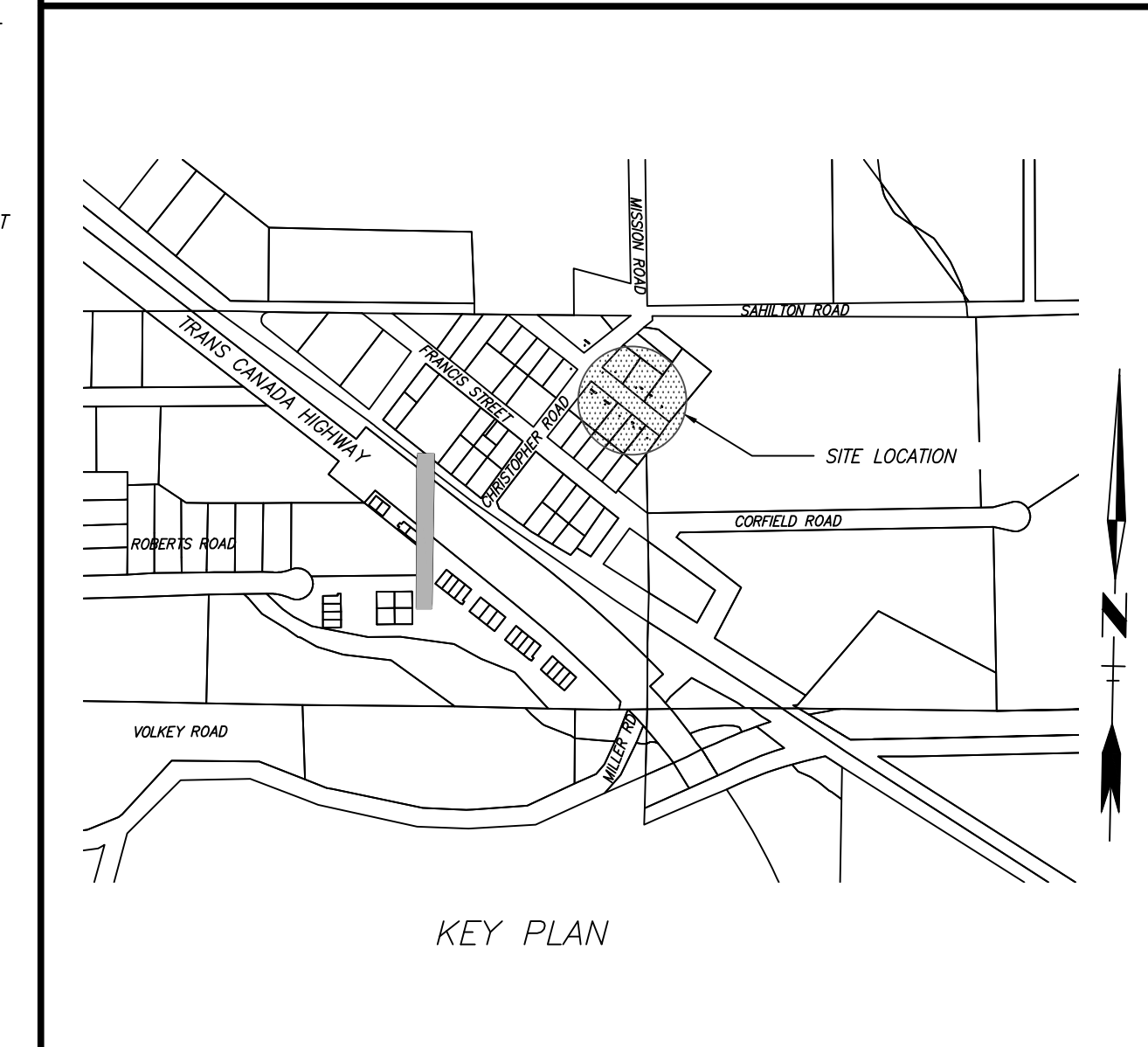


- GENERAL NOTES:**
- REFER TO LEGAL SURVEY PLAN FOR TRUE LOT DIMENSIONS AND AREAS.
  - ALL DIMENSIONS AND ELEVATIONS ARE IN METRIC.
  - ALL CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (MMCD) PLATINUM EDITION, VOLUME II, 2009 AND APPLICABLE DMC SUBDIVISION WORKS AND SERVICE BYLAWS.
  - CONTACT UTILITY COMPANIES FOR LOCATIONS OF ALL UNDERGROUND SERVICE IN AND AROUND THE WORK SITE.
  - CONTACT THE CONSULTANT AT LEAST 24 HOURS IN ADVANCE OF TESTS.
  - TO THE SATISFACTION OF THE CITY OF DUNCAN AND THE CWRD, REPLACE ALL UTILITIES AND INFRASTRUCTURE DAMAGED DURING CONSTRUCTION.
  - MAINTAIN AN ACCURATE SET OF "RED-LINED" AS CONSTRUCTED DRAWINGS TO PROVIDE TO THE CONSULTANT PRIOR TO FINAL COMPLETION OF THE WORK. NOTE THE LOCATION OF ANY UNDERGROUND UTILITIES ENCOUNTERED.
  - BE REGISTERED AND IN GOOD STANDING WITH THE WORKER'S COMPENSATION BOARD.
  - THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING BC ONE CALL AND ANY OTHER UTILITIES FOR LOCATES PRIOR TO CONSTRUCTION.
  - A WORK SCHEDULE MUST BE SUBMITTED AND APPROVED PRIOR TO CONSTRUCTION. IT MUST IDENTIFY THE PROJECT START AND EXPECTED COMPLETION DATES AND SPECIFY THE RESOURCES THAT WILL BE ASSIGNED TO THE PROJECT UNTIL COMPLETION.
  - EROSION AND SEDIMENTATION CONTROL TO BE IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES AS PER THE LAND DEVELOPMENT GUIDELINES FOR PROTECTION OF AQUATIC HABITAT. (1993)
- WATERMAIN NOTES:**
- A MINIMUM 3.00m HORIZONTAL CLEAR SEPARATION SHALL BE MAINTAINED BETWEEN WATERMANS AND ALL SANITARY SEWER/SERVICES AND DRAIN SEWER/SERVICES EXCEPT WHERE NOTED AND APPROVED BY THE TOWN OF LAKE COWICHAN.
  - ALL WATERMAIN JOINTS WITHIN 3.00m HORIZONTAL OR 0.45m VERTICAL OF SANITARY OR STORM DRAIN MAINS TO BE WRAPPED AND COATED WITH A PETROLIUM BASED WAX AND TAPE COATING SYSTEM APPROVED FOR POTABLE WATER USE AND CONFORMING TO AWWA C217.
  - WHERE NEW CATCHBASIN (CB) LEADS DO NOT HAVE 0.45m VERTICAL SEPARATION, WRAP CB LEAD JOINTS WITH PETROLIUM TAPE OR APPROVED EQUAL.
  - ALL NEW WATER SERVICES TO BE 19mm# UNLESS OTHERWISE NOTED C/W SETTERS AS PER MMCD SPECIFICATIONS.
  - ALL EXISTING SUB-STANDARD 12mm# WATER SERVICE CONNECTIONS TO BE UPGRADED TO 19mm# SERVICES FROM NEW MAIN TO WATER SERVICE CONNECTION.
  - ONCE ALL WATERMAIN TE-INS ARE COMPLETED CONTRACTOR TO ABANDON EXISTING WATERMAIN, CLOSE ALL ABANDONED VALVES, REMOVE NELSON BOXES AND BACKFILL RISER PIPES.
  - RESTRAIN ALL TEES, BENDS AND CAPS (EXCEPT CAPS ON ABANDONED MAINS) WITH MECHANICAL JOINT RESTRAINTS AND CONCRETE THRUST BLOCKS.
  - WATERMAIN PRESSURE 758 KPa (110 PSI) AND WATERMAIN TEST PRESSURE 1380 KPa (200 PSI) AS PER MMCD SPECIFICATIONS.
  - ALL NEW HYDRANTS TO BE INSTALLED WITH STORZ CONNECTION.
  - WATER METER BOXES TO BE SUPPLIED AND INSTALLED BY THE CONTRACTOR AS NOTED ON THE DRAWINGS.
  - CONTRACTOR TO PERFORM PRESSURE TEST, FLUSHING CHLORINATION/DISINFECTION AND FINAL POTABILITY TESTING.
  - PERMISSIBLE DEFLECTION AT WATERMAIN JOINTS TO BE NOT MORE THAN ONE-HALF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.
  - AIR VALVES TO BE 25mm DIAMETER "APCO" 143C OR APPROVED EQUAL.
  - WATERMAIN AND SERVICES TO BE WRAPPED WITH BLUE #14AUG COPPER TRACER WIRE. TRACER WIRE ON SERVICES TO BE FASTENED TO WATERMAIN AT CONNECTION POINT AND RUN ALONG SERVICE AND FASTENED TO INSIDE OF SERVICE BOX.
  - TRACER WIRE CONNECTIONS TO BE MADE WITH A COPPER SPLICE CRIMPED WRAPPED WITH HEAT SHRINK OR SELF VULCANIZING RUBBER TAPE.
  - CUT 50mm OF INSULATION AWAY FROM TRACER WIRE ENDS AT ALL LEADS OR CONNECTIONS.

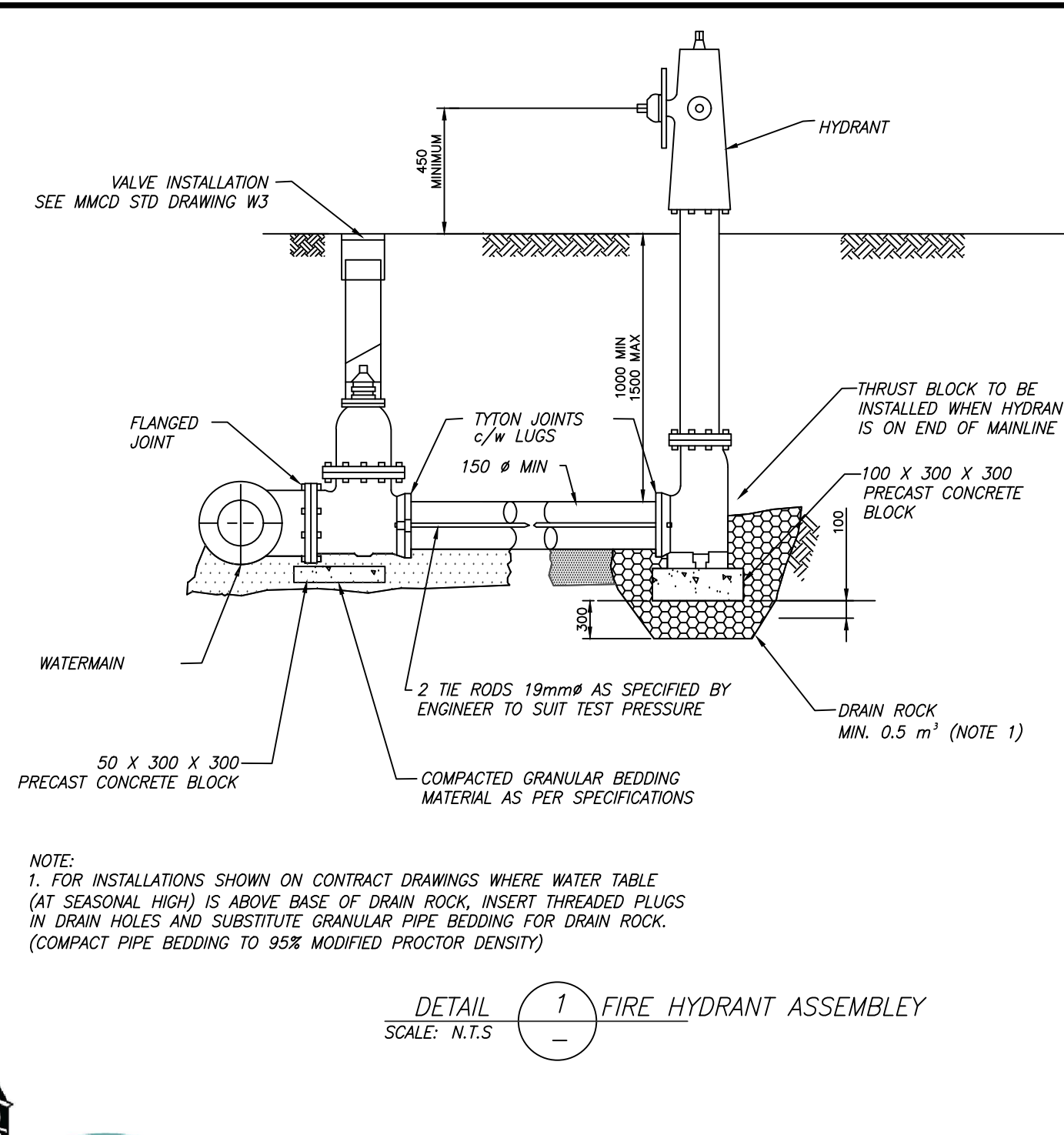
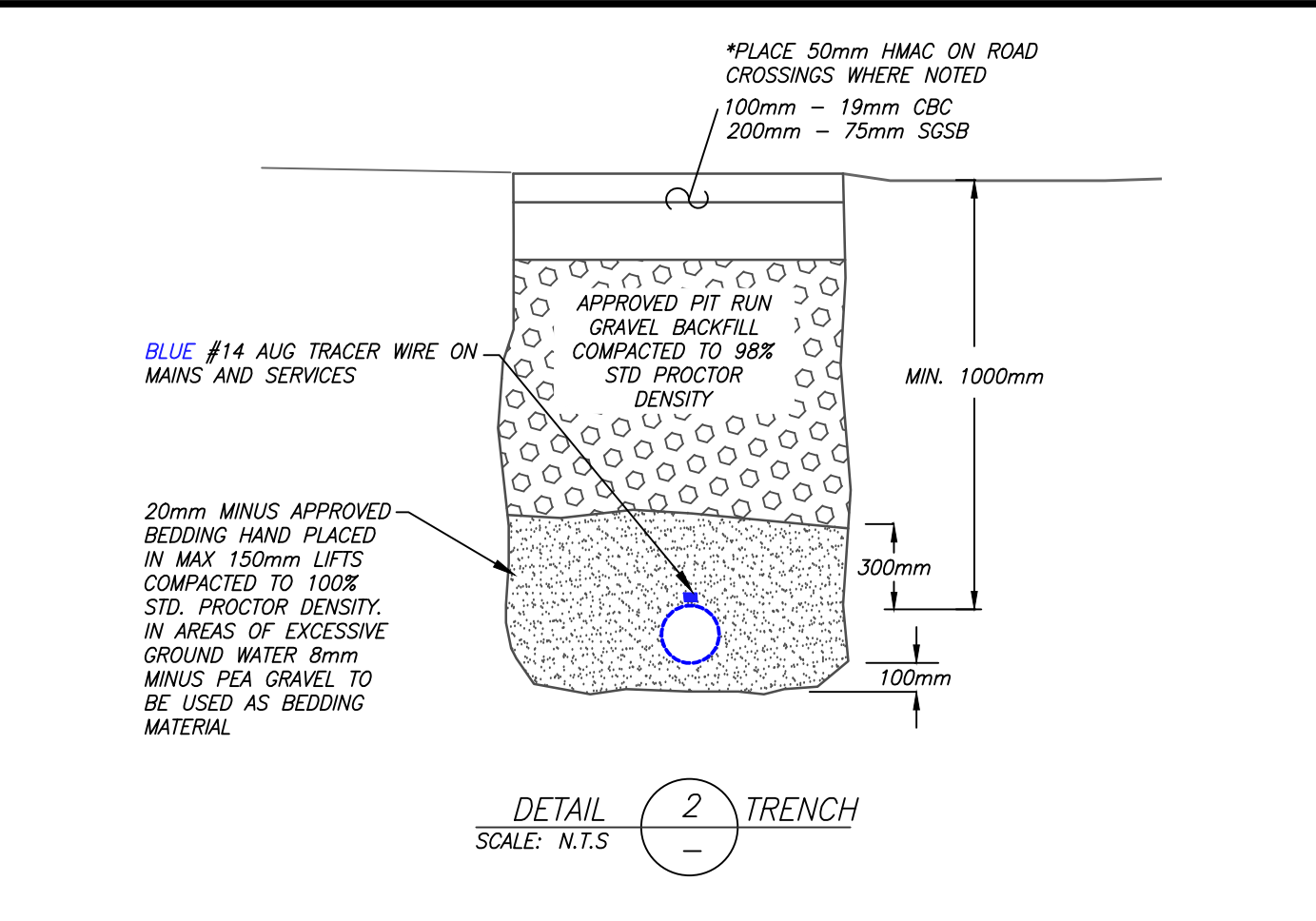
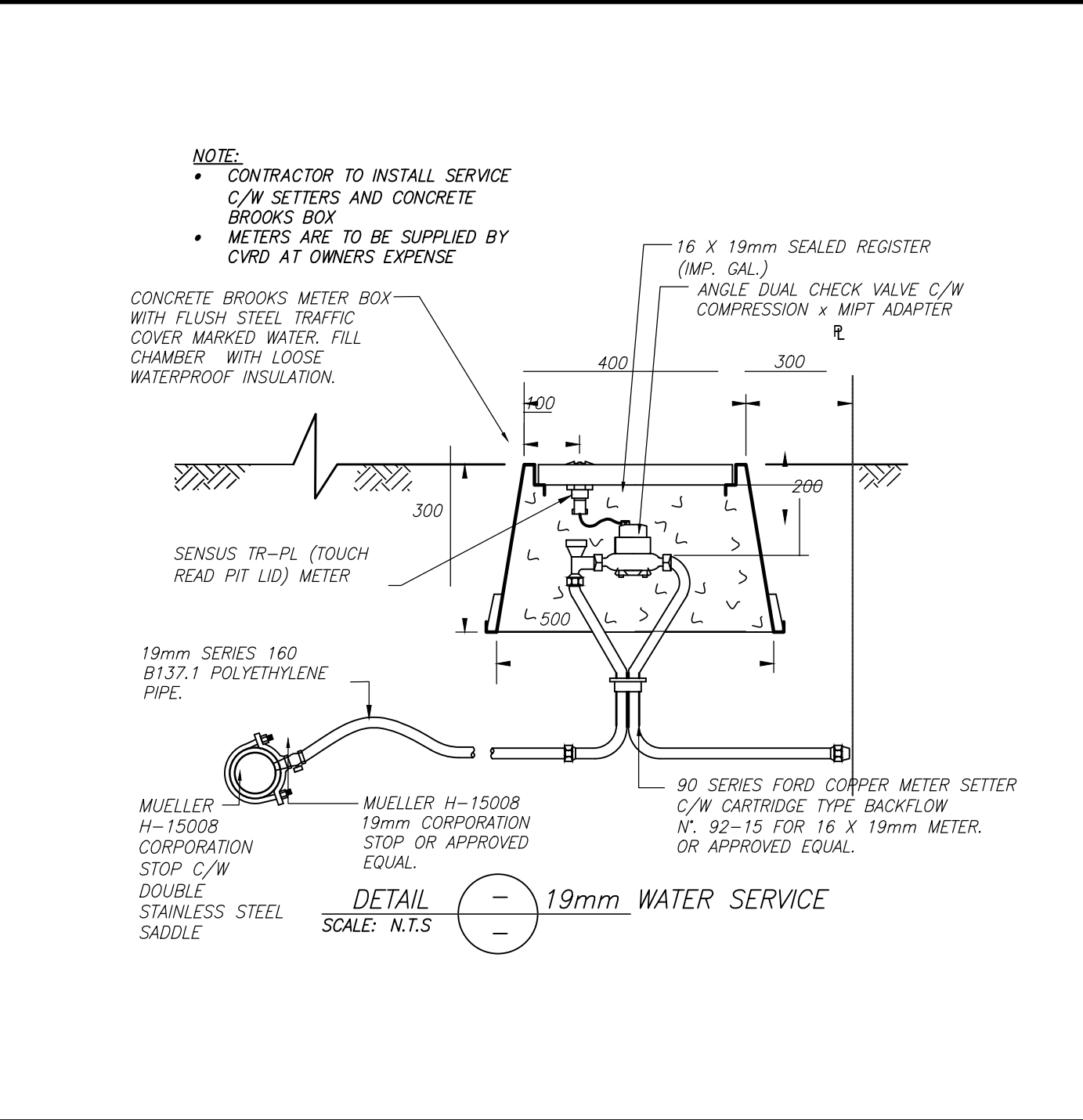
- TRENCHING, EXCAVATING AND BACKFILLING**
- CONTRACTOR TO CONFIRM LOCATION AND ELEVATION OF EXISTING SERVICES AND UTILITIES AT ALL CROSSINGS AND CONNECTIONS AND CONFIRM WITH THE CONTRACT ADMINISTRATOR PRIOR TO CONSTRUCTION. LOCATION OF EXISTING SERVICES AND UTILITIES SHOWN ARE APPROXIMATE ONLY AND MUST BE CONFIRMED IN THE FIELD BY EXCAVATION. ANY DAMAGE OR REPAIR TO EXISTING SERVICES AND UTILITIES SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR.
  - DO NOT START ANY BACKFILL OPERATION UNTIL THE WORKS HAVE BEEN REVIEWED AND APPROVED BY THE CONTRACT ADMINISTRATOR.
  - CONTRACTOR TO ENSURE THAT ALL THE EXISTING SERVICES REMAIN IN OPERATION DURING CONSTRUCTION.
  - CONTRACTOR TO COORDINATE WORKS NEAR ALL BURIED OR OVERHEAD UTILITIES WITH THE APPROPRIATE UTILITY PROVIDER. CONTRACTOR IS RESPONSIBLE TO SUPPORT ALL EXISTING POLES, PROTECT AND/OR REROUTE EXISTING UTILITIES AS REQUIRED TO COMPLETE CONSTRUCTION.
  - THE CONTRACTOR SHALL SUBMIT GRADATION/SIEVE DISTRIBUTION ANALYSIS AND PROCTOR ANALYSIS FOR ALL IMPORT MATERIAL.
  - CONTRACTOR TO PROVIDE TRENCH BACKFILL MOISTURE-DENSITY TESTING TO ASTM D1557:ONE (1) TEST PER LIFT PER 50 LINEAR METERS OF TRENCH METERS.
  - ADJUST ALL PROPOSED AND EXISTING APPURTENANCES TO MEET THE FINAL GRADES.
  - FOR HIGHWAYS ALL CONSTRUCTION AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE LATEST TAC AND BC MOTI STANDARD AND SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
  - ALL SURPLUS, WASTE AND UNSUITABLE MATERIALS, INCLUDING: DEBRIS FROM CLEARING AND OTHER DEBRIS DERIVED FROM CLEARING AND COMMON EXCAVATION SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR. DISPOSAL OF WASTE MUST BE DONE IN COMPLIANCE WITH APPLICABLE LAWS. THE CONTRACTOR IS RESPONSIBLE AT ITS COST FOR REMOVAL AND DISPOSAL OF WASTE MATERIALS OFF SITE.

- TRAFFIC MANAGEMENT**
- THE CONTRACTOR SHALL PROVIDE A TRAFFIC MANAGEMENT PLAN (TMP) AS PER BC MOTI SS 194.11
  - THE TMP SHALL BE SUBMITTED TO THE BC MOTI REPRESENTATIVE, THE CITY OF DUNCAN (CDD) ENGINEERING DEPARTMENT AND THE ENGINEER FOR COMMENT A MINIMUM OF FIFTEEN (15) WORKING DAYS PRIOR TO THE START OF ANY CONSTRUCTION. ANY OR ALL OF THESE ORGANIZATIONS MAY REQUEST REVISIONS TO THE PLAN.
- HIGHWAY NOTES**
- GRIND EXISTING ASPHALT TO ACCOMMODATE STEEL PLATES OVER TRENCH FLUSH WITH SURFACE.
  - STEEL PLATES TO REMAIN IN PLACE UNTIL SETTLEMENT HAS TAKEN PLACE AND UNTIL APPROVAL OF HIGHWAYS IS PROVIDED. ALL ROAD CROSSING TRENCHES SHALL BE COVERED AT THE END OF EACH WORKING DAY.
  - GRIND EXISTING ASPHALT BACK MINIMUM 300mm (OR TO SOUND EDGE) TO PROVIDE 35mm THICK LAP JOINT.
  - CONTRACTOR TO REINSTATE OR APPLY ALL REQUIRED ROAD SURFACE MARKINGS ON RESTORED AND NEW ASPHALT SURFACES.
  - CONTRACTOR TO REMOVE AND REINSTATE ALL ROAD SIGNAGE REQUIRED TO COMPLETE CONSTRUCTION.
  - DIRECT ALL BC MOTI ENQUIRIES TO MACKENZIE BARRY

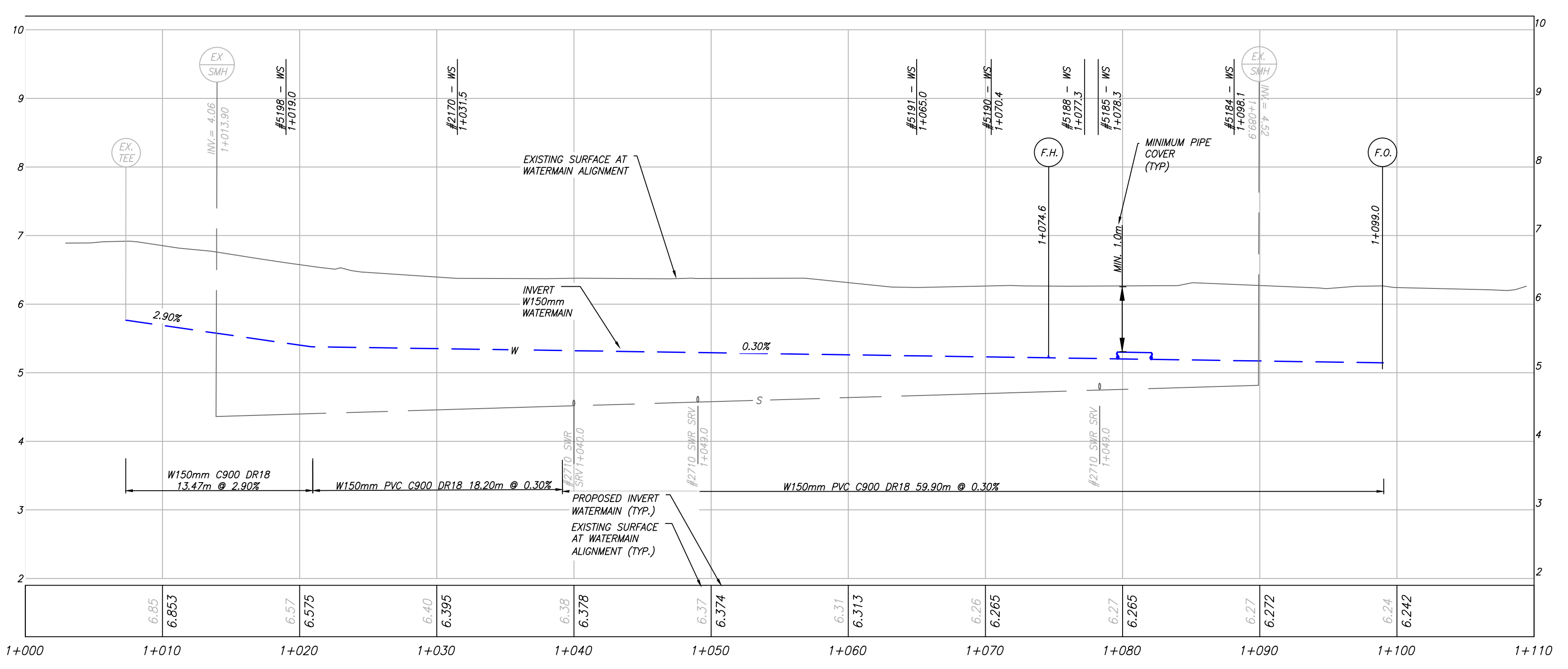


LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE AND MUST BE VERIFIED IN AREAS OF POTENTIAL CONFLICT WITH PROPOSED SERVICING

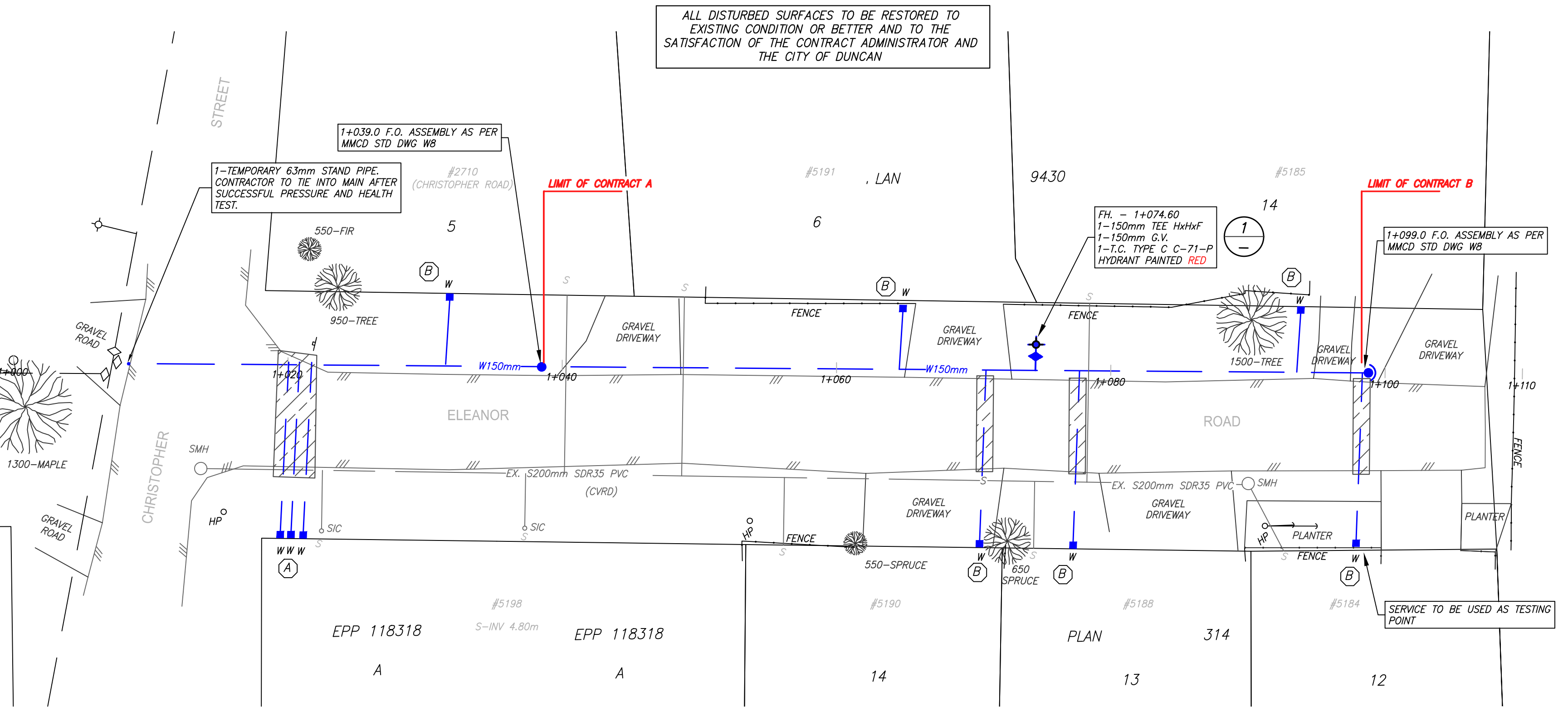
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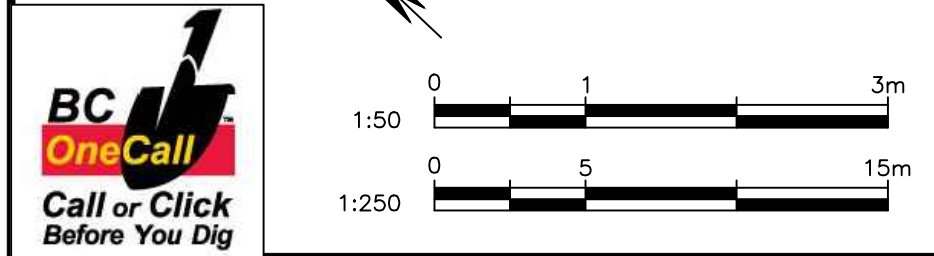
NOTE:  
1. FOR INSTALLATIONS SHOWN ON CONTRACT DRAWINGS WHERE WATER TABLE (AT SEASONAL HIGH) IS ABOVE BASE OF DRAIN ROCK, INSERT THREADED PLUGS IN DRAIN HOLES AND SUBSTITUTE GRANULAR PIPE BEDDING FOR DRAIN ROCK. (COMPACT PIPE BEDDING TO 95% MODIFIED PROCTOR DENSITY)



- NOTE:**  
CURB STOPS TO BE INSTALLED ON SERVICES UNTIL SUCCESSFUL PRESSURE AND HEALTH TESTS HAS TAKEN PLACE. ONCE COMPLETE SETTERS AND BOXES TO BE INSTALLED; BOXES TO BE SET AT 2.0% UP FROM EOP.
- ASPHALT RESTORATION REQUIRED AS PER TYPICAL TRENCH DETAIL



**ISSUED FOR TENDER & APPROVAL**



| LEGEND: |                  | PROPOSED |            | EXISTING |              |
|---------|------------------|----------|------------|----------|--------------|
| —       | WATERMAIN        | ●        | MH         | ○        | MANHOLE      |
| —       | SANITARY SEWER   | ○        | CLEANOUT   | ○        | UTILITY POLE |
| —       | STORM DRAIN      | —        | CULVERT    | ○        | WATER VALVE  |
| —       | UTILITY          | —        | CATCHBASIN | ○        | HYDRANT      |
| —       | U/G UTILITY      | —        | DITCH      | ○        | FLUSHOUT     |
| —       | EDGE OF PAVEMENT | —        | ANCHOR     | ○        | AIR VALVE    |
|         |                  | —        | LIGHT      | ○        | WATER METER  |
|         |                  | —        |            | ○        | HYDRO        |
|         |                  | —        |            | ○        | TEL          |
|         |                  | —        |            | ○        | CABLE        |

| REVISION DESCRIPTION         | DATE          | BY |
|------------------------------|---------------|----|
| ISSUED FOR TENDER & APPROVAL | JUNE 13, 2022 | CW |

DESIGN: C.W.  
DRAWN: S.B.  
CHECKED: —  
APPROVED: —  
DATE: JUNE 13, 2022  
SCALE: AS NOTED

**DUNCAN**  
COWICHAN ENGINEERING SERVICES LTD.  
6488 NORCROSS ROAD  
DUNCAN, BC  
V9L 6C5

LEGAL DESCRIPTION:  
IHA WATER SUPPLY SYSTEM  
CONSTRUCTION PERMIT W-C-XXXX

CITY OF DUNCAN  
CITY OF DUNCAN  
PROPOSED WATERMAIN  
ELEANOR STREET

CLIENT: CITY OF DUNCAN  
PROJECT: PROPOSED WATERMAIN ELEANOR STREET

CLIENT FILE:  
SHEET: 1 OF 1  
REVISION: —  
DRAWING: 1470-C-01  
FILE: