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**Legend**

- PROPOSED WATER METER
- PROPOSED FLOOR WATER METER
- PROPOSED REMOTE WATER METER
- EXISTING WATERMAIN
- EXISTING VALVE AND VALVE BOX
- EXISTING VALVE CHAMBER
- EXISTING FIRE HYDRANT
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING CATCHBASIN
- PROPOSED RETAINING WALL
- PROPOSED FENCE
- PROPOSED BUILDING ENTRANCE LOCATION
- PROPOSED BOLLARD LOCATION (REFER TO LANDSCAPE PLAN)
- PROPOSED SERVICES
- 300mm STORM SERVICE PVC SDR 28 @ 1.0% MIN
- 200mm SANITARY SERVICE PVC SDR 28 @ 1.0% MIN
- 150mm PVC WATER SERVICE AND CURB STOP
- ORIGINAL GROUND ELEVATION
- PROPOSED ELEVATION
- PROPOSED LOT CORNER ELEVATION
- EXISTING ELEVATION AT LOT CORNER
- FLOW DIRECTION AND GRADE
- FINISHED FIRST FLOOR ELEVATION
- UNDERSIDE OF FOOTING ELEVATION
- TERRACING 3:1 SLOPE MAXIMUM (UNLESS OTHERWISE SHOWN)
- DIRECTION OF EMERGENCY OVERLAND FLOW
- THERMAL INSULATION AS PER W22

**Notes**

- TOPOGRAPHIC SURVEY AND BENCHMARK COMPLETED BY ANNIS O'SULLIVAN, VOLLEBEK LTD., DATED NOV 17, 2020
- SITE PLAN PREPARED BY RICHKRAFT GROUP OF COMPANIES, DATED MARCH 04, 2021.
- GEOTECHNICAL REPORT BY PATTERSON GROUP, REPORT NO. PG-4238-1, DATED SEPT 22, 2020

NO.	DESCRIPTION	DATE	BY	APP'D.
3	ISSUED FOR REVIEW	JP	SG	21.05.10
2	ISSUED FOR 2ND SUBMISSION	JP	SG	21.03.12
1	ISSUED FOR 1ST SUBMISSION	AJ	SG	20.10.28

Revision: File Name: 16401348-28 Dwn. Chkd. Dgn. Y.Y.M.M.DD

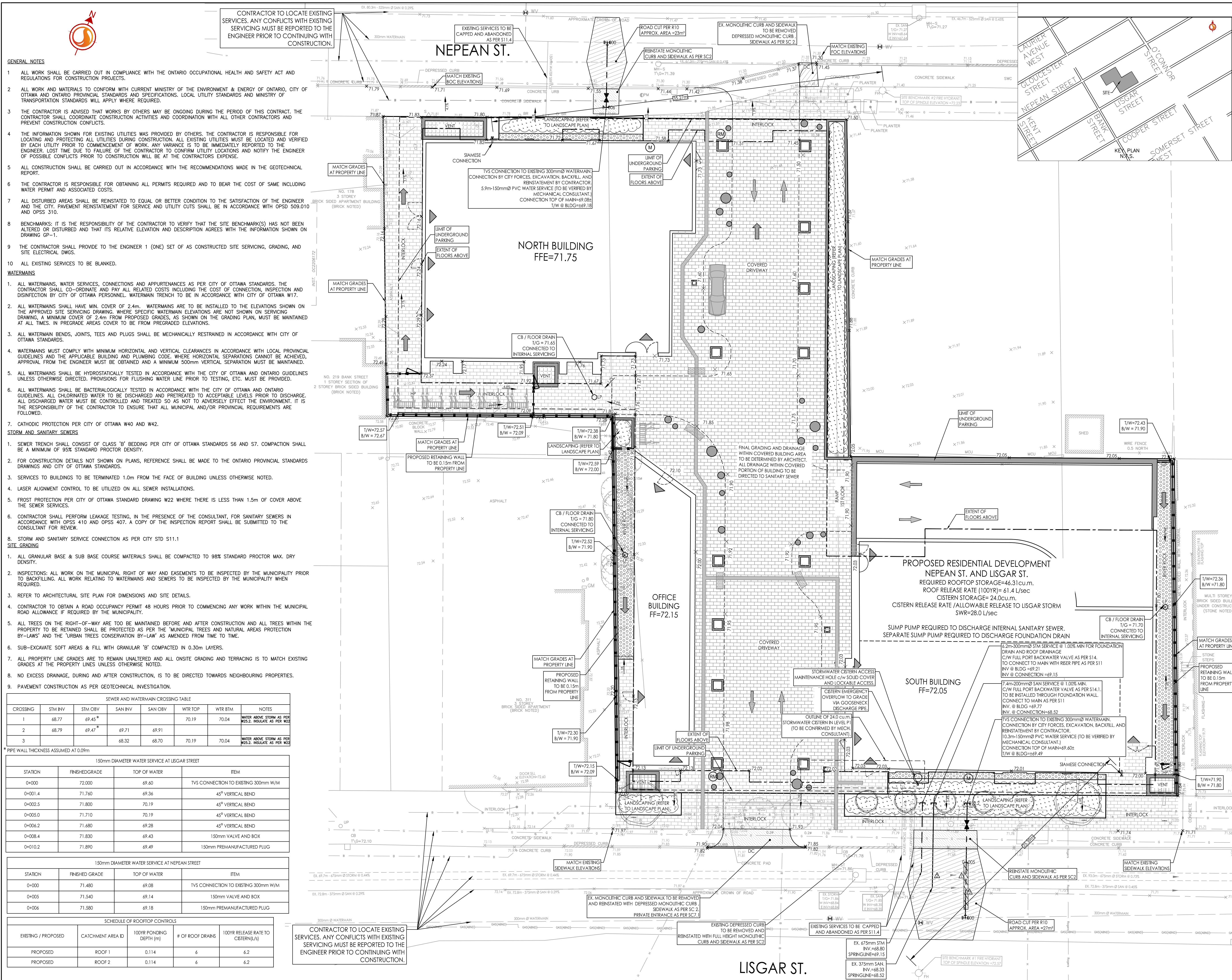
Permit Seal: T.K. RATHNASOORNIA 100225159 2021-05-10 PROVINCE OF ONTARIO

Client/Project: RICHKRAFT (LISGAR) LTD.

RESIDENTIAL HIGH RISE DEVELOPMENT  
176 NEPEAN/293-307 LISGAR STREET  
OTTAWA, ON

Title: SITE SERVICING AND GRADING PLAN

Project No. 16401348 Scale 0 1.5 4.5 7.5m  
Drawing No. Sheet Revision



- GENERAL NOTES**
- ALL WORK SHALL BE CARRIED OUT IN COMPLIANCE WITH THE ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
  - ALL WORK AND MATERIALS TO CONFORM WITH CURRENT MINISTRY OF THE ENVIRONMENT & ENERGY OF ONTARIO, CITY OF OTTAWA AND ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS. LOCAL UTILITY STANDARDS AND MINISTRY OF TRANSPORTATION STANDARDS WILL APPLY WHERE SPECIFIED.
  - THE CONTRACTOR IS ADVISED THAT WORKS BY OTHERS MAY BE ONGOING DURING THE PERIOD OF THIS CONTRACT. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES AND COORDINATION WITH ALL OTHER CONTRACTORS AND PREVENT CONSTRUCTION CONFLICTS.
  - THE INFORMATION SHOWN FOR EXISTING UTILITIES WAS PROVIDED BY OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION. ALL EXISTING UTILITIES MUST BE LOCATED AND VERIFIED BY EACH UTILITY PRIOR TO COMMENCEMENT OF WORK. ANY VARIANCE IS TO BE IMMEDIATELY REPORTED TO THE ENGINEER. LOST TIME DUE TO FAILURE OF THE CONTRACTOR TO CONFIRM UTILITY LOCATIONS AND NOTIFY THE ENGINEER OF POSSIBLE CONFLICTS PRIOR TO CONSTRUCTION WILL BE AT THE CONTRACTORS EXPENSE.
  - ALL CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL REPORT.
  - THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED AND TO BEAR THE COST OF SAME INCLUDING WATER PERMIT AND ASSOCIATED COSTS.
  - ALL DISTURBED AREAS SHALL BE REINSTATED TO EQUAL OR BETTER CONDITION TO THE SATISFACTION OF THE ENGINEER AND THE CITY. PAVEMENT REINSTATEMENT FOR SERVICE AND UTILITY CUTS SHALL BE IN ACCORDANCE WITH OPSD 509.010 AND OPSD 310.
  - BENCHMARKS: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE SITE BENCHMARK(S) HAS NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION SHOWN ON DRAWING GP-1.
  - THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER 1 (ONE) SET OF AS CONSTRUCTED SITE SERVICING, GRADING, AND SITE ELECTRICAL DWGS.
  - ALL EXISTING SERVICES TO BE BLANKED.

- WATERMANS**
- ALL WATERMANS, WATER SERVICES, CONNECTIONS AND APPURTENANCES AS PER CITY OF OTTAWA STANDARDS. THE CONTRACTOR SHALL CO-ORDINATE AND PAY ALL RELATED COSTS INCLUDING THE COST OF CONNECTION, INSPECTION AND DISINFECTION BY CITY OF OTTAWA PERSONNEL. WATERMAIN TRENCH TO BE IN ACCORDANCE WITH CITY OF OTTAWA W17.
  - ALL WATERMANS SHALL HAVE MIN. COVER OF 2.4m. WATERMANS ARE TO BE INSTALLED TO THE ELEVATIONS SHOWN ON THE APPROVED SITE SERVICING DRAWING. WHERE SPECIFIC WATERMAIN ELEVATIONS ARE NOT SHOWN ON SERVICING DRAWING, A MINIMUM COVER OF 2.4m FROM PROPOSED GRADES, AS SHOWN ON THE GRADING PLAN, MUST BE MAINTAINED AT ALL TIMES. IN PREGRADE AREAS COVER TO BE FROM PREGRADE ELEVATIONS.
  - ALL WATERMAIN BENDS, JOINTS, TEES AND PLUGS SHALL BE MECHANICALLY RESTRAINED IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS.
  - WATERMANS MUST COMPLY WITH MINIMUM HORIZONTAL AND VERTICAL CLEARANCES IN ACCORDANCE WITH LOCAL PROVINCIAL GUIDELINES AND THE APPLICABLE BUILDING AND PLUMBING CODE. WHERE HORIZONTAL SEPARATIONS CANNOT BE ACHIEVED, APPROVAL FROM THE ENGINEER MUST BE OBTAINED AND A MINIMUM 500mm VERTICAL SEPARATION MUST BE MAINTAINED.
  - ALL WATERMANS SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH THE CITY OF OTTAWA AND ONTARIO GUIDELINES UNLESS OTHERWISE DIRECTED. PROVISIONS FOR FLUSHING WATER LINE PRIOR TO TESTING, ETC. MUST BE PROVIDED.
  - ALL WATERMANS SHALL BE BACTERIOLOGICALLY TESTED IN ACCORDANCE WITH THE CITY OF OTTAWA AND ONTARIO GUIDELINES. ALL CHLORINATED WATER TO BE DISCHARGED AND PRETREATED TO ACCEPTABLE LEVELS PRIOR TO DISCHARGE. ALL DISCHARGED WATER MUST BE CONTROLLED AND TREATED SO AS NOT TO ADVERSELY AFFECT THE ENVIRONMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL MUNICIPAL AND/OR PROVINCIAL REQUIREMENTS ARE FOLLOWED.
  - CATHODIC PROTECTION PER CITY OF OTTAWA W40 AND W42.

- STORM AND SANITARY SEWERS**
- SEWER TRENCH SHALL CONSIST OF CLASS "B" BEDDING PER CITY OF OTTAWA STANDARDS S6 AND S7. COMPACTION SHALL BE TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY.
  - FOR CONSTRUCTION DETAILS NOT SHOWN ON PLANS, REFERENCE SHALL BE MADE TO THE ONTARIO PROVINCIAL STANDARDS DRAWINGS AND CITY OF OTTAWA STANDARDS.
  - SERVICES TO BUILDINGS TO BE TERMINATED 1.0m FROM THE FACE OF BUILDING UNLESS OTHERWISE NOTED.
  - LASER ALIGNMENT CONTROL TO BE UTILIZED ON ALL SEWER INSTALLATIONS.
  - FROST PROTECTION PER CITY OF OTTAWA STANDARD DRAWING W22 WHERE THERE IS LESS THAN 1.5m OF COVER ABOVE THE SEWER SERVICES.
  - CONTRACTOR SHALL PERFORM LEAKAGE TESTING, IN THE PRESENCE OF THE CONSULTANT, FOR SANITARY SEWERS IN ACCORDANCE WITH OPSD 410 AND OPSD 407. A COPY OF THE INSPECTION REPORT SHALL BE SUBMITTED TO THE CONSULTANT FOR REVIEW.
  - STORM AND SANITARY SERVICE CONNECTION AS PER CITY STD S11.1

- SITE GRADING**
- ALL GRANULAR BASE & SUB BASE COURSE MATERIALS SHALL BE COMPACTED TO 98% STANDARD PROCTOR MAX. DRY DENSITY.
  - INSPECTIONS: ALL WORK ON THE MUNICIPAL RIGHT OF WAY AND EASEMENTS TO BE INSPECTED BY THE MUNICIPALITY PRIOR TO BACKFILLING. ALL WORK RELATING TO WATERMANS AND SEWERS TO BE INSPECTED BY THE MUNICIPALITY WHEN REQUIRED.
  - REFER TO ARCHITECTURAL SITE PLAN FOR DIMENSIONS AND SITE DETAILS.
  - CONTRACTOR TO OBTAIN A ROAD OCCUPANCY PERMIT 48 HOURS PRIOR TO COMMENCING ANY WORK WITHIN THE MUNICIPAL ROAD ALLOWANCE IF REQUIRED BY THE MUNICIPALITY.
  - ALL TREES ON THE RIGHT-OF-WAY ARE TO BE MAINTAINED BEFORE AND AFTER CONSTRUCTION AND ALL TREES WITHIN THE PROPERTY TO BE RETAINED SHALL BE PROTECTED AS PER THE MUNICIPAL TREES AND NATURAL AREAS PROTECTION BY-LAWS AND THE "URBAN TREES CONSERVATION BY-LAW" AS AMENDED FROM TIME TO TIME.
  - SUB-EXCAVATE SOFT AREAS & FILL WITH GRANULAR "B" COMPACTED IN 0.30m LAYERS.
  - ALL PROPERTY LINE GRADES ARE TO REMAIN UNALTERED AND ALL ONSITE GRADING AND TERRACING IS TO MATCH EXISTING GRADES AT THE PROPERTY LINES UNLESS OTHERWISE NOTED.
  - NO EXCESS DRAINAGE, DURING AND AFTER CONSTRUCTION, IS TO BE DIRECTED TOWARDS NEIGHBOURING PROPERTIES.
  - PAVEMENT CONSTRUCTION AS PER GEOTECHNICAL INVESTIGATION.

**SEWER AND WATERMAIN CROSSING TABLE**

CROSSING	STM INV	STM OBV	SAN INV	SAN OBV	WTR TOP	WTR BTM	NOTES
1	68.77	69.45*			70.19	70.04	WATER ABOVE STORM AS PER W25.3, INSULATE AS PER W22
2	68.79	69.47*	69.71	69.91			WATER ABOVE STORM AS PER W25.3, INSULATE AS PER W22

**150mm DIAMETER WATER SERVICE AT LISGAR STREET**

STATION	FINISHED GRADE	TOP OF WATER	ITEM
0+00	72.00	69.60	TVS CONNECTION TO EXISTING 300mm W/M
0+001.4	71.760	69.36	45° VERTICAL BEND
0+002.5	71.800	70.19	45° VERTICAL BEND
0+005.0	71.710	70.19	45° VERTICAL BEND
0+006.2	71.880	69.28	45° VERTICAL BEND
0+008.4	71.830	69.43	150mm VALVE AND BOX
0+010.2	71.890	69.49	150mm PREMANUFACTURED PLUG

**150mm DIAMETER WATER SERVICE AT NEPEAN STREET**

STATION	FINISHED GRADE	TOP OF WATER	ITEM
0+00	71.480	69.08	TVS CONNECTION TO EXISTING 300mm W/M
0+005	71.540	69.14	150mm VALVE AND BOX
0+006	71.580	69.18	150mm PREMANUFACTURED PLUG

**SCHEDULE OF ROOFTOP CONTROLS**

EXISTING / PROPOSED	CATCHMENT AREA ID	100YR PONDING DEPTH (m)	# OF ROOF DRAINS	100YR RELEASE RATE TO CISTERN (L/S)
PROPOSED	ROOF 1	0.114	6	6.2
PROPOSED	ROOF 2	0.114	6	6.2

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