

EXPLANATORY NOTE

To

BY-LAW No. 2020 – 13

Infill Lot Grading & Drainage Policy

The purpose of the by-law is to implement an Infill Lot Grading and Drainage Policy to establish guidelines for the design, construction and certification of individual lot grading. The Policy is updated from time to time in order to address issues that are discovered by staff through the lot grading design and construction processes. This current update is the eighth (8th) revision to the Policy.

Coordinated Committee considered this item at their regularly scheduled meeting of January 23, 2020 and recommended to Council that it adopt the by-law.

This By-law is properly before Council for consideration.

THE CORPORATION OF THE TOWN OF WASAGA BEACH

BY-LAW 2020-13

A By-law to adopt the Infill Lot Grading and Drainage Policy and to repeal by-law
2014-115

WHEREAS pursuant to Section 9 of the *Municipal Act, 2001*, a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act, to enable them to govern their affairs as they consider appropriate and to enhance their ability to respond to municipal issues; and shall be exercised by by-law;

AND WHEREAS the Corporation of the Town of Wasaga Beach deems it advisable to adopt an amended Infill Lot Grading and Drainage Policy;

NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE TOWN OF WASAGA BEACH HEREBY ENACTS AS FOLLOWS:

1. That the Infill Lot Grading and Drainage Policy, attached hereto as Schedule "A", be adopted.
2. That by-law 2014-115 is hereby repealed.
3. That this By-law shall come into force and effect on the final passage thereof.

BY-LAW READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 25TH DAY OF FEBRUARY 2020.

THE CORPORATION OF THE TOWN OF WASAGA BEACH

Nina Bifulchi, Mayor

Dina Lundy, Director, Legislative Services & Clerk



THE CORPORATION OF THE TOWN OF WASAGA BEACH
POLICY MANUAL

SECTION NAME: Environment, Public Works & Transportation	POLICY NUMBER: 8-4
POLICY: Infill Lot Grading and Drainage Policy	REVIEW DATE: January 2020
EFFECTIVE DATE: February 25, 2020	REVISIONS: #8 – January 2020
ADOPTED BY BY-LAW: No. 2020-13	ADMINISTERED BY: Chief Building Official

ATTACHMENTS

Policy attached.



TOWN OF WASAGA BEACH
BUILDING DEPARTMENT
INFILL LOT GRADING AND DRAINAGE POLICY

Revision No. 8 – January 2020

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Section 1.0 – Introduction

When a new dwelling or building is constructed, it is essential that the lot be graded properly to ensure that surface drainage is directed away from the building such that it does not adversely affect the neighbouring properties including the Municipal roadside. In order to ensure that such lot grading is completed, the Town of Wasaga Beach has implemented this Infill Lot Grading and Drainage Policy to establish guidelines for the design, construction and certification of individual lot grading. This Policy is applied against applicable Building Permit applications and its requirements form part of the Building Permit permissions that result from a Building Permit submission.

In some cases, additions and/or major structural renovations to an existing dwelling may also create potential adverse effects to surface drainage and therefore, such Building Permits may also require a Lot Grading Plan in conformance with this Policy. Examples include reduced side yard setbacks from property line that reduce the potential for proper surface drainage grading (swales) etc. The Town's Building Department staff will review such Building Permit applications and determine if a Lot Grading Plan is required on a case by case basis, pending existing and proposed conditions.

Section 2.0 – Policy

The Town of Wasaga Beach requires that all new lots created by severance, infill lots, or lots in which a Building Permit application is made to construct a new dwelling shall be accompanied by a Lot Grading and Drainage Plan. Where Building Permit applications propose to add or raise a dwelling or auxiliary building (i.e. detached garage) and/or replace a structure that had to be demolished due to fire, a Lot Grading and Drainage Plan may be required at the sole discretion of the Chief Building Official.

Items to be considered by the Building Department to confirm whether or not a Lot Grading and Drainage Plan is required may include, but are not limited to, the following:

- Applications to replace a structure that has been demolished due to fire or other catastrophic damages where the proposed works include using the existing foundation wall and not altering the lot grading whatsoever;
- Whether or not the existing lot conditions have acceptable positive drainage before the permit application (e.g. if the lot currently discharges surface runoff to a neighbouring property, a Lot Grading and Drainage Plan may be required even if no grading is proposed with the application);
- Size and location of addition / extension of dwelling;
- Size and location of auxiliary building; and
- Such other site conditions that may be unique to a particular site and may adversely affect the drainage on site or on neighbouring properties.

The term “*infill lot*” shall be described as any existing vacant / undeveloped residential lot of record.

This Policy shall also ensure maintenance of, or acceptable revisions to, the grading and drainage design established on lands developed through the Building Permit applications for future works, which require excavation (i.e. footings, foundation walls, etc.).

This Policy is consistent with Division A-Part 3, Table 3.2.1.1, of the Ontario Building Code. (OBC) Specifically functional statements F60, F61, F62, & F63.

The OBC also sets out requirements for lot grading and drainage, as stipulated in the following articles:

- Article 9.14.6.1 - “*The building shall be located or the building site graded so that water will not accumulate at or near the building and will not adversely affect adjacent property*”
- Article 9.15.4.3 – “*Exterior foundation walls shall not extend less than 150 mm (5 7/8”) above finished ground level*”

Section 3.0 – Preparation of the Lot Grading and Drainage Plan

Prior to the issuance of the building permit, the Owner/Builder/Applicant shall submit three (3) copies of the Proposed Lot Grading Plan to the Town for review and acceptance.

The Lot Grading Plan shall be prepared by a Professional Engineer (P.Eng.) or Certified Engineering Technologist (C.E.T.) experienced in grading and drainage design and the plan shall conform to the requirements in Section 6.0 of this policy.

The Lot Grading Plan shall be prepared to metric scale on a ledger sized sheet or Standard A1 Sheet, as may be required by the Town.

In the event that an Owner is applying to the Town for Consent to Sever a property, a Condition of Consent will be that the Owner shall provide an Overall Lot Grading and Drainage Plan to demonstrate that positive drainage will be achieved for all created lots that are subject to the Application. In cases where severances will create a total of three (3) or more lots, a Site Development Agreement may be required at the discretion of the Town Engineering and Planning Departments. Following the severance, individual lot grading plans shall be required for Building Permits on each lot. The individual plans must be consistent with the accepted overall lot grading plan.

Section 4.0 – Outside Agencies

If the subject property falls within the regulatory area of the Nottawasaga Valley Conservation Authority, then it will require their approval prior to the issuance of a Building Permit.

If the subject property falls within 400m of a Ministry of Transportation Highway Corridor, then a permit may be required from the Ministry of Transportation prior to the issuance of a Building Permit. MTO permit requirements are to be confirmed by the applicant directly with the MTO.

Section 5.0 – Road Occupation Permit

The property Owner must apply for a Road Occupation Permit and provide the permit fees and deposits prior to the Lot Grading and Drainage Plan being “Accepted for Construction” by the Town. Once the Lot Grading and Drainage Plan is found to be acceptable by the Town, the plan will be “Accepted for Construction” and the Road Occupation Permit will be issued. A copy of the Road Occupation Permit Application is included in Appendix F.

Section 6.0 – Design Criteria

A Lot Grading Plan, bearing the signature and seal of a competent professional experienced in grading and drainage design, is required, indicating the means by which the Owner/Builder/Applicant will ensure that each lot is to be properly graded and drained, and does not adversely affect neighboring properties.

The grading design shall have regard for existing vegetation, which is to be preserved as much as possible.

The Lot Grading and Drainage Plan Review Checklist (Appendix E) is to be completed by the Owner’s Engineer/Technologist and a copy of the checklist is to be included in the plan submittal package.

Each Lot Grading and Drainage Plan must include the following:

1. A north arrow shall be shown. All drawings received shall be to scale, Metric 1:200 or 1:250 and drawn in ink. **Freehand drawings are not acceptable.**
2. Name of street, municipal address, lot number and plan or concession number, plus sufficient detail to describe the location.
3. A key plan detailing the general location of the subject property is to be included on the drawing.

4. The legal survey distances around the perimeter of the property are to be labeled.
5. Existing roadway boulevard / ditch elevations are to be provided from beyond the frontage of the lot for at minimum one additional lot width (15 meters minimum) in both direction to confirm direction of roadway drainage flow in order to confirm invert elevation and direction of driveway culvert etc.
6. The location of the buildings, existing and/or proposed, including those on adjacent lands.
7. A test pit located, within the proposed construction's footprint or in close proximity to the proposed construction, complete with the date of the test pit and the observed groundwater table elevation. Based on the observed groundwater table elevation, the plan shall provide an "estimated seasonal high groundwater table elevation". If groundwater is not encountered, then the test pit must extend down to a minimum of 1.0 meter below the proposed underside of footing elevations to account for possible seasonal fluctuations.
8. The location of all downspouts, sump pump and other drainage discharge points. All points shall discharge to splash pads and the location and orientation of splash pads shall be directed away from adjacent properties. The piping and direct discharge of sump pump flows over sidewalks and curbs is unacceptable.
9. The locations of all municipal watermain, storm and sanitary sewers as well as utilities within the adjacent municipal right-of-way are to be shown and labeled accordingly.
10. The locations of all municipal and utility services to the subject property are to be shown and labeled accordingly.
11. All proposed sanitary sewer service connections shall be in accordance with Town of Wasaga Beach Std.Dwg.No.12.
12. All existing and proposed sanitary sewer service connections shall be equipped with a 200mm diameter cleanout chamber at property line in accordance with Town of Wasaga Beach Std.Dwg.No.12.
13. All proposed water services shall be in accordance with the Town of Wasaga Beach Engineering Standards. The designer shall try and avoid locating sanitary service cleanouts and water service curbstops within the driveway.

14. If unavoidable to locate a sanitary cleanout in the driveway, it shall have a cast iron lid as per Town Standard Drawing – STD.DWG.No.12. Although gravel driveways are discouraged, if it is within a gravel driveway, the lid shall be installed 150mm below finished grade.
15. All elevations should be to Geodetic Datum where possible. If not possible then the point of reference (Temporary Benchmark), which is to be identified, shall be a fixed object in the immediate area.
16. Existing elevations on the road, ditch, boulevards, curbs, subject lot and adjoining lands. Sufficient existing grades on adjacent properties must be shown to indicate the drainage pattern.
17. The existing grade elevations at all lot corners and significant changes in grades along property lines shall be clearly indicated.
18. The existing vegetation (trees), including size and type of trees are to be clearly indicated. All trees to be removed or retained shall be shown.
19. Provide a Building Elevation Table, which specifies the following proposed elevations:
 - a) Apron Elevations
 - b) Top of Garage floor
 - b) Top of Finished First Floor
 - c) Top of Foundation Wall
 - d) Top of Basement Slab (minimum 50mm above “estimated seasonal high groundwater table elevation”)
 - e) Weeping tile invert elevation (minimum 300mm above “estimated seasonal high groundwater table elevation”)
 - f) Underside of Footing
20. Following installation, the weeping tile sleeve invert elevation shall be surveyed and confirmed in writing by the Contractor/Builder to the Town Building Inspector prior to the backfill inspection. A note shall be added to all lot grading plans regarding this.
21. Indicate the proposed grade elevations at all corners of the house, property lines and particularly at each corner of the lot.
22. Should the building be adjacent to an underground pipe such as a storm sewer rear lot catch basin lead within an easement, the underside of footing must be at or lower than the invert elevation of the adjacent pipe. This is to ensure that the structural bearing pressure does not extend to the pipe.

23. When reasonably possible, the apron elevation of the proposed dwelling must be at least 300mm higher than the edge of adjacent municipal road.
24. Swales shall be located entirely within the limits of the lot and shall match existing grade on the lot lines. Written permission from the neighbouring property owners will be required if it is determined that construction will disturb their property or if grading is to be undertaken on the adjacent lands.
25. All Lot Grading Plans shall include typical cross-sections for swales.
26. Swales and slopes must be detailed with sufficient information to show the direction of drainage and the amount of slope. The minimum gradient for all rear and side yard swales shall be 1% with a minimum depth of 150mm.
27. Drainage flows shall be directed away from all buildings at a minimum grade of 2%. Ponding of surface water adjacent to foundation walls is unacceptable.
28. Lot must provide a minimum width of 0.9m with maximum grade of 5% on at least one side of the house to allow near flat access around the side of the house.
29. 150mm diameter subdrains shall be provided under all swales with gradients of less than 1.0%. For common lot line swales, the subdrain shall be offset from property line by minimum 0.3m. Subdrains shall be perforated, corrugated plastic pipe with geotextile. Subdrains shall be bedded in a 300mm x 300mm clear stone trench and wrapped with filter fabric.
30. The maximum lot surface grade at any location shall be 5% and a slope of 3 parts horizontal to 1 part vertical shall be used to take up the grade differentials in excess of this 5% slope.
31. Sediment and erosion control measures shall be implemented to prevent migration of silt and sediment from the subject lot to any adjacent lot, including municipal right-of-way. Special care shall be taken to ensure that silt and sediment laden surface water does not enter any watercourses or environmentally sensitive areas, either overland or through the storm drainage system. The Owner/Builder/Applicant shall comply with all directives issued by any of the environmental agencies.
32. Interim grading measures may be required during building construction to ensure that drainage does not adversely affect the neighboring properties.

Rough grading of the property shall be completed such that drainage is contained on site or controlled to a positive outlet.

33. In many areas within the Municipality, the municipal drainage systems are limited or non-existent. As such the lot grading design must consider ways and means to keep any increase in surface water run-off from the subject site to a minimum, utilizing acceptable surface water retention techniques including low impact development (LID) techniques within the lot and/or stormwater retention for irrigation purposes such as rain barrels or holding tanks. In areas where positive storm drainage is not available within the Municipal road allowance, the property Owner will be required to provide a soak away pit and/or grade the boulevard in such a way that ponding does not occur on the paved surface of the road.
34. Soak away pits are to be sized and constructed in accordance with the most current version of the Ministry of Environment Stormwater Management Planning and Design Manual and Town of Wasaga Beach Std.Dwg.No.11. The minimum size of the soak away pit shall be 1.0m x 1.5m x 1.0m deep.
35. Surface water infiltration galleries / soak away pits shall have a surface depression with a minimum depth of 150 mm lower than adjacent grade.
36. Where a retaining wall or other similar structure is proposed on the property, it shall be shown complete with top and bottom of wall elevations and material. Retaining walls are to be constructed of acceptable treated lumber, architectural block or approved equivalent. Filter cloth shall be placed behind all retaining walls to prevent the migration of fines. If any retaining wall meets or exceeds 1.0 metre in height, a 1.2 metre high safety fence may be required on top of the wall. Proof of engineering design will be required including engineering stamped drawing for retaining walls over 1.0 metre in height. Retaining walls are not to encroach into the Municipal road allowance. Retaining walls along lot lines shall be constructed wholly within the Applicant's lot.
37. Headwalls must be provided for all driveway entrance culverts. Headwalls shall be constructed of cast in place concrete, or RisiStone (SienaStone) architectural block, or Town approved equivalent, complete with filter cloth to prevent the migration of fines. Timber headwalls are not acceptable. When the roadway ditch depth is equal to or less than 1.0m, driveway culverts may have end treatments such as stone, hot mix asphalt paving, or sod to satisfaction of the Town.
38. Minimum driveway grade shall be 2% and shall not exceed a maximum grade of 6%, measured from the garage or dwelling face, to the edge of roadway pavement. In rural areas / roadways without curb and gutter, the

boulevard area of the driveway must be graded consistent with the topography of the adjacent shouldering. A downward gradient of -2% minimum is to be provided behind the roadway edge of pavement for a minimum distance of 1.5m; also refer to OPSD 301.02 for rural entrances.

39. Where landscaping improvements are proposed adjacent to the driveway (i.e. driveway edging), driveway edging must be flush with the driveway surface (and back of curb, if applicable) to a minimum of 1.5 metres beyond the edge of pavement/curbline. Where sidewalks exist along the frontage of the proposed dwelling, driveway edging must be flush with the driveway surface for a minimum of 500mm beyond the back of sidewalk.
40. Spill piles resulting from the displacement of excavation materials shall be kept a minimum of 2 meters from all property boundaries, be surrounded by adequate erosion control measures, or removed from site.

Section 7.0 – Mandatory General Notes

The following general notes are to be included on every drawing:

1. Sediment and erosion control measures shall be implemented to prevent migration of silt and sediment from the subject lot to any adjacent lot, including municipal right-of-way. Special care shall be taken to ensure that silt and sediment laden surface water does not enter any watercourses or environmentally sensitive areas, either overland or through the storm drainage system. The Owner/Builder/Applicant shall comply with all directives issued by any of the environmental agencies.
2. Interim grading measures may be required during building construction to ensure that drainage does not adversely affect the neighboring properties. Rough grading of the property shall be completed such that drainage is contained on site or controlled to a positive outlet.
3. All downspouts, sump pump and other drainage discharge points shall discharge on to a splash pad or approved equivalent, and the location and orientation of splash pads shall be directed away from adjacent properties.
4. The Owner/Builder/Applicant is responsible for obtaining utility and servicing locates prior to any works.
5. All disturbed areas are to be sodded over a minimum of 150mm of topsoil or approved alternative ground cover. Sod is to be used in lieu of hydro-seeding within swales or any other focus points of runoff that will be prone to erosion. Furthermore, any areas that have been hydro-seed rather than sodded cannot be accepted until the seeding has established sufficient growth for ground cover to the satisfaction of the Town.

6. The Owner/Builder/Applicant must obtain a Road Occupancy Permit from Public Works prior to the commencement of any construction works.
7. A copy of the “Accepted for Construction” lot grading and drainage plan is to be on site for reference at all times during construction.

The following general notes are to be included on the drawing as required:

8. Soak away pits shall be constructed in accordance with Town of Wasaga Beach Std.Dwg.No.11 and the MOE Stormwater Management Planning and Design Manual. Construction of soakaway pits are to be confirmed by the designer that is to sign the Lot Grading Certificate. (To be reviewed on site by the designer prior to backfill or submission of photographs from the Contractor may be sufficient).
9. Headwalls shall be constructed of concrete, RisiStone (SienaStone) architectural block, or approved equivalent, complete with filter cloth to prevent migration of fine granular / soil.
10. Retaining walls are to be constructed of acceptable treated lumber, architectural block or approved equivalent. Filter cloth shall be placed behind all retaining walls to prevent the migration of fines. Retaining walls are not to encroach into the Municipal road allowance or adjacent properties.
11. The foundation weeping tile elevation is to be confirmed in writing by the Builder to the Building Inspector prior to the backfill inspection.

Section 8.0 – Geotechnical Investigation

All lot grading designs must have regard for and take into consideration the presence of the natural ground water table and its seasonal fluctuations.

As a minimum, the Owner must coordinate the undertaking of a test pit within the proposed construction’s footprint, or in close proximity to the proposed construction, to determine the groundwater table elevation. The location, groundwater table elevation and date are to be shown on the lot grading and drainage plan. The test pit shall extend deep enough until the ground water table is encountered. If groundwater is not encountered, then the test pit must extend down to a minimum of 1.0 meter below the proposed underside of footing elevations to account for possible seasonal fluctuations.

If deemed necessary by the Town, the applicant may be requested to provide a Geotechnical Report in support of the building permit application. The Geotechnical Report shall be prepared by a qualified Geotechnical Consultant

identifying site soil conditions and existing groundwater table elevation. Recommendations within the Report shall also make provision for backfill materials, foundations, retaining walls and slope stabilization, as deemed necessary by the Manager of Engineering Services.

The Geotechnical Report shall make reference to the seasonal fluctuations of the groundwater table and provide an “estimated seasonal high groundwater table elevation”. The underside of footing elevation shall be a minimum of 300mm above the estimated seasonal high groundwater table elevation. In the event that the footings must be lower than the groundwater table elevation, the basement floor elevation shall be 500mm above the estimated seasonal high groundwater table elevation, and the underside of the weeping tile shall be a minimum 300mm above the estimated seasonal high groundwater table elevation, as shown in Appendix G.

In areas where the soil conditions and the underlying groundwater table permit, roof leaders may be discharged to soakaway pits per municipal standards, as shown in Appendix B. Similarly, where no existing or natural outlets exist, surface drainage shall be directed and collected utilizing designed infiltration methods acceptable to the Town.

Section 9.0 – As-Built Lot Grading / Certification

Town Staff involved with site reviews for Lot Grading Certification are provided with the authority / power of entry onto the lands for the purposes of Lot Grading Certification and review of associated deficiency corrections. This shall include the Manager of Engineering Services and/or designate.

Upon completion of site grading and prior to landscaping, including fencing, the Owner/Builder/Applicant shall be required to submit two (2) copies of the Lot Grading Certificate, which has been certified by a Professional Engineer or Certified Engineering Technologist to the Building Department. The Certificate is to be confirmed/accepted by Town Engineering Staff. The Engineer/Technologist that will be preparing the Certificate shall coordinate with Town Engineering Staff to attend a site review to confirm acceptance prior to issuing the Certificate. The Lot Grading Certificate will confirm that the lot grading and drainage works have been completed in conformance with the design accepted by the Town and with reference to the Checklist attached as Appendix A. For lots with a proposed driveway culvert, the as-constructed invert elevations shall be provided on the checklist to confirm conformance with the approved grading plan. The culvert inverts are to be confirmed by the Design Engineer/Technologist prior to the building owner paving the driveway.

For lots where the weeping tile sleeve invert elevation must be confirmed, Building Inspectors will not provide backfill or further inspections without written

confirmation from the Builder that the sleeve elevation is per the Accepted for Construction Lot Grading and Drainage Plan.

It is strongly recommended that a pre-sod inspection be coordinated by the Owner with their Engineer/Technologist. Town Engineering Staff should be contacted by the Engineer/Technologist to attend the pre-sod inspection.

Final inspection, relative to the Building Permit, will not be undertaken until the Lot Grading Certificate, complete with Checklist has been accepted by the Town. This includes that prior to acceptance of the Certificate by the Town; the sufficient establishment of ground cover shall be required. Minor adjustments may be accepted on the condition that the Owner's Engineer/Technologist certifies that the resultant change will not adversely impact on the drainage of the individual lot, the adjoining properties, or the Municipal roadway.

Section 10.0 – Grading Fee, Deposit and Release

A lot grading administration and review fee of Three Hundred and Seventy Five Dollars (\$375) per lot, and/or as per the Rates and Fees By-Law, as amended will be required with all Building Permit applications. The fee includes the review of two (2) submissions of the lot grading and drainage plan, one (1) pre-sod site review and one (1) final site review in support of the Lot Grading Certification. Any additional drawing and/or site reviews will be billed at Fifty Dollars (\$50) per instance and taken from the Grading Deposit.

In addition, a Grading Deposit of One Thousand Dollars (\$1,000) per lot must be provided with all Building Permit applications to ensure the satisfactory completion of the grading and drainage works. The Owner/Builder/Applicant shall have twenty-four (24) months to complete the site works including site grading and obtaining the Lot Grading Certificate as required for the Town to release the Lot Grading and Road Occupation Deposits. Should the works not be completed within twenty-four months, following written notice from the Town to the Owner, the Owner shall forfeit the Deposits to the Town.

It is noted that the Owner/Builder/Applicant will be required to obtain a Road Occupation Permit from the Wasaga Beach Public Works Department as necessary for any and all works undertaken within the adjacent municipal road allowance. There is also a Road Occupation Permit deposit for works on and adjacent to roads, as per the Town's Road Occupation Policy, as outlined in the Town's Rates and Fees By-Law, as amended. The Town will not release the Lot Grading deposit until all grading works are satisfactorily completed, including works within the Town road allowance. Likewise, the Road Occupation Permit deposit will not be released until the Lot Grading works are found satisfactory. (i.e. both deposits will be withheld until both works are signed off by the Town.).

Should drainage problems arise, resulting from non-compliance to this Policy, the Town shall provide the Owner/Builder/Applicant with 48 hours' notice to correct the problem(s). Upon failure of the Owner/Builder/Applicant to rectify the problem(s), the Town may use the Owner/Builder/Applicant's Grading Deposit to cover the costs of any remedial works deemed necessary. Any costs of these remedial works in excess of the amount of the Owner/Builder/Applicant's Grading Deposit shall be the responsibility of the Owner/Builder/Applicant.

Upon acceptance of the Lot Grading Certificate by the Town, the Owner/Builder/Applicant may apply in writing for the release of the Lot Grading Deposit, without interest, less any cost, if any, for additional review and/or remedial works performed resulting from non-compliance. The Grading Deposit will only be released to the person who paid/posted the deposit.

Section 11.0 - Maintenance

It is anticipated that some backfill settlements may occur over several years after construction, and as such, it is the responsibility of the Owner to repair any settlements in order to maintain positive drainage away from the building at all times.

Eavestrough and downspouts and sump pump discharge shall be installed on all buildings related to the approved grading plan. It is also the responsibility of the Owner to maintain all downspouts and to ensure that no subsequent modifications to the grading of the lot are made which will adversely affect the drainage of adjacent lots.

APPENDIX A

LOT GRADING CHECKLIST AND CERTIFICATE

**TOWN OF WASAGA BEACH
LOT GRADING CERTIFICATION
CHECK LIST**

	YES	NO
1. Lot grading plan is attached.	<input type="checkbox"/>	<input type="checkbox"/>
2. Grading design amendments have received prior Municipal approval.	<input type="checkbox"/>	<input type="checkbox"/>
3. A pre-sod grade check was determined to be satisfactory	<input type="checkbox"/>	<input type="checkbox"/>
4. Sod or alternative ground cover has been placed and is sufficiently established.		
• Front yard and boulevard (Sod Only)	<input type="checkbox"/>	<input type="checkbox"/>
• Side Yards (Sod or approved alternative ground cover)	<input type="checkbox"/>	<input type="checkbox"/>
• Rear Yard (Sod or approved alternative ground cover)	<input type="checkbox"/>	<input type="checkbox"/>
5. Final grades have been checked and are in general compliance with lot grading plan.		
- Apron/Garage Floor	<input type="checkbox"/>	<input type="checkbox"/>
- Lot Corners	<input type="checkbox"/>	<input type="checkbox"/>
- Side yards	<input type="checkbox"/>	<input type="checkbox"/>
- Top of Foundation Wall	<input type="checkbox"/>	<input type="checkbox"/>
- Underside of Footing	<input type="checkbox"/>	<input type="checkbox"/>
6. Side yard Swales are well defined.	<input type="checkbox"/>	<input type="checkbox"/>
7. Rear yard Swale is well defined.	<input type="checkbox"/>	<input type="checkbox"/>
8. Splash pads have been placed at all downspouts.	<input type="checkbox"/>	<input type="checkbox"/>
9. Finish grades are a min 150 mm below brick/siding.	<input type="checkbox"/>	<input type="checkbox"/>
10. There are no areas of settlement at or adjacent to foundation walls.	<input type="checkbox"/>	<input type="checkbox"/>
11. Grading encroachment on adjacent lots has been reinstated to the satisfaction of the adjacent lot Owner(s).	<input type="checkbox"/>	<input type="checkbox"/>
12. Water service curb stop flush with final grade and accessible.	<input type="checkbox"/>	<input type="checkbox"/>
13. Sanitary service cleanout flush with final grade, or max. 150mm below final grade and accessible.	<input type="checkbox"/>	<input type="checkbox"/>
14. Weeping tile sleeve elevation confirmed (where applicable).	<input type="checkbox"/>	<input type="checkbox"/>
15. Soakaway pits installed per the accepted grading plan.	<input type="checkbox"/>	<input type="checkbox"/>
16. As-Constructed driveway culvert inverts (where applicable).	_____	_____

To be tested by Town of Wasaga Beach Public Works Department:

17. Water service curb stop operational.	<input type="checkbox"/>	<input type="checkbox"/>
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If **NO** to any item explain and describe graphically on the attached lot grading plan.

TOWN OF WASAGA BEACH
CERTIFICATE OF LOT GRADING

SUBDIVISION NAME: _____

REGISTERED PLAN NO.: _____

LOT NO.: _____ HOUSE NO/STREET _____

This is to confirm that I/we have inspected the above noted lot (s) and certify that lot grading and associated grading requirements are in general compliance with the overall grading design, which was "Accepted for Construction" for this lot together with the grading check list, copies of which are attached.

CERTIFIER: _____ DATE: _____

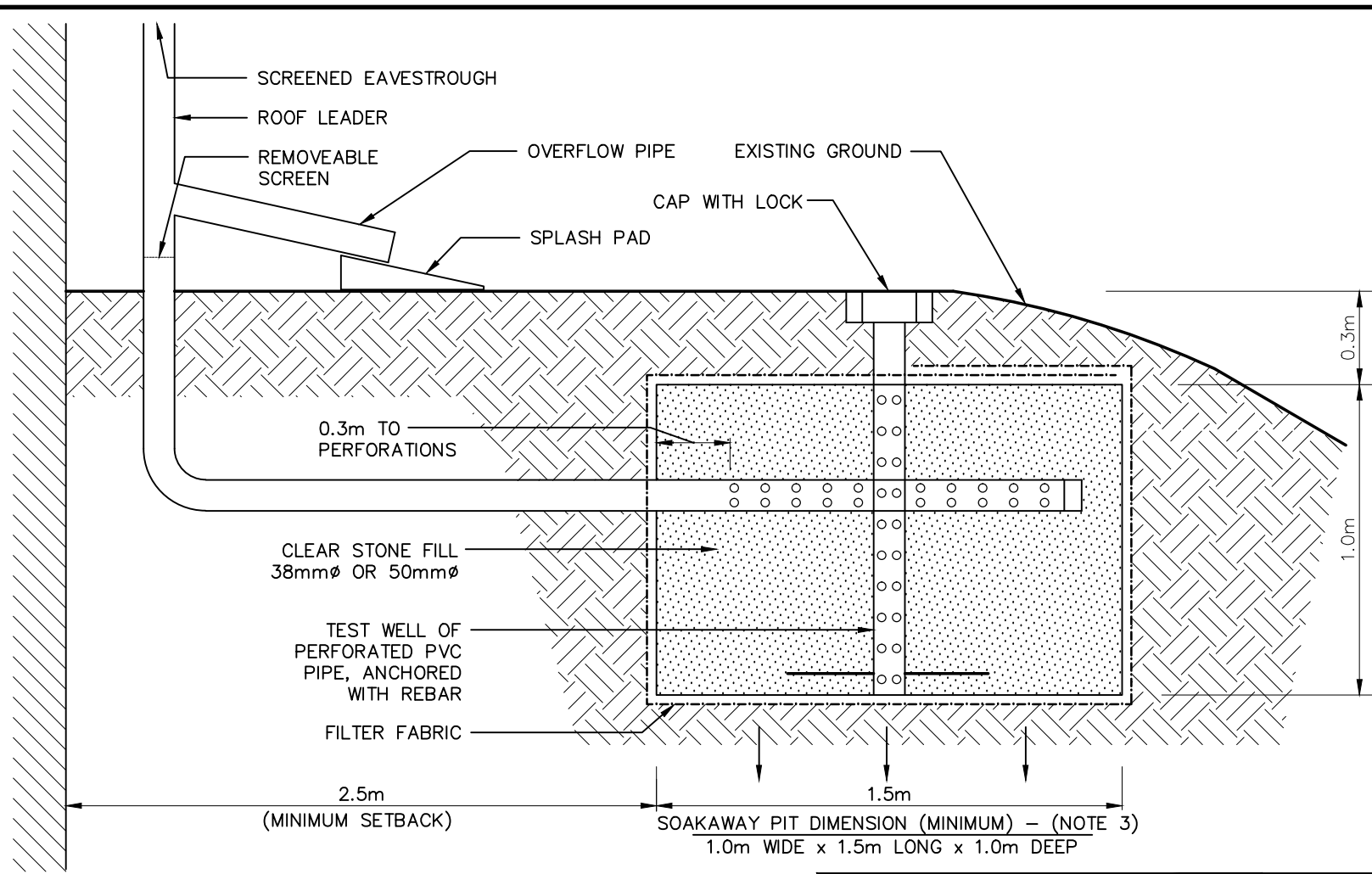
COMPANY: _____

_____ STAMP: _____

NOTES:


APPENDIX B

ROOF LEADER SOAKAWAY PIT DETAIL (TOWN STD DWG NO. 11)



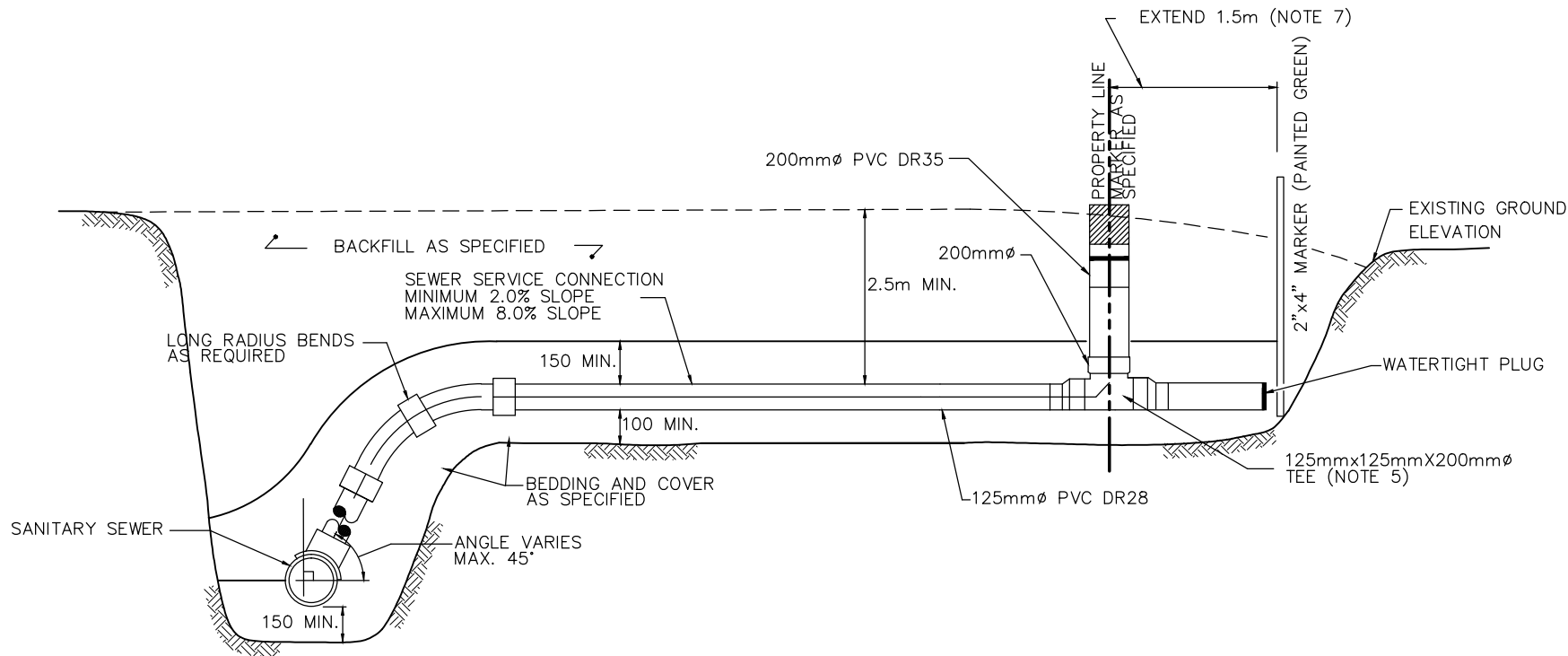
NOTE:

1. FILTER FABRIC TERRAFIX 270R OR EQUAL.
2. PROVIDE MINIMUM 0.5m CLEARANCE TO WATER TABLE FROM BOTTOM OF PIT.
3. SOAKAWAY PIT DIMENSIONS SHALL BE SIZED PER DESIGN ENGINEER RECOMMENDATION.
4. SOAKAWAY PIT TO BE INSPECTED BY DEVELOPER'S ENGINEER PRIOR TO BACKFILL.

TOWN OF WASAGA BEACH		
ROOF LEADER SOAKAWAY PIT DETAIL		
DRAWN: TMM	SCALE: N.T.S.	
DESIGN: MJP	PLOT: 1=1	STD.DWG.No.11
CHECKED: MJP	DATE: MAR 2015	

APPENDIX C

SANITARY SEWER SERVICE CONNECTION
DETAIL (TOWN STD DWG NO. 12)



NOTES:

1. MAXIMUM DEPTH OF SERVICE AT PROPERTY LINE TO BE 2.5m FROM FINISHED GRADE.
2. 200mm ϕ CLEANOUT CHAMBER AT PROPERTY LINE TO BE RAISED BY BUILDER TO FINISHED GRADE TO A MAX 150mm BELOW FINISHED BOULEVARD GRADE ADJACENT TO PROPERTY LINE COMPLETE WITH DETECTABLE METAL CAP PER ROYAL PIPE SYSTEMS "IC LOCKING LID (GREEN)", C/W COLLAR (OR APPROVED EQUIVALENT).
3. A CAST IRON LID PER ROYAL PIPE SYSTEMS PART NO. 71A08DRVVOXG (OR APPROVED EQUIVALENT) SHALL BE USED FOR SERVICE CLEANOUT CHAMBERS LOCATED IN DRIVEWAYS. FOR GRANULAR DRIVEWAYS, THE LID SHALL BE 150mm BELOW SURFACE.
4. ADDITIONAL CLEANOUTS ARE TO BE PROVIDED ON PRIVATE PROPERTY AT EVERY 15m IN ACCORDANCE WITH ONTARIO BUILDING CODE SECTION 7.4.7.2.
5. 125mmx125mmx200mm ϕ TEE CONNECTION AT PROPERTY LINE SHALL BE EQUIPPED WITH INSTALLATION OF CHECK VALVE AS PER ROYAL PIPE SYSTEMS PART NO. 70A5R4W/OPAL WITH "ADD-A-FLAP" OR AS PER TOWN APPROVED MATERIAL AND PRODUCT LIST.
6. CLEANOUT/INSPECTION CHAMBER TEES MAY BE PURCHASED "PRE-PLUGGED" BY THE MANUFACTURER TO ASSIST WITH LOW PRESSURE AIR TESTING. THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE THE TEMPORARY PLUGS AFTER COMPLETING THE SANITARY SEWER LEAKAGE TESTING.
7. EXTEND THE 125mm DIA. SANITARY SERVICE 1.5m INTO THE PRIVATE LOT.
8. ALL SANITARY PVC FITTINGS ARE TO BE WATER TIGHT.

TOWN OF WASAGA BEACH		
SANITARY SEWER SERVICE CONNECTION DETAIL		
DRAWN: TMM	SCALE: N.T.S.	STD.DWG.No.12
DESIGN: M.J.P.	PLOT: 1=1	
CHECKED: M.J.P.	DATE: MAR 2015	

APPENDIX D

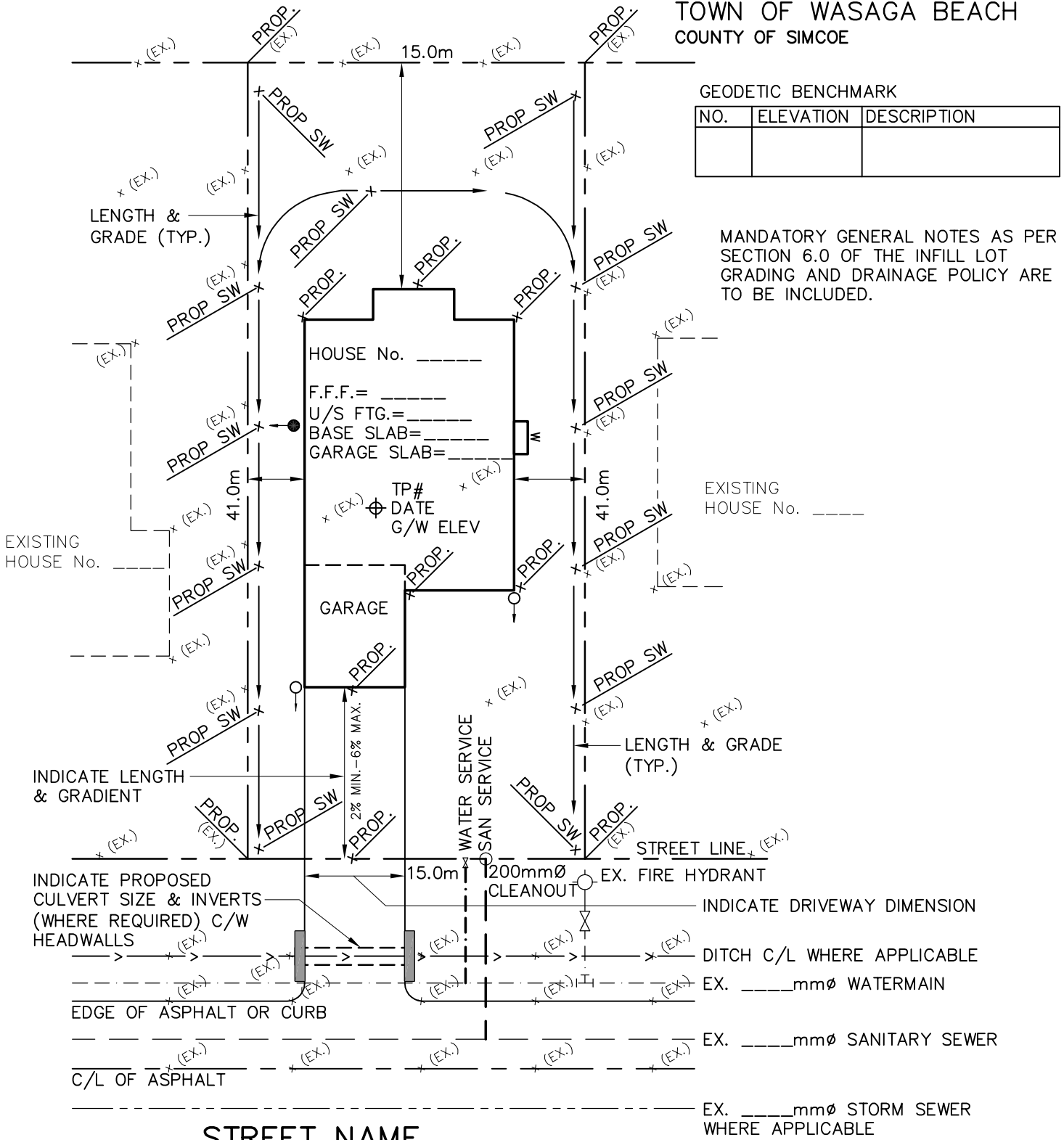
EXAMPLE LOT GRADING PLAN

PLAN OF
PART OF LOT _____
REGISTERED PLAN _____
TOWN OF WASAGA BEACH
COUNTY OF SIMCOE

GEODETTIC BENCHMARK

NO.	ELEVATION	DESCRIPTION

MANDATORY GENERAL NOTES AS PER SECTION 6.0 OF THE INFILL LOT GRADING AND DRAINAGE POLICY ARE TO BE INCLUDED.



STREET NAME

LEGEND

- WINDOW WELL
- RAINWATER LEADER
- SUMP PUMP DISCHARGE
- (EX.) - EXISTING ELEVATION REQUIRED
- PROP. / PROP SW - PROPOSED ELEVATION REQUIRED
- F.F.F.= - FINISHED FIRST FLOOR ELEVATION REQ'D.
- U/S FTG.= - UNDERSIDE OF FOOTING ELEVATION REQ'D.
- BASE SLAB= - BASEMENT SLAB ELEVATION REQ'D.
- GARAGE SLAB= - GARAGE SLAB ELEVATION REQ'D.
- SW - SWALE

TOWN OF WASAGA BEACH

MINIMUM LOT GRADING &
DRAINAGE PLAN REQUIREMENTS
INFILL CONSTRUCTION

DRAWN: M.E.M.	SCALE: N.T.S.	LGP
DESIGN: M.J.P.	PLOT: 1=1	
CHECKED: M.J.P.	DATE: JUNE 2011	

APPENDIX E

LOT GRADING AND DRAINAGE PLAN REVIEW CHECKLIST



Town of Wasaga Beach Building Department

30 Lewis Street
Wasaga Beach, Ontario, L9Z 1A1

Lot Grading and Drainage Plan Review Checklist (2020 Update)

Owners Name & Lot Location: _____
 Engineering Firm: _____ Phone Number: _____
 Contact Person: _____ E-mail Address: _____

Drawing:

- ACAD Plan: Ledger or Standard A1 and 1:200 or 1:250
- Key Plan
- North arrow (pointing in correct direct)
- Lot line survey distances labelled
- Location of ex & prop buildings including adjacent properties including ex features such as fences
- Geodetic elevations c/w temporary benchmark
- Lot location information
- Test pit including HGWL and date measured
- Exist. vegetation including size and type of trees
- Typical cross-section of swales to be provided

Drainage:

- Review requirement for drainage easement
- Review available storm drainage on the road
- Reduce surface run-off where appropriate
- Swales located within limits of lot or written permission from adjacent landowner
- Swales min 1.0% grade and 150mm deep. 150mm subdrains required for less than 1.0%
- Location of all downspouts, sump pump and other drainage discharge points
- Soak away pit min 1.0m from P/L and 150mm below adjacent grade at P/L & sized accordingly
- Soak away pit min 0.3m clearance to water table from bottom of pit

Grading:

- Grading at property lines matches any previously submitted plans for adjacent properties
- Apron elevation min 300mm higher than EOP
- Apron elevation min 150mm below top of foundation
- Min 2.0% grade away from house
- Max 5.0% grade on lot with 3:1 slopes
- All disturbed areas require a minimum 150mm of topsoil to be sodded over or approved alternative ground cover.
- Prop elevations at all corners of house & P/L
- Ex elevations on road, ditch, boulevards, curbs and adjacent properties (roadway ditch & ex culvert elevs to extend one lot / min 15m both sides lot frontage)
- Ex elevations at all lot corners and significant changes in grade along property line
- Retaining walls to be constructed of acceptable treated lumber, arch block or approved equivalent. Filter cloth shall be placed behind all retaining walls to prevent the migration of fines. Retaining walls not to encroach on ROW.
- Retaining walls to be constructed wholly on lot including footings and backfill.
- If retaining wall exceeds 1.0m, to be designed by P.Eng and a safety fence may be required

Building Elevations:

- Garage floor
- Finished first floor
- Top of foundation wall
- Top of basement floor (min 500mm above HGWL)
- Underside of footing
- Min weeping tile (sleeve) invert elev.



Town of Wasaga Beach Building Department

30 Lewis Street
Wasaga Beach, Ontario, L9Z 1A1

Lot Grading and Drainage Plan Review Checklist (2020 Update)

Owners Name & Lot Location: _____
 Engineering Firm: _____ Phone Number: _____
 Contact Person: _____ E-mail Address: _____

Mandatory Notes:

- (General Notes as applicable per Section 6.0 of the Infill Lot Grading and Drainage Policy)
- Sediment and erosion control note (Section 6.0 #31 from Policy)
- Interim grading measures note (Section 6.0 #32 from Policy)
- Soak away pits to be constructed in accordance with Std.Dwg.No.11 located in the Infill Lot Grading and Drainage Policy
- All downspouts, sump pump and other drainage discharge points shall discharge to splash pads.
- A copy of the "Accepted for Construction" Lot Grading Plan is to be on site for reference at all times during construction.
- Contractor/Owner responsible for utility locates.

Town Staff Only:

- Confirm NVCA review required and undertaken
- Check 10 Year Capital Works Forecast
- ROP has been applied for.

Services:

- Decommission ex wells and/or septic systems
- Location of all municipal and utility services
- Water and sanitary services shown and labeled.
- Sanitary service cleanout shown and labelled

Driveway:

- Driveway edging flush for min 1.5m from EOP/curb or 500mm from back of sidewalk if applicable
- Driveway to be a min of 1.0m from side lot line
- Driveway grade to be between 2.0% and 6.0%
- Driveway width min 3.0m wide and max 6.0m (No garage), 7.6m (Double Garage) & 9.0m (Triple Garage)
- Driveway culvert shown and labelled with material, size, length and inverts
- Show headwalls (for ditches > 1.0m) or alternative end treatments (for ditches ≤ 1.0m) at both ends of driveway culverts and label accordingly
- Headwalls shall be concrete or RisiStone (SienaStone) / approved architectural block c/w filter cloth to prevent migration of fines
- Rural road driveway follows shoulder contour (with negative slope) from EOP for min. 1.0m

APPENDIX F

ROAD OCCUPATION PERMIT APPLICATION

1. It is understood that all works will be constructed, altered, maintained or operated at the expense of the Applicant, and that work must not begin before approval has been issued by the Town. The approval of the Town does not relieve the holder of the responsibility of complying with relevant Municipal By-Laws and Town Engineering Standards. This approval is issued under the authority vested in the Director of Public Works by the Town of Wasaga Beach, the most current Road Occupation By-Law and regulations pursuant thereto and is subject to the conditions attached hereto.
2. I/We hereby make application to occupy the road right-of-way and agree to abide by the terms and regulations of the most current Road Occupation Policy and By-Law.
3. I/we agree to assume all liability and/or cost incurred by the Corporation of the Town of Wasaga Beach as a result of the road occupancy, maintain the work area and to indemnify and save harmless The Town until final completion.
4. I/we submit payment to the Town of Wasaga Beach, to be retained by the municipality as the Road Occupation Permit fee.
5. I/we submit payment to the Town of Wasaga Beach, in the amount of \$2,000.00 as deposit for work performed within the road allowance of roads categorized as major roads* and/or \$1,000.00 as deposit for work performed within the road allowance of roads categorized as local streets. The deposit is refundable thirty (30) days after a satisfactory final inspection by the municipality.

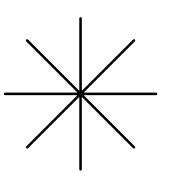
***Roads designated as Major Roads are:**

* River Road West	* Mosley Street
* 45th Street South	* Main Street
* River Road East	* Sunnidale Road

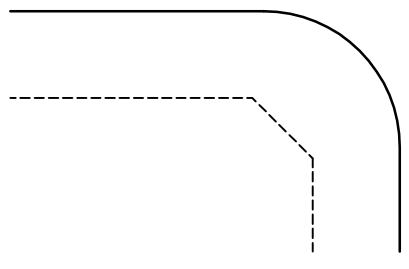
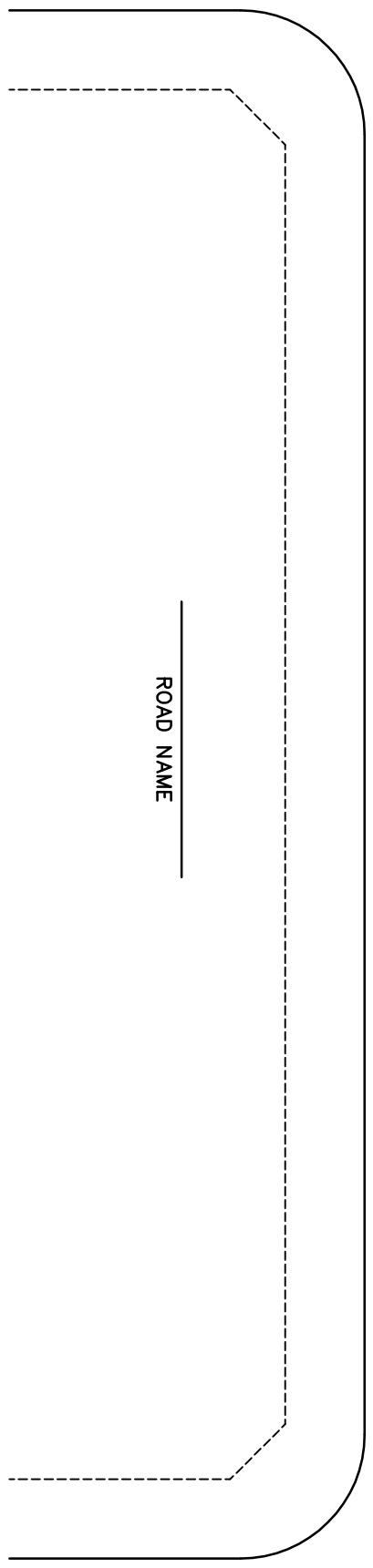
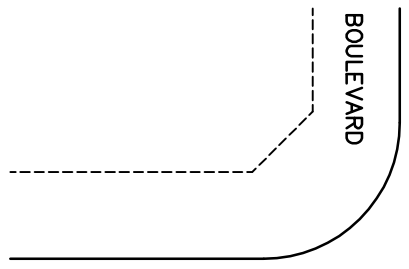
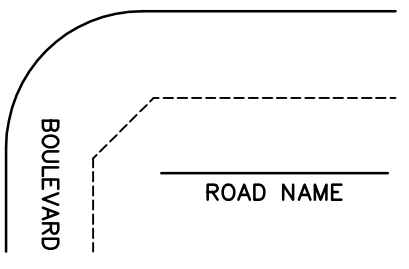
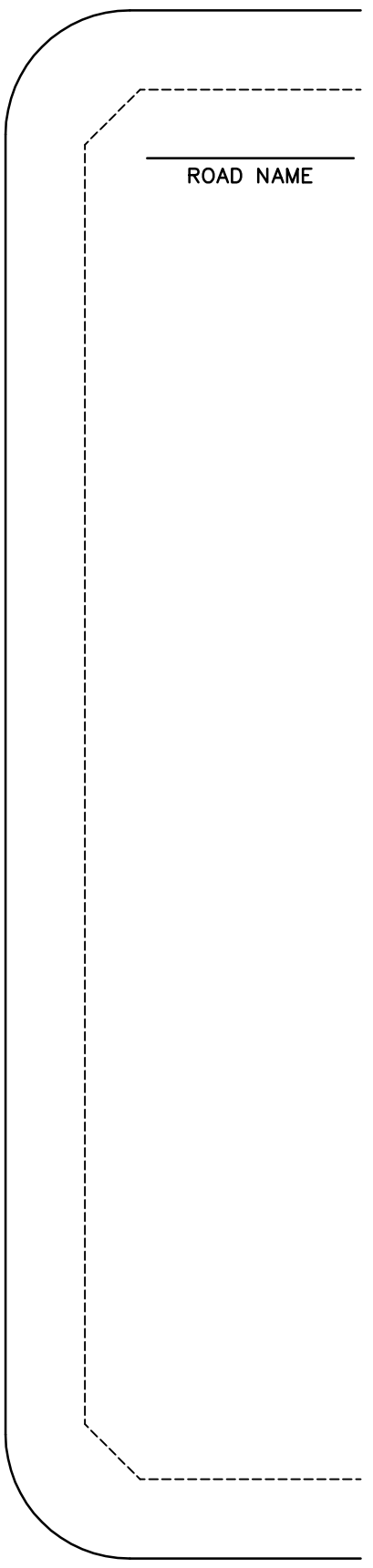
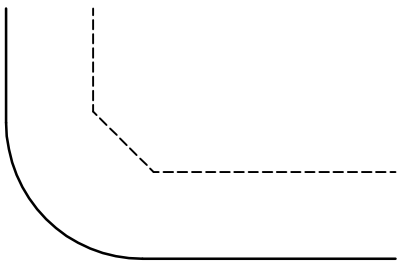
6. The Applicant's Contractor shall furnish public liability insurance in the amount of \$2,000,000 General Liability Insurance, satisfactory to the Town of Wasaga Beach, to indemnify and save harmless the Town for the duration of the work as described in the permit.
7. Any persons associated with the works for which this permit is issued shall comply with the most current Occupation Health and Safety Act and its regulations, and shall wear safety equipment **AT ALL TIMES** including, but not limited to, hard hats, reflective vests and safety boots while working within The Town's Right Of Way.
8. The permit must be in the name of the Property Owner or Utility Company and must identify the name of the person or firm performing the intended work.
9. At the request of the Applicant, the completion date may be extended by the Director of Public Works due to unforeseen conditions.
10. Traffic control shall be provided in accordance with the current MTO Ontario Traffic Manual, Book 7, to the satisfaction of the Town including all barricades, signage, flag persons, detour signs etc. In addition, a Traffic Control Plan may be required as part of the application.
11. Access shall be maintained to all public and private properties during the duration of the work. Road closures are not permitted unless approved by the Director of Public Works.
12. Owner/Contractor must confirm operation of municipal services located in driveway a min. 48hrs prior to commencing work as well as following completion of work. Any cost associated with adjustment or repair of damaged services during work is the responsibility of the applicant.
13. All utility locates shall be the sole responsibility of the Contractor. Locate requests can be made by calling Ontario One Call at 1-800-400-2255.
14. The Applicant shall be responsible for the performance of the work and restoration in accordance with Ontario Provincial Standards & Specifications and the Town of Wasaga Beach Engineering Standards, which are available on the Town website.
15. All excess excavated material shall be disposed of at an approved landfill site.
16. Driveway locations, widths, and construction complete with culverts and headwalls (where applicable) shall be in conformance with the Town of Wasaga Beach Zoning By-law and Engineering Standards.
17. Should the work have not commenced within two years from the date of issuance and completed by the date of completion indicated in the application, the Road Occupation Permit shall become null and void.
18. The Applicant shall at all times remain responsible for the actions and/or omissions of the Contractor for compliance with the Town's Road Occupation By-Law and Policy and Permit.
19. The Applicant must obtain a copy of the approved permit and notify all parties involved of the requirements. The Permit must be available on site for the duration of the open permit and provided upon Town staff request.
20. A detailed municipal servicing drawing and traffic control plan is required when applying to complete municipal services work.
21. The Applicant/Contractor must contact Public Works a min. 48hrs prior to municipal service connections.
22. DENSO Reinstatement Tape must be used at vertical saw cut joints of surface asphalt.
23. Entrances within the Town's ROW shall have a min. 150mm compacted granular base.
24. This permit will ONLY be for the work requested/described on Page 1 of this permit. A request for any further works must be submitted to The Town for approval.

ROLL NUMBER

TOWN OF WASAGA BEACH ROAD OCCUPATION PERMIT
PLEASE PROVIDE A DETAILED DRAWING
OF ALL PROPOSED WORKS



INDICATE NORTH

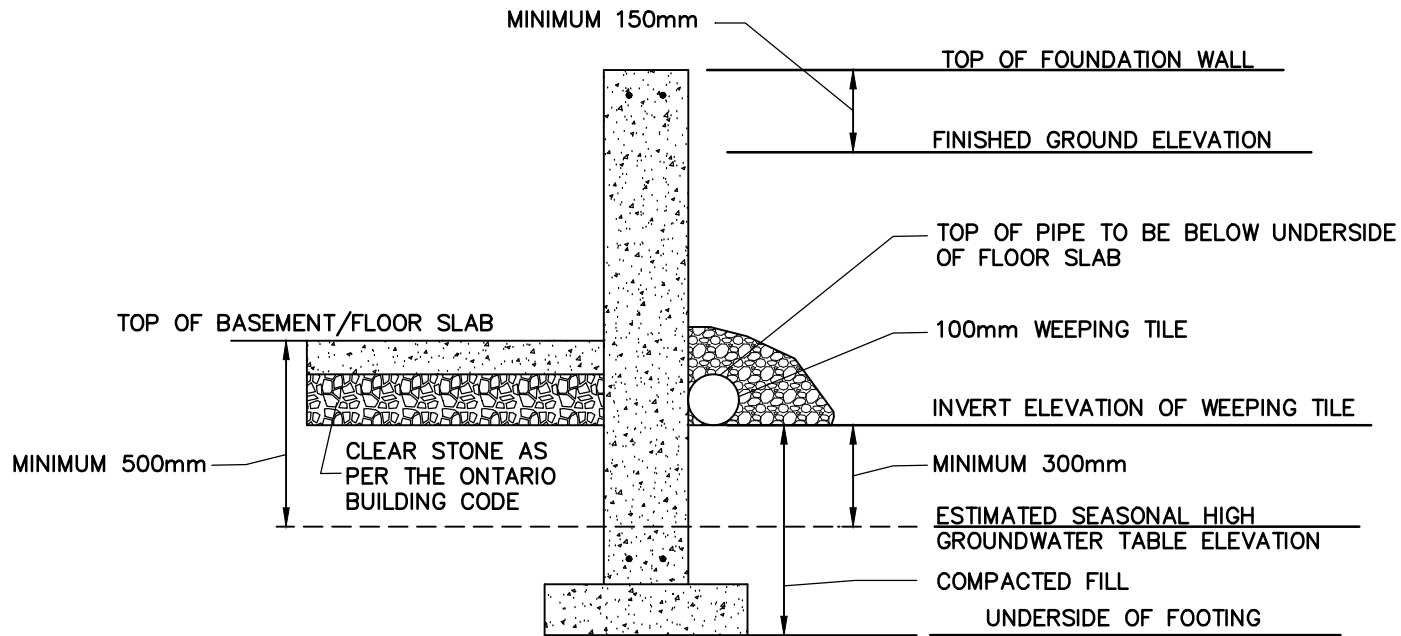


DRAWN BY: _____

DATE: _____

APPENDIX G

FOOTINGS AND SEASONAL HIGH GROUNDWATER TABLE DETAIL



NOTES:

1. FOOTINGS WITHIN PROXIMITY TO THE GROUNDWATER TABLE SHALL BE UPSIZED ACCORDING TO THE ONTARIO BUILDING CODE AND/OR AS PER STRUCTURAL/GEOTECHNICAL ENGINEER DESIGN.
2. THE WEEPING TILE INVERT ELEVATION IS TO BE CONFIRMED IN WRITING BY THE BUILDER TO THE BUILDING INSPECTOR PRIOR TO BACKFILL.

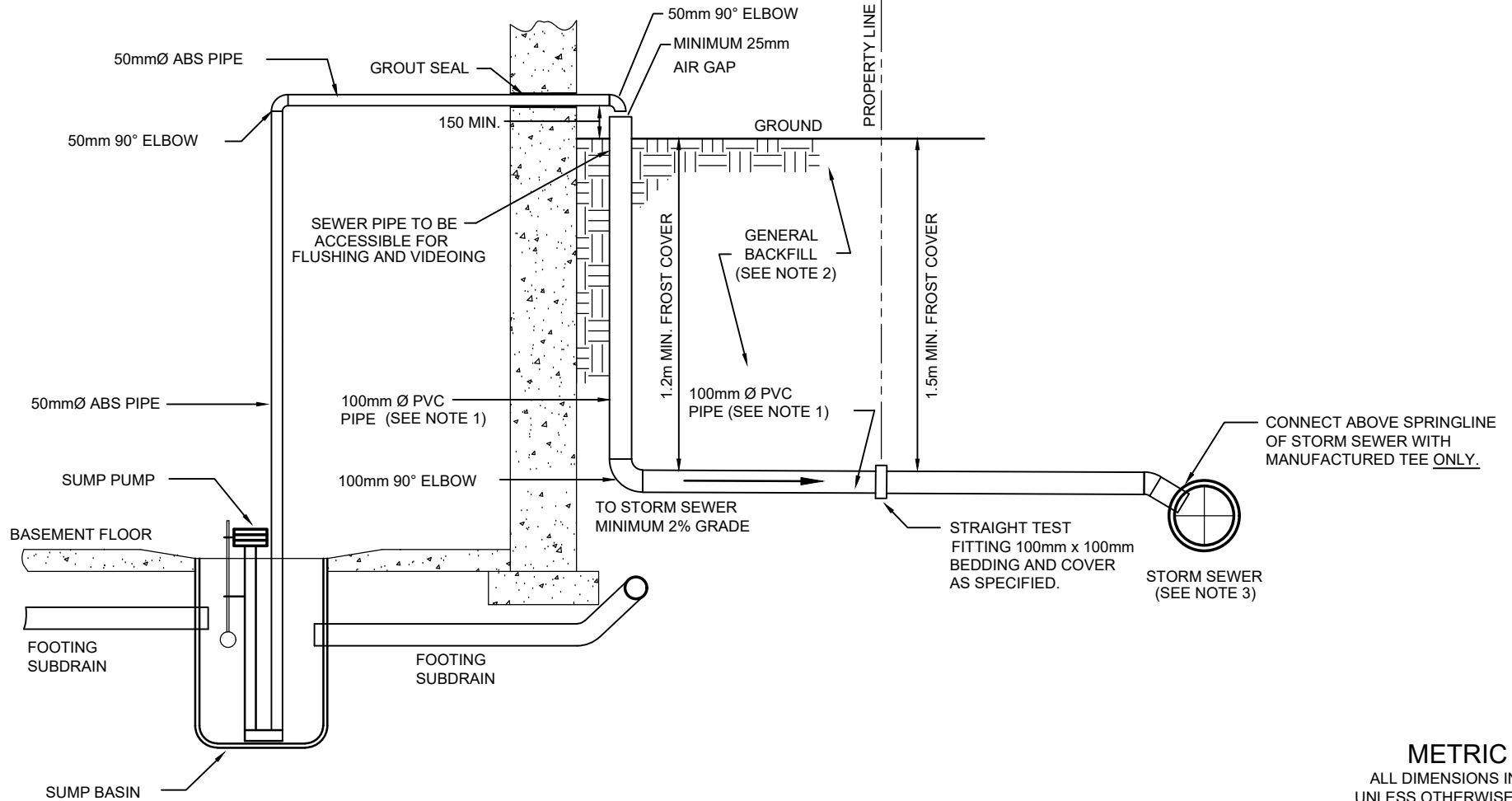
TOWN OF WASAGA BEACH

FOOTINGS, WEEPING TILE AND SEASONAL HIGH GROUNDWATER TABLE DETAIL

DRAWN: MRT	SCALE: N.T.S.	STD.DWG.No.20
DESIGN: PK	PLOT: 1=1	
CHECKED: MJP	DATE: OCT 2019	

APPENDIX H

SUMP PUMP DISCHARGE DETAIL (TOWN STD DWG NO. 21)



METRIC
ALL DIMENSIONS IN mm
UNLESS OTHERWISE NOTED

NOTES:

1. REFER TO TOWN DESIGN STANDARDS FOR APPROVED MATERIALS.
2. GENERAL BACKFILL TO BE SELECT NATIVE BACKFILL MATERIAL.
3. STORM SEWER, CATCH BASIN OR OPEN DITCH AS APPLICABLE.
4. ALL FITTINGS ARE TO BE WATER TIGHT

TOWN OF WASAGA BEACH

SUMP PUMP
DISCHARGE DETAIL

DRAWN: JMP

SCALE: N.T.S.

DESIGN: MT

PLOT: 1=1

CHECKED: MJP

DATE: JAN 2019



STD.DWG.No.21