



THE CITY OF CALGARY

Design Guidelines

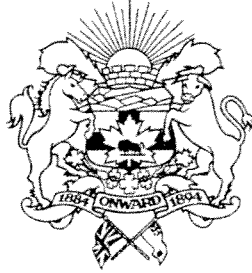
for

Development Permits;

Development Site Servicing Plans and

Waste & Recycling Services for Commercial/Industrial
Applications

February 2008



Design Guidelines
for
Development Permits;
Development Site Servicing Plans;
Waste & Recycling Services for Commercial/Industrial
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Foreword

The "Design Guidelines for Development Permits; Development Site Servicing Plans and Waste & Recycling Services for Commercial / Industrial Applications" is intended to provide information to architects, engineers, contractors and developers who require a knowledge of the design requirements for the Development Permits ; Development Site Servicing Plans and Waste & Recycling Services Plans

It is important to recognize that Development Site Servicing Plan approval does not constitute development approval. Clearance by City of Calgary reviewers is only one requirement within the overall Development Permits and as such the approval of the Development Site Servicing Plans and Waste & Recycling Services Plans must not be construed as a clearance to commence work on a project. Final approval and Building Permit issuance will be given by Development & Building Approvals.

The manual does not attempt to set rigid solutions to particular design problems but rather provides a guide to the City of Calgary's design requirements by indicating the business unit standards which will apply. Where questionable or complicated design situations arise, engineering judgment should prevail and it is the responsibility of the applicant to confirm the applicability of any or all of the business unit conditions with the appropriate City staff. The manual should be used in conjunction with the various Engineering and City of Calgary Standard Specifications for roads, water, sanitary and storm infrastructure construction.

The manual incorporates Metric Standards. When designing in metric the following point must be remembered:

All elevations in metric are GEODETIC DATUM. When an elevation is converted from Imperial datum to Metric datum 35.56 feet must be added to the Imperial elevation (City Datum) prior to multiplying by 0.3048 to convert to the Metric elevation (Geodetic Datum).

Where reference is made to City By-laws, policies, etc. the most current version during the development process is to be used.

It is our hope that this manual will become a useful tool to all architects, engineers, and developers involved in the construction industry.

Preface

Reference is made to various Divisions of the Utilities and Environmental Protection and Planning & Building Departments throughout the “Design Guidelines for Development Permits, Development Site Servicing Plans and Waste & Recycling Services for Commercial / Industrial Applications”. To familiarize the developer with the various Divisions, a list is provided below.

Utilities & Environmental Protection

Environmental & Safety Management
Roads
Waste & Recycling Services
Water Resources
Water Services

Planning & Building Department

Development & Building Approvals
Urban Development Division

Asset Management – Capital Works

Building Grades

Asset Management – Capital Works Department

Building Grades:

Supervisor of Building Grades	268-5072
Senior Building Grades Technician	268-5795
Site Development Clerk	268-5703

Utilities and Environmental Protection Department

Water Resources:

Reception	268-1544
Sanitary, Storm, Drainage, and Water Infrastructure: Team Leader – Development Approvals	268-1786
Design and Development Specialist Southeast	268-2996
Design and Development Specialist North	268-5697
Design and Development Specialist Southwest	268-5184

Other Departments:

Urban Development	268-3204
Development and Building Approvals	268-5311
Plumbing Services	268-5387
Fire Prevention Bureau (Hydrant Approval)	268-5378
Water Services Estimators	268-5006

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1 Development Permits

1.1 Circulation System

The Development Permits is currently managed by the Corporate Planning Applications Group (CPAG). There are four Business Units that form CPAG, they are Development and Building Approvals, Urban Development, Transportation Planning and Parks. Urban Development is the coordinating Business Unit for the engineering-oriented Business Units within the City of Calgary. Urban Development reviews and comments on Development Permit applications ranging from single family, infill development to major commercial/industrial sites. Depending on the scope of the application, Urban Development staff will either circulate the application for comment or review the proposal in-house.

The requirements for Development Permit (DP) drawings are listed on the Complete Application Requirement List (CARL) published by Development and Building Approvals and vary by application type. CARL lists are available via the City of Calgary webpage and in hard copy on the 3rd floor of the Municipal Building.

For reference dealing with Encroachments see Appendix I.

1.2 Geotechnical Report Requirements for Developments

1.2.1 Foreword

The following are the City's requirements concerning subdivision and/or development (as defined below) of land for which, in the opinion of the Manager, Urban Development, a Geotechnical Report is required.

In addition to the requirements herein there are other City policies concerning land use, reserve land and open space that shall also be considered.

1.2.2 Definitions

- a) In the requirements for geotechnical reports, geotechnical engineering consultants are required to make various certifications with respect to the geotechnical properties of sites under development. The following definition shall apply wherever the words "certify" or "certification" are used in the Geotechnical Report Requirements.

- “A professional engineer’s certification of conditions comprises a declaration of his professional judgment. It does not constitute a warranty or guarantee, expressed or implied, nor does it relieve any other party of his responsibility to abide by contract documents, applicable codes, standards, regulations or ordinances”.
- b) “development” (as defined in Land Use Bylaw No. 2P80 – Refer to most current document -) means:
- An excavation or stockpile, and the creation of either of them;
 - A building or an addition to, or replacement or repair of, a building and the construction or placing in, on, over or under land of any of them.
 - A change of use of land or a building or an act done in relation to land or a building that results in, or is likely to result in, a change in the use of the land or building; or
 - A change in the intensity of use of land or a building that results in or is likely to result in a change in the intensity of use of the land or building.
- c) “factor-of-safety (Fs)” means:
- The ration of the sum of the resisting moments to the sum of the overturning moments.
- (Note: A factor-of-safety of 1.0 indicates equilibrium of the moments, a factor-of-safety of 1.5 indicates the resisting moments are 50% greater than the overturning moments.)
- d) “subdivision” means:
- The division of a parcel of land by an instrument in accordance with the Land Titles Act for the purpose of effecting a subdivision.

1.2.3 Criteria

Prior to approval of a development permit for any individual site, the developer shall submit a Geotechnical Design Report if required in the opinion of the Manager, Urban Development, acting reasonably.

The Geotechnical Design Report shall set out details and specifications for the development as they relate to geotechnical issues, including but not limited to the following:

The effect upon the site of previous land uses, if any

- Earthworks
- Grading
- Compaction
- Subsurface drainage
- Erosion control
- Slope stability of the site in its natural undisturbed condition and, if applicable, re-graded condition
- Foundation design requirements

Based upon the recommendations of the Geotechnical Design Report, a Development and Geotechnical Covenant to be registered on the title of the affected property prior to the release of the Development Permit may be required.

1.3 Requirements of Geotechnical Reports for Slope Stability

1.3.1 General

A Geotechnical Report for Slope Stability, prepared by a qualified geotechnical engineer, is required for all sites where existing or final design slopes exceed 15% or where, in the opinion of the Manager, Urban Development, acting reasonable, slope stability is a concern.

Geotechnical Report requirements to be applied, relative to the intended land use, shall include the following:

- No development shall occur if the Factor of Safety (Fs) against slope failure is less than 1.5.
- Lands with Fs equal to or greater than 1.5 will be acceptable for development from a slope stability point of view.
- If the Fs is less than 1.5, subject to the approval of the appropriate approving authority, the slope may be modified using remedial measures which are to the satisfaction of the Manager, Urban Development, to increase the Fs to a minimum of 1.5, thus increasing the area of developability.

It is the responsibility of the developer and/or builder to ensure that all development conditions identified in the Geotechnical Report for Slope Stability, such as drainage, fill and slope configuration, are complied with.

1.3.2 Geotechnical Requirements

1.3.2.1 Minimum Scope of Slope Stability Study

The setback limit, based on a minimum factor of safety of 1.5, shall be shown on the final development plan.

Surface and subsurface drainage shall be addressed for areas close to slope crest.

The developer shall also retain a geotechnical engineer to review the final drawings and confirm in writing that the setback limit and drainage layout are in accordance with the recommendations made in the geotechnical report. This document shall be required before construction.

The developer shall be required to retain the Geotechnical Engineer to review the as-built slopes and drainage systems, after completion of construction, The Geotechnical Engineer shall certify in writing that these comply with the recommendations made in the geotechnical report.

Possible modifications in rear of lot areas (i.e. due to local landscaping) shall be subject to review by The City of Calgary. If the City considers changes to be potentially significant, then the property owner shall be required to retain a Geotechnical Engineer to prepare a site specific geotechnical report.

1.3.2.2 Minimum Report Requirements

The work undertaken for the report shall implement such methods as detailed modeling of stability or seepage conditions. The basis for the presented conclusions shall be clearly defined and the selected method of analysis shall be adequate relative to the ground conditions, project type and size, and public interest.

The Geotechnical Report for Slope Stability shall contain the following information as a minimum:

- a) Property lines;
- b) Stability limit, established with respect to most probable adverse ground water and loading conditions;
- c) Top of embankment or escarpment;
- d) Toe of slope;
- e) Where development at the toe of slope is proposed, the report is to address the effect and extent of slope failure on the subject land and the adjacent properties, and the protection of same;
- f) Erosion control and other mitigation measures, such as drainage works, grading, etc.

In addition to the above, it may be required, in specific cases to evaluate in detail:

- g) Building locations and foundation design; and
- h) The effect of surcharges due to proposed structures, retaining walls and future site grading.

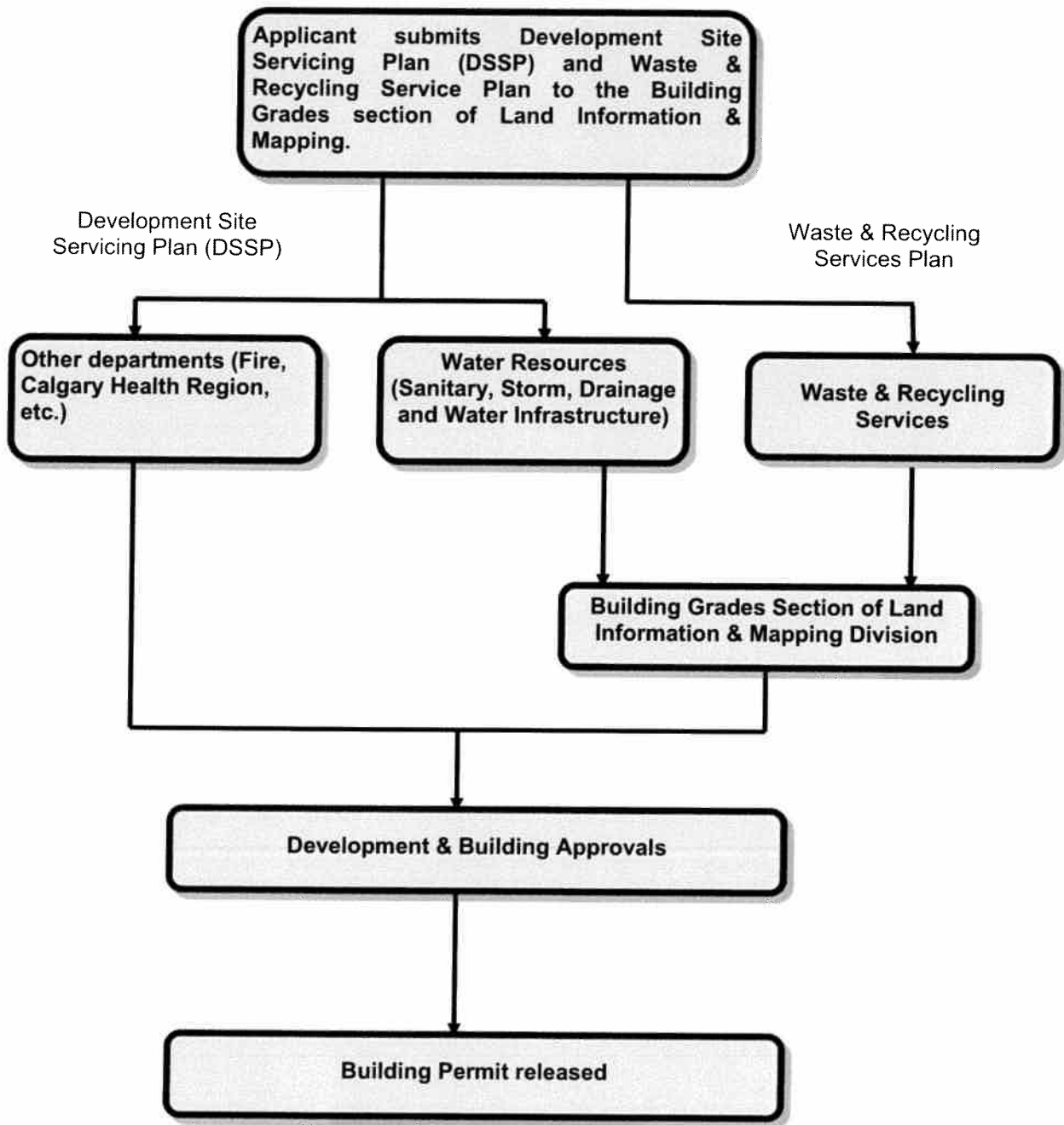
Based upon the recommendations of the Geotechnical Report for Slope Stability, the Manager, Urban Development may require a Development and Geotechnical Covenant to be registered on the title of the affected property prior to release of the Development Permit.

1.3.2.3 Verification

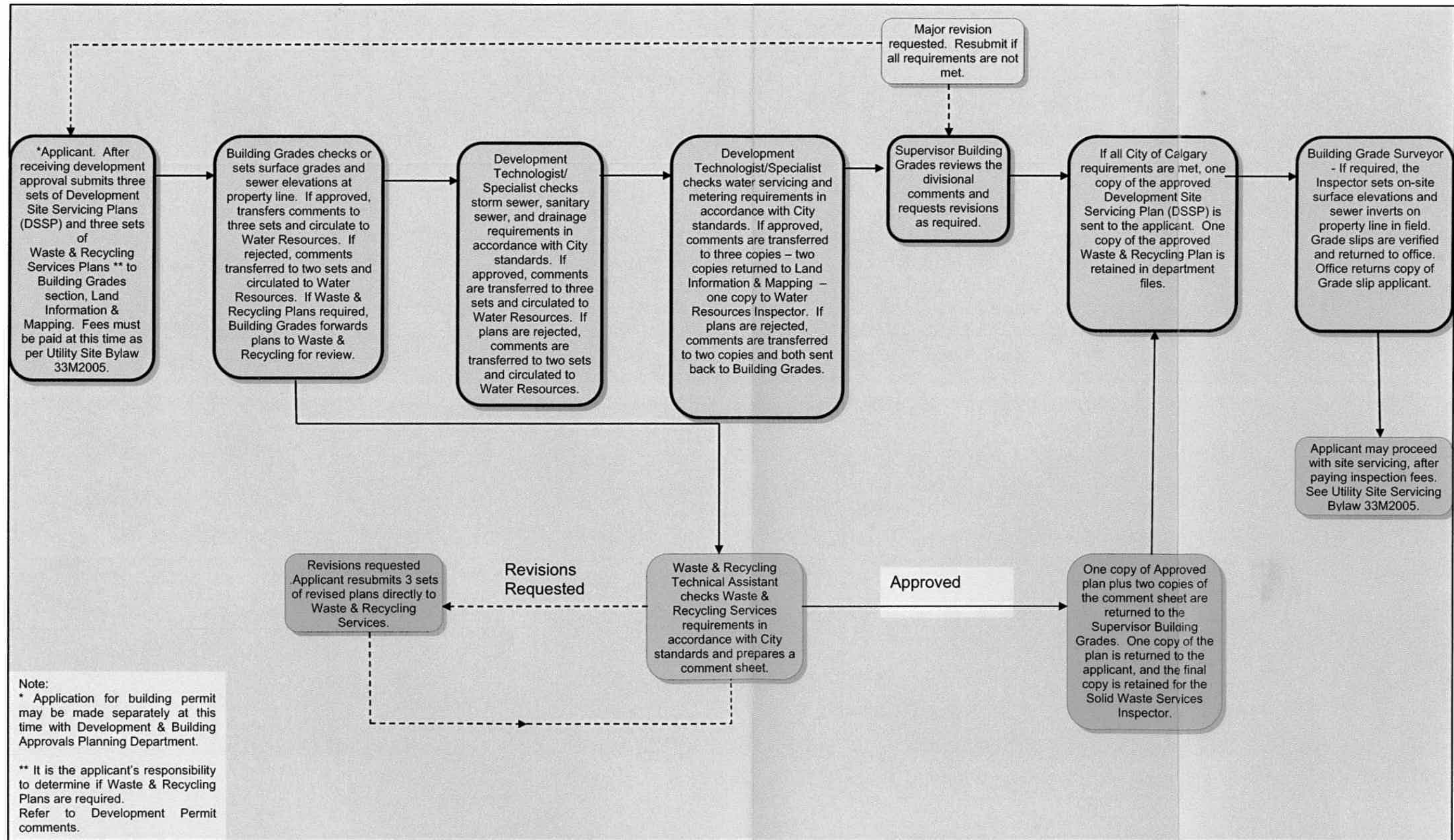
During and after construction, geotechnical inspections shall be conducted by a private Geotechnical Engineer to ensure that construction procedures are conducted in accordance with design recommendations.

2 Development Site Servicing Plan Guidelines

2.1 Role of City of Calgary in the Development Site Servicing Plans



2.2 Flow Chart for Circulation of Development Site Servicing Plan and Waste & Recycling Services Plan



2.3 Circulation Process

2.3.1 Purpose

The Building Permit approval system within the City of Calgary requires a review by the Utilities and Environmental Protection Department, of the Development Site Servicing Plan (DSSP) for all projects that require new or altered, sewer, sanitary, storm, and drainage or water servicing. The prime reason for this review is to ensure that a new or altered utility service systems be designed and installed to meet the requirements of all applicable codes and design standards. As the locations and elevations of both the buildings and the utilities are critical to the success and function of the project, it is imperative that approval from UEP business units be obtained prior to the release of permits.

2.3.2 Approvals

Approval of the project's Development Site Servicing Plan is only one element of the Building Permit approval process. This approval must not be construed as a clearance to commence work on a project. The final approval and Building Permit is issued by the Development & Building Approvals Department. (See flow charts at the start of this section for details)

2.4 Circulation Requirements

2.4.1 General Review

The Developer must have an approved Development Permit (DP) prior to submission of the Development Site Servicing Plan. Development Site Servicing Plans are to be submitted to the City of Calgary, Building Grades Section. The Building Grades Section will circulate the plan to specialists in Water Resources and Waste & Recycling Services for their review and comment on the plans, approving or rejecting the application.

The specialist may at their discretion, request any additional information to be supplied which may be necessary to check the proposed work. The amount of information required will depend on the complexity of the project and the area topography. All plans should be legible and drawn to a suitable scale to qualify for circulation.

ALL PLANS SHALL BE THOROUGHLY CHECKED BY THE DEVELOPER'S CONSULTANT PRIOR TO SUBMISSION TO THE CITY. A HIGH LEVEL OF QUALITY ASSURANCE AND CONTROL BY THE CONSULTANT IS IMPORTANT TO THE CIRCULATION PROCESS TO HELP REDUCE/MINIMIZE CIRCULATION REVIEW TIME AND CHANGES.

2.4.2 General Requirements

- a) All catch basins, manholes, piping, hydrants, valves and water meters must be to City of Calgary standards and all elevations should be geodetic datum. All buildings, utilities, valves, poles, piles, etc. should be located on plan by dimensional reference to property lines.
- b) Show any existing or proposed driveways.
- c) Plans should distinguish the boundary clearly between proposed and any existing development. If the proposal is an extension of existing development, then the utilities servicing the existing development should be shown on the plan.
- d) Any proposed sewer and water connections on public property (including public easements and public utility right-of-ways) will be installed by The City at the developer's expense or by an indemnified contractor. Note: The City will not install service connections across shallow utility easements.
- e) Additional data may be required depending on the complexity of the project.
- f) Three (3) development site servicing plans must be submitted.
- g) Three (3) Waste and Recycling Services drawings (showing location and details) must be submitted at the same time for multifamily sites and large commercial sites where recycling drop-off bins will be provided. See the Waste and Recycling Services Web Site for further details. (Web address at back of manual)
- h) Plans should be rolled, not folded.
- i) Plans should not be bound by bindary tape, stapled only.
- j) Maximum size of drawing not to exceed 0.600 m x 0.900 m.
- k) Ensure line styles and line weights are as per City of Calgary specifications.
- l) Refer to Appendix II for "Utility Bylaw 33M2005" for plan review fees and inspection procedures and fees in association with commercial sites.
- m) All development site servicing plans must conform to Drainage Bylaw 37M2005, Lot Grading Bylaw 32M2004, Sewer Service Bylaw 24M96, City of Calgary "Stormwater Management & Design Manual", "Standard Specifications Sewer Construction", "Standard Specifications Waterworks Construction", and "Guidelines for Erosion & Sediment Control" (latest editions).
- n) When making an application for Building Permit on multi-building sites, an original mechanical site circulation slip is required with a current date shown on the slip. The applicant must bring to the Building Grades counter, a copy of the building foot print mechanical plan, so that it can be determined if the building permit drawings match the submitted or approved site servicing drawings.
- o) When submitting for large sites such as: University, S.A.I.T., Mount Royal College, Airport, Hospital Sites, and Shopping Centers, please include on the site servicing plan a clear legible vicinity map.
- p) All revisions shall be resubmitted and shall be fully noted in the "Revisions" column in the title block or the drawing will be rejected
- q) Plans should indicate overall size of the site in hectares or the working / construction area, if part of a larger site in hectares (i.e. shopping centres or large commercial sites).

- r) Linear metres of pipe should be shown for each utility: water, sanitary, storm services as a note in the notes column
- s) On all resubmissions, the previous comments must be shown or the drawings will not be accepted for circulation.

2.4.3 Specific Requirements

- a) Name and type of development
- b) Complete legal description (section, township, range) and municipal address
- c) Name of consultant (Engineer and Architect) and an original signed professional engineer's stamp and legible permit to practice number
- d) North arrow – Located at the top right hand section of the drawing and pointing to the top or left hand side of the drawing.
- e) Scale of plan - metric as required by conversion to SI.
- f) Size of parcel (ha)
- g) Full dimensional information – property line lengths, building locations, utility connection locations at the point of crossing property line, etc
- h) Location and dimensions of all parking areas, large grassed or gravelled areas, and future development where applicable
- i) Abutting streets, avenues, lanes, sidewalks, and curbs, both existing and proposed shown and labelled.
- j) Bylawed road widening setbacks and corner cuts, dimensioned and labeled.
- k) All utility and access rights-of-way, both public and private, dimensioned and labelled as to purpose of right-of-way.
- l) Location of all existing and proposed shallow and deep utilities (mains and services), both public and private, dimensioned and labelled, including on-site and off-site with a minimum of 2.0 metres of separation, onsite, between shallow utilities and deep utilities.
- m) Location of hydrants; power, light and signed poles; electric and telephone transmission boxes; retaining walls, catch basins and manholes; and other physical features both existing and proposed on the site, and adjoining streets and rights-of-way shown and labelled.
- n) Trees, landscaping, fences, berms, swales, slopes and other physical features which could affect utility servicing both on the site and adjoining boulevards.
- o) Major grade changes and ramps
- p) Ground floor elevations and property line corner elevations. All elevations shall be given in Metres (Geodetic), and shall be determined using the following formula:
(Elevation (City datum, feet) + 35.56 feet) x 0.3048 = Elevation in Metres (Geodetic)
- q) All utilities must be referenced to buildings, property lines and other utilities. The use of the term "minimum" following dimensions does not give an accurate location of utilities and it will not be accepted.

- r) Stormwater features such as storm ponds, trap lows, ICDs, oil/grit separators, Best management Practices (BMPs), or Low Impact Development Practices.

2.4.4 Requirements for sewers review:

- a) Pipe size and specification - type, class, etc.
- b) Pipe bedding
- c) Pipe gradient/slope
- d) Pipe lengths between manholes and catch basins
- e) Pipe inverts at manholes and catch basins
- f) Pipe capacity for large developments
- g) Location of sanitary test manhole if applicable, (invert drop through MH)
- h) ICDs
- i) Sewer and storm lines to be fully dimensioned to property lines, building, and other utilities including horizontal and vertical clearances at utility crossings
- j) Where sanitary servicing is shared between parcels, show all access easements

2.4.5 Requirements for Surface Drainage and Depth of Sewers:

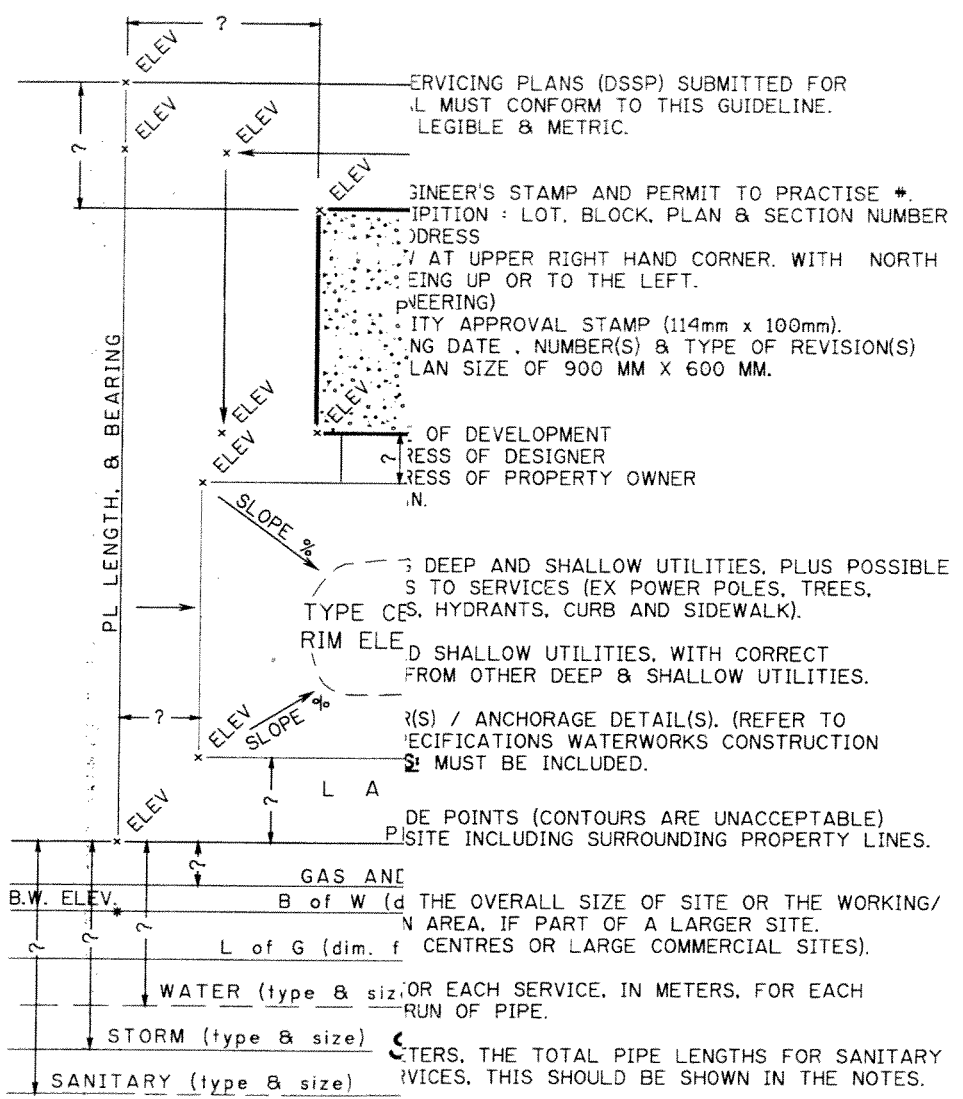
- a) Surface grades along property boundaries and existing and proposed grades on site
- b) Manhole and catch basin rim elevations
- c) Drainage pattern indicated by boundary lines and arrows
- d) Any structures to be built indicated (no trees, shrubs, permanent construction or unauthorized change of grade permitted in easements or R.O.W.'s)
- e) Approved Storm Water Management Report for sites 2 hectares and larger
- f) Storm drainage calculations including discharge to minor systems, ponding and catchment boundaries
- g) Location and elevation of Emergency overland spill routes

2.4.6 Requirements for Water Review:

- a) All pipe sizes & material of pipe
- b) Location of on-site water meter (indicated by M)
- c) Approved stamped site plan by the Fire Prevention Bureau
- d) Location of piles, trees, electrical boxes etc.
- e) The total residential or commercial unit count, use and square footage
- f) Water services to be fully dimensioned to property lines, building, and other utilities
- g) Locations of all water and sewer mains and services, valves and hydrants shall be shown and dimensioned in relation to property lines and buildings.
- h) Complete water meter detail including all internal pipes at the meter, pressure reducing valves, backflow prevention devices and valves
- i) Pipe support details

- j) Total water flow rate required to service the development for domestic use and fire protection

2.5 Building Grades



ENGINEERING PLANS (DSSP) SUBMITTED FOR PERMIT MUST CONFORM TO THIS GUIDELINE. ALL DIMENSIONS MUST BE LEGIBLE & METRIC.

ENGINEER'S STAMP AND PERMIT TO PRACTISE #. LOCATION: LOT, BLOCK, PLAN & SECTION NUMBER. ADDRESS. STAMP AT UPPER RIGHT HAND CORNER. WITH NORTH ARROW POINTING UP OR TO THE LEFT. (SEE ENGINEERING) CITY APPROVAL STAMP (114mm x 100mm). STAMPING DATE, NUMBER(S) & TYPE OF REVISION(S). PLAN SIZE OF 900 MM X 600 MM.

ADDRESS OF DEVELOPMENT
ADDRESS OF DESIGNER
ADDRESS OF PROPERTY OWNER
DATE

3 DEEP AND SHALLOW UTILITIES, PLUS POSSIBLE SERVICES TO SERVICES (EX POWER POLES, TREES, TYPE CES, HYDRANTS, CURB AND SIDEWALK).

DEEP AND SHALLOW UTILITIES, WITH CORRECT RIM ELEVATION FROM OTHER DEEP & SHALLOW UTILITIES.

ANCHORAGE(S) / ANCHORAGE DETAIL(S). (REFER TO SPECIFICATIONS WATERWORKS CONSTRUCTION MANUAL) MUST BE INCLUDED.

DEVELOPMENT POINTS (CONTOURS ARE UNACCEPTABLE) MUST BE SHOWN ON SITE INCLUDING SURROUNDING PROPERTY LINES.

GAS AND WATER B of W (d) THE OVERALL SIZE OF SITE OR THE WORKING/INSTALLATION AREA, IF PART OF A LARGER SITE. L of G (dim. f) CENTRES OR LARGE COMMERCIAL SITES).

WATER (type & size) OR EACH SERVICE, IN METERS, FOR EACH RUN OF PIPE.

STORM (type & size) METERS, THE TOTAL PIPE LENGTHS FOR SANITARY SERVICES, THIS SHOULD BE SHOWN IN THE NOTES.

PERMIT CALCULATIONS (SPECIFIED ON PAGE B-2 & C OF STORM WATER MANAGEMENT & DESIGN MANUAL).

INSTALLATION OF PILES IN RELATION TO INCOMING WATER MUST MEET DESIGN SPECIFICATIONS).

USE CORRECT MARKING.

2.7 Development Site Servicing Plan Requirements

- a) The Building Grade Section shall check or set property line grade elevations where applicable and shall set invert elevations at property line (or setback line) for all applicable sewer sanitary and storm services.
- b) The Building Grade Supervisor is not responsible for grades or inverts for connections being made in subdivisions which are not under City control (subdivisions for which Final Acceptance Certificates have not been issued). This information must be obtained from the consultant responsible for the subdivision design.
- c) Grade slips will be issued from the Building Grades Area shortly after plans have completed the Engineering Circulation and have been stamped "Approved". In no case shall City Surveyors set grades for a project until approval has been granted and the Grade Fee has been paid (where applicable).

2.7.1 Detailed Grade Calculation

2.7.1.1 Sanitary Sewer

- a) Determine the invert elevation of a proposed connection at property line from block profile information. Determine invert elevation of the main. Add to this, the difference between the connection size and the main size (commonly called matching crowns of pipe) to determine service to main connection invert. Determine the distance from the main to property line and calculate the rise in elevation required from the minimum slope table (page 27). Add this to the main connection invert and then add another 150 millimetres (in most cases) to allow for possible datum error.
- b) After arriving at the invert elevation at property line, check to see if any other utilities are likely to cause a conflict by being at approximately the same elevation as the proposed connection.
- c) If other utilities do conflict, then always calculate a connection over top of conflicting utility. Remember that inverts are shown on profiles: therefore, add size of main plus pipe thickness to inverts shown and, as a precaution, add an extra 150 millimetres clearance.
- d) Some sanitary sewers require a test manhole. These are usually noted on the Development Site Servicing Plan circulation by the architect or by Water Resources. A minimum 150 millimetres drop is required through a test manhole and the manhole is usually set outside of the property line: therefore, an additional 150 millimetres to a maximum of 600 millimetres must be added onto an invert at property line in these cases.

2.7.1.2 Storm Sewer

Follow the same procedure as for sanitary sewer (Section 2.5.2.1).

2.7.1.3 Building Grades or Lot Grades

- a) If a curb or sidewalk exists in front of lot, then the 'building' or 'lot' grade is the elevation of curb or back of walk, plus a 2% slope rise to the property line. The existing curb or sidewalk elevation should be within 25 to 50 millimetres of the design elevation shown on block or sidewalk profiles.
- b) If the curb or sidewalk does not exist, then the design elevation of future curb must be calculated from block, sidewalk, or paper profiles, usually opposite the corners of a small lot or every 15.0 metres in the case of a large lot. To this top of curb elevation a figure must be added, calculated at 2% up, to arrive at property line elevation: therefore, the proposed distance from face of curb to property line must be known.
- c) Grades: In some cases, a setback grade is required. These are given where street widening is proposed. It is important to know whether the curb and walk remains on its existing line assignment or if it will be moved back. If the curb and walk are to be moved, it is usually back from existing and at the same elevation (except for major roads) The setback grade is given on the setback line 2% up from the design on profiles, or, in some cases, from existing.

2.7.1.4 Lane Grades

- a) Dished Lanes: From the lane or block profile, the centre line elevation is calculated. The property line elevation is higher depending on the width and cross section on the lane in a specific area. Dished lanes rise from centre line to edge at 2% for concrete and paved lanes and 4%, 6% and 8% for gravel lanes (depending on the area). (1975 standard 3.5%)
- b) Flat Lanes: Centre Line elevation is calculated, and to this, add 75 millimetres for property line elevation on a 6.1 metre wide lane and 150 millimetres for property line elevation on a 9.0 metre wide lane. Variations may arise where an odd width lane is encountered.
- c) Some existing flat lanes which are to be paved or poured concrete, will require the addition of 61 mm to the centre line elevation to obtain property line elevation for a 6.1 metre wide lane and 91mm in the case of a 9.1 meter wide lane.

Ensure lanes conform to City of Calgary "Standard Specifications Roads Construction" (latest edition).

2.8 Water Infrastructure

2.8.1 General

- a) Valves, fire hydrants and all other appurtenances shall conform to and be designed as per the current City of Calgary "Standard Specifications Waterworks Construction."
- b) Information and requirements for fire protection systems contained in codes other than this manual can be obtained by contacting the Building Services Section of the Building Regulations Division and the Fire Prevention Bureau.
- c) Backflow protection shall be provided in accordance with the following manuals:
 - CAN/CSA - B64.10 "Manual of the Selection and Installation of Backflow Prevention Devices" published by:

Canadian Standards Association (CSA)
178 Rexdale Boulevard
Toronto, ON M9W 1R3
Phone: 1.866.797.4272 or (416) 747-2661
Fax: (416) 747-4149
Web Address: <http://www.csa-international.org>

- Cross Connection Control Manual published by:

Western Canada Section AWWA
P.O. Box 1708
Cochrane, AB T4E 1B6
Phone: 1-877-283-2003 (283-2003 in Calgary) Fax: (403) 283-2007
Web Address: <http://www.wcsawwa.net/>

2.8.2 Extension of Water Mains

- a) Where extensions of City water mains form part of the development proposal, drawings may be required on a standard block profile format for approval by The City.
- b) Where there is no public water main adjacent to the proposed development and it is the opinion of Water Resources that it is required, the Developer, at their expense, shall:

- install all required water mains and appurtenances;
 - extend the water main along the total frontage and/or flankage of the proposed development; and
 - arrange for an Indemnification Agreement through Urban Development.
- c) Where there is no public water main adjacent to the proposed development and it is the opinion of Water Resources that a private potable water supply system may be used, a Deferred Services Agreement must be signed by the Developer. A permit is required from Alberta Environment at 403-297-7602 and testing of water quality is required by the Calgary Health Region at 403-943-8060.
- d) All work done by a Contractor in the City rights-of-way, must be made in writing and requires either a Subdivision Development Agreement or an Indemnification Agreement with The City prior to commencement of work.

2.8.3 Developing in a New Subdivision

In new subdivisions where The City has not granted final acceptance, the Developer, prior to installation of any service connections, must contact the private land developer.

2.8.4 Crossing Water Feeder mains

If a new water service pipe crosses a feeder main which is 500 mm and larger, hydrovacing is required to determine the alignment, elevation, pipe diameter, pipe support, backfill and clearances particularly where excavation shall occur within 3.0m of the mentioned feeder main. A detail of this information is required on the Development Site Servicing Plan with respect to working in the proximity of this feeder main. Contact Water Resources Infrastructure Delivery at 268-5721 for approval, notification shut down periods, and tunnelling and augering options.

2.8.5 Service Marking

Private water services shall be installed to the property line and the location marked with a 2X4 vertically placed to the pipe invert and showing one (1) metre above ground level. The letter "W" shall be painted on the 2X4 to specify water.

2.8.6 Service Connections

2.8.6.1 Servicing

- a) A separate service connection to a public water main is required for each lot with distinct certificates of title.

- b) Water service pipes are not permitted to cross one property and enter into another or reside on any other premises as per the National Plumbing Code of Canada 2005 Section 2.1.2.4.
- c) Pipes are not permitted to extend from building to building on the same property except for an ancillary building. Refer to the National Plumbing Code of Canada 2005 Section 2.1.2.4.
- d) Each condominium building shall have separate service connections to the public watermain. Condominium units are serviced from a private water main within the building, similar to the servicing within an apartment building.
- e) In the case of a Bareland Condominium, separate service connections are made to a private water main. The private water main shall have a single connection to the public watermain, except where looping is required.
- f) In the case of a strata subdivision, - A strata is not the equivalent of a condominium. It is the description of volumetric space under section 86 of the Land Titles Act. A strata is used to subdivide the commercial portion of a mixed use building from the residential portion. The Commercial space and residential space shall each have a separate water and sewer from the main and may share a common meter room where city access is permitted. A strata requires a detailed and restrictive covenant agreement - each subdivided parcel must be individually serviced directly to the public water main. Where there is multiple strata developments, the building may have a single water service pipe off the public watermain. The water service pipe shall enter an exterior wall, directly into a mechanical room. Each subdivided parcel shall have their own separate valves and meter assemblies.
- g) Pre-servicing is not permitted unless there is a certainty of location of building (meter room), fire protection requirements, and service size.

2.8.6.2 Locations

Water service pipes must connect to the public water main at right angles.

2.8.7 Fire Protection & Hydrants

- a) All codes and regulations of the Fire Prevention Bureau and the Insurance Underwriters Organization must be complied with in designing the private water supply system.
- b) All piping and private fire hydrants must be shown on the Development Site Servicing Plan.

- c) A separate service connection is not permitted for private fire hydrants. Hydrants must be connected to a service pipe where there is a constant draw of water.
- d) Hydrant pumper ports shall face the carriageway and set to grade as per the Standard Specifications Waterworks Construction Drawing 453.1002.001.
- e) Hydrants shall be located a maximum distance of 2.0 meters from the curb or edge of asphalt carriageway as per the Fire Prevention Bureau requirements.
- f) The minimum separation between a hydrant and a Telus and cable pedestal, power pole, or street light standard shall be 2.5 meters.

The minimum separation between a hydrant and the edge of a transformer or pull box/junction terminal shall be 3.0 meters.

- g) The Developer must receive approval from the Fire Prevention Bureau for on-site hydrant requirements as per Alberta Building Code 1997, Section 3.2.5.5, and submit to Water Resources prior to approval of the Development Site Servicing Plan.
- h) The Developer shall request quotation and remit payment to Construction Services for replacement of old public fire hydrants to pumper-type.

2.8.8 Piping

2.8.8.1 Pipe Material

- a) Water service pipes 20 mm, 25 mm, 40 mm, and 50 mm in diameter are to be copper or PEX pipe (Cross-linked Polyethylene Pipe). See Standard Specifications Waterworks Construction Section 503.02.18.
- b) Water service pipes 100 mm, 150 mm, 200 mm, 250 mm, 300 mm, and 400 mm in diameter are to be ductile iron or PVC DR 18 AWWA C 900. See Standard Specifications Waterworks Construction, Sections 503.01.00.1, 503.02.03 and 503.02.04.
- c) All 100 mm and larger diameter service pipes passing through the exterior foundation wall or floor slab up to the master control valve shall be approved ductile iron or PVC pipe. Refer to Standard Specifications Waterworks Construction Drawing 453.1009.009pt2.
- d) Metallic water pipes and fittings c/w NBR (nitrile) gaskets are to be used on-site in areas contaminated or potentially contaminated with organic compounds (organic solvents or petroleum products). See Standard Specifications Waterworks Construction, Sections 504.05.01 and 503.02.12

2.8.8.2 Protection of Service Pipes and Public Water Mains

- a) On-site water service pipes shall be installed with a minimum cover of 2.7 metres below final grade in clay, and 3.3 metres when the strata is gravel. Refer to Standard Specifications Waterworks Construction Section 504.04.13.
- b) It is the responsibility of the developer to repair, at their expense, any damage to public water mains adjacent to their site during their construction. All repairs will be congruent with the current "Standard Specifications Waterworks Construction" manual.

2.8.8.3 Piping Support

- a) For buildings with deep foundation walls at or adjacent to the property line (exceeding the depth of the water invert), the developer shall provide adequate pipe support from the building to undisturbed soil within the public right-of-way. The details of this pipe support shall be shown on the Development Site Servicing Plan and approved by a Professional Engineer.
- b) The developer shall install the service pipe in conjunction with the support beam through the wall to a point 250 mm beyond the end of the support beam. The pipe may be supported with lean concrete placed between the pipe and the original undisturbed soil.

2.8.8.4 Arrangement of Piping

- a) Two (2) or more water service pipe connections are required to be looped on-site for multi-family sites (i.e. townhouses) with more than 60 units and for 80 or more high rise apartment-style residences. See Standard Specifications Waterworks Construction Drawing 453.1026.001.
- b) All dual water service pipes installed in a common trench shall have a separation of 1.3 metres.
- c) Water service pipes must cross public easements at right angles or as otherwise approved, but are not permitted to extend lengthways within the easement.
- d) A water service pipe, located between two buildings, must have a minimum distance of 6.0m from the exterior walls.
- e) The minimum horizontal separation between a water service pipe and other utilities and infrastructure shall be as follows:

	≤ 50 mm diameter water service pipe	≥ 100 mm diameter water service pipe
Foundation wall or piles which support a building	3.0 m	3.0 m
Foundation wall or piles extending vertically a minimum of 2 metres below the invert of the water pipe	2.0 m	2.0 m
Property line (≥ 150 mm diameter)	2.0 m	3.0 m
Storm or sanitary pipe	2.0 m	2.0 m
Storm pipe (< 150 mm diameter)	0.3 m (same trench)	
Shallow utility pipe	2.0 m	2.0 m
▪ Telus cable pedestal, power pole, or street light standard	2.5 m	2.5 m
▪ Edge of transformer or pull box/junction terminal	3.0 m	3.0 m
Catch basin	2.0 m	2.0 m

- f) Service valves shall be located on the approved line assignment as specified in "Appendix II-B" in the "Design Guidelines for Subdivision Servicing".
- g) On-site distribution systems shall have the appropriate number and location of valves to provide a separation between fire hydrants and to limit the number of dwelling units affected by a shutdown to a maximum of 60 units.
- h) Water services 50 mm and smaller are to be installed in the same trench as the sanitary sewer, except where prohibited by code (hospitals, chemical plants, etc.) and are to be shown in the same trench.
- i) It is the responsibility of the developer to ensure that the location for the water service pipe within the public right-of-way does not conflict with power poles, pole anchors, transformers, trees, catch basins, underground chambers or other facilities which may exist within the public right-of way. The City will not provide services where such obstructions exist.
- j) Location of piles in relation to the water service pipe must be shown on the Development Site Servicing Plan.
- k) Water service pipes shall be provided with a master control valve immediately where the pipe enters the building. All branched water supply shall be downstream of this valve. Refer to the Standard Specifications Waterworks Construction Drawing 453.1009.008 and 453.1009.009pt2.

2.8.8.5 Size and Capacity

- a) Water service pipes with private fire hydrants shall not be less than 150 mm in diameter, and no leg shall be greater than 180 meters in length to the fire hydrant otherwise it is required to be looped.
- b) A water service pipe shall be sized according to the peak demand flow and shall not be less than 3/4 inch size. See the National Plumbing Code of Canada 2005 Section 2.6.3.4.
- c) Where static pressure exceeds 550 kpa, a pressure reducing valve must be installed as per the Standard Specifications Waterworks Construction Sheets 30A, 31, and 32a. In addition, see National Plumbing Code of Canada 2005 Section 2.6.3.3.
- d) No new water service pipes shall be larger in diameter than the water main in which it connects.

2.8.9 Public Water Mains on Private Property

- a) All grade changes within a public water main right-of-way must be approved. The developer must provide a profile showing the existing and proposed grades prior to approval of the Development Site Servicing Plan.
- b) Buildings are not permitted above existing public water mains which have registered private easements.

2.8.10 Cross Connection Control

- a) No private water supply system shall be interconnected with the public water supply system. See National Plumbing Code of Canada 2005 Section 2.6.2.5.
- b) Multi-Family Residential, Industrial, Commercial, and Institutional facilities are required to have a cross connection control device installed on their incoming water service pipe immediately after the water meter outlet valve. See "Standard Specifications Waterworks Construction" for further design details.
- c) The cross connection control device must be shown as a detail on the Development Site Servicing Plan with the meter assembly.

2.8.11 Metering

- a) All consumers must make provisions for the installation of water meters in accordance with the "Standard Specifications Waterworks Construction" manual.
- b) Each unit must be individually metered.

- c) Water meters shall be installed at the point of entry into the building and shall be installed in accordance with the applicable City of Calgary Meter Standard.
- d) Water meters shall be installed in mechanical rooms or meter rooms with a floor drain. In no case shall a meter be installed in a bathroom, bedroom, or in a stairwell.
- e) A water meter room is required adjacent to an exterior wall where water service pipes 100 mm and larger enter the building. This applies to buildings that have levels below ground. A service pipe may enter the building under the slab for a single level underground parkade, otherwise the service must enter the building through an exterior wall.
- f) A water meter room is required to be located where water service pipes 50 mm and smaller enter a building. The water service pipe may enter through an exterior wall or from under the slab of the building. The water pipe must be joint-free when entering the building from under the slab.
- g) All water meters which are used exclusively for irrigation water shall be shown and noted on the Development Site Servicing Plan and shall be labelled on the meter piping by the Plumber as "Irrigation Meter".
- h) All water service pipes shall be metered except those pipes dedicated for fire protection.
- i) A minimum of 2.0 metres of headroom is required at the meter location.
- j) When a meter cannot be installed in a building, the owner must provide a meter building or a meter vault located 2 metres inside the property line in accordance with to the "Standard Specifications Waterworks Construction" manual. Remote readouts shall be installed where meter vaults are used.
- k) Pressure reducing valves are required to be installed downstream of the meter or meter assembly on all domestic supplies when the static pressure exceeds 80 psi. The valves shall be shown and identified on the Development Site Servicing Plan.
- l) The City shall supply and install all water meters. Contact Water Services Meter Section to make arrangements.

2.9 Sewer Infrastructure

2.9.1 General

- a) Sewer infrastructure includes sanitary sewer, storm sewer and drainage (also referred to as stormwater management system). Refer to the current edition of the following additional City of Calgary manuals for further information:
 - Stormwater Management & Design Manual
 - Standard Specifications – Sewer Construction
 - Approved Products List for Sewer Construction
 - Standard Block Profile Specifications
 - Guidelines for Erosion & Sediment Control
 - Design Guidelines for Subdivision Servicing
- b) Manholes, catch basins and any other appurtenances shall conform to and be constructed as per The City of Calgary “Standard Specifications Sewer Construction”.
- c) Where extensions of City sewer mains form part of the development proposal, drawings may be required on a standard block profile format for approval by The City.
- d) Where outfalls to waterways or drainage courses are required, the consultant will supply an outfall design on a standard City of Calgary block profile to Water Resources for submission to the Provincial Government for approval and permits.
- e) Where storm ponds are required, the consultant will supply design drawings to Water Resources and complete the required check sheet(s). Contact Water Resources for more information.
- f) No portions of private sewer systems are permitted in bylawed setback areas except for service connections.
- g) Extensive and/or complicated external sewer systems shall be installed with the surveyor's grade sheets and batter boards. Development Site Servicing Plans (DSSPs) will be stamped as such whenever this applies (for inspection purposes).

2.9.2 Service Connections

- a) For connections to public sewers please refer to the City of Calgary “Stormwater Management & Design Manual” (Section 4.0) for information on:
 - Servicing
 - Location
 - Grades

2.9.2.1 When setting grades at property line for private subdivisions:

- a) Match crowns of pipe or add 0.06m whichever is greater .
- b) Add slope of pipe,
- c) Add 0.15m to grade at property line to allow for 'construction and datum error',
- d) Allow more grade if there is a possible conflict with other utilities.

2.9.2.2 Manholes

- a) A manhole is required on a main for a connection when:
 - (i) The diameter of the connection line is greater than one half the diameter of the main,
 - (ii) The length of the service connection from the building to the main is greater than 30 m,
- b) When tying to an existing manhole, indicate the size and type of the manhole.
- c) Service connections shall not be installed to sewer mains deeper than 6 m. A secondary sewer may have to be installed to allow for servicing.

2.9.3 General Design

- a) Contact Water Resources for sanitary sewer design.
- b) Refer to City of Calgary "Stormwater Management & Design Manual" (Sections 3.0 and 4.0) for information on storm sewer and drainage (major system) design.

2.9.3.1 Pipe Material and Installation

- a) All pipe material shall conform to and be installed in accordance with the City of Calgary "Standard Specifications Sewer Construction" and "Approved Products List for Sewer Construction" (latest edition).

2.9.3.2 Pipe Sizes

The following minimum pipe sizes will be considered provided they have adequate capacities as verified by the applicants' engineer:

- a) Minimum size of sanitary sewer for the site is 100 millimetres diameter.
- b) Minimum size of area drain leads is 250mm diameter with the following exceptions:
 - (i) Where the pipe is directly involved in a storm water retention system or is upstream of the ICD (Inlet Control Device) a minimum size of 150 millimetres diameter is acceptable.
 - (ii) Where the public mains are less than 525 millimetres in diameter, pipe sizes 150 millimetres to 250 millimetres in diameter are considered for connection.

2.9.3.3 Slopes

- a) Minimum slopes for small diameter sewer lines (see City of Calgary "Design Guidelines for Subdivision Servicing" (latest edition)):

- Concrete Pipe

	Sanitary Minimum Slope, %	Storm Minimum Slope, %
75 mm WTD	-	2.00
100 mm	2.00	2.00
150 mm	1.00	1.00
200 mm	0.80	0.80
250 mm	0.40	0.56
300 mm	0.32	0.44
375 mm	0.24	0.32
450 mm	0.18	0.26
525 mm	0.16	0.22
600 mm	0.12	0.18

- PVC Pipe

	Sanitary Minimum Slope, %	Storm Minimum Slope, %
75 mm WTD	-	2.00
100mm	2.00	2.00
150mm	1.00	1.00
200 mm	0.60	0.60
250 mm	0.30	0.40
300 mm	0.24	0.32
375 mm	0.18	0.24
450 mm	0.14	0.18
525 mm	0.12	0.16
600 mm	0.10	0.12

- b) All concrete pipe, manholes and appurtenances shall be manufactured using type HS (type 50) sulphate resistant cement.
- c) Anchoring is required when pipe slope is greater than 33% or where velocities exceed 3.0 m/s.

2.9.3.4 Cover

a) Sanitary

- The minimum cover for sanitary sewers shall be 2.5 meters from pipe crown to finished grade. Check that adequate depth of cover is provided to obtain frost protection. Insulation is required if depth to top of pipe is less than 1.8 meters in local traffic areas and 1.5 meters in landscaped areas. Insulation shall be installed as per current "Standard Specification Sewer Construction".

b) Storm

- The minimum cover for storm sewers shall be 1.0 meters from pipe crown to finish grade. A cover depth greater than 1.2 meters is preferable. Insulation is required for frost protection if the depth to top of pipe is less than 1.2 meters. Installation shall be installed as per current "Standard Specification Sewer Construction" (Section 403.05.08).

Note: If cover is less than minimum then concrete encasement and frost protection may be required at the discretion of Water Resources. Concrete encasement is to be the entire length of pipe, from manhole to manhole. See Stormwater Management & Design Manual (Section 3.0).

2.9.3.5 Line Assignments

- a) Maintain 3.0 metres minimum clearance from centre of sewer lines to property lines and buildings. Manholes must also be installed maintaining the 3.0 metres minimum clearance. Sanitary and storm may be permitted in common trench when vertical separation is less than 1.0 metres for the entire length of trench.
- b) Maintain 1.8 metres minimum separation between centre lines of sanitary and storm sewers and other utilities, 3.0 metres clearance to poles. Refer to the Water Infrastructure section of this manual (Section 2.6) for separation between watermains and other services.

2.9.4 Sanitary Sewer Design

2.9.4.1 Peak Flows

Since peak sewage flows vary greatly with type and density of development, each case must be considered on an individual basis. Contact Water Resources (Development Approvals) for more information.

2.9.4.2 Capacity

The capacity and the size of the service leaving the building shall meet the National Plumbing Code of Canada requirements. Sizing of the sanitary service is the responsibility of the developer.

2.9.4.3 Servicing

Sanitary servicing from building to building is not permitted except for auxiliary buildings that are required and form an integral part of the development. Show invert elevation at building and site elevation at or near the location where the sanitary sewer enters the building.

2.9.4.4 Manholes

a) Test Manhole

- A Sanitary Sewer Test Manhole is required to service proposed industrial and commercial developments, as per Section 7 of the Sewer Service Bylaw 24M96, unless it falls into an exempt use. In general, this typically includes: restaurants, grocery stores and wholesalers (with meat or deli departments), commercial bakeries, rendering and meat byproduct processing, beverages manufacturing, fluid milk manufacturing, beer and liquor manufacturing, laboratories, industrial parcels, car washes, service stations (with a car wash), and, laundries). Contact Water Resources for more information or to determine if an exemption is applicable.
- On sites encompassing more than one business, a separate sanitary test manhole is required on those businesses that require one.
- The sanitary test manhole is to be located outside the property line on public property (off driveways and streets) and must be accessible to City staff, otherwise an easement access is required. The easement access is to be a minimum 5m x 5m surrounding the test manhole and include a standard R/W for the sewer pipe leading to the manhole. Contact Corporate Properties for an easement access.
- Provide a minimum of 150 millimetres to a maximum of 0.6 metres fall through a test manhole. (See current edition of "Standard Specifications Sewer Construction").

- b) Interior/Exterior Drop Manhole
- Where the difference in elevation between the incoming pipe invert and the outgoing pipe centreline is greater than 760 millimetres an interior/exterior drop manhole must be provided. No interior drop manholes will be allowed when the incoming pipe exceeds 300 millimetres in diameter. (See current edition of “Standard Specifications Sewer Construction”)

Note: Sanitary manholes should be located outside of trap lows. For any sanitary sewer manholes located in trap lows, sanitary seals are required to reduce infiltration. Sanitary manholes within stormwater ponds are not permitted.

2.9.5 Storm Sewer Design

Designs are to be in accordance with the City of Calgary “Stormwater Management & Design Manual” (latest edition). See Sections 3.0 and 4.0.

2.9.5.1 Catch Basins

- a) City standards recognize four types of inlet structures for private use.
- type "C" catch basin with storm back
 - type "K2" catch basin
 - type "K3" catch basin
 - Grated top (GT) manhole

Note: See current edition of “Standard Specifications Sewer Construction” and “Stormwater Management & Design Manual” for further information.

- b) Use grated top manholes instead of catch basins when:
- depth from the rim to pipe invert exceeds 2.5 meters,
 - 3 or 4 way junction occurs, or
 - the total sum of incoming pipe diameters is > 600 mm

The use of a manhole is required instead of a catch basin barrel in this situation.

2.9.5.2 Weeping Tile

- a) Refer to City of Calgary “Stormwater Management & Design Manual”
- b) Surface drainage is not permitted to drain to a weeping tile system by any means other than infiltration from the surface. Window wells and area drains must not have a direct connection to the weeping tile system.

- c) Weeping tile drain is NOT permitted to tie to the sanitary sewer.

2.9.6 Floodway, Floodplain and Overland Flow Area Special Regulations

- a) Developments in the floodway / floodplain and overland flow areas are subject to the regulations described in City of Calgary Land Use Bylaw 2P80 Section 19.1 which was amended by Bylaw 5P85. Refer to Bylaws 2P80 and 5P85, and the "Stormwater Management & Design Manual" (Section 3.5) for more information. Please note that the Land Use Bylaw 2P80 is currently under review and revision. The most up-to-date regulations shall prevail.
- b) Floodway and Floodplain Regulations or Advisory Guidelines shall be followed by all landowners / developers proposing construction within the one in 100 year floodplain / floodway of the Bow and Elbow Rivers and Nose Creek drainage basins.
- c) Copies of the floodway / floodplain / overland flow zone maps approved by Council are available at the "Reproduction" counter in the Municipal Building (6th floor).
- d) Under Bylaw 5P85, Floodplain Regulations shall apply to all buildings except for single-detached, semi-detached or duplex dwellings that are infill development or are existing buildings, either being redeveloped to one of those three uses, or are being altered or added to.
- e) The following rules shall be followed by the appropriate landowners / developers:
- The subject property is within the once in one hundred year floodplain. It is mandatory that the following Floodplain Special Regulations be adhered to:
 - The designated flood level is _____ metres (Geodetic). The minimum first floor elevation shall be constructed at or above this elevation. All electrical and mechanical equipment shall be located at or above this elevation.
 - The building shall be designed so as to prevent structural damage by floodwaters.
 - Onsite access roads shall be constructed at or above the designated flood level."
- Note: Roads should be contacted to ensure that existing and future road grades are compatible with on-site grades.
- No alterations shall be made to a floodway and no structures including, but not limited to, rip-rap, berms, fences, walls, gates, patios, docks, decks shall be constructed on, in or under a floodway unless in the opinion of the Approving

Authority there will be no obstruction to floodwaters and no detrimental effect on the hydrological system or water quality, including the natural interface of the riparian and aquatic habitats.

- For development or redevelopment of single-detached, semidetached or duplex dwellings in the floodplain that are infill or existing, Council approved advisory guidelines in April 1984 as part of the Calgary River Valleys Plan. These guidelines must be followed.

2.9.7 From Calgary River Valley's Plan - July 1984 - approved by Council April 19, 1984

Cl. 2.2

Advisory guidelines for new development or redevelopment in the floodplain where compliance with policy B.1 under section C.1.2.1.3 is not required: (RR1-R1 & R2 Infill Development / Redevelopment)

The following ADVISORY guidelines should be provided to all landowners/developers proposing construction in the floodplain areas in the City of Calgary. These advisory guidelines will not be included in the Land Use Bylaw.

C1.2.2.1 GENERAL

Where it is desirable to have a detached single family dwelling with a basement below the designated flood level, this floor should not contain bedrooms.

Basements should not be utilized for storage of immovable or hazardous materials that are flammable, explosive or toxic.

Footings and foundation walls should be cast-in-place concrete.

The top of the basement walls should be a minimum of 12 inches (300 mm) above the designated flood level.

Basement walls should be provided with at least two openable windows located on opposite sides of the building. The windowsill should be at least 6 inches (150) mm above the designated flood level.

Where practical, stable fill may be used to raise the lowest portion of the building above the designated flood level, provided the building is not raised to a height which is not in keeping with surrounding buildings or conflict with the Land Use Bylaw.

Where possible, buildings should be constructed with the longitudinal axis paralleled to the direction of flood flow.

C1.2.2.2 ANCHORAGE

In order to resist flotation and lateral movement, the basement floor joists should either have the ends embedded in the basement concrete wall or the header joist mechanically fastened to the required anchor bolts for the sill plate, or any other system providing similar protection.

C1.2.2.3 BASEMENT DRAINAGE SYSTEM

A sump pump shall be provided in the basement. (This requirement was implemented at a later date by the Water Resources Business Unit)

The outflow pipe should be looped and discharge above the designated flood level.

A separate electrical circuit should be provided for the sump pump with the operating switch located above the designated flood level.

Basement walls should be made water tight through the use of paints, membranes and mortars to minimize seepage.

Installation of cut-off valves on sewer lines or the elimination of gravity flow basement drains.

2.9.8 Stormwater Management

Stormwater retention and management requirements must be designed in accordance with the current edition of the City of Calgary "Stormwater Management & Design Manual". See Sections 3.0 and 4.0.

2.9.8.1 Stormwater Retention

On-site stormwater retention is generally required on all sites (normally indicated at the time of the Development Permit circulation). When stormwater retention is required, the DSSP submission should indicate the method of retention, along with drainage area plans and stormwater retention design calculations. Plans should delineate drainage boundaries and ponding areas. Provide all calculations for stormwater storage including trap lows, stormwater ponds, and roof control flow data. Design for the storm system must include the total site area and account for future development.

2.9.8.2 Stormwater Retention Calculations

- a) Sites over 2 ha will require a Stormwater Management (SWM) Report be submitted to Water Resources (2 copies). Approval of the SWM Report is required prior to submitting the DSSP.
- b) Sites using the Unit Release Rate Method (_____L/s/ha) should use Figure 4.1, from the current edition of the "Stormwater Management & Design Manual", for storage calculations.
- c) Sites using the Rational Method for storage calculations should refer to Appendix B, Storm Retention Calculations Based on Rational Method Design, of the current edition of the "Stormwater Management & Design Manual" as guidance.
- d) Surcharging of the weeping tile system is not permitted.
- e) Trap Lows are to be clearly outlined with the 1:100 year elevation and the spill elevation clearly labeled on the drawing.
- f) Emergency escape routes for trap lows are to be directed away from buildings and towards public roadways with grading clearly shown to demonstrate such.

2.9.8.3 Precautionary Measures that Must be Taken:

- a) Ensure elevations of building slab and/or any building openings are 0.3m minimum above trap low spill elevations or the 100 year elevation, whichever is higher.
- b) Ensure the hydraulic slope is taken into account.
- c) Ensure pipe sizes are not less than 150 millimetres in diameter for area drains.
- d) Ensure building structural design accounts for water loading where roof retention is used.

2.9.8.4 Drainage and Grading Requirements

- a) All on-site grading and drainage must be in accordance with Lot Grading Bylaw 32M2004 and the "Stormwater Management & Design Manual".
- b) All open areas shall drain to the storm sewer. When storm sewers are not available, a temporary drywell system may be required. (See current edition of "Standard Specifications Sewer Construction" and "Stormwater Management & Design Manual").

- c) The minimum number of drywells required is determined by the flow from the site in relation to the intake capacities of the inlet structures. A geotechnical report may be required to determine efficiency and actual number of drywells required.
- d) Drainage from roof areas shall be contained on-site. Control flow roof drain specifications (L/s) as well as location of roof drains shall be shown. Drainage boundaries for roof shall be shown where the roof encompasses a large area.
- e) A summary table for roof drains should also be included showing:
 - number of roof drains
 - flow per roof drain
 - total flow from roof
- f) On-site grading must be shown with spot elevations and grade arrows with % grade shown (adhering to minimum grades for surface materials used as per City design guidelines). All building and parking lot corners must have design spot elevations shown. Contours are not acceptable for site grading.

2.9.9 Water Quality

Water Quality is to be in accordance with the City of Calgary “Stormwater Management & Design Manual”.

2.9.9.1 Oil / Grit Separators

Oil / Grit Separators are required for the following:

- Sites over 2 ha when there is no public stormwater pond with treatment capabilities in the downstream storm sewer system prior to outfall to the river.
- Sites with petroleum products on-site.
- Heavy industrial and manufacturing sites

2.9.10 Stormwater Ponds

Where stormwater ponds are required (dry ponds, wet ponds, wetlands, and evaporation ponds), they are to be designed in accordance with the City of Calgary “Stormwater Management & Design Manual”.

2.9.11 Best Management Practices

Refer to the City of Calgary “Stormwater Management & Design Manual” for more information.

2.9.12 Erosion & Sediment Control

All sites must adhere to City of Calgary “Guidelines for Erosion & Sediment Control”. Also refer to “Stormwater Management & Design Manual” for more information.

2.9.13 Technical Requirements

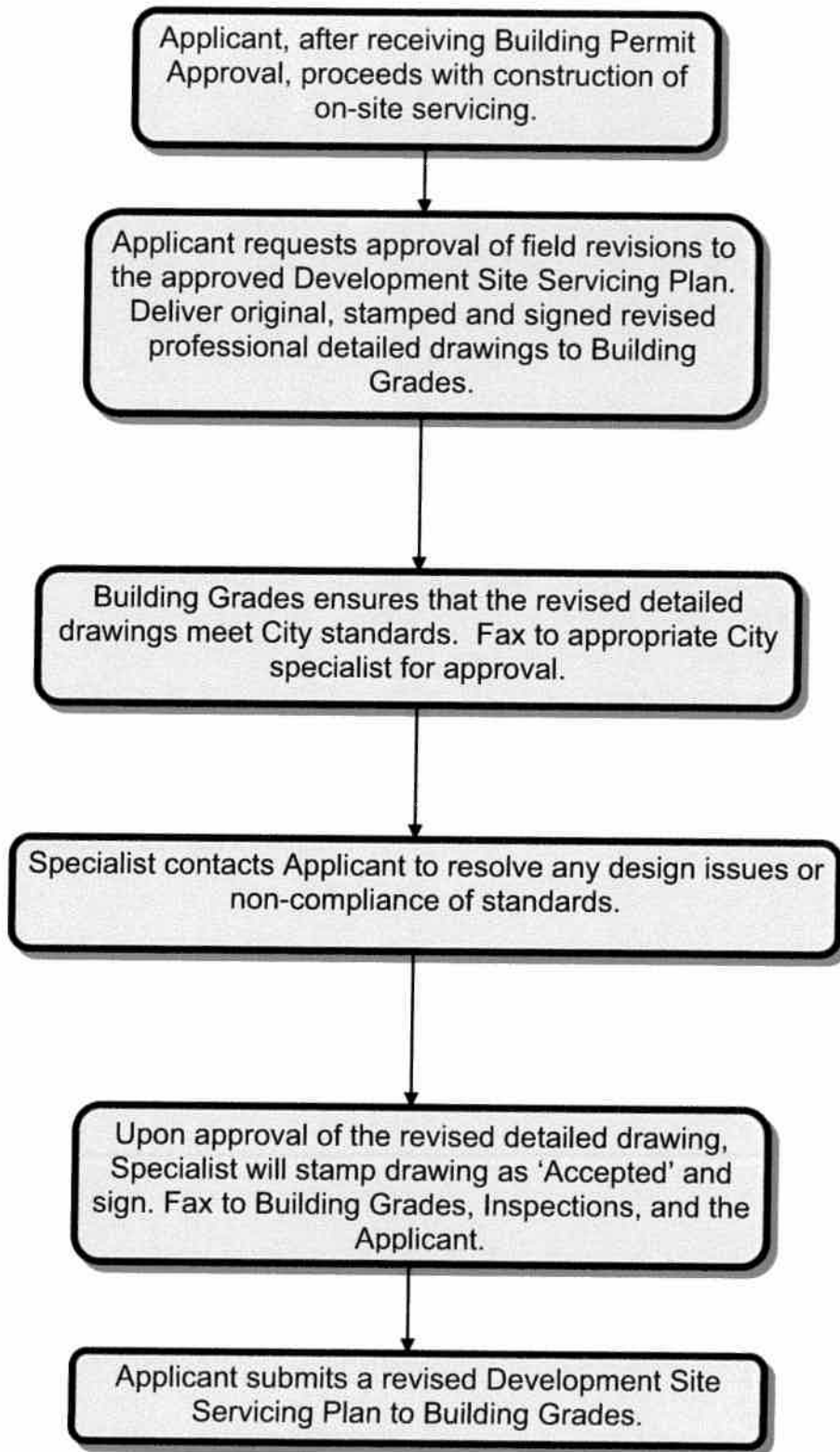
Technical requirements are to be in accordance with the City of Calgary “Stormwater Management & Design Manual”.

As-built information for grading must be submitted as per Lot Grading Bylaw 32M2004.

2.10 Water and Sewer Service

2.10.1 Flow Chart for Field Revision of Approved Development Site Servicing Plans

(Flow chart on following page)



2.10.2 New Service Quotation

- a) Service connection quotations are prepared from approved Development Site Servicing Plans (DSSP) by the Construction Services Estimator or an Indemnified Contractor for all projects.
- b) Upon request, the Water Services estimator will prepare an estimate for all service connections required for the proposed development. Quotations are faxed to the owners, consultants or plumbers as requested by the developer.

2.10.3 Service Rates

- a) All new service connections are at the developer's expense.
- b) The rates for a service quotation are based on the seasonal period, which are assessed on an ongoing basis.
 - Summer rates are in effect from April 15 to October 15.
 - Winter rates are in effect from October 16 to April 14.

Note: Service quotations that are not paid prior to October 16 may be required to be re-done.

2.10.4 City Portion of Service Connection

Once payment has been received (prior to the expiry date) and the private service pipe has been installed to the property line in accordance with the approved Development Site Servicing Plan and Building Grade Slip (and all other requirements), the developer or a contractor must contact the City of Calgary Construction Services or an Indemnified Contractor to request the installation of the City portion of the service pipe.

2.10.5 Service Disconnection

- a) The developer must make a payment to The City to disconnect the service pipe from the public water or sewer mains prior to receiving a building permit. Contact Construction Services.
- b) The cost of a service pipe disconnect varies according to the size and location. The rates are adjusted annually.
- c) For infill residential lots where the developer is approved to use the existing water and/or sewer service pipes, payment for the service pipe disconnect will be refunded

only after the developer complies with the conditions under Clause 5.0 in this Section.

2.10.6 Reuse of Service Pipes

- a) The condition of the existing sewer service pipe is based on video camera inspections and/or maintenance records.
- b) All the sewer and water service pipes within the same trench must be replaced if one cannot be reused.
- c) To verify if the existing service pipes are adequate for the proposed development, contact:
 - Construction Services - for the portion of the service pipes within the public road right-of way
 - Plumbing and Gas - for the portion of the service pipes within the developer's property
- d) Once it is determined that the existing service pipes may be reused, the developer must ensure the following conditions are met prior to the refund of the service disconnect fee:
 - The City Inspectors are notified prior to backfilling of the service pipes at the property line. This notification is essential to allow the City to record the location and verify the size of the existing services. Failure to provide this notification will result in the developer's contractor having to re-excavate the service pipes at the property line.
 - The existing service pipes are reused within one (1) year from the date of payment for the service disconnect. The City shall disconnect the existing service if the developer does not connect within this one (1) year period. Consequently, the developer shall be responsible for the cost of all new service connections.
 - The City may disconnect any existing service pipes before the one (1) year time period has elapsed if the pipe is leaking. Accordingly, the developer will not be entitled to a refund.

2.10.7 Servicing of Infills

2.10.7.1 General

A mutual trench for service pipes are not permitted for two lots that have been subdivided through a plan or described in a certificate of title. Trenching requirements are specified in the current "Standard Specifications for Waterworks and Sewer Construction".

2.10.7.2 Semi-Detached Infill Dwellings

- a) Titles must remain the same for existing semi-detached buildings unless each individual dwelling has a separate set of water and sewer service pipes.
- b) Internal plumbing shall be modified where necessary, so that each dwelling unit is serviced independently prior to subdivision. If easements are necessary, then the Planning & Building Regulations will ensure that an appropriate Party Wall Agreement is registered on title.
- c) Where a minimum of 2.0 m distance between a service pipe and the private property line cannot be met, a common trench centred on the property line may be used. A Maintenance Access Easement Agreement will be required and is subject to Planning & Building Regulations approval.

2.11 Installation of Water and Sewer Service Pipes

2.11.1 Construction

2.11.1.1 Approvals

A contractor must be issued a copy of an engineer-stamped drawing, which has been authenticated and approved by The City prior to installation of ANY sewer or water service pipes or drainage features.

2.11.1.2 Regulatory Documents

- a) Installation of sewer and water pipes shall, in all cases, follow the requirements and guidelines as contained in this manual and in the current National Plumbing Code of Canada.
- b) All installations shall comply with current City of Calgary "Standard Specifications, Waterworks Construction", "Standard Specifications Sewer Construction", and Provincial safety regulations.

2.11.1.3 Developer and Representatives' Responsibilities

The developer or his representative is responsible to ensure that the location for the service pipes do not conflict with power poles, pole anchors, transformers, trees, catch basins, underground chambers or other facilities which may exist within the public right-of-way. No service connections shall be granted where such obstructions exist.

2.11.1.4 Developer controlled subdivision

All sewer and water service pipe installations in the public rights-of-way, which are in a developer controlled subdivision, for which Final Acceptance Certificates have not been granted, shall be done in full accordance with current City of Calgary “Standard Specifications Waterworks Construction”, and “Standard Specifications Sewer Construction”. Any such installations shall be carried out only under the supervision of a City Inspector.

3 Waste & Recycling Services

3.1 Forward

Urban Development reviews Waste and Storage Collection Facilities for Development Permit (DP) Applications and Development Site Servicing Plans (DSSP) for single family, infill development, commercial and industrial developments. Waste & Recycling Services reviews Waste and Storage Collection Facilities of multi-family residential, mixed use developments, City owned facilities and also reviews large commercial sites which may provide the opportunity for recycling depot locations.

The Waste Bylaw No. 20M2001 (As Amended by B/L Number 38M2003) and the Waste & Recycling Services Guidelines and Standards for Waste Collection Facilities are intended to provide assistance to the users on the City's Waste & Recycling Services requirements for DP Applications and DSSP of Waste Collection Facilities pertaining to Commercial and Industrial Sites.

SUPERSEDED
See Addenda

The prime reason for the review (includes detailed drawings) and DSSP is to ensure that the proposed Waste Collection and Storage Facilities meet these guidelines and standards, the Waste Bylaw and the Provincial Health & Safety Code legislation.

It is important to recognize that Development Site Servicing Plan approval does not constitute development approval and is not to be construed as a clearance to commence work on the proposed development. Final approval and Building Permit issuance will be given by Development & Building Approvals.

These Design Guidelines do not attempt to set rigid solutions to particular design problems but rather provides a guide to the City of Calgary's requirements by indicating the standards which will apply to the appropriate Waste Storage and Collection Facilities

The Design Guideline incorporates Metric Standards all plans must be in metric.

Where reference is made to City By-laws, policies, etc. the most current version during the development process is to be used.

The Waste Collection and Storage Design Guidelines and Standards and are set out below. See Appendix for Waste Bylaw No. No. 20M2001 (As Amended by B/L Number 38M2003). Also Check on Web Site as noted below

www.calgary.ca/waste

http://www.calgary.ca/docgallery/bu/sws/development_permit_review_requirements.pdf


http://www.calgary.ca/docgallery/bu/sws/development_permit_plan_requirements.pdf

http://www.calgary.ca/docgallery/bu/sws/development_site_servicing_plans.pdf

For any questions regarding this section contact Urban Development at 268-3204

3.2 Waste Storage and Collection Facilities Requirements for Development Permit (DP) Applications

In addition to the requirements set out in the *Complete Applications Requirement List* referred to as (CARL), as set out by the Development & Building Approvals, the following requirements shall also be shown on the DP Application plans.:

- a) The location of the Waste Collection and Storage Facilities must be shown on the DP site plans, complete with dimensions;
- b) Indicate the main floor elevations and property line corner elevations;
- c) Indicate the method of waste collection from the site and the size of the waste storage locations (rooms), the number of waste collection locations, the enclosure and/or collection staging  e access;
- d) The design must be satisfactory to the occupants and the waste collection service provider;
- e) The waste storage room must not be comprised by the introduction of other uses such as utility metering and water sprinkler control systems, maintenance supplies and equipment storage;
- f) Plans indicating the requirement for the backing up of waste collection vehicle for collection of waste will NOT be approved. Waste collection vehicles are not permitted to backup into a road right of way;
- g) Waste shall be stored in weatherproof and animal proof containers and screened from adjacent sites, public thoroughfares and shall be in a central location readily accessible for pickup. Waste shall not be stored in front of any building unless approved by Waste & Recycling Services;
- h) The exterior finish of the waste storage facility must match and or complement the architecture of the development. The approved exterior finish is to be shown on the detailed drawings attached to the DP application and or the DSSP;
- i) Concrete pads and aprons shall be specified to support the gross weight of a loaded waste collection vehicle (a minimum of 25,000 kg);
- j) Asphaltic pavement and concrete of the waste collection route and in waste loading areas shall be specified to support the gross weight of a loaded waste collection vehicle (a minimum of 25,000 kg);

- k) Where a collection vehicle is required to travel on, or within a parking structure, the route of travel shall be specified to support the gross weight of a loaded waste collection vehicle (a minimum of 25,000 kg) and the structural integrity must be certified in writing by a qualified professional engineer;
- l) All concrete collection/staging areas must be flush with the lane and a grade of 2% maximum slope and shall be specified to support the gross weight of a loaded waste collection vehicle (a minimum of 25,000 kg);
- m) A collection / staging area requires a restraining device in the form of a speed bump to prevent containers from rolling on to an adjacent road, lane or parkade ramp;
- n) The waste facilities must be located on a portion of City property or on another property or within an existing structure;
- o) Allow for a single collection day period if the collection is required over a (7) day period, or up to a (14) day period if the collection is required over a (14) day period and the associated effects of potentially adverse weather conditions project unserviceable for periods of time greater than (7) days;
- p) Each project handling food or medicinal products (restaurants, food and grocery stores, drugstores and clinics) must have its own individual enclosed facility;
- q) Restaurants are to include the provision for grease storage and disposal;
- r) Please use the current recycling and waste requirements (See Appendix for Check List) to review design and construction of the storage and collection facilities to ensure it provides a safe and serviceable development both the occupants and the waste collection service providers; and
- s) These requirements are subject to revision at any time. Please ensure that the most recent guidelines and standards, including the current Provincial Health & Safety Code legislation are used before you make your submissions.

SUPERSEDED
See Addenda

3.3 Commercial/Industrial

- a) Indicate the floor area for commercial and industrial buildings (m²).
- b) Commercial and industrial buildings require an area for recycling and waste storage of 9 m² for every 1000 m² of floor area.
- c) Provide one garbage enclosure for every three bays in a commercial development strip.

3.4 Internal Storage Room

- a) Indicate the length, width and height of a loading dock when it is to be used for waste collection purposes. Indicate on the plans that the loading dock is accessible to service personnel by stairs, ramps, etc.
- b) Provide an easily accessible concrete collection area on sites having internal storage facilities.
- c) Minimum interior waste storage room door size shall be 3.0m wide by 2.1m high (clear opening).
- d) Heavy-duty steel protection is required for door frames and overhead door tracks (such as angle iron along the edges).
- e) Provide a minimum 3.0m wide clearway from the waste storage area to a collection area and shall be constructed reinforced concrete with a maximum slope of 2%. **SUPERSEDED See Addenda**
- f) The internal walls must have protection as shown in the Waste Enclosure Construction Guidelines Sheet No. 5 File Number 1000.005. In addition, provide protection to prevent exposed services or structural components from contact by the recycling/waste containers and the internal storage room shall also be ventilated.
- g) When compactors and chutes are used, the compaction ratio and chute size shall be indicated.
- h) Internal storage rooms require an external collection/staging locations.

3.5 External Enclosures

- a) Minimum clear inside dimensions of an enclosure is 3.0m wide by 3.0m deep and 1.8 m high. An enclosure with a roof must have clear vertical opening of 3.0 metres with no roof overhang on the gate side opening of the enclosure.
- b) Enclosures are to be constructed in accordance with the Waste Enclosure Construction Sheet No. 5 File Number 1000.005 Alternate design will be subject to the approval of Waste & Recycling Services.
- c) Where the staging area is enclosed on one or more sides, protection is required in the form of 100 mm diameter concrete filled steel bollards at 1.8 metre spacing, installed to a depth of 1.0m below grade and to a height of 1.2m. 30M rebar is to be welded horizontally between bollards at heights of 450 mm and 775 mm. An alternate design will be subject to the approval of Waste & Recycling Services.
- d) The enclosure gate is to have a minimum 3.0 metre clear opening and shall open 180 degrees.

- e) Gate frames are to be constructed using:
 - 2 inch diameter x 16 GA, 58,000 PSI steel tubing.
 - Notched vertical and horizontal braces.
 - 1 inch x 1 3/4 inch bolt hinges.
 - Positive latch mechanism to hold gates open and closed.
 - All weather "No Parking" sign attached to the front of the gate.
- f) If an enclosure is located internal to a site or directly adjacent to a lane then gates may not be required and must be noted as such as per Waste Enclosure Construction Guidelines Sheet No. 5 File Number 1000.005.
- g) Garage style enclosures require an external collection/staging location.
- h) The minimum concrete apron size shall be 3.4m wide by 1.2m minimum deep with a maximum slope of 2% from the rear of the enclosure and tie flush to the roadway or parking lot.
- i) Minimize the number of gates and also indicate on the plans the locations that have gates.
- j) Garage style Waste Storage enclosures shall have eaves troughs with downspouts and associated drainage directed away from the collection area.
- k) Ensure that garage style enclosures are not located over sewer pipes and water service.

SUPERSEDED
See Addenda

3.6 Collection Vehicle Access

- a) The waste storage and collection facilities are to be located where the route of the waste collection vehicle access and vertical pickup of the waste containers and waste collection vehicle movement will not be impeded or restricted by insufficient to overhead clearance of any canopies, building overhangs, covered lanes, covered parking structures, overhead signs and overhead utility lines. The measurements of the overhead clearance of any overhead obstructions must be indicated on the plans to ensure that adequate clearance has been provided as not to impede or restrict the waste collection service.
- b) Minimum vertical clearance required for collection vehicles shall be 4.3m.
- c) Minimum overhead clearance required for dumping containers is 6.4m.
- d) Reversing of collection vehicle is not permitted.

- e) A site requiring more than a single collection location on a through road system shall locate them such that a continuous traffic pattern from the point of entry to the point of exit is provided.
- f) The waste collection route if through a private site shall be thru route system. If a site does not have a thru route a minimum turnaround radius of 12.0m is required. This radius also applies to a turnaround for a deadend street, cul-de-sac or lanes.
- g) Provide a minimum 4.8m wide driveway from the street to the rear of the waste collection facility location to provide for collection vehicle access.
- h) Locations adjacent to a lane must recognize and match the orientation of other existing or previously approved locations in the lane (west bound and north bound) to maintain a single service direction of travel.
- i) Where the lane is **not paved**, provide:–
 - a 20-degree angled drive on apron for a 6.1-metre wide lane,
 - a 30-degree angled drive on apron for a 7.6-metre wide lane,
 - a 45-degree angled drive on apron for a 9.1-metre wide lane.See Sheet 1 of Waste & Recycling Services Sheet No. 1 File Number 1000.001
- j) Waste & Recycling Service paving is required to Roads specifications for development to the lane.
- k) Developers and/or apply width of lane adjacent to their property and to the nearest street or if there is an existing paved lane whichever distance is the shorter thereof.
- l) Where straight - on access for container pickup is not available, the enclosure shall be constructed so that the waste container can be rotated such that direct and easy waste collection vehicle access is provided. If the container is adjacent to a lane it should open to the south or east orientation, unless otherwise approved by Waste and Recycling Services;

SUPERSEDED
See Addenda

3.7 Development within a Landfill Setback Boundary

- a) Any development or portion thereof is subject to Section 13 of the Subdivision and Development Regulation AR43/2002 under the Municipal Government Act. Restricted uses, as defined in Section 13 of AR43/2002 will not be allowed within the setback limit.
- b) All Development permit applications and Development Site Servicing Plans of sites that are within 450 metres of an active and within 300 metres of an inactive City Landfill site must be submitted to Waste and Recycling Services for their review to ensure that the site does not fall within the current setback limits.

3.8 Development Site Servicing Plan(DSSP)

- a) The DSSP must conform to the approved DP submission, and provide specific construction details for the recycling and waste storage and collection facilities, ensuring that they meet the Waste and Recycling Services Design Guidelines and Standards and comply with the Waste Bylaw No. 20M2001 (As Amended by B/L Number 38M2003).
- b) DSSP plans that do not meet these requirements will be subject to a revised submission.
- c) Faxed and emailed correspondence or verbal discussion where approval to the revision was given by either Waste & Recycling Services and/or Urban Development does not constitute an approval. It is to submit the amended plans indicating the revisions and DSSP applications that will be reviewed for approval.
- d) Applicants requesting additional review or circulated plans for recycling and waste storage and collection requirements shall do so on an appointment basis only. For appointment on Residential Development uses only contact Waste & Recycling Services at 230- 6646. For Commercial and Industrial uses contact Urban Development at 268 – 3509.
- e) Waste and Recycling Services conducts the inspections on all of the recycling and waste storage and collection facilities. These inspections are to ensure that these facilities have been constructed as per the approved Development Site Servicing Plans in accordance with the Design Guidelines and Standards and the Waste Bylaw No. 20M2001 (As Amended by B/L Number 38M2003), and also to ensure that they meet the Provincial Health & Safety Code legislation.

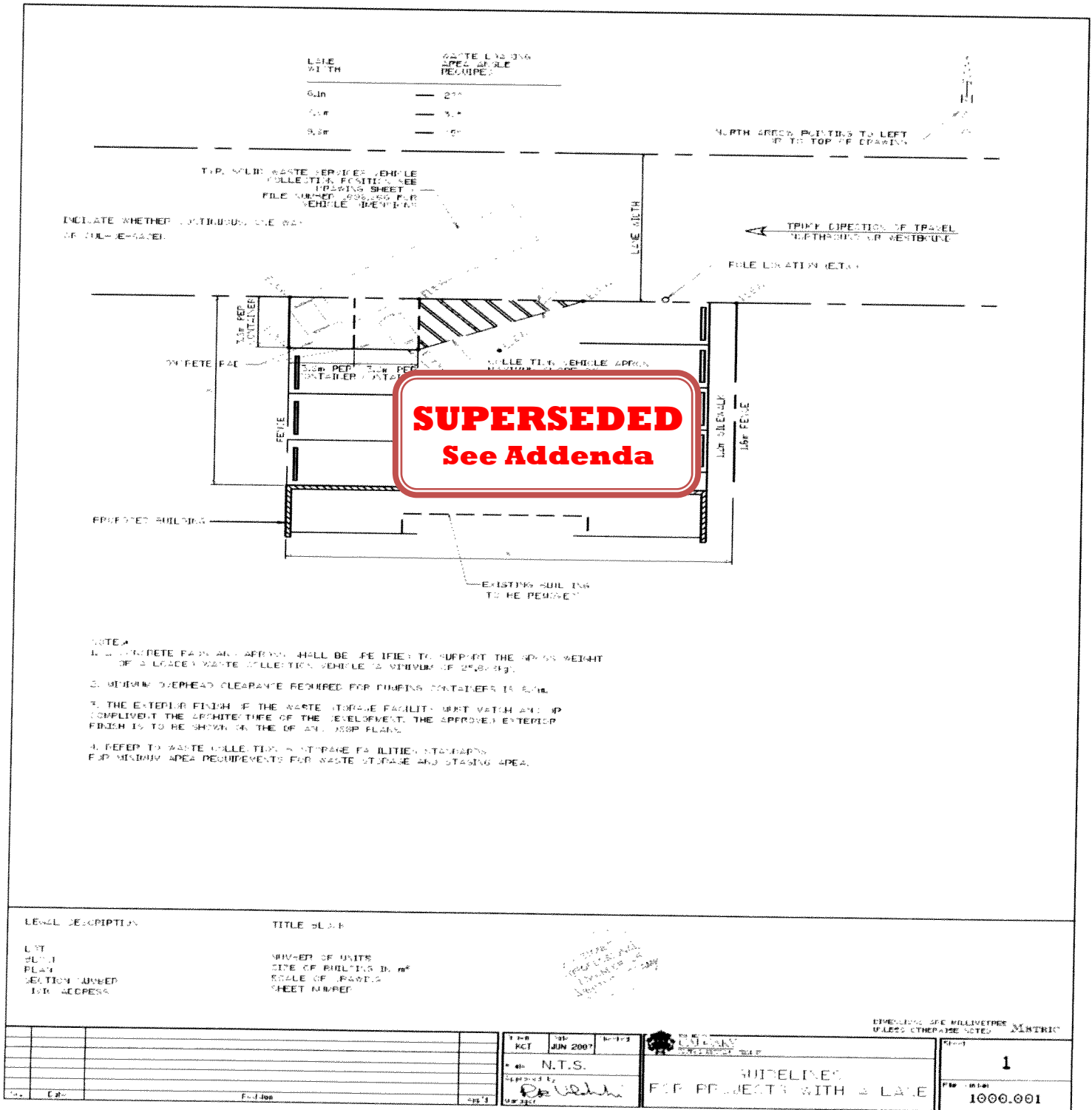
SUPERSEDED
See Addenda

3.9 Community Recycling Depots (CRDs)

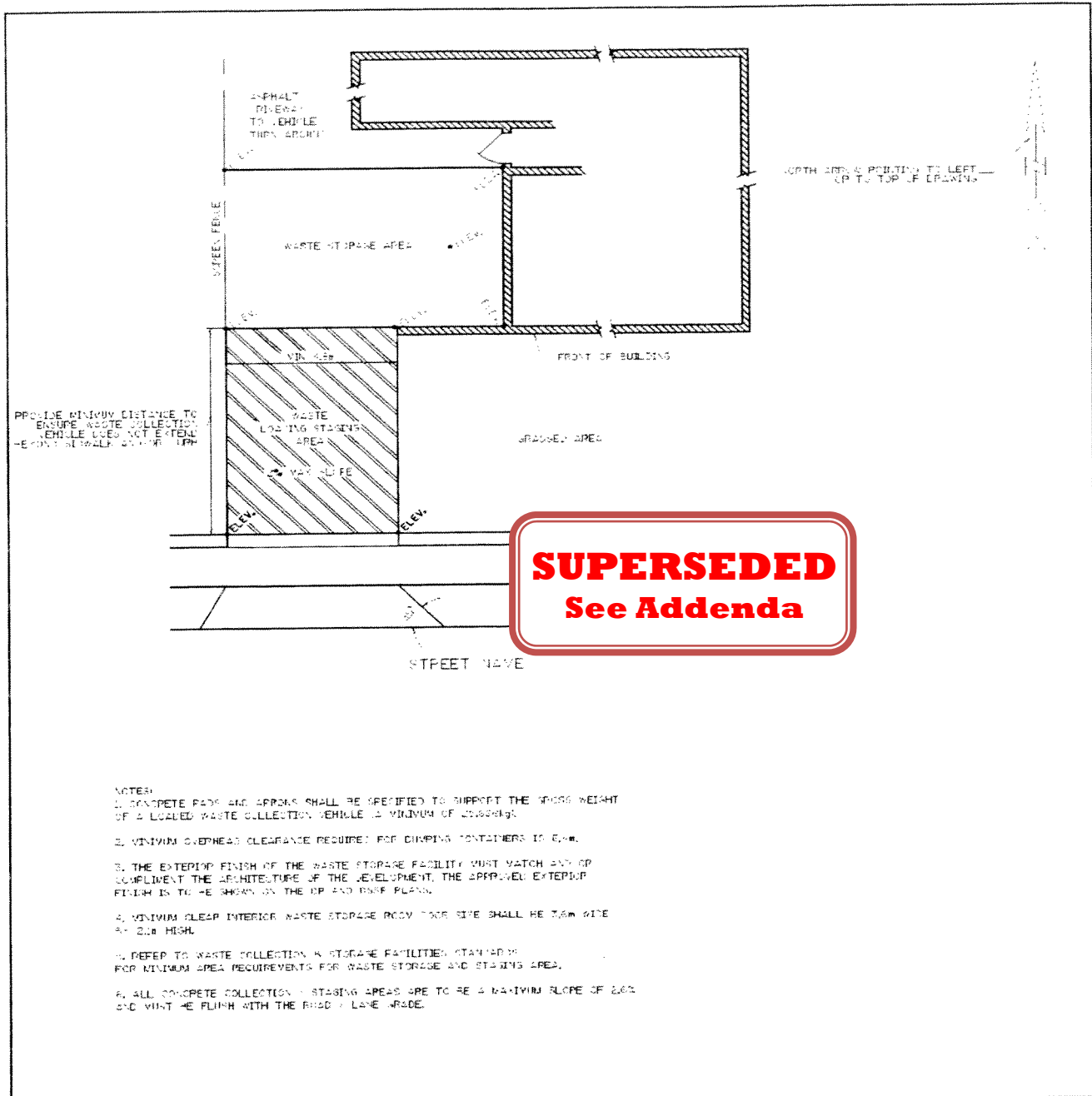
- a) CRDs are part of long-term planning for recycling infrastructures. Future locations should be identified to accommodate anticipated growth.
- b) Since CRDs generally use a defined space, the land use agreement, zoning and other pertinent development issues can be easily addressed at the early planning stages (land use, outline plan, subdivision and development permit).
- c) Waste & Recycling Services has produced a Design Guide that provides all the relevant information required for the design and location of CRDs. This guide is available free of charge. To obtain a copy please call (403) 230-6631.

3.10 Drawings

3.10.1 Guidelines for Projects with a Lane



3.10.2 Guidelines for Laneless Projects Alternate #1



SUPERSEDED
See Addenda

- NOTES:
1. CONCRETE PAVES AND APPROX. SHALL BE SPECIFIED TO SUPPORT THE GROSS WEIGHT OF A LOADED WASTE COLLECTION VEHICLE TO A MINIMUM OF 10,000 LBS.
 2. MINIMUM OVERHEAD CLEARANCE REQUIRED FOR DUMPING CONTAINERS IS 6'6".
 3. THE EXTERIOR FINISH OF THE WASTE STORAGE FACILITY MUST MATCH AND/OR COMPLEMENT THE ARCHITECTURE OF THE DEVELOPMENT. THE APPROVED EXTERIOR FINISH IS TO BE SHOWN ON THE DP AND RDP PLANS.
 4. MINIMUM CLEAR INTERIOR WASTE STORAGE ROOM FLOOR SIZE SHALL BE 20'0" WIDE BY 20'0" HIGH.
 5. REFER TO WASTE COLLECTION & STORAGE FACILITIES STANDARD FOR MINIMUM AREA REQUIREMENTS FOR WASTE STORAGE AND STAGING AREA.
 6. ALL CONCRETE COLLECTION & STAGING AREAS ARE TO BE A MAXIMUM SLOPE OF 2% AND MUST BE PLUMB WITH THE ROAD & LANE GRADE.

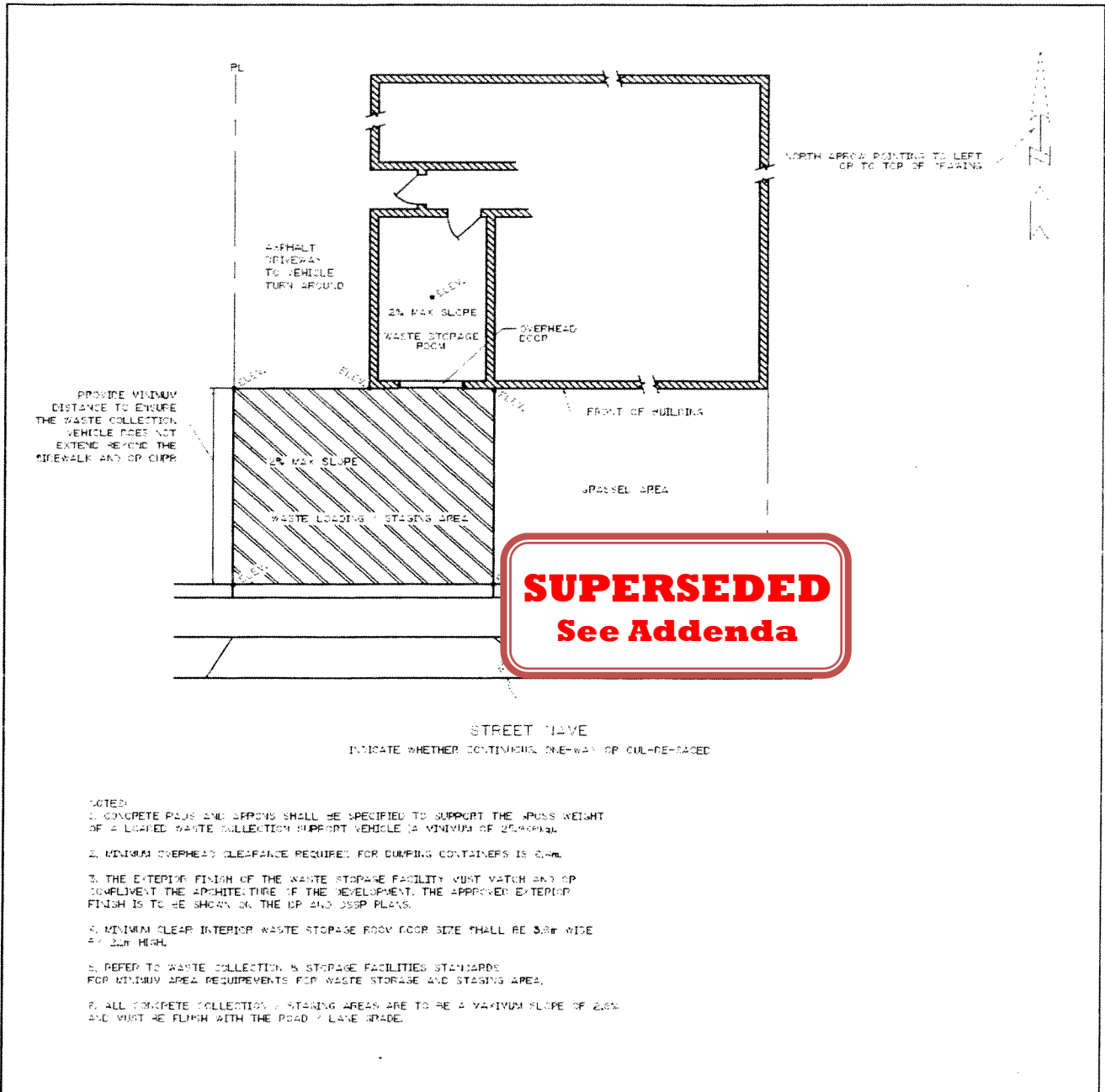
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LOT:	NUMBER OF UNITS:
BLOCK:	SIZE OF BUILDING IN sq ft:
PLAT:	SCALE OF DRAWING:
SECTION NUMBER:	SHEET NUMBER:
CIVIC ADDRESS:	



DIMENSIONS ARE MILLIMETERS UNLESS OTHERWISE NOTED

DATE: JUNE 2007	PROJECT: GUIDELINES FOR LANELESS PROJECTS W/OUT THROUGHFARES EXCLUSIVE ALTERNATE #1	SHEET: 2
SCALE: N.T.S.	DESIGNED BY: [Signature]	PROJECT NUMBER: 1000.002

3.10.3 Guidelines for Laneless Projects Alternate #2



LEGAL DESCRIPTION:	TITLE BLOCK
LOT	NUMBER OF UNITS
PLOT	SIZE OF BUILDING IN m ²
SECTION NUMBER	SCALE OF DRAWING
CIVIC ADDRESS	SHEET NUMBER

PROFESSIONAL ENGINEER
REGISTERED IN ONTARIO

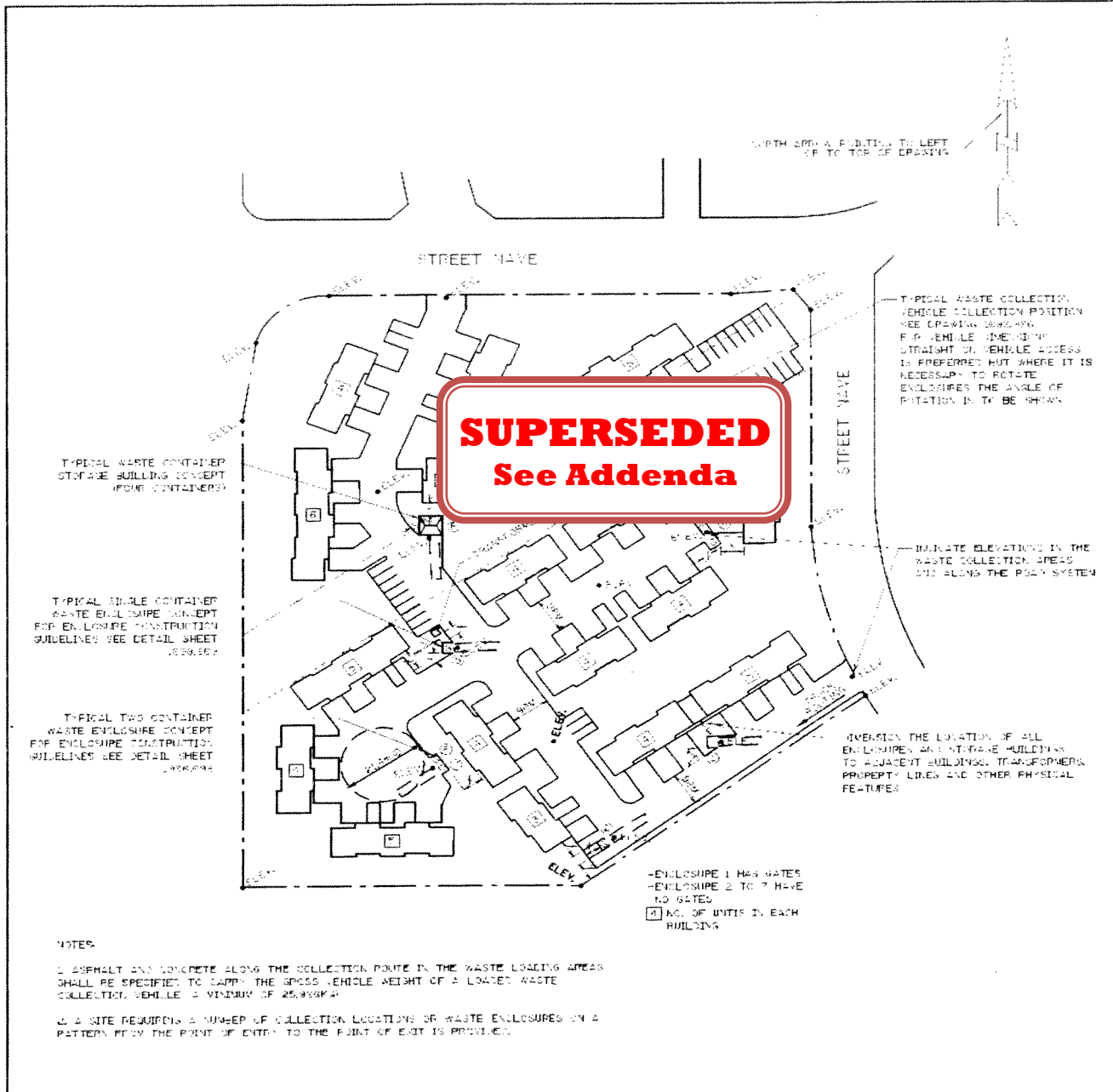
DATE: 07-06-07

PROJECT: N.T.S.

APPROVED BY: *[Signature]*

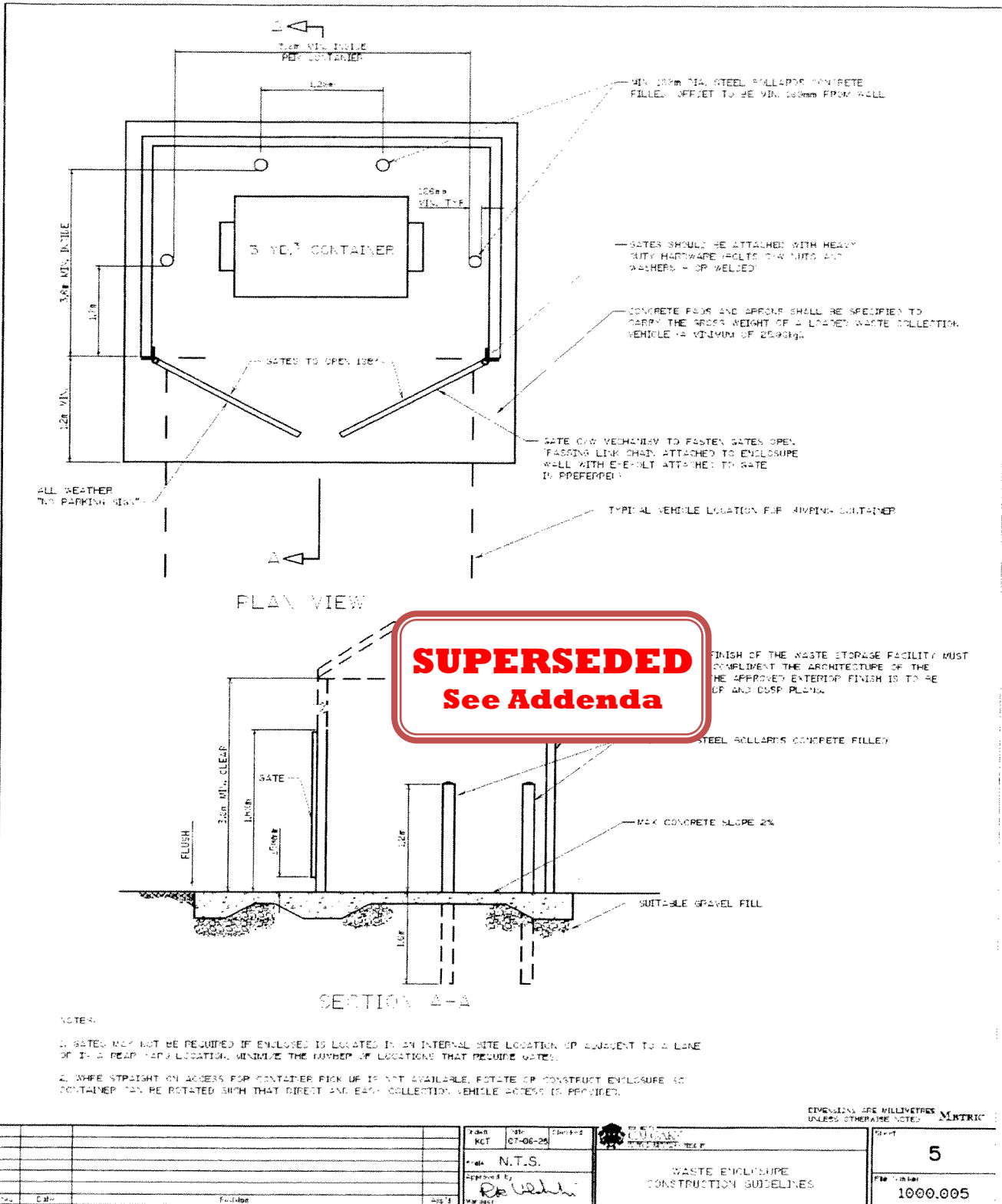
	<p>GUIDELINES FOR LANELESS PROJECTS VACUP THROUGHSPES EXCLUDED ALTERNATE #2</p>	<p>3</p>
		<p>File Number: 1000.003</p>

3.10.4 Typical Plans for Multi-Family Projects

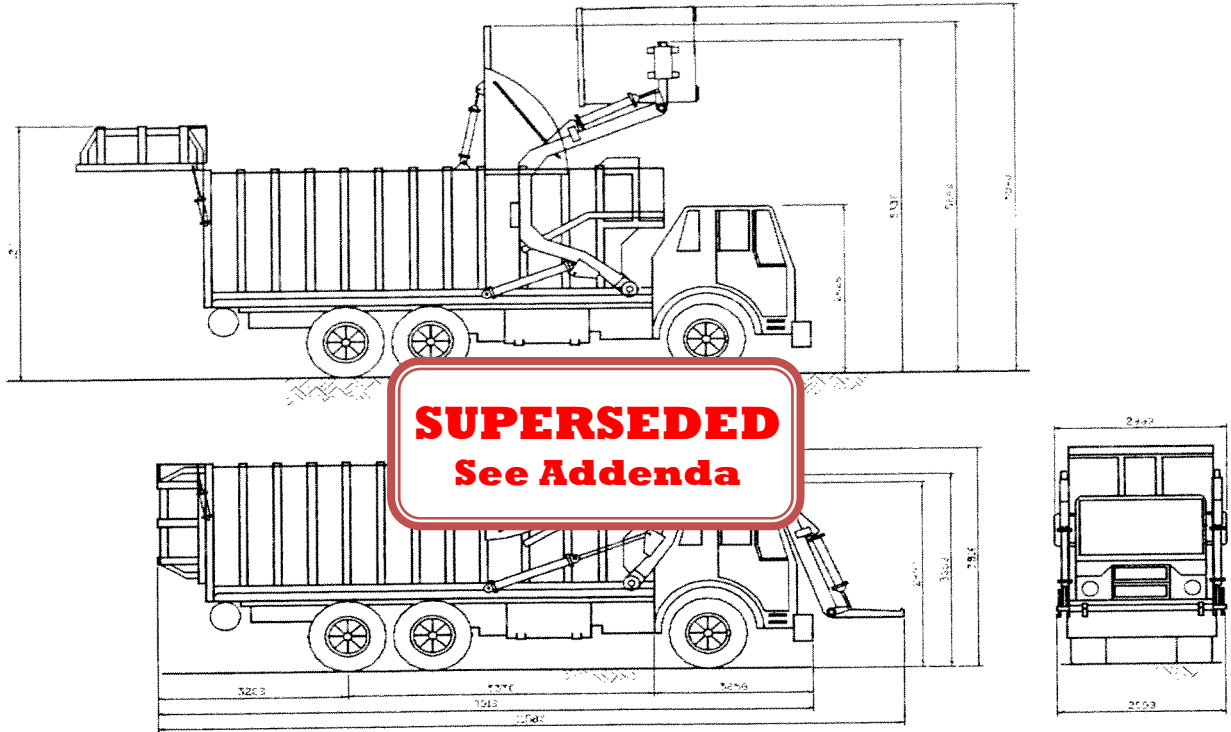


LEGAL DESCRIPTION	TITLE BLOCK	DATE		SCALE	UNIT
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		07-06-20		N.T.S.	4
		Approved by		TYPICAL PLAN REQUIREMENTS FOR MULTI-FAMILY PROJECTS	File Number: 1000.004
		Manager			

3.10.5 Waste Enclosure Construction Guidelines



3.10.6 Waste Collection Vehicle Front End Loader



SUPERSEDED
See Addenda

Issue:	None	
Rev:	07-06-01	
Scale:	N.T.S.	
Approved by:	<i>R. Veltch</i>	
Manager:		

CALGARY
CITY OF CALGARY

**WASTE COLLECTION VEHICLE
FRONT END LOADER**

Sheet: **6**

File Number: 1000.006

4 Appendix I: Encroachment Applications

Prepared by: Encroachment Taskforce
Approved by: Council June 21, 1996 (O&E 96-36)
Amendments approved by: Council February 23, 1998
This policy comes into effect July 01, 1996.
- Refer to most current document -

4.1 Introduction

The City realizes encroachments exist, will continue to be discovered, and has established this corporate policy for processing encroachment applications.

The City owns a variety of parcels of land including streets and reserves and also has interests in privately owned land by way of easements. Easements are granted to the City to allow utility line(s) to be installed and maintained on, over or under titled lands. Easements specify the rights and privileges of both The City and the property owners.

Encroachments occur onto City owned lands and easements. On behalf of the citizens of Calgary, The City must ensure that encroachments do not adversely affect these lands and easements or The City's ability to maintain effective services or restrict public access and enjoyment of lands for public use.

Formal approval is required to protect The City and other utilities where existing or proposed encroachments are identified: this approval takes the form of a License of Occupation for streets and an Encroachment Agreement for encroachments into easements. Identified owners of the encroachment are required to enter into an agreement or license or, alternatively, remove the encroachment.

The following Encroachment Policy will assist the public and enable The City to effectively manage encroachments. It is intended to provide a more consistent approach in processing applications, enforcing the policy and protecting and indemnifying The City wherever encroachments have been identified.

4.2 Encroachment Policy

- a) No encroachments shall be allowed or authorized effective July 01, 1996 except where:

- An encroachment is identified as being authorized into a street or easement in attached Schedules "A" or "B";
 - An encroachment has been previously authorized by The City by written agreement; or
 - An application for an Encroachment Agreement has been made for an encroachment and is still being considered for authorization by Corporate Properties Group.
- b) The City will accept Encroachment Agreement applications in accordance with this policy for authorization of encroachments that existed prior to 1996 July 01 – Refer to most current document -.
- c) Unless an encroachment is authorized by The City, the encroachment shall be removed from the affected Municipal Lands.
- d) Encroachments into Municipal Lands that are designated as or are part of an emergency access shall be removed from the affected Municipal Lands.
- e) Encroachments identified on the attached Schedule "A" into a street or easement are authorized by The City and do NOT require an Encroachment Agreement.
- f) Encroachments identified on the attached Schedule "B" into a street or easement require an Encroachment Agreement which shall be granted (a non-circulation process) if within the Schedule "B" tolerances.
- g) Where an Encroachment Agreement includes a provision for removal following a minimum of 30 days notice by The City, such notice will be made for a valid municipal purpose only.
- h) Where an encroachment has been authorized by The City an applicant shall execute the Encroachment Agreement prepared and delivered by The City, or the encroachment shall be removed from the Municipal Lands.
- i) An Encroachment Agreement authorized by The City and executed by the applicant shall be registered by caveat on the title of the applicant's land.
- j) Utilities located within an easement, public utility lot (PUL), City-owned parcel or street authorized by The City will not be considered as an encroachment.
- k) Notwithstanding any other provision of this policy, a commercial or industrial encroachment application shall be reviewed on its own merits at the discretion of the City.

- l) An authorized Encroachment Agreement does not release an applicant from the responsibility to comply with other Provincial or Federal requirements or municipal bylaws.
- m) All expenses, costs, liabilities, or other risk associated with an authorized Encroachment shall be borne by the owner.

4.3 Encroachment Guidelines

4.3.1 Encroachment Guidelines Spreadsheet

*Corporate Properties has the final say in all Encroachments, for information purposes only

<i>* City property is defined as any Street, City owned parcel or reserve parcel. Street is defined as any thoroughfare, highway, road, trail, avenue, viaduct, lane, alley, square, bridge, causeway, tressle, walkway or other place, which are lands owned by the City, any part of which the public is entitled or permitted to use.</i>		Schedule A No E.A	Schedule B \$200 plus GST	Schedule C \$500 plus GST	Removal Required
Fences (a standard chain link, wooden fence or equivalent with posts no larger than 0.15m X 0.15m)	fences running through a utility right-of-way bisected by a property line	*			
	encroaching 0.34m or less onto city property or a utility right-of-way	*			
	dividing a utility right-of-way that encumbers two adjacent lots (including pole anchor sites)	*			
	developers fences required under development agreements	*			
	where the fence is a linear projection of a fence on the applicant's property encroaches to the back of the sidewalk or 1.0 m from the back of curb EXCEPT where adjacent to a street or a lane/walkway. (then it would fall under Schedule C if encroaching 0.35 m or more)	*			
	encroaching 0.35m or more onto a utility right-of-way or onto City property.			*	
	fences encroaching onto a reserve parcel more than 0.34m.				*
Garage Aprons (For asphalt aprons see 'surface improvements')	concrete aprons 0.34m or less onto City property (gravel lane)	*			
	concrete aprons 0.35m or more onto City property (gravel lane)			*	
	Any garage aprons which encroach onto asphalt lanes	*			
	concrete encroaching onto a reserve parcel				*
Decks & Patios	0.34m or less onto City property or a utility right-of-way		*		
	0.35m or more onto City property or a utility right-of-way			*	
	decks & patios encroaching onto a reserve parcel				*
Retaining Walls & Planters	0.24m or less in height and onto a utility right-of-way or City property.	*			
	0.34m or less onto utility right-of-way or City property (whatever the height)	*			
	0.35m or more onto City property and 0.25m or greater in height			*	
	onto a utility right of way and 0.25m or greater in height			*	

* City property is defined as any Street, City owned parcel or reserve parcel. Street is defined as any thoroughfare, highway, road, trail, avenue, viaduct, lane, alley, square, bridge, causeway, tressle, walkway or other place, which are lands owned by the City, any part of which the public is entitled or permitted to use.		Schedule A No E.A	Schedule B \$200 plus GST	Schedule C \$500 plus GST	Removal Required
	retaining walls of any height encroaching onto a reserve parcel				*
Portable Sheds (over 10 square metres becomes an Accessory Building)	equal to or under 10 sq.m. (107 sq.ft.) onto a utility right of way	*			
	equal to or under 10 sq.m. and 0.34m or less onto City property	*			
	equal to or under 10 sq.m. and 0.35m or more onto City property			*	
	portable sheds encroaching onto a reserve parcel				*
Principal Building & Accessory Building (over 10 square metres)	less than 0.04m onto City property or a utility right-of-way	*			
	encroaching 0.34m or less onto City property or a utility right of way where the eaves also encroach 0.34m or less		*		
	encroaching 0.34m or less onto City property or a utility right-of-way where the eaves encroach 0.35m or more			*	
	encroaching 0.35m or more onto City property or a utility right-of-way			*	
	principal buildings & accessory buildings onto a reserve parcel				*
Eaves	built prior to April 18, 1994 onto utility right-of-way and receiving a DBA Certificate of Compliance.	*			
	built after April 18, 1994 onto utility right-of-way and encroaching 0.14m or less.	*			
	eaves encroaching 0.34m or less onto City property.		*		
	eaves encroaching 0.35m or more onto City property.			*	
	built after April 18, 1994 onto utility right-of-way and encroaching from 0.15m to 0.64m		*		
	built after April 18, 1994 onto utility right-of-way and encroaching 0.65m or more				*
	eaves encroaching onto a reserve parcel				*
Garbage Enclosures	not more than 2.0m in width encroaching not more than 0.34m	*			
	not more than 2.0m in width encroaching 0.35m or more			*	
	more than 2.0m in width and encroaching 0.34m or less		*		
	more than 2.0m in width and encroaching 0.35m or more			*	
	garbage enclosures encroaching onto a reserve parcel				*
Surface Improvements	including landscaping ground cover onto a utility right-of-way or City property (i.e. gravel, shale, interlocking brick, asphalt, paving stones or sidewalk blocks)	*			
Driveways	concrete which provides access to either a garage or parking area onto a utility right-of-way or onto City property	*			
	concrete which does not provide access to a garage or parking area (such as a parking pad for RV) 0.34m or less onto a utility right-of-way or onto City property	*			
	concrete which does not provide access to a garage or parking area (such as a parking pad for RV) 0.35m or more onto a utility right-of-way or onto City property			*	

* City property is defined as any Street, City owned parcel or reserve parcel. Street is defined as any thoroughfare, highway, road, trail, avenue, viaduct, lane, alley, square, bridge, causeway, tressle, walkway or other place, which are lands owned by the City, any part of which the public is entitled or permitted to use.		Schedule A No E.A	Schedule B \$200 plus GST	Schedule C \$500 plus GST	Removal Required
	asphalt, gravel or interlocking brick onto a utility right-of-way or onto City property	*			
	concrete, asphalt, gravel, interlocking brick onto a reserve parcel				*
Steps	less than 2.0m wide which provide direct access to a residence and cross a utility right-of-way or onto City property (except lanes)	*			
	more than 2.0m wide which provide direct access to a residence encroaching 0.34m or less and cross a utility right-of-way or onto City property (except lanes)		*		
	more than 2.0m wide which provide direct access to a residence encroaching 0.35m or more and cross a utility right-of-way or onto city property (except lanes)			*	
	self-supporting steps onto a utility right-of-way or onto City property which provide direct access (except lanes)	*			
	do not provide direct access to a residence, encroach 0.34m or less onto a utility right-of way or onto City property (except lanes)		*		
	do not provide direct access to a residence, encroach 0.35m or more onto a utility right-of way or onto City property (except lanes)			*	
	encroaching 0.34m or less into a lane		*		
	encroaching 0.35m or more into a lane			*	
	steps encroaching onto a reserve parcel				*
Sidewalks & Ramps	concrete less than 2.0m wide which provides direct access to a residence which crosses a utility right-of-way and/or a City road allowance (except lanes)	*			
	concrete more than 2.0m wide which provides direct access to a residence, encroaches 0.34m or less, which crosses a utility right-of-way and/or onto City road allowance (except lanes)		*		
	concrete more than 2.0m wide which provides direct access to a residence, encroaches 0.35m or more, which crosses a utility right-of-way and/or onto City road allowance (except lanes)			*	
	concrete which does not provide direct access to a residence and encroaches 0.34m or less onto a utility right of way and/or onto City road allowance (except lanes)	*			
	concrete which does not provide direct access to a residence and encroaches 0.35m or more onto a utility right of way and/or onto City road allowance (except lanes)			*	
	0.34m or less onto a lane	*			
	0.35m or more onto a lane			*	
	sidewalks & ramps encroaching onto a reserve parcel				*
IMPORTANT: THE ONLY ENCROACHMENT ALLOWED TO BE BUILT ONTO CITY PROPERTY AFTER JULY 1, 1996 IS EAVES ONTO THE UTILITY RIGHT-OF-WAY, THIS MEANS YOU CANNOT GET AN ENCROACHMENT AGREEMENT FOR ANY OTHER ENCROACHMENTS, NO MATTER THE REASON!!!					

4.3.2 General Guidelines

- a) Where an encroachment occurring prior to 1996 July 01 – Refer to most current document - is identified, an applicant may make an application to The City, as outlined in Schedule "C", for consideration of such encroachment. If within:
- an easement, it will be reviewed by all affected departments and any affected utility. If deemed acceptable, an Encroachment Agreement will be issued.
 - a street, it will be reviewed by the Roads Division and any affected utility. If deemed acceptable, consideration for closure and sale of a portion of the street may be recommended or a License of Occupation will be granted.
 - a reserve, it will require removal unless other alternatives are pursued as referenced in this policy document.
 - a City owned parcel, it will be reviewed by the Corporate Properties Group, all affected departments and any affected utility. If deemed acceptable, sale of the City owned parcel or an interest (lease or license of occupation) in any portion of that parcel may be recommended.
- b) An encroachment once authorized by The City may continue to be used but the encroachment shall not be added to, rebuilt or structurally altered except;
- as may be necessary to remove the encroachment, or
 - as may be necessary for the routine maintenance of the encroachment.
- c) If an encroachment or the structure benefiting from the encroachment is damaged or destroyed to the extent of more than 75% of the replacement value of the encroachment or such structure, the encroachment shall not be repaired or reconstructed and shall be removed from the Municipal Lands unless the repair or reconstruction has been authorized by The City.
- d) The City will respond to all encroachment complaints and will apply this policy when encroachments are identified through normal management of Municipal Lands.
- e) Existing encroachments authorized by Licenses of Occupation, Encroachment Agreements, Maintenance and Indemnity Agreements, or any other existing agreement with The City authorizing an encroachment shall be deemed to be an authorized encroachment subject to the terms of the existing agreement.

4.3.3 Guidelines for Encroachment into Reserves and City Owned Parcels

- a) Reserve (including ER) or a City-owned parcel where an encroachment extends into a reserve (including ER) or a City-owned parcel, the applicant shall remove the encroachment as directed by the Corporate Properties Group.

- b) If an applicant objects to the removal, the applicant may apply to Council for disposition of the reserve affected by the encroachment (Section 70 and 674 of Municipal Government Act) or in the case of ER, for boundary rectification (section 676 of the Municipal Government Act) – Refer to most current document -.
- c) The disposition of any interest in School Reserve (SR) and Municipal and School Reserve (MSR) parcels is subject to a review by The City and School Boards' Joint Use Coordinating Committee (JUCC) and a subsequent hearing at a public hearing of Council.
- d) The disposition of any interest in MR and ER parcels is subject to a hearing at a public hearing of Council.
- e) Following the application by an applicant, a public complaint or discovery by City personnel, the process for resolving an encroachment into a reserve or any City owned parcel is as outlined in attached Schedule "C".

4.3.4 Guidelines for Encroachment into Street

- a) An encroachment into a street is not permitted (Streets By-Law 20M88, Section 49, 56, and 85 – Refer to most current document -) and shall be removed from the street except as indicated in section 1.1 and 1.2 of this policy.
- b) An application for a License of Occupation is to be made to the Corporate Properties Group under the following conditions:
 - Encroachments up to 0.3 metres will receive a License of Occupation without circulation (Schedule "B"), unless identified in (Schedule "A").
 - Encroachments over 0.3 metres will be reviewed by the Corporate Properties Group and circulated to the Streets Division, all affected departments and any affected utility. If deemed acceptable, a License of Occupation will be granted.
- c) The License of Occupation will allow the City to require removal following 30 days notice to the applicant.
- d) Where an encroachment is created by an owner granting land adjacent to a street to The City (i.e. a Dedication Agreement where an existing encroachment is to remain), The City shall without charge permit an Encroachment Agreement to be entered into with the owner. The removal period is subject to negotiation with The City and would be related to the life of the encroachment or until a road widening is required by The City.

4.3.5 Guidelines for Encroachment into Easement

- a) An encroachment less than or equal to 0.3 metres into an easement will be reviewed by the Corporate Properties Group and if in accordance with the attached Schedule "B" an Encroachment Agreement (without a 30 day removal clause) will be issued, except where adjacent to or located on a City owned parcel with an overhead electrical line. In cases involving overhead electrical lines, no encroachment will be permitted.
- b) An application for an encroachment into an easement greater than 0.3 metres or any other form of encroachment not within Schedule "A" or "B" shall be submitted to the Corporate Properties Group and circulated to all affected departments, any affected utility or school board. If deemed acceptable, an Encroachment Agreement (with a 30 day removal clause) will be issued.
- c) An encroachment which forms a barrier (which includes, but is not limited to development features such as entrance features, walls and decorative fences) preventing direct access by The City may be located on a parcel of land separating an easement from the nearest street or City owned parcel. However, in such a case the encroachment must have one or more easily removable and replaceable sections the length of which is greater than 2.4 metres on each affected lot.
- d) An encroachment shall not interfere with The City's or other utility's need to access the easement.

4.3.6 Enforcement

- a) An encroachment into a street is enforced by the Bylaw Enforcement officers within the City under the jurisdiction of the Street By-law 20M88 (Sections 16, 44, 56, 85, 87 and 89).
- b) An encroachment into a City owned parcel, including a reserve, will be directed to the Corporate Properties Group and will be reviewed by all affected departments and any affected utility. The Corporate Properties Group will recommend either removal of the encroachment or the sale of an interest in or any portion of the affected City owned parcel.
- c) The City will notify a property owner that an encroachment has been identified on adjacent Municipal Lands and that they are to make an encroachment application should the owner wish the encroachment to remain.
- d) If it can be established that the encroachment was caused by the property owner, the owner may be liable for the costs of removal. If the owner refuses to remove the encroachment or fails to apply for authorization, The City will remove the encroachment and seek reimbursement from the property owner for all removal costs.

4.3.7 Encroachment Agreements Fees

4.3.7.1 Fee Schedule easement:

▪ Schedule "A" application	\$ 35.00
▪ Schedule "B" application	\$ 200.00
▪ NOT within schedule "A" or "B", (circulation required)	\$ 500.00
▪ Refund if no approval / removal	(\$300.00)
▪ If easement discharged	(full refund)

4.3.7.2 Street

a) Residential	
▪ Schedule "A" application	\$ 35.00
▪ Schedule "B" application	\$ 200.00
b) Application for retaining walls:	
▪ where the party who built the encroachment is unknown, or	
▪ that may expose the City to liability if removed, or	
▪ built prior to 1970 March 15	\$ 50.00
c) Application for encroachment NOT within Schedule "A" or "B"	\$ 500.00
d) Refund if no approval / removal	(\$300.00)

4.3.7.3 Non-residential

- All non-residential encroachments into City property will be required to remove the feature or enter into a Licence of Occupation with Corporate Properties Group, Sales and Leasing Department.
- This fee schedule may be revised from time to time by the Board of Commissioners.
- The "annual taxes" shall be calculated based on the assessed value per square metre of the applicants parcel and the area of land affected by the encroachment.
- Fees, including municipal taxes, arising from the use of Municipal Land in accordance with an Encroachment Agreement by an applicant shall be the responsibility of the applicant.

- e) Any additional costs required to facilitate an encroachment, including but not limited to a road closure or subdivision application, shall be borne by the applicant.
- f) Any costs of utility relocation or reconstruction required to facilitate an encroachment shall be the responsibility of the applicant.

4.3.8 Definitions

- a) **Applicant** is the owner of land adjacent to Municipal Lands or the owner of land encumbered by an easement, who has required or may require an encroachment on the said municipal lands or easement.
- b) **City** means the corporation of The City of Calgary.
- c) **City Owned Parcel** is any titled lands the City owns excluding a reserve, street or easement.
- d) **Council** means the Municipal Council for The City.
- e) **Developer Fence** means a fence installed under a subdivision development agreement which is usually of a consistent style and is continuous along 2 or more lots.
- f) **Easement** means any right-of-way for the passage and maintenance of public utilities, identified by a registered plan or by description and documented by a Registered Easement Agreement granted to the City.
- g) **Encroachment** means anything constructed or erected with a fixed location on the ground or attached to something having a fixed location on the ground (excluding sound attenuation structures or fences as required by the City), that extends on, over or under municipal lands and shall include, but is not limited to the following:
 - Buildings and all projections (including eaves, cantilevers, etc.) and siding.
 - Sheds, (including those attached to a dwelling and/or fence).
 - Fences.
 - (Asphalt, concrete or brick) sidewalks, curbs, parking pads, aprons or driveways.
 - Structures (including decks, stairs patios, etc.).
 - Extension of adjacent lands by fill.
 - Retaining walls.
 - Swimming pools and hot tubs.
 - Shrubs, trees or other organic landscape materials planted in reserves or City owned parcels.
 - Hard landscaping (including, but not limited to, retaining walls, structures, fire pits, planters).
 - Light standards.

- Signs.
- h) **Encroachment Agreement** means an agreement (including a License of Occupation or an agreement amending an existing utility right of way) between the applicant and the City authorizing an encroachment and shall, among other things, include:
- location and identification of the encroachment;
 - fees;
 - term;
 - termination notice;
 - cost and liability for removal; or
 - indemnification of the City, its agents or licensees.
- i) **Fence** means a standard chain link, wooden fence or equivalent with posts no larger than 0.15 m by 0.15 m, centered approximately 2.4 m apart with a maximum height of 2.0 m.
- j) **License of Occupation** means an agreement authorizing the right of an applicant to maintain an encroachment within a street. A License of Occupation shall have a provision requiring removal following a minimum of 30 days notice by the City.
- k) **Municipal Lands** means collectively or individually a street, easement, reserve or City owned parcel.
- l) **Reserve** includes all municipal reserves (MR, R or CR or any of the original designates), environmental reserves (ER), municipal and school reserves (MSR) or school reserves (SR) as defined in sections 98, 99 and 110.1 of the Planning Act (Sept. 1, 95 The Municipal Government Act sections 664, 666 and 665) or a public park, recreation ground or exhibition ground as defined in section 70(1)(b) of the Municipal Government Act.
- m) **Street** means any thoroughfare, highway, road, trail, avenue, viaduct, lane, alley, square, bridge, causeway, trestle, walkway or other place, which are lands owned by the City, any part of which the public is entitled or permitted to use.
- n) **Tolerance of measurements**, when referred to in this policy shall take into consideration errors introduced by survey measurements. For the purposes of determining compliance with this policy with respect to the location of encroachments, measurements shall be rounded off to the same number of significant figures as set out in the Land Use Bylaw 2P80 (i.e. 600 mm would change to 0.6 m, 3 m would change to 3.0 m, a survey measurement between 0.25 m and 0.34 m would be rounded to 0.3 m and between 0.35 m and 0.39 m would be rounded to 0.4 m).
- o) **Utility** means any one or more of the following:

- Systems for the distribution of gas, whether artificial or natural, electricity, telephone, cable television and oil products;
- Facilities for storage, transmission, treatment, distribution or supply of water;
- Facilities for the collection, treatment, movement or disposal of sanitary sewage, including pumping stations;
- Storm sewer drainage facilities, including collection, pumping stations, storm water ponds and wetlands;
- Any other items that may be prescribed by the Lieutenant Governor in Council by regulation.

4.4 Schedule “A”

4.4.1 Authorized Encroachments into a Street – NO AGREEMENT REQUIRED –

(Corporate Properties Group Letter Process)

- a) Structures which provide direct access to a dwelling, including:
- front driveways (of any material)
 - sidewalks to a maximum width of 2.0 metres
 - special needs access (ramps, elevators, fire escapes, etc.)
 - steps to a maximum width of 2.0 metres which provide access to a residential dwelling excluding retaining walls or landscape features that are in the opinion of the Manager, Urban Development considered to be features not directly benefiting the access.
- b) Driveways with access lanes:
- which are constructed of asphalt, gravel, or shale
 - which are constructed of concrete or other like material and which encroach not more than 0.3 metres into a gravel lane
 - which are hard surfaced and which encroach into a hard surfaced (asphalt or concrete) lane.
- c) Fences:
- encroaching not more than 0.3 metres where the fence creates an enclosure
 - encroaching to the back of the sidewalk or to 1.0 metres from the curb (if there is no sidewalk) where the fence is a linear projection of a fence on the Applicant's property EXCEPT where adjacent to a Street
 - developer fences required under development agreements
 - fences running parallel to pathways (which run over a property line) may exceed 0.3 metres subject to minimum access requirements.

- d) Portable sheds:
- under 10 square metres (107 square feet) and
 - encroaching not more than 0.3 metres.
- e) Retaining walls:
- not more than 0.2 metres in height and where not located adjacent to Enmax or other utility above ground surface facilities
- f) Non-permanent surface improvements including:
- movable planters including any movable border material (eg. plastic, concrete, timber sections under 0.2 metres in height)
 - natural landscaping including trees and shrubbery
 - surface level rocks not more than 0.2 metres in height
 - interlocking brick
- g) Garbage enclosures:
- not more than 2.0 metres in width encroaching not more than 0.3 metres
- h) Signs or canopies:
- complying with the Land Use Bylaw 2P80 and Streets Bylaw 20M88 (or latest editions)
- i) Any encroachment constructed for valid municipal purposes by the City or its agents (ie. bollards, sound barriers, developer fences, subdivision entrance signs, guard rails, etc.)

4.4.2 Authorized Encroachments into an Easement – NO AGREEMENT REQUIRED –

(Corporate Properties Group Letter Process)

- a) Structures which provide direct access to a dwelling, including:
- driveways (of any material) which cross over any easement and do not run parallel to it
 - sidewalks to a maximum width of 2.0 metres
 - special needs access (ramps, elevators, fire escapes, etc.)

- steps to a maximum of width of 2.0 metres excluding retaining walls or landscape structures that are in the opinion of the Manager, Urban Development considered to be features not directly benefiting the access
 - self supporting steps over a utility right-of-way which provide access to a building.
- b) Fences:
- encroaching not more than 0.3 metres where the fence creates an enclosure
 - encroaching to the back of the sidewalk or to 1.0 metres from the curb (if there is no sidewalk) where the fence is a linear projection of a fence on the Applicant's property EXCEPT where adjacent to a Street
 - developer fences required under development agreements
 - fences running parallel to pathways (which run over a property line) may exceed 0.3 metres subject to minimum access requirements
 - fences running through a utility right-of-way bisected by a property line
- c) Portable sheds:
- under 10 square metres (107 square feet)
- d) Retaining walls:
- not more than 0.2 metres in height and where not located adjacent to Enmax or other utility above ground surface facilities
- e) Non permanent surface improvements including:
- movable planters including any movable border material (e.g. plastic, concrete, timber sections not more than 0.2 metres in height)
 - natural landscaping including trees and shrubbery
 - surface levels rocks not more than 0.2 metres in height
 - interlocking bricks
- f) Eaves:
- built prior to April 1994 and receiving a Planning and Building Department Certificate of Compliance
 - encroaching less than 0.1 metre into an easement
- g) Signs or canopies:
- complying with the Land Use Bylaw 2P80 and Streets Bylaw 20M88 (or latest editions)

- h) Any encroachment constructed for valid municipal purposes by the City or its agents (ie. bollards, sound barriers, developer fences, subdivision entrance signs, guard rails, etc.)

4.5 Schedule "B"

4.5.1 Authorized Encroachments into a Street or Easement (Non-Circulation Process) - Encroachment Agreement Required

- a) Residential footings for buildings or structures encroaching not more than 0.3 metres into an easement at a depth of more than 2.0 metres below grade, wherein the building or structure is not encroaching, will be accepted.
- b) Where the building or structure does not encroach, residential building eaves encroaching not more than 0.6 metres into an easement above a height of 2.4 metres above grade will be authorized, except where adjacent to or located on lands with an overhead electrical line requiring minimum clearance.
- c) Hard landscaping, steps, fill or retaining walls not more than 0.6 metres in height or encroaching less than or equal to 0.3 metres into a street will be approved, except where adjacent to or located on lands with an overhead electrical line.
- d) Where an encroachment is created by an owner granting land to the City (i.e. a Dedication Agreement where an existing encroachment is allowed to remain), the City shall, without charge, permit an Encroachment Agreement to be entered into with the applicant, the removal period to be negotiated as part of the purchase or dedication.
- e) An encroachment not more than 0.3 metres into an easement unless identified in Schedule "A", will be approved.
- f) An encroachment that forms a barrier (which includes, but is not limited to development features such as entrance features, walls and decorative fences) preventing direct access by the City and is located on a parcel of land separating an easement from the nearest street or City owned parcel and has an easily removable and replaceable sections the length of which is more than 2.4 metres on each affected lot with support pillars encroaching not more than 0.6 meters into and easement.

4.6 Schedule "C"

4.6.1 Corporate Properties Group Process

4.6.1.1 Applications

- a) Applications for Encroachment Agreements will be made to the Corporate Properties Group. If within:

- the guidelines set out in Schedule "A", the applicant will be advised that no Encroachment Agreement is necessary.
 - the guidelines set out in Schedule "B", the applicant will be asked to provide:
 - a copy (preferably an original) of a Real Property Report detailing the property and the extent of the encroachment;
 - a copy of the title to the parcel;
 - the application fee, as set out in section 4.0 of this policy;
 - photographs of the encroachment. and
 - a cover letter or letter of intent
- b) Upon receipt of items 1 through 5 (as shown above) an agreement will be immediately issued for execution by the applicant. If NOT within:
- the guidelines set out in Schedule "B", and the encroachment occurred prior to July 1, 1996, a circulation will be done to determine the acceptability of the encroachment (the applicant will be required to provide items 1 through 5 as above). If acceptable the appropriate agreement will be issued. If unacceptable the applicant will be required to remove the encroachment.
 - the guidelines set out in Schedule "B", and the encroachment occurred after July 1, 1996, the applicant will be required to remove the encroachment.

4.6.1.2 Complaints

Encroachments identified by public complaints or by City personnel will be referred to the Corporate Properties Group.

4.6.1.3 Owner

For the purposes of reserves and City owned parcels, "owner" shall mean the owner of land adjacent to a reserve or City owned parcel who has an encroachment into the reserve or City owned parcel.

4.6.1.4 Investigation

- a) A background investigation will be undertaken to determine if the encroachment resulted from an error, no easement registered, road plan after the fact, permit issued, etc.
- b) Significance of the encroachment will be determined to see if it presents a safety hazard and if the encroachment should be authorized or removed.
- c) Enmax's Easement Encroachment Reporting System (EERS) will recognize the safety factor ONLY, and will inform the applicant of any additional encroachment that

is subject to the corporate policy. Enmax will identify this in their initial letter to the applicant and will copy the Corporate Property Group for their investigation.

4.6.1.5 Initial Contact

Depending on the investigation, the applicant will be notified by mail advising the applicant of the possible encroachment and requiring the applicant to apply for an Encroachment Agreement or remove the encroachment.

4.6.1.6 Final Contact

If after 30 days, the applicant has not made application for an Encroachment Agreement or removed the encroachment, written notice will be sent to the applicant. The letter written will indicate that, if the problem is not rectified within another 30 days, the situation will be referred to the Law Department and/or the bylaw enforcement officer for immediate action.

5 Appendix II: Utility Site Servicing Bylaw Number 33M2005

5.1 Utility Site Servicing Bylaw 33M2005

As of July 1, 2005, a new Utility Site Servicing Bylaw Number 33M2005 came into effect at the City of Calgary. The Bylaw was created to ensure The City's continued authority to control the installation of water, sanitary sewer and stormwater lines located on private property for commercial, industrial and high-density residential developments. It introduces a new fee structure which eliminates any need for a subsidy by taxpayers and utility ratepayers. The fees are set at levels to encourage applicants to understand and correctly apply City utility design installation standards.

Note: The fees required by this Schedule are not refundable and are charged based on the individual application requirements. Fees outlined below are for the year 2008. These fees are reviewed annually and subject to change. Please refer to Bylaw 33M2005 for fee updates.

5.1.1 Building Grade Fee

- A fee for Building Grades, due at time of application.
- Residential (fourplex or more), Commercial and Industrial. **\$438.00**

5.1.2 Review Fee

A fee for the review and approval of Utility Site Servicing Installation plans due at time of application. Applicable to plans for Commercial, Industrial, or High Density Residential premises, but excludes single detached, semi-detached, duplex or triplex premises.

- Initial (includes two (2) reviews) **\$718.00**
- Additional Reviews **\$165.00**

5.1.3 Inspection Fees

5.1.3.1 Base Fee

A fee for inspections is due at time of application and is applicable to Commercial, Industrial, or High-Density Residential premises but excludes single detached, semi-detached, duplex or triplex premises. A set number of inspections are included in the Base Fee.

5.1.3.2 Additional Fee

For an additional fee, extra inspections may be added at time of application. The Additional Fee is due at time of application and applies to each additional inspection added to the Base Fee.

5.1.3.3 Re-Inspection Fee

Applicable where an extra inspection service trip is required because of the applicant's failure to ensure compliance with the requirements of the utility site servicing application or because of inadequate or unsafe conditions (including but not limited to the situation where The City is unable to gain access to the premises to be inspected at the time of inspection). This fee applies to each return trip by The City of Calgary service employees or personal made in addition to the inspections pursuant to the Base Fee and Additional Fee.

- a) Where 200 meters or less of new sewer mains are to be installed and the new water service will be 50 millimeters or less in diameter:

Size of site in hectares	Inspections Included with Base Fee	Base Fee	Additional Fee For each added Inspection	Re-inspection Fee
Up to and Including 0.5	3	\$713.00	\$236.00	\$472.00
More than 0.5 up to & including 2.0	4	\$948.00	\$236.00	\$472.00
More than 2.0	5	\$1,183.00	\$236.00	\$472.00

- b) Where 200 meters or less of new sewer mains are to be installed and the new water service pipes will be greater than 50 millimeters in diameter. (NOTE: Category B Inspections are shared between L.I.M Inspectors and Subdivision Inspectors with the number of inspections done by each group as follows:)

Total # Insp.	Base Fee	L.I.M. Inspectors	Subdivision Inspectors
10	\$1391.00	3	7
11	\$1628.00	4	7
12	\$1864.00	5	7

Size of site in hectares	Inspections Included with Base Fee	Base Fee	Additional Fee for each added Inspection		Re-inspection Fee (each)	
			Water	Sewer	Water	Sewer
Up to and Including 0.5	10	\$1,391.00	\$87.00	\$236.00	\$174.00	\$472.00
More than 0.5 up to & including 2.0	11	\$1,628.00	\$87.00	\$236.00	\$174.00	\$472.00
More than 2.0	12	\$1,864.00	\$87.00	\$236.00	\$174.00	\$472.00

c) Where more than 200 meters of new sewer mains are to be installed and any new water service will be more than 50 millimeters in diameter the following fees apply.

- | | |
|---|------------------|
| ▪ Base Fee (includes 11 inspections) | \$1030.00 |
| ▪ Additional Fee (inspections added at time of application) | \$ 87.00 |
| ▪ Re-Inspection Fee | \$ 174.00 |

Please note the following:

For Development Site Servicing Plans #2005-223 and onward:

- no Plumbing Permit is required; and
- arrange for inspection of the deep utilities with Building Grades at 268-5795.

For Development Site Servicing Plans prior to #2005-223

- contractors must apply for Plumbing Permit; and
- inspections of deep utilities are to be arrange by contacting Plumbing Services

6 Appendix III: Development Permit and Development Site Servicing Plan Check List for Waste and Recycling

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
a) Waste and recycling storage, staging and collection facilities identified.	_____	_____	_____
b) Site within <u>300 metres</u> active/inactive landfill setback boundary. Landfill advisory in effect.	_____	_____	_____
c) Floor Area of Commercial/Industrial Use. _____ .	_____	_____	_____
d) Provide waste storage area as set out under Section _____	_____	_____	_____
e) Waste and recycling storage facilities are centrally located.	_____	_____	_____
f) Collection locations are serviced by a continuous traffic pattern from the point entry to point of exit.	_____	_____	_____
g) Easy waste and recycling collection access to be provided as noted:	_____	_____	_____
h) Minimum 4.8m wide driveway from site entry/exit to collection location;	_____	_____	_____
i) Minimum 4.3m vertical clearance for collection vehicle;	_____	_____	_____
j) Minimum 6.4m vertical clearance for dumping containers;	_____	_____	_____
k) Minimum 12.0m radius turnabout for collection vehicle (if required);	_____	_____	_____
l) Location and identification of hydrants, power light and signal poles; transmission boxes, retaining walls, buildings and other physical features; and	_____	_____	_____
m) Is the <u>waste collection vehicle</u> required to make an unsafe maneuver.	_____	_____	_____
n) Waste and recycling storage/collection facilities are adjacent to the lane and are serviced in accordance with existing collection routing.	_____	_____	_____
o) Straight on collection vehicle access for container pick up is not available.	_____	_____	_____
20 degree drive on access for 6.1m wide right of way	_____	_____	_____
30 degree drive on access for 7.6m wide right of way	_____	_____	_____
45 degree drive on access for 9.0m wide right of way	_____	_____	_____
p) Where straight on access is not available for container pick up, the enclosure shall be constructed so that the waste container can be rotated such that direct and easy waste collection vehicle access is provided	_____	_____	_____
q) Is lane paving required.	_____	_____	_____
r) Ensure that grade information for both waste and recycling storage area(s) and staging/collection location(s) are a maximum of 2% slope. Also includes the area between the storage area and area and the collection stage area.	_____	_____	_____
s) Waste and recycling storage/collection locations are visually	_____	_____	_____

- screened from the adjacent sites and public thoroughfares. _____
- t) The exterior finish of waste and recycling storage buildings/enclosures compliments the architecture of the development. _____
- u) All driving surfaces within the site are to support 25,000kg for the entire route of the waste and recycling collection vehicle. _____
- v) Waste and recycling storage enclosures/buildings are not located in a utility right-of-way or in an easement. _____
- w) Food/medical waste has a separate storage/collection facility. _____
- x) Owner has provided a letter accepting responsibility for the transportation of the containers to and from storage location(s) and staging/collection the location(s) on scheduled day of collection _____

7 Appendix IV: Bylaw Number 20m2001

BEING A BYLAW OF THE CITY OF CALGARY TO REGULATE AND MANAGE WASTE

7.1 Bylaw Number 20m2001

(As Amended by B/L Number 38M2003)

WHEREAS the *Municipal Government Act* S.A. 1994, c. M-26.1 provides that Council may pass bylaws for the municipal purposes respecting the safety, health and welfare of people, the

protection of people and premises, nuisances, services provided by or on behalf of the municipality,

and the enforcement of bylaws; and

WHEREAS it is desirable to regulate and control the storage, collection and disposal of waste within the City of Calgary;

NOW THEREFORE, THE COUNCIL OF THE CITY OF CALGARY ENACTS AS FOLLOWS:

1. This Bylaw may be referred to as the "Waste Bylaw".
2. In this Bylaw the term:
 - a) "*alley*" means a street or lane intended primarily for access to the rear yard of adjacent premises;
 - b) "*animal waste*" means all forms of waste from animals or the treatment of animals except animal carcasses or parts;
 - c) "*apartment*" means a residence that is in a building of more than four self-contained suites, but excludes a condominium;
 - d) "*biomedical waste*" means medical waste that requires proper handling and disposal because of environmental, aesthetic, and health and safety concerns as well as risks to human health and includes:
 - (i) human anatomical waste;
 - (ii) infectious human waste;
 - (iii) infectious animal waste;
 - (iv) microbiological waste;
 - (v) blood and body fluid waste; and
 - (vi) medical sharps, such as needles, syringes, blades, or other clinical or laboratory materials capable of causing punctures or cuts;
 - e) "*Chief Executive Officer*" means the person appointed by the Council of the City as its chief administrative officer, or his designate;
 - f) "*City*" means the municipal corporation of The City of Calgary or the area located within the boundaries of the City, as the context requires;

- g) “*collection*” means picking up and gathering waste and includes its transport to a disposal site and “collect” has a corresponding meaning;
- h) “*collector*” means a person employed to collect waste;
- i) “*commercial bin*” means any water-tight container provided for the storage of waste and constructed to be emptied mechanically into a collection vehicle;
- j) “*commercial premises*” means any premises that are not a residential dwelling, and includes any premises that are exempt from municipal assessment or taxation;
- k) “*condominium*” means any residential dwelling title to which is:
- (i) registered under the *Condominium Property Act*, R.S.A. 1980, c. C-22; or;
 - (ii) held by a cooperative housing association registered under the *Co-operative Associations Act*, R.S.A. 1980, c. C-24; and for the purposes of this Bylaw each unit is deemed to be a residential dwelling;
- l) “*designated officer*” means a City employee who has the powers, duties or functions of a designated officer pursuant to the *Municipal Government Act*, S.A. 1994, c. M- 26.1;
- (i) “*Director, Waste & Recycling services*” means the Chief Executive Officer or his designate;
- m) “*disposal site*” means any premises designated by the Director, Waste and Recycling Services of Solid Waste Services for the disposal of waste or any other premises which is approved by Alberta Environment for the disposal of waste;
- n) REPEALED BY B/L 38M2003, 2003 OCTOBER 6;
- o) “*general medical waste*” means non-hazardous medical waste and includes soiled dressings, sponges, surgery drapes, lavage tubes, casts, catheters, disposable pads, disposable gloves, specimen containers, lab coats and aprons, tubings, filters, towels and disposable sheets, but excludes biomedical waste;
- p) “*hazardous waste*” means waste that is generated from any premises and has one or more hazardous properties as described in the *Alberta Environmental Protection and Enhancement Act*, Waste Control Regulation (Alta. Reg. 192/96), Schedule 1;
- q) “*industrial waste*” means waste generated by commercial or industrial activities that presents health, safety or environmental concerns, and includes but is not limited to lime, sulfur, asbestos, contaminated soils, empty chemical containers and drums, carbon, acids, caustics, sludge, and industrial sump water, but excludes hazardous waste and biomedical waste;
- r) “*litter receptacle*” means a receptacle intended for public use for the collection of litter, but excludes a commercial bin or a waste container;

- s) “owner” includes the person shown as the owner on the Land Title for a property, the occupant of a premises, the lessee or tenant of a premises, the Condominium Board of condominium property, and a property management company which holds itself out as the person responsible for the maintenance of a premises;
- t) “plastic garbage bag” means a sturdy plastic bag specifically marketed to store waste for collection, and excludes plastic bags that are intended for other purposes;
- u) “residential dwelling” means:
 - (i) single family homes;
 - (ii) premises intended for residential use, and consisting of fewer than five self contained suites; and
 - (iii) a condominium; but excludes an apartment;
- v) “waste” means anything that is discarded and includes animal, dry, industrial, general medical, or yard waste, but excludes hazardous waste and biomedical waste;
- w) “waste container” means a container designed to store waste for collection but excludes a commercial bin and a litter receptacle; and
- x) “yard waste” means waste from gardening or horticultural activities and includes grass, leaves, plants, tree and hedge clippings, and sod.
(B/L 38M2003, 2003 October 6)

7.2 Authority Of Director, Waste and Recycling Services

- 3. The Director, Waste and Recycling Services is authorized to:
 - a) approve or set specifications for commercial bins, waste containers and plastic garbage bags;
 - b) specify the types of waste accepted at a City disposal site;
 - c) specify the quantities and types of waste eligible for collection;
 - d) designate City premises to be used as City disposal sites;
 - e) determine the time and frequency of waste collection;
 - f) make and execute agreements on behalf of the City for waste collection and disposal services;
 - g) issue industrial waste permits for the disposal of industrial waste; and
 - h) grant approvals and permissions as set out in this Bylaw.
(B/L 38M2003, 2003 October 6)

7.3 General Rules

- 4. No person shall scavenge waste from a commercial bin, waste container or plastic garbage bag.

5. The owner of any premises shall store waste on the premises from which it is generated, unless it is stored on other premises with the consent of the owner and occupant of those other premises.
6. No person shall deposit waste in a waste container or commercial bin without the consent of:
 - a) the owner of the container or bin;
 - b) the owner of the property where the container or bin is located; and
 - c) the occupant of the property where the container or bin is located.
7. Unless the owner has written approval from the Director, Waste and Recycling Services to set waste containers and plastic garbage bags out for collection in a specific location, an owner must ensure that waste containers and plastic garbage bags containing waste are:

7.3.1

- a) located immediately adjacent to a street or alley;
- b) at a central location where the collector will have easy, direct and safe access to the waste containers or plastic garbage bags;
- c) if intended for front street collection:
 - (i) if there is no sidewalk, on the occupant side of the curb;
 - (ii) if there is a sidewalk joined to the curb, on the occupant premises, adjacent to the sidewalk, or
 - (iii) if there is a separate sidewalk with a boulevard, on the boulevard adjacent to the curb; and
- d) if there is a walkway or stairway adjacent to the street or alley, at the bottom of the walkway or stairway.

(B/L 38M2003, 2003 October 6)

8. If there is a fence between waste that has been set out for collection and a street or alley, the owner must ensure there is an opening in the fence:
 - a) at least 0.2 metres wider than all the waste containers and plastic garbage bags; and
 - b) at least 0.4 metres higher than the highest waste container or plastic garbage bag, such that the collector can easily and safely access the waste containers and plastic garbage bags.
9. An owner shall ensure that waste stored or set out for collection on or adjacent to that owner's premises does not:
 - a) create offensive odours; or
 - b) become untidy.

7.4 Restrictions on Waste

10. Except as otherwise provided in sections 11, 12, 13, 14 and 15, an owner shall ensure that the following types of waste are not set out for collection from his premises:
- a) industrial or hazardous waste;
 - b) biomedical waste;
 - c) general medical waste;
 - d) sharp objects such as glass, nails, knives, metal, or wood splinters;
 - e) animal waste, dead animals or animal parts;
 - f) sawdust and powdered materials;
 - g) automobile waste including automobile parts, tires, and batteries;
 - h) building materials and furniture;
 - i) individual items that are larger than 1.25 metres in any dimension or items that weigh more than 20 kilograms;
 - j) liquids; and
 - k) waste that is unsafe for the collector to access or handle.
11. A person may set medical sharps out for collection if the medical sharps are contained in a puncture resistant, non-breakable container with a tight fitting lid before they are set out for collection.
12. A person may set sharp objects out for collection if the sharp objects are contained in a puncture resistant, non-breakable container with a tight fitting lid before they are set out for collection, or if they are set out for collection in a commercial bin.
13. A person may set building materials and furniture out for collection if the building materials or furniture is set out in a commercial bin.
14. A person may set items that are larger than 1.25 m in any dimension or that weigh more than 20 kilograms out for collection in commercial bins.
15. A person may set general medical waste, animal waste, sawdust and powdered materials out for collection if it is packaged in securely tied, double plastic garbage bags.
16. An owner shall ensure that all yard waste that is set out for collection is:
- a) packaged in plastic garbage bags;
 - b) tied in bundles no more than 1.25 metres in length; or
 - c) set out for collection in a commercial bin.

7.5 Residential Waste

17. Owners of residential dwellings, other than condominiums, with more than one self-contained suite must ensure there is a single waste storage location for the residential dwelling which is directly accessible from a street or alley.

18. No owner of a residential dwelling shall set out for collection any waste that is not generated from his residential dwelling.
19. Except as provided in section 26, the owner of a residential dwelling must ensure that waste generated at his residential dwelling is set out for collection in a waste container or a plastic garbage bag.
20. Where waste is placed in a receptacle other than a waste container or plastic garbage bag, the receptacle is deemed to be waste and may be collected as such.
21. An owner of a residential dwelling shall ensure that waste containers used at his residential dwelling:
- are constructed of sturdy, water-tight material;
 - are maintained in good condition;
 - have fixed rigid handles and a smooth rim;
 - have properly fitting lids that are kept closed except when the containers are loaded or unloaded;
 - do not have lids attached to the container by chain, rope or wire; and
 - have a maximum volume of no more than 100 litres.
22. Notwithstanding section 21 (f) an owner may use a waste container with a volume larger than 100 litres if waste is packaged in plastic garbage bags and the bags can be easily removed without lifting the waste container.
23. An owner must ensure that residential waste containers used at his premises are filled so that:
- the cover of the container fits properly;
 - contents of the container can be easily removed from the container; and
 - the total weight of the container and its contents does not exceed 20 kilograms.
24. An owner must ensure that plastic garbage bags used at his premises:
- are water-tight and securely tied;
 - are capable of holding their contents without breaking; and
 - the total weight of a bag and contents does not exceed 20 kilograms.
25. An owner must ensure that waste from his residential dwelling is set out for collection:
- no later than 7:00 a.m. on the day of collection; and
 - no earlier than 7:00 p.m. on the day before collection.

7.6 Collection from Condominiums

26. The owner of a condominium may set waste out for collection in a commercial bin if use of a commercial bin is approved in writing by the Director, Waste and Recycling Services.

(B/L 38M2003, 2003 October 6)

27. If the Director, Waste and Recycling Services approves the use of a commercial bin by a condominium, the owners of the condominium must provide and maintain the commercial bin at their own cost.

(B/L 38M2003, 2003 October 6)

28. Where the Director, Waste and Recycling Services has approved the use of a commercial bin by a condominium, the owners of that condominium must ensure the commercial bin is placed at a location where the collector can easily and safely access it, unless, the Director, Waste and Recycling Services has approved in writing a specific location for the commercial bin.

(B/L 38M2003, 2003 October 6).

29. The City will collect waste from a condominium using a commercial bin only if the commercial bin is owned by the condominium or is rented from the City.

30. Where the City collects waste from a condominium The City will collect waste with the same frequency as it does at other residential dwellings.

7.7 Commercial Waste

31. Except as provided in section 32, the owner of commercial premises must ensure waste generated at the premises is set out in a commercial bin for collection.

32. The Director, Waste and Recycling Services may give the owner of commercial premises written approval to set waste out for collection in waste containers or plastic garbage bags.

(B/L 38M2003, 2003 October 6)

33. The owner of commercial premises must ensure sufficient commercial bins, waste containers, or plastic garbage bags are available to hold and retain all waste from the premises.

34. The owner of premises using commercial bins must ensure that:

- a) the bins are located in a central place that allows direct vehicular access to the bins;
- b) snow and ice does not accumulate near the bins such that vehicle access to the bins is impeded; and
- c) if The City collects waste from a premises using a commercial bin, the bin meets the specification set by the Director, Waste and Recycling Services.

(B/L 38M2003, 2003 October 6)

35. If it is impractical for a commercial bin to be located outside of commercial premises, the Director, Waste and Recycling Services may give written approval to the owner of the commercial premises to store the commercial bin inside a building.

(B/L 38M2003, 2003 October 6)

36. The Director, Waste and Recycling Services shall not give written approval for a commercial bin to be stored inside a building unless he is first satisfied that the Fire Marshall of the City does not object to the storage of the commercial bin inside the building.

(B/L 38M2003, 2003 October 6)

37. The owner of commercial premises shall ensure there are sufficient litter receptacles on the premises.

38. The owner of commercial premises shall ensure that all litter receptacles on the premises are:

- a) maintained in good condition;
- b) weighted or anchored so they cannot be inadvertently overturned;
- c) of suitable size and at sufficient locations to discourage litter; and
- d) emptied into a commercial bin, waste container, or plastic garbage bag when full.

7.8 Waste Disposal

39. No person or owner of a motor vehicle as that term is used in the *Highway Traffic Act*, R.S.A. 1980, c. H-7 shall:

- a) dispose of any waste at a City disposal site other than the types of waste specified by the Director, Waste and Recycling Services.
- b) dispose of waste at a City disposal site unless it is packaged to prevent litter once deposited; or
- c) scavenge at a City disposal site.

(B/L 38M2003, 2003 October 6)

40. No person or owner of a motor vehicle as that term is used in the *Highway Traffic Act*, R.S.A. 1980, c. H-7 shall dispose of industrial waste without an industrial waste permit issued by the Director, Waste and Recycling Services.

(B/L 38M2003, 2003 October 6)

41. A person to whom an industrial waste permit has been issued shall ensure all provisions of that permit are complied with.

42. Fees for waste delivered to a City disposal site will be set by resolution of Council.

7.9 Enforcement

43. Where a Bylaw Enforcement Officer who is also a designated officer, believes a person has contravened any provision of this Bylaw, he may:

- a) issue to the person an order in accordance with the *Municipal Government Act*, S.A.1994, c.

- M 26.1 to remedy the infraction;
- b) issue to the person a violation ticket in accordance with the *Provincial Offences Procedures Act* 1988, c. P-21.5; or
 - c) do both (a) and (b) above.
44. If the person to whom an order has been issued pursuant to section 43 fails to comply with the order within the time specified in the order:
- a) that person commits an offence under this section and a Bylaw Enforcement Officer may issue a violation ticket pursuant to *Provincial Offences Procedure Act*, S.A. 1988, c. P-21.5; and
 - b) The City may take whatever steps are necessary to remedy the breach of the bylaw and the cost of doing so becomes a debt owing to the City by the person to whom the order was issued in accordance with the *Municipal Government Act*, S.A. 1994, c. M-26.1.
45. Any person who contravenes a provision of this bylaw is guilty of an offence and is liable:
- a) for a first offence to a fine of not less than \$100.00; and
 - b) for a second offence of the same provision within a twenty-four month period to a fine of not less than \$300.00.
46. The specified penalty for a first offence is the amount shown in Schedule A in respect of that offence.
47. Where, on a prosecution of an offence pursuant to this Bylaw, a person believes a written approval or permission of the Director, Waste and Recycling Services provides that person with a defence, the onus of proving that approval or permission was given rests with the person relying on the permission or approval.
(B/L 38M2003, 2003 October 6)
48. The levying and payment of any fine or the imprisonment for any period provided in the Bylaw shall not relieve a person from the necessity of paying any fees, charges or costs for which he is liable under the provisions of this Bylaw.
49. Nothing in this Bylaw relieves a person from complying with any federal or provincial law or regulation, other bylaw or any requirements of any lawful permit, order, consent or other direction.
50. Where this Bylaw refers to another Act, Regulation or agency, it includes reference to any Act, Regulation or agency that may be substituted therefore.

7.10 Bylaw Number 20m2001

Effective Date and Repeal Of Bylaws

- 51. Bylaw 13M82 is hereby repealed.
- 52. This Bylaw shall come into force on the day it is passed.
READ A FIRST TIME THIS 19th DAY OF MARCH, 2001.

READ A SECOND TIME THIS 19th DAY OF MARCH, 2001.
READ A THIRD TIME THIS 19th DAY OF MARCH, 2001.

(Sgd.) A. Duerr

Mayor

(Sgd.) D. Widdes

Acting City Clerk

BYLAW NUMBER 20M2001

7.11 Schedule "A"

Amount of Specified Section Penalty in Dollars

4. Scavenge waste \$125.00
5. Storing waste on other's premises \$250.00
6. Waste deposited without consent \$250.00
7. Improperly located waste containers \$125.00
8. Waste inaccessible because of fence \$125.00
9. Allowing offensive odours or untidy waste \$125.00
10. Setting out restricted waste for collection \$250.00
16. Improper packaging of yard waste \$125.00
17. Fail to provide single waste storage location \$125.00
18. Set out waste not generated on premises \$250.00
19. Fail to set out waste in container or plastic garbage bag \$125.00
21. Use improper waste containers \$125.00
23. Improperly filled waste containers \$125.00
24. Improperly filled plastic garbage bags \$125.00
25. Set waste out at wrong time \$125.00
31. Fail to use commercial bin \$250.00
33. Fail to provide sufficient bins \$250.00
34. Fail to provide access to bins \$250.00
37. Fail to provide litter receptacles \$125.00
38. Fail to maintain litter receptacles \$125.00
39. (a) Dispose of improper waste at disposal site \$250.00
(b) Dispose of improperly packaged waste at disposal site \$125.00
(c) Scavenge waste at disposal site \$125.00
40. Dispose of industrial waste without a permit \$400.00
41. Fail to comply with permit \$400.00

www.calgary.ca/DocGallery/BU/cityclerks/20m2001.pdf

