THE CITY OF WINNIPEG

REQUEST FOR PROPOSAL

RFP NO. 55-2015

REQUEST FOR PROPOSAL FOR THE PROVISION OF ENTERPRISE STORAGE

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PART B - BIDDING PROCEDURES

B1.   CONTRACT TITLE

B1.1   REQUEST FOR PROPOSAL FOR THE PROVISION OF ENTERPRISE STORAGE

B2.   SUBMISSION DEADLINE

B2.1   The Submission Deadline is 4:00 p.m. Winnipeg time, May 28, 2015.

B2.2   Proposals determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.

B2.3   The Contract Administrator or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

B3.   BIDDERS CONFERENCE

B3.1   The Contract Administrator will hold a Bidders' conference at Main Floor 185 King Street from 9:00 a.m. to 11:30 a.m. on May 7, 2015.

   (a)   Bidders unable to physically attend the conference location can contact the Contract Administrator for teleconference contact options

B3.2   The Bidder is advised that, at the Bidders' conference, the City will listen to any questions the bidders have and address each one.

B3.3   The Bidder shall not be entitled to rely on any information or interpretation received at the Bidders' conference unless that information or interpretation is provided by the Contract Administrator in writing.

B4.   SITE INVESTIGATION

B4.1   Further to C3, the Bidder may make an appointment to view the Site by contacting the Contract Administrator.

B4.2   The Bidder shall not be entitled to rely on any information or interpretation received at the Site investigation unless that information or interpretation is the Bidder's direct observation, or is provided by the Contract Administrator in writing.

B5.   ENQUIRIES

B5.1   All enquiries shall be directed to the Contract Administrator identified in D5.1.

B5.2   If the Bidder finds errors, discrepancies or omissions in the Request for Proposal, or is unsure of the meaning or intent of any provision therein, the Bidder shall promptly notify the Contract Administrator of the error, discrepancy or omission at least five (5) Business Days prior to the Submission Deadline.

B5.3   If the Bidder is unsure of the meaning or intent of any provision therein, the Bidder should request clarification as to the meaning or intent prior to the Submission Deadline.

B5.4   Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Request for Proposal will be provided by the Contract Administrator to all Bidders by issuing an addendum.

B5.5   Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Request for Proposal will be provided by the Contract Administrator only to the Bidder who made the enquiry.

B5.6   The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B4 unless that response or interpretation is provided by the Contract Administrator in writing.

B6.   CONFIDENTIALITY

B6.1   Information provided to a Bidder by the City or acquired by a Bidder by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Contract Administrator. The use and disclosure of the confidential information shall not apply to information which:

(a)   was known to the Bidder before receipt hereof; or

(b)   becomes publicly known other than through the Bidder; or

(c)   is disclosed pursuant to the requirements of a governmental authority or judicial order.

B6.2   The Bidder shall not make any statement of fact or opinion regarding any aspect of the Bid Opportunity to the media or any member of the public without the prior written authorization of the Contract Administrator.

B7.   ADDENDA

B7.1   The Contract Administrator may, at any time prior to the Submission deadline, issue addenda correcting errors, discrepancies or omissions in the Request for Proposal, or clarifying the meaning or intent of any provision therein.

B7.2   The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.

B7.2.1   Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/bidopp.asp

B7.2.2   The Bidder is responsible for ensuring that he/she has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.

B7.3   The Bidder shall acknowledge receipt of each addendum in Paragraph 9 of Form A: Proposal. Failure to acknowledge receipt of an addendum may render a Proposal non-responsive.

B8.   SUBSTITUTES

B8.1   The Work is based on the materials, equipment, methods and products specified in the Request for Proposal.

B8.2   Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.

B8.3   Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least seven (7) Business Days prior to the Submission Deadline.

B8.4   The Bidder shall ensure that any and all requests for approval of a substitute:

(a)   provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the material, equipment, method or product as either an approved equal or alternative;

(b)   identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;

(c)   identify any anticipated cost or time savings that may be associated with the substitute;

(d)   certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the Contract;

(e)   certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the Contract.

B8.5   The Contract Administrator, after assessing the request for approval of a substitute, may in his/her sole discretion grant approval for the use of a substitute as an "approved equal" or as an "approved alternative", or may refuse to grant approval of the substitute.

B8.6   The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, to the Bidder who requested approval of the substitute.

B8.6.1   The Contract Administrator will issue an Addendum, disclosing the approved materials, equipment, methods and products to all potential Bidders. The Bidder requesting and obtaining the approval of a substitute shall be responsible for disseminating information regarding the approval to any person or persons he/she wishes to inform.

B8.7   If the Contract Administrator approves a substitute as an "approved equal", any Bidder may use the approved equal in place of the specified item.

B8.8   If the Contract Administrator approves a substitute as an "approved alternative", any Bidder bidding that approved alternative may base his/her Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B26.

B8.9   No later claim by the Contractor for an addition to the price(s) because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

B8.10   Notwithstanding B8.2 to B8.9 and in accordance with B10.8, deviations inconsistent with the Request for Proposal document shall be evaluated in accordance with B26.1(a).

B9.   STORAGE BACKGROUND

B9.1   The City makes extensive use of enterprise storage within our computing environment. All new Server implementations make use of enterprise storage whenever possible and local disk is only used when required for specific cases.

B9.2   The majority of our production workloads have 5x9 availability requirements and support windows. We have many workloads that are 7x24 with a limited tolerance for downtime. We do not currently have third party tools to monitor or manage our enterprise storage environment. We utilize CA Nimsoft for monitoring our servers and applications.

B9.3   We have 2 active data centres both running a mixture of production and development workload (~70% of our workload at one site and ~30% at the other site.) The intent is for the infrastructure running the active workload at either data centre to be used to service critical computing workload from the alternate data centre in the event of a major data centre failure. The computing workload located at these data centres are accessed from dozens of business locations located throughout the city.

B9.4   The two data centres are connected by 4 x 1 Gb redundant IP networks with plans to upgrade to 10 Gb in 2H 2015. There is currently no Fibre Channel connectivity between the two data centres for storage. We currently utilize one of the 1 Gb links for dedicated traffic for TSM Copy

Pool Backups and Veeam Backup Copy jobs. We utilize a portion of the other 1 Gb links for VMware replication.

B9.5   Our Secondary Data Centre has minimal expansion capacity for power and floor space.

B9.6   All of our current enterprise storage is fibre channel based. We have a strong understanding of Fibre Channel enterprise storage technology and a limited understanding of other technologies such as iSCSI.

B9.7   The City utilizes HP Blade, Tower and Rack servers for its x86 based computing needs. We have 5 x HP C7000 Enclosures, 3 at our Primary site and 2 at our secondary site. The 3 enclosures at our Primary site utilize HP Virtual Connect FlexFabric 10 Gb/24-port modules to connect to our Cisco Ethernet and Brocade Fibre Channel networks. The two enclosures at our secondary site utilize Cisco Blade Switches (Cisco Catalyst Blade Switch 3020 for HP) and HP Brocade Switches (HP B-series 8/24c SAN Switch BladeSystem c-Class).

B9.8   We utilize Brocade 5100 and 5300 Fibre Channel switches for all storage connectivity. We have two fabrics at each site and the sites are not connected. All Brocade and HP Switches are at firmware level 7.1.1.a. We are currently utilizing 22 Ports on each switch at our Primary Site and are utilizing 12 Ports on each switch at our Secondary Site.

B9.9   We currently have approximately 75 physical servers – ~53 Blades, ~ 15 Rack/Tower, and ~7 Unix/iSeries. Of the ~75 physical servers, ~42 are VMware Hosts supporting ~1,000 VMs. We currently are using HP BL490c (G6 and G7) and BL460c Gen8 Blades for our VMware hosts. All Blades are diskless. We boot ESXI from SD card and use SAN boot for any Windows Blades.

B9.10   Our policy for deploying new servers is to use virtualization as the default and only look to physical servers if justified.

B9.11   Our current server workload is over 97% virtualized. The total workload consists of ~70% Windows (~700 Servers), ~25% Linux (~300 Servers), and less than 5% Unix/iSeries (~7 Servers).

B9.12   The City does not currently have a VDI deployment.

B9.13   The City does not currently utilize any flash or SSD storage.

B9.14   We currently utilize the following three tiers of storage:

(a)   Tier1 – 600GB 10K or 15K SAS Disk Drives:
   (i)   Used for all Primary Storage (Application and DB servers, etc.);
   (ii)   Primary Datacentre – 177 TiB useable capacity;
   (iii) Secondary Datacentre – 58 TiB useable capacity;

(b)   Tier2 – 2TB 7.2K SAS or SATA Disk Drives:
   (i)   Used for File Services and Disk based backups (D2D);
   (ii)   Primary Datacentre – 242 TiB useable capacity;
   (iii) Secondary Datacentre – 356 TiB useable capacity;

(c)   Tier3 – LTO Ultrium 4 Tapes:
   (i)   Used for TSM backups;
   (ii)   Primary Datacentre – 1,026 TiB useable capacity;
   (iii) Secondary Datacentre – 691 TiB useable capacity.

B9.15   We have the following Backup Tiers defined in our environment that are standardized across all backup products/methods:

(a)   Backup Tier1 – Daily Backups with 32 Versions (typically used for production);

(b)   Backup Tier2 – Daily Backups with 8 Versions (typically used for test and development);

(c)   Long Term Backups – Monthly backups that are kept for 1 year (typically used for File Servers).

B9.16   We utilize Veeam Backup & Replication Enterprise 7.x (currently upgrading to 8.x) to back up our virtual Servers. We backup to Tier2 Storage at each site using Reversed Incremental Backups.   Backups are replicated to the alternate data centre with Veeam's Backup Copy Jobs to Tier2 Storage.

    (a)   We are not currently using Tape in our Veeam deployment;

    (b)   We utilize Physical Windows Proxies and Repositories with SAN storage;

    (c)   We utilize Direct SAN Transport Mode;

    (d)   We are not currently licenced for the Enterprise Plus version of Veeam;

    (e)   We are not currently utilizing Veeam's Replication feature;

    (f)   We backup approximately 2.5 TiB of data to Veeam on a daily basis (after Veeam compression and deduplication).

B9.17   We utilize IBM Tivoli Storage Manager (TSM) version 6.x to backup Physical Windows Servers, virtual File Servers, and utilize the TSM Tivoli Data Protection products for virtual Exchange and virtual Oracle DB servers.

    (a)   All TSM clients backup over the Ethernet Network to Tier1 Storage;

    (b)   We utilize TSM Client side compression;

    (c)   The data in the Tier1 Storage Pool migrates to Tier2 or Tier3 Storage;

    (d)   We utilize TSM's Active Data Pools to store recent data on Tier2 storage to facilitate quick restores of the most recent backups. Older backup versions migrate to Tier3 Storage;

    (e)   Currently all TSM backups are sent to two servers at one site and TSM's virtual volumes are used to replicate to the other site in an Offsite Copy Pool;

    (f)   We backup approximately 4 TiB of data to TSM on a daily basis (after client side compression).

B9.18   We currently use custom scripts to backup Solaris Zones and Microsoft SQL Databases. This backup data is sent to Windows NFS shares.

B9.19   We currently have ~15 Windows 2008 File Servers running on VMware utilizing ~ 85 TiB. File Services administration is delegated to each Desktop group (~ one File Server per Desktop group). File Server Growth is becoming a challenge to manage, especially backup windows. We currently utilize TSM to backup these File Servers and backup up ~2TiB per day.

B9.20   We are utilizing VMware Site Recovery Manager (SRM) 5.1 with vSphere replication over our IP network. We are currently protecting ~ 20 servers (including all File Servers) with plans to protect more servers in the future. We replicate ~ 400 GiB per day between our datacentres.

B9.21   Some of the Systems software that we currently utilize:

    (a)   VMware ESXi Enterprise Plus 5.1;

    (b)   VMware vCenter 5.1 (one instance per site);

    (c)   Microsoft Windows Server 2008R2;

    (d)   Microsoft Windows 2012R2;

    (e)   Ubuntu 14.04;

    (f)   Solaris 10/11;

    (g)   iSeries 6.x;

    (h)   Oracle Database Server 11gR2 Standard Edition;

    (i)   Microsoft SQL Server 2012 Standard Edition;

    (j)   Microsoft Exchange Server 2010;

    (k)   Microsoft SharePoint Foundation 2010;

    (l)   CA Nimsoft for Systems Management.

B9.22   Storage and server resources are setup in a shared environment - we do not typically have dedicated resources for specific clients.

B9.23   We have an IBM TS3500 Tape Library at each of our sites. The Library at our secondary site currently has 864 slots in use and is partitioned into two Logical Libraries with 2 x LTO4 drives each. Each Logical Library is connected to a TSM server via Fibre Channel. The other Library is at our primary site and has 1283 slots in use with 3 x LTO4 drives and is connected to 1 TSM server (offsite copy Pool) via Fibre Channel. Tapes do not currently leave the library – we utilize TSM virtual volumes to send data to an offsite copy pool. Current Tape Drive activity is very high in our environment and it is a challenge to keep up with all of the TSM processes in a day with the current tape drives.

B9.24   The City is currently investigating options for a geographic remote backup option for certain categories of our data. This would involve sending some portion of our backup data to an offsite location > 500 KM from Winnipeg.

B9.25   All storage on our current HDS storage subsystems uses HDS's Dynamic Provisioning Pools for Thin Provisioning. We attempt to keep these pools below 80% utilization per vendor's recommendations.

B9.26   We utilize Brocade's BNA to manage our Fibre Channel Switches and HDS's Device Manager to manage our Storage Subsystems.

B9.27   Our current IOPS are:

    (a)   Primary Site:

        (i)   Primary Storage – ~ 53,000 IOPS (95th Percentile), ~ 61,000 IOPS Max (65% Read, 35% Write);

        (ii)   File Storage - ~ 1,000 IOPS (95th Percentile), ~ 2,200 IOPS Max (not including File Replication) (70% Read, 30% Write);

        (iii)   D2D Storage - ~ 1,000 IOPS (95th Percentile) ~ 1,100 IOPS Max (50% Read, 50% Write);

    (b)   Secondary Site:

        (i)   Primary Storage – ~7,500 IOPS (95th Percentile), ~ 9,000 IOPS Max (65% Read, 35% Write);

        (ii)   File Storage – 1,500 IOPS (95th Percentile), ~ 2,000 IOPS Max (not including File Replication) (70% Read, 30% Write);

        (iii)   D2D Storage - ~ 2,700 IOPS (95th Percentile), ~ 3,400 IOPS Max (50% Read, 50% Write);

B9.28   Storage Breakdown by Category:

    (a)   Primary Site:

Storage	Capacity (TiB)	Utilized (TiB)	Subscribed (TiB)	%Utilized	% Subscribed
Primary – Tier 1	177	145	205	82%	116%
File & File Replication – Tier 2	128	85	146	66%	114%

| D2D Backup – Tier 2 | 114 | 94 | 114 | 82% | 100% |
| Tape Backup – Tier 3 | 1,026 | 515 | n/a | 50% | n/a |

(b)   Secondary Site:

Storage	Capacity (TiB)	Utilized (TiB)	Subscribed (TiB)	%Utilized	% Subscribed
Primary – Tier 1	58	44	68	76%	115%
File & File Replication – Tier 2	128	93	138	73%	108%
D2D Backup – Tier 2	228	204	219	89%	96%
Tape Backup – Tier 3	691	320	n/a	46%	n/a

(c)   Primary Storage space broken down by category is approximately:
   (i)   Virtual Servers – 50%;
   (ii)   Oracle DB – 27%;
   (iii)   Solaris – 5% ;
   (iv)   SQL DB – 8%;
   (v)   TSM DB and Staging Pool – 7%;
   (vi)   Exchange – 3%;

(d)   D2D Backup space broken down by category is approximately:
   (i)   TSM - 30%;
   (ii)   Veeam - 65%;
   (iii)   SQL and Solaris Backups – 5%;

(e)   Backup Storage Capacity is calculated as # of Tape Slots in use multiplied by 800 GB per Tape Cartridge (Note TSM data is compressed at client);

B9.29   See Appendix A for a SAN diagram for each datacentre.

B9.30   Enterprise Storage is a key element of our computing infrastructure as we seek to improve the flexibility and functionality of our environment. Our storage solutions must not simply provide storage capacity but also the functionality needed to allow the efficient and effective utilization of storage to meet our business needs. Implementation of server virtualization has dramatically increased the flexibility and capabilities for addressing workload computing requirements and we need storage solutions which are equally adept at meeting our business needs.

B9.31   Through the term of this Contract, the City of Winnipeg plans to acquire and implement enterprise storage to address our storage capacity and functionality needs. This implementation will address our immediate needs and set the technology direction for future acquisitions to address organic growth and existing storage infrastructure replacements in the future. Storage will be required at different periods over the next 5 years as we evergreen our existing systems and add growth.

B10.   PROPOSAL SUBMISSION

B10.1   Proposal shall consist of the following components:

(a)   Form A: Proposal;

(b)   Form B: Prices;

(c)   Written Conformance (see B18).

B10.2   The Proposal should also consist of the following components:

(a)   Solution (see B16)

(b)   Experience (see B17);

(c)   Technical Specifications (see E3).

(d)   Value Added Services (see B20);

B10.3   Further to B10.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B8.

B10.4   Further to B10.1, all components of the Proposal shall be fully completed or provided in the order indicated, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Proposal.

B10.5   Further to B10.2, all components of the Proposal should be fully completed or provided in the order indicated, and submitted by the Proponent no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Proposal.

B10.6   Bidders should submit one (1) unbound 8.5" x 11" original (marked "original") including drawings and four (4) copies (copies can be in any size format) for sections identified in B10.1 and B10.2.

B10.7   Proposal format, including type of binding, number of pages, size of pages and, font, etc., will not be regulated, except that the Proposal should be presented in the Sections identified above. Bidders are encouraged to use their creativity to submit a Proposal which provides the requested information for evaluation and other information which illustrates the strength of their team.

B10.8   Bidders are advised that inclusion of terms and conditions inconsistent with the Request for Proposal, will be evaluated in accordance with B26.1(a).

B10.9   The Proposal shall be submitted enclosed and sealed in an envelope/package clearly marked with the RFP number and the Bidder's name and address.

B10.10   Proposals submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B10.11   Proposals shall be submitted to:

The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg MB R3B 1J1

B10.12   Any cost or expense incurred by the Bidder that is associated with the preparation of the Proposal shall be borne solely by the Bidder.

B11.   PROPOSAL

B11.1   The Bidder shall complete Form A: Proposal, making all required entries.

B11.2   Paragraph 2 of Form A: Proposal shall be completed in accordance with the following requirements:

(a)   if the Bidder is a sole proprietor carrying on business in his/her own name, his/her name shall be inserted;

(b)   if the Bidder is a partnership, the full name of the partnership shall be inserted;

(c)   if the Bidder is a corporation, the full name of the corporation shall be inserted;

(d)   if the Bidder is carrying on business under a name other than his/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

B11.2.1   If a Proposal is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B11.2.

B11.3   In Paragraph 3 of Form A: Proposal, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Proposal.

B11.4   Paragraph 11 of Form A: Proposal shall be signed in accordance with the following requirements:

(a)   if the Bidder is a sole proprietor carrying on business in his/her own name, it shall be signed by the Bidder;

(b)   if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;

(c)   if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, should be affixed;

(d)   if the Bidder is carrying on business under a name other than his/her own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.

B11.4.1   The name and official capacity of all individuals signing Form A: Proposal should be printed below such signatures.

B11.5   If a Proposal is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Proposal and the Contract, when awarded, shall be both joint and several.

B12.   PRICES

B12.1   The Bidder shall complete Form B: Prices by providing the following details for each Configuration:

(a)   Description;

(b)   SKU number;

(c)   Approximate Quantity;

(d)   Unit Price; and

(e)   Amount.

B12.1.1   Each Configuration shall be as follows:

(a)   Section A – Configuration 1 – Table 1 Initial Purchase;

(b)   Section A – Configuration 1 – Table 2 Future Purchase;

(c)   Section B – Configuration 2 – Table 1 Initial Purchase;

(d)   Section B – Configuration 2 – Table 2 Future Purchase.

B12.1.2   All items required to complete the Work, including those necessarily incidental to the Work must be included on Form B: Prices.

B12.2   Prices on Form B: Prices shall include:

(a)   duty;

(b)   freight and cartage;

(c)   Provincial and Federal taxes [except the Goods and Services Tax (GST) and Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable] and all charges governmental or otherwise paid;

(d)   profit and all compensation which shall be due to the Contractor for the Work and all risks and contingencies connected therewith.

B12.3   Prices on Form B: Prices shall not include Environmental Handling Charges (EHC) or fees, which shall be extra where applicable.

B12.4   The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Proposals.

B12.5   The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.

B12.6   Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B13.   PRICE DETERMINATION MECHANISM AND UNIT PRICES

B13.1   The Bidder shall, on Form B: Prices, provide unit prices for the individual SKUs that make up the configurations and a complete description of the price determination mechanism(s) used to calculate the prices.

B13.2   In addition to individual SKU unit pricing, the Bidder shall on Form B: Prices provide a complete description of price determination mechanism(s) that can be applied to a range or family of products (framework pricing) that include the listed SKUs.

(a)   Framework pricing must be provided for every category that contains a listed SKU;

(b)   Framework pricing should be provided for other categories of storage that the City may require for the term of the Contract.

B13.3   The price determination mechanism(s) on Form B: Prices shall be employed throughout the term of the Contract to determine the prices of goods and services.

B13.4   Price determination mechanisms shall:

(a)   include an explicit and detailed definition of each index proposed to be used;

(b)   provide a mechanism to determine the price at the time an order is placed; and

(c)   be determinable, i.e., conditions such as "to be determined" or "to be negotiated" may be deemed non-responsive.

B13.4.1   Price determination mechanisms shall be based on indices which can be verified through independent sources.

B13.5   Price determination mechanisms may:

(a)   utilize different indices for different products;

(b)   be based on other than Canadian indices if they include adjustment for changes in currency exchange rates;

(c)   be based on published manufacturer's Government sector price list or an equivalent.

B13.6   For further clarification, Bidders shall:

(a)   Provide individual unit prices for all SKUs listed on Form B: Prices;

    (b)   Provide the price determination mechanism(s) used to calculate the individual SKU unit prices on Form B: Prices;

    (c)   Provide the price determination mechanism(s) for framework pricing on Form B: Prices.

B13.7   Pricing provided at time of purchase shall be the lower of the stated SKU unit price on Form B: Prices or the current (SKU or framework) price mechanism discount.

B14.   DISCLOSURE

B14.1   Various Persons provided information or services with respect to this Work. In the City's opinion, this relationship or association does not create a conflict of interest because of this full disclosure. Where applicable, additional material available as a result of contact with these Persons is listed below.

B14.2   The Persons are:

    (a)   Acrodex Inc.;

    (b)   Anisoft;

    (c)   Broadview Networks:

    (d)   Dell Canada Inc.;

    (e)   EMC Corporation of Canada;

    (f)   EPIC Information Solutions;

    (g)   FlexITy Solutions;

    (h)   GlassHouse Systems Inc.;

    (i)   Hewlett-Packard (Canada) Co.;

    (j)   Hitachi Data Systems;

    (k)   IBM Canada Ltd.;

    (l)   Info-Tech Research Group;

    (m)   Insight Canada Inc.;

    (n)   NetApp;

    (o)   Nimble Storage;

    (p)   OnX Enterprise Solutions;

    (q)   Oracle Canada ULC;

    (r)   PureLogic IT Solutions Inc.;

    (s)   Pure Storage;

    (t)   SEBO Systems Inc.

B15.   QUALIFICATION

B15.1   The Bidder shall:

    (a)   undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Bidder does not carry on business in Manitoba, in the jurisdiction where the Bidder does carry on business; and

    (b)   be financially capable of carrying out the terms of the Contract; and

    (c)   have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.

B15.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

(a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/debar.stm

B15.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

(a) have successfully carried out work similar in nature, scope and value to the Work; and

(b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and

(c) have a written workplace safety and health program, if required, pursuant to The Workplace Safety and Health Act (Manitoba);

(d) provide proof satisfactory to the Contract Administrator the Security Clearances as identified in PART F - .

B15.4 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B15.5 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

B15.6 The Bidder shall provide evidence that the Bidder is a manufacturer or an authorized manufacturer re-seller of each item of computer equipment indicated in the Proposal.

B16. SOLUTION

B16.1 If the Bidder has multiple solutions that can meet our needs they are recommended to submit a separate proposal for each solution.

B16.2 All of the statements in B16 Solution apply to both Configuration 1 and Configuration 2 unless stated otherwise. If there are differences in the responses based on the configuration then that should be clearly stated in the response.

B16.3 The City is interested in any Cloud Storage offerings that could be incorporated into this solution. We expect that some of our data will not be able to be placed on the cloud but we cannot quantify amounts at this time. The Bidder should:

(a) Describe any cloud options and how the categories of data described in B16.7 could utilize them;

(b) Explain the scalability of the solution;

(c) List the specific geographic location(s) where the data would be stored;

(d) Provide Pricing for the following options:

(i) Monthly price to store 50 TiB of Data;

(ii) Price to transfer 25 TiB per month to the Cloud;

(iii) Price to transfer 10 TiB per month from the Cloud;

(iv) Provide any other associated costs;

(e) Provide details of why the cloud solution would be preferable over an on-premise solution for specific usage scenarios based on our background and where the cloud solution may not be applicable.

B16.4   The enterprise storage solution deployed should provide the following features at a bare minimum (Bidders are encouraged to include additional functionality). The Bidder should explain how their solution achieves the following:

(a)   Provide multiple tiers of storage to address the unique performance, availability and affordability requirements of each storage tier;

(b)   Provide Point in Time Copy techniques such as snapshot and snapclone to allow for efficient copies of data to be taken;

(c)   Allow for efficient storage utilization through effective thin provisioning capabilities;

(d)   Simplify storage management through the virtualization of the storage infrastructure;

(e)   Perform replication of data across storage systems (including across data centres);

(f)   Provide advanced tier management to automatically place data on the most appropriate tier of storage in an efficient manner;

(g)   Provide compression and de-duplication of data;

(h)   Provide monitoring and management of the storage elements to minimize support requirements;

(i)   Extend storage functionality to existing legacy storage capacity in a cost effective manner;

(j)   Please provide any other functionality.

B16.5   The proposed solution(s) are expected to utilize as many elements as possible between the configurations listed in B16.9 and B16.10 if applicable and between the initial and future purchases to minimize the incremental costs associated with expanding the capacity.

B16.6   Storage Capacity listed is useable capacity for the host:

(a)   Adequate capacity shall be provided for items such as hot sparing, RAID, and free space for optimum operations;

(b)   Please provide details on how the solution is providing adequate useable capacity for the host based on the required capacities listed in B16.9 – Configuration 1 and B16.10 – Configuration 2;

(c)   Bidders should document any assumptions on how utilization has been calculated and provide any guarantees or options if the solution does not meet our capacity requirements.

B16.7   The following are categories of storage that Configuration 1 and Configuration 2 will be used for: The Bidder should describe how the solution will provide storage for the following:

(a)   Configuration 1:

(i)   Backup Storage will be used for storing Backups from products such as TSM. This storage could be offline storage and could be slower access storage then D2D storage.

(b)   Configuration 2:

(i)   Primary Storage will be used for Oracle and SQL Databases, Application servers, VMs etc.

(ii)   File Storage will be used for storing files for general purpose file services.

(iii)   Disk-to-disk (D2D) Backup Storage will be used to store TSM, Veeam or other backup data to facilitate quicker backups and restores.

B16.8   We are seeking Proposals from industry leaders who have experience in delivering storage infrastructure solutions and whose proposed solution is best of breed and proven in meeting business requirements of the same nature and complexity as our own. The successful Bidder will apply their experience to develop a plan for implementation, integration with existing infrastructure and maximizing the capabilities of the solution within our environment. The Bidder should provide the details of how they would work with the City's Corporate Support Services team to achieve this including, but not limited to:

(a) The specific technology including the hardware/software that will be required (including how all software is licenced);

(b) Provide consultation services and develop a plan for implementation, integration with existing infrastructure and maximizing the capabilities of the solution within our environment;

(c) The training to be provided to City staff to allow for ongoing support of the Solution;

(d) A project schedule, including activities, task and responsibilities with a timeline which demonstrates the sequence of events for implementation of Configuration 1 – Initial Purchase (B16.9.2) and Configuration 2 – Initial Purchase (B16.10.2); The schedule should include any City activities that will be required to utilize the solution including migration of data.

(e) The schedule in B16.8(d) shall include how the solution will be implemented considering the power and space constraints of our secondary datacenter.

(f) Commissioning Scripts to test the solution as per the manufacturer's recommendations and/or best practices to ensure stated business needs can be achieved with proposed solution as implemented;

(g) Identification of any additional costs that may be involved in the full implementation of the Solution;

(h) All costs associated with the solution that would be payable to the Bidder shall be included in the bid price for the proposed solution;

(i) Any additional costs are intended to reflect related solution costs such as network or server enhancements;

(j) Highlight key differentiators and unique aspects of their Solution; and

(k) Why the Bidder's solution is most appropriate for the City.

Configuration 1

B16.9   The Bidder should provide information related to the following if bidding on Configuration 1.

B16.9.1   Storage for replacement of 2 x IBM TS3500 Tape Libraries (The City is open to a Tape or Disk solution or some combination as long as it meets our business requirements. We currently utilize tapes but the media never leave the Tape Libraries).

(a) Backup Storage capacity listed is capacity required after the Backup Data has been compressed by the backup software (e.g. TSM, Veeam);

(b) Backup storage should be architected in such a way as to not affect performance or recoverability of Primary and File Storage. Explain how the solution accomplishes this.

B16.9.2   Initial Purchase – 3Q 2015:

(a) Primary Datacentre:
  (i)   800 TiB of Backup Storage;
  (ii)   Minimum of 4 concurrent read/write operations (e.g. if Using Tape Media shall require minimum 4 Tape Drives);

(b) Secondary Datacentre:
  (i)   500 TiB of Backup Storage;
  (ii)   Minimum of 6 concurrent read/write operations (e.g. if Using Tape Media shall require minimum 6 Tape Drives).

B16.9.3   Future Purchase – 2017-2018:

(a) Primary Datacentre:
  (i)   450 TiB of Backup Storage;

(b) Secondary Datacentre:

        (i)   300 TiB of Backup Storage.

B16.9.4   Solution must be easily and quickly expandable to handle increased capacity. Describe how this can be accomplished.

B16.9.5   Solution must be capable of backing up and duplicating 6 TiB of backup data daily (compressed) in a TSM environment. Describe how this can be accomplished.

B16.9.6   Backup Storage must contain adequate capacity for TSM reclamation.

B16.9.7   Solution should be supported by Veeam and provide CIFS and NFS support.

B16.9.8   Explain how this solution could provide the fastest backups and restores for the City.

B16.9.9   What is the maximum number of restores that could be performed at one time and what is the expected aggregate throughput?

Configuration 2

B16.10   The Bidder should provide information related to the following if bidding on Configuration 2.

B16.10.1   Storage for replacement of 5 HDS Storage Subsystems and 4 Brocade Switches:

    (a)   D2D storage capacity listed is capacity required after the Backup Data has been compressed by the backup software (e.g. TSM, Veeam);

    (b)   D2D storage should be architected in such a way as to not affect performance or recoverability of Primary and File Storage;

    (c)   D2D storage must be online storage and be accessible via CIFS and NFS.

B16.10.2   Initial Purchase – 1Q 2016 – replacement of 2 AMS2500 Storage Subsystems, 4 Brocade Switches (2 x 5100, 2 x 5300), and growth.

    (a)   Primary Datacentre:

       (i)   85 TiB Primary Storage providing a minimum of 26,000 IOPS at 2 ms response time;

       (ii)   10 TiB File Storage providing a minimum of 500 IOPS;

       (iii) 20 TiB File Replication Storage providing a minimum of 1,000 IOPS;

       (iv) 70 TiB D2D Storage providing a minimum of 2,800 IOPS;

       (v)   Networking Switches to provide redundant connectivity to Storage and Servers:

          A.   Minimum 40 ports per switch;

       (vi) Inter-site (between data centres) Replication for 30 TiB of Primary Storage and all File Storage;

    (b)   Secondary Datacentre:

       (i)   65 TiB Primary Storage providing a minimum of 20,000 IOPS at 2 ms response time;

       (ii)   20 TiB File Storage providing a minimum of 1,000 IOPS;

       (iii) 10 TiB File Replication Storage providing a minimum of 500 IOPS;

       (iv) 140 TiB D2D Storage providing a minimum of 5,600 IOPS;

       (v)   Networking Switches to provide redundant connectivity to Storage and Servers:

          A.   Minimum 30 ports per switch;

       (vi) Inter-site (between data centres) Replication for 10 TiB of Primary Storage and all File Storage;

    (c)   Thin Provisioning for all Primary and File Storage;

    (d)   Snapshots (Point in time Copies) for all Primary and File Storage;

    (e)   Storage virtualization and other functionality for all tiers.

B16.10.3   Future Purchase – 2017-2018 – replacement of remaining Storage Subsystems (1 x AMS2500, 2 X HUS150) and growth:

     (a)   Primary Datacentre:

         (i)   250 TiB Primary Storage providing a minimum of 75,000 IOPS at 2 ms response time;

         (ii)   68 TiB File Storage providing a minimum of 3,400 IOPS;

         (iii)   132 TiB File Replication Storage providing a minimum of 6,600 IOPS;

         (iv)   151 TiB D2D Storage providing a minimum of 6,040 IOPS;

         (v)   Inter-site (between data centres) Replication for 60 TiB of Primary Storage and all File Storage;

     (b)   Secondary Datacentre:

         (i)   45 TiB Primary Storage providing a minimum of 13,500 IOPS at 2 ms response time;

         (ii)   132 TiB File Storage providing a minimum of 6,600 IOPS;

         (iii)   68 TiB File Replication Storage providing a minimum of 3,400 IOPS;

         (iv)   295 TiB D2D Storage providing a minimum of 11,800 IOPS;

         (v)   Inter-site (between data centres) Replication for 20 TiB of Primary Storage and all File Storage;

     (c)   Thin Provisioning for all Primary and File storage;

     (d)   Snapshots (Point in time Copies) for all Primary and File Storage;

     (e)   Storage virtualization and other functionality for all tiers.

B17.   EXPERIENCE

B17.1   The Bidder should submit information in sufficient detail for the City to evaluate their experience which should consist of but not limited to the following:

     (a)   Evaluation of the proposed solution from Industry Analysis groups such as Gartner or Forrester. The analysis should be from within the last eighteen (18) months and should reference the elements of the proposed solution;

     (b)   The details of the scope and implementation of at least three (3) implementations of the proposed solution to meet similar business needs. These implementations should be based on the same elements being proposed and be addressing business requirements of at least the same demands (performance, reliability, capacity, functionality).

         (i)   The Bidder should describe any significant differences between the proposed solution and the referenced implementations.

         (ii)   The Bidder should describe any significant differences between our stated business needs and those addressed in the referenced implementations.

     (c)   A client reference for each of the projects identified in B17.1(b). Each reference should consist of a company name, contact name, email address and phone number. By submitting a proposal the Bidder consents to the City being able to contact these references.

     (d)   Detail the technical qualifications of the staff associated with servicing this Contract. This may contain resumes for key staff plus relevant designations and the number of progressive years of experience.

     (e)   Outline the relationship with the manufacturer(s) of the computer equipment indicated in the Proposal.

B18.   WRITTEN CONFORMANCE

B18.1   The Bidder should provide written conformance to requirements detailed in the Supplemental Conditions D6 through D9, D20 and D21.

B19. TECHNICAL SPECIFICATIONS

B19.1   The Bidder should provide written responses to the information stated in E3 Specifications.

B20. VALUE ADDED SERVICES

B20.1   The Bidder should provide a description for any Value Added Services.

B20.1.1   Examples of Value Added Services that the City would find beneficial are:

(a) Training on any of the technologies we are currently using or are planning to utilize;

(b) Hardware equipment that could be used in a test or production environment;

(c) Consulting services for technologies we are currently using or are planning to utilize;

(d) Any other value added services that would provide further benefit to the City with the proposed solution(s).

B21. OPENING OF PROPOSALS AND RELEASE OF INFORMATION

B21.1   Proposals will not be opened publicly.

B21.2   After award of Contract, the names of the Bidders and the Contract amount of the successful Bidder will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/

B21.3   To the extent permitted, the City shall treat all Proposal Submissions as confidential, however the Bidder is advised that any information contained in any Proposal may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

B22. IRREVOCABLE OFFER

B22.1   The Proposal(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 10 of Form A: Proposal.

B22.2   The acceptance by the City of any Proposal shall not release the Proposals of the other responsive Bidders and these Bidders shall be bound by their offers on such Work for the time period specified in Paragraph 10 of Form A: Proposal.

B23. WITHDRAWAL OF OFFERS

B23.1   A Bidder may withdraw his/her Proposal without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B23.1.1   Notwithstanding C21, the time and date of receipt of any notice withdrawing a Proposal shall be the time and date of receipt as determined by the Manager of Materials.

B23.1.2   The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Proposal or the Bidder's authorized representatives named in Paragraph 11 of Form A: Proposal, and only such person, has authority to give notice of withdrawal.

B23.1.3   If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:

(a) retain the Proposal until after the Submission Deadline has elapsed;

(b) open the Proposal to identify the contact person named in Paragraph 3 of Form A: Proposal and the Bidder's authorized representatives named in Paragraph 11 of Form A: Proposal; and

(c) if the notice has been given by any one of the persons specified in B23.1.3(b), declare the Proposal withdrawn.

B23.2   A Bidder who withdraws his/her Proposal after the Submission Deadline but before his/her offer has been released or has lapsed as provided for in B22.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law.

B24.   INTERVIEWS

B24.1   The Contract Administrator may, in his/her sole discretion, interview Bidders during the evaluation process.

B25.   NEGOTIATIONS

B25.1   The City reserves the right to negotiate details of the Contract with any Bidder. Bidders are advised to present their best offer, not a starting point for negotiations in their Proposal Submission.

B25.2   The City may negotiate with the Bidders submitting, in the City's opinion, the most advantageous Proposals. The City may enter into negotiations with one or more Bidders without being obligated to offer the same opportunity to any other Bidders. Negotiations may be concurrent and will involve each Bidder individually. The City shall incur no liability to any Bidder as a result of such negotiations.

B25.3   If, in the course of negotiations pursuant to B25.2 or otherwise, the Bidder amends or modifies a Proposal after the Submission Deadline, the City may consider the amended Proposal as an alternative to the Proposal already submitted without releasing the Bidder from the Proposal as originally submitted.

B26.   EVALUATION OF PROPOSALS

B26.1   Award of the Contract shall be based on the following evaluation criteria:

(a)   compliance by the Bidder with the requirements of the Request for Proposal, or acceptable deviation therefrom: (pass/fail);

(b)   qualifications of the Bidder and the Subcontractors, if any, pursuant to B15:   (pass/fail);

(c)   Total Bid Price   40%;

(d)   Solution (B16)   20%;

(e)   Experience (B17)   15%;

(f)   Technical Specifications (B19)   20%;

(g)   Value Added Services (B20)   5%;

(h)   Costs to the City of administering multiple contracts.

B26.2   Further to B26.1(a), the Award Authority may reject a Proposal as being non-responsive if the Proposal Submission is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Proposal, or waive technical requirements or minor informalities or irregularities if the interests of the City so require.

B26.3   Further to B26.1(b), the Award Authority shall reject any Proposal submitted by a Bidder who does not demonstrate, in his/her Proposal, in other information required to be submitted, during interviews or in the course of reference checks, that he/she is responsible and qualified.

B26.4   Further to B26.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item on Form B: Prices.

B26.4.1   Further to B26.1(a), in the event that a unit price is not provided on Form B: Prices, the City may determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

B26.5   Further to B26.1(d), the Solution will be evaluated considering the information submitted in response to B16.

B26.6   Further to B26.1(e), the Experience will be evaluated considering the information submitted in response to B17.

B26.7   Further to B26.1(f), the Value Added Services will be evaluated considering the information submitted in response to B20.

B26.8   Further to B26.1(f), the Technical Specifications will be evaluated considering the information submitted in response to B19.

B26.9   Where Bidders fail to provide responses, the score of zero or fail will be assigned to that Section.

B26.10   This Contract may be awarded as a whole or separately in sections as identified on Form B: Prices.

B26.10.1   Notwithstanding B12.1, the Bidder may, but is not required to, bid on all sections.

B26.10.2   Notwithstanding B27.3, the City shall not be obligated to award any section to the responsible Bidder submitting the lowest evaluated responsive Bid for that section and shall have the right to choose the alternative which is in its best interests. If the Bidder has not bid on all sections, he/she shall have no claim against the City if his/her partial Bid is rejected in favour of an award of the Contract as a whole.

B26.11   If, in the sole opinion of the City, a Proposal does not achieve a pass rating for B26.1(a) and B26.1(b), the Proposal will be determined to be non-responsive and will not be further evaluated.

B27.   AWARD OF CONTRACT

B27.1   The City will give notice of the award of the Contract or will give notice that no award will be made.

B27.2   The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Proposals are determined to be responsive.

B27.2.1   Without limiting the generality of B27.2, the City will have no obligation to award a Contract where:

(a)   the prices exceed the available City funds for the Work;

(b)   the prices are materially in excess of the prices received for similar work in the past;

(c)   the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;

(d)   only one Proposal is received; or

(e)   in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.

B27.3   Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the most advantageous offer, in accordance with B26.

B27.4   Following the award of contract, a Bidder will be provided with information related to the evaluation of his/her Proposal upon written request to the Contract Administrator.

B27.5   Notwithstanding C4 and Paragraph 6 of Form A: Proposal, the City will issue a purchase order to the successful Bidder in lieu of the execution of a Contract.

B27.6   The Contract Documents, as defined in C1.1(n) (ii), in their entirety shall be deemed to be incorporated in and to form a part of the purchase order notwithstanding that they are not necessarily attached to or accompany said purchase order.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

C0.1 The *General Conditions for the Supply of Goods* (Revision 2008 05 26) are applicable to the Work of the Contract.

C0.1.1 The *General Conditions for the Supply of Goods* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm

C0.2 A reference in the proposal to a section, clause or subclause with the prefix "**C**" designates a section, clause or subclause in the *General Conditions for Supply of Goods*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1.   GENERAL CONDITIONS

D1.1   In addition to the *General Conditions for the Supply of Goods*, these Supplemental Conditions are applicable to the Work of the Contract.

D2.   SCOPE OF WORK

D2.1   The Work to be done under the Contract shall consist of provision of Enterprise Storage for the period of two (2) years after award of Contract, with the option of four (4) mutually agreed upon one (1) year extensions.

D2.1.1   The City may negotiate the extension option with the Contractor within ninety (90) Calendar Days prior to the expiry date of the Contract. The City shall incur no liability to the Contractor as a result of such negotiations.

D2.1.2   Changes resulting from such negotiations shall become effective on the expiry date of the Contract. Changes to the Contract shall not be implemented by the Contractor without written approval by the Contract Administrator.

D2.2   The major components of the Work are as follows:

(a)   Provision and implementation of Configuration 1 and Configuration 2;

(b)   Training of City Staff.

D2.3   The Work shall be done on an "as required" basis during the term of the Contract.

D2.3.1   The type and quantity of Work to be performed under this Contract shall be as authorized from time to time by the Contract Administrator and/or Users.

D2.3.2   Subject to C7, the City shall have no obligation under the Contract to purchase any quantity of any item in excess of its actual operational requirements.

D2.4   The City has an existing contract expiring on October 26, 2015 for purchasing additional storage for our existing HDS Storage Subsystems.

D2.3   Notwithstanding D2.1, the type and quantity of Work to be performed under this Contract is subject to annual approval of monies therefore in a budget by Council. Bidders are advised that monies have been approved for work up to and including December 31, 2015.

D2.4   Notwithstanding D2.1, in the event that operational changes result in substantial changes to the requirements for Work, the City reserves the right to alter the type or quantity of work performed under this Contract, or to terminate the Contract, upon thirty (30) Calendar Days written notice by the Contract Administrator. In such an event, no claim may be made for damages on the ground of loss of anticipated profit on Work.

D3.   NEW AND OBSOLETE PARTS

D3.1   The City understands the proposed SKUs may become obsolete during the Contract period. The Contractor shall provide replacement SKUs, in accordance with D9, during the term of the Contract for all expired SKUs within sixty (60) days of their expiration. The replacement SKUs must maintain current technology trends and have a discount structure no less than what had been originally proposed in the Contractor's submission. Failure to adhere to this mandatory requirement may be considered an event of default in accordance with C16.

D3.2   The City reserves the right to add items within the same scope (Enterprise Storage and accessories) to the Contract under the same terms and conditions and by using the same price determination mechanism specified on Form B: Prices.

D3.3   The City may, should the requirement for a product no longer exist, remove products from the Contract.

D4.   DEFINITIONS

D4.1   When used in this Request for Proposal:

(a)   "**Value Added Services**" means any other services the Bidder may choose to provide that the City has not specifically requested in D2.2. All Value Added Services proposed will be understood to be offered at no extra costs.

(b)   "**Framework Pricing**" means a consistent discount formula based pricing structure that can be applied to a range of products. Generally measured in percentages.

(c)   **"GiB"** means 2^{30} bytes

(d)   **"TiB"** means 2^{40} bytes

D5.   CONTRACT ADMINISTRATOR

D5.1   The Contract Administrator is:

Tim Rushforth

Systems Coordinator

Telephone No.: 204 986-2019

Facsimile No.:   204 986-5966

D5.2   Bids Submissions must be submitted to the address in B10.11.

D6.   PRODUCT ORDERING LOGISTICS

D6.1   Unless stipulated otherwise at the time of ordering partial shipments will be allowed.

D6.2   The City may, at no cost to the City, cancel an order which has not been shipped (physically left the Contractor's facility).

D7.   ORDER TRACKING

D7.1   The Contractor shall monitor the status of each order placed pursuant to the Contract.

D7.2   Immediately upon detecting any imminent failure to deliver an order by the date agreed, pursuant to D6, the Contractor shall advise the User. The User may then:

(a)   Authorize a revised delivery date

(b)   Authorize the Contractor to supply a permanent or temporary substitute; or

(c)   Delete any or all of the order and obtain the item(s) from any alternate means.

D7.3   The Contractor shall, upon request of the User, provide an accurate status report and estimated delivery date for an order.

D8.   RETURN OF GOODS

D8.1   Further to C9.8 to C9.13, Goods incorrectly supplied as a result of the Contractors error shall be returned at no cost to the City.

D8.2   Further to C9.8 to C9.13, Goods incorrectly supplied as a result of the City's error will be returned at the City's cost.

D8.3   Further to C9.8 to C9.13, the Contractor will be responsible for costs and any associated computer equipment manufacturer correspondence for any and all equipment delivered in an unusable state.

D9.   CHANGES IN WORK

D9.1   Further to C7, the City anticipates that during the term of the Contract there may be changes including but not limited to:

(a)   Products line / model availability;

(b)   Product standards required to meet requirements and recommendations of software suppliers.

D9.2   Changes shall be addressed in accordance with C7 of the General Conditions.

D9.3   Where a product line is discontinued by the Manufacturer or otherwise becomes unavailable in the market, the Contractor shall provide detailed technical literature on the proposed replacement. The Contract Administrator will determine the acceptability of the proposed replacement product.

D9.4   The replacement product must maintain current technology trends and have a discount structure no less than what had been originally proposed in the Contractor's submission.

D9.5   Where the Contractor is unable to provide a replacement product to meet changes in the City's requirements, the City shall have the right to remove the product from the Contract.

D10.   OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE

D10.1   The Contract, all deliverables produced or developed, and information provided to or acquired by the Contractor are the property of the City and shall not be appropriated for the Contractors own use, or for the use of any third party.

D10.2   The Contractor shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Contract Administrator.

D10.3   The following shall be confidential and shall not be disclosed by the Contractor to the media or any member of the public without the prior written authorization of the Contract Administrator;

(a)   information provided to the Contractor by the City or acquired by the Contractor during the course of the Work;

(b)   the Contract, all deliverables produced or developed; and

(c)   any statement of fact or opinion regarding any aspect of the Contract.

D10.4   A Contractor who violates any provision of D10 may be determined to be in breach of Contract.

D11.   NOTICES

D11.1   Notwithstanding C21.3, all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following facsimile number:

The City of Winnipeg
Chief Financial Officer

Facsimile No.: 204 949-1174

SUBMISSIONS

D12. AUTHORITY TO CARRY ON BUSINESS

D12.1   The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

D13. INSURANCE

D13.1   The Contractor shall provide and maintain the following insurance coverage:

(a)   commercial general liability insurance, in the amount of at least two million dollars ($2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured; such liability policy to also contain a cross-liability clause, non-owned automobile liability and products and completed operations cover, to remain in place at all times during the performance of the Work;

(b)   if applicable, Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Contractor directly or indirectly in the performance of the Work. The Limit of Liability shall not be less than $2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence.

D13.2   Deductibles shall be borne by the Contractor.

D13.3   The Contractor shall provide the Contract Administrator with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4 for the return of the executed Contract.

D13.4   The Contractor shall not cancel, materially alter, or cause the policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

D13.5   The City shall have the right to alter the limits and/or coverages as reasonably required from time to time during the continuance of this agreement.

SCHEDULE OF WORK

D14. COMMENCEMENT

D14.1   The Contractor shall not commence any Work until he/she is in receipt of a notice of award from the City authorizing the commencement of the Work.

D14.2   The Contractor shall not commence any Work until:

(a)   the Contract Administrator has confirmed receipt and approval of:

(i)   evidence of authority to carry on business specified in D12;

(ii)   evidence of the workers compensation coverage specified in C6.16;

(iii)   evidence of the insurance specified in D13.

(b)   the Contractor has attended a meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a meeting.

D15.   DELIVERY

D15.1   Goods shall be delivered and installed (barring any City timing issues) within twenty (20) Business Day(s) of the placing of an order, f.o.b destination, freight prepaid to various locations within the City.

D15.2   Goods shall be delivered between 8:30 a.m. and 4:30 p.m. on Business Days.

D15.3   The Contractor shall confirm each delivery with the Contract Administrator or his/her designate, at least two (2) Business Days before delivery.

D15.4   The Contractor shall off-load goods as directed at the delivery location.

(a)   The product delivery shall be to the City's final destination and not delivered just to the nearest loading dock;

D15.5   Further to C6.32 and D7, if an order cannot be delivered within twenty (20) Business Days of placement of an order, the Contractor shall notify the User. The User may then:

(a)   Authorize the proposed delivery date;

(b)   Authorize the Contractor to supply a permanent or temporary substitute; or

(c)   Delete any or all of the order and obtain the item(s) from any alternate means.

(d)   Determine that the Contractor is in breach of Contract.

D16.   QUOTES

D16.1   The Contractor shall provide a quote within three (3) Business Days upon request of the Contract Administrator.

D16.1.1   Quotes shall be valid for 30 Calendar Days.

D17.   RECORDS

D17.1   The Contractor shall keep detailed records of the goods supplied under the Contract.

D17.2   The Contractor shall record, as a minimum, for each item listed on Form B: Prices:

(a)   user name(s) and addresses;

(b)   order date(s);

(c)   delivery date(s); and

(d)   description and quantity of goods supplied.

D17.3   The Contractor shall provide the Contract Administrator with a copy of the records for each year within fifteen (15) Calendar Days of a request of the Contract Administrator.

D18.   LIQUIDATED DAMAGES

D18.1   If the Contractor fails to achieve delivery and installation of the goods within the time specified in D15.1 Delivery the Contractor shall pay the City $500 per Business Day for each and every Business Day until the goods have been delivered and installed.

D18.2   If the Contractor fails to provide quotes within the time specified in D16.1 the Contractor shall pay the City $100 (if goods are ordered) per Business Day for each and every Business Day until the quote has been provided.

D18.3   The amount specified for liquidated damages in D18.1 and D18.2 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Delivery and installation or quote by the day fixed herein for same.

D18.4   The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

MEASUREMENT AND PAYMENT

D19.   INVOICES

D19.1   Further to C10, the Contractor shall submit an invoice for each order delivered to:

The City of Winnipeg
Corporate Finance - Accounts Payable
4th Floor, Administration Building, 510 Main Street
Winnipeg MB R3B 1B9

Facsimile No.: 204 949-0864
Email: CityWpgAP@winnipeg.ca

D19.2   Invoices must clearly indicate, as a minimum:

(a)   the City's purchase order number;

(b)   date of delivery;

(c)   delivery address;

(d)   type and quantity of goods delivered;

(e)   the amount payable with GST, MRST, and any applicable environmental handling charges/fees identified and shown as separate amounts; and

(f)   the Contractor's GST registration number.

D19.3   The City will bear no responsibility for delays in approval of invoices which are improperly submitted.

D19.4   Bids Submissions must be submitted to the address in B10.11.

D20.   PAYMENT

D20.1   Further to C10, payment shall be in Canadian funds net thirty (30) Calendar Days after receipt and approval of the Contractor's invoice.

D20.2   Further to C10, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

WARRANTY

D21.   WARRANTY

D21.1   Further to C11, if a defect or deficiency prevents the full and normal use or operation of the Work or any portion thereof, for purposes of calculating the warranty period, time shall be deemed to cease to elapse for the defective or deficient portion, and for any portion of the Work whose use or operation is prevented by such defect or deficiency, as of the date on which the defect or deficiency is observed or the use or operation is prevented and shall begin to run again when the defect or deficiency has been corrected or the Work may be used or operated to the satisfaction of the Contract Administrator.

PART E - SPECIFICATIONS

GENERAL

E1.   APPLICABLE SPECIFICATIONS

E1.1   These Specifications shall apply to the Work.

E1.2   Bidders are reminded that requests for approval of substitutes as an approved equal or an approved alternative shall be made in accordance with B8.

E2.   GOODS

E2.1   The Contractor shall supply Enterprise Storage and accessories in accordance with the requirements hereinafter specified

E2.2   All equipment must be new and cannot contain any remanufactured parts. Reconditioned, refurbished or remanufactured equipment will not be accepted.

E3.   ALL CONFIGURATIONS

E3.1   Describe the following storage functionality (focusing on key differentiating features) that is included in the solution (Provide all information applicable to Configuration 1 - B16.9, and Configuration 2 - B16.10):

    (a)   Point in Time Copies (Snapshot, snapclone)

        (i)   Describe the point in time copy types that are supported (snapshot, snapclone, copy/allocate on write/, space efficient, etc.).

        (ii)   How many copies are supported?

        (iii) Describe what copies are read/write or which are read only.

        (iv) Detail any relevant information such as application awareness, is host software required, management interface, how many concurrent processes, etc.

        (v)   Describe how point in time copy capabilities can be used to augment our existing backup/recovery capabilities to reduce RTO/RPO on a regular operational basis and in the event of a widespread infrastructure failure

        (vi) Explain any integration with Windows, Oracle or SQL for Snapshots.

        (vii) Describe the steps necessary to create a crash consistent or application aware snapshot for Windows, VMware ESX, Oracle and SQL

       (viii) Explain how this feature affects performance and efficiency

    (b)   Thin Provisioning capabilities

        (i)   Describe the thin provisioning capabilities including granularity (or page size), ability to reclaim space when no longer used, ability to apply functionality to already allocated space, risk mitigation for space over allocation and management/reporting interface.

        (ii)   Explain how this feature affects performance and efficiency

    (c)   Data Compression

        (i)   Explain any Data Compression features.

        (ii)   Is this done inline or post-process?

        (iii) Explain how this feature affects performance and efficiency

        (iv) Detail how customers are using this feature and the types of data that it is used on

    (d)   Data Deduplicaton

        (i)   Explain any Data Deduplication features

        (ii)   Is this done inline or post-process?

        (iii) Explain how this feature affects performance and efficiency

      (iv)   Detail how customers are using this feature and the types of data that it is used on

   (e)   Storage Tiering

      (i)   Describe the different Tiers of storage in the solution and the rationale for choosing.

      (ii)   Explain any automatic or manual Tiering

      (iii)   Is this done Real time or post-process?

      (iv)   Explain how this feature affects performance and efficiency

   (f)   Data Replication

      (i)   Please describe how the replication functionality would be used to provide the shortest possible RTO and RPO for Oracle Standard Edition database, SQL Server Standard Edition databases and Windows application servers in the event of a data centre failure.

      (ii)   Describe any additional products and techniques that would be required beyond the proposed solution to have a fully functional fail over and fail back capability.

      (iii)   Explain how this feature affects performance and efficiency

      (iv)   Explain the integration with VMware Site Recovery Manager

   (g)   Solid State Storage

      (i)   Explain any use of solid state storage either for cache and/or a solid state tier.

      (ii)   Describe the solid state technology deployed (e.g. MLC or SLC)

      (iii)   Describe how flash longevity and optimum performance is managed including garbage collection features, error correcting code, wear management features, spare/overhead capacity, cell wear out prediction management, SSD RAID configuration

   (h)   Virtualization

      (i)   Explain any storage virtualization features that the solution provides such as pooling of data from different storage devices

      (ii)   Explain how this feature affects performance and efficiency

   (i)   Encryption

      (i)   Explain any Encryption features

      (ii)   Explain how this feature affects performance and efficiency

E3.2   Describe any other storage functionality, unique capabilities or features included in the solution not mentioned above.

E3.3   Describe different options or configurations of the solution that can be utilized to provide higher redundancy or higher performance.

E3.4   Describe any features that will help reduce the amount of time that the City spends managing our Storage Infrastructure.

E3.5   Describe the workflows involved in provisioning and managing storage.

E3.6   Describe how the storage functionality of the proposed solution can be utilized with our existing storage infrastructure and software (including any additional costs that might apply)

E3.7   Describe any changes or additional software components we would require to purchase for the solution to work effectively with our current Veeam and TSM environments.

E3.8   We currently only have the infrastructure and experience working in a Fibre Channel environment. What protocols are supported and explain any components and costs to enable them (FC, ISCSI, NFS, NAS, CIFS). If the solution does not provide FC support, explain the similarities or differences of the solution compared to a FC solution in infrastructure requirements, setup etc.

E3.9   Management of Solution

   (a)   Describe the management tools and capabilities.

(b)   Describe any Mobile applications;

(c)   Describe any vCenter Plugins and what functionality is available

(d)   Describe alerting methods for hardware failures including any "Call Home" functionality for reporting hardware failures to the vendor.

(e)   Describe the storage configuration management software provided with the proposed solution. Does it have a CLI? Does it have an API to third party software/hardware?

E3.10   The solution should include Performance Monitoring software. Explain all requirements for running this software (hardware etc.) and what abilities the software has (historical monitoring, metrics available on different components of system, etc.). Describe how this functionality would be used to track down a performance issue on a VMware datastore.

E3.11   Describe any automatic tuning that the storage subsystem performs.

E3.12   Describe any integration with CA Nimsoft Monitoring.

E3.13   Describe any integration with BMC ADDM.

E3.14   Describe any single points of failures on the proposed solution. Describe three of the most serious failures that can occur within the proposed solution, the steps required to resolve them and the functionality, performance and redundancy impact during the failure until they are resolved.

E3.15   Describe how the replacement of major components and upgrades are handled (with a focus on outages or performance/redundancy impacts).

E3.16   Failed Disks should be retained by the City or destroyed by the vendor at our site.

E3.17   Describe options and any costs for destruction of disks after use at out site.

E3.18   Explain how storage LUNs are expanded and if any outages are required for guest OS's.

E3.19   Explain how additional storage is added to the solution. What impacts are there on hosts during this process (impacts to performance, redundancy, and risk from user error)? Does the system support Dynamic Rebalancing of pools for added storage?

E3.20   Training:

(a)   Should be provided to a minimum of 3 City Staff

(b)   Describe the training provided including number of days and outline

E3.21   Support:

(a)   All solutions shall include 5 years maintenance and support (7x24 support with 4 hour response).

(b)   Any other support options (5x9, 8 hour response, reduced terms etc.) should be listed with associated costs. Different support levels should be able to be selected for the different storage tiers.

(c)   Describe the repair time expectations and guarantees that come with the various response time offerings.

(d)   Describe the local Winnipeg support structure. Who handles support? Are spare components stored in Winnipeg?

(e)   Explain any break/fix options that could be handled by the City of Winnipeg (e.g. Replacing failed hard drives)

E3.22   Explain any Integration with VMware including VMware Site Recovery Manager, VAAI, VASA, VVOLS, Snapshots, etc.

E3.23   Describe the raid levels and disk groups configured in the proposed solution. Describe the thought process that was used to arrive at that configuration to balance performance, reliability (rebuild times and available spares) and cost. Provide descriptions of alternate configurations that you would also consider appropriate along with associated costs.

E3.24   Explain any features for reducing the impact on performance or availability for failed drive rebuilds.

E3.25   Please describe the data centre requirements for the proposed solution such as floor space (including clearance), power feeds (including required redundancy) and power and cooling requirements.

E3.26   Please provide a roadmap for the proposed solutions. When were systems introduced? When will the systems be withdrawn from sales? When will the systems be withdrawn from support?

E3.27   Warranty:

(a)   Warranty should not be affected by the City's need to move equipment.

(b)   The start date for warranty shall not commence prior to receipt of goods by the City.

(c)   The Contractor must notify the equipment manufacturer in a timely manner (no greater than 2 weeks from the invoice date) when equipment is purchased. They must record the purchase with the manufacturer so that the manufacturer will recognize the start of the warranty period.

E4.   CONFIGURATION 1

E4.1   Backup Storage:

(a)   Shall be supported by IBM Tivoli Storage Manager

(b)   Shall support connectivity of multiple Servers per Datacentre

(c)   Shall provide automated operations for any offline media

E4.2   Provide the following for the Backup Storage solutions in B16.9:

(a)   Sustained throughput rates per system

(b)   Average access times for any offline media

(c)   The number of concurrent read/write operations that are supported per system

E5.   CONFIGURATION 2

E5.1   All Primary Storage shall support:

(a)   Windows 2008, Windows 2012, Solaris 10, Solaris 11, ESX 5.1 and ESX 5.5.

(b)   Native ESX 5.x multipathing

(c)   Windows 2008/2012 multipathing

(d)   Solaris 10/11 multipathing

(e)   SAN Booting for Windows 2008 and Windows 2012

(f)   Online Firmware upgrades

(g)   VMware Site Recovery Manager

E5.2   List other Hypervisors that are supported by the solution and describe any integrations.

E5.3   Networking switches shall support:

(a)   Online firmware upgrades

(b)   Minimum 8 Gbps connectivity

E5.4   Provide the IOPS and explain how they were calculated for Configuration 2 (B16.10):

(a)   Initial Purchase

(i)   Primary Datacentre - B16.10.2(a);

(ii)   Secondary Datacentre - B16.10.2(b);

(b)   Future Purchase

(i)   Primary Datacentre - B16.10.3(a);

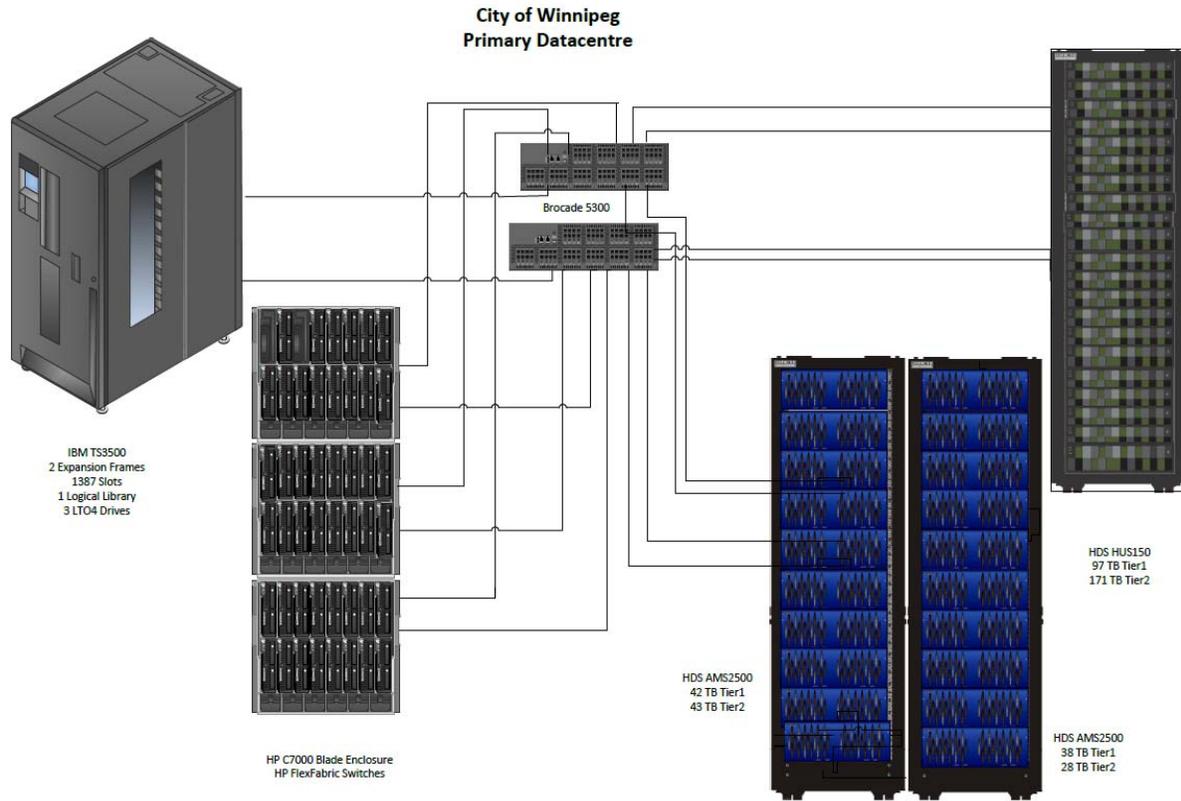(ii)   Secondary Datacentre - B16.10.3(b).

PART F - SECURITY CLEARANCE

F1.   SECURITY CLEARANCE

F1.1   Each individual proposed to perform the following portions of the Work:

(a)   any Work within the City data centre(s).

F1.1.1   Each Individual shall be required to obtain a Criminal Record Search Certificate from the police service having jurisdiction at his/her place of residence. Or

(a)   BackCheck, forms to be completed can be found on the website at: http://www.backcheck.net/ ; or

(b)   Commissionaires (Manitoba Division), forms to be completed can be found on the website at: http://www.commissionaires.mb.ca/ .

F1.2   The following is a link to information for obtaining the Criminal Record Search certificate from the City of Winnipeg Police Service.
http://winnipeg.ca/police/pr/info_request.stm#crim_record_search

F1.2.1   The original Criminal Record Search Certificate (Form P–253) will be provided by the Winnipeg Police Service to the individual applicant. The original has a validation sticker from the Winnipeg Police Service in the top right hand corner. The applicant shall:

(a)   Provide the original Criminal Record Search Certificate (Form P–253) to the Contract Administrator.

F1.3   Prior to the commencement of any Work specified in PART F - , and during the term of the Contract if additional or replacement individuals are proposed to perform Work, the Contractor shall supply the Contract Administrator with a Criminal Record Search Certificate obtained not earlier than one (1) year prior to the Submission Deadline, or a certified true copy thereof, for each individual proposed to perform such Work.

F1.4   Any individual for whom a Criminal Record Search Certificate is not provided, or for whom a Criminal Record Search Certificate indicates any convictions or pending charges related to property offences or crimes against another person will not be permitted to perform any Work specified in PART F - .

F1.5   Any Criminal Record Search Certificate obtained thereby will be deemed valid for the duration of the Contract subject to a repeated records search as hereinafter specified.

F1.6   Notwithstanding the foregoing, at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require an updated criminal records search. Any individual who fails to provide a satisfactory Criminal Record Search Certificate as a result of a repeated criminal records search will not be permitted to continue to perform any Work specified in PART F - .

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APPENDIX

APPENDIX A – SAN DIAGRAM

**City of Winnipeg
Primary Datacentre**

IBM TS3500
2 Expansion Frames
1387 Slots
1 Logical Library
3 LTO4 Drives

Brocade 5300

HP C7000 Blade Enclosure
HP FlexFabric Switches

HDS AMS2500
42 TB Tier1
43 TB Tier2

HDS AMS2500
38 TB Tier1
28 TB Tier2

HDS HUS150
97 TB Tier1
171 TB Tier2

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**City of Winnipeg
Secondary DataCentre**

IBM TS3500
2 Expansion Frames
1167 Slots
2 Logical Libraries
4 LTO4 Drives

Brocade 5100

HP C7000 Blade Enclosure
HP Brocade Switches
Cisco 3020 Switches

HDS AMS2500
50 TB Tier1
86 TB Tier2

HDS HUS150
8 TB Tier1
270 TB Tier2