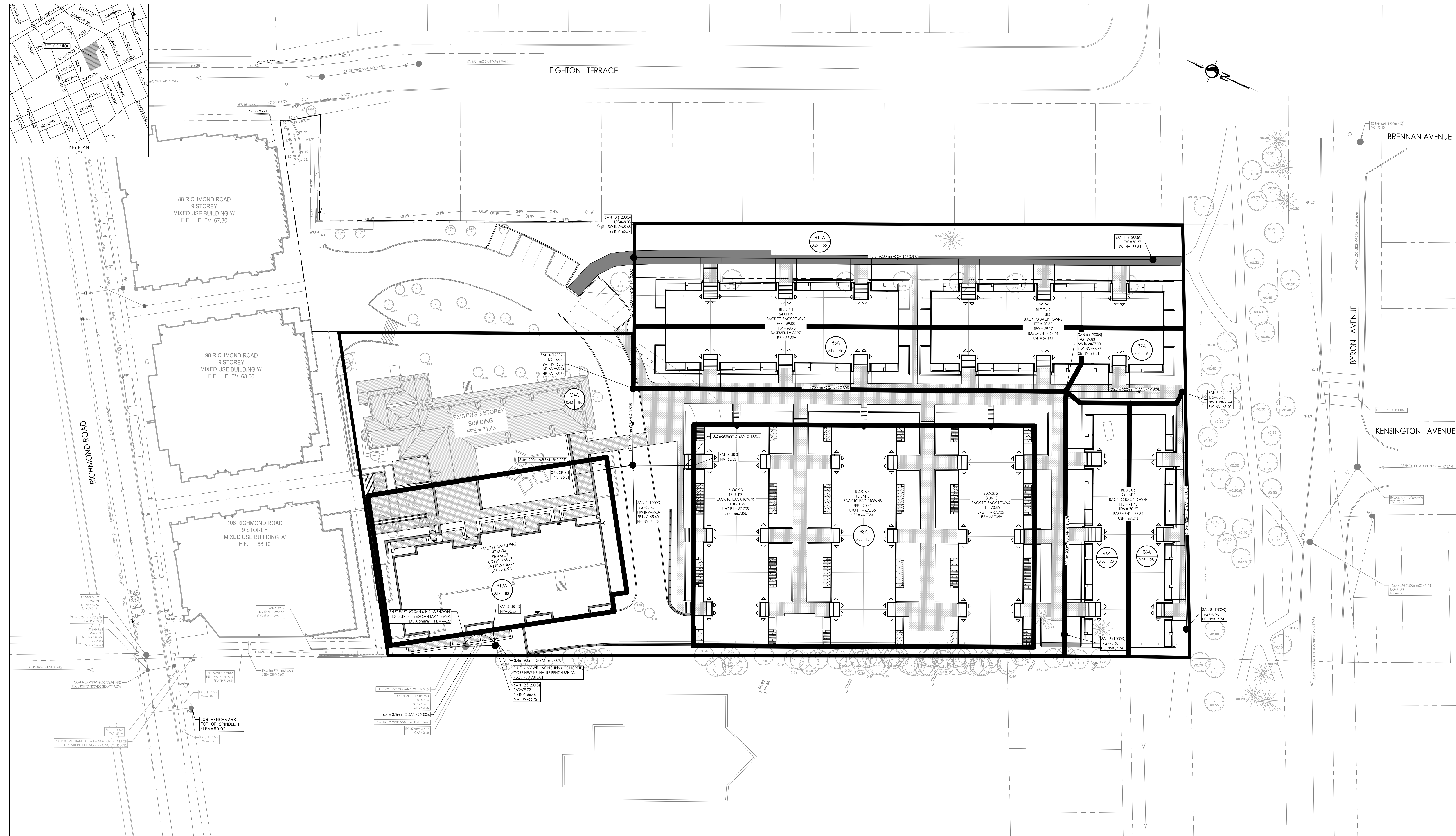


Legend

- SANITARY DRAINAGE AREA ID#
- POPULATION COUNT
- SANITARY DRAINAGE AREA ID#
- INFILTRATION RATE OF 0.33 L/HA/APPLIED
- SANITARY DRAINAGE AREA
- SANITARY DRAINAGE AREA
- PROPOSED SANITARY MAIN AND SEWER
- EXISTING SANITARY MAIN AND SEWER
- THERMAL INSULATION ON SANITARY SEWER WHERE COVER IS LESS THAN 2.5m AS PER S35.

Notes



- GENERAL NOTES AND SPECIFICATIONS**
- ALL MATERIALS AND CONSTRUCTION METHODS TO BE IN ACCORDANCE WITH OPS AND CITY OF OTTAWA STANDARD SPECIFICATIONS AND DRAWINGS AND OPS SUPPLEMENT, ONTARIO PROVINCIAL STANDARDS WILL APPLY WHERE NO CITY STANDARDS ARE AVAILABLE.
 - THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED AND BEAR COST OF SAME INCLUDING WATER PERMIT AND ASSOCIATED COSTS.
 - SERVICE AND UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING SERVICES AND UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING LOCATES FROM ALL UTILITY COMPANIES TO LOCATE EXISTING UTILITIES PRIOR TO EXCAVATION. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING UTILITIES.
 - CONTRACTOR TO CONFIRM TRENCH ELEVATIONS TO EXISTING INFRASTRUCTURE PRIOR TO INITIATING CONSTRUCTION AND BEFORE THE ENGINEER OF ANY DISCREPANCY FROM THE AS-BUILT INFORMATION REFERENCED ON THE DRAWING.
 - ALL DETURBED AREAS SHALL BE RESTORED TO EQUAL OR BETTER CONDITION TO THE SATISFACTION OF THE ENGINEER & THE CITY. PAVEMENT RESTORATION FOR SERVICE AND UTILITY CUTS SHALL BE IN ACCORDANCE WITH OPS 309.010 AND OPS 310.
 - ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS. THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE CONTRACTOR AS REFERRED IN THE ACT.
 - THE CONTRACTOR SHALL SUBMIT AN EROSION AND SEDIMENTATION CONTROL PLAN THAT WILL IMPLEMENT BEST MANAGEMENT PRACTICES TO PROVIDE PROTECTION FOR RECEIVING STREAMS (SEWER OR DRAINAGE DRAINAGE CONSTRUCTION ACTIVITIES). THE PLAN SHALL INCLUDE BUT NOT BE LIMITED TO CATCH BASINS, STORM SILE CHED DAMS AND SEDIMENT CONTROLS AROUND ALL DETURBED AREAS. DRAINAGE SHALL BE PUMPED INTO EXISTING STORM DRAINAGE.
 - SEE PLAN PREPARED BY PROJECT 1 STUDIO DRAWING SP-01, REV. 4 PROJECT NAME 114 RICHMOND ROAD, OTTAWA, ON, PROJECT NO. 2019-0407.
 - TOPOGRAPHIC SURVEY PERFORMED BY AME, COLUJAN, VOLKHEIM LTD. PROJECT NO. 2019-05, TOPOGRAPHICAL PLAN OF 114 RICHMOND ROAD, CITY OF OTTAWA.
 - REFER TO LANDSCAPE ARCHITECTURE PLAN FOR ALL LANDSCAPING FEATURES (i.e. TREES, WALKWAYS, POB DETAILS, NOSE BARRIERS, FINISHES, ETC.).
 - GEOTECHNICAL INVESTIGATION: PROPOSED RESIDENTIAL DEVELOPMENT 114 RICHMOND ROAD, OTTAWA, ONTARIO, PREPARED BY PATRISON GROUP, DATED FEBRUARY 2020, REPORT NO. PR2019-11. GEOTECHNICAL INFORMATION PRESENTED ON THESE DRAWINGS HAS BEEN APPROVED FROM THE ORIGINAL REPORT. REFER TO ORIGINAL GEOTECHNICAL REPORT FOR ADDITIONAL DETAILS AND TO VERIFY ASSUMPTIONS MADE HEREIN.
 - STREET LIGHTING BY OTHERS TO CITY OF OTTAWA STANDARDS.
 - ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED. DIMENSION SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES TO BE REPORTED IMMEDIATELY TO ENGINEER.
 - THERE WILL BE NO SUBSTITUTION OF MATERIALS UNLESS PRIOR WRITTEN APPROVAL BY THE CONTRACT ADMINISTRATOR AND DIRECTOR OF ENGINEERING HAS BEEN OBTAINED.
 - HERITAGE CHARACTER LINE OF THE ONTARIO HERITAGE CULTURE TO BE HONORED BY DEEPLY BURIED ARCHAEOLOGICAL REMAINS ARE FOUND ON THE PROPERTY DURING CONSTRUCTION ACTIVITIES.
- ROADWORKS**
- ALL TOPSOIL AND ORGANIC MATERIAL TO BE STRIPPED FROM WITHIN THE FULL RIGHT OF WAY PRIOR TO CONSTRUCTION.
 - SUB-BASECATE SOFT AREAS & RILL WITH GRANULAR 'B' TYPE & COMPACTED IN 200mm LAYERS.
 - ALL GRANULAR FOR ROADS SHALL BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR MAXIMUM DRY DENSITY (MDD).
 - ROAD SUBGRADE SHALL BE CONSTRUCTED AS PER CITY OF OTTAWA STANDARD W2.
 - ASPHALT WEAR COURSE SHALL NOT BE PLACED UNTIL THE WEED PROTECTION OF SERVICES & NECESSARY REPAIRS HAVE BEEN CARRIED OUT TO THE SATISFACTION OF THE CONSULTANT.
 - CONTRACTOR TO OBTAIN A ROAD OCCUPANCY PERMIT 48 HOURS PRIOR TO COMMENCING ANY WORK WITHIN THE MUNICIPAL ROAD ALLOWANCE AS REQUIRED BY THE MUNICIPALITY. ALL WORK ON THE MUNICIPAL RIGHT OF WAY AND FASTENERS TO BE RESPECTED BY THE MUNICIPALITY PRIOR TO BACKFILLING.
 - PAVEMENT RESTORATION FOR SERVICE AND UTILITY CUTS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD R10, AND OPS 309.010, AND OPS 310.

- CONCRETE CURBS SHALL BE CONSTRUCTED AS PER CITY STANDARD SCL 1.1 AND SCL 1.3 (BARRIER OR MOUNTABLE CURB 45-50mm ON GRADE).**
- CONCRETE SIDEWALKS SHALL BE CONSTRUCTED AS PER CITY STANDARD SCS AND SCL 4.**
- PAVEMENT CONSTRUCTION AS PER GEOTECHNICAL INVESTIGATION, PROPOSED RESIDENTIAL DEVELOPMENT, 114 RICHMOND ROAD, OTTAWA, ONTARIO, PREPARED BY PATRISON GROUP, DATED FEBRUARY 2020, PROJECT NO. PR2019-11.**
- RIBD PAVEMENT STRUCTURE - UNDERGROUND PARKING LEVEL**
- 100mm RIBD CONCRETE PAVEMENT - 200mm CONCRETE WITH AN ENHANCED 300mm OPS GRANULAR 'A' CRUSHED STONE BASE
- PAVEMENT STRUCTURE - CAR PARKING ONLY (UPPER DECK)**
- 50mm H-4 OR SUPERPAVE 1/3 ASPHALTIC CONCRETE
30mm OPS GRANULAR 'A' CRUSHED STONE BASE
- PAVEMENT STRUCTURE - ACCESS LANES AND HEAVY TRUCKS (UPPER DECK)**
- 50mm H-4 OR SUPERPAVE 1/3 ASPHALTIC CONCRETE
30mm OPS GRANULAR 'A' CRUSHED STONE BASE
- PAVEMENT STRUCTURE - CAR PARKING ONLY (LOWER DECK)**
- 50mm H-4 OR SUPERPAVE 1/3 ASPHALTIC CONCRETE
30mm OPS GRANULAR 'A' CRUSHED STONE BASE
- PAVEMENT STRUCTURE - ACCESS LANES AND HEAVY TRUCKS (LOWER DECK)**
- 50mm H-4 OR SUPERPAVE 1/3 ASPHALTIC CONCRETE
30mm OPS GRANULAR 'A' CRUSHED STONE BASE
16. WHERE PROPOSED ASPHALT SURFACE RECOMMENDED ABOVE MEETS EXISTING ASPHALT SURFACE, THE FOLLOWING JOINT TRANSITION DETAIL SHOULD BE EMPLOYED:
17. A 100mm WIDE SECTION OF THE EXISTING ASPHALT SHOULD BE SAW CUT FROM THE EXISTING PAVEMENT EDGE TO PROVIDE A SOUND SURFACE TO ABUT THE PROPOSED PAVEMENT STRUCTURE.
18. IT IS RECOMMENDED TO MILL A 300mm WIDE AND 40mm DEEP SECTION OF THE EXISTING ASPHALT AT THE SAW CUT EDGE.

- STORM AND SANITARY SEWERS**
- SANITARY SEWERS 375mm DIA. OR SMALLER SHALL BE PVC DRESS. SANITARY SEWERS LARGER THAN 375mm SHALL BE CONCRETE CSA A 287.2 CLASS 1000 AS PER OPS 307.010.
 - STORM SEWERS 375mm DIA. OR SMALLER SHALL BE PVC DRESS. STORM SEWERS LARGER THAN 375mm DIA. SHALL BE CONCRETE CSA A 287.2 CLASS 1000 AS PER OPS 307.010.
 - ALL STORM AND SANITARY SEWER BEDDINGS SHALL BE INSTALLED AS PER SECTION 4.4 OF THE GEOTECH REPORT.
 - STORM AND SANITARY MANHOLES SHALL BE 1200mm DIAMETER IN ACCORDANCE WITH OPS 301.01 (UNLESS OTHERWISE NOTED). LOW FRAME AND COVER AS PER CITY OF OTTAWA STA. S24, AND 500 WHERE APPLICABLE. CATCH BASIN MANHOLE FRAME AND COVER PER S25 AND S28.1. ALL STORM MANHOLES WITH SEWERS ROOMS (SAR SEWERS) AND COVER LIDS SHALL BE BENCHES. ALL OTHER STORM MANHOLES SHALL BE COVERED WITH 1200mm SQUARE AS PER CITY STANDARDS. SANITARY MANHOLES SHALL NOT HAVE SUMPS.
 - ALL SEWERS CONSTRUCTED WITH GRADES 0.5% OR LESS, TO BE INSTALLED WITH LASER AND CHECKED WITH LEVEL INSTRUMENT PRIOR TO BACKFILLING.
 - FOR STORM SEWER INSTALLATION (EXCLUDING C/L LEADS) THE MINIMUM DEPTH OF COVER OVER THE CROWN OF THE SEWER IS 2.0m. FOR SANITARY SEWERS THE MINIMUM DEPTH OF COVER IS 2.5m OVER PIPE COVER.
 - ALL STORM AND SANITARY SEWERS TO BE EQUIPPED WITH APPROVED BACKFLOW VALVES.
 - STORM AND SANITARY SERVICE LATERALS TO BE INSTALLED AT MIN. 1.05m DEPTH.
 - CATCH BASINS SHALL BE INSTALLED IN ACCORDANCE WITH CITY STANDARD S1. S2, S3 LOW FRAME AND GRATE AS PER S17. COVER FRAME AND GRATE PER S22 AND S23. CATCH BASIN MANHOLES FRAME AND GRATE AS PER S25 FRAME AND 250 L COVER. PROVIDE 150mm ADJUSTED SPACER. ALL CATCH BASIN SHALL HAVE SUMPS (1000mm DEPT). STREET CATCH BASIN LIDS SHALL BE 200mm DIA. MIN. PVC OR 250 AT 1.0% GRADE. WHERE NOT OTHERWISE SPECIFIED, CATCH BASIN LIDS SHALL BE INSTALLED WITH INLET CONTROL DEVICES (ICD) AS PER ICD SCHEDULE ON STORM DRAINAGE PLAN.
 - STREET CATCH BASINS TO BE INSTALLED c/w SUBGRANS 3m LONG IN FOUR ORTHOGONAL DIRECTIONS OR LONGITUDINALLY WHEN PLACED ALONG A CURVE, AND AT AN ELEVATION OF 300mm BELOW SUBGRADE LEVEL.
 - WALL OF FIBROGLASS PIPES TO BE INSTALLED AS PER CITY OF OTTAWA STANDARDS S27. REAR LOT STRUCTURES TO BE INSTALLED AS PER CITY OF OTTAWA STANDARDS W23 AND W21.
 - CLAY SEALS TO BE INSTALLED AS PER CITY STANDARD DRAWING S8. THE SEALS SHOULD BE AT LEAST 1.5m LONG IN THE TRENCH EXTENSION AND SHOULD BEING FROM TRENCH WALL TO TRENCH WALL. GENERALLY, THE SEAL SHOULD EXTEND FROM THE 1800mm LINE AND FULLY PENETRATE THE BEDDING, SUBBEDDING AND COVER MATERIAL. THE BARBERS SHALL BE COVERED BY 200mm DIA. MIN. PVC OR 250 AT 1% GRADE. WHERE NOT OTHERWISE SPECIFIED, THE SEALS SHOULD BE PLACED AT THE SERVICE MANHOLE AND AT 15m SPACES. LOCATIONS AT NO MORE THAN 60m INTERVALS IN THE SERVICE TRENCHES. FOR DETAILS REFER TO GEOTECHNICAL INVESTIGATION.
 - GRANULAR 'A' SHALL BE PLACED TO A MINIMUM THICKNESS OF 300mm AROUND ALL STRUCTURES WHEN PAVEMENT AREA AND COMPACTED TO A MINIMUM OF 95% MDD.
 - CONTRACTOR SHALL PROVIDE LEAKAGE TESTING. IN THE PRESENCE OF THE CONSULTANT, FOR SANITARY SEWERS IN ACCORDANCE WITH OPS 410 AND OPS 407. CONTRACTOR SHALL PROVIDE VERIFIED PROTECTION OF ALL STORM AND SANITARY SERVICES. A COPY OF THE VIDEO AND REPORTOR SHALL BE SUBMITTED TO THE CONSULTANT FOR REVIEW.
 - ANY SEWER ABANDONMENT TO BE CONDUCTED ACCORDING TO CITY OF OTTAWA STANDARD S11.4.
 - STORM SEWERS WITH LESS THAN 2.0m COVER AND SANITARY SEWERS WITH LESS THAN 2.5m COVER TO BE INSULATED IN ACCORDANCE WITH CITY STANDARD S35.

- WATER SUPPLY SERVICES**
- THE CONTRACTOR SHALL CONSTRUCT WATERMAIN, WATER SERVICES, CONNECTIONS & APPURTENANCES AS PER CITY OF OTTAWA SPECIFICATIONS S34L, C3-CORORWAY AND PAY ALL RELATED COSTS INCLUDING THE COST OF CONNECTION, INSPECTION & DEMONSTRATION BY CITY PERSONNEL.
 - WATERMAIN PIPE MATERIAL SHALL BE PVC CL 150 DR 18. DEFLECTION OF WATERMAIN PIPES NOT TO EXCEED 1/2 OF THAT SPECIFIED BY THE MANUFACTURER. WATER MAINS TO BE INSTALLED WITH WACKER WIRE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD W24.
 - WATER SERVICES ARE TO BE PIPE & SOFT COPPER AS PER CITY OF OTTAWA STANDARD W26 UNLESS OTHERWISE NOTED. WATER SERVICES TO BE INSTALLED 1.0m BELOW PROPERTY LINE. STAND POST TO BE INSTALLED AT PROPERTY LINE.
 - PIPE INSULATION TO BE INSTALLED AS PER CITY OF OTTAWA STANDARDS W16 AND W17.
 - WATER VALVES TO BE INSTALLED AS PER CITY OF OTTAWA STANDARD W23 AND W24.
 - WATERMAIN TRENCH SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. W17 UNLESS OTHERWISE SPECIFIED. BEDDING AND COVER MATERIAL AS PER SECTION 4.4 OF THE GEOTECH REPORT.
 - SERVICE CONNECTIONS SHALL BE INSTALLED A MINIMUM OF 200mm FROM ANY CATCH BASIN, MANHOLE, OR OBJECT THAT MAY OBSTRUCT TO REMOVAL. INSULATION SHALL BE DEMONSTRATED ON ALL PROPOSED CUTS ON THE W/WH STREET SIDE WHERE 1200mm SEPARATION CANNOT BE ACHIEVED (AS PER CITY OF OTTAWA W22 & W23).
 - CATHODIC PROTECTION TO BE SUPPLIED ON METALLIC FITTINGS AS PER CITY OF OTTAWA W40 AND W42.
 - THRUST BLOCKS TO BE INSTALLED AS PER CITY OF OTTAWA STANDARDS W23 AND W24.
 - WATERMAIN TO HAVE MIN. 2.0m COVER. WHERE WATERMAIN COVER IS LESS THAN 2.0m, INSULATION TO BE SUPPLIED BLACK ROADSIDE WITH CITY STANDARD W22.
 - WATERMAIN CROSSINGS ABOVE AND BELOW SEWERS TO BE INSTALLED AS PER CITY OF OTTAWA STANDARD W25 AND W25.2.
 - WATERMAIN CROSSINGS ABOVE AND BELOW SEWERS TO BE INSTALLED AS PER CITY OF OTTAWA STANDARD W25 AND W25.2.
 - PRESSURE REDUCING VALVES (PRV) IF REQUIRED, TO BE INSTALLED AS PER ONTARIO PLUMBING CODE.

Revised	By	App'd	Date
0	ISSUED FOR RPA	MJS	07/26/20
1	Revision	By	App'd
2	Revision	By	App'd
3	Revision	By	App'd
4	Revision	By	App'd
5	Revision	By	App'd
6	Revision	By	App'd
7	Revision	By	App'd
8	Revision	By	App'd
9	Revision	By	App'd
10	Revision	By	App'd

Permit-Seal

Client/Project
**JORDAN TANNIS
CONCORD PROPERTIES**

114 RICHMOND ROAD
RESIDENTIAL DEVELOPMENT
OTTAWA, ON, CANADA

Title
SANITARY DRAINAGE PLAN

Project No. 164042212
Scale 0 3 9 15m
Drawing No. SA-1
Sheet 6 of 6
Revision 0