



CITY OF DRYDEN
DRYDEN, ONTARIO.

ISSUED FOR TENDER
2026.01.26



SHEET NO.	DESCRIPTION
C-100 - C-101	EXISTING CONDITIONS, EROSION CONTROL AND REMOVALS PLAN
C-200 - C-203	PLAN AND PROFILES
C-300 - C-303	DETAILS AND NOTES
C-400 - C-401	PAVEMENT MARKINGS AND SIGNAGE
D-101	PROCESS PROPOSED LIFT STATION PLANS AND SECTION
D-501	PROCESS PROPOSED LIFT STATION PLANS AND SECTION
E-101	ELECTRICAL LIFT STATION SITE PLAN AND PANEL DETAILS
E-102	ELECTRICAL LIFT STATION SECTION AND SCHEDULES
E-601	ELECTRICAL SINGLE LINE DIAGRAM
E-602	ELECTRICAL POWER AND CONTROL WIRING DIAGRAM
E-603	ELECTRICAL CONTROL WIRING DIAGRAM
E-604	ELECTRICAL CONTROL WIRING DIAGRAM AND PANEL LAYOUT
S-001	LIFT STATION STRUCTURAL GENERAL NOTES AND CONCRETE PADS
S-101	PROCESS PROPOSED LIFT STATION PLANS AND SECTIONS



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1. ELEV'S ARE REFERRED TO THE CANADIAN GEODETIC VERTICAL DATUM (CGVD-1928:1978)
2. TOPOGRAPHICAL SURVEY PREPARED BY HATCH, DATED 2025.06.06

EX. FIRE HYDRANT	EX. WATERMAIN
EX. WATER VALVE	EX. STORM SEWER
EX. CURB STOP	EX. SANITARY SEWER
EX. STORM MANHOLE	FENCE LINE
EX. CATCHBASIN	BOTTOM OF DITCH
EX. SANITARY MANHOLE	WOOD OUTLINE
SIGN	PROPERTY LINE
BM CONTROL POINT	ASPHALT REMOVAL
AN ANCHOR	CLEARING AND GRUBBING
HP HYDRO POLE	SIDEWALK REMOVAL

CONTROL POINT TABLE				
ID	NORTHING	EASTING	ELEVATION	DESCRIPTION
103	5612843.904	5117716.196	375.843	TOPNUTFH
200	5612191.524	5119194.642	373.186	RIB
201	5612194.614	5119433.509	373.029	RIB
202	5612455.719	511799.480	372.125	RIB
203	5612202.177	511800.426	372.133	RIB
10046	5612310.673	511800.019	370.282	SIB
11028	5612624.152	511796.544	376.932	TOPNUTFH
UTM NAD 83 ZONE 15				

File Name: 161414649_C-ESC	JW	JW	NV	2025.06.06
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Revision	Sheet	Drawing No.
0	01 of 23	C 100



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2. TOPOGRAPHICAL SURVEY PREPARED BY HATCH, DATED 2025.06.06

Legend

◇	EX. FIRE HYDRANT	_____	EX. WATER MAIN
◇	EX. WATER VALVE	_____	EX. STORM SEWER
◇	EX. CURB STOP	_____	EX. SANITARY SEWER
◇	EX. STREET MANHOLE	_____	_____
■	EX. CATCHBASIN	_____	BOTTOM OF DITCH
◇	EX. SANITARY MANHOLE	_____	WOOD OUTLINE
▲	SIGN	_____	PROPERTY LINE
◆ BM	CONTROL POINT	▨	ASPHALT REMOVAL
▲ AN	ANCHOR	▨	CLEANING AND GRUBBING
◇ HP	HYDRO POLE	▨	SIDWALK REMOVAL
◇ LS	LIGHTSTAND		
□ TB	TERMINAL BOX		
□ GAT	GATE		
◇ TEL	TELEPHONE MANHOLE		
■	STANDARD IRON BAR		
■ RIB	ROUND IRON BAR		

CONTROL POINT TABLE				
ID	NORTHING	EASTING	ELEVATION	DESCRIPTION
103	5512843.804	511776.196	375.843	TOPNUTFH
200	5512191.524	511919.642	373.186	RIB
201	5512194.614	511943.590	373.029	RIB
202	5512455.719	511799.480	372.125	RIB
203	5512202.177	511800.426	372.133	RIB
10046	5512310.673	511800.019	370.282	SIB
11028	5512624.152	511796.544	376.932	TOPNUTFH

0	ISSUED FOR TENDER	JW/CO	NV 2026.01.26

File Name: 161414649_C-ESC	JW	JW	NV	2025.06.06
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

DRYDEN, ONTARIO.

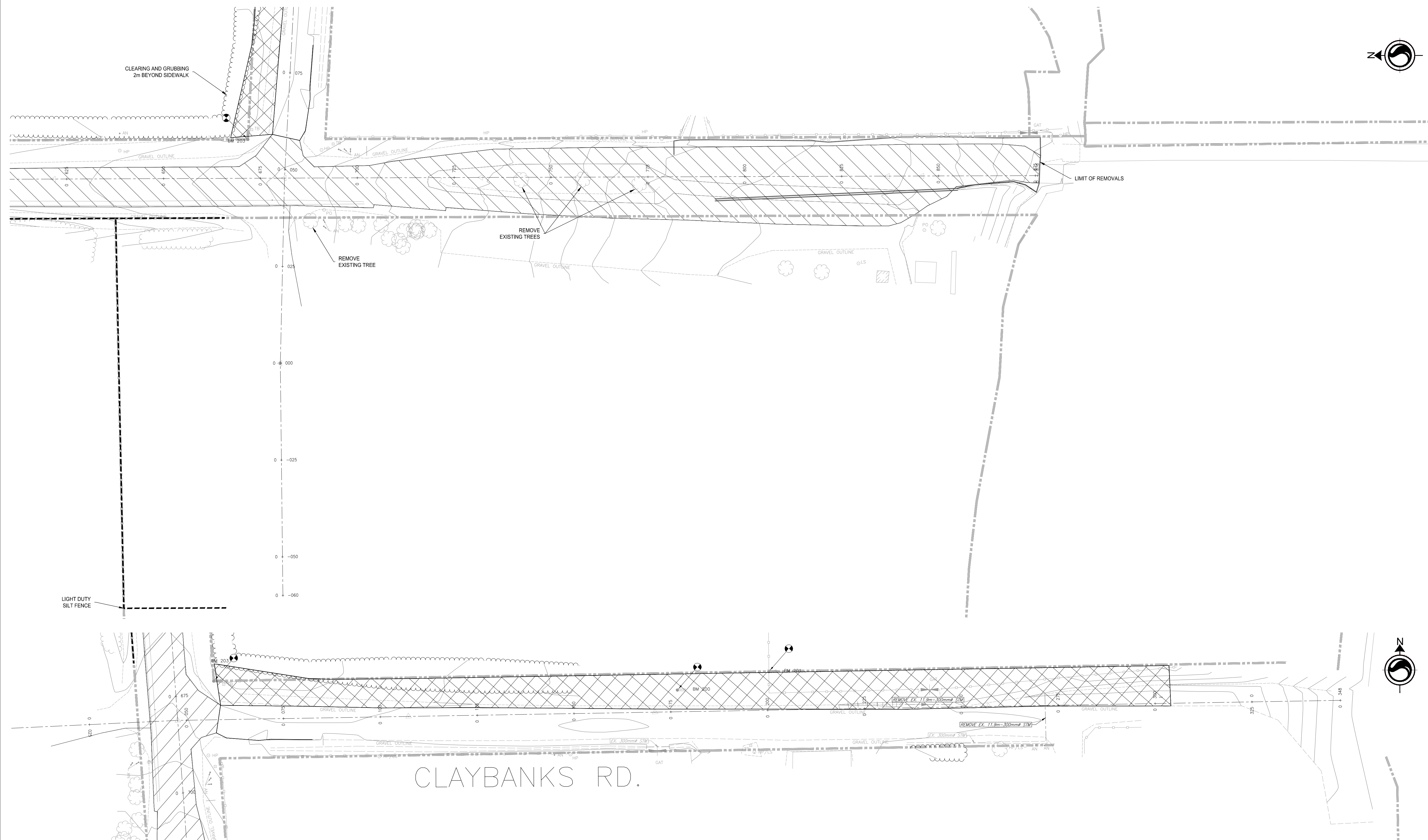
Project No. 161414649

Scale 1:500

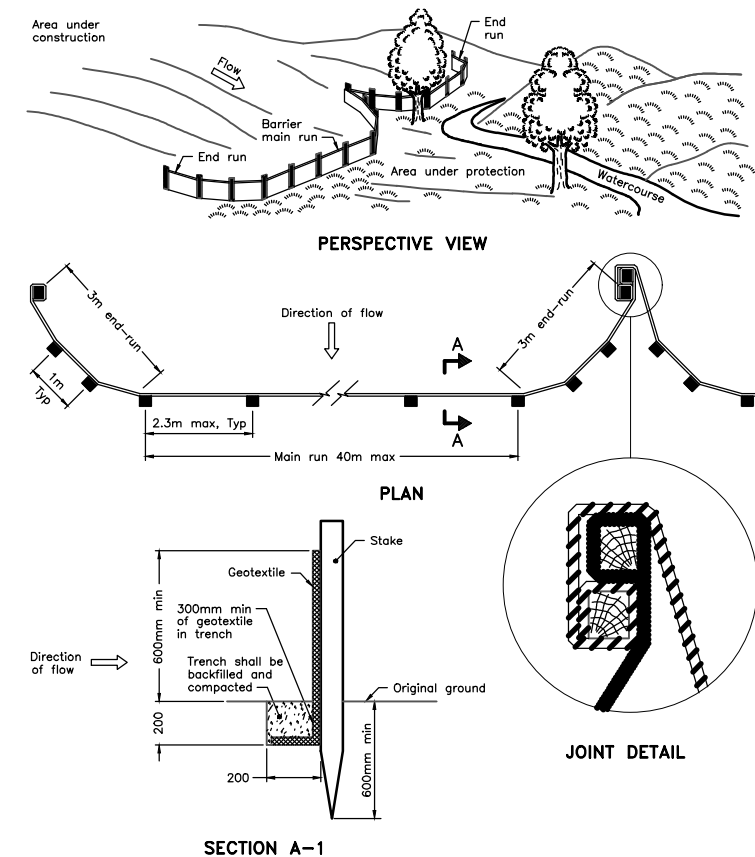
A graphic scale bar with a black and white checkerboard pattern. It is marked with the numbers 0, 5, 15, and 25. The bar is divided into segments of 5 units each.

Revision	Sheet	Drawing No.
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C-101

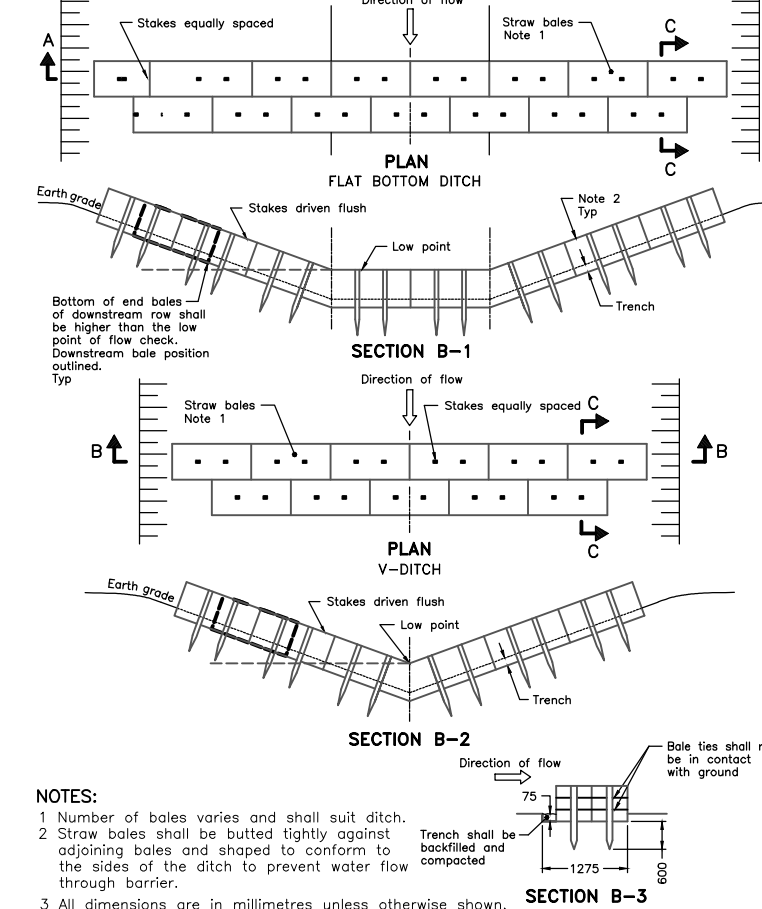


N.T.S



- NOTE:**
1 All dimensions are in millimetres unless otherwise shown
2 OPSD 219.110

N.T.S



- NOTES:**
- 1 Number of bales varies and shall suit ditch.
 - 2 Straw bales shall be butted tightly against adjoining bales and shaped to conform to the sides of the ditch to prevent water flow through barrier.
 - 3 All dimensions are in millimetres unless otherwise shown.
 - 4 OPSD 219.180
- Trench shall be backfilled and compacted



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1. ELEV'S ARE REFERRED TO THE CANADIAN GEODETIC VERTICAL DATUM (CGVD-1928:1978)
2. TOPOGRAPHICAL SURVEY PREPARED BY HATCH, DATED 2025.06.06
3. ALL CATCHBASINS PER OPSD 400.090 UNLESS OTHERWISE NOTED
4. CATCHBASINS 16, 17 & 18 FRAME AND GRATE PER OPSD 400.010

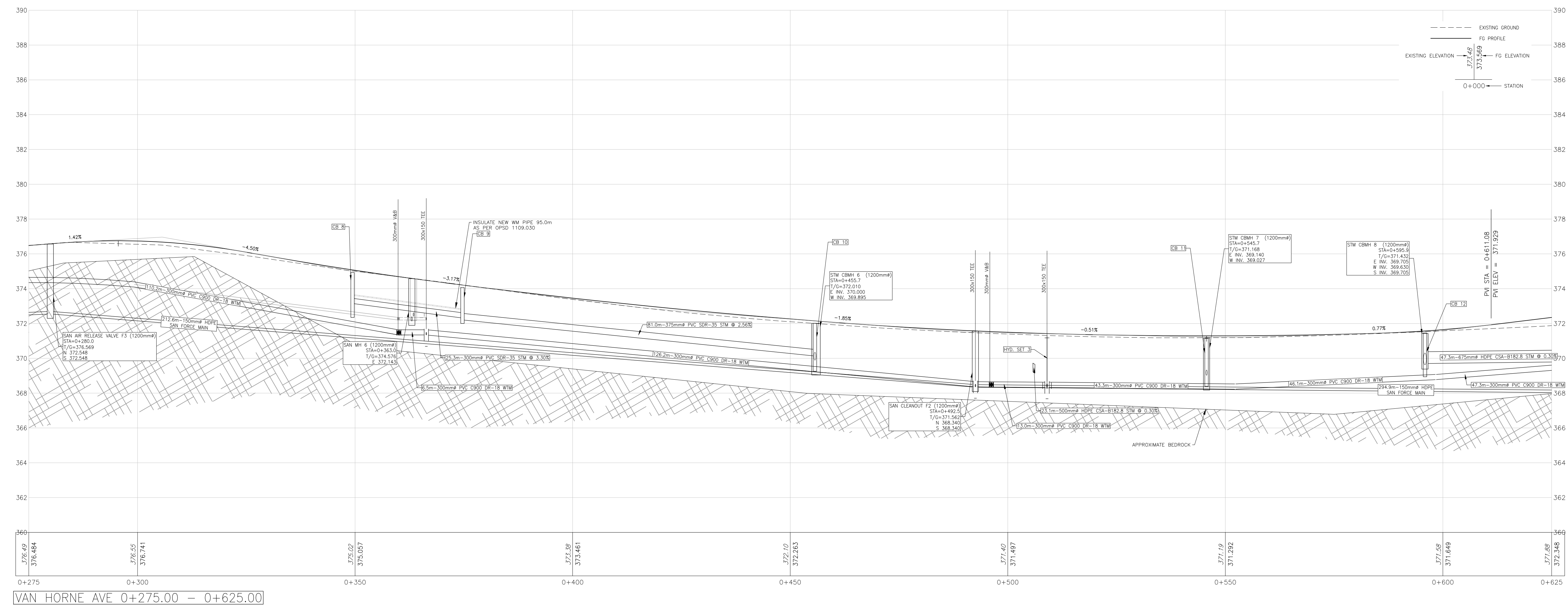
④	EX. FIRE HYDRANT	○ TEL	TELEPHONE MANHOLE
④	EX. WATER VALVE	○ RH25	BOREHOLE LOCATION
④	EX. CURB STOP	_____	EX. WATERMAN
④	EX. STORM MANHOLE	_____	EX. STORM SEWER
■	EX. CATCHBASIN	_____	EX. SANITARY SEWER
④	EX. SANITARY MANHOLE	○	FENCE
④	NEW FIRE HYDRANT	_____	BOTTOM OF DITCH
④	NEW WATER VALVE	_____	WOOD OUTLINE
④	NEW CATCHBASIN MANHOLE	_____	PROPERTY LINE
■	NEW CATCHBASIN	_____	NEW WATERMAIN
④	NEW SANITARY MANHOLE	_____	NEW STORM SEWER
④	SIGN	_____	NEW SANITARY SEWER
④ BM	CONTROL POINT	_____	RIPRAP
④ AN	ANCHOR	_____	GRAVEL DRIVEWAY REINSTATEMENT
④ HP	HYDRO. CULV	_____	ASPHALT DRIVEWAY REINSTATEMENT
④ L.S.	LIGHTSTAND	_____	CRUSHED ROCK DRIVEWAY REINSTATEMENT
④ TB	TERMINAL BOX	_____	DRIVEWAY REINSTATEMENT
④	GATE	_____	BEDROCK
④ SIB	STANDARD IRON BAR	_____	CONCRETE
④ RIB	ROUND IRON BAR	_____	DROP CURB
		_____	LIMITS OF RESURFACING
		_____	ASTRO TURF
		_____	TOPSOIL AND SEED



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4. CATCHBASINS 16, 17 & 18 FRAME AND GRATE PER OPSD 400.010

◀	EX. FIRE HYDRANT	○ TEL	TELEPHONE LOCATION
▶	EX. WATER VALVE	● RH25	BOREHOLE MONITOR
◀	EX. CURB STOP	—	EX. WATERMAIN
◀	EX. STORM MANHOLE	—	EX. STORM SEWER
■	EX. CATCHBASIN	—	EX. SANITARY SEWER
■	EX. SANITARY MANHOLE	—	FENCE
■	NEW. FIRE HYDRANT	—	BOTTOM OF DITCH
■	NEW. WATER VALVE	—	WOOD OUTLINE
■	NEW. CATCHBASIN MANHOLE	—	PROPERTY LINE
■	NEW. CATCHBASIN	—	NEW WATERMAIN
■	NEW. SANITARY MANHOLE	—	NEW STORM SEWER
■	SIGN	—	NEW SANITARY SEWER
■ BM	CONTROL POINT	562826562826	RIPRAP
■ AN	ANCHOR	562826562826	GRAVEL DRIVEWAY REINSTATEMENT
■ HP	HYDRO POLE	562826562826	ASPHALT DRIVEWAY REINSTATEMENT
■ L.S	LIGHTSTAND	562826562826	CRUSHED ROCK DRIVEWAY REINSTATEMENT
■ TB	TERMINAL BOX	562826562826	
■ GAT	GATE	562826562826	BEDROCK
■ SIB	STANDARD IRON BAR	562826562826	CONCRETE DROP CURB
■ RIB	ROUND IRON BAR	562826562826	LIMITS OF RESURFACING
		562826562826	ASTRO TURF
		562826562826	TOPSOIL AND SEED



```
import numpy as np
from sklearn.metrics import confusion_matrix
```

ORIGINAL SHEET - ARCH D

Client/Project
CITY OF DRYDEN
CONTRACT T-2026-1

DRYDEN, ONTARIO.

Title
PLAN AND PROFILE
VAN HORNE 0+300 to 0+600

Project No. 161414649

Scale 0 5 15 25m
1:500

Revision	Sheet
0	04 of 23

C-201



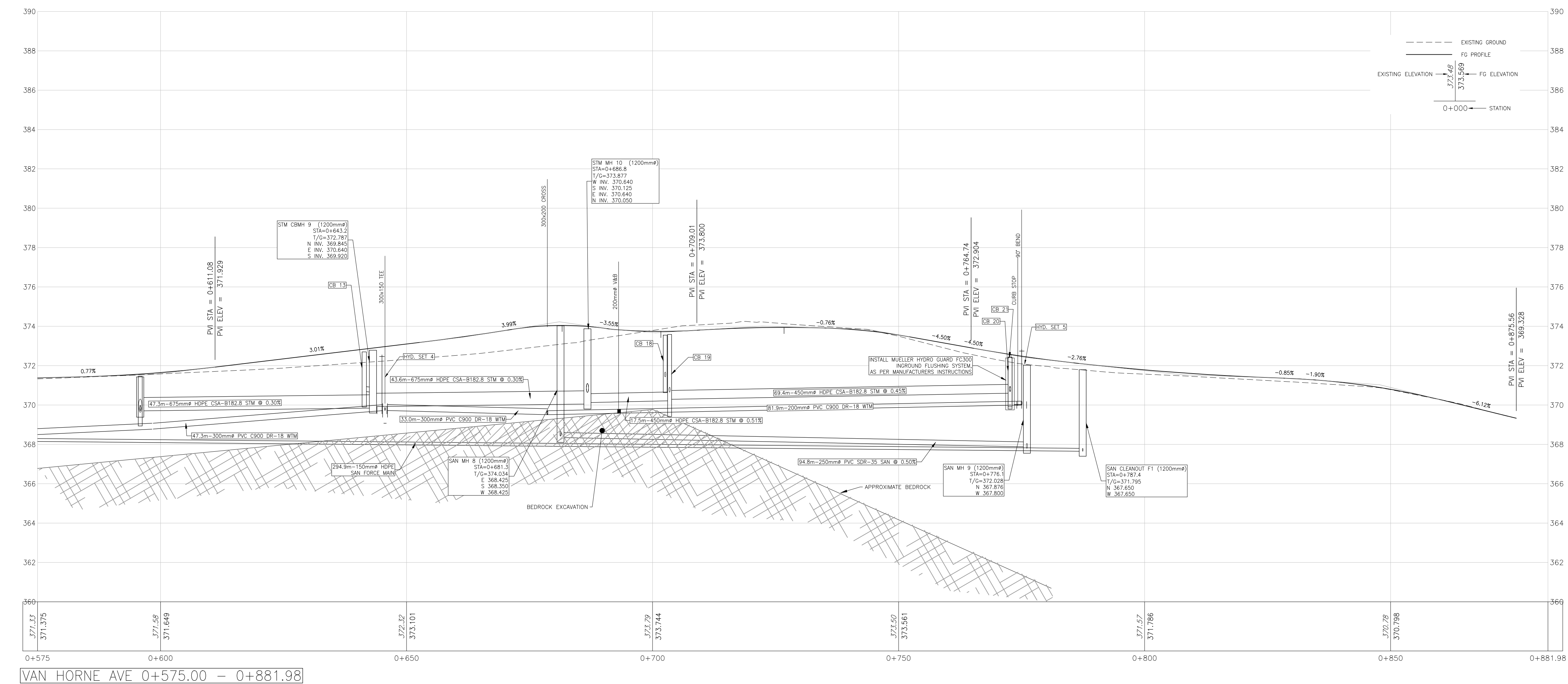
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2. TOPOGRAPHICAL SURVEY PREPARED BY HATCH, DATED 2025.06.06
3. ALL CATCHBASINS PER OPSD 400.090 UNLESS OTHERWISE NOTED
4. CATCHBASINS 16, 17 & 18 FRAME AND GRATE PER OPSD 400.010

◀	EX. FIRE HYDRANT	○ TEL	TELEPHONE MANHOLE
▶	EX. WATER VALVE	○ RH25	BOREHOLE LOCATION
◀	EX. CURB STOP	—	EX. WATERMAIN
◀	EX. STOP MANHOLE	—	EX. STORM SEWER
+	EX. CATCHBASIN	—	EX. SANITARY SEWER
◀	EX. SANITARY MANHOLE	—	FENCE
+	NEW. FIRE HYDRANT	—	BOTTOM OF DITCH
▶	NEW. WATER VALVE	—	WOOD OUTLINE
+	NEW. CATCHBASIN/MANHOLE	—	PROPERTY LINE
■	NEW. CATCHBASIN	—	NEW WATERMAIN
■	NEW. SANITARY MANHOLE	—	NEW STORM SEWER
—	SIGN	—	NEW SANITARY SEWER
◀	CONTROL POINT	2562820262826	RIPRAP
AN	ANCHOR	2562820262826	GRANUL. DRIVEWAY REINSTATEMENT
AN	HYDRO POLE	2562820262826	ASPHALT DRIVEWAY REINSTATEMENT
LT	LIGHTS	2562820262826	CRUSHED ROCK DRIVEWAY REINSTATEMENT
TB	TERMINAL BOX	2562820262826	
+	GATE	2562820262826	BEDROCK
SB	STANDARD IRON BAR	2562820262826	CONCRETE
RB	ROUND IRON BAR	2562820262826	DROP CURB
		2562820262826	LIMITS OF RESURFACING
		2562820262826	ASTRO TURF
		2562820262826	TOPSOIL AND SEED



Revision	Sheet	Drawing No.
0	05 of 23	C-202



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Notes

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- TOPOGRAPHICAL SURVEY PREPARED BY HATCH, DATED 2025.06.06
- ALL CATCHBASINS PER OPSD-400.050 UNLESS OTHERWISE NOTED
- CATCHBASINS 16, 17 & 18 FRAME AND GRATE PER OPSD 400.010

Legend

EX. FIRE HYDRANT	TEL	TELEPHONE MANHOLE
EX. WATER VALVE	BH25	BOREHOLE LOCATION
EX. CURB STOP		EX. WATERMAIN
EX. STORM MANHOLE		EX. STORM SEWER
EX. CATCHBASIN		EX. SANITARY SEWER
EX. SANITARY MANHOLE		FENCE LINE
NEW FIRE HYDRANT		BOTTOM OF DITCH
NEW WATER VALVE		WOOD OUTLINE
NEW CATCHBASIN MANHOLE		PROPERTY LINE
NEW CATCHBASIN		NEW WATERMAIN
NEW SANITARY MANHOLE		NEW STORM SEWER
SKIN		NEW SANITARY SEWER
CONTR. POINT		REPRAP
ANCHOR		GRAVEL DRIVEWAY REINSTATEMENT
HYDRO POLE		ASPHALT DRIVEWAY REINSTATEMENT
LIGHTSTAND		CRUSHED ROCK DRIVEWAY REINSTATEMENT
TERMINAL BOX		BEDROCK
GATE		CONCRETE
STANDARD IRON BAR		DROP CURB
ROUND IRON BAR		LIMITS OF RESURFACING
		ASTRO TURF
		TOPSOIL AND SEED

0	ISSUED FOR TENDER	JW/CO	NV 2026.01.26



Client/Project
CITY OF DRYDEN
CONTRACT T-2026-1

SOUTH VAN HORNE HOUSING
ENABLING PROJECT

DRYDEN, ONTARIO.

Title
PLAN AND PROFILE
VAN HORNE LIFT STATION

Project No.
161414649

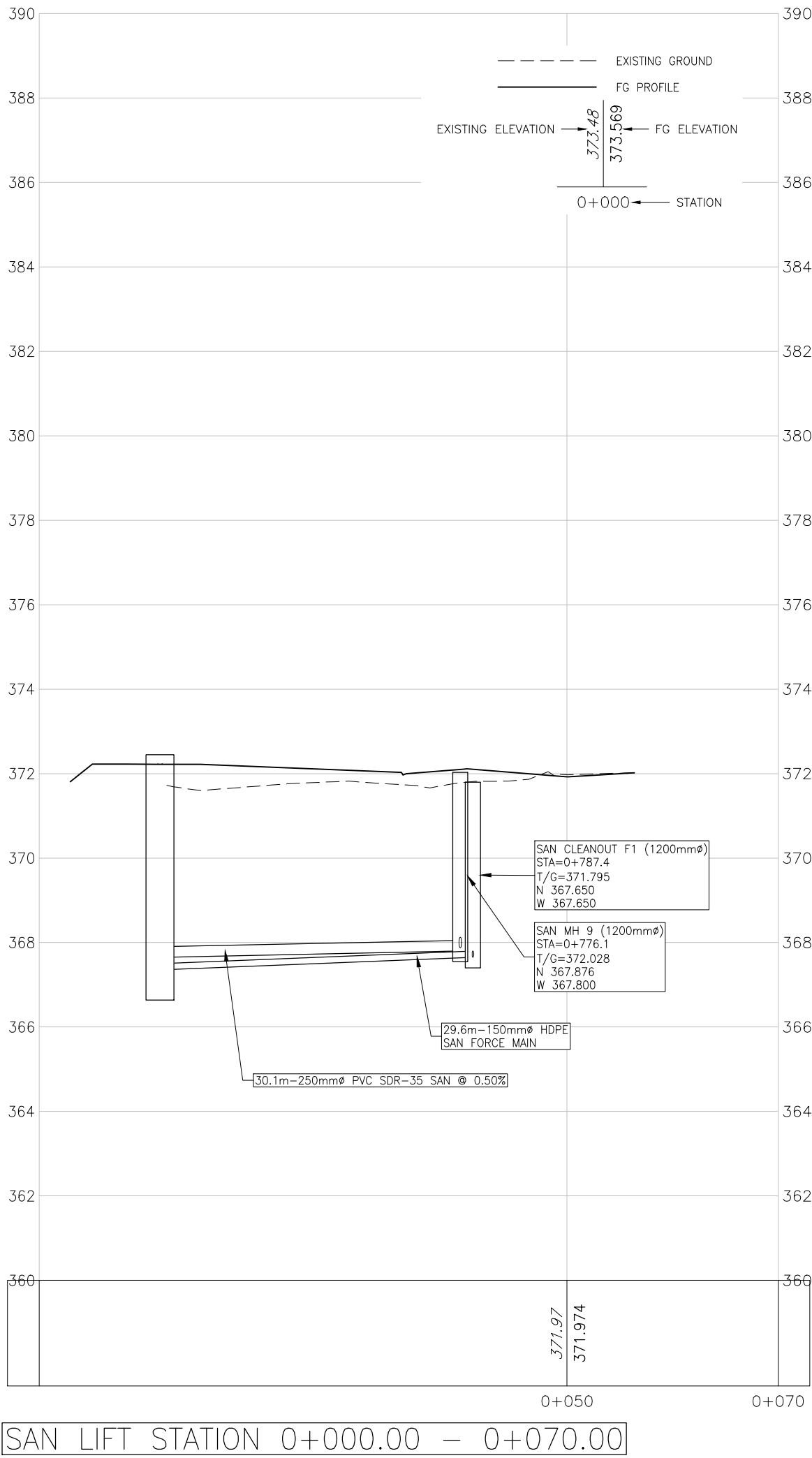
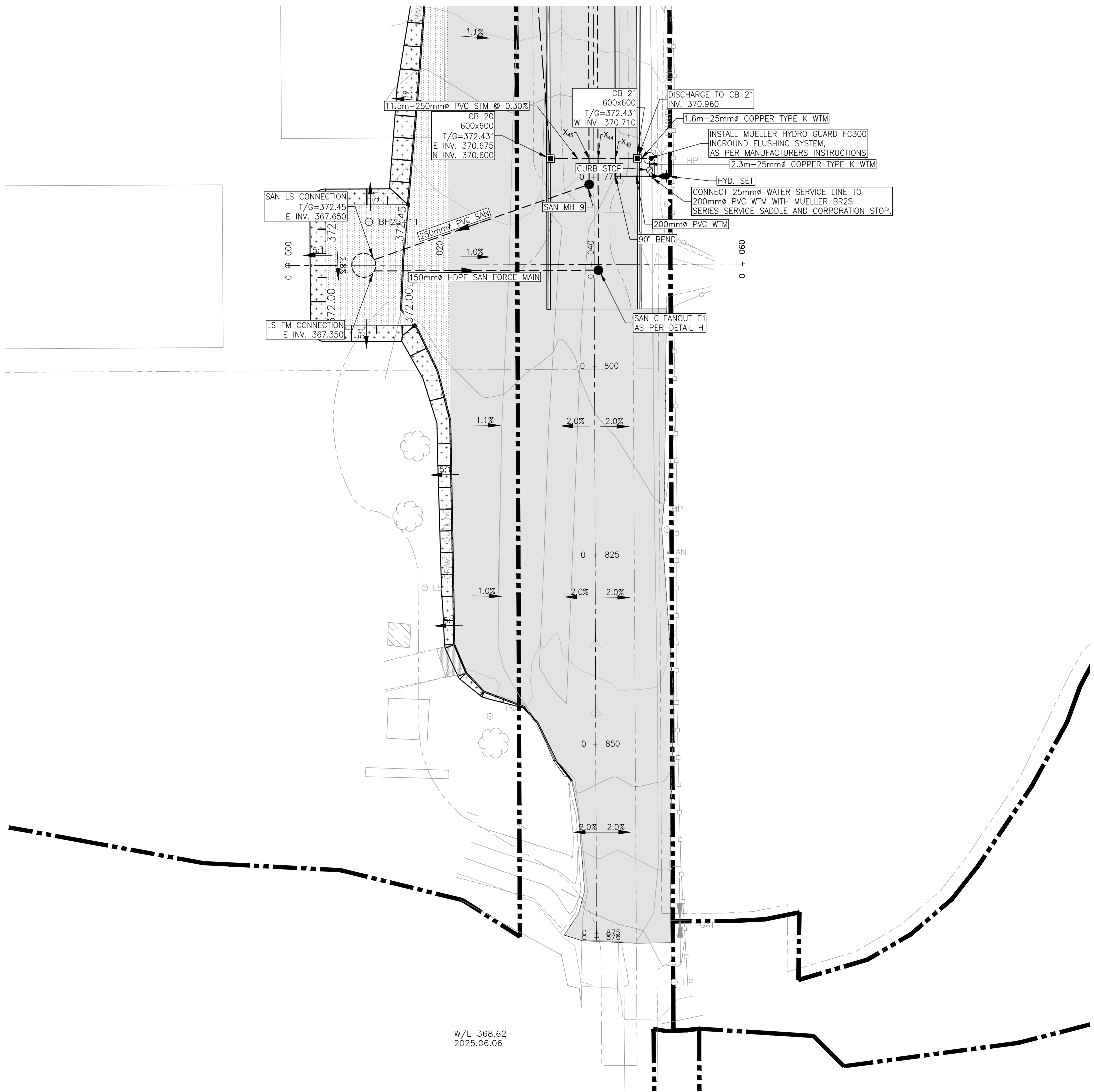
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0 5 15 25m

Revision
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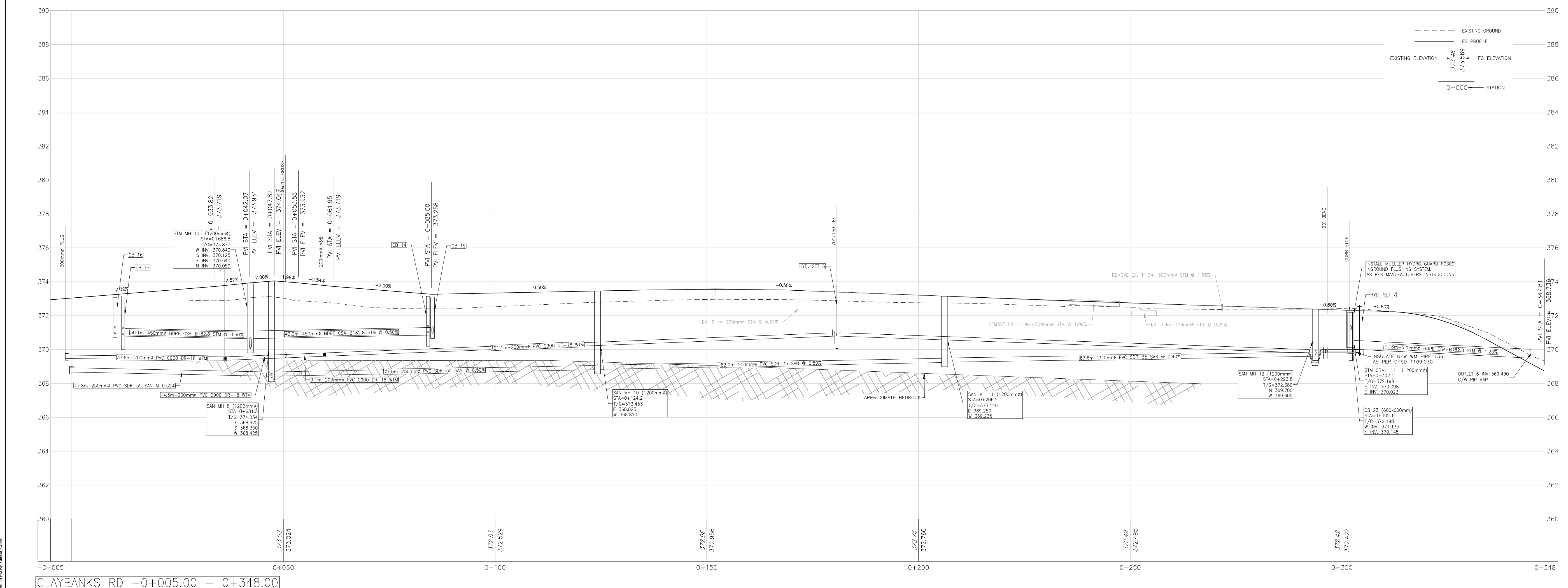
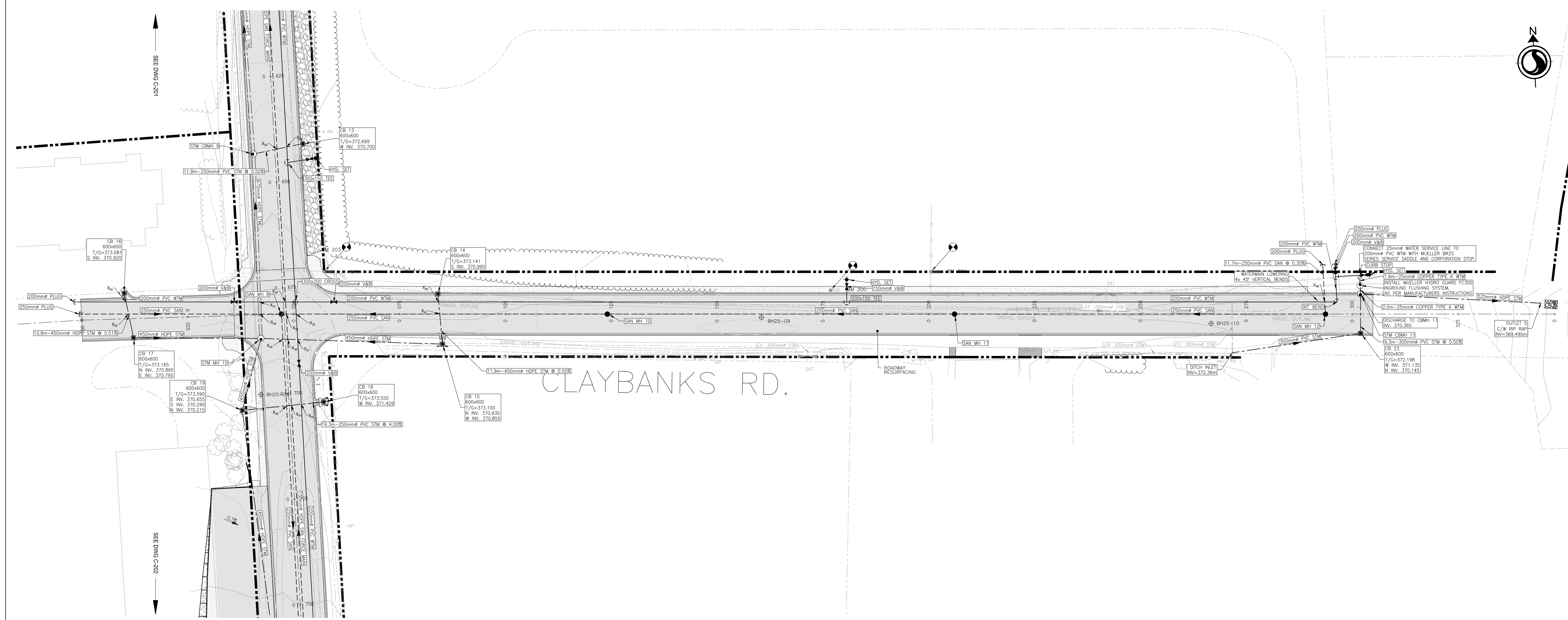
Sheet
06 of 23

Drawing No.
C-202B



SAN LIFT STATION 0+000.00 - 0+070.00

Legend	
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EX. WATER VALVE	BH25
EX. CURB STOP	EX. WATERMAIN
EX. STORM MANHOLE	EX. STORM SEWER
EX. CATCHBASIN	EX. SANITARY SEWER
EX. SANITARY MANHOLE	FENCE LINE
NEW FIRE HYDRANT	BOTTOM OF DITCH
NEW WATER VALVE	WOOD OUTLINE
NEW CATCHBASIN MANHOLE	PROPERTY LINE
NEW CATCHBASIN	NEW WATERMAIN
NEW SANITARY MANHOLE	NEW STORM SEWER
NEW SANITARY SEWER	NEW SANITARY SEWER
DM	CONTROL POINT
AN	ANCHOR
HP	HYDRO POLE
LS	LIGHTSTAND
TB	TERMINAL BOX
GAT	GATE
SIB	STANDARD IRON BAR
RIB	ROUND IRON BAR
TEL	TELEPHONE MANHOLE
BH25	BOREHOLE LOCATION
EX. WATERMAIN	EX. WATERMAIN
EX. STORM SEWER	EX. STORM SEWER
EX. SANITARY SEWER	EX. SANITARY SEWER
FENCE LINE	FENCE LINE
BOTTOM OF DITCH	BOTTOM OF DITCH
WOOD OUTLINE	WOOD OUTLINE
PROPERTY LINE	PROPERTY LINE
NEW WATERMAIN	NEW WATERMAIN
NEW STORM SEWER	NEW STORM SEWER
NEW SANITARY SEWER	NEW SANITARY SEWER
RIPRAP	RIPRAP
GRAVEL DRIVEWAY REINSTATEMENT	GRAVEL DRIVEWAY REINSTATEMENT
ASPHALT DRIVEWAY REINSTATEMENT	ASPHALT DRIVEWAY REINSTATEMENT
CRUSHED ROCK DRIVEWAY REINSTATEMENT	CRUSHED ROCK DRIVEWAY REINSTATEMENT
BEDROCK	BEDROCK
CONCRETE	CONCRETE
DROP CURB	DROP CURB
LIMITS OF RESURFACING	LIMITS OF RESURFACING
ASTRO TURF	ASTRO TURF
TOPSOIL AND SEED	TOPSOIL AND SEED



0	ISSUED FOR TENDER	JW/CO	NV	2026.01.26
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Permit Seal

LICENSED PROFESSIONAL ENGINEER
S. M. PHILLIPS
100224174
2026.01.26
PROVINCE OF ONTARIO

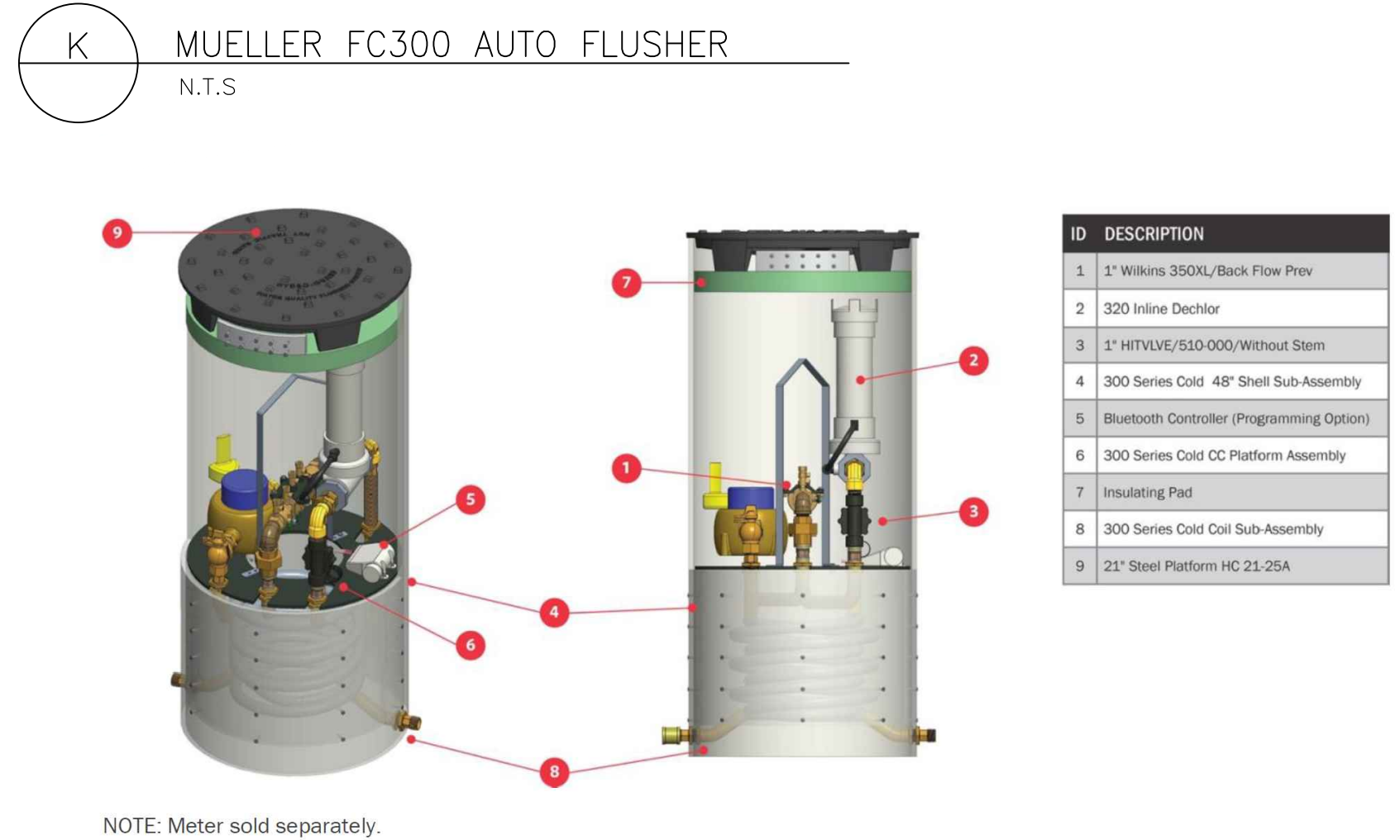
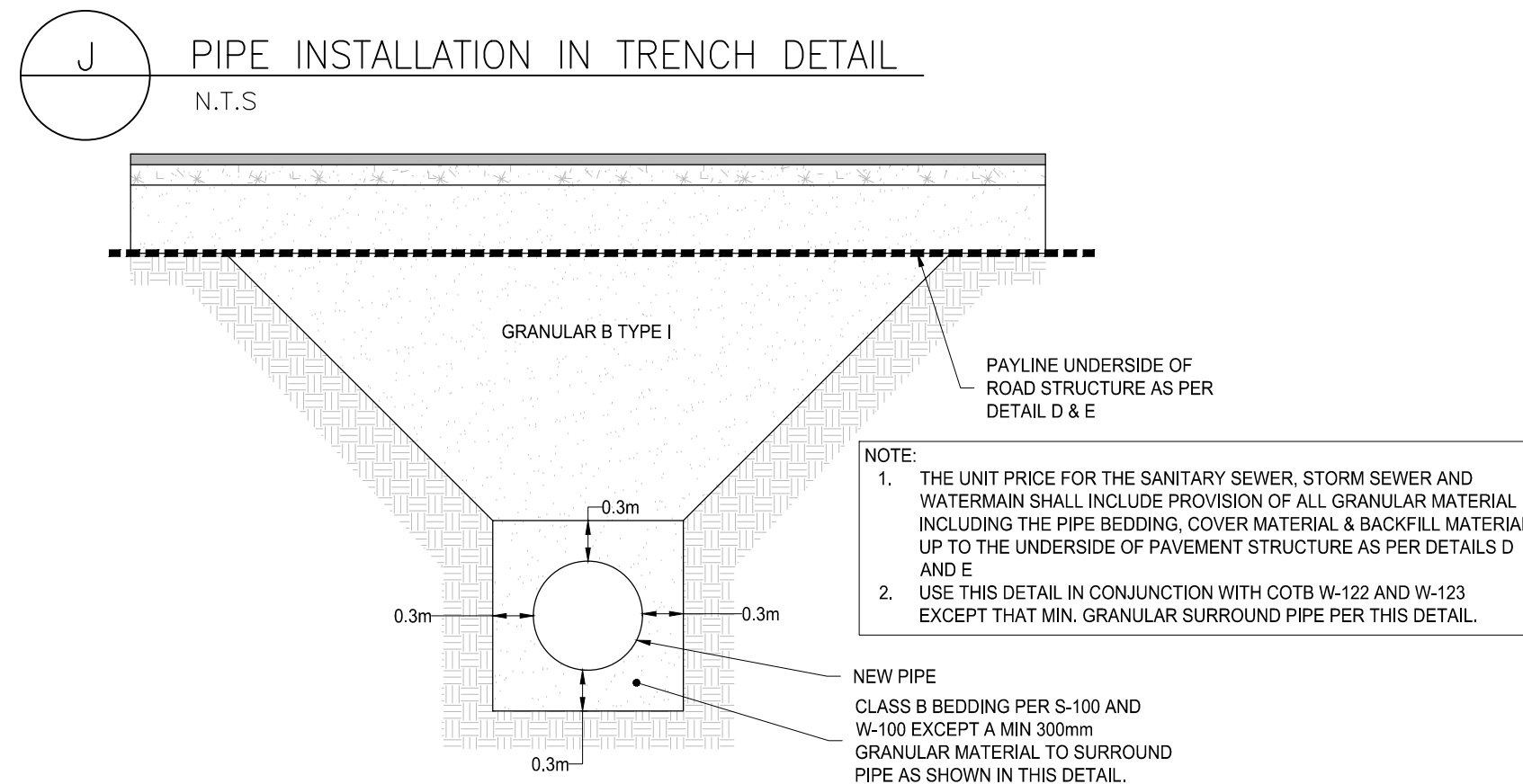
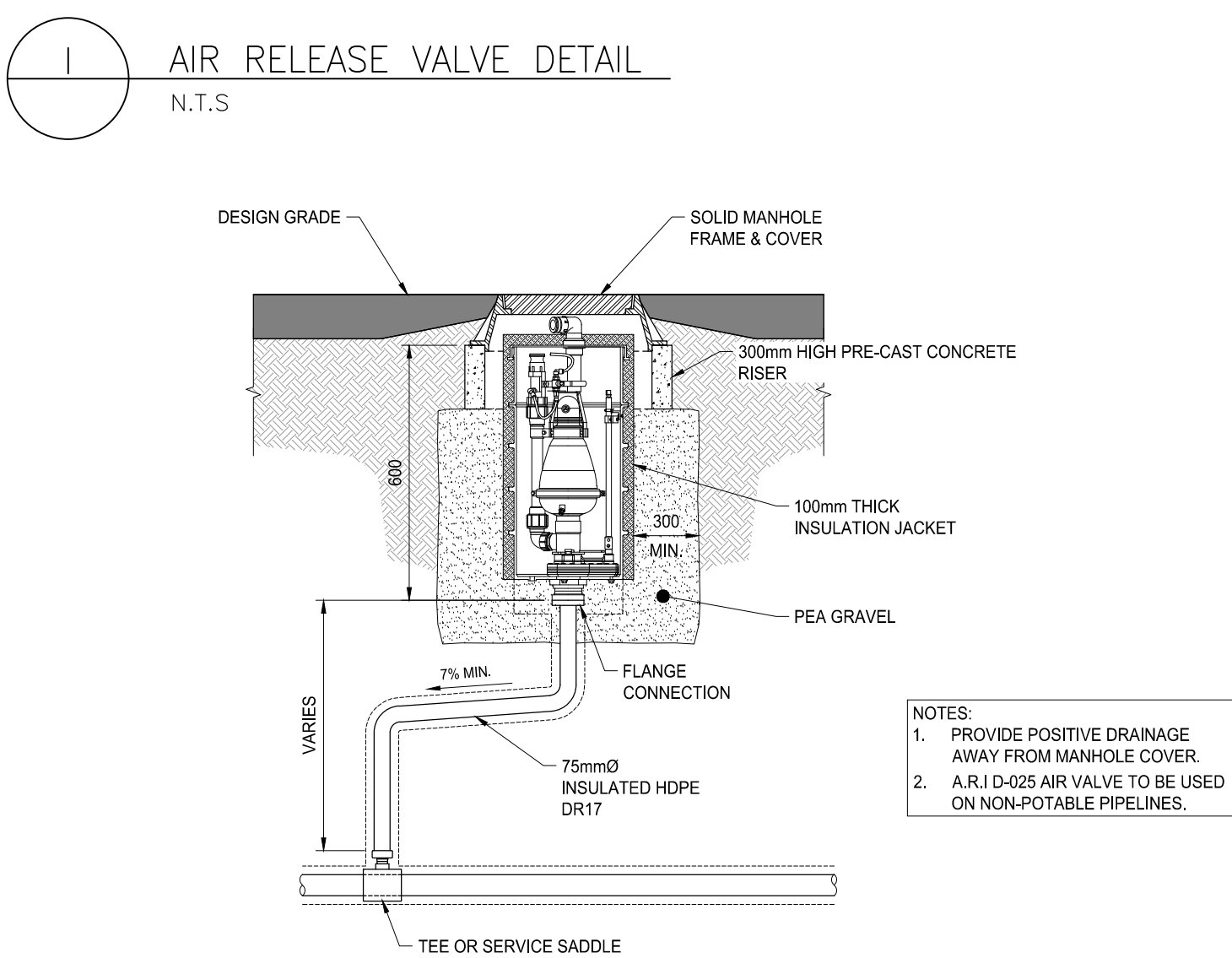
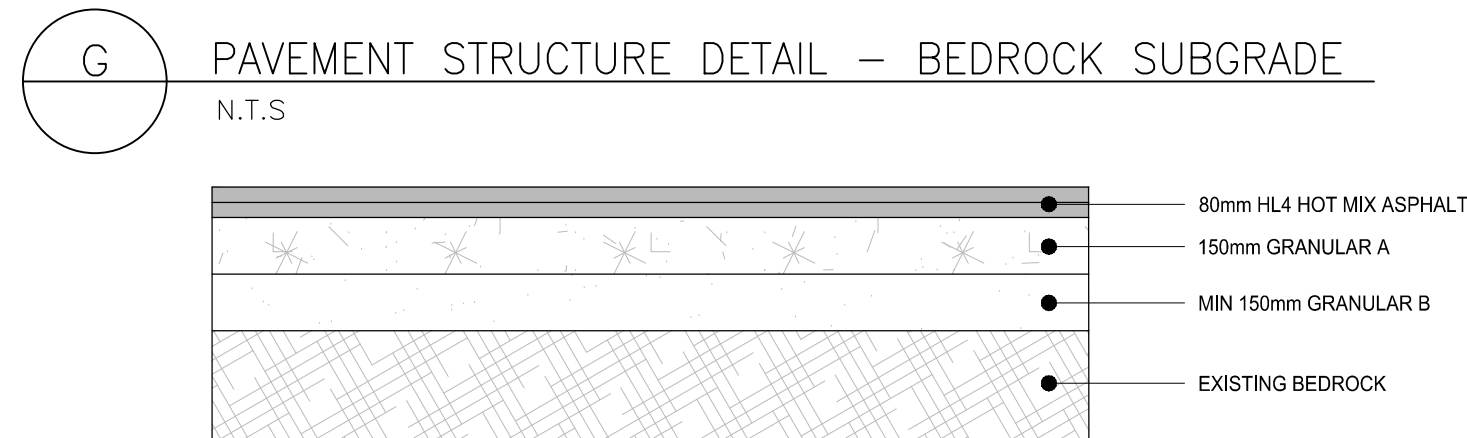
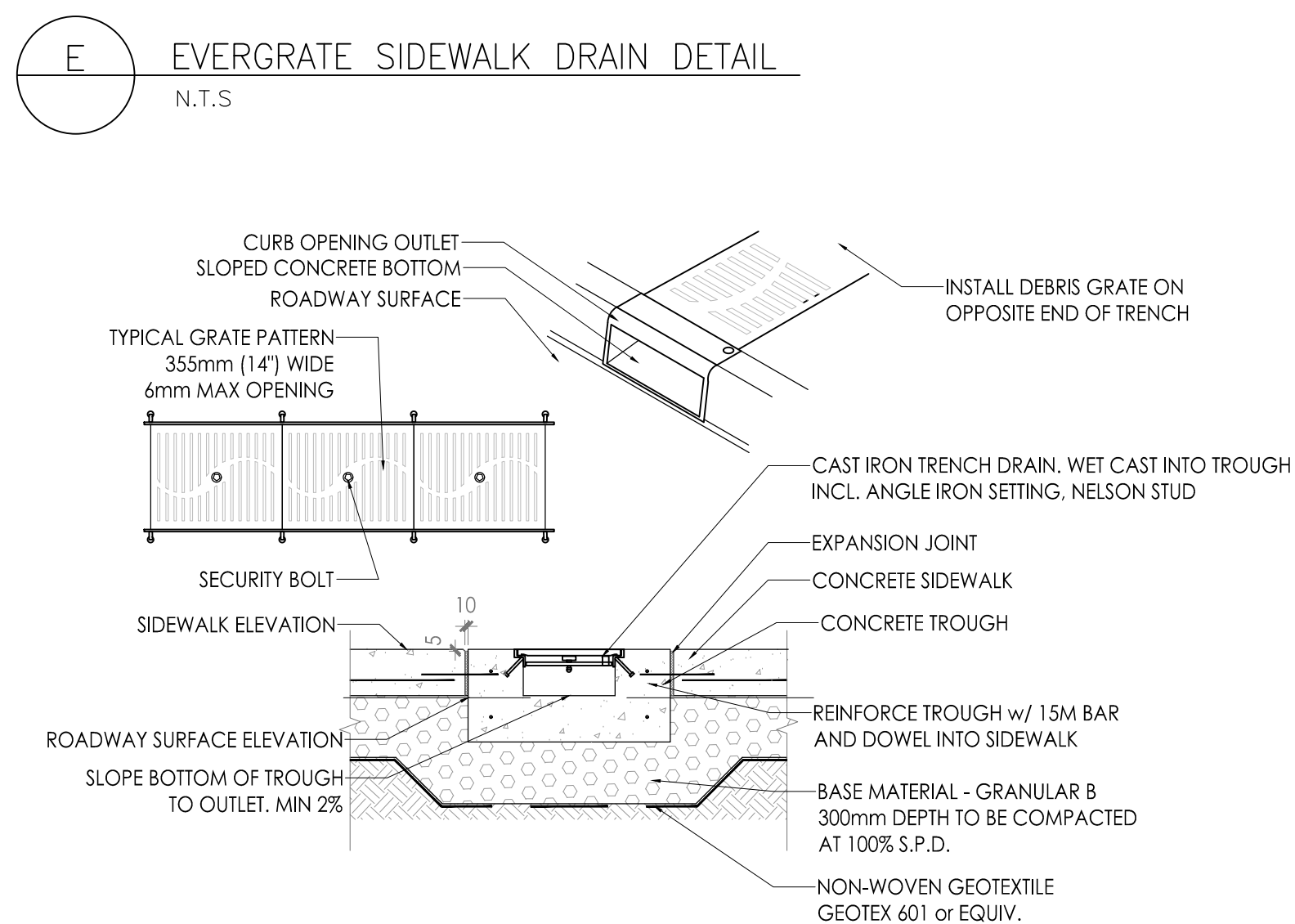
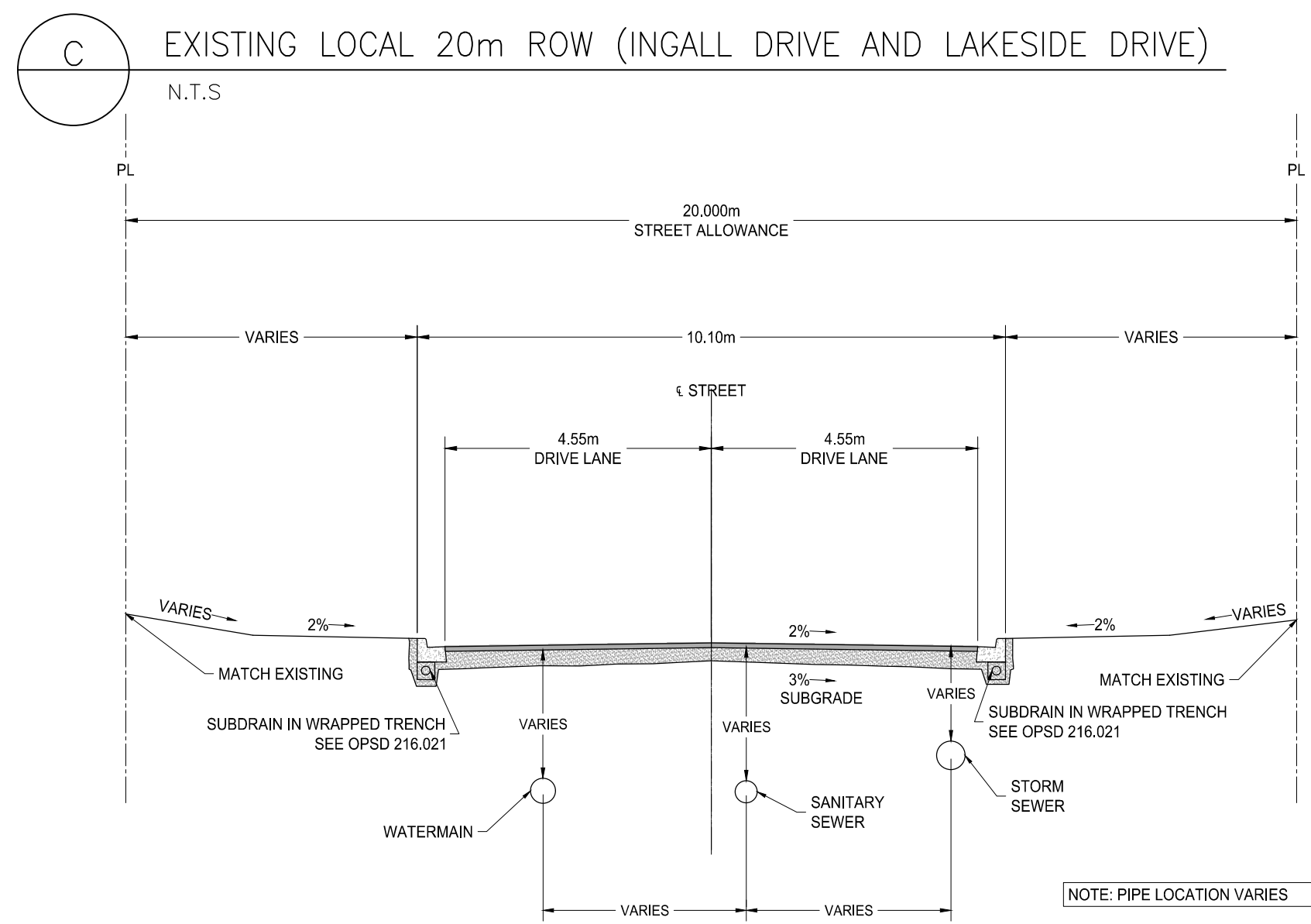
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N. E. VAILLANT
100514552
2026.01.26
PROVINCE OF ONTARIO

Client/Project
CITY OF DRYDEN
CONTRACT T-2026-1
SOUTH VAN HORNE HOUSING
ENABLING PROJECT
DRYDEN, ONTARIO.
Title
PLAN AND PROFILE
CLAYBANKS RD. 0+000 to 0+348

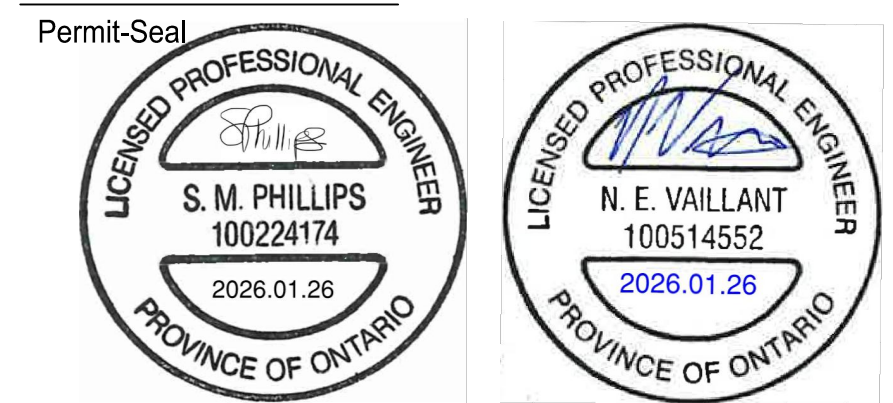


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2. TOPOGRAPHICAL SURVEY PREPARED BY HATCH, DATED 2025.06.06



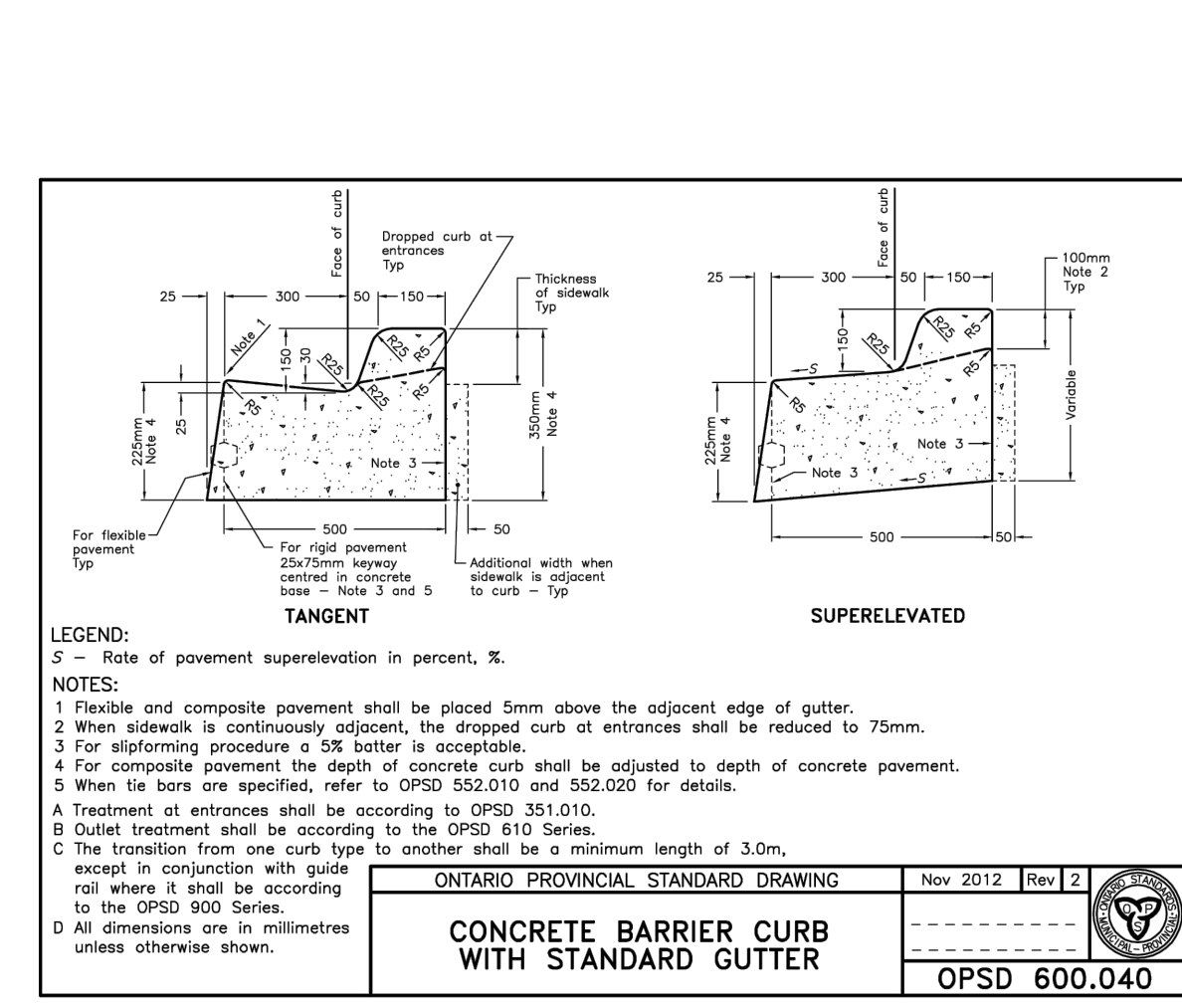
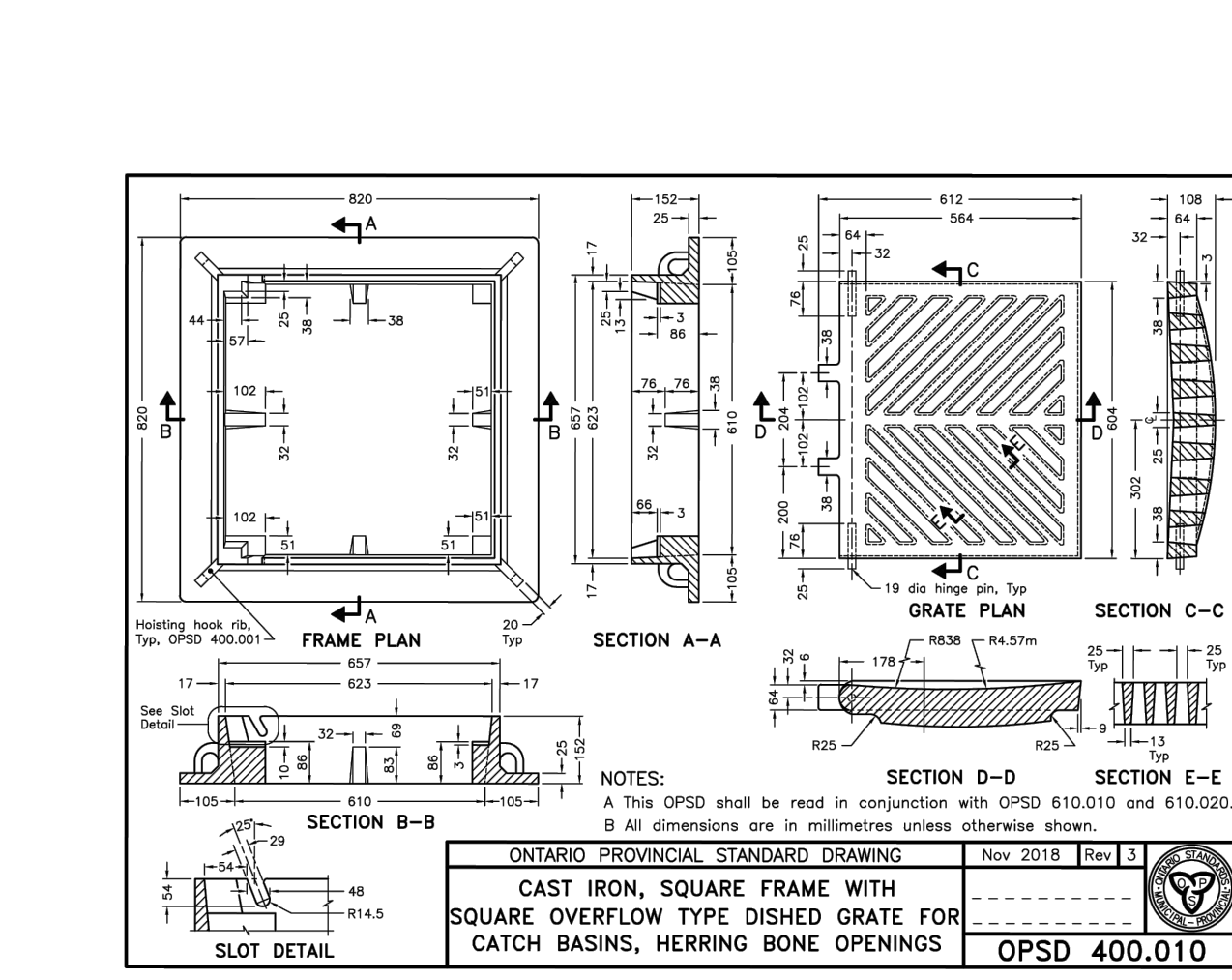
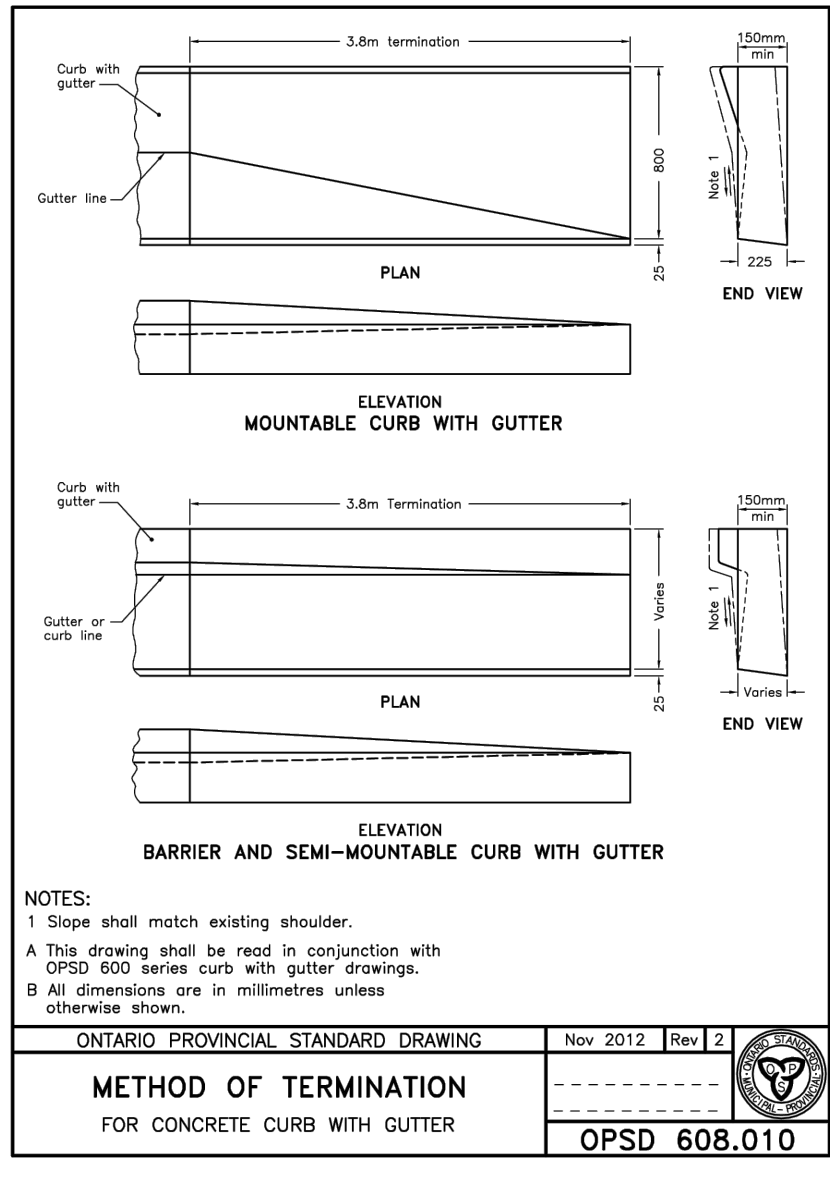
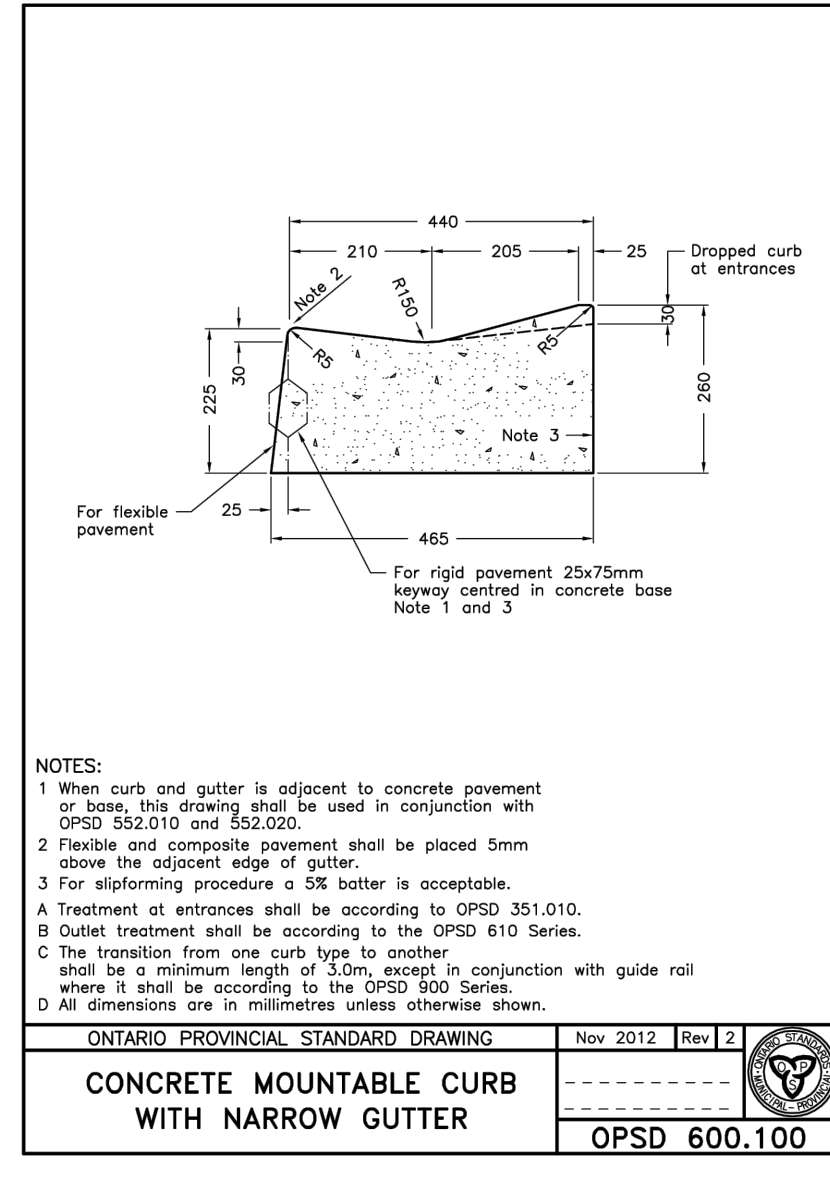
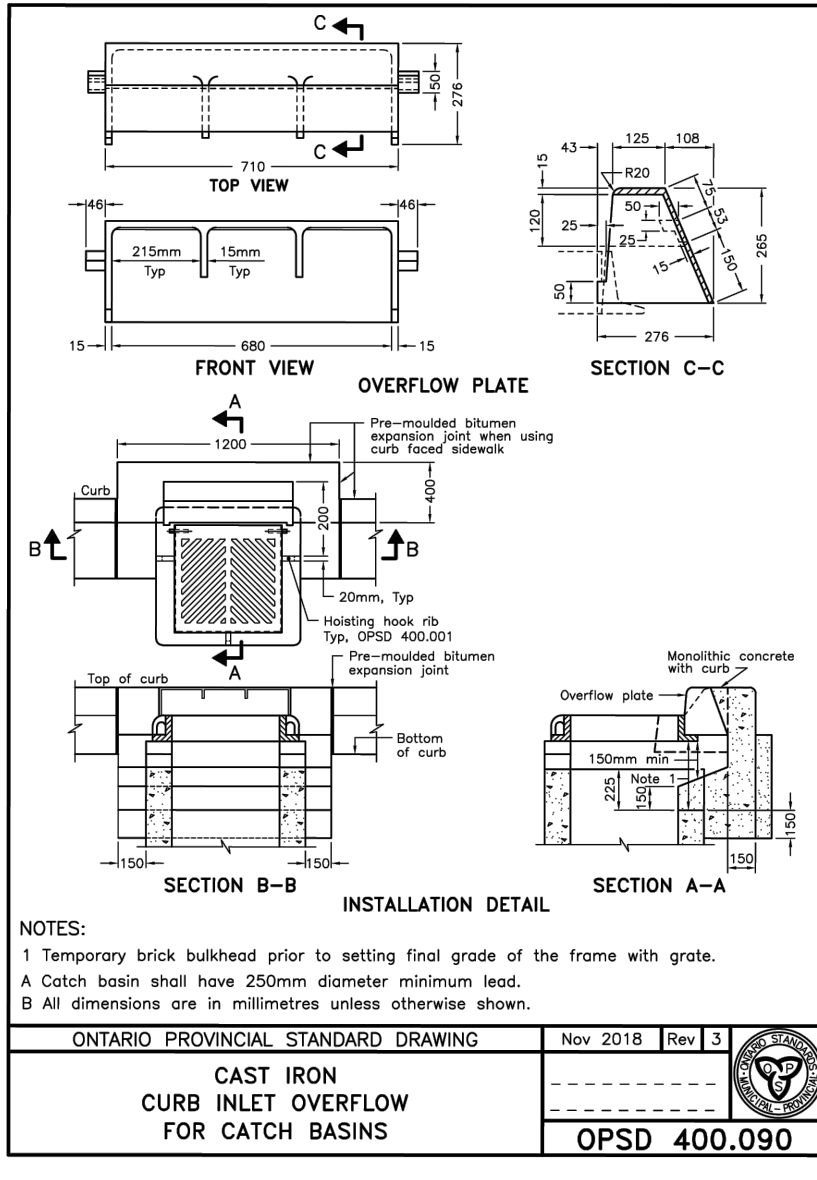
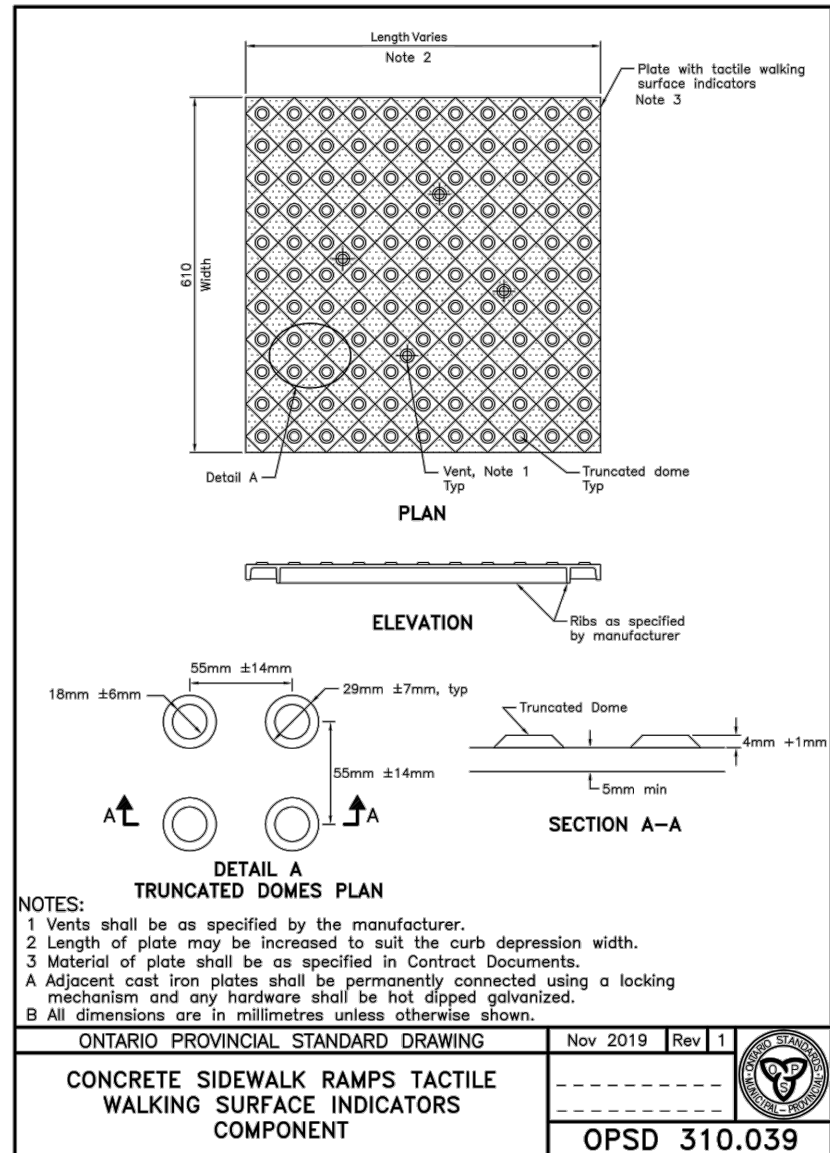
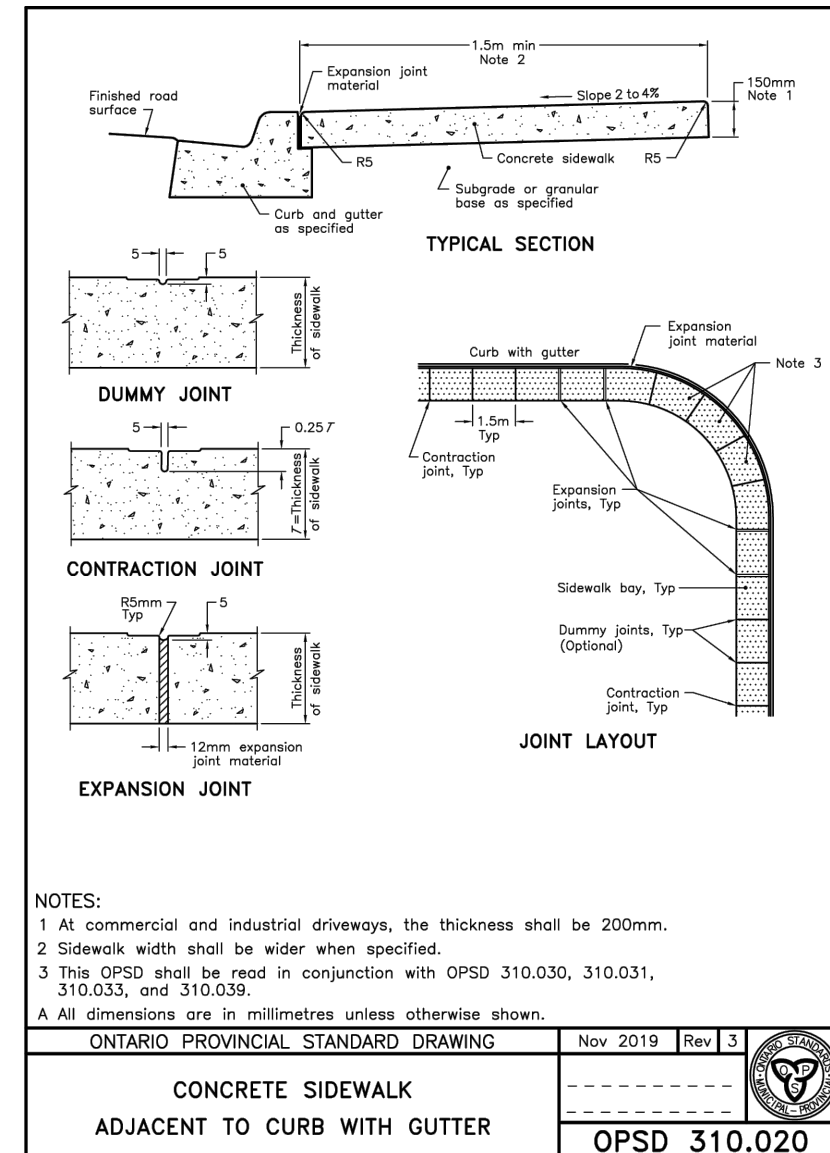
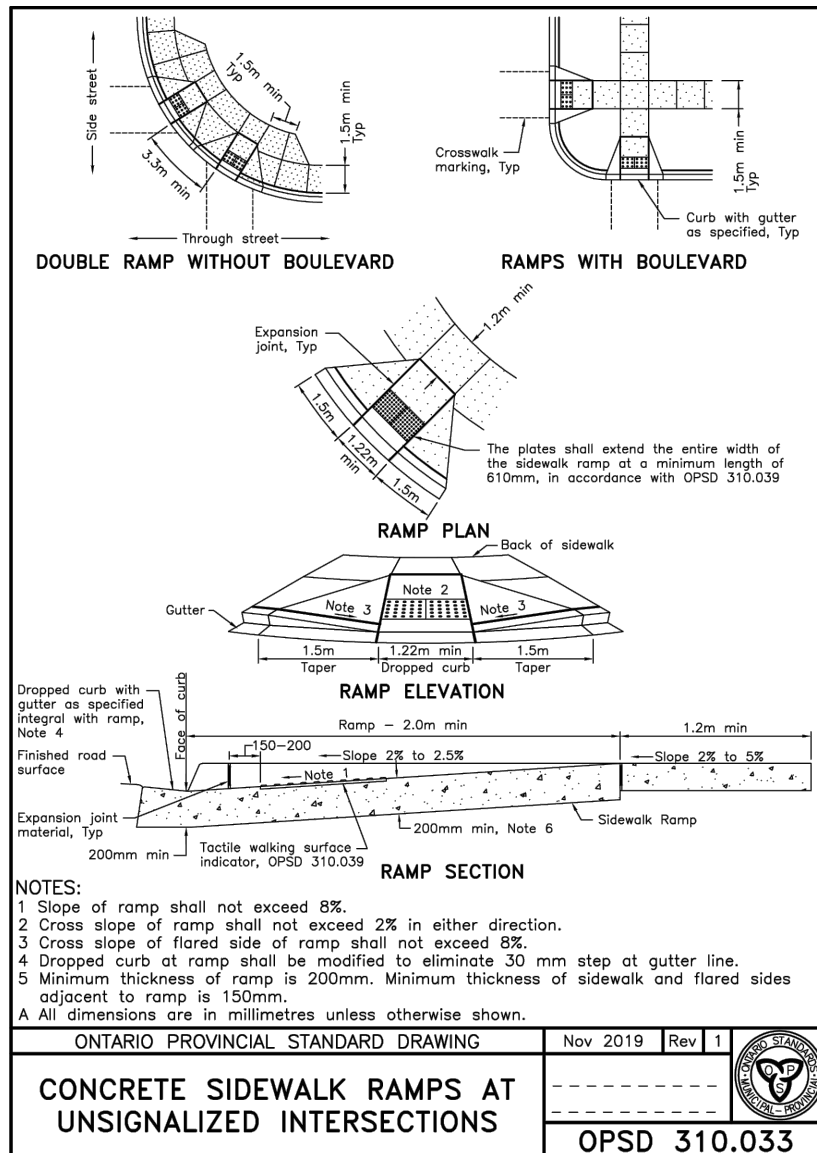
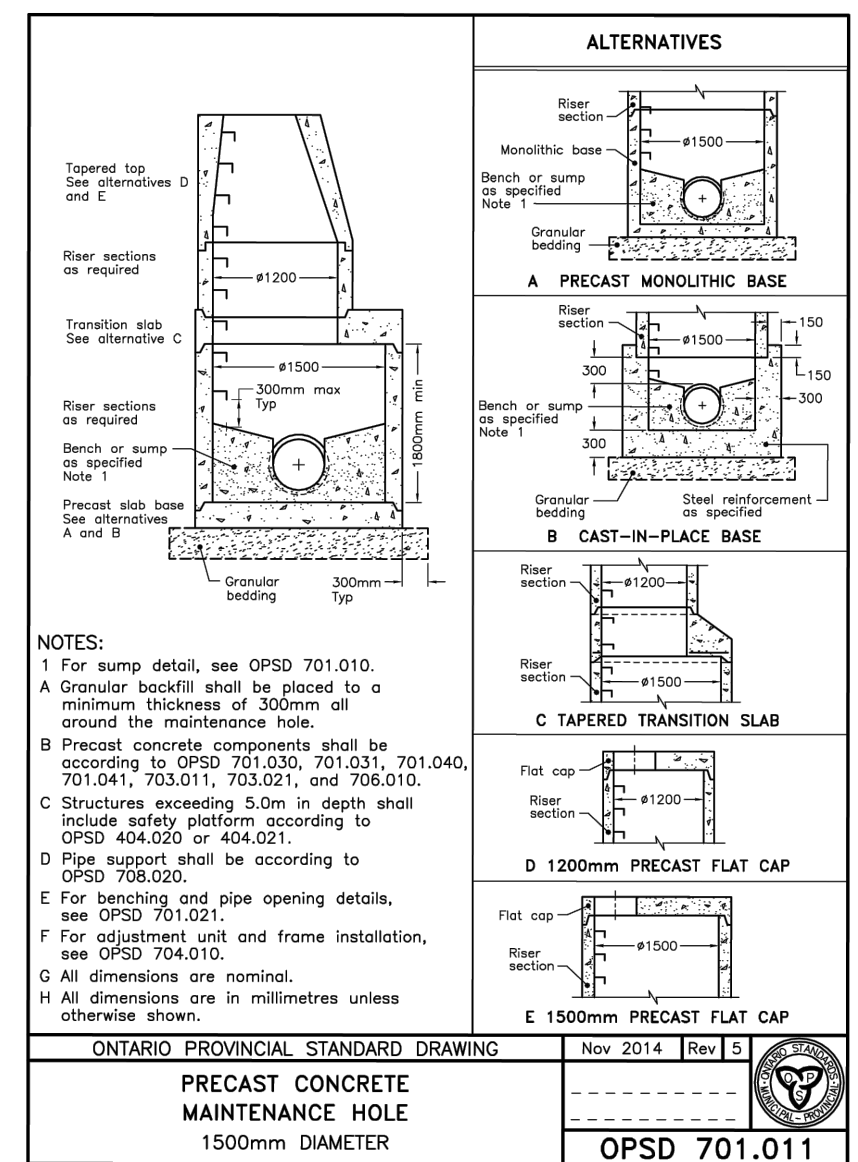
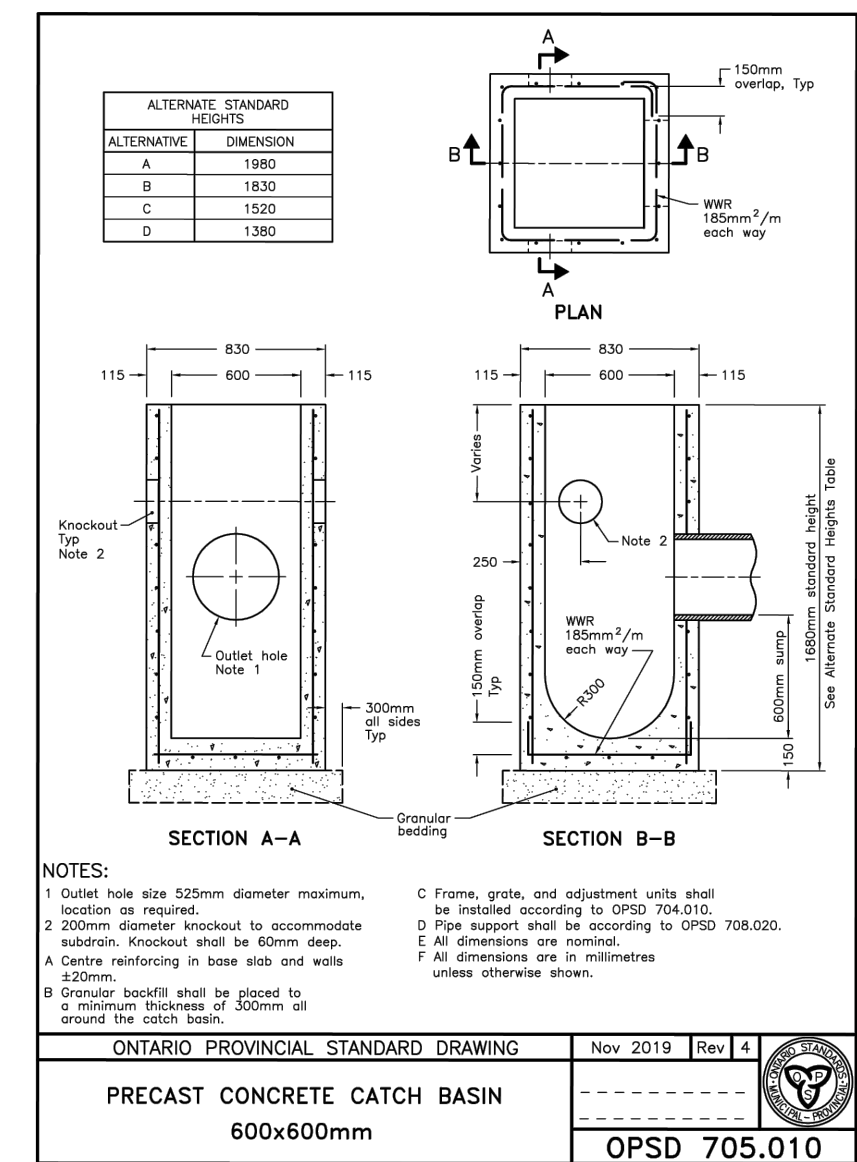
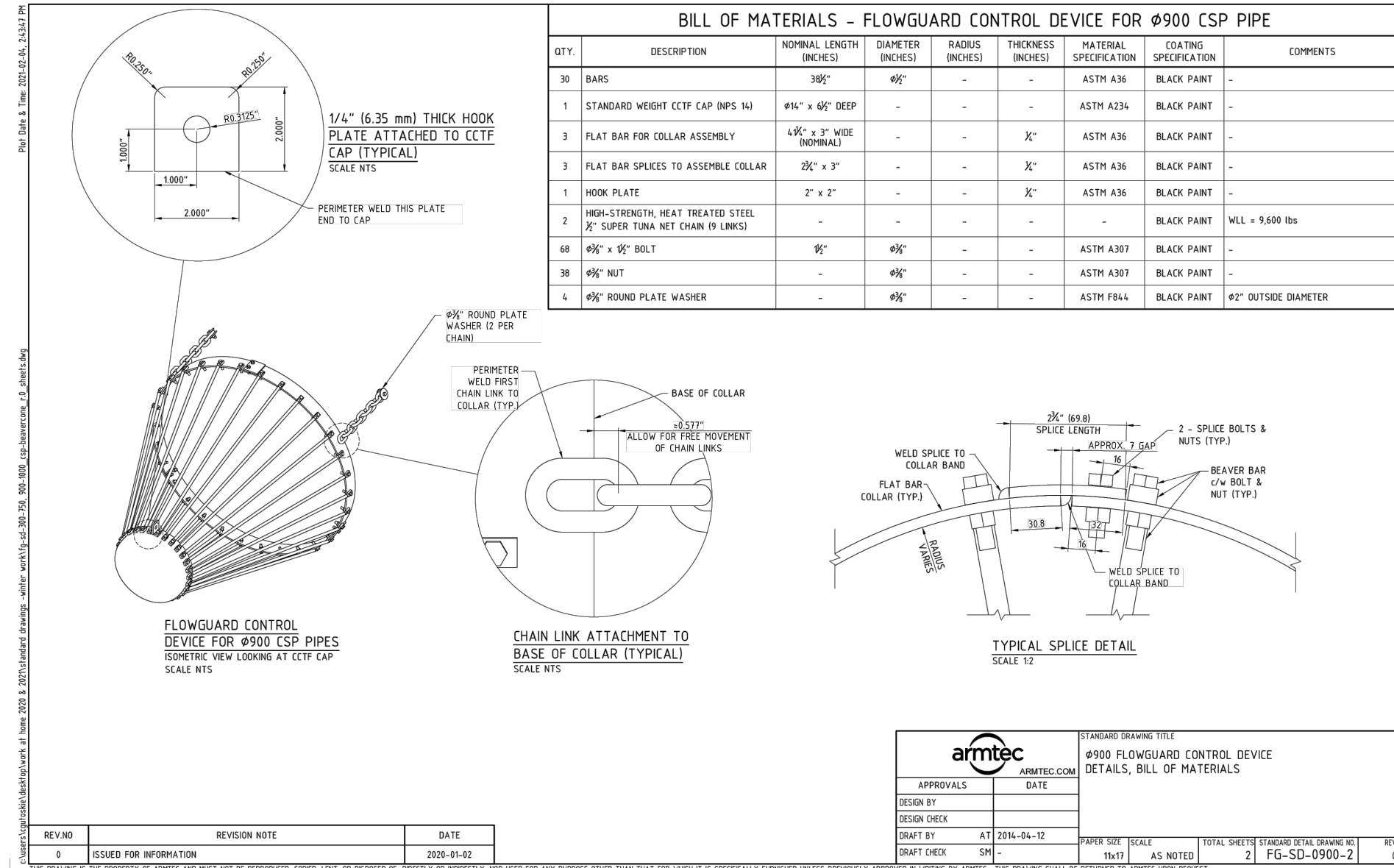
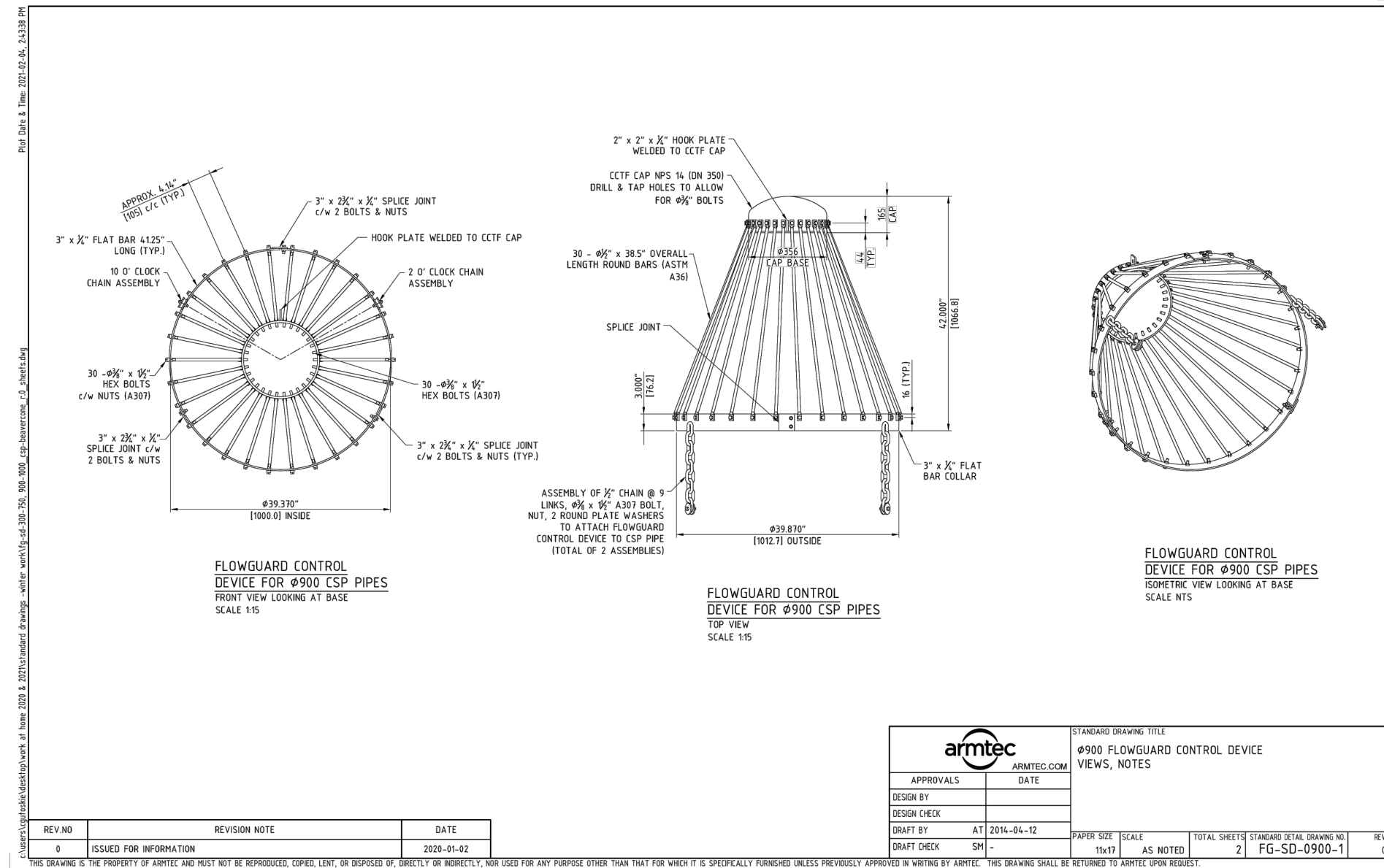
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	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD



Title
DETAILS AND NOTES

Revision	Sheet	Drawing No.
0	08 of 23	C-300

C-300



0	ISSUED FOR TENDER	JW/CO	NV	2026.01.26
File Name:	161414649_C-DT	JW	NV	2025.06.06
Dwn.	Degn.	Chkd.	YYYY.MM.DD	



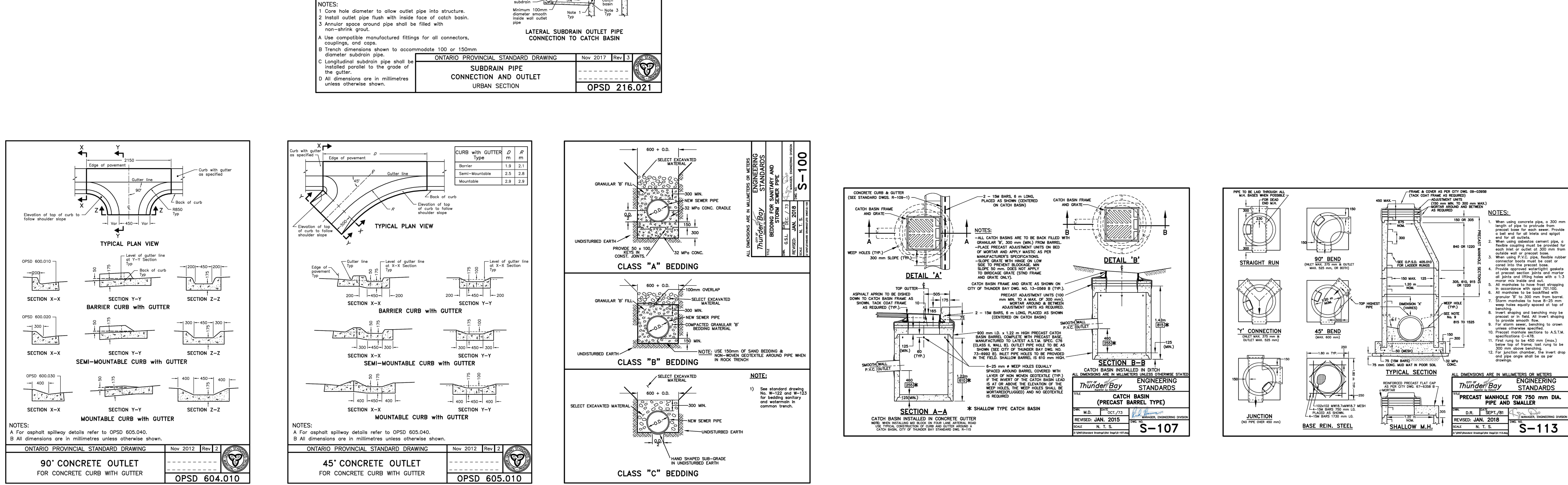
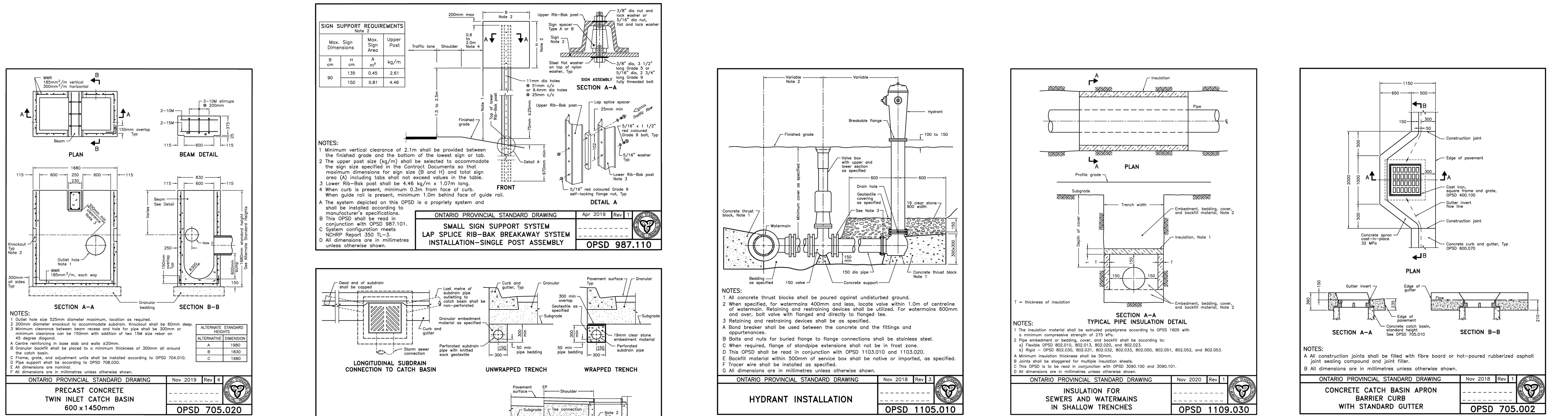
Client/Project
CITY OF DRYDEN
CONTRACT T-2026-1

SOUTH VAN HORNE HOUSING
ENABLING PROJECT

DRYDEN, ONTARIO.

Title
DETAILS AND NOTES

Project No.	Scale	0 5 15 25m
161414649	1:500	
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1. ELEV'S ARE REFERRED TO THE CANADIAN GEODETIC VERTICAL DATUM (CGVD-1928:1978)
2. TOPOGRAPHICAL SURVEY PREPARED BY HATCH, DATED 2025.06.06

1. EXISTING ELEVATIONS SHOWN ARE APPROXIMATE ONLY. CONFIRM EXISTING FIELD TOPOGRAPHY AND PIPE INVERTS ON SITE AT START OF WORK.
2. ALL DIMENSIONS ARE IN METRIC AND DRAWINGS ARE NOT TO SCALE UNLESS SPECIFIED.
3. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING ALL LINES, LEVELS AND SLOPES IN ORDER TO PRODUCE THE INTENT OF WORK.
4. CONTRACTOR IS RESPONSIBLE FOR REPAIRING OR REINSTATING ANY GROUND, WALKWAYS, FENCES, BUILDINGS OR EQUIPMENT DAMAGED DURING THE EXECUTION OF WORK. RESTORE TO EXISTING OR BETTER CONDITION.
5. CONTRACTOR IS RESPONSIBLE FOR ALL LABOUR, EQUIPMENT AND MATERIALS REQUIRED TO COMPLETE THE WORK SET OUT IN THIS CONTRACT.
6. CONTRACTOR SHALL PROVIDE ONE SET OF AS-BUILT DRAWINGS UPON COMPLETION OF WORK. AS-BUILTS TO BE CLEAN AND ALL CHANGES SHALL BE CLEARLY LEGIBLE AND IN RED INK.
7. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ANY OR ALL DEFECTS IN WORKMANSHIP WHICH MAY ARISE FOR A PERIOD OF 12 MONTHS FROM COMPLETION OF WORK.
8. ALL PIPE TRENCHES TO BE MAINTAINED IN DRY CONDITION. DEWATERING TO BE CARRIED OUT PER OPS 517. CONTRACTOR RESPONSIBLE TO OBTAIN MECP PERMIT IF REQUIRED.
9. EXCAVATE TO SPECIFIED GRADES AND REMOVE UNSUITABLE MATERIAL. SUITABLE NATIVE MATERIAL CAN BE RE-USED FOR PIPE BACKFILL.
10. DAMAGE TO ALL BOULEVARDS, LANDSCAPING FEATURES AND PRIVATE PROPERTIES SHALL BE REPAIRED TO EQUAL OR BETTER CONDITION AT THE CONTRACTORS EXPENSE.

1. ALL CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT (OH&S) AND REGULATIONS FOR CONSTRUCTION PROJECTS.
2. ALL EXCAVATIONS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE ESA/TSSA "GUIDELINE FOR EXCAVATION IN THE VICINITY OF UTILITY LINES".
3. PRIOR TO COMMENCING ANY EXCAVATION THE EXCAVATOR MUST OBTAIN VALID UTILITY LOCATES FOR THE ENTIRE WORK AREA BY CONTACTING UTILITY ONE CALL. IN SOME CASES 3RD PARTY INSPECTION MAY BE REQUIRED BY THE UTILITY OWNER, E.G. HIGH PRESSURE GAS LINES.
4. BURIED UTILITIES MUST BE EXPOSED BY HAND DIGGING OR HYDRO/VAC WHERE PERMITTED, PRIOR TO PERFORMING MECHANICAL EXCAVATION WITHIN 1m OF ANY MARKED UTILITY LINE. ONCE EXPOSED, MECHANICAL EXCAVATION MUST NOT BE USED CLOSER THAN 0.3m IN ANY DIRECTION OF THE UTILITY LINE.
5. LOCATION OF UNDERGROUND HYDRO, GAS AND TELECOMMUNICATIONS UTILITIES SHOWN ON THE CONSTRUCTION DRAWINGS ARE NOT PRECISE AND MUST BE VERIFIED IN THE FIELD VIA UTILITY LOCATES.
6. ANY MODIFICATIONS REQUIRED TO CITY OF THUNDER BAY STREET LIGHTING, SYNERGY NORTH, HYDRO ONE, OR TELECOMMUNICATIONS CABLES, MANHOLES AND POLES MUST BE COMPLETED BY THE UTILITY OWNER. CONTRACTOR TO CO-OPERATE WITH UTILITY COMPANIES DURING CONSTRUCTION WITH ATTENTION GIVEN TO SCHEDULE OF WORK.
7. FOR ALL EXCAVATIONS GREATER THAN 0.45m IN DEPTH WITHIN 5.0m OF HYDRO ONE POLES OR GUY WIRES CONTACT HYDRO ONE FOR STRUCTURE SURVEY AND SHIELDING. PROVIDING 72 HRS ADVANCE NOTICE. EXPOSING UNDERGROUND CABLE/DUCT CONTACT HYDRO ONE FOR INSPECTION PRIOR TO EXPOSING. UNDERMINING OR BACKFILLING DURING 72 HRS ADVANCE NOTICE. BACKFILLING AS PER HYDRO ONE INSTRUCTION.
8. ALL GRADE CHANGES, GROUND COVER AND DEBRIS PLACED NEAR AND OR SURROUNDING ABOVE NATURAL GAS FACILITIES/PIPING ARE TO BE COMMUNICATED TO ENBRIDGE GAS DURING THE JOB PLANNING STAGES.

1. MANAGE EXCESS SOILS IN ACCORDANCE WITH OPSS 180.
2. INSTALL ALL EROSION CONTROL AND SEDIMENT CONTROL MEASURES BEFORE BEGINNING REMOVAL WORK AND/OR GROUND DISTURBING ACTIVITIES. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH OPSS 805.
3. EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSPECTED AND MAINTAINED ONCE EVERY SEVEN DAYS AND WITHIN 24 HOURS OF EVERY RAINFALL EVENT GREATER THAN 15 mm.
4. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL TEMPORARY EROSION CONTROL MEASURES UPON COMPLETION OF CONSTRUCTION OR AT DIRECTION OF ENGINEER, AND RESTORE ANY DISTURBED AREAS.

1. WATER, SANITARY AND STORMWATER SERVICES SHOWN ARE APPROXIMATE ONLY. ALL SERVICES REQUIRING DISCONNECTION AND RECONNECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. ALL RESIDENCES REQUIRING A DISCONNECTION SHALL BE GIVEN AT LEAST 48 HOURS NOTICE PRIOR TO DISCONNECTION OF SERVICE.
3. ANY RESIDENCE THAT REQUIRES WATER, SANITARY OR STORMWATER SERVICE DISCONNECTIONS SHALL BE RECONNECTED AT THE END OF EACH DAY.
4. RECONNECTION OF PRIVATE SERVICES MAY REQUIRE A RELOCATION. CONTRACTOR SHALL NOTIFY THE CONTRACT ADMINISTRATOR PRIOR TO RELOCATING.
5. REPLACEMENT OF NEW SERVICES SHALL BE OF THE SAME SIZE AS EXISTING AND SHALL SATISFY ALL APPLICABLE OBC, COTB, AND ENVIRONMENTAL STANDARDS.

1. BEDDING FOR ALL PIPING TO CONFIRM TO CITY OF THUNDER BAY ENGINEERING STANDARDS DRAWING S-100, CLASS 'B' BEDDING.
2. ALL PIPE INSTALLATION MUST BE SUPERVISED OR APPROVED BY A LICENSED PLUMBER.
3. CONTRACTOR TO SUBMIT SHOP DRAWINGS TO THE CONSULTANT FOR REVIEW PRIOR TO INSTALLATION.
4. TYPE OF SEWER PIPE, CLASS, ORIENTATION, SLOPE AND LENGTH ARE OUTLINED IN THE CONTRACT DRAWINGS.
5. EXISTING SEWER CONNECTIONS TYPE, SIZE AND LOCATION TO BE CONFIRMED IN THE FIELD.
6. NEW SEWER TO BE CONSTRUCTED AS SHOWN ON THE DRAWINGS, IN ACCORDANCE WITH THE APPLICABLE CITY OF THUNDER BAY STANDARDS AND ENGINEERING SPECIFICATIONS S-100, S-101, S-102, S-103, S-104, S-105, S-106, S-107, S-108, S-109, S-110, S-111, S-112, S-113, S-114, S-115, S-116, S-117, S-118, S-119, S-120, S-121, S-122, S-123, S-124, S-125, S-126, S-127, S-128, S-129, S-130, S-131, S-132, S-133, S-134, S-135, S-136, S-137, S-138, S-139, S-140, S-141, S-142, S-143, S-144, S-145, S-146, S-147, S-148, S-149, S-150, S-151, S-152, S-153, S-154, S-155, S-156, S-157, S-158, S-159, S-160, S-161, S-162, S-163, S-164, S-165, S-166, S-167, S-168, S-169, S-170, S-171, S-172, S-173, S-174, S-175, S-176, S-177, S-178, S-179, S-180, S-181, S-182, S-183, S-184, S-185, S-186, S-187, S-188, S-189, S-190, S-191, S-192, S-193, S-194, S-195, S-196, S-197, S-198, S-199, S-200, S-201, S-202, S-203, S-204, S-205, S-206, S-207, S-208, S-209, S-210, S-211, S-212, S-213, S-214, S-215, S-216, S-217, S-218, S-219, S-220, S-221, S-222, S-223, S-224, S-225, S-226, S-227, S-228, S-229, S-230, S-231, S-232, S-233, S-234, S-235, S-236, S-237, S-238, S-239, S-240, S-241, S-242, S-243, S-244, S-245, S-246, S-247, S-248, S-249, S-250, S-251, S-252, S-253, S-254, S-255, S-256, S-257, S-258, S-259, S-260, S-261, S-262, S-263, S-264, S-265, S-266, S-267, S-268, S-269, S-270, S-271, S-272, S-273, S-274, S-275, S-276, S-277, S-278, S-279, S-280, S-281, S-282, S-283, S-284, S-285, S-286, S-287, S-288, S-289, S-290, S-291, S-292, S-293, S-294, S-295, S-296, S-297, S-298, S-299, S-300, S-301, S-302, S-303, S-304, S-305, S-306, S-307, S-308, S-309, S-310, S-311, S-312, S-313, S-314, S-315, S-316, S-317, S-318, S-319, S-320, S-321, S-322, S-323, S-324, S-325, S-326, S-327, S-328, S-329, S-330, S-331, S-332, S-333, S-334, S-335, S-336, S-337, S-338, S-339, S-340, S-341, S-342, S-343, S-344, S-345, S-346, S-347, S-348, S-349, S-350, S-351, S-352, S-353, S-354, S-355, S-356, S-357, S-358, S-359, S-360, S-361, S-362, S-363, S-364, S-365, S-366, S-367, S-368, S-369, S-370, S-371, S-372, S-373, S-374, S-375, S-376, S-377, S-378, S-379, S-380, S-381, S-382, S-383, S-384, S-385, S-386, S-387, S-388, S-389, S-390, S-391, S-392, S-393, S-394, S-395, S-396, S-397, S-398, S-399, S-400, S-401, S-402, S-403, S-404, S-405, S-406, S-407, S-408, S-409, S-410, S-411, S-412, S-413, S-414, S-415, S-416, S-417, S-418, S-419, S-420, S-421, S-422, S-423, S-424, S-425, S-426, S-427, S-428, S-429, S-430, S-431, S-432, S-433, S-434, S-435, S-436, S-437, S-438, S-439, S-440, S-441, S-442, S-443, S-444, S-445, S-446, S-447, S-448, S-449, S-450, S-451, S-452, S-453, S-454, S-455, S-456, S-457, S-458, S-459, S-460, S-461, S-462, S-463, S-464, S-465, S-466, S-467, S-468, S-469, S-470, S-471, S-472, S-473, S-474, S-475, S-476, S-477, S-478, S-479, S-480, S-481, S-482, S-483, S-484, S-485, S-486, S-487, S-488, S-489, S-490, S-491, S-492, S-493, S-494, S-495, S-496, S-497, S-498, S-499, S-500, S-501, S-502, S-503, S-504, S-505, S-506, S-507, S-508, S-509, S-510, S-511, S-512, S-513, S-514, S-515, S-516, S-517, S-518, S-519, S-520, S-521, S-522, S-523, S-524, S-525, S-526, S-527, S-528, S-529, S-530, S-531, S-532, S-533, S-534, S-535, S-536, S-537, S-538, S-539, S-540, S-541, S-542, S-543, S-544, S-545, S-546, S-547, S-548, S-549, S-550, S-551, S-552, S-553, S-554, S-555, S-556, S-557, S-558, S-559, S-560, S-561, S-562, S-563, S-564, S-565, S-566, S-567, S-568, S-569, S-570, S-571, S-572, S-573, S-574, S-575, S-576, S-577, S-578, S-579, S-580, S-581, S-582, S-583, S-584, S-585, S-586, S-587, S-588, S-589, S-590, S-591, S-592, S-593, S-594, S-595, S-596, S-597, S-598, S-599, S-600, S-601, S-602, S-603, S-604, S-605, S-606, S-607, S-608, S-609, S-610, S-611, S-612, S-613, S-614, S-615, S-616, S-617, S-618, S-619, S-620, S-621, S-622, S-623, S-624, S-625, S-626, S-627, S-628, S-629, S-630, S-631, S-632, S-633, S-634, S-635, S-636, S-637, S-638, S-639, S-640, S-641, S-642, S-643, S-644, S-645, S-646, S-647, S-648, S-649, S-650, S-651, S-652, S-653, S-654, S-655, S-656, S-657, S-658, S-659, S-660, S-661, S-662, S-663, S-664, S-665, S-666, S-667, S-668, S-669, S-670, S-671, S-672, S-673, S-674, S-675, S-676, S-677, S-678, S-679, S-680, S-681, S-682, S-683, S-684, S-685, S-686, S-687, S-688, S-689, S-690, S-691, S-692, S-693, S-694, S-695, S-696, S-697, S-698, S-699, S-700, S-701, S-702, S-703, S-704, S-705, S-706, S-707, S-708, S-709, S-710, S-711, S-712, S-713, S-714, S-715, S-716, S-717, S-718, S-719, S-720, S-721, S-722, S-723, S-724, S-725, S-726, S-727, S-728, S-729, S-730, S-731, S-732, S-733, S-734, S-735, S-736, S-737, S-738, S-739, S-740, S-741, S-742, S-743, S-744, S-745, S-746, S-747, S

1. DEWATERING AND MOISTURE CONTROL SHALL BE PERFORMED THROUGHOUT THE DURATION OF THE PROJECT.
2. ENSURE GRADING PROMOTES DRAINAGE AWAY FROM BUILDINGS, WALLS, AND PAVED AREAS.
3. COMPACT GRANULAR SUBGRADE AND GRANULAR 'A' TO 98% STANDARD PROCTOR DENSITY (SPDD), COMPACTION PER OPSS 501. GRANULARS PER OPSS 1010.
4. DITCH/SWALE CONSTRUCTION IS TO BE COMPLETED IN ADVANCE OF SITE EXCAVATIONS AND BACKFILLING.
5. EXCAVATION TO DEPTHS AND EXTENTS SHOWN ON THE DRAWINGS AND PER OPSS 401.
6. ANY EXCESS MATERIAL IS TO BE REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE PER OPSS 180 AND O.REG 406/18.
7. ALL PEAT AND DELETERIOUS MATERIAL THROUGHOUT THE SITE SHALL BE COMPLETELY REMOVED AND REPLACED WITH ENGINEERED FILL MATERIAL (PER PAVEMENT STRUCTURE DETAIL). THE PEAT THICKNESS MAY VARY THROUGHOUT THE SUBJECT SITE.
8. GROUNDWATER SEEPAGE AND INFILTRATION IS ANTICIPATED DURING EXCAVATION WITHIN THE LAYER OF PEAT, SANDY SILT, AND SILTY SAND. DEWATERING WILL LIKELY BE REQUIRED FOR THE PREPARATION OF THE SUBGRADE AND BACKFILL OF ENGINEERED FILL MATERIALS. THE VOLUME OF GROUNDWATER INFILTRATION WILL DEPEND ON THE CONSTRUCTION PERIOD, PRECIPITATION, AND SURFACE DRAINAGE. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE MEANS AND METHODS OF DEWATERING NECESSARY TO MEET THE PROJECT REQUIREMENTS, APPLICABLE REGULATIONS, CONSTRUCTION METHODOLOGY, AND SCHEDULE.
9. A DEWATERING PLAN SHALL BE PREPARED BY THE CONSULTANT AND SUBMITTED TO THE CONSULTANT FOR REVIEW. THE DEWATERING PLAN SHALL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF OPSS MUNI 517 AND OPSS MUNI 518. THE DISCHARGED WATER SHALL BE DIRECTED TO A LOCATION EQUIPPED WITH ADEQUATE SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH OPSS MUNI 805.
10. TO PREVENT DISTURBANCE TO THE SUBGRADE SURFACE, THE FINAL 300 MM OF THE EXCAVATION SHOULD BE EXCAVATED WITH A FLAT BUCKET. CONSTRUCTION TRAFFIC SHOULD NOT BE ALLOWED ON THE SUBGRADE SURFACE AND ALL DISTURBED MATERIALS MUST BE REMOVED.
11. FOLLOWING THE EXCAVATION OF THE PEAT AND DELETERIOUS MATERIALS, THE SUBGRADE MUST BE INSPECTED BY THE CONSULTANT TO REVIEW THAT ALL UNSUITABLE MATERIALS ARE REMOVED. ANY PEAT, ORGANICS, DELETERIOUS MATERIALS, OR DISTURBED/SOFTENED AREAS IDENTIFIED DURING THE PRELIMINARY EXCAVATION SHALL BE REMOVED AND REPLACED WITH ENGINEERED FILL MATERIAL.
12. THE EXPOSED SUBGRADE SURFACE MUST BE CAREFULLY PROOF-ROLLED AND COMPACTED USING LARGE, NON-VIBRATORY COMPACTION EQUIPMENT WITH A MINIMUM STATIC WEIGHT OF TEN TONNES. THE PROOF ROLLING PROGRAM SHOULD CONSIST OF A MINIMUM OF FIVE PASSES PER UNIT AREA TO PROVIDE A UNIFORM SURFACE FOR CONSTRUCTION. THE PROOF ROLLING PROGRAM SHALL BE INSPECTED BY THE CONSULTANT.
13. THE SUBGRADE MUST NOT BE ALLOWED TO FREEZE DURING AND AFTER CONSTRUCTION AND THERE SHOULD BE NO FROST PRESENT IN THE SUBGRADE SOILS PRIOR TO THE PLACEMENT OF ENGINEERED FILL.
14. THE CONTRACTOR IS RESPONSIBLE FOR SETTING FINAL GRADES AND ELEVATIONS TO ENSURE THE WORK IS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND APPLICABLE SPECIFICATIONS. ANY ADJUSTMENTS MADE TO THE GRADES OR ELEVATIONS ON THE CONTRACT DRAWINGS SHALL BE PROVIDED THE CONSULTANT A MINIMUM OF 14 DAYS PRIOR TO ANY PLACEMENT OF MATERIALS INTO THE EXCAVATION.
15. RESTORATION TO MATCH INTO EXISTING FEATURES TO EQUAL OR BETTER CONDITION WITH 100mm TOPSOIL AND SEED. TOPSOIL PER OPSS 802 AND SEED PER OPSS 904.

PIPE CROSSING TABLE			
CROSSING (HIGH PIPE/LOW PIPE)	HIGH PIPE INVERT	LOW PIPE OVERT	VERTICAL SEPARATION (m)
X ₁ (250 STM/150 WTR)	372.19	371.79	0.40
X ₂ (250 STM/EX 250 SAN)	372.17	367.57	4.59
X ₃ (300 WTR/250 SAN)	371.58	368.05	3.53
X ₄ (300 STM/250 SAN)	372.26	368.48	3.78
X ₅ (300 STM/300 WTR)	372.26	371.60	0.66
X ₆ (150 WTR/250 SAN)	371.04	368.78	2.26
X ₇ (300 WTR/150 SAN FM)	370.97	370.56	0.41
X ₈ (300 STM/300 WTR)	372.25	371.81	0.44
X ₉ (300 STM/150 SAN FM)	372.21	370.94	1.26
X ₁₀ (250 STM/300 WTR)	372.93	372.46	0.47
X ₁₁ (300 WTR/150 FM)	372.88	371.90	0.98
X ₁₂ (300 WTR/250 SAN)	372.90	372.57	0.34
X ₁₃ (250 SAN/150 SAN FM)	372.35	372.05	0.30
X ₁₄ (250 SAN/150 WTR)	372.00	371.19	0.81
X ₁₅ (250 SAN/150 WTR)	372.03	371.26	0.78
X ₁₆ (300 STM/250 SAN)	372.67	372.37	0.30
X ₁₇ (250 SAN/150 SAN FM)	372.13	371.06	1.07
X ₁₈ (300 STM/150 WTR)	372.58	371.46	1.12
X ₁₉ (250 SAN/300 WTR)	372.12	371.67	0.45
X ₂₀ (450 STM/300 WTR)	370.04	369.56	0.48
X ₂₁ (450 STM/150 SAN FM)	370.02	369.23	0.80
X ₂₂ (500 STM/300 WTR)	369.16	368.66	0.50
X ₂₃ (500 STM/150 SAN FM)	369.16	368.46	0.70
X ₂₄ (250 STM/300 WTR)	369.18	368.57	0.61
X ₂₅ (250 STM/150 SAN FM)	369.17	368.37	0.80
X ₂₆ (250 STM/300 WTR)	369.73	369.07	0.66
X ₂₇ (250 STM/150 SAN FM)	369.72	368.25	1.47
X ₂₈ (250 STM/300 WTR)	370.67	369.98	0.70
X ₂₉ (250 STM/150 SAN FM)	370.66	368.15	2.52
X ₃₀ (200 WTR/150 SAN FM)	369.46	368.06	1.39
X ₃₁ (675 STM/200 WTR)	370.00	369.59	0.41
X ₃₂ (200 WTR/250 SAN)	369.51	368.70	0.82
X ₃₃ (250 SAN/150 SAN FM)	368.42	368.05	0.37
X ₃₄ (675 STM/250 SAN)	370.01	368.71	1.30
X ₃₅ (450 STM/200 WTR)	370.90	369.62	1.28
X ₃₆ (450 STM/250 SAN)	370.88	368.87	2.01
X ₃₇ (450 STM/200 WTR)	370.67	369.77	0.90
X ₃₈ (450 STM/150 SAN FM)	370.66	368.04	2.62
X ₃₉ (450 STM/250 SAN)	370.66	368.58	2.08
X ₄₀ (250 STM/200 WTR)	371.21	369.85	1.36
X ₄₁ (250 STM/150 SAN FM)	371.11	368.00	3.11
X ₄₂ (250 STM/250 SAN)	371.06	368.50	2.57
X ₄₃ (250 STM/200 WTR)	370.69	370.20	0.49
X ₄₄ (250 STM/150 SAN FM)	370.69	367.84	2.85
X ₄₅ (250 STM/250 SAN)	370.68	368.15	2.53
X ₄₆ (450 STM/200 WTR)	370.97	370.06	0.91
X ₄₇ (450 STM/250 SAN)	370.96	368.87	2.09
X ₄₈ (250 SAN/200 WTR)	369.70	369.27	0.44

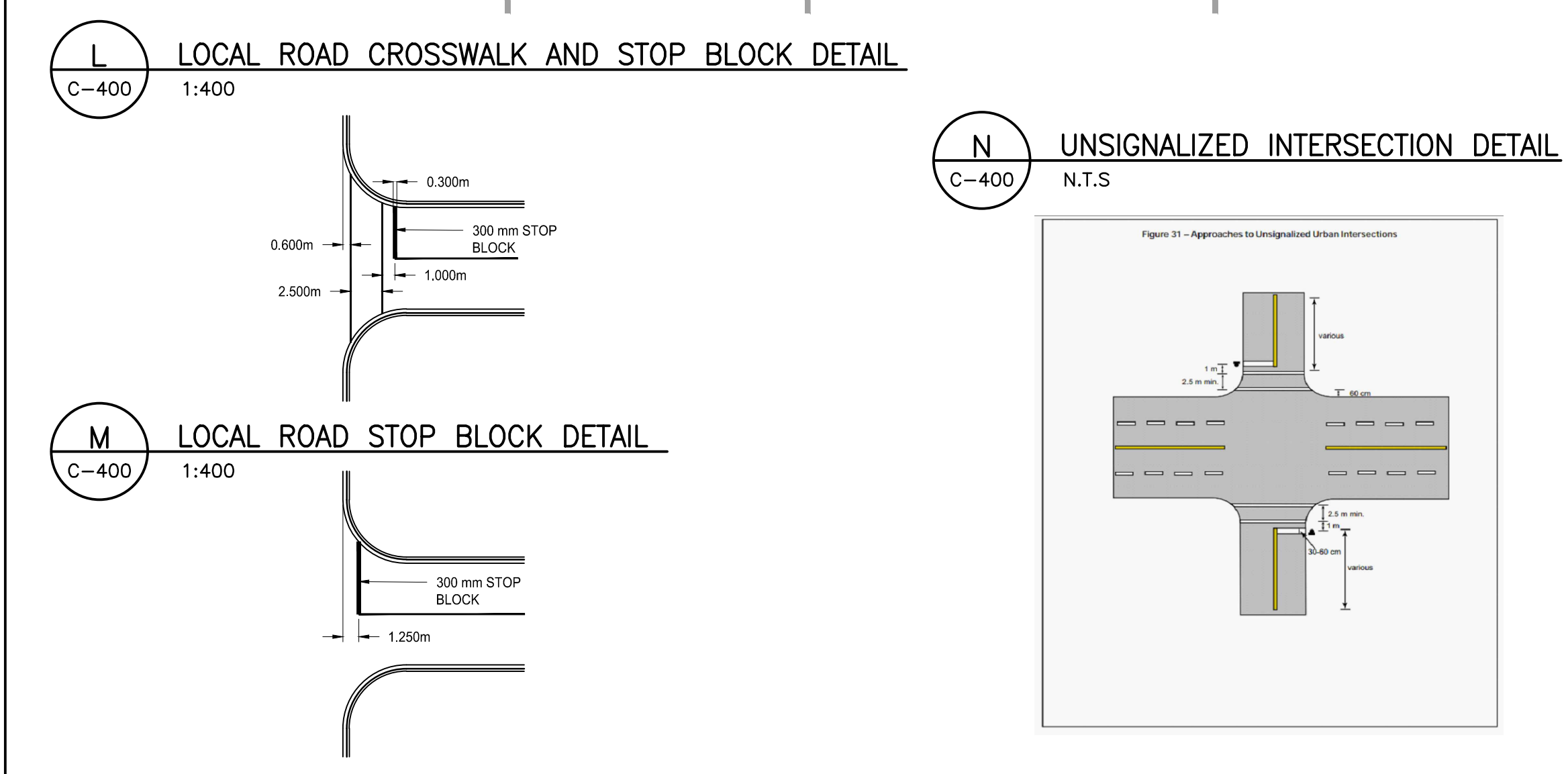
ORIGINAL SHEET - ARCH D

C-303



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1. ELEV'S ARE REFERRED TO THE CANADIAN GEODETIC VERTICAL DATUM (CGVD-1928:1978)
2. TOPOGRAPHICAL SURVEY PREPARED BY HATCH, DATED 2025.06.06



1. EXISTING SIGN LOCATIONS ARE APPROXIMATE
2. ALL SIGNS DESIGNATED TO BE SALVAGED THAT ARE REMOVED DURING CONSTRUCTION SHALL BE RELOCATED TO THE EXISTING LOCATION
3. ROADWAY IDENTIFICATION SIGNS SHALL BE SALVAGED AND RE-USED

	1970	1980	1990	2000
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Title	PAVEMENT MARKINGS AND SIGNAGE VAN HORNE 0+000 to 0+600
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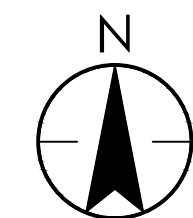
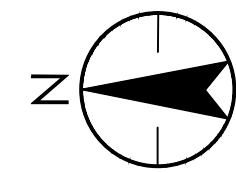
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C-400




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2. TOPOGRAPHICAL SURVEY PREPARED BY HATCH, DATED 2025.06.06



File Name: 161414649_C-PMK	JW	JW	NV	2025.06.06
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Per



Title
PAVEMENT MARKINGS AND SIGNAGE VAN HORNE 0+600 to 0+876 CLAYBANKS 0+000 to 0+348

Revision	Sheet	Drawing No.
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C-401

GENERAL NOTES:

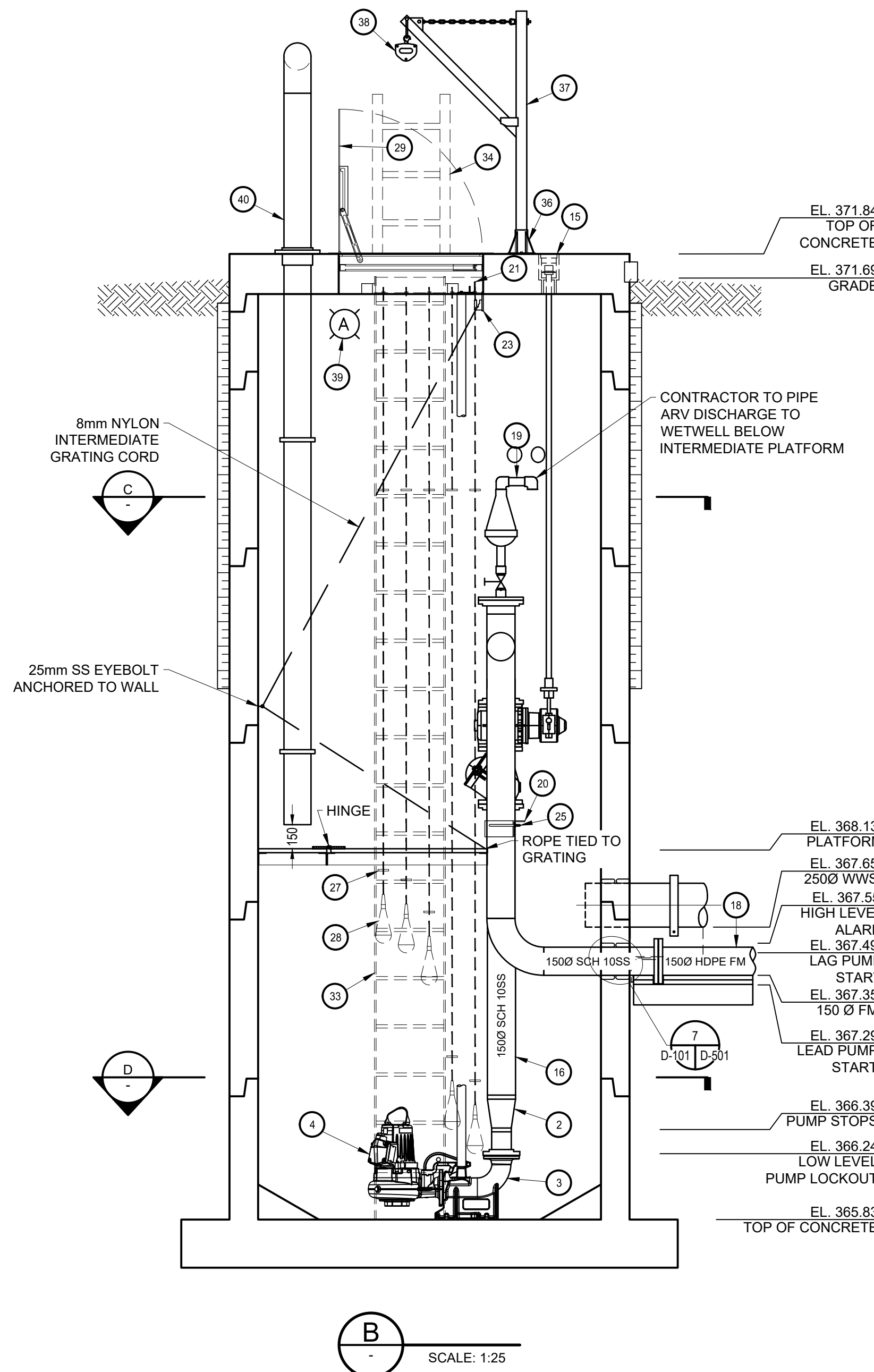
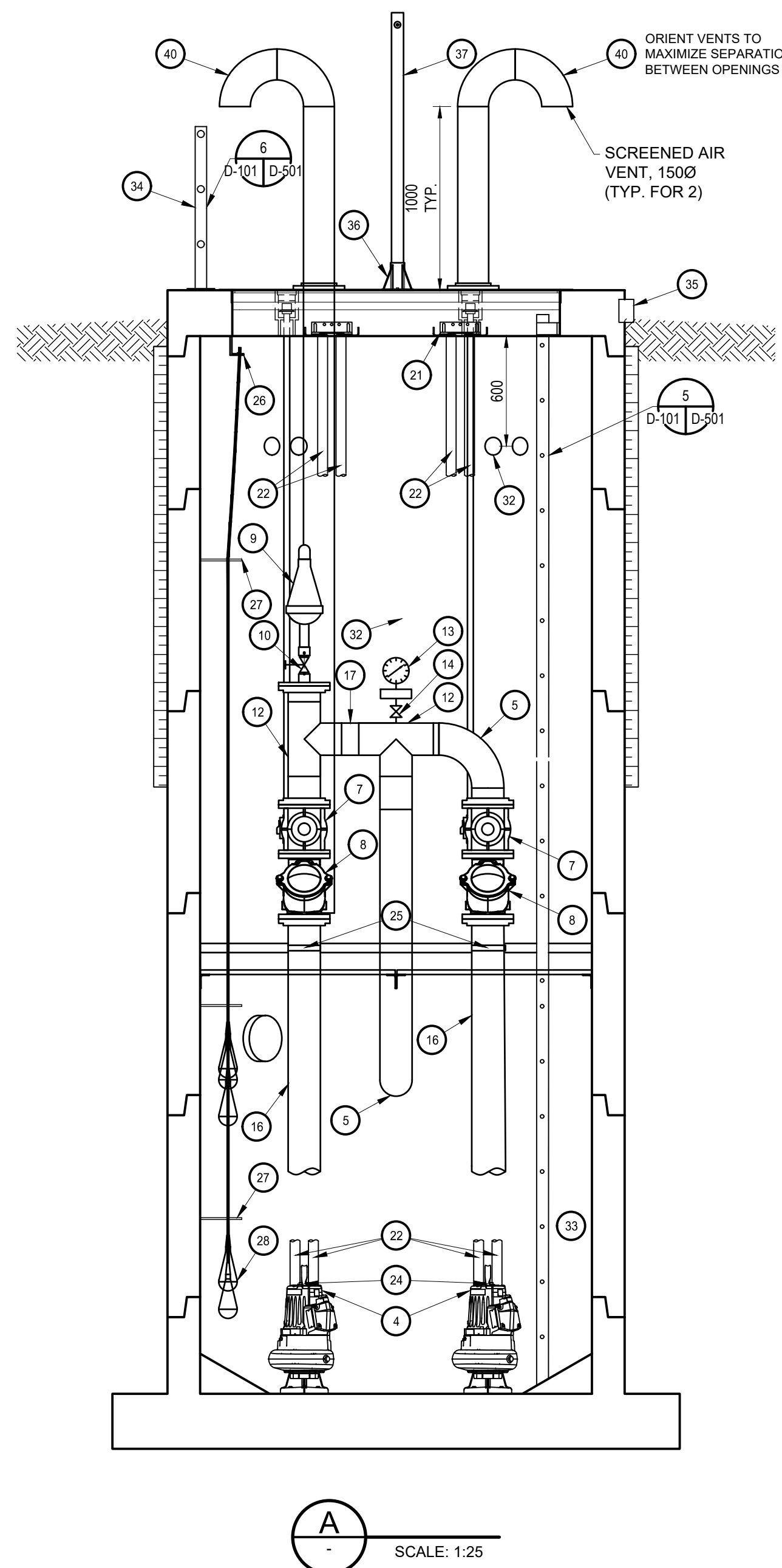
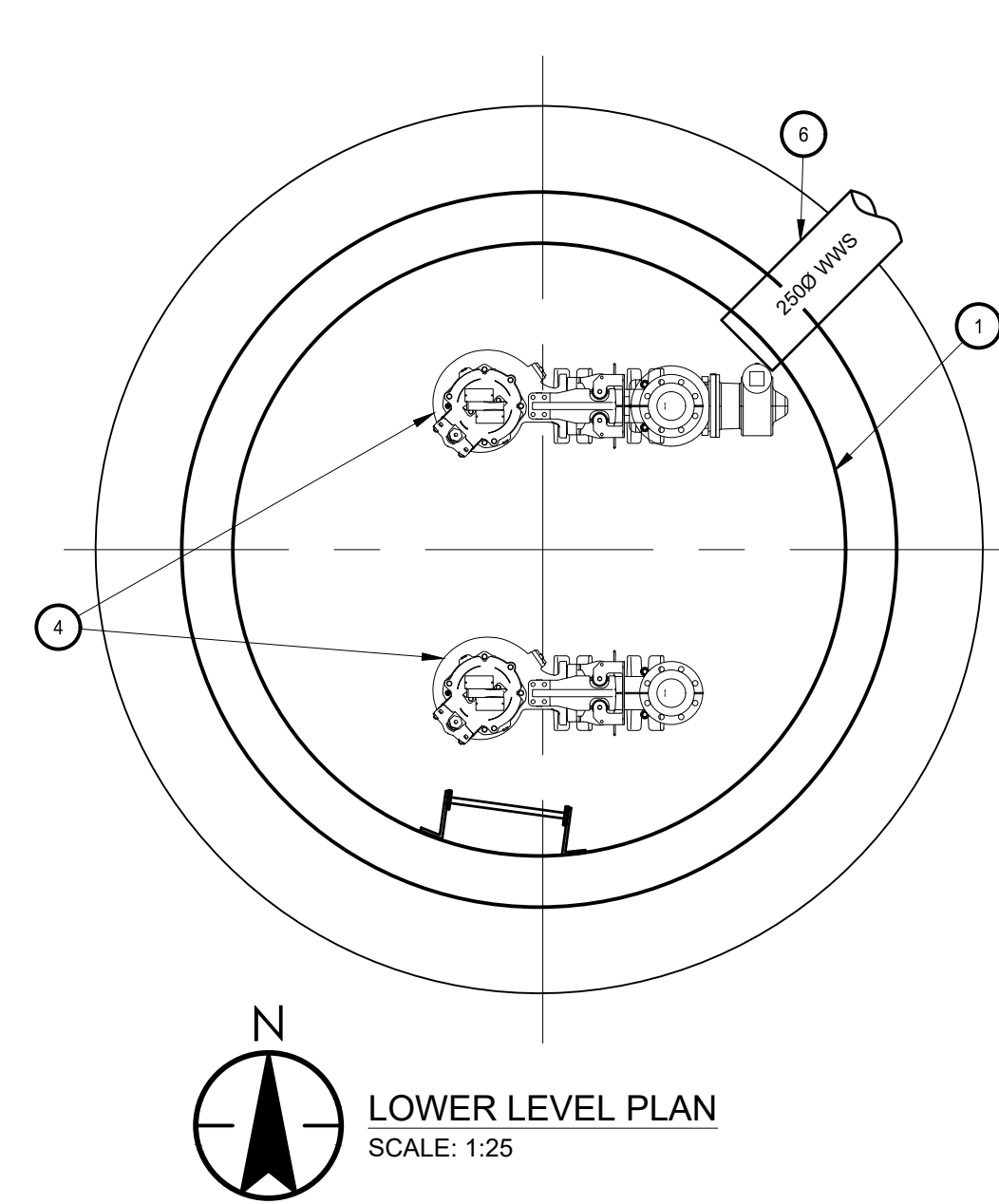
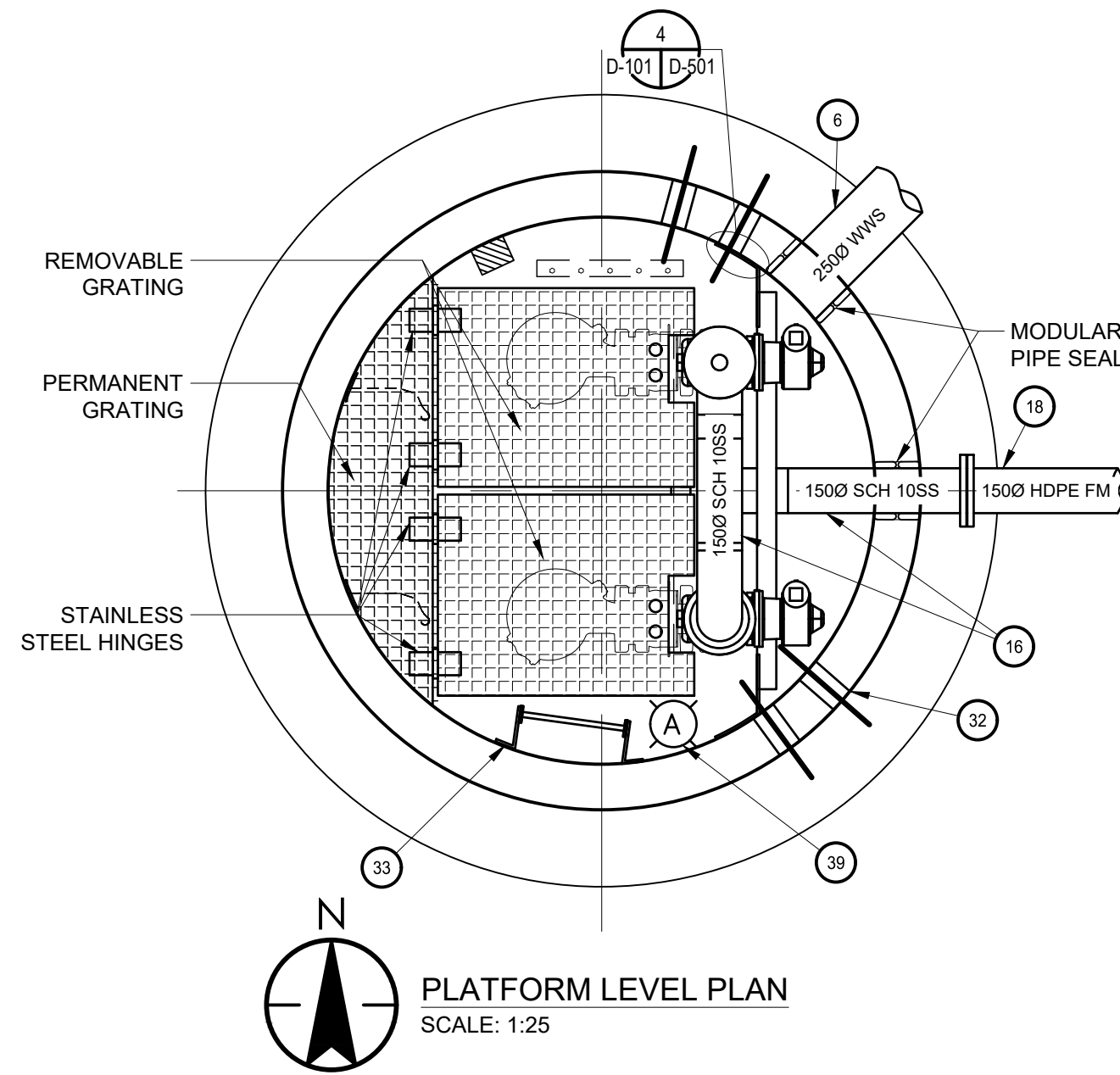
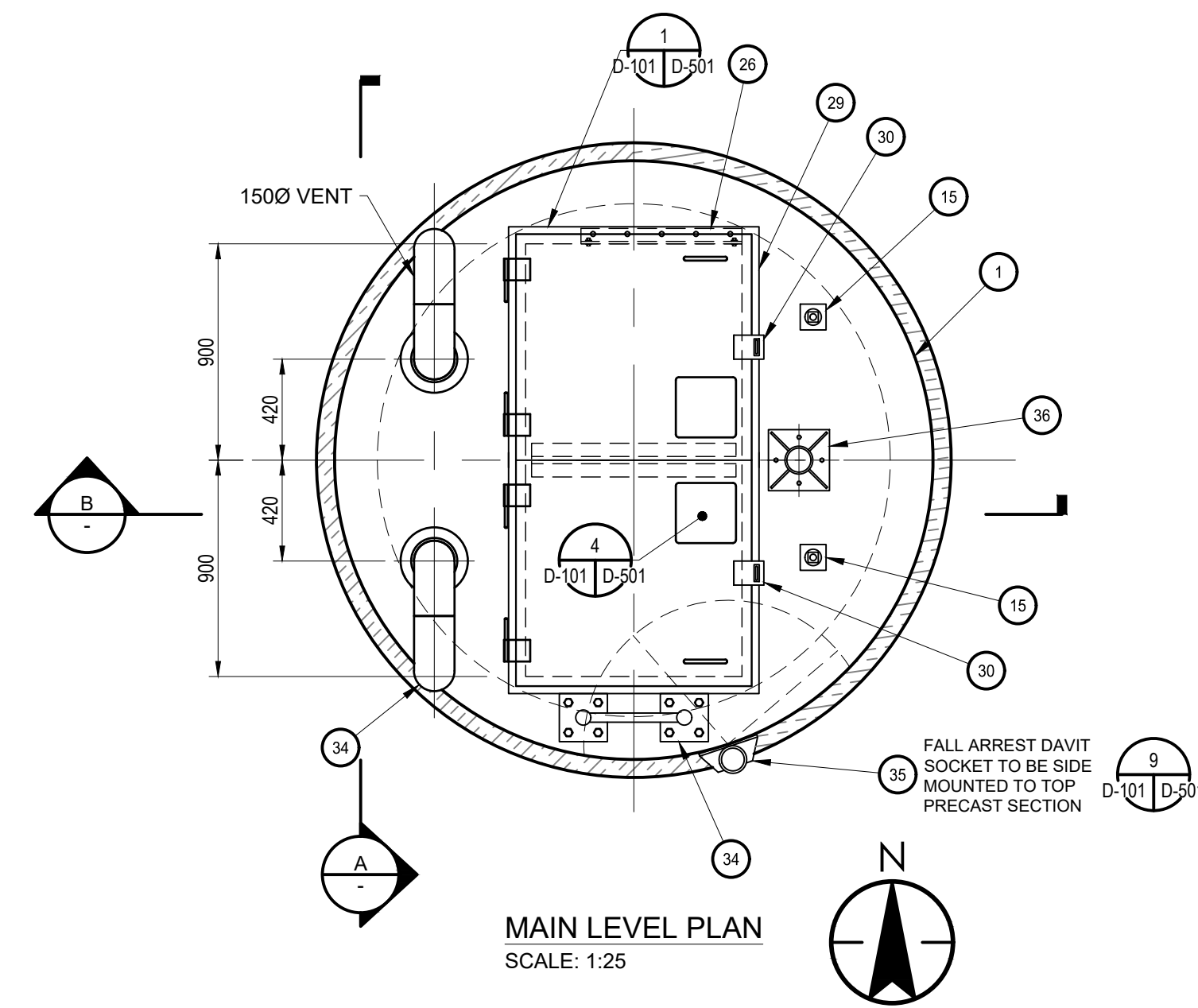
1. SECURE LIFT STATION EQUIPMENT USING STAINLESS STEEL BOLTS.
2. PROVIDE ISOLATION COATING TO ALL ALUMINUM SURFACES EMBEDDED IN CONCRETE.
3. HINGES FOR ACCESS HATCH AND LOCKING HASPS TO BE STAINLESS STEEL.
4. ALL BOLTING TO BE STAINLESS STEEL.
5. ALL PENETRATIONS TO BE 300mm MINIMUM FROM PRE-CAST JOINT.

INTERNAL PLATFORM NOTES:

1. DESIGN GRATING AND SUPPORT AS PER SPECIFICATION.
2. PROVIDE SUPPORT ANGLES AS REQUIRED.
3. GRATING SUPPORTS SHALL NOT INTERFERE WITH PUMP REMOVAL.
4. CONFIRM ALL OPENING SIZES WITH EQUIPMENT SUPPLIERS PRIOR TO FABRICATION.
5. DETAILED SHOP DRAWINGS FOR THE PLATFORM TO BE SUPPLIED BY THE CONTRACTOR.
6. GRATING SHALL BE SPLIT (ONE FOR EACH PUMP), COMPLETE WITH ALUMINUM OR STAINLESS STEEL HINGES.
7. CONNECT INTERMEDIATE GUIDE BAR HOLDERS TO PLATFORM SUPPORT STRUCTURE.

PUMP SPECS

PUMP MANUFACTURER: FLYGT
PUMP MODEL: MP3102 MT - ADAPTIVE 465
IMP: 152 mm H.P.: 3
600 V/ 3 PH 60 Hz



BILL OF MATERIAL			
ITEM	QTY	DESCRIPTION	FINISH
1	1	21500 PRE-CAST CONCRETE LIFT STATION (SUPPLY N.I.C.)	-
2	2	100mm X 150mm REDUCER	S.S.
3	2	PUMP ELBOW AND DISCHARGE CONNECTION	EPOXY
4	2	SUBMERSIBLE PUMP	C.I.
5	2	150mm 90° ELBOW	PVC
6	-	250mm PVC WASTEWATER SEWER	PVC
7	2	PLUG VALVE C/W STEM EXTENSION	EPOXY
8	2	BALL CHECK VALVE	EPOXY
9	1	50mm COMBINATION AIR VACUUM VALVE C/W 150 BLIND FLANGE TAPPED	EPOXY
10	1	50mm BALL VALVE AND NIPPLE	S.S.
11	-	-	-
12	2	150mm TEE	S.S.
13	1	PRESSURE GAUGE, DIAPHRAGM AND FLUSH OUT	-
14	1	13mm BALL VALVE	S.S.
15	2	VALVE BOX, MARKED "S"	C.I.
16	-	150mm SCH 10 SS PIPE (WELDED AS SHOWN)	S.S.
17	1	PIPE CLAMP ANCHORED TO WALL	S.S.
18	-	150mm H.D.P.E. FORCEMAIN	H.D.P.E.
19	-	50mm SCH 80 PVC PIPE AND FITTINGS PIPED TO BELOW PLATFORM	PVC
20	2	INTERMEDIATE GUIDE BAR HOLDER	S.S.
21	2	UPPER GUIDE BAR HOLDER	S.S.
22	4	50mm PIPE GUIDE BAR	S.S.
23	2	CHAIN HOOK	S.S.
24	2	LIFTING CHAINS AND HANDLE CONNECTOR	S.S.
25	1	PIPE CLAMP ANCHORED TO SUPPORT BRACE	S.S.
26	1	HORIZONTAL LEVEL REGULATOR HANGER (5 FLOAT)	S.S.
27	5	SWAY CONTROL RINGS	S.S.
28	5	LEVEL REGULATOR FLOAT SWITCH ENM-10	-
29	2	ACCESS HATCH ASSEMBLY	A.L.
30	4	MASTER LAMINATED LOCK KEYED ALIKE	G
31	1	PUMP CONTROL PANEL	EPOXY
32	4	50mm THREADED ELECTRICAL CONNECTIONS	PVC
33	1	ACCESS LADDER	S.S.
34	1	EXTERIOR HAND HOLD	S.S.
35	1	SIDE MOUNTED FALL ARREST SOCKET	S.S.
36	1	LIFTING DAVIT FLOOR SOCKET	G
37	1	PUMP LIFTING DAVIT	G
38	1	CHAIN HOIST WITH LOAD CHAIN AND HAND CHAIN	-
39	1	100W EXPLOSION PROOF LIGHT WITH REMOTE SWITCH	PVC
40	2	1500 1/2 GOOSENECK PIPE AIR VENT C/W SCREENED OPENING	G

A.L. = ALUMINUM
G = GALVANIZED
C.I. = CAST IRON
F.R.P. = FIBER REINFORCED PLASTIC
H.D.P.E. = HIGH DENSITY POLYETHYLENE
EPOXY = EPOXY COATED
S.S. = STAINLESS STEEL
PVC = POLYVINYL CHLORIDE
N.I.C. = NOT IN CONTRACT

Permit-Seal



Client/Project

CITY OF DRYDEN
CONTRACT T-2026-1

SOUTH VAN HORNE HOUSING
ENABLING PROJECT

DRYDEN, ONTARIO.

Title

PROCESS
PROPOSED LIFT STATION
PLANS AND SECTIONS

Project No. 161414649
Revision 1
Scale 1:25
Drawing No. 13 of 22

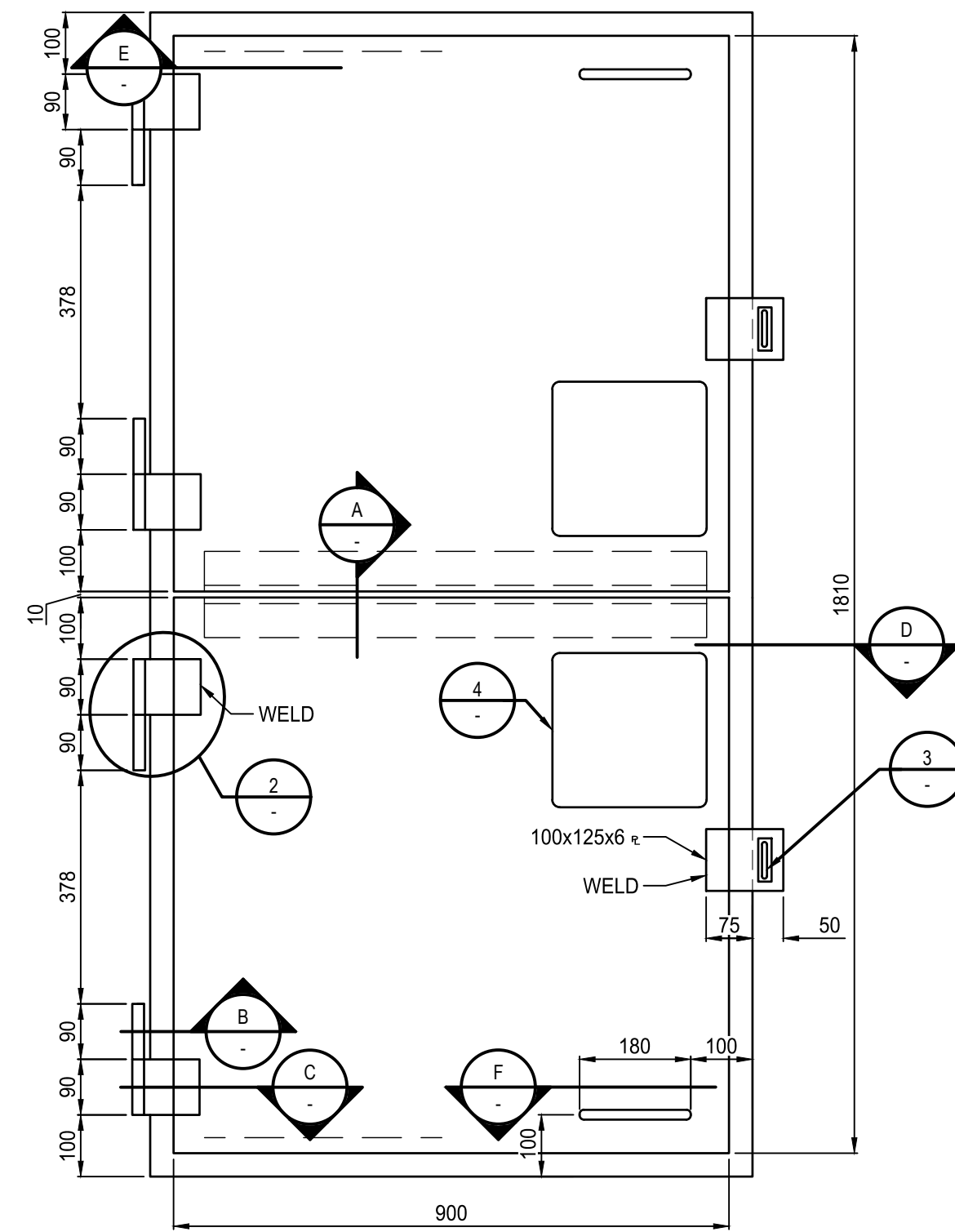
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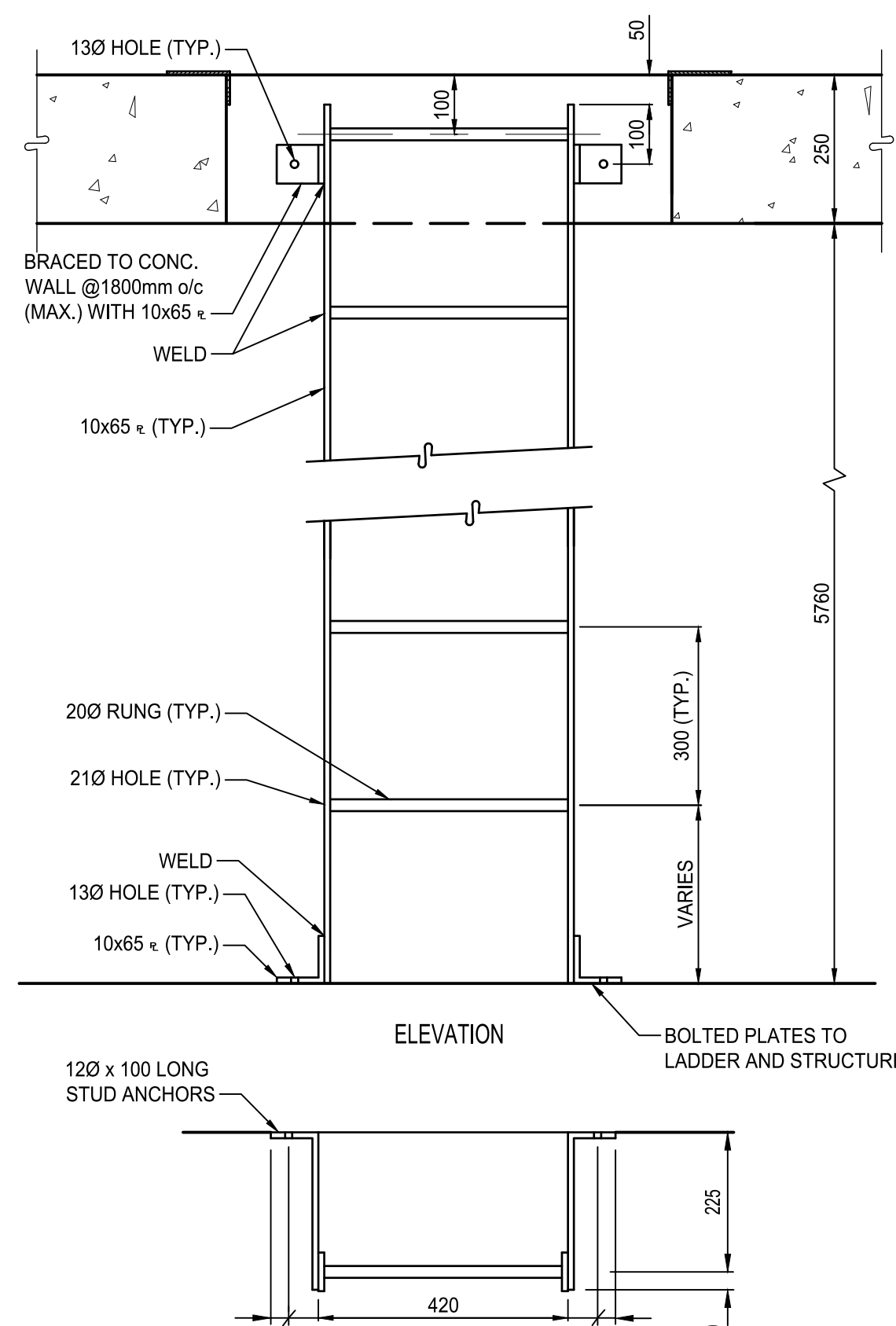
Notes

GENERAL NOTES:

- WHERE NOT OTHERWISE INDICATED, ALL MISCELLANEOUS METALS TO BE TYPE 304 SS. CONFORM TO ASTM A240 TYPE 304 FOR ALL SS MATERIAL.
- STRUCTURAL STEEL: CSA G40.21 TYPE 300W.
- ALL MISCELLANEOUS METALS IDENTIFIED AS ALUMINUM TO BE CSA HA4-GS11N 6061-T6 ALLOY.

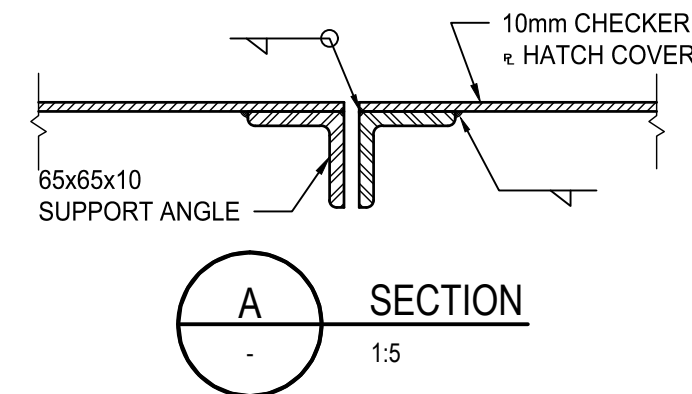


1 HATCH DETAIL
D-101 D-501 1:10

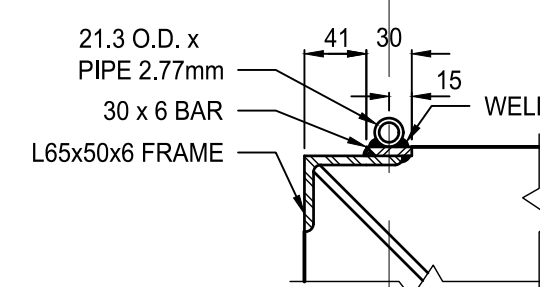


NOTE: CONTRACTOR TO CONFIRM LADDER LENGTH AND OFFSET BASED ON PRE-CAST SHOP DRAWINGS.

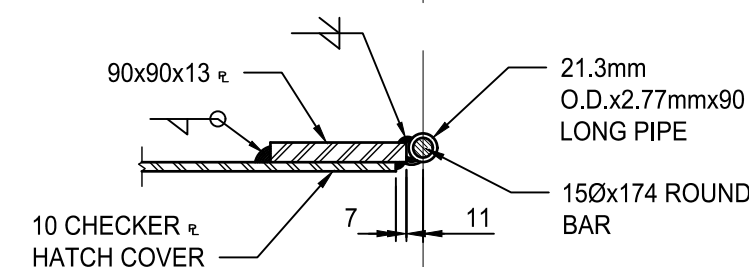
5 LADDER DETAIL (STAINLESS STEEL)
D-101 D-501 1:10



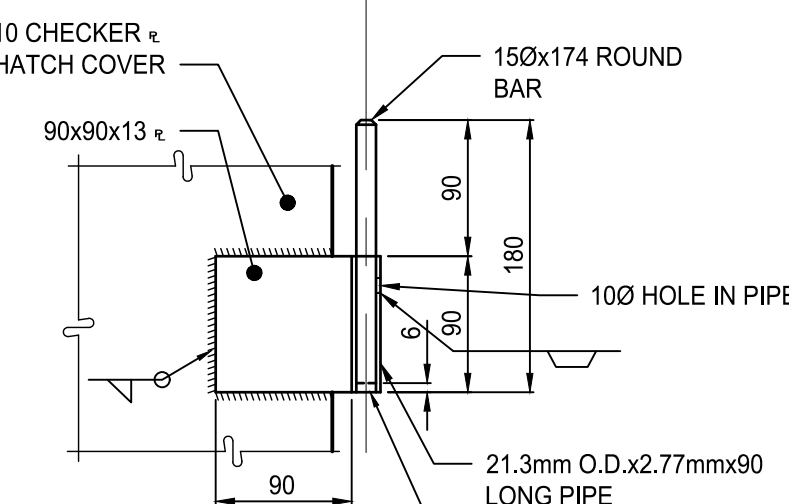
A SECTION
1:5



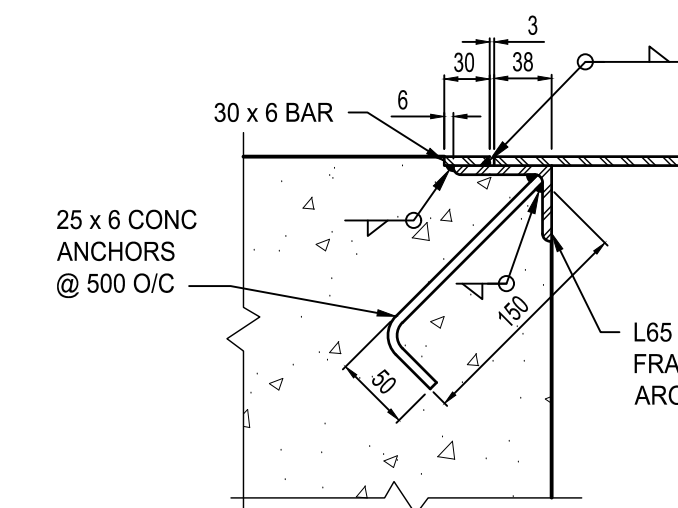
B SECTION
1:5



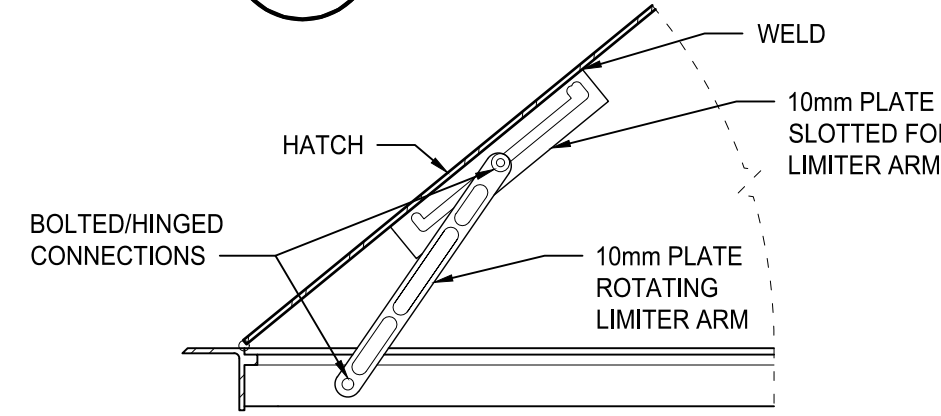
C SECTION
1:5



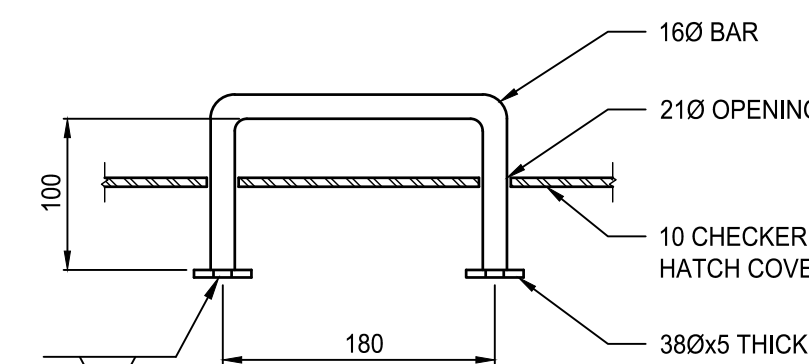
2 DETAIL
1:5



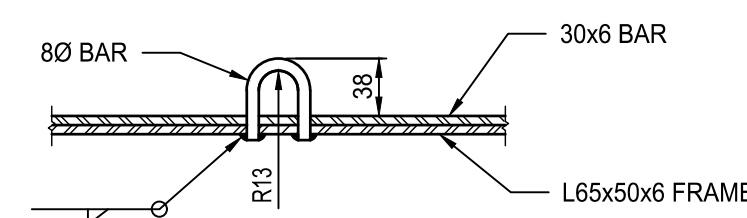
D SECTION
1:5



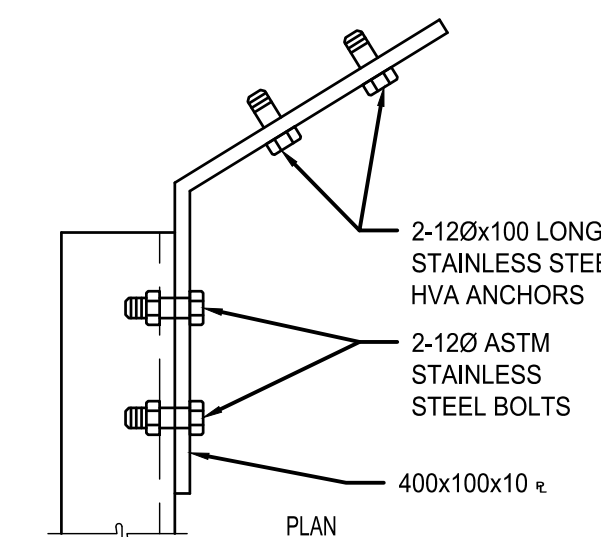
E HATCH ARM LIMITER
NTS



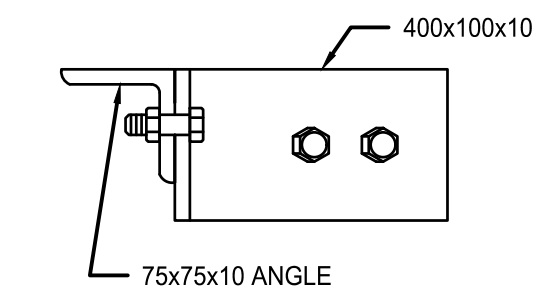
F DROP HANDLE SECTION
1:5



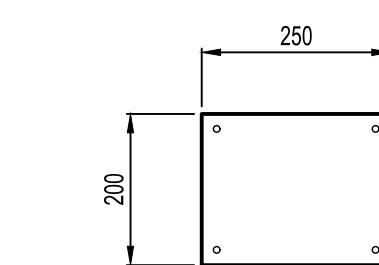
3 DETAIL
1:5



PLAN



4 DETAIL
D-101 D-501 1:5



4mm ALUMINUM PLATE PAINTED YELLOW WITH BLACK INSCRIPTION

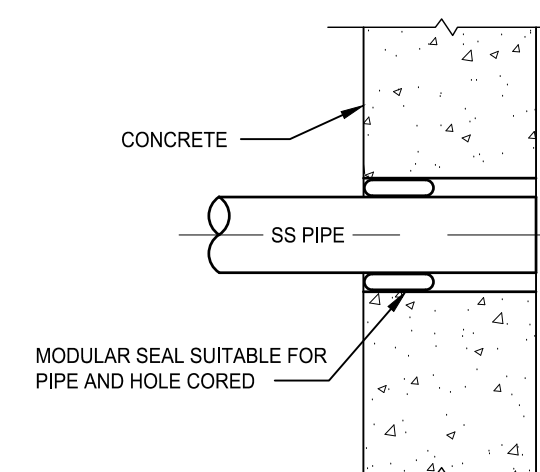
"DO NOT PLACE EQUIPMENT ON HATCH"
"350 lb MAX. LOAD RATING"

"CONFINED SPACE"
"ENTRY LOCATION"

PLACE ON HATCHES

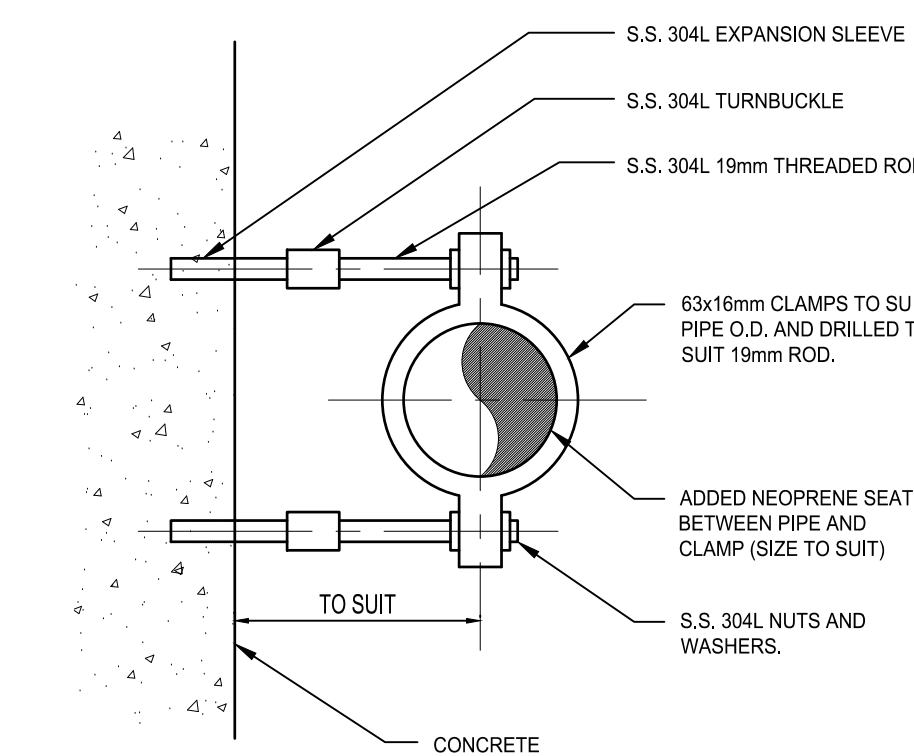
4 DETAIL
1:10

NOTE: SCREW OR TAC WELD IN PLACE

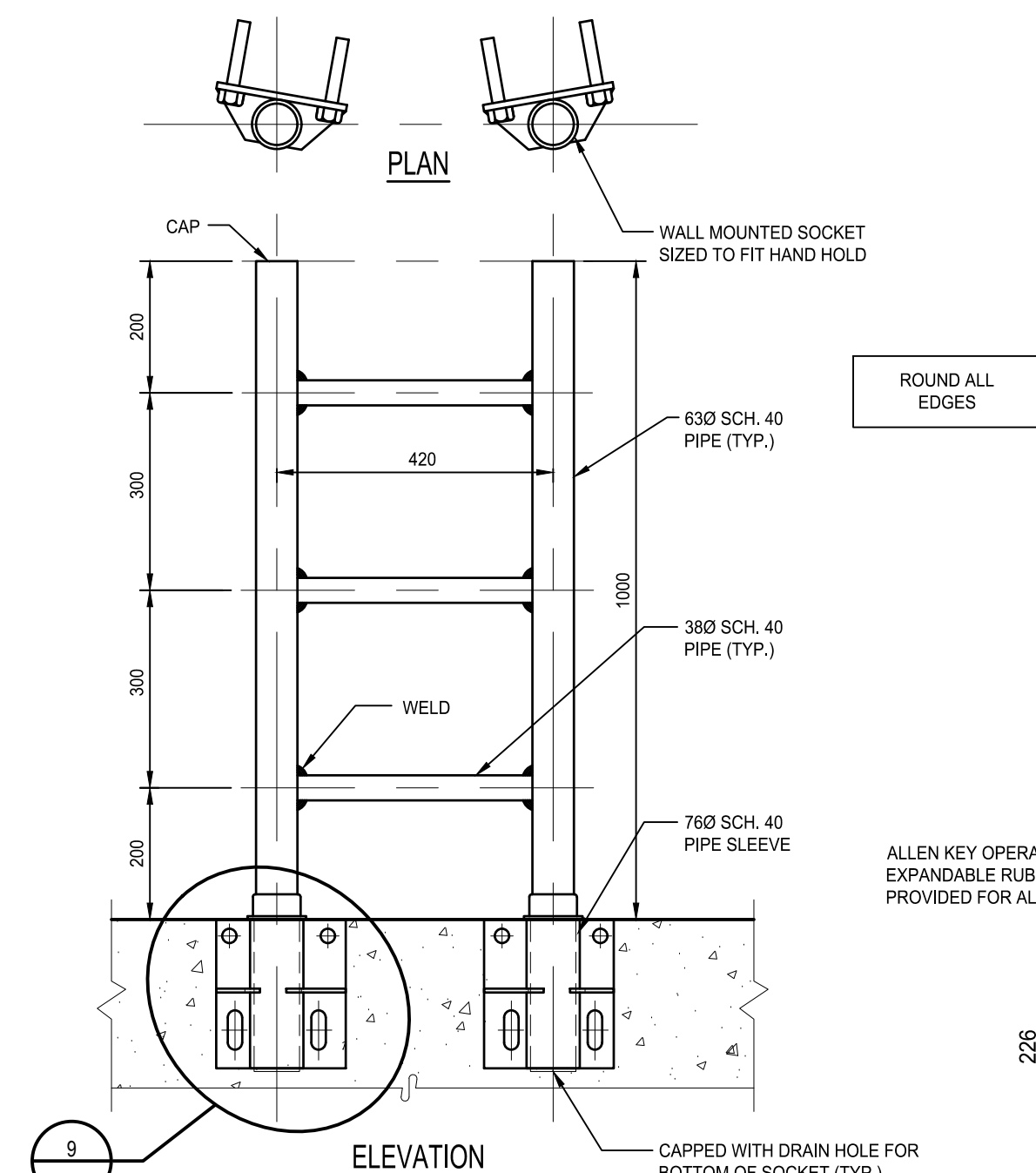


7 PIPE PENETRATION THROUGH CONCRETE DETAIL (TYP)
NTS

PIPE	CORE I.D.	QUANTITY
2500 WASTEWATER PIPE	350MM	1
1500 FORCEMAIN	250MM	1



8 WALL MOUNTED PIPE SUPPORT DETAIL
NTS



6 HAND HOLD DETAIL
D-101 D-501 1:10

ROUND ALL EDGES

ALLEN KEY OPERATED EXPANDABLE RUBBER PLUG PROVIDED FOR ALL SOCKETS

PIPE I.D. VARIES I.D. HAND HOLD=89mm

220 HOLES (TYP.)

4-190 HY x 150 ANCHOR BOLTS FOR EACH SOCKET

DRAIN HOLE

CAPPED WITH DRAIN HOLE FOR BOTTOM OF SOCKET (TYP.)

WELD

WALL MOUNTED SOCKET SIZED TO FIT HAND HOLD

CAP

PLAN

ELEVATION

200

300

420

1000

254

216

8mm PLATE CONSTRUCTION

PIPE I.D. VARIES I.D. HAND HOLD=89mm

220 HOLES (TYP.)

4-190 HY x 150 ANCHOR BOLTS FOR EACH SOCKET

DRAIN HOLE

CAPPED WITH DRAIN HOLE FOR BOTTOM OF SOCKET (TYP.)

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WELD

WALL MOUNTED SOCKET SIZED TO FIT HAND HOLD

CAP

PLAN

ELEVATION

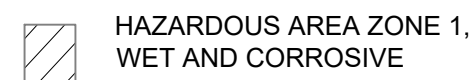
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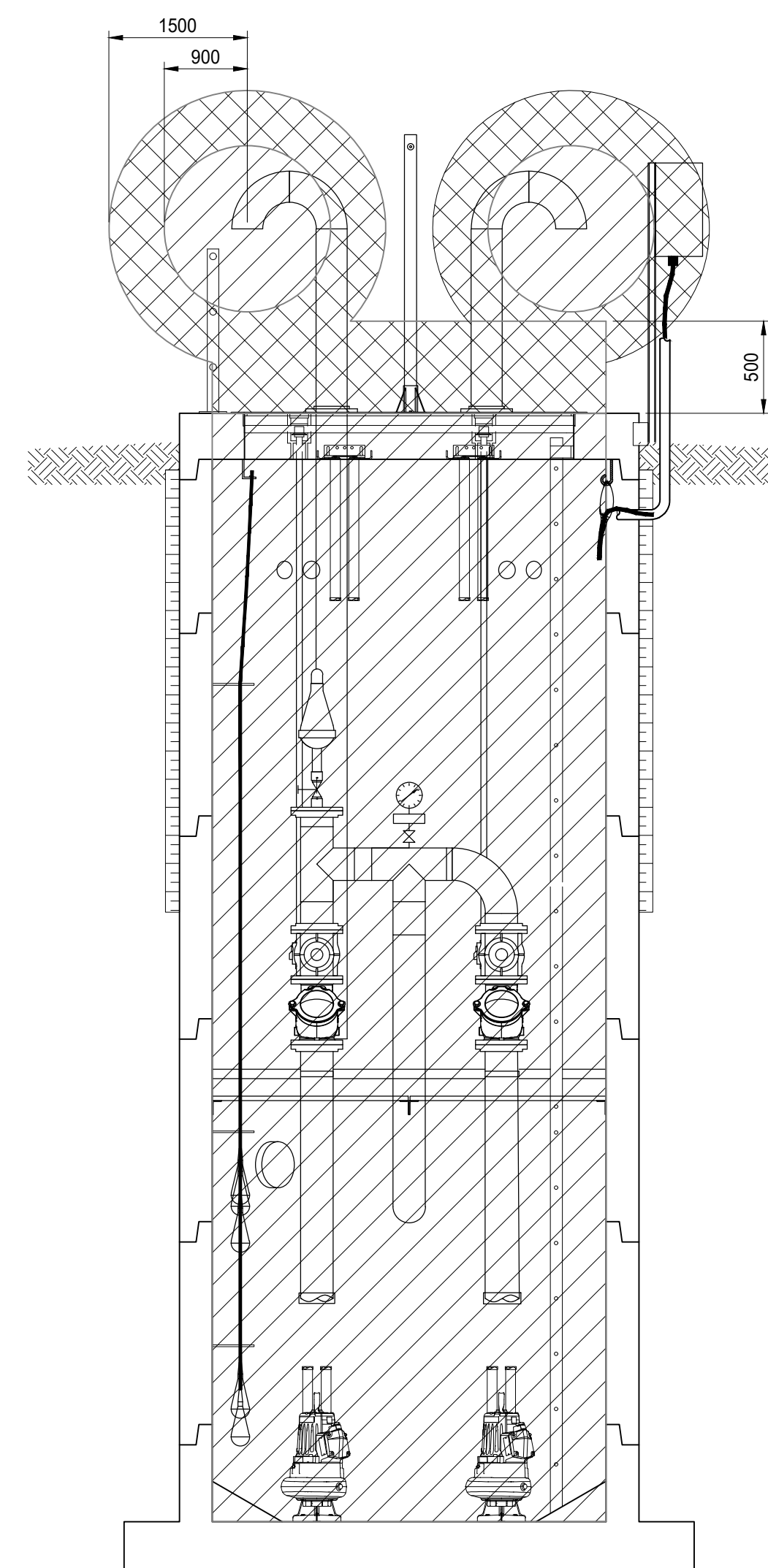
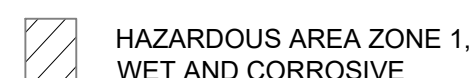
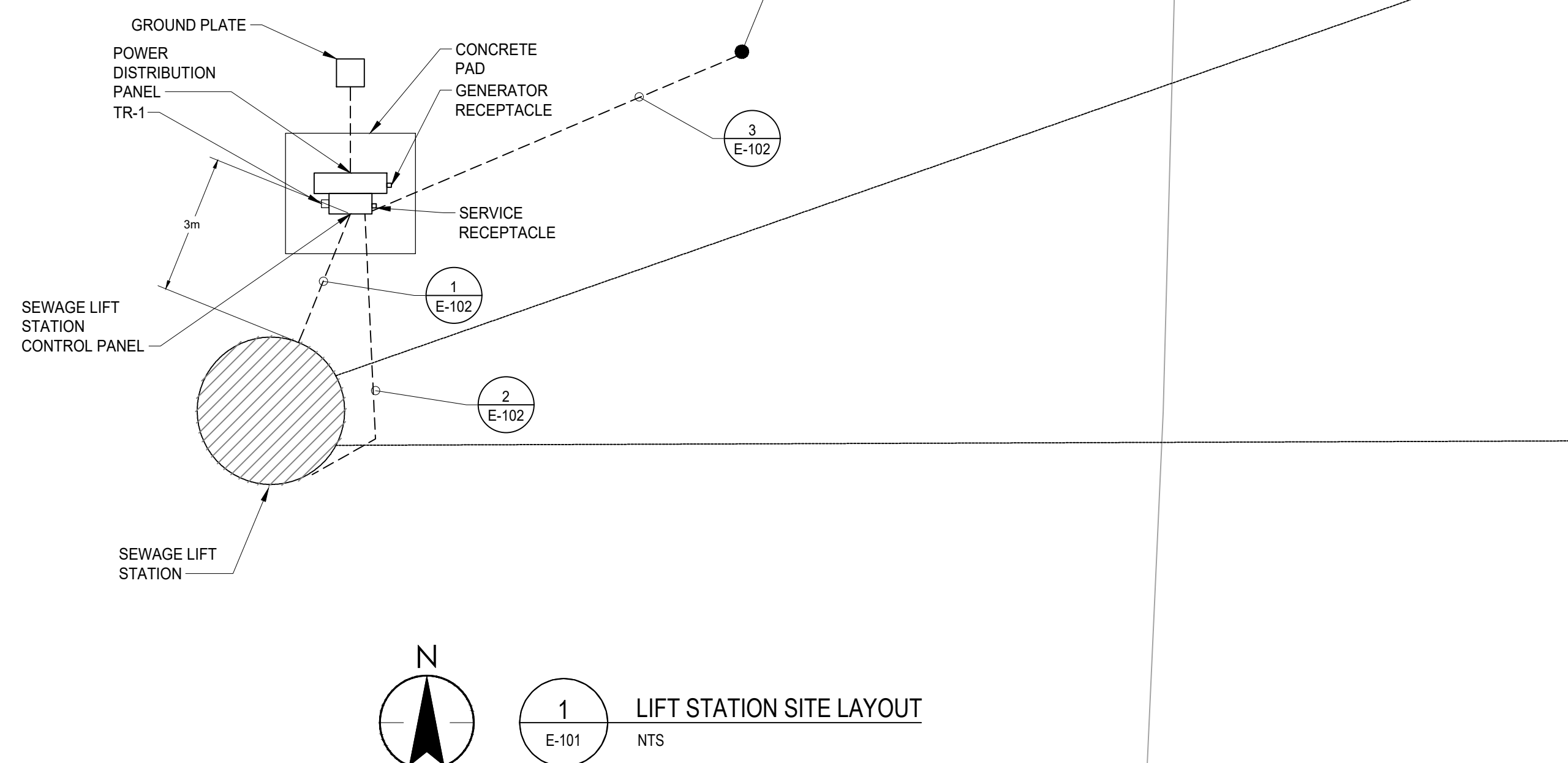
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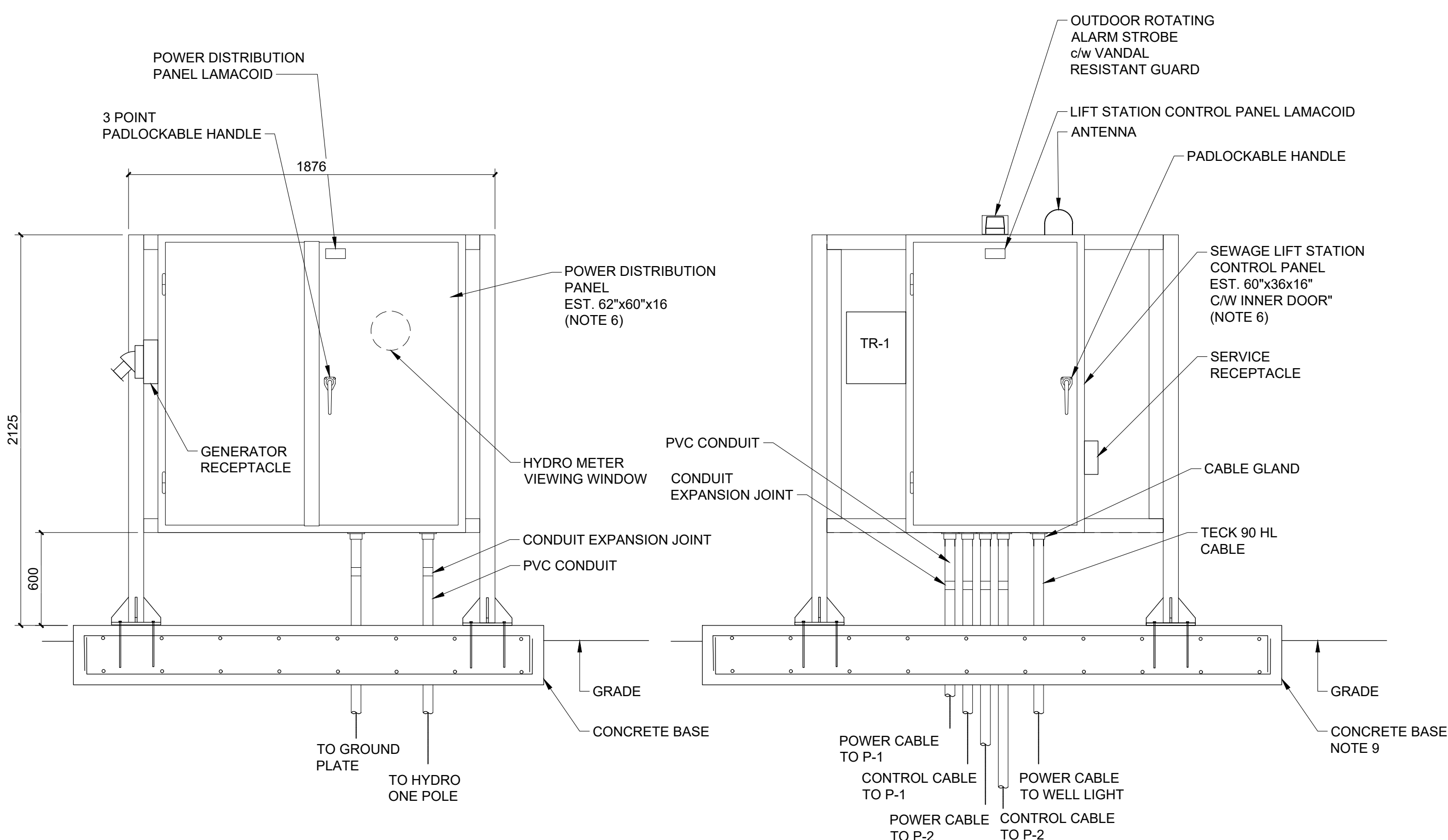


LIFT STATION GPS COORDINATES:
W92° 50' 12"
N49° 45' 40"
NOTE 8

PROPOSED HYDRO ONE
SERVICE POLE LOCATION
NOTE 1

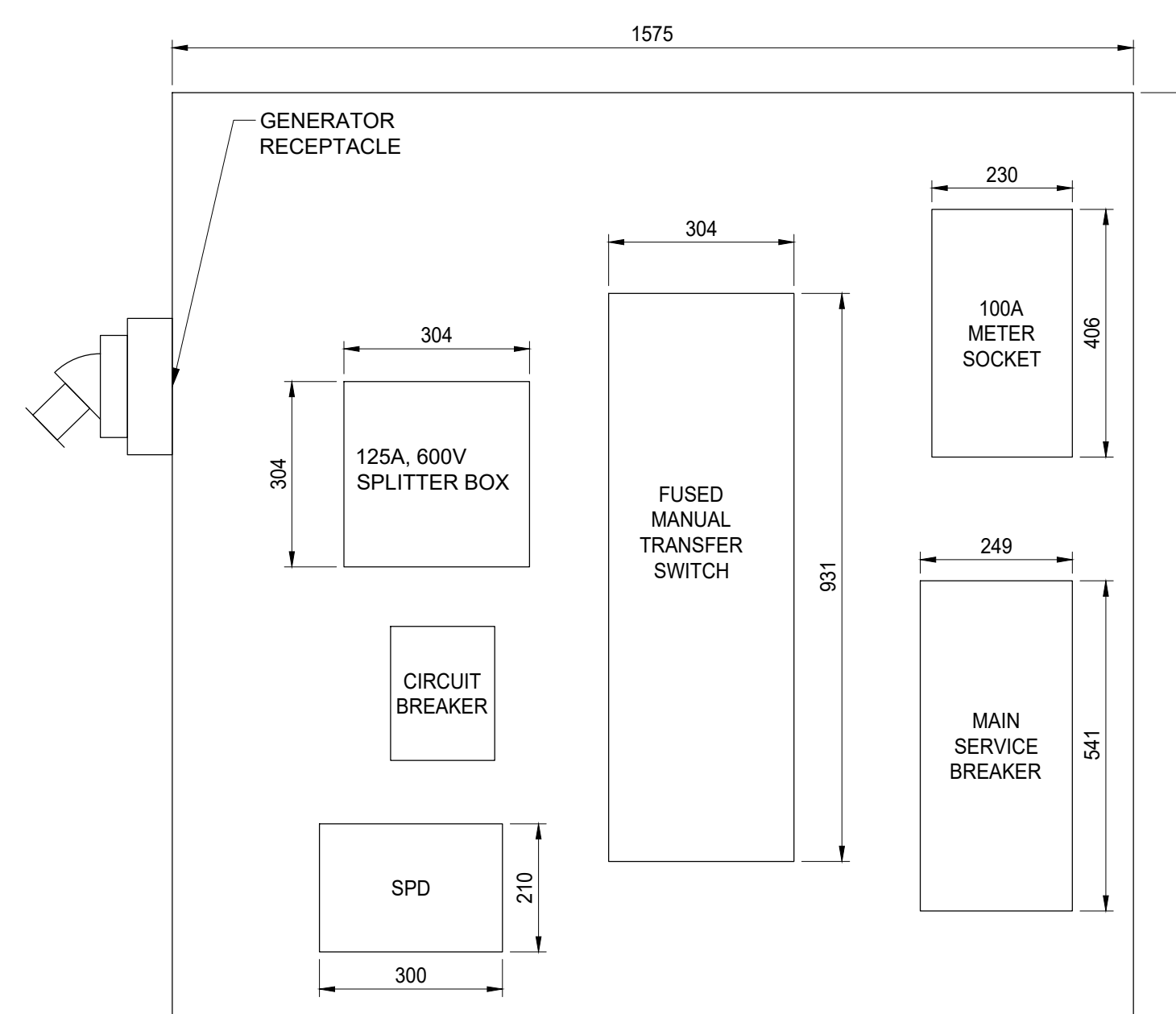


D LIFT STATION HAZARDOUS ZONES



A POWER DISTRIBUTION PANEL LAYOUT

B LIFT STATION CONTROL PANEL
E-101 NTS



POWER DISTRIBUTION PANEL
INTERNAL VIEW

C
E-101 NTS



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Thunder Bay ON P7B 0A2
Tel: (807) 626-5640
www.stantec.com

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Notes

1. ELECTRICAL CONTRACTOR TO COORDINATE NEW U/G ELECTRIC SERVICE TO THE PROPOSED SEWAGE LIFT STATION WITH HYDRO ONE. FINAL HYDRO ONE SERVICE POLE LOCATION TO BE CONFIRMED WITH HYDRO ONE.
2. ON AWARD OF CONTRACT , CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS FROM ESA. CONTRACTOR TO PAY ALL ASSOCIATED FEES.
3. THE WET WELL IS A HAZARDOUS AREA, ZONE 1. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 18 OF THE ONTARIO ELECTRICAL SAFETY CODE (OESC) AND BULLETIN 22-4.5. THE WET WELL IS A HUMID, WET, AND CORROSIVE AREA, CATEGORY 1 AND CATEGORY 2. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 22 OF THE OESC.
4. LEAVE 300mm SLACK LENGTH IN WIRING AND CABLEING TO ACCOMMODATE THERMAL MOVEMENT OR SETTLING OR HEAVING OF SOIL.
5. DRAWING IS SCHEMATIC ONLY. DO NOT SCALE OFF DRAWING. ALL MEASUREMENTS ARE TO BE FIELD VERIFIED.
6. PANEL SIZES AND SUPPORT RACK DIMENSIONS ARE ESTIMATED AND SHALL BE ADJUSTED AS REQUIRED TO SUIT FINAL EQUIPMENT DIMENSIONS. CONFIRM PANEL DIMENSIONS WITH SHOP DRAWINGS BEFORE POURING PAD. ADJUST HOUSEKEEPING PAD DIMENSIONS AS REQUIRED.
7. ACCURATELY RECORD DETAILS OF BURIED WIRING AND SUBMIT WITH AS BUILT DRAWINGS. FOR EACH TRENCH, SKETCH LOCATION AND MARK DEPTH OF WIRING. FOR EACH CONDUIT, CABLE, AND CONDUCTOR, IDENTIFY SIZE, TYPE, CHARACTERISTICS, AND FUNCTION.
8. REFER TO CIVIL DRAWING C-202B FOR THE LIFT STATION LOCATION.
9. REFER TO STRUCTURAL DRAWING S-001 FOR CONCRETE PAD AND PANEL SUPPORT DETAILS.

0	ISSUED FOR TENDER	AM	SS 2026.01

File Name: 161414649e-101	GM	AM	DR	2025.11
	Dwn.	Dsgn.	Chkd.	YYYY.MM

Permit-Seal



Client/Project
CITY OF DRYDEN
CONTRACT T-2026-1

SOUTH VAN HORNE HOUSING
ENABLING PROJECT

DRYDEN, ONTARIO.

Title

ELECTRICAL
LIFT STATION SITE PLAN
AND PANEL DETAILS

Project No.		Scale
161414649		NTS
Revision	Sheet	Drawing No.
0	15 of 22	E 101

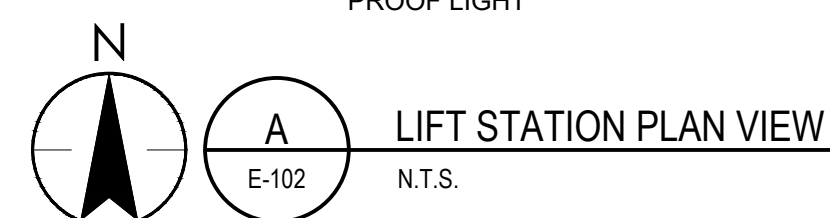
E-101




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1. INSTALL STRAIN RELIEF GRIPS ON PUMP CABLES THAT DROP VERTICALLY.
2. ALL ELECTRICAL EQUIPMENT INSTALLED INSIDE WET WELL, ABOVE THE WATER LEVEL, MUST BE SUITABLE FOR ZONE 1 HAZARDOUS LOCATION AND RATED FOR CATEGORY 2 CORROSIVE ATMOSPHERE.
3. TECK 90 - HL ARMORED CABLE IS PERMITTED FOR USE WITH EXPLOSION PROOF FITTINGS.



NOTES:
1. ALL INSTRUMENTS TO BE CSA, cUL OR ESA APPROVED FOR THE LOCATION.
2. PROVIDE FIVE (5) SWAY RINGS (SS) AND ONE (1) FLOAT HANGER BRACKET. XYLEM P/N 13-50 70 06 & 13-52 01 08 TO PREVENT CABLE ENTANGLEMENT.

LUMINAIRE SCHEDULE					
FIXTURE TYPE	SYMBOL	FIXTURE DESCRIPTION	LAMP TYPE	MANUFACTURER	PART No.
		WET WEL LIGHT, ZONE 1 (CLASS 1, DIV 1, GROUP D)	LED 120V - 15W, 1500LM, 4000K	EATON	EV LED DBX2C201





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1. PROVIDE 600mm x 600mm x 6.35mm COOPER GROUND PLATE. THE PLATE MUST BE DRIVEN TO MIN 600MM BELOW SURFACE.
2. ALL CABLES ARE COPPER UNLESS OTHERWISE NOTED
3. COORDINATE THE CIRCUIT BREAKER AND POWER CABLE SIZING WITH LIFT STATION CONTROL PANEL SHOP DRAWING.
4. ENSURE THAT IT RATING DOES NOT EXCEED 13xFLA
5. INSTALL THREE (3) NEMA 4X JUNCTION BOXES WITH TERMINALS ABOVE LIFT STATION
6. PROVIDE MANUAL TRANSFER SWITCH
PRODUCT FAMILY: HEAVY DUTY DOUBLE-THROW SWITCH
FUSIBLE NO NEUTRAL
TYPE: 600VAC/3POLE
ENCLOSURE: NEMA 3R
CONTINUOUS CURRENT: 60A
ACCEPTED MANUFACTURER EATON 3DT362 OR APPROVED EQUIAL.
7. PROVIDE FINGER SAFE POWER DISTRIBUTION BLOCKS.
600VAC, 60 A, 14KA
8. INSTALL "HYDRO POWER" AND " GENERATOR POWER" LAMACOID LABEL ON DOUBLE THROW SWITCH.
9. TURN OVER TO THE CLIEIN 5m, 4C-6AWG, 60A, 600V BLACK COOPER, S00W. PORTABLE CORD WITH MELTRIC INLET FOR FUTURE MOBILE GENERATOR
10. PROVIDE A MELTRIC SWITCHED PLUG AND RECEPTACLE DSN 60 A, 600VAC, 3P+G
PART NUMBERS:
RECEPTACLE 63-64143
30" POLY ANGLE WITH METAL BOX
INLET 63-68143
PULY HANDLE WITH CORD GRIP
PLUG CAP 61-6A226
11. CONTROL PANEL IS DESIGNED TO OPERATE WITH 24KW, 600V MOBILE GENERATOR WITH BONDED NEUTRAL. MODEL AXIOM 4330
MOBILE GENERATOR SUPPLY NOT INCLUDED IN THE PROJECT SCOPE.

File Name: 161414649e-601	GM	AM	DR	2025.11.10
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

25018-161414649

DRYDEN, ONTARIO.

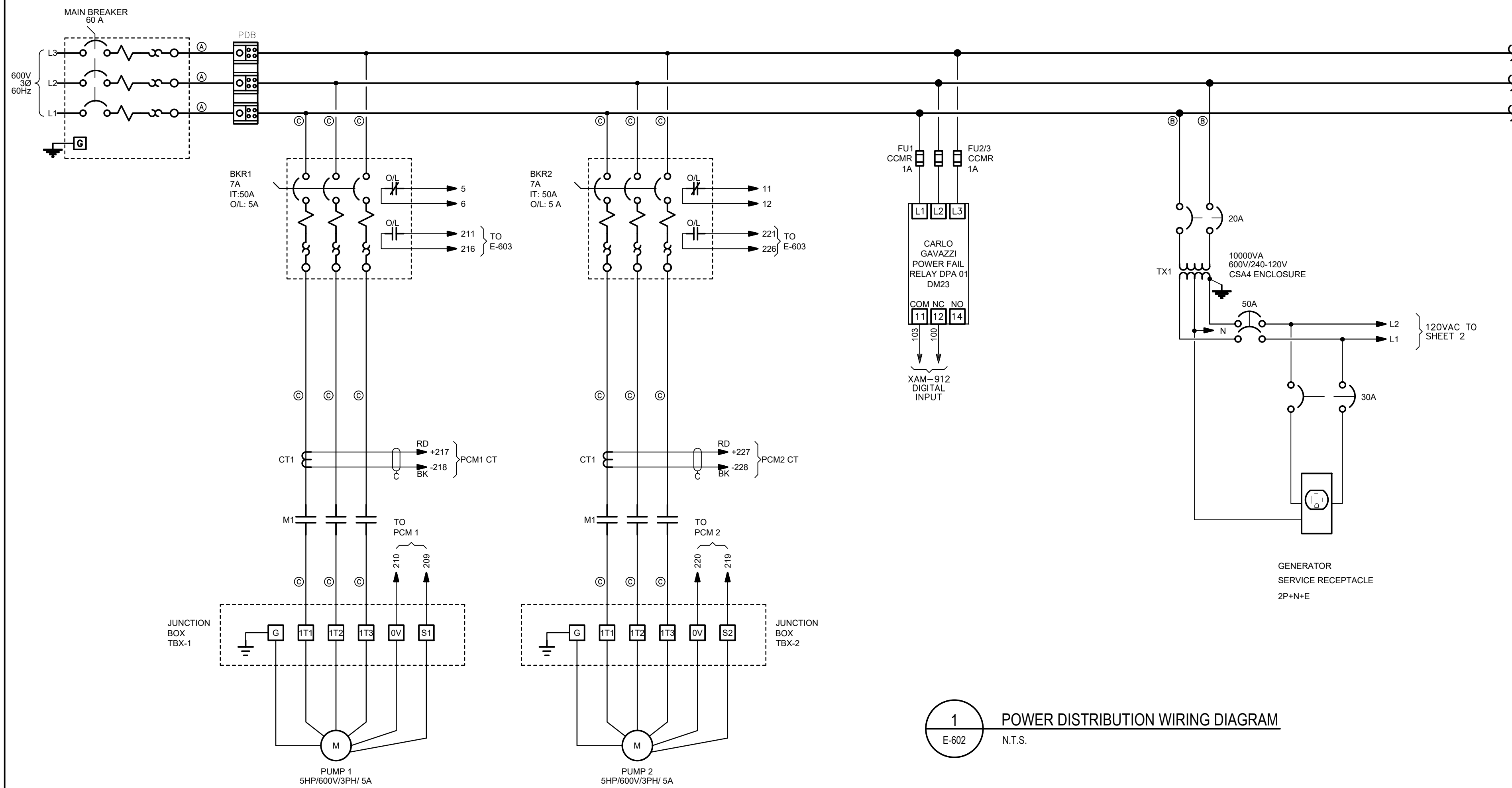
Project No. 161414649		Scale NTS
Revision 0	Sheet 17 of 22	Drawing No. E 601



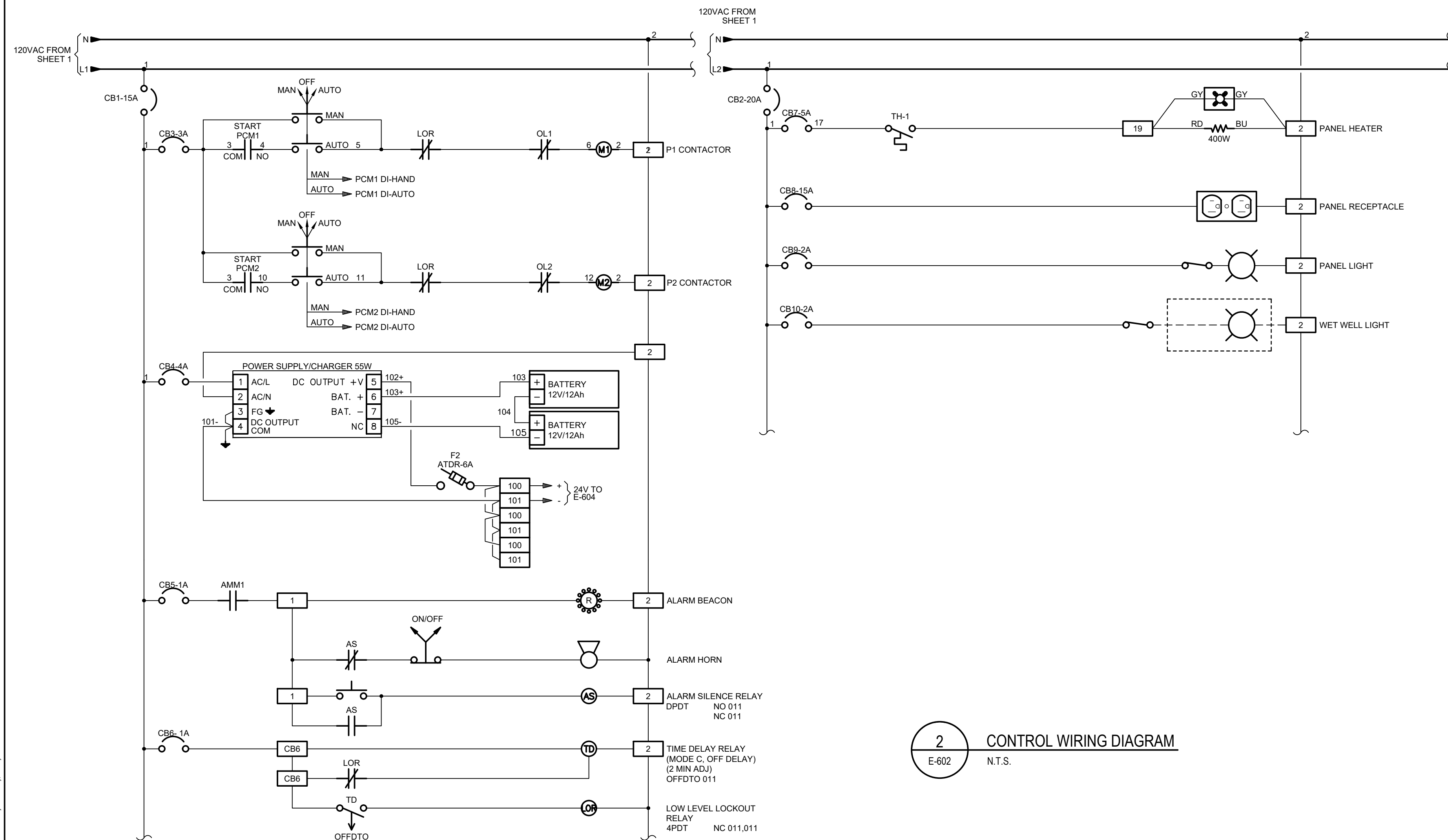
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Notes



1 POWER DISTRIBUTION WIRING DIAGRAM
N.T.S.



2 CONTROL WIRING DIAGRAM
N.T.S.

0	ISSUED FOR TENDER	AM	SS 2026.01.26

File Name:	161414649e-602	GM	AM	DR	2025.11.10
		Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit-Seal



Client/Project
CITY OF DRYDEN
CONTRACT T-2026-1

SOUTH VAN HORNE HOUSING
ENABLING PROJECT

DRYDEN, ONTARIO.

Title
ELECTRICAL
POWER AND CONTROL WIRING DIAGRAM

Project No.	Scale
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25018-161414649

DRYDEN, ONTARIO.

Project No.		Scale
161414649		NTS
Revision	Sheet	Drawing No.
0	18 of 21	E 603

三-603

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Notes

- DOUBLE DOOR CSA 4X CONTROL PANEL LAYOUT IS APPROXIMATE, FINAL DIMENSIONS TO BE CONFIRMED. EXTERNAL DOOR NOT SHOWN FOR MORE CLARITY.
- PADLOCKABLE HANDLE.
- PROVIDE PUMP HOUR METER .
- INSTALL MOBILE GENERATOR ACTIVATION/ SHUT DOWN PROCEDURE LAMACOID LABEL ABOVE GENERATOR'S RECEPTACLE.
- PROVIDE CABINET HIGH AND LOW TEMPERATURE SENSORS.

LIFT STATION NARRATIVE:

- EACH LIFT STATION PUMP HAS ITS OWN MOTOR STARTER AND THE HAND-OFF-AUTO MODES WHICH PROVIDES DECISION MAKING FOR THE PUMP CONTROL SCHEME.
- PUMPS P-1 AND P-2 CONTROLS COMPLETE THE FOLLOWING DECISION MAKING DEPENDING ON THE CURRENT LEAD-LAG PRIORITY NUMBER AND CURRENT HOA STATUSES:
 - PROGRAM 10 SECOND DELAY BETWEEN PUMP ACTIVATION
 - PUMP DESIGNATION AUTOMATICALLY ALTERNATES AFTER EACH PUMP STOP
 - THE CONTROLS FIRST CHECK TO SEE WHICH PUMP IS IN AUTO MODE AND WHICH PUMP IS NOT, FROM THERE CONTROLLER WILL UPDATE PRIORITY NUMBER FOR EACH PUMP BASED ON ITS AUTO STATUSES AND CURRENT LEAD-LAG ASSIGNMENT.
 - IN THE CASE WHEN ONLY ONE PUMP IN AUTO MODE THIS PUMP WILL BE THE LEAD.
- PUMP OPERATION AND WATER LEVEL ALARMS ARE CONTROLLED BY THE LIFT STATION LEVEL FLOATS.
 - THE HIGH HIGH LEVEL FLOAT LS-5 ACTIVATES ALARM AND SEND NOTIFICATION TO THE OWNER.
 - THE LEVEL FLOAT LS-4 START LAG PUMP.
 - THE LEVEL FLOAT LS-3 START LEAD PUMP.
 - THE LEVEL FLOAT LS-2 STOPS ALL PUMPS.
 - THE LOW LOW LEVEL FLOAT LS-1 ACTIVATES ALARM AND SEND NOTIFICATION TO THE OWNER
- ALARMS SHALL BE AUTOMATICALLY RESET WHEN THE CONDITION THAT TRIGGERED THEM NO LONGER PRESENT.

REMOTE ALARM NOTIFICATION:

PROVIDE CLOUD-BASED SCADA FOR CLIENT REMOTE ALARM AND MONITORING. SUPPLY SIM CARD AS PART OF CLOUD-BASED SCADA SERVICE. CONFIRM COMPATIBILITY WITH THE EXISTING MUNICIPALITIES SYSTEM.

LIST OF ALARMS THAT NEED TO BE REPORTED REMOTELY:

- LIFT STATION HIGH HIGH LEVEL ALARM
- LIFT STATION LOW LOW LEVEL ALARM
- FAULT ALARM AT ANY PUMP
- CABINET HIGH OR LOW TEMP
- LOST OF HYDRO POWER

COORDINATE WITH OWNER TELEPHONE NUMBERS FOR ALARMS

MOBILE GENERATOR ACTIVATION PROCEDURE (NOTE 1):

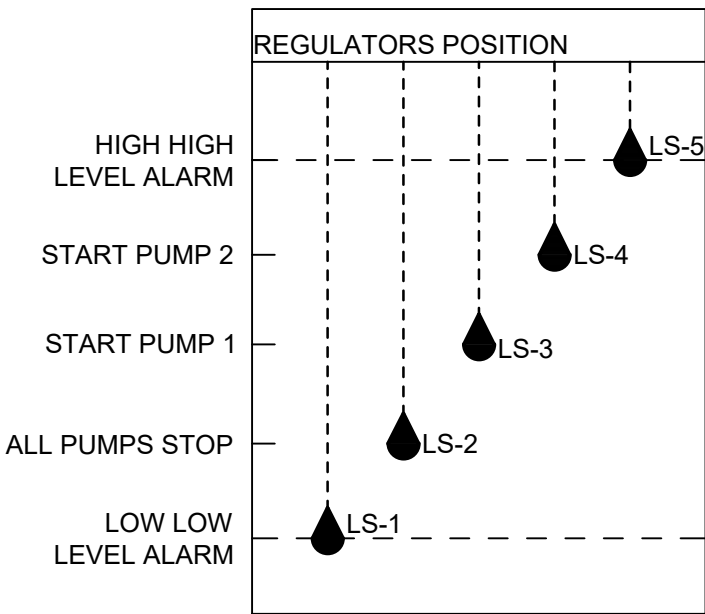
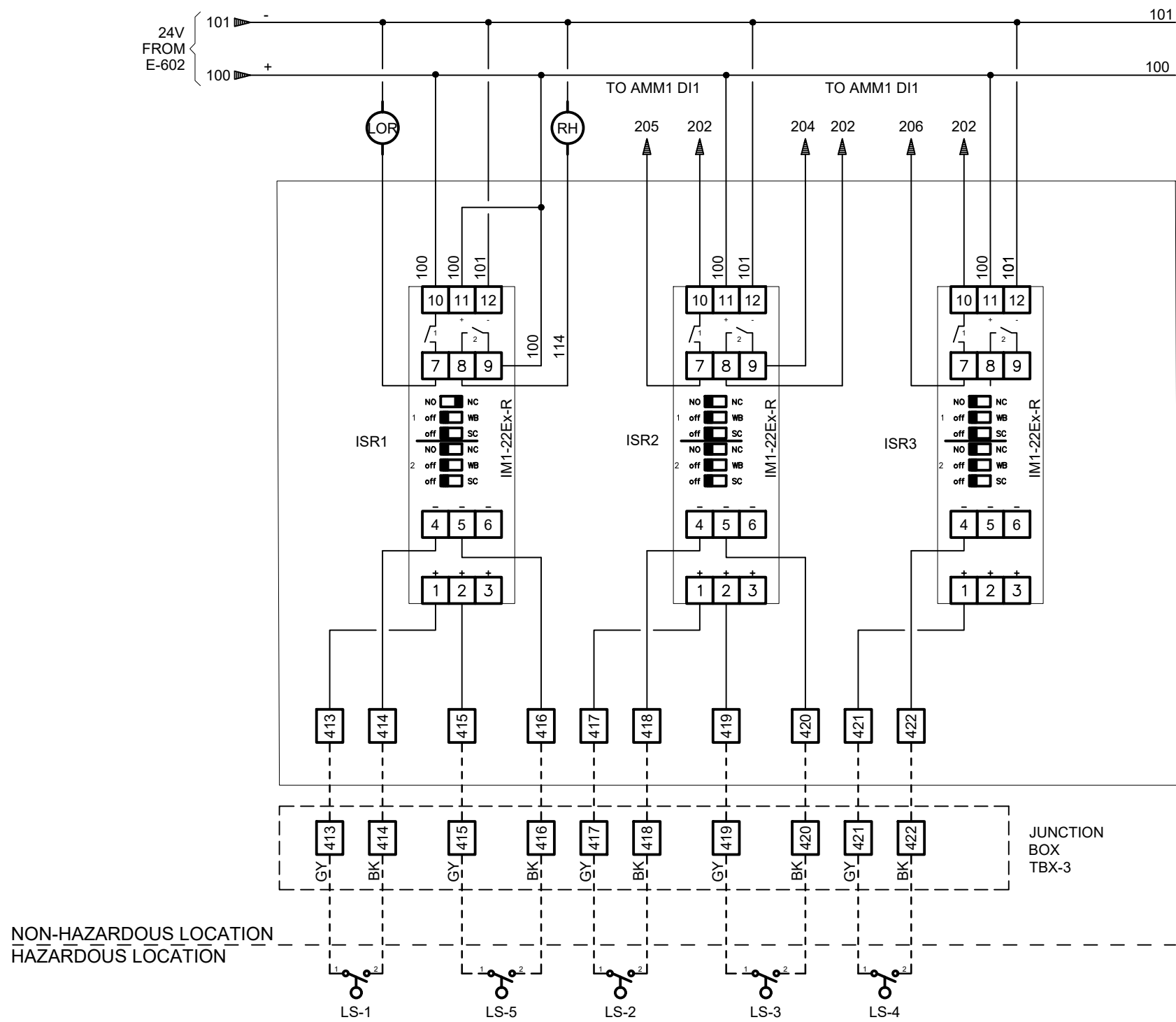
NOTE: ALL STEPS SHALL BE PERFORMED BY A CERTIFIED ELECTRICIAN

ACTIVATION STEPS:

- SWITCH OFF THE MAIN BREAKER
- CONNECT GENERATOR'S PLUG TO THE RECEPTACLE
- SET THE DOUBLE-THROW SWITCH TO THE "GENERATOR POWER" POSITION
- TURN ON GENERATOR

DEACTIVATION STEPS:

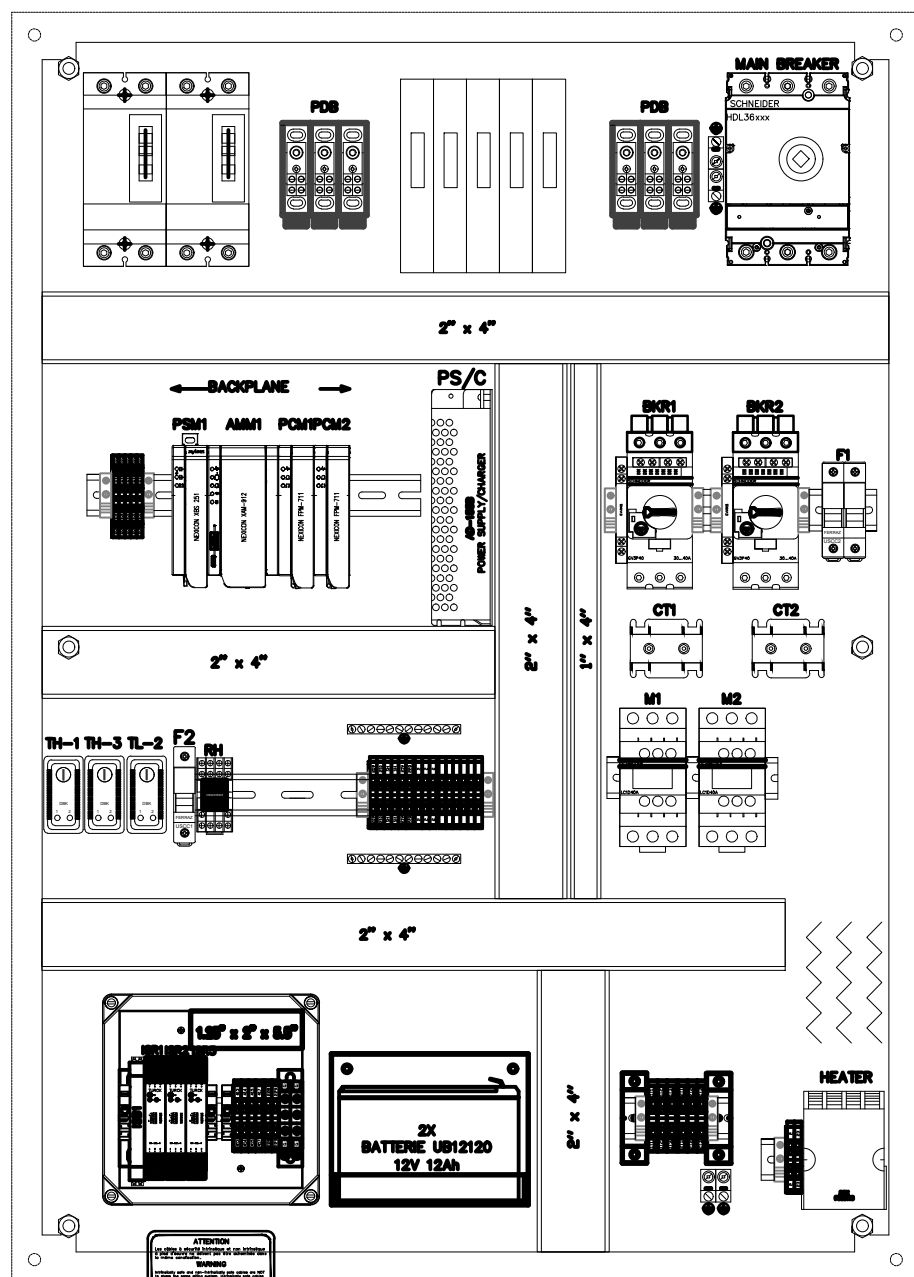
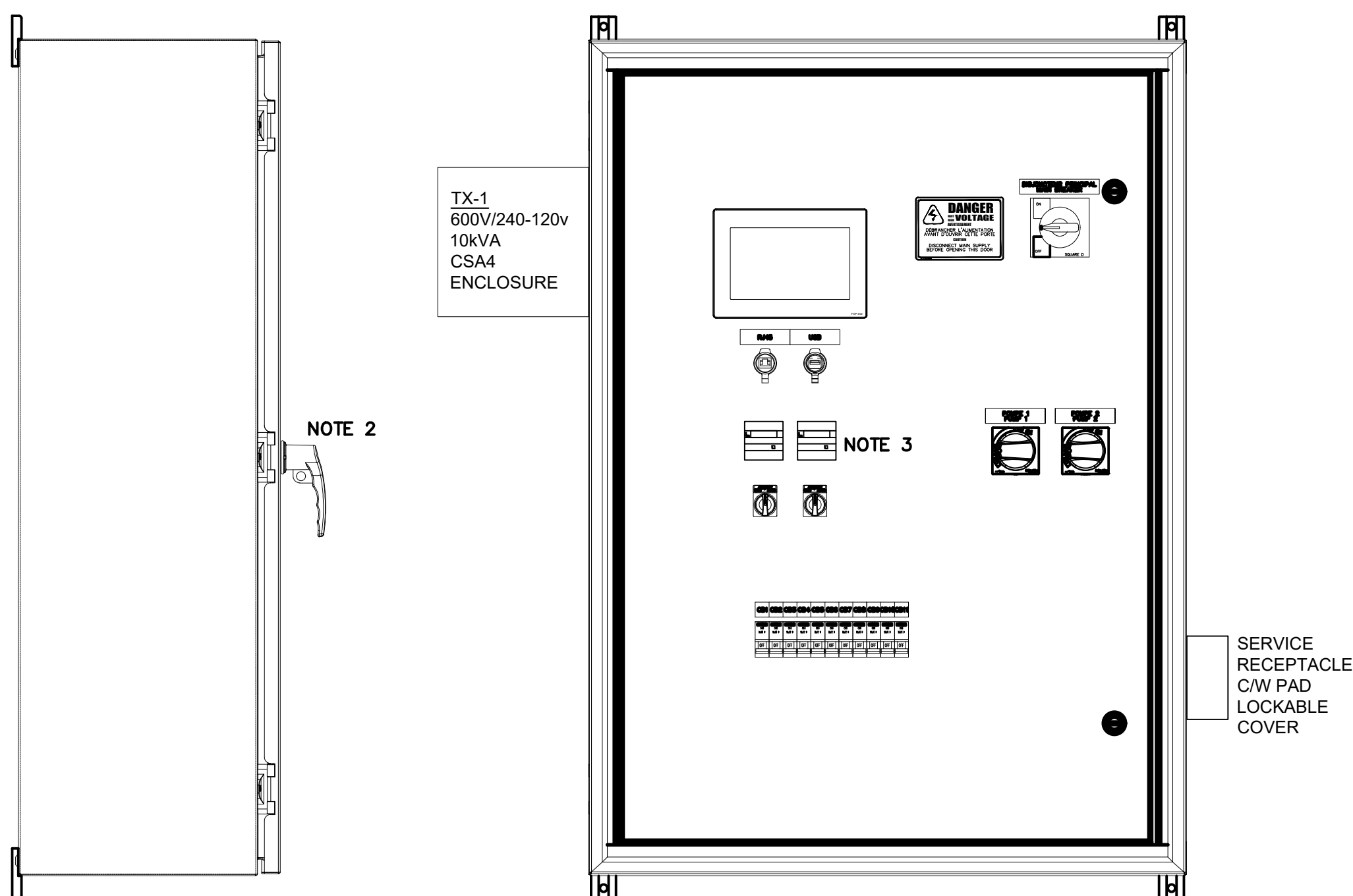
- TURN OFF GENERATOR
- SET THE DOUBLE-THROW SWITCH TO THE "HYDRO POWER" POSITION
- DISCONNECT GENERATOR'S PLUG FROM DISTRIBUTION PANEL
- SWITCH ON MAIN BREAKER



NOTES:

- THE EARTH BAR OF THE INTRINSICALLY SAFE ASSEMBLIES SHALL BE ELECTRICALLY INSULATED AND BE SEPARATED FROM ANY EARTH CIRCUIT OF THE FRAME OR HOUSING.

1 INTRINSICALLY SAFE ISOLATION MODULE WIRING DIAGRAMS
E-604 N.T.S.



NOTE 1

2 PUMP CONTROL PANEL LAYOUT
E-604 N.T.S.

0	ISSUED FOR TENDER	AM	SS 2026.01.26

File Name:	161414649e-604	GM	AM	DR	2025.11.10
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25018-161414649

Client/Project
CITY OF DRYDEN
CONTRACT T-2026-1

SOUTH VAN HORNE HOUSING
ENABLING PROJECT

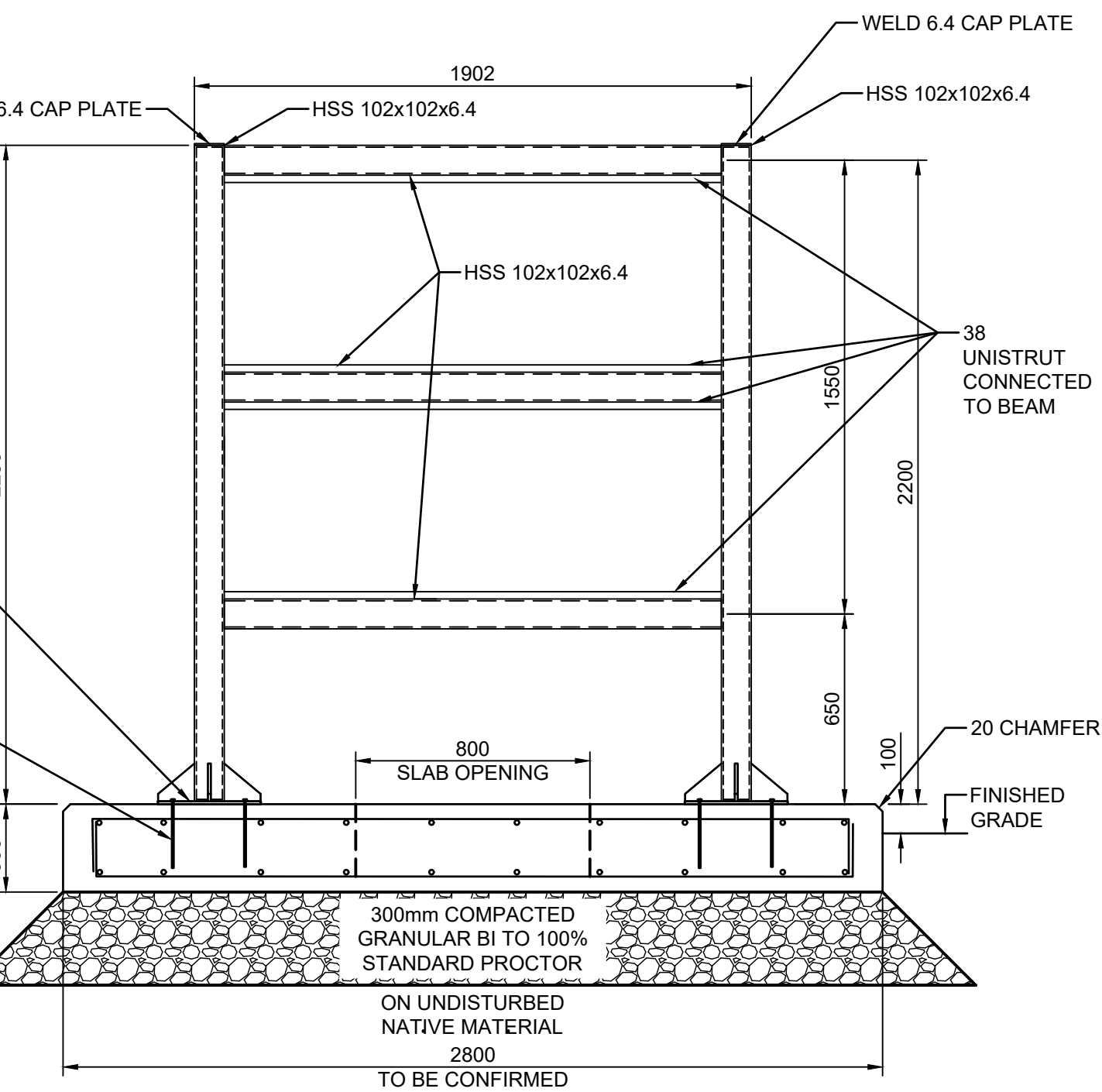
DRYDEN, ONTARIO.

Title
ELECTRICAL
CONTROL WIRING DIAGRAM
AND PANEL LAYOUT

Project No.	Scale
161414649	NTS
Revision	Sheet
0	19 of 21
Drawing No.	E-604



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CONTROL PANEL CONCRETE PAD 1

1. REINFORCING STEEL SHALL BE HOT BILLET, DEFORMED BARS IN ACCORDANCE WITH CSA G30 18-09 (R2014). MINIMUM YIELD STRENGTH TO BE 400 MPa.
2. REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST A.C.I. DETAILING MANUAL OR RSIC "REINFORCING STEEL MANUAL OF STANDARD PRACTICE".
3. LAP TOP BARS AT CENTER SPAN AND BOTTOM BARS OVER SUPPORTS UNLESS NOTED OTHERWISE.
4. ALL REINFORCING TO BE HELD IN PLACE AND TIED BY THE USE OF PROPER ACCESSORIES SUCH AS HI-CHAIRS, SPACERS, ETC TO BE SUPPLIED BY THE REINFORCING STEEL SUPPLIER.
5. REINFORCING IN CONCRETE BEAMS TO BE BENT 60mm (2 1/4") AROUND CORNERS OR USE 900mm x 900mm (36" x 36") CORNER BARS.
6. FRAME ALL OPENINGS IN CONCRETE BEAMS, AND/OR SLABS WITH 2-ZOOM BARS TOP & BOTTOM (EXTRA) ALL FOUR (4) SIDES.

READ IN CONJUNCTION WITH DESIGN NOTES SECTION D: REINFORCING STEEL	
CONCRETE COVER TO REINFORCEMENT	
LOCATION	COVER
SLAB-ON-GRADE - EXTERIOR - BOTTOM & SIDES	75 mm (3")
SLAB-ON-GRADE - EXTERIOR - TOP	60 mm (2 3/8")
STRUCTURAL SLAB - TOP	60 mm (2 3/8")
STRUCTURAL SLAB - SIDES AND BOTTOM	50 mm (2")
FOOTINGS - BOTTOM	75 mm (3")
FOOTINGS - TOP AND SIDES / PIERS	50 mm (2")

1. ALL WET WELL JOINTS SHALL BE SEALED DURING PLACEMENT OF PRECAST SECTIONS USING MANUFACTURER SUPPLIED BITUMINOUS GASKET.
2. SEAL THE INTERIOR OF ALL JOINTS BETWEEN PRECAST WET WELL SECTIONS WHILE THE WET WELL IS EMPTY. SEAL USING XYPEX PATCH AND PLUG WATERPROOFING. PREPARE JOINTS PRIOR TO SEALING BY CHIPPING OR GRINDING TO INCREASE BEARING SURFACE.
3. CONTRACTOR TO PROVIDE TEMPORARY SHORING AND DEWATERING FOR LIFT STATION EXCAVATION. REFER TO GEOTECHNICAL REPORT IN APPENDICES OF SPECIFICATIONS.
4. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO CONSTRUCTION.
5. PRIOR TO BACKFILL, THE EXTERIOR OF ALL JOINTS SHALL BE SEALED WITHIN THE OPEN EXCAVATION USING 225mm WIDE BITUMINOUS CRETEX WRAP *OR* STAINLESS STEEL BANDS.

TABLE B.2		
IN CONJUNCTION WITH DESIGN LOAD LOADS, DESIGN NOTES		
SITE INFORMATION		
	VALUE	REFERENCE
	1.25	NBCC TABLE 4.1.6.2
	OPEN	NBCC 4.1.7.3 (5)
Y	N.A.	NBCC 4.1.7.7 / COMMENTARY 1
	E	NBCC TABLE 4.1.8.4.A

TABLE C.4		
READ IN CONJUNCTION WITH DESIGN NOTES SECTION C. CAST-IN-PLACE CONCRETE		
REINFORCEMENT SPECIFICATIONS		
(UNLESS NOTED OTHERWISE)		
BAR SIZE	FULL TENSION SPLICE	FULL TENSION SPLICE FOR TOP BARS *
10M	400	500
15M	550	750
20M	700	900
25M	1100	1400
30M	1300	1700
NOTE:	1550	2000
DESIGN NOTES:		
NOTE 1	TOP BARS ARE DEFINED AS HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 300MM (3") OF CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.	
NOTE 2	APPLIES TO REINFORCEMENT SPLICES NOT OTHERWISE DETAILED.	
NOTE 3	LAP SPLICE SCHEDULE IS FOR CALL B SPLICE UNO.	
NOTE 4	FOR STANDARD EMBEDMENT DEPTH INTO CONCRETE DIVIDE TENSION LAP SPLICE NUMBERS BY 1.3	
NOTE 5	FOR EPOXY REINFORCEMENT INCREASE THESE LENGTHS BY 1.5. INCREASE THESE LENGTHS BY 1.7 FOR EPOXY COATED TOP REINFORCEMENT.	

TABLE C.4		
READ IN CONJUNCTION WITH DESIGN NOTES SECTION C. CAST-IN-PLACE CONCRETE		
REINFORCEMENT SPECIFICATIONS		
(UNLESS NOTED OTHERWISE)		
BAR SIZE	FULL TENSION SPLICE	FULL TENSION SPLICE FOR TOP BARS *
10M	400	500
15M	550	750
20M	700	900
25M	1100	1400
30M	1300	1700
NOTE:	1550	2000
DESIGN NOTES:		
NOTE 1	TOP BARS ARE DEFINED AS HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 300MM (3") OF CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.	
NOTE 2	APPLIES TO REINFORCEMENT SPLICES NOT OTHERWISE DETAILED.	
NOTE 3	LAP SPLICE SCHEDULE IS FOR CALL B SPLICE UNO.	
NOTE 4	FOR STANDARD EMBEDMENT DEPTH INTO CONCRETE DIVIDE TENSION LAP SPLICE NUMBERS BY 1.3	
NOTE 5	FOR EPOXY REINFORCEMENT INCREASE THESE LENGTHS BY 1.5. INCREASE THESE LENGTHS BY 1.7 FOR EPOXY COATED TOP REINFORCEMENT.	

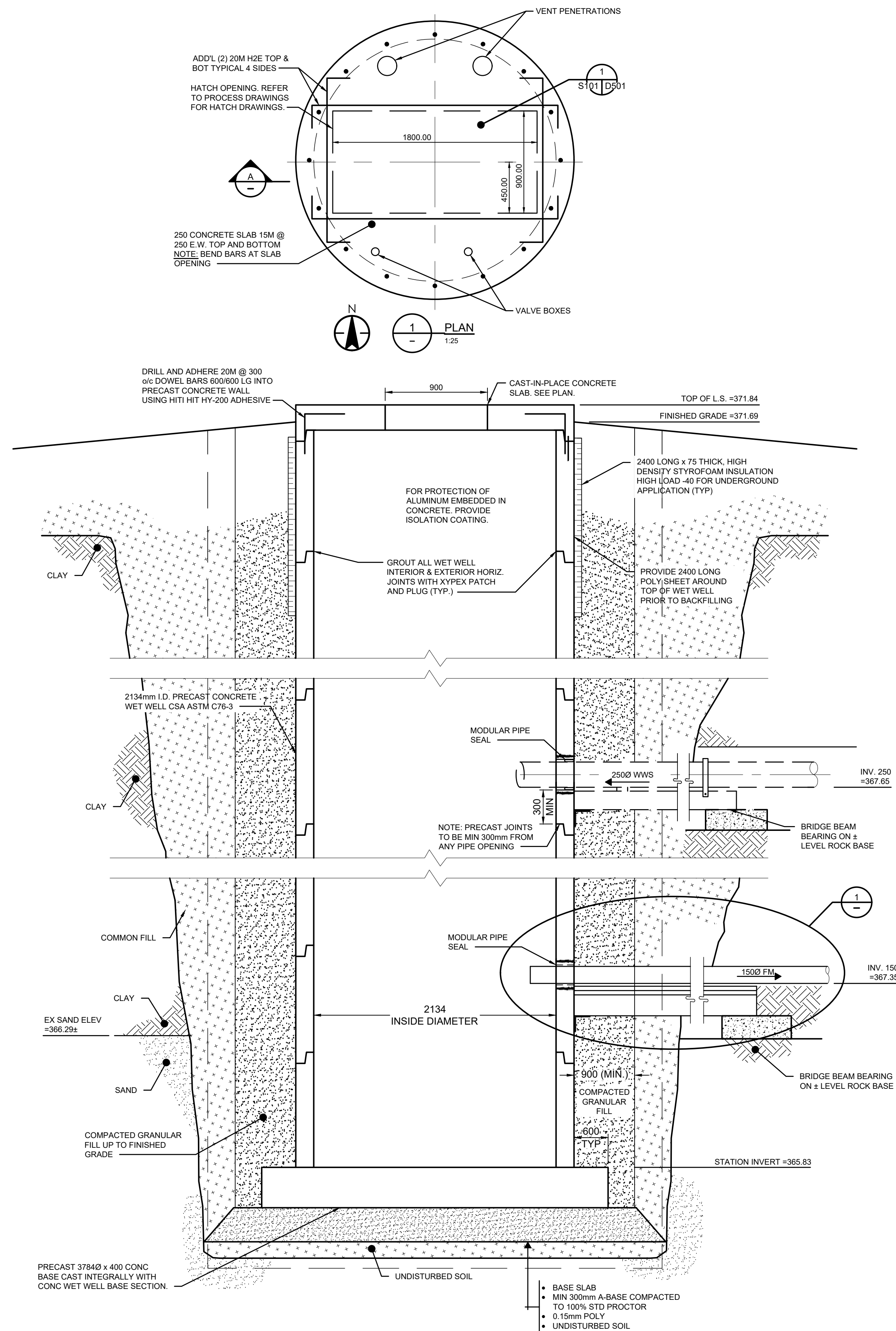
METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

SOUTH VAN HORNE HOUSING
ENABLING PROJECT

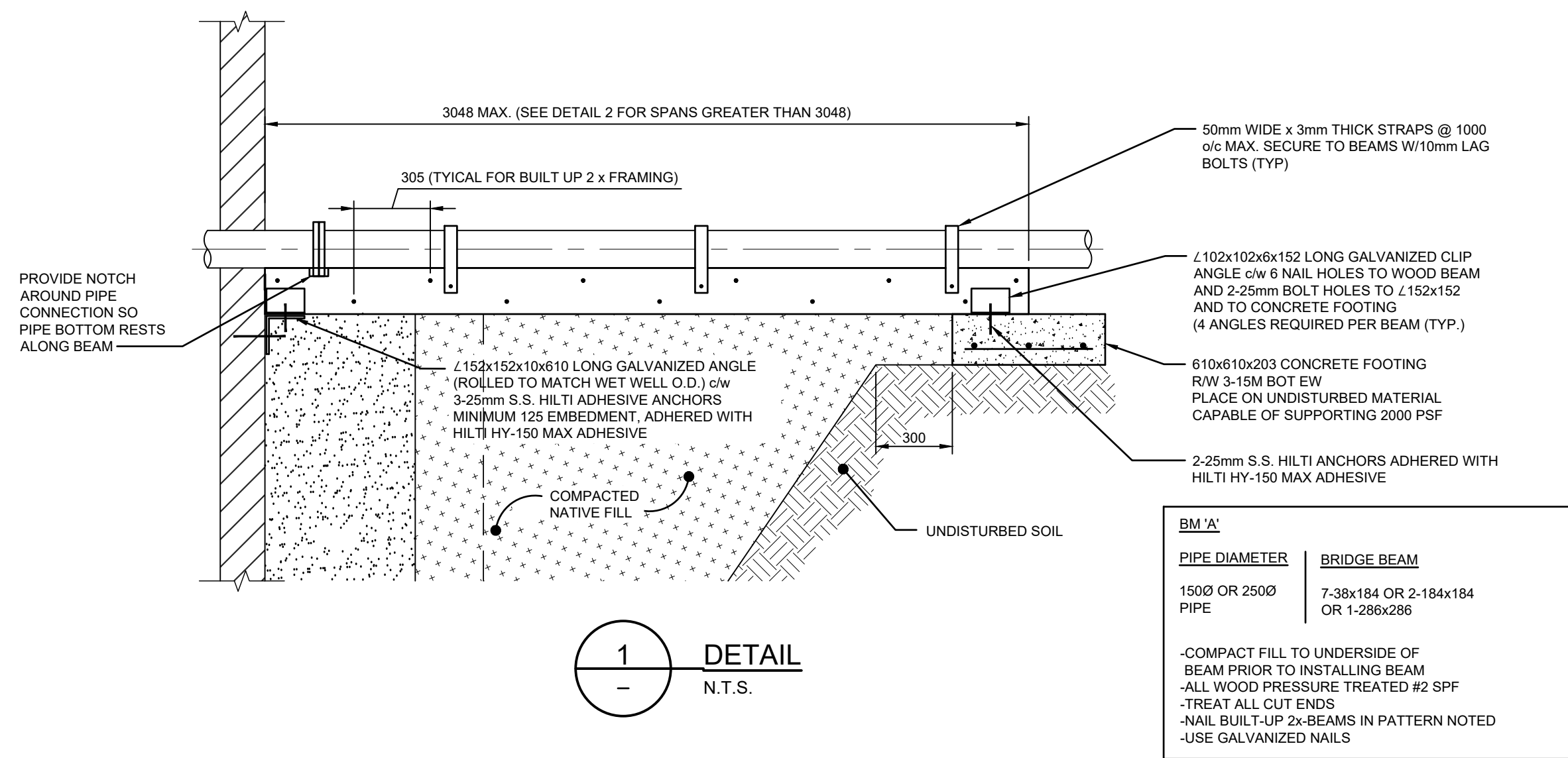
Title

LIFT STATION
STRUCTURAL GENERAL NOTES
AND CONCRETE PADS

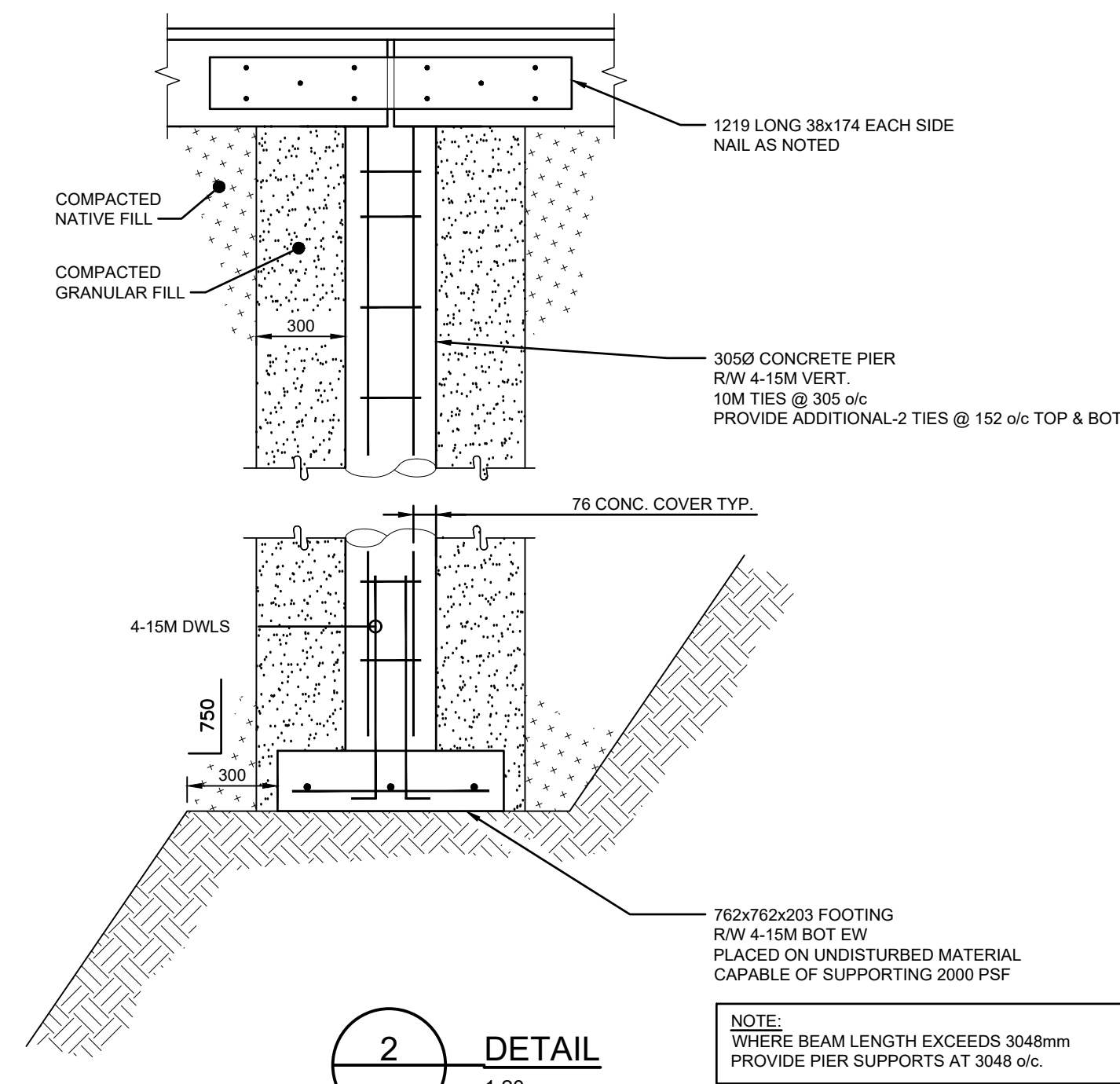
Project No.	Scale
161414649	AS NOTED



A SECTION
N.T.S.



BM 'A'	
PIPE DIAMETER	BRIDGE BEAM
1500 OR 2500 PIPE	7-38x184 OR 2-184x184 OR 1-286x286
-COMPACT FILL TO UNDERSIDE OF BEAM PRIOR TO INSTALLING BEAM -ALL WOOD PRESSURE TREATED #2 SPF -TREAT ALL CUT ENDS -NAIL BUILT-UP 2x-BEAMS IN PATTERN NOTED -USE GALVANIZED NAILS	



0	ISSUED FOR TENDER	PN	SB	2026.01.26
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File Name:	161414649_S-101	BF	MT	SB	2025.12.15
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Client/Project
CITY OF DRYDEN
CONTRACT T-2026-1

SOUTH VAN HORNE HOUSING
ENABLING PROJECT

DRYDEN, ONTARIO.

Title
PROCESS
PROPOSED LIFT STATION
PLANS AND SECTIONS

Project No.	Scale
161414649	AS NOTED

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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES