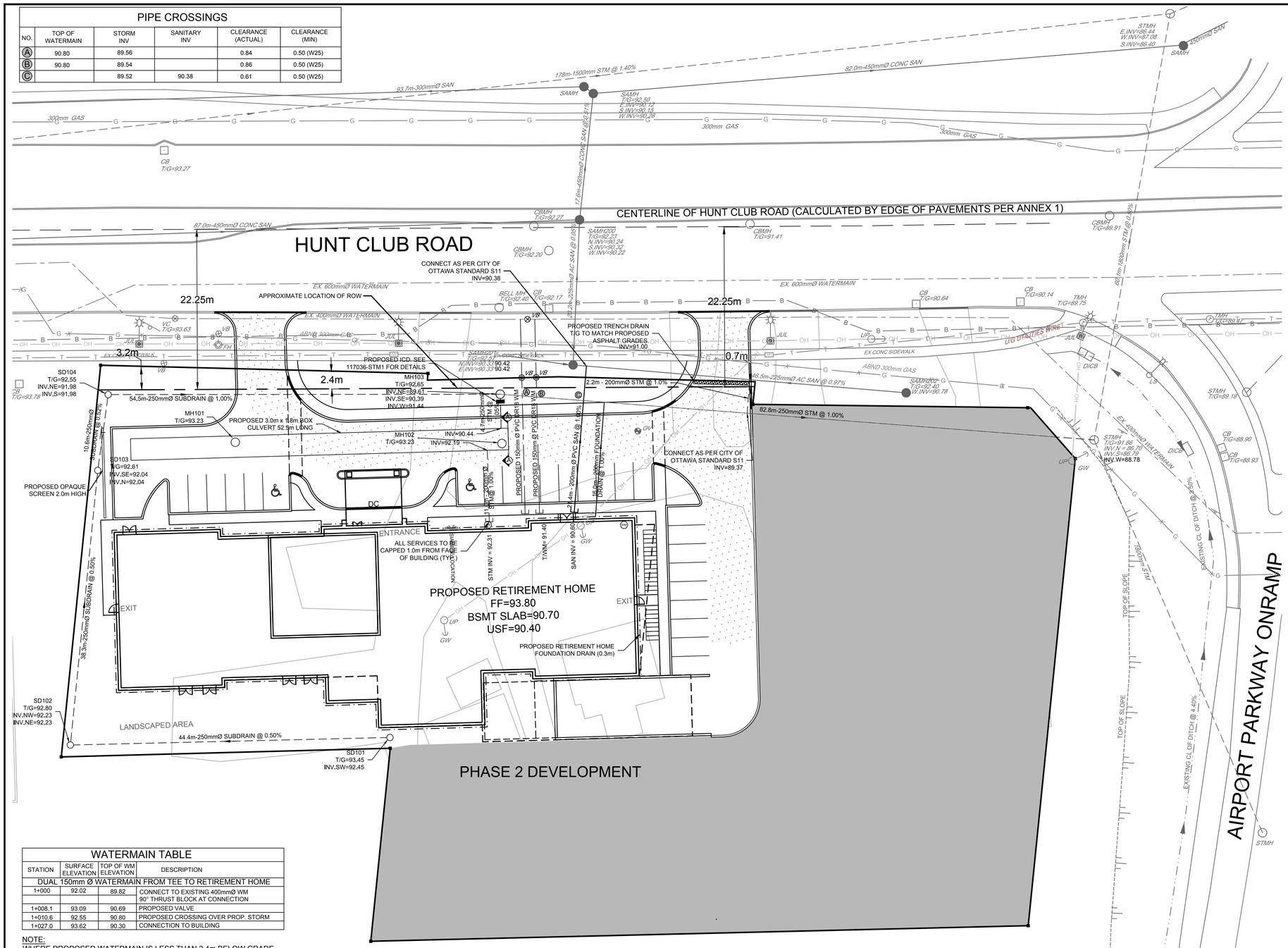
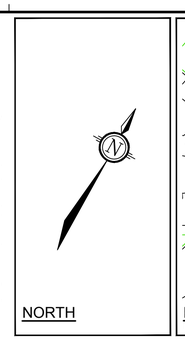
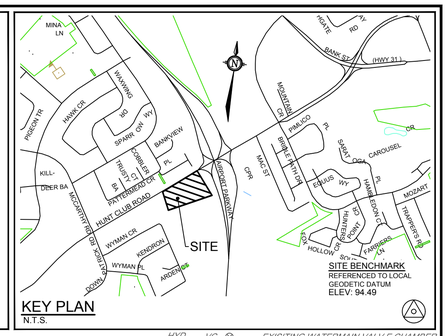
PIPE CROSSINGS					
NO.	TOP OF WATERMAIN	STORM INV	SANITARY INV	CLEARANCE (ACTUAL)	CLEARANCE (MIN)
Ⓐ	90.80	89.56		0.84	0.50 (W25)
Ⓑ	90.80	89.54		0.86	0.50 (W25)
Ⓒ		89.52	90.38	0.61	0.50 (W25)







LEGEND

- PROPOSED PROPERTY LINE
- PROPOSED WATERMAIN
- PROPOSED VALVE BOX
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY SEWER
- PROPOSED FOUNDATION DRAIN
- UNDERGROUND PARKING LIMITS
- PROPOSED STORM SEWER
- PROPOSED STORM TRENCH DRAIN
- PROPOSED CAP
- EXISTING LEGAL ADJACENT LINE
- EXISTING STANDARD IRON BAR / CONTROL POINT
- EXISITING FLOW DIRECTION OF SEWERS
- EXISITING SANITARY MANHOLE & SEWER
- EXISITING STORM MANHOLE & SEWER
- EXISITING CATCH BASIN
- EXISITING WATERMAIN VALV E CHAMBER
- EXISITING WATERMAIN SHUT-OFF VALVE BOX
- EXISTING WATERMAIN
- EXISTING HYDRANT C/W LEAD & SHUT OFF VALVE BOX
- EXISTING GAS VALVE
- EXISTING GAS MAIN
- EXISTING ABANDONED GAS MAIN
- EXISTING BELL CONDUIT
- EXISTING OVER HEAD WIRE
- EXISTING HYDRO/UTILITY POLE
- EXISTING GUY WIRE
- EXISTING TRAFFIC MANHOLE
- EXISTING JOINT USE STREET LIGHT
- EXISTING STREET LIGHT
- EXISTING TRAFFIC HAND HOLE
- EXISTING TRAFFIC SIGN
- EXISITING DITCH INLET CATCH BASIN

SEWER NOTES:

1. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
CATCHBASIN (600x600mm)	705.010	OPSD
STORM / SANITARY MANHOLE (1200Ø)	701.010	OPSD
CB, FRAME & COVER	400.020	OPSD
STORM / SANITARY MH FRAME & COVER	401.010	OPSD
SEWER TRENCH - BEDDING (GRANULAR A) COVER (GRANULAR A OR GRANULAR B TYPE I, WITH MAXIMUM PARTICLE SIZE=25mm)		
STORM SEWER	PVC DR 35	
SANITARY SEWER	PVC DR 35	
CATCHBASIN LEAD	PVC DR 35	

2. INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 1.5m COVER WITH 50mmX1200mm HI-40 INSULATION. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
3. SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
4. PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
5. 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.
6. 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.
7. STORM MANHOLES AND CBMHS ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED.
8. CONTRACTOR TO TELEVISE (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.

WATERMAIN NOTES:

1. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWER	W25	CITY OF OTTAWA
WATERMAIN	PVC DR 18	

2. SUPPLY AND CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMAINS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS.
3. WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
4. PROVIDE MINIMUM 0.25m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS.
5. WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.
6. WATER DEMAND HAS BEEN CALCULATED AND INCLUDED IN THE "SERVICING AND STORMWATER MANAGEMENT REPORT" PREPARED BY NOVATECH

WATERMAIN TABLE			
STATION	SURFACE ELEVATION	TOP OF WM ELEVATION	DESCRIPTION
DUAL 150mm Ø WATERMAIN FROM TEE TO RETIREMENT HOME			
1+000	92.02	89.82	CONNECT TO EXISTING 400mmØ WM 90° THRUST BLOCK AT CONNECTION
1+008.1	93.09	90.69	PROPOSED VALVE
1+010.6	92.55	90.80	PROPOSED CROSSING OVER PROP. STORM
1+027.0	93.62	90.30	CONNECTION TO BUILDING

NOTE:
WHERE PROPOSED WATERMAIN IS LESS THAN 2.4m BELOW GRADE, INSULATE WATERMAIN PER CITY OF OTTAWA STANDARD W22.

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, 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.

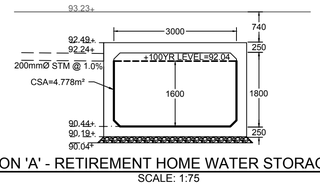
GENERAL NOTES:

1. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
2. 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.
3. OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
4. 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.
5. 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.
6. 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.
7. ALL ELEVATIONS ARE GEODETIC.
8. REFER TO GEOTECHNICAL REPORT (No. PG4091-1, DATED APR 24 2017), PREPARED BY PATERSON GROUP 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.
9. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
10. REFER TO STORMWATER MANAGEMENT REPORT(R-2017-058) PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
11. SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
12. PROVIDE LINE/PARKING PAINTING.
13. 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, I INVERT AND T/G ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANT LOCATIONS, T/WM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.

PAVEMENT STRUCTURE:

LIGHT DUTY
55mm HL3
150mm GRAN "A"
250mm GRAN "B" TYPE II

HEAVY DUTY
40mm HL3
50mm HL8
150mm GRAN "A"
400mm GRAN "B" TYPE II



SECTION 'A' - RETIREMENT HOME WATER STORAGE TANK
SCALE: 1:75

NOTE:
ALL LOCATIONS SHOWN ON PLAN OF STRUCTURES AND UTILITIES ARE APPROXIMATE.
BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

NOTE:
CONTRACTOR TO ADJUST ANY AFFECTED MANHOLE COVERS, WATERMAIN SHUT OFF VALVES OR OTHER MANHOLE COVERS IN AREAS OF CONSTRUCTION TO NEWLY CONSTRUCTED GRADE ELEVATIONS. ANY MANHOLE STRUCTURES NOT ON THIS PLAN WITHIN THE AREA OF CONSTRUCTION ALSO TO BE ADJUSTED AND ENGINEER TO BE NOTIFIED.

CLARIDGE HOMES
BUILDING QUALITY & VALUE FOR OVER 25 YEARS

APPROVED ☐ REFUSED ☐

THIS _____ DAY OF _____, 20____

DON HERWEYER, MCIP, RPP, MANAGER
DEVELOPMENT REVIEW SOUTH
PLANNING, INFRASTRUCTURE AND

No.	REVISION	DATE	BY
2.	REVISED PER CITY COMMENTS	SEPT 7/17	GJM
1.	ISSUED FOR SITE PLAN APPLICATION	MAY 25/17	GJM

SCALE
1:300
1:300
0 3 6 9 12

DESIGN MTL
CHECKED GJM
DRAWN MTL
CHECKED GJM
APPROVED GJM

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER
G.J. MacDONALD
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) 254-5867
Website www.novatech-eng.com

LOCATION
CITY OF OTTAWA
HUNT CLUB DEVELOPMENT

DRAWING NAME
GENERAL PLAN OF SERVICES
PHASE 1

PROJECT No. 117036-00
REV REV # 2
DRAWING No. 117036-GP1

D07-12-17-0068

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PLAN1.DWG - 841mmx594mm