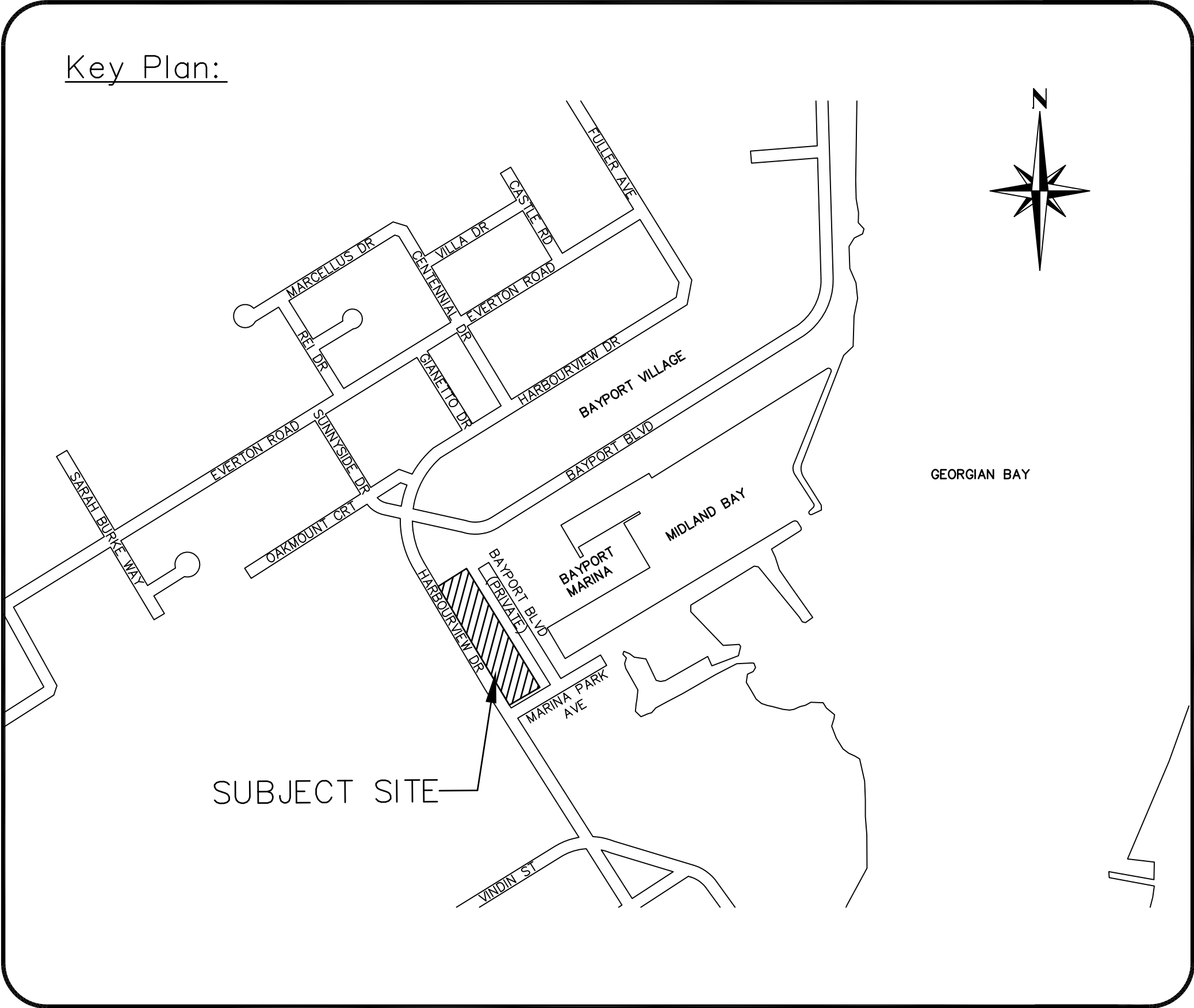


# BAYPORT VILLAGE COMMERCIAL DEVELOPMENT

## TOWN OF MIDLAND SIMCOE COUNTY

### PROJECT No. 07-010FH




MUNICIPALITY



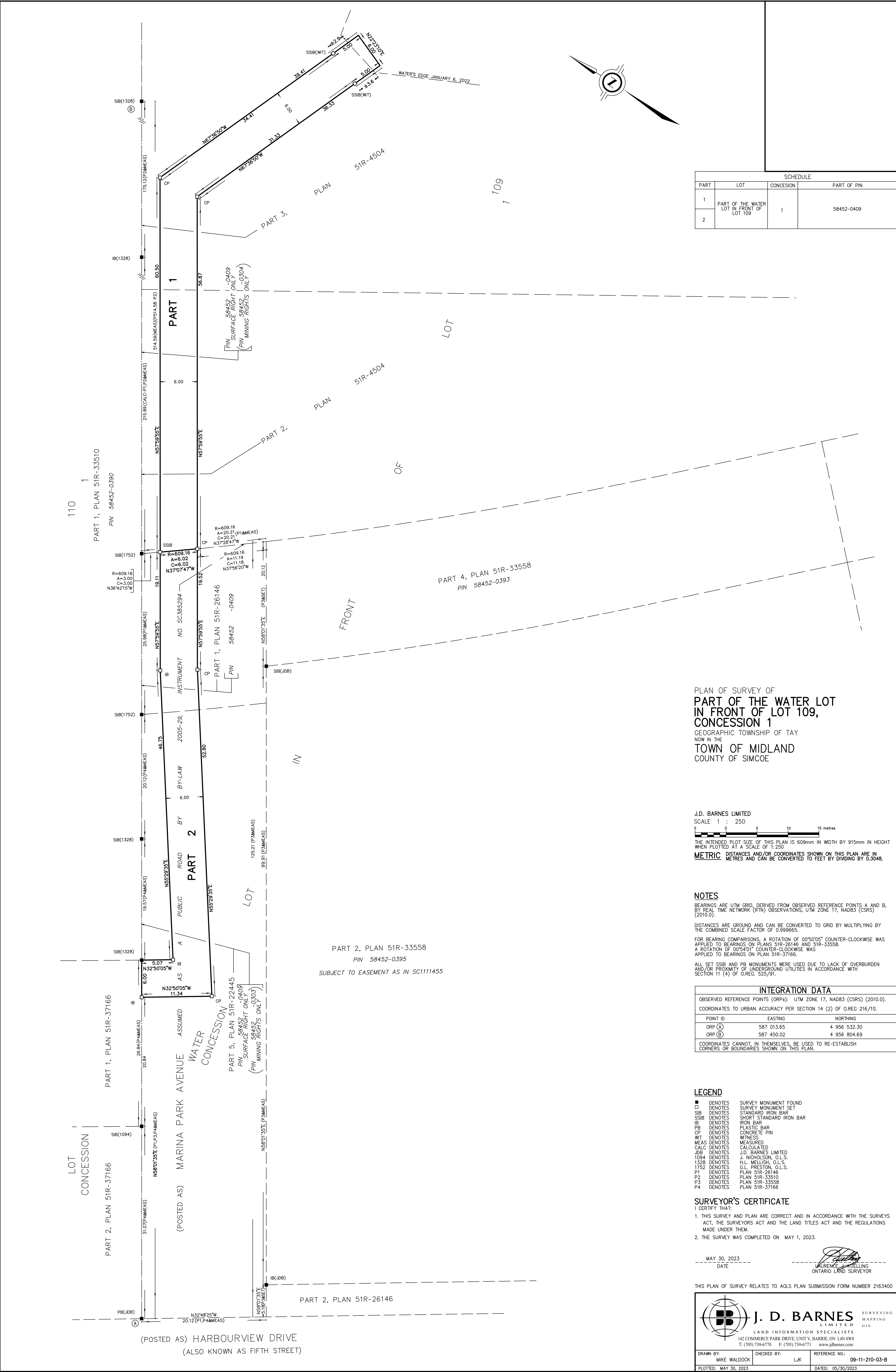
Town of Midland  
575 Dominion Avenue  
Midland, Ontario  
L4R 1R2  
Ph 705-526-4275  
<https://midland.ca/>

PROJECT ENGINEER



WMI & Associates Limited  
119 Collier Street  
Barrie, Ontario  
L4M 1H5  
Ph 705-797-2027  
[www.wmiengineering.ca](http://www.wmiengineering.ca)

DRAWING #	DRAWING TITLE
09-11-210-03-B	PLAN OF SURVEY (STORM OUTLET EASEMENT)
GEN1	GENERAL SERVICING PLAN 1
GEN2	GENERAL SERVICING PLAN 2
LGR1	LOT GRADING PLAN 1
HB1	HARBOURVIEW RECONSTRUCTION PLAN PHASE 1
HB2	HARBOURVIEW RECONSTRUCTION PLAN PHASE 2
STM	STORMWATER DRAINAGE AREA PLAN
ESC	EROSION & SEDIMENT CONTROL PLAN
DT1	DETAILS SHEET 1
E1	LEGEND & SUMMARY TABLE – INTERSECTION (RUNGE)
E2	PHASE 1 INTERSECTION LAYOUT (RUNGE)
E3	PHASE 2 INTERSECTION LAYOUT (RUNGE)
E4	PHASE 1 WIRING DIAGRAM – INTERSECTION (RUNGE)
E5	PHASE 2 WIRING DIAGRAM – INTERSECTION (RUNGE)
E6	INTERSECTION PHOTOMETRICS & LIGHTING DETAILS (RUNGE)
E7	INSTALLATION DETAILS – INTERSECTION (RUNGE)
E8	HYDRO CLEARANCES – INTERSECTION (RUNGE)
E9	SPECIFICATIONS – INTERSECTION (RUNGE)



SCHEDULE			
PART	LOT	CONCESSION	PART OF PIN
1	PART OF THE WATER LOT IN FRONT OF LOT 109	1	58452-0409
2			

PLAN OF SURVEY OF  
**PART OF THE WATER LOT  
IN FRONT OF LOT 109,  
CONCESSION 1**  
GEOGRAPHIC TOWNSHIP OF TAY  
NOW IN THE  
**TOWN OF MIDLAND**  
COUNTY OF SIMCOE

J.D. BARNES LIMITED  
SCALE 1 : 250  
THE INTENDED PLOT SIZE OF THIS PLAN IS 609mm IN WIDTH BY 915mm IN HEIGHT  
WHEN PLOTTED AT A SCALE OF 1:250  
**METRIC** DISTANCES AND/OR COORDINATES SHOWN ON THIS PLAN ARE IN  
METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

**NOTES**  
BEARINGS ARE UTM GRID, DERIVED FROM OBSERVED REFERENCE POINTS A AND B,  
BY REAL TIME NETWORK (RTN) OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS)  
(2010.0).  
DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY  
THE COMBINED SCALE FACTOR OF 0.999665.  
FOR BEARING COMPARISONS, A ROTATION OF 00°50'05" COUNTER-CLOCKWISE WAS  
APPLIED TO BEARINGS ON PLANS 51R-26146 AND 51R-33558.  
A ROTATION OF 00°54'01" COUNTER-CLOCKWISE WAS  
APPLIED TO BEARINGS ON PLAN 51R-37166.  
ALL SET SSIB AND PB MONUMENTS WERE USED DUE TO LACK OF OVERBURDEN  
AND/OR PROXIMITY OF UNDERGROUND UTILITIES IN ACCORDANCE WITH  
SECTION 11 (4) OF O.REG. 525/91.

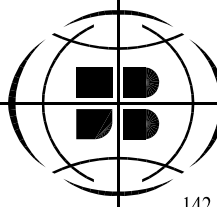
INTEGRATION DATA			
OBSERVED REFERENCE POINTS (ORP): UTM ZONE 17, NAD83 (CSRS) (2010.0).			
COORDINATES TO URBAN ACCURACY PER SECTION 14 (2) OF O.REG 216/10.			
POINT ID	EASTING	NORTHING	
ORP (A)	587 013.65	4 956 532.30	
ORP (B)	587 450.02	4 956 804.69	
COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.			

LEGEND	
□ DENOTES	SURVEY MONUMENT FOUND
□ DENOTES	SURVEY MONUMENT SET
SSIB DENOTES	STANDARD IRON BAR
SSIB DENOTES	SHORT STANDARD IRON BAR
IB DENOTES	IRON BAR
PB DENOTES	PLASTIC BAR
CP DENOTES	CONCRETE PIN
WIT DENOTES	WITNESS
MEAS DENOTES	MEASURED
CALC DENOTES	CALCULATED
JDB DENOTES	J.D. BARNES LIMITED
1094 DENOTES	J. NICHOLSON, O.L.S.
1328 DENOTES	H.L. MELLISH, O.L.S.
1752 DENOTES	G.L. PRESTON, O.L.S.
P1 DENOTES	PLAN 51R-26146
P2 DENOTES	PLAN 51R-33510
P3 DENOTES	PLAN 51R-33558
P4 DENOTES	PLAN 51R-37166

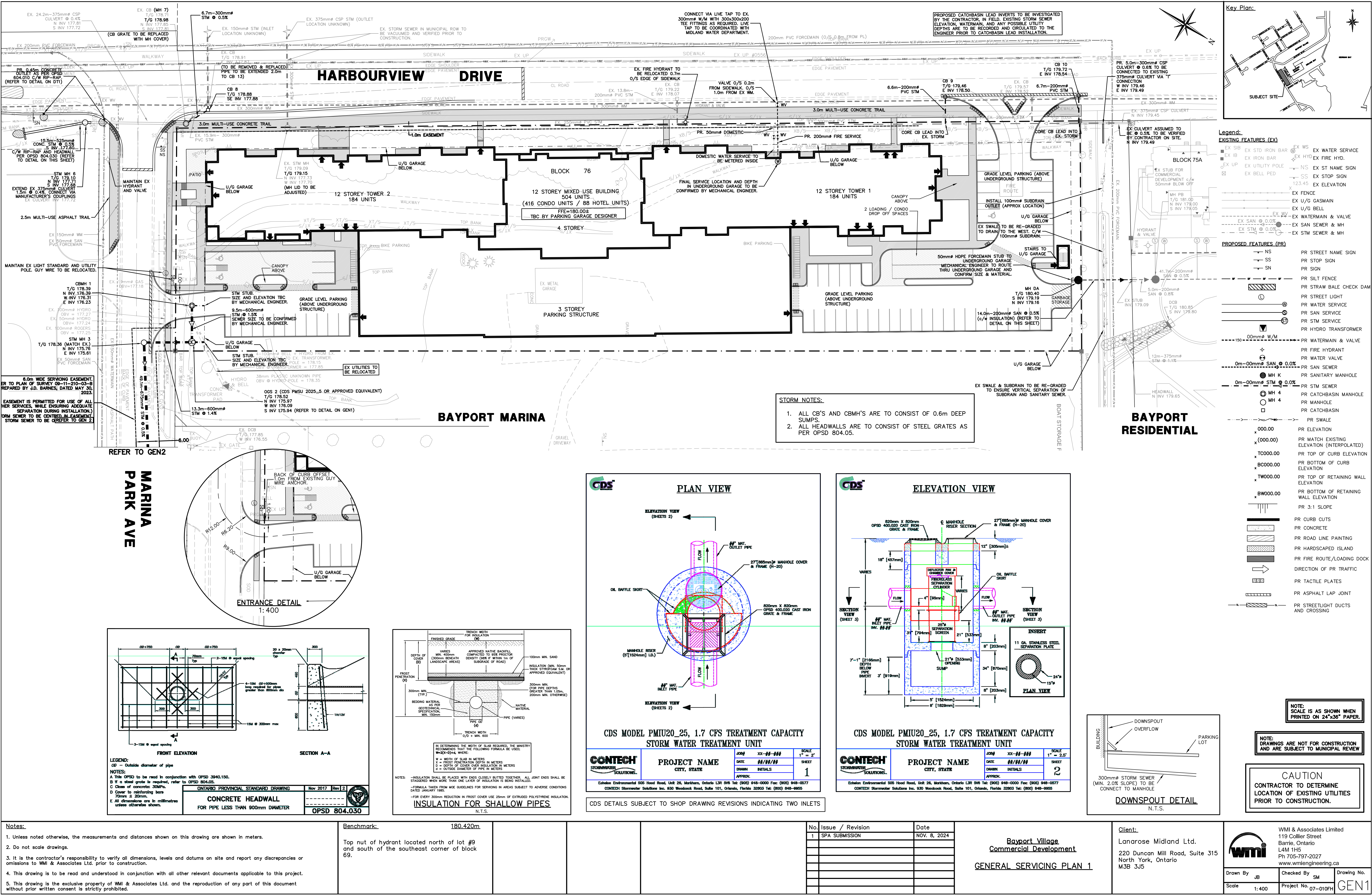
**SURVEYOR'S CERTIFICATE**  
I CERTIFY THAT:  
1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS  
ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS  
MADE UNDER THEM.  
2. THE SURVEY WAS COMPLETED ON MAY 1, 2023.

MAY 30, 2023  
DATE  
LAURENCE J. KELLING  
ONTARIO LAND SURVEYOR

THIS PLAN OF SURVEY RELATES TO AOLS PLAN SUBMISSION FORM NUMBER 2163400

		<b>J. D. BARNES</b> LIMITED SURVEYING MAPPING GIS LAND INFORMATION SPECIALISTS 142 COMMERCE PARK DRIVE, UNIT V, BARRIE, ON L4N 8W8 T: (705) 739-6770 F: (705) 739-6771 www.jdbarnes.com	
DRAWN BY: MIKE WALDOCK	CHECKED BY: LJK	REFERENCE NO.: 09-11-210-03-B	
PLOTTED: MAY 30, 2023		DATED: 05/30/2023	





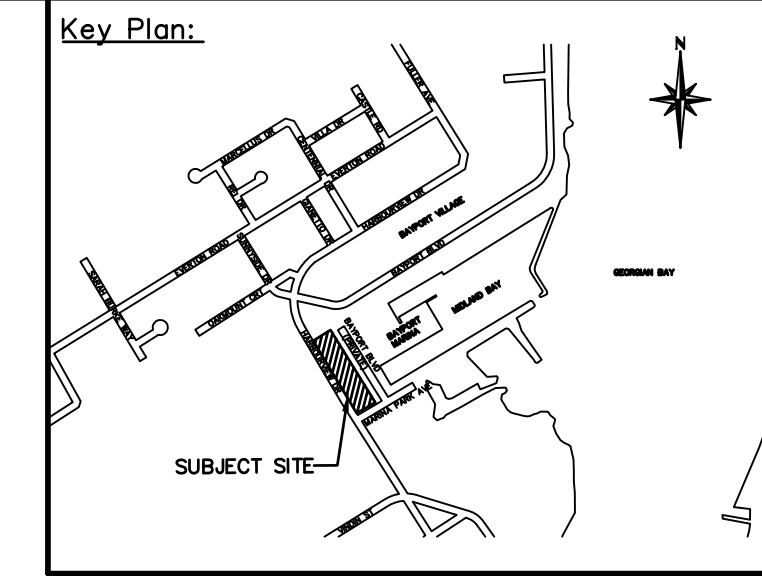
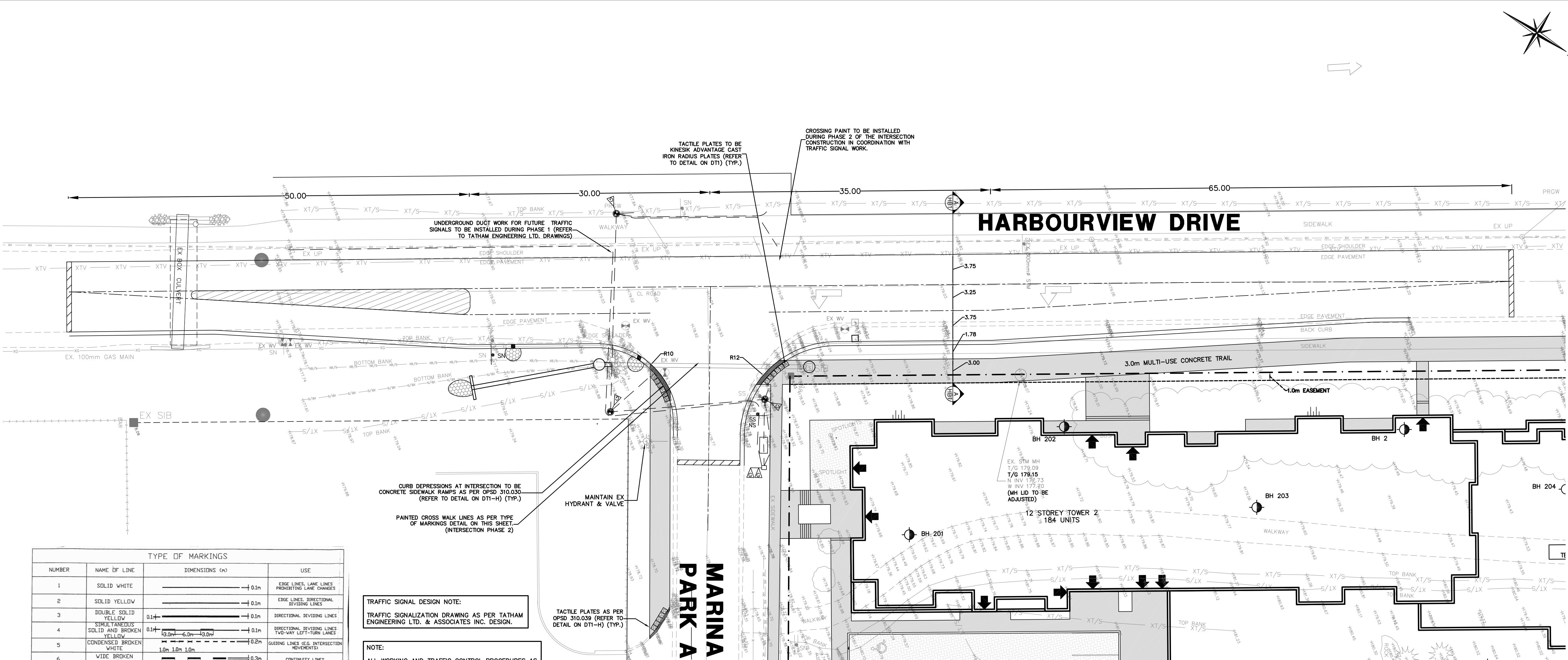












- Legend:**
- EXISTING FEATURES (EX)**
- EX SIB EX STD IRON BAR EX WS EX WATER SERVICE
  - EX IB EX IRON BAR EX HYD EX FIRE HYD.
  - EX UP EX UTILITY POLE NS EX ST NAME SIGN
  - EX BELL PED SS EX STOP SIGN
  - 123.45 EX ELEVATION
  - EX FENCE
  - EX U/G GASMAIN
  - EX U/G BELL
  - EX WM EX WATERMAIN & VALVE
  - EX SAN @ 0.0% EX SAN SEWER & MH
  - EX STM @ 0.0% EX STM SEWER & MH
- PROPOSED FEATURES (PR)**
- NS PR STREET NAME SIGN
  - SS PR STOP SIGN
  - SN PR SIGN
  - PR SILT FENCE
  - PR STRAW BALE CHECK DAM
  - PR STREET LIGHT
  - PR WATER SERVICE
  - PR SAN SERVICE
  - PR STM SERVICE
  - PR HYDRO TRANSFORMER
  - 00mm@ W/M PR WATERMAIN & VALVE
  - 150 PR FIRE HYDRANT
  - PR WATER VALVE
  - 0m-00mm@ SAN @ 0.0% PR SAN SEWER
  - PR SANITARY MANHOLE
  - 0m-00mm@ STM @ 0.0% PR STM SEWER
  - PR CATCHBASIN MANHOLE
  - PR MANHOLE
  - PR CATCHBASIN
  - PR SWALE
  - x 000.00 PR ELEVATION
  - x (000.00) PR MATCH EXISTING ELEVATION (INTERPOLATED)
  - x TC000.00 PR TOP OF CURB ELEVATION
  - x BC000.00 PR BOTTOM OF CURB ELEVATION
  - x TW000.00 PR TOP OF RETAINING WALL ELEVATION
  - x BW000.00 PR BOTTOM OF RETAINING WALL ELEVATION
  - PR 3:1 SLOPE
  - PR CURB CUTS
  - PR CONCRETE
  - PR ROAD LINE PAINTING
  - PR HARDSCAPED ISLAND
  - PR FIRE ROUTE/LOADING DOCK
  - DIRECTION OF PR TRAFFIC
  - PR TACTILE PLATES
  - PR ASPHALT LAP JOINT

TYPE OF MARKINGS			
NUMBER	NAME OF LINE	DIMENSIONS (m)	USE
1	SOLID WHITE	0.1m	EDGE LINES, LANE LINES, PROHIBITING LINE CHANGES
2	SOLID YELLOW	0.1m	EDGE LINES, LANE LINES, PROHIBITING LINE CHANGES
3	DOUBLE SOLID YELLOW	0.1m	DIRECTIONAL DIVIDING LINES
4	SIMULTANEOUS SOLID AND BROKEN YELLOW	0.1m	DIRECTIONAL DIVIDING LINES TWO-WAY LEFT-TURN LANES
5	CONDENSED BROKEN WHITE	0.2m	DIRECTIONAL DIVIDING LINES TWO-WAY LEFT-TURN LANES
6	WIDE BROKEN WHITE	0.3m	CONTINUITY LINES
7	BROKEN WHITE	0.1m	URBAN LANE LINES, LOW SPEED
8	BROKEN YELLOW	0.1m	DIRECTIONAL DIVIDING LINES
9	BROKEN WHITE	0.1m	LANE LINES, HIGH SPEED ROADWAY
10	STOP BAR	0.6m	INTERSECTION STOP LINES (WHITE)
11	CROSSWALK	0.2m	CROSSWALKS (WHITE)

**TRAFFIC SIGNAL DESIGN NOTE:**  
TRAFFIC SIGNALIZATION DRAWING AS PER TATHAM ENGINEERING LTD. & ASSOCIATES INC. DESIGN.

**NOTE:**  
ALL WORKING AND TRAFFIC CONTROL PROCEDURES AS PER BOOK 7.  
CONTRACTOR TO REMOVE EXISTING PAINTED LINES PRIOR TO UNDERTAKING NEW LINE PAINTING.  
ALL PAVEMENT MARKINGS AND TRAFFIC SIGNS SHALL CONFORM TO THE ONTARIO TRAFFIC MANUALS. PAINTED LINES SHALL CONFORM TO OPSS 1712.  
STOP BAR, ARROW MARKINGS, AND CROSS WALKS TO BE DURABLE MARKINGS.

TACTILE PLATES AS PER OPSD 310.039 (REFER TO DETAIL ON DTI-H) (TYP.)

MAINTAIN EX HYDRANT & VALVE

CURB DEPRESSIONS AT INTERSECTION TO BE CONCRETE SIDEWALK RAMPS AS PER OPSD 310.039 (REFER TO DETAIL ON DTI-H) (TYP.)

PAINTED CROSS WALK LINES AS PER TYPE OF MARKINGS DETAIL ON THIS SHEET (INTERSECTION PHASE 2)

UNDERGROUND DUCT WORK FOR FUTURE TRAFFIC SIGNALS TO BE INSTALLED DURING PHASE 1 (REFER TO TATHAM ENGINEERING LTD. DRAWINGS)

CROSSING PAINT TO BE INSTALLED DURING PHASE 2 OF THE INTERSECTION CONSTRUCTION IN COORDINATION WITH TRAFFIC SIGNAL WORK.

TACTILE PLATES TO BE KINESIC ADVANTAGE CAST IRON RADIUS PLATES (REFER TO DETAIL ON DTI) (TYP.)

SPOTLIGHT

EX. 100mm GAS MAIN

EX. 100mm GAS MAIN

EX. 100mm GAS MAIN

EX. 100mm GAS MAIN

EX. 100mm GAS MAIN

EX. 100mm GAS MAIN

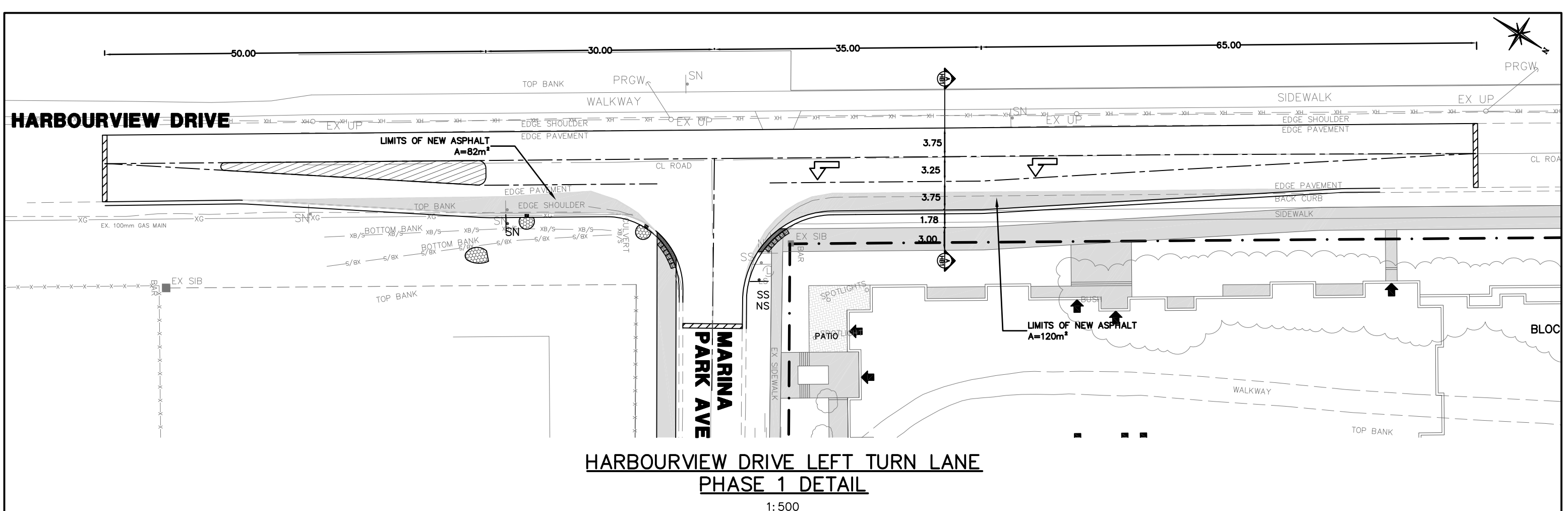
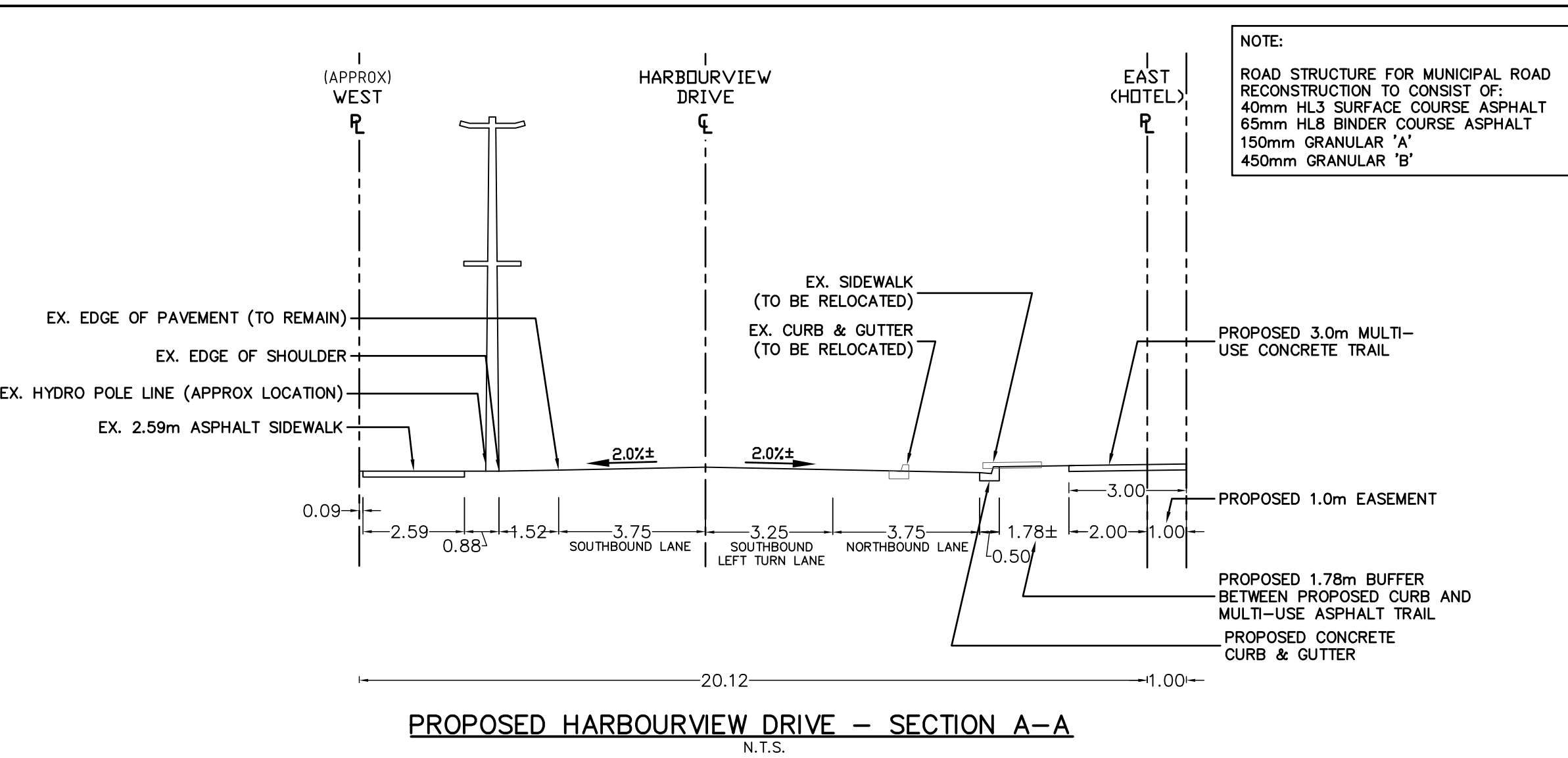
EX. 100mm GAS MAIN

EX. 100mm GAS MAIN

EX. 100mm GAS MAIN

EX. 100mm GAS MAIN

EX. 100mm GAS MAIN



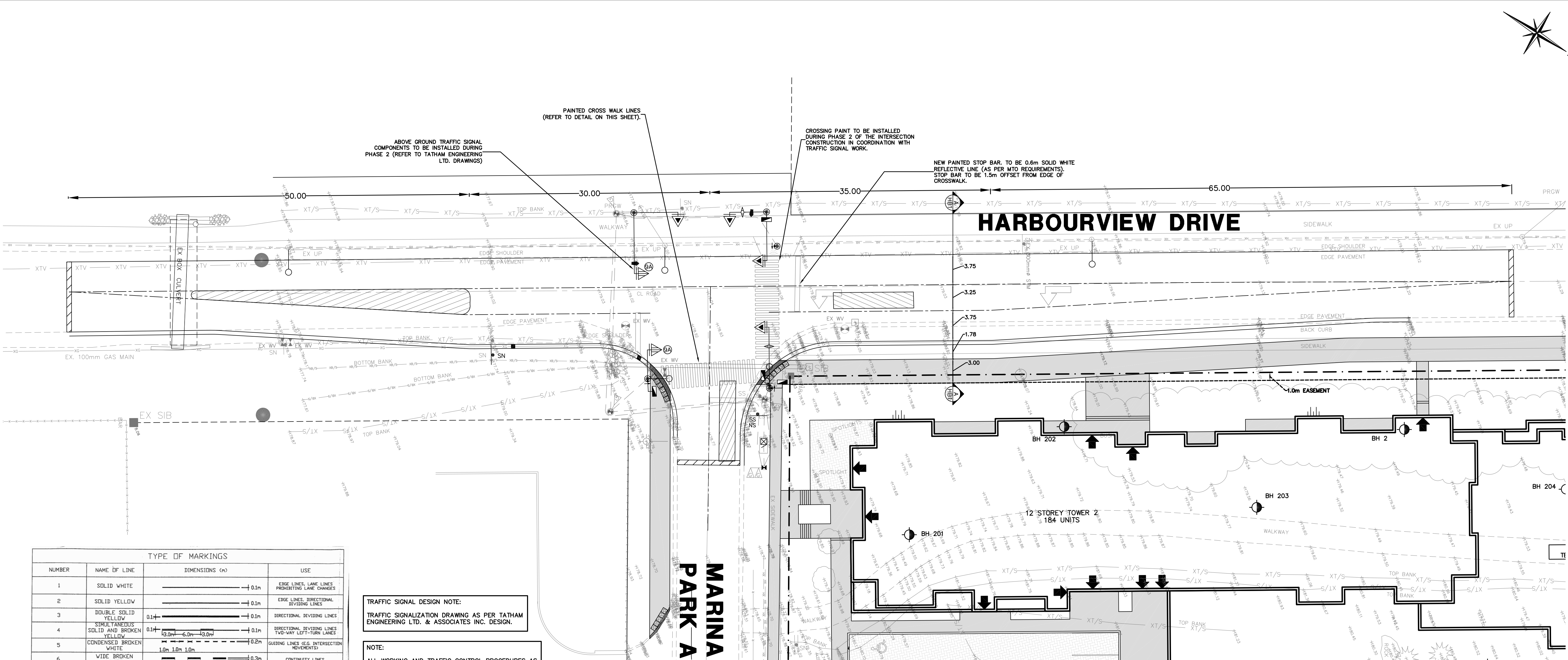
**NOTE:**  
SCALE IS AS SHOWN WHEN PRINTED ON 24"x36" PAPER.

**NOTE:**  
DRAWINGS ARE NOT FOR CONSTRUCTION AND ARE SUBJECT TO MUNICIPAL REVIEW

**CAUTION**  
CONTRACTOR TO DETERMINE LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

<b>Notes:</b>  1. Unless noted otherwise, the measurements and distances shown on this drawing are shown in meters.  2. Do not scale drawings.  3. It is the contractor's responsibility to verify all dimensions, levels and datums on site and report any discrepancies or omissions to WMI & Associates Ltd. prior to construction.  4. This drawing is to be read and understood in conjunction with all other relevant documents applicable to this project.  5. This drawing is the exclusive property of WMI & Associates Ltd. and the reproduction of any part of this document without prior written consent is strictly prohibited.	<b>Benchmark:</b>  180.420m  Top nut of hydrant located north of lot #9 and south of the southeast corner of block 69.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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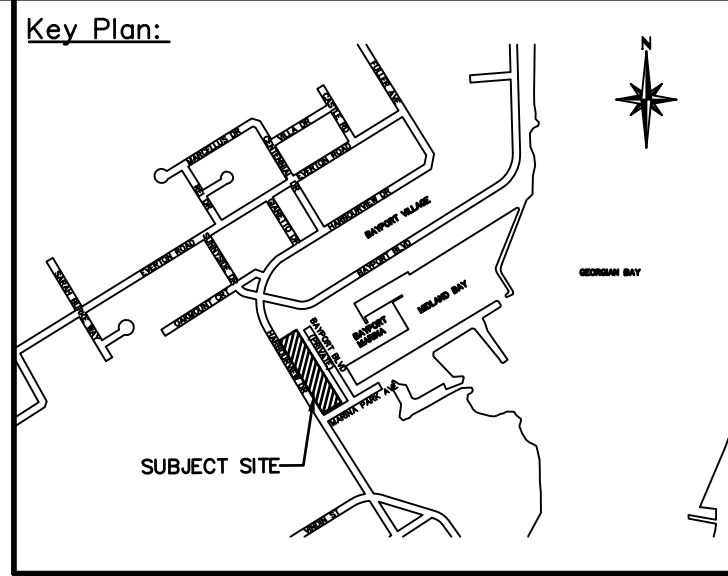
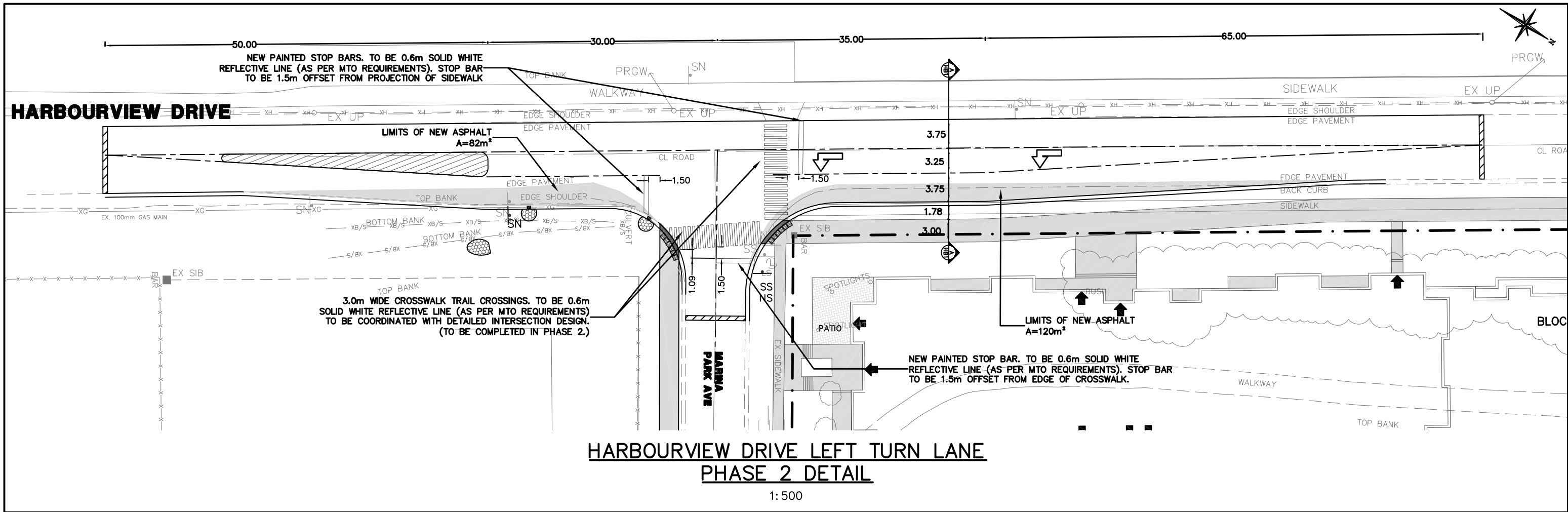
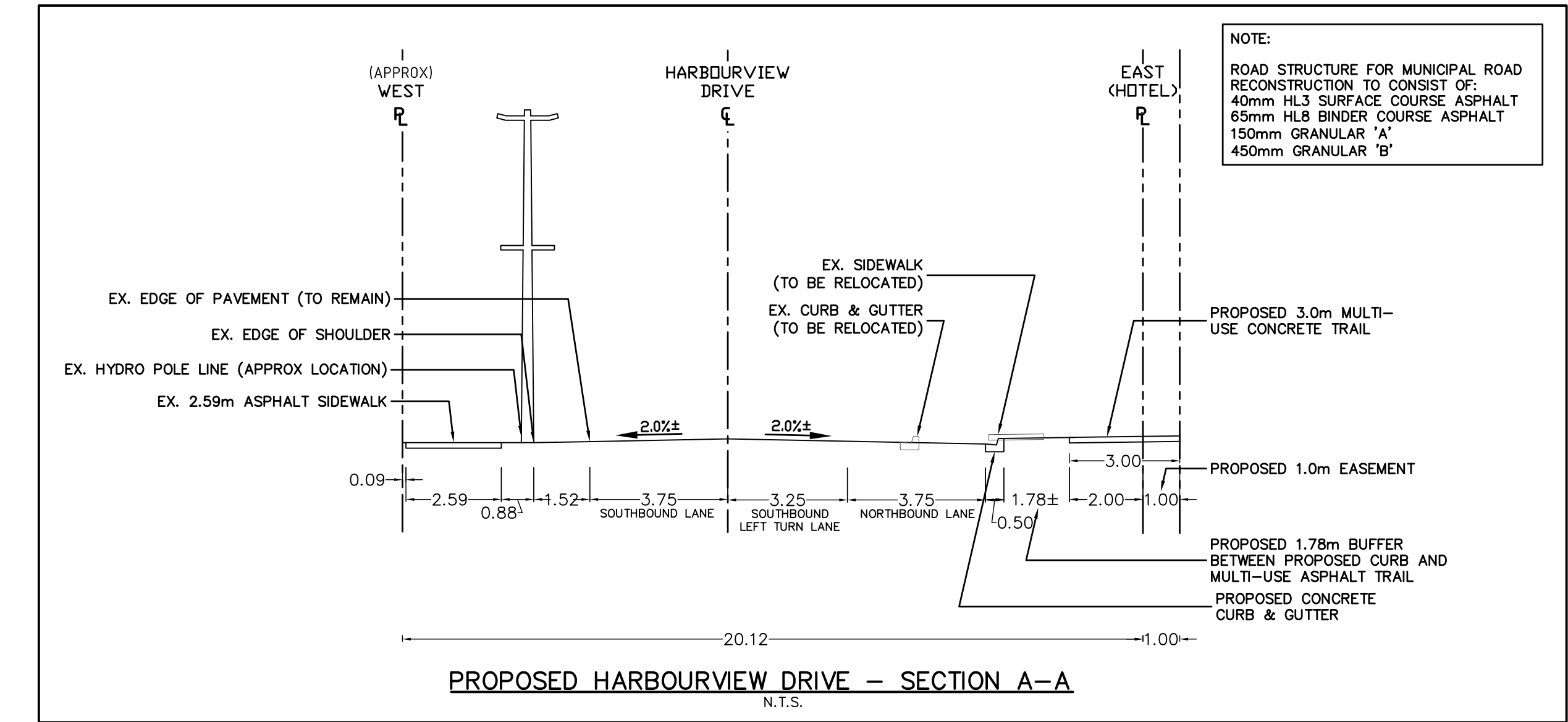


TYPE OF MARKINGS			
NUMBER	NAME OF LINE	DIMENSIONS (m)	USE
1	SOLID WHITE	0.1m	EDGE LINES, LANE LINES, PROHIBITING LINE CHANGES
2	SOLID YELLOW	0.1m	EDGE LINES, LANE LINES, PROHIBITING LINE CHANGES
3	DOUBLE SOLID YELLOW	0.1m	DIRECTIONAL DIVIDING LINES
4	SIMULTANEOUS SOLID AND BROKEN YELLOW	0.1m	DIRECTIONAL DIVIDING LINES TWO-WAY LEFT-TURN LANES
5	CONDENSED BROKEN YELLOW	0.2m	GUIDING LINES (E.G. INTERSECTION MOVEMENT)
6	WIDE BROKEN WHITE	0.3m	CONTINUITY LINES
7	BROKEN WHITE	0.1m	URBAN LANE LINES, LOW SPEED
8	BROKEN YELLOW	0.1m	DIRECTIONAL DIVIDING LINES
9	BROKEN WHITE	0.1m	LANE LINES, HIGH SPEED ROADWAY
10	STOP BAR	0.6m	INTERSECTION STOP LINES (WHITE)
11	CROSSWALK	0.2m	CROSSWALKS (WHITE)

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TRAFFIC SIGNALIZATION DRAWING AS PER TATHAM ENGINEERING LTD. & ASSOCIATES INC. DESIGN.

NOTE:  
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STOP BAR, ARROW MARKINGS, AND CROSS WALKS TO BE DURABLE MARKINGS.

NOTE:  
ROAD STRUCTURE FOR MUNICIPAL ROAD RECONSTRUCTION TO CONSIST OF:  
40mm HL3 SURFACE COURSE ASPHALT  
65mm HL8 BINDER COURSE ASPHALT  
150mm GRANULAR 'A'  
450mm GRANULAR 'B'



- Legend:
- EXISTING FEATURES (EX)
- EX SIB EX STD IRON BAR EX WS EX WATER SERVICE
  - EX IB EX IRON BAR EX HYD EX FIRE HYD.
  - EX UP EX UTILITY POLE EX ST NAME SIGN
  - EX BELL PED EX SS EX STOP SIGN
  - EX ELEVATION
  - EX FENCE
  - EX U/G GASMAIN
  - EX U/G BELL
  - EX WATERMAIN & VALVE
  - EX SAN @ 0.0% EX SAN SEWER & MH
  - EX STM @ 0.0% EX STM SEWER & MH
- PROPOSED FEATURES (PR)
- PR STREET NAME SIGN
  - PR STOP SIGN
  - PR SIGN
  - PR SILT FENCE
  - PR STRAW BALE CHECK DAM
  - PR STREET LIGHT
  - PR WATER SERVICE
  - PR SAN SERVICE
  - PR STM SERVICE
  - PR HYDRO TRANSFORMER
  - PR WATERMAIN & VALVE
  - PR FIRE HYDRANT
  - PR WATER VALVE
  - PR SAN SEWER
  - PR SANITARY MANHOLE
  - PR STM SEWER
  - PR CATCHBASIN MANHOLE
  - PR MANHOLE
  - PR CATCHBASIN
  - PR SWALE
  - PR ELEVATION
  - PR MATCH EXISTING ELEVATION (INTERPOLATED)
  - PR TOP OF CURB ELEVATION
  - PR BOTTOM OF CURB ELEVATION
  - PR TOP OF RETAINING WALL ELEVATION
  - PR BOTTOM OF RETAINING WALL ELEVATION
  - PR 3:1 SLOPE
  - PR CURB CUTS
  - PR CONCRETE
  - PR ROAD LINE PAINTING
  - PR HARDSCAPED ISLAND
  - PR FIRE ROUTE/LOADING DOCK
  - DIRECTION OF PR TRAFFIC
  - PR TACTILE PLATES
  - PR ASPHALT LAP JOINT

NOTE:  
SCALE IS AS SHOWN WHEN PRINTED ON 24"x36" PAPER.

NOTE:  
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CAUTION  
CONTRACTOR TO DETERMINE LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

Notes:

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Benchmark:

180.420m

Top nut of hydrant located north of lot #9 and south of the southeast corner of block 69.

No. Issue / Revision

Date

1	SPA SUBMISSION	NOV. 8, 2024

Bayport Village  
Commercial Development  
HARBOURVIEW RECONSTRUCTION  
PHASE 2

Client:

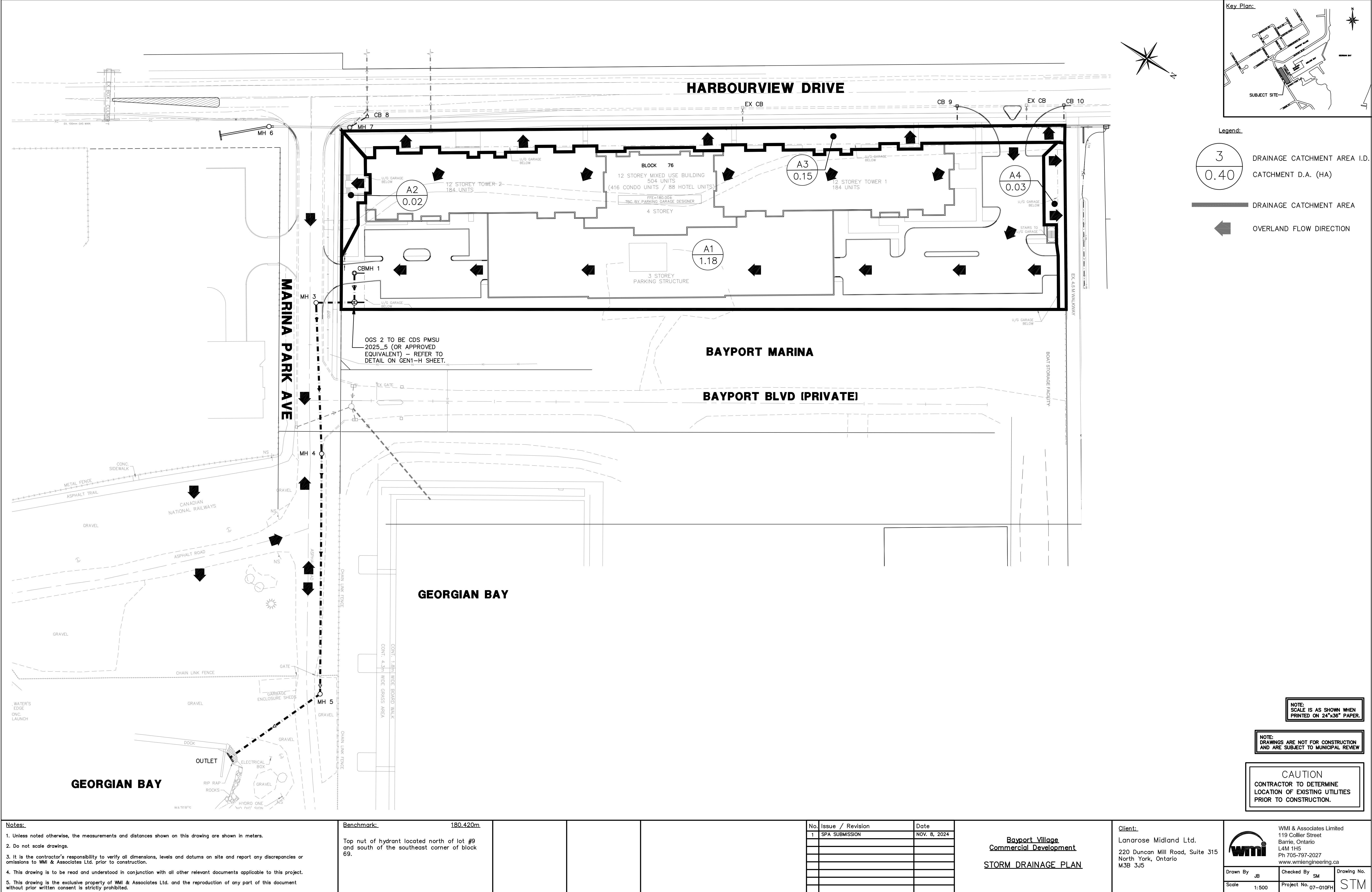
Lanarose Midland Ltd.  
220 Duncan Mill Road, Suite 315  
North York, Ontario  
M3B 3J5



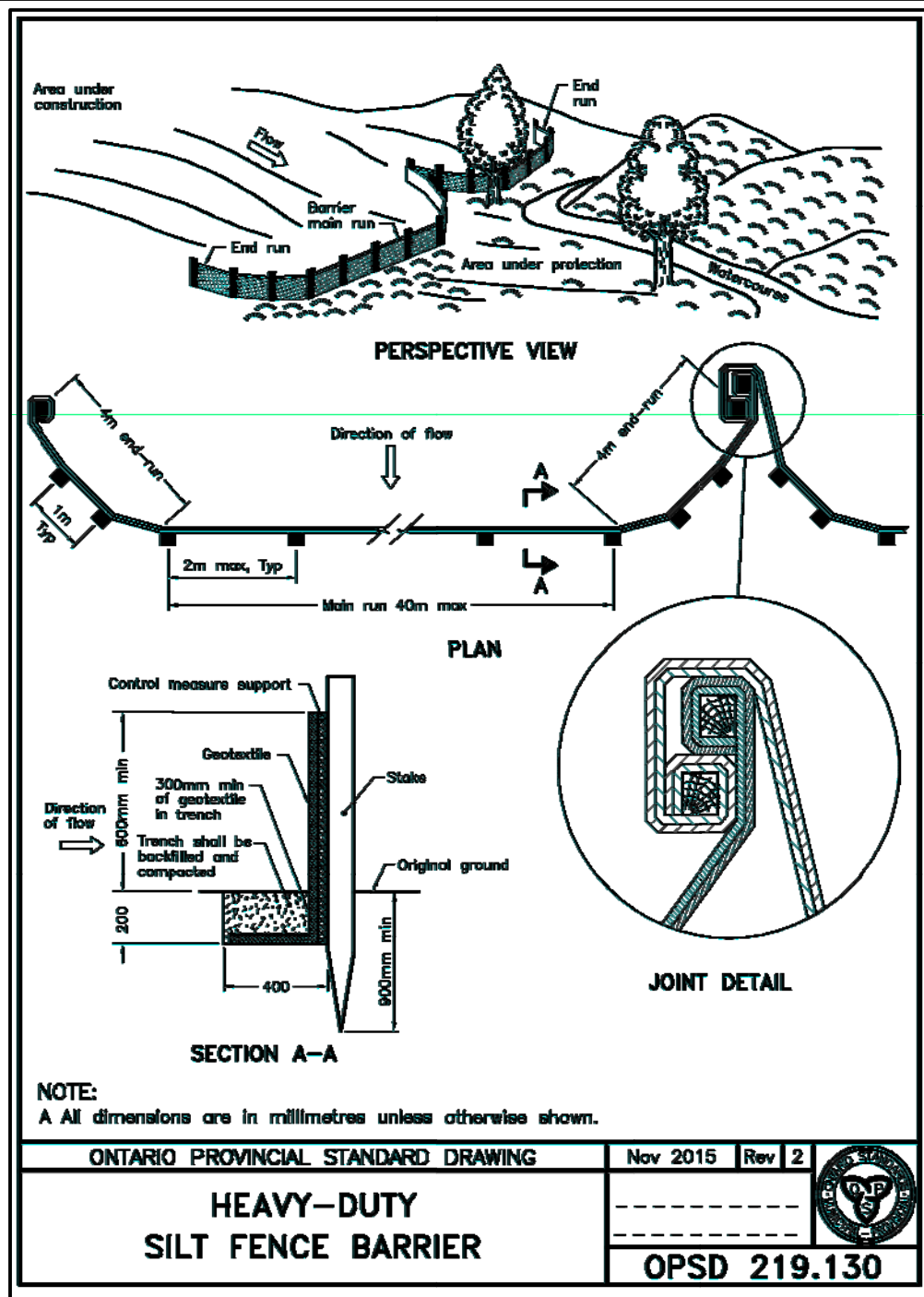
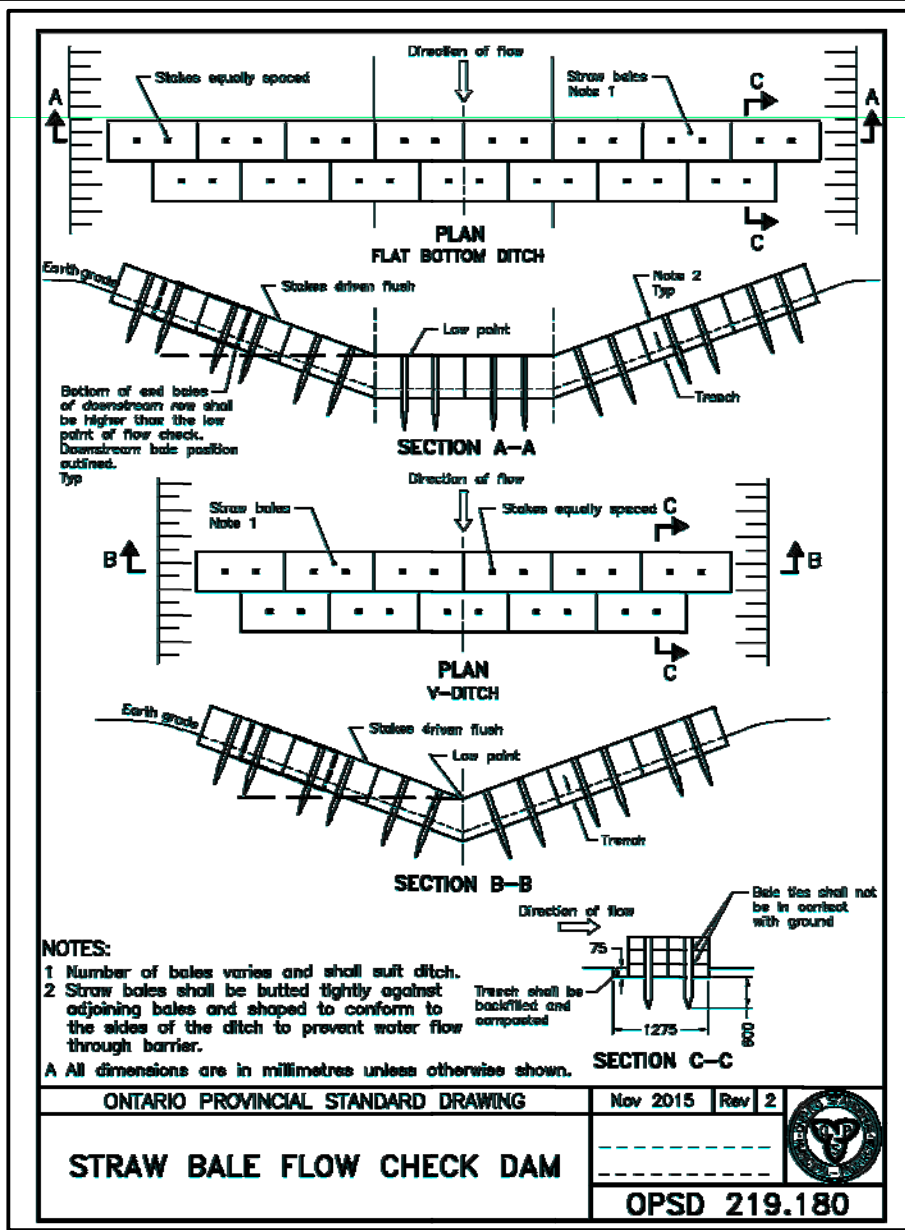
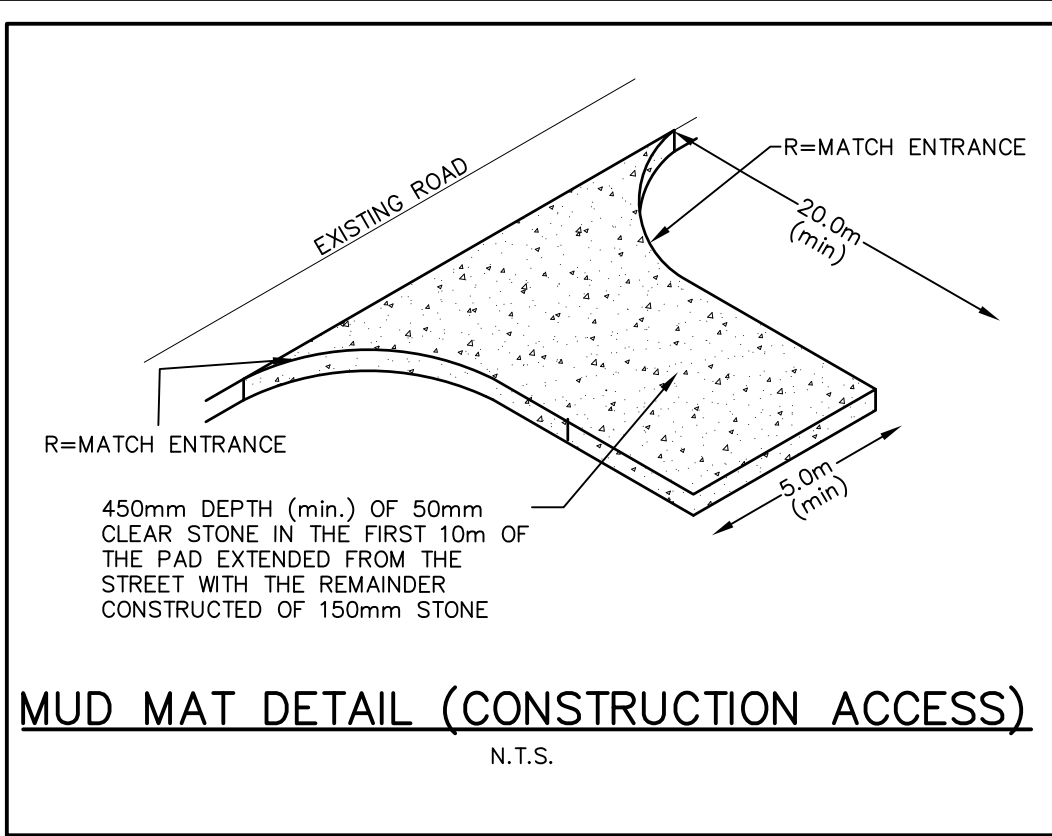
WMI & Associates Limited  
119 Collier Street  
Barrie, Ontario  
L4M 1H5  
Ph 705-797-2027  
www.wmiengineering.ca

Drawn By	JB	Checked By	SM	Drawing No.	HB2
Scale	1:250	Project No.	07-010FH		









**SEDIMENT AND EROSION CONTROL NOTES:**

EROSION CONTROL WORKS TO BE INSPECTED REGULARLY AFTER EVERY RAINFALL AND REPAIRED/REPLACED AS REQUIRED BY THE MUNICIPALITY OR DEVELOPER'S ENGINEER.

ALL DISTURBED AREAS TO BE RESTORED USING TOPSOIL AND SEED IMMEDIATELY UPON ESTABLISHING FINAL GRADES.

EROSION CONTROL WORKS TO BE MAINTAINED UNTIL THE SITE HAS STABILIZED AND REMOVAL IS DIRECTED BY THE MUNICIPALITY AND DEVELOPER'S ENGINEER.

SILT FENCE TO BE MAINTAINED ON THE DOWNSTREAM SIDE OF ALL STOCK PILES.

SILT FENCE IS TO BE CONSTRUCTED/INSTALLED WHERE INDICATED ON THE DRAWING PRIOR TO CONSTRUCTION COMMENCEMENT.

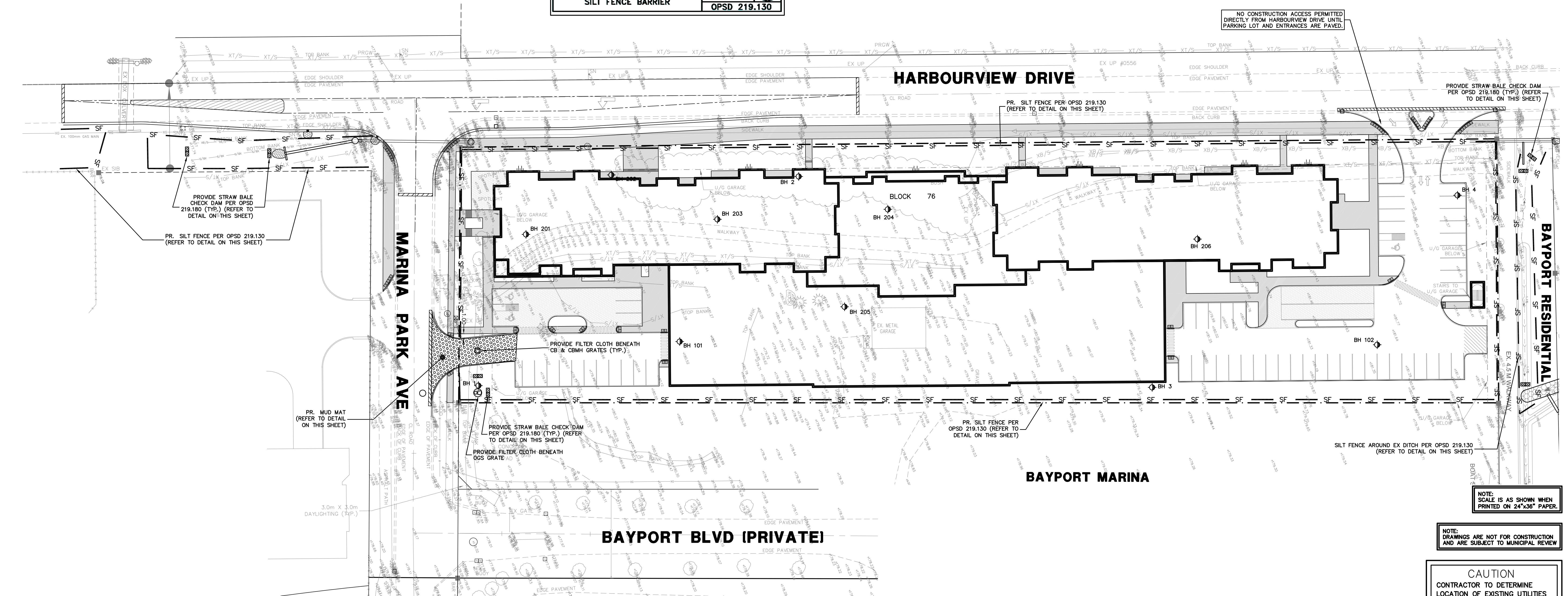
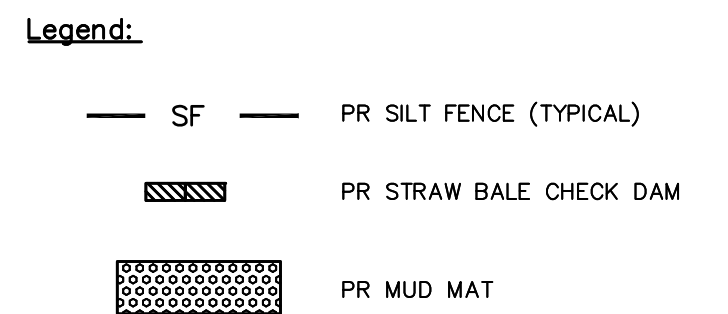
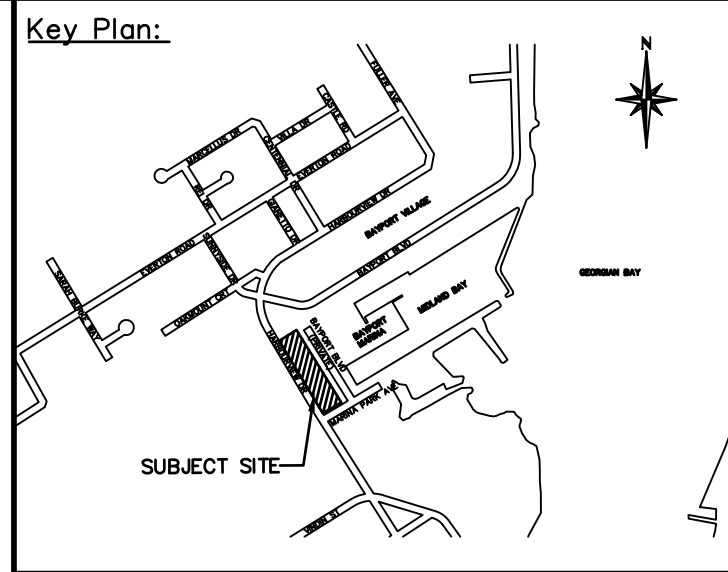
THE DEVELOPER AND DEVELOPER'S ENGINEER ARE RESPONSIBLE FOR COMPLETING ROUTINE INSPECTIONS OF THE SILT FENCE DURING THE CONSTRUCTION PHASE.

SILT FENCE IS TO BE CONSTRUCTED/INSTALLED AND MAINTAINED AROUND ALL STOCK PILE MATERIALS.

SILT FENCES ARE TO BE ERECTED PRIOR TO THE START OF ANY GRADING/ SERVICING WORKS, AND ARE TO REMAIN UNTIL THE SITE IS FINE GRADED AND VEGETATION TAKES ROOT.

MUD MATS ARE TO BE ERECTED PRIOR TO THE START OF ANY GRADING/ SERVICING WORKS, AND ARE TO REMAIN UNTIL THE ROADS ARE PAVED.

CATCHBASIN INLET PROTECTION AND STRAW BALE CHECK DAMS ARE TO BE INSTALLED IMMEDIATELY FOLLOWING SWALE AND CATCHBASIN CONSTRUCTION, AND ARE TO REMAIN UNTIL THE AREA AROUND THE CATCHBASINS AND SWALES ARE FINE GRADED AND VEGETATION TAKES ROOT.



<div>Notes:</div> <div><div>1. Unless noted otherwise, the measurements and distances shown on this drawing are shown in meters.</div><div>2. Do not scale drawings.</div><div>3. It is the contractor's responsibility to verify all dimensions, levels and datums on site and report any discrepancies or omissions to WMI &amp; Associates Ltd. prior to construction.</div><div>4. This drawing is to be read and understood in conjunction with all other relevant documents applicable to this project.</div><div>5. This drawing is the exclusive property of WMI &amp; Associates Ltd. and the reproduction of any part of this document without prior written consent is strictly prohibited.</div></div>	<div>Benchmark:180.420m</div> <div>Top nut of hydrant located north of lot #9 and south of the southeast corner of block 69.</div>			<table><tr><th>No.</th><th>Issue / Revision</th><th>Date</th></tr><tr><td>1</td><td>SPA SUBMISSION</td><td>NOV. 8, 2024</td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></table>	No.	Issue / Revision	Date	1	SPA SUBMISSION	NOV. 8, 2024																			<div>Bayport Village Commercial Development</div> <div>EROSION &amp; SEDIMENT CONTROL PLAN</div>	<div>Client:</div> <div>Lanarose Midland Ltd.</div> <div>220 Duncan Mill Road, Suite 315 North York, Ontario M3B 3J5</div>	<div><div><div><div></div><div>WMI &amp; Associates Limited 119 Collier Street Barrie, Ontario L4M 1H5 Ph 705-797-2027 www.wmiengineering.ca</div></div><div><div>Drawn By JB</div><div>Checked By SM</div><div>Scale 1:400</div></div><div><div>Project No. 07-010FH</div><div>Drawing No. ESC</div></div></div></div>
No.	Issue / Revision	Date																													
1	SPA SUBMISSION	NOV. 8, 2024																													



GENERAL

1. ALL MEASUREMENTS ARE IN METRES, PIPE SIZES IN MILLIMETRES, UNLESS OTHERWISE NOTED.
2. THE ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS AND THE ONTARIO PROVINCIAL DRAWINGS, MIDLAND PUC AND TOWN OF MIDLAND DEVELOPMENT DESIGN STANDARDS SHALL APPLY TO THIS CONTRACT.
3. ORDER OF PRECEDENCE OF STANDARD DRAWINGS IS FIRSTLY TOWN OF MIDLAND DEVELOPMENT DESIGN STANDARDS, SECONDLY MIDLAND PUC STANDARDS, AND THIRDLY ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD).
4. LOCATIONS OF EXISTING SERVICES ARE NOT GUARANTEED. CONFIRM EXISTING UTILITY LOCATIONS AND ELEVATIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR IS REQUIRED TO NOTIFY THE VARIOUS UTILITY COMPANIES 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY WORK.
5. A ROAD OCCUPANCY PERMIT IS REQUIRED FROM THE TOWN OF MIDLAND PRIOR TO THE COMMENCEMENT OF WORK WITHIN ANY TOWN RIGHT-OF-WAY.
6. NATIVE MATERIAL SUITABLE FOR BACKFILL SHALL BE COMPACTED TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY, UNLESS OTHERWISE NOTED. ENGINEERED FILL (ON LOTS), SHALL BE COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY.
7. GRANULAR MATERIAL AND BEDDING MATERIAL SHALL BE PLACED IN LAYERS 150mm IN DEPTH AND COMPACTED TO 98% (ROAD GRAN 'A' & GRAN 'B') OR 98% (BEDDING AND COVER) STANDARD PROCTOR MAXIMUM DRY DENSITY OR AS DIRECTED BY THE SOILS CONSULTANT.
8. ALL DISTURBED AREAS WITHIN EXISTING MUNICIPAL RIGHT-OF-WAYS ARE TO BE REINSTATED TO THEIR ORIGINAL CONDITION OR BETTER AS DETERMINED BY THE TOWN OF MIDLAND (MIN 150mm TOPSOIL AND SOD). ALL OTHER DISTURBED AREAS TO BE TOPSOILED AND SEADED PRIOR TO ACCEPTANCE.
9. ALL SILT CONTROL AND EROSION PROTECTION DEVICES ARE TO BE IN PLACE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL CONSTRUCTION IS COMPLETE, THE GRASS HAS ESTABLISHED GROWTH AND APPROVED BY THE ENGINEER.
10. UTILITY CROSSING, WHERE REQUIRED, SHALL BE SUPPORTED AS PER OPSD 1007.01 AND ANY EXISTING STRUCTURES SHALL BE PROPERLY SUPPORTED.
11. CONTRACTOR SHALL COORDINATE HIS WORK SUCH THAT HE DOES NOT INTERFERE WITH WORK BEING UNDERTAKEN BY A UTILITY COMPANY.
12. ALL SIDEWALKS SHALL BE CONSTRUCTED ON A PROPERLY CONSTRUCTED FOUNDATION OF 150 mm MINIMUM DEPTH OF GRANULAR "A" AND BE PAVED WITH CONCRETE FULL WIDTH. THICKNESS TO BE 200 mm ACROSS COMMERCIAL AND INDUSTRIAL ENTRANCES. ALL CONCRETE MATERIALS AND WORK SHALL CONFORM TO O.P.S. SPECIFICATIONS, USING THE TOWN OF MIDLAND CONCRETE MIX DESIGN.
13. ALL SEWER SYSTEMS INCLUDING SERVICE CONNECTIONS TO THE BUILDING, MANHOLES AND CATCHBASINS SHALL BE THOROUGHLY FLUSHED AND/OR CLEANED OF DEBRIS AND ALL PIPES SHALL BE TESTED IN ACCORDANCE WITH OPSD AND SHALL BE INSPECTED BY AN APPROVED VIDEO CAMERA TESTING COMPANY AND THE ENGINEER SHALL BE PROVIDED A COPY OF APPROPRIATE DATA UPON COMPLETION OF CONSTRUCTION AND PRIOR TO FINAL APPROVAL. ANY SECTIONS OF SEWER OR SERVICE CONNECTIONS THAT FAIL TO MEET THE REQUIREMENTS SHALL BE REPAIRED OR REPLACED AT THE DIRECTION OF THE ENGINEER. ONLY CHEMICAL PRESSURE GROUTING REPAIR TECHNIQUES WILL BE CONSIDERED ACCEPTABLE.

ROADS

1. ROADS TO CONFORM TO ROAD CROSS-SECTION ON DRAWING HB1.
2. PROVISIONS MUST BE MADE TO CLEAN THE ROADS DAILY IF NECESSARY, DURING CONSTRUCTION, AT THE CONTRACTOR'S EXPENSE.
3. NATIVE SUBGRADE TO BE COMPACTED TO MINIMUM 98% STANDARD PROCTOR MAXIMUM DRY DENSITY AND SHALL BE PROOF ROLLED WITH TOWN AND ENGINEER PRESENT.
4. NON-COMPRESSIBLE BACK FILL WILL BE USED DURING REBUILDING, ADJUSTING, OR ANY OTHER APPLICABLE CATCHBASIN OR MAINTENANCE HOLE WORKS.
5. CURBING AT ENTRANCES TO BE CONCRETE CURB AND GUTTER AS PER OPSD 600.040.
6. CURBING WITHIN PARKING LOT TO BE CONCRETE BARRIER CURB AS PER OPSD 600.110.
7. CURBS TO BE DEPRESSED AT INTERSECTION FOR SIDEWALKS PER OPSD 310.030 AND HAVE TACTILE PLATES PER OPSD 310.039.

STORM

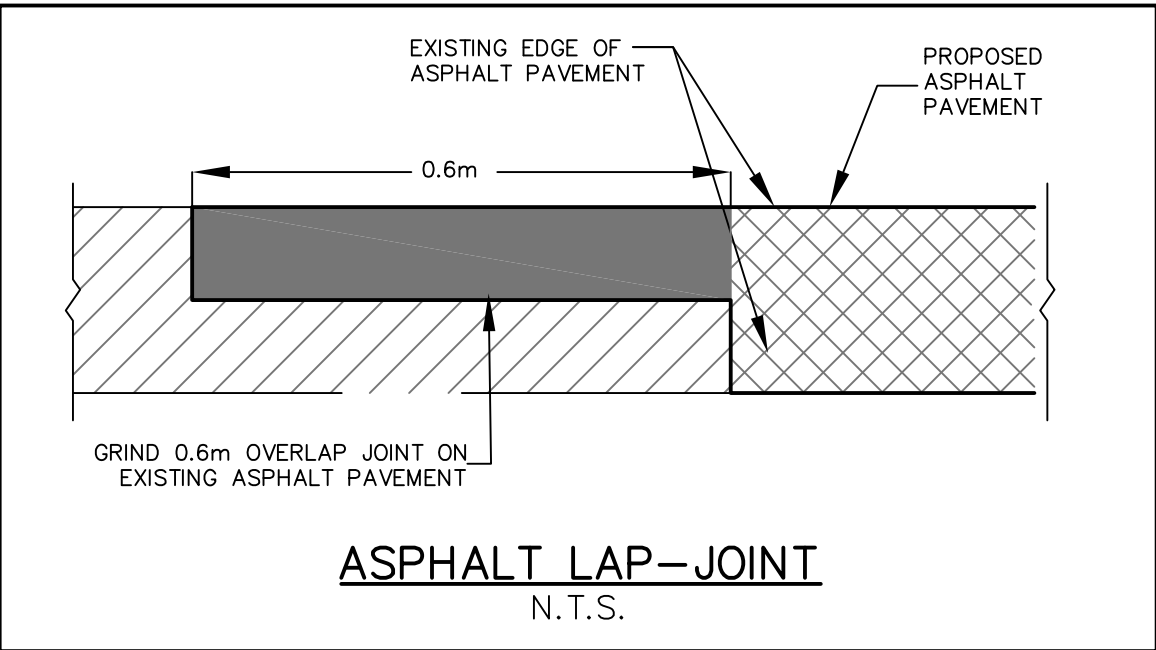
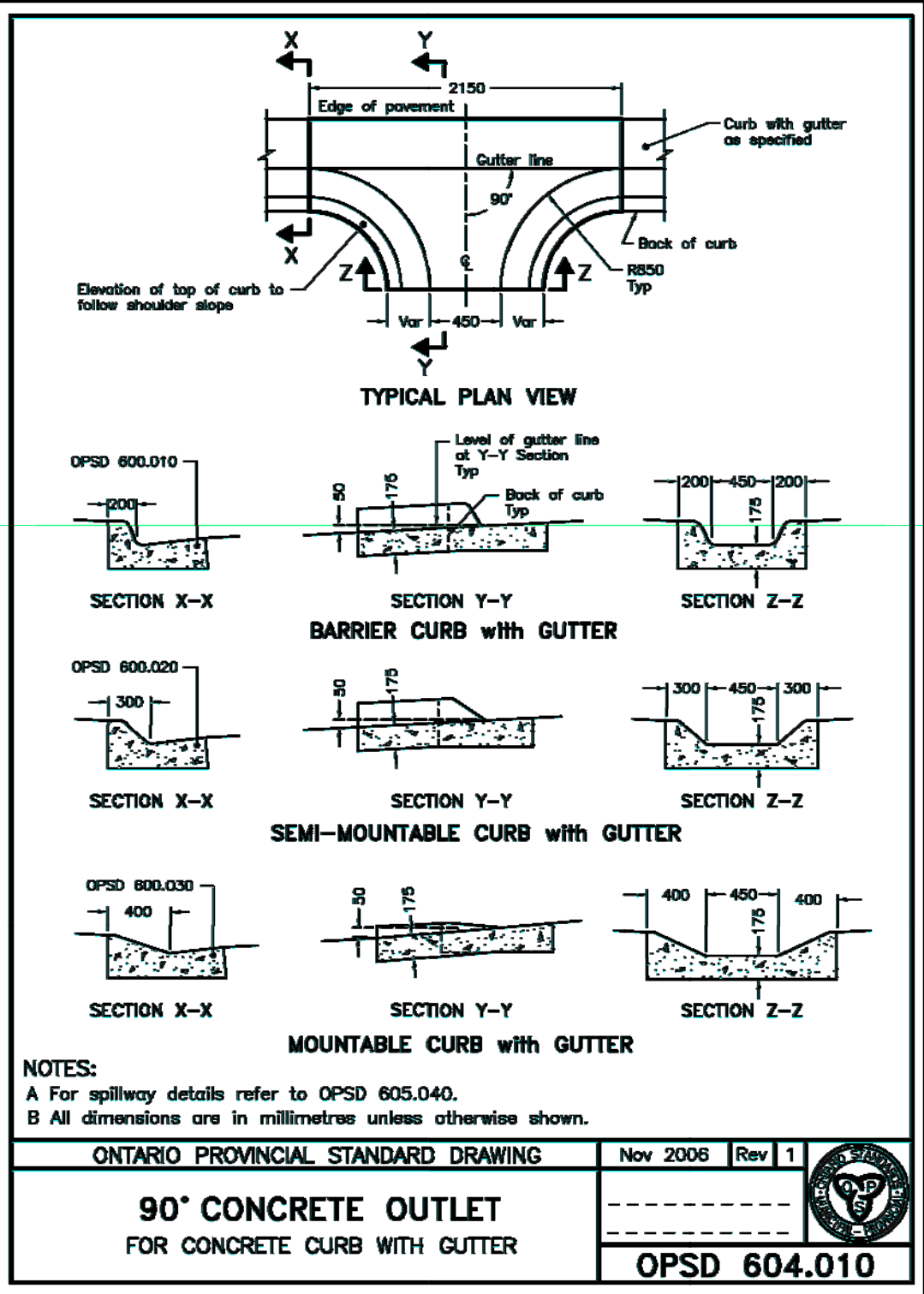
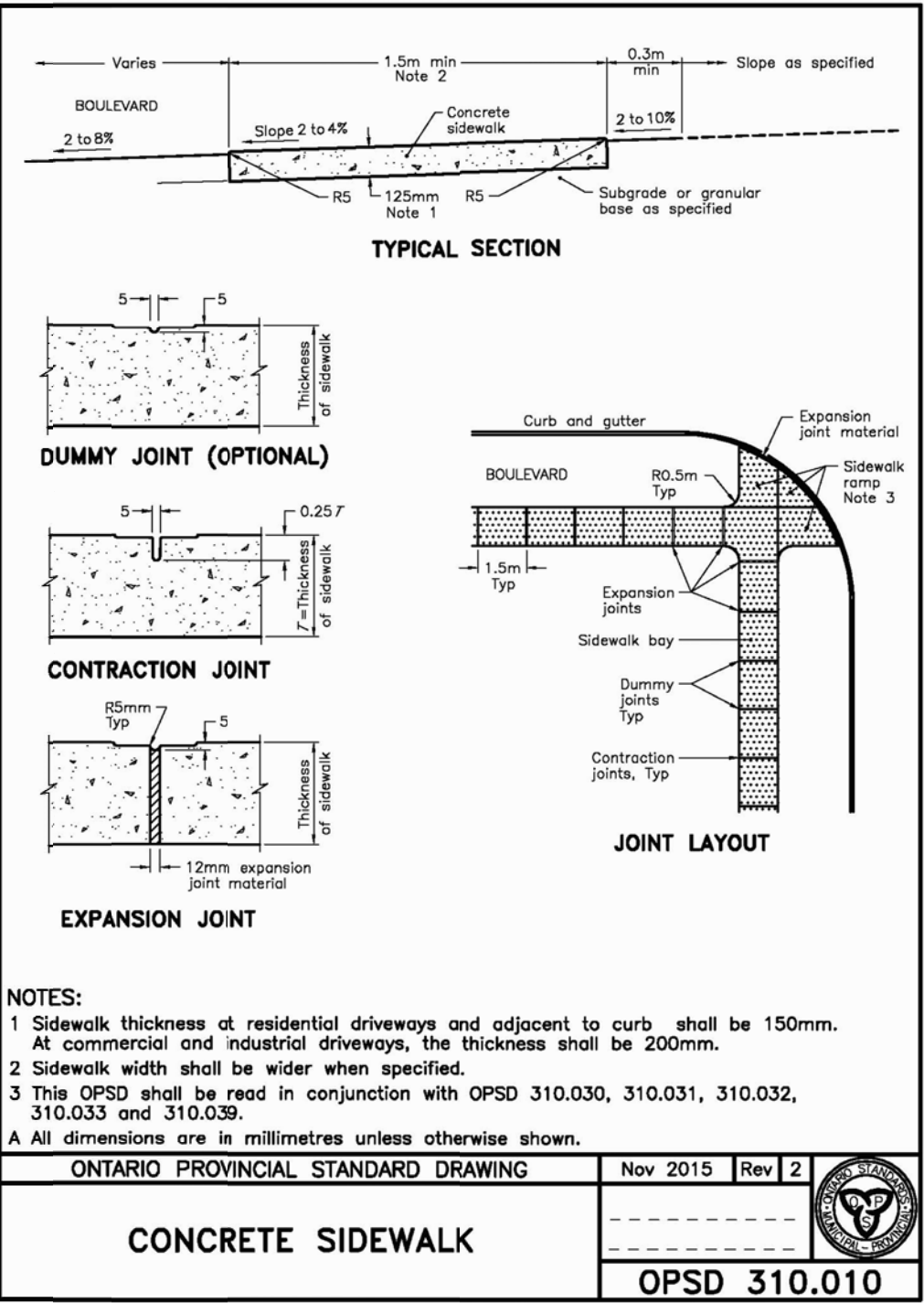
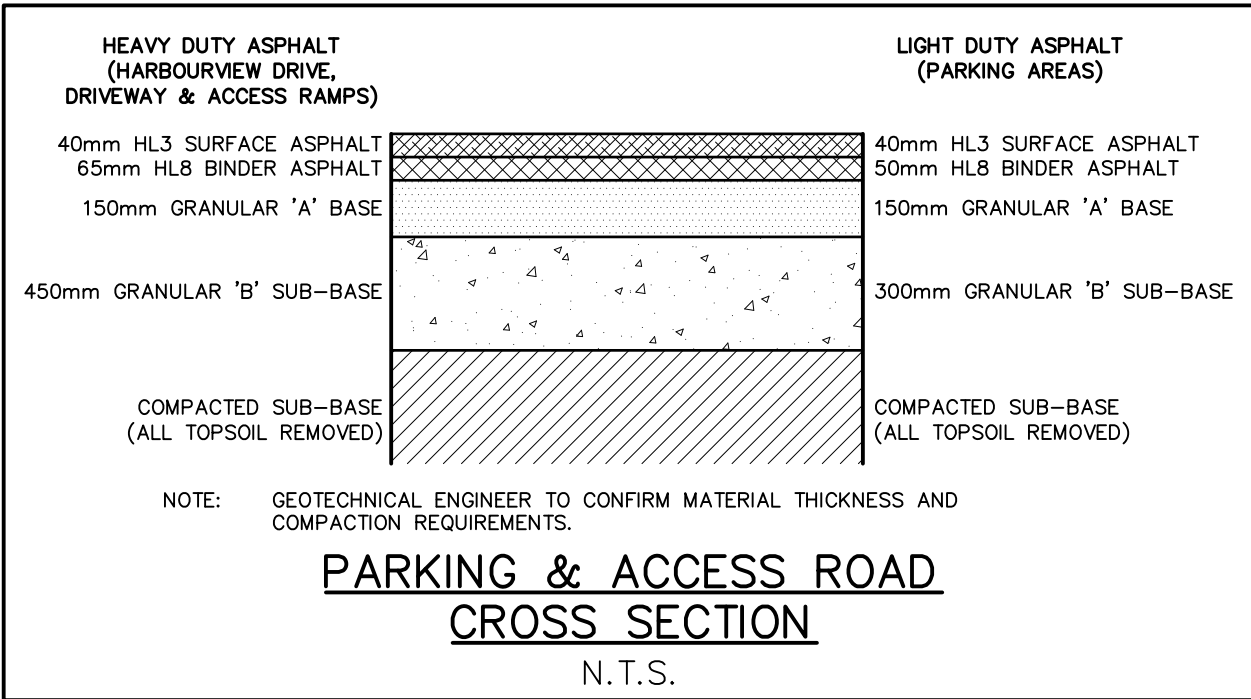
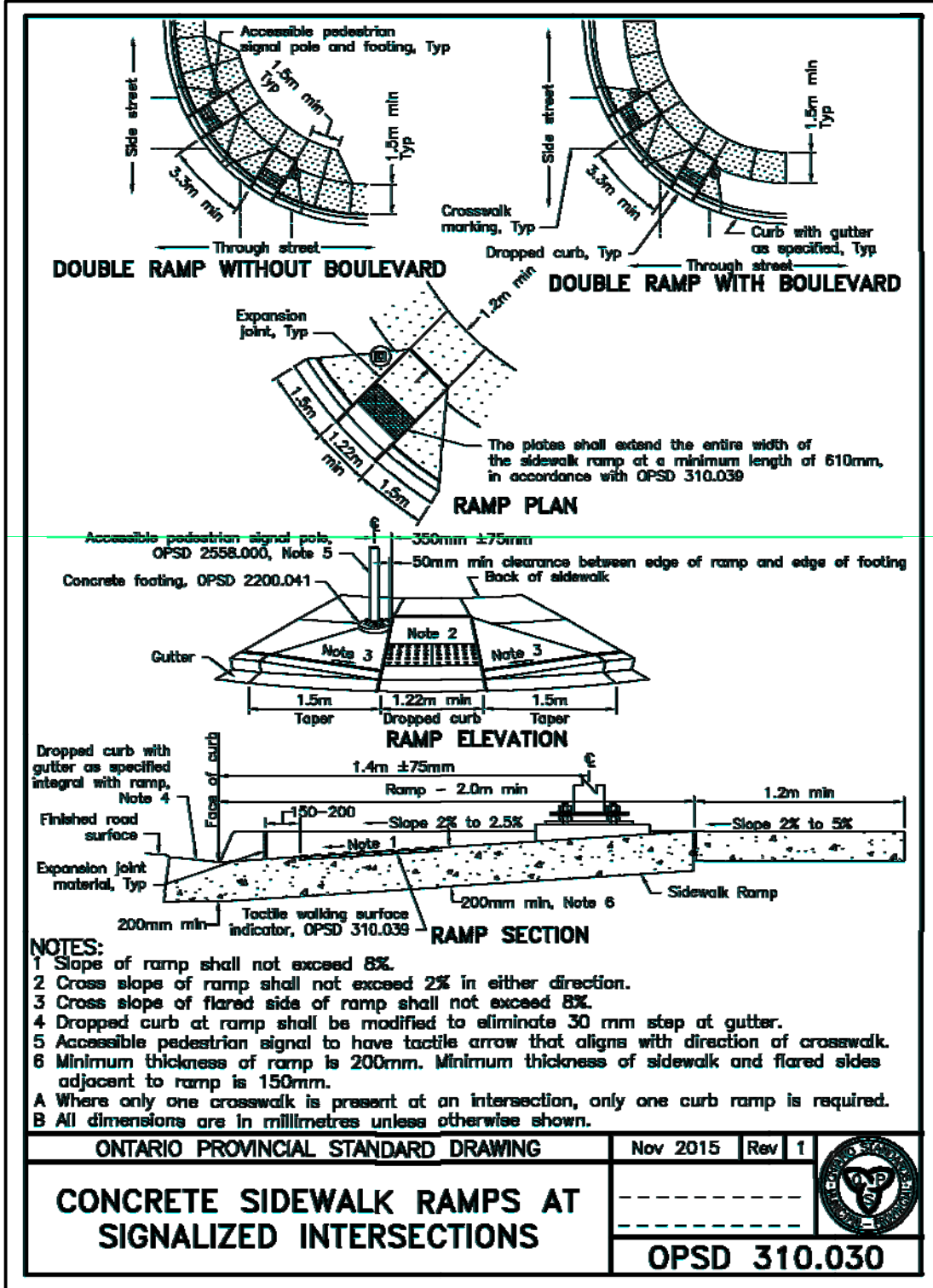
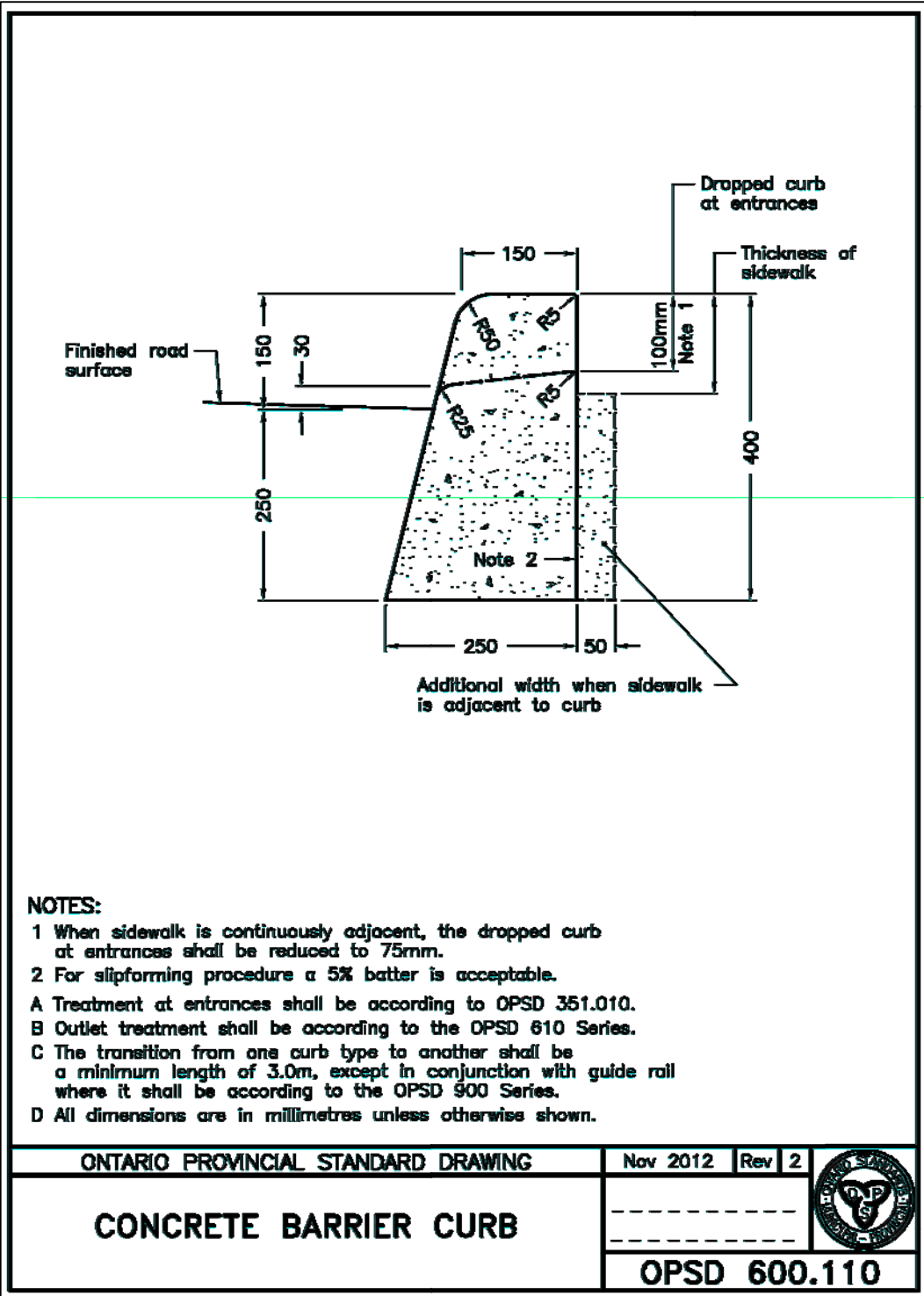
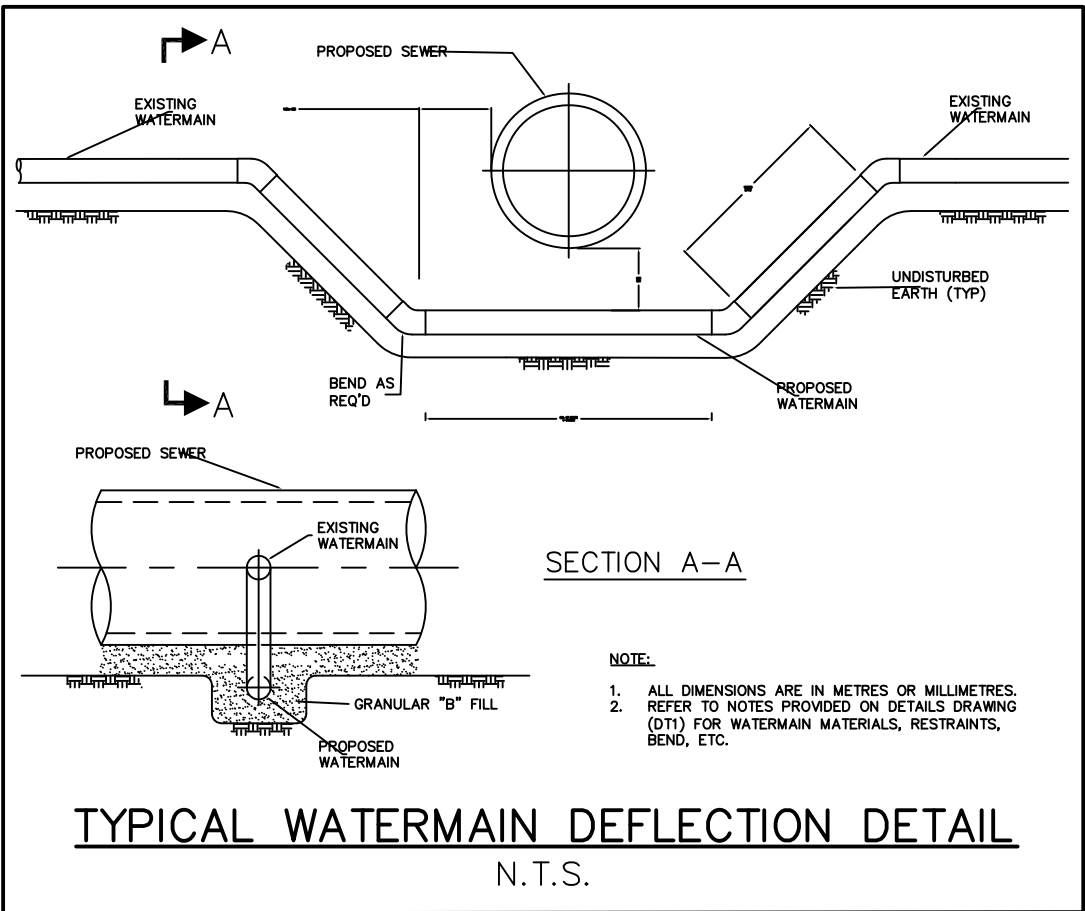
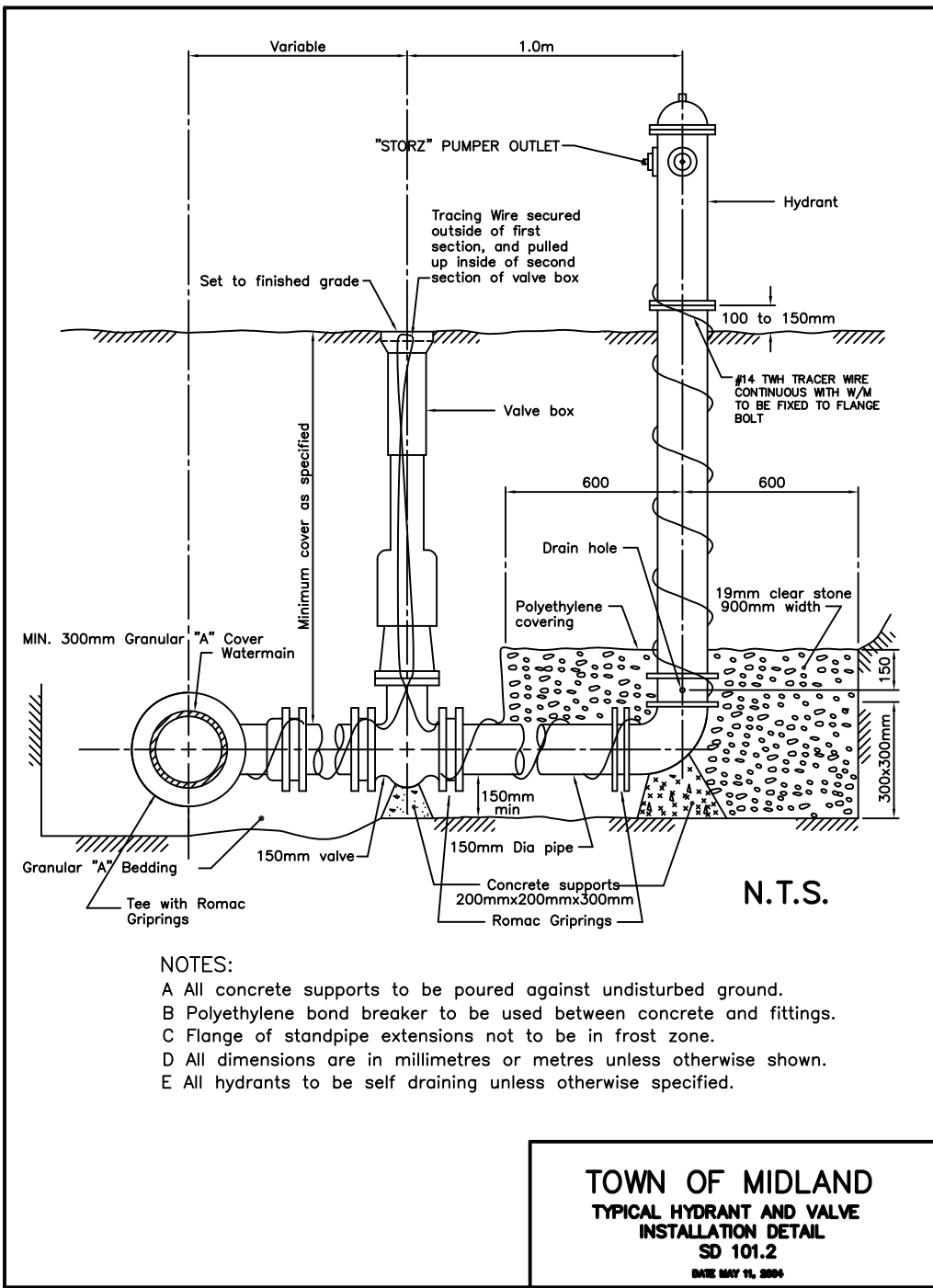
1. STORM SEWER UNDER 450mm DIAMETER TO BE EITHER PVC DR35 OR CONCRETE. STORM SEWER GREATER THAN 450mm DIAMETER TO BE CONCRETE. CONCRETE STORM SEWERS TO CONFORM TO CSA A257.1 AND A257.2 (.65-D OR EQUIVALENT).
2. SEWERS SHALL BE CONSTRUCTED WITH BEDDING AS PER OPSD 802.03, CLASS B-1, GRANULAR A.
3. PRECAST STORM MANHOLES (MIN. 1200MM) OPSD 701.010 UNLESS OTHERWISE NOTED AND CATCHBASINS OPSD 705.010.
4. CATCHBASIN LEADS TO BE 2.0% MIN. GRADE, 250mmØ FOR SINGLE CATCHBASIN AND 300mmØ FOR DOUBLE CATCHBASIN.
5. MANHOLES & CATCH BASINS SHALL HAVE SUMPS AS NOTED.
6. MAINTENANCE HOLE TOPS (FRAMES) OPSD 401.01 AND CATCH BASIN (FRAMES) OPSD 400.02 (WITH TYPE B OPEN COVER) ARE TO BE SET TO BASE COURSE ASPHALT GRADE AND THEN ADJUSTED TO FINAL GRADE WHEN THE TOP LIFT OF OF ASPHALT IS PLACED.
7. ALL CONNECTIONS TO THE STORM MAIN SHALL BE MADE WITH A STORM MANHOLE OR APPROVED FACTORY TEE CONNECTION AS PER OPSD 708.03.
8. ALL STORM MANHOLES SHALL BE COMPLETED WITH FROST STRAPS PER OPSD 701.100.

SANITARY

1. SANITARY SEWER SHALL BE PVC (SDR 35) PIPE WITH RUBBER GASKET JOINTS WHICH CONFORM TO C.S.A. B-182.2,3,4.
2. PRECAST SANITARY MANHOLES IN ROAD R.O.W. SHALL CONFORM WITH OPSD 701.010 (1200mmØ) WITH FRAME & COVER OPSD 401.010 AND SOLID RECTANGULAR RUNGS, OPSD 405.020.
3. PRECAST SANITARY MANHOLES NOT IN ROAD R.O.W. SHALL CONFORM WITH OPSD 701.010 (1200mmØ) WITH FRAME & COVER OPSD 401.03 AND SOLID RECTANGULAR RUNGS, OPSD 405.020.
4. SANITARY MANHOLE BENCHING AS PER OPSD 701.021.
5. SANITARY SERVICE CONNECTIONS TO BE MARKED 2.0m PAST PROPERTY LINE WITH A 50x100mm WOOD MARKER, PAINTED GREEN, EXTENDING FROM THE SERVICE INVERT TO 300mm ABOVE GROUND LEVEL.
6. SANITARY SERVICE CONNECTION PIPE TO BE A MINIMUM 125mmØ PVC DR28, RUBBER GASKET TYPE JOINTS AND SHALL CONFORM TO CSA (B-182.2,3,4) (COLOURED) FOR A RESIDENTIAL HOUSE AND MINIMUM 150mmØ PVC DR28 FOR INDUSTRIAL, COMMERCIAL DEVELOPMENT. PVC TEST TEES TO BE INSTALLED AT PROPERTY LINE FOR RESIDENTIAL HOUSES, COMPLETE WITH SCREW ON CAP.
7. SEWERS SHALL BE CONSTRUCTED WITH BEDDING AS PER OPSD-802.010, (GRAN. 'A' EMBEDMENT MATERIAL) FOR FLEXIBLE PIPES UNLESS OTHERWISE ADVISED BY A GEOTECHNICAL ENGINEER.
8. MAINTENANCE HOLE TOPS (FRAMES) ARE TO BE SET TO BASE COURSE ASPHALT GRADE AND THEN ADJUSTED TO FINAL GRADE WHEN THE TOP LIFT OF ASPHALT IS PLACED.
9. ALL SANITARY MANHOLES SHALL BE COMPLETED WITH FROST STRAPS PER OPSD 701.100.
10. FORCEMAIN TO BE HOPE 50mmØ SDR 11 BURIED WITH 1.7m COVER OR APPROVED INSULATION c/w TRACER WIRE AND SHALL INCLUDE CAUTION TAPE PLACED 300mm ABOVE TO IDENTIFY AS A SEWAGE LINE. FORCEMAIN TO BE PLACED WITH POSITIVE SLOPE; NO HIGH OR LOW POINTS ARE PERMITTED. SIZE/FLOW TO BE CONFIRMED BY MECHANICAL ENGINEER FOR HOTEL.

WATERMAIN

1. CONTRACTOR SHALL INFORM THE TOWN OF MIDLAND A MINIMUM OF 48 HOURS IN ADVANCE OF THEIR INTENTIONS TO WORK.
2. WATERMAIN MATERIAL TO BE PVC (CLASS 150, DR-18) AND, SHALL SATISFY AWWA C900 SPECIFICATION. AND ALL WATERMAIN TESTING IN ACCORDANCE WITH TOWN STANDARDS.
3. MECHANICAL JOINT FITTINGS MEETING AWWA SPECIFICATIONS C-907 AND CSA B137.2 SHALL BE USED WHERE APPLICABLE. ON 150 MM TO 400 MM IN DIAMETER PVC WATERMAINS. SHOULD DUCTILE IRON MECHANICAL JOINT FITTINGS BE EMPLOYED, THE CONTRACTOR SHALL INSTALL SACRIFICIAL CAPS ON EVERY BOLT. PVC JOINTS USING MECHANICAL JOINT FITTINGS ARE TO BE SQUARE CUT, NOT BEVELED.
4. WATERMAIN BEDDING SHALL CONFORM TO OPSD 802.010 (GRAN "A" EMBEDMENT) FOR FLEXIBLE PIPE UNLESS OTHERWISE APPROVED BY THE TOWN OF MIDLAND.
5. NO WATERMAIN IS TO BE LAID ON FILL UNTIL THE DENSITY REPORT HAS BEEN SUBMITTED TO AND APPROVED BY THE ENGINEER. FILL TO BE PLACED TO 0.6m MINIMUM ABOVE THE TOP OF THE WATERMAIN GRADED AND COMPACTED AS PER OPSD 501. TESTS SHALL BE TAKEN ALONG THE CENTRE LINE OF THE WATERMAIN AND 2.50m EITHER SIDE OF THE WATERMAIN AT A MAXIMUM INTERVAL OF 30m AT EACH 0.6m LIFTS. ALL TEES, HORIZONTAL BENDS, AND BRANCH VALVES IN FILL AREAS TO BE TIED WITH THE TIE RODS IN ADDITION TO CONCRETE THRUST BLOCKING PER OPSD 1103.010 AND 1103.020.
6. ROMAC GRIP RINGS TO BE USED ON ALL MECHANICAL FITTINGS.
7. TRACING WIRE TO BE INSTALLED ON TOTAL LENGTH OF PVC WATERMAIN (#12 TWJ STRANDED COPPER), BROUGHT UP AT ALL VALVE AND HYDRANT LOCATIONS AND SECURED TO TOP FLANGE BOLT.
8. INSULATE WATER SERVICES WITH HI-40 INSULATION WHERE 0.5m SEPARATION FROM OTHER UTILITIES CANNOT BE MAINTAINED. INSULATION TO EXTEND 0.5m BEYOND OUTSIDE DIAMETER OF BOTH PIPES.
9. ALL WATER SERVICES SHALL BE 19mm TYPE 'K' COPPER PER TOWN OF MIDLAND STANDARD (SEE DETAIL ON DT3.) OR 25mm MUNIPLUX WITH TRACER WIRE. URECON INSULATION REQUIRED WHERE DEPTH OF COVER IS LESS THAN 1.9m. WATER SERVICE SADDLES SHALL BE USED WHEN TAPPING INTO PVC WATERMAIN.
10. SERVICE TAPPINGS SHALL BE PLACED AT A MINIMUM SEPARATION OF 1.0m AND A MINIMUM OF 0.6 m FROM JOINTS (ENDS OF PIPE).
11. MINIMUM DEPTH OF COVER OVER WATERMAIN TO BE 1.9 METRES.
12. WHERE WATERMAIN CONFLICTS WITH SEWER PIPES, DEFLECT WATERMAIN OVER OR UNDER SEWERS. PROVIDE A MINIMUM OF 0.5 METRE CLEARANCE BETWEEN WATERMAIN AND SEWERS.
13. MINIMUM HORIZONTAL CLEARANCE BETWEEN WATERMAIN AND SEWERS TO BE 2.5 METRES.
14. MATERIAL SPECIFICATIONS ARE AS FOLLOWS:
  - HYDRANTS: CANADA VALVE CENTURY/PREMIERE MODEL OPENING COUNTER CLOCKWISE, AWWA C502 WITH STORTZ PUMPER ATTACHMENTS (SEE TOWN OF MIDLAND, TYPICAL HYDRANT AND VALVE INSTALLATION DETAIL ON DT3)
  - VALVES: MUELLER RESILIENT SEAT AWWA C509
  - VALVE BOXES: BIBBY
  - SADDLES: ROCKWELL 371 & 372
  - MAIN STOP: MUELLER AWWA C800
  - CURB STOP: MUELLER AWWA C800
  - SERVICE BOXES: MUELLER WITH STAINLESS STEEL RODS
15. WATERMAIN TESTING TO BE IN ACCORDANCE WITH TOWN OF MIDLAND ENGINEERING DEVELOPMENT STANDARDS (IE. SWABBING, PRESSURE TESTING, CHLORINATING ETC.).
16. PRESSURE REDUCING VALVES SHALL BE CLA-VAL MODEL 90-48 (OR EQUIVALENT) COMPLETE WITH DURLYN SLEEVES AND PRESSURE GAUGES IN 1500 VALVE CHAMBER OPSD 1101.010 C/W SUMP.



**Notes:**

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**Benchmark:** 180.420m

Top nut of hydrant located north of lot #9 and south of the southeast corner of block 69.

No.	Issue / Revision	Date
1	SPA SUBMISSION	NOV. 8, 2024

**Bayport Village**  
**Commercial Development**  
**DETAILS SHEET 1**

**Client:**  
Lanarose Midland Ltd.  
220 Duncan Mill Road, Suite 315  
North York, Ontario  
M3B 3J5

**wmi**  
WMI & Associates Limited  
119 Collier Street  
Barrie, Ontario  
L4M 1H5  
Ph 705-797-2027  
www.wmiengineering.ca

Drawn By	JB	Checked By	SM	Drawing No.
Scale	N.T.S.	Project No.	07-010FH	DT1





































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LOCATION	LOOP DETECTOR No.	DESCRIPTION	CABLE TYPE	SPLICE POINT	COMMENTS
MARINA PARK	RDZ1	1.8m x 10m AS SHOWN	N/A	N/A	N/A
HARBOURVIEW	RDZ2	1.8m x 10m AS SHOWN	N/A	N/A	N/A

HW No.	INST'N	GRD.	MAT'L	DIA./DIMENSIONS	OPSD	COORD.	NOTES
HW1	NEW	1	CONC.	ø675mm	2112.03		
HW2	NEW	1	CONC.	ø675mm	2112.03		
HW3	NEW	1	CONC.	ø675mm	2112.03		

[illegible]

DRAWING LIST	
E1	TRAFFIC SIGNALS LEGEND AND SUMMARY TABLES
E2	PHASE 1 INTERSECTION LAYOUT
E3	PHASE 2 INTERSECTION LAYOUT
E4	PHASE 1 WIRING DIAGRAM
E5	PHASE 2 WIRING DIAGRAM
E6	INTERSECTION PHOTOMETRICS & LIGHTING DETAILS
E7	DETAILS
E8	HYDRO CLEARANCES
E9	SPECIFICATIONS

LEGEND		PROPOSED TRAFFIC SIGNAL POLE WITH CONCRETE BASE	
	HIGHWAY SIGNAL HEAD (30 cm RED) WITH BACKBOARD AND MAST ARM		P1
	HIGHWAY SIGNAL HEAD (30 cm RED) WITH BACKBOARD AND OVERHEAD CABLE		HW1
	OVERSIZE HIGHWAY SIGNAL HEAD WITH BACKBOARD AND MAST ARM (ALL 30 cm LENSES)		GROUND ROD AND CONDUCTOR
	SPECIAL HEAD WITH ARROW INDICATION AND BACKBOARD (EXAMPLE SHOWS TYPE  ) HEAD)		VEHICLE PASSAGE LOOP DETECTOR
	SPECIAL HEAD WITH BACKBOARD AND ONE OR MORE PROGRAMMABLE LENSES (EXAMPLE SHOWS TYPE  ) HEAD)		DIAMOND LOOP DETECTOR
	STANDARD SIGNAL HEAD WITH BACKBOARD AND MAST ARM (ALL 20 cm LENSES)		VEHICLE LOOP DETECTOR
	STANDARD SIGNAL HEAD WITH MAST ARM, WITHOUT BACKBOARD		NON-INTRUSIVE DETECTION ZONE
	BICYCLE SIGNAL HEAD (ALL 20 cm LENSES)		DUPLEX LOOP DETECTOR
	PEDESTRIAN SIGNAL HEAD		EMERGENCY VEHICLE PRE-EMPTION DETECTOR
	PEDESTRIAN SIGNAL HEAD WITH COUNT DOWN		MICRO-WAVE DETECTOR
	PEDESTRIAN PUSH BUTTON		TRAFFIC CONTROLLER
	VIDEO DETECTION CAMERA		TRAFFIC SIGNAL
	NON-INTRUSIVE SENSOR (RADAR)		TRAFFIC SIGN WITH FLASHING BEACON
	ACCESSIBLE PEDESTRIAN PUSH BUTTON WITH AUDIBLE TONE		ILLUMINATED TRAFFIC SIGN
	POWER PEDESTAL (UNMETERED)		ACCESSIBLE PEDESTRIAN SHORT POLE
			LIGHT OR TRAFFIC SIGNAL POLE
			CURB RAMP (1.22 m WIDTH) PROVIDING ACCESS TO SINGLE CROSSWALK
			LUMINAIRE AND ARM

Standard Highway Oversize Highway 1 2 3 4 5 6 7 8 9A 10 10A 11 11A Transit Bicycle

SEE NOTES SECTION

NOTES:

⑧ ⑨ AMBER ARROW MUST BE USED IN A PROTECTED/PERMISSIVE SIMULTANEOUS LEFT TURN OPERATION.

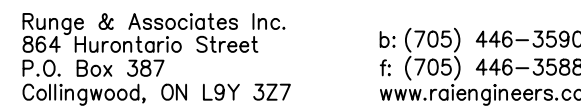
NOTE: ~FOR SPECIAL ARROW HEADS ⑧, ⑨, ⑩ AND ⑪, 20 cm AMBER BALL AND 20 cm GREEN BALL LENSES SHOULD BE USED  
~BICYCLE SYMBOL IN ACCORDANCE TO 0. REG. 626 H.T.A.

CLASSIFICATION OF ROADWAY		TRAFFIC SIGNAL HEADS			LOCATION	
		TYPE	SIZE	BACKBOARD	MOUNTING HT.	OFFSET FROM POLE
ROADWAY	HARBOURVIEW DR	PRIMARY	300/300/300/300 300/300/300	YES	5.0m	SEE TABLE 1 ABOVE
		SECONDARY	300/300/300/300 300/300/300	YES	5.0m	SEE TABLE 1 ABOVE
	MAJOR	AUXILIARY				
MULTILANE	<input type="checkbox"/>	SEPARATE DOWN ARROWS	PRIMARY			
TWO--LANE	<input checked="" type="checkbox"/>		SECONDARY			
ROADWAY	MARINA PARK AV	PRIMARY	300/300/300	YES	5.0m	SEE TABLE 1 ABOVE
		SECONDARY	300/300/300	YES	5.0m	SEE TABLE 1 ABOVE
	LOCAL	AUXILIARY				
MULTILANE	<input type="checkbox"/>	SEPARATE DOWN ARROWS	PRIMARY			
TWO--LANE	<input checked="" type="checkbox"/>		SECONDARY			

5. Architectural dimensions are approximate. Location of items shown or specified that are not fixed by dimensions are approximate only. The exact locations necessary to secure the best conditions and results must be determined on site. Review all revisions with the consultant.



No.	ISSUE OR REVISION	DATE DD/MM/YY	ISSUER
1	ISSUED FOR COORDINATION	08/06/21	AD
1	ISSUED FOR TOWN APPROVAL	16/11/21	AD

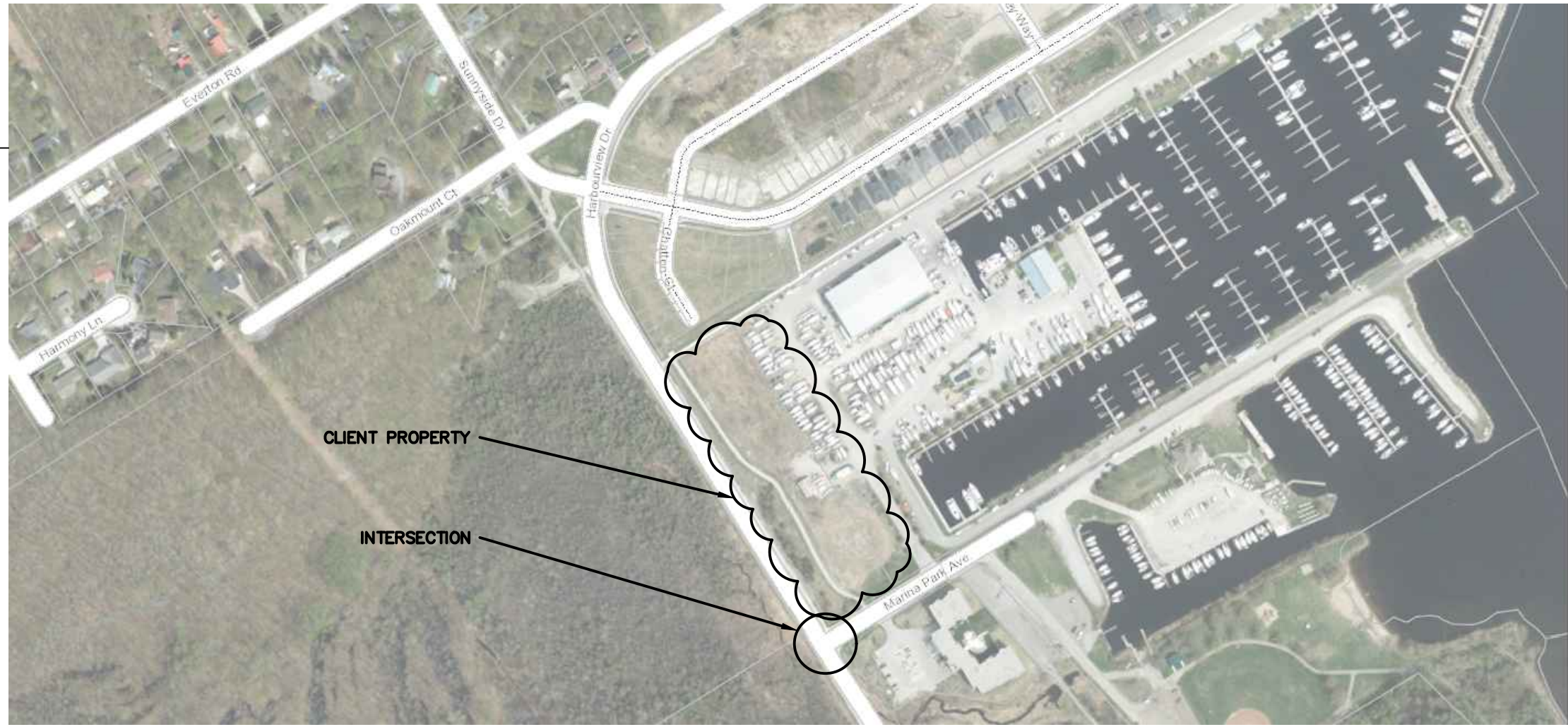


Client  
**KAITLIN CORPORATION**  
1191 HARBOURVIEW DRIVE,  
MIDLAND, ON  
L4R 0C7

Project Name	1191 HARDBOURBIEW DRIVE INTERSECTION IMPROVEMENT
Drawing Title	LEGEND & SUMMARY TABLE

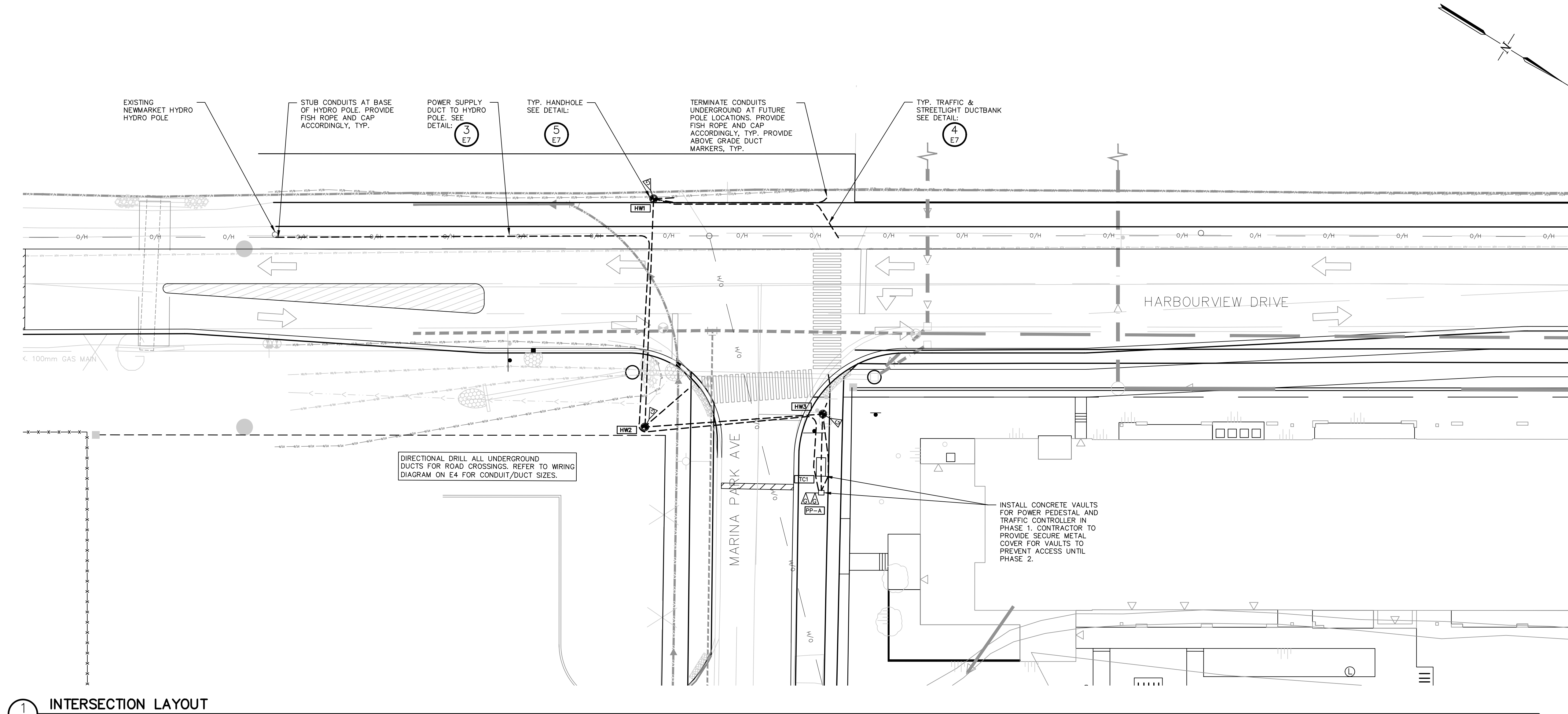
Drawn By AD	Checked By .	Drawing No.  <b>E1</b>
Scale	Project No. 19165P-02	





KEY PLAN NTS

- NOTES:
- 1 CONTRACTOR IS RESPONSIBLE FOR ALL LOCATES: UNDERGROUND HYDRO, TRAFFIC SIGNAL DUCTS, BELL FIBRE OPTIC CABLES, WATER MAIN, CABLE TV CABLES, ETC.
  - 2 PROVIDE 78mmØ DUCT BETWEEN HYDRO POLE AND NEW POWER PEDESTAL. LEAVE SERVICE COIL AT WEATHERHEAD ON SUPPLY POLE FOR NEWMARKET HYDRO CONNECTION. NEWMARKET HYDRO FORCES TO MAKE OVERHEAD CONNECTION.
  - 3 ALL DUCTING TO BE MINIMUM OF 760MM DEPTH
  - 4 STAKE LOCATION AND REVIEW WITH ENGINEER & TOWN STAFF PRIOR TO CONSTRUCTION. THE INTENT OF THE DESIGN IS TO BE AT THE TOP OF THE ROADSIDE EDGE OF THE DITCH LINE, AS FAR FROM THE EDGE OF PAVEMENT AS POSSIBLE.
  - 5 REVIEW WITH ENGINEER & TOWN STAFF THE MOUNTING HEIGHT OF THE SIGNAL HEADS BEFORE INSTALLATION TO CONFIRM THERE ARE NO SIGHT-LINE ISSUES WITH THE OVERHEAD UTILITIES. SIGNALS MAY BE MOUNTED AS LOW AS 2.75m PER HTA 626 SUB-SECTION 1.(5).



1 INTERSECTION LAYOUT  
E2  
SCALE - 1:250

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2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.
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1	ISSUED FOR COORDINATION	08/06/21	AD
1	ISSUED FOR TOWN APPROVAL	16/11/21	AD



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ENGINEERING

Runge & Associates Inc.  
864 Hurontario Street  
P.O. Box 387  
Collingwood, ON L9Y 3Z7

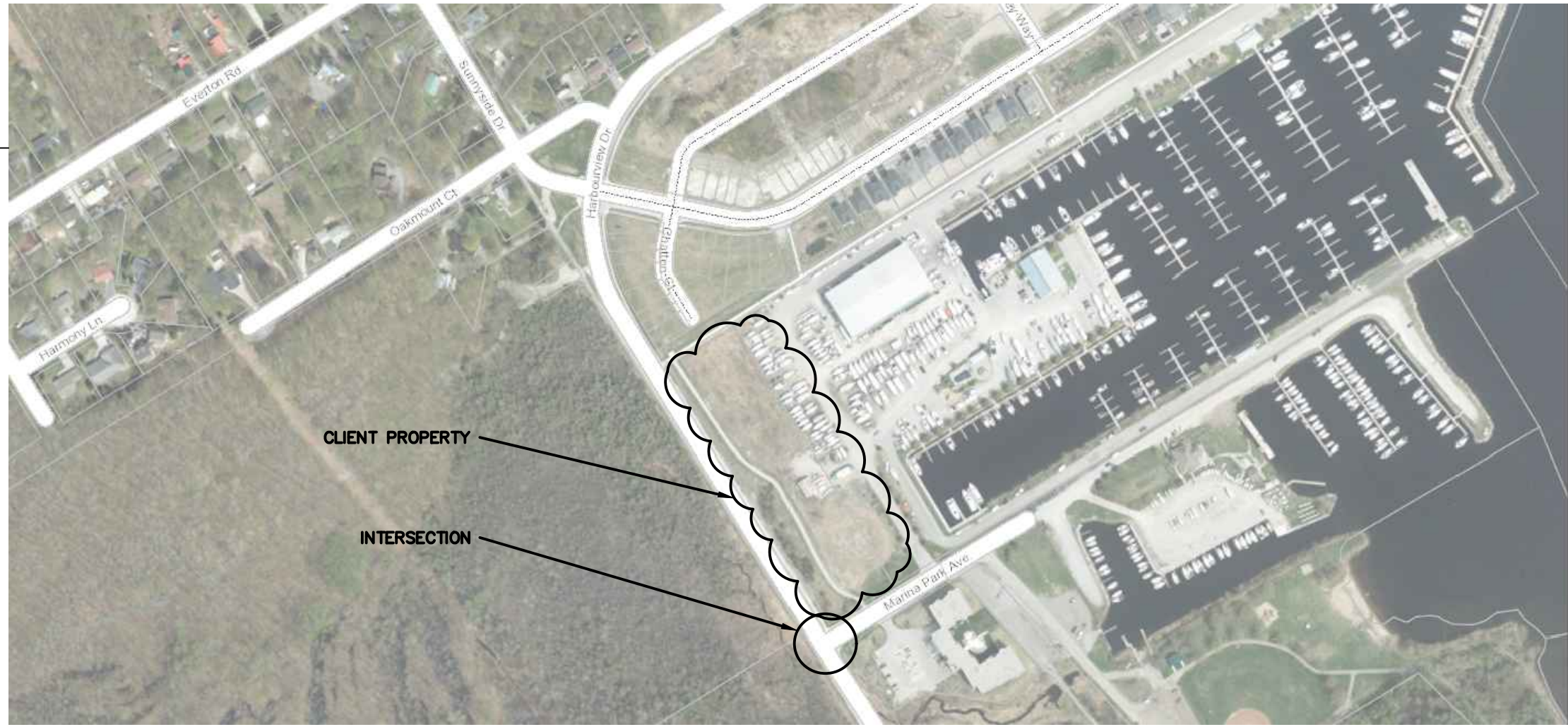
b: (705) 446-3590  
f: (705) 446-3588  
www.raengineers.ca

Client  
**KAITLIN CORPORATION**  
1191 HARBOURVIEW DRIVE,  
MIDLAND, ON  
L4R 0C7

Project Name  
**1191 HARBOURVIEW DRIVE  
INTERSECTION IMPROVEMENTS**  
Drawing Title  
**PHASE 1 INTERSECTION LAYOUT**

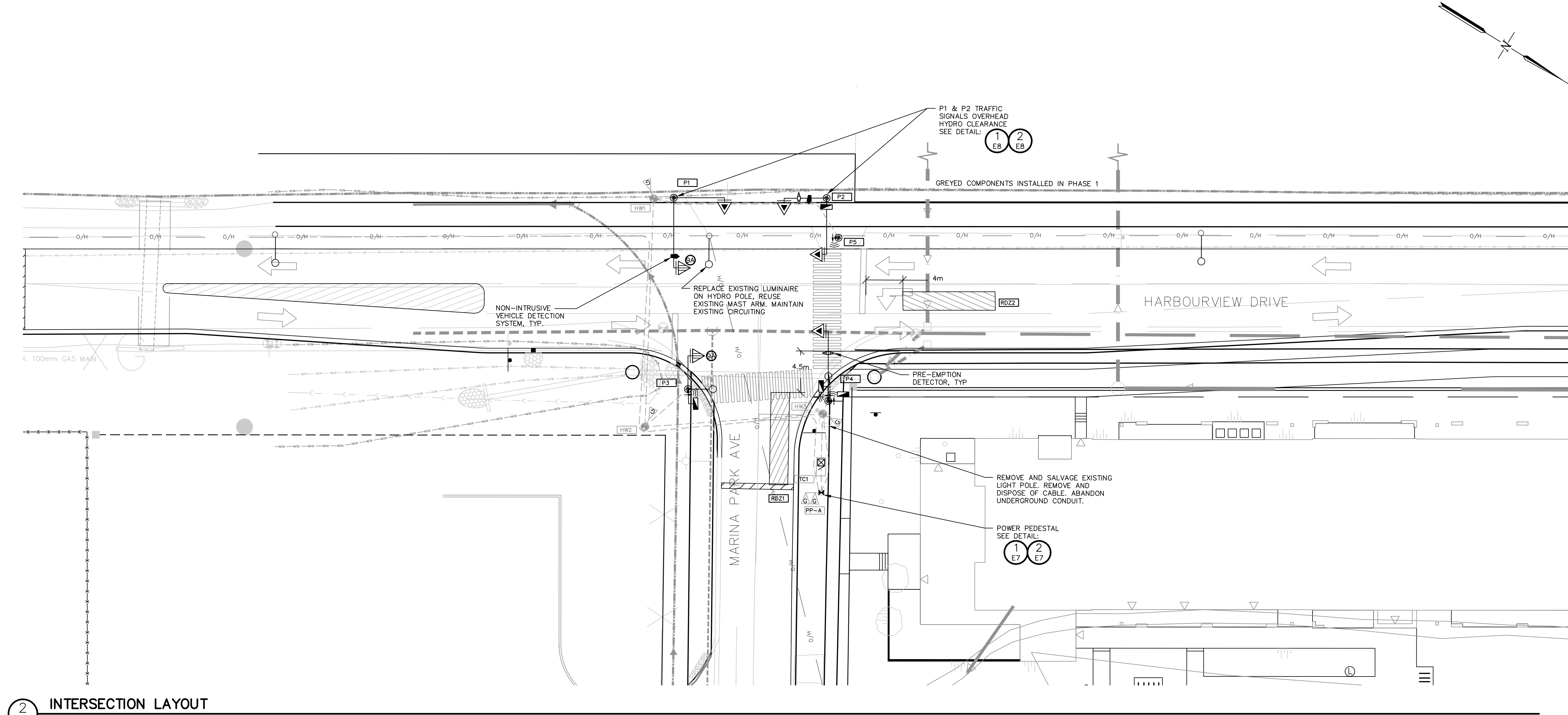
Drawn By AD	Checked By .	Drawing No. <b>E2</b>
Scale	Project No. 19165P-02	





KEY PLAN NTS

- NOTES:
- 1 CONTRACTOR IS RESPONSIBLE FOR ALL LOCATES: UNDERGROUND HYDRO, TRAFFIC SIGNAL DUCTS, BELL FIBRE OPTIC CABLES, WATER MAIN, CABLE TV CABLES, ETC.
  - 2 PROVIDE 78mmØ DUCT BETWEEN HYDRO POLE AND NEW POWER PEDESTAL. LEAVE SERVICE COIL AT WEATHERHEAD ON SUPPLY POLE FOR NEWMARKET HYDRO CONNECTION. NEWMARKET HYDRO FORCES TO MAKE OVERHEAD CONNECTION.
  - 3 ALL DUCTING TO BE MINIMUM OF 760MM DEPTH
  - 4 STAKE LOCATION AND REVIEW WITH ENGINEER & TOWN STAFF PRIOR TO CONSTRUCTION. THE INTENT OF THE DESIGN IS TO BE AT THE TOP OF THE ROADSIDE EDGE OF THE DITCH LINE, AS FAR FROM THE EDGE OF PAVEMENT AS POSSIBLE.
  - 5 REVIEW WITH ENGINEER & TOWN STAFF THE MOUNTING HEIGHT OF THE SIGNAL HEADS BEFORE INSTALLATION TO CONFIRM THERE ARE NO SIGHT-LINE ISSUES WITH THE OVERHEAD UTILITIES. SIGNALS MAY BE MOUNTED AS LOW AS 2.75m PER HTA 626 SUB-SECTION 1.(5).



2 INTERSECTION LAYOUT  
SCALE - 1:250

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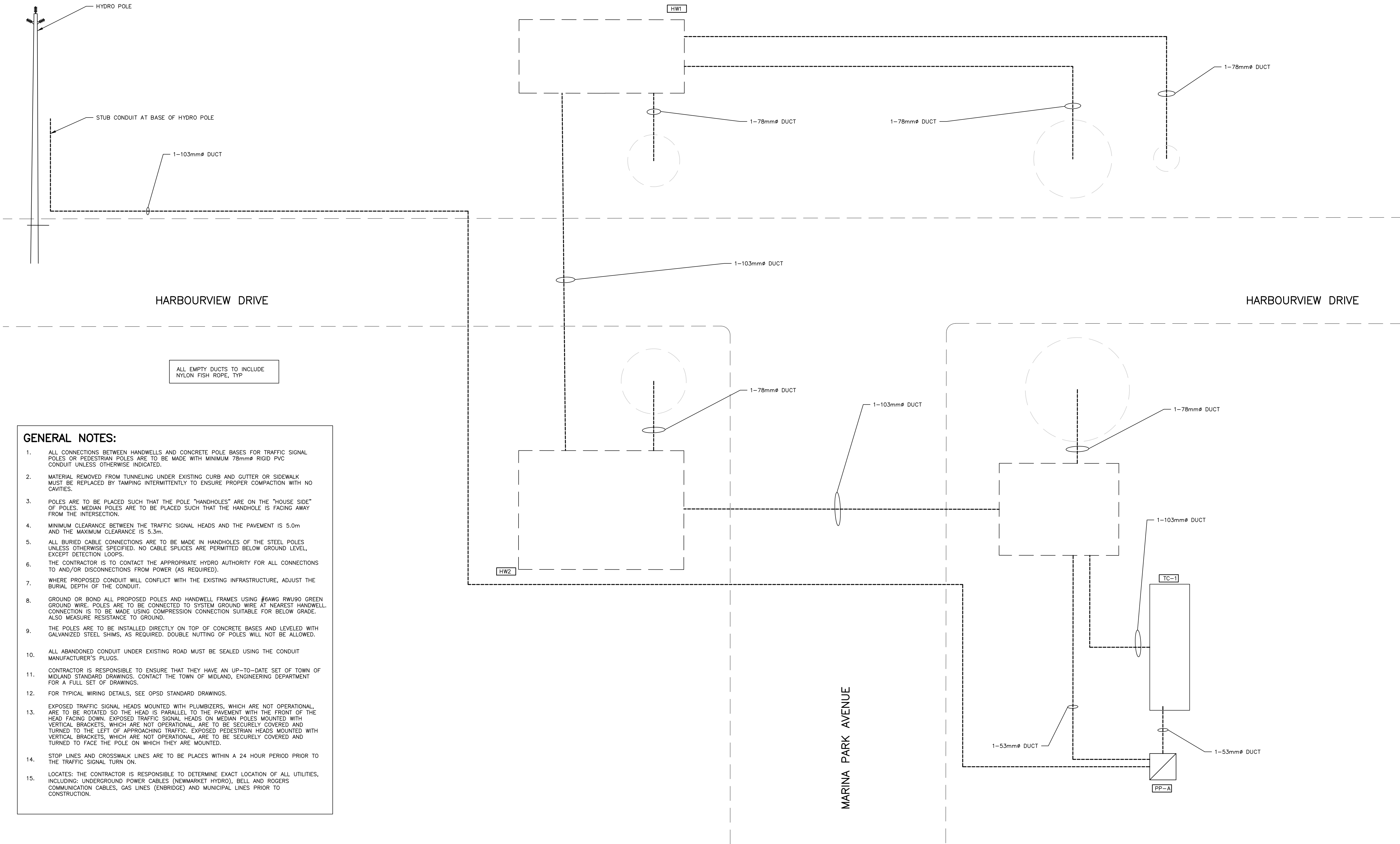
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Client  
**KAITLIN CORPORATION**  
1191 HARBOURVIEW DRIVE,  
MIDLAND, ON  
L4R 0C7

Project Name <b>1191 HARBOURVIEW DRIVE INTERSECTION IMPROVEMENTS</b>		
Drawing Title <b>PHASE 2 INTERSECTION LAYOUT</b>		
Drawn By AD	Checked By .	Drawing No. <b>E3</b>
Scale	Project No. 19165P-02	





GENERAL NOTES:

- ALL CONNECTIONS BETWEEN HANDWELLS AND CONCRETE POLE BASES FOR TRAFFIC SIGNAL POLES OR PEDESTRIAN POLES ARE TO BE MADE WITH MINIMUM 78mmØ RIGID PVC CONDUIT UNLESS OTHERWISE INDICATED.
- MATERIAL REMOVED FROM TUNNELING UNDER EXISTING CURB AND CUTTER OR SIDEWALK MUST BE REPLACED BY TAMPING INTERMITTENTLY TO ENSURE PROPER COMPACTION WITH NO CAVITIES.
- POLES ARE TO BE PLACED SUCH THAT THE POLE "HANDHOLES" ARE ON THE "HOUSE SIDE" OF POLES. MEDIAN POLES ARE TO BE PLACED SUCH THAT THE HANDHOLE IS FACING AWAY FROM THE INTERSECTION.
- MINIMUM CLEARANCE BETWEEN THE TRAFFIC SIGNAL HEADS AND THE PAVEMENT IS 5.0m AND THE MAXIMUM CLEARANCE IS 5.3m.
- ALL BURIED CABLE CONNECTIONS ARE TO BE MADE IN HANDHOLES OF THE STEEL POLES UNLESS OTHERWISE SPECIFIED. NO CABLE SPLICES ARE PERMITTED BELOW GROUND LEVEL, EXCEPT DETECTION LOOPS.
- THE CONTRACTOR IS TO CONTACT THE APPROPRIATE HYDRO AUTHORITY FOR ALL CONNECTIONS TO AND/OR DISCONNECTIONS FROM POWER (AS REQUIRED).
- WHERE PROPOSED CONDUIT WILL CONFLICT WITH THE EXISTING INFRASTRUCTURE, ADJUST THE BURIAL DEPTH OF THE CONDUIT.
- GROUND OR BOND ALL PROPOSED POLES AND HANDWELL FRAMES USING #6AWG RWU90 GREEN GROUND WIRE. POLES ARE TO BE CONNECTED TO SYSTEM GROUND WIRE AT NEAREST HANDWELL. CONNECTION IS TO BE MADE USING COMPRESSION CONNECTION SUITABLE FOR BELOW GRADE. ALSO MEASURE RESISTANCE TO GROUND.
- THE POLES ARE TO BE INSTALLED DIRECTLY ON TOP OF CONCRETE BASES AND LEVELED WITH GALVANIZED STEEL SHIMS, AS REQUIRED. DOUBLE NUTTING OF POLES WILL NOT BE ALLOWED.
- ALL ABANDONED CONDUIT UNDER EXISTING ROAD MUST BE SEALED USING THE CONDUIT MANUFACTURER'S PLUGS.
- CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THEY HAVE AN UP-TO-DATE SET OF TOWN OF MIDLAND STANDARD DRAWINGS. CONTACT THE TOWN OF MIDLAND, ENGINEERING DEPARTMENT FOR A FULL SET OF DRAWINGS.
- FOR TYPICAL WIRING DETAILS, SEE OPSD STANDARD DRAWINGS.
- EXPOSED TRAFFIC SIGNAL HEADS MOUNTED WITH PLUMBIZERS, WHICH ARE NOT OPERATIONAL, ARE TO BE ROTATED SO THE HEAD IS PARALLEL TO THE PAVEMENT WITH THE FRONT OF THE HEAD FACING DOWN. EXPOSED TRAFFIC SIGNAL HEADS ON MEDIAN POLES MOUNTED WITH VERTICAL BRACKETS, WHICH ARE NOT OPERATIONAL, ARE TO BE SECURELY COVERED AND TURNED TO THE LEFT OF APPROACHING TRAFFIC. EXPOSED PEDESTRIAN HEADS MOUNTED WITH VERTICAL BRACKETS, WHICH ARE NOT OPERATIONAL, ARE TO BE SECURELY COVERED AND TURNED TO FACE THE POLE ON WHICH THEY ARE MOUNTED.
- STOP LINES AND CROSSWALK LINES ARE TO BE PLACES WITHIN A 24 HOUR PERIOD PRIOR TO THE TRAFFIC SIGNAL TURN ON.
- LOCATES: THE CONTRACTOR IS RESPONSIBLE TO DETERMINE EXACT LOCATION OF ALL UTILITIES, INCLUDING: UNDERGROUND POWER CABLES (NEWMARKET HYDRO), BELL AND ROGERS COMMUNICATION CABLES, GAS LINES (ENBRIDGE) AND MUNICIPAL LINES PRIOR TO CONSTRUCTION.

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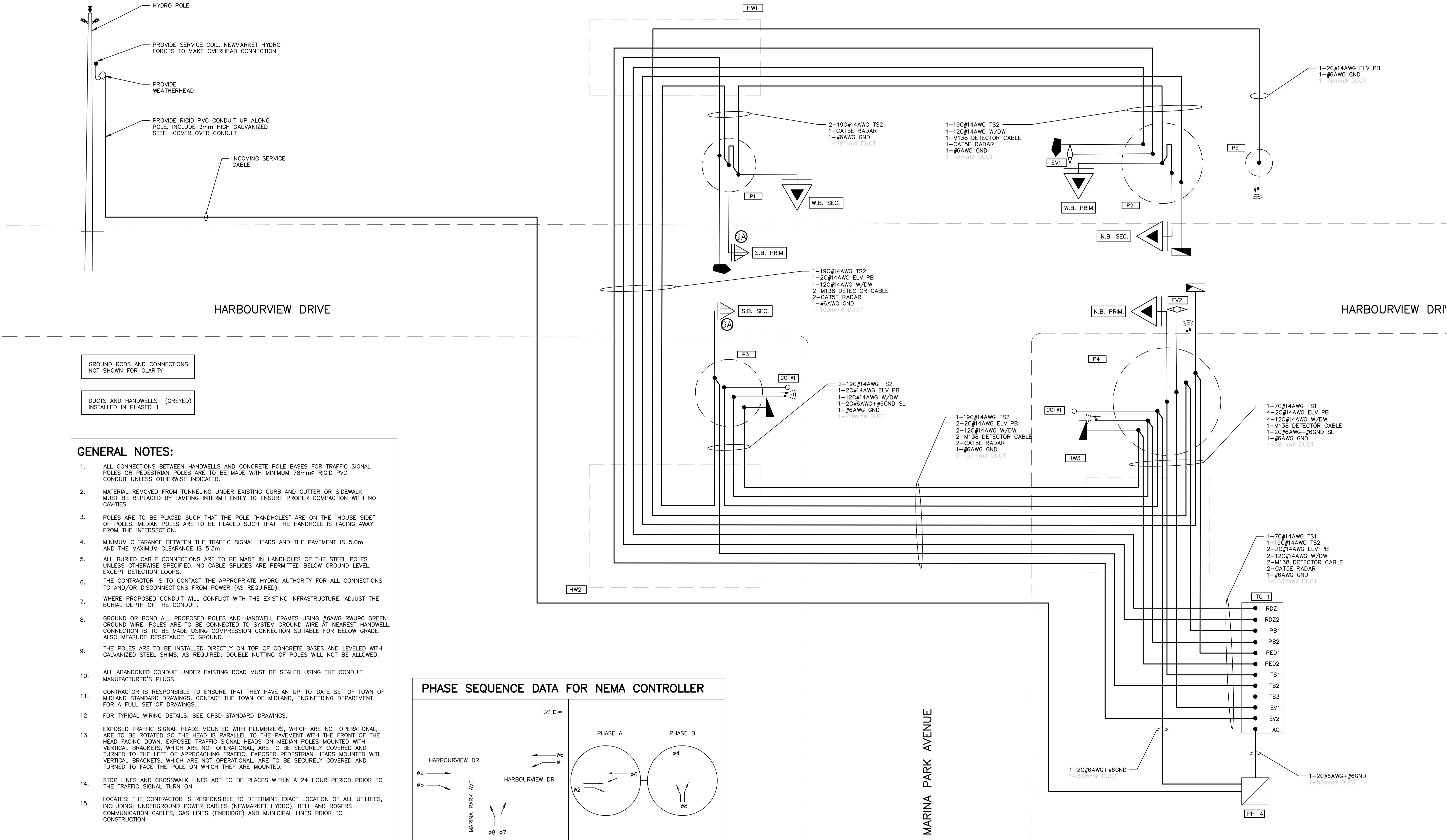
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Client  
**KAITLIN CORPORATION**  
1191 HARBOURVIEW DRIVE,  
MIDLAND, ON  
L4R 0C7

Project Name <b>1191 HARBOURBIEW DRIVE INTERSECTION IMPROVEMENTS</b>		
Drawing Title <b>PHASE 1 WIRING DIAGRAM</b>		
Drawn By AD	Checked By .	Drawing No. <b>E4</b>
Scale	Project No. 19165P-02	





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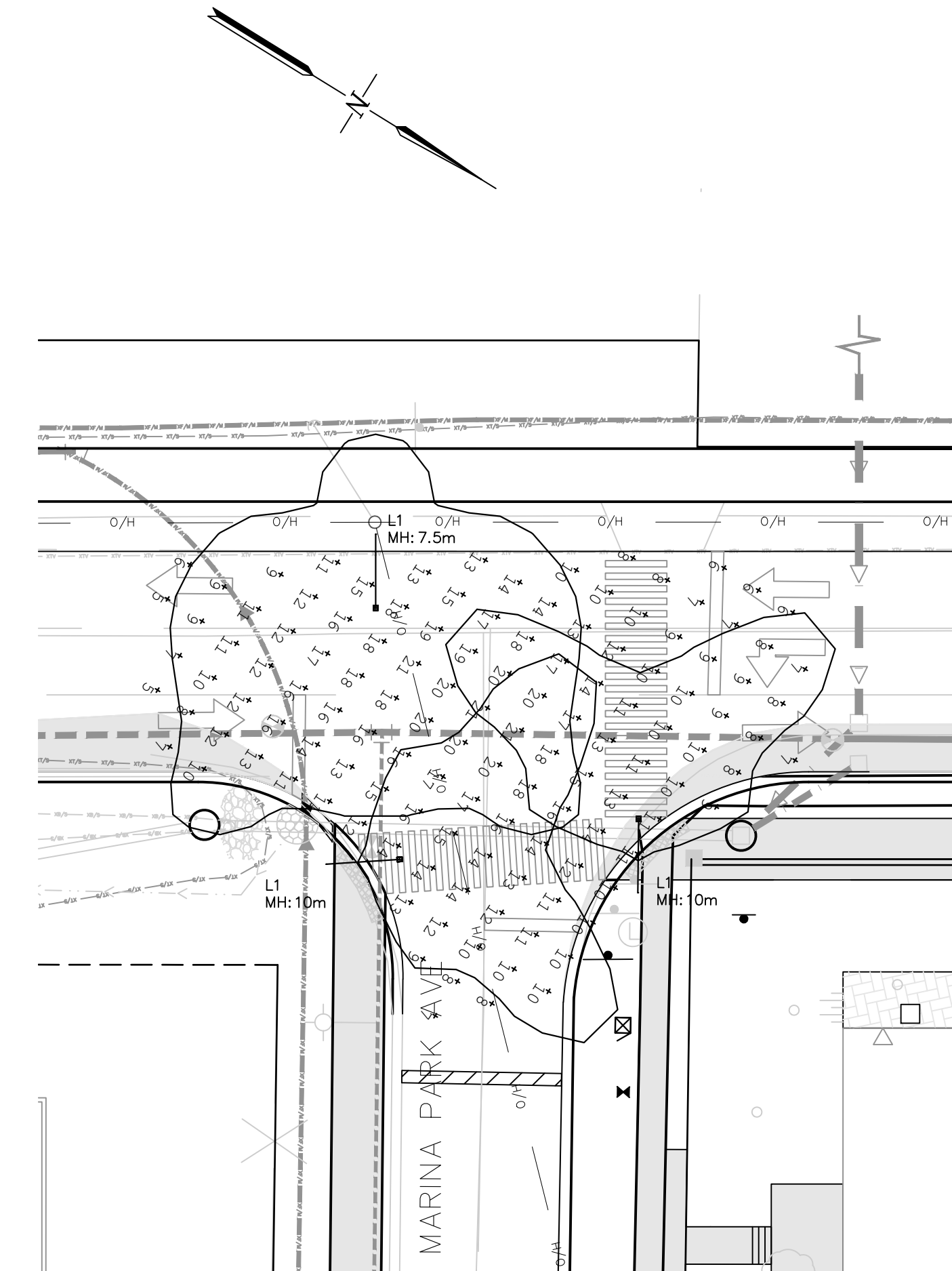
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1191 HARBOURVIEW DRIVE,  
MIDLAND, ON  
L4R 0C7

Project Name <b>1191 HARBOURVIEW DRIVE INTERSECTION IMPROVEMENTS</b>		
Drawing Title <b>PHASE 2 WIRING DIAGRAM</b>		
Drawn By AD	Checked By .	Drawing No. <b>E5</b>
Scale	Project No. 19165P-02	





ANSI / IES RP-8-18	
Table 12-1: Intersection Illuminance Recommended Values	
Functional Classification:	Major / Local
Pedestrian Conflict Area:	Low
Average Maintained Illuminance:	13.0 Lux
Uniformity Ratio Max. (Avg / Min):	3.0

Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Avg/Min
02 INT - HVD & MPA	Illuminance	Lux	12.8	21	6	2.1

Luminaire Schedule				
Qty	Label	Arrangement	Lumens	Description
3	L1	SINGLE	5256	CRBE XSPSM

POLE ASSEMBLY DESCRIPTION AND CATALOG NUMBERS

**TYPE L1 ASSEMBLY**

LUMINAIRE:

- CREE XSPSM
- MODEL XSPSM-D-HT-4ME-SL-40K7-UL-SV-N
- 120VAC
- 43 WATTS
- 4000 DEG. CCT
- COLOR GREY/SILVER
- FUSE
- INTERNAL BUBBLE LEVEL
- IP66 RATED
- 10kV / SKA SPD

POLE:

INSTALLED ON EXISTING MAST ARM ATTACHED TO HYDRO POLE OR ATTACHED TO TRAFFIC POLE

ARM:

USS MANUFACTURING

- MODEL TER 8MA ALUMINUM ALLOY
- 12' (3658mm)
- SATIN FINISH

PHOTOCELL

FISHER PIERCE FP-7700 SERIES

- 120VAC (105-130VAC RANGE)
- CONTACTS: SPST N.C.
- SUITABLE FOR LED DRIVER LOAD
- TURN ON LEVEL 1.0 FC
- TURN OFF LEVEL 3.0 FC
- LIGHTING ARRESTOR-2.5 kV SPARK OVER MINIMUM 5000 AMP FOLLOW THROUGH
- RATED LIFE 13-YEAR DESIGN MINIMUM AT RATED LOAD

## XSP Series

XSPSM LED Street/Area Luminaire - Small

### Product Description

In addition to a low initial cost, the XSPSM LED Street/Area luminaire maintains the familiar look of the traditional cobrahead design and delivers substantial energy savings while reducing maintenance time and costs. The hassle-free design of the XSP small luminaire includes tool-less entry and +/- 5° fixture leveling for easy installation. Our NanoOptic® Precision Delivery Grid™ optic achieves better optical control than traditional street and area lighting fixtures and efficiently delivers white uniform light for safer-feeling communities.

**Applications:** Residential roads, collector roads, parking lots, and general area spaces

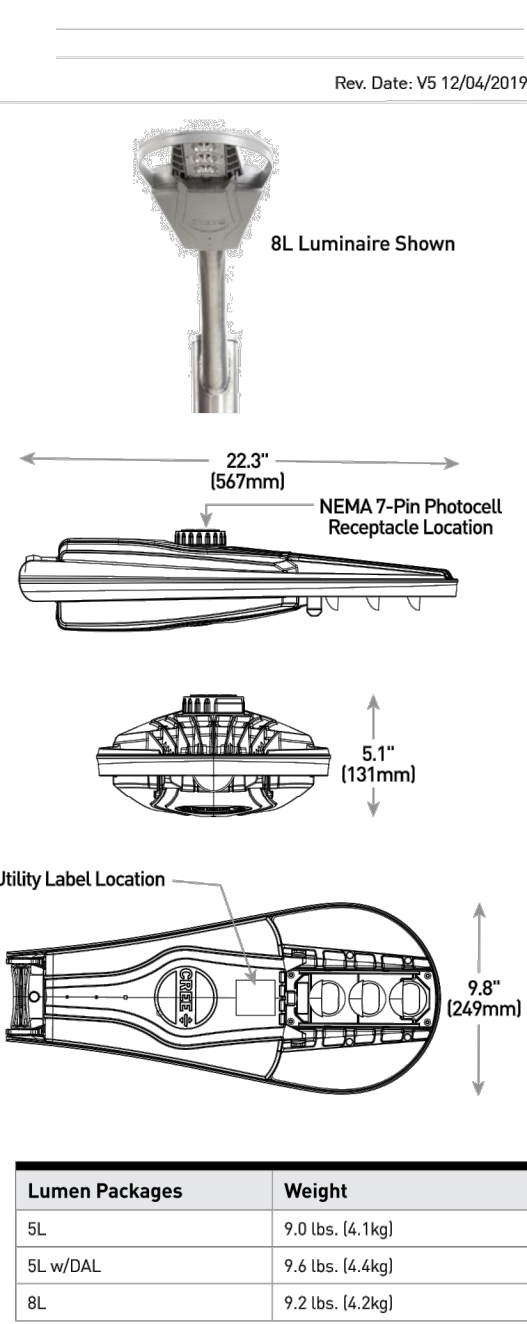
### Performance Summary

NanoOptic® Precision Delivery Grid™ optic
Assembled in the U.S.A. of U.S. and imported parts
Initial Delivered Lumens: Up to 7,825
Efficacy: Up to 113 LPW
CRI: Minimum 70 CRI
CCT: 2700K, 3000K, 4000K, 5000K, 5700K
Limited Warranty*: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

\*See <http://creelighting.com/warranty> for warranty terms

### Accessories

Field-Installed	Bird Spikes	Shorting Cap
Backlight Control Shield XA-SPCBLS • Provides 1 mounting height cutoff • Polycarbonate construction • Refer to initial delivered lumen tables for lumen output	XSP-BRDORS	XA-XSLSHRT



Lumen Packages	Weight
SL	9.0 lbs. (4.1kg)
SL w/DAL	9.6 lbs. (4.4kg)
8L	9.2 lbs. (4.2kg)

### Ordering Information

Example: XSPSM-D-HT-2LG-SL-27K7-UL-SV-N

XSPSM	D	HT						N			
Product	Version	Mounting	Optic	Lumen Package**	CCT/CRI	Voltage	Color Options	N	Utility Label/ Receptacle	Options	
XSPSM	D	HT	Horizontal Tenon	Asymmetric 2ME* Type II Long 3ME* Type III Medium 4ME* Type IV Medium	8L 5,000 Lumens	27K7 2700K, 70 CRI	UL Universal 120-277V	BK Black	N Utility Label and NEMA® 7-pin Photocell Receptacle • External wattage label per ANSI C136.15 • Field Adjustable Output • 7-pin receptacle per ANSI C136.41 • Receptacle leads are factory connected to the driver • Requires photocell or shorting cap (by others)	DLI DALI Compatible • Available with UL voltage only • Not available with D or X options 09/08/07/04/05/04/03/02/01 Field Adjustable Output • Must select Q7, Q8, Q7, Q4, Q5, Q4, Q3, Q2, or Q1 • Offers full range lumen adjustability • Includes wattage label for setting selected • Refer to pages 8 & 9 for power and lumen values • Luminaire may also be dimmed through 7-pin receptacle with use of dimming control by others	
					8L 8,000 Lumens	30K7 3000K, 70 CRI	ULH Universal 347-480V	BZ Bronze			
				Symmetrical SSH Type V Short	50K7 5000K, 70 CRI	57K7 5700K, 70 CRI		SV Silver		XB/XT/XA/XS/XZ/X1 Locked Lumen Output • Must select X8, X7, X6, X5, X4, X3, X2, or X1 • Lumen output is permanently locked to the setting selected • Includes wattage label for setting selected • Refer to pages 8 & 9 for power and lumen values • Dimming is only available through 7-Pin receptacle with use of dimming control by others	

\* Available with Backlight Shield when ordered with field-installed accessory (see table above)

\*\* Lumen Package codes identify approximate light output only. Actual lumen output levels may vary depending on CCT and optic selection. Refer to Initial Delivered Lumen tables for specific lumen values

UL US  
US: [creelighting.com](http://creelighting.com) (800) 234-6800  
Canada: [creelighting-canada.com](http://creelighting-canada.com) (800) 473-1234



CREE LIGHTING

## LUMINAIRE SPECIFICATION

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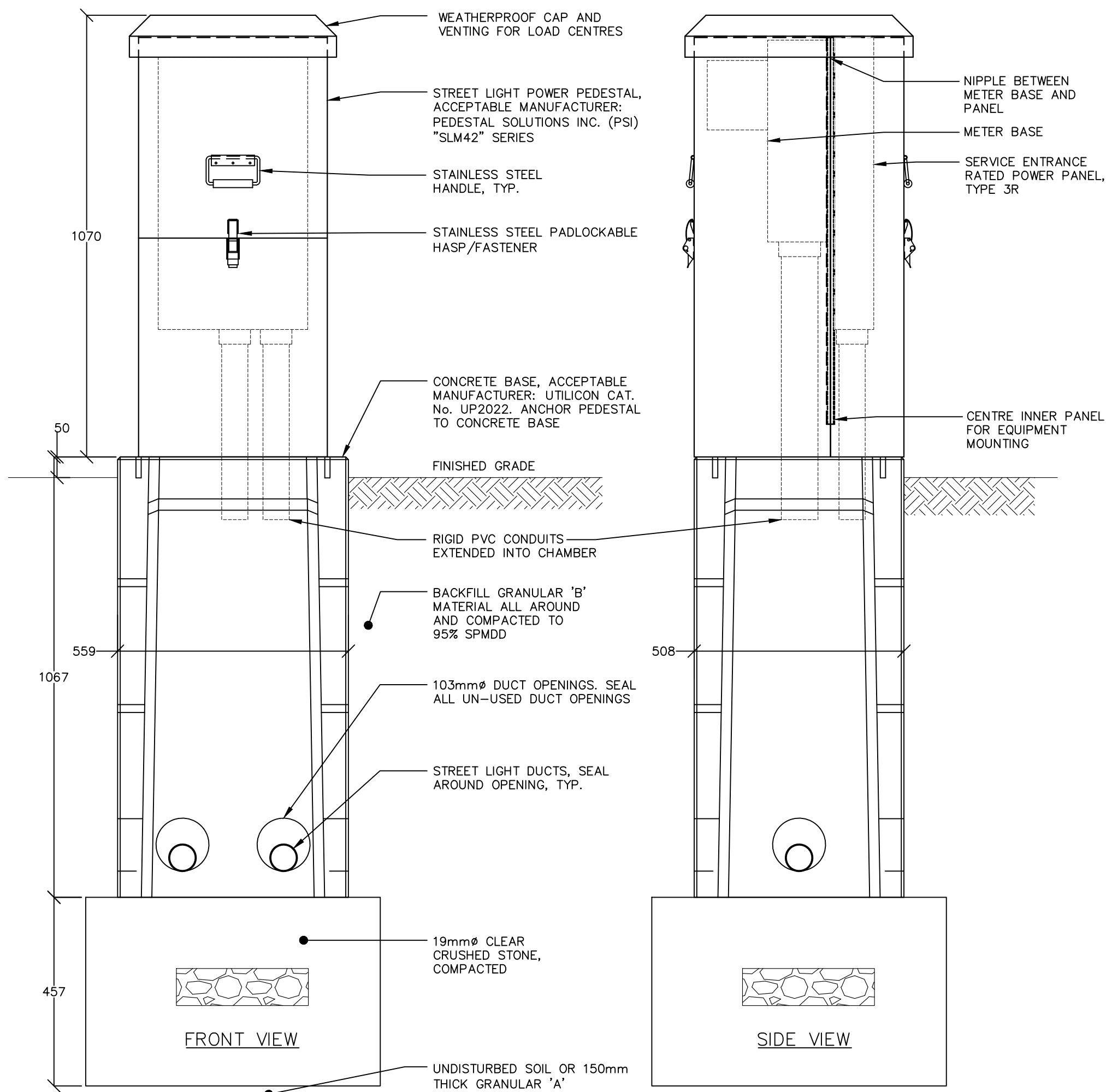
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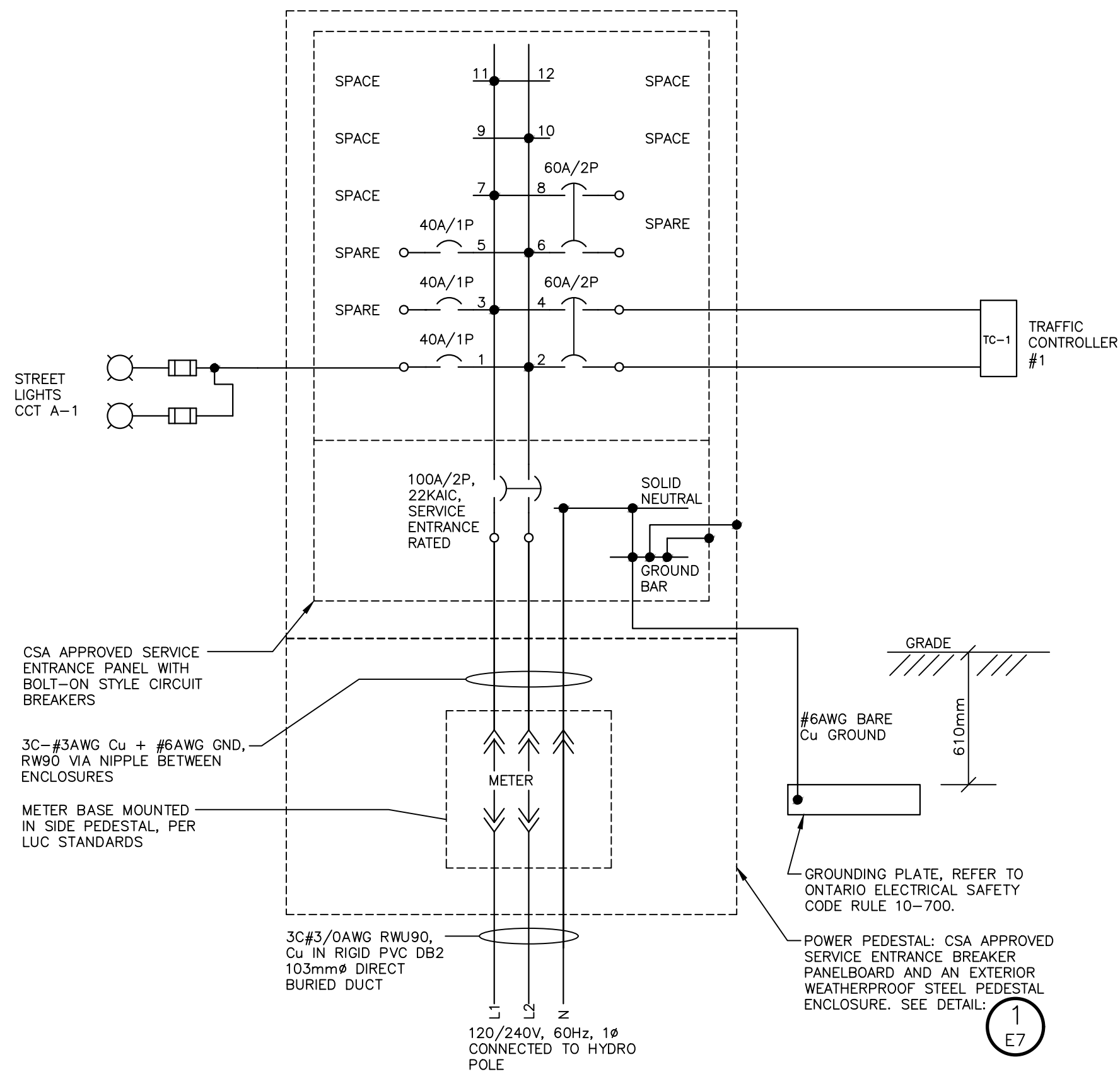
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1191 HARBORVIEW DRIVE,  
MIDLAND, ON  
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Project Name: 1191 HARBORVIEW DRIVE INTERSECTION IMPROVEMENTS	
Drawing Title: INTERSECTION PHOTOMETRICS & LIGHTING DETAILS	
Drawn By: AD	Checked By: .
Scale	Project No. 1916SP-02
Drawing No. E6	

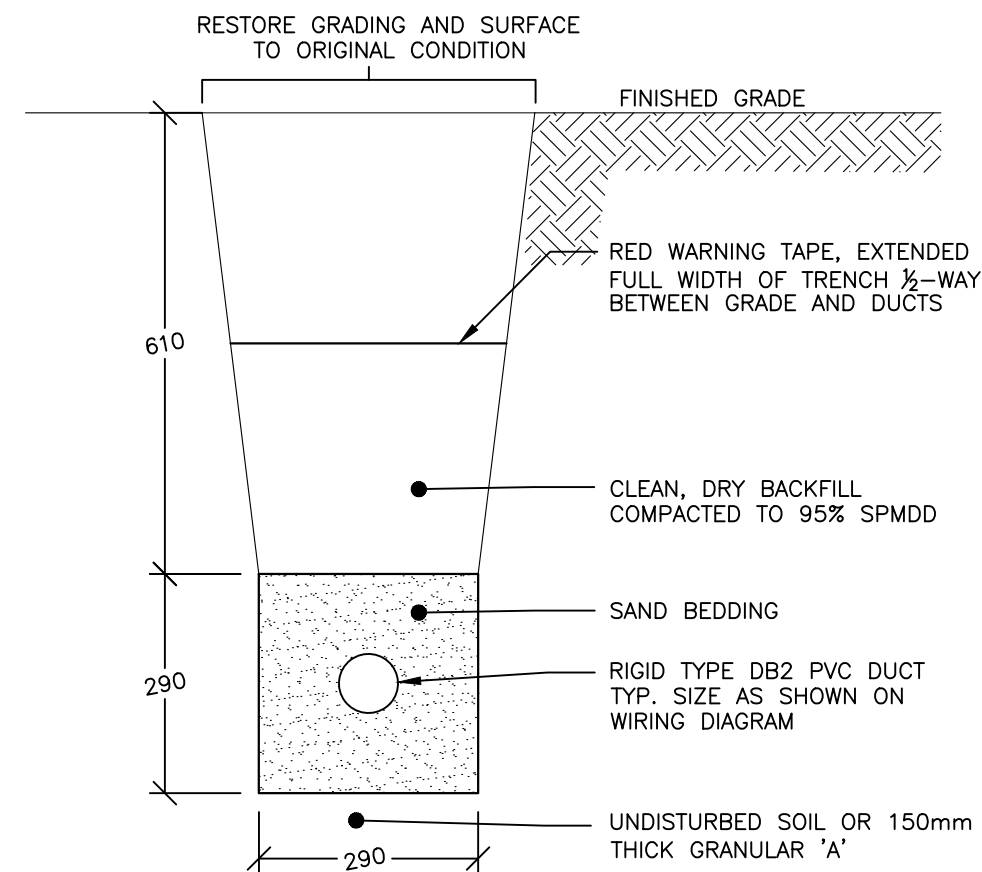




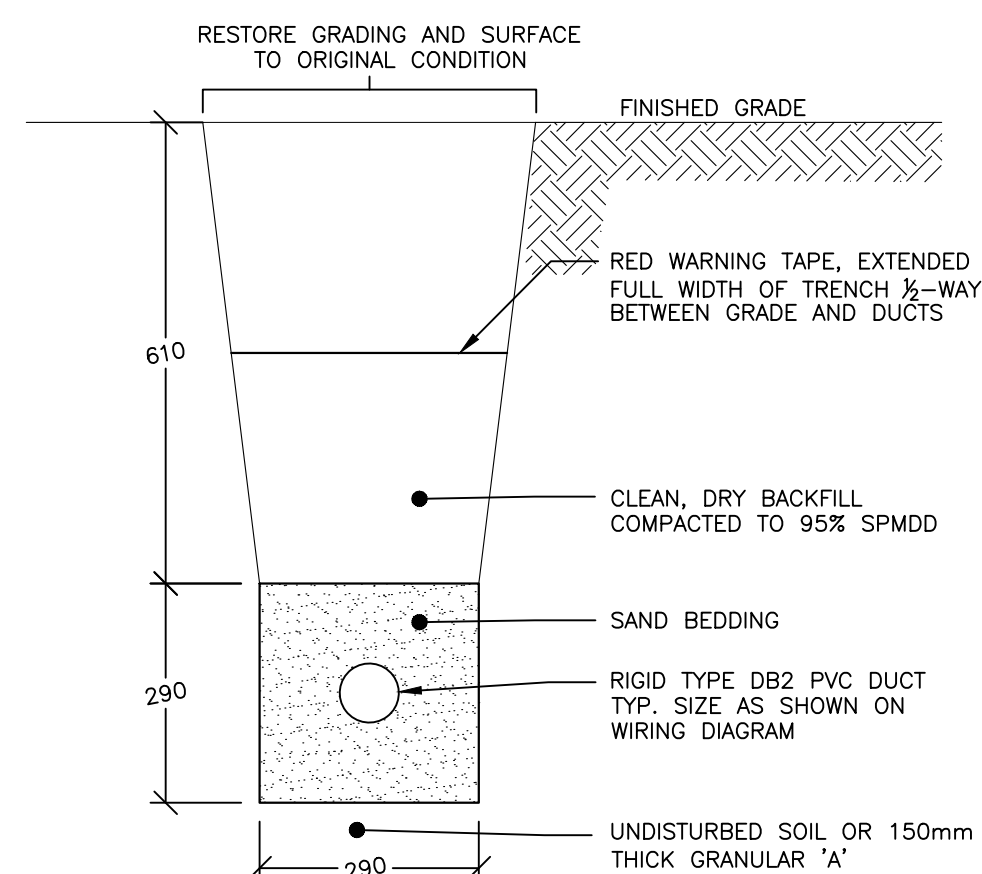
**1 METERED POWER PEDESTAL INSTALLATION DETAIL**  
NTS



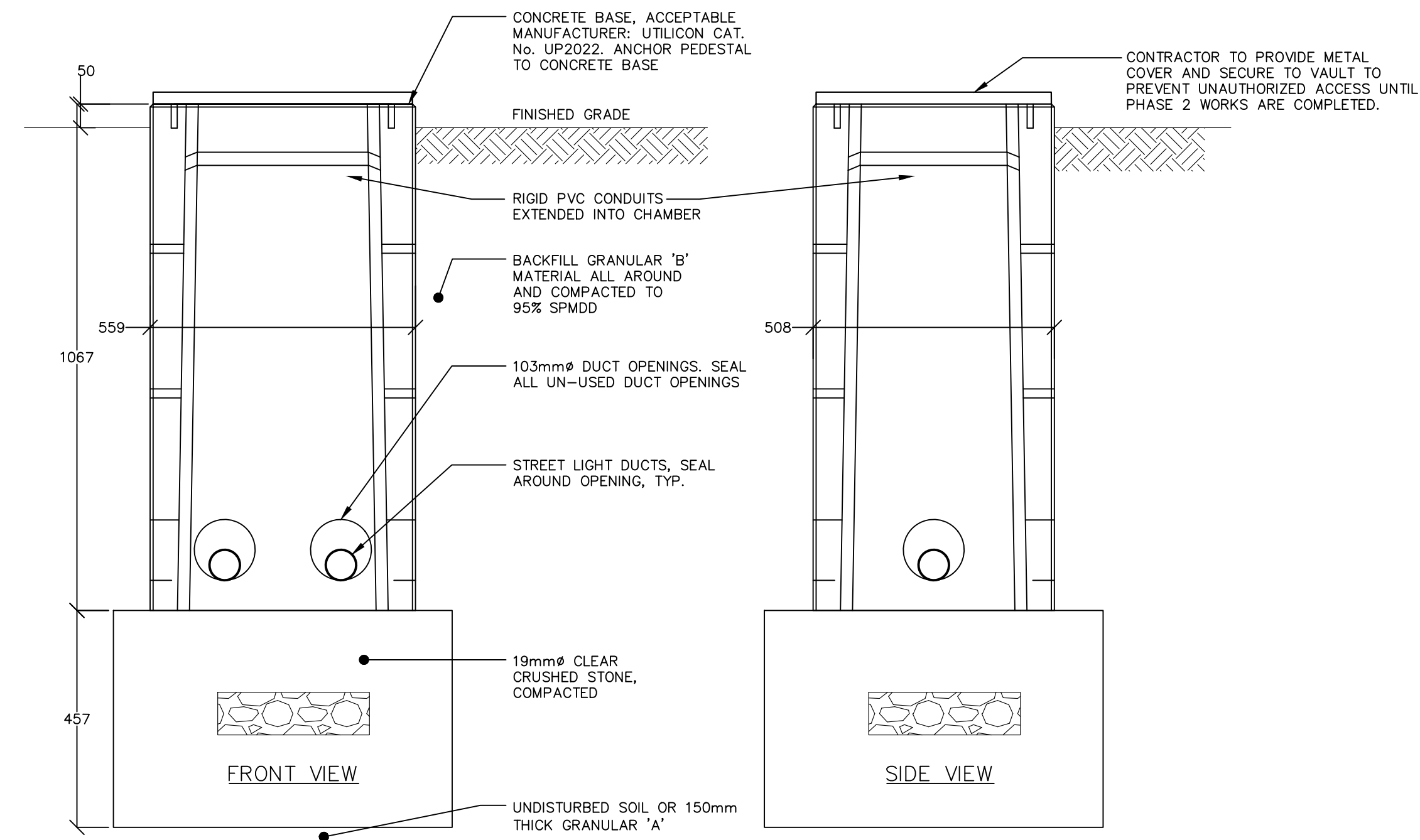
**2 METERED POWER PEDESTAL WIRING DIAGRAM**  
NTS



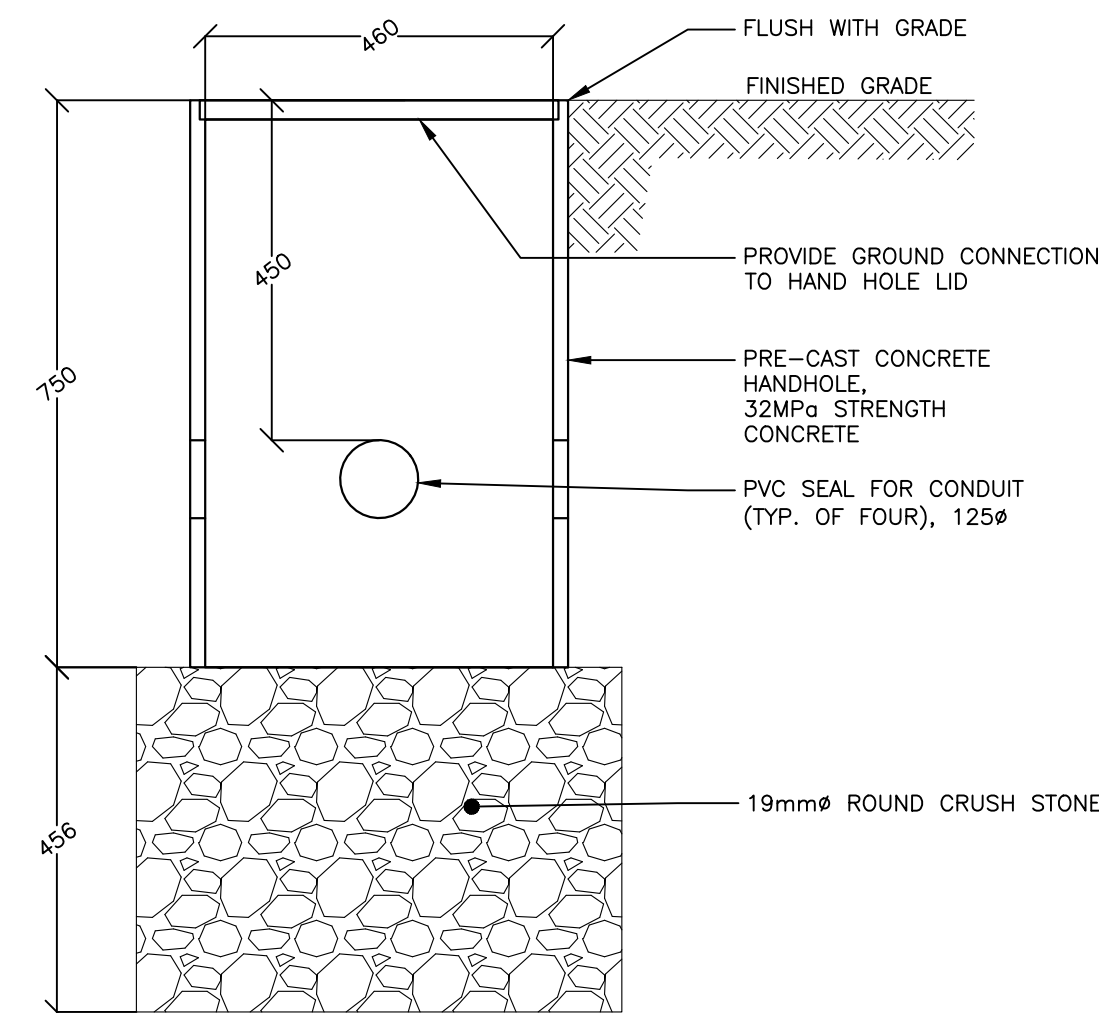
**3 TYPICAL POWER DUCTBANK INSTALLATION DETAIL**  
NTS



**4 TYPICAL TRAFFIC SIGNAL & LIGHTING DUCTBANK INSTALLATION DETAIL**  
NTS



**6 POWER PEDESTAL VAULT INSTALLATION DETAIL**  
NTS



**5 TYPICAL HANDHOLE INSTALLATION DETAIL**  
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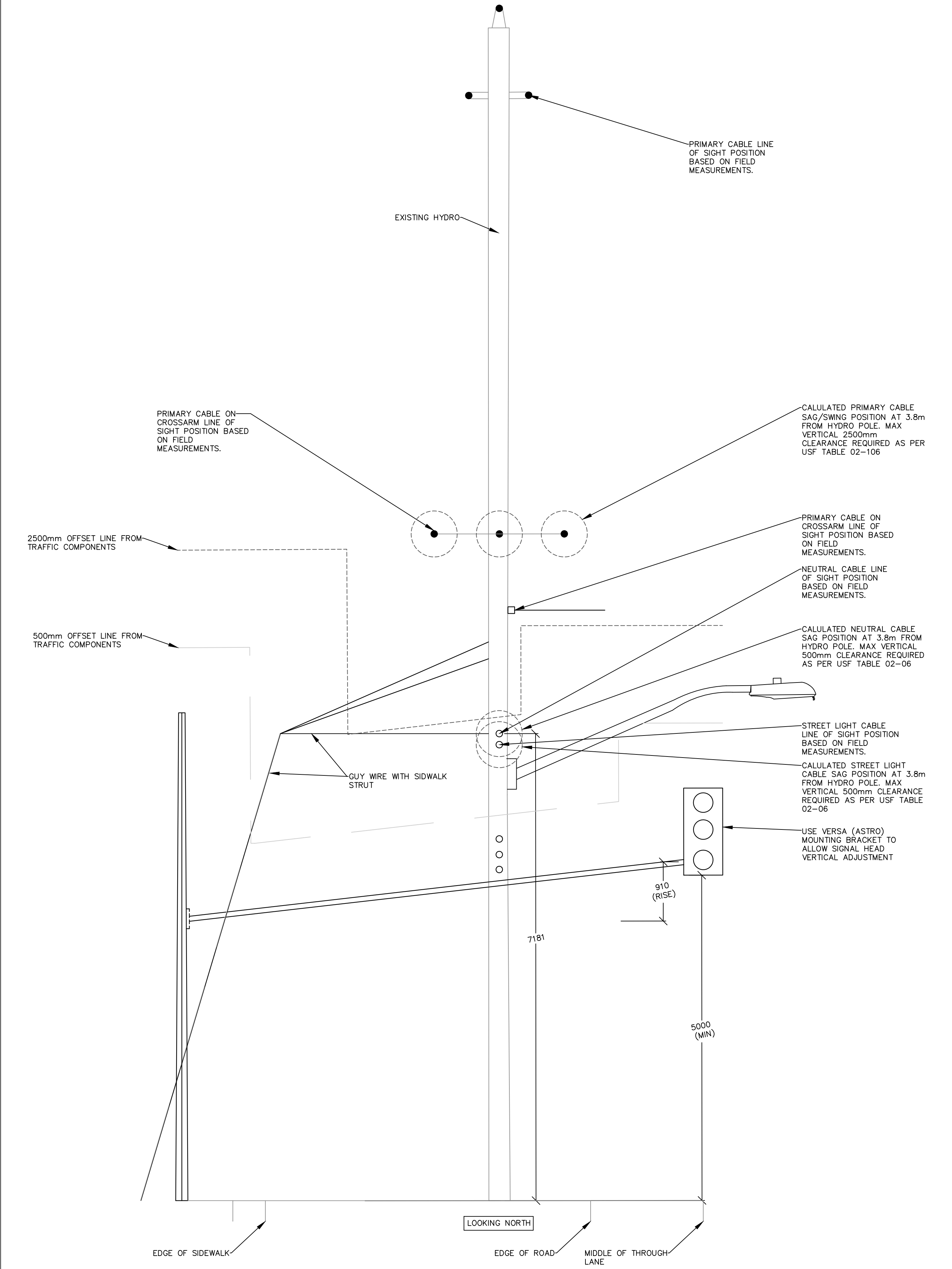


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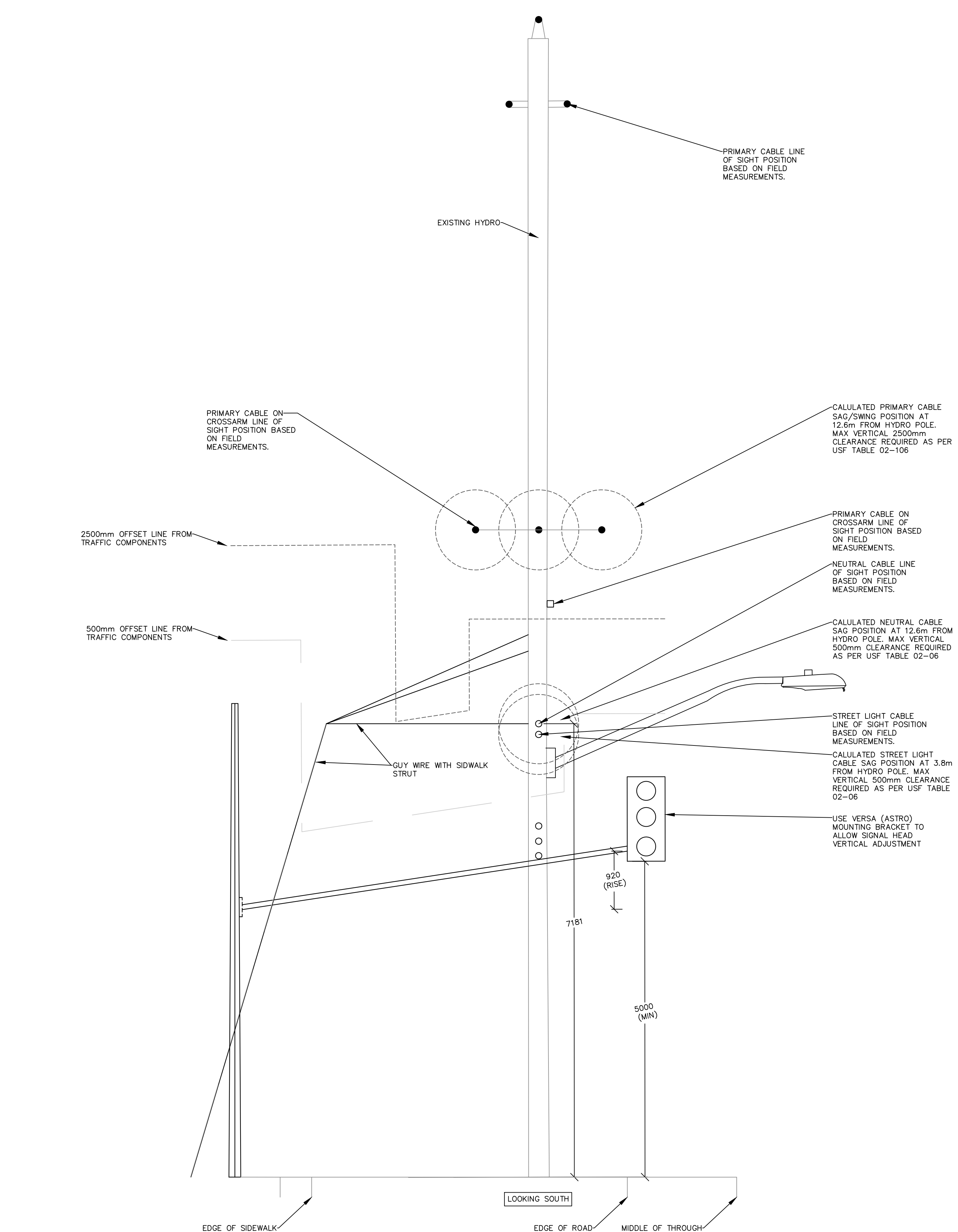
Client:	1191 HARBOURVIEW DRIVE, MIDLAND, ON L4R 0C7
Project Name:	1191 HARBOURVIEW DRIVE INTERSECTION IMPROVEMENTS
Drawing Title:	INSTALLATION DETAILS
Drawn By:	AD
Checked By:	
Scale:	
Project No.:	19165P-02
Drawing No.:	E7





**1 POLE "P1" – VERTICAL CLEARANCES TO OVERHEAD LINES IN SPAN**  
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**2 POLE "P2" – VERTICAL CLEARANCES TO OVERHEAD LINES IN SPAN**  
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<table><tr><td><small>Drawn By:</small> AD</td><td><small>Checked By:</small>  </td><td><small>Drawing No.:</small> <b>E8</b></td></tr><tr><td><small>Scale:</small></td><td><small>Project No.:</small> 19165P-02</td><td> </td></tr></table>	<small>Drawn By:</small> AD	<small>Checked By:</small> 	<small>Drawing No.:</small> <b>E8</b>	<small>Scale:</small>	<small>Project No.:</small> 19165P-02																																							
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<small>Scale:</small>	<small>Project No.:</small> 19165P-02																																											



<div><div><div>TRAFFIC SIGNAL SPECIFICATIONS</div><div><p>The contractor is to supply all components, labour and material to complete the installation. The components shall adhere to the specifications below.</p><p>Work for this project shall be completed in accordance with OPSS.MUNI 620.</p><p>All underground electrical work should be in accordance with the Ontario Electrical Safety Code, Newmarket-Tay Hydo standards and OPSS 606, 603, 604, 609 &amp; 614.</p><p>Traffic poles are to be installed per OPSS 615 &amp; 616.</p><p><b>Traffic Controllers</b></p><p>Contractor to supply traffic signal controller assembly and all accessory equipment meeting NEMA standard TS2-1992, TS2-Type 2 design specification and all revisions.</p><p>Traffic controller shall be NEMA-based 8 phase solid-state, microprocessor based traffic signal controller timers.</p><p>Contractor shall program each traffic controller for the requirements of each intersection. The Town and/or consultant will provide the programming requirements at the time of contract award.</p><p><b>Cabinet</b></p><p>Contractor to supply aluminium door-in-door type "M-1" pad mount cabinet with base extension.</p><p>The controller cabinet shall be supplied with a fully wired 12 position back panel set up to operate on the appropriate number of vehicle and pedestrian phases.</p><p>The controller cabinet shall be supplied with wired 8 position detector rack.</p><p>The controller cabinet power supply shall provide regulated DC power, unregulated AC power and a line frequency reference for the detector racks, load switches and auxiliary equipment.</p><p>All internal wiring within the cabinet shall be Mylar tagged, labelled, grouped and neatly tied in an organized fashion. There shall be no loose or excessive wiring.</p><p>Shop testing of the controller and conflict monitor prior to installation. Provide test printout sheets verifying approval for use.</p><p>Controller shall be installed and the cabinet energized within 48hrs of shipment from place of storage.</p><p><b>Cabinet Accessories</b></p><p>Conflict/Voltage Monitors shall be NEMA Plus solid state, 12 channel, complete with LCD display and fault memory with RS232 port and cable. EDI Model = SSM-12LE (or approved equivalent)</p><p>Load switches (1 per phase) shall be solid state with PDC for vehicle and pedestrian indication only. EDI Model = #200 (or approved equivalent)</p><p>Flash relays shall be NEMA solid state, 15A, 2 pole flasher EDI Model = #204 (or approved equivalent)</p><p>Pedestrian Isolation Circuits shall be two (2) rack mounted pedestrian 2-channel DC Isolator cards EDI Model = #242 (or approved equivalent)</p><p>Police panel complete with a manual/auto switch, flash switch and signal on/off switch</p><p>Thermostatically controller 250W strip heater and fan which can be manually controlled.</p><p>Four (4) transfer relays</p><p>Radio interference filter</p><p>Two (2) internal circuit breakers for power feed, one (1) x 40A for traffic signal system, one (1) x 15A for cabinet accessories.</p><p>One (1) x duplex GFI type convenience outlet</p><p>Lamp receptacle, complete with hand held lamp, bulb and switch</p><p>Switches in the cabinet to simulate vehicle and pedestrian detector inputs directly to the controller. Switches for stop timing and flash toggle shall also be provided.</p><p>Power surge protective device EDCO Model = SHA-1210 (or approved equivalent)</p><p>Aluminium air vent cover complete with dust filter</p><p>Two (2) conflict monitor check sheets verifying shop testing</p><p>Two (2) sets of equipment drawings including one (1) original bounded manufacturer operation manual with blank timing sheets in a waterproof document bag</p></div></div></div>				<div><p>Two (2) cabinet keys</p><p>The controller timer and cabinet shall be supplied completely wired and programmed to facilitate the mode of operation. Wiring diagrams and connection instructions shall be included with the unit.</p><p>Neoprene gasket installed between the base of the cabinet and the concrete foundation.</p><p>The contractor shall seal the conduit ducts (or base hole) in the cabinet with duct seal once all cables have been pulled into the cabinet.</p><p><b>Pedestrian Actuators</b></p><p>Contractor shall provide AODA compliant pedestrian actuation systems. Shall have audible sounds programmed with "chirp" for east/west crossings and "cuckoo" for north/south crossings. Polara Navigator INS APS (or approved equivalent)</p><p><b>GPS Time Clocks</b></p><p>Contractor shall provided commercial off the shelf devices capable of interfacing with supplied ATC traffic controllers to coordinate with GPS clock time synchronization.</p><p><b>Vehicle Detection System</b></p><p>Contractor shall provide non-intrusive overhead vehicle detection system capable of multiple vehicle detection zones including programming. Wavetronix Smart Sensor HD Radar (or approved equivalent)</p><p><b>Pre-emption Detector</b></p><p>Contractor shall supply an emergency vehicle pre-emption system. 3M Opticom Infrared System Model 752 (or approved equivalent)</p><p><b>Traffic Signal Heads</b></p><p>Shall comply with OPSS 620, with subsection 620.05.01 is amended as follows:</p><p>"Highway type traffic signal heads shall be constructed of polycarbonate sections complete with aluminum backboards, finished in baked enamel traffic yellow point on the front and yellow on the back. Each section of the traffic signal shall be yellow on the front and yellow on the back. Each section of the traffic signal head shall be provided with a removable polycarbonate visor of the cap/tunnel type with matte black interior finish. All backboards shall be outlined with 3m high intensity sheeting to a width of 75mm, yellow in colour on the face side. From the outside edge inward arrow sections shall have a tunnel visor.</p><p>The Following Types of vehicle signal heads are approved for installation:</p><p>1) Highway Type Head – 300mm sections R-Y-G 2) Highway Type 9A Head – Four (4) 300mm Section R-Y-G-Y/G, Bimodal left turn Arrow</p><p>The follow vehicle signal heads area approved for installation:</p><p>1) Econolite 2) Innovative Traffic Solutions 3) Fortran 4) McCain "</p><p>Signal heads shall be mounted 5.0m above roadway, unless otherwise identified.</p><p><b>Signal Mast Arms</b></p><p>Shall be Valmont TR XX SMA-81.</p><p><b>Pedestrian Signal Heads</b></p><p>Shall comply with OPSS 620.</p><p>Configured and constructed of a single 400mm x 450mm polycarbonate section, yellow in colour. Provide removable tunnel polycarbonate visor with matte black interior finish. Provide without lenses, retrofitted with:</p><p>1) LED module shall be side by side orientation capable of providing a two message display of an outline "WALK" in lunar white and outline "DON'T WALK" in portland orange in the left side 2) An integral LED countdown module unit capable of providing a portland orange countdown indication message display in the right side as a single unit.</p><p>The following pedestrian signal heads are LED modules are approved for installation:</p><p>1) Duralite JXM-400 VECAD Countdown pedestrian LED module 2) McCain 400x450mm polycarbonate signal housing</p><p>Signal heads shall be 2.75m, unless otherwise identified.</p></div>
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