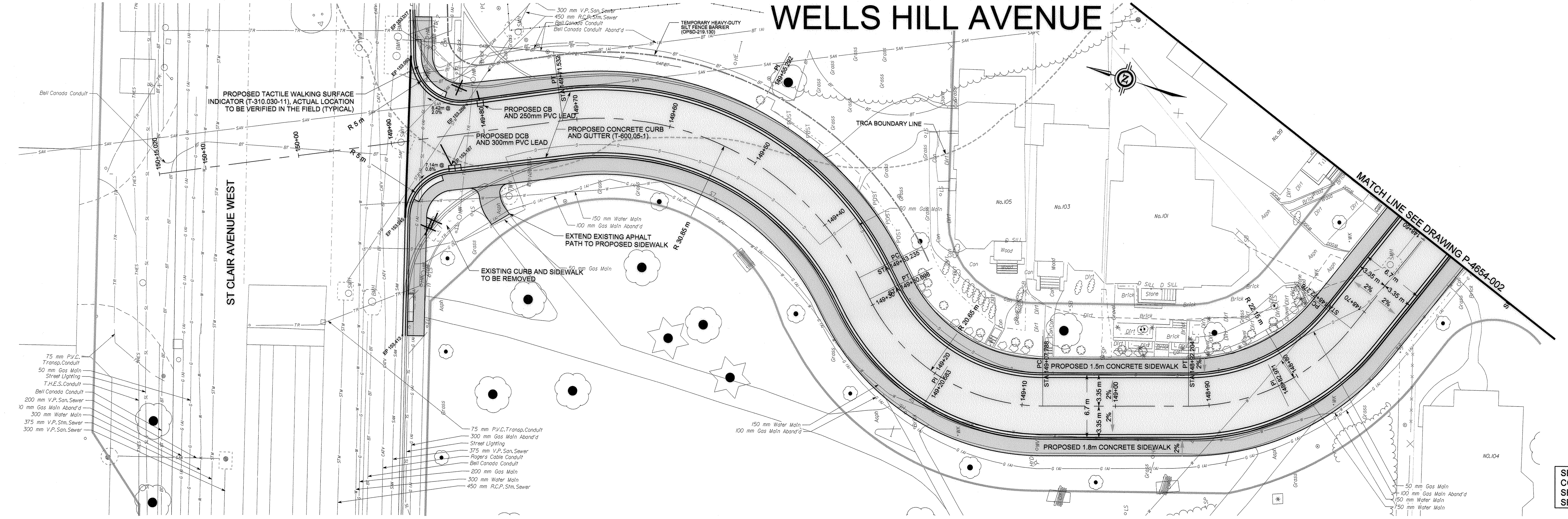
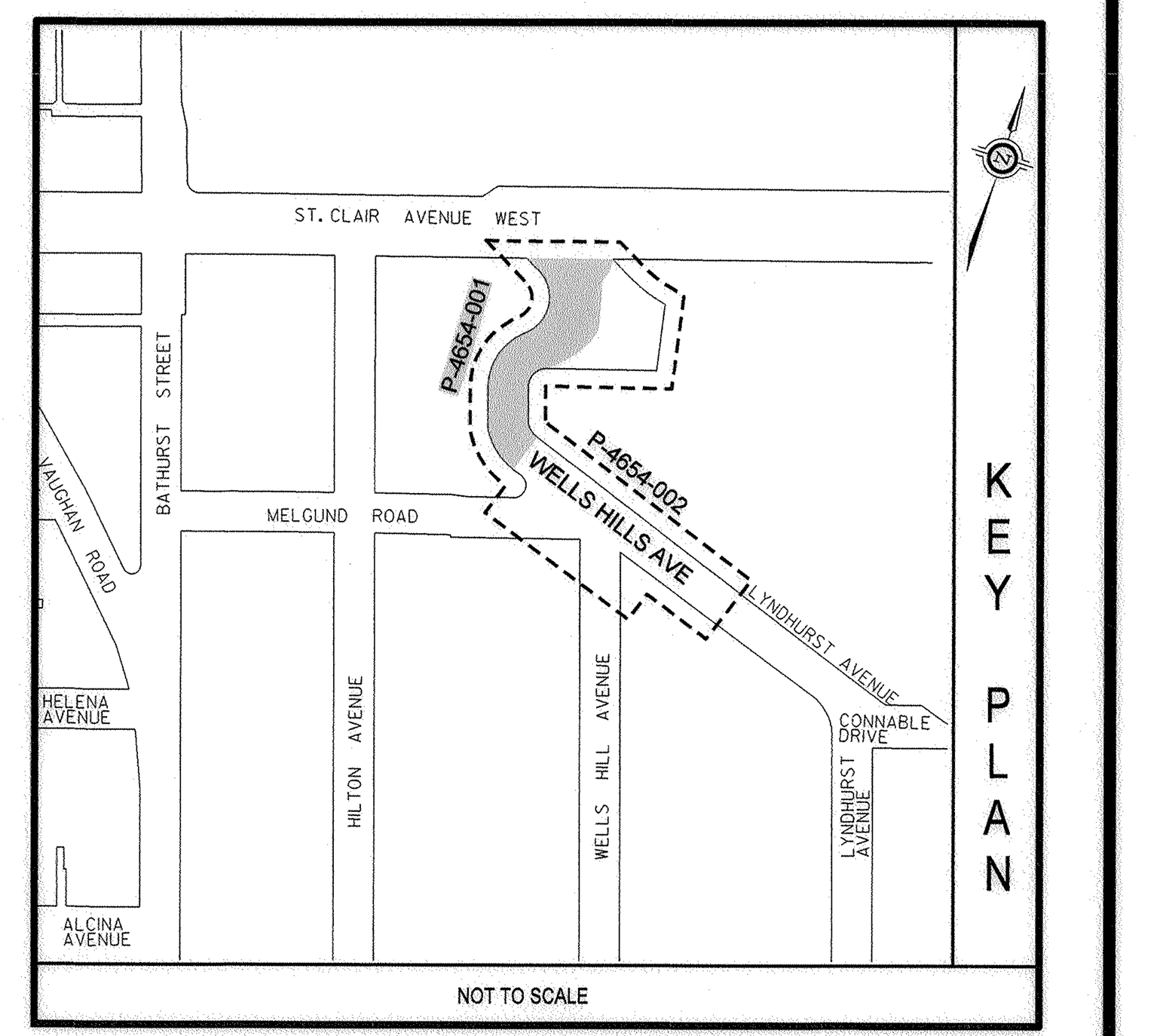
WELLS HILL AVENUE

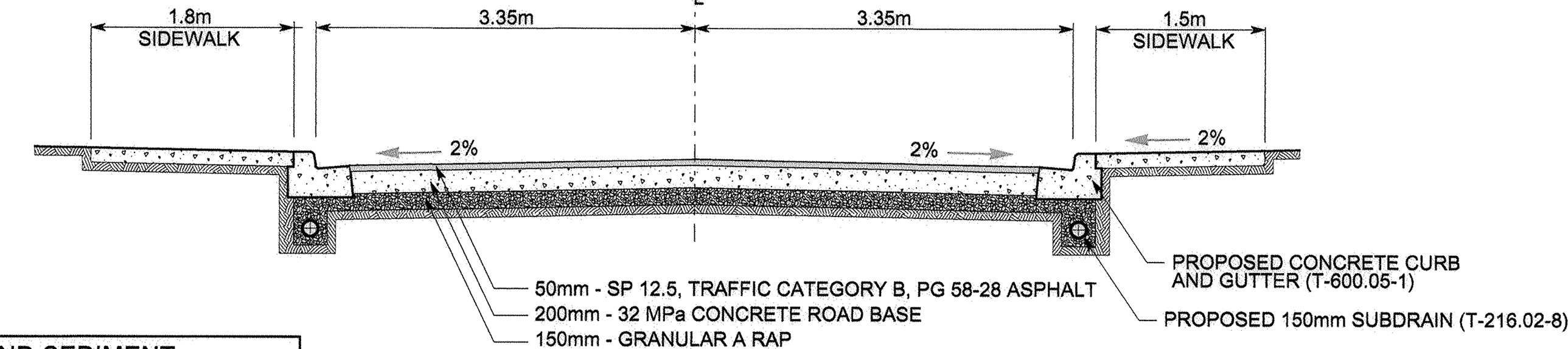




LEGEND

PROPOSED ROAD RECONSTRUCTION 50mm - SP 12.5, TRAFFIC CATEGORY B, PG 58-28 ASPHALT 200mm - 32 MPa CONCRETE ROAD BASE 150mm - GRANULAR A RAP	
PROPOSED CONCRETE SIDEWALK REFER TO STANDARD T-310.010-2	
PROPOSED 100mm TOPSOIL AND SOD	
EXISTING CB TO BROKEN DOWN 1m BELOW GRADE AND FILLED WITH UNSHRINKABLE FILL	X

SEE DRAWING P-4654-003 FOR EROSION AND SEDIMENT CONTROL
SEE DRAWING U-4654-001 FOR WATERMAIN DESIGN
SEE DRAWING U-4654-002 FOR SANITARY SEWER DESIGN



TYPICAL PROPOSED CROSS-SECTION

N.T.S.

H.C.M. STATION	EASTING	NORTHING	ELEVATION
B.M. STATION			
HORIZONTAL \ VERTICAL CONTROL MONUMENTS			

DIGITAL INFORMATION	
SURVEY(2016)	y14097svy2D.dgn (1400065SVY)
DESIGN	y14097pd.dgn, y14097sh.dgn, y14097pf.dgn
UTILITY	y14097ugs.dgn
MAPPING	y14097top.dgn
STREETLINE	y14097psl.dgn

No.	DATE	REVISIONS	INITIAL	SIGNED

CONSULTANTS

TORONTO Engineering & Construction Services

LICENSED PROFESSIONAL ENGINEER W. K. LIU 100056175 MAR 20, 2018 PROVINCE OF ONTARIO

MICHAEL D'ANDREA, P.ENG
CHIEF ENGINEER and EXECUTIVE DIRECTOR
Engineering & Construction Services

FRANK CLARIZIO, P.ENG.
Director, Design & Construction
Transportation Infrastructure & Gardiner Rehabilitation Project

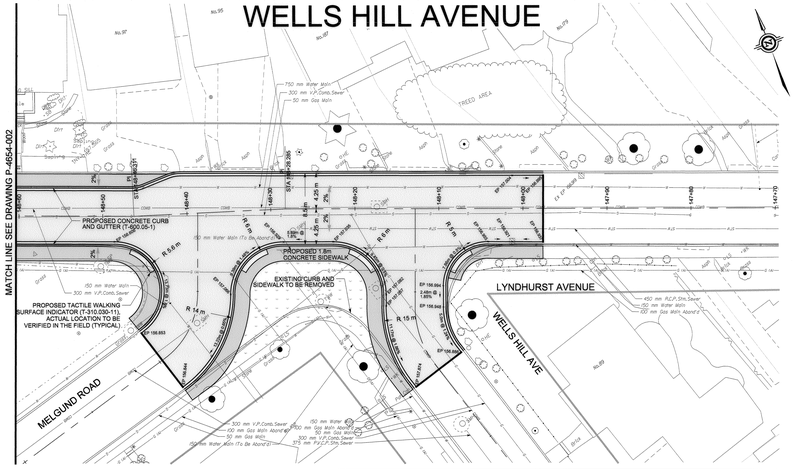
LUIS DE JESUS, P.ENG.
Manager, Design & Construction
Transportation Infrastructure
Local Roads

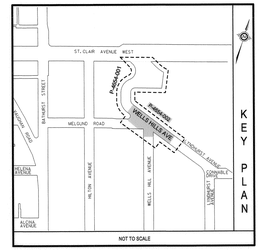
WELLS HILL AVENUE

FROM ST CLAIR AVENUE WEST TO LYNDHURST AVENUE
LOCAL ROAD RECONSTRUCTION
PLAN AND PROFILE

DESIGN	R.C.	DRAWN	R.C.	CHECKED	R.C.	CONTRACT No. 19ECS-TI-11LR
SCALE	HORIZONTAL 1:200 VERTICAL 1:100			DRAWING NUMBER	P-4654-001	SHEET 8 OF 15
DATE	MARCH 19, 2018					

WELLS HILL AVENUE





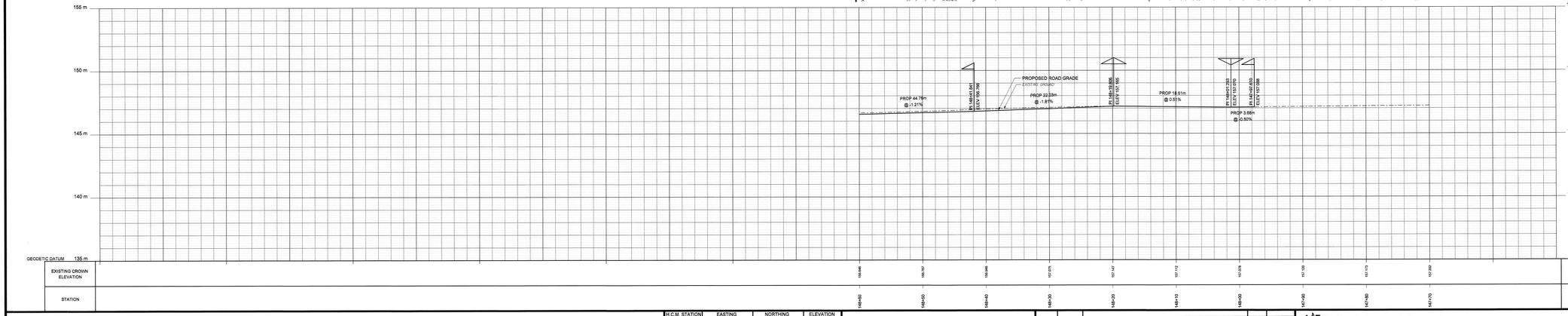
LEGEND

PROPOSED ROAD RECONSTRUCTION
50mm - SP-12.5 TRAFFIC CATEGORY B, PG 58-28
200mm - 30 MPa CONCRETE ROAD BASE
150mm - GRANULAR A MAP

PROPOSED CONCRETE SIDEWALK
REFER TO STANDARD T-310.010-2

PROPOSED 100mm TOPSOIL AND SOD

EXISTING CB TO BROKEN DOWN 1m BELOW GRADE AND FILLED WITH UNSHRINKABLE FILL



H.C.M. STATION	EASTING	NORTHING	ELEVATION
B.M. STATION			

HORIZONTAL \ VERTICAL CONTROL MONUMENTS

SURVEY(2016)	y14097wxy2D.dgn (14000655VY)
DESIGN	y14097pd.dgn, y14097sh.dgn, y14097pf.dgn
UTILITY	y14097upb.dgn
MAPPING	y14097top.dgn
STREETLINE	y14097pal.dgn

DIGITAL INFORMATION

No.	DATE	REVISIONS	INITIAL	SIGNED
1.		ISSUED FOR TENDER		

Toronto Engineering & Construction Services

LICENSED PROFESSIONAL ENGINEER W. K. LIU 100050175 PROVINCE OF ONTARIO

MICHAEL D'ANDREA, P.ENG
CHIEF ENGINEER and EXECUTIVE DIRECTOR
Engineering & Construction Services

FRANK CLARIZIO, P.ENG.
Director, Design & Construction
Transportation Infrastructure & Gardiner Rehabilitation Project

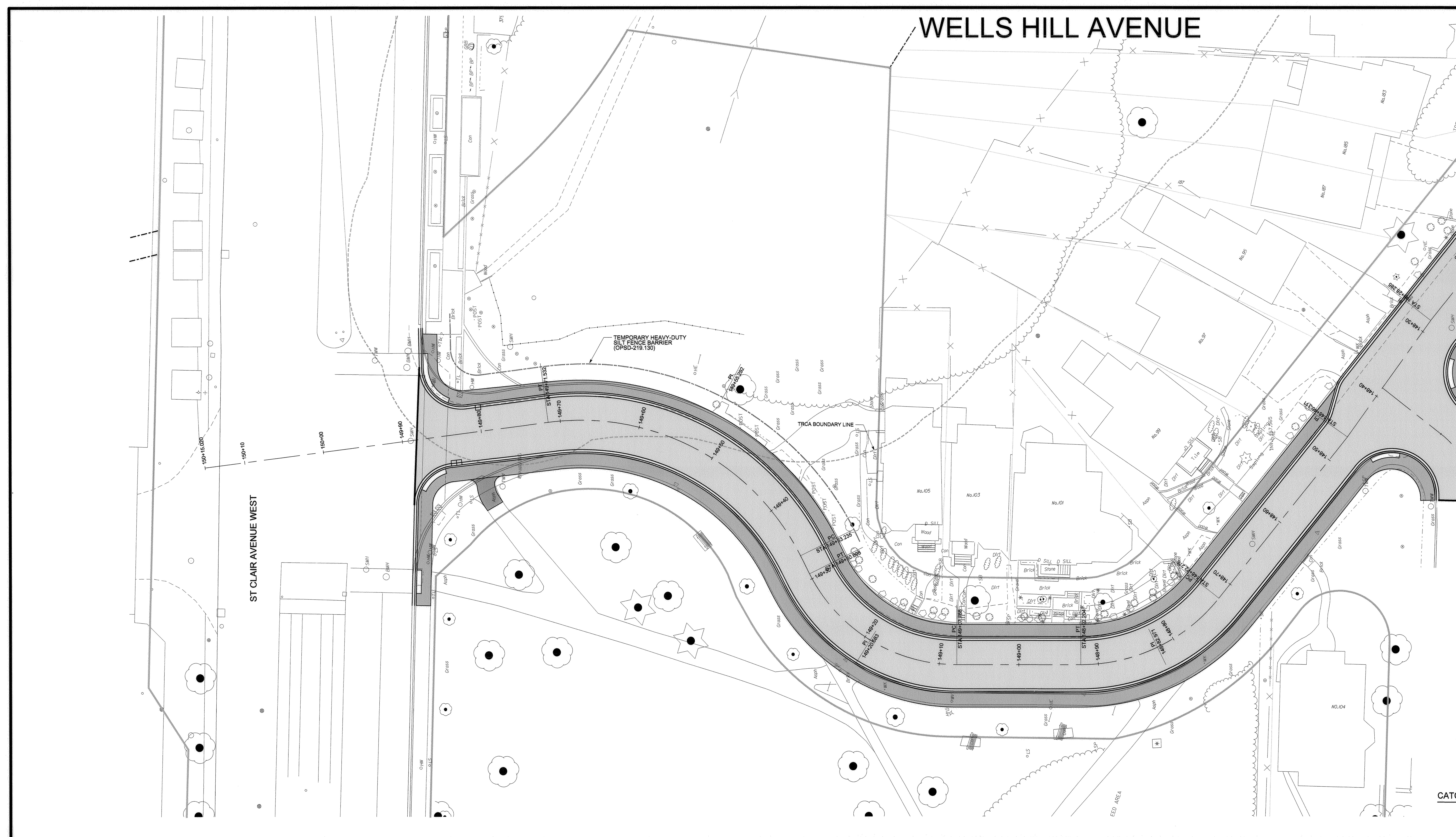
LUIS DE JESUS, P.ENG.
Manager, Design & Construction
Transportation Infrastructure
Local Roads

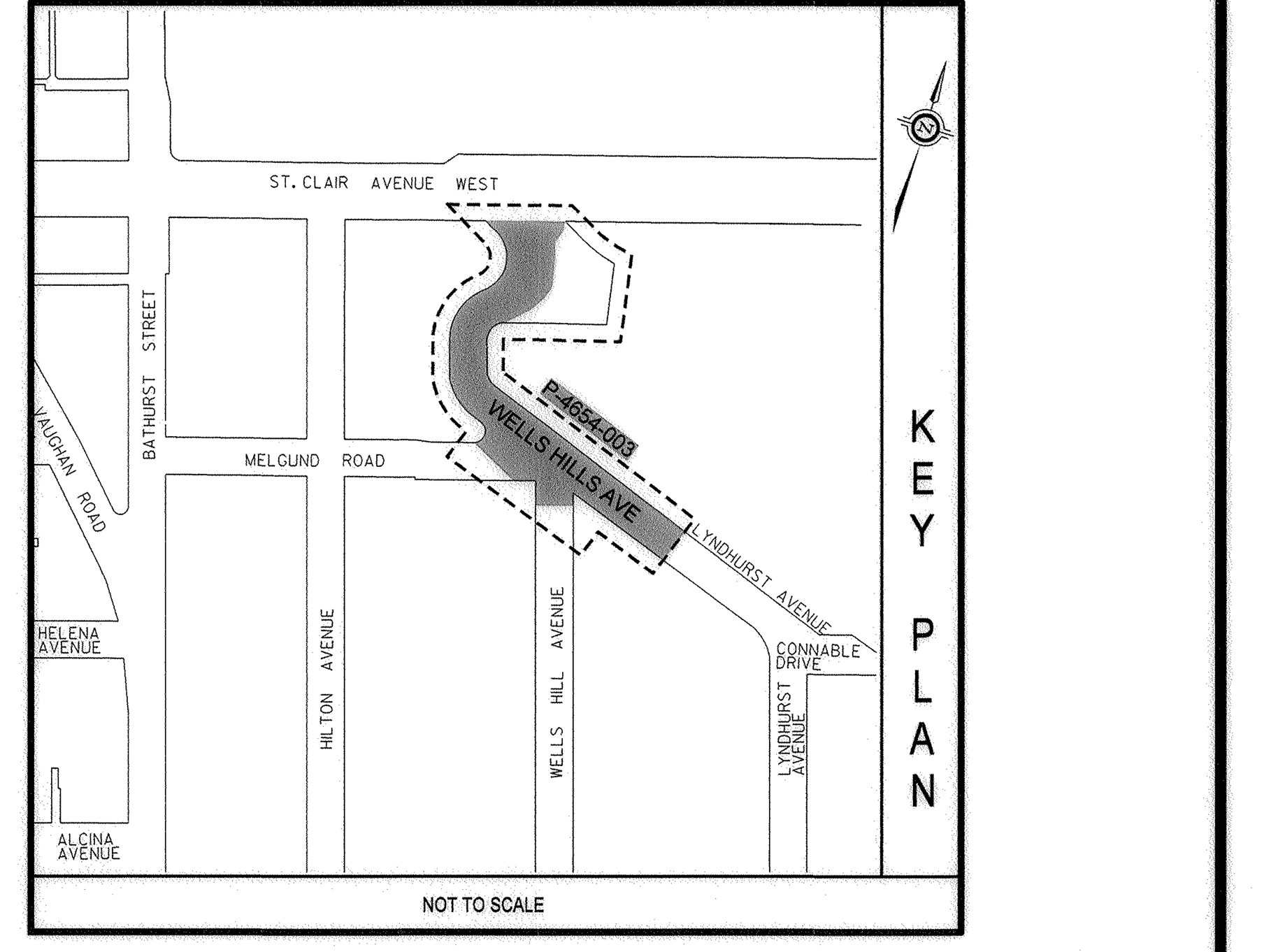
CONSULTANTS

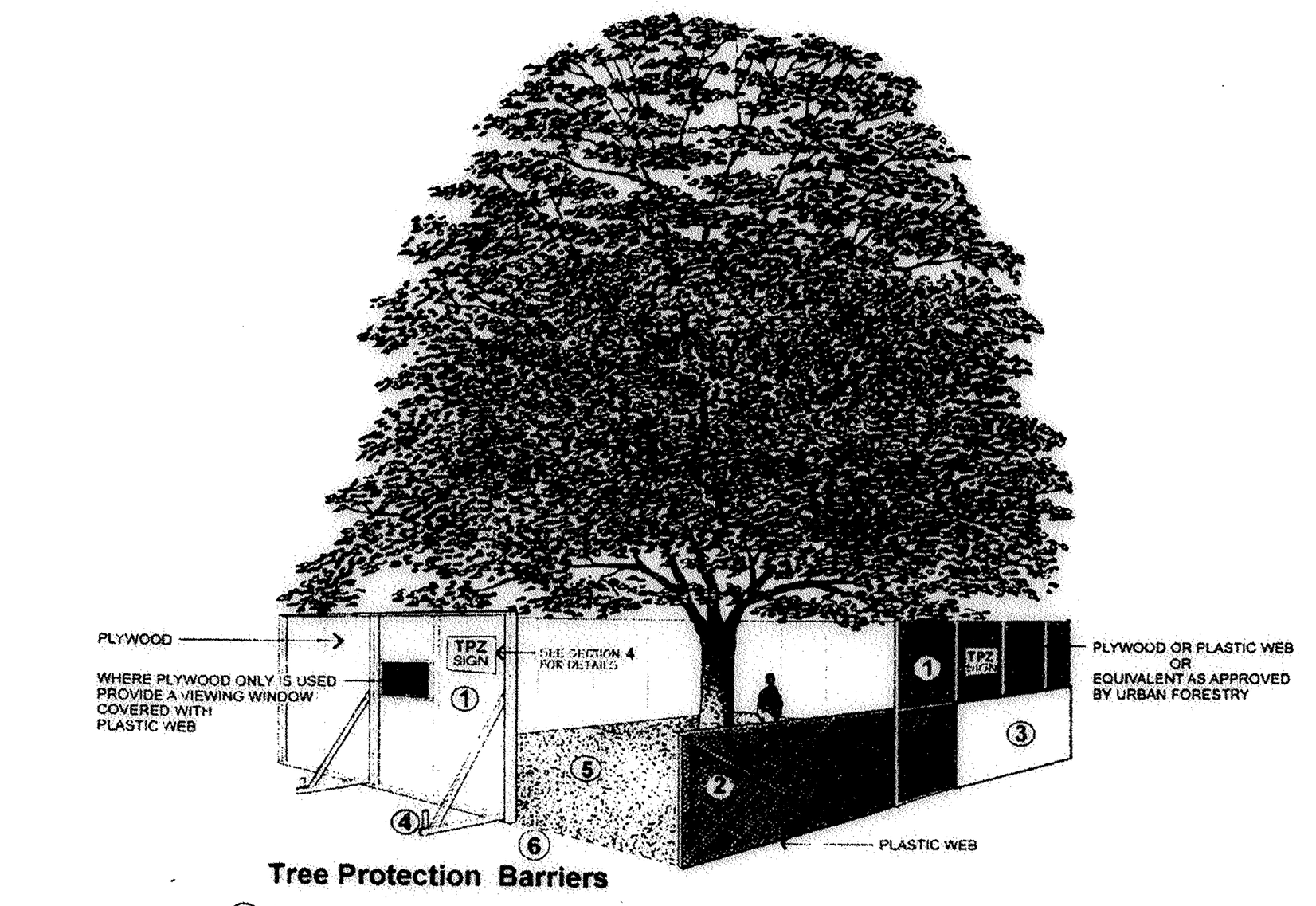
WELLS HILL AVENUE
FROM ST CLAIR AVENUE WEST TO LYNDHURST AVENUE
LOCAL ROAD RECONSTRUCTION
PLAN AND PROFILE

DESIGN	R.C.	DRAWN	R.C.	CHECKED	R.C.	CONTRACT No. 19ECS-TI-11LR
SCALE	HORIZONTAL 1:200 VERTICAL 1:100			DRAWING NUMBER	P-4654-002	SHEET 9 OF 15
DATE	MARCH 19, 2018					

WELLS HILL AVENUE



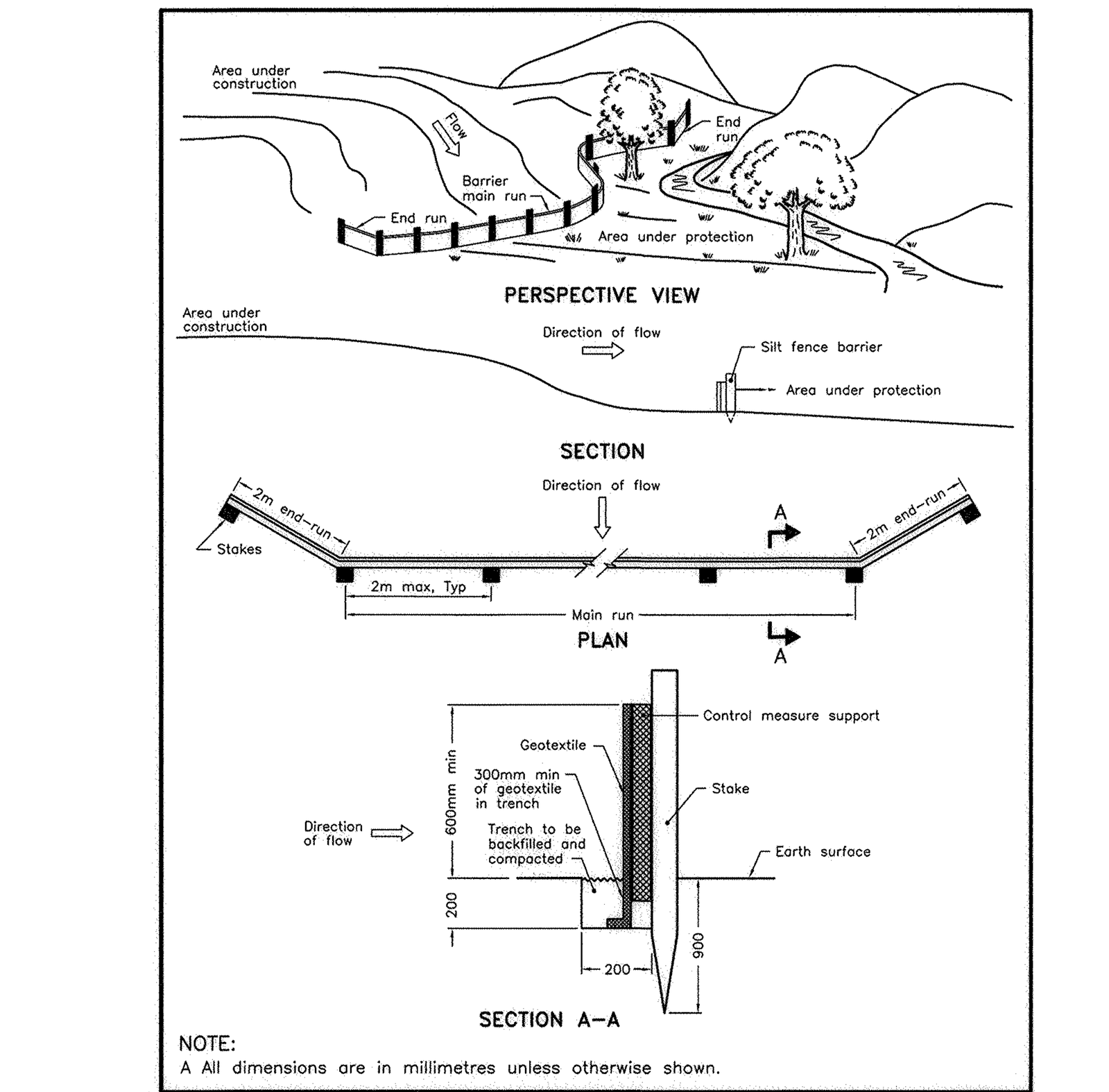




Tree Protection Barriers

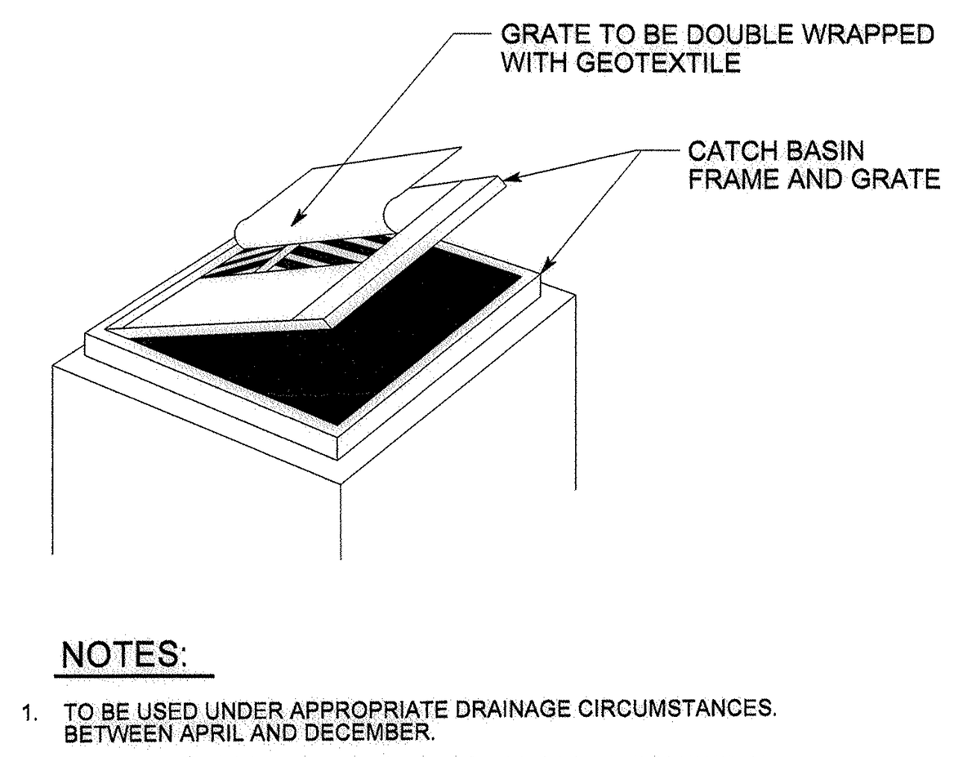
1. Tree protection barriers must be a plywood or plastic web hoarding or equivalent as approved by Urban Forestry.
2. Tree protection barriers for trees situated on the City road allowance where visibility must be maintained can be 1.2m (4ft.) high and consist of orange plastic web snow fencing on a wood frame made of 2"x 4"s .
3. Where some excavate or fill has to be temporarily located near a tree protection barrier, plywood must be used to ensure no material enters the Tree Protection Zone.
4. All supports and bracing should be outside the Tree Protection Zone. All such supports should minimize damaging roots outside the Tree Protection Barrier.
5. No construction activity, grade changes, surface treatment or excavations of any kind is permitted within the Tree Protection Zone.
6. Sediment control fencing shall be installed in locations indicated in an Urban Forestry approved Tree Protection Plan. The sediment control fencing must be installed to Ontario Provicial Standards (OPSD-219.110) and to the satisfaction of Urban Forestry.

TORONTO Parks, Forestry and Recreation
Urban Forestry Sept 2008 **Detail TP-1**



NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2006	Rev 1
HEAVY–DUTY SILT FENCE BARRIER	OPSD 219.130	



NOTES:

1. TO BE USED UNDER APPROPRIATE DRAINAGE CIRCUMSTANCES. BETWEEN APRIL AND DECEMBER.
2. WOVEN GEOTEXTILE TO HAVE A MINIMUM EQUIVALENT OPENING SIZE OF 0.15 mm AND A MAXIMUM EQUIVALENT OPENING SIZE OF 0.25 mm OR A NON WOVEN GEOTEXTILE TO BE CONSIDERED BASED ON SOIL PARAMETERS AND SITE CONDITIONS.
3. GEOTEXTILE TO BE REPLACED PERIODICALLY WHEN ACCUMULATED SEDIMENTS INTERFERES WITH DRAINAGE, OR AS DIRECTED BY THE TRANSPORTATION AND WORKS DEPARTMENT

CATCHBASIN INLET PROTECTION (DETAIL P-1-003)

(CITY OF MISSISSAUGA STD 2930.040)

CONSTRUCTION STAGING:

IN GENERAL, THE CONSTRUCTION OF THIS PROJECT WILL BE COMPLETED AS FOLLOWS:

1. INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES
2. EXCAVATION AND GRADING INCLUDING COMPACTION, TO PREPARE THE SUBGRADE FOR THE INSTALLATION OF THE SIDEWALK / TOE WALLS
3. PLACEMENT OF GRANULAR BASE AND SUB-DRAIN, INCLUDING CONNECTION.
4. CONSTRUCTION OF TOE WALLS, CURB AND SIDEWALK, INCLUDING PLACEMENT AND COMPACTION OF BACKFILL.
5. RESTORATION OF ANY DISTURBED PAVED AREAS.
6. TERRA-SEEDING OF DISTURBED / PROPOSED GRASSED AREAS.
7. REMOVAL AND DISPOSAL OFF SITE OF EROSION AND SEDIMENT CONTROL DEVICES IMMEDIATELY PRIOR TO COMPLETION OF RESTORATION OF LANDSCAPED AREAS

GENERAL NOTES:

1. LIMITS OF CURB RECONSTRUCTION TO MATCH LIMITS OF PROPOSED GRADE CHANGES. (meet cc).
2. CHAINAGE IS ESTABLISHED FROM THE CENTERLINE OF CONSTRUCTION AND GUTTER GRADES ARE CALCULATED ALONG THE GUTTER LINE. DISTANCES SHOWN ARE ALONG THE GUTTER LINE.
3. ANY MATERIAL PLACED AS FILL SHALL BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY.
4. CONTRACTOR SHALL PROVIDE THE EXECUTIVE DIRECTOR WITH A COPY OF THEIR PROPOSED SEED MIX IN ACCORDANCE WITH THE TRCA SEED MIX GUIDELINES A MINIMUM OF 3 WEEKS PRIOR TO REQUIRING SEEDING, FOR REVIEW AND APPROVAL.
5. ALL TREES THAT MAY BE IMPACTED BY THE CONSTRUCTION WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED IN ACCORDANCE WITH THE CITY OF TORONTO TREE PROTECTION POLICY AND SPECIFICATIONS FOR CONSTRUCTION NEAR TREES. HOWEVER, THE LIMITS OF TREE PROTECTION ZONES SHALL BE NO CLOSER THAN 1 m OUTSIDE THE DRIP LINE OF THE TREE TO BE PROTECTED.
6. WHERE CONSTRUCTION ACTIVITY MUST TAKE PLACE WITHIN A TREE PROTECTION ZONE, EXCAVATION MUST BE COMPLETED BY NON-MECHANICAL MEANS AND IN THE PRESENCE OF A REPRESENTATIVE OF URBAN FORESTRY.
7. INSTALL INLET PROTECTION (FILTER FABRIC WRAP) ON EACH EXISTING CATCH BASIN, SEE DETAIL ON THIS DRAWING.
8. EROSION AND SEDIMENT CONTROL (ESC) MEASURES WILL BE IMPLEMENTED PRIOR TO, AND MAINTAINED DURING THE CONSTRUCTION PHASES, TO PREVENT ENTRY OF SEDIMENT INTO THE WATER. ALL DAMAGED EROSION AND SEDIMENT CONTROL MEASURES SHOULD BE REPAIRED AND/OR REPLACED WITHIN 48 HOURS OF THE INSPECTION.
9. DISTURBED AREAS WILL BE MINIMIZED TO THE EXTENT POSSIBLE, AND TEMPORARILY OR PERMANENTLY STABILIZED OR RESTORED AS THE WORK PROGRESSES.
10. ALL IN-WATER AND NEAR WATER WORKS WILL BE CONDUCTED IN THE DRY WITH APPROPRIATE EROSION AND SEDIMENT CONTROLS.
11. THE EROSION AND SEDIMENT CONTROL STRATEGIES OUTLINED ON THE PLANS ARE NOT STATIC AND MAY NEED TO BE UPGRADED/AMENDED AS SITE CONDITIONS CHANGE TO MINIMIZE SEDIMENT LADEN RUNOFF FROM LEAVING THE WORK AREAS. IF THE PRESCRIBED MEASURES ON THE PLANS ARE NOT EFFECTIVE IN PREVENTING THE RELEASE OF A DELETERIOUS SUBSTANCE, INCLUDING SEDIMENT, THEN ALTERNATIVE MEASURES MUST BE IMPLEMENTED IMMEDIATELY TO MINIMIZE POTENTIAL ECOLOGICAL IMPACTS. TRCA ENFORCEMENT OFFICER SHOULD BE IMMEDIATELY CONTACTED. ADDITIONAL ESC MEASURES TO BE KEPT ON SITE AND USED AS NECESSARY.
12. AN ENVIRONMENTAL MONITOR WILL ATTEND THE SITE TO INSPECT ALL NEW CONTROLS, AS WELL AS ON A REGULAR BASIS, OR FOLLOWING RAIN/SNOW MELT EVENT, TO MONITOR ALL WORKS, AND IN PARTICULAR WORKS RELATED TO EROSION AND SEDIMENT CONTROLS, DE-WATERING OR UNWATERING, RESTORATION AND IN- OR NEAR- WATER WORKS. SHOULD CONCERNS ARISE ON SITE THE ENVIRONMENTAL MONITOR WILL CONTACT THE TRCA ENFORCEMENT OFFICER AS WELL AS THE PROPONENT.
13. ALL ACTIVITIES, INCLUDING MAINTENANCE PROCEDURES, WILL BE CONTROLLED TO PREVENT THE ENTRY OF PETROLEUM PRODUCTS, DEBRIS, RUBBLE, CONCRETE OR OTHER DELETERIOUS SUBSTANCES INTO THE WATER. VEHICULAR REFUELING AND MAINTENANCE WILL BE CONDUCTED A MINIMUM OF 30 METRES FROM THE WATER.
14. ALL GRADES WITHIN THE REGULATORY FLOOD PLAIN WILL BE MAINTAINED OR MATCHED.
15. THE PROPONENT/CONTRACTOR SHALL MONITOR THE WEATHER SEVERAL DAYS IN ADVANCE OF THE ONSET OF THE PROJECT TO ENSURE THAT THE WORKS WILL BE CONDUCTED DURING FAVOURABLE WEATHER CONDITIONS. SHOULD AN UNEXPECTED STORM ARISE, THE CONTRACTOR WILL REMOVE ALL UNFIXED ITEMS FROM THE REGIONAL STORM FLOOD PLAIN THAT WOULD HAVE THE POTENTIAL TO CAUSE A SPILL OR AN OBSTRUCTION TO FLOW, E.G., FUEL TANKS, PORTA-POTTIES, MACHINERY, EQUIPMENT, CONSTRUCTION MATERIALS, ETC.
16. ALL DE-WATERING/UNWATERING SHALL BE TREATED AND RELEASED TO THE ENVIRONMENT AT LEAST 30 METRES FROM A WATERCOURSE OR WETLAND AND ALLOWED TO DRAIN THROUGH A WELL-VEGETATED AREA. NO DEWATERING EFFLUENT SHALL BE SENT DIRECTLY TO ANY WATERCOURSE, WETLAND OR FOREST, OR ALLOWED TO DRAIN ONTO DISTURBED SOILS WITHIN THE WORK AREA. THESE CONTROL MEASURES SHALL BE MONITORED FOR EFFECTIVENESS AND MAINTAINED OR REVISED TO MEET THE OBJECTIVE OF PREVENTING THE RELEASE OF SEDIMENT LADEN WATER.
17. ALL ACCESS TO THE WORK SITE SHALL BE FROM EITHER SIDE OF THE WATERCOURSE. NO EQUIPMENT OR VEHICLES ARE PERMITTED TO CROSS THROUGH THE WATERCOURSE UNLESS APPROVED BY TRCA.
18. CONSTRUCTION STORAGE AREA SHALL BE LOCATED OUTSIDE THE TRCA REGULATED AREA.

CONSULTANTS

H.C.M. STATION	EASTING	NORTHING	ELEVATION
B.M. STATION			
HORIZONTAL \ VERTICAL CONTROL MONUMENTS			

DIGITAL INFORMATION	
SURVEY(2016)	y14097svy2D.dgn (1400065SVY)
DESIGN	y14097pd.dgn, y14097sh.dgn, y14097pf.dgn
UTILITY	y14097ugs.dgn
MAPPING	y14097top.dgn
STREETLINE	y14097psl.dgn

No.	DATE	REVISIONS	INITIAL	SIGNED

TORONTO Engineering & Construction Services

LICENSED PROFESSIONAL ENGINEER W. K. LIU 100056175 MAR20,2018 PROVINCE OF ONTARIO

MICHAEL D'ANDREA, P.ENG
CHIEF ENGINEER and EXECUTIVE DIRECTOR
Engineering & Construction Services

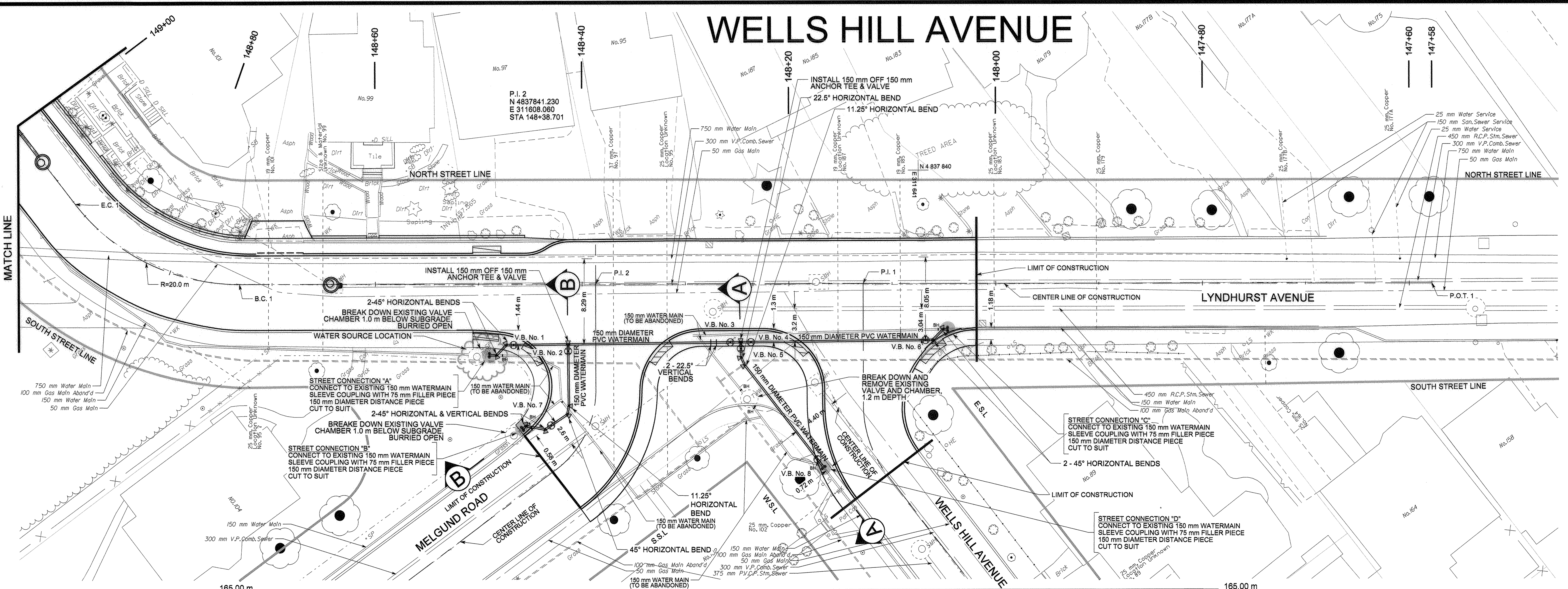
FRANK CLARIZIO, P.ENG.
Director, Design & Construction
Transportation Infrastructure & Gardiner Rehabilitation Project

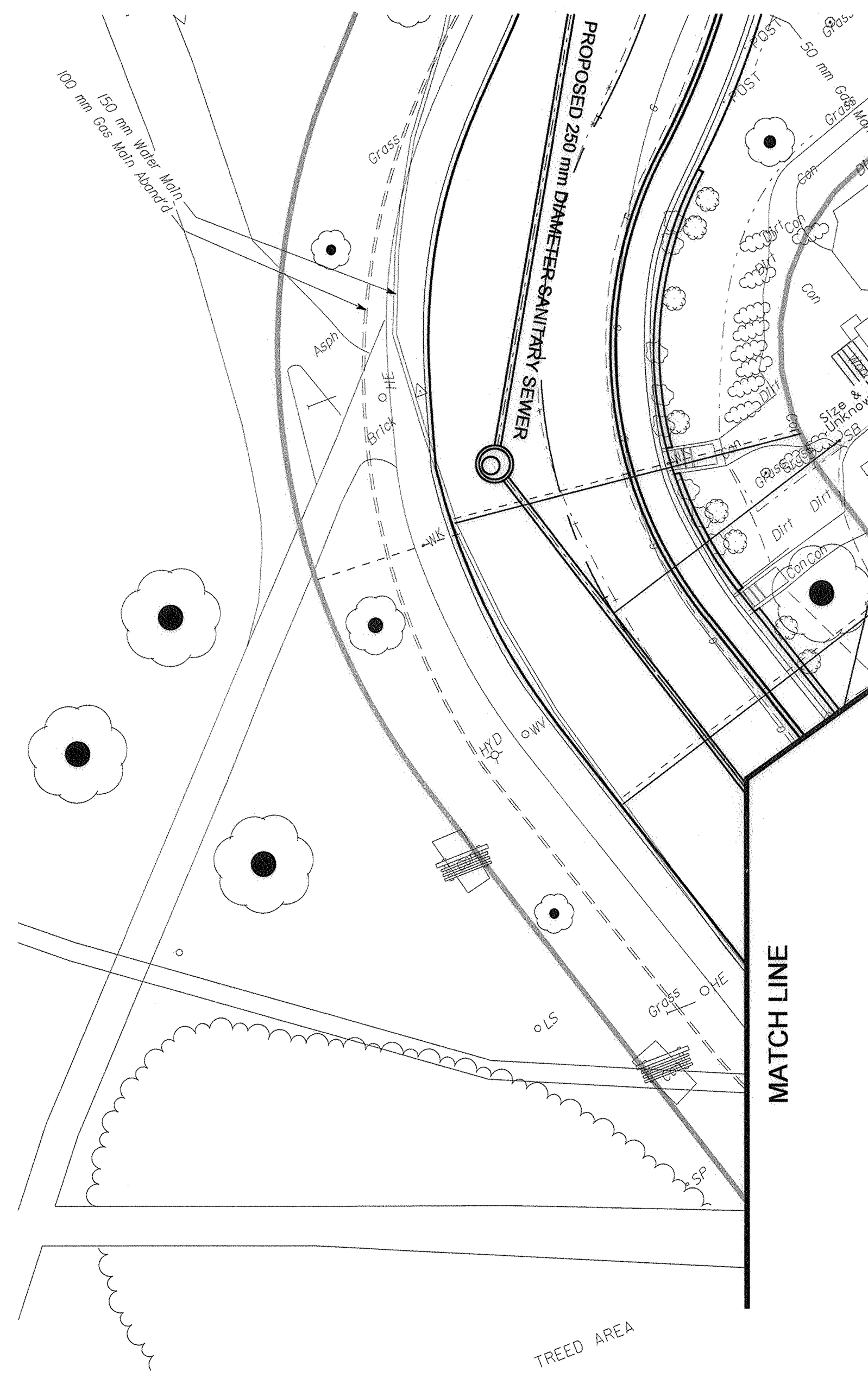
LUIS DE JESUS, P.ENG.
Manager, Design & Construction
Transportation Infrastructure
Local Roads

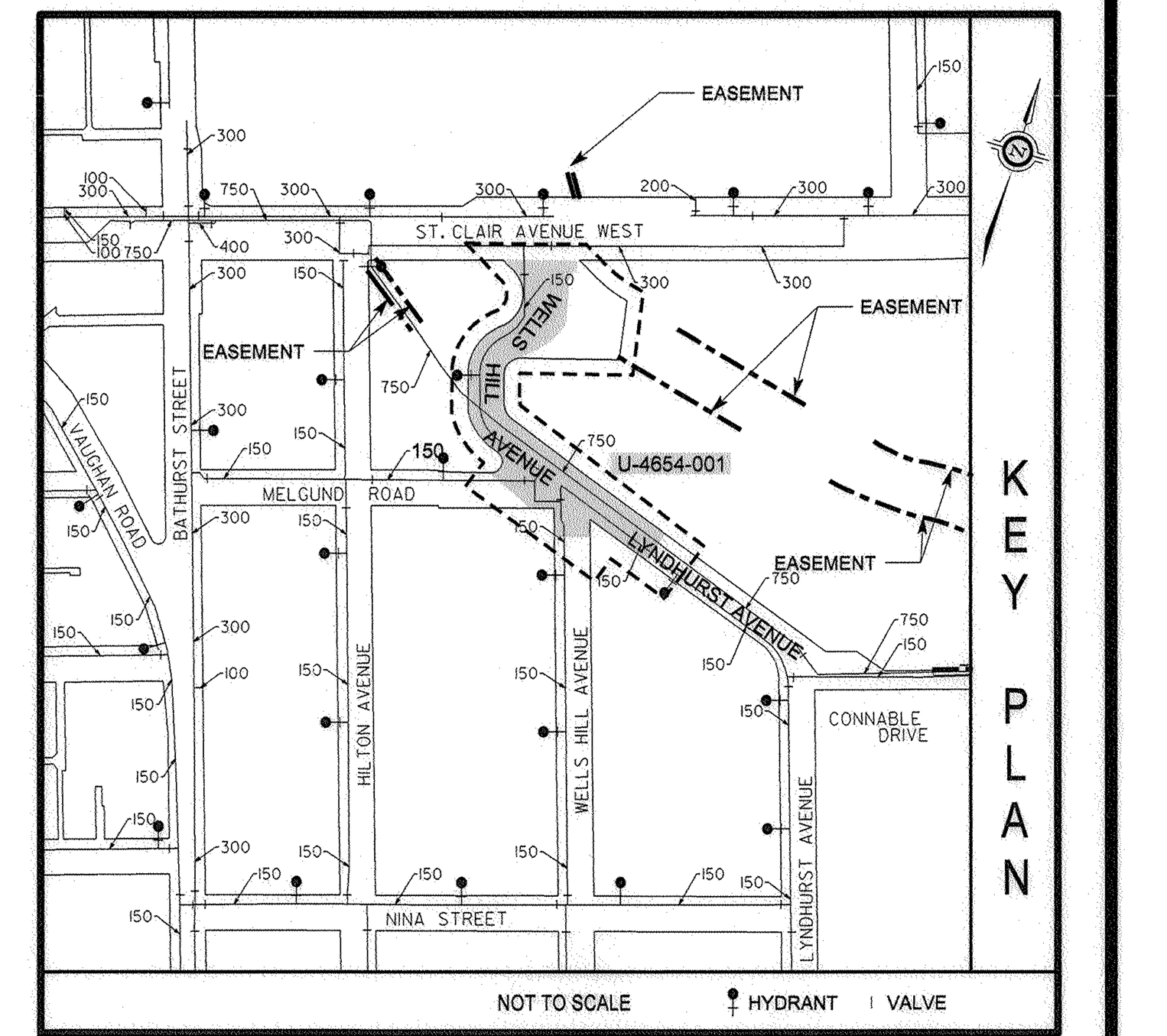
WELLS HILL AVENUE
FROM ST CLAIR AVENUE WEST TO LYNDHURST AVENUE
EROSION AND SEDIMENT CONTROL
PLAN

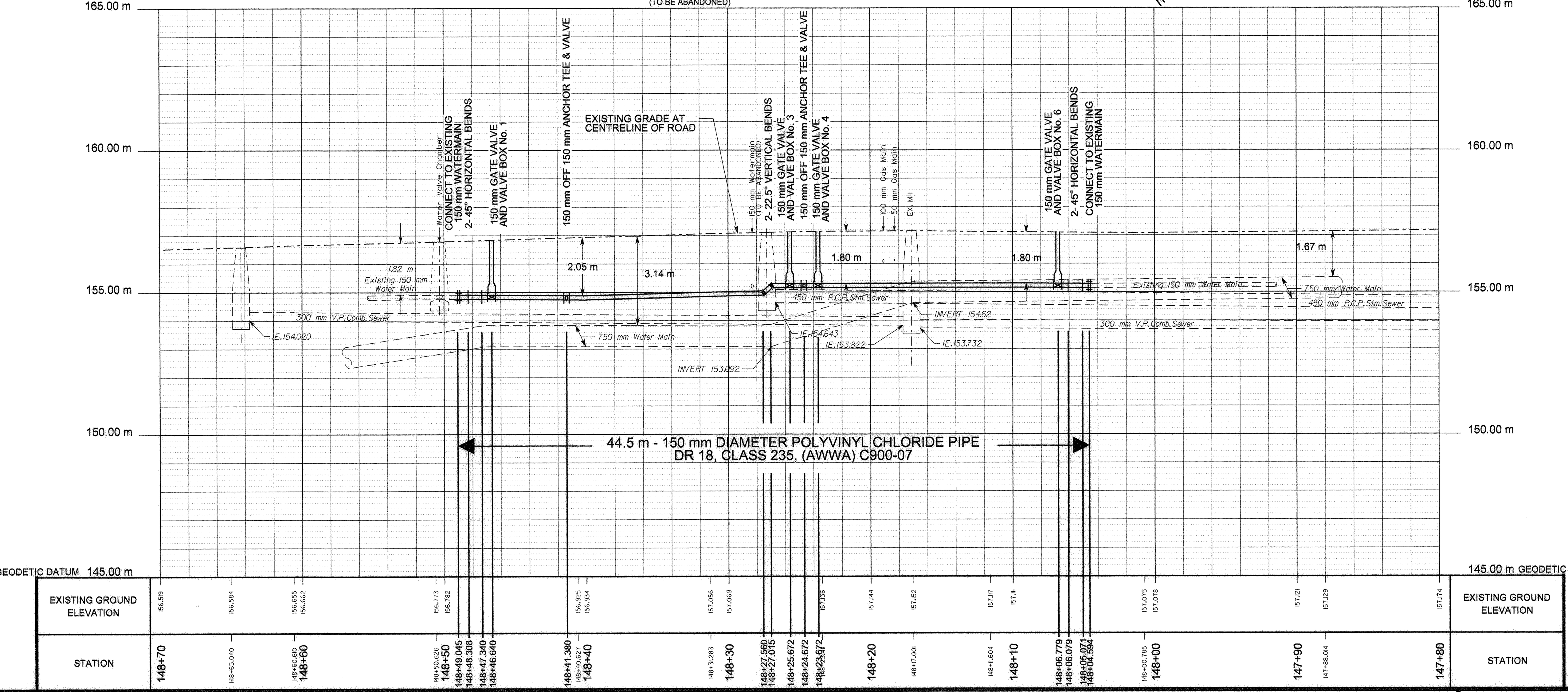
DESIGN	R.C.	DRAWN	R.C.	CHECKED	R.C.	CONTRACT No. 19ECS–TI–11LR	
SCALE	HORIZONTAL 1:200 VERTICAL 1:100			DRAWING NUMBER	P-4654-003		SHEET 10 OF 15
DATE	MARCH 19, 2018						

WELLS HILL AVENUE

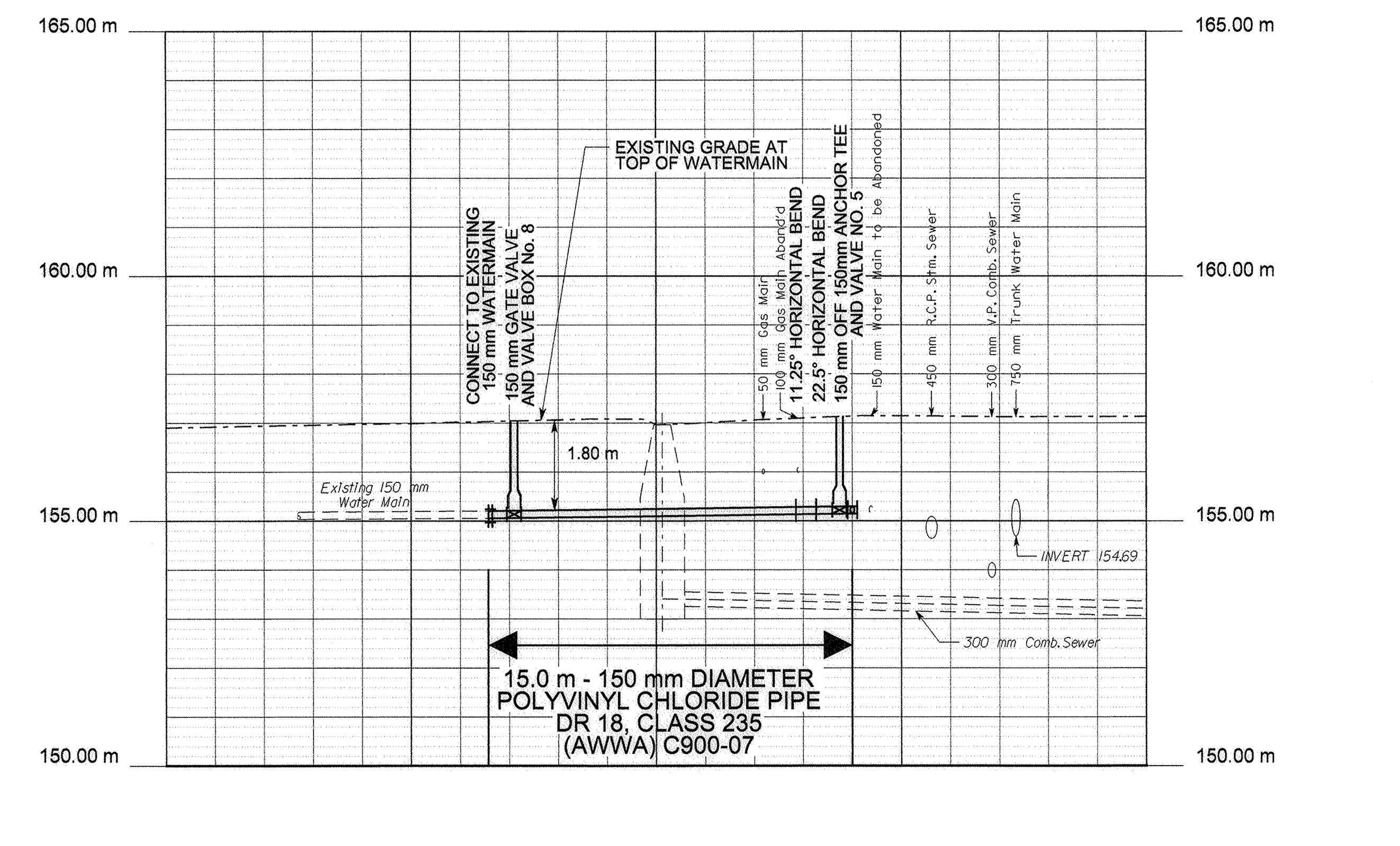




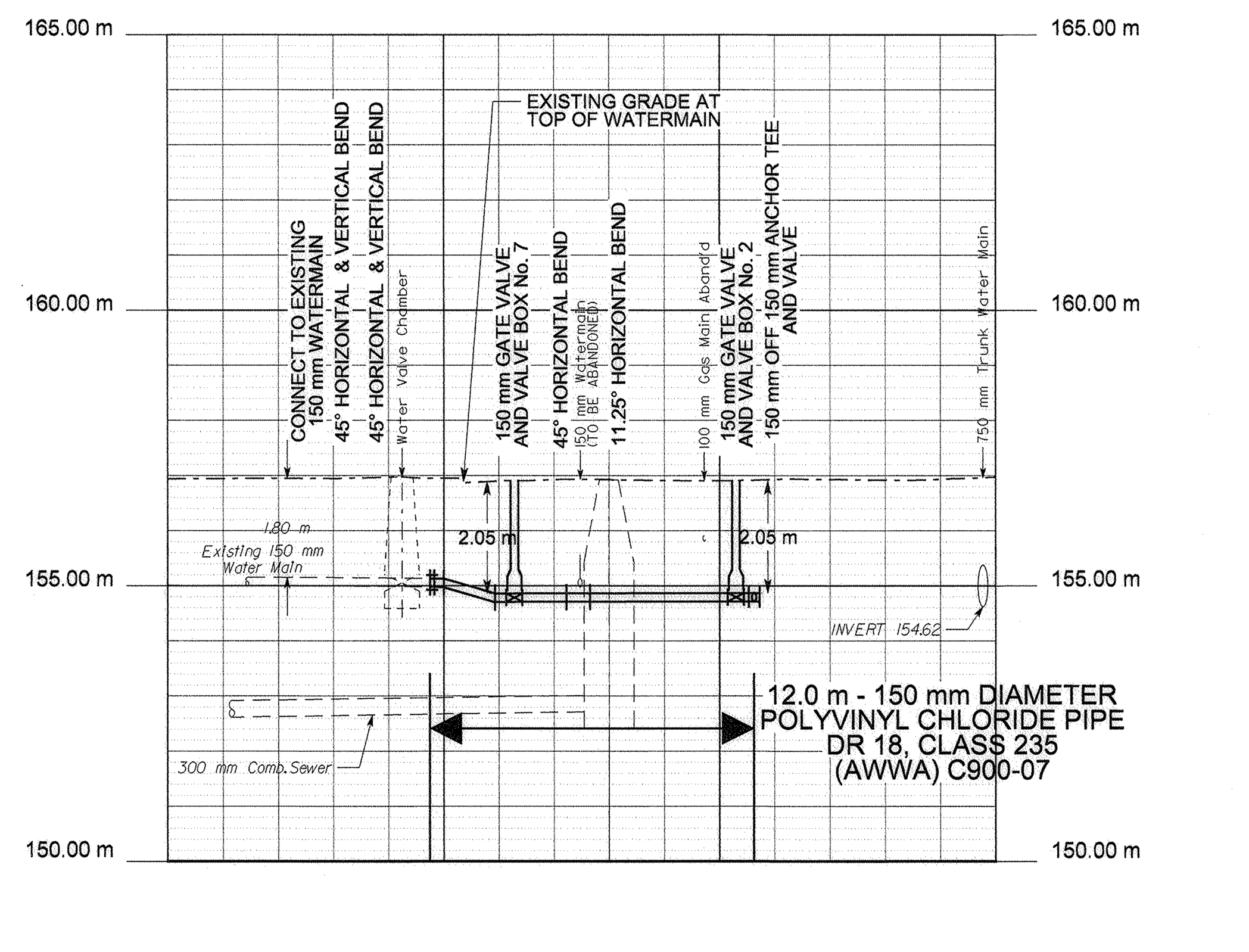




SECTION "A" - "A"
AT WELLS HILL AVENUE
STA. 148+24.672



SECTION "B" - "B"
AT MELGUND ROAD
STA. 148+41.380



LEGEND:

- PROPOSED WATER SERVICE CONNECTION
- EXISTING WATER SERVICE CONNECTION
- BH — INSTALL 150 mm THICK CONCRETE BULKHEAD
- V.B. #__ (230 mm TOP AS DIRECTED)
- SERVICE LINE VALVE (150 mm TOP AS DIRECTED)
- REMOVE HYDRANT
- INSULATE AS PER STANDARD No. T-708.01-4

PLAN NOTES:

1. FLOW DIRECTION IS BASED ON USING A STATIC HYDRAULIC MODEL AND AVERAGE DAY DEMAND SCENARIO:

   MELGUND ROAD - EAST FROM HILTON AVENUE TO WELLS HILL AVENUE
   WELLS HILL AVENUE - NORTH FROM NINA STREET TO LYNDHURST AVENUE / MELGUND ROAD
   LYNDHURST AVENUE - EAST FROM MELGUND ROAD / WELLS HILL AVENUE

SEE DRAWING P-4654-001 & P-4654-002 FOR ROADWAY DESIGN
SEE DRAWING P-4654-003 FOR EROSION AND SEDIMENT CONTROL
SEE DRAWING U4654-002 FOR SANITARY SEWER DESIGN

DIGITAL INFORMATION	
SURVEY(2016)	y14097svy2D.dgn (PS_1400065SVY.dgn)
DESIGN	y14098wat.dgn, y14098watpf.dgn
UTILITY	y14097ugs.dgn
MAPPING	y14097top.dgn
STREETLINE	y14097psl.dgn

No.	DATE	REVISIONS	INITIAL	SIGNED
1	29/03/ 2017	ISSUED FOR TENDER	NM	

TORONTO Engineering & Construction Services

LICENSED PROFESSIONAL ENGINEER S.R. VIRK 100097655 March/30/2017 PROVINCE OF ONTARIO

MICHAEL D'ANDREA, P.ENG
EXECUTIVE DIRECTOR
Engineering & Construction Services

FRANK CLARIZIO, P.ENG.
Director, Design & Construction
Transportation Infrastructure

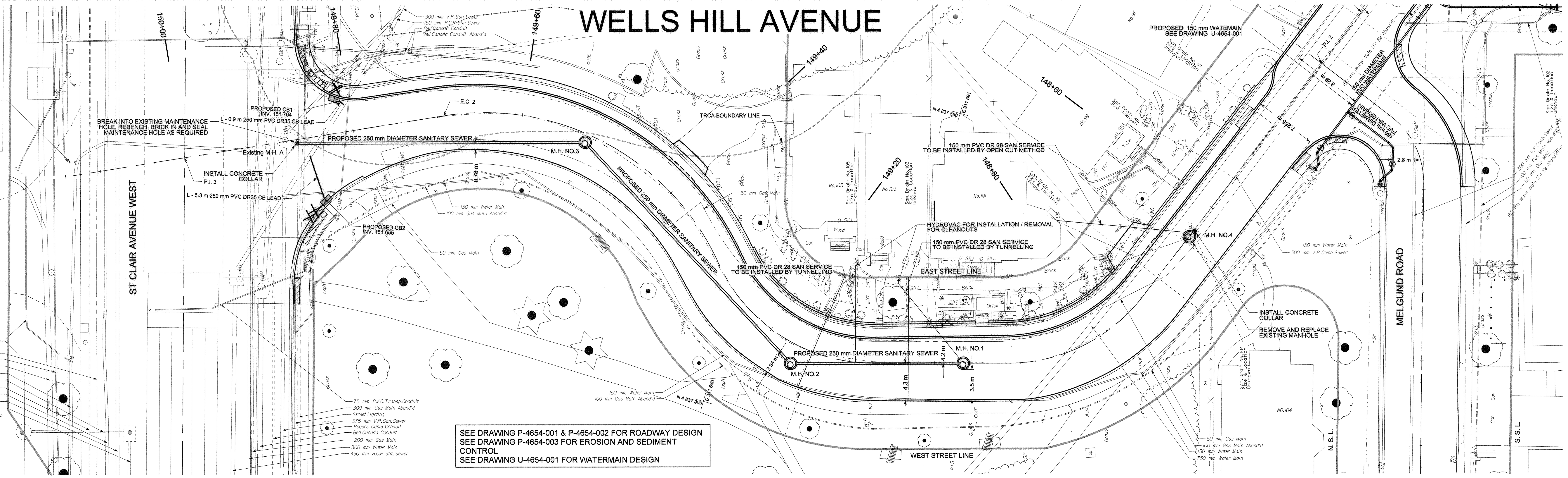
KIMMO HAMALAINEN, P.ENG.
Manager, Design & Construction
Transportation Infrastructure
Streetcar Way & Special Projects

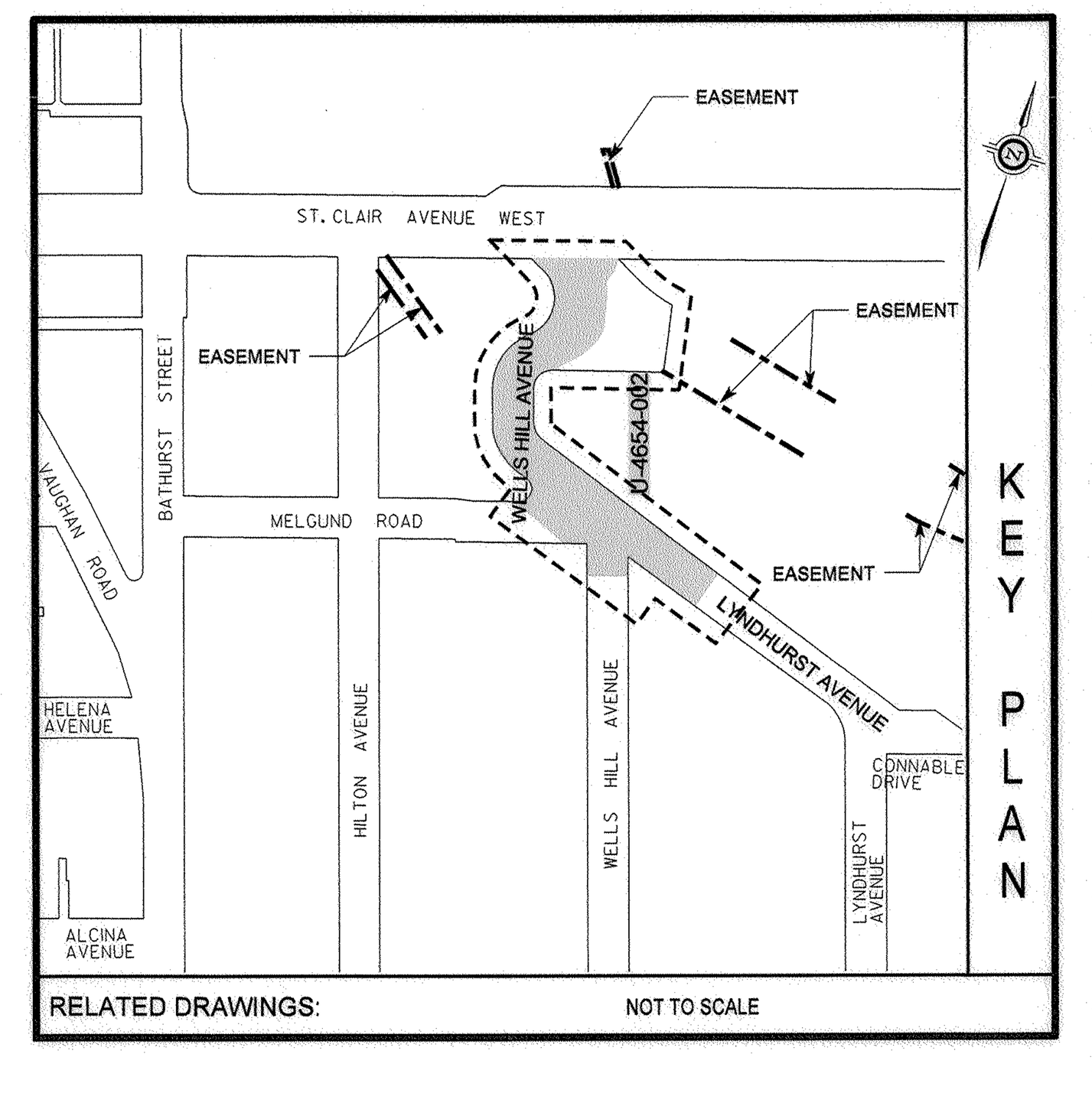
WELLS HILL AVENUE

FROM LYNDHURST AVENUE TO ST. CLAIR AVENUE WEST
WATERMAIN REPLACEMENT
PLAN AND PROFILE

DESIGN	S.V.	DRAWN	N.M./G.M.	CHECKED	F.R.	CONTRACT No. 19ECS-TI-11LR
SCALE	HORIZONTAL 1:200 VERTICAL 1:100			DRAWING NUMBER	U-4654-001	SHEET 11 of 15
DATE	MARCH, 2017					

WELLS HILL AVENUE





LEGEND:

——— PROPOSED DRAIN CONNECTION (SIZE AS DIRECTED)

- - - - EXISTING SEWER DRAIN (LOCATION MAY BE APPROXIMATE)

PLAN NOTES:

PLANIMETRIC MAPPING DATA OBTAINED FROM AERIAL PHOTOGRAPHY DATED "MONTH DAY, YEAR"

SURVEY DATA UPDATED "MONTH DAY, YEAR"; "MONTH DAY, YEAR"

LEGAL LIMIT OBTAINED FROM SURVEYS & MAPPING SSARA "MONTH DAY, YEAR"

SOME DIMENSIONED FEATURES AND ELEVATIONS ARE NOT SURVEYED, BUT BASED ON PROPOSED IN PLACE DESIGN AND ARE NOTED BY A (+/-) INDICATOR. THE SIDEWALK TREATMENTS, STREET FURNITURES, AND UTILITY DEVICES MAY NOT REFLECT THE CURRENT FIELD CONDITIONS. OTHER PROPOSED FEATURES (i.e. POLES, HANDHOLES, HANDWELLS) MAY BE APPROXIMATE, LOCATIONS MUST BE CONFIRMED ON SITE.

UNDERGROUND UTILITIES OBTAINED FROM CITY "PUCC" FILES, CITY PLANS SUB-SURFACE UNDERGROUND ENGINEERING INVESTIGATION (SUE) OR MODIFIED TO MEET SURVEY UPDATE.

PROPOSED IN PLACE GAS AND HYDRO LOCATIONS ARE TAKEN FROM AS BUILT NOTES PROVIDED BY EACH RESPECTIVE UTILITY STAKEHOLDER.

ALL EXISTING UTILITIES SHOWN ON DRAWINGS (PLAN AND PROFILE) ARE FOR REFERENCE PURPOSES ONLY. THE CONTRACTOR SHALL SATISFY THEMSELVES AS TO THE ACTUAL LOCATION AND DEPTH OF ANY UTILITY AND SHALL BE LIABLE FOR ALL, OR ANY DAMAGES.

PROFILES TYPICALLY SHOW THE INSIDE DIAMETER OF PIPES. FOR CLEARANCES BETWEEN UTILITIES THE WALL THICKNESS MAY NOT BE INDICATED

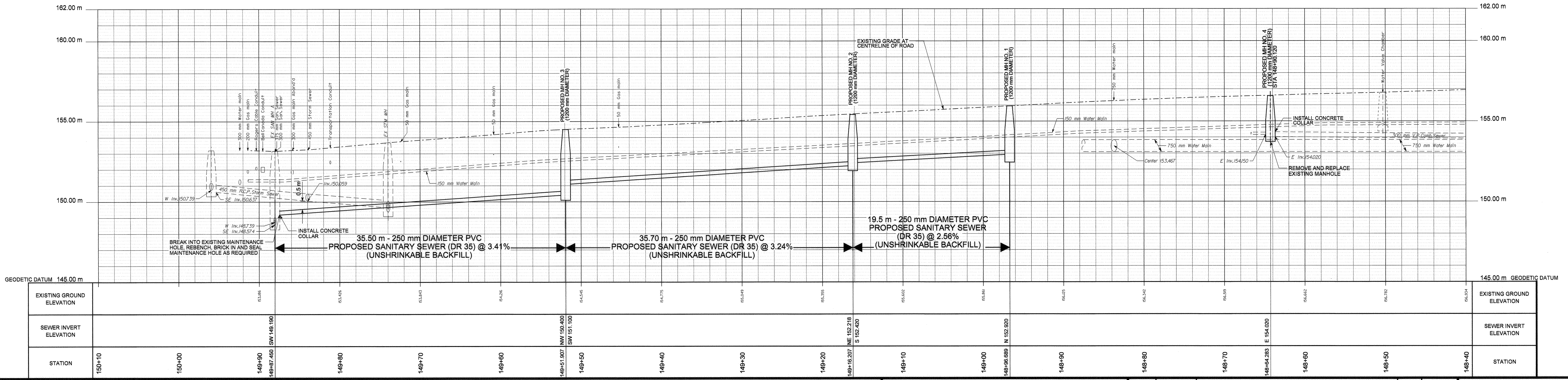
INFORMATION REGARDING DEPTHS AND LOCATION OF EXISTING UTILITIES ARE APPROXIMATE, TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE CONSTRUCTION.

ANY EXCAVATION OUTSIDE THE PAVED AREA SHOULD BE HYDROVAC.

<u>* PROFILE CHAINAGE: *</u>

STATIONS SHOWN ALONG PROFILE ARE ESTABLISHED FROM THE CENTRELINE OF CONSTRUCTION AND ARE PROJECTED TO THE SEWER. THE PROFILE CHAINAGE DIFFERENCE MAY NOT REFLECT THE TRUE LENGTH ALONG THE SEWER.

- SEE DRAWING M-4654-006 FOR PAVEMENT MARKINGS (TRANSPORTATION SERVICES DRAWING. No. T-1190-1)
- SEE DRAWING No. T-1190-1 FROM TRANSPORTATION SERVICES FOR PROPOSED PAVEMENT MARKINGS (OUR FILE M-4654-006).



DIGITAL INFORMATION	
SURVEY(2016)	y14097svy2D.dgn (PS_1400065SVY.dgn)
DESIGN	y14099san.dgn, y14099sanpf.dgn
UTILITY	y14097ugs.dgn
MAPPING	y14097top.dgn
STREETLINE	y14097psl.dgn

No.	DATE	REVISIONS	INITIAL	SIGNED
1	29/03/2017	ISSUED FOR TENDER	NM	

TORONTO Engineering & Construction Services

S.R. VIRK 100037655 March 30/2017

MICHAEL D'ANDREA, P.ENG
EXECUTIVE DIRECTOR
Engineering & Construction Services

FRANK CLARIZIO, P.ENG.
Director, Design & Construction
Transportation Infrastructure

KIMMO HAMALAINEN, P.ENG.
Manager, Design & Construction
Transportation Infrastructure
Streetcar Way & Special Projects

WELLS HILL AVENUE

FROM LYNDHURST AVENUE TO ST. CLAIR AVENUE WEST
PROPOSED SANITARY SEWER
PLAN AND PROFILE

DESIGN	S.V.	DRAWN	N.M./G.M.	CHECKED	F.R.	CONTRACT No. 19ECS-TI-11LR
SCALE	HORIZONTAL 1:200 VERTICAL 1:100			DRAWING NUMBER	U-4654-002	SHEET 12 OF 15
DATE	MARCH, 2017					