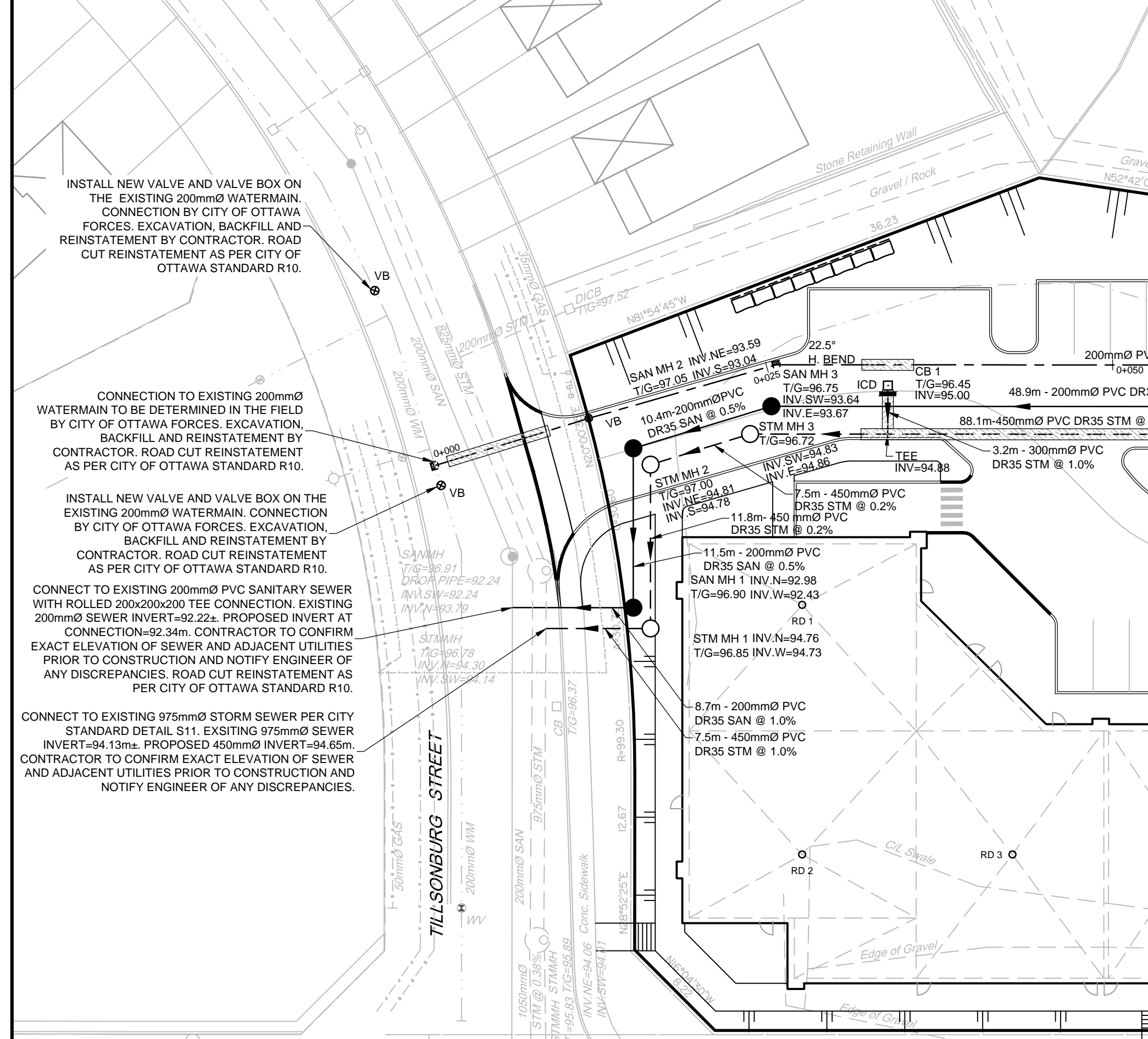


ROOF DRAIN TABLE: AREA R-1 (ROOF DRAINS 1 to 7)

| AREA ID | ROOF DRAIN No. (WATTS MODEL) | ROOF DRAIN OPENING SETTING | 1-5 YEAR RELEASE RATE | APPROX. 5 YR PONDING DEPTH | 1-100 YEAR RELEASE RATE | APPROX. 100 YR PONDING DEPTH |
|---------|------------------------------|----------------------------|-----------------------|----------------------------|-------------------------|------------------------------|
| R-1 | RD 1 (RD-100-A-ADJ) | 1/2 EXPOSED | 0.95 L/s | 11 cm | 1.10 L/s | 14 cm |
| R-1 | RD 2 (RD-100-A-ADJ) | 1/2 EXPOSED | 0.95 L/s | 11 cm | 1.10 L/s | 14 cm |
| R-1 | RD 3 (RD-100-A-ADJ) | 1/2 EXPOSED | 0.95 L/s | 11 cm | 1.26 L/s | 15 cm |
| R-1 | RD 4 (RD-100-A-ADJ) | 1/2 EXPOSED | 0.95 L/s | 10 cm | 1.10 L/s | 13 cm |
| R-1 | RD 5 (RD-100-A-ADJ) | 1/2 EXPOSED | 0.95 L/s | 10 cm | 1.10 L/s | 13 cm |
| R-1 | RD 6 (RD-100-A-ADJ) | 1/2 EXPOSED | 0.95 L/s | 11 cm | 1.26 L/s | 14 cm |
| R-1 | RD 7 (RD-100-A-ADJ) | 1/2 EXPOSED | 0.95 L/s | 11 cm | 1.26 L/s | 14 cm |

* REFER TO THE 'DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT' (R-2018-158) PREPARED BY NOVA TECH FOR DRAINAGE AREA IDENTIFIERS AND STORMWATER MANAGEMENT DETAILS.

** ALL CONTROLLED FLOW ROOF DRAINS FOR THE PROPOSED BUILDING TO BE WATTS' ADJUSTABLE ACCUTROL® ROOF DRAINS.



WATERMAIN NOTES:

- SUPPLY AND CONSTRUCT ALL WATERMANS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMANS BY THE CONTRACTOR. CONNECTIONS, SHUT-OUTS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OF OTTAWA FORCES.
- SPECIFICATIONS:

| ITEM | SPEC. No. | REFERENCE |
|--|-----------|----------------|
| WATERMAIN TRENCHING | W17 | CITY OF OTTAWA |
| FIRE HYDRANT INSTALLATION | W19 | CITY OF OTTAWA |
| THERMAL INSULATION IN SHALLOW TRENCHES | W22 | CITY OF OTTAWA |
| INSULATION ADJACENT TO OPEN TRENCHES | W23 | CITY OF OTTAWA |
| VALVE BOX ASSEMBLY | W24 | CITY OF OTTAWA |
| WATERMAIN | PVC DR 18 | CITY OF OTTAWA |
- WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
- PROVIDE MINIMUM 0.5m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS.
- PROPOSED WATER SERVICES ARE TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.

NOTE: THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

NOT FOR CONSTRUCTION

OWNER INFORMATION
7873794 CANADA INC.
43 AURIGA DRIVE, 2ND FLOOR,
NEPEAN, ONTARIO, K2E 7Y8
DENNIS LAURIN
PHONE: (613) 656-0672
dennis.laurin@laurin.ca

| No. | REVISION | DATE | BY |
|-----|--------------------------------|-----------|----|
| 3 | REVISED PER CITY COMMENTS | MAY 10'19 | MS |
| 2 | ISSUED FOR SITE PLAN APPROVAL | JAN 25'19 | MS |
| 1 | ISSUED FOR DESIGN COORDINATION | JAN 17'19 | MS |

SCALE
1:300

0 3 6 9 12

| DESIGN | SM / MS |
|----------|---------|
| CHECKED | MS |
| DRAWN | SM |
| CHECKED | SM / MS |
| APPROVED | MS |

FOR REVIEW ONLY

PROFESSIONAL ENGINEER
M. SAUVE
100102651
5/10/19
PROVINCE OF ONTARIO

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-3967
Website www.novatech-eng.com

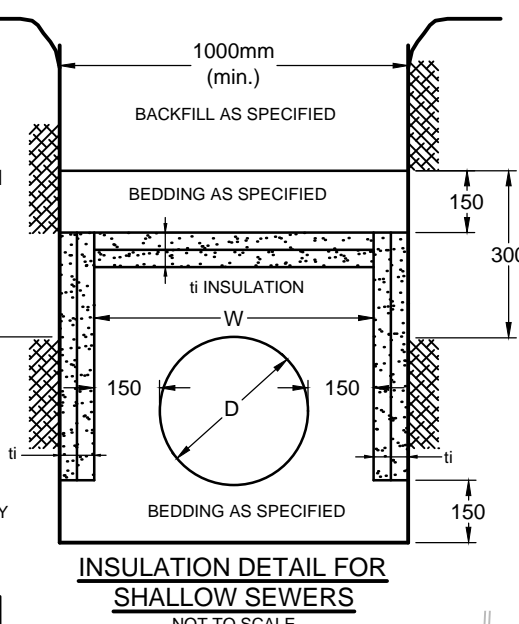
| | |
|---|-----------------------|
| LOCATION CITY OF OTTAWA - 471 TERRY FOX DRIVE HERITAGE HILLS RETAIL PLAZA | PROJECT No. 118133 |
| DRAWING NAME GENERAL PLAN OF SERVICES | REV # 3 |
| DRAWING No. 118133-GP | Plan # 17868 |

- GENERAL NOTES:
- COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
 - DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.
 - OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
 - BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE, ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR \$5,000,000.00. INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED.
 - RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD ALLOWANCES TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF THE CITY OF OTTAWA AND ENGINEER.
 - REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL, ORGANIC MATERIAL AND DEBRIS UNLESS OTHERWISE INSTRUCTED BY ENGINEER. EXCAVATE AND REMOVE FROM SITE ANY CONTAMINATED MATERIAL. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
 - ALL ELEVATIONS ARE GEODETIC.
 - REFER TO GEOTECHNICAL REPORT (NO. PG4564-1, REVISION 1, DATED NOVEMBER 7, 2018), PREPARED BY PATERSON GROUP INC., FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS, AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE GRANULAR MATERIAL.
 - REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
 - REFER TO STORMWATER MANAGEMENT REPORT (R-2018-158) PREPARED BY NOVA TECH ENGINEERING CONSULTANTS LTD.
 - SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
 - PROVIDE LINE/PARKING PAINTING.
 - CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL SERVICING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND T/G ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANT LOCATIONS, TWM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.

| INLET CONTROL DEVICE - DATA TABLE | | | | | | |
|-----------------------------------|-------------------------|---------------------------------|-------------------|----------|-----------------|----------|
| CB I.D. | ICD TYPE | DIAMETER OF OUTLET PIPE (mm) | DESIGN FLOW (L/s) | | DESIGN HEAD (m) | |
| | | | 2-YEAR | 100-YEAR | 2-YEAR | 100-YEAR |
| CB 1 | TEMPEST LMF (Vortex 90) | 300 | 6.7 | 9.3 | 0.91 | 1.61 |
| CB 2 | TEMPEST MHF (126mmØ) | 300 | 32.0 | 39.0 | 1.06 | 1.54 |
| CB 3 | TEMPEST MHF (162mmØ) | 300 | 30.0 | 59.4 | 0.39 | 1.29 |

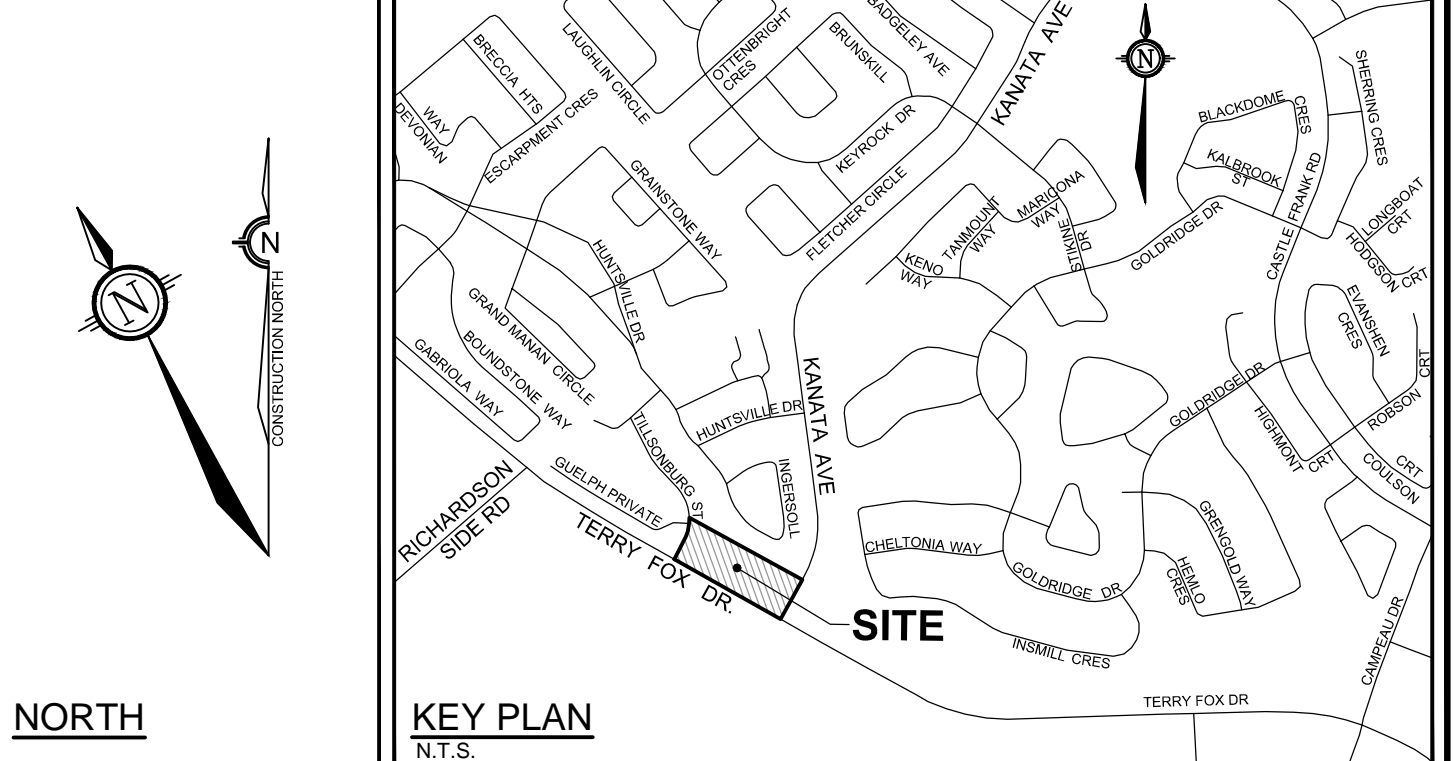
- SEWER NOTES:
- SUPPLY AND CONSTRUCT ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
 - SPECIFICATIONS:

| ITEM | SPEC. No. | REFERENCE |
|------------------------------------|-----------|----------------|
| CATCHBASIN (600x600mm) | 705.010 | OPSD |
| STORM / SANITARY MANHOLE (1200mmØ) | 701.010 | OPSD |
| CB, FRAME & COVER | 400.020 | OPSD |
| STORM / SANITARY MH FRAME & COVER | 401.010 | OPSD |
| WATERTIGHT MH FRAME AND COVER | 401.030 | OPSD |
| SEWER TRENCH | S6 | CITY OF OTTAWA |
 - STORM SEWER
SANITARY SEWER
CATCHBASIN LEAD
 - ALL STORM AND SANITARY SERVICE LATERALS SHALL BE EQUIPPED WITH BACKFLOW PREVENTION DEVICES AS PER THE CITY OF OTTAWA STANDARD DETAILS S14 AND S14.1 OR S14.2.
 - INSULATE ALL PIPES (SANSTM) THAT HAVE LESS THAN 1.5m COVER WITH HI-40 INSULATION PER INSULATION DETAIL FOR SHALLOW SEWERS. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
 - SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
 - PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
 - FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KOR-N-SEAL, PSX: POSITIVE SEAL AND DURASEAL), THE CONCRETE CRADLE FOR THE PIPE CAN BE ELIMINATED.
 - THE OWNER SHALL REQUIRE THAT THE SITE SERVICING CONTRACTOR PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410.07.16, 410.07.16.04 AND 407.07.24. DYE TESTING IS TO BE COMPLETED ON ALL SANITARY SERVICES TO CONFIRM PROPER CONNECTION TO THE SANITARY SEWER MAIN. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER WHO SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS.
 - ALL STORM MANHOLES AND CATCHBASIN MANHOLES ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED. ALL CATCHBASINS ARE TO HAVE 600mm SUMPS UNLESS OTHERWISE INDICATED.
 - ALL CATCHBASINS, MANHOLES AND/OR CATCHBASIN MANHOLES THAT ARE TO HAVE ICD'S INSTALLED WITHIN THEM ARE TO HAVE 600mm SUMPS.
 - ALL WEEPING TILE CONNECTIONS TO BE MADE TO THE PROPOSED STORM SEWER SYSTEM DOWNSTREAM OF ANY INLET CONTROL DEVICES.
 - CONTRACTOR TO TELETYPE (CCTV) ALL PROPOSED SEWERS, 200mmØ OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES.



PROPOSED 100mmØ - 200mmØ WATERMAIN TABLE

| STATION | SURFACE ELEVATION | TWM ELEVATION | COMMENTS |
|---------|-------------------|---------------|-----------------------------------|
| 1+00 | 96.80 | 93.85 | 200 X 200 X 200 TEE (STA 0+133.4) |
| 1+03.0 | 96.78 | 93.83 | CROSS BELOW SAN (±0.5m CLEARANCE) |
| 1+26.4 | 96.42 | 93.83 | 200 x 200 x 150 HYDRANT TEE |
| 1+28.0 | 96.41 | 93.83 | 200 x 100 REDUCER |
| 1+45.4 | 96.23 | 93.83 | 100mmØ VALVE AND VALVE BOX |
| 1+46.4 | 96.18 | 93.78 | 45° HORIZONTAL BEND |
| 1+47.8 | 96.13 | 93.73 | 45° HORIZONTAL BEND |
| 1+62.2 | 96.20 | 93.80 | 45° HORIZONTAL BEND |
| 1+63.6 | 96.90 | 93.90 | 45° HORIZONTAL BEND |
| 1+64.2 | 96.95 | 93.90 | CAP 1.0m FROM BUILDING FACE |



PROPOSED 200mmØ WATERMAIN TABLE

| STATION | SURFACE ELEVATION | TWM ELEVATION | COMMENTS |
|---------------|-------------------|---------------|---|
| 0+000 | 97.71+ | 94.98+ | TEE CONNECTION TO EX. 200mmØ WM |
| 0+000.3 | 97.73+ | 94.98 | 22.5° VERTICAL BEND |
| 0+002.7 | 97.55+ | 95.96 | CROSS ABOVE EX. SAN (±1.5m CLEARANCE) |
| 0+002.8 | 97.53+ | 96.00 | 22.5° VERTICAL BEND |
| 0+004.3 | 97.38+ | 96.00 | CROSS ABOVE EX. STM (±0.3m CLEARANCE) |
| 0+005.8 | 97.35+ | 96.00 | 22.5° VERTICAL BEND |
| 0+008.5 | 97.45+ | 94.90 | 22.5° VERTICAL BEND |
| 0+009.8 | 97.29 | 94.90 | CROSS BELOW EX. UTILITIES (±1.8m CLEARANCE) |
| 0+011.6 | 97.30 | 94.90 | 200mmØ VALVE AND VALVE BOX |
| 0+025.7 | 96.75 | 94.35 | 22.5° HORIZONTAL BEND |
| 0+031.0+0+036 | 96.50 | 94.35 | INSULATE IN PROXIMITY TO CB 1 |
| 0+100 | 96.80 | 94.45 | ... |
| 0+133.4 | 96.80 | 93.85 | 200 X 200 X 200 TEE (STA 1+00) |
| 0+136.0 | 96.75 | 93.90 | 200 X 150 REDUCER |
| 0+148.4 | 96.45 | 94.05 | 150mmØ VALVE AND VALVE BOX |
| 0+150.4 | 96.46 | 94.05 | CAP AT PROPERTY LINE |

* 200mm x 200mm x 200mm TEE CONNECTION TO EXISTING 200mmØ WATERMAIN. EXACT ELEVATION TO BE FIELD DETERMINED.

** PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA DETAIL W23 AND DETAIL W22 WHERE COVER IS LESS THAN 2.4m AND/OR ADJACENT TO OPEN STRUCTURES.

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