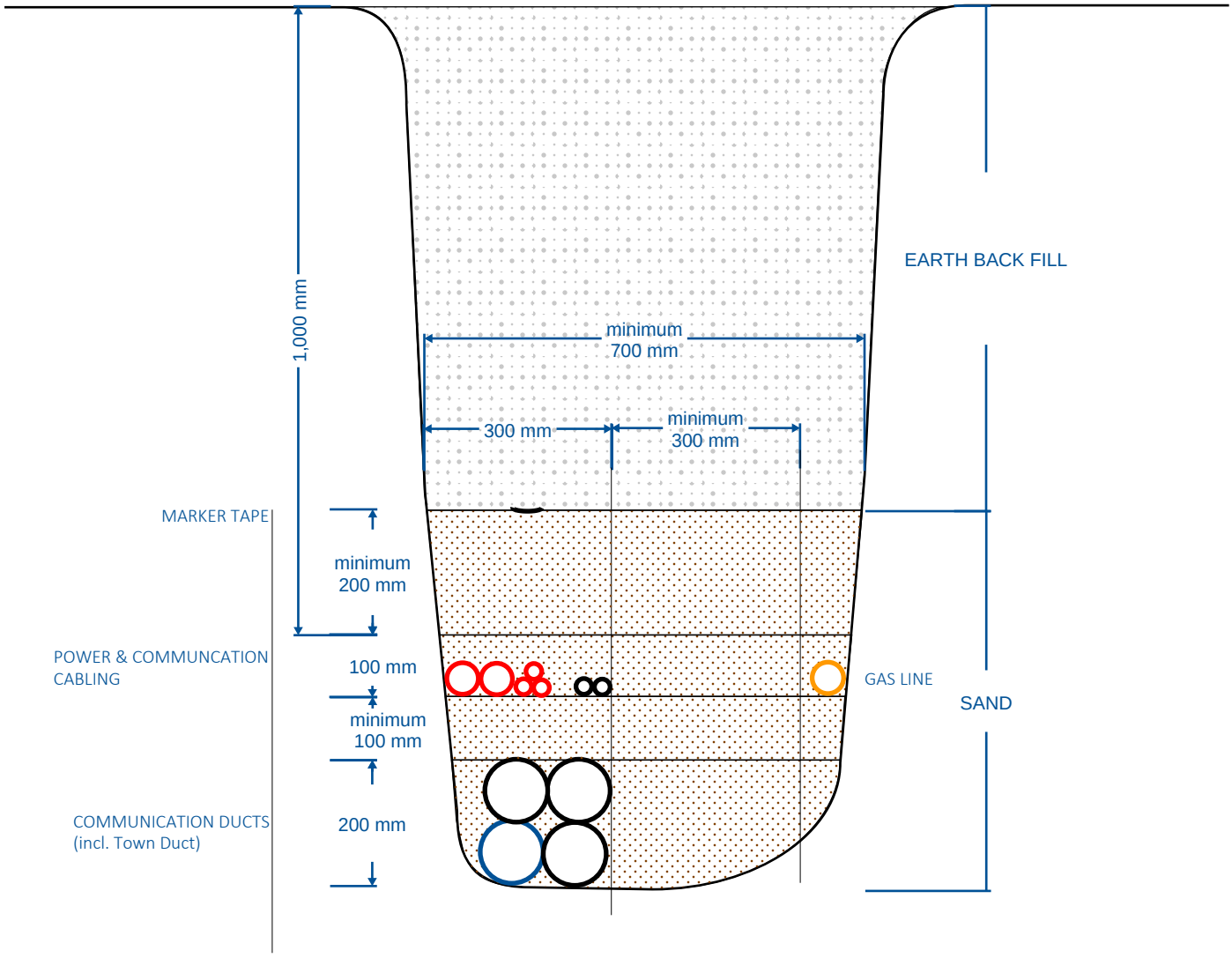
TOWN OF STRATHMORE
ENGINEERING DESIGN AND CONSTRUCTION STANDARDS MANUAL

APPENDIX E

Standard Town Detail Sheets and Documentation

2022

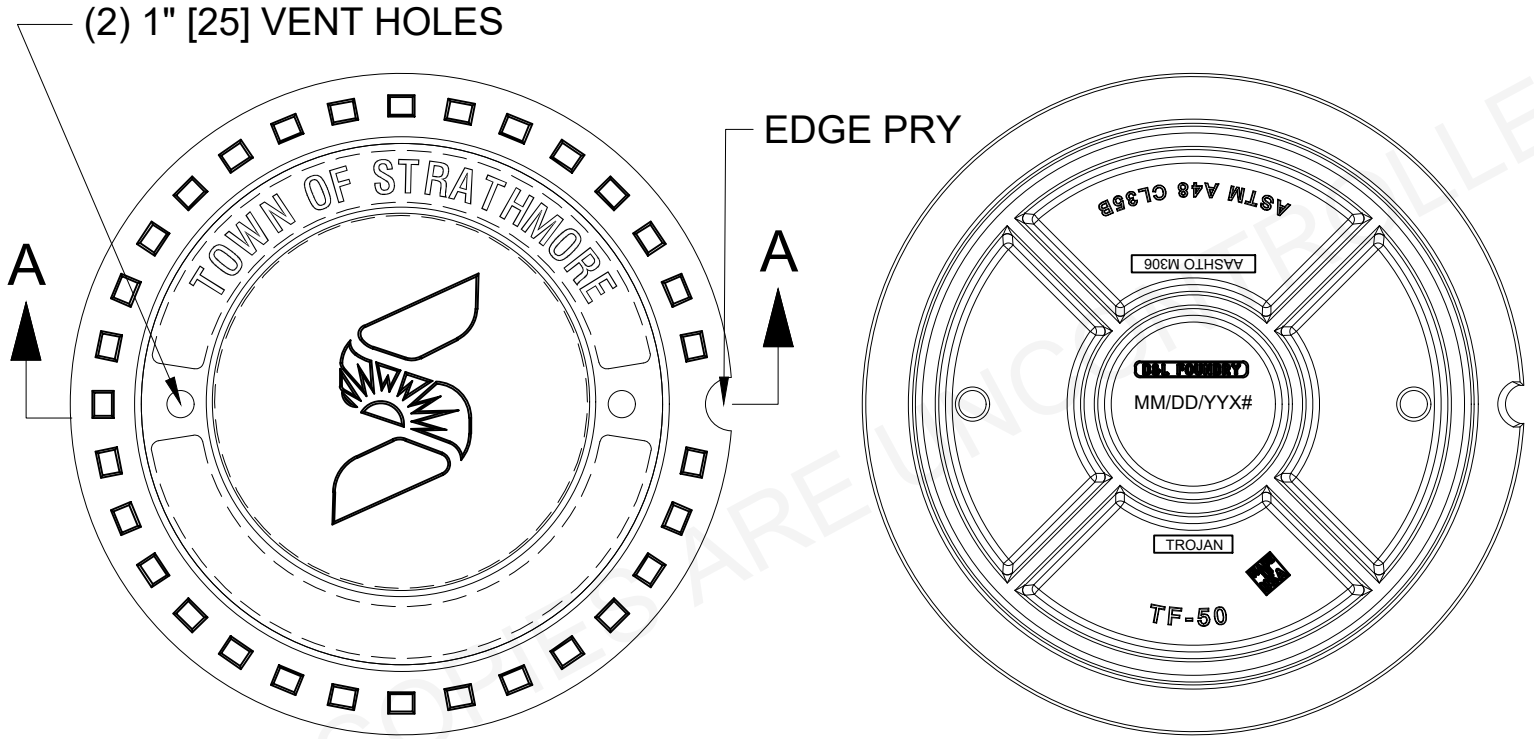


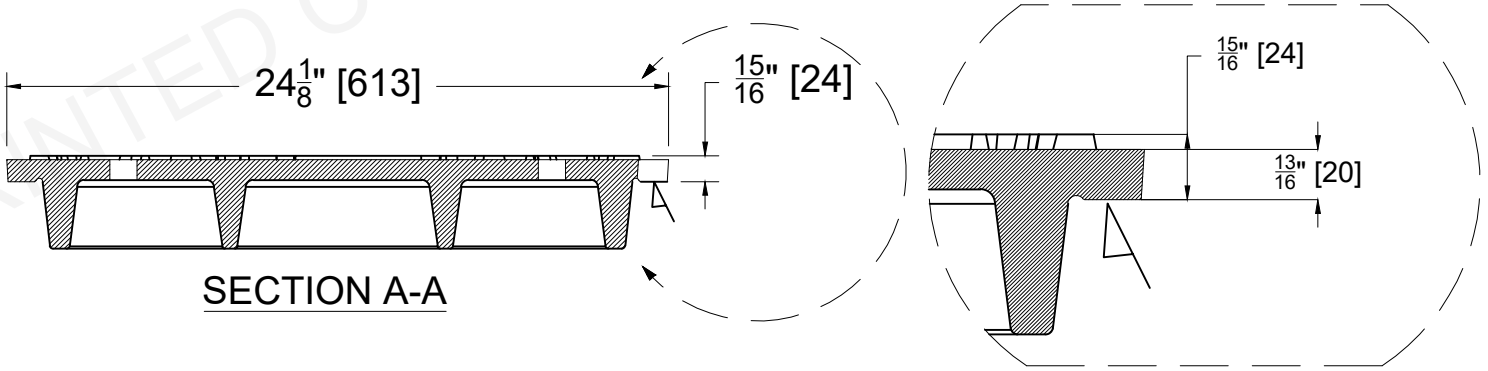
NOTES:

1. THIS DRAWING IS A DIAGRAM ONLY AND SHALL NOT BE CONSIDERED AN ENGINEERED DESIGN. DESIGN OF THE TRENCH SHALL BE DONE BY THE DEVELOPER, OR THEIR DESIGNATE, USING THIS DIAGRAM AS A BASIS FOR THE REQUIREMENTS. THE TOWN OF STRATHMORE TAKES NO RESPONSIBILITY OVER THE USE OF THIS DRAWING OR ANY OUTCOMES WHICH COME FROM ITS USE.
2. DEPTHS OF ZONES MAY VARY TO ACCOMODATE THE NEEDS OF THE PROJECT
3. STAKES TO BE USED TO SEPERATE GAS AND POWER/COMMUNICATION CABLING
4. SAND TO BE USED AS BACKFILL FOR THE FULL TRENCH WIDTH UP TO, AND INCLUDING, 200MM COVER ZONE

Strathmore

TOWN OF STRATHMORE
TYPICAL FOUR PARTY TRENCH DIAGRAM





SECTION A-A

D&L Foundry, Inc. "The Iron Men" MADE IN THE USA	PART NUMBER	DATE	DESCRIPTION	DRAWN	APPROVED	GRAY IRON CONFORMS TO ASTM A48 CL35B	REFERENCE INFORMATION	TOLERANCES
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF D&L FOUNDRY. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF D&L FOUNDRY IS PROHIBITED	TF-50STRHCU	2/178/22	NEW PLAQUES	DF	N/A	AASHTO M306	TOOLING NUMBERS TOOLS: COPE: -1387 DRAG: -1317 PATTERN LOCATION: COPE: -1387 DRAG: -1317 DESIGNATES MACHINED SURFACE	ALL TOLERANCES ARE +/- 1/16" PER FOOT, OR 1.6 MM PER 300 MM MEASUREMENTS LESS THAN ONE FOOT ARE +/- 1/16", OR 1.6 MM UNLESS OTHERWISE SPECIFIED

1.0 Introduction

1.1 Project Description and Objectives

Give a brief introduction of the Company and its proposed development, for example:

- Location and Size of Development and Phase Number (if applicable)
- Type of Development including Number of Residences or Business Space or Multi-Family
- Name of Consultant working with Name of Developer has prepared this Construction Management Plan (CMP) in an effort to reduce negative impacts to the community as a result of construction activities. This CMP is intended to be an evolving document to help guide the project team to mitigate impacts to the adjacent community before they arise and to address unforeseen issues. Letters of Retention of all Professional Services (if applicable) contract including but not limited to the following:
  - ✓ Historical Clearance/Archaeological Consultant
  - ✓ Biophysical Impact/Environmental Site Assessment Consultant
  - ✓ Geotechnical Consultant
  - ✓ Transportation Engineer
  - ✓ Landscape Architect
  - ✓ Electrical Engineer

  Any changes/revisions to this plan are to be submitted to the Town's File Manager, in writing by email and accompanied by digital copies of any revised drawings a minimum of 10 days prior to their proposed implementation. Changes will only be implemented following acceptance from the Town.
- Municipal Regulation and Guidelines

  Provide a list that the Development, utilized in agreement with and meet, at a minimum, the standards of all relevant municipal bylaws including, but not limited to.
- Community Engagement & Notification
  - ✓ Pre-Construction Community Engagement
  - ✓ Scheduled Community Notifications
  - ✓ Closure Notification Requirement
- Pedestrian Management (where applicable)
  - ✓ Pedestrian Hazard Assessment
  - ✓ Pedestrian Management Plan Preparation & Monitoring
  - ✓ Notifications of Pedestrian Closures
  - ✓ Pedestrian Management Plan Compliance
  - ✓ Changes to Pedestrian Management Plans
  - ✓ Disabled Persons
- Signage
  - ✓ Signage Plan Renderings
  - ✓ Pedestrian Detour Wayfinding
  - ✓ Emergency Contact Information (to be located in highly visible area surrounding the development site

    Owner(s)

    Name of Owner & Development
    Address
    24 Hour Emergency Contact: Company Name

Contact Number: (000) 000-0000

Construction Contractor

Name of Site Manager & Company Contracting Company
Address
24 Hour Emergency Contact: Company Name
Contact Name: (000) 000-0000

Accidents/Emergency – nearest hospital (with map)

- Environmental Controls
  - ✓ After Hours Lighting
  - ✓ Street & Right-Of-Way Cleaning
  - ✓ Stormwater Management & Runoff Pollution
  - ✓ Noise Pollution
  - ✓ Dust Pollution
  - ✓ Emissions Control
- Regulation & Enforcement
  - ✓ Inspections & Monitoring

2.0 Construction Schedule

Generally, implementation of Sedimentation & Erosion Control and the Stormwater Management Plan shall be first priority for any development. The Developer shall provide for a Construction Schedule that would outline the timeline for a development. Items that should be included are:

2.1 Construction Schedule and Logistics

Schedule – Example Below

- ✓ Demolition (January 1, 2022 – March 31, 2022) 3 Months
- ✓ Excavation (April 1, 2022 – August 31, 2012) 5 Months
- ✓ Deep Utilities Installation (September 1, 2022 – June 30, 2023) 10 Months
- ✓ Surface Works (July 1, 2023 – June 30, 2024) 12 Months
- ✓ Off-site Improvements (June 1, 2022 – November 30) 5 months

From start to completion, the project will take approximately _____ years.

Project A Schedule

Project Phase	2022												2023												2024					
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Demolition																														
Excavation																														
Deep Utilities																														
Surface Works																														

- Work within the Municipal Right-Of-Way
- Hours

Monday to Friday	0:00 a.m. – 0:00 p.m.
Saturday	0:00 a.m. – 0:00 p.m.
Sundays, Statutory Holidays	0:00 a.m. – 0:00 p.m.
Work within the Downtown Area	0:00 a.m. – 0:00 p.m.

- Anticipated Start and End Dates for Offsite Improvements

2.2 Waste and/or Recycled Material Storage, Removal and Disposal (disposal site) Strategy

These could include materials such as:

- Waste soil materials
- Construction/building materials
- Vegetation and/or organics

3.0 Construction Site Protection and Hoarding

- Barriers
- Fencing
- Hoarding
- Snow Removal
- Site Lines
- Emergency Access & Egress
- Dust Pollution
- Emissions Control

4.0 Traffic Management Plan

A construction traffic management plan is designed to outline the various strategies used for keeping construction workers safe while moving drivers and pedestrians through or around the worksite without issue. This is especially important for additional phases from the initial first (1st) phase.

4.1 Traffic Accommodation Plan

A Traffic Accommodation Plan may be required prior to entering into a Development Agreement or Road ROW Construction Agreement. Traffic Accommodation Plans must adhere to Alberta Transportation's Traffic Accommodations in Work Zones Manual. The Traffic Accommodation Plan will generally consist of:

- Public notification procedures including notification structures specifications, locations, signage plans, etc.
- Any potential detours must be clearly identified
- Local traffic accommodation (including postal, school bus, deliveries, etc.)
- Construction Access
- Temporary construction signage placement, quantity, and maintenance
- Emergency access management
- Illumination requirements
- Laborer/Flag person requirements
- Installation of Temporary Message Boards (i.e., BOLD Signs) for both directions of traffic providing notification of the pending closure. The Temporary Message Boards shall be installed at least two weeks prior to closure taking place and at a minimum must indicate:
  - ✓ Contractor's company name
  - ✓ Site supervisor's 24hr contact phone number
  - ✓ Start and End dates of closure

4.2 Partial or Full Lane Closures

- Duration requirements and mitigation procedures; Prior to any traffic disruption, whether this includes partial lane closure or full road closure the Developer Shall:
  - ✓ Provide three weeks written notification to the Town prior to partial or full closure
  - ✓ Provide a Traffic Accommodation Plan to the Town for review and commenting three Weeks in advance of partial or full closure

Beyond the general requirements for the Traffic Accommodation Plan, specific requirements will apply for Internal Subdivision Roads and Offsite roads separately as outlined below in the respective sections.

4.3 Access / Haul Route / Information Stage

A detailed map indicating the access/haul route to be used by the suppliers, contractors and other agents during construction is required to be submitted to the Town for approval.

Location of informational/directional signage, route arrows and road patterns and all other pertinent information that will be needed to satisfy the Town that the access/haul routes are limited and maintained to cause the least amount of disturbance to the adjacent landowners. Information signs are required at every access point to the subdivision and shall conform to Town standards.

The Developer is responsible to maintain the directional/informational signage until assumption at Final Acceptance Certification (FAC) by the Infrastructure, Operations and Development Services Department or otherwise directed by the Town.

4.4 Offsite Roads

Offsite Roads Offsite roads are roads outside of the proposed subdivision plan. These roads are usually existing road that provide access to the subdivision boundary. Upgrade to these roads is triggered by the development and improvements to these roads will require a Traffic Accommodation Plan. This plan will be required to be submitted prior to the issuance of the Development Agreement.

4.5 Internal Subdivision Roads

Internal subdivision roads are roads created as part of a subdivision. The roads are usually new and provide access to subdivision lots and amenities. Due to the timeline of these roads being constructed, the number of affected residents during construction will be negligible. As part of the Top Lift request procedure to Engineering Services, the submission of a Traffic Accommodation Plan will be required prior to the placement of oil-tack coat.

4.6 Emergency Vehicle Access

Emergency vehicle access to the project site will be maintained at all times throughout the life of the project. The contractor will be responsible to remove snow and ice as required to ensure that emergency access is maintained (including installed Siamese connections (where applicable) and hydrants). In the case of small sites (e.g. 4 or 6-plex a rigid fence is to erected around the project site, such access to ensure that hydrants remain unobstructed to emergency vehicles and personnel throughout the construction.

5.0 Stockpiling of Materials and Stripping and Grading

All stripped and graded areas including road ROW, PULs, MRs, ERs, existing lots, and newly created lots shall be seeded or treated within 45 calendar days of completion of stripping and grading. Within 45 calendar days of stock piling of materials, if no substantial relevant work has been carried out, the Town reserves the right to treat and/or seed the stockpile and/or graded untreated areas utilizing the securities held by the Town. During site preparation and/or construction of roads and buildings, care shall be taken to mitigate potential impact from erosion and sedimentation. Prior to undertaking any site preparation, the developer of the works shall submit to the Town a stripping and Grading Application as per *Section 3.1.12 Stripping and Grading Plan* in the Town's Engineering Standards and Construction Standards Manual.

Management Plan must include:

- Water source supply for stripping and grading
- Noise attenuation and source control
- Procedures for monitoring and maintaining the erosion and sedimentation controls, including methods of removing and disposing of sediment from any sediment traps
- Details of contingency plan for failure of control elements during extreme runoff events.
- When stripping areas with weed infestations, stockpile soils separately and document locations
- Caution must be taken to avoid or minimize degradation and damage during and following construction to riparian lands as well as wetlands and must be in accordance with municipal and provincial regulations

6.0 Weed Management and Plantings Control

All noxious and restricted weeds prior to going to seed. This operation must be done repeated during the growing season. This will include stockpiled soils, stripped lands. and sensitive areas. The Developer shall identify weed control options that will be used, weed control timelines and what contractor will be responsible for weed control during development. The weed control timelines must identify how the weed control options will be carried out from month to month and weekly during growing season. Weed management plans must cover areas that are impacted by stormwater, water features, and stormwater infrastructure. The Town promotes drought tolerant varieties when you're planning for large or small areas. These varieties tend to live longer and have a higher survival rate, in turn fighting diseases and weed growth in disturbed areas such as tree wells and flower beds. There are several varieties of trees, shrubs, and even perennials that are cost comparable to ornamental cultivars and will thrive in the windswept grass land/parkland settings within the town boundaries.

7.0 Stockpiling and/or Removal of Topsoil

Stockpiling and/or removal of topsoil relating to municipal property without prior written approval from the Town, may not be removed from Town controlled property including Municipal Reserves and/or Environmental Reserves and used elsewhere by a developer. Permission from the Town is required for the stockpiling of topsoil on unused road allowances. Under a Development Agreement, the developer is responsible for the control of weeds and the cutting of grass along the newly constructed roads until issuance of the Final Acceptance Certificate by the Town. Permission from Municipal Lands is required for the stockpiling of topsoil or any other material/items on Municipal Reserves including construction equipment. If it is deemed a sensitive area, at the discretion of Infrastructure and Development Services permission may be required. Environmental Reserves shall remain in their natural state, shall not be impacted by construction, or be subjected to any surface disturbance in any manner without prior permission.

8.0 Topsoil Management Plan

Reference: City of Edmonton Topsoil Specification Update 2017 Section 02910 – Topsoil Specification Section 02910

This section will set out the range of measurable physical and chemical properties for acceptable topsoil applications in the installation of parks, playgrounds, school sites, standard sports field for school sites, greenways, public utility lots, premier sports fields (irrigation and with and without subdrainage), roads boulevards and medians, urban hardscape planting beds, ornamental shrub beds, urban agriculture areas, naturalization zones and low-impact development (LID).

The Topsoil Specification is applicable for development that occurs on Town owned land. The intent of the Topsoil Specification is to guide the use of native topsoil from the project site if it is available and suitable.

Required Sampling and Analysis Submittals:

The Contractor shall guarantee that the topsoil submitted for laboratory testing, as recommended by the laboratory or Qualified Professional, is a representative sample taken from the topsoil or stockpile that will be delivered to the site.

The analysis report will include the source and sample location(s) and include but not limited to: soil texture; percentage of sand, silt and clay; total soluble salts (electrical conductivity (EC)); sodicity (sodium absorption ratio (SAR)); soil pH (saturated paste) value; saturation percentage of soil; soluble ions (Ca, Mg, K, Cl, SO4, Na); total organic carbon and total nitrogen; total Kjeldahl nitrogen; percentage of organic matter; calcium carbonate equivalent; available nitrogen (N), phosphorus (P), potassium (K) soil nutrients: total phosphorus, as required. Additional analyses may include: soil pH (soil:water; CaCl2); cation exchange capacity; and saturated hydraulic conductivity. The Town may request the analysis report at any time for review.

Recommendations by a Qualified Professional to amend the topsoil through the admixture of other organic and non-organic topsoil amendments. A Qualified Professional will clearly outline the type and quantity of topsoil amendment(s), and the application procedure to be used. The Town may request a copy of the recommendations at any time for review.

Where imported topsoil type is to be used, the bidding Contractor shall test, or have the topsoil supplier test, the proposed topsoil type. Failure to test and provide appropriate documentation of test results may be considered grounds for rejection of a proposed topsoil type and may result in the removal of rejected material at the Contractor's expense.

Schedule for Placement to be included, conditions may include:

- Wherever practical, topsoil shall be transferred directly to placement.
- Do not place and spread topsoil until the Consultant has approved the subgrade scarification.
- Do not place topsoil when either topsoil or subgrade is frozen, excessively wet, extremely dry, or in a condition inhibiting proper grading, cultivation, or compaction or otherwise in a condition detrimental to the work or topsoil integrity, as determined by the Qualified Professional.
- Place topsoil in dry weather on loose, friable, and graded subgrade surface.
- Subgrade scarification is to occur after the subgrade is finalized and inspection.
- Prepare subgrade for topsoil placement by
  - ✓ Eliminating uneven areas and low spots.
  - ✓ Remove all debris, roots, branches, and stones more than 50 mm in size.
  - ✓ Scarify surface to depth of 150 mm where topsoil is scheduled. Scarify in areas where equipment used for hauling and spreading topsoil has compacted subgrade.
- For topsoil depths greater than 300 mm, place topsoil at no greater than 150 mm lifts and compact with appropriate weighted landscape roller where applicable.
- Landscape rollers are not recommended for naturalization areas as microtopography is recommended.
- Mechanical compactors including plate compactors are not permitted.
- Placed topsoil shall be allowed to settle or shall be lightly compacted such that it is firm against deep footprints prior to planting, seeding, or sodding. Compaction shall not be more than necessary to meet this requirement.
- Topsoil shall be placed and spread with appropriate low impact equipment and in a manner that does not adversely affect its structure.
- Remove roots, weeds, rocks, and foreign material while spreading.
- Manually spread topsoil close to existing plant life and infrastructure to prevent damage.
- Rake the topsoil to obtain even surface and remove rocks and other foreign material greater than 50 mm in diameter.
- A Qualified Professional is to inspect and approve placed topsoil and finish grades prior to planting, seeding and/or sodding.
- Topsoil amendments to be applied after topsoil placement will be done based on the recommendations of a Qualified Professional based on the topsoil analysis report to achieve the topsoil type parameters and upon approval by the Town Landscape Technician.
- Clean up, immediately, any soil or debris spilled onto roads, walkways, and other finished surfaces. Keep site clean and tidy always.
- Excess topsoil shall be either removed from site or spread on site if approved by the Qualified Professional.

Example Development Fees Breakdown

Development Details	
Development Size:	6 ha
MR Size (10%):	0.6 ha
Roadway Area (25%):	1.5 ha
Residential Lots:	50

** Bareland development with existing Area Structure Plan Approved

Subdivision, Land Use & Servicing Phase	
Item	**Applicable Fee**
Pre-Application Meeting	$ -
Land Use Designation	
Flat Fee	$ 2,325.00
Variable Fee *$100 per hectare*	$ 600.00
Subdivision Application	
Minimum Charge *$1,500 for a maximum of 2 Lots*	$ 1,500.00
Additional Charge *$175 for all additional lots*	$ 8,400.00
Subdivision Endorsement *$75 per lot, minimum charge of $350*	$ 3,750.00
Stormwater Management Review	$ 1,000.00
Development Agreement/Subdivision Agreement Preparation	$ 1,750.00
Development Securities	100% of Improvement Costs
Subtotal	***$ 19,325.00***

Off-Site Levies	
Item	**Applicable Fee**
Northwest Development Area (areas with highest levy fees) *Development Size N.I.C. MR Areas (5.4 ha) at $168,278/ha*	
Development Agreement Signing (30% of Total)	$ 272,610.36
CCC Application or 2 Years (30% of Total)	$ 272,610.36
FAC Application or 3 Years (40% of Total)	$ 363,480.48
Subtotal	***$ 908,701.20***

Municipal Improvement Inspections	
Item	**Applicable Fee**
CCC Inspection *2 Inspections included at no charge. This could be a pre/post inspection for all items or could be one inspection for one scope and one inspection for another scope. Additional inspections charged at $150 per hour*	$ -
Development Permit Securities Returned (CCC Stage)	90% of Improvement Costs
FAC Inspection *2 Inspections included at no charge. This could be a pre/post inspection for all items or could be one inspection for one scope and one inspection for another scope. Additional inspections charged at $150 per hour*	$ -
Development Permit Securities Returned (FAC Stage)	10% of Improvement Costs
Subtotal	***$ -***

Disclaimer:
This example is for information purposes only and is based on the criteria provided within and certain assumptions have been made that cannot be guaranteed for all applications. Items such as extensions, changes, outside expertise, additional inspections, or other unforseen circumstances have not been included. The costs detailed here are based upon the Town of Strathmore Fees Bylaw 21-30 and are subject to change from time to time.