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Enbridge Gas Inc.
50 Keil Drive North,
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August 9, 2022

VIA EMAIL and RESS

Nancy Marconi
Registrar
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Nancy Marconi:

Re: Enbridge Gas Inc. ("Enbridge Gas")
Ontario Energy Board ("OEB") File: EB-2020-0086
Dawn to Corunna Replacement Project
Undertaking Responses and Transcript Corrections

Further to the virtual technical conference held on July 27 and August 2, 2022 in the above noted proceeding, enclosed please find Enbridge Gas's responses to the undertakings from Canadian Association of Energy and Pipeline Landowner Associations ("CAEPLA") and its subcommittee, the Dawn Corunna Landowner Committee ("DCLC"). Enbridge Gas has also reviewed the transcripts and notes the enclosed corrections.

Please contact the undersigned if you have any questions.

Yours truly,

(Original Digitally Signed)

Adam Stiers
Manager, Regulatory Applications – Leave to Construct

c.c. Charles Keizer (Torys)
Ritchie Murray (OEB Staff)
Intervenors (EB-2020-0086)

REFERENCE	**AS STATED**	**CORRECTION**
DAY 1		
Page 130, line 14.	more or less cost-effective options than cost-based	More ~~**or less**~~ cost-effective. (the word “more” was used but then there was a pause and the witness corrected to say “or less”. The transcript appears the phrase “more or less” was used, which means something very different.
Page 136, line 15	So this gas based storage is not for their	So this ~~**gas**~~ cost-based storage is not for their. Replace gas with **“cost”**
Page 157, line 17	industry of the pools.	~~**industry**~~ of the pools. Replace industry with “**end”**
Page 40, line 10	model. We'll be able to move higher pressure gas between model.	~~**model**~~. We'll be able to move higher pressure gas between. Replace model with “**MOP”**
Page 11, line 10	are connected to the compressor stage and are subsequently	are connected to the **Corunna** compressor **Station ~~stage~~** and are subsequently
Page 14, line 27	point in the Dawn hub and most supplied for our system	point in the Dawn hub and most ~~**supplied**~~ for our system. Replaced supplied with “**Supply**”
Page 14, line 8	So this schematic was delivered to help illustrate the	So this schematic was ~~**delivered**~~ to help illustrate the. Replace delivered with “**developed**”
Page 24, line 16	used just from a star reporting standpoint so we can put a	used just from a “**STAR**” reporting standpoint so we can put a
Page 33, line 25	But -- I don't know if, Mr. Cadotte, you sell truck	But -- I don't know if, Mr. Cadotte, you sell truck. Replace truck with “**park**”
Page 35, line 23	MR. PARDY: There is higher pressure that arises at	MR. PARDY: There is higher pressure that ~~**arises**~~ at. Replace arises with “**arrives**”
Page 45, line 21	2018, the B plant was removed.	2018, the “**Dawn**” B plant was removed.

Page 63, line 14	the system. So as part of the model I think the plant gas	the system. So as part of the model I think the ~~**plant**~~ gas. Replace plant with "**plan**"
Page 64, line 15	I am talking ends of March, end of April. Not on design	I am talking ~~**ends**~~ of March, end of April. Not on design. Replace ends with "**end**"
Page 69, line 15	So again, I think it is the culmination of whether you	So again, I think it is the ~~**culmination**~~ of whether you. Replace culmination with "**combination**"
Page 82, line 7	MR. PARDY: Yes. The EGD pools have 42.5 in on design	MR. PARDY: Yes. The EGD pools have ~~**42.5**~~ in on design. Replace 42.5 with "**43.5**"
Page 84, line 4	MR. PARDY: So I will say that curve has been replaced	MR. PARDY: So I will say that curve has been ~~**replaced.**~~ Replace replaced with "**in place**"
Page 84, line 14	falls off literally after that.	falls off ~~**literally**~~ after that. Replace literally with "**linearly**"
Page 86, line 11	For FRPO 4 it shows for EG rate zone and the Union	For FRPO 4 it shows for ~~**EG**~~ rate zone and the Union. Replace EG with "**EGD**"
Page 94, line 18	So at 43.5, the in-franchise is entitled to 1.94.	So at 43.5, the in-franchise is entitled to ~~**1.94**~~. Replace 1.94 with "**1.9**"
Page 126, line 22	new proposed pipeline helps replace the 680 pJs, but if you	new proposed pipeline helps replace the 680 ~~**pJs**~~, but if you. Replace pJs with "**TJ's**"
Page 105, line 1	There is some unique characteristics in this	There ~~**is**~~ some unique characteristics in this. Replace is with "**are**"
Page 105, line 19	MR. HILDEBRAND: Oh, we have not conducted QRAs on all	MR. HILDEBRAND: ~~**Oh**~~, we have not conducted QRAs on all. Replace Oh with "**No**"
Page 107, line 2	sought to share most of the similar -- more of the similar	~~**sought**~~ to share most of the similar -- more of the similar. Replace sought with "**thought**"
Page 125, line 18	drivers of occupancy levels in the budget so that the	drivers of occupancy levels in the ~~**budget**~~ so that the. Replace budget with "**buildings**"

Page 126, line 10	contents or satisfied that the risk is as low as reasonably	~~**contents**~~ or satisfied that the risk is as low as reasonably. Replace contents with "**content**"
Page 170, line 5	MR. HILDEBRAND: Under the Dresser Rand brand, yes, I	~~**MR. HILDEBRAND**~~: Under the Dresser Rand brand, yes, I. Replace Mr. Hildebrand with "**Mr. Wellington**"
Page 192, line 25	"Enbridge Gas has discussed the project route selection and alternative routes with interested indigenous groups on a number of occasions. We must clarify for this record that the Chippewas of Kettle and Stony Point First Nation was provided a brief slide to explain that Enbridge was undertaking route selection, but CKSPFN was never asked to provide input to the route selection and route alternatives across their territory."	**"Enbridge Gas has discussed the project route selection and alternative routes with interested indigenous groups on a number of occasions."** The quotation should end after occasions, not territory.
DAY 2		
Page 149, line 15	I will say that Enbridge will comply with regular	I will say that Enbridge will comply with ~~**regular.**~~ Replace regular with "**Regulatory"**
Page 163, line 23	similar answer to, when did Enbridge initiate a voting	similar answer to, when did Enbridge initiate a ~~**voting.**~~ Replace voting with "**loading**"
Page 55, line 13	So if you take the 2377, minus 2366, and I don't	So if you take the ~~**2377**~~, minus 2366, and I don't. Replace 2377 with "**2733**"

ENBRIDGE GAS INC.

Undertaking Response to CAEPLA-DCLC

To make best efforts to provide references to sections of the pipeline installation manual that relate directly to construction practices on agricultural lands on this project; if the information cannot be provided, to explain why.

Response:

The following construction specifications describe the construction practices used on agricultural lands and apply to the Project:

- CSPL-02 Soil Erosion and Sediment Control (set out as Attachment 1 to this response);
- CSPL-04 Topsoil Stripping and Conservation, Environmental Construction Plan (set out as Attachment 2 to this response); and
- The right of way layout as shown in typical drawing PL3430-ROW-01, 02 and 03 (set out as Attachment 3 to this response).

2 Soil Erosion and Sediment Control

Table of Contents

2.1 Description

This specification includes measures to be used to control and minimize soil erosion and sediment run-off during construction. Requirements identified in the Project's Environmental Protection Plan (EPP) shall take precedence over the preceding specifications and associated drawings. Other measures exceeding the requirements here within may be implemented as determined necessary by the Company.

2.2 References

2.2.1 Specifications

- CSPL-08, "Watercourse Crossings"
- CSPL-17, "Backfill"

2.2.2 Typical Drawings

- PL-02-01, "Typical Hydrostatic Test Water Discharge"
- PL-02-01A, "Typical Hydrostatic Test Water Discharge"
- PL-02-02, "Sediment Fence Details"
- PL-02-03, "Typical Filter Bag"
- PL-02-04, "Typical Cross Berm"
- PL-02-05, "Drainage of Right-of-Way"
- PL-02-06, "Mechanical Erosion Control of Stream Banks and Valley Slopes at Stream Crossings"
- PL-02-07, "Erosion Control of Cross Slopes"

2.3 Method of Construction

2.3.1 Contractor Responsibilities

The Contractor shall ensure that soil erosion and sediment run-off is controlled during construction and that the right-of-way is restored after construction to further minimize these effects. Particular attention to erosion and sediment run-off is required near wetlands and watercourses. During construction, temporary control measures shall be established immediately in areas where erosion and sediment run-off is possible. Permanent control measures shall be established during right-of-way clean-up and no more than five working days (weather permitting) after final grading of the right-of-way. In all cases the Contractor shall make every effort to install the measures prior to inclement weather. Temporary means may serve as permanent control measures only at the discretion of the Company.

The Contractor shall perform work such that:

- The extent and duration of exposed soil, particularly on undulating or sloped lands, is minimized.
- The extent of disturbance to existing low lying vegetation or ground cover which acts to protect against erosion is minimized and removed only where and when required.
- Temporary and permanent control measures are constructed as shown in PL-08-01, “Typical Erosion and Sedimentation Control Measures – Temporary Conditions” and PL-08-02, “Typical Erosion and Sediment Control Measures – Permanent Conditions”.

Erosion and sediment control measures shall be installed along the edge of the construction area or right-of-way as needed or as requested by the Company. Areas particularly prone to erosion and sediment run-off such as areas of clay or silt soils or areas of undulating topography shall be temporarily or permanently restored immediately. Control measures shall be inspected and repaired daily in areas of active construction or after heavy rainfall, and weekly in inactive construction areas.

The Contractor shall be aware that there may be site specific Erosion and Sediment Control Plans. The Contractor will be required to participate in establishing the measures to be implemented at such sites. The Contractor shall also implement these measures once they are developed.

2.3.2 Control Measures

Temporary and permanent control measures include, but are not limited to, mulch, sediment fencing, diversion berms, rock, hydroseeding, seeding, sodding, erosion control matting, drainage and geotextile materials, filter socks, temporary storm water ponds, reduced clearing and construction timing.

2.3.3 Watercourses and Wetlands

Watercourse beds and banks shall be restored immediately upon completion of the crossing (refer to CSPL-08, “Watercourse Crossings”). Original contours (bed and banks) shall be restored. Only materials approved by the Company for specific crossing and watercourse characteristics shall be used (e.g., erosion control matting or rock rip-rap for steeper slopes).

In wetlands, adjacent exposed soils shall be restored immediately. Sediment run-off into wetlands and watercourses is prohibited and shall be controlled.

2.3.4 Soil Erosion Matters

Ditch breakers shall be constructed as soon as possible on hilly terrain in accordance with CSPL-17, “Backfill”.

In agricultural areas, where topsoil is stripped, topsoil piles may require temporary erosion control measures such as hay/straw bales, mulching, sediment fencing, erosion control matting, windbreaks or seeding.

During grading, land contours shall be established to match adjacent undisturbed lands, and maintain drainage patterns.

Diversion berms (as per PL-02-04, “Typical Cross Berm”) shall be constructed as soon as possible following final grade on hills, where directed by the Company.

During final clean-up, seed shall be applied where directed by the Company on all exposed soils other than in agricultural or wetland areas. Seeding on farm properties shall be performed only when directed by the Company, after discussions with the landowner. Seeding in wetland areas shall be applied when directed by the Company after receiving approvals from the local regulatory authority.

On steeper slopes (greater than 3:1) mulch or net free erosion control matting shall be installed where directed by the Company to keep seed and soil in place. Hydroseeding may also be used as directed by the Company. Seed mixtures will be specified by the Company on advice from local regulatory authorities.

2.3.5 Water Taking, Discharge and Handling

All water pumping and discharge shall conform with applicable Permits to Take Water or other approvals from a quantity and quality perspective. Daily water taking volumes, locations and sources shall be recorded and provided to the company at the end of each day. Unless otherwise approved by the Company all discharges shall be located a minimum of 30m from watercourses and wetlands.

During trench dewatering, the Contractor shall ensure there is no sedimentation of watercourses or wetlands. Water shall be discharged into a filter bag (PL-02-03, “Typical Filter Bag”) on a flat, vegetated area where erosion risks are minimal or into a basin constructed of hay/straw bales and sediment fencing. Near wetland areas, only filter bags and settling basins shall be used during trench dewatering. Suction hose inlets, during trench dewatering, shall not rest on the bottom of the trench but shall be suspended just below the water level in the trench or within a constructed sump that prevents sediment intake.

During hydrostatic test discharge, water shall be discharged in a manner that minimizes any soil erosion. PL-02-01, “Typical Hydrostatic Test Water Discharge” and PL-02-01A, “Typical Hydrostatic Test Water Discharge” shows the acceptable method. The hydrostatic testing plan shall include a holding time of approximately four days to complete laboratory testing to confirm discharge treatment and acceptable discharge locations. Consideration should be given to holding hydrostatic test water in temporary storage tanks following the completion of the hydrostatic test if the holding period impedes the construction schedule. Consideration for enhanced sediment removal techniques should developed and included in the project scope when in close proximity to significant environmental features e.g. wetlands, species at risk habitat and cold water streams. These may include settling tanks, additional filtration devices or active treatment devices.

2.4 Basis of Payment

Payment for the work described herein including the cost of seed material, shall be included in the Contract/Project Job Package.

4 Topsoil Stripping and Conservation

Table of Contents

4.1 Description

This shall include all work necessary to remove and replace topsoil in cultivated lands, or where directed by the Company. It shall also apply to all work necessary to remove and replace duff in forested lands, or where directed by the Company.

Reference the Typical Drawings for more detail.

4.2 References

4.2.1 Specifications

- CSPL-19, “Cleanup”

4.2.2 Typical Drawings

- PL-04-01, “Topsoil Strip Full Right-of-Way”
- PL-04-02, “Topsoil Strip Blade Width”
- PL-04-03, “Topsoil Strip Trench and Spoil Side”
- PL-04-04, “Topsoil Strip Trench Only”
- PL-04-05, “Topsoil Strip Reverse Lay”

4.3 Method of Construction

Topsoil/duff shall be removed to its actual depth or as specified by the Company. The natural horizon between the topsoil/duff and the subsoil shall be determined by a Company Inspector. Topsoil/duff stripping shall be done with a dozer followed by a road grader or equivalent machine to ensure that topsoil/duff and subsoil is accurately separated.

Topsoil/duff shall be removed and placed as directed by the Company. One of the following three methods shall be employed as defined in the Contract Special Instructions:

- Trench Only – A 3 to 4 metre wide area over the trench line shall be stripped and the material placed immediately adjacent to the trench line on the working side on or adjacent to the edge of the easement on the spoil side of the trench.
- Trench and Spoil Side – All topsoil over the trench line and the spoil side of the easement shall be stripped and the material placed on or adjacent to the easement or the spoil side.
- Full easement – The full width of the easement shall be stripped and the topsoil placed on or adjacent to the easement on one or both sides of the easement.

Breaks in topsoil/duff piles shall be left at property lines. No stripped material shall be placed in water courses or interfere with surface drainage patterns.

Topsoil/duff shall be removed from all areas to be graded; areas such as road, highway and railway bore bays, and large excavations. In such areas, the topsoil/duff shall be removed from the total width of the easement and extra work areas, if directed by the Company.

Where a landowner agreement or executed Letter of Understanding (LOU) exists, the Company may direct the Contractor to undertake soil testing to identify any areas where topsoil that has not previously been disturbed by pipeline construction activities can be kept separate from previously disturbed topsoil. Where such areas are identified, stripping and piling of previously disturbed and previously undisturbed topsoil shall be done separately and in accordance with the landowner agreement or the executed LOU.

Adjacent to watercourses the topsoil/duff shall not be removed from within the minimum disturbance zone as defined in the Environmental Protection Plan (EPP) until the pipe is ready for installation. Topsoil/duff shall then be removed and piled separately from the trench spoil just prior to trench excavation and the placement of pipe.

Separation between topsoil and subsoil piles shall be maintained. Generally these piles shall be approximately one metre apart. In restricted areas where separation may be difficult due to restricted working room, a filter cloth or equivalent, as approved by the Company, shall be placed over the topsoil to ensure it will not be mixed with other materials.

Separation between duff and subsoil piles shall be maintained where practical. Where this is not practical, the Contractor can eliminate the separation as long as two distinct peaks are maintained such that the piles can be separated during duff replacement. Sediment fencing or straw bales may be used to separate the topsoil and subsoil piles, if requested by the company.

Under no circumstances shall topsoil/duff be used for padding, backfilling, building of ramps or other construction activities.

Final topsoil/duff stripping of the topsoil/subsoil interface shall be completed within two working days of initial topsoil/duff stripping activities in each particular location, dependent upon weather conditions.

Where there is a potential for excessive wind erosion or long term storage of topsoil/duff, the Contractor may be required to stabilize the topsoil/duff or subsoil piles with approved tacifiers, seeding, or other stabilization techniques.

If any functional tile is damaged during the topsoil stripping operation, the Contractor shall carefully and immediately mark the location of such damaged tile at the trench and both sides of the easement and install a plugging device approved by the Company and supplied by the Contractor on both openings of the damaged tile so that foreign material will not be allowed to enter the tile. At no time will bags be permitted for this plugging purpose. These plugs shall remain in place until the Contractor's tile repair crew begins to repair the damaged tile. Where it is necessary to maintain drainage, temporary flumes shall be provided. The markers shall be kept in place and shall not be removed except by the Contractor's tile repair crew at the time the tile is permanently repaired, inspected and approved.

Upon completion of backfilling, the trench area shall be graded and compacted to the satisfaction of the Company to allow the topsoil/duff to be replaced uniformly. The topsoil/duff shall be returned to its original location and depth.

Restoration of the topsoil/duff shall be in accordance with CSPL-19, “Cleanup”.

4.3.1 Typical Pipeline Cross-Section Dimensions

Typical Pipeline Cross-Section Dimensions

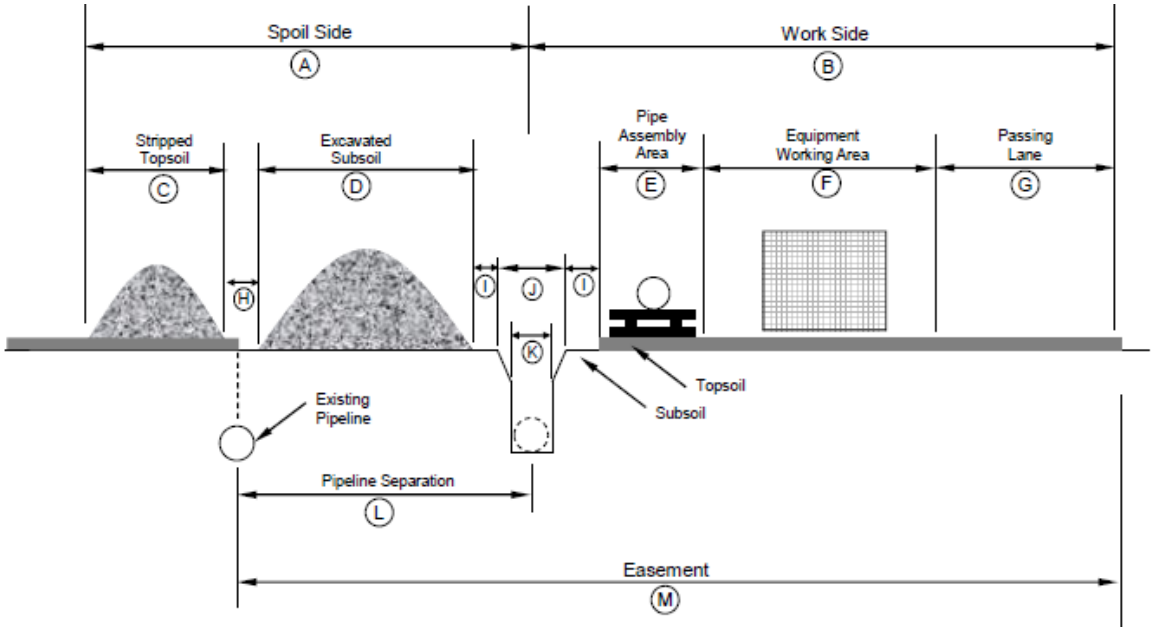
		Pipe Diameter (mm)	1219	1067	914	864	762	660	610	508	406.4	323.9
		NPS	48	42	36	34	30	26	24	20	16	12
Dimension	Note	Description	Width (m)									
A		spoil side	17.9	13.0	13.0	13.0	13.0	13.0	12.9	12.9	12.9	10.4
B		workside	16.0	17.0	15.0	15.0	15.0	12.0	12.0	12.0	12.0	9.0
C		topsoil	5.4	4.5	4.5	4.5	4.5	4.5	4.4	4.4	4.4	3.9
D		subsoil	6.2	5.7	5.3	5.1	4.8	4.5	4.4	4.1	3.8	3.5
E	2	pipe assembly area	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
F	2	equipment working area	8.5	9.5	7.6	7.6	7.7	4.7	4.8	4.8	4.9	1.9
G	2	passing lane	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
H		topsoil / subsoil separation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
I		soil setback from trench	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
J	3	total trench width	2.1	1.9	1.8	1.7	1.6	1.5	1.5	1.3	1.2	1.2
K		minimum trench width	1.8	1.7	1.5	1.5	1.4	1.3	1.2	1.1	1.0	0.9
L	4	pipeline separation	12.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	6.0
M		easement width	28.0	25.0	23.0	23.0	23.0	20.0	20.0	20.0	20.0	15.0
calculated		total r-o-w	33.9	30.0	28.0	28.0	28.0	25.0	24.9	24.9	24.9	19.4
calculated		width available for topsoil pile	5.4	4.5	4.5	4.5	4.5	4.5	4.4	4.4	4.4	3.9
calculated		width available for subsoil pile	10.0	6.0	6.1	6.1	6.2	6.2	6.3	6.3	6.4	4.4
calculated		width of topsoil stripped	13.5	9.5	9.4	9.4	9.3	9.3	9.2	9.2	9.1	7.1

Typical Pipeline Cross-Section Dimensions

		Pipe Diameter (inches)	48	42	36	34	30	26	24	20	16	12
Dimension	Note	Description	Width (ft)									
A		spoil side	58.7	42.7	42.6	42.6	42.5	42.5	42.5	42.4	42.4	34.1
B		workside	52.5	55.8	49.2	49.2	49.2	39.4	39.4	39.4	39.4	29.5
C		topsoil	17.7	14.8	14.7	14.7	14.6	14.6	14.6	14.5	14.5	12.8
D		subsoil	20.3	18.8	17.3	16.9	15.9	14.9	14.4	13.4	12.4	11.6
E	2	pipe assembly area	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
F	2	equipment working area	27.8	31.3	25.0	25.1	25.3	15.6	15.7	15.8	16.0	6.3
G	2	passing lane	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
H		topsoil / subsoil separation	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
I		soil setback from trench	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
J	3	total trench width	6.8	6.3	5.8	5.6	5.3	4.9	4.8	4.4	4.1	3.8
K		minimum trench width	6.0	5.5	5.0	4.8	4.5	4.1	4.0	3.6	3.3	3.0
L	4	pipeline separation	39.4	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	19.7
M		easement width	91.9	82.0	75.5	75.5	75.5	65.6	65.6	65.6	65.6	49.2
calculated		total r-o-w	111.2	98.4	91.8	91.8	91.7	81.9	81.8	81.8	81.8	63.6
calculated		width available for topsoil pile	17.7	14.8	14.7	14.7	14.6	14.6	14.6	14.5	14.5	12.8
calculated		width available for subsoil pile	32.7	19.8	20.1	20.2	20.3	20.5	20.6	20.8	20.9	14.5
calculated		width of topsoil stripped	44.4	31.0	30.8	30.7	30.5	30.3	30.3	30.1	29.9	23.2

Notes

1 Widths shown are typical. Some variation may be necessary due to site specific conditions.
2 E, F and G are approximate values, however the total workside width is not variable
3 Total trench width will vary with the ditch depth and excavation method. Values provided represent approximate allowance within the specified right-of-way configuration.
4 Pipeline separation may vary at specific locations.



4.3.2 Erosion and Sediment control

Erosion and sediment control measures should be considered for topsoil and sub-soil piles if they are located immediately adjacent to sensitive environmental features (streams, wetlands, species at risk habitat, etc.) or if the soil material is highly friable or erodible. Locations for erosion and sediment controls will be identified in the EPP by the recommendation of the Environmental Inspector. Examples of erosion and sediment control measures include: silt fence, silt socks, erosion blankets, seeding or the application of soil Tacafire.

4.3.3 Weed Control

Weed control must be completed on all exposed soils and topsoil piles within the vicinity of agricultural fields and sensitive environmental areas. Weed control shall be completed without the use of herbicides unless specifically approved by the Company on a site-by-site basis.

Suggested measures for weed control may include, but are not limited to: cover crop seeding, hydroseeding, covering exposed soil / piles, timing of construction, reduced duration of exposure of stockpile soils, ploughing, and hand removal.

4.3.4 Agricultural Pests

The Company shall conduct pre-construction testing or research to determine the potential presence of agricultural pests including Soybean Cyst Nematode (SCN), Soybean Sudden Death Syndrome (SDS), herbicide resistant weeds or other pests known to the area. The company will provide a pest management plan as required.

4.3.4.1 Soybean Cyst Nematode (SCN)

As SCN is a common occurrence within agricultural fields in Ontario, the following general mitigation should be applied when identified and at locations described by the Company.

During topsoil stripping, all equipment, including footwear, used on fields testing positive for SCN must be thoroughly washed and inspected to be free of soil or debris before entering a field not identified as having SCN, referred to as a non-impacted field. All topsoil must be stripped from the right-of-way (ROW) as per section 4.3, “Method of Construction”. Mitigation to address the spread of SCN is provided in the Companies “SCN Protocol” included in the Project EPP.

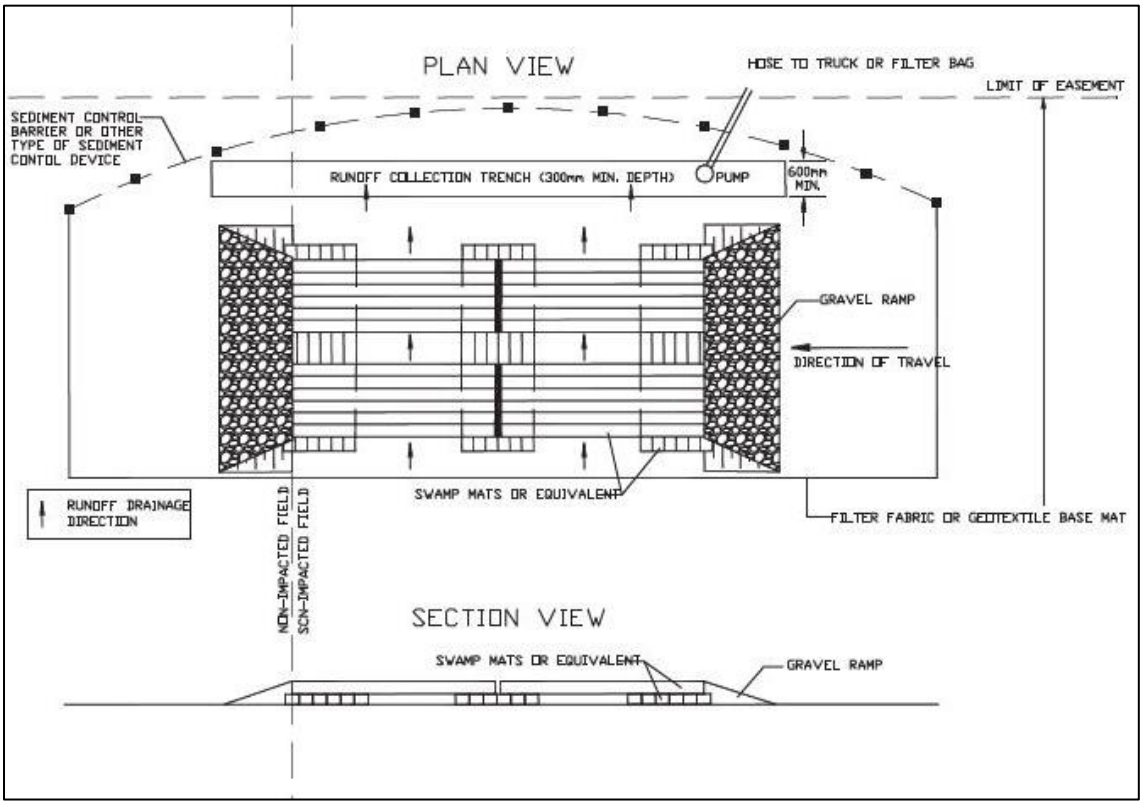
All imported soils must be sampled and tested for SCN prior to delivery or use. Allow up to 2 weeks turnaround time for testing and return of the test results.

As described in the Companies “SCN Protocol”, the method to be implemented to prevent the spread of SCN during construction is to complete full topsoil stripping of the easement (trench, spoil and work side) on impacted fields. Again, all equipment involved in the stripping of impacted areas shall be thoroughly washed and inspected before entering a non-impacted field.

4.3.4.1.1 SCN Wash Stations

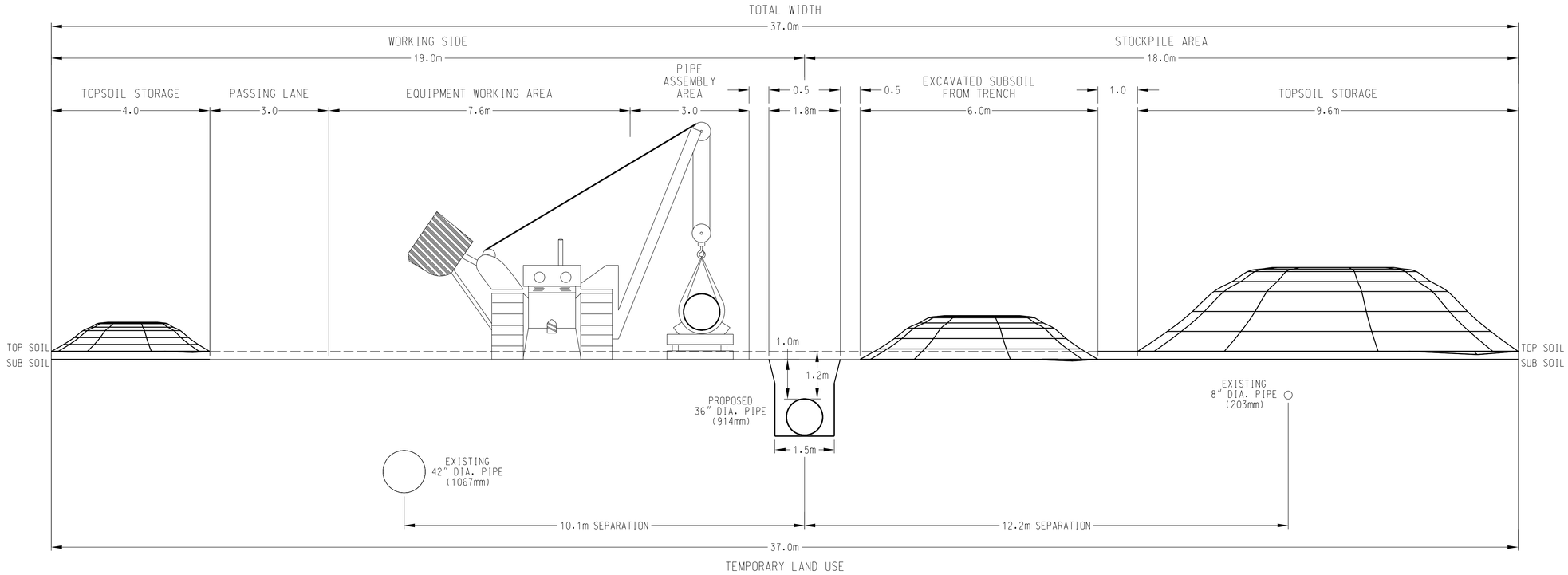
Cleaning will be completed by moving the equipment onto a raised platform placed on the topsoil of the impacted field or in an area agreed upon prior to construction (see figure below). The equipment will then be washed to remove any soil / debris. Ensure that the equipment is thoroughly washed before moving from an impacted field to a non-SCN impacted field.

All topsoil from fields testing positive must be stripped and stored away from the working area and silt fence placed in front of the piles to prevent the reintroduction of the soil onto the ROW.

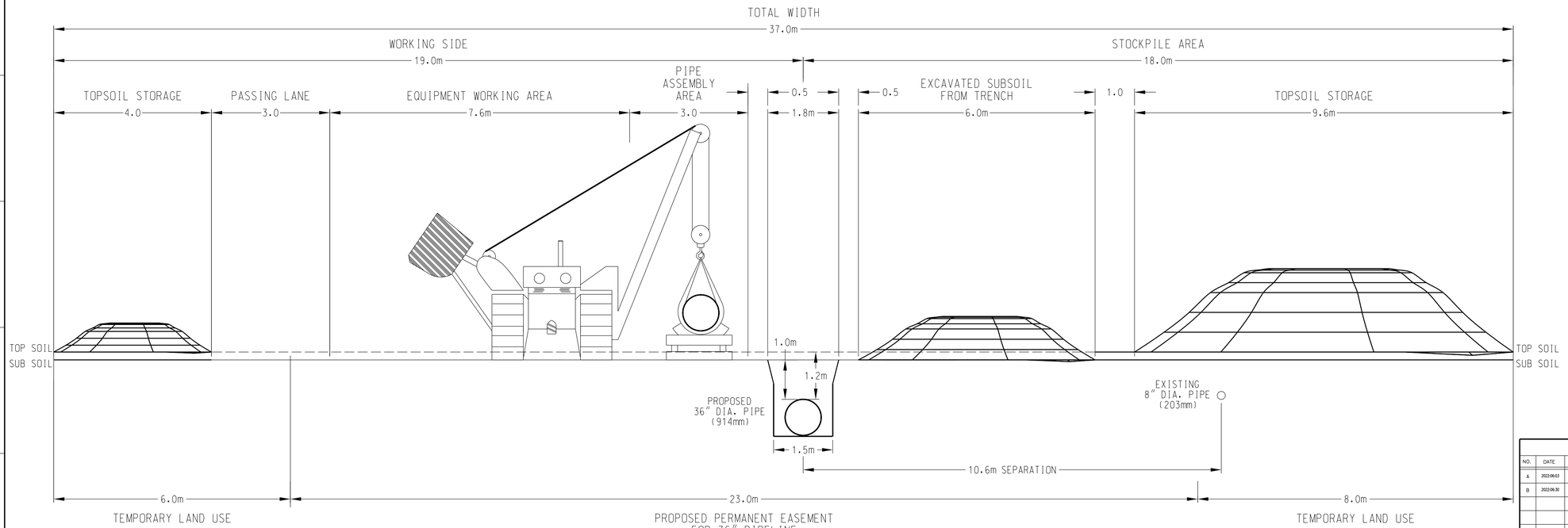


4.4 Basis of Payment

Payment for the work described herein shall be included in the Contract/Project Job Package.



CHAINAGE 0+000.0 TO 0+433.7



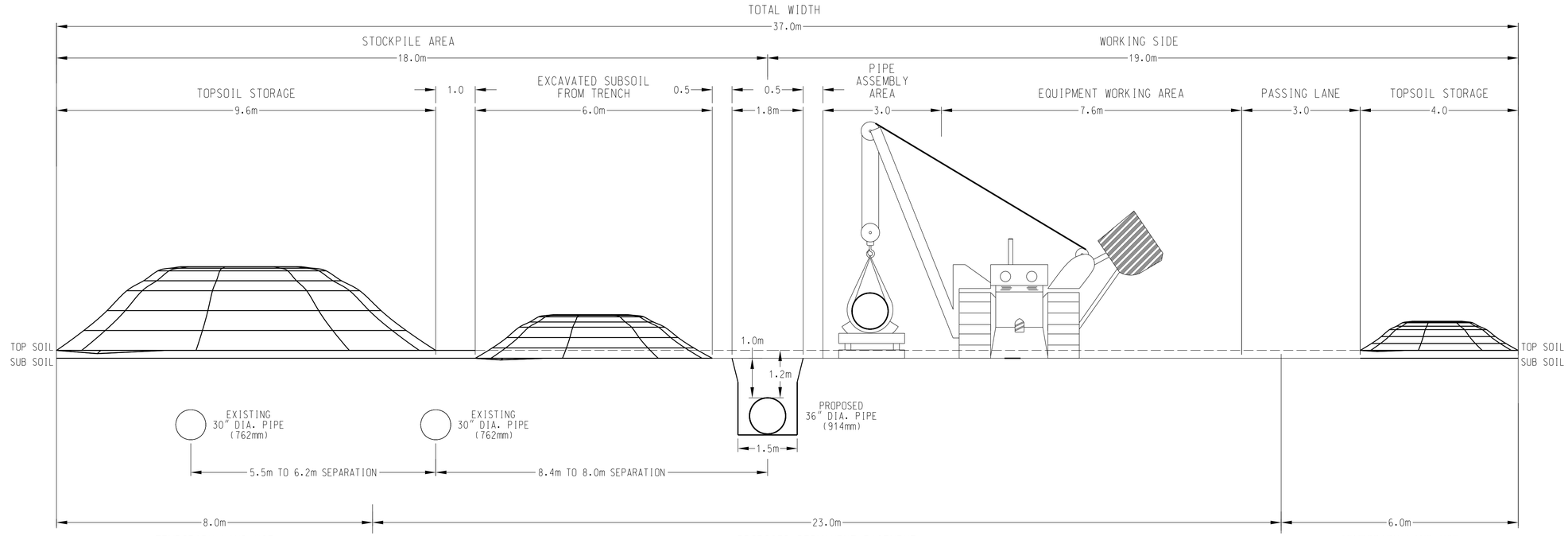
CHAINAGE 0+433.7 TO 7+442.8

REVISIONS				
NO.	DATE	BY	APP'D	REMARKS
A	2022.06.03	NC	GS	ISSUED FOR REVIEW 90%
B	2022.06.30	NC	GS	ISSUED FOR BID

ENBRIDGE
Life Takes Energy

DAWN TO CORUNNA TR7 NPS 36 PIPELINE
TYPICAL RIGHT OF WAY
CROSS SECTIONS 0+000.0 TO 7+442.8

DATE:	REVISION DATE:	DRAWING NO.
2022:05:13	2022:06:30	PL3430-ROW-01



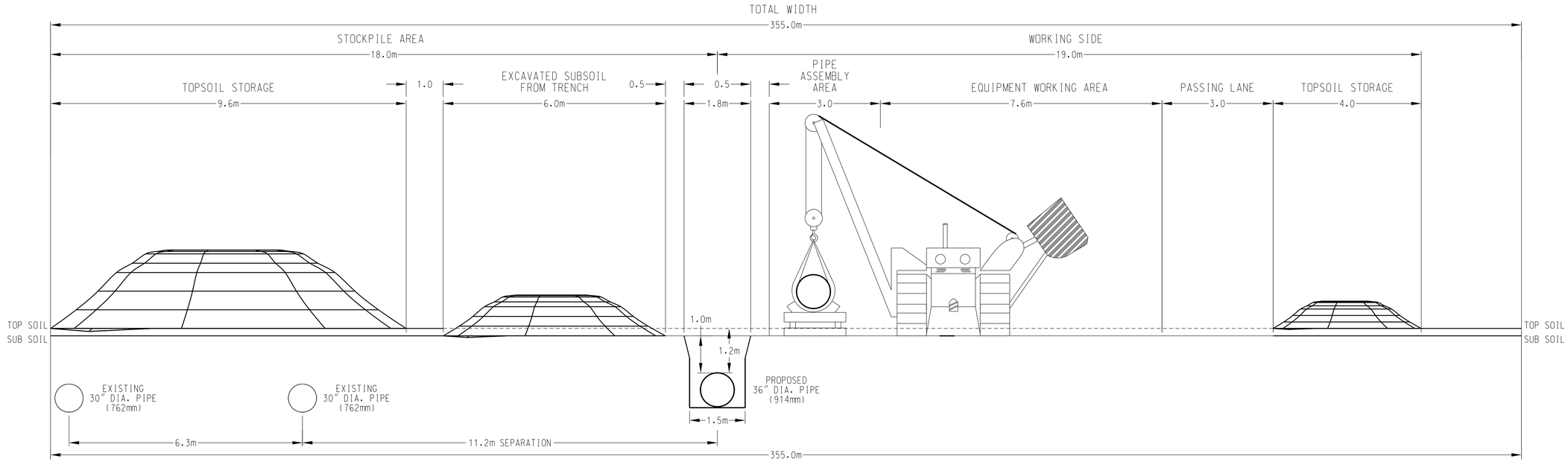
CHAINAGE 10+093.5 TO 18+884.7

REVISIONS				
NO.	DATE	BY	APP'D	REMARKS
A	2022:06:03	NC	GS	ISSUED FOR REVIEW 90%
B	2022:06:30	NC	GS	ISSUED FOR IBD

ENBRIDGE
Life Takes Energy

DAWN TO CORUNNA TR7 NPS 36 PIPELINE
TYPICAL RIGHT OF WAY
CROSS SECTIONS 10+093.5 TO 18+884.7

DATE:	REVISION DATE:	DRAWING NO.
2022:05:13	2022:06:30	PL3430-ROW-02



912176 ONTARIO LIMITED (ENBRIDGE)

CHAINAGE 18+884.7 TO 19+173.1

REVISIONS				
NO.	DATE	BY	APP'D	REMARKS
A	2022.06.03	NC	GS	ISSUED FOR REVIEW 90%
B	2022.06.30	NC	GS	ISSUED FOR IBD

ENBRIDGE
Life Takes Energy

DAWN TO CORUNNA TR7 NPS 36 PIPELINE
TYPICAL RIGHT OF WAY
CROSS SECTIONS 18+884.7 TO 19+173.1

DATE:	REVISION DATE:	DRAWING NO.
2022:05:13	2022:06:30	PL3430-ROW-03

ENBRIDGE GAS INC.

Undertaking Response to CAEPLA-DCLC

To provide a response to DCLC IR 2b, 2c, and 2d; with respect to DCLC IR 2a, to set out the extent of the easement for those other three pipelines on the updated version of the alignment sheets.

Response:

Below is the construction chronology and material characteristics for each of the additional existing pipelines sought by CAEPLA-DCLC based on available records.

NPS 8 Kimball –
- 1954 original construction
- Steel Grade 290 MPa
- Wall Thickness 4.78 mm, 6.0 mm, and 6.35 mm
- Operating pressure 420 Psig

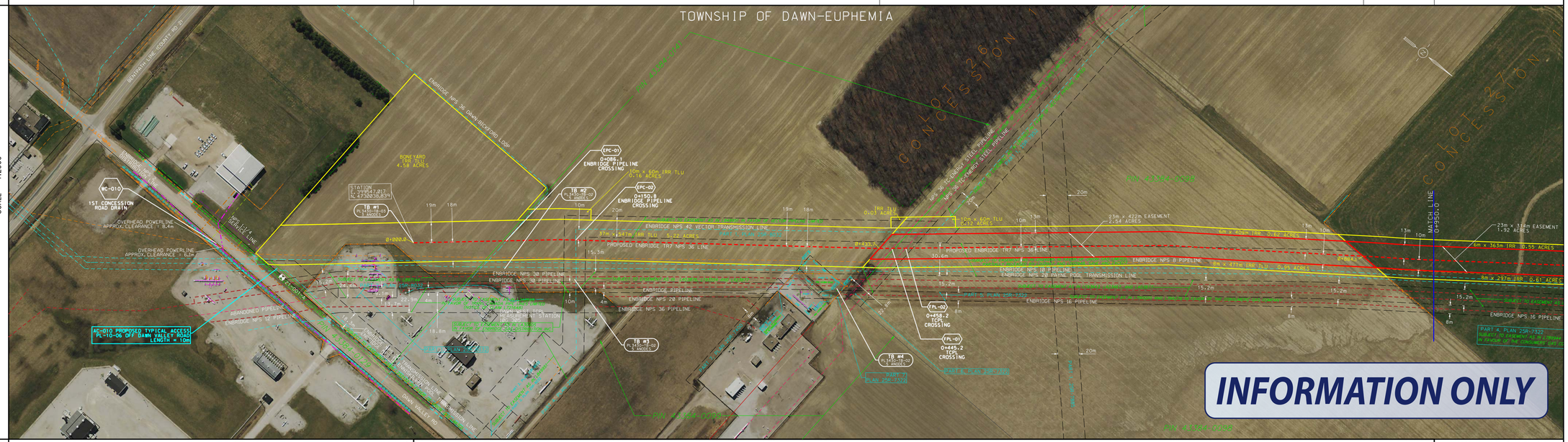
NPS 10 Waubuno –
- 1955 original construction
- Steel Grade 290 & 359 MPa
- Wall Thickness 5.56 mm, 6.4 mm, 9.3 mm, and 12.7 mm
- Operating pressure 1,000 Psig

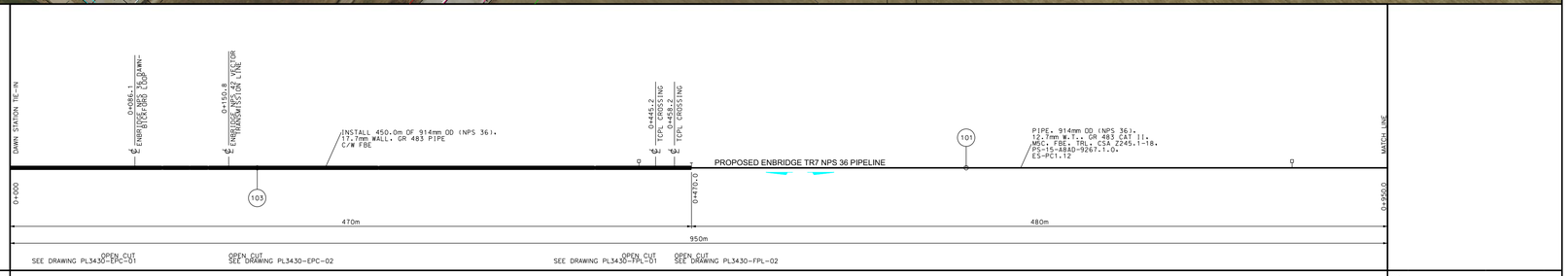
NPS 20 Payne –
- 1957 original construction
- Steel Grade 359, 414 & 448 MPa
- Wall Thickness 9.5 mm, 11.9 mm, 12.7 mm, and 15.9 mm
- Operating pressure 1000 Psig

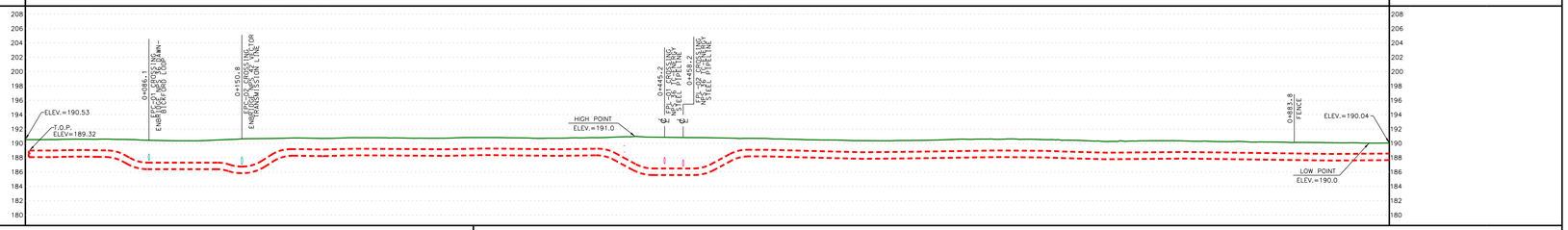
Similar to the response at Exhibit I.CAEPLA-DCLC.2 dealing with TR 1 and TR 2, the Company was unable to produce records confirming depth of cover at the time of construction for the above noted pipelines.

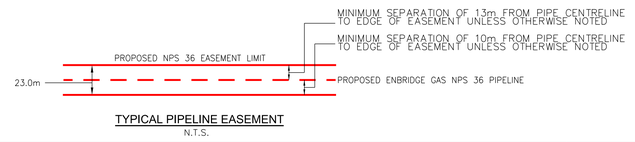
Please see the response at Exhibit JT2.25 for discussion of interim or final monitoring reports associated with the above noted pipelines.

Please see Attachment 1 for updated alignment drawings including easement detail for the above noted existing pipelines.









RIGHT-OF-WAY
ENBRIDGE FILE NUMBER
OWNERSHIP/AGENCY
PIN: NUMBER

DAWN STATION TIE-IN 0+000.0
0+433.7
0+884.1
0+950.0 MATCH LINE

CURRENT CLASS LOCATION
LOCATION FACTOR
TILE PLAN NUMBER

ALIGNMENT DETAIL

LEGEND:
PROPOSED ENBRIDGE TR7 NPS 36 PIPELINE
TRANSMISSION/DISTRIBUTION PIPELINE
FOREIGN PIPELINE
EXISTING EASEMENT
ENBRIDGE PIPELINE
PROPOSED ENBRIDGE EASEMENT
TEMPORARY ACCESS LANEWAY
DRAIN/STREAM/WATERCOURSE CENTRE
HYDRO EASEMENTS
DRAINAGE DITCH BOTTOM/TOP
RETAINING WALL/BRIDGE ABUTMENT
ASPHALT/GRAVEL EDGE
BUILDING
POST/HYDRO POLE
TELEPHONE BURIED CABLE/MISC CABLE
FENCE
OVERHEAD/BURIED HYDRO LINES
WATERMAIN
BOTTOM/TOP OF SLOPE
TELEPHONE MARKER/BELL PEDESTAL
CULVERT/CATCH BASIN/WATER VALVE
SIGN/MAILBOX
HYDRO TOWER
PROPERTY LINE/ROAD ALLOWANCE
PROPOSED ROAD/WATERCOURSE CROSSING (RC-XX) (WC-XX)
PROPOSED HYDRO CROSSING (HCS-XX)
PROPOSED ENBRIDGE PIPELINE CROSSING (EPC-XX)
PROPOSED FOREIGN PIPELINE CROSSING (FPL-XX)
PROPOSED BOREHOLE/MONITORING WELL
TEST POST (TB # PL3430-TB-XX)
PIPELINE KILOMETRE POST
TREE

PIPELINE PLAN
SCALE 1:2000

PIPELINE SCHEMATIC

LEGEND:
HEAVY WALL PIPE
PIPESAK
TRANSITION WELD
PIPELINE WARNING SIGN
MATERIAL ITEM (112)
MAINLINE VALVE
SIDE VALVE

PIPELINE DATA

DESIGN PARAMETERS (NEW PIPING ONLY)

DESIGN

- DESIGNED TO CSA Z662–19
- DESIGN FACTOR – 0.8
- LOCATION FACTOR – 0.900 / 0.625 (CLASS 2)
- DESIGN TEMPERATURE – M5C
- DESIGN PRESSURE – 9308 kPa

HYDROSTATIC TEST PRESSURE

PIPING

- STRENGTH – 13,032 kPa (1890 psig) MIN.
- LEAK – 10,239 kPa (1485 psig) MIN.
- DURATION – EXPOSED PIPING – 1 HOUR AT STRENGTH TEST PRESSURE MINIMUM
- BURIED PIPING – 4 HOUR AT STRENGTH TEST PRESSURE FOLLOWED BY 4 HOUR AT LEAK TEST PRESSURE MINIMUM

HYDROSTATIC TEST DATE – TBD

CONSTRUCTION

START DATE – JUNE 1, 2023
PLACED IN SERVICE – NOVEMBER 1, 2023

P/L PROFILE
HORIZ 1:2000 VERT 1:400

BILL of MATERIAL

Item No	Material No	Qty	Size	Description
101-150	Material No	Qty	Size	PIPE
101	~	480m	36	PIPE, 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
103	~	470m	36	PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
701-800	Material No	Qty	Size	OTHER MATERIAL
702	130968	~	610mm x 4.8 roll	[illegible] x 300M ROLL [illegible] TERRA TAPE [illegible] LAYOUT LINE 1: "[illegible] CAUTION CAUTION" (HEIGHT [illegible]) LINE 2: "ENBRIDGE GAS INC. (HEIGHT 2") LINE 3: "NATURAL GAS PIPELINE BURIED BELOW" (HEIGHT 1 1/2") ALL THREE LINES TO BE CENTERED 36" REPEATS
703	125139	2	406.4 x 406.4	STANDARD STO BURIED PIPELINE SYSTEM SIGNAGE, Phone number required 1-800-265-5260 AS PER LUG C&M 18.6
704	125111	2	3 m	SIGN POST, GALV U CHANNEL POST HOT ROLLED & DIPPED 80 M PSI C/W SIGN HDWE PER DWG.E974 (10FT.)
705	~	~	36	PIPELINE WEIGHTS, NPS 36, SADDLE DESIGN, GRAVEL FILLED

CONSTRUCTION NOTES:

1) CONTRACTOR RESPONSIBLE FOR ALL UTILITY LOCATES.
2) ALL CULVERTS, END WALL TREATMENT AND TILE DRAINS REMOVED DURING CONSTRUCTION ARE TO BE RESTORED TO MATCH EXISTING CONDITIONS.
3) RESTORATION INCLUDES TOPSOIL AND SEEDING.
4) RESTORE DRIVEWAYS TO MATCH EXISTING.
5) ALL ASPHALT AREAS TO BE RESTORED TO MATCH EXISTING.
6) RESTORE ALL OPEN DRAINS TO MATCH ORIGINAL GRADE AND CONTOUR CONDITIONS.
7) ALL WORK MUST BE IN ACCORDANCE WITH THE LATEST ENBRIDGE GAS SPECIFICATIONS.
8) ALL WELDS TO BE NON-DESTRUCTIVELY EXAMINED, AS PER COMPANY SPECIFICATIONS.
9) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
10) CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
11) MAINTAIN MIN. 300mm CLEARANCE BETWEEN PROPOSED MAIN AND OTHER UTILITIES AND UNDERGROUND STRUCTURES THAT ARE CROSSED.
12) GENERAL DEPTH OF COVER IS 1.2m (MIN) FROM ORIGINAL GRADE AND 1.0m (MIN) FROM CONSTRUCTION GRADE UNLESS OTHERWISE STATED.

RIGHT OF WAY DETAILS

TYPICAL PIPELINE EASEMENT
N.T.S.

REVISION

NO.	DESCRIPTION	DATE	BY	CHK	APPR
A	ISSUED FOR REVIEW 30%	2021-12-13	N.C.	C.G.	G.S.
B	FOR INFORMATION ONLY	2022-01-25	N.C.	--	--
C	ISSUED FOR REVIEW 90%	2022-06-03	N.C.	C.G.	G.S.
D	ISSUED FOR BID	2022-06-30	N.C.	C.G.	G.S.

--	2022-01-25	FOR INFORMATION ONLY
GS	2022-06-30	ISSUED FOR BID
		ISSUED FOR CONSTRUCTION
		ISSUED FOR CONSTRUCTION 2

AS BUILT
AS BUILT BY:
CHECKED BY:
DRAWN [illegible] DATE 2020:10:06
CHECKED CAROLE GAGNE DATE 2022:06:30
APP'D BY GRANT STRACHAN DATE 2022:06:30
WBS XX-XX-XXX SCALE 1:2000

ENGINEER: GRANT STRACHAN

PRELIMINARY

ENBRIDGE
Life Takes Energy

DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
2023 CONSTRUCTION - DAWN/EUPHEMIA & ST. CLAIR
PIPELINE CONSTRUCTION ALIGNMENT
0+000.0 TO MATCH LINE 0+950.0

FILE REVISION DATE 2022-06-30
DRAWING NUMBER PL3430-AL-001

RIGHT-OF-WAY

ENBRIDGE FILE NUMBER
OWNERSHIP/AGENCY
PIN: NUMBER

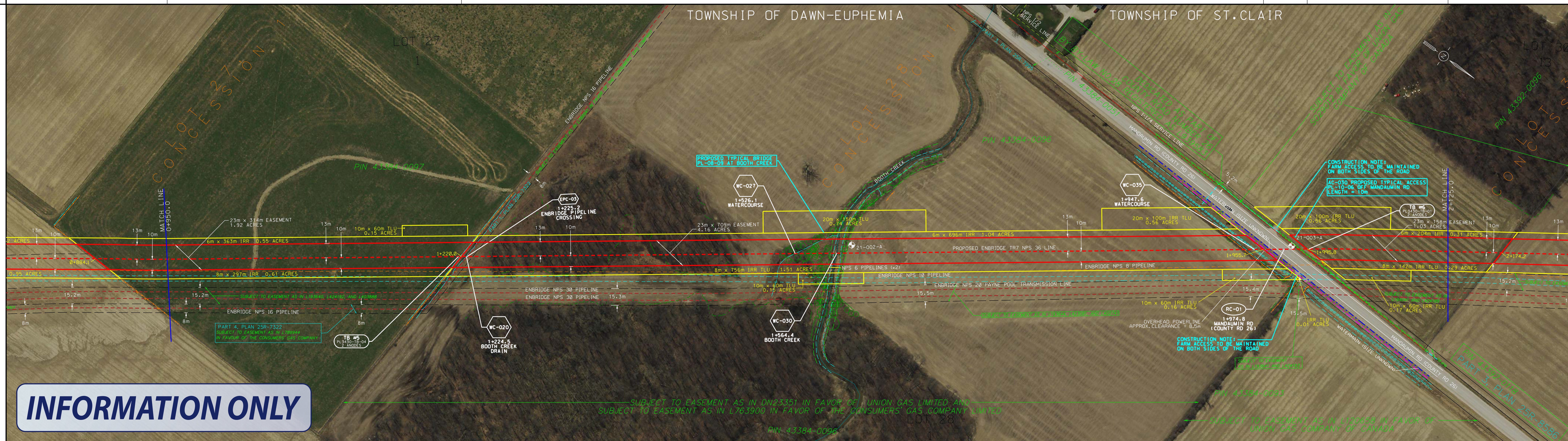
MATCH LINE 0+950.0 | 1+220.0 | MANDAUMIN RD (COUNTY RD 26) 1+955.7 | 1+995.8 | 2+125.0 MATCH LINE

CURRENT CLASS LOCATION
LOCATION FACTOR
TILE PLAN NUMBER

ALIGNMENT DETAIL

LEGEND:
PROPOSED ENBRIDGE TR7 NPS 36 PIPELINE
TRANSMISSION/DISTRIBUTION PIPELINE
FOREIGN PIPELINE
EXISTING EASEMENT
ENBRIDGE PIPELINE
PROPOSED ENBRIDGE EASEMENT
TEMPORARY ACCESS LANEWAY
DRAIN/STREAM/WATERCOURSE CENTRE
HYDRO EASEMENTS
DRAINAGE DITCH BOTTOM/TOP
RETAINING WALL/BRIDGE ABUTMENT
ASPHALT/GRAVEL EDGE
BUILDING
POST/HYDRO POLE
TELEPHONE BURIED CABLE/MISC CABLE
FENCE
OVERHEAD/BURIED HYDRO LINES
WATERMAIN
BOTTOM/TOP OF SLOPE
TELEPHONE MARKER/BELL PEDESTAL
CULVERT/CATCH BASIN/WATER VALVE
SIGN/MAILBOX
HYDRO TOWER
PROPERTY LINE/ROAD ALLOWANCE
PROPOSED ROAD/WATERCOURSE CROSSING
PROPOSED HYDRO CROSSING
PROPOSED ENBRIDGE PIPELINE CROSSING
PROPOSED FOREIGN PIPELINE CROSSING
PROPOSED BOREHOLE/MONITORING WELL
TEST POST
PIPELINE KILOMETRE POST
TREE

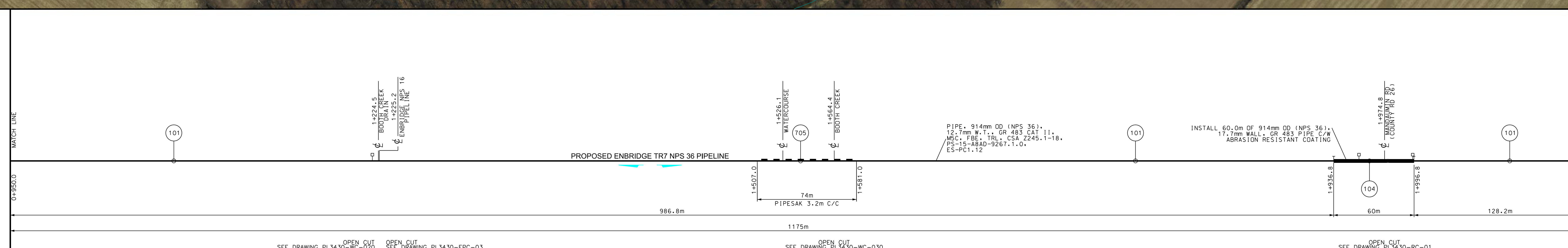
PIPELINE PLAN SCALE 1:2000



PIPELINE SCHEMATIC

LEGEND:
HEAVY WALL PIPE
PIPESAK
TRANSITION WELD
PIPELINE WARNING SIGN
MATERIAL ITEM
MAINLINE VALVE
SIDE VALVE

PIPELINE DATA



DESIGN PARAMETERS (NEW PIPING ONLY)

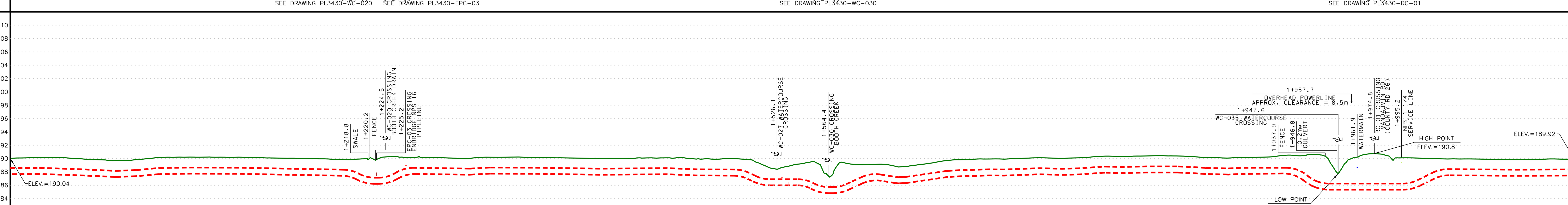
DESIGN
- DESIGNED TO CSA Z662-19
- DESIGN FACTOR – 0.8
- LOCATION FACTOR – 0.900 / 0.625 (CLASS 2)
- DESIGN TEMPERATURE – M5C
- DESIGN PRESSURE – 9308 kPa

HYDROSTATIC TEST PRESSURE
PIPING
- STRENGTH – 13,032 kPa (1890 psig) MIN.
- LEAK – 10,239 kPa (1485 psig) MIN.
- DURATION – EXPOSED PIPING – 1 HOUR AT STRENGTH TEST PRESSURE MINIMUM
- BURIED PIPING – 4 HOUR AT STRENGTH TEST PRESSURE FOLLOWED BY 4 HOUR AT LEAK TEST PRESSURE MINIMUM

HYDROSTATIC TEST DATE – TBD

CONSTRUCTION
START DATE – JUNE 1, 2023
PLACED IN SERVICE – NOVEMBER 1, 2023

P/L PROFILE HORIZ 1:2000 VERT 1:400



BILL of MATERIAL

Item No	Material No	Qty	Size	Description
101-150	Material No	Qty	Size	**PIPE**
101	~	1115m	36	PIPE, 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
104	~	60m	36	PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, ARO, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC7.3
701-800	Material No	Qty	Size	**OTHER MATERIAL**
702	1[illegible]0968	~	[illegible] roll	[illegible] LINE 2: "ENBRIDGE GAS INC: (HEIGHT 2") LINE 3: "NATURAL GAS PIPELINE BURIED BELOW" (HEIGHT 1 1/2") ALL THREE LINES TO BE CENTERED 36" REPEATS
703	125139	2	406.4 x 406.4	STANDARD STO BURIED PIPELINE SYSTEM SIGNAGE, Phone number required 1-800-265-5260 AS PER LUG C&M 18.6
704	125111	2	3 m	SIGN POST, GALV U CHANNEL POST HOT ROLLED & DIPPED 80 M PSI C/W SIGN HDWE PER DWG.E974 (10FT.)
705	~	25	36	PIPELINE WEIGHTS, NPS 36, SADDLE DESIGN, GRAVEL FILLED

INFORMATION ONLY

CONSTRUCTION NOTES:

1) CONTRACTOR RESPONSIBLE FOR ALL UTILITY LOCATES.
2) ALL CULVERTS, END WALL TREATMENT AND TILE DRAINS REMOVED DURING CONSTRUCTION ARE TO BE RESTORED TO MATCH EXISTING CONDITIONS.
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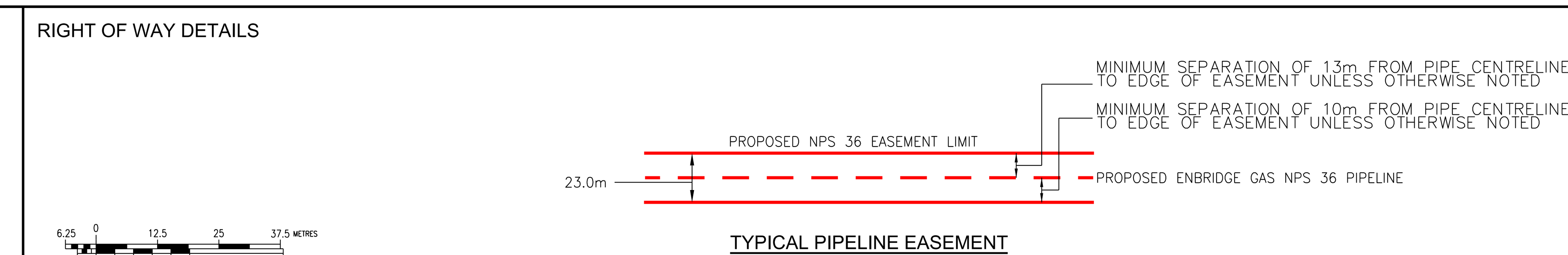
8) ALL WELDS TO BE NON-DESTRUCTIVELY EXAMINED, AS PER COMPANY SPECIFICATIONS.
9) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
10) CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
11) MAINTAIN MIN. 300mm CLEARANCE BETWEEN PROPOSED MAIN AND OTHER UTILITIES AND UNDERGROUND STRUCTURES THAT ARE CROSSED.
12) GENERAL DEPTH OF COVER IS 1.2m (MIN) FROM ORIGINAL GRADE AND 1.0m (MIN) FROM CONSTRUCTION GRADE UNLESS OTHERWISE STATED.

RIGHT OF WAY DETAILS



TYPICAL PIPELINE EASEMENT
N.T.S.

6.25 0 12.5 25 37.5 METRES
12.5 0 12.5 25 37.5 50 62.5 125 FEET

REVISION

NO.	DESCRIPTION	DATE	BY	CHK	APPR
A	ISSUED FOR REVIEW 30%	2021-12-13	N.C.	C.G.	G.S.
B	FOR INFORMATION ONLY	2022-01-25	N.C.	--	--
C	ISSUED FOR REVIEW 90%	2022-06-03	N.C.	C.G.	G.S.
D	ISSUED FOR BID	2022-06-30	N.C.	C.G.	G.S.

--	2022-01-25	FOR INFORMATION ONLY
GS	2022-06-30	ISSUED FOR BID
		ISSUED FOR CONSTRUCTION
		ISSUED FOR CONSTRUCTION 2

AS BUILT / AS BUILT BY: / CHECKED BY:
DRAWN: [illegible] DATE: 2020:10:06
CHECKED: CAROLE GAGNE DATE: 2022:06:30
APP'D BY: GRANT STRACHAN DATE: 2022:06:30
WBS: XX-XX-XXX SCALE: 1:2000

INFORMATION ONLY

ENGINEER: GRANT STRACHAN

PRELIMINARY

ENBRIDGE
Life Takes Energy

DAWN TO CORUNNA TR7 – NPS 36 PIPELINE
2023 CONSTRUCTION – DAWN/EUPHEMIA & ST. CLAIR
PIPELINE CONSTRUCTION ALIGNMENT
0+950.0 TO MATCH LINE 2+125.0

FILE REVISION DATE: 2022-06-30
DRAWING NUMBER: PL3430-AL-002

RIGHT-OF-WAY
ENBRIDGE FILE NUMBER
OWNERSHIP/AGENCY
PIN: NUMBER

CURRENT CLASS LOCATION
LOCATION FACTOR
TILE PLAN NUMBER

MATCH LINE 2+125.0 | 2+174.2 | 2+484.5 | 2+988.1 | 3+026.6 | MCCALLUM LINE | 3+051.5 | 3+300.0 MATCH LINE

ALIGNMENT DETAIL

LEGEND:
- PROPOSED ENBRIDGE TR7 NPS 36 PIPELINE
- TRANSMISSION/DISTRIBUTION PIPELINE
- FOREIGN PIPELINE
- EXISTING EASEMENT
- ENBRIDGE PIPELINE
- PROPOSED ENBRIDGE EASEMENT
- TEMPORARY ACCESS LANEWAY
- DRAIN/STREAM/WATERCOURSE CENTRE
- HYDRO EASEMENTS
- DRAINAGE DITCH BOTTOM/TOP
- RETAINING WALL/BRIDGE ABUTMENT
- ASPHALT/GRAVEL EDGE
- BUILDING
- POST/HYDRO POLE
- TELEPHONE BURIED CABLE/MISC CABLE
- FENCE
- OVERHEAD/BURIED HYDRO LINES
- WATERMAIN
- BOTTOM/TOP OF SLOPE
- TELEPHONE MARKER/BELL PEDESTAL
- CULVERT/CATCH BASIN/WATER VALVE
- SIGN/MAILBOX
- HYDRO TOWER
- PROPERTY LINE/ROAD ALLOWANCE
- PROPOSED ROAD/WATERCOURSE CROSSING (RC-XX) (WC-XX)
- PROPOSED HYDRO CROSSING (HCS-XX)
- PROPOSED ENBRIDGE PIPELINE CROSSING (EPC-XX)
- PROPOSED FOREIGN PIPELINE CROSSING (FPL-XX)
- PROPOSED BOREHOLE/MONITORING WELL
- TEST POST (TB # PL3430-TB-XX)
- PIPELINE KILOMETRE POST
- TREE

PIPELINE PLAN SCALE 1:2000

PIPELINE SCHEMATIC

LEGEND:
- HEAVY WALL PIPE
- PIPESAK
- TRANSITION WELD
- PIPELINE WARNING SIGN
- MATERIAL ITEM
- MAINLINE VALVE
- SIDE VALVE

PIPELINE DATA

DESIGN PARAMETERS (NEW PIPING ONLY)

DESIGN
- DESIGNED TO CSA Z662-19
- DESIGN FACTOR – 0.8
- LOCATION FACTOR – 0.900 / 0.625 (CLASS 2)
- DESIGN TEMPERATURE – M5C
- DESIGN PRESSURE – 9308 kPa

HYDROSTATIC TEST PRESSURE
PIPING
- STRENGTH – 13,032 kPa (1890 psig) MIN.
- LEAK – 10,239 kPa (1485 psig) MIN.
- DURATION – EXPOSED PIPING – 1 HOUR AT STRENGTH TEST PRESSURE MINIMUM
- BURIED PIPING – 4 HOUR AT STRENGTH TEST PRESSURE FOLLOWED BY 4 HOUR AT LEAK TEST PRESSURE MINIMUM

HYDROSTATIC TEST DATE – TBD

CONSTRUCTION
START DATE – JUNE 1, 2023
PLACED IN SERVICE – NOVEMBER 1, 2023

P/L PROFILE HORIZ 1:2000 VERT 1:400

BILL of MATERIAL

Item No	Material No	Qty	Size	Description
101-150	Material No	Qty	Size	PIPE
101	~	1139m	36	PIPE, 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
103	~	36m	36	PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
701-800	Material No	Qty	Size	OTHER MATERIAL
702	1?0968	~	610mm roll	LINE 2: " ENBRIDGE GAS INC. (HEIGHT 2") LINE 3: "NATURAL GAS PIPELINE BURIED BELOW" (HEIGHT 1 1/2") ALL THREE LINES TO BE CENTERED 36" REPEATS
703	125139	5	406.4 x 406.4	STANDARD STO BURIED PIPELINE SYSTEM SIGNAGE, Phone number required 1-800-265-5260 AS PER LUG C&M 18.6
704	125111	5	3 m	SIGN POST, GALV U CHANNEL POST HOT ROLLED & DIPPED 80 M PSI C/W SIGN HDWE PER DWG.E974 (10FT.)
705	~	~	36	PIPELINE WEIGHTS, NPS 36, SADDLE DESIGN, GRAVEL FILLED

CONSTRUCTION NOTES:

1) CONTRACTOR RESPONSIBLE FOR ALL UTILITY LOCATES.
2) ALL CULVERTS, END WALL TREATMENT AND TILE DRAINS REMOVED DURING CONSTRUCTION ARE TO BE RESTORED TO MATCH EXISTING CONDITIONS.
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12) GENERAL DEPTH OF COVER IS 1.2m (MIN) FROM ORIGINAL GRADE AND 1.0m (MIN) FROM CONSTRUCTION GRADE UNLESS OTHERWISE STATED.

RIGHT OF WAY DETAILS

TYPICAL PIPELINE EASEMENT
N.T.S.

6.25 0 12.5 25 37.5 METRES
12.5 0 12.5 25 37.5 50 62.5 125 FEET

REVISION					
NO.	DESCRIPTION	DATE	BY	CHK	APPR
A	ISSUED FOR REVIEW 30%	2021-12-13	N.C.	C.G.	G.S.
B	FOR INFORMATION ONLY	2022-01-25	N.C.	--	--
C	ISSUED FOR REVIEW 90%	2022-06-03	N.C.	C.G.	G.S.
D	ISSUED FOR BID	2022-06-30	N.C.	C.G.	G.S.

--	2022-01-25	FOR INFORMATION ONLY
GS	2022-06-30	ISSUED FOR BID
		ISSUED FOR CONSTRUCTION
		ISSUED FOR CONSTRUCTION 2

AS BUILT
AS BUILT BY:
CHECKED BY:
DRAWN BY: CAROLE GAGNE? DATE: 2020:10:06
CHECKED: CAROLE GAGNE DATE: 2022:06:30
APP'D BY: GRANT STRACHAN DATE: 2022:06:30
WBS XX-XX-XXX
SCALE 1:2000

ENGINEER: GRANT STRACHAN

PRELIMINARY

ENBRIDGE
Life Takes Energy®

DAWN TO CORUNNA TR7 – NPS 36 PIPELINE
2023 CONSTRUCTION – DAWN/EUPHEMIA & ST. CLAIR
PIPELINE CONSTRUCTION ALIGNMENT
2+125.0 TO MATCH LINE 3+300.0

FILE REVISION DATE 2022-06-30
DRAWING NUMBER PL3430-AL-003

RIGHT-OF-WAY

ENBRIDGE FILE NUMBER
OWNERSHIP/AGENCY
PIN: NUMBER

CURRENT CLASS LOCATION

LOCATION FACTOR

TILE PLAN NUMBER

MATCH LINE 3+300.0 | 3+866.2 | MATCH LINE 4+625.0

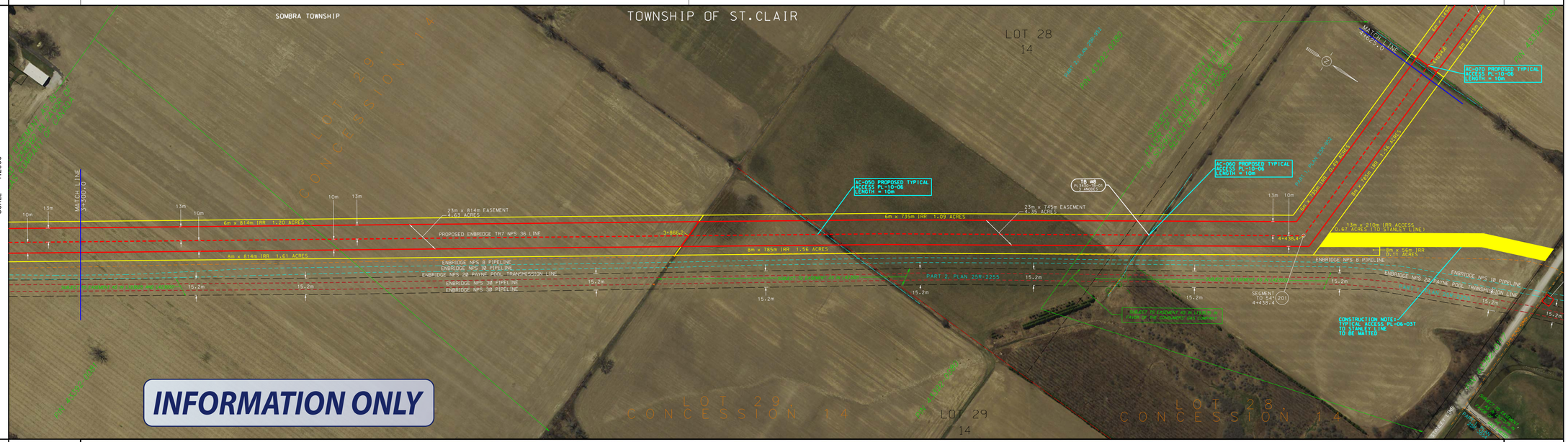
ALIGNMENT DETAIL

LEGEND:

- PROPOSED ENBRIDGE TR7 NPS 36 PIPELINE
- TRANSMISSION/DISTRIBUTION PIPELINE
- FOREIGN PIPELINE
- EXISTING EASEMENT
- ENBRIDGE PIPELINE
- PROPOSED ENBRIDGE EASEMENT
- TEMPORARY ACCESS LANEWAY
- DRAIN/STREAM/WATERCOURSE CENTRE
- HYDRO EASEMENTS
- DRAINAGE DITCH BOTTOM/TOP
- RETAINING WALL/BRIDGE ABUTMENT
- ASPHALT/GRAVEL EDGE
- BUILDING
- POST/HYDRO POLE
- TELEPHONE BURIED CABLE/MISC CABLE
- FENCE
- OVERHEAD/BURIED HYDRO LINES
- WATERMAIN
- BOTTOM/TOP OF SLOPE
- TELEPHONE MARKER/BELL PEDESTAL
- CULVERT/CATCH BASIN/WATER VALVE
- SIGN/MAILBOX
- HYDRO TOWER
- PROPERTY LINE/ROAD ALLOWANCE
- PROPOSED ROAD/WATERCOURSE CROSSING (AC-XX / PC-XXX)
- PROPOSED HYDRO CROSSING (HCS-XX)
- PROPOSED ENBRIDGE PIPELINE CROSSING (EPC-XX)
- PROPOSED FOREIGN PIPELINE CROSSING (FPL-XX)
- PROPOSED BOREHOLE/MONITORING WELL
- TEST POST (TP # PL3430-TP-XX)
- PIPELINE KILOMETRE POST (KP 1.0)
- TREE

PIPELINE PLAN

SCALE 1:2000

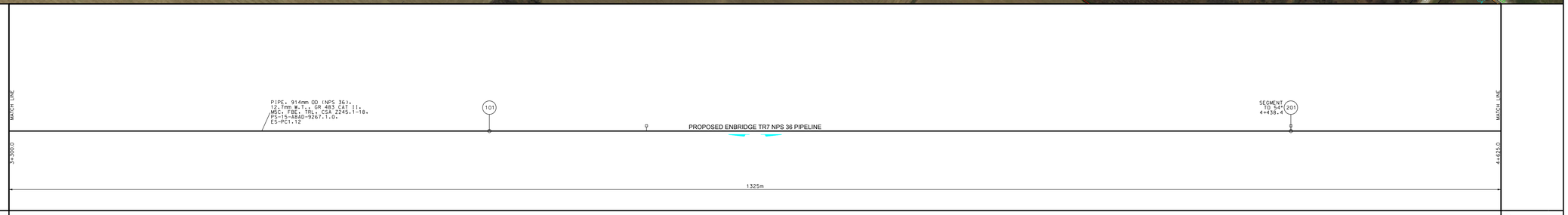


PIPELINE SCHEMATIC

LEGEND:

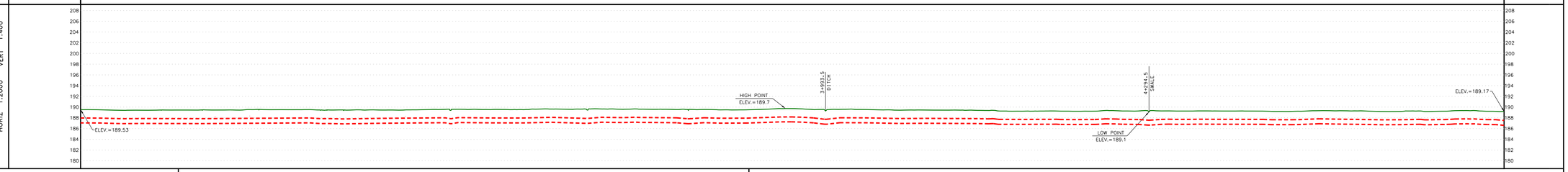
- HEAVY WALL PIPE
- PIPESAK
- TRANSITION WELD
- PIPELINE WARNING SIGN
- MATERIAL ITEM (112)
- MAINLINE VALVE
- SIDE VALVE

PIPELINE DATA



P/L PROFILE

VERT 1:400
HORIZ 1:2000



DESIGN PARAMETERS (NEW PIPING ONLY)

DESIGN

- DESIGNED TO CSA Z662-19
- DESIGN FACTOR – 0.8
- LOCATION FACTOR – 0.900 / 0.625 (CLASS 2)
- DESIGN TEMPERATURE – M5C
- DESIGN PRESSURE – 9308 kPa

HYDROSTATIC TEST PRESSURE

PIPING

- STRENGTH – 13,032 kPa (1890 psig) MIN.
- LEAK – 10,239 kPa (1485 psig) MIN.
- DURATION – EXPOSED PIPING – 1 HOUR AT STRENGTH TEST PRESSURE MINIMUM
- BURIED PIPING – 4 HOUR AT STRENGTH TEST PRESSURE FOLLOWED BY 4 HOUR AT LEAK TEST PRESSURE MINIMUM

HYDROSTATIC TEST DATE – TBD

CONSTRUCTION

START DATE – JUNE 1, 2023
PLACED IN SERVICE – NOVEMBER 1, 2023

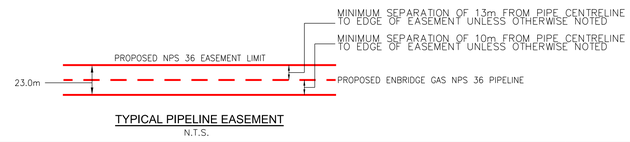
BILL of MATERIAL

Item No	Material No	Qty	Size	Description
101-150	Material No	Qty	Size	**PIPE**
101	~	1325m	36	PIPE, 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
201-350	Material No	Qty	Size	**FITTINGS**
201	~	1	36	[illegible] II M5C B
701-800	Material No	Qty	Size	**MISCELLANEOUS**
702	130968	~	610mm x 304.8m roll	[illegible] LINE 1: "CAUTION GAS PIPELINE BURIED BELOW" (HEIGHT 3") LINE 2: " ENBRIDGE GAS INC. (HEIGHT2") LINE 3: "NATURAL GAS PIPELINE BURIED BELOW" (HEIGHT 1 1/2") ALL THREE LINES TO BE CENTERED 36" REPEATS
703	125139	1	406.4 x 406.4	STANDARD STO BURIED PIPELINE SYSTEM SIGNAGE. Phone number required 1-800-265-5260 AS PER LUG C&M 18.6
704	125111	1	3 m	SIGN POST, GALV U CHANNEL POST HOT ROLLED & DIPPED 80 M PSI C/W SIGN HDWE PER DWG.E974 (10FT.)
705	~	~	36	PIPELINE WEIGHTS, NPS 36, SADDLE DESIGN, GRAVEL FILLED

CONSTRUCTION NOTES:

1) CONTRACTOR RESPONSIBLE FOR ALL UTILITY LOCATES.
2) ALL CULVERTS, END WALL TREATMENT AND TILE DRAINS REMOVED DURING CONSTRUCTION ARE TO BE RESTORED TO MATCH EXISTING CONDITIONS.
3) RESTORATION INCLUDES TOPSOIL AND SEEDING.
4) RESTORE DRIVEWAYS TO MATCH EXISTING.
5) ALL ASPHALT AREAS TO BE RESTORED TO MATCH EXISTING.
6) RESTORE ALL OPEN DRAINS TO MATCH ORIGINAL GRADE AND CONTOUR CONDITIONS.
7) ALL WORK MUST BE IN ACCORDANCE WITH THE LATEST ENBRIDGE GAS SPECIFICATIONS.
8) ALL WELDS TO BE NON-DESTRUCTIVELY EXAMINED, AS PER COMPANY SPECIFICATIONS.
9) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
10) CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
11) MAINTAIN MIN. 300mm CLEARANCE BETWEEN PROPOSED MAIN AND OTHER UTILITIES AND UNDERGROUND STRUCTURES THAT ARE CROSSED.
12) GENERAL DEPTH OF COVER IS 1.2m (MIN) FROM ORIGINAL GRADE AND 1.0m (MIN) FROM CONSTRUCTION GRADE UNLESS OTHERWISE STATED.

RIGHT OF WAY DETAILS



TYPICAL PIPELINE EASEMENT
N.T.S.

REVISION

NO.	DESCRIPTION	DATE	BY	CHK	APPR
A	ISSUED FOR REVIEW 30%	2021-12-13	N.C.	C.G.	G.S.
B	FOR INFORMATION ONLY	2022-01-25	N.C.	--	--
C	ISSUED FOR REVIEW 90%	2022-03-30	N.C.	C.G.	G.S.
D					

--	2022-01-25	FOR INFORMATION ONLY
GS	2022-06-30	ISSUED FOR BID
		ISSUED FOR CONSTRUCTION
		ISSUED FOR CONSTRUCTION 2
		AS BUILT
		[illegible]
		[illegible]
		[illegible]
		[illegible]

WBS XX-XX-XXX SCALE 1:2000

ENGINEER: GRANT STRACHAN

PRELIMINARY

ENBRIDGE Life Takes Energy

DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
2023 CONSTRUCTION - DAWN/EUPHEMIA & ST. CLAIR
PIPELINE CONSTRUCTION ALIGNMENT
3+300.0 TO MATCH LINE 4+625.0

FILE REVISION DATE 2022-06-30
DRAWING NUMBER PL3430-AL-004

RIGHT-OF-WAY

ENBRIDGE FILE NUMBER
OWNERSHIP/AGENCY
PIN: NUMBER

MATCH LINE 4+625.0 | 4+634.6 | 4+784.6 | STANLEY LINE 5+219.6 | 5+239.7 | 5+625.0 MATCH LINE

CURRENT CLASS LOCATION
LOCATION FACTOR
TILE PLAN NUMBER

ALIGNMENT DETAIL

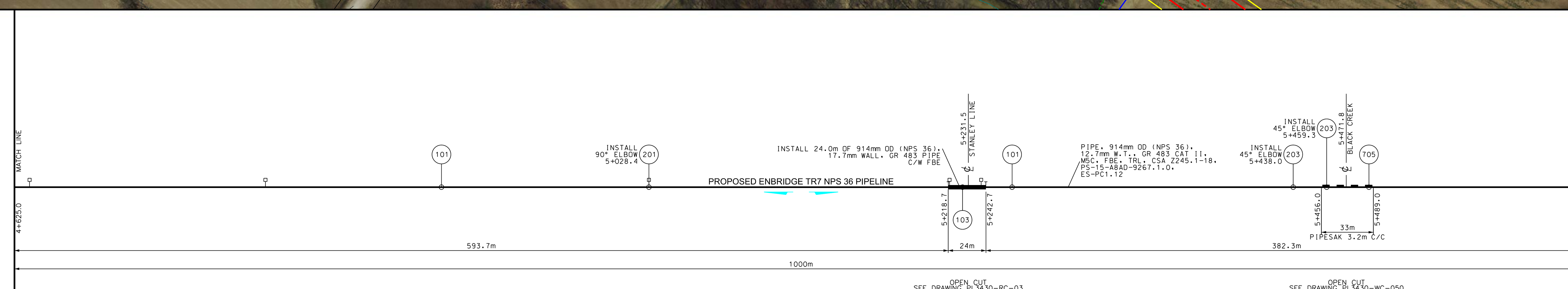
LEGEND:
- PROPOSED ENBRIDGE TR7 NPS 36 PIPELINE
- TRANSMISSION/DISTRIBUTION PIPELINE
- FOREIGN PIPELINE
- EXISTING EASEMENT
- ENBRIDGE PIPELINE
- PROPOSED ENBRIDGE EASEMENT
- TEMPORARY ACCESS LANEWAY
- DRAIN/STREAM/WATERCOURSE CENTRE
- HYDRO EASEMENTS
- DRAINAGE DITCH BOTTOM/TOP
- RETAINING WALL/BRIDGE ABUTMENT
- ASPHALT/GRAVEL EDGE
- BUILDING
- POST/HYDRO POLE
- TELEPHONE BURIED CABLE/MISC CABLE
- FENCE
- OVERHEAD/BURIED HYDRO LINES
- WATERMAIN
- BOTTOM/TOP OF SLOPE
- TELEPHONE MARKER/BELL PEDESTAL
- CULVERT/CATCH BASIN/WATER VALVE
- SIGN/MAILBOX
- HYDRO TOWER
- PROPERTY LINE/ROAD ALLOWANCE
- PROPOSED ROAD/WATERCOURSE CROSSING (RC-XX) (WC-XXX)
- PROPOSED HYDRO CROSSING (HCS-XX)
- PROPOSED ENBRIDGE PIPELINE CROSSING (EPC-XX)
- PROPOSED FOREIGN PIPELINE CROSSING (FPL-XX)
- PROPOSED BOREHOLE/MONITORING WELL
- TEST POST (TB # PL3430-TB-XX)
- PIPELINE KILOMETRE POST
- TREE

PIPELINE PLAN SCALE 1:2000

PIPELINE SCHEMATIC

LEGEND:
- HEAVY WALL PIPE
- PIPESAK
- TRANSITION WELD
- PIPELINE WARNING SIGN
- MATERIAL ITEM (112)
- MAINLINE VALVE
- SIDE VALVE

PIPELINE DATA



DESIGN PARAMETERS (NEW PIPING ONLY)

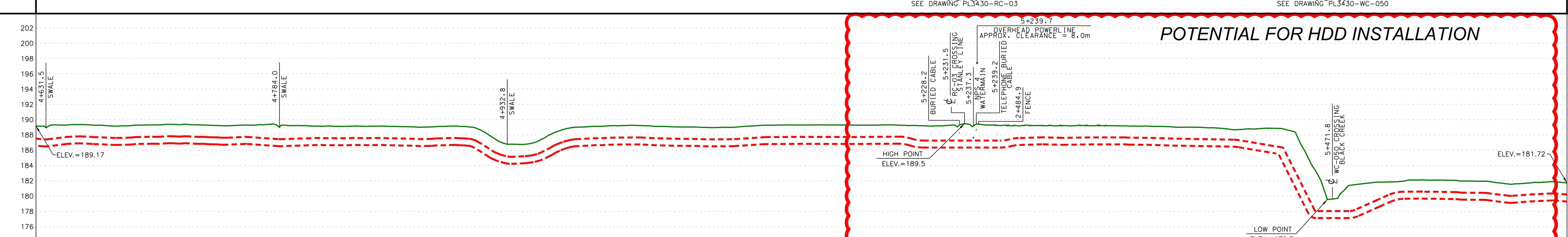
DESIGN
- DESIGNED TO CSA Z662-19
- DESIGN FACTOR – 0.8
- LOCATION FACTOR – 0.900 / 0.625 (CLASS 2)
- DESIGN TEMPERATURE – M5C
- DESIGN PRESSURE – 9308 kPa

HYDROSTATIC TEST PRESSURE
PIPING
- STRENGTH – 13,032 kPa (1890 psig) MIN.
- LEAK – 10,239 kPa (1485 psig) MIN.
- DURATION – EXPOSED PIPING – 1 HOUR AT STRENGTH TEST PRESSURE MINIMUM
- BURIED PIPING – 4 HOUR AT STRENGTH TEST PRESSURE FOLLOWED BY 4 HOUR AT LEAK TEST PRESSURE MINIMUM

HYDROSTATIC TEST DATE – TBD

CONSTRUCTION
START DATE – JUNE 1, 2023
PLACED IN SERVICE – NOVEMBER 1, 2023

P/L PROFILE HORIZ 1:2000 VERT 1:400



BILL of MATERIAL

Item No	Material No	Qty	Size	Description
101-150	Material No	Qty	Size	**PIPE**
101	~	976m	36	PIPE, 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
103	~	24m	36	PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
201-350	Material No	Qty	Size	**FITTINGS**
201	~	[illegible]	36	ELBOW, NPS 36, 90 DEGREES, TO MATCH 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II M5C PIPE, I.D. CONTROLLED AND SEGMENTABLE XLR (3D), BE, CSA Z245.11, PS-1E-1B1A-0B1B
203		2	36	ELBOW, NPS 36, 45 DEGREES, TO MATCH 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II M5C PIPE, I.D. CONTROLLED AND SEGMENTABLE XLR (3D), BE, CSA Z245.11, PS-1E-1B1A-0B1B **(8 EXTRA)**
701-800	Material No	Qty	Size	**OTHER MATERIAL**
702	130968	~	610mm x 304.8m roll	(24"x1000') ROLL YELLOW TERRA TAPE IMPRINT LAYOUT LINE 1: "CAUTION CAUTION CAUTION" (HEIGHT 3") LINE 2: " ENBRIDGE GAS INC: (HEIGHT2") LINE 3: "NATURAL GAS PIPELINE BURIED BELOW" (HEIGHT 1 1/2") ALL THREE LINES TO BE CENTERED 36" REPEATS
703	125139	4	406.4 x 406.4	STANDARD STO BURIED PIPELINE SYSTEM SIGNAGE, Phone number required 1-800-265-5260 AS PER LUG C&M 18.6
704	125111	4	3 m	SIGN POST, GALV U CHANNEL POST HOT ROLLED & DIPPED 80 M PSI C/W SIGN HDWE PER DWG.E974 (10FT.)
705	~	12	36	PIPELINE WEIGHTS, NPS 36, SADDLE DESIGN, GRAVEL FILLED

INFORMATION ONLY

CONSTRUCTION NOTES:

1) CONTRACTOR RESPONSIBLE FOR ALL UTILITY LOCATES.
2) ALL CULVERTS, END WALL TREATMENT AND TILE DRAINS REMOVED DURING CONSTRUCTION ARE TO BE RESTORED TO MATCH EXISTING CONDITIONS.
3) RESTORATION INCLUDES TOPSOIL AND SEEDING.
4) RESTORE DRIVEWAYS TO MATCH EXISTING.
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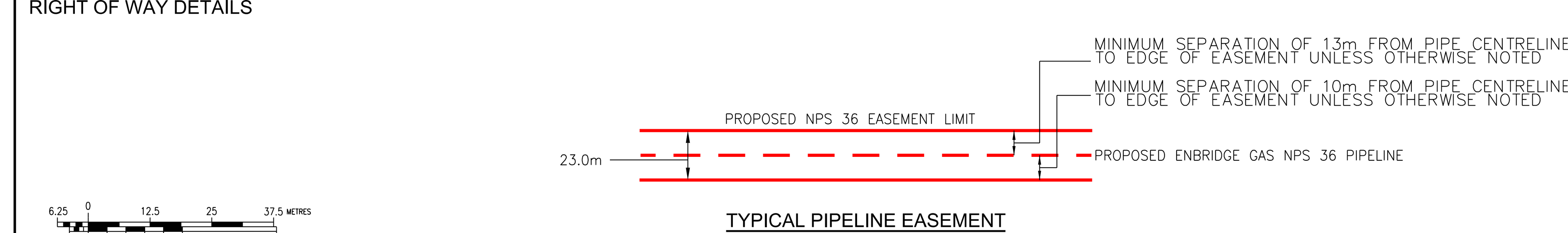
10) CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
11) MAINTAIN MIN. 300mm CLEARANCE BETWEEN PROPOSED MAIN AND OTHER UTILITIES AND UNDERGROUND STRUCTURES THAT ARE CROSSED.
12) GENERAL DEPTH OF COVER IS 1.2m (MIN) FROM ORIGINAL GRADE AND 1.0m (MIN) FROM CONSTRUCTION GRADE UNLESS OTHERWISE STATED.

RIGHT OF WAY DETAILS



TYPICAL PIPELINE EASEMENT
N.T.S.

REVISION

NO.	DESCRIPTION	DATE	BY	CHK	APPR
A	ISSUED FOR REVIEW 30%	2021-12-13	N.C.	C.G.	G.S.
B	FOR INFORMATION ONLY	2022-01-25	N.C.	--	--
C	ISSUED FOR REVIEW 90%	2022-06-03	N.C.	C.G.	G.S.
D	ISSUED FOR BID	2022-06-30	N.C.	C.G.	G.S.

--	2022-01-25	FOR INFORMATION ONLY
GS	2022-06-30	ISSUED FOR BID
		ISSUED FOR CONSTRUCTION
		ISSUED FOR CONSTRUCTION 2

AS BUILT | AS BUILT BY: | CHECKED BY:

CHECKED: CAROLE GAGNE | DATE: 2022:06:30
APP'D BY: GRANT STRACHAN | DATE: 2022:06:30
WBS: XX-XX-XXX | SCALE: 1:2000

INFORMATION ONLY

ENGINEER: GRANT STRACHAN

PRELIMINARY

ENBRIDGE
Life Takes Energy

DAWN TO CORUNNA TR7 – NPS 36 PIPELINE
2023 CONSTRUCTION – DAWN/EUPHEMIA & ST. CLAIR
PIPELINE CONSTRUCTION ALIGNMENT
4+625.0 TO MATCH LINE 5+625.0

FILE REVISION DATE: 2022-06-30
DRAWING NUMBER: PL3430-AL-005

RIGHT-OF-WAY

ENBRIDGE FILE NUMBER
OWNERSHIP/AGENCY
PIN: NUMBER

CURRENT CLASS LOCATION

LOCATION FACTOR

TILE PLAN NUMBER

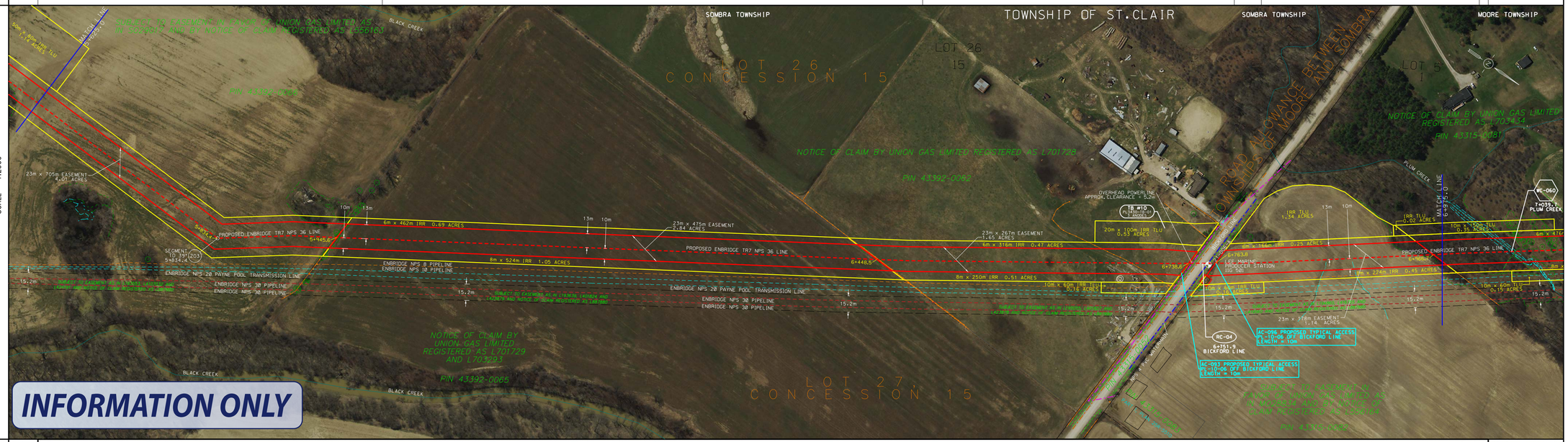
MATCH LINE 5+625.0 | 5+945.6 | 6+448.5 | BICKFORD LINE 6+738.6 | 6+763.8 | 6+966.7 | 6+975.0 MATCH LINE

ALIGNMENT DETAIL

LEGEND:

- PROPOSED ENBRIDGE TR7 NPS 36 PIPELINE
- TRANSMISSION/DISTRIBUTION PIPELINE
- FOREIGN PIPELINE
- EXISTING EASEMENT
- ENBRIDGE PIPELINE
- PROPOSED ENBRIDGE EASEMENT
- TEMPORARY ACCESS LANEWAY
- DRAIN/STREAM/WATERCOURSE CENTRE
- HYDRO EASEMENTS
- DRAINAGE DITCH BOTTOM/TOP
- RETAINING WALL/BRIDGE ABUTMENT
- ASPHALT/GRAVEL EDGE
- BUILDING
- POST/HYDRO POLE
- TELEPHONE BURIED CABLE/MISC CABLE
- FENCE
- OVERHEAD/BURIED HYDRO LINES
- WATERMAIN
- BOTTOM/TOP OF SLOPE
- TELEPHONE MARKER/BELL PEDESTAL
- CULVERT/CATCH BASIN/WATER VALVE
- SIGN/MAILBOX
- HYDRO TOWER
- PROPERTY LINE/ROAD ALLOWANCE
- PROPOSED ROAD/WATERCOURSE CROSSING (RC-XX / RC-XXX)
- PROPOSED HYDRO CROSSING (HCS-XX)
- PROPOSED ENBRIDGE PIPELINE CROSSING (PC-XX)
- PROPOSED FOREIGN PIPELINE CROSSING (PL-XX)
- PROPOSED BOREHOLE/MONITORING WELL
- TEST POST (TP # PL3430-TP-XX)
- PIPELINE KILOMETRE POST (KP 11.0)
- TREE

PIPELINE PLAN
SCALE 1:2000

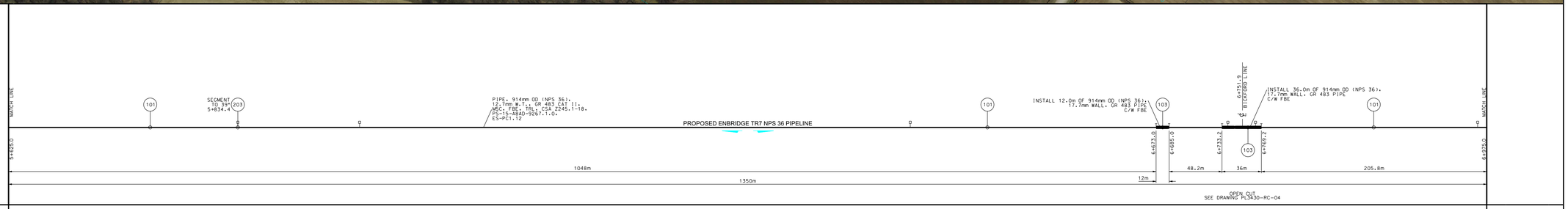


PIPELINE SCHEMATIC

LEGEND:

- HEAVY WALL PIPE
- PIPESAK
- TRANSITION WELD
- PIPELINE WARNING SIGN
- MATERIAL ITEM (112)
- MAINLINE VALVE
- SIDE VALVE

PIPELINE DATA



DESIGN PARAMETERS (NEW PIPING ONLY)

DESIGN

- DESIGNED TO CSA Z662-19
- DESIGN FACTOR – 0.8
- LOCATION FACTOR – 0.900 / 0.625 (CLASS 2)
- DESIGN TEMPERATURE – M5C
- DESIGN PRESSURE – 9308 kPa

HYDROSTATIC TEST PRESSURE

PIPING

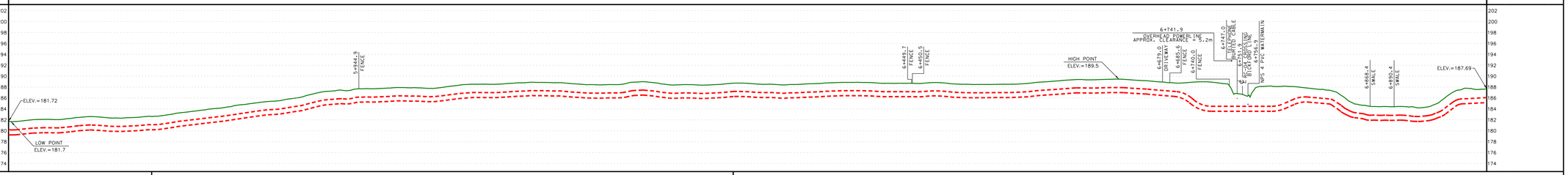
- STRENGTH – 13,032 kPa (1890 psig) MIN.
- LEAK – 10,239 kPa (1485 psig) MIN.
- DURATION – EXPOSED PIPING – 1 HOUR AT STRENGTH TEST PRESSURE MINIMUM
- BURIED PIPING – 4 HOUR AT STRENGTH TEST PRESSURE FOLLOWED BY 4 HOUR AT LEAK TEST PRESSURE MINIMUM

HYDROSTATIC TEST DATE – TBD

CONSTRUCTION

START DATE – JUNE 1, 2023
PLACED IN SERVICE – NOVEMBER 1, 2023

P/L PROFILE HORIZ 1:2000 VERT 1:400



BILL of MATERIAL

Item No	Material No	Qty	Size	Description
101-150	Material No	Qty	Size	**PIPE**
101	~	1302m	36	PIPE, 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
103				PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-
201-350	Material No	Qty	Size	**FITTINGS**
203				[illegible] II M5C [illegible] B (8
701-800	Material No	Qty	Size	**OTHER MATERIAL**
702	130968	~	610mm x 304.8m roll	(24"x1000') ROLL YELLOW TERRA TAPE IMPRINT LAYOUT LINE 1: "CAUTION CAUTION CAUTION" (HEIGHT 3") LINE 2: " ENBRIDGE GAS INC. (HEIGHT2") LINE 3: "NATURAL GAS PIPELINE BURIED BELOW" (HEIGHT 1 1/2") ALL THREE LINES TO BE CENTERED 36" REPEATS
703	125139	5	406.4 x 406.4	STANDARD STO BURIED PIPELINE SYSTEM SIGNAGE, Phone number required 1-800-265-5260 AS PER LUG C&M 18.6
704	125111	5	3 m	SIGN POST, GALV U CHANNEL POST HOT ROLLED & DIPPED 80 M PSI C/W SIGN HDWE PER DWG.E974 (10FT.)
705	~	~	36	PIPELINE WEIGHTS, NPS 36, SADDLE DESIGN, GRAVEL FILLED

INFORMATION ONLY

CONSTRUCTION NOTES:

1) CONTRACTOR RESPONSIBLE FOR ALL UTILITY LOCATES.
2) ALL CULVERTS, END WALL TREATMENT AND TILE DRAINS REMOVED DURING CONSTRUCTION ARE TO BE RESTORED TO MATCH EXISTING CONDITIONS.
3) RESTORATION INCLUDES TOPSOIL AND SEEDING.
4) RESTORE DRIVEWAYS TO MATCH EXISTING.
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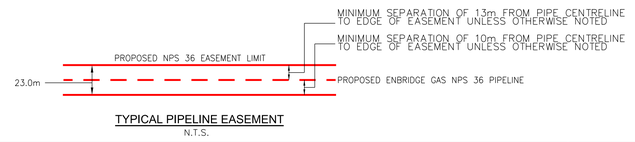
9) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
10) CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
11) MAINTAIN MIN. 300mm CLEARANCE BETWEEN PROPOSED MAIN AND OTHER UTILITIES AND UNDERGROUND STRUCTURES THAT ARE CROSSED.
12) GENERAL DEPTH OF COVER IS 1.2m (MIN) FROM ORIGINAL GRADE AND 1.0m (MIN) FROM CONSTRUCTION GRADE UNLESS OTHERWISE STATED.

RIGHT OF WAY DETAILS



TYPICAL PIPELINE EASEMENT
N.T.S.

6.25 0 12.5 25 37.5 METRES
12.5 0 12.5 25 37.5 50 62.5 125 FEET

REVISION

NO.	DESCRIPTION	DATE	BY	CHK	APPR
A	ISSUED FOR REVIEW 30%	2021-12-13	N.C.	C.G.	G.S.
B	FOR INFORMATION ONLY	2022-01-25	N.C.	--	--
C	ISSUED FOR REVIEW 90%	2022-03-31	N.C.	C.G.	G.S.
D					

--	2022-01-25	FOR INFORMATION ONLY
GS	2022-06-30	ISSUED FOR BID
		ISSUED FOR CONSTRUCTION
		ISSUED FOR CONSTRUCTION 2
		AS BUILT
		AS BUILT
		[illegible]
		[illegible]
		[illegible]
		[illegible]

WBS XX-XX-XXX SCALE 1:2000

INFORMATION ONLY

ENGINEER: GRANT STRACHAN

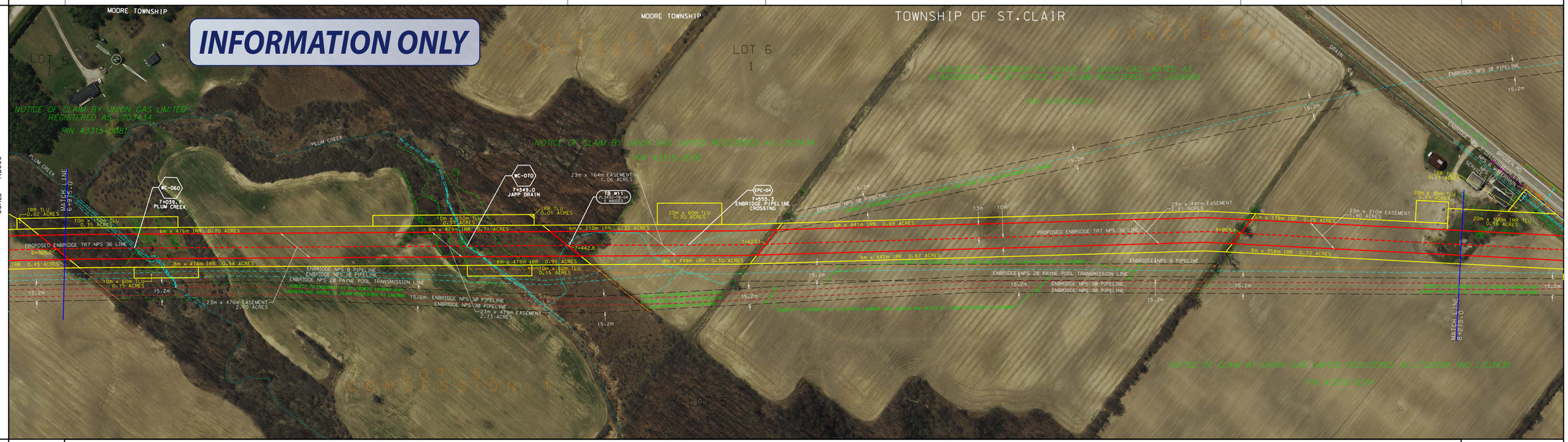
PRELIMINARY

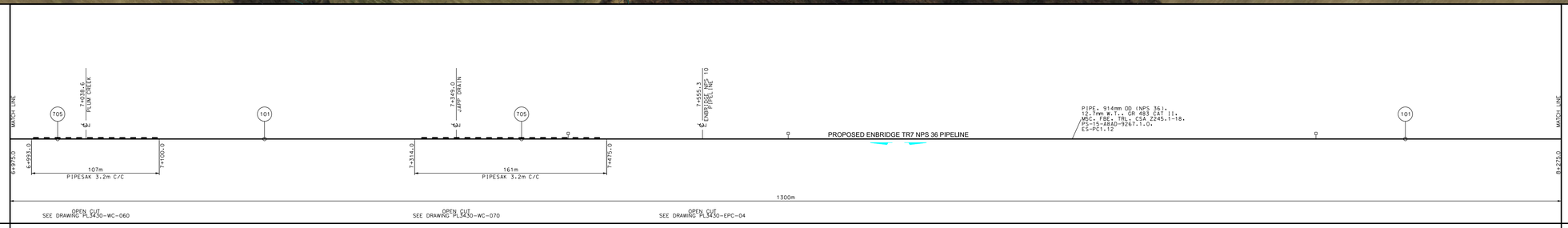
ENBRIDGE Life Takes Energy

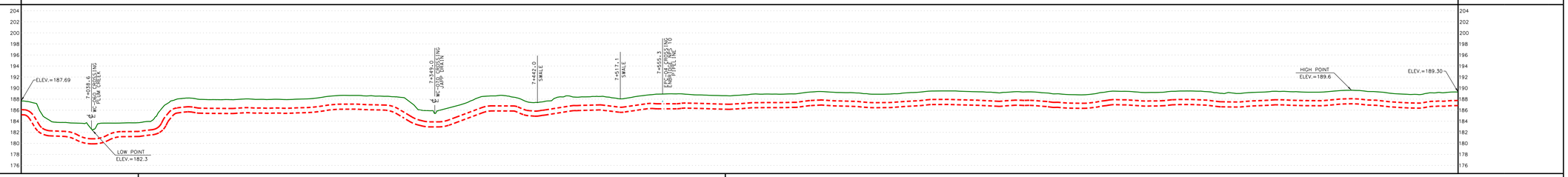
DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
2023 CONSTRUCTION - DAWN/EUPHEMIA & ST. CLAIR
PIPELINE CONSTRUCTION ALIGNMENT
5+625.0 TO MATCH LINE 6+975.0

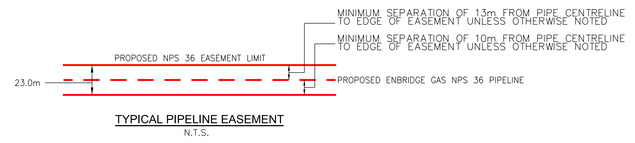
FILE REVISION DATE 2022-06-30

DRAWING NUMBER PL3430-AL-006









RIGHT-OF-WAY
ENBRIDGE FILE NUMBER
OWNERSHIP/AGENCY
PIN: NUMBER

MATCH LINE 6+975.0 | 7+442.8 | 7+627.1 | 8+069.4 | 8+275.0 MATCH LINE

CURRENT CLASS LOCATION
LOCATION FACTOR
TILE PLAN NUMBER

ALIGNMENT DETAIL

LEGEND:
- PROPOSED ENBRIDGE TR7 NPS 36 PIPELINE
- TRANSMISSION/DISTRIBUTION PIPELINE
- FOREIGN PIPELINE
- EXISTING EASEMENT
- ENBRIDGE PIPELINE
- PROPOSED ENBRIDGE EASEMENT
- TEMPORARY ACCESS LANEWAY
- DRAIN/STREAM/WATERCOURSE CENTRE
- HYDRO EASEMENTS
- DRAINAGE DITCH BOTTOM/TOP
- RETAINING WALL/BRIDGE ABUTMENT
- ASPHALT/GRAVEL EDGE
- BUILDING
- POST/HYDRO POLE
- TELEPHONE BURIED CABLE/MISC CABLE
- FENCE
- OVERHEAD/BURIED HYDRO LINES
- WATERMAIN
- BOTTOM/TOP OF SLOPE
- TELEPHONE MARKER/BELL PEDESTAL
- CULVERT/CATCH BASIN/WATER VALVE
- SIGN/MAILBOX
- HYDRO TOWER
- PROPERTY LINE/ROAD ALLOWANCE
- PROPOSED ROAD/WATERCOURSE CROSSING (RC-XX) (WC-XXX)
- PROPOSED HYDRO CROSSING (HCS-XX)
- PROPOSED ENBRIDGE PIPELINE CROSSING (EPC-XX)
- PROPOSED FOREIGN PIPELINE CROSSING (FPL-XX)
- PROPOSED BOREHOLE/MONITORING WELL
- TEST POST (TB # PL3430-TB-XX)
- PIPELINE KILOMETRE POST (KP)
- TREE

PIPELINE PLAN
SCALE 1:2000

PIPELINE SCHEMATIC

LEGEND:
- HEAVY WALL PIPE
- PIPESAK
- TRANSITION WELD
- PIPELINE WARNING SIGN
- MATERIAL ITEM (112)
- MAINLINE VALVE
- SIDE VALVE

PIPELINE DATA

DESIGN PARAMETERS (NEW PIPING ONLY)

DESIGN

- DESIGNED TO CSA Z662-19
- DESIGN FACTOR – 0.8
- LOCATION FACTOR – 0.900 / 0.625 (CLASS 2)
- DESIGN TEMPERATURE – M5C
- DESIGN PRESSURE – 9308 kPa

HYDROSTATIC TEST PRESSURE

PIPING
- STRENGTH – 13,032 kPa (1890 psig) MIN.
- LEAK – 10,239 kPa (1485 psig) MIN.
- DURATION – EXPOSED PIPING – 1 HOUR AT STRENGTH TEST PRESSURE MINIMUM
- BURIED PIPING – 4 HOUR AT STRENGTH TEST PRESSURE FOLLOWED BY 4 HOUR AT LEAK TEST PRESSURE MINIMUM

HYDROSTATIC TEST DATE – TBD

CONSTRUCTION

START DATE – JUNE 1, 2023
PLACED IN SERVICE – NOVEMBER 1, 2023

P/L PROFILE
HORIZ 1:2000 VERT 1:400

BILL of MATERIAL

Item No	Material No	Qty	Size	Description
101-150	Material No	Qty	Size	**PIPE**
101	~	1300m	36	PIPE, 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
701-800	Material No	Qty	Size	**OTHER MATERIAL**
702	1[illegible]	[illegible]	[illegible]	(24"x1000') ROLL YELLOW TERRA TAPE IMPRINT LAYOUT [illegible] ALL THREE LINES TO BE CENTERED 36" REPEATS
703	125[illegible]	3	406.4 x 406.4	STANDARD STO BURIED PIPELINE SYSTEM SIGNAGE, Phone number required 1-800-265-[illegible]260 AS PER LUG C&M 18.6
704	125111	3	3 m	SIGN POST, GALV U CHANNEL POST HOT ROLLED & DIPPED 80 M PSI C/W SIGN HDWE PER DWG.E974 (10FT.)
705	~	87	36	PIPELINE WEIGHTS, NPS 36, SADDLE DESIGN, GRAVEL FILLED

INFORMATION ONLY

CONSTRUCTION NOTES:

1) CONTRACTOR RESPONSIBLE FOR ALL UTILITY LOCATES.
2) ALL CULVERTS, END WALL TREATMENT AND TILE DRAINS REMOVED DURING CONSTRUCTION ARE TO BE RESTORED TO MATCH EXISTING CONDITIONS.
3) RESTORATION INCLUDES TOPSOIL AND SEEDING.
4) RESTORE DRIVEWAYS TO MATCH EXISTING.
5) ALL ASPHALT AREAS TO BE RESTORED TO MATCH EXISTING.
6) RESTORE ALL OPEN DRAINS TO MATCH ORIGINAL GRADE AND CONTOUR CONDITIONS.
7) ALL WORK MUST BE IN ACCORDANCE WITH THE LATEST ENBRIDGE GAS SPECIFICATIONS.
8) ALL WELDS TO BE NON-DESTRUCTIVELY EXAMINED, AS PER COMPANY SPECIFICATIONS.
9) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
10) CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
11) MAINTAIN MIN. 300mm CLEARANCE BETWEEN PROPOSED MAIN AND OTHER UTILITIES AND UNDERGROUND STRUCTURES THAT ARE CROSSED.
12) GENERAL DEPTH OF COVER IS 1.2m (MIN) FROM ORIGINAL GRADE AND 1.0m (MIN) FROM CONSTRUCTION GRADE UNLESS OTHERWISE STATED.

RIGHT OF WAY DETAILS

TYPICAL PIPELINE EASEMENT
N.T.S.

REVISION

NO.	DESCRIPTION	DATE	BY	CHK	APPR
A	ISSUED FOR REVIEW 30%	2021-12-13	N.C.	C.G.	G.S.
B	FOR INFORMATION ONLY	2022-01-25	N.C.	--	--
C	ISSUED FOR REVIEW 90%	2022-06-03	N.C.	C.G.	G.S.
D	ISSUED FOR BID	2022-06-30	N.C.	C.G.	G.S.

--	2022-01-25	FOR INFORMATION ONLY
GS	2022-06-30	ISSUED FOR BID
		ISSUED FOR CONSTRUCTION
		ISSUED FOR CONSTRUCTION 2

AS BUILT
AS BUILT BY:
CHECKED BY:
DRAWN: [illegible] DATE: 2022:06:[illegible]6
CHECKED: CAROLE GAGNE DATE: 2022:06:30
APP'D BY: GRANT STRACHAN DATE: 2022:06:30
WBS: XX-XX-XXX
SCALE: 1:2000

INFORMATION ONLY

ENGINEER: GRANT STRACHAN

PRELIMINARY

ENBRIDGE
Life Takes Energy®

DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
2023 CONSTRUCTION - DAWN/EUPHEMIA & ST. CLAIR
PIPELINE CONSTRUCTION ALIGNMENT
6+975.0 TO MATCH LINE 8+275.0

FILE REVISION DATE: 2022-06-30
DRAWING NUMBER: PL3430-AL-007

RIGHT-OF-WAY
ENBRIDGE FILE NUMBER
OWNERSHIP/AGENCY
PIN: NUMBER

MATCH LINE 8+275.0 | BRIGDEN RD 8+406.4 | 8+439.3 | 8+464.8 | 8+868.2 | 9+273.9 | 9+505.4 | MATCH LINE 9+600.0

CURRENT CLASS LOCATION
LOCATION FACTOR
TILE PLAN NUMBER

ALIGNMENT DETAIL

LEGEND:
- PROPOSED ENBRIDGE TR7 NPS 36 PIPELINE
- TRANSMISSION/DISTRIBUTION PIPELINE
- FOREIGN PIPELINE
- EXISTING EASEMENT
- ENBRIDGE PIPELINE
- PROPOSED ENBRIDGE EASEMENT
- TEMPORARY ACCESS LANEWAY
- DRAIN/STREAM/WATERCOURSE CENTRE
- HYDRO EASEMENTS
- DRAINAGE DITCH BOTTOM/TOP
- RETAINING WALL/BRIDGE ABUTMENT
- ASPHALT/GRAVEL EDGE
- BUILDING
- POST/HYDRO POLE
- TELEPHONE BURIED CABLE/MISC CABLE
- FENCE
- OVERHEAD/BURIED HYDRO LINES
- WATERMAIN
- BOTTOM/TOP OF SLOPE
- TELEPHONE MARKER/BELL PEDESTAL
- CULVERT/CATCH BASIN/WATER VALVE
- SIGN/MAILBOX
- HYDRO TOWER
- PROPERTY LINE/ROAD ALLOWANCE
- PROPOSED ROAD/WATERCOURSE CROSSING
- PROPOSED HYDRO CROSSING
- PROPOSED ENBRIDGE PIPELINE CROSSING
- PROPOSED FOREIGN PIPELINE CROSSING
- PROPOSED BOREHOLE/MONITORING WELL
- TEST POST
- PIPELINE KILOMETRE POST
- TREE

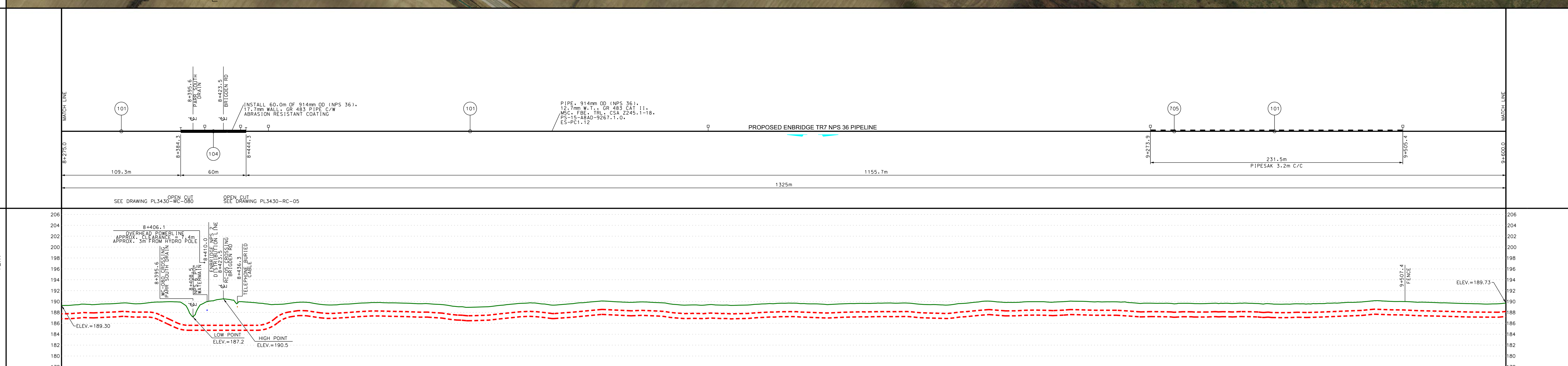
PIPELINE PLAN SCALE 1:2000

PIPELINE SCHEMATIC

LEGEND:
- HEAVY WALL PIPE
- PIPESAK
- TRANSITION WELD
- PIPELINE WARNING SIGN
- MATERIAL ITEM
- MAINLINE VALVE
- SIDE VALVE

PIPELINE DATA

P/L PROFILE HORIZ 1:2000 VERT 1:400



DESIGN PARAMETERS (NEW PIPING ONLY)

DESIGN
- DESIGNED TO CSA Z662-19
- DESIGN FACTOR – 0.8
- LOCATION FACTOR – 0.900 / 0.625 (CLASS 2)
- DESIGN TEMPERATURE – M5C
- DESIGN PRESSURE – 9308 kPa

HYDROSTATIC TEST PRESSURE
PIPING
- STRENGTH – 13,032 kPa (1890 psig) MIN.
- LEAK – 10,239 kPa (1485 psig) MIN.
- DURATION – EXPOSED PIPING – 1 HOUR AT STRENGTH TEST PRESSURE MINIMUM
- BURIED PIPING – 4 HOUR AT STRENGTH TEST PRESSURE FOLLOWED BY 4 HOUR AT LEAK TEST PRESSURE MINIMUM

HYDROSTATIC TEST DATE – TBD

CONSTRUCTION
START DATE – JUNE 1, 2023
PLACED IN SERVICE – NOVEMBER 1, 2023

BILL of MATERIAL

Item No	Material No	Qty	Size	Description
101-150	Material No	Qty	Size	**PIPE**
101	~	1265m	36	PIPE, 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
104	~	60m	36	PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, ARO, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC7.3
701-800	Material No	Qty	Size	**OTHER MATERIAL**
702	1[illegible]0968	~	610mm [illegible] roll	[illegible] LINE 2: "ENBRIDGE GAS INC. (HEIGHT 2") LINE 3: "NATURAL GAS PIPELINE BURIED BELOW" (HEIGHT 1 1/2") ALL THREE LINES TO BE CENTERED 36" REPEATS
703	125139	6	406.4 x 406.4	STANDARD STO BURIED PIPELINE SYSTEM SIGNAGE, Phone number required 1-800-265-5260 AS PER LUG C&M 18.6
704	125111	6	3 m	SIGN POST, GALV U CHANNEL POST HOT ROLLED & DIPPED 80 M PSI C/W SIGN HDWE PER DWG.E974 (10FT.)
705	~	74	36	PIPELINE WEIGHTS, NPS 36, SADDLE DESIGN, GRAVEL FILLED

INFORMATION ONLY

CONSTRUCTION NOTES:

1) CONTRACTOR RESPONSIBLE FOR ALL UTILITY LOCATES.
2) ALL CULVERTS, END WALL TREATMENT AND TILE DRAINS REMOVED DURING CONSTRUCTION ARE TO BE RESTORED TO MATCH EXISTING CONDITIONS.
3) RESTORATION INCLUDES TOPSOIL AND SEEDING.
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9) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
10) CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
11) MAINTAIN MIN. 300mm CLEARANCE BETWEEN PROPOSED MAIN AND OTHER UTILITIES AND UNDERGROUND STRUCTURES THAT ARE CROSSED.
12) GENERAL DEPTH OF COVER IS 1.2m (MIN) FROM ORIGINAL GRADE AND 1.0m (MIN) FROM CONSTRUCTION GRADE UNLESS OTHERWISE STATED.

RIGHT OF WAY DETAILS

MINIMUM SEPARATION OF 13m FROM PIPE CENTRELINE TO EDGE OF EASEMENT UNLESS OTHERWISE NOTED
MINIMUM SEPARATION OF 10m FROM PIPE CENTRELINE TO EDGE OF EASEMENT UNLESS OTHERWISE NOTED
PROPOSED NPS 36 EASEMENT LIMIT
23.0m
PROPOSED ENBRIDGE GAS NPS 36 PIPELINE

TYPICAL PIPELINE EASEMENT
N.T.S.

REVISION

NO.	DESCRIPTION	DATE	BY	CHK	APPR
A	ISSUED FOR REVIEW 30%	2021-12-13	N.C.	C.G.	G.S.
B	FOR INFORMATION ONLY	2022-01-25	N.C.	--	--
C	ISSUED FOR REVIEW 90%	2022-06-03	N.C.	C.G.	G.S.
D	ISSUED FOR BID	2022-06-30	N.C.	C.G.	G.S.

--	2022-01-25	FOR INFORMATION ONLY
GS	2022-06-30	ISSUED FOR BID
		ISSUED FOR CONSTRUCTION
		ISSUED FOR CONSTRUCTION 2

AS BUILT BY:
CHECKED BY:
CHECKED: CAROLE GAGNE DATE 2022:06:30
APP'D BY: GRANT STRACHAN DATE 2022:06:30
WBS XX-XX-XXX SCALE 1:2000

INFORMATION ONLY

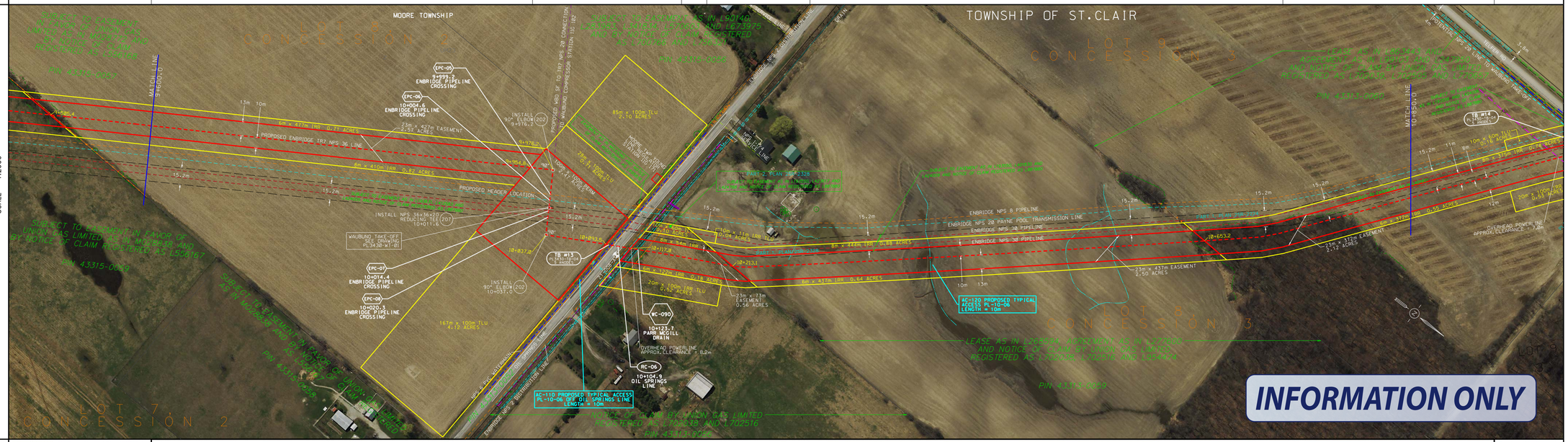
ENGINEER: GRANT STRACHAN

PRELIMINARY

ENBRIDGE Life Takes Energy

DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
2023 CONSTRUCTION - DAWN/EUPHEMIA & ST. CLAIR
PIPELINE CONSTRUCTION ALIGNMENT
8+275.0 TO MATCH LINE 9+600.0

FILE REVISION DATE 2022-06-30
DRAWING NUMBER PL3430-AL-008



RIGHT-OF-WAY

ENBRIDGE FILE NUMBER
OWNERSHIP/AGENCY
PIN: NUMBER

MATCH LINE 9+600.0
9+954.8 PROPOSED HEADER LOCATION
10+093.5 OIL SPRINGS LINE
10+117.0
10+213.1
10+653.2
10+850.0 MATCH LINE

CURRENT CLASS LOCATION
LOCATION FACTOR
TILE PLAN NUMBER

ALIGNMENT DETAIL

LEGEND:
- PROPOSED ENBRIDGE TR7 NPS 36 PIPELINE
- TRANSMISSION/DISTRIBUTION PIPELINE
- FOREIGN PIPELINE
- EXISTING EASEMENT
- ENBRIDGE PIPELINE
- PROPOSED ENBRIDGE EASEMENT
- TEMPORARY ACCESS LANEWAY
- DRAIN/STREAM/WATERCOURSE CENTRE
- HYDRO EASEMENTS
- DRAINAGE DITCH BOTTOM/TOP
- RETAINING WALL/BRIDGE ABUTMENT
- ASPHALT/GRAVEL EDGE
- BUILDING
- POST/HYDRO POLE
- TELEPHONE BURIED CABLE/MISC CABLE
- FENCE
- OVERHEAD/BURIED HYDRO LINES
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- TELEPHONE MARKER/BELL PEDESTAL
- CULVERT/CATCH BASIN/WATER VALVE
- SIGN/MAILBOX
- HYDRO TOWER
- PROPERTY LINE/ROAD ALLOWANCE
- PROPOSED ROAD/WATERCOURSE CROSSING (RC-XX) (WC-XXX)
- PROPOSED HYDRO CROSSING (HCS-XX)
- PROPOSED ENBRIDGE PIPELINE CROSSING (EPC-XX)
- PROPOSED FOREIGN PIPELINE CROSSING (FPL-XX)
- PROPOSED BOREHOLE/MONITORING WELL
- TEST POST (TB ## PL3430-TB-XX)
- PIPELINE KILOMETRE POST
- TREE

PIPELINE PLAN
SCALE 1:2000

PIPELINE SCHEMATIC

LEGEND:
- HEAVY WALL PIPE
- PIPESAK
- TRANSITION WELD
- PIPELINE WARNING SIGN
- MATERIAL ITEM
- MAINLINE VALVE
- SIDE VALVE

PIPELINE DATA

DESIGN PARAMETERS (NEW PIPING ONLY)

DESIGN

- DESIGNED TO CSA Z662-19
- DESIGN FACTOR – 0.8
- LOCATION FACTOR – 0.900 / 0.625 (CLASS 2)
- DESIGN TEMPERATURE – M5C
- DESIGN PRESSURE – 9308 kPa

HYDROSTATIC TEST PRESSURE

PIPING
- STRENGTH – 13,032 kPa (1890 psig) MIN.
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HYDROSTATIC TEST DATE – TBD

CONSTRUCTION

START DATE – JUNE 1, 2023
PLACED IN SERVICE – NOVEMBER 1, 2023

P/L PROFILE
HORIZ 1:2000 VERT 1:400

BILL of MATERIAL

Item No	Material No	Qty	Size	Description
101-150	Material No	Qty	Size	PIPE
101	~	1067m	36	PIPE, 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
103	~	135m	36	PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
104	~	48m	36	PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, ARO, QRL, CSA Z245.1-18, PS-15-A8AD-[illegible]
201-350	Material No	Qty	Size	FITTINGS
202	~	2	36	ELBOW, NPS 36, 90 DEGREE, TO MATCH 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II M5C PIPE, I.D. CONTROLLED AND SEGMENTABLE XLR (3D), BE, CSA Z245.11, PS-1E-1B1A-0B1B
207	~	1	36x36x20	TEE, REDUCING, NPS 36x36x20, 17.7 mm x 17.7 mm x 12.7 mm W.T., GR 483, CAT II, M5C, c/w SCRAPPER BARS
701-800	Material No	Qty	Size	OTHER MATERIAL
702	130968	~	610mm x 304.8m roll	(24"x1000') ROLL YELLOW TERRA TAPE IMPRINT LAYOUT LINE 1: "CAUTION CAUTION CAUTION" (HEIGHT 3") LINE 2: " ENBRIDGE GAS INC: (HEIGHT2") LINE 3: "NATURAL GAS PIPELINE BURIED BELOW" (HEIGHT 1 1/2") ALL THREE LINES TO BE CENTERED 36" REPEATS
703	125139	5	406.4 x 406.4	STANDARD STO BURIED PIPELINE SYSTEM SIGNAGE, Phone number required 1-800-265-5260 AS PER LUG C&M 18.6
704	125111	5	3 m	SIGN POST, GALV U CHANNEL POST HOT ROLLED & DIPPED 80 M PSI C/W SIGN HDWE PER DWG.E974 (10FT.)
705	~	20	36	PIPELINE WEIGHTS, NPS 36, SADDLE DESIGN, GRAVEL FILLED

INFORMATION ONLY

CONSTRUCTION NOTES:

1) CONTRACTOR RESPONSIBLE FOR ALL UTILITY LOCATES.
2) ALL CULVERTS, END WALL TREATMENT AND TILE DRAINS REMOVED DURING CONSTRUCTION ARE TO BE RESTORED TO MATCH EXISTING CONDITIONS.
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11) MAINTAIN MIN. 300mm CLEARANCE BETWEEN PROPOSED MAIN AND OTHER UTILITIES AND UNDERGROUND STRUCTURES THAT ARE CROSSED.
12) GENERAL DEPTH OF COVER IS 1.2m (MIN) FROM ORIGINAL GRADE AND 1.0m (MIN) FROM CONSTRUCTION GRADE UNLESS OTHERWISE STATED.

RIGHT OF WAY DETAILS

TYPICAL PIPELINE EASEMENT A
N.T.S.

TYPICAL PIPELINE EASEMENT B
N.T.S.

REVISION					
NO.	DESCRIPTION	DATE	BY	CHK	APPR
A	ISSUED FOR REVIEW 30%	2021-12-13	N.C.	C.G.	G.S.
B	FOR INFORMATION ONLY	2022-01-25	N.C.	--	--
C	ISSUED FOR REVIEW 90%	2022-06-03	N.C.	C.G.	G.S.
D	ISSUED FOR BID	2022-06-30	N.C.	C.G.	G.S.

--	2022-01-25	FOR INFORMATION ONLY
GS	2022-06-30	ISSUED FOR BID
		ISSUED FOR CONSTRUCTION
		ISSUED FOR CONSTRUCTION 2

AS BUILT
AS BUILT BY:
CHECKED BY:
DRAWN BY: [illegible] DATE: 2020:10:06
CHECKED: CAROLE GAGNE DATE: 2022:06:30
APP'D BY: GRANT STRACHAN DATE: 2022:06:30
WBS XX-XX-XXX
SCALE 1:2000

INFORMATION ONLY

ENGINEER: GRANT STRACHAN

PRELIMINARY

ENBRIDGE
Life Takes Energy®

DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
2023 CONSTRUCTION - DAWN/EUPHEMIA & ST. CLAIR
PIPELINE CONSTRUCTION ALIGNMENT
9+600.0 TO MATCH LINE 10+850.0

FILE REVISION DATE: 2022-06-30
DRAWING NUMBER: PL3430-AL-009

RIGHT-OF-WAY

ENBRIDGE FILE NUMBER
OWNERSHIP/AGENCY
PIN: NUMBER

CURRENT CLASS LOCATION

LOCATION FACTOR

TILE PLAN NUMBER

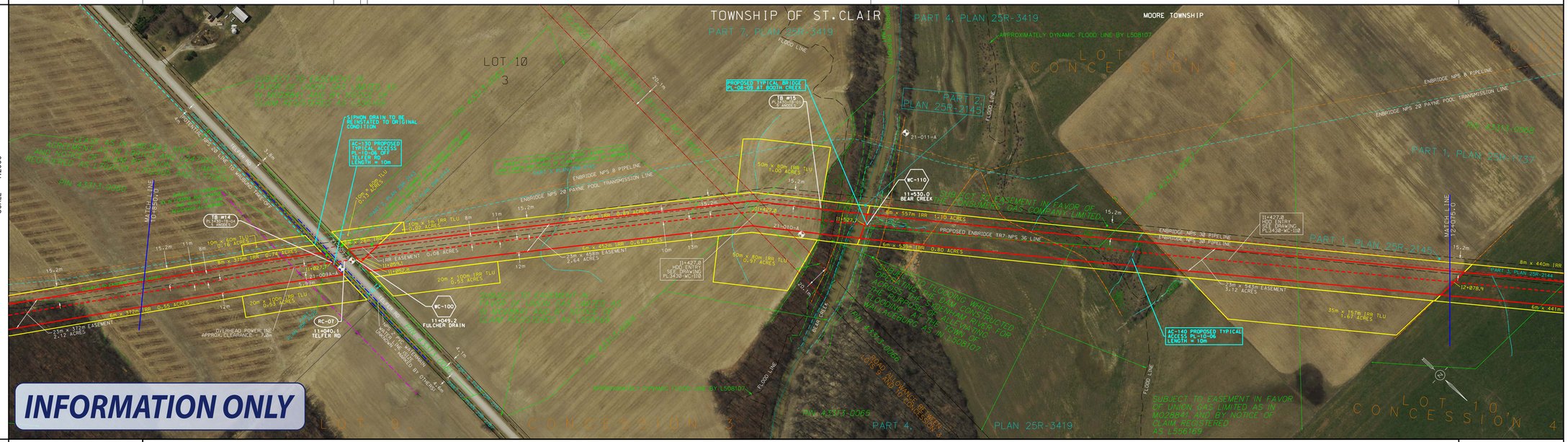
MATCH LINE 10+850.0 | TELFER RD | 11+027.7 | 11+052.8 | 11+059.1 | 11+527.7 | 12+075.0 MATCH LINE

ALIGNMENT DETAIL

LEGEND:

- PROPOSED ENBRIDGE TR7 NPS 36 PIPELINE
- TRANSMISSION/DISTRIBUTION PIPELINE
- FOREIGN PIPELINE
- EXISTING EASEMENT
- ENBRIDGE PIPELINE
- PROPOSED ENBRIDGE EASEMENT
- TEMPORARY ACCESS LANEWAY
- DRAIN/STREAM/WATERCOURSE CENTRE
- HYDRO EASEMENTS
- DRAINAGE DITCH BOTTOM/TOP
- RETAINING WALL/BRIDGE ABUTMENT
- ASPHALT/GRAVEL EDGE
- BUILDING
- POST/HYDRO POLE
- TELEPHONE BURIED CABLE/MISC CABLE
- FENCE
- OVERHEAD/BURIED HYDRO LINES
- WATERMAIN
- BOTTOM/TOP OF SLOPE
- TELEPHONE MARKER/BELL PEDESTAL
- CULVERT/CATCH BASIN/WATER VALVE
- SIGN/MAILBOX
- HYDRO TOWER
- PROPERTY LINE/ROAD ALLOWANCE
- PROPOSED ROAD/WATERCOURSE CROSSING (RC-XX / XC-XXX)
- PROPOSED HYDRO CROSSING (HCS-XX)
- PROPOSED ENBRIDGE PIPELINE CROSSING (PC-XX)
- PROPOSED FOREIGN PIPELINE CROSSING (PL-XX)
- PROPOSED BOREHOLE/MONITORING WELL
- TEST POST (TP # / PL3430-TP-XX)
- PIPELINE KILOMETRE POST (KP 11.0)
- TREE

PIPELINE PLAN SCALE 1:2000



PIPELINE SCHEMATIC

LEGEND:

- HEAVY WALL PIPE
- PIPESAK
- TRANSITION WELD
- PIPELINE WARNING SIGN
- MATERIAL ITEM (112)
- MAINLINE VALVE
- SIDE VALVE

DESIGN PARAMETERS (NEW PIPING ONLY)

DESIGN

- DESIGNED TO CSA Z662-19
- DESIGN FACTOR – 0.8
- LOCATION FACTOR – 0.900 / 0.625 (CLASS 2)
- DESIGN TEMPERATURE – M5C
- DESIGN PRESSURE – 9308 kPa

HYDROSTATIC TEST PRESSURE

PIPING

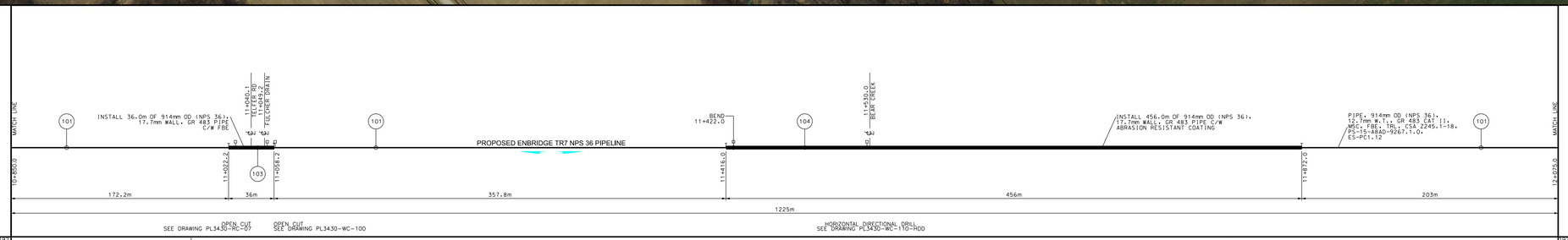
- STRENGTH – 13,032 kPa (1890 psig) MIN.
- LEAK – 10,239 kPa (1485 psig) MIN.
- DURATION – EXPOSED PIPING – 1 HOUR AT STRENGTH TEST PRESSURE MINIMUM
- BURIED PIPING – 4 HOUR AT STRENGTH TEST PRESSURE FOLLOWED BY 4 HOUR AT LEAK TEST PRESSURE MINIMUM

HYDROSTATIC TEST DATE – TBD

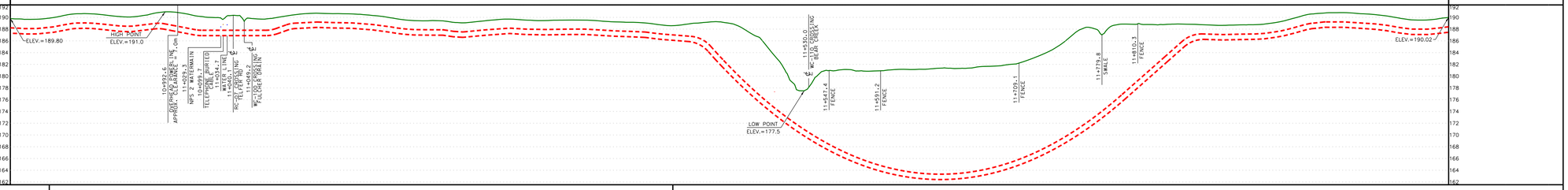
CONSTRUCTION

START DATE – JUNE 1, 2023
PLACED IN SERVICE – NOVEMBER 1, 2023

PIPELINE DATA



P/L PROFILE HORIZ 1:2000 VERT 1:400



BILL of MATERIAL

Item No	Material No	Qty	Size	Description
101-150	Material No	Qty	Size	**PIPE**
101	~	733m	36	PIPE, 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
103				PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-
104				
701-800	Material No	Qty	Size	**MISCELLANEOUS**
702	130968	~	roll	LINE 1: "CAUTION CAUTION CAUTION" (HEIGHT 3") LINE 2: " ENBRIDGE GAS INC. (HEIGHT2") LINE 3: "NATURAL GAS PIPELINE BURIED BELOW" (HEIGHT 1 1/2") ALL THREE LINES TO BE CENTERED 36" REPEATS
703	125139	5	406.4 x 406.4	STANDARD STO BURIED PIPELINE SYSTEM SIGNAGE, Phone number required 1-800-265-5260 AS PER LUG C&M 18.6
704	125111	5	3 m	SIGN POST, GALV U CHANNEL POST HOT ROLLED & DIPPED 80 M PSI C/W SIGN HDWE PER DWG.E974 (10FT.)
705	~	~	36	PIPELINE WEIGHTS, NPS 36, SADDLE DESIGN, GRAVEL FILLED

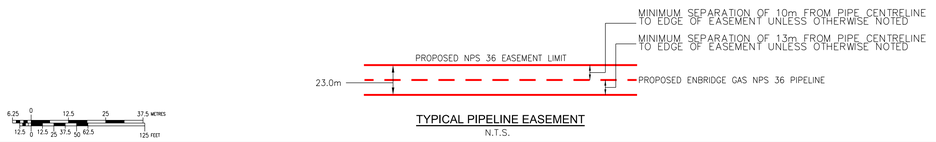
INFORMATION ONLY

CONSTRUCTION NOTES:

1) CONTRACTOR RESPONSIBLE FOR ALL UTILITY LOCATES.
2) ALL CULVERTS, END WALL TREATMENT AND TILE DRAINS REMOVED DURING CONSTRUCTION ARE TO BE RESTORED TO MATCH EXISTING CONDITIONS.
3) RESTORATION INCLUDES TOPSOIL AND SEEDING.
4) RESTORE DRIVEWAYS TO MATCH EXISTING.
5) ALL ASPHALT AREAS TO BE RESTORED TO MATCH EXISTING.
6) RESTORE ALL OPEN DRAINS TO MATCH ORIGINAL GRADE AND CONTOUR CONDITIONS.
7) ALL WORK MUST BE IN ACCORDANCE WITH THE LATEST ENBRIDGE GAS SPECIFICATIONS.
8) ALL WELDS TO BE NON-DESTRUCTIVELY EXAMINED, AS PER COMPANY SPECIFICATIONS.
9) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
10) CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
11) MAINTAIN MIN. 300mm CLEARANCE BETWEEN PROPOSED MAIN AND OTHER UTILITIES AND UNDERGROUND STRUCTURES THAT ARE CROSSED.
12) GENERAL DEPTH OF COVER IS 1.2m (MIN) FROM ORIGINAL GRADE AND 1.0m (MIN) FROM CONSTRUCTION GRADE UNLESS OTHERWISE STATED.

INFORMATION ONLY

RIGHT OF WAY DETAILS



TYPICAL PIPELINE EASEMENT
N.T.S.

REVISION

NO.	DESCRIPTION	DATE	BY	CHK	APPR
A	ISSUED FOR REVIEW 30%	2021-12-13	N.C.	C.G.	G.S.
B	FOR INFORMATION ONLY	2022-01-25	N.C.	--	--
C	ISSUED FOR REVIEW 90%	2022-03-31	N.C.	C.G.	G.S.
D					

--	2022-01-25	FOR INFORMATION ONLY
GS	2022-06-30	ISSUED FOR BID
		ISSUED FOR CONSTRUCTION
		ISSUED FOR CONSTRUCTION 2
		AS BUILT
		AS BUILT

WBS XX-XX-XXX SCALE 1:2000

INFORMATION ONLY

ENGINEER: GRANT STRACHAN

PRELIMINARY

ENBRIDGE Life Takes Energy

DAWN TO CORUNNA TR7 – NPS 36 PIPELINE
2023 CONSTRUCTION – DAWN/EUPHEMIA & ST. CLAIR
PIPELINE CONSTRUCTION ALIGNMENT
10+850.0 TO MATCH LINE 12+075.0

FILE REVISION DATE 2022-06-30

DRAWING NUMBER PL3430-AL-010

RIGHT-OF-WAY

ENBRIDGE FILE NUMBER
OWNERSHIP/AGENCY
PIN: NUMBER

MATCH LINE 12+075.0 | 12+078.9 | 12+519.8 | 13+275.0 MATCH LINE

CURRENT CLASS LOCATION
LOCATION FACTOR
TILE PLAN NUMBER

ALIGNMENT DETAIL

LEGEND:

- PROPOSED ENBRIDGE TR7 NPS 36 PIPELINE
- TRANSMISSION/DISTRIBUTION PIPELINE
- FOREIGN PIPELINE
- EXISTING EASEMENT
- ENBRIDGE PIPELINE
- PROPOSED ENBRIDGE EASEMENT
- TEMPORARY ACCESS LANEWAY
- DRAIN/STREAM/WATERCOURSE CENTRE
- HYDRO EASEMENTS
- DRAINAGE DITCH BOTTOM/TOP
- RETAINING WALL/BRIDGE ABUTMENT
- ASPHALT/GRAVEL EDGE
- BUILDING
- POST/HYDRO POLE
- TELEPHONE BURIED CABLE/MISC CABLE
- FENCE
- OVERHEAD/BURIED HYDRO LINES
- WATERMAIN
- BOTTOM/TOP OF SLOPE
- TELEPHONE MARKER/BELL PEDESTAL
- CULVERT/CATCH BASIN/WATER VALVE
- SIGN/MAILBOX
- HYDRO TOWER
- PROPERTY LINE/ROAD ALLOWANCE
- PROPOSED ROAD/WATERCOURSE CROSSING (RC-XX) (WC-XX)
- PROPOSED HYDRO CROSSING (HCS-XX)
- PROPOSED ENBRIDGE PIPELINE CROSSING (EPC-XX)
- PROPOSED FOREIGN PIPELINE CROSSING (FPL-XX)
- PROPOSED BOREHOLE/MONITORING WELL
- TEST POST (TB # PL3430-TB-XX)
- PIPELINE KILOMETRE POST
- TREE

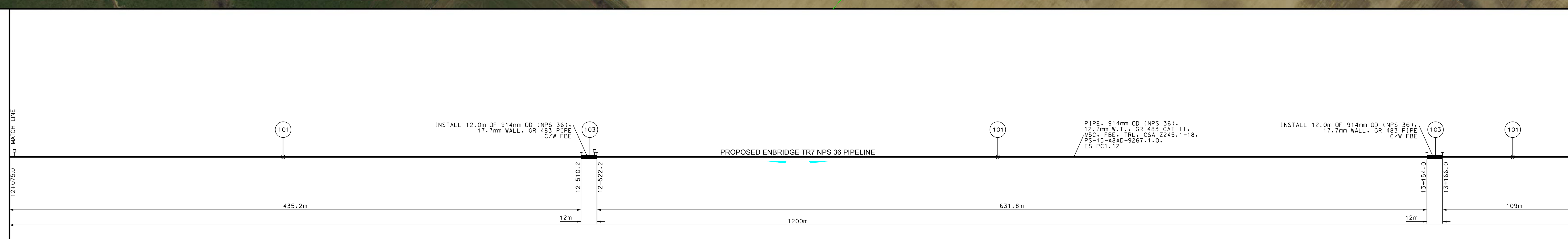
PIPELINE PLAN
SCALE 1:2000

PIPELINE SCHEMATIC

LEGEND:

- HEAVY WALL PIPE
- PIPESAK
- TRANSITION WELD
- PIPELINE WARNING SIGN
- MATERIAL ITEM
- MAINLINE VALVE
- SIDE VALVE

PIPELINE DATA



DESIGN PARAMETERS (NEW PIPING ONLY)

DESIGN

- DESIGNED TO CSA Z662-19
- DESIGN FACTOR – 0.8
- LOCATION FACTOR – 0.900 / 0.625 (CLASS 2)
- DESIGN TEMPERATURE – M5C
- DESIGN PRESSURE – 9308 kPa

HYDROSTATIC TEST PRESSURE

PIPING

- STRENGTH – 13,032 kPa (1890 psig) MIN.
- LEAK – 10,239 kPa (1485 psig) MIN.
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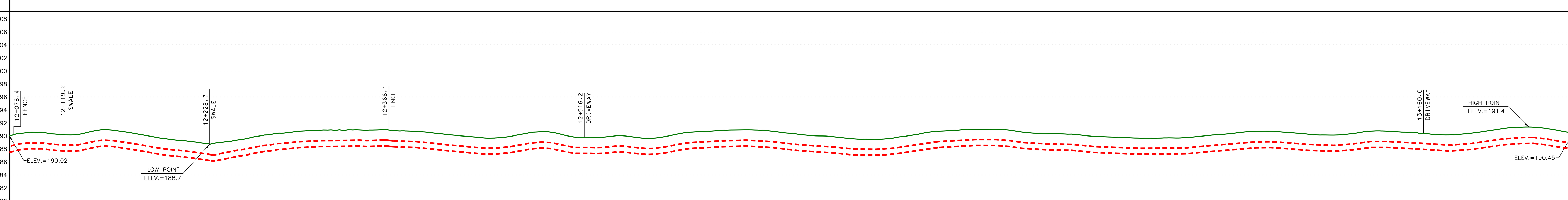
HYDROSTATIC TEST DATE – TBD

CONSTRUCTION

START DATE – JUNE 1, 2023
PLACED IN SERVICE – NOVEMBER 1, 2023

P/L PROFILE
HORIZ 1:2000 VERT 1:400



BILL of MATERIAL

Item No	Material No	Qty	Size	Description
101-150	Material No	Qty	Size	**PIPE**
101	~	1176m	36	PIPE, 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
103	~	24m	36	PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
701-800	Material No	Qty	Size	**OTHER MATERIAL**
702	[illegible]	~	[illegible] roll	[illegible] LINE 2: "ENBRIDGE GAS INC. (HEIGHT 2") LINE 3: "NATURAL GAS PIPELINE BURIED BELOW" (HEIGHT 1 1/2") ALL THREE LINES TO BE CENTERED 36" REPEATS
703	125139	1	406.4 x 406.4	STANDARD STO BURIED PIPELINE SYSTEM SIGNAGE, Phone number required 1-800-265-5260 AS PER LUG C&M 18.6
704	125111	1	3 m	SIGN POST, GALV U CHANNEL POST HOT ROLLED & DIPPED 80 M PSI C/W SIGN HDWE PER DWG.E974 (10FT.)
705	~	~	36	PIPELINE WEIGHTS, NPS 36, SADDLE DESIGN, GRAVEL FILLED

INFORMATION ONLY

CONSTRUCTION NOTES:

1) CONTRACTOR RESPONSIBLE FOR ALL UTILITY LOCATES.
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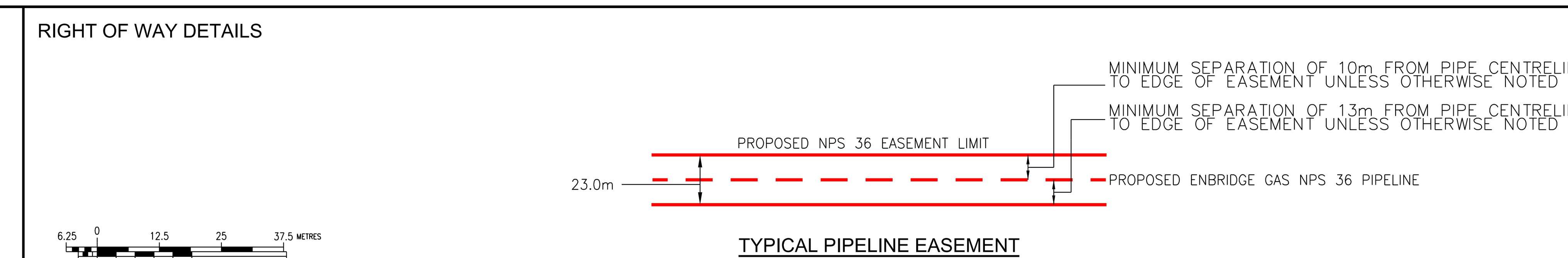
10) CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
11) MAINTAIN MIN. 300mm CLEARANCE BETWEEN PROPOSED MAIN AND OTHER UTILITIES AND UNDERGROUND STRUCTURES THAT ARE CROSSED.
12) GENERAL DEPTH OF COVER IS 1.2m (MIN) FROM ORIGINAL GRADE AND 1.0m (MIN) FROM CONSTRUCTION GRADE UNLESS OTHERWISE STATED.

RIGHT OF WAY DETAILS



TYPICAL PIPELINE EASEMENT
N.T.S.

REVISION

NO.	DESCRIPTION	DATE	BY	CHK	APPR
A	ISSUED FOR REVIEW 30%	2021-12-13	N.C.	C.G.	G.S.
B	FOR INFORMATION ONLY	2022-01-25	N.C.	--	--
C	ISSUED FOR REVIEW 90%	2022-06-03	N.C.	C.G.	G.S.
D	ISSUED FOR BID	2022-06-30	N.C.	C.G.	G.S.

--	2022-01-25	FOR INFORMATION ONLY
GS	2022-06-30	ISSUED FOR BID
		ISSUED FOR CONSTRUCTION
		ISSUED FOR CONSTRUCTION 2

AS BUILT | AS BUILT BY: | CHECKED BY:
CHECKED: CAROLE GAGNE | DATE: 2022:06:30
APP'D BY: GRANT STRACHAN | DATE: 2022:06:30
WBS: XX-XX-XXX | SCALE: 1:2000

INFORMATION ONLY

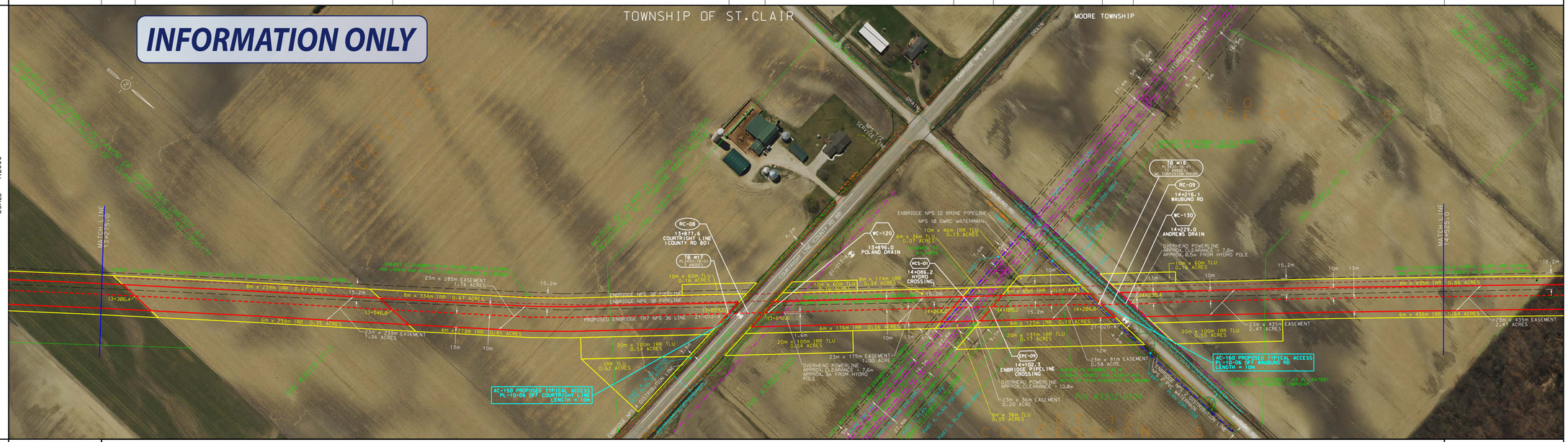
ENGINEER: GRANT STRACHAN

PRELIMINARY

ENBRIDGE
Life Takes Energy

DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
2023 CONSTRUCTION - DAWN/EUPHEMIA & ST. CLAIR
PIPELINE CONSTRUCTION ALIGNMENT
12+075.0 TO MATCH LINE 13+275.0

FILE REVISION DATE: 2022-06-30
DRAWING NUMBER: PL3430-AL-011



RIGHT-OF-WAY
ENBRIDGE FILE NUMBER
OWNERSHIP/AGENCY
PIN: NUMBER

MATCH LINE 13+275.0 | 13+306.4 | 13+546.0 | 13+859.1 | COURTRIGHT LINE (COUNTY RD 80) 13+892.6 | 14+068.2 | 14+105.2 | WAUBUNO RD 14+206.6 | 14+235.4 | 14+525.0 MATCH LINE

CURRENT CLASS LOCATION
LOCATION FACTOR
TILE PLAN NUMBER

ALIGNMENT DETAIL

LEGEND:	
PROPOSED ENBRIDGE TR7 NPS 36 PIPELINE	- - -
TRANSMISSION/DISTRIBUTION PIPELINE	- - -
FOREIGN PIPELINE	- - -
EXISTING EASEMENT	
ENBRIDGE PIPELINE	- - -
PROPOSED ENBRIDGE EASEMENT	
TEMPORARY ACCESS LANEWAY	🟨
DRAIN/STREAM/WATERCOURSE CENTRE	
HYDRO EASEMENTS	
DRAINAGE DITCH BOTTOM/TOP	
RETAINING WALL/BRIDGE ABUTMENT	
ASPHALT/GRAVEL EDGE	
BUILDING	☐
POST/HYDRO POLE	● ●
TELEPHONE BURIED CABLE/MISC CABLE	
FENCE	
OVERHEAD/BURIED HYDRO LINES	
WATERMAIN	
BOTTOM/TOP OF SLOPE	
TELEPHONE MARKER/BELL PEDESTAL	
CULVERT/CATCH BASIN/WATER VALVE	
SIGN/MAILBOX	
HYDRO TOWER	☒
PROPERTY LINE/ROAD ALLOWANCE	
PROPOSED ROAD/WATERCOURSE CROSSING	RC-XX WC-XX
PROPOSED HYDRO CROSSING	HCS-XX
PROPOSED ENBRIDGE PIPELINE CROSSING	EPC-XX
PROPOSED FOREIGN PIPELINE CROSSING	FPL-XX
PROPOSED BOREHOLE/MONITORING WELL	
TEST POST	TB # PL3430-TB-XX
PIPELINE KILOMETRE POST	
TREE	

PIPELINE PLAN
SCALE 1:2000

PIPELINE SCHEMATIC

LEGEND:	
HEAVY WALL PIPE	▬
PIPESAK	- - -
TRANSITION WELD	T
PIPELINE WARNING SIGN	
MATERIAL ITEM	(112)
MAINLINE VALVE	
SIDE VALVE	

PIPELINE DATA

P/L PROFILE
HORIZ 1:2000 VERT 1:400

DESIGN PARAMETERS (NEW PIPING ONLY)

DESIGN

- DESIGNED TO CSA Z662-19
- DESIGN FACTOR – 0.8
- LOCATION FACTOR – 0.900 / 0.625 (CLASS 2)
- DESIGN TEMPERATURE – M5C
- DESIGN PRESSURE – 9308 kPa

HYDROSTATIC TEST PRESSURE

PIPING

- STRENGTH – 13,032 kPa (1890 psig) MIN.
- LEAK – 10,239 kPa (1485 psig) MIN.
- DURATION – EXPOSED PIPING – 1 HOUR AT STRENGTH TEST PRESSURE MINIMUM
- BURIED PIPING – 4 HOUR AT STRENGTH TEST PRESSURE FOLLOWED BY 4 HOUR AT LEAK TEST PRESSURE MINIMUM

HYDROSTATIC TEST DATE – TBD

CONSTRUCTION

START DATE – JUNE 1, 2023
PLACED IN SERVICE – NOVEMBER 1, 2023

BILL of MATERIAL

INFORMATION ONLY

Item No	Material No	Qty	Size	Description
101-150	Material No	Qty	Size	**PIPE**
101	~	870m	36	PIPE, 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
103	~	332m	36	PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
104	~	48m	36	PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, ARO, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-C7.3
701-800	Material No	Qty	Size	**OTHER MATERIAL**
702	130968	~	610mm x 304.8m roll	(24"x1000') ROLL YELLOW TERRA TAPE IMPRINT LAYOUT LINE 1: "CAUTION CAUTION CAUTION" (HEIGHT 3") LINE 2: " ENBRIDGE GAS INC: (HEIGHT2") LINE 3: "NATURAL GAS PIPELINE BURIED BELOW" (HEIGHT 1 1/2") ALL THREE LINES TO BE CENTERED 36" REPEATS
703	125139	7	406.4 x 406.4	STANDARD STO BURIED PIPELINE SYSTEM SIGNAGE, Phone number required 1-800-265-5260 AS PER LUG C&M 18.6
704	125111	7	3 m	SIGN POST, GALV U CHANNEL POST HOT ROLLED & DIPPED 80 M PSI C/W SIGN HDWE PER DWG.E974 (10FT.)
705	~	~	36	PIPELINE WEIGHTS, NPS 36, SADDLE DESIGN, GRAVEL FILLED

CONSTRUCTION NOTES:

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2) ALL CULVERTS, END WALL TREATMENT AND TILE DRAINS REMOVED DURING CONSTRUCTION ARE TO BE RESTORED TO MATCH EXISTING CONDITIONS.
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RIGHT OF WAY DETAILS

TYPICAL PIPELINE EASEMENT
N.T.S.

6.25 0 12.5 25 37.5 METRES
12.5 0 12.5 25 37.5 50 62.5 125 FEET

REVISION

NO.	DESCRIPTION	DATE	BY	CHK	APPR
A	ISSUED FOR REVIEW 30%	2021-12-13	N.C.	C.G.	G.S.
B	FOR INFORMATION ONLY	2022-01-25	N.C.	--	--
C	ISSUED FOR REVIEW 90%	2022-06-03	N.C.	C.G.	G.S.
D	ISSUED FOR BID	2022-06-30	N.C.	C.G.	G.S.

--	2022-01-25	FOR INFORMATION ONLY
GS	2022-06-30	ISSUED FOR BID
		ISSUED FOR CONSTRUCTION
		ISSUED FOR CONSTRUCTION 2

AS BUILT
AS BUILT BY:
CHECKED BY:
DRAWN [illegible] DATE 2020:10:06
CHECKED CAROLE GAGNE DATE 2022:06:30
APP'D BY GRANT STRACHAN DATE 2022:06:30
WBS XX-XX-XXX SCALE 1:2000

INFORMATION ONLY

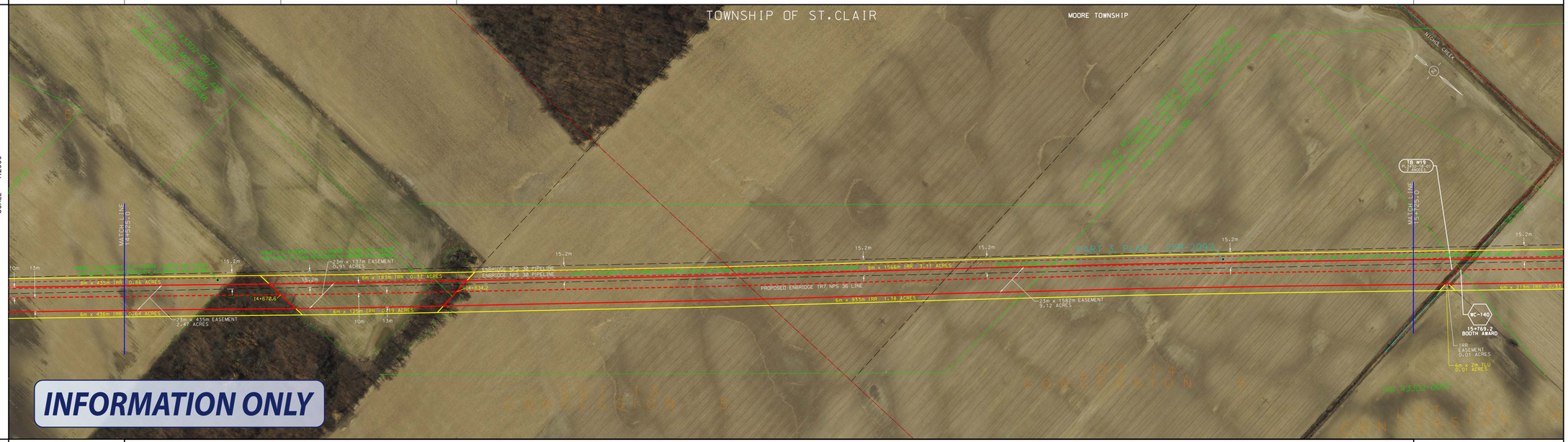
ENGINEER: GRANT STRACHAN

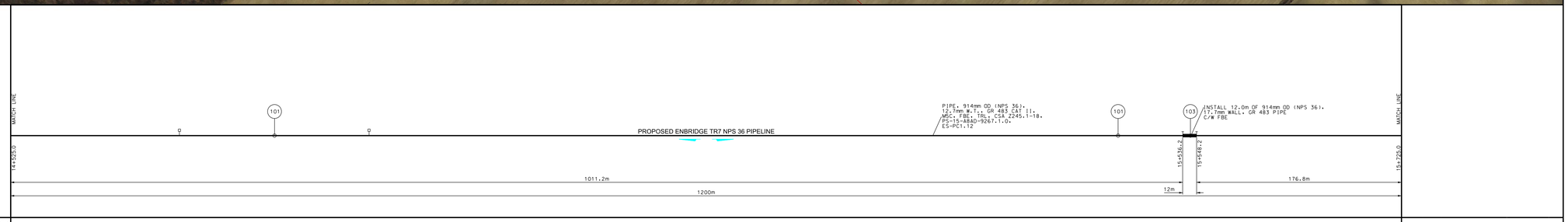
PRELIMINARY

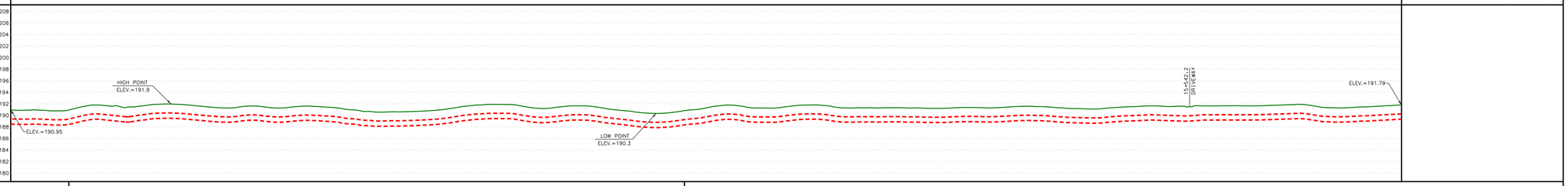
ENBRIDGE
Life Takes Energy®

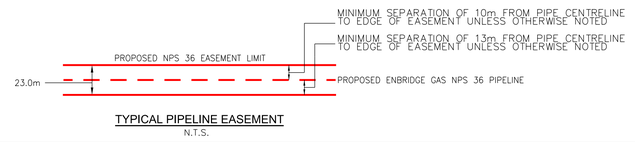
DAWN TO CORUNNA TR7 – NPS 36 PIPELINE
2023 CONSTRUCTION – DAWN/EUPHEMIA & ST. CLAIR
PIPELINE CONSTRUCTION ALIGNMENT
13+275.0 TO MATCH LINE 14+525.0

FILE REVISION DATE 2022-06-30
DRAWING NUMBER PL3430-AL-012









RIGHT-OF-WAY

ENBRIDGE FILE NUMBER
OWNERSHIP/AGENCY
PIN: NUMBER

MATCH LINE 14+525.0 | 14+670.6 | 14+834.2 | 15+725.0 MATCH LINE

CURRENT CLASS LOCATION

LOCATION FACTOR

TILE PLAN NUMBER

ALIGNMENT DETAIL

LEGEND:

- PROPOSED ENBRIDGE TR7 NPS 36 PIPELINE
- TRANSMISSION/DISTRIBUTION PIPELINE
- FOREIGN PIPELINE
- EXISTING EASEMENT
- ENBRIDGE PIPELINE
- PROPOSED ENBRIDGE EASEMENT
- TEMPORARY ACCESS LANEWAY
- DRAIN/STREAM/WATERCOURSE CENTRE
- HYDRO EASEMENTS
- DRAINAGE DITCH BOTTOM/TOP
- RETAINING WALL/BRIDGE ABUTMENT
- ASPHALT/GRAVEL EDGE
- BUILDING
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- TELEPHONE BURIED CABLE/MISC CABLE
- FENCE
- OVERHEAD/BURIED HYDRO LINES
- WATERMAIN
- BOTTOM/TOP OF SLOPE
- TELEPHONE MARKER/BELL PEDESTAL
- CULVERT/CATCH BASIN/WATER VALVE
- SIGN/MAILBOX
- HYDRO TOWER
- PROPERTY LINE/ROAD ALLOWANCE
- PROPOSED ROAD/WATERCOURSE CROSSING (RC-XX) (WC-XXX)
- PROPOSED HYDRO CROSSING (HCS-XX)
- PROPOSED ENBRIDGE PIPELINE CROSSING (EPC-XX)
- PROPOSED FOREIGN PIPELINE CROSSING (FPL-XX)
- PROPOSED BOREHOLE/MONITORING WELL
- TEST POST (TB # PL3430-TB-XX)
- PIPELINE KILOMETRE POST
- TREE

PIPELINE PLAN SCALE 1:2000

PIPELINE SCHEMATIC

LEGEND:

- HEAVY WALL PIPE
- PIPESAK
- TRANSITION WELD
- PIPELINE WARNING SIGN
- MATERIAL ITEM (112)
- MAINLINE VALVE
- SIDE VALVE

PIPELINE DATA

DESIGN PARAMETERS (NEW PIPING ONLY)

DESIGN

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- DESIGN FACTOR – 0.8
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HYDROSTATIC TEST DATE – TBD

CONSTRUCTION

START DATE – JUNE 1, 2023
PLACED IN SERVICE – NOVEMBER 1, 2023

P/L PROFILE HORIZ 1:2000 VERT 1:400

BILL of MATERIAL

Item No	Material No	Qty	Size	Description
101-150	Material No	Qty	Size	**PIPE**
101	~	1188m	36	PIPE, 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
103	~	12m	36	PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
701-800	Material No	Qty	Size	**OTHER MATERIAL**
702	130968	~	610mm x 304.8 roll	[illegible] LINE 1: "CAUTION CAUTION" (HEIGHT [illegible]) LINE 2: " ENBRIDGE GAS INC. (HEIGHT 2") LINE 3: "NATURAL GAS PIPELINE BURIED BELOW" (HEIGHT 1 1/2") ALL THREE LINES TO BE CENTERED 36" REPEATS
703	125139	2	406.4 x 406.4	STANDARD STD BURIED PIPELINE SYSTEM SIGNAGE, Phone number required 1-800-265-5260 AS PER LUG C&M 18.6
704	125111	2	3 m	SIGN POST, GALV U CHANNEL POST HOT ROLLED & DIPPED 80 M PSI C/W SIGN HDWE PER DWG.E974 (10FT.)
705	~	~	36	PIPELINE WEIGHTS, NPS 36, SADDLE DESIGN, GRAVEL FILLED

INFORMATION ONLY

CONSTRUCTION NOTES:

1) CONTRACTOR RESPONSIBLE FOR ALL UTILITY LOCATES.
2) ALL CULVERTS, END WALL TREATMENT AND TILE DRAINS REMOVED DURING CONSTRUCTION ARE TO BE RESTORED TO MATCH EXISTING CONDITIONS.
3) RESTORATION INCLUDES TOPSOIL AND SEEDING.
4) RESTORE DRIVEWAYS TO MATCH EXISTING.
5) ALL ASPHALT AREAS TO BE RESTORED TO MATCH EXISTING.
6) RESTORE ALL OPEN DRAINS TO MATCH ORIGINAL GRADE AND CONTOUR CONDITIONS.
7) ALL WORK MUST BE IN ACCORDANCE WITH THE LATEST ENBRIDGE GAS SPECIFICATIONS.
8) ALL WELDS TO BE NON-DESTRUCTIVELY EXAMINED, AS PER COMPANY SPECIFICATIONS.
9) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
10) CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
11) MAINTAIN MIN. 300mm CLEARANCE BETWEEN PROPOSED MAIN AND OTHER UTILITIES AND UNDERGROUND STRUCTURES THAT ARE CROSSED.
12) GENERAL DEPTH OF COVER IS 1.2m (MIN) FROM ORIGINAL GRADE AND 1.0m (MIN) FROM CONSTRUCTION GRADE UNLESS OTHERWISE STATED.

RIGHT OF WAY DETAILS

TYPICAL PIPELINE EASEMENT
N.T.S.

6.25 0 12.5 25 37.5 METRES
12.5 0 12.5 25 37.5 50 62.5 125 FEET

REVISION

NO.	DESCRIPTION	DATE	BY	CHK	APPR
A	ISSUED FOR REVIEW 30%	2021-12-13	N.C.	C.G.	G.S.
B	FOR INFORMATION ONLY	2022-01-25	N.C.	--	--
C	ISSUED FOR REVIEW 90%	2022-06-03	N.C.	C.G.	G.S.
D	ISSUED FOR BID	2022-06-30	N.C.	C.G.	G.S.

--	2022-01-25	FOR INFORMATION ONLY
GS	2022-06-30	ISSUED FOR BID
		ISSUED FOR CONSTRUCTION
		ISSUED FOR CONSTRUCTION 2

AS BUILT | AS BUILT BY: | CHECKED BY:
DRAWN: [illegible] | DATE: 2020:10:06
CHECKED: CAROLE GAGNE | DATE: 2022:06:30
APP'D BY: GRANT STRACHAN | DATE: 2022:06:30
WBS: XX-XX-XXX | SCALE: 1:2000

INFORMATION ONLY

ENGINEER: GRANT STRACHAN

PRELIMINARY

ENBRIDGE
Life Takes Energy®

DAWN TO CORUNNA TR7 – NPS 36 PIPELINE
2023 CONSTRUCTION – DAWN/EUPHEMIA & ST. CLAIR
PIPELINE CONSTRUCTION ALIGNMENT
14+525.0 TO MATCH LINE 15+725.0

FILE REVISION DATE: 2022-06-30
DRAWING NUMBER: PL3430-AL-013

RIGHT-OF-WAY

ENBRIDGE FILE NUMBER
OWNERSHIP/AGENCY
PIN: NUMBER

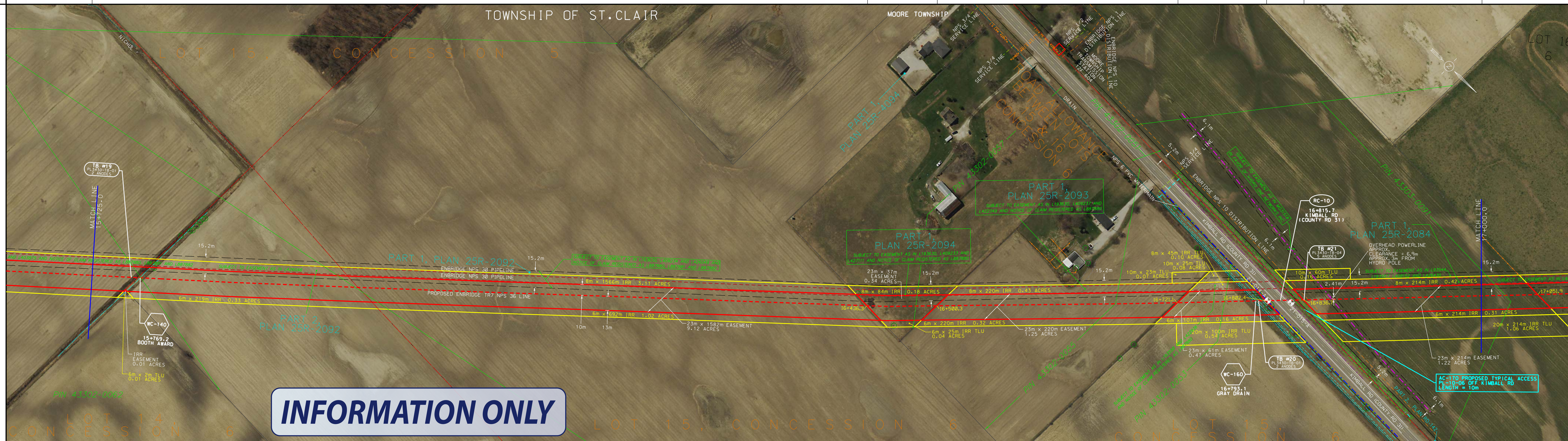
MATCH LINE 15+725.0 | 16+436.3 | 16+500.3 | 16+721.1 | 16+802.4 | 16+836.7 | KIMBALL RD (31 CTYRD) | 17+000.0 MATCH LINE

CURRENT CLASS LOCATION
LOCATION FACTOR
TILE PLAN NUMBER

ALIGNMENT DETAIL

LEGEND:
- PROPOSED ENBRIDGE TR7 NPS 36 PIPELINE
- TRANSMISSION/DISTRIBUTION PIPELINE
- FOREIGN PIPELINE
- EXISTING EASEMENT
- ENBRIDGE PIPELINE
- PROPOSED ENBRIDGE EASEMENT
- TEMPORARY ACCESS LANEWAY
- DRAIN/STREAM/WATERCOURSE CENTRE
- HYDRO EASEMENTS
- DRAINAGE DITCH BOTTOM/TOP
- RETAINING WALL/BRIDGE ABUTMENT
- ASPHALT/GRAVEL EDGE
- BUILDING
- POST/HYDRO POLE
- TELEPHONE BURIED CABLE/MISC CABLE
- FENCE
- OVERHEAD/BURIED HYDRO LINES
- WATERMAIN
- BOTTOM/TOP OF SLOPE
- TELEPHONE MARKER/BELL PEDESTAL
- CULVERT/CATCH BASIN/WATER VALVE
- SIGN/MAILBOX
- HYDRO TOWER
- PROPERTY LINE/ROAD ALLOWANCE
- PROPOSED ROAD/WATERCOURSE CROSSING (RC-XX) (WC-XX)
- PROPOSED HYDRO CROSSING (HCS-XX)
- PROPOSED ENBRIDGE PIPELINE CROSSING (EPC-XX)
- PROPOSED FOREIGN PIPELINE CROSSING (FPL-XX)
- PROPOSED BOREHOLE/MONITORING WELL
- TEST POST (TB # PL3430-TB-XX)
- PIPELINE KILOMETRE POST
- TREE

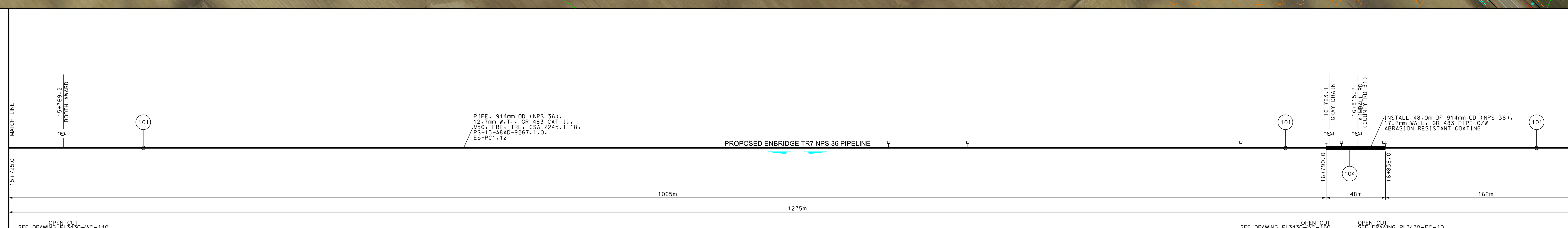
PIPELINE PLAN SCALE 1:2000



PIPELINE SCHEMATIC

LEGEND:
- HEAVY WALL PIPE
- PIPESAK
- TRANSITION WELD
- PIPELINE WARNING SIGN
- MATERIAL ITEM
- MAINLINE VALVE
- SIDE VALVE

PIPELINE DATA



DESIGN PARAMETERS (NEW PIPING ONLY)

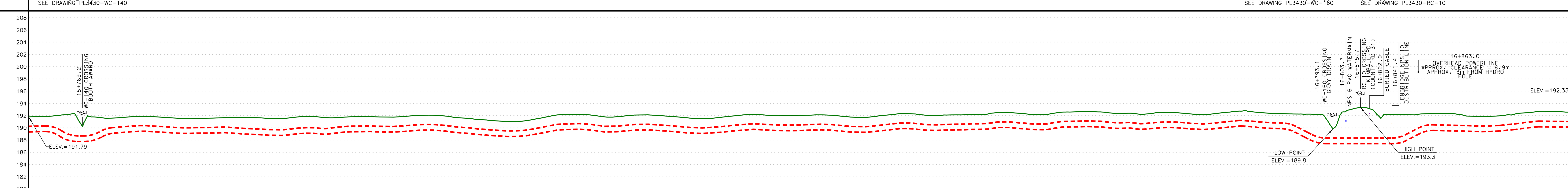
DESIGN
- DESIGNED TO CSA Z662-19
- DESIGN FACTOR – 0.8
- LOCATION FACTOR – 0.900 / 0.625 (CLASS 2)
- DESIGN TEMPERATURE – M5C
- DESIGN PRESSURE – 9308 kPa

HYDROSTATIC TEST PRESSURE
PIPING
- STRENGTH – 13,032 kPa (1890 psig) MIN.
- LEAK – 10,239 kPa (1485 psig) MIN.
- DURATION – EXPOSED PIPING – 1 HOUR AT STRENGTH TEST PRESSURE MINIMUM
- BURIED PIPING – 4 HOUR AT STRENGTH TEST PRESSURE FOLLOWED BY 4 HOUR AT LEAK TEST PRESSURE MINIMUM

HYDROSTATIC TEST DATE – TBD

CONSTRUCTION
START DATE – JUNE 1, 2023
PLACED IN SERVICE – NOVEMBER 1, 2023

P/L PROFILE HORIZ 1:2000 VERT 1:400



BILL of MATERIAL

Item No	Material No	Qty	Size	Description
101-150	Material No	Qty	Size	**PIPE**
101	~	1227m	36	PIPE, 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
104		48m	36	PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, ARO, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC7.3
701-800	Material No	Qty	Size	OTHER MATERIAL
702	1[illegible]0968	~	610mm [illegible] roll	[illegible] LINE 2: "ENBRIDGE GAS INC. (HEIGHT 2") LINE 3: "NATURAL GAS PIPELINE BURIED BELOW" (HEIGHT 1 1/2") ALL THREE LINES TO BE CENTERED 36" REPEATS
703	125139	5	406.4 x 406.4	STANDARD STO BURIED PIPELINE SYSTEM SIGNAGE, Phone number required 1-800-265-5260 AS PER LUG C&M 18.6
704	125111	5	3 m	SIGN POST, GALV U CHANNEL POST HOT ROLLED & DIPPED 80 M PSI C/W SIGN HDWE PER DWG.E974 (10FT.)
705	~	~	36	PIPELINE WEIGHTS, NPS 36, SADDLE DESIGN, GRAVEL FILLED

INFORMATION ONLY

CONSTRUCTION NOTES:

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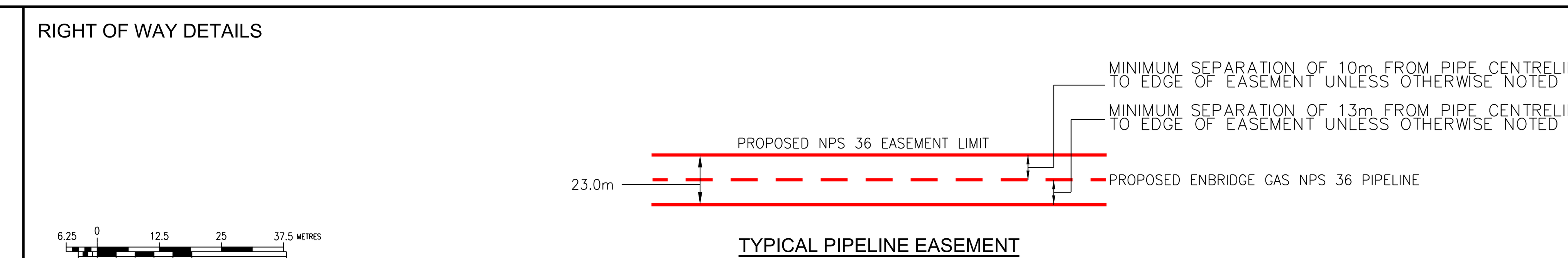
12) GENERAL DEPTH OF COVER IS 1.2m (MIN) FROM ORIGINAL GRADE AND 1.0m (MIN) FROM CONSTRUCTION GRADE UNLESS OTHERWISE STATED.

RIGHT OF WAY DETAILS



TYPICAL PIPELINE EASEMENT
N.T.S.

6.25 0 12.5 25 37.5 METRES
12.5 0 12.5 25 37.5 50 62.5 125 FEET

NO.	DESCRIPTION	DATE	BY	CHK	APPR
A	ISSUED FOR REVIEW 30%	2021-12-13	N.C.	C.G.	G.S.
B	FOR INFORMATION ONLY	2022-01-25	N.C.	--	--
C	ISSUED FOR REVIEW 90%	2022-06-03	N.C.	C.G.	G.S.
D	ISSUED FOR BID	2022-06-30	N.C.	C.G.	G.S.

REVISION

--	2022-01-25	FOR INFORMATION ONLY
GS	2022-06-30	ISSUED FOR BID
		ISSUED FOR CONSTRUCTION
		ISSUED FOR CONSTRUCTION 2
		AS BUILT

INFORMATION ONLY

CHECKED CAROLE GAGNE DATE 2022:06:30
APP'D BY GRANT STRACHAN DATE 2022:06:30
WBS XX-XX-XXX SCALE 1:2000

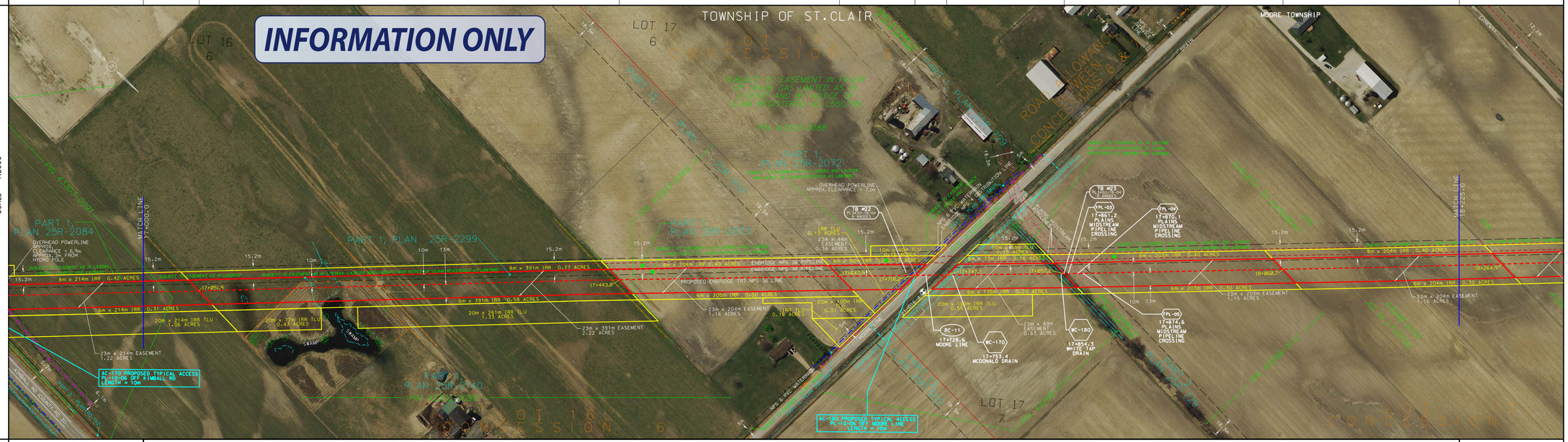
ENGINEER: GRANT STRACHAN

PRELIMINARY

ENBRIDGE Life Takes Energy

DAWN TO CORUNNA TR7 – NPS 36 PIPELINE
2023 CONSTRUCTION – DAWN/EUPHEMIA & ST. CLAIR
PIPELINE CONSTRUCTION ALIGNMENT
15+725.0 TO MATCH LINE 17+000.0

FILE REVISION DATE 2022-06-30
DRAWING NUMBER PL3430-AL-014



RIGHT-OF-WAY
ENBRIDGE FILE NUMBER
OWNERSHIP/AGENCY
PIN: NUMBER

MATCH LINE 17+000.0 | 17+051.9 | 17+443.0 | 17+647.9 | MOORE LINE 17+718.2 | 17+747.7 | 17+857.2 | 18+060.7 | 18+225.0 MATCH LINE

CURRENT CLASS LOCATION
LOCATION FACTOR
TILE PLAN NUMBER

ALIGNMENT DETAIL

LEGEND:

PROPOSED ENBRIDGE TR7 NPS 36 PIPELINE	- - -
TRANSMISSION/DISTRIBUTION PIPELINE	- - -
FOREIGN PIPELINE	- - -
EXISTING EASEMENT	⌐ ¬
ENBRIDGE PIPELINE	- - -
PROPOSED ENBRIDGE EASEMENT	—
TEMPORARY ACCESS LANEWAY	🟨
DRAIN/STREAM/WATERCOURSE CENTRE	—
HYDRO EASEMENTS	— —
DRAINAGE DITCH BOTTOM/TOP	—
RETAINING WALL/BRIDGE ABUTMENT	▭
ASPHALT/GRAVEL EDGE	—
BUILDING	▭
POST/HYDRO POLE	● ●
TELEPHONE BURIED CABLE/MISC CABLE	- · -
FENCE	—
OVERHEAD/BURIED HYDRO LINES	- · -
WATERMAIN	- · -
BOTTOM/TOP OF SLOPE	- - -
TELEPHONE MARKER/BELL PEDESTAL	● ▭
CULVERT/CATCH BASIN/WATER VALVE	▭ ◇
SIGN/MAILBOX	△ ●
HYDRO TOWER	☒
PROPERTY LINE/ROAD ALLOWANCE	—
PROPOSED ROAD/WATERCOURSE CROSSING	RC-XX WC-XX
PROPOSED HYDRO CROSSING	HCS-XX
PROPOSED ENBRIDGE PIPELINE CROSSING	EPC-XX
PROPOSED FOREIGN PIPELINE CROSSING	FPL-XX
PROPOSED BOREHOLE/MONITORING WELL	◆ ◆
TEST POST	TB # PL3430-TB-XX
PIPELINE KILOMETRE POST	KP
TREE	○

PIPELINE PLAN SCALE 1:2000

PIPELINE SCHEMATIC

LEGEND:

HEAVY WALL PIPE	▬
PIPESAK	- - -
TRANSITION WELD	T
PIPELINE WARNING SIGN	♀
MATERIAL ITEM	(112)
MAINLINE VALVE	▷◁
SIDE VALVE	⊼

PIPELINE DATA

P/L PROFILE HORIZ 1:2000 VERT 1:400

DESIGN PARAMETERS (NEW PIPING ONLY)

DESIGN

- DESIGNED TO CSA Z662-19
- DESIGN FACTOR – 0.8
- LOCATION FACTOR – 0.900 / 0.625 (CLASS 2)
- DESIGN TEMPERATURE – M5C
- DESIGN PRESSURE – 9308 kPa

HYDROSTATIC TEST PRESSURE

PIPING

- STRENGTH – 13,032 kPa (1890 psig) MIN.
- LEAK – 10,239 kPa (1485 psig) MIN.
- DURATION – EXPOSED PIPING – 1 HOUR AT STRENGTH TEST PRESSURE MINIMUM
- BURIED PIPING – 4 HOUR AT STRENGTH TEST PRESSURE FOLLOWED BY 4 HOUR AT LEAK TEST PRESSURE MINIMUM

HYDROSTATIC TEST DATE – TBD

CONSTRUCTION

START DATE – JUNE 1, 2023
PLACED IN SERVICE – NOVEMBER 1, 2023

BILL of MATERIAL

Item No	Material No	Qty	Size	Description
101-150	Material No	Qty	Size	PIPE
101	~	1165m	36	PIPE, 914mm OD (NPS 36), 12.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
103	~	12m	36	PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
104	[illegible]	48m	[illegible]	PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, ARO, QRL, CSA Z245.1-18, PS-15-A[illegible]D-[illegible]67[illegible]0, E[illegible]C7.[illegible]
701-800	Material No	[illegible]	[illegible]ize	OTHER MATERIAL
702	130968	~	610mm x 304.8m roll	(24"x1000') ROLL YELLOW TERRA TAPE IMPRINT LAYOUT LINE 1: "CAUTION CAUTION CAUTION" (HEIGHT 3") LINE 2: " ENBRIDGE GAS INC: (HEIGHT2") LINE 3: "NATURAL GAS PIPELINE BURIED BELOW" (HEIGHT 1 1/2") ALL THREE LINES TO BE CENTERED 36" REPEATS
703	125139	7	406.4 x 406.4	STANDARD STO BURIED PIPELINE SYSTEM SIGNAGE, Phone number required 1-800-265-5260 AS PER LUG C&M 18.6
704	125111	7	3 m	SIGN POST, GALV U CHANNEL POST HOT ROLLED & DIPPED 80 M PSI C/W SIGN HDWE PER DWG.E974 (10FT.)
705	~	54	36	PIPELINE WEIGHTS, NPS 36, SADDLE DESIGN, GRAVEL FILLED

INFORMATION ONLY

CONSTRUCTION NOTES:

1) CONTRACTOR RESPONSIBLE FOR ALL UTILITY LOCATES.
2) ALL CULVERTS, END WALL TREATMENT AND TILE DRAINS REMOVED DURING CONSTRUCTION ARE TO BE RESTORED TO MATCH EXISTING CONDITIONS.
3) RESTORATION INCLUDES TOPSOIL AND SEEDING.
4) RESTORE DRIVEWAYS TO MATCH EXISTING.
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10) CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
11) MAINTAIN MIN. 300mm CLEARANCE BETWEEN PROPOSED MAIN AND OTHER UTILITIES AND UNDERGROUND STRUCTURES THAT ARE CROSSED.
12) GENERAL DEPTH OF COVER IS 1.2m (MIN) FROM ORIGINAL GRADE AND 1.0m (MIN) FROM CONSTRUCTION GRADE UNLESS OTHERWISE STATED.

RIGHT OF WAY DETAILS

TYPICAL PIPELINE EASEMENT
N.T.S.

REVISION

NO.	DESCRIPTION	DATE	BY	CHK	APPR
A	ISSUED FOR REVIEW 30%	2021-12-13	N.C.	C.G.	G.S.
B	FOR INFORMATION ONLY	2022-01-25	N.C.	--	--
C	ISSUED FOR REVIEW 90%	2022-06-03	N.C.	C.G.	G.S.
D	ISSUED FOR BID	2022-06-30	N.C.	C.G.	G.S.

--	2022-01-25	FOR INFORMATION ONLY
GS	2022-06-30	ISSUED FOR BID
		ISSUED FOR CONSTRUCTION
		ISSUED FOR CONSTRUCTION 2

AS BUILT | AS BUILT BY: | CHECKED BY:
DRAWN: [illegible] | DATE: 2022:06:06 (?)
CHECKED: CAROLE GAGNE | DATE: 2022:06:30
APP'D BY: GRANT STRACHAN | DATE: 2022:06:30
WBS: XX-XX-XXX | SCALE: 1:2000

INFORMATION ONLY

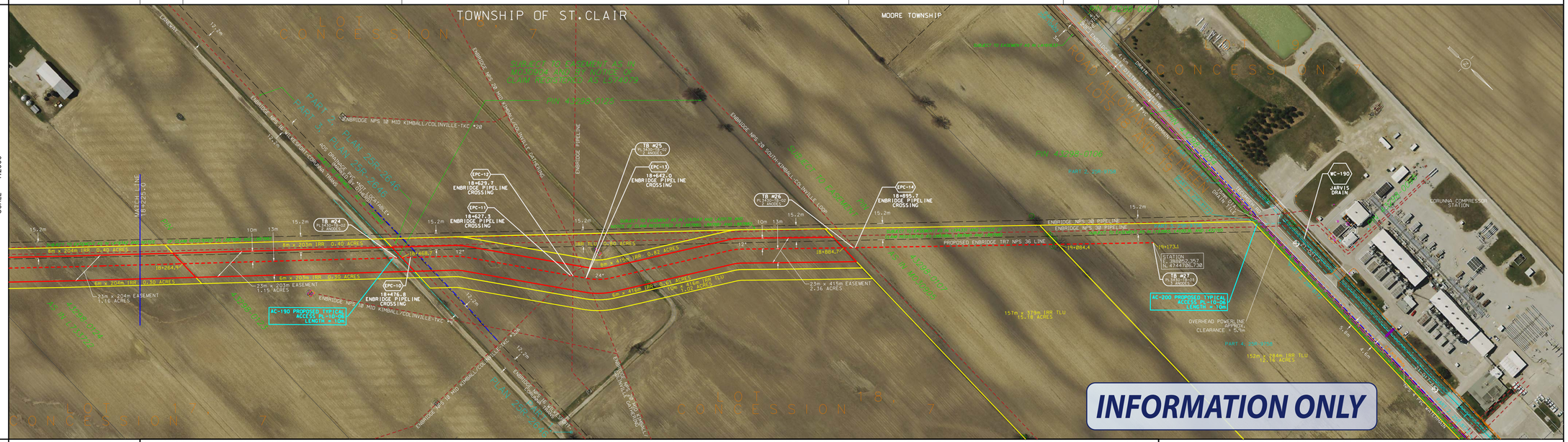
ENGINEER: GRANT STRACHAN

PRELIMINARY

ENBRIDGE
Life Takes Energy®

DAWN TO CORUNNA TR7 – NPS 36 PIPELINE
2023 CONSTRUCTION – DAWN/EUPHEMIA & ST. CLAIR
PIPELINE CONSTRUCTION ALIGNMENT
17+000.0 TO MATCH LINE 18+225.0

FILE REVISION DATE: 2022-06-30
DRAWING NUMBER: PL3430-AL-015



RIGHT-OF-WAY
ENBRIDGE FILE NUMBER
OWNERSHIP/AGENCY
PIN: NUMBER

CURRENT CLASS LOCATION
LOCATION FACTOR
TILE PLAN NUMBER

ALIGNMENT DETAIL

LEGEND:

PROPOSED ENBRIDGE TR7 NPS 36 PIPELINE	- - -
TRANSMISSION/DISTRIBUTION PIPELINE	- - -
FOREIGN PIPELINE	- - -
EXISTING EASEMENT	⌐ - - ¬
ENBRIDGE PIPELINE	- - -
PROPOSED ENBRIDGE EASEMENT	―
TEMPORARY ACCESS LANEWAY	▭
DRAIN/STREAM/WATERCOURSE CENTRE	- · -
HYDRO EASEMENTS	— —
DRAINAGE DITCH BOTTOM/TOP	⊐
RETAINING WALL/BRIDGE ABUTMENT	▭
ASPHALT/GRAVEL EDGE	―
BUILDING	▭
POST/HYDRO POLE	○ ○
TELEPHONE BURIED CABLE/MISC CABLE	- · -
FENCE	- - -
OVERHEAD/BURIED HYDRO LINES	- · -
WATERMAIN	- · -
BOTTOM/TOP OF SLOPE	- - -
TELEPHONE MARKER/BELL PEDESTAL	● ⊟
CULVERT/CATCH BASIN/WATER VALVE	⊏ ⊡ ◇
SIGN/MAILBOX	△ ↰
HYDRO TOWER	⊠
PROPERTY LINE/ROAD ALLOWANCE	―
PROPOSED ROAD/WATERCOURSE CROSSING	RC-XX WC-XXX
PROPOSED HYDRO CROSSING	HCS-XX
PROPOSED ENBRIDGE PIPELINE CROSSING	EPC-XX
PROPOSED FOREIGN PIPELINE CROSSING	FPL-XX
PROPOSED BOREHOLE/MONITORING WELL	⊕ ⊕
TEST POST	TB # PL3430-TB-XX
PIPELINE KILOMETRE POST	KP
TREE	○

PIPELINE PLAN
SCALE 1:2000

PIPELINE SCHEMATIC

LEGEND:

HEAVY WALL PIPE	▬
PIPESAK	- - -
TRANSITION WELD	T
PIPELINE WARNING SIGN	♀
MATERIAL ITEM	(112)
MAINLINE VALVE	⋈
SIDE VALVE	⋈

DESIGN PARAMETERS (NEW PIPING ONLY)

DESIGN

- DESIGNED TO CSA Z662-19
- DESIGN FACTOR – 0.8
- LOCATION FACTOR – 0.900 / 0.625 (CLASS 2)
- DESIGN TEMPERATURE – M5C
- DESIGN PRESSURE – 9308 kPa

HYDROSTATIC TEST PRESSURE

PIPING

- STRENGTH – 13,032 kPa (1890 psig) MIN.
- LEAK – 10,239 kPa (1485 psig) MIN.
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HYDROSTATIC TEST DATE – TBD

CONSTRUCTION

START DATE – JUNE 1, 2023
PLACED IN SERVICE – NOVEMBER 1, 2023

BILL of MATERIAL

Item No	Material No	Qty	Size	Description
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103	~	313m	36	PIPE, 914mm OD (NPS 36), 17.7mm W.T., GR 483 CAT II, M5C, FBE, QRL, CSA Z245.1-18, PS-15-A8AD-9267.1.0, ES-PC1.12
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704	125111	4	3 m	SIGN POST, GALV U CHANNEL POST HOT ROLLED & DIPPED 80 M PSI C/W SIGN HDWE PER DWG.E974 (10FT.)
705	~	~	36	PIPELINE WEIGHTS, NPS 36, SADDLE DESIGN, GRAVEL FILLED

CONSTRUCTION NOTES:

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RIGHT OF WAY DETAILS

TYPICAL PIPELINE EASEMENT
N.T.S.

REVISION

NO.	DESCRIPTION	DATE	BY	CHK	APPR
A	ISSUED FOR REVIEW 30%	2021-12-13	N.C.	C.G.	G.S.
B	FOR INFORMATION ONLY	2022-01-25	N.C.	--	--
C	ISSUED FOR REVIEW 90%	2022-06-03	N.C.	C.G.	G.S.
D	ISSUED FOR BID	2022-06-30	N.C.	C.G.	G.S.

--	2022-01-25	FOR INFORMATION ONLY
GS	2022-06-30	ISSUED FOR BID
		ISSUED FOR CONSTRUCTION
		ISSUED FOR CONSTRUCTION 2

AS BUILT
AS BUILT BY:
CHECKED BY:
DRAWN [illegible] DATE 2020:10:06
CHECKED CAROLE GAGNE DATE 2022:06:30
APP'D BY GRANT STRACHAN DATE 2022:06:30
WBS XX-XX-XXX SCALE 1:2000

ENGINEER: GRANT STRACHAN

PRELIMINARY

ENBRIDGE®
Life Takes Energy®

DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
2023 CONSTRUCTION - DAWN/EUPHEMIA & ST. CLAIR
PIPELINE CONSTRUCTION ALIGNMENT

FILE REVISION DATE 2022-06-30
DRAWING NUMBER PL3430-AL-016

ENBRIDGE GAS INC.

Undertaking Response to CAEPLA-DCLC

To review and provide any interim or final monitoring reports prepared by Enbridge or its predecessor companies for any of the five pipelines that have been identified, whether or not the report was ordered by the OEB.

Response:

Enbridge Gas is not aware of any interim and/or final post-construction monitoring reports related to any of TR 1 (constructed in 1964), TR 2 (constructed in 1977) or the three additional pipelines discussed (NPS 8 Kimball – constructed in 1954, NPS 10 Waubuno – constructed in 1955, NPS 20 Payne – constructed in 1957) at this time.

ENBRIDGE GAS INC.

Undertaking Response to CAEPLA-DCLC

To provide the references to where in the environmental report the cumulative effect of the existing pipelines is dealt with.

Response:

Cumulative effects of the existing pipelines are addressed within Section 6.4.1 of the Environmental Report. Cumulative effects can pertain to vegetation, wildlife and wildlife habitat, and air and noise. Cumulative effects to watercourses have not been considered in the Environmental Report cumulative effects assessment as there will be no residual effects on watercourses following the implementation of mitigation measures and permit conditions.

The question posed by CAEPLA-DCLC was specific to the cumulative effects of the existing pipelines upon soils, which is addressed within Section 6.4.1, subsection “Soil” of the Environmental Report. That section notes that reduced soil capability is a potential residual effect associated with construction of the Project. The Environmental Report does not explicitly state that the residual effects are due to both construction of the Project and previous construction of the existing pipelines. However, based on its professional experience managing, mitigating and observing the impacts of construction of natural gas facilities on agricultural lands, Enbridge Gas is aware that pipeline construction causes residual effects on soil capability.

Enbridge Gas consulted with Stantec in preparing to respond to CAEPA-DCLC’s question and Stantec advised that the wording in the final sentence of the subsection entitled ‘Soil’ within the Environmental Report, which reads “…and cumulative effects on soil capability are not anticipated to occur.”, should read “and cumulative effects on soil capability are not anticipated to be significant.” Enbridge Gas acknowledges that the project will have cumulative residual effects on soil capability, and that these effects will be caused both by construction of the Project and the previous construction of the existing pipelines.

ENBRIDGE GAS INC.

Undertaking Response to CAEPLA-DCLC

(A) to advise whether it is possible for Enbridge to reduce the width of the permanent easement and simply use temporary work space in the future if they need to get in to do work on the pipeline; (b) to advise whether it is possible to reduce the permanent easement if temporary working space is available in the future to do integrity and maintenance work.

Response:

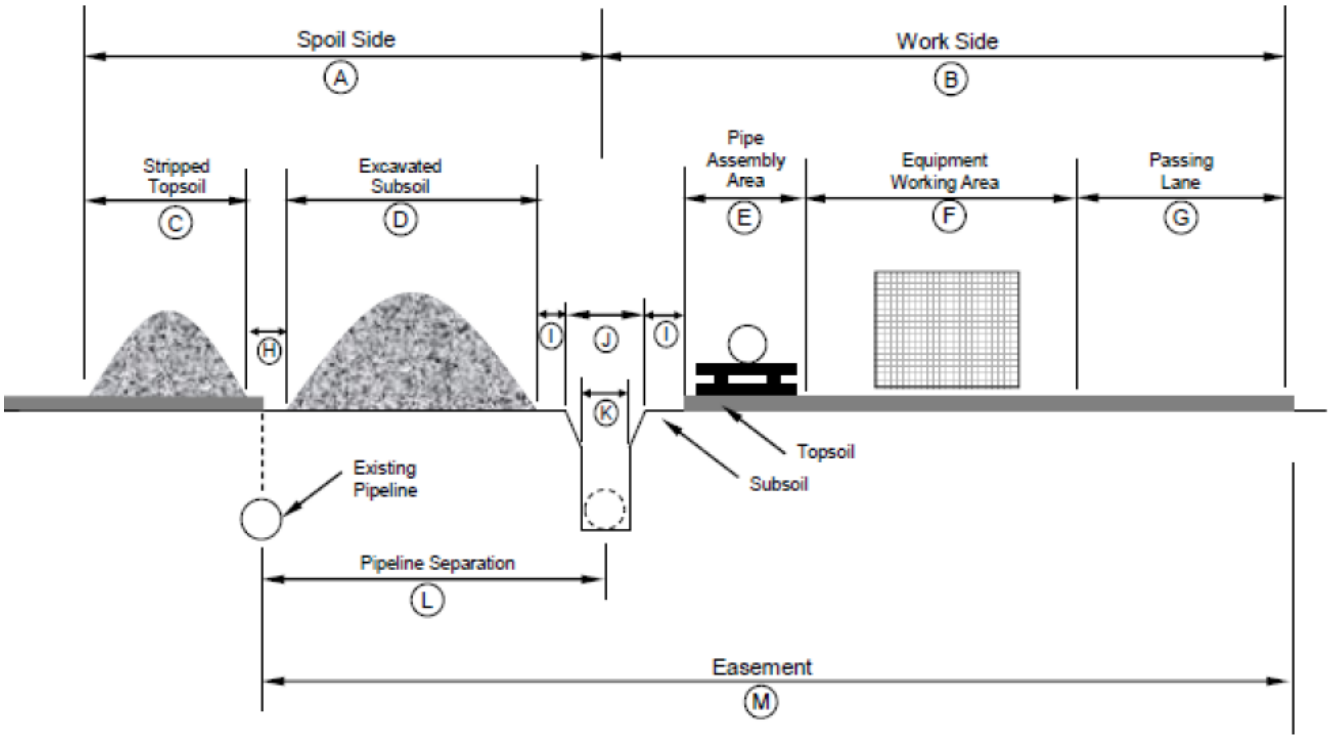
Table 1 below, provides details with respect to the area necessary to install an NPS 36 pipeline. For ease of reference, Figure 1 below provides a visual representation of the various itemized areas described in Table 1.

Table 1

Typical Pipeline Cross-Section Dimensions

		Pipe Diameter (mm)	914
		NPS	36
Dimension	Note	Description	
A		spoil side	13.0
B		workside	15.0
C		topsoil	4.5
D		subsoil	5.3
E	2	pipe assembly area	3.0
F	2	equipment working area	7.6
G	2	passing lane	3.0
H		topsoil / subsoil separation	1.0
I		soil setback from trench	0.5
J	3	total trench width	1.8
K		minimum trench width	1.5
L	4	pipeline separation	8.0
M		easement width	23.0
calculated		total r-o-w	28.0
calculated		width available for topsoil pile	4.5
calculated		width available for subsoil pile	6.1
calculated		width of topsoil stripped	9.4

Figure 1



In extenuating circumstances, where the standard easement needs to be adjusted, Enbridge Gas will consider whether it is reasonable and safe to do so. Easements protect the pipeline from surface and subsurface development encroaching near or over Enbridge Gas' infrastructure, a critical component to ensuring the safety of the pipeline facilities and the public (including landowners). In addition, easements provide the necessary land rights and working space required to maintain pipeline facilities following construction. For the above noted reasons, when constructing an NPS 36 pipeline, Enbridge Gas requires a 23 m easement.

ENBRIDGE GAS INC.

Undertaking Response to CAEPLA-DCLC

To advise what experience Enbridge Gas Inc. or Enbridge Gas has in constructing pipelines in agricultural lands in southwestern Ontario in winter conditions.

Response:

Enbridge Gas' construction practice in Southwestern area is to minimize construction activities in agricultural lands during winter conditions for a variety of reasons, including:

- Sporadic freeze/thaw conditions that lead to less efficient construction and potential for wet soils construction shutdown.
- Inability to effectively strip topsoil.
- Difficulty working around existing infrastructure due to unstable soils.
- Shorter days leave fewer daylight hours to complete construction activities.

If required, Enbridge Gas may be able to complete certain construction tasks in agricultural lands during winter conditions, though the Company's preference is to avoid constructing during such conditions. Examples of activities that can and have been completed during winter conditions include tree clearing, and installation of access to the right of way through the placement of culverts or bridges, road crossings and trenchless crossings. Although further construction activities might be technically possible to complete during winter conditions, doing so could present significant incremental costs to the Project and may result in greater impacts to agricultural lands.

ENBRIDGE GAS INC.

Undertaking Response to CAEPLA-DCLC

To provide the protocol or guidelines followed for the sampling that has been undertaken.

Response:

The Soybean Cyst Nematode ("SCN") sampling program is intended to identify fields that are impacted by SCN to enable proper planning by the Project's Construction Contractor to avoid the spread of SCN to non-impacted fields during the construction of the Project.

The Ontario Ministry of Agriculture Food and Rural Affairs ("OMAFRA") Factsheet on Sampling Soil and Roots for Plant Parasitic Nematodes (Celetti and Potter 2000) is used as a guideline to develop the methodology for the SCN sampling program.[1]

Sampling locations include the proposed new easement and Temporary Land Use ("TLU") areas of all agricultural fields that will be crossed during construction. Separate samples are collected if different crops are present within the same agricultural field or if there is a break within the same agricultural field (i.e., hedgerows, watercourses, etc.). Non-agricultural land such as lawns, woodlands, non-farmed floodplains, parking lots and driveways, etc. are not sampled for SCN.

The collection of samples involves traversing the proposed pipeline easement on foot. A series of topsoil grab samples are collected from each field using a hand-held soil probe. Topsoil samples are taken between the 2 cm depth and the bottom of the topsoil in the profile, approximately 20-30 cm. The grab samples are mixed into one composite sample per each unique agricultural cropped field. Sampling equipment and footwear are cleaned using a scrub brush and a 5% bleach solution before exiting each agricultural cropped field that is sampled.

Sample identification numbers are assigned to each field sample. The soil samples are submitted to the Agriculture & Food Laboratory at the University of Guelph and tested for the presence of nematodes. If samples are found to contain nematodes, an additional DNA test is conducted to determine if the nematode species is SCN.

[1] http://omafra.gov.on.ca/english/crops/facts/06-099.htm

ENBRIDGE GAS INC.

Undertaking Response to CAEPLA-DCLC

To make enquiries as to the status of those drawings, and if they are available, to produce them to DCLC, or to file on the record in this proceeding.

Response:

Please see the response at Exhibit JT1.16 for discussion of construction specifications for construction on agricultural lands that will be relied upon for the Project. Attachments 2 and 3 to that response include Topsoil Stripping and Conservation standards and Project-specific drawings (cross-sections) reflecting those standards for typical right-of-way.

ENBRIDGE GAS INC.

Undertaking Response to CAEPLA-DCLC

To advise whether there is another form of option agreement to be used for temporary work space or land use, and if so, to provide it.

Response:

Please see attachment 1 to this response.

OPTION FOR TEMPORARY LAND USE

(hereinafter called the “Option”)

BETWEEN:
(hereinafter called the “Owner”)

and

ENBRIDGE GAS INC.
(hereinafter called the “Company”)

WHEREAS the Owner is the registered owner in fee simple of the lands hereinafter referred to as

PIN:

Legal Description:

(the “Lands”)

AND WHEREAS the Company may require temporary land use over all or a portion of the Lands as more particularly shown on the sketch attached as, **Appendix “A”.**

AND WHEREAS the Company wishes to obtain certain option rights to the Lands as more particularly set out herein;

NOW THEREFORE in consideration of the payment(s) made or to be made to the Owner by the Company in accordance with the provisions of this Option, the Owner agrees to grant to the Company an Option to acquire temporary land use from the Owner, over all or a portion, of the Lands (the “Temporary Land Use or “TLU”) upon the terms and subject to the conditions hereinafter set forth in respect of which the Owner and the Company respectively covenant and agree as follows:

1. The Owner hereby grants to the Company an irrevocable and exclusive option (the “**Option**”) to acquire TLU over, in and to the Lands, upon the terms and conditions set out in the TLU Agreement attached hereto as **Appendix "B"**. Upon the exercising of the Option by the Company the parties agree to be bound by the terms and conditions of the Temporary Land Use Agreement.

2. The Company shall have the right at any time on or before 11:59 p.m. on the day of 20 (the "Expiry Date") to deliver a notice to the Owner, advising of the Company’s intention to exercise the Option. The Expiry Date may be extended to such later date as the Owner and the Company may agree in writing. If the Company does not give such a notice prior to the Expiry Date then this Option shall terminate and neither the Owner nor the Company shall have any further obligations hereunder.

3. The price for the Option shall be /100 Dollars ($) and shall be paid within 30 days of acceptance of this Option by the Owner.

4. The Owner covenants with the Company that the Owner has the sole right to grant the Option and convey the TLU.

5. The Owner hereby agrees that the Company’s surveyors, engineers and servants may enter on the Lands forthwith and at any time while this Option remains in effect for the purpose of performing soil tests, surveys, water exploration and core drilling and archeological investigations. The Owner herby agrees that immediately following the giving of the notice referred to in Clause 2 specifying the Closing: the Company shall have the immediate right to bring its equipment and equipment of its servants, agents and contractors upon the Lands to commence construction of its works.

6. The Owner hereby consents to registration of a notice of this Option by the Company against title to the Lands.

7. All notices required or permitted to be given hereunder shall be in writing and delivered in person or by prepaid registered mail or courier in case of the Company to: Enbridge Gas Inc., 50 Keil Drive North, Chatham, Ontario, N7M 5M1 Attention: Lands Department and in the case of the Owner to: or to such other address as the Company and the Owner respectively may from time to time designate in writing and any such notice shall be deemed to have been given to and received by the addressee on the date on which it was delivered or if mailed shall be deemed to have been given to and received by the addressee on the fifth business day following the date on which it was deposited in the mail, except in the event of interruption of mail service after mailing, in which event it shall be deemed to have been given when actually received.

8. It is further agreed that the Company shall assume all liability and obligations for any and all loss, damage or injury, (including death) to persons or property that would not have happened but for this Option or anything done or maintained by the Company hereunder or intended so to be and the Company shall at all times indemnify and save harmless the Owner from and against all such loss, damage or injury and all actions, suits, proceedings, costs, charges, damages, expenses, claims or demands arising therefrom or connected therewith provided that the Company shall not be liable under the clause to the extent to which such loss, damage or injury is caused or contributed to by the negligence or willful misconduct of the Owner.

9. (a) The Company represents that it is registered for the purposes of the Harmonized Goods and Services Tax (hereinafter called "HST") in accordance with the applicable provisions in that regard and pursuant to the Excise Tax Act, (R.S.C., 1985, c. E-15), (hereinafter called "Excise Tax Act"), as amended.

   (b) The Company shall undertake to self-assess the HST payable in respect of this transaction pursuant to subparagraphs 221(2) and 228(4) of the Excise Tax Act, and to remit and file a return in respect of HST owing as required under the said Act for the reporting period in which the HST in this transaction became payable.

   (c) The Company shall indemnify and save harmless the Owner from and against any and all claims, liabilities, penalties, interest, costs and other legal expenses incurred, directly or indirectly, in connection with the assessment of HST payable in respect of the transaction contemplated by this Option. The Company's obligations under this Clause shall survive this Option.

10. Site Specific Notes: (if applicable)

DATED this ____ day of _____ 20__.

[Insert name of individual or corporation]

_____
Signature (Owner)

_____
Print Name(s) (and position held if applicable)
Choose an item

_____
Address (Owner)

_____
Signature (Owner)

_____
Print Name(s) (and position held if applicable)
Choose an item.

_____
Address (Owner)

ENBRIDGE GAS INC.

_____
Signature (Company)

[Insert name of signing authority], Choose an item.
Name & Title (Enbridge Gas Inc.)

I have authority to bind the Corporation.

Click here to enter text.
Telephone Number (Enbridge Gas Inc.)

Additional Information: (if applicable)

Owner Solicitor: _____

Telephone: _____

APPENDIX "A"

SKETCH

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