

**SITE WORKS**

1. Refer to Geotechnical Report by Malroz Engineering Inc. dated November 5, 2018.
2. Road cuts to be reinstated as per The County of Prince Edward requirements.
3. Provide construction fencing and signage as per The County of Prince Edward requirements.
4. Hot mix, hot laid asphalt concrete as per OPSS 1150.
5. Mix designs shall contain a minimum of 5.4% asphalt cement with a performance grade of PH58-28 and 3.5% air voids. Parking lot cross sections shall be:  
Heavy Duty  
40mm HL3  
50mm HL8  
150mm Granular 'A'  
300mm Granular 'B' Type II
6. Concrete curb shall be barrier type OPSD 600.110 unless indicated otherwise.
7. Concrete shall be 32Mpa 28 day strength, 19mm coarse aggregate nominal maximum size, 6.0% to 8.0% air content. Normal portland cement type as per OPSS 1301. Concrete materials and production as per OPSS 350, 351, 352, 353, 1301, 1302, and 1350.
8. Boulevards and grass areas to be finished with 100mm of topsoil and seed.
9. Paint lines for standard parking spaces to be CAN/CSSB-1.74-2001, ALKYD Traffic Paint. Pavement surface to be free from ponded water, frost, ice, dust, oil, grease, and other foreign materials prior to painting. Paint lines to be uniform colour and density with sharp edges. Protect pavement markings until dry.
10. All construction dewatering during building construction up to occupancy is the Contractor's responsibility.

**GRADING**

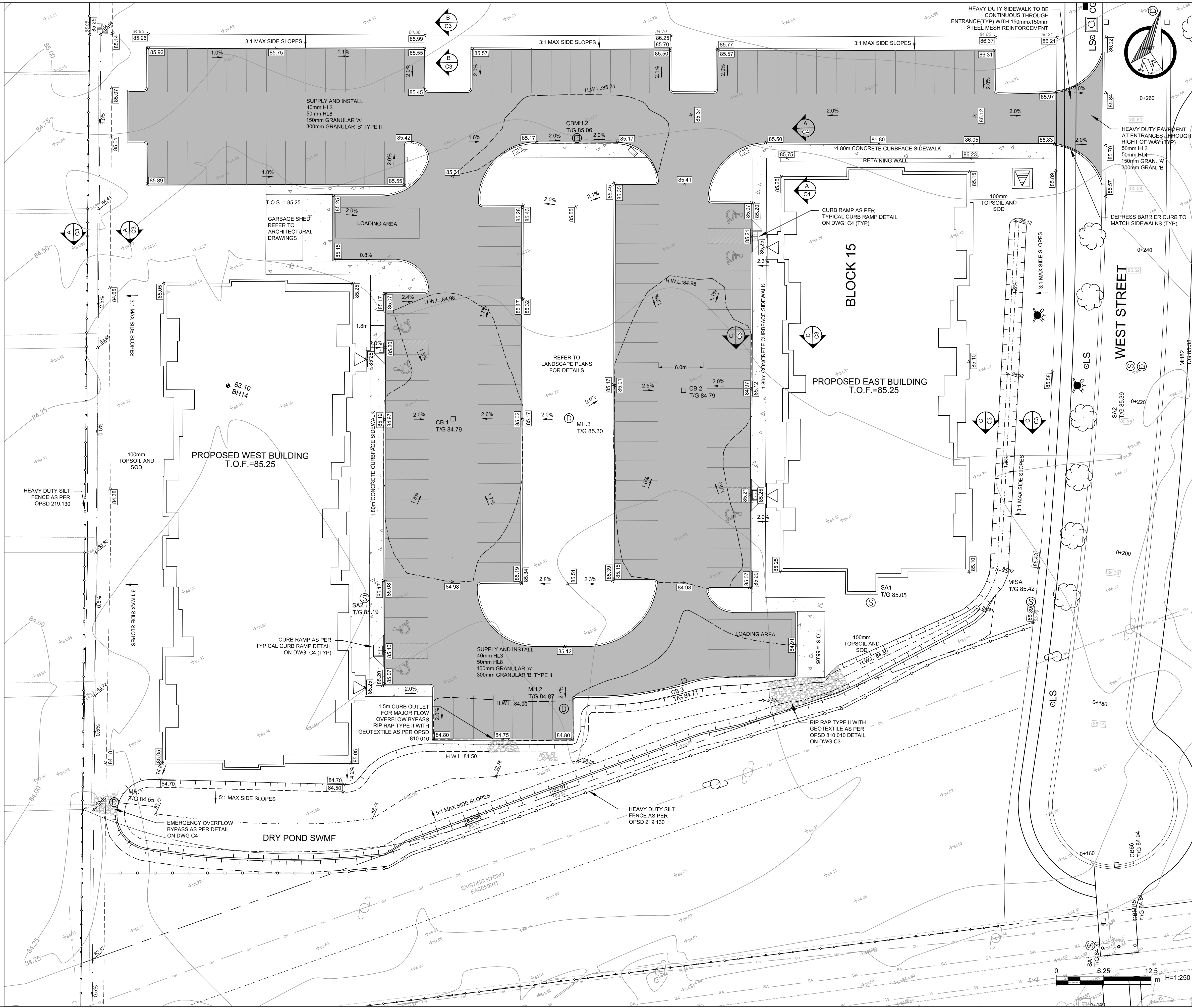
1. Existing elevations as per Forefront Survey 2022.
2. Positive drainage away from the building shall be achieved. Finished surfaces shall be at a minimum grade of 2% unless otherwise noted.
3. 150mm of granular 'A' shall be supplied and installed under all steps, decks, and porches unless otherwise specified.
4. Side slopes shall be a maximum slope of 3:1 unless otherwise noted.
5. All existing elevations and grades are to be verified by the contractor prior to grading.
6. Utilities are to be located prior to construction.
7. All ground surfaces shall be graded to prevent ponding and without low areas except where approved swale or catchbasin outlets are provided.
8. Maximum hard surface grades are to be 8.0%.
9. Staked straw bale filters and flow checks to be installed as per OPSD 219.100 and OPSD 219.180 around catchbasins and sewer inlets.
10. Conflicts between the architectural drawings and grading shall be brought to the attention of the contract administrator.
11. The contractor is responsible for reviewing proposed grades with conflicts regarding the proposed structures.
12. Sub-drain and outlet elevations are to be confirmed prior to the construction of any structures.
13. Sub-grade shall be graded at a minimum of 2% until a lower ditch is encountered or the existing surface drains away from the sloped sub-grade.
14. Grades are to match the adjacent properties unless otherwise noted.
15. All driveway curbing within 0.6m of a county sidewalk is to be depressed to the elevation of the sidewalk.
16. F.F.E. shall mean First Floor Elevation.  
T.O.F. shall mean Top Of Foundation.  
T.O.S. shall mean Top Of Slab.

**SEDIMENT AND EROSION CONTROL NOTES**

1. All erosion and sediment controls shall be installed prior to construction and monitored and maintained by the Contractor throughout the construction process, until all disturbed areas have been revegetated, then the temporary sediment and erosion control measures must be removed once the site has been stabilized and/or the site works are complete.
2. Staked straw bale filters and flow checks to be installed as per OPSD 219.100 and OPSD 219.180 around catchbasins and sewer inlets.
3. All erosion and sediment control measures shall be inspected after each rainfall to the satisfaction of Prince Edward County and QCA.
4. Any disturbed area not scheduled for further construction within forty-five (45) days will be provided with a suitable temporary mulch and seed cover within seven (7) days of completion of that particular phase of construction.
5. Regardless of site specific items detailed on the plans, the Contractor shall install erosion control measures to suit the proposed work methods controlling sediment runoff from discharging offsite prior to any disturbance.
6. Following construction, disturbed areas, as well as proposed grassed and vegetated surfaces, shall be reinstated as soon as practical.
7. The placement of surplus fill to be placed and/or temporarily stored in accordance with Prince Edward County requirements or O Reg 148/06 where applicable. Temporary fill sites will require the approval of the County. Fill locations, side slopes, elevations as per the Approved Drawings. Restoration to be completed during the final phase of construction.
8. All roads used to access the site shall be kept clean to the satisfaction of the Director of Engineering Services.

**CLOSEOUT**

1. Request Final Inspection and SPA securities release from the Civil Engineering Consultant.
2. Maintain as-built drawings throughout the durations of the project. Submit as-built drawings for the project record.
3. Complete and submit a final site survey certificate (completed by OLS or Engineer), certifying that elevations and locations of completed Works are in conformance, or non-conformance with Contract Documents.
4. Prior to final review remove surplus products, tools, construction machinery and equipment. Remove waste products and debris including that caused by Owner or other Contractors. Broom clean and wash exterior walks, steps and surfaces, rake clean other surfaces of grounds. Remove dirt and other disfiguration from exterior surfaces. Sweep and wash clean paved areas.



**LEGEND**

- HEAVY DUTY ASPHALT
- CONCRETE
- PROPOSED STORMWATER
- PROPOSED SANITARY
- PROPOSED WATERMAIN
- PROPOSED SWALE
- EXISTING SANITARY
- EXISTING STORM
- EXISTING WATER
- EXISTING GAS
- EXISTING BELL CABLE
- EXISTING UND.G. HYDRO
- EXISTING FENCE
- EXISTING CB, DCB
- EXISTING STORM MH, CBMH
- EXISTING SANITARY MH
- EXISTING HYDRANT, VALVE
- EXISTING DECIDUOUS, CONIFEROUS TREE
- EXISTING LIGHT STANDARD
- BENCHMARK
- BOREHOLE
- WELL
- EXISTING GRADE
- PROPOSED GRADE
- SLOPE ARROW
- PROPOSED SWALE GRADE

Benchmark  
 1. BENCHMARK BEING THE SPIKE IN CONCRETE SIDEWALK, NORTHING: 4885386.064 EASTING: 31181.400, HAVING AN ELEVATION OF 84.38m.  
 2. BM2 BEING NAIL IN HYDRO POLE, NORTHING: 4885386.270 EASTING: 311425.870, HAVING AN ELEVATION OF 85.15.

| RI | Revision/Issue | Date |
|----|----------------|------|
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|    |                |      |



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 1.888.884.9392 fax.

Client  
**KAITLIN CORPORATION**

Project  
**FIELDS OF WELLINGTON SUBDIVISION  
 BLOCK 15**

Drawing  
**GRADING PLAN**

|                     |                     |              |
|---------------------|---------------------|--------------|
| Drawn by:<br>GSD    | Checked by:<br>JH   | Project No.: |
| Designed by:<br>KMN | Approved by:<br>KMN | Drawing No.: |
| Date:<br>JUNE 2023  | Scale:<br>1:250     |              |



**GENERAL**

- All works to be installed in accordance with current Prince Edward County Development Guidelines, Ontario Building Code and, Ontario Provincial Standard Specifications and Drawings unless specified otherwise.
- The Contractor shall acquire all permits as required for all works within the Municipal Right of Way. Cut permits are required for all offsite works.
- Refer to the Architectural and Landscape Architectural Drawings and coordinate.
- Prior to construction, Contractor to verify all dimensions, sewer inverts and utility locates and identify possible conflicts.
- Refer to Geotechnical Report by Malroz Engineering dated Nov. 27, 2019.
- In the event that human remains are encountered during construction, the Contractor shall immediately contact the Ministry of Tourism Culture and Sport (416-314-7132), the Registrar of the Cemeteries Regulation Unit from the Ministry of Consumer Services, at (416-326-8393), Ontario Provincial Police (613-476-2151).
- In the event that deeply buried or previously undiscovered archaeological deposits are discovered in the course of development or site alteration, the Contractor shall immediately contact the Ministry of Tourism Culture and Sport (416-314-7132).

**WATERMANS**

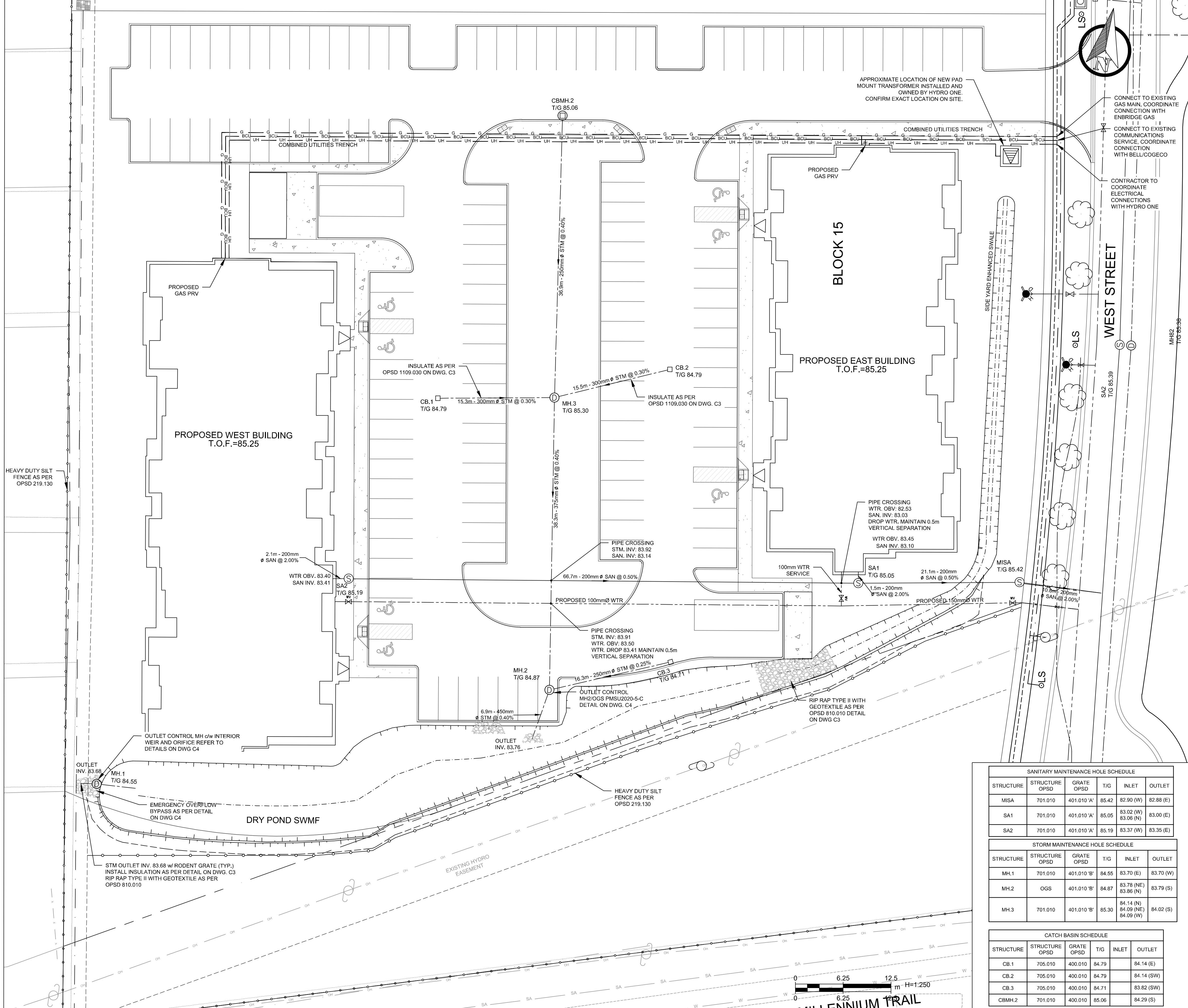
- Watermains shall be AWWA C900-Poly (Vinyl Chloride) (PVC) Specification, SDR18, Pressure Class (PC) of 235 or (b) AWWA C900-Molecularly Oriented Polyvinyl Chloride (PVCO) Specification Pressure Class(PC) of 235. Other pipe materials may be accepted by the County at the sole discretion of the Director of Engineering Services based on the acceptance of technical specification for that material.
- Pipe bedding and cover shall conform to OPSP 802 series. Bedding and cover shall be Granular "A".
- The minimum depth of cover measured from the top of a main or a service connection gosseneck shall not be less than 1.7m.
- Watermain to have a minimum separation of 2.5m from parallel ditches and sewers, crossing sewers shall have a minimum vertical separation.
- Watermain vertical separation of 0.5m and insulated as directed by the Engineer.
- Service connections to PVC mains shall be by stainless steel saddle within municipal right of ways and molded tee fittings within the buildings property, or approved equivalent.
- Valve boxes shall be adjusted to finish grade. Valve boxes shall be of cast iron as manufactured by Bibby Ste Croix or Star Pipe Products, 112mm and shall be of sliding type, complete with grommet hole for tracer wire, which cannot carry any surface load down to the pipe. The covers shall be of a design which prevents unauthorized entry and marked "Water", length to be 140mm to 240mm.
- Gate valves for pipe shall be flow or equal, cast iron body, resilient seated mechanical joint pattern conforming to ANSI/AWWA C509, designed for a working pressure of not less than 150 PSI. Valves shall open when turned in a clockwise direction, shall be fitted with a compound operating nut.
- Water services a minimum of 5.5m in length shall be tested and disinfected to County Standards, AWWA and Building Code Standards.
- Water services 100mm in diameter or larger shall be hydrostatically tested and disinfected to County, AWWA and Building Code Standards. Fire supply lines shall be tested to NFPA 24.
- Hydrant shall be the colour for private hydrants. Chrome yellow or red. Contractor to confirm with building department prior to ordering.
- Prior to testing and disinfection of the watermain and large services, Prince Edward County requires the contractor submit for review a testing, Disinfection and Final Connection Plan.

**SEWERS**

- Existing pipe inverts are approximate and must be confirmed by the Contractor in the field.
- Pipe bedding and cover shall conform to OPSP 802 series. Bedding and cover shall be Granular "A".
- Storm sewer materials as per:
  - Reinforced concrete pipe per OPSS 1820 according to CSA A257.2 Class 65-D with rubber gaskets or
  - Type PSM polyvinyl chloride (PVC) pipe with elastomeric gasketed bell and spigot type joints as per OPSS 1841 and CSA B182.2.
  - Mains - DR 35 pipe
  - Storm Laterals - DR 35 pipe
  - Profile Polyvinyl Chloride (PVC) pipe with elastomeric gasketed bell and spigot type joints meeting OPSS 1841 and CSA B182.4 and having a minimum stiffness of 320 kPa may be used for storm sewer applications.
  - ADS N-12 ST/WT sizes 100mm to 900mm corrugated dual-wall High Density Polyethylene (HDPE) pipe with elastomeric gasketed bell and spigot type joints meeting CSA 182.8 and OPSS 1840, and having a minimum stiffness of 320 kPa.
- All manhole and catchbasin grate elevations are approximate and are subject to adjustment in the field.
- Catchbasin leads to be 200mm unless noted otherwise.
- Water and sewer services and foundation drains may be laid in the same trench subject to the provisions of the Ontario Building Code and MOECC.
- Sanitary laterals shall be PVC, CSA certified and conform to OPSS.
- Laterals are to be sized to meet the Ontario Building Code as amended and shall be minimum 125mm. The colour shall be green.
- Saddles and fittings for services are to be approved by Prince Edward County.
- Backwater Valve to be installed on all storm services to the satisfaction of Prince Edward County.
- Sanitary sewers shall be tested for deflection as per OPSS 410.
- Where a clearance between pipe or conduit crossings of 300mm or less cannot be avoided, there shall be concrete encasement or non-shrink backfill of the crossing extending one metre in each direction of each pipe.
- Sanitary maintenance hole cover to OPSS 401.01 Type A. Storm maintenance hole cover to OPSS 401.01 Type B, unless noted otherwise. Catch basin cover to be 400.010.
- All maintenance holes and catch basins located in the pavement are to have the frame set at base course elevation. These frames are to be subjected to final adjustment at such time as the surface course is applied.
- Geotextiles must be placed under the lids of all existing manholes and catch basins in the working area for the duration of construction. Upon completion of construction, geotextile is to be removed along with any accumulated sediment.
- Basement sanitary sewers and foundation subdrains are to be pumped to the proposed service connections, foundation drain shall include backwater valve. Refer to Mechanical Engineering Drawings.

**CLOSEOUT**

- Request Final Inspection and SPA securities release from the Civil Engineering Consultant.
- Contractor to maintain as-built drawings throughout the durations of the project. Submit as-built drawings for the project record.
- Complete and submit a final site survey certificate (completed by OLS or Engineer), certifying that elevations and locations of completed Works are in conformance, or non-conformance with Contract Documents.
- Prior to final review remove surplus products, tools, construction machinery and equipment. Remove waste products and debris including that caused by Owner or other Contractors. Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds. Remove dirt and other disfiguration from exterior surfaces. Sweep and wash clean paved areas.
- Clean, flush and CCTV all sanitary and storm sewer's prior to expiration of the Contractor's warranty for Contract Administrators approval.
- Contractor to Mandrel all sewers under Contract Administrators supervision.
- Contractor to Leak test sanitary sewer system under Contract Administrators supervision.



**LEGEND**

- PROPOSED STORMWATER
- PROPOSED SANITARY
- PROPOSED WATERMAIN
- PROPOSED SWALE
- SA --- SA --- EXISTING SANITARY
- ST --- ST --- EXISTING STORM
- W --- W --- EXISTING WATER
- G --- G --- EXISTING GAS
- BCU --- BCU --- EXISTING BELL CABLE
- UH --- UH --- EXISTING UND.G. HYDRO
- X --- X --- EXISTING FENCE
- EXISTING CB, DCB
- EXISTING STORM MH, CBMH
- EXISTING SANITARY MH
- EXISTING HYDRANT, VALVE
- EXISTING DECIDUOUS, CONIFEROUS TREE
- EXISTING LIGHT STANDARD
- BENCHMARK
- BOREHOLE
- WELL
- EXISTING GRADE
- PROPOSED GRADE

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 2. BM2 BEING NAIL IN HYDRO POLE, NORTHING: 4869336.270 EASTING: 311425.870, HAVING AN ELEVATION OF 85.15.

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Client  
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Project  
**FIELDS OF WELLINGTON SUBDIVISION  
 BLOCK 15**

Drawing  
**SERVICING PLAN**

|                     |                     |              |
|---------------------|---------------------|--------------|
| Drawn by:<br>GSD    | Checked by:<br>JH   | Project No.: |
| Designed by:<br>KMN | Approved by:<br>KMN | Drawing No.: |
| Date:<br>JUNE 2023  | Scale:<br>1:250     |              |

**SANITARY MAINTENANCE HOLE SCHEDULE**

| STRUCTURE | STRUCTURE OPSD | GRATE OPSD  | T/G   | INLET     | OUTLET    |
|-----------|----------------|-------------|-------|-----------|-----------|
| MISA      | 701.010        | 401.010 'A' | 85.42 | 82.90 (W) | 82.88 (E) |
| SA1       | 701.010        | 401.010 'A' | 85.05 | 83.02 (W) | 83.06 (E) |
| SA2       | 701.010        | 401.010 'A' | 85.19 | 83.37 (W) | 83.35 (E) |

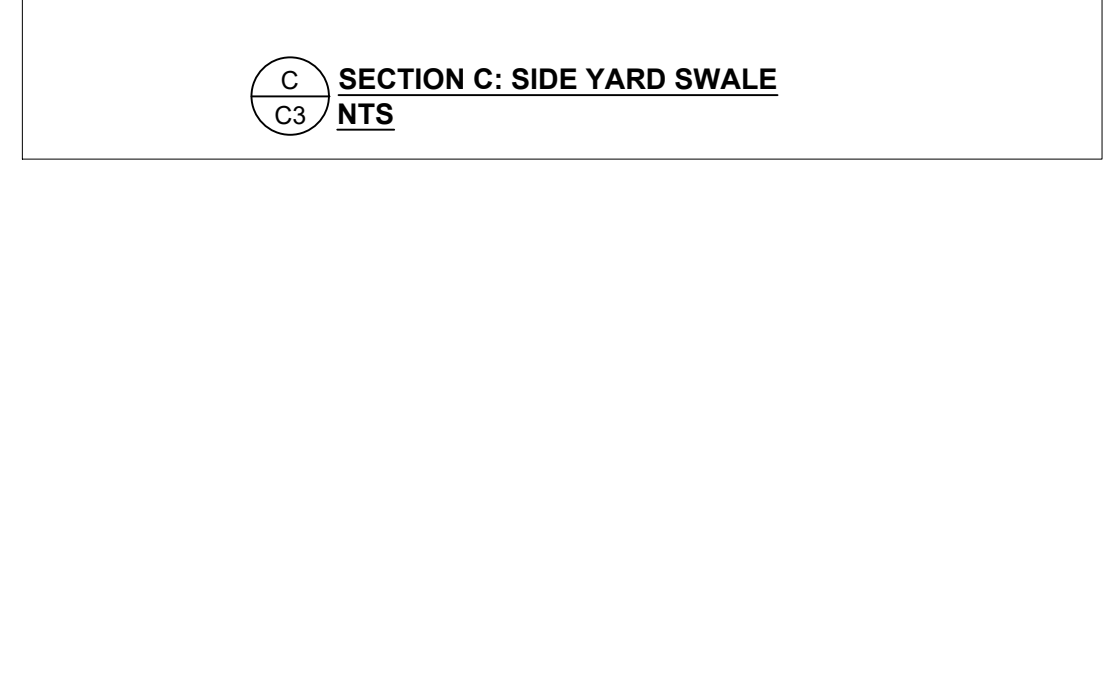
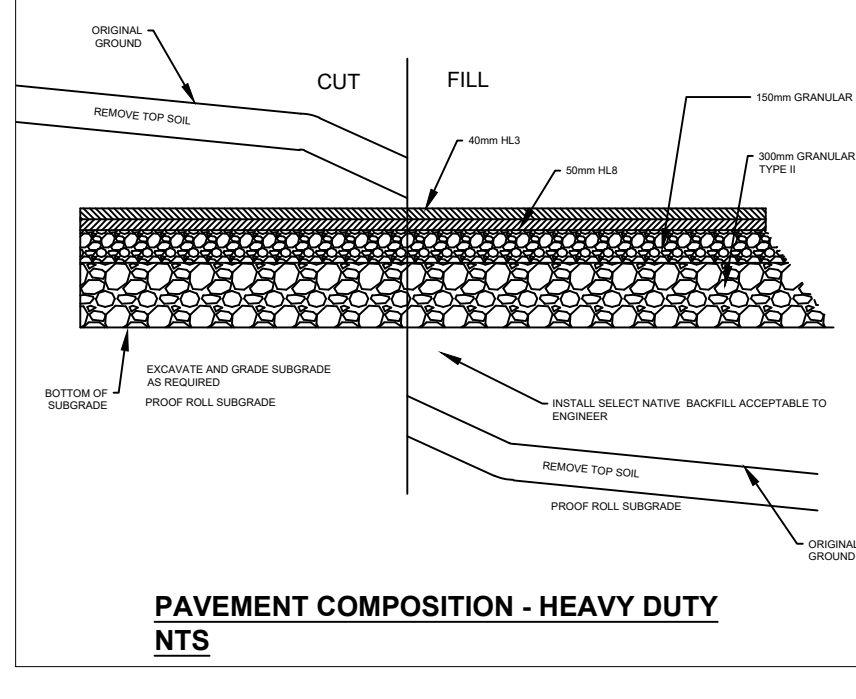
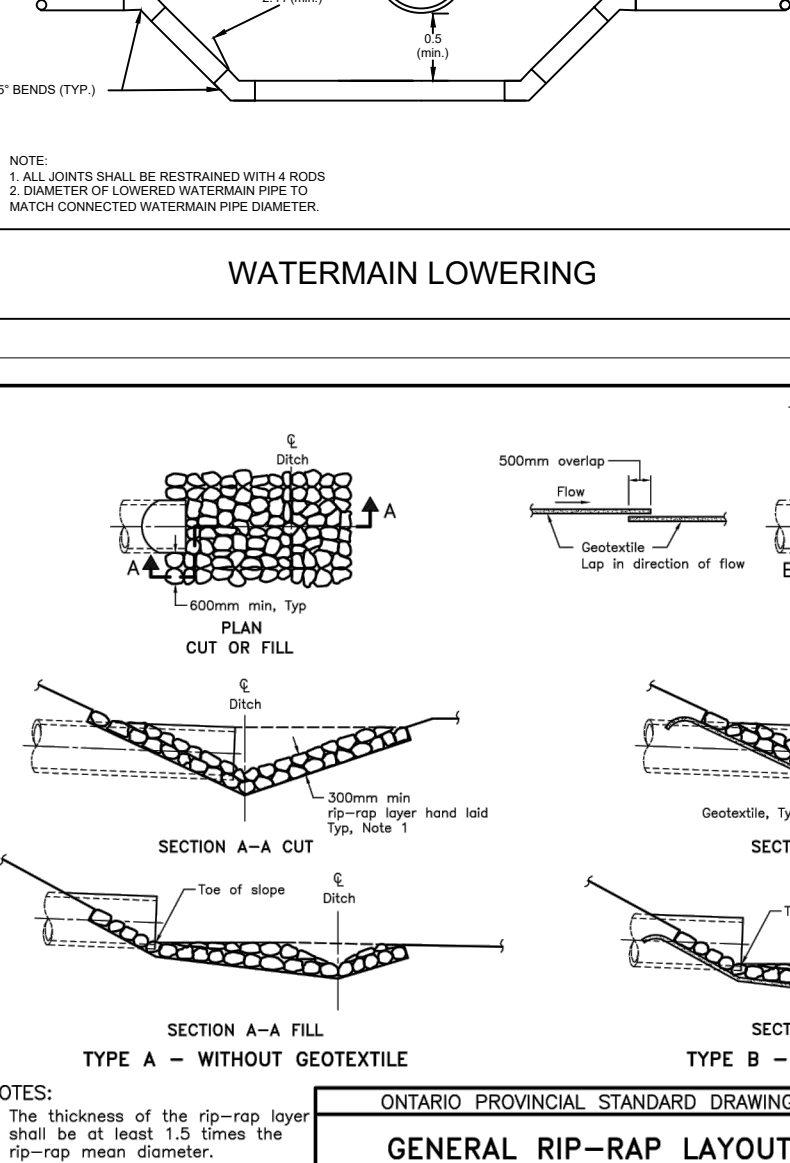
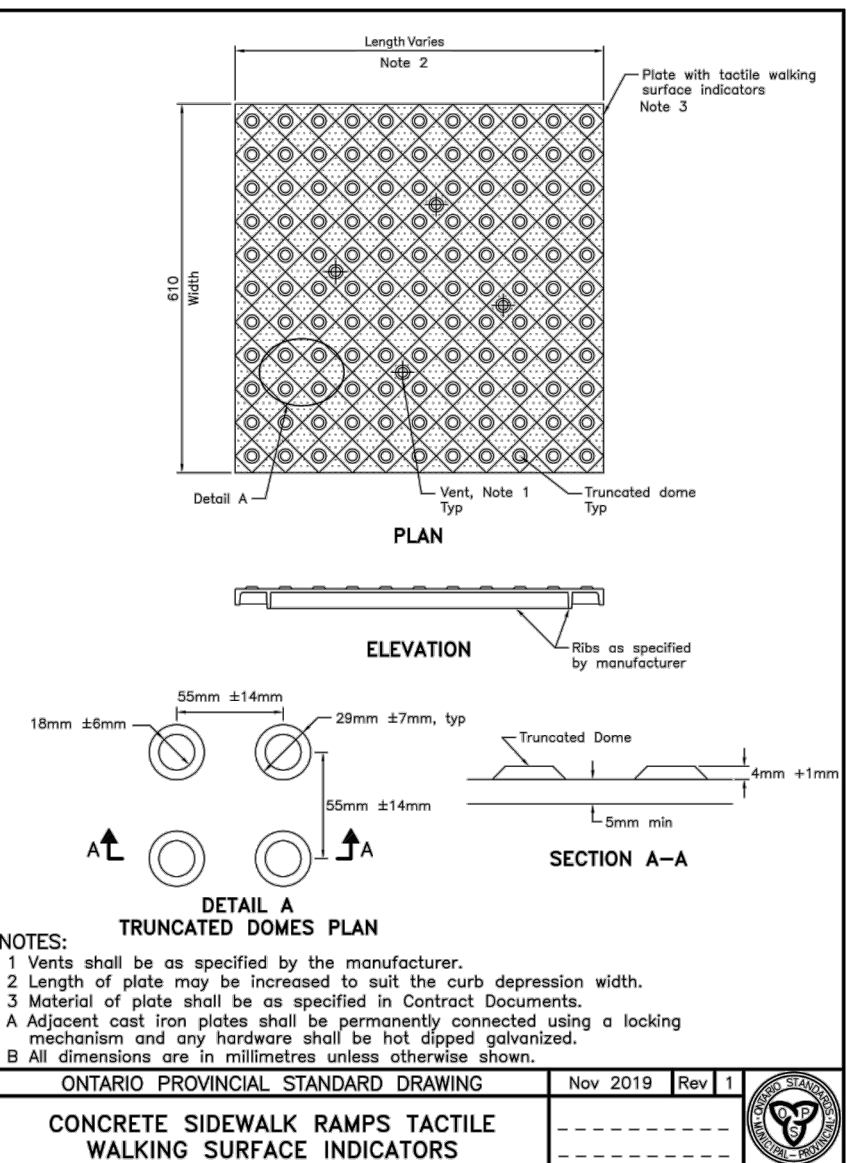
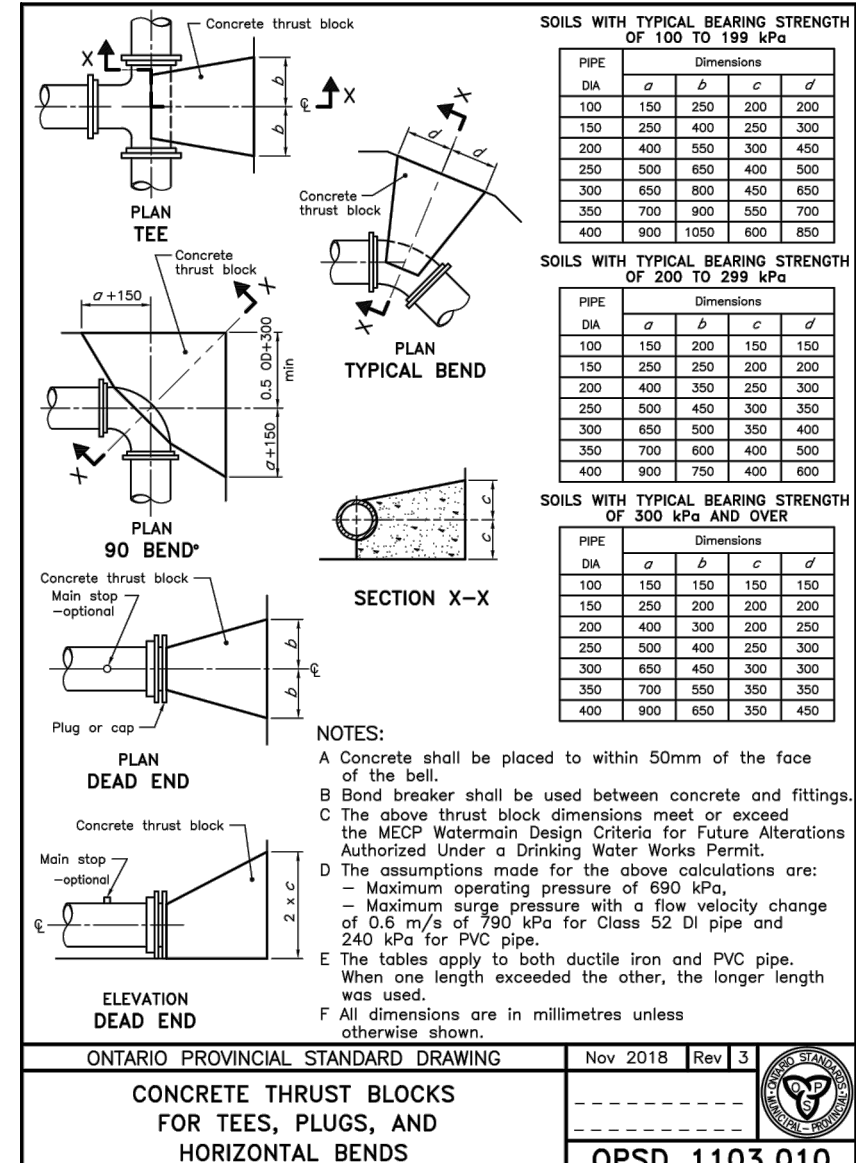
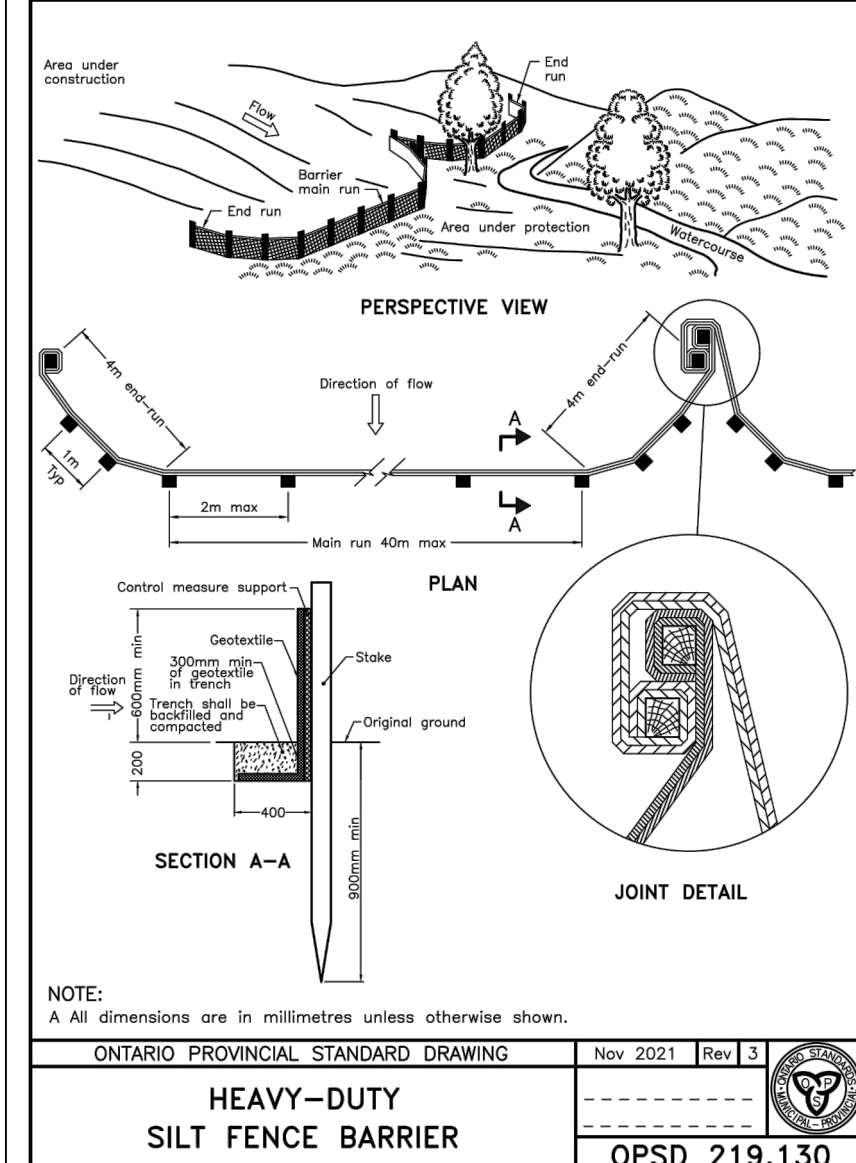
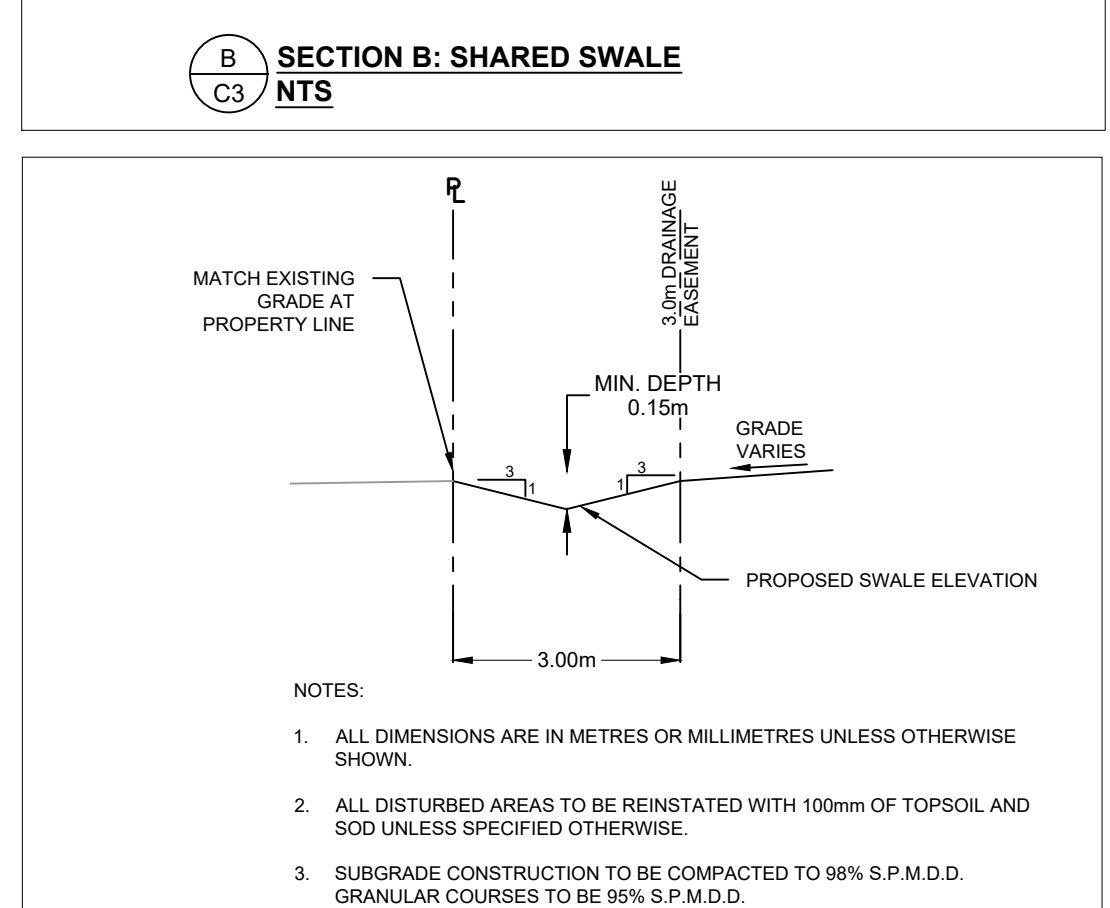
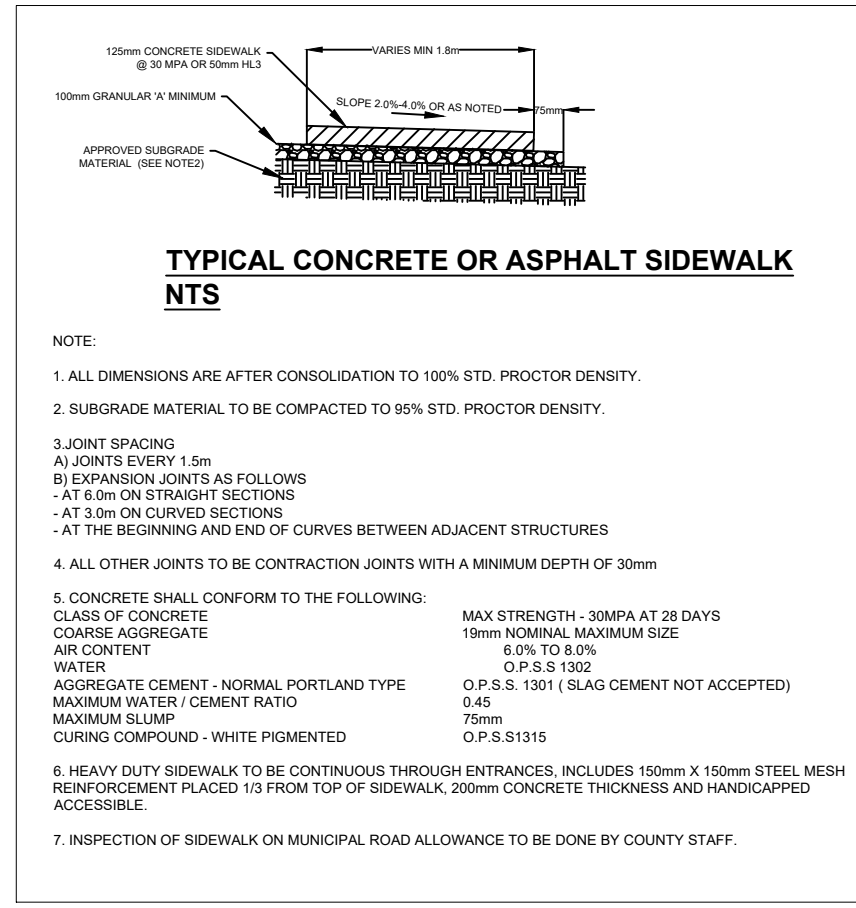
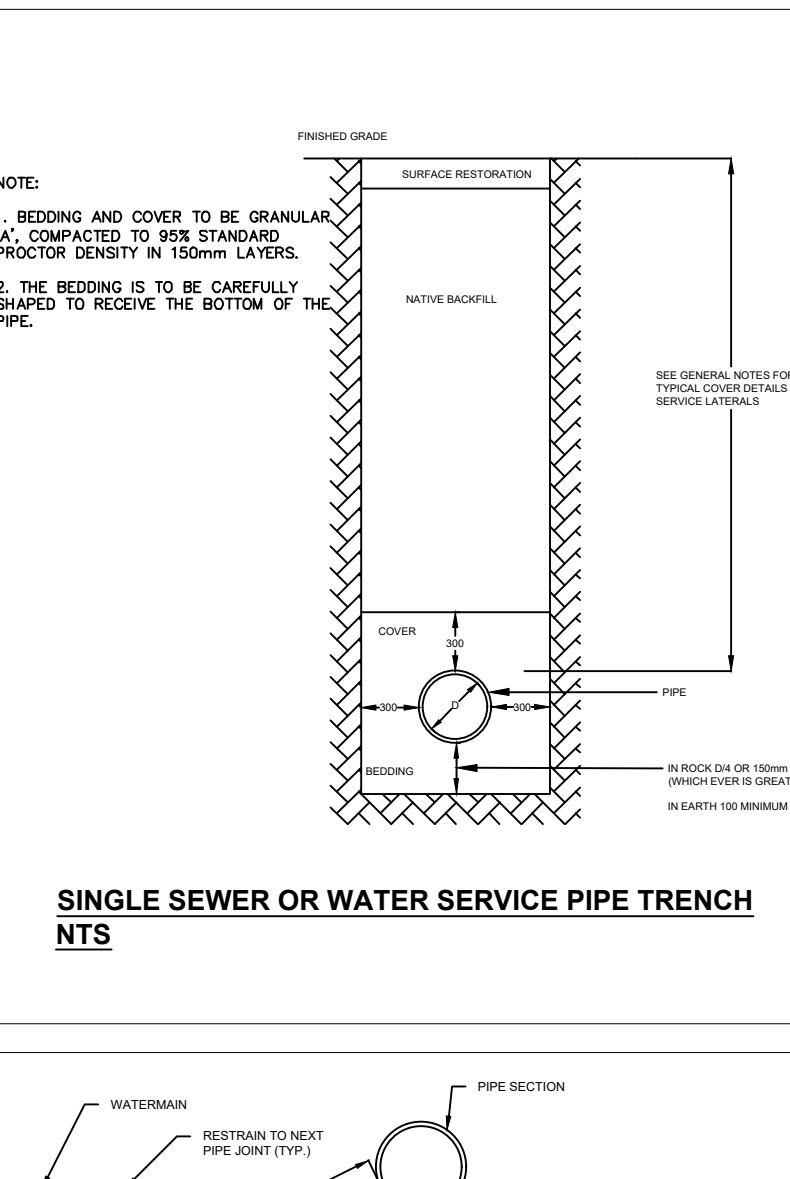
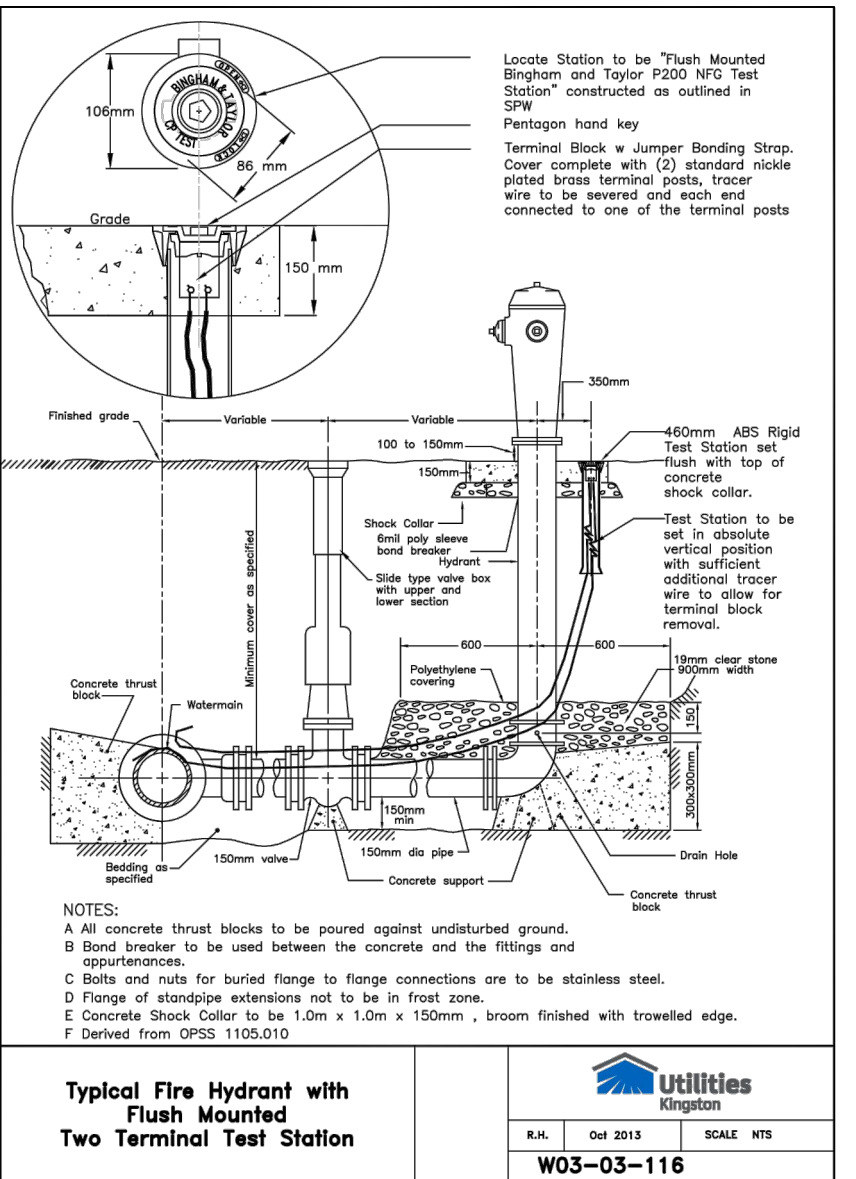
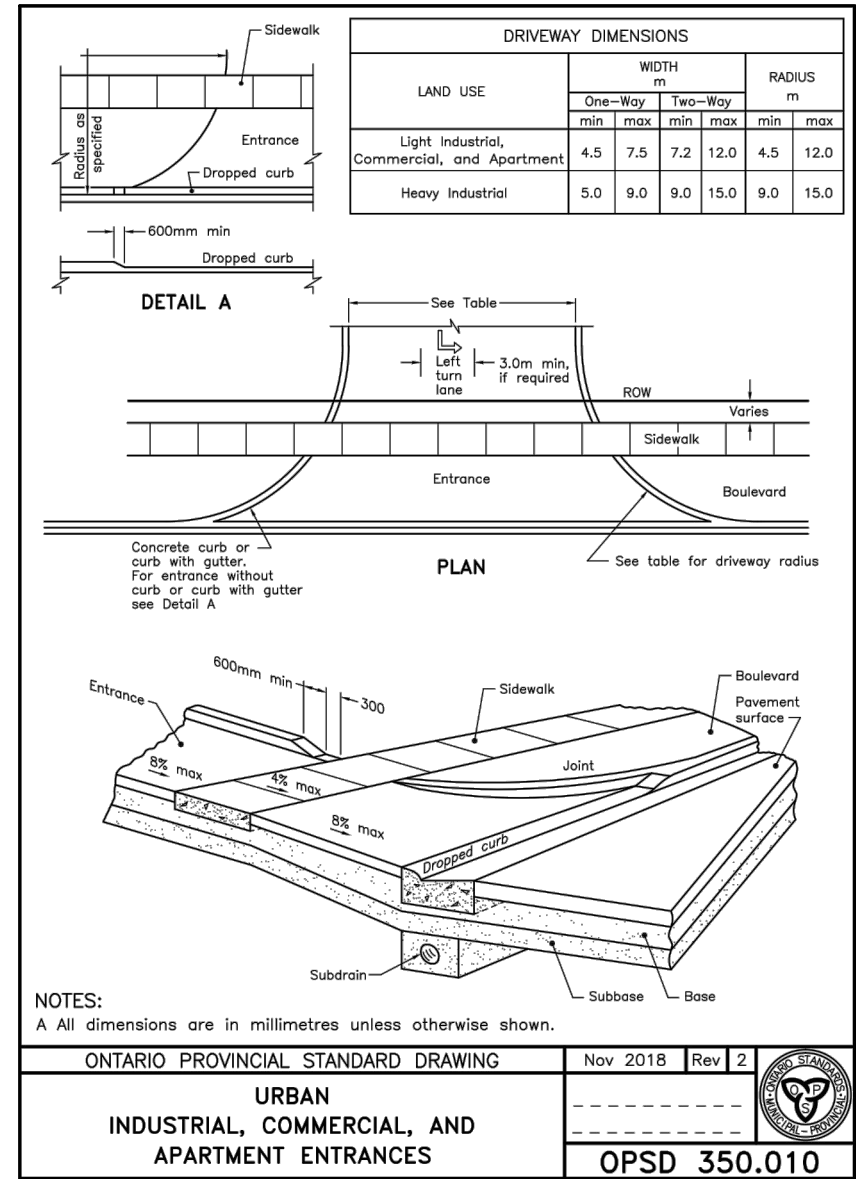
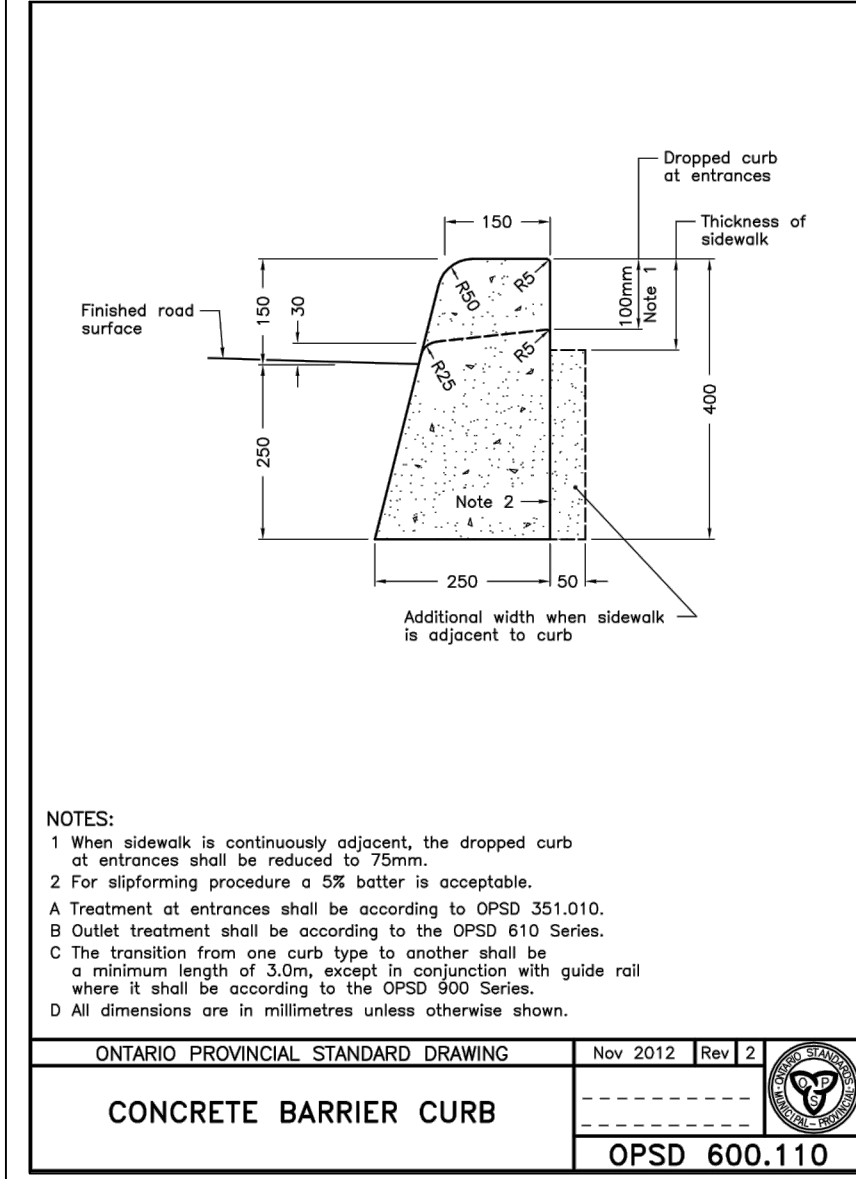
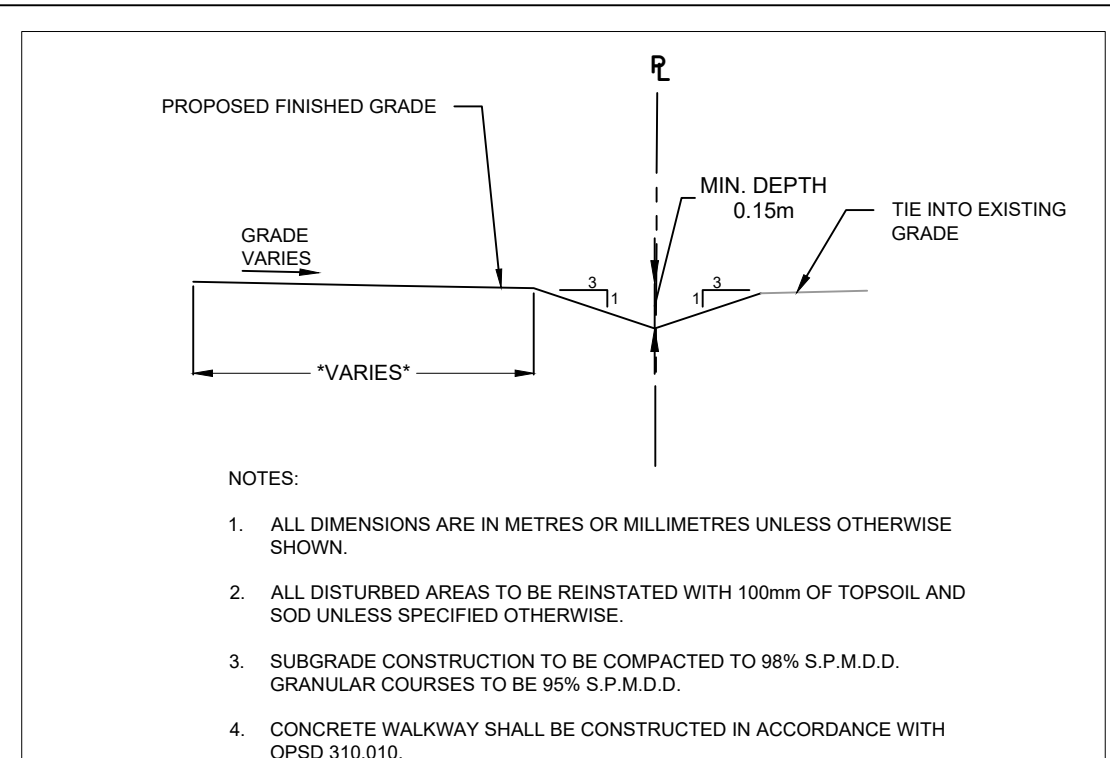
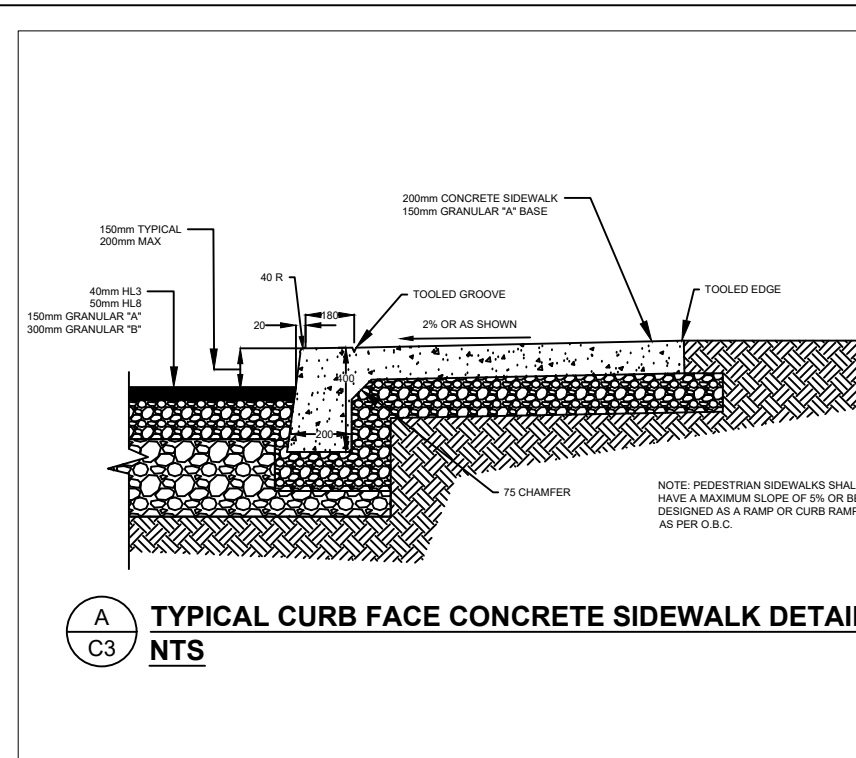
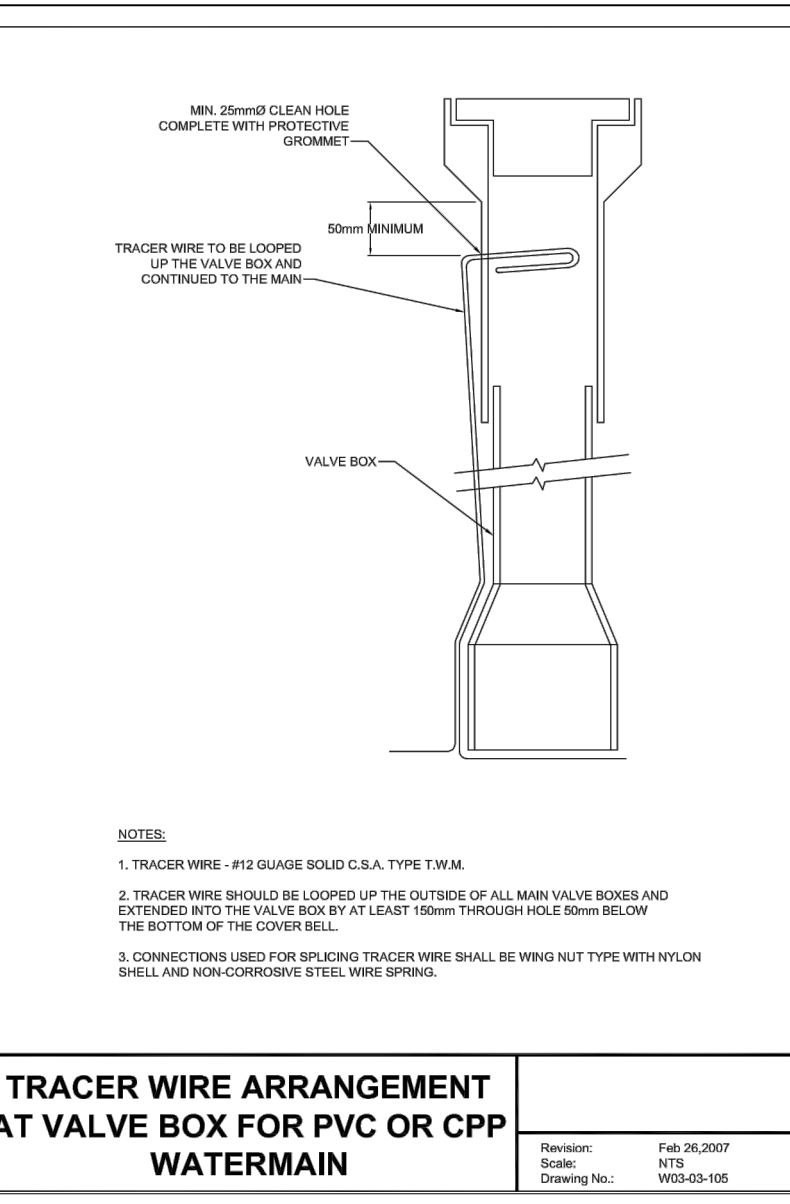
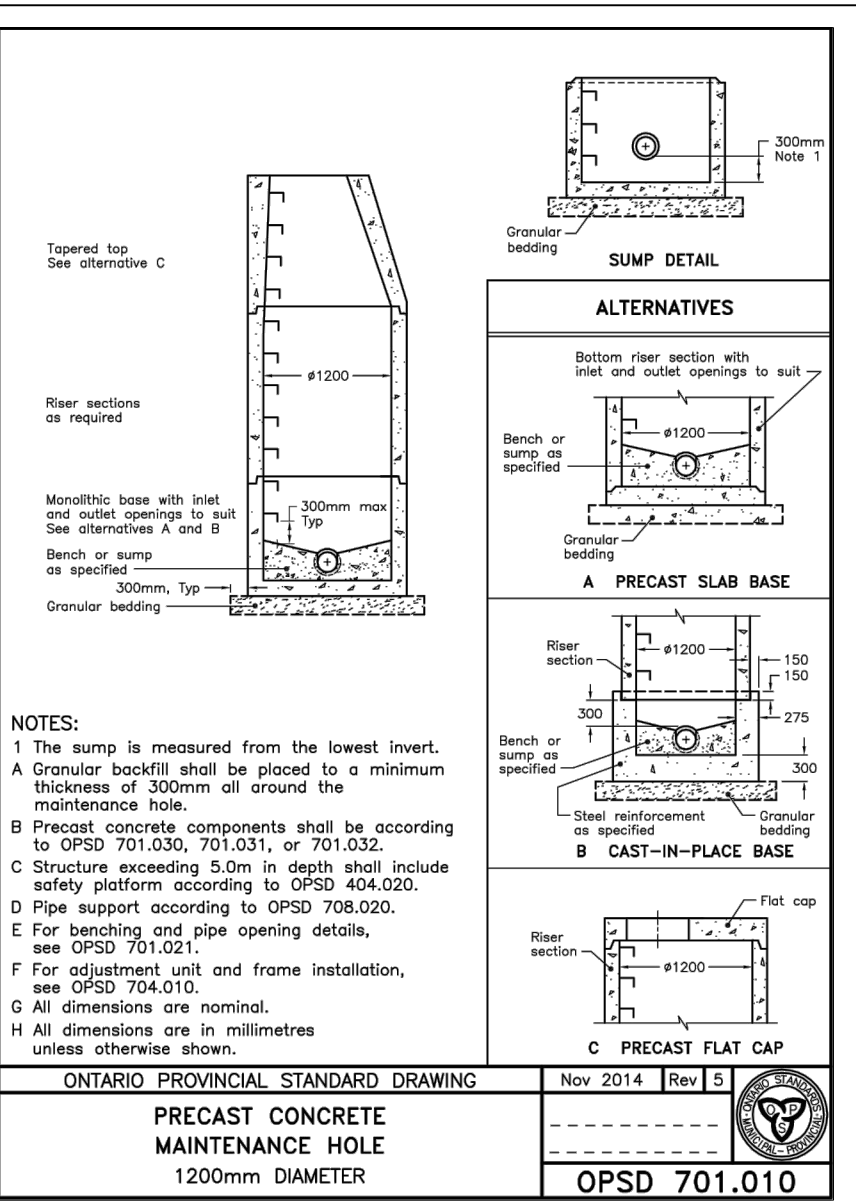
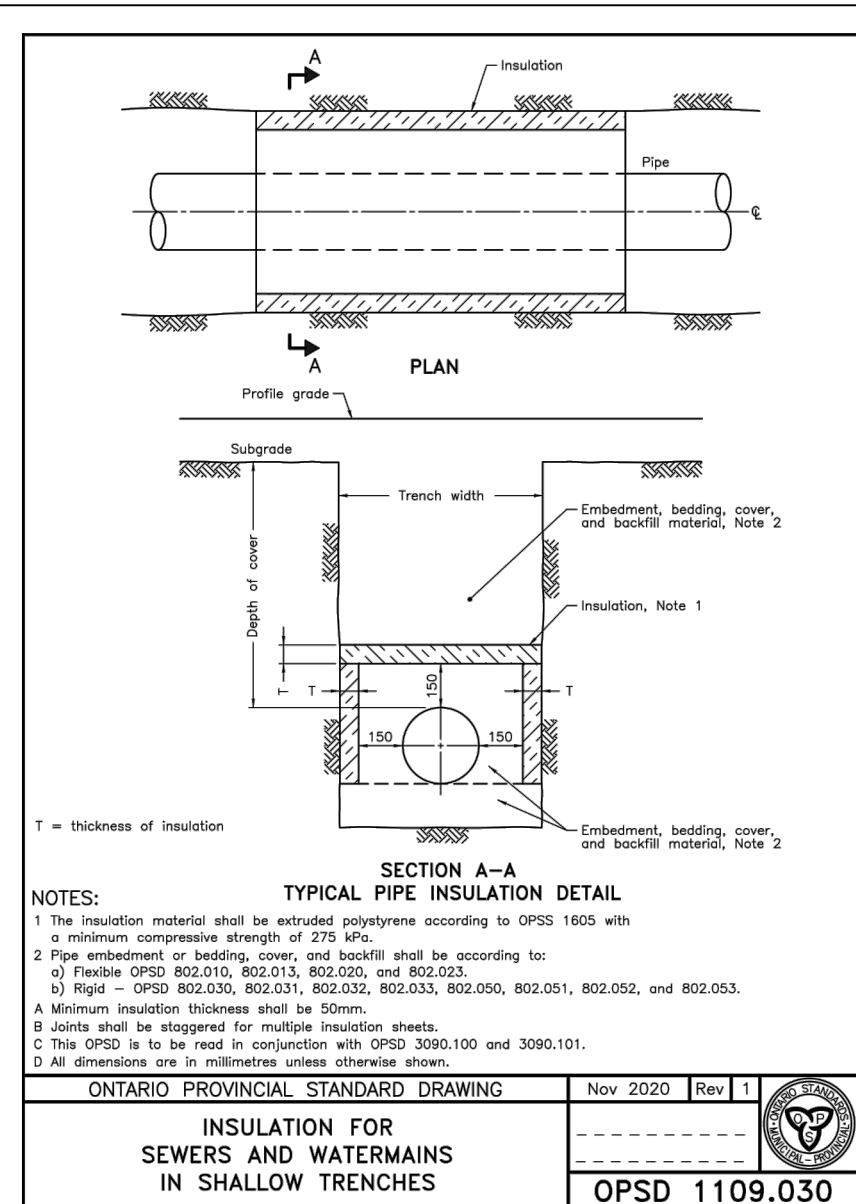
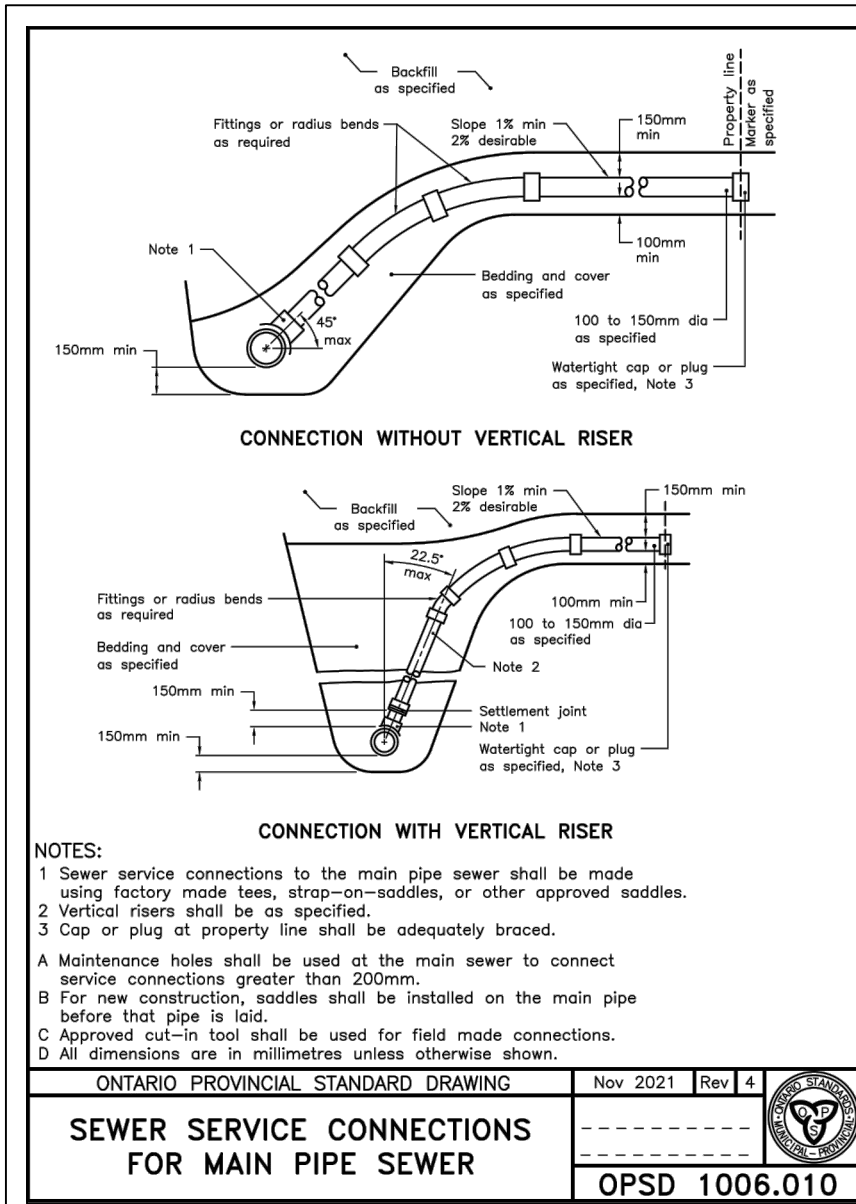
**STORM MAINTENANCE HOLE SCHEDULE**

| STRUCTURE | STRUCTURE OPSD | GRATE OPSD  | T/G   | INLET      | OUTLET     |
|-----------|----------------|-------------|-------|------------|------------|
| MH.1      | 701.010        | 401.010 'B' | 84.55 | 83.70 (E)  | 83.70 (W)  |
| MH.2      | OGS            | 401.010 'B' | 84.87 | 83.78 (NE) | 83.79 (S)  |
| MH.3      | 701.010        | 401.010 'B' | 85.30 | 84.14 (N)  | 84.09 (NE) |
|           |                |             |       | 84.09 (W)  | 84.02 (S)  |

**CATCH BASIN SCHEDULE**

| STRUCTURE | STRUCTURE OPSD | GRATE OPSD | T/G   | INLET | OUTLET     |
|-----------|----------------|------------|-------|-------|------------|
| CB.1      | 705.010        | 400.010    | 84.79 |       | 84.14 (E)  |
| CB.2      | 705.010        | 400.010    | 84.79 |       | 84.14 (SW) |
| CB.3      | 705.010        | 400.010    | 84.71 |       | 83.82 (SW) |
| CBMH.2    | 701.010        | 400.010    | 85.06 |       | 84.29 (S)  |

**C2**



Benchmark

- BENCH MARK BEING THE SPIKE IN CONCRETE SIDEWALK, NORTHING: 488539.064 EASTING: 311081.400, HAVING AN ELEVATION OF 84.39m.
- BM2 BEING NAIL IN HYDRO POLE, NORTHING: 488536.270 EASTING: 311422.070, HAVING AN ELEVATION OF 85.15.

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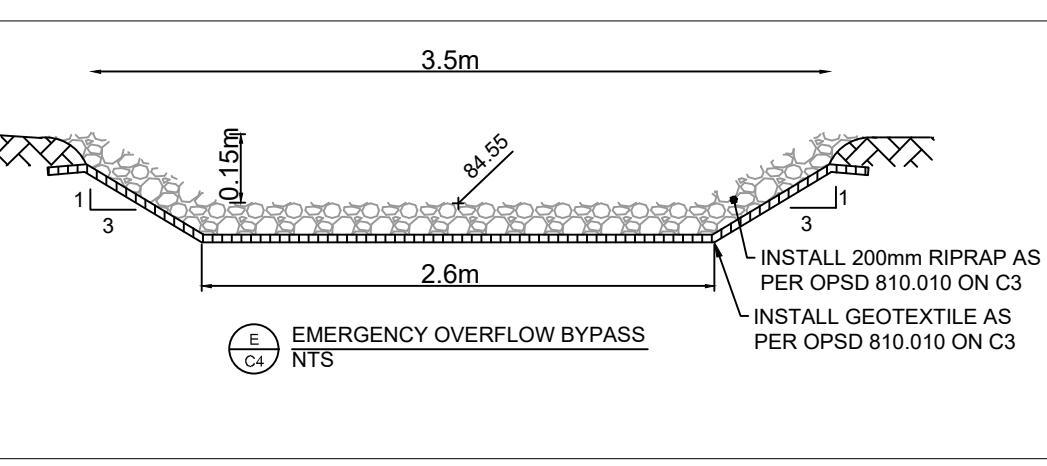
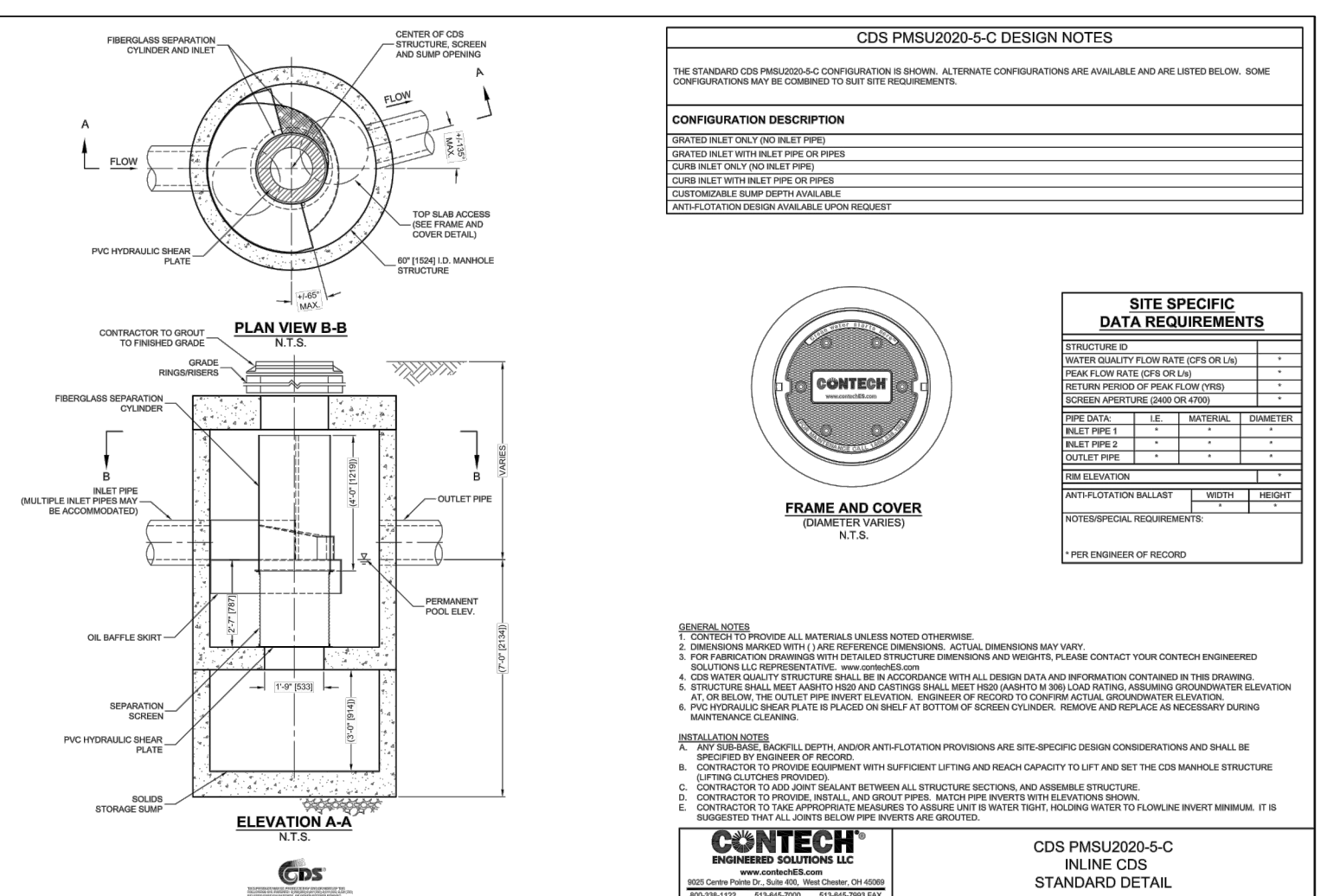
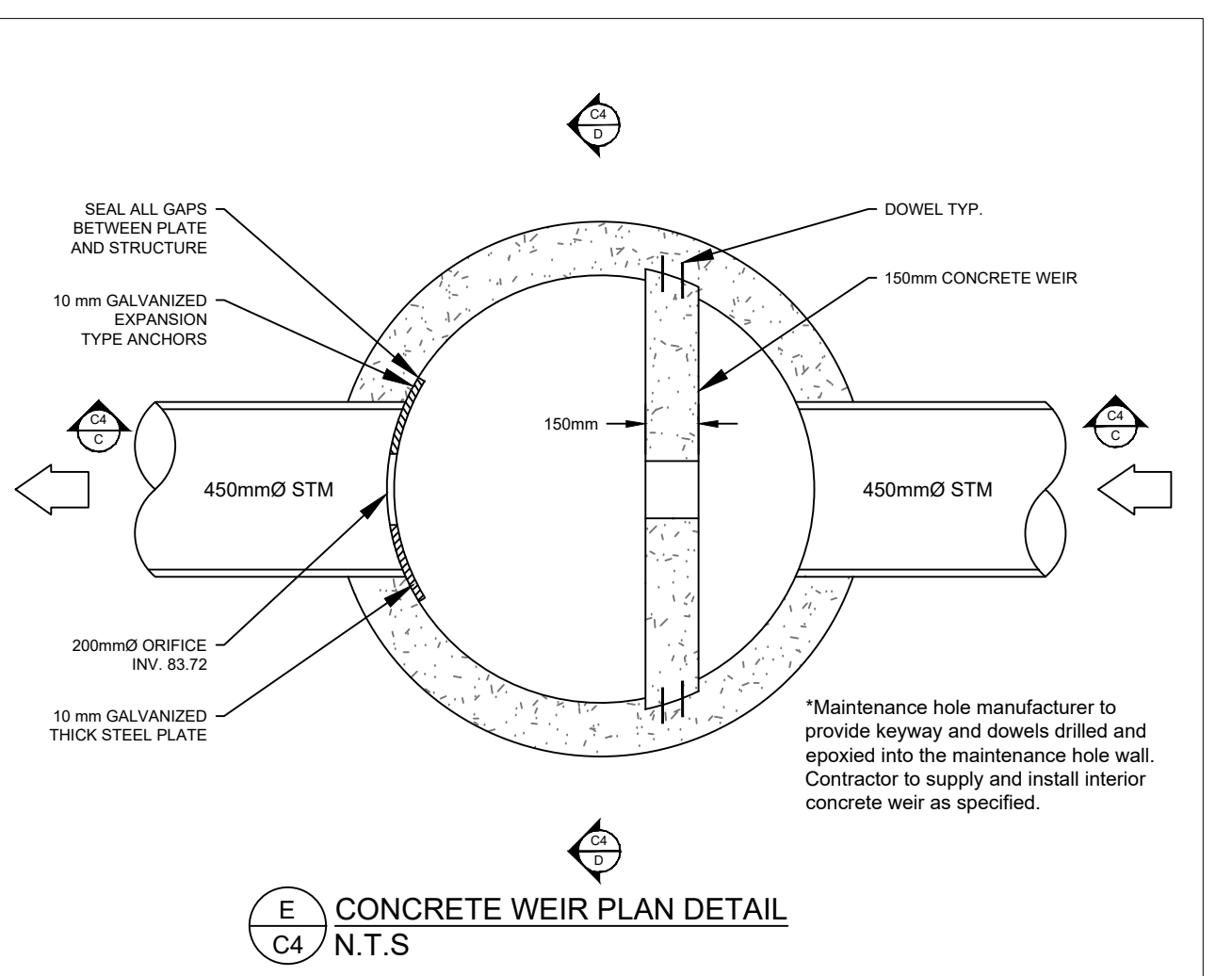
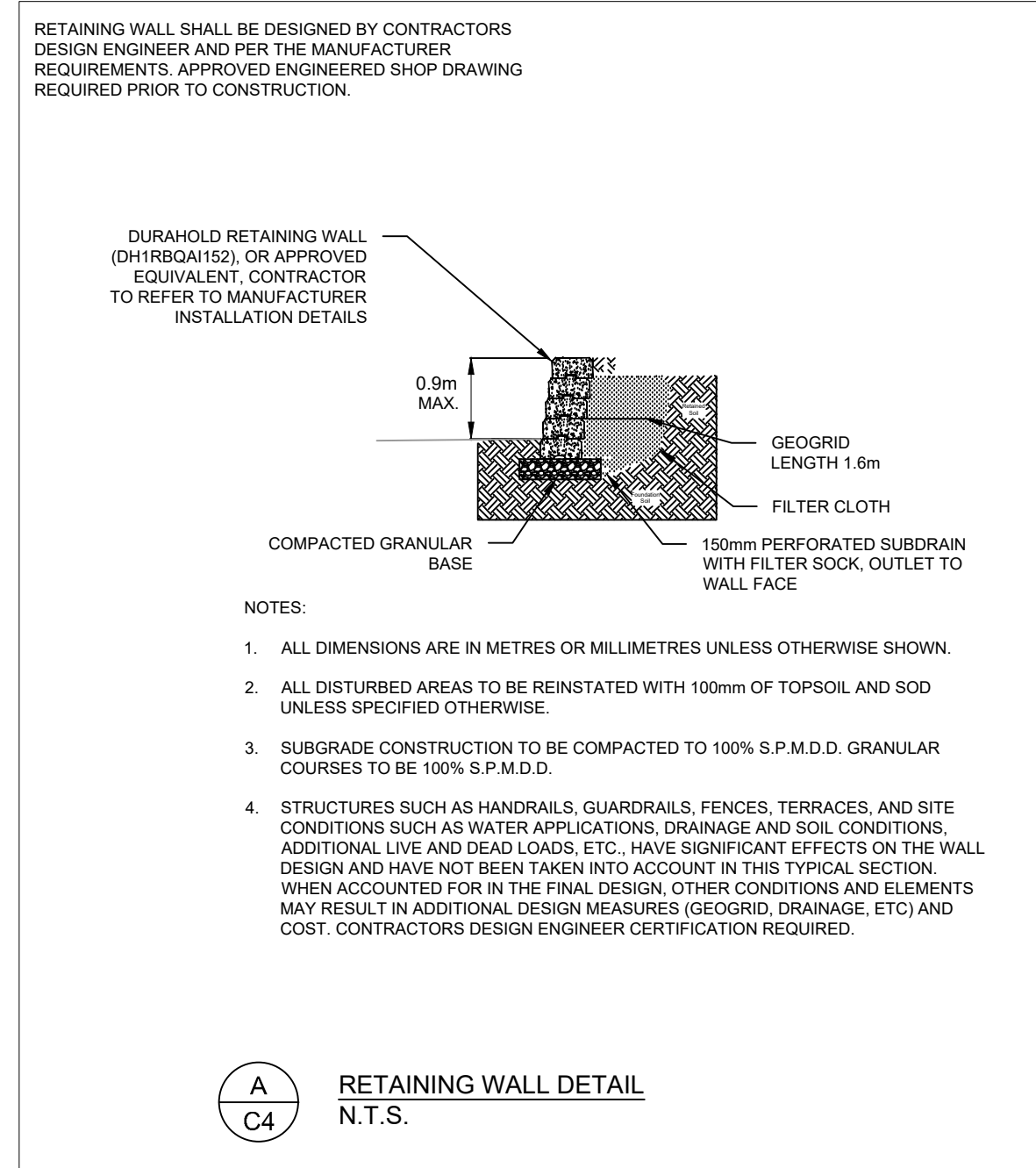
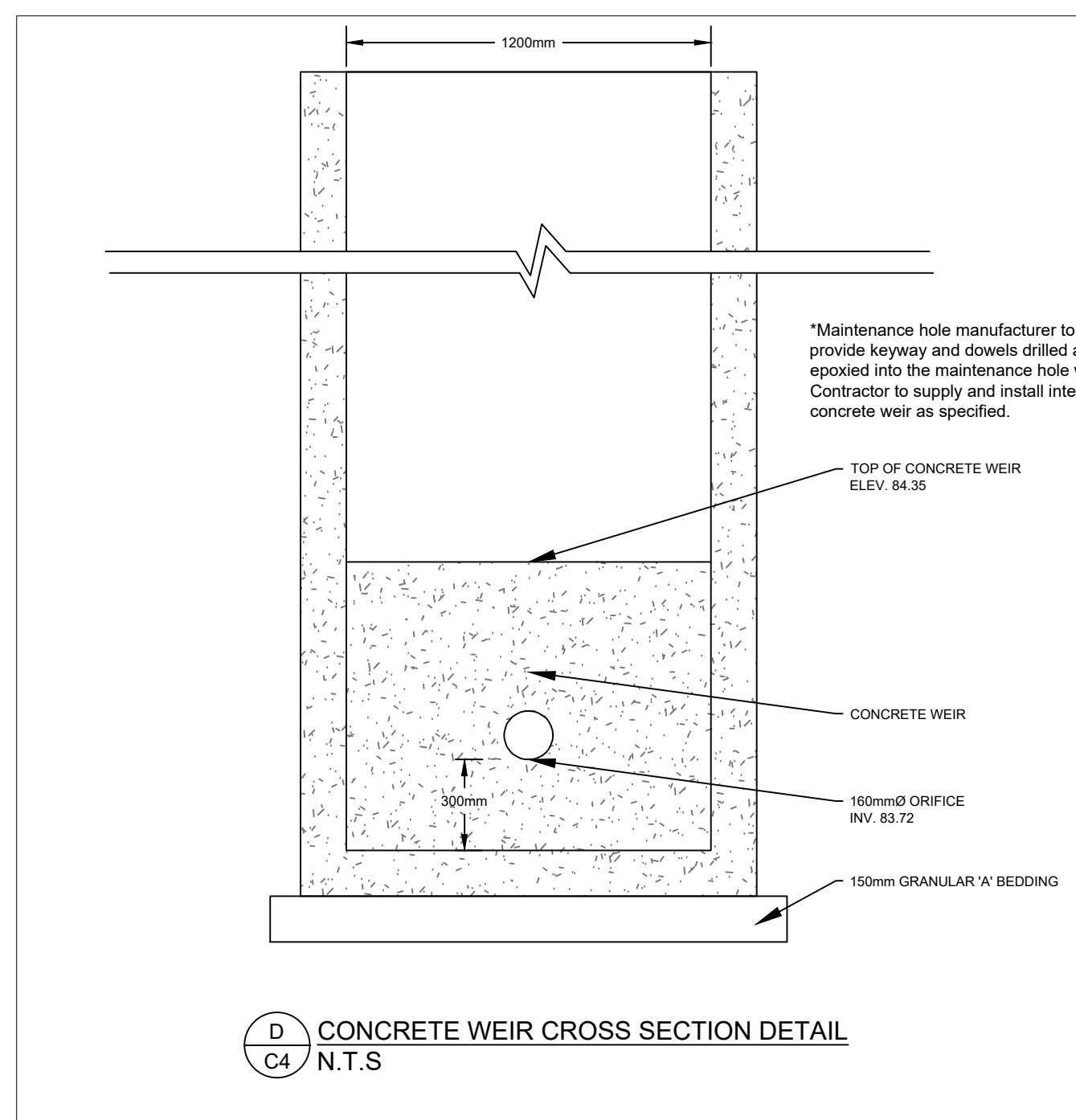
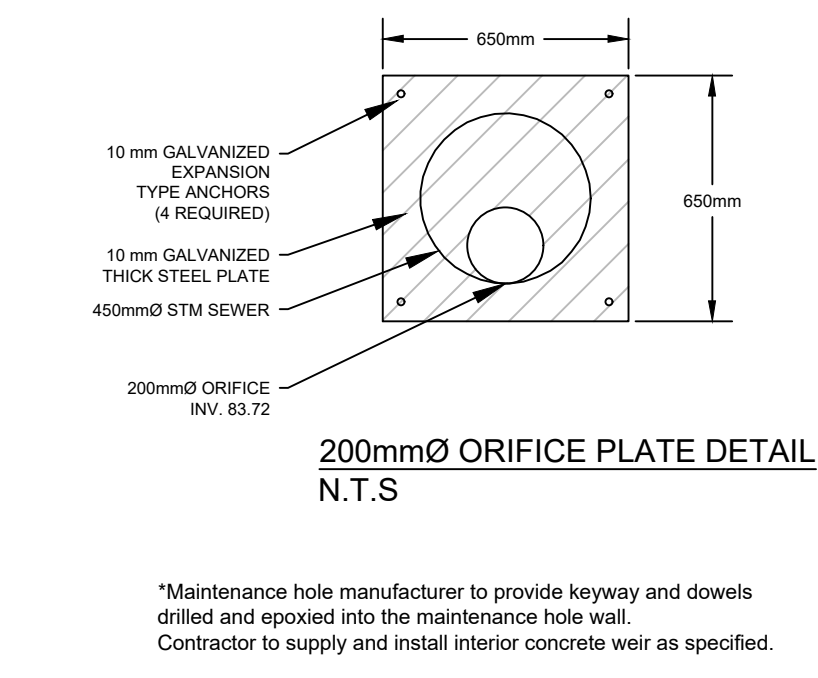
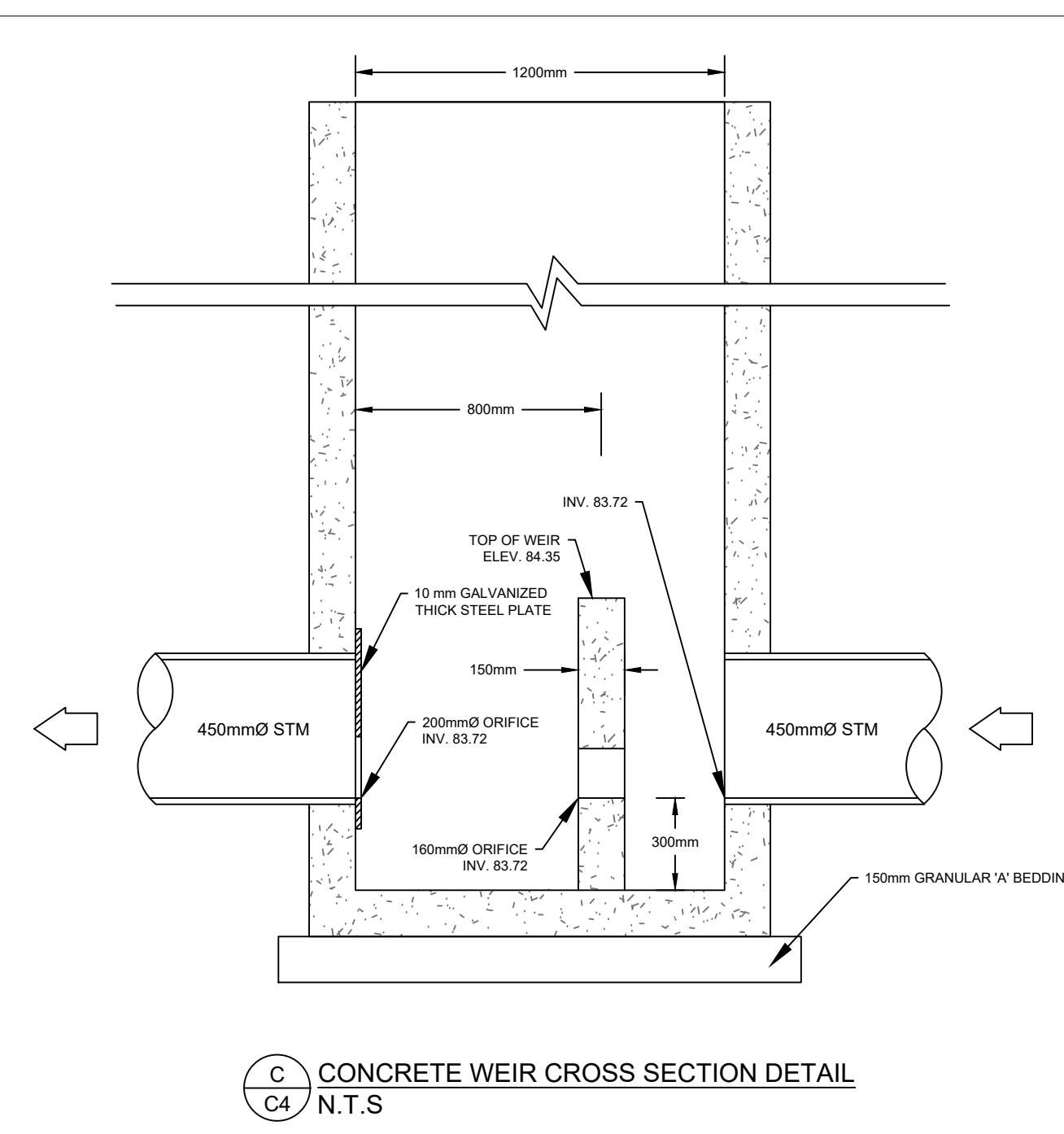
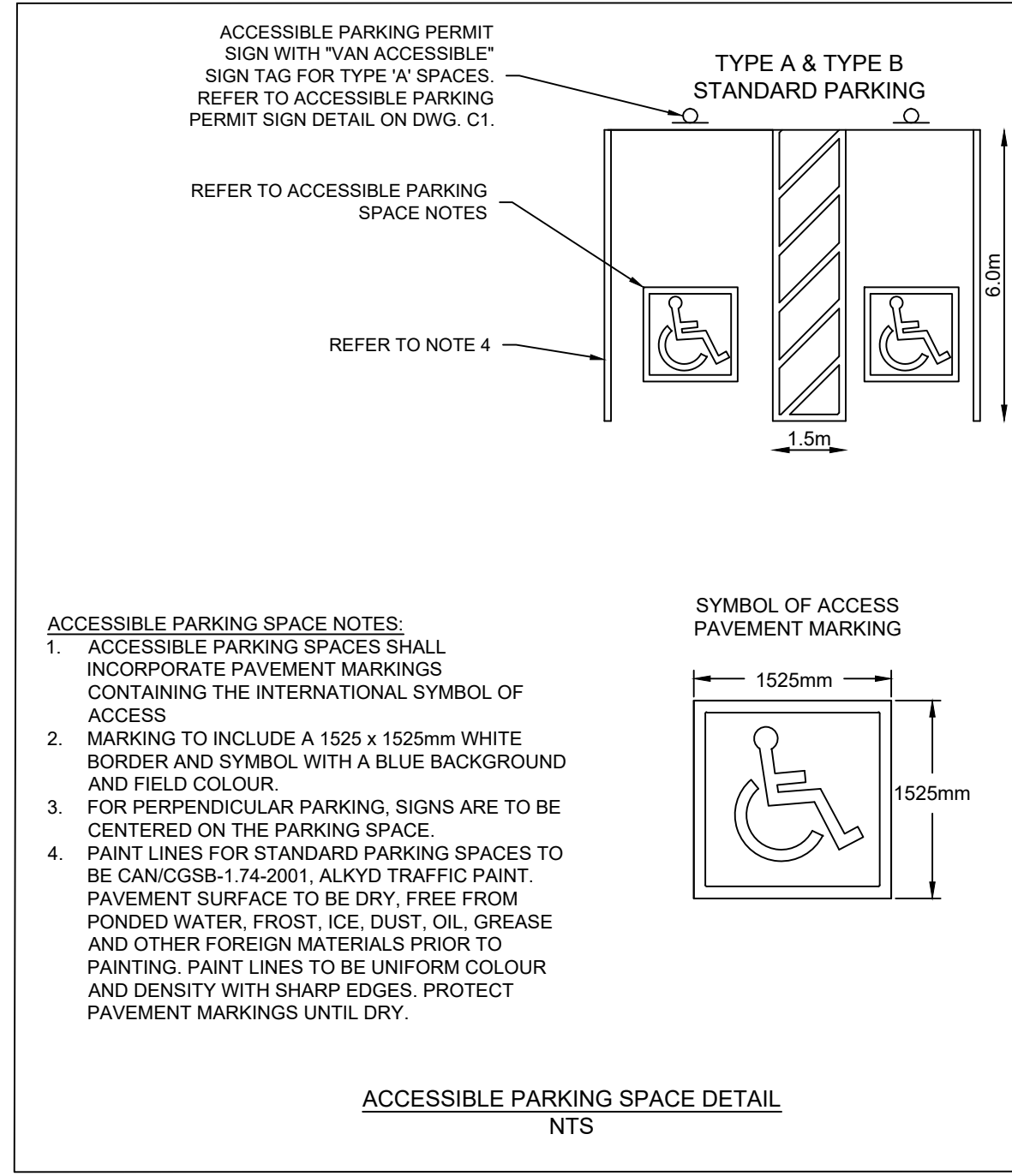
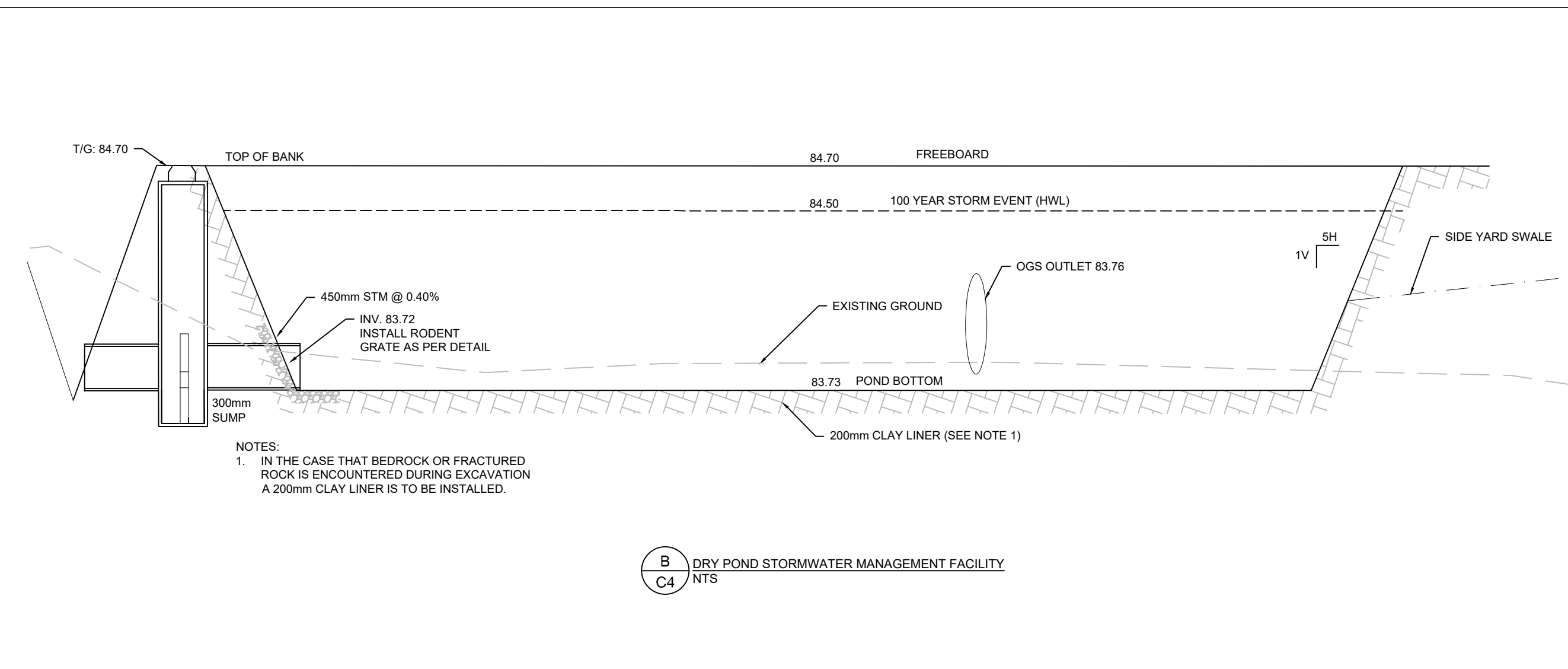
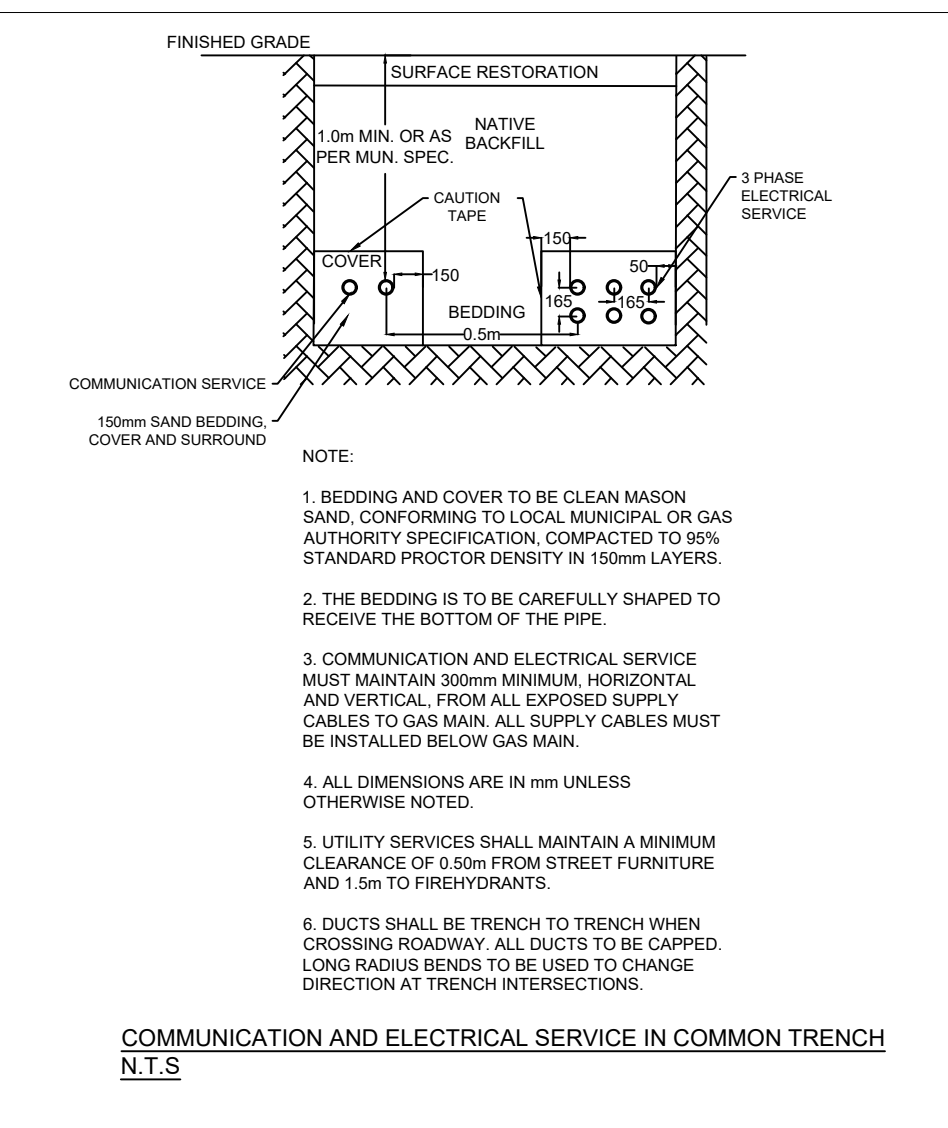
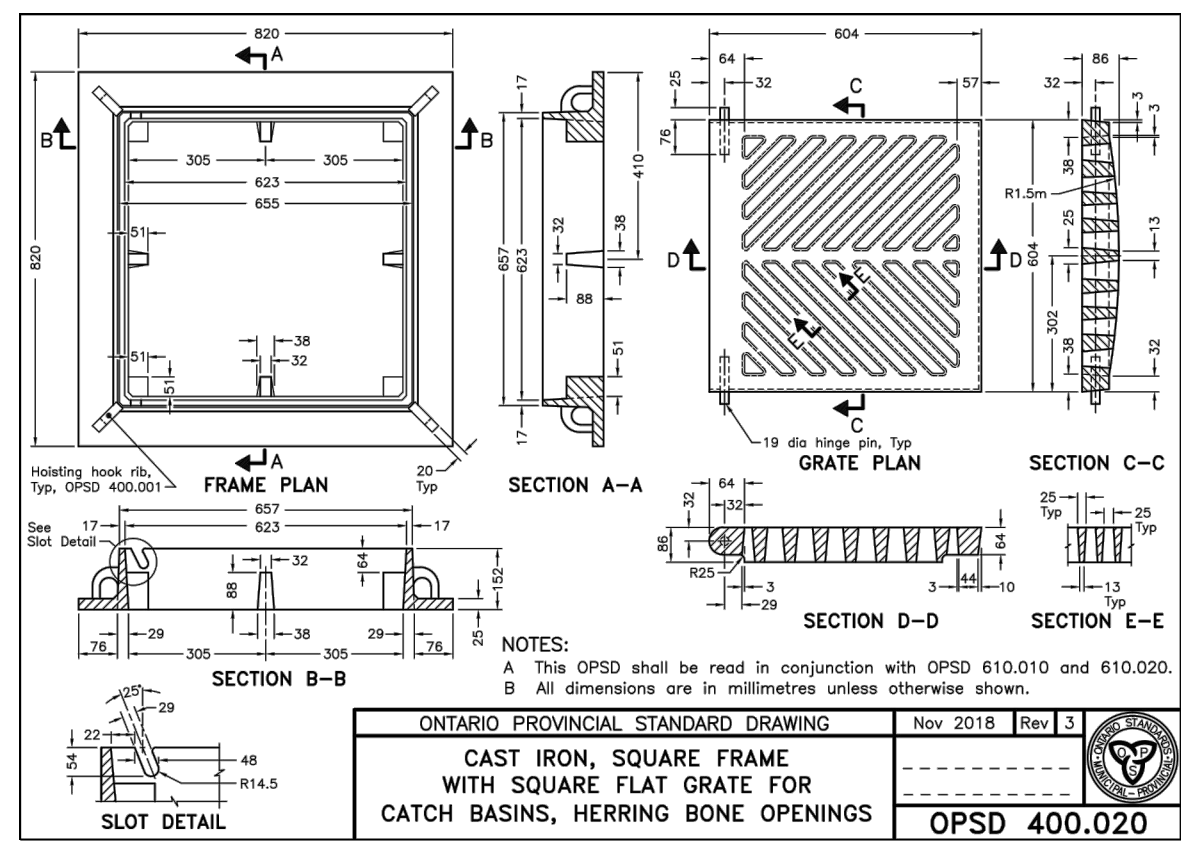
Client: **KAITLIN CORPORATION**

Project: **FIELDS OF WELLINGTON BLOCK 15**

Drawing: **DETAILS**

| Drawn by:    | Checked by:  | Project No. |
|--------------|--------------|-------------|
| ESD          | JH           |             |
| Designed by: | Approved by: | Drawing No. |
| KMN          | KMN          |             |
| Date:        | JUNE 2023    |             |
| Scale:       | N.T.S.       |             |

**C3**



**Forefront Engineering Inc**

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