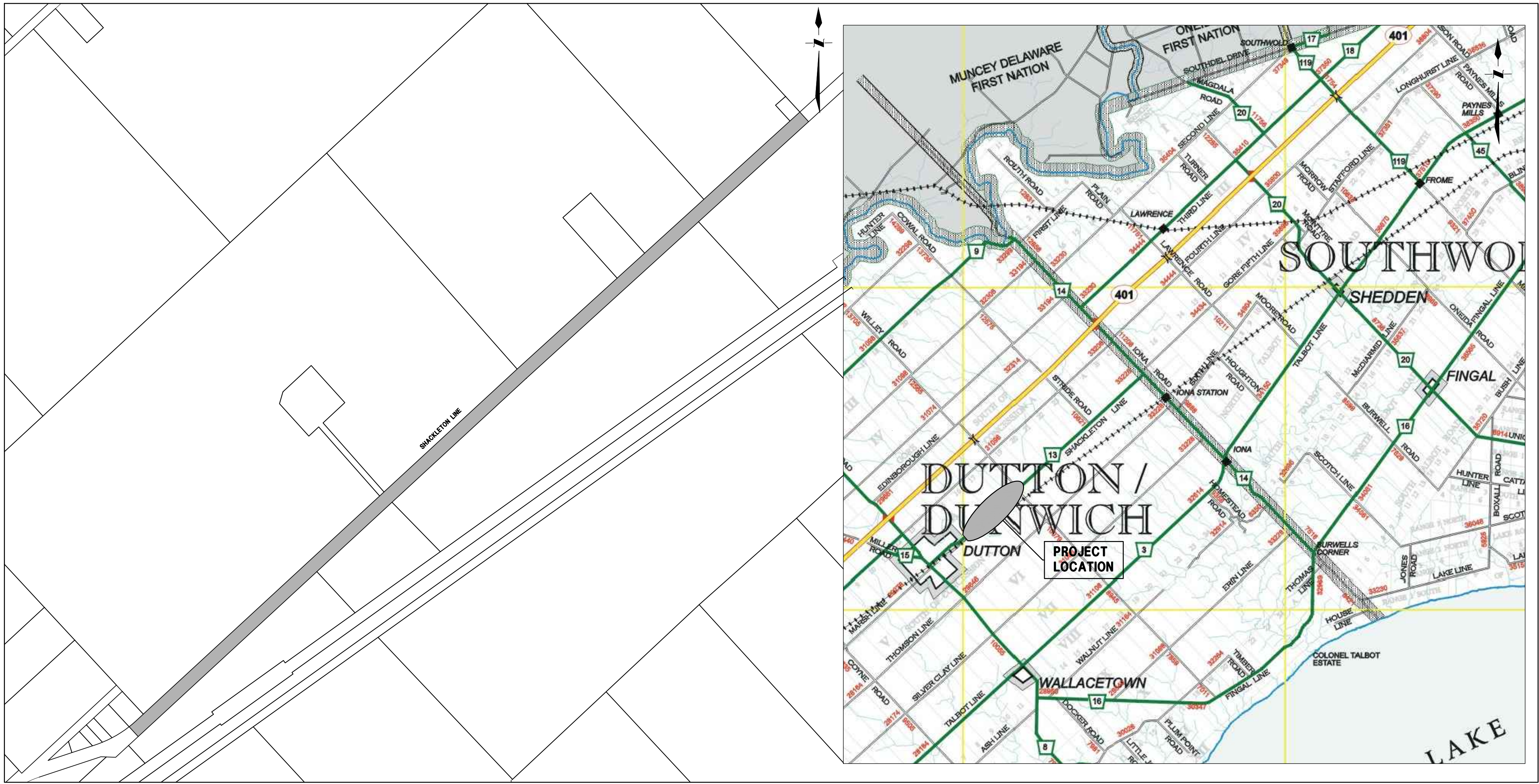


SHACKLETON LINE WATERMAIN

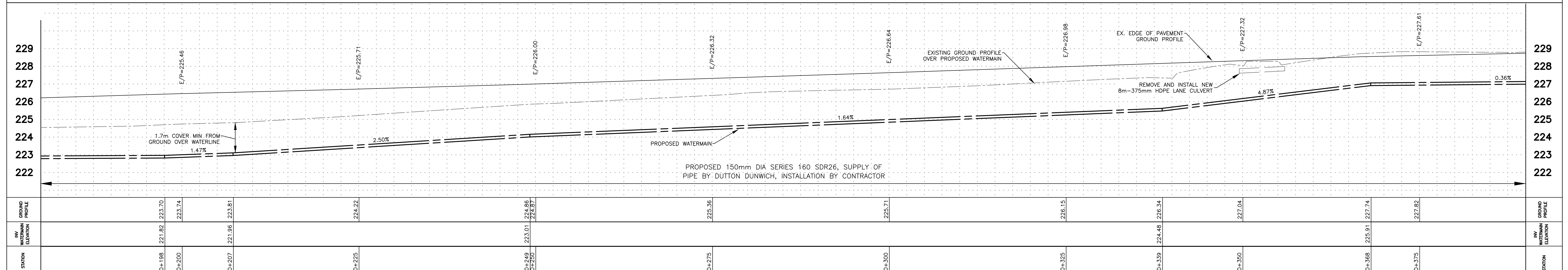
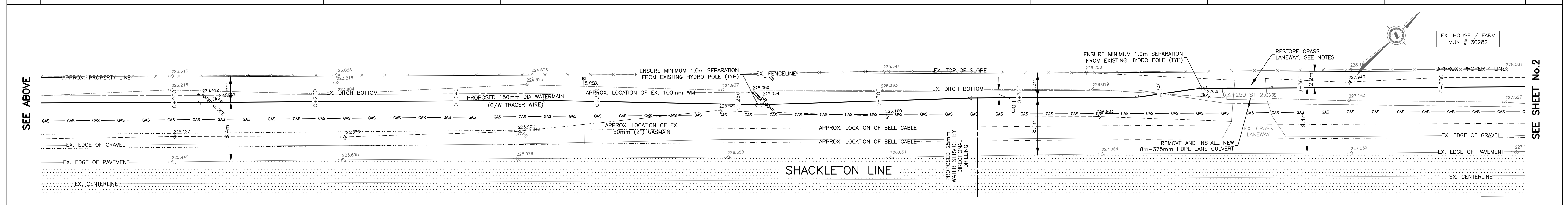
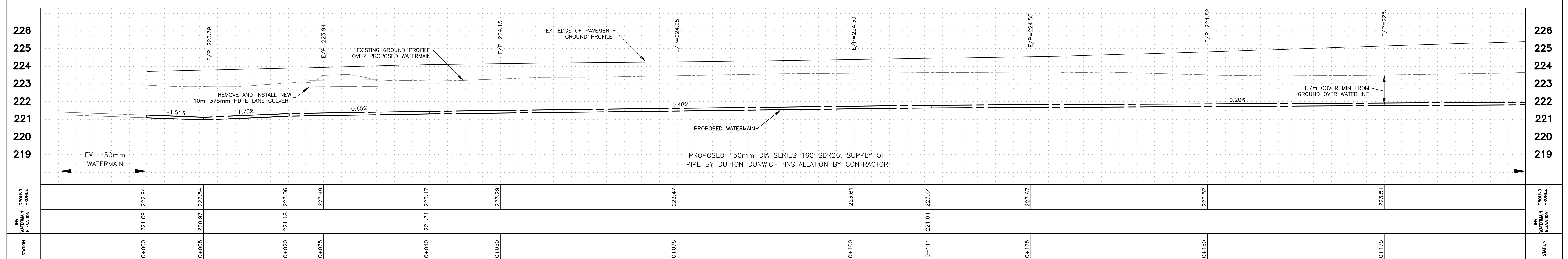
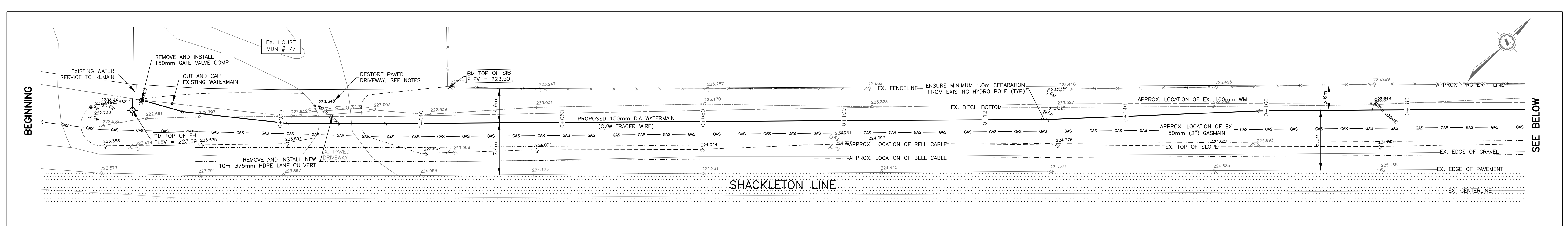
MUNICIPALITY OF DUTTON DUNWICH

INDEX OF DRAWINGS

DRAWING No.	DESCRIPTION
	COVER SHEET
1.	SHACKLETON LINE – STA. 0+000 TO STA 0+375
2.	SHACKLETON LINE – STA. 0+375 TO STA 0+765
3.	SHACKLETON LINE – STA. 0+765 TO STA 1+155
4.	SHACKLETON LINE – STA. 1+155 TO STA 1+545
5.	SHACKLETON LINE – STA. 1+545 TO STA 1+940
6.	SHACKLETON LINE – STA. 1+940 TO STA 2+114



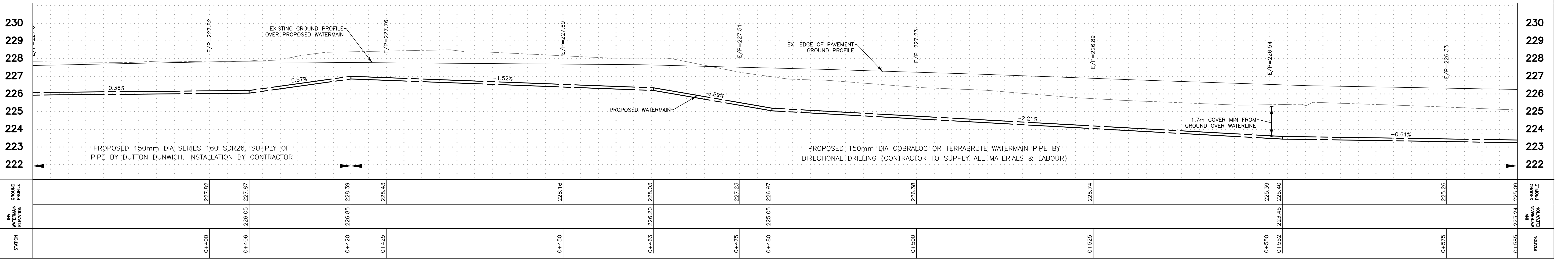
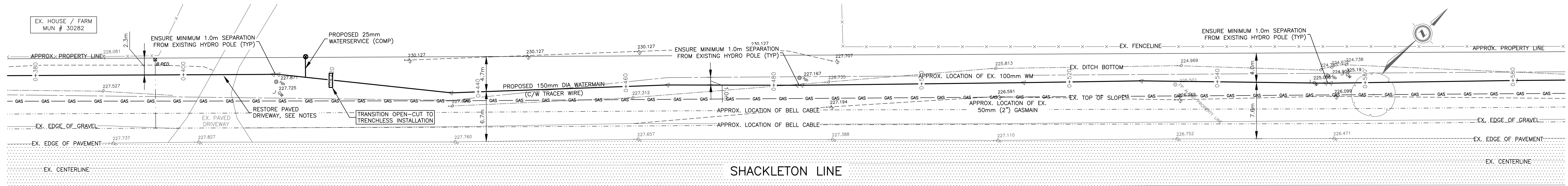
JOB No. 223068
 JAN. 10 2024



EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT	CONSULTANT OR DIVISION	SCALE	TITLE	PROJECT No.
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					CHECKED BW								
					APPROVED BW								
					DATE JAN. 10, 2024								
223068													

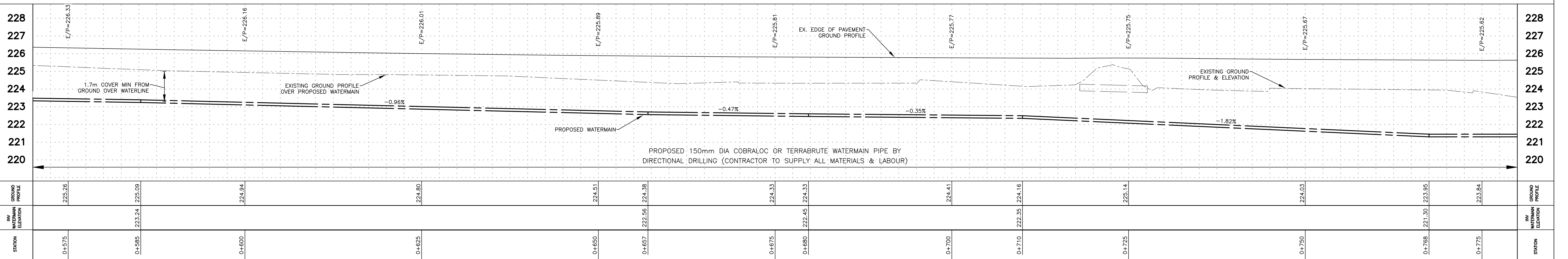
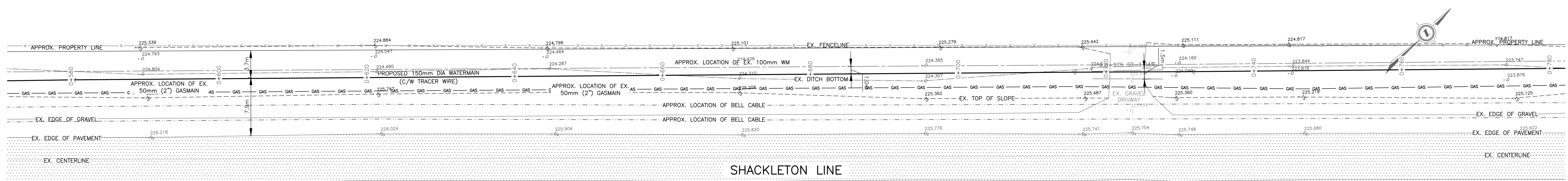
SEE SHEET No. 1

SEE BELOW



SEE ABOVE

SEE SHEET No.3



EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT
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					DRAWN BY MM				
					CHECKED BW				
					APPROVED BW				
					DATE JAN. 10, 2024				
					223068				

SPRIET ASSOCIATES
LONDON CONSULTING ENGINEERS LIMITED
155 YORK STREET -- LONDON (519) 872-4100 -- N6A 1A8

PROFESSIONAL ENGINEER
B. E. WIDNER
109213628
PROVINCE OF ONTARIO

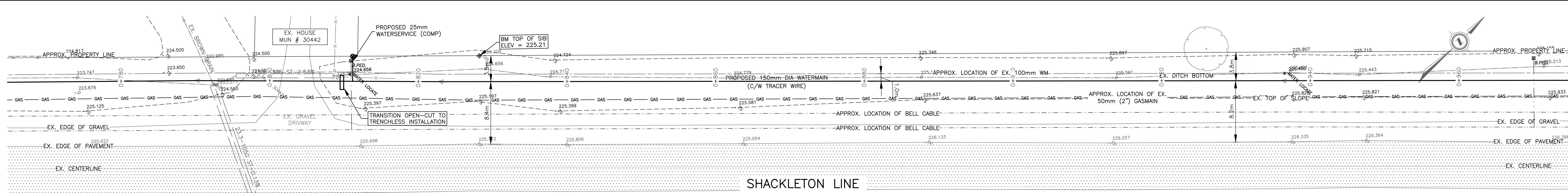
MUNICIPALITY OF DUTTON DUNWICH

SCALE
1:250 HORIZ
1:100 VERT
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1.0m 0 2m VERTICAL

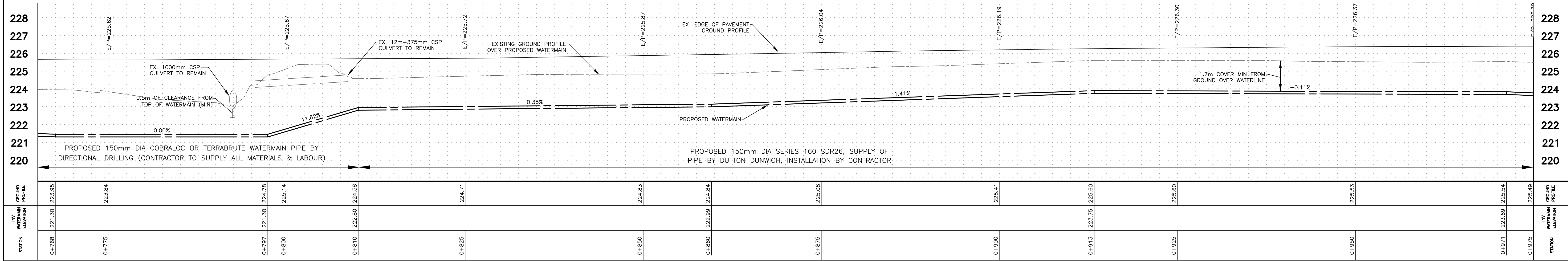
SHACKLETON LINE WATERMAIN
MUN. OF DUTTON-DUNWICH
PLAN & PROFILE
STA 0+375 - STA 0+580
STA 0+565 - STA 0+765

PROJECT No. 223068
SHEET No. 2
PLAN FILE No.

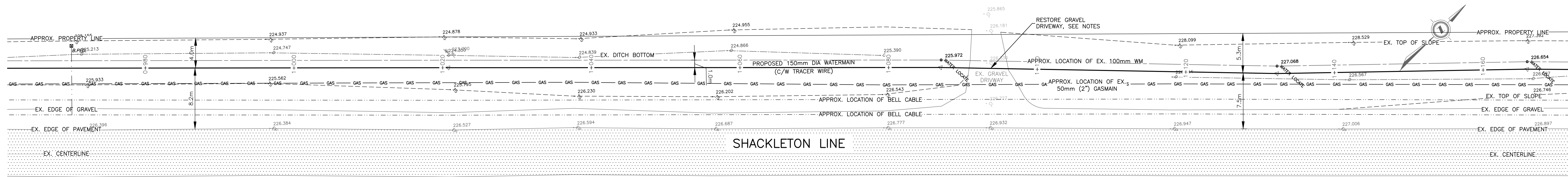
SEE SHEET No. 2



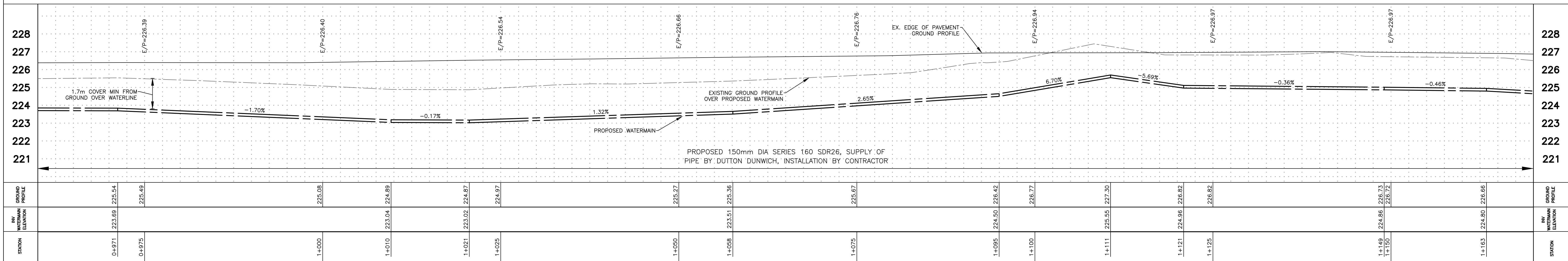
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SEE ABOVE



SEE SHEET No. 4



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					DESIGN MM				
					DRAWN BY MM				
					CHECKED BW				
					APPROVED BW				
					DATE JAN. 10, 2024				
					223068				

SPRIET ASSOCIATES
LONDON CONSULTING ENGINEERS LIMITED
155 YORK STREET -- LONDON (519) 872-4100 -- N6A 1A8

LICENCED PROFESSIONAL ENGINEER
B. E. WIDNER
109213628
PROVINCE OF ONTARIO

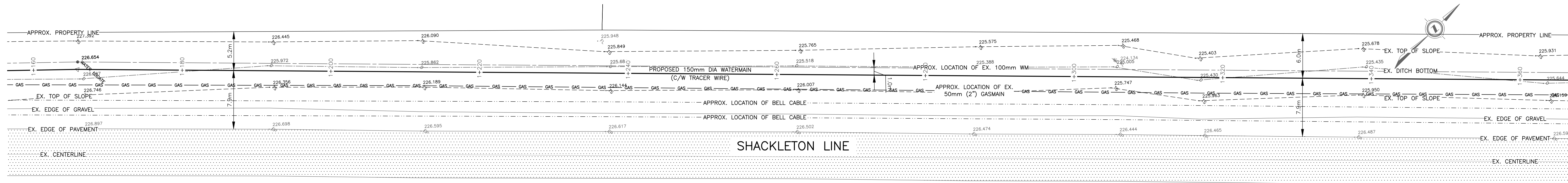
MUNICIPALITY OF DUTTON DUNWICH

SCALE
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1:100 VERT
2.5m 0 5.0m
1.0m 0 2m

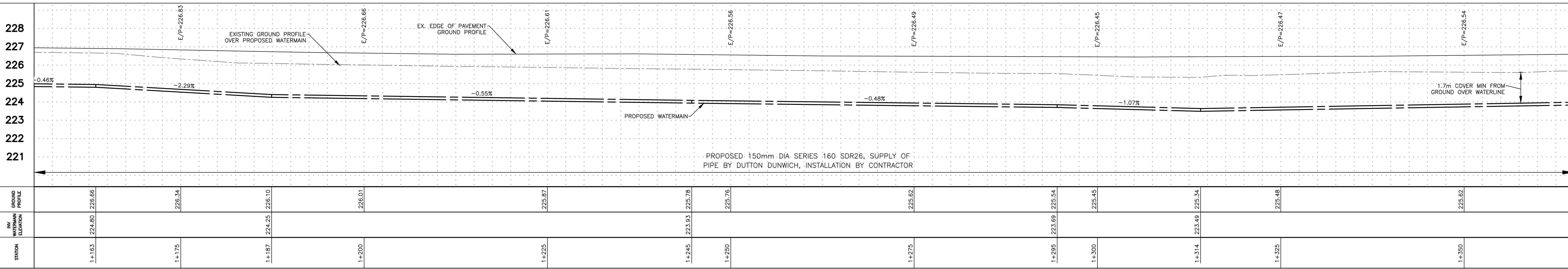
SHACKLETON LINE WATERMAIN
MUN. OF DUTTON-DUNWICH
PLAN & PROFILE
STA 0+765 - STA 0+975
STA 0+960 - STA 1+155

PROJECT No. **223068**
SHEET No. **3**
PLAN FILE No.

SEE SHEET No. 3

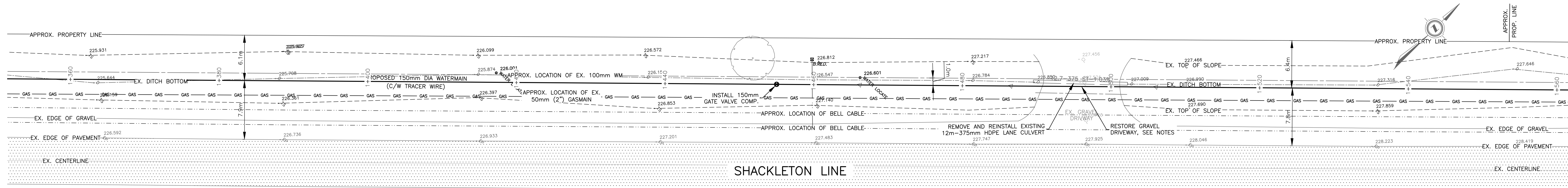


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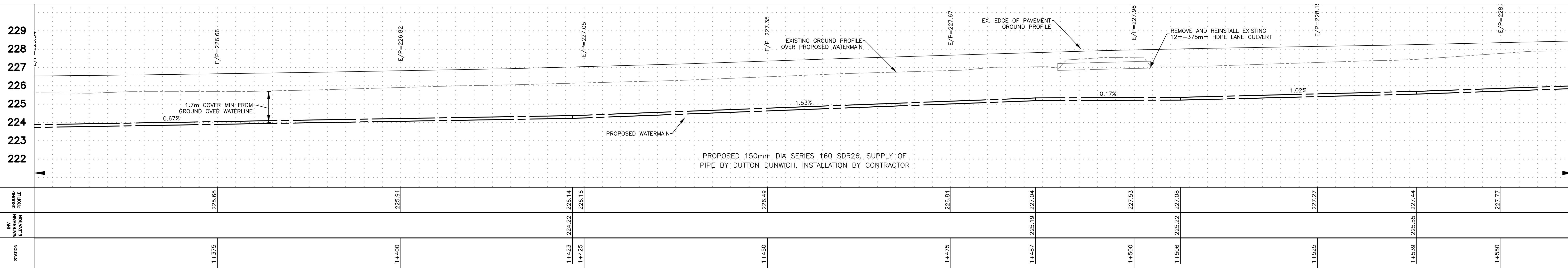


STATION	1+163	1+175	1+187	1+200	1+225	1+245	1+250	1+275	1+295	1+300	1+314	1+325	1+350
GROUND PROFILE	226.66	226.34	226.10	226.01	225.87	225.78	225.76	225.62	225.54	225.45	225.34	225.48	225.62
INV WATERMAIN ELEVATION	224.80		224.25			223.93			223.89		223.49		225.02

SEE ABOVE



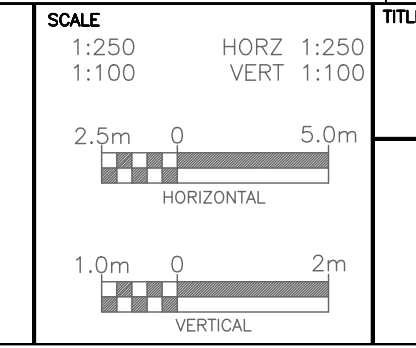
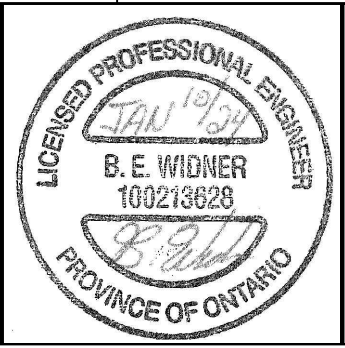
SEE SHEET No.5



STATION	1+375	1+400	1+423	1+425	1+450	1+475	1+487	1+500	1+506	1+525	1+539	1+550
GROUND PROFILE	225.68	225.91	226.14	226.16	226.49	226.84	227.04	227.53	227.08	227.27	227.44	227.77
INV WATERMAIN ELEVATION			224.22				225.19		225.22		225.55	

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT
					DESIGN MM				
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					DATE				
					JAN. 10, 2024				
					223068				

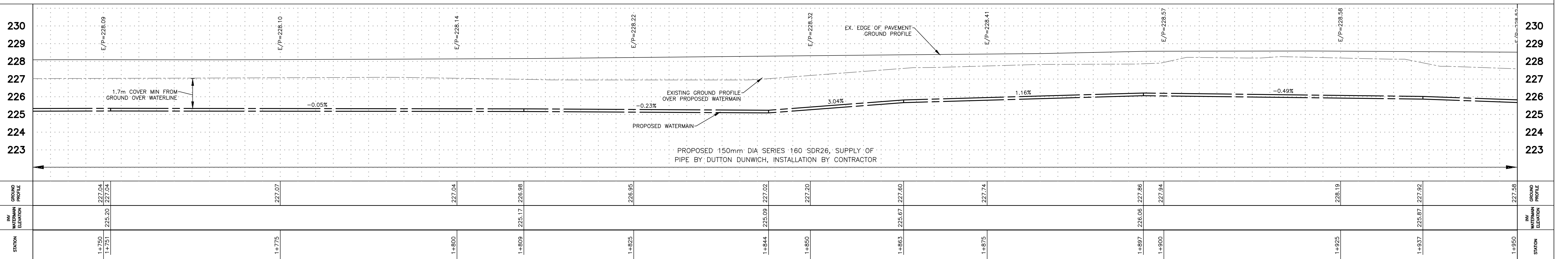
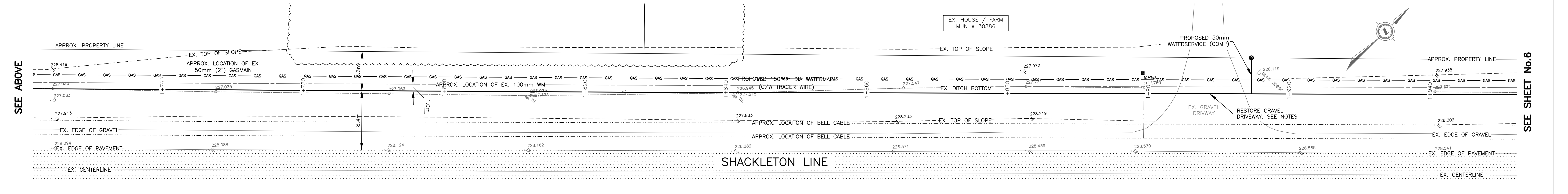
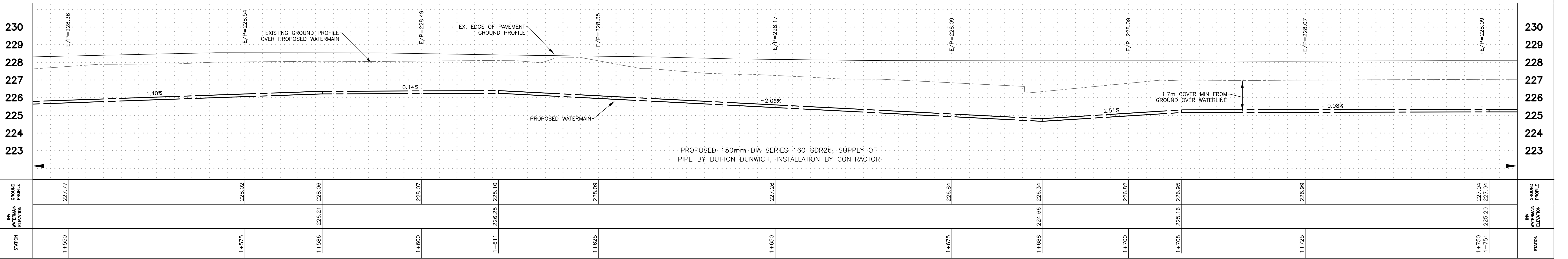
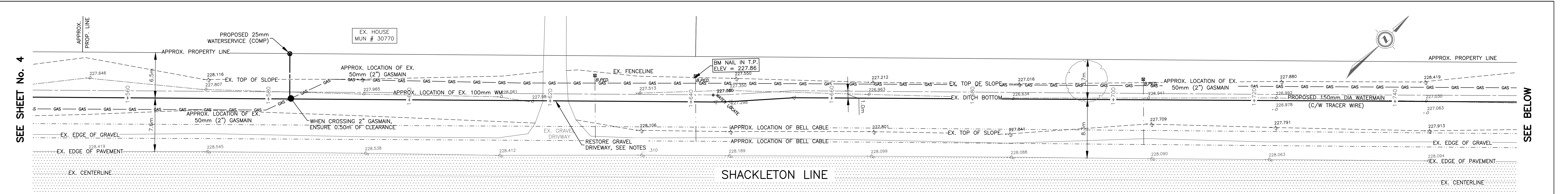
SPRIET ASSOCIATES
LONDON CONSULTING ENGINEERS LIMITED
155 YORK STREET -- LONDON (519) 872-4100 -- NDA 1A8



SHACKLETON LINE WATERMAIN
MUN. OF DUTTON-DUNWICH

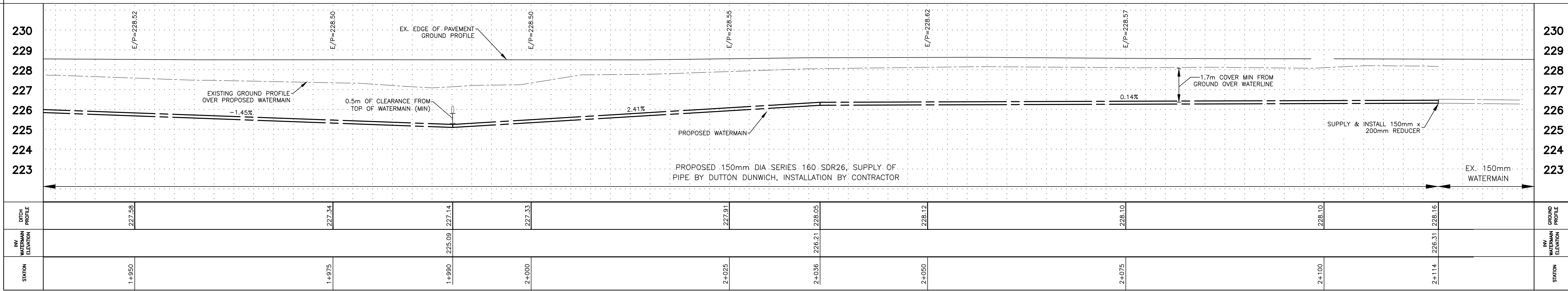
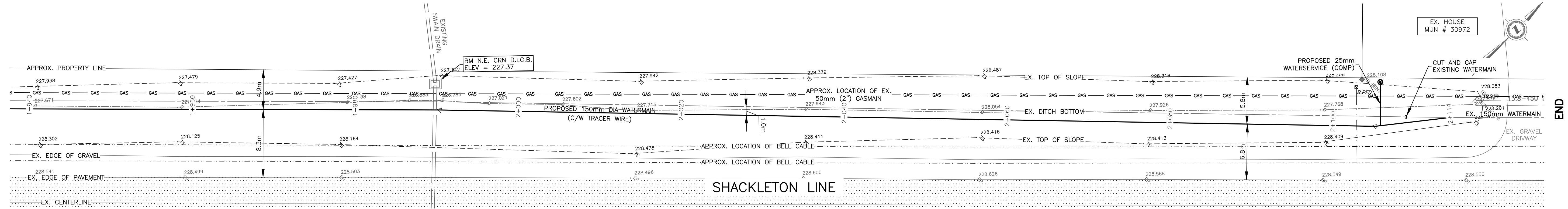
PLAN & PROFILE
STA 1+155 - STA 1+365
STA 1+350 - STA 1+545

PROJECT No. **223068**
SHEET No. **4**
PLAN FILE No.



EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT	CONSULTANT OR DIVISION									
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					DATE	JAN. 10, 2024													
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SCALE	1:250	HORIZ	1:250																
	1:100	VERT	1:100																
PROJECT No. 223068 SHEET No. 5 PLAN FILE No.										PLAN & PROFILE STA 1+545 - STA 1+755 STA 1+740 - STA 1+940									

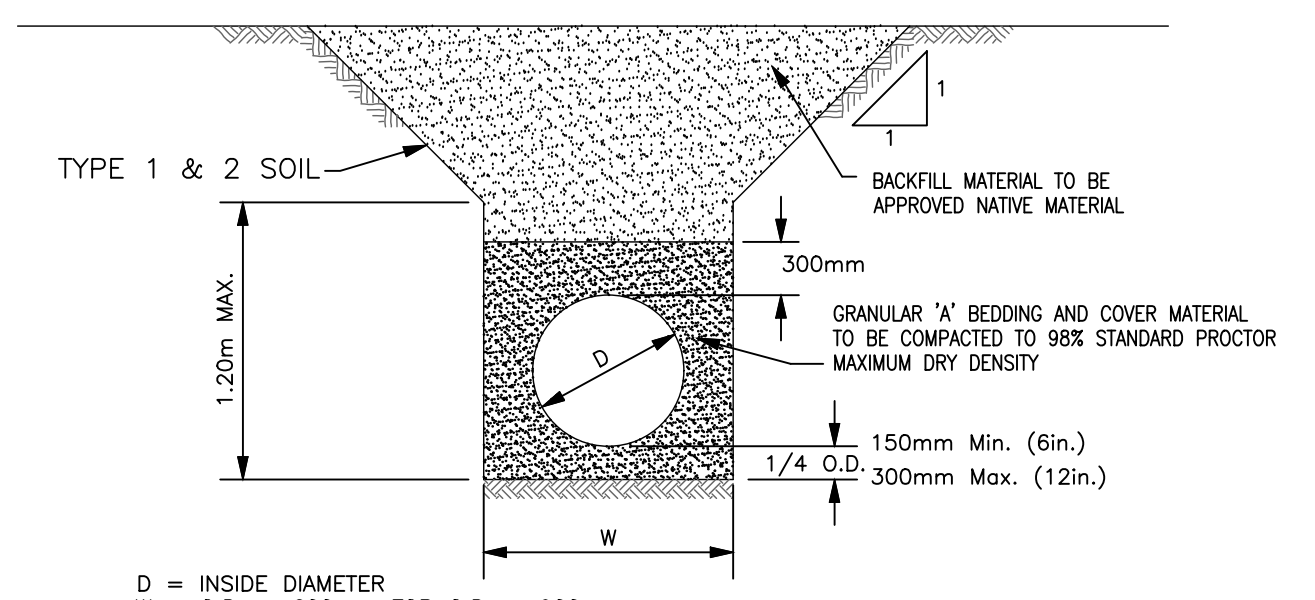
SEE SHEET No. 5



RESTORATION OF ASPHALT DRIVEWAYS:
75mm HL3
150mm GRANULAR 'A'
300mm GRANULAR 'B'

RESTORATION OF GRAVEL DRIVEWAYS:
150mm GRANULAR 'A'
300mm GRANULAR 'B'

RESTORATION OF GRASS AREAS:
150mm IMPORTED TOPSOIL & SEED



BEDDING DETAIL FOR ALL PROPOSED SEWERS AND WATERMAIN
N.T.S.

TRENCHING NOTES

- WHERE HIGH HYDRAULIC GRADIENT CONDITIONS ARE ENCOUNTERED THE CRUSHED STONE BEDDING SHOULD BE ENCLOSED WITH A SUITABLE GEOTEXTILE IN (IN ACCORDANCE WITH O.P.S.S. 1860)
- IT IS ANTICIPATED THAT THE INFLOW OF GROUND WATER CAN BE CONTROLLED BY GRAVITY DRAINAGE AND CONVENTIONAL SUMP PUMPING FOR EXCAVATIONS LESS THAN 0.5m BELOW THE WATER TABLE. MORE EXCESSIVE VACUUM AND/OR WELL POINT DE-WATERING WILL HAVE TO BE CARRIED OUT FOR EXCAVATIONS EXTENDING MORE THAN 0.5m BELOW THE WATER TABLE. PERMIT TO TAKE WATER (IF REQUIRED) MUST BE OBTAINED BY CONTRACTOR.
- TRENCH CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE LATEST SPECIFICATIONS REGARDING THE TRENCH WIDTH (Occupational Health and Safety Act ONTARIO REGULATION 213/91).

GENERAL NOTES:

- GENERAL NOTE**
See plan and profile drawings for benchmark locations, descriptions, and elevation information.
- UTILITIES AND SUPPORT**
Prior to commencing construction on the road allowances, all existing underground and overhead utilities shall be located and marked. Any utilities damaged or disturbed during construction shall be repaired or replaced to the satisfaction of the governing body at the Contractor's expense. Any pole support shall be carried out by the appropriate authority and not the Contractor, but any costs shall be paid for as per the form of tender. If hydro poles need to be supported during construction, the Contractor shall make all necessary arrangements with the hydro company. Utility locations shown on these drawings have been obtained from drawings and data believed to be correct, but cannot be guaranteed to be correct. The Contractor will be responsible for all costs associated with the excavation ground and/or relocation of any underground utilities under this contract.
- RESTRAINED JOINTS**
Restrain joints at all bends, tees, fittings, etc., and horizontal and vertical watermain deflections exceeding 4 degrees or as shown on the drawings.
- BACKFILL AND RESTORATION**
See drawings for backfill and restoration details.
- PROFILES**
Grades, elevations, distances and alignment as shown on the drawings represent the theoretical centreline of the watermain for purposes of design and the preparation of as built drawings. All profiles of existing ground are approximate and are along the centreline of the travelled portion of the road allowance.
- TREE PROTECTION**
All existing trees, shrubs, and landscaping are to be protected in accordance with the project specifications unless otherwise stated by the Engineer, approved for removal by the Engineer, or shown on the drawings to be removed.
- MAINTENANCE OF FLOW**
All existing surface and underground drainage systems are to be maintained during construction to the satisfaction of the Engineer until replacement sewers have been successfully installed for operation.
- CONSTRUCTION AND DETOUR SIGNING**
Minimum construction and detour signing shall be as per "Book 7 of the Ontario Traffic Manual". Drawings to be submitted to the Engineer for approval prior to commencement of the project.
- WORK WITHIN PRIVATE PROPERTY**
No work shall be carried out on private property without written permission from the owner.
- UTILITY LOCATION**
Utility locations as shown on these contract drawings have been obtained from drawings and field data believed to be correct, but cannot be guaranteed to be correct.
- EXISTING WATERMAIN LOCATION**
The contractor will be required to determine the location and elevation of all existing watermains at connection locations prior to installing proposed watermains and appurtenances.
- WATERMAIN SERVICES**
Water services to be replaced with as noted on drawing.

The location and alignment shown (and not shown) of existing water services, including curb stops, is not guaranteed. The Contractor is responsible to locate and replace all existing water services within the project limits. All water services will be field located by Dutton Dunwich prior to construction. Dimensions shown to the new watermain are approximate only based on assumed location of existing watermain.

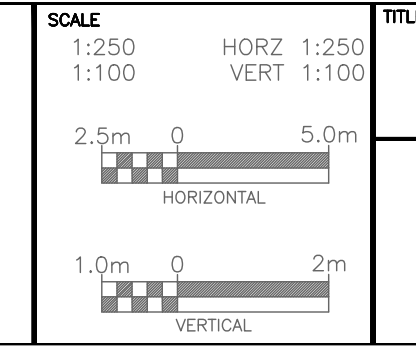
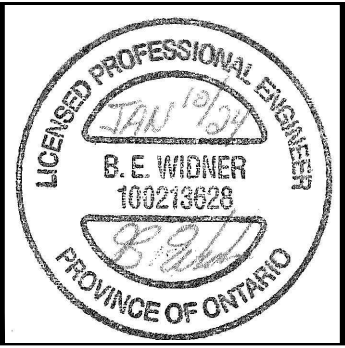
SEDIMENT CONTROL MEASURE NOTES

- PROTECT ALL EXPOSED SURFACES AND CONTROL ALL RUNOFF DURING CONSTRUCTION.
- CLEARING AND GRUBBING OF THE SITE SHOULD BE KEPT TO A MINIMUM AND VEGETATION REMOVED ONLY IN ADVANCE OF IMMEDIATE CONSTRUCTION.
- ALL EROSION CONTROL MEASURES ARE TO BE IN PLACE BEFORE STARTING CONSTRUCTION AND REMAIN IN PLACE UNTIL RESTORATION IS COMPLETE.
- MAINTAIN EROSION CONTROL MEASURES DURING CONSTRUCTION.
- INSPECTION AND CLEANING OF THE SEDIMENTATION TRAPS SHOULD BE CARRIED OUT REGULARLY. CLOGGED FILTER MATERIALS SUCH AS CRUSHED STONE, STRAW BALES, SILT FENCE, OR FILTER CLOTH SHOULD BE REPLACED AS REQUIRED.
- ALL COLLECTED SEDIMENT IS TO BE DISPOSED OF AT AN APPROVED LOCATION.
- REASONABLE ATTEMPTS SHALL BE MADE TO MINIMIZE AREAS DISTURBED DURING CONSTRUCTION.
- STOCKPILES OF EARTH AND/OR TOPSOIL SHOULD BE LOCATED AND PROTECTED TO ENSURE MINIMUM ENVIRONMENTAL INTERFERENCE. STOCKPILES SHOULD NOT BE LOCATED IMMEDIATELY ADJACENT TO DITCHES, OR PROPOSED CATCHBASINS.
- ALL DEWATERING WATER OR WATER PUMPED FROM EXCAVATIONS IS TO BE DISPOSED OF IN AN APPROVED SEDIMENTATION BASIN.
- PROTECT ALL CATCHBASINS, MAINTENANCE HOLES AND PIPE ENDS FROM SEDIMENT INTRUSION WITH GEOTEXTILE (TERRAFIX 270 R).
- KEEP ALL SUMPS CLEAN DURING CONSTRUCTION.
- REASONABLE ATTEMPTS SHALL BE MADE TO PREVENT WIND-BLOWN DUST.
- SILT FENCE TO BE USED IN LOCALIZED AREAS AS DIRECTED BY THE MUNICIPALITY, COUNTY OR ENGINEER DURING CONSTRUCTION.
- SILT FENCE TO BE TERMINATED BY ROUNDING TO CONTAIN AND FILTER RUNOFF.
- OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO CONSTRUCTION.
- ALL OF THE ABOVE NOTES AND SEDIMENT AND EROSION CONTROL MEASURES AND ANY ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES ARE TO BE IN ACCORDANCE WITH THE MINISTRY OF NATURAL RESOURCES GUIDELINES ON EROSION AND SEDIMENT CONTROL FOR URBAN CONSTRUCTION SITES.

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT
					DESIGN MM				
					DRAWN BY MM				
					CHECKED BW				
					APPROVED BW				
					DATE JAN. 10, 2024				
					223068				

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON CONSULTING ENGINEERS LIMITED
155 YORK STREET -- LONDON (519) 872-4100 -- N6A 1A8



SHACKLETON LINE WATERMAIN
MUN. OF DUTTON-DUNWICH

PLAN & PROFILE
STA 1+940 - STA 2+114

PROJECT No. **223068**

SHEET No. **6**

PLAN FILE No.