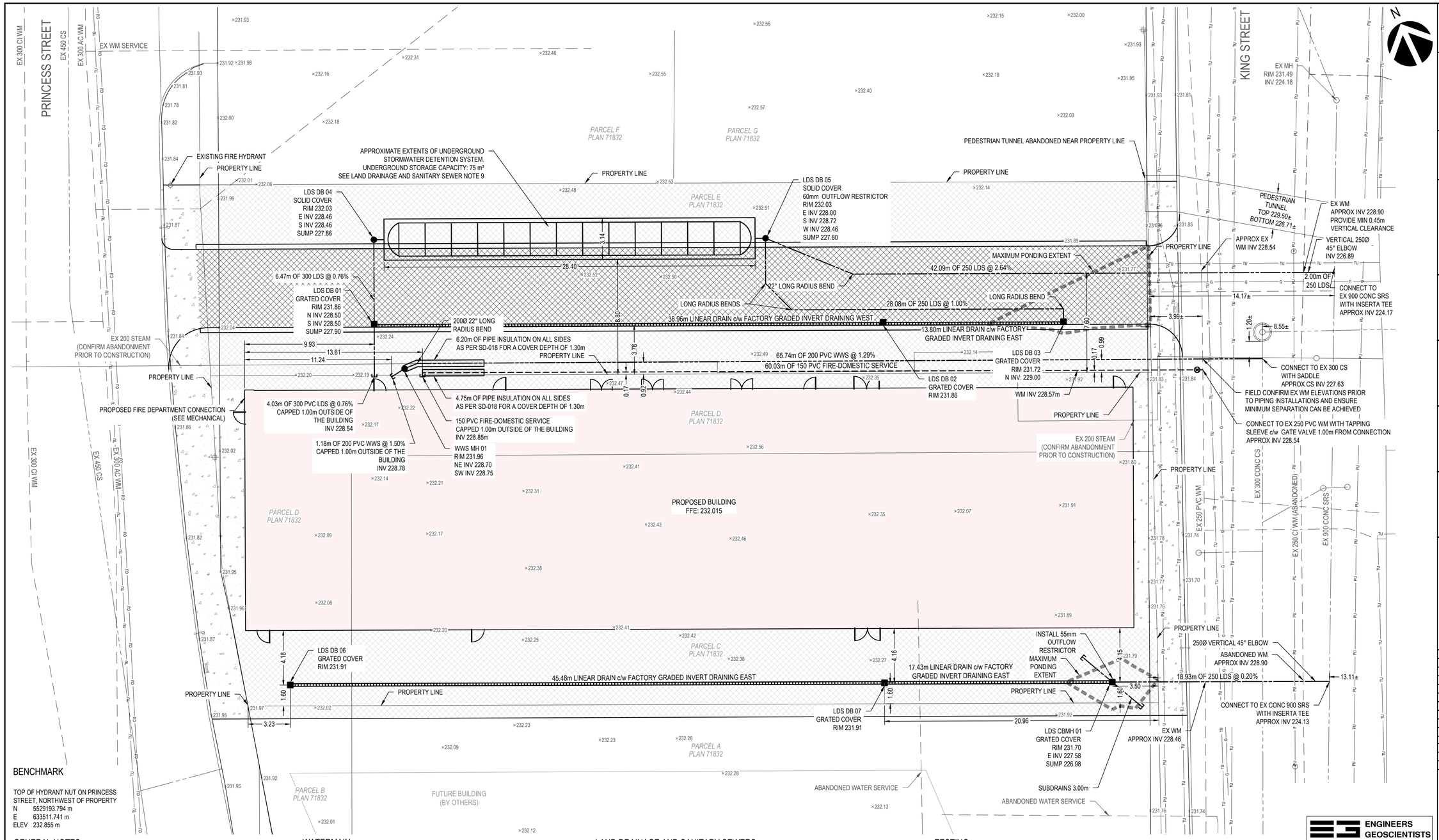


BENCHMARK

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. CONTRACTOR TO FIELD LOCATE AND CONFIRM TIE-IN ELEVATIONS PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IF ANY DISCREPANCIES ARE FOUND.
8. CONTRACTOR TO PROVIDE DETAILED MARKUPS FOR AS-BUILTS.

TRENCHING AND BACKFILLING

1. ALL LDS, WM AND, WWS TRENCH BACKFILL WILL BE CLASS 2 UNLESS OTHERWISE NOTED.
2. ALL BACKFILL MATERIAL TO BE COMPACTED TO 98% STANDARD PROCTOR DENSITY.
3. LDS, WM, AND WWS MAY BE CONSTRUCTED BY TRENCHLESS METHODS.

WATERMAIN

1. WATERMAIN SHALL BE POLYVINYL CHLORIDE (PVC) CLASS 150 PIPE (DR-18) MANUFACTURED TO AWWA C-900 WITH GASKET BELL END.
2. ALL WATERMAIN SHALL BE INSTALLED TO A MINIMUM DEPTH OF 2.70 m TO THE CROWN OF THE PIPE.
3. WATER SERVICES TO THE BUILDINGS TO BE CAPPED 1.00 m OFF THE FACE OF THE BUILDING.
4. WATERMAINS MUST HAVE A MINIMUM VERTICAL CLEARANCE OF 0.30 m OVER, AND 0.50 m UNDER SEWER AND ALL OTHER UTILITIES WHEN CROSSING.
5. SERVICE CONNECTIONS TO BUILDINGS TO HAVE ALL JOINTS RESTRAINED FROM THE PLUG BACK .
6. ALL WATERMAINS SHALL BE BACTERIALOGICALLY TESTED. 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 EFFECT THE ENVIRONMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL MUNICIPAL AND/ OR PROVINCIAL REQUIREMENTS ARE FOLLOWED.
7. ALL WATERMAIN BENDS TO BE RESTRAINED IN AREAS OF FILL. ALL PLUGS AND HORIZONTAL AND VERTICAL BENDS TO BE RESTRAINED.
8. ACTUAL SERVICE LOCATIONS TO BUILDING TO BE CO-ORDINATED WITH GENERAL CONTRACTOR.

LAND DRAINAGE AND SANITARY SEWERS

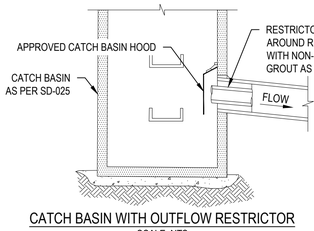
1. ALL WASTEWATER SEWER PIPE SHALL BE PVC SDR-35 UNLESS OTHERWISE NOTED.
2. SERVICES TO THE BUILDINGS SHALL BE CO-ORDINATED WITH GENERAL CONTRACTOR AND ARE TO BE CAPPED 1.0 m FROM THE OUTSIDE FACE OF BUILDING.
3. STORM SEWER PIPE SHALL BE SDR-35, PVC, OPEN PROFILE RIBBED PIPE OR CONCRETE C76 CLASS 4, OR AS SPECIFIED.
4. LAND DRAINAGE AND WASTEWATER PIPE BEDDING TO BE TYPE B.
5. ALL MANHOLE AND CATCHBASIN EXCAVATIONS TO BE BACKFILLED WITH APPROVED GRANULAR MATERIAL COMPACTED TO 98% SPMDD.
6. CB'S AND CBMH'S SHALL HAVE GRATED COVERS (AP-008) OR SOLID COVERS (AP-005) AS NOTED. WWS MANHOLES SHALL BE SOLID COVERS (AP-005).
7. ALL CATCH BASINS AND MANHOLES (CB / MH) TO BE PRECAST.
8. DRAIN BASINS (DB) TO BE ACO KLASSIK DRAIN COMPATIBLE, ADS NYLOPLAST 2830AG C/W SQUARE COVERS, OR APPROVED EQUAL AND CONFORMING TO CITY OF WINNIPEG APPROVED PRODUCTS.
9. THERMOPLASTIC UNDERGROUND STORAGE CHAMBER SYSTEM SUCH AS STORMTECH MC-7200 CHAMBERS, OR EQUIVALENT PRODUCT IN ACCORDANCE WITH ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED STORMWATER COLLECTION CHAMBERS" AND ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED STORMWATER COLLECTION CHAMBERS". NUMBER OF CHAMBERS TO BE DETERMINED AS PER INDICATED STORAGE CAPACITY. NO STORMWATER STORAGE VOLUME TO BE CONSIDERED WITHIN STONE VOIDS. EXACT CONFIGURATION OF CHAMBERS TO BE DETERMINED DURING CONSTRUCTION. SHOP DRAWINGS TO BE PROVIDED TO AND REVIEWED BY THE CONSULTANT.
10. LINEAR DRAIN TO BE ACO KLASSIK DRAIN KS200 LINEAR DRAIN OR APPROVED EQUAL AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND REQUIREMENTS. EQUALS MAY AFFECT THE REQUIRED UNDERGROUND STORMWATER STORAGE VOLUME. GRATING TO BE ACO 661Q. INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
11. ROOF DRAINS AND WEEPING TILE SUMP PUMPS TO BE CONNECTED TO BUILDING'S LDS SERVICE.

TESTING

1. ALL TESTING AND ASSOCIATED COSTS FOR WATERMAINS, CCTV INSPECTION, CONCRETE, ASPHALT AND GRANULAR MATERIAL PLACEMENT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

POST-DEVELOPMENT WASTEWATER FLOW ESTIMATION

LAND USE:	MIXED USE
SITE AREA (ONLY CATCHMENT 1 CONSIDERED FOR INFILTRATION):	0.2485 ha (0.61 ac)
GROUNDWATER INFILTRATION (2,200 L/day/ha):	**0.01 L/s**
MANHOLE INFILTRATION (1 MH @ 12 L/MH/min):	**0.20 L/s**
WWS GENERATION	
MF DWELLINGS:	95 DWELLINGS
POPULATION (2.30 PEOPLE/DWELLING):	219 PEOPLE
PEAKING FACTOR:	4.13
ADWF (270 L/cap/day):	0.68 L/s
PDWF:	**2.81 L/s**
PUBLIC AREA:	13 TOILET ROOMS
ADWF (1500 L/toilet/day):	0.23 L/s
PDWF:	**0.95 L/s**
TOTAL PWWF:	**3.97 L/s**



CATCH BASIN WITH OUTFLOW RESTRICTOR
SCALE: NTS

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
WSP Canada Inc.
No. 5750

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MARKET LANDS INC.

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MARKET LANDS
MIXED USE BUILDING
WINNIPEG, MANITOBA

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SEAL :
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 :
Princess Street
King St
William Ave

DISCIPLINE : CIVIL

LOT : 151 PRINCESS STREET SITE DEVELOPMENT

TITLE : SITE SERVICING PLAN

DRAWN BY : B.F.	FILE :
DEVELOPED BY : B.F.	SCALE : 1 : 150
APPROVED BY :	PAGE : C-101
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