

1.1 USE BAR SCALE TO CONFIRM ACTUAL PLOT SCALE. EXISTING AND NEW ELEVATIONS AND INVERTS SHOWN ARE GEODETIC AND ARE IN METERS. ALL PIPE DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

1.2 UNLESS OTHERWISE STATED "ENGINEER" REFERS TO D. B. GRAY ENGINEERING INC.

1.3 EXISTING ELEVATIONS AND LOCATIONS, INVERTS AND/OR SERVICE & UTILITIES ARE NOT NECESSARILY SHOWN ON PLAN AND THOSE SHOWN ARE DERIVED FROM AVAILABLE INFORMATION AND MUST BE CONFIRMED ON SITE BEFORE COMMENCING CONSTRUCTION. REPORT ANY DIFFERENCES TO ENGINEER. UNDERGROUND LOCATES (INCLUDING ONTARIO ONE CALL: 1-800-400-2255) SHALL BE CONDUCTED PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION.

1.4 SITE BOUNDARIES AND EXISTING GRADES AND OTHER FEATURES DERIVED FROM TOPOGRAPHIC SURVEY PREPARED BY STANTEC GEOMATICS LTD. PROJECT No. 161614156-111 WHERE "ELEVATIONS" SHOWN HEREON ARE GEODETIC (CGD-1928-1978) AND ARE DERIVED/FROM THE CAN-NET VRS NETWORK MONUMENT: OTTAWA ELEVATION=95.230.

IT IS THE RESPONSIBILITY OF THE USER OF THE SURVEY PLAN AND THESE DRAWINGS TO VERIFY THAT THE JOB BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREE WITH THE INFORMATION SHOWN ON SURVEY PLAN AND THESE DRAWINGS.

1.5 REFER TO ARCHITECTURAL AND LANDSCAPE SITE PLANS FOR EXACT LOCATIONS OF BUILDINGS, PAVED AREAS, SIDEWALKS, PLANTERS ETC.

1.6 THE USER OF THESE DRAWINGS IS ADVISED THAT ADDITIONAL INVESTIGATION AND/OR CONSTRUCTION OF THE PROJECT MAY BE REQUIRED. FE-19-955566g, SITE PREPARATION INCLUDING BUILDING SUB-GRADE PREPARATION AND PAVEMENT SUB-GRADE PREPARATION AND CONSTRUCTION OF THE PAVEMENT STRUCTURE AND EXCAVATION AND BACKFILLING, INCLUDING COMPACTION OF MATERIALS, SHALL CONFORM TO THE GEOTECHNICAL INVESTIGATION TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.

1.7 UNLESS OTHERWISE STATED, ALL WORK IS TO BE READ IN CONJUNCTION WITH SERVING BRIC & STORM WATER MANAGEMENT REPORT No. 19107 PREPARED BY D. B. GRAY ENGINEERING INC.

1.8 REINSTATE ADJACENT PROPERTIES TO PRE-CONSTRUCTION CONDITIONS.

1.9 REINSTATE CITY PROPERTIES TO CITY STANDARDS AND TO CITY OF OTTAWA'S SATISFACTION.

1.10 ALL RELEVANT WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT CITY STANDARDS AND SPECIFICATIONS.

1.11 THE USER OF THESE DRAWINGS IS ADVISED THAT ADDITIONAL INVESTIGATION AND/OR CONSTRUCTION OF THE PROJECT MAY BE REQUIRED. IF ANY CITY STANDARDS WILL APPLY WHERE NO CITY STANDARDS ARE AVAILABLE.

1.12 ALL PROPOSED RETAINING WALLS SHALL BE SETBACK A MINIMUM 0.15m FROM PROPERTY LINE. ALL PROPOSED RETAINING WALLS GREATER THAN 1.0m IN HEIGHT SHALL BE DESIGN BY A PROFESSIONAL ENGINEER REGISTERED IN ONTARIO.

2.1 THE EROSION AND SEDIMENT CONTROL PLAN IS A "LIVING DOCUMENT" AND SHALL BE REVISED IN THE EVENT THE SPECIFIED CONTROL MEASURES ARE NOT SUFFICIENT. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES TO PROVIDE PROTECTION OF THE AREA DRAINAGE SYSTEMS AND TO PREVENT ANY WAITING. THE CONTRACTOR SHALL MAINTAIN CONSTRUCTION ACTIVITIES THAT INCLUDES LIMITING THE AMOUNT OF EXPOSED SOIL USING SEEDING, CAPTURE FILTER SOCK INSERTS IN CATCH BASINS AND MANHOLES AND INSTALLING SILT FENCES AND OTHER EFFECTIVE SEDIMENT TRAPS. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMEDIAL ACTION. SPECIFICALLY THE CONTRACTOR SHALL INSTALL THE FOLLOWING CONTROL MEASURES TO MAINTAIN AND REMOVE THE CONTROL MEASURES:

2.2 PRIOR TO COMMENCEMENT OF CONSTRUCTION AT ALL MUNICIPAL CATCH BASINS ADJACENT TO THE SITE AND AT ANY MANHOLES OR CATCH BASINS ADJACENT TO THE SITE, THE CONTRACTOR SHALL INSTALL CAPTURE FILTER SOCKS. THE CONTRACTOR SHALL INSTALL CAPTURE FILTER SOCK INSERTS (TERAFIX GEOSYNTHETICS INC SILTSAK OR APPROVED EQUAL). INSPECT AT THE END OF EACH DAY AND AFTER EACH RAINFALL REMOVE SEDIMENT AS RECOMMENDED BY THE MANUFACTURER. IMMEDIATELY REPAIR OR REPLACE ANY DAMAGED FILTER SOCK INSERTS. DO NOT REMOVE SEDIMENT FROM THE CATCH BASIN UNTIL THE NEXT DAY.

2.3 INSTALL A SILT FENCE BARRIER AROUND STOCKPILED SEDIMENT OR SOIL. PRIOR TO COMMENCEMENT OF CONSTRUCTION INSTALL A SILT FENCE BARRIER AS SHOWN ON PLANS. INSPECT ALL SILT FENCES AT THE END OF EACH DAY AND AFTER EACH RAINFALL. REMOVE SEDIMENT DEPOSITS IMMEDIATELY. IMMEDIATELY REPAIR OR REPLACE ANY DAMAGED SECTIONS OF FENCE. DO NOT REMOVE ANY SILT FENCES IN ANY PHASE UNTIL CONSTRUCTION IS COMPLETE.

2.4 CONTROL AND LIMIT VEHICLE ACCESS TO AND AROUND THE CONSTRUCTION SITE TO MINIMIZE THE DISTURBANCE OF SOIL AND VEGETATION. PRIOR TO CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL INSTALL MUD MATS (TERAFIX GEOSYNTHETICS INC. OR APPROVED EQUAL). MUD MATS SHALL BE THE FULL WIDTH OF THE EGRESS POINT AND AT LEAST 18m IN LENGTH. MUD MATS SHALL BE WASHED AS REQUIRED TO PREVENT MATERIAL FROM BEING TRACKED ONTO THE PUBLIC ROAD. DO NOT REMOVE MUD MATS UNTIL CONSTRUCTION IS COMPLETE. IN ADDITION, IF REQUIRED TO PREVENT MATERIAL FROM BEING TRACKED ONTO THE PUBLIC ROAD, WASH VEHICLE TIRES AT THE EGRESS POINT.

2.5 ANY MATERIAL DEPOSITED ON PUBLIC ROAD SHALL BE REMOVED BY SWEEPING AND SHOVELING OR VACUUMING AND DISPOSING SEDIMENT IN A CONTROLLED AREA. DO NOT SWEEP OR HOSE MATERIAL INTO ANY STORMWATER CONVEYANCE SYSTEM.

2.6 CONSTRUCTION IS CONSIDERED COMPLETE WHEN THE FOLLOWING CONDITIONS HAVE BEEN MET:

- a. ALL STRUCTURES HAVE BEEN BUILT.
- b. ALL HARD SURFACES HAVE BEEN CONSTRUCTED.
- c. ALL PROPOSED GRASSED AREAS ARE EITHER SOODED OR HAVE A FULL COVERAGE OF WELL ESTABLISHED TURF AND HAVE A MINIMUM OF ONE FULL GROWING SEASON (MAY 15TH TO SEPTEMBER 15TH).
- d. THERE ARE NO AREAS OF EXPOSED EARTH.

2.7 REMOVE EROSION AND SEDIMENT CONTROL MEASURES WHEN CONSTRUCTION IS COMPLETE.

3.1 NEW GRADES TO MATCH EXISTING AT PROPERTY LINE. NO EXCESS DRAINAGE WILL BE DRAINAGE TOWARDS THE ADJACENT PROPERTIES DURING AND AFTER CONSTRUCTION. THERE WILL BE NO ALTERATION TO EXISTING GRADE AND DRAINAGE PATTERNS ON PROPERTY LINE.

3.2 ALL AREAS SHALL BE GRADED TO ENSURE ADEQUATE DRAINAGE AWAY FROM BUILDINGS TO CATCH BASINS, SWALES, DITCHES AND OTHER DRAINAGE FEATURES. GRADING SHALL BE GRADUAL BETWEEN FINISHED SPOT ELEVATIONS SHOWN ON DRAWINGS TO PREVENT PONDING (OTHER THAN PONDING REQUIRED FOR STORMWATER MANAGEMENT).

3.3 WHETHER RESULT OF POOR WORKMANSHIP OR DAMAGE: DEFECTIVE GRADING SHALL BE CORRECTED. PROMPTLY MAKE GOOD OTHER CONTRACTOR'S WORK DAMAGED BY SUCH CORRECTIONS.

4.1. EXISTING WATER CONNECTIONS TO BE DECOMMISSIONED SHALL BE BLANKED AT CITY WATERMAIN BY CITY FORCES. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING AND REINSTATEMENT. CONNECTION TO WATERMAIN BY CITY OF OTTAWA FORCES, CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING AND REINSTATEMENT.

4.2. WATER METER SHALL BE INSTALLED AS PER CITY OF OTTAWA DWG. NO. W31.

4.3. ALL WATER SERVICE MATERIALS AND CONSTRUCTION METHODS TO CITY OF OTTAWA STANDARDS AND ONTARIO PROVINCIAL STANDARDS.

4.4. WATER SERVICE SHALL BE INSTALLED AS PER CITY OF OTTAWA DWG. NO. W25. FIRE HYDRANT SHALL BE PVC PRESSURE CLASS 150 DR. METALLIC WARNING TAPE SHALL BE INSTALLED OVER ALL WATERMANS. PROVIDE THRUST BLOCKS AS PER CITY OF OTTAWA DWG. NO. W25.3 & W25.4 AT ALL VALVES, TEES, CAPS, BENDS, REDUCERS AND HYDRANTS OR OTHER FITTINGS WHERE CHANGES OCCUR IN PIPE DIAMETER OR DIRECTION. RESTRAINING AS PER PER CITY OF OTTAWA DWG. NO. W25.5. CATHODIC PROTECTION SHALL BE INSTALLED AS PER CITY OF OTTAWA DWG. NO. W25.6. ANODE INSTALLATION AS PER CITY OF OTTAWA DWG. NO. 40, 42, 44 & 47.

4.4.6 PROVIDE A MINIMUM 2.4 m COVER OVER WATER SERVICE CONNECTION AND WATERMAIN. WHERE THE MINIMUM COVER IS NOT POSSIBLE INSULATE AS PER CITY OF OTTAWA DWG. NO. W22.

4.5. WHERE LESS THAN 2.4 m CLEARANCE FROM AN OPEN STRUCTURE (EG. MANHOLES & CATCH BASINS) PLACE INSULATION AROUND WATERMAIN AND WATER SERVICE CONNECTIONS AS PER CITY OF OTTAWA DWG. NO. W23.

4.6. WATERMAIN INSTALLED PARALLEL TO A SEWER SHALL BE LAID WITH A MINIMUM 2.5mm BARREL TO BARREL HORIZONTAL SEPARATION FROM SEWERS

4.7. THE WATERMAIN SHALL CROSS ABOVE THE SEWER AS PER CITY OF OTTAWA DRAWING NO. W25.2: PROVIDE A MINIMUM 250mm BARREL TO BARRELL VERTICAL SEPARATION. IF IT IS NOT POSSIBLE FOR THE WATERMAIN TO CROSS ABOVE A SEWER THE WATERMAIN SHALL CROSS BELOW THE SEWER. PROVIDE A MINIMUM 250mm BARREL TO BARRELL VERTICAL SEPARATION. PROVIDE A MINIMUM 250mm BARREL TO BARRELL HORIZONTAL SEPARATION AND ENSURE THAT THE WATER PIPE IS CENTERED AT THE POINT OF CROSSING SO JOINTS ARE AS FAR AS POSSIBLE FROM THE SEWER.

4.8. LOCATE FIRE HYDRANT AS PER CITY OF OTTAWA DWG. NO. W18. INSTALL FIRE HYDRANT AS PER CITY OF OTTAWA DWG. NO. W19. LOCATE FIRE HYDRANT WITHIN 1.5m FROM FACE OF CURB. PROVIDE A MINIMUM 0.9m COVER OVER FIRE HYDRANT. PROVIDE A MINIMUM 0.9m COVER OVER FIRE HYDRANT FROM ADJACENT DRIVEWAY. PROVIDE FIRE HYDRANT LEAD 2m FROM OUTSIDE EDGE OF CATCH BASINS AND MANHOLES. THE HYDRANT SHALL BE INSTALLED WITH THE BREAKABLE FLANGE 50mm TO 150mm ABOVE FINISHED GRADE. THERE SHALL BE NO VEGETATION OR OTHER OBSTRUCTIONS IN FRONT OF HYDRANT AND WITHIN 1.5m OF FIRE HYDRANT. THE FIRE HYDRANT SHALL BE RED WITH WHITE BONNETS AND CAPS TO CITY STANDARDS. AT THE END OF THE HYDRANT LEAD PROVIDE A 90° ELBOW, FLOW TEST AND A SUBMIT REPORT TO THE CITY OF OTTAWA AND LOCAL AGENCIES AS PER CITY OF OTTAWA AND NFPA STANDARDS.

4.9. SEWER SERVICE LATERAL SHALL HAVE A MINIMUM 2.4m COVER OVER SERVICE CONNECTION AND EXISTING MUNICIPAL SANITARY SEWER AS PER CITY OF OTTAWA STANDARD DRAWING 222-10. INSTALL 2.4m CLEARANCE ON TOP OF SERVICE BUILDING DRAIN AS GLOUSE AS PRACTICAL TO THE WHERE THE SANITARY AND STORM DRAINS LEAVE THE BUILDING.

4.11. CONNECT PROPOSED SANITARY SEWER SERVICE CONNECTION TO EXISTING MUNICIPAL SANITARY SEWER AS PER CITY OF OTTAWA DWG. NO. S11.1.

4.12. ALL SEWER MATERIALS AND CONSTRUCTION METHODS TO CITY OF OTTAWA STANDARDS AND ONTARIO PROVINCIAL STANDARDS SPECIFICATIONS (OPSS & OPSD). SEWER MATERIAL SHALL BE PVC OR REINFORCED CONCRETE. PVC SEWERS SHALL BE SDR-35 (SDR-28 FOR DIAMETERS 150mm OR LESS) AND SHALL CONFORM TO CSA B182.2 AND SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS. REINFORCED CONCRETE SEWERS SHALL CONFORM TO CSA 257.2 CL 100-D WITH RUBBER GASKETS TO CSA A-257.3.

4.13. MANHOLES & CATCH BASINS:

PRIOR TO COMMENCING WORK:

- A. OBTAIN PAY AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE AUTHORITIES.
- B. SIZE, DEPTH AND LOCATION OF EXISTING SERVICES, UTILITIES AND STRUCTURES AS INDICATED ON THE DRAWINGS ARE FOR GUIDANCE ONLY. ALL EXISTING UTILITIES AND STRUCTURES ARE NOT NECESSARILY SHOWN ON THE DRAWINGS. COMPLETENESS AND ACCURACY ARE NOT GUARANTEED. NOTIFY ALL APPLICABLE AGENCIES, UTILITY COMPANIES AND AUTHORITIES HAVING JURISDICTION OF PROPOSED WORK AND LOCATE AND CLEARLY IDENTIFY ALL EXISTING SERVICES, UTILITIES AND STRUCTURES ON AND ADJACENT TO THE SITE. UNDERGROUND LOCATIONS (INCLUDING ONTARIO ONE CALL: 1-800-400-2255) SHALL BE CONDUCTED PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION. CONFIRM LOCATIONS OF BURIED SERVICES AND LOCATIONS OF ALL EXISTING UTILITIES AND STRUCTURES TO THE DEPTH OF THE EXCAVATION TO THE ENGINEER.
- C. EXISTING GRADE ELEVATIONS INDICATED ON THE DRAWINGS ARE FOR GUIDANCE ONLY. COMPLETENESS AND ACCURACY ARE NOT GUARANTEED. CONFIRM EXISTING GRADE ELEVATIONS AND REPORT ANY DIFFERENCES TO THE ENGINEER.
- D. MAINTAIN AND SCHEDULE WORK WITH THE AUTHORITIES AND OTHER TRADES.
- E. SCHEDULE WORK TO PROVIDE THE MINIMUM DISRUPTION TO SERVICE.

5.2 MAINTAIN AND PROTECT FROM DAMAGE, SERVICES, UTILITIES AND STRUCTURES ENCOUNTERED.

5.3 PROTECT EXISTING BUILDINGS, TREES AND OTHER PLANTS, LAWNS, FENCING, SERVICE POLES, WIRES, PAVEMENT, SURVEY BENCH MARKS AND MONUMENTS AND OTHER SURFACE FEATURES FROM DAMAGE WHILE WORK IS IN PROGRESS. DO NOT DISTURB SOIL WITHIN BRANCH SPREAD OF TREES OR SHRUBS THAT ARE TO REMAIN.

5.4 PROVIDE TRAFFIC CONTROL AND SAFETY MEASURES INCLUDING ANY NECESSARY PERSONNEL AND THE SUPPLY, INSTALLATION, REMOVAL AND MAINTENANCE OF TRAFFIC CONTROL DEVICES AND BARRIERS, AS REQUIRED BY THE AUTHORITIES. IF APPLICABLE, PROVIDE TRAFFIC MANAGEMENT PLAN AS PER CITY OF OTTAWA REQUIREMENTS.

5.6 REMOVE OBSTRUCTIONS, ICE AND SNOW, FROM SURFACES TO BE EXCAVATED.

5.7 CUT PAVEMENT AND / OR SIDEWALK NEATLY ALONG LIMITS OF PROPOSED EXCAVATION IN ORDER THAT SURFACE MAY BREAK EVENLY AND

5.8 COORDINATE AND PAY FOR GEOTECHNICAL INSPECTIONS AND COMPACTION TESTS OF SUB-GRADE, PIPE BEDDING AND EACH LAYER OF SURROUND MATERIAL, BACKFILL, SUB-BASE, BASE AND ASPHALT TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT AND ENGINEER. SUBMIT GEOTECHNICAL INSPECTIONS AND COMPACTION REPORTS TO ENGINEER FOR REVIEW.

5.9 CUT AND FILL MATERIAL REQUIRED TO ACHIEVE THE REQUIRED SUB GRADE ELEVATION. DISPOSE OF SURPLUS AND UNSUITABLE EXCAVATED MATERIAL OFF SITE. FILL MATERIAL AND THE PLACEMENT AND COMPACTION OF THE FILL MATERIAL AS PER THE GEOTECHNICAL REPORT AND TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT. STOCKPILE GRANULAR AND FILL MATERIALS IN MANNER TO PREVENT SEGREGATION AND PROTECT

5.10 EXCAVATION, TRENCHING & BACKFILL:

- A. SHORE AND BRACE EXCAVATIONS, PROTECT SLOPES AND BANKS AND PERFORM ALL WORK IN ACCORDANCE WITH ONTARIO REGULATION 437 UNDER THE ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT AND OTHER AUTHORITIES HAVING JURISDICTION.
- B. EXCAVATIONS AND SURFACES FREE OF WATER WHILE WORK IS IN PROGRESS. PROTECT OPEN EXCAVATIONS AGAINST FLOODING AND DAMAGE DUE TO SURFACE RUN-OFF.
- C. EXCAVATION MUST NOT INTERFERE WITH BEARING CAPACITY OF ADJACENT FOUNDATIONS.
- D. EXCAVATION SHALL NOT OBSTRUCT FLOW OF SURFACE DRAINAGE OR NATURAL WATERCOURSES.
- E. EXCAVATE TO LINES, GRADES, ELEVATIONS AND DIMENSIONS AS INDICATED.
- F. EARTH BOTTOMS OF EXCAVATIONS TO BE UNDISTURBED SOIL, LEVEL, FREE FROM LOOSE, SOFT OR ORGANIC MATERIAL.
- G. ALL STRUCTURES WITHIN PAVED AREAS SHALL HAVE 4" FROST PATTERS FROM FROST LINE TO SUB-GRADE.
- H. PIPE BEDDING OVER SURROUNDING MATERIAL WITH GRANULAR A COMPACT TO NOT LESS THAN 95% OF CORRECTED MAXIMUM DRY DENSITY.
- I. SUB-GRADE AND AREAS TO BE BACKFILLED TO BE FREE FROM DEBRIS, SNOW, ICE, WATER AND FROZEN GROUND.
- J. DO NOT USE BACKFILL MATERIAL WHICH IS FROZEN OR CONTAINS ICE, SNOW OR DEBRIS.
- K. EXCAVATED AREAS AND SURROUNDING MATERIAL FOR SEWERAGE SHALL BE OPSS GRANULAR A SURROUND MATERIAL FOR CONCRETE PIPE MAY BE CLEAN RECYCLED GRANULAR M. RE-CYCLED GRANULAR MATERIALS ARE NOT PERMITTED.
- L. DO NOT USE BEDDING, SURROUND OR BACKFILL MATERIAL WHICH IS FROZEN OR CONTAINS ICE, SNOW OR DEBRIS.
- M. PIPE BEDDING SHALL BE 150mm THICK, SUB-GRADE AND TO PROVIDE CONTINUOUS, UNIFORM BEARING SURFACE FOR PIPE.
- N. PLACE SURROUND MATERIAL AROUND PIPES TO FULL WIDTH OF TRENCH AND TO 300mm ABOVE PIPES.
- O. PLACE BEDDING AND SURROUND MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 150mm COMPACTED THICKNESS. PLACE FILL AND BACKFILL MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 300mm COMPACTED THICKNESS.
- P. COMPACT EACH LAYER TO 95% OF CORRECTED DRY DENSITY BEFORE PLACING SUCCEEDING LAYER.
- Q. DO NOT BACKFILL AROUND OR OVER CAST-IN-PLACE CONCRETE WITHIN 24 HOURS AFTER PLACING OF CONCRETE.
- R. BACKFILL MATERIALS WITHIN 1.8m OF PROPOSED GRADE SHALL MATCH THE MATERIALS EXPOSED ON THE TRENCH WALLS. BACKFILL BELOW 1.8m OF PROPOSED GRADE TO BE EITHER ACCEPTED SUB-GRADE OR OTHER ACCEPTED MATERIALS. BACKFILL MATERIAL CONFORMING TO OPSS GRANULAR B TYPE I OR II. ANY ORGANIC SOILS OR TOPSOIL, IF ENCOUNTERED, SHALL BE REMOVED FROM THE EXCAVATION. IF ROCK IS USED AS BACKFILL IT SHALL BE WELL SHATTERED AND GRADED AND 200mm OR SMALLER IN DIAMETER. TO PREVENT INGRESS OF FINE MATERIAL INTO VOIDS IN BACKFILL, THE SURFACE OF THE ROCK FILL SHALL BE COVERED WITH 150mm layer of compacted, well graded crushed stone.

5.12 PIPES:

- A. HANDLE PIPE USING METHODS APPROVED BY MANUFACTURER.
- B. LAY, CUT AND JOIN PIPES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- C. USE ONLY FITTINGS AS RECOMMENDED BY PIPE MANUFACTURER.
- D. LAY PIPES ON PREPARED BED, TRUE TO LINE AND GRADE AND ENDS OR SURPLUS BARREL OF EACH PIPE IS IN CONTACT WITH SHAPED BED THROUGHOUT ITS LENGTH. FREE OF SACS OR HIGH POINTS.
- E. DO NOT EXCEED MAXIMUM JOINT DEFLECTION RECOMMENDED BY PIPE MANUFACTURER.
- F. WHENEVER WORK IS SUSPENDED, INSTALL REMOVABLE WATERTIGHT BULKHEAD AT OPEN END OF LAST PIPE Laid TO PREVENT ENTRY OF FOREIGN MATERIALS.
- G. PREVENT SETTLEMENT OF WORK OCCURS, BLOCK PIPES TO PREVENT CREEP DURING DOWN TIME. MAKE WATERTIGHT CONNECTIONS TO MANHOLES.
- H. JOINTS SHALL BE STRUCTURALLY SOUND AND WATERTIGHT.
- I. REPAIR OR REPLACE PIPE, PIPE JOINT OR BEDDING FOUND DEFECTIVE.

5.13 SEWERS AND SEWER SERVICES:

- A. CONSTRUCT SEWER TRENCHES AS PER CITY DWG S6 & S7.
- B. RIGID TRENCHES, INSTALL PIPE JOINTS NOT MORE THAN 1.2M FROM SIDE OF STRUCTURE.
- C. MAINTAIN EXISTING SEWAGE FLOWS DURING CONSTRUCTION.
- D. PERFORMANCE FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS, SPECIFICALLY, THE LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410. REPAIR AND RETEST SEWER LINE AS REQUIRED, REPAIR VISIBLE LEAKS REGARDLESS OF TEST RESULTS.
- E. CONDUCT TWO CCTV INSPECTIONS OF SEWERS. FIRST INSPECTION AFTER COMPLETION OF CONSTRUCTION, SECOND INSPECTION IMMEDIATELY AFTER PERIOD OF WARRANTY PERIOD. PAN AND TILT CAMERA SHALL BE USED, REPAIR SEWER LINE AS REQUIRED. SUBMIT REPORTS AND DVDS TO ENGINEER.
- F. CONDUCT DYE TEST OF SANITARY SEWERS AND COORDINATE WITH ENGINEER. DYE TEST SHALL BE WITNESSED BY ENGINEER.

5.14 WATERMAIN AND WATER SERVICE:

- A. INSTALL AND TEST WATER MAIN WIRE ON THE WATER SERVICE CONNECTION AS PER 4.3.12 OF THE CITY OF OTTAWA WATER DISTRIBUTION DESIGN GUIDELINES AND DRAWING W36.
- B. PRESSURE TESTING AS PER AWWA C-605-5 AND CITY OF OTTAWA DESIGN GUIDELINES - WATER DISTRIBUTION SECTION 4.6.13.
- C. PRESSURE TESTING AS PER AWWA C-651-5 AND CITY OF OTTAWA DESIGN GUIDELINES - WATER DISTRIBUTION SECTION 4.6.13 & CITY DWG. W46.

5.15 MANHOLES & CATCH BASINS:

- A. JOINTS; SHALL BE MADE WATERTIGHT.
- B. SET PRECAST CONCRETE BASES ON 150mm MINIMUM OF GRANULAR BEDDING COMPACTED TO 100% CORRECTED MAXIMUM DRY DENSITY.
- C. MAKE EACH JOINT WATERTIGHT WITH RUBBER RING GASKETS.
- D. PLACE GRANULAR BACKFILL MATERIALS IN A UNIFORM LAYERS TO COMPACTED THICKNESS OF 150mm, COMPACT TO 95% CORRECTED MAXIMUM DRY DENSITY.
- E. PLACE FRAME AND COVER ON TOP SECTION TO ELEVATION AS INDICATED. IF ADJUSTMENT REQUIRED USE CONCRETE RINGS TO A MAXIMUM OF 300mm.
- F. CLEAN UNITS OF DEBRIS, FOREIGN AND SURPLUS MATERIALS. REMOVE FINES AND SHARP PROJECTIONS. PREVENT DEBRIS FROM ENTERING SYSTEM.
- G. PERFORMANCE FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS, SPECIFICALLY, THE LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 407.

5.16 MAINTAIN RECORD DRAWINGS AND RECORD ACCURATELY DEVIATIONS FROM THE ORIGINAL CONTRACT DOCUMENTS CAUSED BY SITE CONDITIONS AND CHANGES TO THE ORIGINAL CONTRACT. PROVIDE ADDITIONAL INSTRUCTIONS TO UPDATE DAILY RECORD DRAWINGS TO REFLECT CHANGES TO THE CONSTRUCTION PERIOD. MARK CHANGES IN RED INK. RECORD DRAWINGS SHALL INCLUDE BUT NOT NECESSARILY LIMITED TO CHANGES OF DIMENSION AND DETAIL; CHANGES TO GRADE ELEVATIONS; AND HORIZONTAL AND VERTICAL LOCATIONS OF UNDERGROUND SERVICES, UTILITIES AND APPURTENANCES TO THE CONSTRUCTION. SUBMIT RECORD DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL. SUBMIT A RECORD DRAWING OF "AS-BUILT" GRADE ELEVATIONS, PREPARED BY A SURVEYOR, TO THE ENGINEER AT THE END OF CONSTRUCTION.

5.17 CONCRETE CURBS SHALL BE CONSTRUCTED TO CITY OF OTTAWA DRAWING NO. SC.1.1. CONCRETE SIDEWALK SHALL BE CONSTRUCTED TO CITY OF OTTAWA DRAWING NO. SC.4. MONOLITHIC CONCRETE CURBS AND SIDEWALK SHALL BE CONSTRUCTED TO CITY OF OTTAWA DRAWING NO. SC.2.

5.18 REMOVE AND REPLACE PORTIONS OF CURBS, SIDEWALKS OR DAMAGE, DEFECTIVE PORTIONS OF CURBS, SIDEWALK AND ASPHALT SHALL BE CORRECTED OR REMOVED AND REPLACED. PROMPTLY MAKE GOOD OTHER CONTRACTOR'S WORK DAMAGED BY SUCH REMOVALS OR REPLACEMENTS.

5.19 REINSTATE ALL AREAS DISTURBED BY CONSTRUCTION. REINSTATE PAVEMENTS, CURBS AND SIDEWALKS, TO THICKNESS, STRUCTURE AND ELEVATION AS EXISTED PRIOR TO CONSTRUCTION. REINSTATE LANDSCAPED AREAS TO THE CONDITION AND ELEVATION WHICH EXISTED BEFORE CONSTRUCTION.

5.20 CLEAN AND REINSTATE AREAS AFFECTED BY THE WORK.

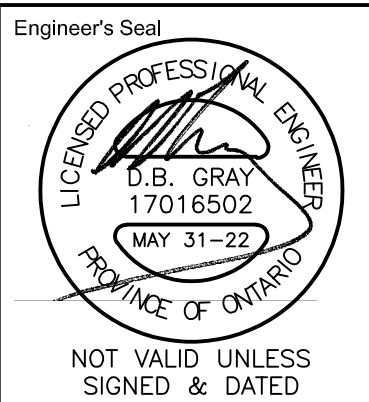
PAVEMENT STRUCTURE:
LIGHT DUTY PAVEMENT:
40mm HL-3 ASPHALTIC CONCRETE
40mm HL-8 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A BASE
200mm OPSS GRANULAR B SUB-BASE
RE-CYCLED GRANULAR MATERIALS ARE NOT PERMITTED.
HEAVY DUTY PAVEMENT:
40mm HL-3 ASPHALTIC CONCRETE
60mm HL-8 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A BASE
350mm OPSS GRANULAR B SUB-BASE
RE-CYCLED GRANULAR MATERIALS ARE NOT PERMITTED.
HOT MIX ASPHALTIC MATERIALS SHALL BE ACCORDING TO OPSS 1150 OR 1151.
PAVEMENT SUB-GRADE PREPARATION AND CONSTRUCTION OF THE PAVEMENT STRUCTURE SHALL CONFORM TO THE GEOTECHNICAL INVESTIGATION TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
6.3 ALL EXISTING ASPHALT TO BE REMOVED SHALL BE HAULED TO A FACILITY APPROVED FOR ACCEPTING SUCH MATERIALS. REMOVE ALL MATERIALS TO THE SUB-GRADE OR TO A DRY OR UNSUITABLE MATERIAL FROM SUB-GRADE WHERE ENCOUNTERED TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT. SUB-GRADE TO BE FREE FROM DEBRIS, SNOW, ICE, WATER AND FROZEN GROUND. COMPACT SUB-GRADE TO 95%
6.4 CONSTRUCT GRANULAR BASE AND SUB-BASE TO DEPTH AND GRADE IN AREAS INDICATED. CONSTRUCT A 5H:1 FROST TAPER IN SUB-GRADE SURFACE AS A TRANSITION BETWEEN DIFFERING PAVEMENT STRUCTURES AND BETWEEN PAVEMENT AND CURBS AND SIDEWALKS.
6.5 PLACE MATERIAL IN LAYERS. PLACE MATERIAL ONLY ON CLEAN UNFROZEN SURFACE, FREE FROM SNOW OR ICE.
6.6 PLACE MATERIAL TO FULL WIDTH IN UNIFORM LAYERS NOT EXCEEDING 300mm COMPACTED THICKNESS. SHAPE EACH LAYER TO SMOOTH CONTOUR AND COMPACT TO SPECIFIED DENSITY BEFORE SUCCEEDING LAYER IS PLACED.
6.7 COMPACT SUB-BASE MATERIAL TO DENSITY OF NOT LESS THAN 98% CORRECTED MAXIMUM DRY DENSITY. FILL OVER-EXCAVATED SUB-GRADE WITH SUB-GRADE OR SUB-BASE MATERIAL TO COMPACT BASE MATERIAL TO DENSITY NOT LESS THAN 100% CORRECTED MAXIMUM DRY DENSITY.
6.8 IN AREAS NOT ACCESSIBLE TO ROLLING EQUIPMENT, COMPACT TO SPECIFIED DENSITY WITH MECHANICAL TAMPERS.
6.9 REPLACE PAVEMENT DISTURBED BY CONSTRUCTION AND REPLACE WITH PAVEMENT STRUCTURE ABOVE.
6.10 WHERE NEW ASPHALT COMES IN CONTACT WITH EXISTING PAVEMENT: SAWCUT EXISTING ASPHALT LAYER TO CREATE A CLEAN STRAIGHT EDGE. TACK COAT SHALL BE APPLIED TO ASPHALT SURFACES AT WHICH JOINTS ARE TO BE MADE INCLUDING EXISTING PAVEMENT SURFACES THAT HAVE BEEN CUT, GROUND OR MILLED. TACK COAT THE SURFACE OF ALL BINDER COURSES AND BUTTING CONCRETE SURFACES. SURFACES TO BE TACK COATED SHALL BE FREE OF STANDING WATER AND CONTAMINATION, SUCH AS MUD, LOOSE AGGREGATE OR DEBRIS AND SHALL BE DRY AND CLEAN WHEN THE TACK COAT IS APPLIED. TACK COAT SHALL BE APPLIED TO THE ENTIRE PAVING OPERATION TO ALLOW FOR CURING, PAVING AND CONSTRUCTION EQUIPMENT SHALL NOT BE PERMITTED UNTIL THE TACK COAT UNTIL IT HAS SET. TACK COAT MATERIAL SHALL CONSIST OF SS-1 EMULSIFIED ASPHALT DILUTED WITH AN EQUAL VOLUME OF WATER. THE UNDLUTED MATERIAL SHALL BE ACCORDING TO OPSS 1103.
6.11 SHAPE BASE TO SMOOTH CONTOUR AND COMPACT TO NOT LESS THAN 100% CORRECTED MAXIMUM DRY DENSITY BEFORE BEGINNING PAVING
6.12 APPLY ASPHALTIC CONCRETE ONLY WHEN BASE OR PREVIOUS COURSE IS DRY AND AIR TEMPERATURE IS ABOVE 5 DEG.C
6.13 ROLL UNTIL ROLLER MARKS ARE ELIMINATED AND COMPACTED TO NOT LESS THAN 95% OF DENSITY. COMPACT WITH HOT TAMPERS IN AREAS UNACCESSIBLE TO A ROLLER. BEVEL EDGES ADJACENT TO GRANULAR SURFACES.
6.14 FINISH SURFACE SMOOTH, TRUE TO GRADE.
6.15 KEEP VEHICULAR TRAFFIC AND OTHER LOADS OFF NEWLY PAVED AREAS UNTIL 24 HOURS AFTER PAVING.
6.16 DIVERT UNUSED AND WASTE ASPHALT TO A FACILITY APPROVED FOR ACCEPTING SUCH MATERIALS.
6.17 APPLY TRAFFIC PAINT AS IDENTIFIED ON PLAN. TRAFFIC PAINT: NON-DARKENING, HOMOGENEOUS, UNIFORM AND SMOOTH, FREE FROM SKIN, DIRT AND OTHERS. APPLY TO DRY PAVEMENT SURFACE FREE FROM FROST, ICE, DUST, OIL, GREASE AND OTHER FOREIGN MATERIALS.
PROTECT PAVEMENT MARKINGS UNTIL DRY.

5	MAY 31-22	RE-ISSUED FOR APPROVAL
4	NOV 1-21	ISSUED FOR TENDER
3	OCT 8-21	ISSUED FOR BUILDING PERMIT
2	DEC 11-20	ISSUED FOR APPROVAL
1	DEC 9-20	ISSUED FOR COORDINATION
No.	DATE	REVISION

Project

PROPOSED 4-STOREY
DYMON STORAGE BUILDING
3455 HAWTHORNE ROAD
OTTAWA, ONTARIO

NOTES



Drawn	D.B.G
Hor. Scale	
Vert. Scale	
Date	NOV 17-20
Job No.	19107

Drawing No.
C-5
of 8

PLAN #18361

D07-12-20-0191