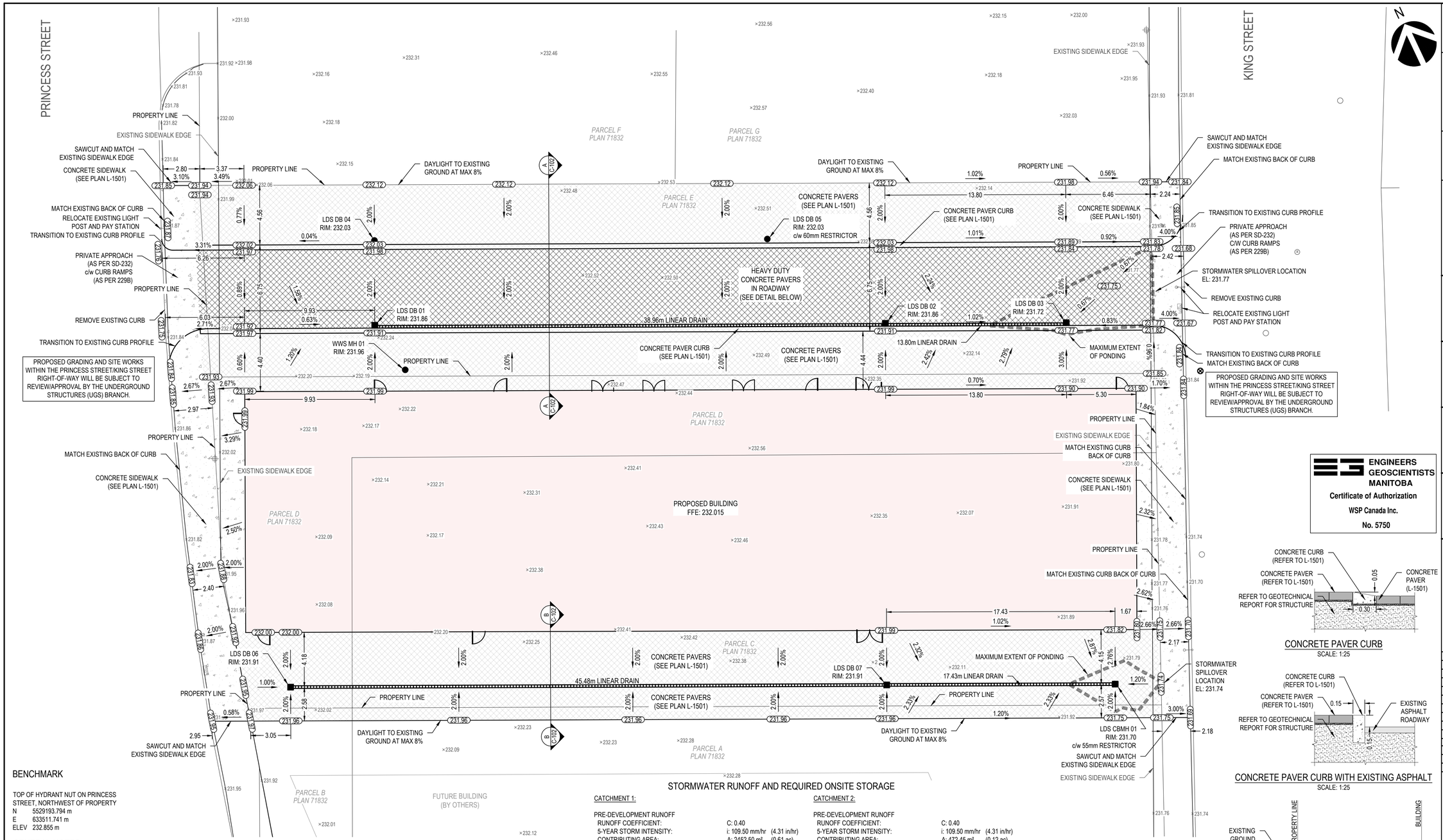


BENCHMARK

TOP OF HYDRANT NUT ON PRINCESS STREET, NORTHWEST OF PROPERTY
N 5529193.794 m
E 633511.741 m
ELEV 232.855 m

GENERAL NOTES

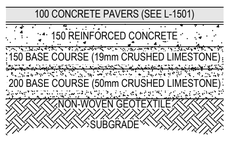
1. ALL WORK AND MATERIALS TO BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE CITY OF WINNIPEG STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONTRACTOR TO VERIFY DEPTH OF UTILITIES PRIOR TO CONSTRUCTION.
3. ALL ROADWAY DIMENSIONS SHOWN ARE TO BACK OF CURB.
4. THE INFORMATION SHOWN FOR EXISTING UTILITIES IS THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT GIVEN UTILITIES ARE EXACT. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION. ALL EXISTING UTILITIES MUST BE LOCATED AND VERIFIED PRIOR TO COMMENCEMENT OF WORK. 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.
5. ALL SURFACES TO BE MAINTAINED OR RESTORED TO PREVIOUS CONDITION OR BETTER.
6. WATER WORKS TO BE CONTACTED PRIOR TO INSTALLATION OF SERVICE CONNECTIONS TO THE MAIN.
7. GEOTECHNICAL SURVEY AND SUBSEQUENT REPORT COMPLETED AND PROVIDED BY DYREGROV ROBINSON INC.
8. ADJUST TEMPORARY GRADING ALONG NORTH/SOUTH PROPERTY LINES TO MATCH THOSE SHOWN.
9. ROOF DRAINS CONNECTED INTERNALLY TO STORM SEWER SERVICE.

LANDSCAPED BOULEVARD AREAS

1. FOR HARD AND SOFT LANDSCAPING REFER TO THE LANDSCAPING DRAWINGS.
2. FOR PLANTING, SITE FURNITURE, AND GENERAL LANDSCAPE LAYOUT - SEE LANDSCAPE DRAWINGS.

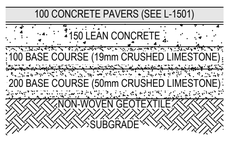
GRADING

1. ALL GRANULAR SUBBASE MATERIAL TO BE COMPACTED TO AT LEAST 98% STANDARD PROCTOR DENSITY.
2. ALL GRANULAR BASE MATERIAL TO BE COMPACTED TO AT LEAST 98% STANDARD PROCTOR DENSITY.
3. GEOTECHNICAL ENGINEER TO VERIFY THE SUB-GRADE COMPACTION AND TESTING IN ACCORDANCE WITH THE SPECIFICATIONS OR AS OTHERWISE OUTLINED.
4. ALL INTERNAL CURBING IS 50 mm IN HEIGHT (SEE L-1501) UNLESS OTHERWISE NOTED.



– COMPACT GRANULAR MATERIAL TO AT LEAST 98% SPMDD
– REFER TO GEOTECHNICAL REPORT FOR MORE INFORMATION

HEAVY DUTY CONCRETE PAVERS



– COMPACT GRANULAR MATERIAL TO AT LEAST 98% SPMDD
– REFER TO GEOTECHNICAL REPORT FOR MORE INFORMATION

CONCRETE PAVERS

STORMWATER RUNOFF AND REQUIRED ONSITE STORAGE

CATCHMENT 1:

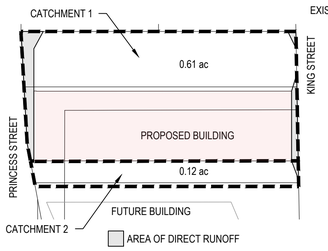
PRE-DEVELOPMENT RUNOFF		
RUNOFF COEFFICIENT:	C: 0.40	
5-YEAR STORM INTENSITY:	i: 109.50 mm/hr	(4.31 in/hr)
CONTRIBUTING AREA:	A: 2452.50 m²	(0.61 ac)
PEAK RUNOFF (Q=CiA):	Q: 29.84 L/s	(1.05 ft³/s)
25-YEAR DIRECT RUNOFF:		
RUNOFF COEFFICIENT:	C: 0.90	
25-YEAR STORM INTENSITY:	i: 154.33 mm/hr	(6.08 in/hr)
CONTRIBUTING AREA:	A: 125.18 m²	(0.03 ac)
PEAK RUNOFF (Q=CiA):	Q: 4.82 L/s	(0.17 ft³/s)
ALLOWABLE RUNOFF:	25.02 L/s	(0.88 ft³/s)
MAX WATER LEVEL:	231.35 m	
INVERT:	228.00 m	
HEAD:	3.32 m	
RESTRICTED DISCHARGE c/w 60 mm ORIFICE: (Q=0.61A(2GH)^0.5)	13.92 L/s	(0.49 ft³/s)
REQUIRED VOLUME:	73.61 m³	(2599.42 ft³)
MINIMUM ONSITE VOLUME AVAILABLE (UNDERGROUND STORAGE):	75 m³	(2648.60 ft³)

CATCHMENT 2:

PRE-DEVELOPMENT RUNOFF		
RUNOFF COEFFICIENT:	C: 0.40	
5-YEAR STORM INTENSITY:	i: 109.50 mm/hr	(4.31 in/hr)
CONTRIBUTING AREA:	A: 472.45 m²	(0.12 ac)
PEAK RUNOFF (Q=CiA):	Q: 5.75 L/s	(0.20 ft³/s)
25-YEAR DIRECT RUNOFF:		
RUNOFF COEFFICIENT:	C: 0.90	
25-YEAR STORM INTENSITY:	i: 154.33 mm/hr	(6.08 in/hr)
CONTRIBUTING AREA:	A: 4.26 m²	(0.01 ac)
PEAK RUNOFF (Q=CiA):	Q: 0.16 L/s	(0.01 ft³/s)
ALLOWABLE RUNOFF:	5.59 L/s	(0.20 ft³/s)
MAX WATER LEVEL:	231.32 m	
INVERT:	227.58 m	
HEAD:	3.71 m	
RESTRICTED DISCHARGE c/w 55 mm ORIFICE: (Q=0.61A(2GH)^0.5)	12.37 L/s	(0.44 ft³/s)
REQUIRED VOLUME:	4.19 m³	(148.07 ft³)
ONSITE VOLUME AVAILABLE (CBMH 01): (pi/4)(1.20^2)(231.70-227.58)	4.66 m³	(164.57 ft³)

OVERALL SITE SANITARY AND STORM SEWER

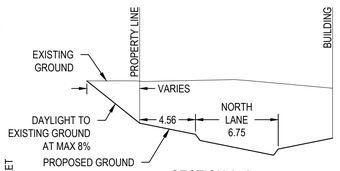
	PRE-DEVELOPMENT	POST-DEVELOPMENT
5-YEAR STORMWATER RUNOFF:	35.59 L/s	—
25-YEAR DIRECT RUNOFF:	—	4.98 L/s
RESTRICTED STORMWATER DISCHARGE:	—	26.29 L/s
PEAK WASTEWATER FLOW:	0.00 L/s	3.97 L/s
TOTAL:	**35.59 L/s**	**35.24 L/s**



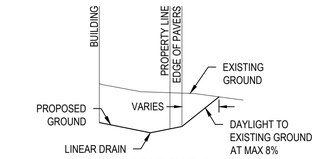
SITE CATCHMENTS

CONCRETE PAVER CURB
SCALE: 1:25

CONCRETE PAVER CURB WITH EXISTING ASPHALT
SCALE: 1:25



SECTION A–A
SCALE: H: 1:250
V: 1:25



SECTION B–B
SCALE: H: 1:250
V: 1:25

ENGINEERS GEOSCIENTISTS MANITOBA
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MARKET LANDS INC.

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MIXED USE BUILDING
WINNIPEG, MANITOBA

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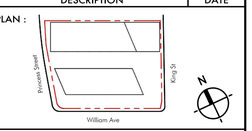
PROVINCE OF MANITOBA
B.S. FRIESEN
Member
32124
2024-03-04
REGISTERED PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE
0	ISSUED FOR TENDER	2024-02-02

KEY PLAN :



DISCIPLINE : CIVIL

LOT : 151 PRINCESS STREET SITE DEVELOPMENT

TITLE : SITE GRADING PLAN

DRAWN BY : B.F.	FILE :
DEVELOPED BY : B.F.	SCALE : 1 : 150
APPROVED BY :	PAGE : C-102
PRINT DATE : 2023-02-02	