed 90% and 100% submissions)

A Complete Application must include:

1. A Final Design Report, submitted at 90% and updated at 100%, which includes:
   - A Final Area Catchment Plan
   - A Final Sanitary Sewer System Analysis Sheet (Schedule D-2)
   - Final Design Drawings
2. A Condition Assessment (CCTV report) where an existing sewer is proposed to remain and no capacity concerns have been identified
   - Flow Monitoring Data, where required by the City and specified in the Initial Conditions Letter.

> **Security Estimate**
> - The 90% Detailed Submission must include a Performance Security Estimate (Engineer's Opinion of Probable Construction Cost), prepared at a Class A level (±10%) for every proposed off-site work.

2.4 Storm Servicing and On-Site Rainwater Management Plan (RWMP)

Initial Application (Preliminary 30% submission)

Off-Site Works (Storm Sewer)

An Initial Application for off-site works (storm sewer) must include:

3. Capacity Analysis Calculations or Modelling, demonstrating:
    - The rainfall intensity-duration-frequency (IDF) curve used in the analysis
    - Preliminary sizing completed in accordance with Sections 5.5 and 5.9 of the DCM (runoff analysis and minor-system design requirements), including, where the Rational Method applies, calculations prepared in accordance with Figure 5-2 of the DCM
4. Clearly identified and labelled sub-catchments and manholes used in the capacity analysis
5. A Storm Sewer Plan, identifying:
    - The location of all existing and proposed storm service connection(s)
    - All existing storm, sanitary, and water mains, as well as adjacent roads
    - The age, diameter, and material of all existing storm pipes
    - Any existing rights-of-way (ROW)
    - The proposed storm system

Material and Age Checks

- Non-approved materials, specifically Vitrified Clay and Asbestos Cement, in the vicinity of the development must be explicitly labelled on the drawings.
- Storm mains in the vicinity older than 60 years, and storm service connections older than 40 years must be flagged and labelled on the drawings.

On-Site Rainwater Management (RWMP)

An Initial Application for on-site rainwater management must include:

1. Pre-development Plan Drawings, which must include:
    - Clearly labelled permeable and impermeable areas, with the total pre-development impermeable area corresponding to Row B of the Permeable Surface Summary Table (Schedule B)
    - The location of all existing storm service connection(s)
2. Post-development Plan Drawings, which must include:
    - A concise, one-paragraph description of the proposed scope of work

- Clearly labelled permeable and impermeable areas, with the total post-development impermeable area corresponding to Row C of the Permeable Surface Summary Table (Schedule B)

3. The location of all existing storm service connection(s), including notes identifying any connections to be capped, as well as the location of any proposed storm service connections
4. The location and extent of all proposed volume control infiltration measures, clearly shown and labelled, demonstrating compliance with the requirements per DCM Section 5.15.1.4
5. On-site infiltration testing results, including the location of each test, with testing conducted at the proposed subgrade elevation for the proposed volume control infiltration measures using a Double-Ring Infiltrometer (ASTM D3385) or another approved equivalent by the City, in accordance with Section 5.12.4 of the DCM.

NOTE: Schedule B - Permeable Surface Summary must be printed directly onto the drawings.

Complete Application (Detailed 90% and 100% submissions)

A Complete Application must include a comprehensive On-Site and Off-Site RWMP, containing each of the following components:

Off-Site Works (Storm Sewer)

1. A Detailed Engineering Drawing Package and Design Report for the off-site storm system, submitted at 90% and updated at 100%, that includes:
   - Final Capacity Analysis Calculations or Modelling
   - A Final Storm Sewer Plan, as provided in the Initial Application off-site submission.
   - A Storm Sewer System Profile
   - A Hydraulic Grade Line (HGL) Analysis
2. A Condition Assessment (CCTV report), as requested by the City Engineer in the Initial Conditions Letter, together with a sealed engineering CCTV assessment and recommendation for storm sewers along the project frontage.

On-Site Rainwater Management (RWMP)

1. A Detailed Engineering Drawing Package and Design Report, which must include all components specified in Table 2-1 below:

Table 2-1. Detailed On-Site RWMP: Mandatory Components

Component	Mandatory content
Cover Sheet	• Project name, civic address, legal description; submission date, application reference numbers, revision history. • One-paragraph Project Narrative detailing scope.

Component	Mandatory content
	• Permeable Surface Summary Table (Schedule B).
Pre-Development Condition Plan	• 1 m contour lines covering the full site plus a reasonable margin beyond the property boundary. • Existing (pre-development) service connections: locations, sizes, municipal tie-ins. • Distinct hatch patterns separating permeable and impermeable zones.
Post-Development Condition Plan	• 1 m contour lines reflecting proposed grading; proposed building footprints, hardscape, and landscape layouts. • Lot grading spot elevations (corners, building, drainage features); flow arrows indicating major and minor overland paths. • Table of proposed permeable and impermeable areas (Schedule B). • Proposed service connections (locations, sizes, materials, tie-ins).
Rainwater Management System	• Table of selected source control BMPs, stating which measures on the plan achieve the rate control, volume control, and water quality performance targets. • Layout and details of rate control, volume control, and water-quality measures. • Layout of on-site drainage pipes. • Post-development service connection: locations, sizes, municipal tie-ins. • Explicit spatial delineation of On-Site and Off-Site works boundary.
Calculation Sheets	• Design rainfall data, hydrologic parameters, runoff coefficients; pre- versus post-development peak flow rates and runoff volumes; modelling and analysis software name and version, if any. • Rate control: design release rate, storage volume, and stage-storage-discharge relationships. • Volume control: $I_{existing}$, $I_{baseline}$, A_{excess} calculations; design infiltration rates; required versus provided retention volumes. • Water quality: design storm, sizing calculation.
Construction Details and Support Sheets	• Construction details. • Proprietary system (e.g., water quality treatment) spec sheets, including manufacturer certifications, sizing calculations, and verified performance data.

Component	Mandatory content
Landscape and Maintenance	• Sealed Landscape Plan. • Detailed Operation and Maintenance (O&M) Plan Sheet for Rainwater Management System: frequencies, access, operating notes.

Security Estimate

On-Site Works:

- The 90% Detailed Submission must include an On-Site RWMP Security Estimate (Engineer's Opinion of Probable Construction Cost), prepared at a Class A level (±10%) for:

  1. On-site civil engineering works (detention tanks, pipes, manholes, catch basins, structures, and associated earthworks); and

  2. Landscaping works (plantings and associated planting-related costs).

Off-Site Works:

- The 90% Detailed Submission must include a Performance Security Estimate (Engineer's Opinion of Probable Construction Cost), prepared at a Class A level (±10%) for every proposed off-site work.

2.5 Green Rainwater Infrastructure (GRI) and Rainwater Management Amenities (RMA)

This Section is triggered in the Complete Application stage only where Municipal GRI/RMA is identified as a requirement during the Initial Application. RMAs are typically located in Town Centres and Villages. If applicable, the requirement will be stated in the Initial Conditions Letter.

Municipal GRI/RMA Deliverables	Mandatory Content
Municipal GRI/RMA Design Report	• A report documenting the site and design conditions that may affect the feasibility, design, construction, and long-term performance of the proposed Municipal GRI/RMA, including, as applicable: o soil conditions, including borehole logs and soil profiles; o groundwater elevations; o infiltration test results; o slopes and other surface features that may influence drainage paths; o utility impacts, including review of existing and proposed City and third-party utilities that run longitudinally within, or cross, the proposed RMA, and assessment of potential impacts between the RMA and those utilities; and o site contamination, including identification of known current or historic soil or groundwater contamination in the vicinity of the proposed RMA and any implications for design, construction, materials, infiltration feasibility, and maintenance.
Municipal GRI/RMA Design Drawings	• Drawings showing all Municipal GRI/RMA infrastructure, including perforated pipes, culvert connectors, catch basin sumps, and associated drainage assets. • Drawings must clearly delineate the proposed Municipal GRI/RMA boundaries and must be appended directly to the Municipal GRI/RMA Design Report.
Boulevard Tree Planting Plan	• An off-site tree planting plan showing all proposed boulevard trees. Required for all GRI/RMA projects.
RMA Irrigation Design Drawings	• Irrigation design drawings for all RMAs requiring irrigation, prepared in accordance with DCM Section 5.12.8. Required only for RMAs designated as requiring active irrigation systems.

NOTE: The Design Report, Design Drawings, and Boulevard Tree Planting Plan are required for every GRI and RMA; the Irrigation Design Drawings are additional and apply only to irrigated RMAs.

Security Estimate

- The 90% Detailed Submission must include a Performance Security Estimate (Engineer's Opinion of Probable Construction Cost), prepared at a Class A level (±10%) for every proposed off-site work.

2.6 Groundwater Management

Initial Application

Submission of the Groundwater Screening Checklist (Schedule C) is mandatory, in accordance with the *City of Burnaby Groundwater Management Policy for Developments* (the "**Groundwater Management Policy**"). The City uses the checklist to determine whether a Detailed Groundwater Management Plan (GWMP) is required at the Complete Application stage. Exemptions under Groundwater Management Policy Sections 3.2(1) and 3.2(3) are claimed in Part D of Schedule C, with the supporting documentation identified therein.

Complete Application

Where triggered through the Initial Conditions Letter, a Detailed GWMP must be submitted in accordance with the Groundwater Management Policy.

The 90% Detailed Submission GWMP will be reviewed by the City to determine whether a Groundwater Covenant or Indemnity Agreement is required.

2.7 Transportation and Road Works

Initial Application (Preliminary 30% submission)

An Initial Application must include:

1. Preliminary Road Geometric Design, which includes:
    - A Preliminary Design Report that provides the rationale for any variances from the *Burnaby Works and Services Bylaw 2026*, including variances relating to roadway cross-sections and access, and a review of the surrounding road infrastructure
2. A Roadway Key Plan and Geometric Design, showing driveways, roadway cross-sections and classification in accordance with the DCM, surveyed property lines and existing conditions including trees and other utilities
3. Preliminary Subdivision Plan, identifying proposed road dedications, corner cuts, and statutory rights-of-way
4. Preliminary Transportation Impact Study (TIS) or proposed terms of reference for the TIS
5. Preliminary Roadway Design Drawings, identifying:
    - Construction limits for all at-grade and above-grade infrastructure upgrades and associated off-site improvements
6. The extent of roadway works along all site frontages, including restoration works for excavations, utility trenches, and intersection areas in accordance with City of Burnaby Pavement Restoration Policy requirements for size and configuration

Complete Application (Detailed 90% and 100% submissions)

A Complete Application must include:

1. Detailed Road Geometric Design, which includes:
    - A Final Design Report outlining geometric design parameters and required dedications for the road infrastructure including travel lanes, parking lanes, sidewalks/curbs and boulevards, site access/driveways, bike lanes & cycle tracks, RMAs, turning lanes, curb returns, intersection configuration, and all other cross-sectional elements within right-of-way corridors
    - Final Roadway Design Drawings showing plans, profiles, and cross-section views prepared in accordance with City Road standards and geometric design criteria, including tie-in details
    - Interim and Ultimate Roadway Design Drawings
2. Bus Stop Design Details, prepared in accordance with the City's Town Centre Standards and TransLink's Bus Infrastructure Design Guidelines, as applicable
    - Turning Templates for designated truck routes and transit routes.
    - Intersection configuration, curb returns, and channelization.
    - Signage and Pavement Marking Plans

3. Final Subdivision Plan
    - The Final Subdivision Plan must also include a signed and sealed letter from the civil designer confirming that the Final Subdivision Plan is consistent with the approved final civil design
4. Final Transportation Impact Study, including traffic counts and synchro printouts and turning templates for on-site circulation
    - Transportation Demand Management (TDM), if applicable
5. Final Electrical Design Drawings, which include:
    - Street Lighting Design Drawings
6. EV Charging Infrastructure Design Drawings, where required, showing charger locations, junction boxes, number and types of underground ducting, service panels, hydro pole connections and energization
    - A Signal Timing Plan, where required, which is signed and sealed and includes:
        - Traffic Signal Design Drawings
7. A Clearance Diagram, showing the measurements used to calculate the intergreen times
        - A Signal Timing Sheet
8. Synchro Analysis, if required
9. Final Pavement Designs or Rehabilitation Assessment Report, prepared in accordance with the applicable design scenario identified in Table 2-2 below and which includes:
    - Final Roadworks Design Drawings, which:
10. Clearly identify pavement design recommendations and rehabilitation strategies for each roadway segment, if applicable
        - Illustrate the spatial extent of each treatment type, together with notes describing the corresponding rehabilitation strategy
11. Identify asphalt coring locations and include a summary coring table documenting existing pavement structure, layer composition, and layer thicknesses
        - Specify the pavement structural design for each recommended treatment, including proposed layer thicknesses, material types, and specifications
    - A General Notes Drawing identifying applicable standards, approved materials, specifications and construction practices, verification of field conditions, infrastructure protection, traffic management, and site restoration requirements
12. Construction Detail Drawings identifying installation details, including utility trench restoration, asphalt overlap joints sketches, key-in transitions, and pavement sawcut and tie-in details

Table 2-2. Pavement Design Deliverables

Design Scenario	Description	Mandatory Content*
Existing Pavements (no change in road	Where the existing road classification, traffic volumes, and loading conditions remain	• Site description and existing ground/subgrade conditions

Design Scenario	Description	Mandatory Content*
classification or traffic conditions)	unchanged, a Pavement Rehabilitation Assessment Report shall be submitted. The report must document the existing pavement structure and provide design recommendations for appropriate rehabilitation strategies and construction specifications.	• Applicable City pavement design criteria • Field investigation program, including visual pavement distress surveys, destructive testing (e.g., drilling, asphalt coring, soil sampling/testing), non-destructive testing (e.g., Benkelman Beam or Falling Weight Deflectometer (FWD)) • Identification and Geotechnical assessment of drainage conditions and soft/compressible soils • Existing pavement layer composition and thicknesses • Recommended pavement rehabilitation strategies and corresponding pavement structures • Detailed construction specifications
New Pavement or Road Reconstruction (change in road classification or traffic conditions)	For developments that modify traffic patterns, volumes, loading, or road functional classification, a Pavement Design Report is required. The report shall provide a comprehensive pavement design for new or reconstructed roadways based on a minimum design life of 20 years.	• Site description and geotechnical/ground conditions • Applicable City pavement design criteria (including 20-year design life) • Traffic data collection and analysis (e.g., vehicle counts, ESAL calculations, functional classification) • Field investigations, including determination of subgrade resilient modulus (Mr) • Pavement design methodology and structural analysis (input parameters and assumptions) • Recommended flexible pavement structure and layer thicknesses (SN values) • Detailed construction specifications

*In all cases, proposed pavement structures must meet or exceed the minimum structural requirements (layer thicknesses and material types) specified for the applicable functional road classification in strict compliance with Section 6.16 of the DCM.

Security Estimate

- The 90% Detailed Submission must include a Performance Security Estimate (Engineer's Opinion of Probable Construction Cost), prepared at a Class A level (±10%) for every proposed off-site work, including travel lanes, parking lanes, sidewalks/curbs, site access/driveways, bike

lanes & cycle tracks, RMAs, turning lanes, curb returns, intersection configuration, streetlight works, signage and pavement markings, bus stops/shelter, EV infrastructure and all other cross-sectional elements within right-of-way corridor (e.g., pavement structure, restoration works).

2.8 Landscaping and Invasive Plant Management

Initial Application (Preliminary 30% submission)

An Initial Application must include:

1. A Preliminary Landscape Plan, which may be incorporated into the Preliminary Roadway Design Drawings, and which identifies:
    - proposed areas of standard boulevard treatments;
    - the location of proposed trees; and
    - any proposed special boulevard landscaping areas
2. A Preliminary Arborist and Tree Management Plan, including:
    - an inventory of all existing protected trees located within and adjacent to the proposed development (on-site) and off-site works area; and
    - the approximate number of trees to be retained, removed, and planted

NOTE: No invasive plant related submission is required at the Initial Application stage.

Complete Application (Detailed 90% and 100% submissions)

A Complete Application must include:

1. A Landscape Design Summary Report, outlining:
    - proposed landscape design, streetscape treatments, boulevard configurations
    - a planting strategy
2. the rationale for tree selection
    - tree preservation measures
    - soil requirements
    - irrigation strategy
    - compliance with the DCM
3. Landscape Drawings, Plant Schedules, and Specifications, of which:
    - detailed landscape drawings show boulevard landscaping, street trees, irrigation, and related grading, drainage, and restoration works; and
4. landscape specifications include plant schedules, plant material specifications, growing medium and soil composition requirements, irrigation requirements, warranty and maintenance requirements.
5. A Final Arborist and Tree Management Plan, prepared and signed by a Qualified Professional (QP) or Landscape Architect with demonstrated expertise in invasive plant identification and management, which includes:

6. an inventory of on-site and off-site trees, tree health evaluation, retention and removal recommendations, replacement tree requirements, tree protection fencing and other protection measures, risk assessments and construction impact mitigation measures
7. An Invasive Plant Management Plan, if applicable, which is required where invasive plant species are present within the development site, boulevard, road right-of-way, statutory right-of-way, or off-site works area, and must be prepared in accordance with the DCM and must identify:
    - existing invasive plant species and infestation areas;
8. proposed eradication, control, removal and treatment methods;
9. soil handling, stockpiling and disposal requirements;
10. measures to contain and prevent the spread of invasive species during construction; and
    - site restoration requirements following invasive plant removal

    The Invasive Plant Management Plan shall demonstrate that the proposed eradication and control measures will support the successful establishment of the approved landscaping plan and/or native plantings and minimize future competition from invasive plant species.

Security Estimate

- The 90% Detailed Submission must include a Performance Security Estimate (Engineer's Opinion of Probable Construction Cost), prepared at a Class A level (±10%) for every proposed off-site work, including landscaping, boulevard improvements, street tree installations, irrigation works, tree protection measures, tree replacements, invasive plant management measures, restoration works, and any other associated off-site works.

2.9 Street Furniture and Structures

Initial Application

An Initial Application must include:

11. A Preliminary Street Furniture and Structures Plan, which may be incorporated into the Preliminary Roadway Design Drawings, identifying the location of proposed significant street furniture and structures, including:
12. trash/recycling receptacles, bicycle racks, retaining walls, railings, tree grates, noise fences, stairways, bus shelters, wayfinding signage, bollards, pedestrian lighting poles, bridges, seating areas, public art installations, plazas, and other significant street furniture and structures.

    Where available, the Preliminary Street Furniture and Structures Plan must also identify preliminary dimensions, anticipated heights, and general design intent of each proposed significant street furniture and structure.

Complete Application (Detailed 90% and 100% submissions)

A Complete Application must include:

1. A Final Street Furniture and Structures Plan, that describes:
2. Design objectives, functionality, material selection, finishes, accessibility and universal design considerations, crime prevention through environmental design (CPTED) principles, durability and lifecycle performance requirements, inspections and maintenance considerations, and integration with the surrounding streetscape and public realm.
3. Final Street Furniture and Structures Drawings, which identify the location, dimensions, clearances, and layout of all proposed street furniture and structures, including but not limited to:
    - significant street furniture and structures, including retaining walls, noise fences, stairways, bus shelters, bridges, seating areas, pedestrian lighting poles, public art installations, plazas, gateway features, viewing platforms, and other significant structural or architectural elements; and
    - street furniture and amenities, including benches, waste and recycling receptacles, bicycle racks, bollards, railings, wayfinding signage, transit amenities, planters, drinking fountains, kiosks, decorative lighting, and other public realm features.

    The Final Street Furniture and Structures Drawings must demonstrate coordination with utilities, street lighting, landscaping, drainage infrastructure, pedestrian and cycling facilities, accessibility compliance, sightline requirements, emergency access requirements, and maintenance access requirements through dimensioning, offsets, and clearances shown on the drawings. The Final Street Furniture and Structures Drawings must include elevations, sections, profiles, schematic views and installation details for all significant street furniture and structural elements, as required.
4. Detailed Schedules and Specifications:

- Detailed Schedules will identify the type, manufacturer (where applicable), model, dimensions, materials, finishes, colours, and installation requirements for all proposed elements
- Detailed Specifications will include material requirements, fabrication standards, surface treatments, protective coatings, installation requirements, maintenance requirements, and warranty requirements
- Detailed Schedules and Specifications shall include product data sheets, material samples, colour samples, and manufacturer literature for all proprietary products, where applicable

5. Final Construction and Structural Details Drawings, including:
6. detailed drawings and installation details for all proposed street furniture and structures, including foundations, anchorage systems, structural connections, retaining systems, concrete works, railings, drainage provisions, and interfaces with adjacent infrastructure, utilities, and landscaping;
7. Structural Design Drawings and Specifications, signed and sealed by a Professional Engineer, for retaining walls, bridges, stair structures, public art foundations, and other structural elements, where required, in accordance with applicable EGBC requirements and industry standards;
   - details demonstrating compliance with applicable accessibility requirements, safety considerations, and relevant design standards and guidelines; and
   - other supporting documentation, as required by the city
8. Visual Simulations and Other Materials
   - Where applicable and required by the city, provide:
     - for major street furniture and structural elements, rendering, visual simulations, or streetscape perspectives illustrating the appearance and integration of significant street furniture and structures; and
     - a material and colour palette for surface and furniture elements, and provide samples
9. Maintenance and Asset Management Considerations, including anticipated lifecycle and replacement requirements for major elements, and confirmation that spare components, materials, finishes, and replacement parts will be provided for future maintenance and repair, where required by the City, including identification of suppliers and product sources.

Security Estimate

- The 90% Detailed Submission must include a P Performance Security Estimate (Engineer's Opinion of Probable Construction Cost), prepared at a Class A level (±10%) for every proposed off-site work.

2.10 Third-Party Utilities

Initial Application

An Initial Application must include:

1. Payment of the applicable application fee prior to the City's review of a Standard Street Work Permit, as applicable
2. A Preliminary Utility Coordination Plan, showing the approximate alignment of third-party utilities, as anticipated by the Engineer of Record, and the location of existing third-party utility overhead and underground assets.

Complete Application (Detailed Third-Party Servicing Design, 90% and 100% submissions)

A Complete Application must be submitted once the contractor, on-site contact and proposed schedule are known. The Complete Application must include:

10. A Detailed Third-Party Design Submission https://www.burnaby.ca/services-and-payments/permits-and-applications?keyword=street, which shall include:
    - A Third-Party Utility Undergrounding Requirements Summary, and cost estimate from the third-party utility owner (BCH, TEL, SHAW, ROGERS etc.) regarding the land being developed
    - payment of compliance security deposits for all third-party utilities, for undergrounding of utilities and any applicable city fees
    - A Final Utility Coordination Plan, showing:
        - proposed alignment of third-party utilities offset distance and clearances from city underground utilities and crossings; and
11. third-party utility pole relocations, installations and/or removals
12. A "No Conflicts" Letter from the Owner's Engineer of Record confirming that the proposed third-party utility designs have been reviewed for conflicts with existing and proposed City assets, both at surface and below ground and that no conflicts have been identified
    - A signed and endorsed copy of the City's Certificate of Insurance Template for third party utilities, without modifications to the preselected General Coverage, Limits and Particulars of Liability

SECTION 3: LEGAL AGREEMENTS AND FINANCIAL SECURITY

Applicants will be required to enter into a Servicing Agreement (SA) with the City for the construction of all required infrastructure works and will also be required to deliver financial security in an amount and in a form acceptable to the City at the 90% detailed submission stage to secure the completion and delivery of all off-site civil works, Rainwater Management Plan (RWMP) systems and third-party utilities.

Developments with shared, private, or critical environmental infrastructure on-site or over adjacent lots may be required to enter into, and register against title to one or more development lots, one or more Section 219 Covenants, Section 218 Statutory Rights of Way and/or Easements and Section 219 Covenants prior to and as a condition of subdivision or rezoning approval, or building permit issuance, to satisfy the City that such infrastructure will be constructed, operated, maintained, and replaced, as the case may be, to the satisfaction of the City.

SCHEDULES

Applicants must complete and submit the schedules identified for each submission stage. To ensure efficient processing and review, the schedules must be reproduced exactly as provided in this document. The content, wording, order, numbering, and formatting of the schedules must not be altered, except where information is required to be completed by the applicant.

Schedule A: Project Identification

What to do	Complete Part 1 and Part 2, and attach this Schedule as the first page of the engineering submission package
When to submit	With each engineering submission stage (Initial Application, 90%, 100%)

Part 1: Project Identification

Project name	
Civic address	
Legal description	
Application / file no.	
Applicant / owner	
Submission date	
Revision no. / date	
Submission milestone	☐ Initial Application ☐ Detailed 90% ☐ Detailed 100%

Part 2: Applicability Screening

Trigger	Applies?
Off-Site Works: a Servicing Agreement is executed under the *Burnaby Works and Services Bylaw 2026*, or the City Engineer determines that the municipal system must be extended, upgraded, or modified to service the development	☐ Yes ☐ No
On-Site Works: the development is subject to on-site rainwater management requirements under Section 5.14.2 of the DCM	☐ Yes ☐ No
Small residential: the development is located on a single parcel, contains ≤ 6 dwelling units, and does not include underground parking	☐ Yes ☐ No
Phased development: a Master Plan is required prior to, or concurrently with, the Phase 1 application	☐ Yes ☐ No
Below-grade structure at or below the Annual High-Water Level: Submit a Groundwater Screening Checklist at Initial Application and, unless exempted under the Groundwater Management Policy, a Detailed GWMP at Complete Application	☐ Yes ☐ No

Schedule B: Permeable Surface Summary

What to do	Complete Part 1 and Part 2, and reproduce this Schedule on the cover sheet of the On-Site RWMP drawings in accordance with Section 2.4
When to submit	With the Initial Application and update and resubmit it with each subsequent RWMP submission

Part 1: Permeable Surface Summary Table

Item	Value	City use
A. Total lot area (m^2)		
B. Pre-development impermeable area (m^2)		
C. Post-development impermeable area (m^2)		
D. Net change in impermeable area (D = C − B) (m^2)		
E. Net change percentage ((D ÷ A) × 100%) (%)		

☐ I hereby acknowledge that every surface identified as permeable in the table above meets the specifications and requirements of Section 5.14.1.7, Permeable Surface Standards, of the DCM

Part 2: Tier Declaration (select one)

Tier	Trigger (performance targets)	Select
Tier 0	No net decrease in permeable area (zero net change or a net increase), and not a Major Development. No on-site source-control obligation.	☐
Tier 1	Net decrease greater than 0 but less than the lesser of 50 m^2 or 5% of lot area, and not a Major Development. Water-quality treatment only.	☐
Tier 2	Net decrease greater than the lesser of 50 m^2 or 5% of lot area, OR a Major Development. Volume control + rate control + water-quality treatment.	☐
Small-scale	≤ 6 dwelling units on a single parcel, no underground parking. Meet R1 minimum permeable-area requirement (Zoning Bylaw Section 6.24).	☐

Name and firm	EGBC reg. no.	Signature	Date

Schedule C: Groundwater Screening Checklist

Source: *Groundwater Management Policy for Developments (July 2026), City of Burnaby, Engineering Department*.

What to do	The applicant's Qualified Professional must complete all fields in Parts A through E, sign the checklist, and submit it with the application. The City Engineer uses the information provided to determine whether a Detailed Groundwater Management Plan (Detailed GWMP) is required as part of the Complete Application stage.
When to submit	Submit with the Initial Application for all development proposals. If claiming an exemption under Section 3.2 of the Groundwater Management Policy, identify the applicable exemption in Part D of this Schedule and provide all supporting documentation necessary to demonstrate eligibility for the exemption.

Part A: Project and Applicant Identification

Field	Applicant entry
Civic address	
Description of proposed development *Briefly describe the development type, scale, and key components (e.g., 6-storey mixed-use, 120 units, 2 levels of underground parking)	
Applicant / owner name	
Consulting firm	
Qualified Professional (P.Eng. / P.Geo.)	
EGBC registration no.	
Date prepared	

Part B: Site Information

Site information	Applicant entry
Property boundary (bordering streets / properties)	
Existing and proposed buildings and locations *List existing structures and proposed buildings, footprint area in m^2, and location / setbacks on the parcel *Attach site plan	
No. of below-grade levels per building	
Current site grade and surrounding topography *Describe existing ground elevations and slopes across the site and how they relate to adjacent properties and streets. Note high and low points	
Known / suspected groundwater contamination on or near site, identified during Site Disclosure Statement and Contamination Identification *Note any known or suspected soil or groundwater contamination on or adjacent to the site, including prior land uses, spills, or environmental records. State “none known” if not applicable	
Property dimensions and area (m, m^2)	
Excavation dimensions and area (m, m^2)	
Excavation elevation and depth (m geodetic; m BGS)	
Foundation elevation and depth (m geodetic; m BGS)	

Part C: Hydrogeological Background

Hydrogeological background	Applicant entry
Watercourses / historic streams within 500 m	

Hydrogeological background	Applicant entry
Existing / planned test pits (no.)	
Existing / planned boreholes and monitoring wells (no.; target unit)	
Assumed or expected soil conditions / underlying stratigraphy	
Estimated vertical and lateral proximity of excavation to aquifers / perched lenses	
Wells within 500 m (address, tag no., distance)	
Available hydrogeological data from nearby sites *Summarize relevant groundwater data from nearby projects (reports, monitoring results, well logs) and cite sources. State “none available” if not applicable	
Within a Groundwater Area of Concern? (Schedule 3 of the Groundwater Management Policy)	☐ Yes ☐ No
Includes Open-Loop Geoexchange System?	☐ Yes ☐ No

Part D: Exemption Request

Complete this Part only if the applicant is relying on an exemption under Section 3.2 of the Groundwater Management Policy. Check all provisions that apply:

☐ Section **3.2(1) (Full Exemption):** a residential development located on a single parcel that contains no more than six (6) dwelling units and does not include any underground parking. A development that satisfies all these criteria are fully exempt from the Groundwater Management Policy and is not required to make any submission under it.

☐ **Section 3.2(3) (Exemption from Detailed GWMP):** the applicant requests an exemption from the requirement to submit a Detailed GWMP and has attached the written hydrogeological justification required under Section 3.2(4) of the Groundwater Management Policy, prepared and signed by a Qualified Professional.

By checking the applicable box above and signing this checklist, the Qualified Professional certifies that:

13. all information and supporting documentation required for each exemption claimed has been submitted with this checklist;
14. the information and documentation submitted are complete and accurate; and
    - The City may rely on the information and documentation provided for the purpose of assessing the exemption request.

The City will not consider, grant or process an exemption request unless all required supporting documents have been submitted.

Part E: Qualified Professional Declaration and Signature

I hereby acknowledge, within the scope of my professional responsibility identified below, that:

- I am a Qualified Professional registered and in good standing with Engineers and Geoscientists British Columbia (EGBC), practising under a valid Permit to Practice, and am qualified by education, training and experience in hydrogeology and, where applicable, contaminant hydrogeology to undertake the work addressed by this checklist.
- This checklist and the supporting documents prepared by me or under my direct supervision or expressly identified as having been reviewed and relied upon by me, have been prepared in accordance with the applicable requirements of the Groundwater Management Policy.
- In my professional opinion and to the best of my knowledge, following reasonable inquiry, the information provided is complete and accurate for the purpose of the City's review subject to the assumptions and limitations identified in the supporting documents.
- I will promptly notify the City and submit revised, authenticated documentation if a change to the design, assumptions or site conditions materially affects the information, conclusions or recommendations in this checklist.
- The City of Burnaby may rely on this checklist and the supporting documents for the limited purpose of administering and reviewing the submission.

Name and firm	Responsible for Work Category	EGBC reg. no, and Permit-to-Practice no.	Signature	Date

Schedule D: Water and Sanitary Summary Sheets

Schedule D.1: Water Servicing Design Loading Summary

What to do	Complete the water demand summary and attach all required supporting calculations. Values shall follow the DCM; where different values are used, attach the source of reference and supporting documents. Print this summary directly onto a sheet of the water servicing drawings (Section 2.2).
When to submit	With the Initial Application (Preliminary 30% submission). Revise and resubmit with each Detailed (90% and 100%) submission

Project name		**Application no.**	
Civic address		**Submission date/ Revision No.**	
Project / Site Inputs			
Zoning / Land Use			
Site Area (ha)			
Effective Development Area (ha)			
Design Population			
Gross Floor Area / Unit Count			
Population Density / Equivalent Population Factor			
Water Demand Summary			
Average Day Demand (ADD) (L/s)			
Maximum Day Demand (MDD) (L/s)			
Peak Hour Demand (PHD) (L/s)			
Fire Flow Required (FF) (L/s)			

I hereby acknowledge that:

- ☐ Domestic demand calculation is attached (where calculated as per the DCM).
- ☐ Fixture hydraulic loading calculation is attached.
- ☐ The FUS fire flow calculation is attached for review.
- ☐ The FUS fire flow demand is less than the DCM minimum fire flow. If not, an explanation is provided.
- ☐ The Water Servicing Plan and Profile are attached, showing the existing/proposed service connection, hydrant, and water mains.

Name and firm	EGBC reg. no.	Signature	Date

Schedule D.2: Sanitary Sewer System Analysis Sheet

What to do	Complete and attach the noted calculations. Values shall follow DCM; where different values are used, attach the source of reference and supporting documents. Print this summary directly onto a sheet of the sanitary servicing drawings (Section 2.3).
When to submit	With the Initial Application (Preliminary 30% submission). Revise and resubmit with each Detailed (90% and 100%) submission.

Project name		**Application no.**	
Civic address		**Submission date/ Revision No.**	
Project / Site Inputs			
Zoning / Land Use			
Design Population / Equivalent Population			
Effective Development Area (ha)			
Sanitary Design Flow			
Peaking Factor (Harmon's Formula)			
I & I Allowance (L/s/ha)			
Peak Dry Weather Flow (PDWF) (L/s)			
Pump Flow (L/s); attach pump operating data			
Other Flow (L/s)			
Total Sanitary Design Flow (L/s)			

I hereby acknowledge that:

- ☐ The assumptions used for the sanitary sewer servicing analysis/calculation follow DCM. If different values are used, the source of reference and supporting documents are attached.
- ☐ The existing sanitary system's capacity is analyzed against the criteria of max depth / full depth < 0.7.
- ☐ The proposed sanitary system sizing is analyzed as per the criteria in DCM and assumptions based on the latest OCP land uses.
- ☐ The sanitary servicing plan is attached, showing labelled sanitary sub-catchments, proposed service connection, maintenance holes, and existing/proposed sanitary sewer mains.
- ☐ The sanitary sewer system analysis/calculation sheets (as per the example sheet in DCM) for both the existing system and the proposed system are attached for review.
- ☐ The limits of sanitary sewer analysis for off-site works included the sanitary sewer system from the development site frontage to one of the following downstream system boundaries (not applicable for phased developments, see DCM Section 4.17.4):
  - To the nearest downstream trunk sewer (450 mm and larger).
  - If located within a sanitary pump station catchment, to the nearest downstream sanitary lift station.

- If there is no trunk sewer downstream, to the nearest Metro Vancouver trunk sewer.

Name and firm	EGBC reg. no.	Signature	Date

Schedule E: Engineering Completeness Checklists

Schedule E consolidates the requirements of this document into stage-specific checklists for each submission. Applicants familiar with the submission process may use these checklists as a streamlined means of confirming submission completeness.

For each submission stage:

1. Print the applicable checklist.
2. Complete every line in the applicable checklist.
3. Sign the identification section.
4. Place the completed checklist at the front of the submission package, immediately following Schedule A

The city will use the same checklist to assess the submission for completeness during intake. Each checklist item references the section of this document where the applicable requirement is described in full.

Check **"Yes"** only if the required item is included in the submission package. If an item does not apply, leave it unchecked and record the item number together with an explanation in the **Notes** section at the end of the checklist. **Any checklist item that is left unchecked without a corresponding explanation in the Notes section may result in the submission being deemed incomplete.**

What to do	Print and complete the checklist for the applicable submission stage, ensure all checklist items are addressed, and place the completed checklist at the front of the submission package, immediately following Schedule A.
When to submit	With every engineering submission stage (Initial Application, 90%, 100%)
Accompanying form	Schedules A through D, as identified by the checklist lines

E.1 Engineering Initial Application Submission Checklist

All Engineering Initial Application submissions must be prepared and submitted in accordance with the ***Burnaby Works and Services Bylaw 2026***, the **Engineering Design Criteria Manual (DCM)**, and the **Engineering Development Submission Requirements**.

This checklist applies to development applications reviewed with the Planning Department, and any other applications subject to the *Burnaby Works and Services Bylaw 2026*. The Initial Application is a preliminary submission, generally representing approximately 30% design.

The City of Burnaby reserves the right to waive any requirements as needed.

Project address:		**Application no. (INT / INFR):**	
Applicant / owner:		**Prime consultant:**	
Contact email and phone:		**Submission date:**	

	Requirement	Required. (Submit and Check ✓)	If Applicable
A.	**General Requirements**		
1	**Engineering Initial Application Submission Checklist** This completed checklist, placed at the front of the submission package.	☐	
2	**Schedule A: Project Identification and Screening Information** Submission Milestone selected, form completed and signed.	☐	
3	Phasing Plan For multi-phase or multi-building developments. Outline construction sequencing, parcel and sub-site boundaries, shared works, milestones and occupancy considerations.		☐
4	**Off-Site Prime Consultant Commitment Form** Signed and sealed. Required where off-site works are proposed or may be required.	☐	
B.	**Preliminary Water Servicing Package**		
1	Preliminary design report and water servicing plan: existing system (asset age, diameter, material, condition) and proposed system, including water main, service connections and hydrants, show hydrant coverage	☐	
2	Preliminary water system design profiles	☐	
3	Non-approved water main materials (per DCM) labelled; water main assets older than 60 years and service connections older than 25 years flagged and labelled	☐	
4	**Schedule D.1:** Water Servicing Design Loading Summary printed on the drawings, should include FUS calculations, water demand calculations for ADD, PHD and MDD conditions according to DCM, and fixture hydraulic loading calculation.	☐	
C.	**Preliminary Sanitary Servicing Package**		

	Requirement	Required. (Submit and Check ✓)	If Applicable
1	Sanitary catchment plan: existing system (asset age, diameter, material, condition), proposed system, and delineated catchment boundaries	☐	
2	Sewer system analysis formatted per DCM Section 4.4; deficient sewers highlighted per DCM Section 4.4.2	☐	
3	Preliminary design drawings showing proposed sewer profiles	☐	
4	Vitrified Clay and Asbestos Cement labelled; sewer main assets older than 60 years and service connections older than 40 years flagged and labelled	☐	
5	**Schedule D.2:** Sanitary Sewer System Analysis Sheet	☐	
D.	**Preliminary Storm Servicing Package**		
1	Off-site capacity analysis calculations or modelling: IDF curve used; preliminary sizing per the DCM (Figure 5-2 where the Rational Method applies); subcatchments and manholes labelled on the map	☐	
2	Storm Sewer Plan: existing and proposed storm service connections; existing storm, sanitary, and water mains; adjacent roads; storm pipe age, diameter, material, condition; existing ROWs; preliminary sizing per Figure 5-2 of the DCM	☐	
E.	**Preliminary On-Site Rainwater Management (RWMP) Package**		
1	Pre-development plan drawing: impervious and pervious areas labelled; existing storm service connections	☐	
2	**Schedule B**: Permeable Surface Summary, printed on the On-Site RWMP drawings	☐	
3	Post-development plan drawing: scope-of-work paragraph; impervious and pervious areas labelled; existing (labelled as to be capped or maintained) and proposed storm service connection, if any.	☐	
4	Areas for the proposed volume control infiltration measures shown and labelled on the post-development plan drawing, to comply with the DCM Section 5.15.1.4	☐	
5	On-site infiltration testing locations and results; tests conducted at proposed subgrade elevation for the proposed volume control infiltration measures using a Double-Ring Infiltrometer (ASTM D3385) or approved equivalent; one test location per 30 m of facility length (minimum one per facility); minimum three tests per location	☐	
F.	**Preliminary Groundwater Management (GWMP) Package**		
1	**Schedule C:** Groundwater Screening Checklist Completed (Regardless of whether the proposal includes underground structures on private property).	☐	
G.	**Preliminary Transportation and Road Package**		
1	Preliminary Road Geometric Design (including driveways, roadway cross-section and classification (per DCM), surveyed property lines and existing conditions.)	☐	

	Requirement	Required. (Submit and Check ✓)	If Applicable
2	Preliminary Subdivision Plan (Showing proposed road dedication, corner cuts, and statutory right-of-way.)	☐	
3	Transportation Impact Study (Proposed terms of reference or draft TIS)	☐	
4	Preliminary Roadway Design Drawings	☐	
H.	**Preliminary Landscaping and Invasive Plant Management Package**		
1	Preliminary Landscape Plan	☐	
2	Preliminary Arborist and Tree Management Plan	☐	
I.	**Preliminary Street Furniture and Structures Package**		
1	Preliminary Street Furniture and Structures Plan	☐	
J.	**Preliminary Third-Party Utilities Package**		
1	Third-Party Utility Servicing Summary: existing and proposed services	☐	
2	Plan of existing and proposed third-party infrastructure within and adjacent to the site	☐	
3	Preliminary drawings: servicing corridors, connection and kiosk locations, relocations, conflicts	☐	
4	Written confirmation that coordination with providers has been initiated	☐	
5	Anticipated upgrades, relocations, protection measures, SRWs, and easements identified	☐	
K.	**Additional Submissions**		
1	Fire Flow Calculation, as per Fire Underwriters Survey	☐	
2	Water metering strategy (if applicable)	☐	
3	Solid Waste and Recycling Access Plan	☐	
4	Updated Arborist and Tree Management Plan, required when a site has a tree as defined in the Tree Bylaw. An Arborist report shall include identification, classification and condition of public and private trees and outline proposed removals and replacements	☐	

Applicant Declaration

I acknowledge that the information and supporting documentation submitted with this application are complete and accurate to the best of my knowledge. By checking the boxes above and signing this form, I confirm that the Initial Application is submitted with all required documentation attached.

If any of the required documents are not included, the application will be considered “Intake Incomplete” and will not advance until all required documents are submitted. Acceptance of an Initial Application confirms the package is complete for review; it is not approval of the design.

Applicant name:		Signature:	
Company:		Date:	

Staff Use Only

Reviewed by:		Date reviewed:	
Intake complete:	☐ Yes ☐ No		
Deficiencies identified:			

E.2 Completeness Checklist: 90% Detailed Submission

Project name		**Application no.**	
Civic address		**Submission date**	
Completed by (name, firm)			
Prime Consultant name and contact (including email)			

#	Requirement	Applicant	City use
A.	**All Work Categories**		
1	Schedule A updated; milestone box Detailed 90% ticked	☐ Yes	
2	Class A (±10%) Security Estimate for all on-site civil engineering works and landscaping works, and off-site works itemized by work category	☐ Yes	
B.	**Detailed Water Servicing Package**		
1	Final water servicing design drawings	☐ Yes	
2	Utility coordination layouts	☐ Yes	
3	Final hydraulic modelling calculations	☐ Yes	
4	Report redlines copy showing all changes in a contrasting colour, plus the final signed and sealed copy (s. 2.1)	☐ Yes	
5	All drawing changes clouded, with revision numbers in the title block (s. 2.1)	☐ Yes	
C.	**Detailed Sanitary Servicing Package**		
1	Final sewer plan and profiles	☐ Yes	
2	Pipe capacity calculations	☐ Yes	
3	Flow monitoring data, if requested by the city	☐ Yes	
4	Report redlines copy showing all changes in a contrasting colour, plus the final signed and sealed copy (s. 2.1)	☐ Yes	
5	All drawing changes clouded, with revision numbers in the title block (s. 2.1)	☐ Yes	
D.	**Detailed On-Site RWMP Package**		
1	**Updated Schedule B**.	☐ Yes	
2	RWMP cover sheet: project narrative and Schedule B table	☐ Yes	
3	Pre-development condition plan: 1 m contours, existing connections, permeable/impermeable hatching	☐ Yes	
4	Post-development condition plan: 1 m contours, footprints, grading spot elevations, flow arrows, proposed connections	☐ Yes	
5	Rainwater management system plan: source control BMP table, layouts and details of rate/volume/water-quality measures, on-site drainage pipes, post-development connections, On-Site / Off-Site boundary interface	☐ Yes	

#	Requirement	Applicant	City use
6	Calculation sheets: hydrologic modelling, rate control, volume control ($I_{existing}$, $I_{baseline}$, A_{excess}), water-quality sizing	☐ Yes	
7	Construction details and proprietary system spec sheets with manufacturer certifications and performance data	☐ Yes	
8	Sealed Landscape Plan and O&M Maintenance Plan Sheet	☐ Yes	
9	Report redlines copy showing all changes in a contrasting colour, plus the final signed and sealed copy (s. 2.1)	☐ Yes	
10	All drawing changes clouded, with revision numbers in the title block (s. 2.1)	☐ Yes	
E.	**Detailed Storm Servicing Package**		
1	Detailed off-site storm drawing package: updated capacity analysis and Storm Sewer Plan, system profile and HGL	☐ Yes	
2	Report redlines copy showing all changes in a contrasting colour, plus the final signed and sealed copy (s. 2.1)	☐ Yes	
3	All drawing changes clouded, with revision numbers in the title block (s. 2.1)	☐ Yes	
F.	**GRI / RMA Package, where required by the Initial Conditions Letter**		
1	Municipal GRI/RMA Design Report	☐ Yes	
2	Municipal GRI/RMA Design Drawings, appended to the report, RMA boundaries delineated	☐ Yes	
3	Boulevard Tree Planting Plan	☐ Yes	
4	RMA Irrigation Design Drawings, for RMAs requiring irrigation	☐ Yes	
G.	**Groundwater Management Package**		
1	Final Groundwater Management Plan (GWMP)	☐ Yes	
H.	**Detailed Transportation and Road Package**		
1	Detailed Road Geometric Design	☐ Yes	
2	Final Subdivision Plan	☐ Yes	
3	Transportation Impact Study	☐ Yes	
4	Final Electrical Design Drawings	☐ Yes	
5	Final Pavement Design Report or Rehabilitation Assessment Report, based on Table 2-2	☐ Yes	
6	Final Roadworks Design Drawings (pavement construction/rehabilitation recommendations)	☐ Yes	
7	General Notes and Typical Construction Detail Drawings	☐ Yes	
8	Report redlines copy showing all changes in a contrasting colour, plus the final signed and sealed copy (s. 2.1)	☐ Yes	
9	All drawing changes clouded, with revision numbers in the title block (s. 2.1)	☐ Yes	

#	Requirement	Applicant	City use
I.	**Detailed Landscaping and Invasive Plants Management Package**		
1	Final Street Trees and Boulevard Landscaping Drawings	☐ Yes	
2	Final Arborist and Tree Management Plan	☐ Yes	
3	Invasive Plant Assessment by a Qualified Professional or Landscape Architect	☐ Yes	
4	Invasive Plant Management Plan, where invasive plants are present	☐ Yes	
5	Security Deposit, including Qualified Professional oversight fees, where invasive plants are present	☐ Yes	
6	Report redlines copy showing all changes in a contrasting colour, plus the final signed and sealed copy (s. 2.1)	☐ Yes	
7	All drawing changes clouded, with revision numbers in the title block (s. 2.1)	☐ Yes	
J.	**Detailed Street Furniture and Structures Package**		
1	Detailed Street Furniture and Structures Design Summary	☐ Yes	
2	Final Street Furniture and Structures Drawings	☐ Yes	
3	Detailed Schedules and Specifications	☐ Yes	
4	Final Construction and Structural Details Drawings	☐ Yes	
5	Report redlines copy showing all changes in a contrasting colour, plus the final signed and sealed copy (s. 2.1)	☐ Yes	
6	All drawing changes clouded, with revision numbers in the title block (s. 2.1)	☐ Yes	
K.	**Detailed Third-Party Utilities Package**		
1	Detailed design report/brief and drawings incorporating provider requirements, clearances, and conflict resolutions	☐ Yes	
2	Status of servicing acceptances and design clearances from affected agencies	☐ Yes	
3	Details of required relocations, upgrades, protection measures, easements, and SRWs	☐ Yes	
4	Report redlines copy showing all changes in a contrasting colour, plus the final signed and sealed copy (s. 2.1)	☐ Yes	
5	All drawing changes clouded, with revision numbers in the title block (s. 2.1)	☐ Yes	
L.	**Legal and financial instruments**		
1	All applicable Section 3 instruments identified; preparation under way to meet the stated milestones	☐ Yes	
M.	**Additional Submissions**		
1	Flood Management Review and Dike Management Act Review, as requested by the City Engineer.	☐ Yes	
2	Any other submissions identified through the Initial Application review.	☐ Yes	

#	Requirement	Applicant	City use
3	Accepted design drawings in Burnaby shapefile format, at the time of Final Adoption.	☐ Yes	

Notes (record the item number and the reason for any line left unticked)

NOTE: If any of the above documents are not included with the Engineering 90% Complete Application Submission, your application will be considered **"Intake Incomplete"** and will not advance until such time as all required documents are submitted.

Applicant Declaration I hereby acknowledge that the information and supporting documentation submitted with this application are complete and accurate to the best of my knowledge.

By signing this form, I further acknowledge and confirm that the 90% Submission for Complete Application has been reviewed for completeness and includes all documentation required by the City for the processing and review of the application. Failure to provide required documentation may result in the application being deemed incomplete.

Applicant Name: _____

Signature: _____

Date: _____

Staff Use Only

Submission Reviewed By: _____

Date Reviewed: _____

Application Complete: ☐ Yes ☐ No

Deficiencies Identified:

E.3 Completeness Checklist: 100% Detailed Submission

Project name		**Application no.**	
Civic address		**Submission date**	
Completed by (name, firm)			
Prime Consultant name and contact (including email)			

#	Requirement	Applicant	City use
A.	**All Work Categories**		
1	Schedule A updated; milestone box Detailed 100% ticked	☐ Yes	
2	All 90% review comments addressed and closed out	☐ Yes	
3	Final signed and sealed drawing packages for every work category	☐ Yes	
5	Report redlines copy showing all changes since the 90% submission, plus the final signed and sealed copy (s. 2.1)	☐ Yes	
6	All drawing changes clouded, with revision numbers in the title block (s. 2.1)	☐ Yes	
B.	**Adoption and agreements**		
1	100% reports and drawings suitable for final adoption reports (s. 1.3)	☐ Yes	
2	Servicing agreement execution package complete	☐ Yes	
3	Securities posted and Section 3 instruments executed and registered, as required for the stated milestones	☐ Yes	
C.	**Additional Submissions**		
1	Flood Management Review and Dike Management Act Review, as requested by the City Engineer.	☐ Yes	
2	Construction crew and Staff Parking Plan	☐ Yes	
3	Any other submissions identified through the Initial Application review.	☐ Yes	

Notes (record the item number and the reason for any line left unticked)

NOTE: If any of the above documents are not included with the Engineering 100% Complete Application Submission, your application will be considered **"Intake Incomplete"** and will not advance until such time as all required documents are submitted.

Applicant Declaration

I hereby acknowledge that the information and supporting documentation submitted with this application are complete and accurate to the best of my knowledge.

By signing this form, I further acknowledge and confirm that the 100% Submission for Complete Application has been reviewed for completeness and includes all documentation required by the City for the processing and review of the application. Failure to provide required documentation may result in the application being deemed incomplete.

Applicant Name: _____

Signature: _____

Date: _____

Staff Use Only

Submission Reviewed By: _____

Date Reviewed: _____

Application Complete: ☐ Yes ☐ No

Deficiencies Identified: