ST. JOHN'S

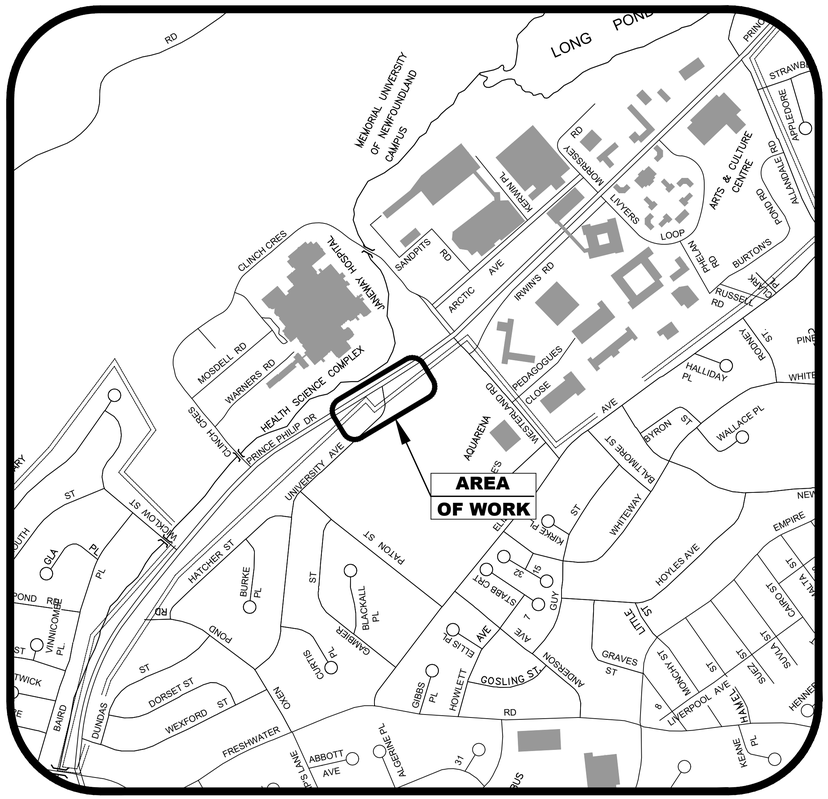
DEPARTMENT OF PLANNING, ENGINEERING AND REGULATORY SERVICES

ENGINEERING CONSULTANT:

PINNACLE ENGINEERING

SUITE 202 – 40 ABERDEEN AVE., ST. JOHN'S, NL A1A 5T3
PHONE: (709) 754-2114 ; FAX: (709) 738-0707
WWW.PINNACLEENGINEERING.CA

PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
CLASS "A"
This Permit Allows
PINNACLE ENGINEERING ULC
MIRC:
To practice Professional Engineering in Newfoundland and Labrador.
Permit No. as issued by PEGNL L0331
which is valid for the year 2024.



PROJECT TITLE:

UNIVERSITY AVE STORM SEWER UPGRADES

TENDER # 2024-126

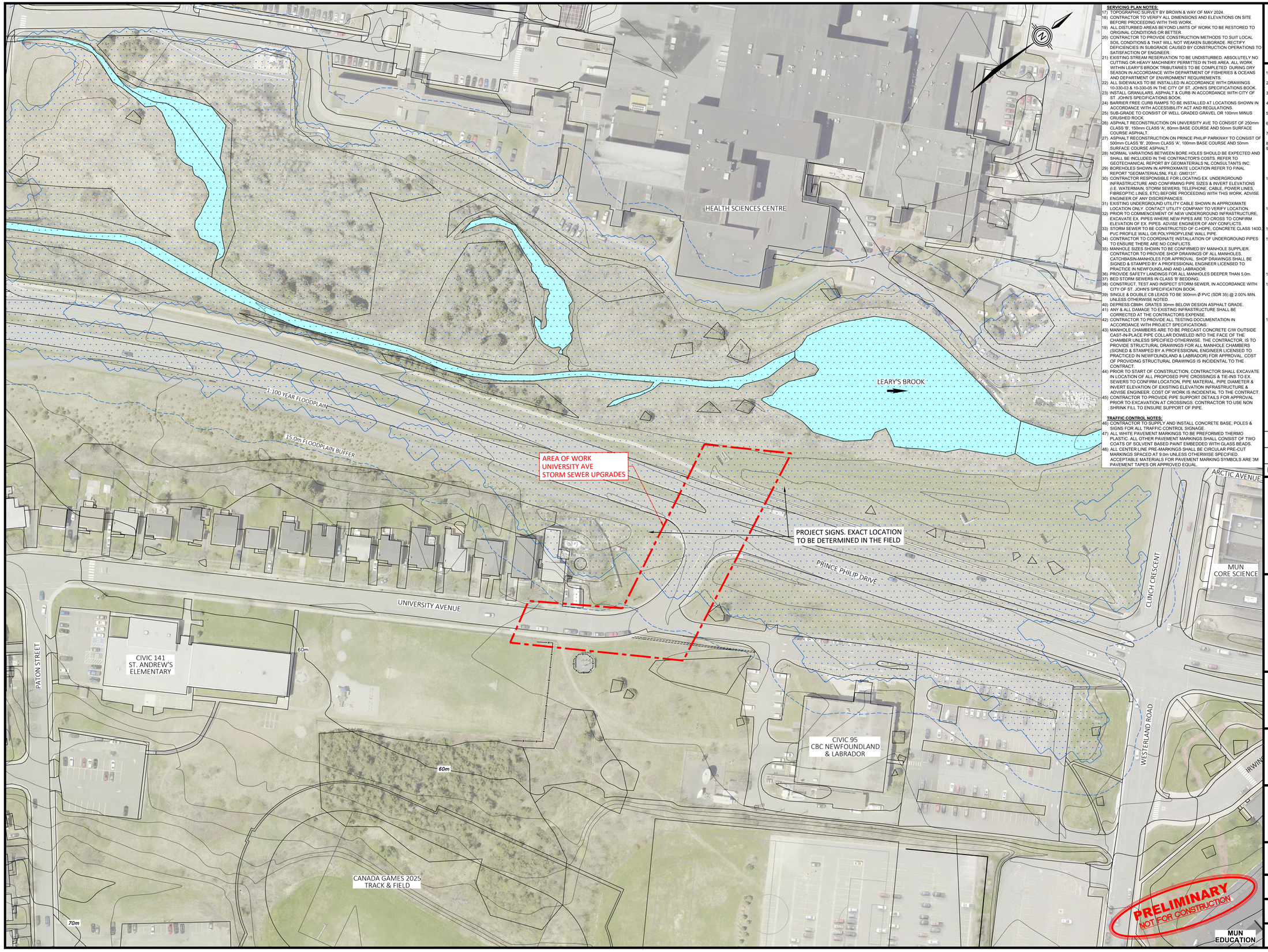
JUNE 2024 **P.N. 23048**

LIST OF DRAWINGS:

C1	GENERAL PLAN
C2	EXISTING CONDITIONS & REMOVALS PLAN
C3	SITE GRADING PLAN
C4	SITE SERVICING PLAN
C5	STORM PROFILE
D1	CONSTRUCTION DETAILS - 1

Newfoundland Labrador

Department of Transportation & Infrastructure
Government of Newfoundland and Labrador



SERVICING PLAN NOTES:

17) TOPOGRAPHIC SURVEY BY BROWN & WAY OF MAY 2024.
18) CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS ON SITE BEFORE PROCEEDING WITH THIS WORK.
19) ALL DISTURBED AREAS BEYOND LIMITS OF WORK TO BE RESTORED TO ORIGINAL CONDITIONS OR BETTER.
20) CONTRACTOR TO PROVIDE CONSTRUCTION METHODS TO SUIT LOCAL SOIL CONDITIONS & THAT WILL NOT WEAKEN SUBGRADE. RECTIFY DEFICIENCIES IN SUBGRADE CAUSED BY CONSTRUCTION OPERATIONS TO SATISFACTION OF ENGINEER.
21) EXISTING STREAM RESERVATION TO BE UNDISTURBED. ABSOLUTELY NO CUTTING OR HEAVY MACHINERY PERMITTED IN THIS AREA. ALL WORK WITHIN LEARY'S BROOK TRIBUTARIES TO BE COMPLETED DURING DRY SEASON IN ACCORDANCE WITH DEPARTMENT OF FISHERIES & OCEANS AND DEPARTMENT OF ENVIRONMENT REQUIREMENTS.
22) ALL SIDEWALKS TO BE INSTALLED IN ACCORDANCE WITH DRAWINGS 10-330-03 & 10-330-05 IN THE CITY OF ST. JOHN'S SPECIFICATIONS BOOK.
23) INSTALL GRANULARS, ASPHALT & CURB IN ACCORDANCE WITH CITY OF ST. JOHN'S SPECIFICATIONS BOOK.
24) BARRIER FREE CURB RAMPS TO BE INSTALLED AT LOCATIONS SHOWN IN ACCORDANCE WITH ACCESSIBILITY ACT AND REGULATIONS.
25) SUB-GRADE TO CONSIST OF WELL GRADED GRAVEL OR 100mm MINUS CRUSHED ROCK.
26) ASPHALT RECONSTRUCTION ON UNIVERSITY AVE TO CONSIST OF 250mm CLASS 'B', 150mm CLASS 'A', 80mm BASE COURSE AND 50mm SURFACE COURSE ASPHALT.
27) ASPHALT RECONSTRUCTION ON PRINCE PHILIP PARKWAY TO CONSIST OF 500mm CLASS 'B', 200mm CLASS 'A', 100mm BASE COURSE AND 50mm SURFACE COURSE ASPHALT.
28) NORMAL VARIATIONS BETWEEN BORE HOLES SHOULD BE EXPECTED AND SHALL BE INCLUDED IN THE CONTRACTOR'S COSTS. REFER TO GEOTECHANICAL REPORT BY GEOMATERIALS NL CONSULTANTS INC.
29) BOREHOLES SHOWN IN APPROXIMATE LOCATION REFER TO FINAL REPORT "GEOMATERALSNL FILE: GM0131".
30) CONTRACTOR RESPONSIBLE FOR LOCATING EX. UNDERGROUND INFRASTRUCTURE AND CONFIRMING PIPE SIZES & INVERT ELEVATIONS (I.E. WATERMAIN, STORM SEWERS, TELEPHONE, CABLE, POWER LINES, FIBREOPTIC LINES, ETC) BEFORE PROCEEDING WITH THIS WORK. ADVISE ENGINEER OF ANY DISCREPANCIES.
311) EXISTING UNDERGROUND UTILITY CABLE SHOWN IN APPROXIMATE LOCATION ONLY. CONTACT UTILITY COMPANY TO VERIFY LOCATION.
32) PRIOR TO COMMENCEMENT OF NEW UNDERGROUND INFRASTRUCTURE, EXCAVATE EX. PIPES WHERE NEW PIPES ARE TO CROSS TO CONFIRM ELEVATION OF EX. PIPES. ADVISE ENGINEER OF ANY CONFLICTS.
33) STORM SEWER TO BE CONSTRUCTED OF C-HDPE, CONCRETE CLASS 1400, PVC PROFILE WALL OR POLYPROPYLENE WALL PIPE.
34) CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND PIPES TO ENSURE THERE ARE NO CONFLICTS.
35) MANHOLE SIZES SHOWN TO BE CONFIRMED BY MANHOLE SUPPLIER. CONTRACTOR TO PROVIDE SHOP DRAWINGS OF ALL MANHOLES, CATCHBASIN-MANHOLES FOR APPROVAL. SHOP DRAWINGS SHALL BE SIGNED & STAMPED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN NEWFOUNDLAND AND LABRADOR.
36) PROVIDE SAFETY LANDINGS FOR ALL MANHOLES DEEPER THAN 5.0m.
37) BED STORM SEWERS IN CLASS 'B' BEDDING.
38) CONSTRUCT, TEST AND INSPECT STORM SEWER, IN ACCORDANCE WITH CITY OF ST. JOHN'S SPECIFICATION BOOK.
39) SINGLE & DOUBLE CB LEADS TO BE 300mm Ø PVC (SDR 35) @ 2.00% MIN. UNLESS OTHERWISE NOTED.
40) DEPRESS CBMH. GRATES 30mm BELOW DESIGN ASPHALT GRADE.
41) ANY & ALL DAMAGE TO EXISTING INFRASTRUCTURE SHALL BE CORRECTED AT THE CONTRACTORS EXPENSE.
42) CONTRACTOR TO PROVIDE ALL TESTING DOCUMENTATION IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
43) MANHOLE CHAMBERS ARE TO BE PRECAST CONCRETE C/W OUTSIDE CAST-IN-PLACE PIPE COLLAR DOWELED INTO THE FACE OF THE CHAMBER UNLESS SPECIFIED OTHERWISE. THE CONTRACTOR, IS TO PROVIDE STRUCTURAL DRAWINGS FOR ALL MANHOLE CHAMBERS (SIGNED & STAMPED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICED IN NEWFOUNDLAND & LABRADOR) FOR APPROVAL. COST OF PROVIDING STRUCTURAL DRAWINGS IS INCIDENTAL TO THE CONTRACT.
44) PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL EXCAVATE IN LOCATION OF ALL PROPOSED PIPE CROSSINGS & TIE-INS TO EX. SEWERS TO CONFIRM LOCATION, PIPE MATERIAL, PIPE DIAMETER & INVERT ELEVATION OF EXISTING ELEVATION INFRASTRUCTURE & ADVISE ENGINEER. COST OF WORK IS INCIDENTAL TO THE CONTRACT.
45) CONTRACTOR TO PROVIDE PIPE SUPPORT DETAILS FOR APPROVAL PRIOR TO EXCAVATION AT CROSSINGS. CONTRACTOR TO USE NON SHRINK FILL TO ENSURE SUPPORT OF PIPE.

TRAFFIC CONTROL NOTES:

46) CONTRACTOR TO SUPPLY AND INSTALL CONCRETE BASE, POLES & SIGNS FOR ALL TRAFFIC CONTROL SIGNAGE.
47) ALL WHITE PAVEMENT MARKINGS TO BE PREFORMED THERMO PLASTIC. ALL OTHER PAVEMENT MARKINGS SHALL CONSIST OF TWO COATS OF SOLVENT BASED PAINT EMBEDDED WITH GLASS BEADS.
48) ALL CENTER LINE PRE-MARKINGS SHALL BE CIRCULAR PRE-CUT MARKINGS SPACED AT 9.0m UNLESS OTHERWISE SPECIFIED. ACCEPTABLE MATERIALS FOR PAVEMENT MARKING SYMBOLS ARE 3M PAVEMENT TAPES OR APPROVED EQUAL.

GENERAL PLAN NOTES:

1) CONTOURS SHOWN ON GENERAL PLAN ARE BASED ON CITY OF ST. JOHN'S DIGITAL MAPPING.
2) EXISTING CONTOURS, EXISTING GROUND ELEVATIONS AND PROPOSED ELEVATIONS ARE REFERENCED TO CITY DATUM.
3) CONTRACTOR TO PROVIDE ENGINEERS SITE OFFICE IN ACCORDANCE WITH CITY OF ST. JOHN'S SPECIFICATIONS BOOK.
4) ALL WORK TO BE PERFORMED IN ACCORDANCE WITH CITY OF ST. JOHN'S SPECIFICATIONS BOOK AND SUBDIVISION DEVELOPMENT POLICY.
5) ALL MEASUREMENTS ARE HORIZONTAL GROUND DISTANCES IN METRES AND REFERENCED TO NAD83 DATUM.
6) CONTRACTOR RESPONSIBLE TO SECURE SITE DURING CONSTRUCTION FOR PUBLIC SAFETY.
7) IF WET AREAS/CONDITIONS ARE ENCOUNTERED SUBSEQUENT OF USM REMOVAL, CONTRACTOR TO USE ROCKFILL AS REQUIRED.
8) DO NOT SCALE FROM DRAWINGS.
9) CONTRACTOR SHALL PROVIDE TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION IN ACCORDANCE WITH ITEM 130 TRAFFIC CONTROL OF THE ST. JOHN'S SPECIFICATIONS BOOK AND THE LATEST REVISIONS OF THE DEPARTMENT OF TRANSPORTATION & WORKS "TRAFFIC CONTROL MANUAL". THE COST OF PROVIDING TRAFFIC CONTROL IS INCIDENTAL TO CONTRACT.
10) THE PROJECT SOILS REPORT CONSISTS OF THE FOLLOWING DOCUMENTS PREPARED BY GEOMATERIALS NL CONSULTANTS INC. GEOTECHNICAL INVESTIGATION REPORT (FILE No. GM0131). JUNE 2024.

EROSION AND SEDIMENT CONTROL NOTES:

11) CONTRACTOR SHALL SUBMIT AN EROSION AND SEDIMENTATION CONTROL (ESC) PLAN PREPARED BY QUALIFIED FIRM FOR REGULATORY APPROVAL. COMMENCEMENT OF WORK SHALL NOT TAKE PLACE UNTIL ESC PLAN IS APPROVED.
12) COST OF PROVIDING ESC PLAN AND MEASURES IS INCIDENTAL TO THE CONTRACT.
13) CONTRACTOR SHALL PROVIDE ENGINNER WITH WEEKLY ESC INSPECTION REPORT WITH MINIMUM OF THREE DIGITAL PHOTOGRAPHS OF EACH ESC MEAUSRE. THE INSPECTION REPORT TO NOTE ANY DEFICIENCIES AND THE CORRECTIVE ACTIONS TAKEN TO RECTIFY PROBLEMS. CORRECTIVE ACTION TO TAKE PLACE WITHIN 24HR OF INSPECTION. INSPECTION OF ESC TO TAKE PLACE WEEKLY AND AFTER EACH RAINFALL EVENT.
14) CONTRATOR SHALL CLEAN STREETS AS REQUIRED AND TAKE MEASURES TO PREVENT MUD TRACKING.
15) CONTRACTOR SHALL ENSURE THAT DUST DOES NOT BECOME A PROBLEM FOR ADJACENT PROPERTY OWNERS OR CONSTRUCTION SITE PERSONNEL OR A HAZARD TO VEHICULAR TRAFFIC. WHEN REQUIRED, OR AS DIRECTED BY THE ENGINEER, WATER OR AN ACCEPTALBE DUST SUPPRESSANT SUCH AS CALCIUM CHLORIDE SHALL BE USED BY THE CONTRACTOR ON HAUL ROUTES OR OTHER LOCATIONS ON THE PROJECT TO CONTROL DUST.
16) CONTRACTOR SHALL TAKE NECESSARY MEASURES (I.E. TEMPORARY DITCHING/ DIVERSIONS), ETC.) TO CONTROL/DIRECT SITE WATER OR OVERLAND DRAINAGE AS REQUIRED.

PINNACLE ENGINEERING

NO.	REVISIONS	DATE
0	ISSUED FOR TENDER	24/07/12

PROFESSIONAL STAMP

LICENSED PROFESSIONAL ENGINEER
10088
ADAM P. HARVEY
SIGNATURE
24/07/12
DATE
NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND
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CLIENT

ST. JOHN'S
DEPARTMENT OF PLANNING, ENGINEERING AND REGULATORY SERVICES

PROJECT TITLE

STORM SEWER UPGRADES
UNIVERSITY AVE

SHEET TITLE

GENERAL PLAN

PROJECT NO.

23048

DRAWN BY	CHECKED BY
PC	KH

DATE	DRAWING NO.
FEBRUARY 2024	C1
SCALE 1 : 1000	

LEGEND:

- PROPERTY BOUNDARY
- 0.00 EXISTING GROUND SPOT ELEVATION
- EXISTING SANITARY SEWER
- EXISTING CONCRETE CURB
- EXISTING CONCRETE CURB & GUTTER
- EXISTING FENCING
- EXISTING STORM SEWER
- EXISTING GRAVEL EDGE
- EXISTING WATERMAIN
- EXISTING STORM STRUCTURES
- EXISTING SANITARY MANHOLES
- EXISTING VALVES AND HYDRANTS
- EXISTING SIGNS
- EXISTING O/H UTILITIES
- EXISTING RETAINING WALL
- EXISTING DITCH CENTRE LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING STORM SEWER TO BE REMOVED

MEMORIAL UNIVERSITY
OF NEWFOUNDLAND
HEALTH SCIENCES CENTRE

PROTECT EXISTING NL ADULT MENTAL HEALTH & ADDICTIONS FACILITY SIGN DURING CONSTRUCTION (APPROX. LOCATION ONLY)

EX. MH 4304S
TOP EL. 57.84
I.E. 54.31(750)
I.E. 54.37(750)

EX. CB 4300R
TOP EL. 57.06
I.E. 55.41(500)
I.E. 55.48(500)
I.E. 55.98(200)

EX. MH 4308R
TOP EL. 57.37

EX. 1800 CMP TRUNK STORM SEWER

EX. BERM

EX. ABANDONED
MH 4332R
TOP EL. 57.59

EX. CONCRETE
SHARED USE PATH

EX. MH 4358R
TOP EL. 57.34
I.E. 54.74 (600)
I.E. 54.74 (1800)
I.E. 54.72 (1800)

EX. 600 CMP STORM

EX. MH 4382S
TOP EL. 56.88
I.E. 54.04(750)
I.E. 53.99(750)

EX. 750 CONCRETE SANITARY SEWER

EX. 1800 CMP TRUNK STORM SEWER @ 0.01%

BH 4

APPROXIMATE LIMITS
OF ASPHALT REMOVAL

EXISTING STORM SEWER
AND STRUCTURES TO
BE REMOVED

EX. DBCB 4336R
TOP EL. 56.58
I.E. 55.18(600)
I.E. 55.33(400)
I.E. 55.28(400)

EX. ABANDONED
MH 4401R
TOP EL. 57.59

EX. 750 CONC SANITARY SEWER

EX. 300 AC STORM SEWER

EX. 400 HDPE

EX. MH 4311S

EX. MH 4328R
TOP EL. 56.87
I.E. 55.55(300)
I.E. 55.56(300)

REMOVE AND REPLACE
EXISTING SIGN

EX. CB 4388R
TOP EL. 56.20
I.E. 55.37(400)

EX. CB 4369R
TOP EL. 56.60
I.E. 55.56(400)
I.E. 55.58(400)

EX. CB 4380R
TOP EL. 56.68
I.E. 55.68(400)
I.E. 55.68(400)

APPROXIMATE LIMITS
OF ASPHALT REMOVAL

REMOVE & REPLACE
EXISTING SIGN

BH 3

EX. ASPHALT
SHARED USE PATH

EX. CONCRETE
SIDEWALK

EX. CB 4375R
TOP EL. 56.52
I.E. 55.79(400)

EX. CB 4388R
TOP EL. 56.63
I.E. 55.81(400)

EX. CONCRETE
SIDEWALK

EX. 400 CMP STORM

EX. 300 HDPE

EX. MH 4348R
TOP EL. 56.89
I.E. 56.67(300)
I.E. 56.69(300)

EX. 300 PVC STORM

EX. 6m SERVICE EASEMENT

REMOVE EXISTING
CONCRETE SIDEWALK
CURB & GUTTER

PRINCE PHILIP DRIVE

EX. ASPHALT
SHARED USE PATH

RELOCATE EX. SIGN

APPROXIMATE LIMITS
OF REINSTATEMENT

BH 2

EX. RETAINING WALL

122

120

118

EX. MH 4366R
TOP EL. 58.84
I.E. 55.92(300)
I.E. 56.05(300)
I.E. 57.44(150)

RELOCATE EX. SIGN

REMOVE EXISTING
CONCRETE SIDEWALK
& CURB

EX. CB 4373R
TOP EL. 58.89
I.E. 57.57(150)

EX. MH 4370S
TOP EL. 58.79
I.E. 56.05(600)
I.E. 56.09(600)
I.E. 56.49(200)
I.E. 56.37(200)

APPROXIMATE LIMITS
OF ASPHALT REMOVAL

EX. 600 C.I. SANITARY SEWER

EX. MH 4665S
TOP EL. 57.16
I.E. 55.51(600)
I.E. 55.54(600)

EX. MH 4346S
TOP EL. 59.13
I.E. 57.25(300)

REMOVE EXISTING CATCHBASIN &
LEAD. REPAIR DOWNSTREAM
MANHOLE. SEE NOTE 1 THIS SHEET

EX. 300 CONC STORM SEWER

EX. MH 4368R
TOP EL. 58.92
I.E. 56.01(300)
I.E. 56.05(300)
I.E. 56.15(525)

REMOVE EX. CURB

EX. 600 C.I. SANITARY SEWER @ 0.40%

UNIVERSITY AVENUE

EX. 200 WATERMAIN CAST IRON

REMOVE EXISTING CATCHBASIN & LEAD.
ABANDON 200mm LEAD 1m FROM MAIN WITH END CAP.

BH 1

REMOVE EXISTING
CONCRETE SIDEWALK
CURB & GUTTER

EX. 200 WATERMAIN CAST IRON

REMOVE EXISTING
MANHOLE

EX. CB 4368R
TOP EL. 58.84
I.E. 57.77(200)
I.E. 58.09(100)

EX. MH 4376S
I.E. 56.65(200)
I.E. 56.60(200)

EX. MH 4373R
TOP EL. 58.67
I.E. 58.27(100)
I.E. 58.32(100)

APPROXIMATE LIMITS
OF REINSTATEMENT

EX. SUB STATION
& BLAST WALLS

CIVIC 95
CBC NEWFOUNDLAND
& LABRADOR

PINNACLE ENGINEERING

NOTES:

1. MANHOLES TO BE REPAIRED BY REMOVING ABANDONED CATCH BASIN LEAD AND INFILL OPENING WITH CEMENT-BASED NON-SHRINK DRY-PACK GROUT.

NO.	REVISIONS	DATE
1	ISSUED FOR ADDENDUM #1	24/07/19
0	ISSUED FOR TENDER	24/07/12

PROFESSIONAL STAMP

LICENSED PROFESSIONAL ENGINEER
10088
ADAM P. HARVEY
SIGNATURE
24/07/19
DATE
NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
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ST. JOHN'S
DEPARTMENT OF PLANNING, ENGINEERING AND REGULATORY SERVICES

PROJECT TITLE

STORM SEWER UPGRADES
UNIVERSITY AVE

SHEET TITLE

EXISTING CONDITIONS & REMOVALS

PROJECT NO.

23048

DRAWN BY	CHECKED BY
PC	KH
DATE	DRAWING NO.
FEBRUARY 2024	C2
SCALE	
1 : 250	

LEGEND:

- PROPERTY BOUNDARY
- 0.00 EXISTING GROUND SPOT ELEVATION
- EXISTING SANITARY SEWER
- EXISTING CONCRETE CURB
- EXISTING CONCRETE CURB & GUTTER
- EXISTING FENCING
- EXISTING STORM SEWER
- EXISTING GRAVEL EDGE
- EXISTING WATERMAIN
- EXISTING STORM STRUCTURES
- EXISTING SANITARY MANHOLES
- EXISTING VALVES AND HYDRANTS
- EXISTING SIGNS
- EXISTING O/H UTILITIES
- EXISTING RETAINING WALL
- EXISTING DITCH CENTRE LINE
- *PROPOSED NEW STORM MANHOLE*
- 20.00 *NEW FINISHED CL ASPHALT GRADE*
- 57.97 *NEW FINISHED GRADE*
- *NEW CONCRETE CURB*
- *NEW CONCRETE CURB & GUTTER*
- *NEW CONCRETE SIDEWALK*
- *NEW ASPHALT*
- *NEW LANDSCAPE*

MEMORIAL UNIVERSITY OF NEWFOUNDLAND HEALTH SCIENCES CENTRE

PROTECT EXISTING NL ADULT MENTAL HEALTH & ADDICTIONS FACILITY SIGN DURING CONSTRUCTION (APPROX. LOCATION ONLY)

EXCAVATE & LOCATE EX. 1800mm CMP STORM SEWER & CONSTRUCT NEW CAST-IN-PLACE MH CHAMBER 4369R
TOP EL. 56.80
I.E. 54.72(1800)
I.E. 54.72(750)

EX. MH 4358R
TOP EL. 57.34
I.E. 54.74(1800)
I.E. 54.72(1800)
I.E. 54.74(525)

EX. MH 4382S
TOP EL 56.88
I.E. 54.04(750)
I.E. 53.99(750)

EX. MH 4304S
TOP EL. 57.84
I.E. 54.31(750)
I.E. 54.37(750)

EX. CB 4300R
TOP EL. 57.06
I.E. 55.41(500)
I.E. 55.48(500)
I.E. 55.98(200)

EX. MH 4308R
TOP EL. 57.37

EX. ABANDONED MH 4332R
TOP EL. 57.59

EX. BERM

EX. CONCRETE SHARED USE PATH

NEW TRAFFIC SIGN RB-25 & WA-36L. PROVIDE BREAKAWAY DEVICE "SIGN POST SAVER" OR APPROVED EQUAL. REFER TO CITY SPEC DETAIL 10-530-01

NEW CONCRETE CURB & GUTTER (MATCH ELEV OF EX. CURB & GUTTER)

BH 4

REINSTATE EXISTING BERM. SEE SHEET C5

EX. BERM

SAW CUT EX. ASPHALT AT TIE-IN LOCATION WITH CLEAN, STRAIGHT LINE. SEE DETAIL 2 DWG D1

REINSTATE 1.5m WIDE 125mm THICK CONCRETE SIDEWALK. IN ACCORDANCE WITH CITY SPEC.

EX. ABANDONED MH 4401R
TOP EL. 57.59

EX. 750 CONC SANITARY SEWER

EX. 300 AC STORM SEWER

REINSTATE EX. TRAFFIC SIGNAGE (RB-11L) WITH NEW SIGN POST. PROVIDE BREAKAWAY DEVICE "SIGN POST SAVER" OR APPROVED EQUAL. REFER TO CITY SPEC DETAIL 10-530-01

56.78 56.71 56.68 56.80 56.69 56.70 56.91

MEDIAN END TREATMENT REFER TO CITY SPEC. DWG. 10-330-23

REINSTATE EX. TRAFFIC SIGNAGE (RB-25 & WA36-L) WITH NEW SIGN POST. PROVIDE BREAKAWAY DEVICE "SIGN POST SAVER" OR APPROVED EQUAL. REFER TO CITY SPEC. DETAIL 10-530-01

EX. MH 4311S

EX. MH 4328R
TOP EL. 56.87
I.E. 55.55(300)
I.E. 55.56(300)

EX. CB 4388R
TOP EL. 56.20
I.E. 56.37(400)

0+095.60

EX. ASPHALT SHARED USE PATH

BH 3

SAW CUT EX. ASPHALT AT TIE-IN LOCATION WITH CLEAN, STRAIGHT LINE. SEE DETAIL 2 DWG D1

BLEND NEW CONCRETE SIDEWALK INTO EX. ASPHALT SUP

NEW CURB RAMP. REFER TO CITY SPEC. DWG. 10-330-11 & 10-330-18

NEW ALTERNATE CURB RAMP. REFER TO CITY SPEC.

BLEND NEW CONCRETE SIDEWALK INTO EX. ASPHALT SUP

EX. 300 HDPE

PRINCE PHILIP DRIVE

EX. ASPHALT SHARED USE PATH

EX. MH 4345R
TOP EL. 56.89
I.E. 56.67(300)
I.E. 56.69(300)

EX. 300 PVC STORM

EX. 5m SERVICE EASEMENT

P.I. No.
STA. 0+052.69
= 69°51'36"
R = 44.59
T = 31.14
L = 54.37
B.C. STA. 0+021.55
E.C. STA. 0+075.92

COORDINATE STREET POLE BRACING OR TEMPORARY REMOVAL WITH UTILITY

0+080

57.00

TRAVEL WAY 9.65m

EX. 300 HDPE

EX. SIGN RELOCATED (RA-1, RB-14R & RB-51R) WITH NEW POLE & BASE PROVIDE BREAKAWAY DEVICE "SIGN POST SAVER" OR APPROVED EQUAL. REFER TO CITY SPEC DETAIL 10-530-01

NEW CURB, GUTTER & SIDEWALK REFER TO CITY SPEC. DWG. 10-330-03

NEW 1.8m WIDE CONCRETE SIDEWALK. REFER TO CITY SPEC.

BH 2

0+060

ADJUST EX. MH FRAME & COVER TO SUIT NEW FINISHED SIDEWALK GRADE

EX. RETAINING WALL

NEW STANDARD DRIVEWAY RAMP. REFER TO CITY SPEC. DWG. 10-330-07

0+040

TRANSITION TO COMMERCIAL DRIVEWAY. SEE DETAIL 3 DWG. D1

EX. MH 4366R
TOP EL. 58.84
I.E. 55.92(300)
I.E. 56.09
I.E. 57.44(150)

0+000

0+020

EX. SIGN RELOCATED (RB-51) WITH NEW POLE & BASE

57.97

EX. MH 4370S
TOP EL. 58.79
I.E. 56.05(600)
I.E. 56.09(600)
I.E. 56.49(200)
I.E. 56.37(200)

NEW 150mm CONCRETE CURB TAPER TO END OF CONCRETE SIDEWALK (TYP.)

58.28

EX. MH 4346S
TOP EL. 59.13
I.E. 57.25(300)

SAW CUT EX. ASPHALT AT TIE-IN LOCATION WITH CLEAN, STRAIGHT LINE. SEE DETAIL 2 DWG D1

SAW CUT EX. ASPHALT AT TIE-IN LOCATION WITH CLEAN, STRAIGHT LINE. SEE DETAIL 2 DWG D1

EX. MH 4665S
TOP EL. 57.16
I.E. 55.51(600)
I.E. 55.54(600)

UNIVERSITY AVENUE

TRAVEL WAY 10.19m

BH 1

NEW 1.8m WIDE CONCRETE SIDEWALK. REFER TO CITY SPEC.

EX. MH 4376S
I.E. 56.65(200)
I.E. 56.60(200)

EX. MH 4373R
TOP EL. 58.67
I.E. 58.27(100)
I.E. 58.32(100)

EX. SUB STATION & BLAST WALLS

CIVIC 95
CBC NEWFOUNDLAND & LABRADOR

NEW PAVEMENT STRUCTURE (SHADED)		
ASPHALT	CLASS 'A'	CLASS 'B'
40/40mm (80) BASE 50mm SURFACE	150mm	250mm
50/50mm (100) BASE 50mm SURFACE	200mm	500mm

PINNACLE ENGINEERING

NOTES:

1. COMMERCIAL DRIVEWAY REINSTATEMENT TO CONSIST OF 40mm SURFACE COURSE ASPHALT, 40mm BASE COURSE ASPHALT, 100mm CLASS 'A' & 200mm CLASS 'B'.
2. RESIDENTIAL DRIVEWAY REINSTATEMENT TO CONSIST OF 50mm SURFACE COURSE ASPHALT & 100mm CLASS 'A'.
3. CONTRACTOR SHALL MAINTAIN THE EXISTING STORM SEWER SYSTEM IN PRINCE PHILIP DRIVE, UNTIL THE NEW STORM SEWER SYSTEM IS OPERATIONAL.

NO.	REVISIONS	DATE
0	ISSUED FOR ADDENDUM #1	24/07/19

PROFESSIONAL STAMP

LICENSED PROFESSIONAL ENGINEER
10088
ADAM P. HARVEY
SIGNATURE
24/07/19
DATE
NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
CLASS "A"
This Permit Allows
PINNACLE ENGINEERING ULC
MIRC:
To practice Professional Engineering in Newfoundland and Labrador. Permit No. as issued by PEGNL L0331 which is valid for the year 2024.

CLIENT

ST. JOHN'S
DEPARTMENT OF PLANNING, ENGINEERING AND REGULATORY SERVICES

PROJECT TITLE

STORM SEWER UPGRADING
UNIVERSITY AVE

SHEET TITLE

SITE GRADING PLAN

PROJECT NO.

23048

DRAWN BY	CHECKED BY
PC	KH

DATE	DRAWING NO.
FEBRUARY 2024	C3

SCALE
1 : 250

LEGEND:

- PROPERTY BOUNDARY
- 0.00 EXISTING GROUND SPOT ELEVATION
- EXISTING SANITARY SEWER
- EXISTING CONCRETE CURB
- EXISTING CONCRETE CURB & GUTTER
- EXISTING FENCING
- EXISTING STORM SEWER
- EXISTING GRAVEL EDGE
- EXISTING WATERMAIN
- EXISTING STORM STRUCTURES
- EXISTING SANITARY MANHOLES
- EXISTING VALVES AND HYDRANTS
- EXISTING SIGNS
- EXISTING O/H UTILITIES
- EXISTING RETAINING WALL
- EXISTING DITCH CENTRE LINE
- *PROPOSED NEW STORM SEWER*
- *PROPOSED NEW STORM MANHOLE*
- *00.00 NEW FINISHED CL ASPHALT GRADE*
- *57.97 NEW FINISHED GRADE*
- *NEW CONCRETE CURB*
- *NEW CONCRETE CURB & GUTTER*

MEMORIAL UNIVERSITY
OF NEWFOUNDLAND
HEALTH SCIENCES CENTRE

PROTECT EXISTING NL ADULT MENTAL HEALTH & ADDICTIONS FACILITY SIGN DURING CONSTRUCTION (APPROX. LOCATION ONLY)

EX. MH 4382S
TOP EL 56.88
I.E. 54.04(750)
I.E. 53.99(750)

EX. 750 CONCRETE SANITARY SEWER

EX. 1800 CMP TRUNK STORM SEWER

EX. 1800 CMP TRUNK STORM SEWER @ 0.01%

EX. CB 4300R
TOP EL. 57.06
I.E. 55.41(500)
I.E. 55.48(500)
I.E. 55.98(200)

EX. MH 4304S
TOP EL. 57.84
I.E. 54.31(750)
I.E. 54.37(750)

EX. MH 4308R
TOP EL. 57.37

EX. BERM

EX. ABANDONED
MH 4332R
TOP EL. 57.59

EX. CONCRETE
SHARED USE PATH

13.5m – 525 STORM SEWER
CB LEAD @ 2.00% MIN

BH 4

EX. BERM

NEW DCB 4366R WITH CURB INLET GRATE.
REFER TO CITY SPEC. DWG. 10-223-28
TOP EL. 56.58. I.E. 55.01

EX. ABANDONED
MH 4401R
TOP EL. 57.59

41.0m – 750 TWINNED
STORM SEWER @ 0.32%
SEE DETAIL 1 DWG D1.

EX. 750 CONC. SANITARY SEWER

EX. 300 AC STORM SEWER

EX. 400 HDPE

EX. MH 4311S

EX. MH 4328R
TOP EL. 56.87
I.E. 55.55(300)
I.E. 55.58(300)

EX. CB 4388R
TOP EL. 56.20
I.E. 56.37(400)

NEW DCB 4369R
TOP EL. 56.60
I.E. 55.94

BH 3

EX. ASPHALT
SHARED USE PATH

0+095.60

NEW DCB 4380R
TOP EL. 56.69
I.E. 55.95

NEW MH CHAMBER 4379R
TOP EL. 56.88
I.E. 54.85(750)
I.E. 54.85(750)

EX. MH 4345R
TOP EL. 56.89
I.E. 56.67(300)
I.E. 56.69(300)

EX. 300 PVC STORM

EX. 6m SERVICE EASEMENT

NEW DCB 4376R WITH CURB INLET GRATE.
REFER TO CITY SPEC. DWG. 10-223-28
TOP EL. 56.52. I.E. 56.05

P.I. No.
STA. 0+052.69
= 69°51'36"
R = 44.59
T = 31.14
L = 54.57
B.C. STA. 0+021.55
E.C. STA. 0+075.92

0+080

0+060

0+040

0+020

0+000

52.5m – 750 TWINNED
STORM SEWER @ 0.36%
SEE DETAIL 1 DWG D1

BH 2

EX. RETAINING WALL

EX. 300 HDPE

PRINCE PHILIP DRIVE

EX. ASPHALT
SHARED USE PATH

NEW DCB 4388R WITH CURB INLET GRATE.
REFER TO CITY SPEC. DWG. 10-223-28
TOP EL. 56.52. I.E. 55.68

NEW DCB 4373R
TOP EL. 58.89
I.E. 57.39(300)
WITH CURB INLET GRATE
REFER TO CITY SPEC.
DWG. 10-223-28

EX. MH 4366R
TOP EL. 58.84
I.E. 55.92(300)
I.E. 56.05
I.E. 57.44(150)

EX. MH 4370S
TOP EL. 58.79
I.E. 56.05(600)
I.E. 56.09(600)
I.E. 56.49(200)
I.E. 56.37(200)

NEW MH CHAMBER 4391R
TOP EL. 58.65
I.E. 55.04(750)

EX. 600 C.I. SANITARY SEWER

EX. MH 4346S
TOP EL. 59.13
I.E. 57.25(300)

EX. 300 CONC STORM SEWER

EX. 200 WATERMAIN CAST IRON

UNIVERSITY AVENUE

NEW MH CHAMBER 4368R
TOP EL. 58.92
I.E. 56.05(300)
I.E. 56.15(525)
I.E. 55.55(750)

BH 1

29.0m – 750 TWINNED
STORM SEWER @ 1.75%
SEE DETAIL 1 DWG D1

EX. 600 C.I. SANITARY SEWER @ 0.40%

EX. MH 4665S
TOP EL. 57.16
I.E. 55.51(600)
I.E. 55.54(600)

NEW DCB 4368R
TOP EL. 58.84
I.E. 57.34(300)
I.E. 57.77(200)
WITH CURB INLET GRATE
REFER TO CITY SPEC.
DWG. 10-223-28

EX. MH 4373R
TOP EL. 58.67
I.E. 58.27(100)
I.E. 58.32(100)

EX. MH 4376S
I.E. 56.65(200)
I.E. 56.60(200)

EX. SUB STATION
& BLAST WALLS

NEW 525 HDPE STORM
SEWER FROM CANADA
GAMES SITE (BY OTHERS)

NEW 200 PVC SANITARY
SEWER FROM CANADA
GAMES SITE (BY OTHERS)

CIVIC 95
CBC NEWFOUNDLAND
& LABRADOR

NEW PAVEMENT STRUCTURE (SHADED)		
ASPHALT	*CLASS 'A'*	*CLASS 'B'*
40/40mm (80) BASE 50mm SURFACE	*150mm*	*250mm*
50/50mm (100) BASE 50mm SURFACE	*200mm*	*500mm*

PINNACLE ENGINEERING

NOTES:

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NO.	REVISIONS	DATE
1	ISSUED FOR ADDENDUM #1	24/07/19
0	ISSUED FOR TENDER	24/07/12

PROFESSIONAL STAMP

LICENSED PROFESSIONAL ENGINEER
10088
ADAM P. HARVEY
SIGNATURE
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ST. JOHN'S
DEPARTMENT OF PLANNING, ENGINEERING AND REGULATORY SERVICES

PROJECT TITLE

STORM SEWER UPGRADING
UNIVERSITY AVE

SHEET TITLE

SITE SERVICING PLAN

PROJECT NO.

23048

DRAWN BY	CHECKED BY
PC	KH
DATE	DRAWING NO.
FEBRUARY 2024	C4
SCALE	
1 : 250	

BOREHOLE #1

Depth in m	Soil Description	Samples: Type	Number	Test	Comments
0	Pavement Structure: Asphalt (100mm); Granulars (200mm)	SS	1		N = 45 Recovery: 500mm
1	Dense, brown, silty SAND with gravel (SM): FILL	SS	2		N = 50/25 Recovery: None
2	End of Bore Hole Terminated at probable bedrock or boulder. Borehole attempted at original location and terminated at probable bedrock or boulder, borehole moved 0.6m West and advanced again with similar termination depth.				
3					
4					
5					
6					

Water Level: —

BOREHOLE #2

Depth in m	Soil Description	Samples: Type	Number	Test	Comments
0	Rootmat and Topsoil Light brown silty sand and gravel (SM)				
1	Compact to dense, brown to grey, silty GRAVEL with sand (GM);trace organics, 100mm topsoil layer encountered at 0.6m, trace topsoil encountered at 3.8m: FILL	SS	1		N = 23 Recovery: 380mm
2		SS	2		N = 37 Recovery: 390mm
3		SS	3		N = 41 Recovery: 370mm
4		SS	4		N = 68 Recovery: 300mm
5	End of Bore Hole Terminated at target borehole depth – 5.0m.				
6					

Water Level: ▽

BOREHOLE #3

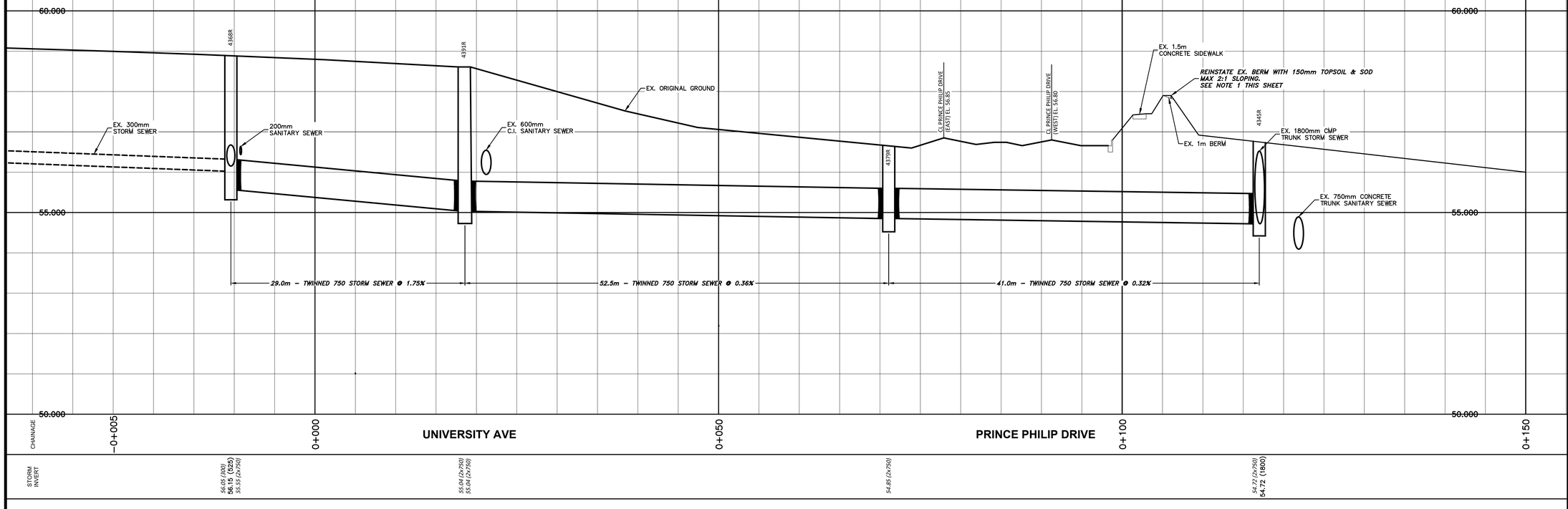
Depth in m	Soil Description	Samples: Type	Number	Test	Comments
0	Rootmat and Topsoil Light brown silty sand and gravel (SM)				
1	Compact to dense, brown to grey, SAND with gravel (SP); trace organics and topsoil (100mm) located at 2.4m, dense gravel or cobbles located at 2.2m: FILL	SS	1		N = 24 Recovery: 450mm
2		SS	2		N = 145 Recovery: 520mm
3		SS	3		N = 23 Recovery: 440mm
4					
5	End of Bore Hole Terminated at target borehole depth – 5.0m.				
6					

Water Level: ▽

BOREHOLE #4

Depth in m	Soil Description	Samples: Type	Number	Test	Comments
0	Rootmat and Topsoil Light brown silty sand and gravel (SM)				
1	Compact, brown/blue/grey, silty SAND with gravel (SM); trace organics and topsoil (100mm) located at 3.8m: FILL	SS	1		N = 16 Recovery: 330mm
2		SS	2		N = 13 Recovery: 150mm
3					
4		SS	3		N = 4 Recovery: 240mm
5	Compact, blue to grey, SAND with gravel (SP) to GRAVEL with sand (GP): FLUVIAL TILL	SS	4		N = 20 Recovery: 310mm
6	End of Bore Hole Terminated at target borehole depth – 6.0m.				

Water Level: ▽



NOTES:

1. BERM MUST BE CONSTRUCTED WITH O.M. FILL CONTAINING A MIN 20% SILT CONTENT COMPACTED TO 95% PROCTOR DENSITY IN 200mm LIFTS.

NO.	REVISIONS	DATE
1	ISSUED FOR ADDENDUM #1	24/07/19
0	ISSUED FOR TENDER	24/07/12

PROFESSIONAL STAMP

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PROJECT TITLE

STORM SEWER UPGRADING
UNIVERSITY AVE

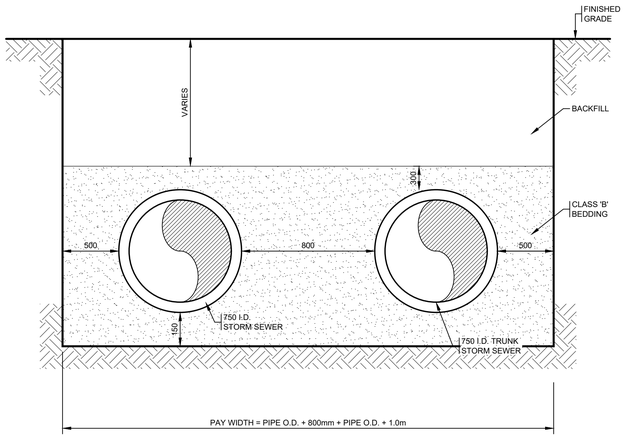
SHEET TITLE

STORM PROFILE

PROJECT NO.

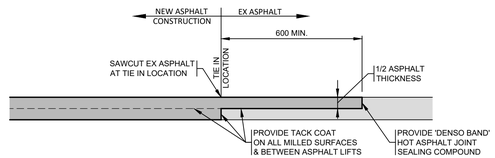
23048

DRAWN BY	CHECKED BY
PC	KH
DATE	DRAWING NO.
FEBRUARY 2024	C5
SCALE	
1 : 250(H) 1 : 50(V)	



TYPICAL CROSS-SECTION
TWINNED 750 COMMON TRENCH
SCALE: N.T.S.

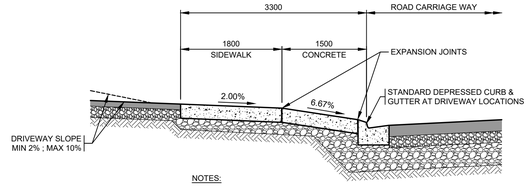
1 / D1



NOTES:
1. IF ASPHALT THICKNESS IS ≤50mm, ASPHALT CAN BE SAW CUT INSTEAD OF MILLED.

ASPHALT TIE-IN DETAIL
SCALE: N.T.S.

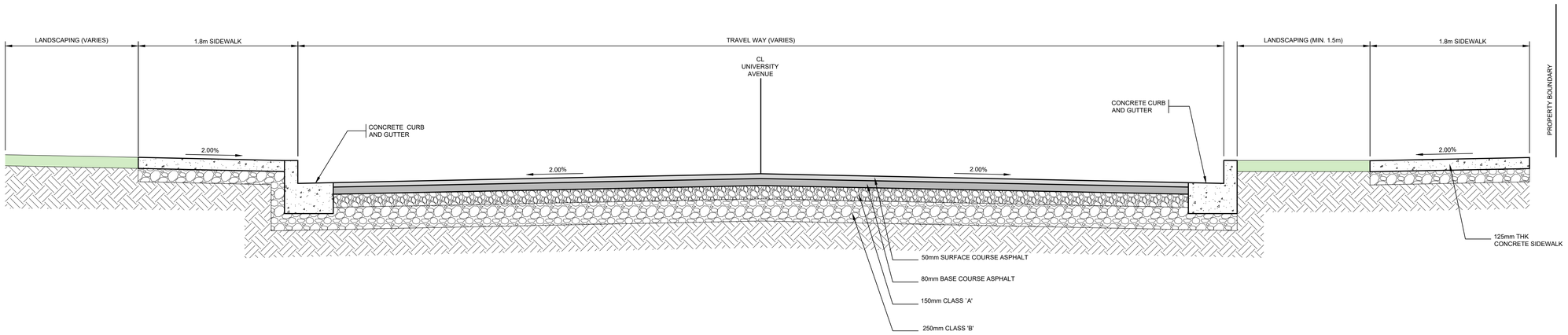
2 / D1



NOTES:
1. FOR RESIDENTIAL DRIVEWAYS, TYPICAL CONCRETE CONSTRUCTION:
   - 125mm THK CONCRETE SLAB C/W COARSE BROOM FINISH
   - 100mm COMPACTED CLASS 'B' SUBBASE
2. FOR COMMERCIAL DRIVEWAYS, TYPICAL CONCRETE CONSTRUCTION:
   - 200mm THK CONCRETE SLAB C/W COARSE BROOM FINISH
   - 152x152 18.7x18.7 WWM
   - 100mm COMPACTED CLASS 'B' SUBBASE

TYPICAL SECTION - COMMERCIAL DRIVEWAY
SCALE: 1:50

3 / D1



UNIVERSITY AVENUE CROSS SECTION
SCALE: 1:25

4 / D1

PINNACLE ENGINEERING

NO.	REVISIONS	DATE
0	ISSUED FOR TENDER	24/07/12

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PROJECT TITLE
STORM SEWER UPGRADING
UNIVERSITY AVE

SHEET TITLE
CONSTRUCTION DETAILS - 1

PROJECT NO.
23048

DRAWN BY	CHECKED BY
PC	KH

DATE	DRAWING NO.
FEBRUARY 2024	D1
SCALE: AS SHOWN	