## Engineering Drawing Notes

 The following notes for Engineering Drawings **must appear**, as phrased, on the

drawings as applicable.

**A. CITY GENERAL NOTES**

**1.** For the purpose of construction and accountability the developer must advise the Surrey City Inspector, in writing, which of the city notes is going to be the responsibility of the developer's contractor.

**2.** Construction is to be in accordance with the City of Surrey Highway and Traffic Bylaw No. 13007, Subdivision Bylaw No. 8830 and the applicable Municipal Master Specifications and Standard Detail Drawings, City of Surrey Standard Construction Documents, Supplementary Specifications & Standard Drawings and City Design Criteria**.**

**3.** Traffic control is the responsibility of the developer and the developer shall comply with SECTION 52 of the Industrial Health and Safety Regulations of the Workers' Compensation Board of B.C. and the instructions outlined on the City Road and Right-of-Way Permit and Traffic Obstruction Permit issued by the city.

The developer is to have, ON SITE, a copy of the current "B.C. Traffic Control Manual for Work on Roadways" as published by the Ministry Of Transportation and Highways.

**4.** The developer shall be responsible for obtaining all City permits for work within the City road allowance.

**5.** Where utility or service crossings are required across existing pavements,

 an underground method of installation is required unless special approval is given

 from the City for an open cut operation. All existing pavements, boulevards,

 driveways, etc., are to be reinstated to original or better condition and in

 accordance with City Specifications and the Pavement Cut Policy.

**6.** Surrey's ISA monument(s) are to be protected and should they require raising or relocating, the developer will notify Surrey's Survey Department at least three working days in advance of scheduling work affecting them. An ISA monument shall be considered to be disturbed or destroyed, by the developer, if the construction for the project:

 (1) Lowers the grade of the road at the location of an ISA monument(s),

 (2) Raises the grade of the road at the location of an ISA monument(s), or

 (3) Installs any underground utilities (including BC Gas, BC Hydro, BC Telephone, GVRD water/sanitary sewer/or drainage etc.) within 1.500 metre radius of the ISA monument(s).

The City will invoice the developer a non refundable flat rate fee of $1,750.00 for each ISA monument disturbed or destroyed ($3150 - high precision secondary benchmark, $7250 - high precision network monument)

**7.** All street, traffic, and advisory signs, pavement markings and no-post guardrails

 required but not necessarily shown on the drawings, shall be installed by the City

 at the Developer's cost.

**8.** Where infilling of existing ditches is required or where services are constructed in

 a fill section, fill material is to be in accordance with City specifications and is to

 be compacted to 95 % of Modified Proctor Density.

**9.** Driveway boulevard crossings to each of the proposed lots are to be installed in

 accordance with the City Standard Drawings.

**10.** Residents directly affected by construction of this project must be given 48 hours

 written notice of the proposed start of construction.

 The developer will require written authorization from a private property owner,

 with a copy to the City, prior to any entry onto private property and a written

 release, from the property owner, when completed.

**11.** When native site GRANULAR BACKFILL is proposed for use in trenches the Developer shall employ a Professional Engineer with experience in Geotechnical Engineering for performance of in place density and sieve testing. Selection of the Professional Engineer and use of the site material is to be approved by the City. The site material must fall within one of the granular backfill material specifications. River Sand is not acceptable as trench backfill material.

**12.** The developer shall facilitate and supply all necessary safety equipment required

 under the WCB Regulations for the City or its representatives or the Engineer of

 Record to inspect the sanitary sewer and storm sewer systems. The equipment

 shall be supplied until such time as a Certificate of Completion is issued by the

 City.

**13.** Developer is to verify the location and elevation of all pipes, or other utility

 crossings, prior to construction and shall notify the Engineer of Record of any

 conflicts.

Last Revised: January 18, 2010

**14.** The developer shall employ a Professional Engineer to design a sediment and erosion control system in the development in order to prevent silt discharges to the storm drainage system and watercourses.

**15.** The"Tree Cutting and Preservation Bylaw No. 12880"requires that a cutting permit be obtained before any trees are removed from the site. Other provisions of the Bylaw may also be applicable.

 **B. CITY ROADWORK NOTES**

**1.** The developer shall employ a Professional Engineer with experience in Geotechnical Engineering for performance of in place testing during the preparation of the sub-grade and construction of the road structure to verify the adequacy of the proposed and existing road structure and sub-grade. Selection of the Professional Engineer is to be approved by the City.

**2.** Existing valve boxes, manholes, etc. within the road allowance must be adjusted

 to suit the proposed finished grade.

**3.** All loose, organic, otherwise deleterious materials or soft spot(s) are to be excavated and removed from the roadway and utility trenches in the roadway as per the geotechnical consultant's report or as directed by the City.

**C. CITY SANITARY SEWER AND STORM SEWER NOTES**

**1.** Unless prior approval is given to the developer by the City, tie-ins and connections to existing sanitary sewers are to be performed by the City at the Developer's cost.

**2.** All service connections shall be made to the main wherever possible. Should a

 connection have to be made to a manhole, the connection invert shall be at the

 same elevation as the crown of the highest sewer main.

**3.** All manholes are to be a minimum of 1050 mm diameter unless otherwise noted.

**4.** All sanitary sewer and storm sewer service connections are to be a minimum 100 mm diameter.

**5.** All granular pipe bedding shall be either TYPE 1 or TYPE 2 ONLY as per the City Specifications.

**D. CITY WATER WORKS NOTES**

**1.** The Developer shall supply all materials and fittings required for the tie-in of the new water mains by the City.

**2.** All new water mains, at tie-in points, are to be capped 1.5 m from the existing water main. The proposed water main is to be set at the line and grade to meet the existing water main.

**3.** Tie-ins to existing water mains and final testing and chlorination of new mains is to be performed by the City at the Developer's cost.

**4.** All domestic service connections will be a minimum of 19 mm diameter unless

 otherwise specified.

**5.** Where 100 mm diameter pipe is used it will be Ductile Iron (D.I.) and shall conform to the City Specifications.

**6.** No McAvity fittings or valves etc. are to be used.

**7.** No cast iron valves on fittings.

***The following certification is to be placed on all water main drawings by the consultant as part of the drawing submission:***

“I\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, Professional Engineer, in good standing in and for the Province of British Columbia, hereby certify that the water main design on this drawing has been done in accordance with the Ministry of Health design criteria and that no construction will occur unless a permit has been **issued** by the Ministry of Health”.

**E. CITY STANDARD STREETLIGHT NOTES**

 ***The following notes must appear on the streetlight drawings as shown.***

**1.** The City of Surrey ornamental street light standards and specifications to apply.

**2.** See B.C. Hydro regulations for service connection details.

Last Revised: September 30, 2010

**3.** Developer to arrange for exact service location(s) with B.C. Hydro prior to commencing construction.

**4.** All luminaries to have shatterproof polycarbonate refractors.

**5.** Developer to number poles as per Surrey instructions and the numbers shown on the drawings.

**6.** All lamps are to be clear.

**7.** The colour of the street light poles is to be approved by the city. The primer and the paint specification(s) are to be included on the street light drawing:

 All poles are to be painted as follows:

 a) **Primer:** one coat, outside, General Paint's Meta Prime (Vinyl Wash) to a maximum of 0.5 mil thickness and painted within 12 hours of application of the primer with;

 b) **Aluminum Finish:** two coats, Non Alkyds base paint

**8.** It is the responsibility of the developer to confirm the adequacy of the existing street light service, service base, conduit and conductors and make all necessary repairs to adequately complete all connections into the existing street light system.

**9.** Developer shall obtain all permits and licenses prior to construction.

**10.** Developer to ensure that all street light poles are a minimum 3.0m clear of all Hydro Poles and overhead primary wires and 0.3m clear of all overhead secondary wires prior to installing bases.

**11.** The consultant must specify the type of luminaire and wattage that is going to be used on the project. The old standard of specifying a GE type bulb is no longer applicable. This note is to be prepared by the consultant for every project.

**12.** All street lights are to be 1.0m clear of all driveways.

**ENGINEER'S CERTIFICATION**

 I \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, Professional Engineer, in good

standing in and for the Province of British Columbia, hereby certify that the works as

herein set out on the attached drawings have been designed to good engineering standards and in accordance with the latest edition of the City of Surrey Design Criteria Manual, the Master Municipal Construction Documents (MMCD), and the City of Surrey Standard Construction Documents (General Conditions, Supplementary Specifications and Supplementary Standard Drawings) adopted by the City of Surrey.

Exception to the City Specifications and Design Criteria Manual:

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 **DATE** **SIGNATURE**

The Engineering Department acknowledges the receipt of the attached plans which may proceed to construction provided payments, service agreement and right-of-way requirements are processed to the satisfaction of the General Manager of Engineering.

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 **DATE** **SIGNATURE**