



Surveyor / Engineer / QP's Perspective on the Impact of Wetlands on Lot Development

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Agenda

- Bio
- Vacant Land – Can you Subdivide?
- Vacant Land – Can you obtain a Building Permit?
- Desktop Research
- Site Visit
- Examples

DeWolfe & Morse Surveying Limited

- In Business since 1990
- Serving mostly Southwest Nova Scotia with offices in Middleton & Digby
- Providing a broad range of surveying & engineering services such as:
 - Subdivision Design & Engineering for large & small scale developments.
 - Consulting services for subdivision approvals, including: access permits through NSDPW, on-site septic approvals with NSECC, wetland mapping, NSPI Easement sketches, etc.
 - Legal Boundary Surveys.
 - Quality assurance surveys on large scale construction projects.

Vacant Land Parcels

Is it possible to Subdivide?

- Municipal Zoning requirements, Land-Use and Subdivision Bylaw
- Will the development meet DPW Access requirements?
 - Is the frontage on a “maintained” public highway?
 - Has the access been approved for commercial or residential use through DPW (have stopping site distances been assessed?).
 - Do the Municipal bylaws allow Private Roads.
- Can we meet NSECC approval for On-Site Septic?
 - Test Pit Reports
 - Wetlands
 - Watercourses
 - Wells

Vacant Land Parcels

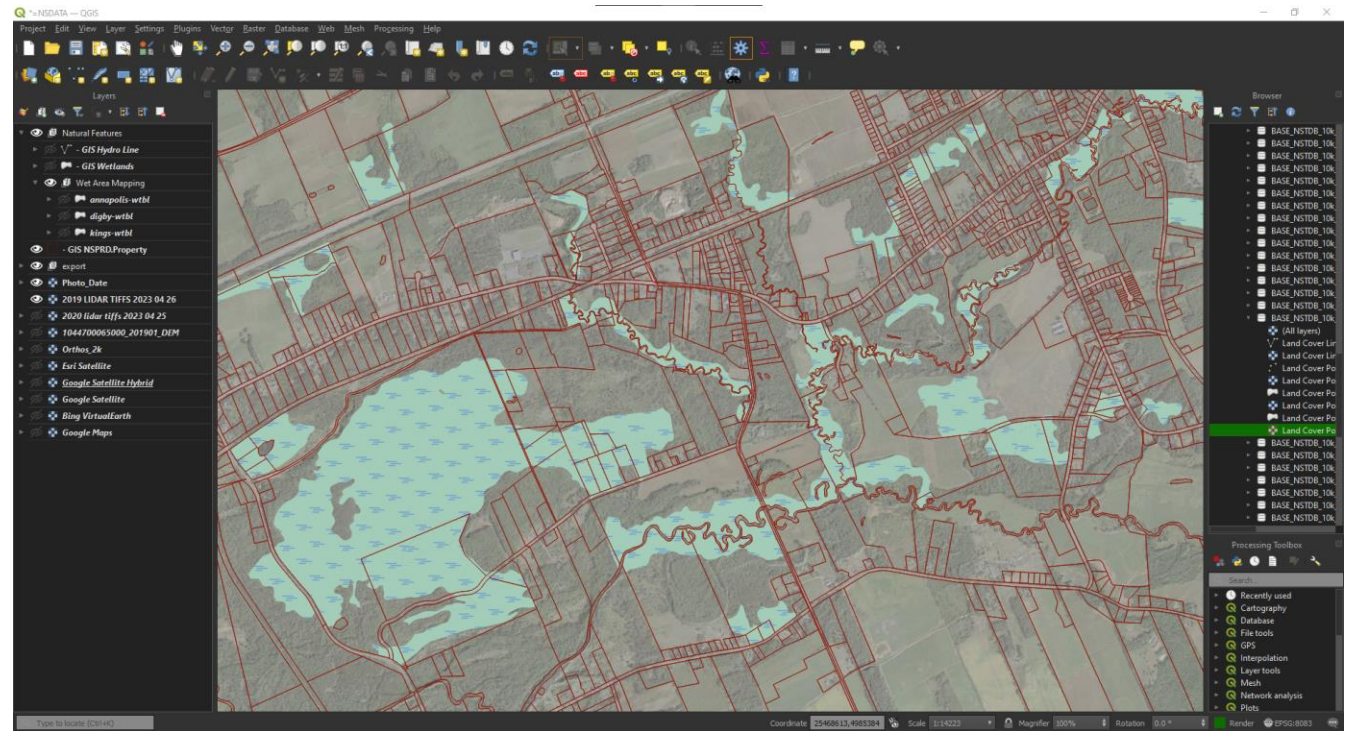
Can you obtain a Building Permit?

- NS Department of Public Works (DPW)
 - Existing driveways don't always pass.
 - Maintained Public Highway?
 - Number of Lots or type of Development affects DPW approval.
- NS Department of Environment & Climate Change (NSECC)
 - Unserviced lots require an assessment from QP or Engineer
 - Wetlands
- NSPI
 - Easements may be required.
 - Will current lines service the proposed development.
- Municipal Bylaws (zoning, land-use, subdivision, etc.)

Desktop Research

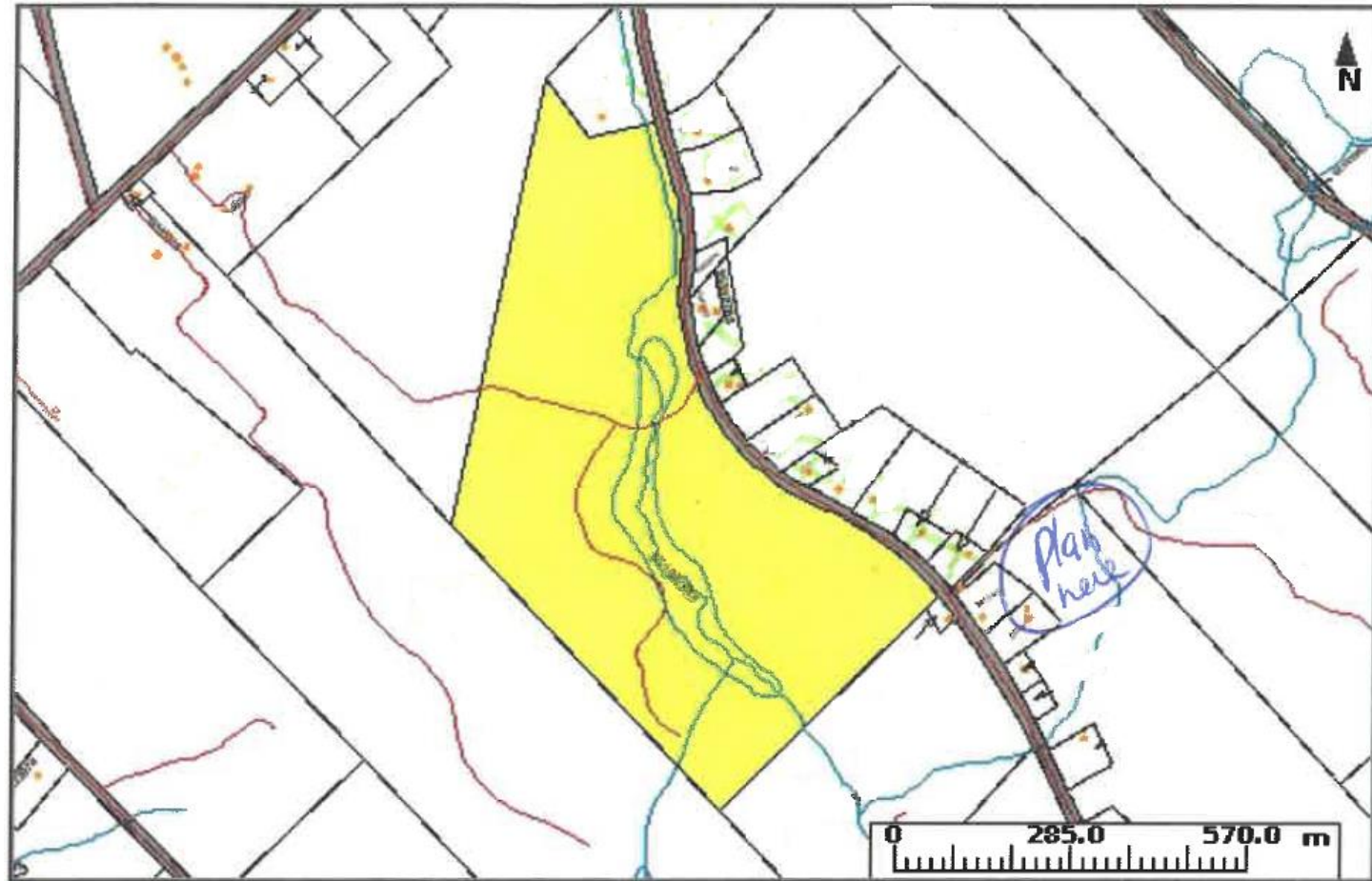
Provincial Data

- Property Online Mapping
 - With Topo Layer
- Wetland Mapping (NSDNR)
- Wet Area Mapping (NSDNR)
- Contours from LIDAR Data
- Aerial Photography



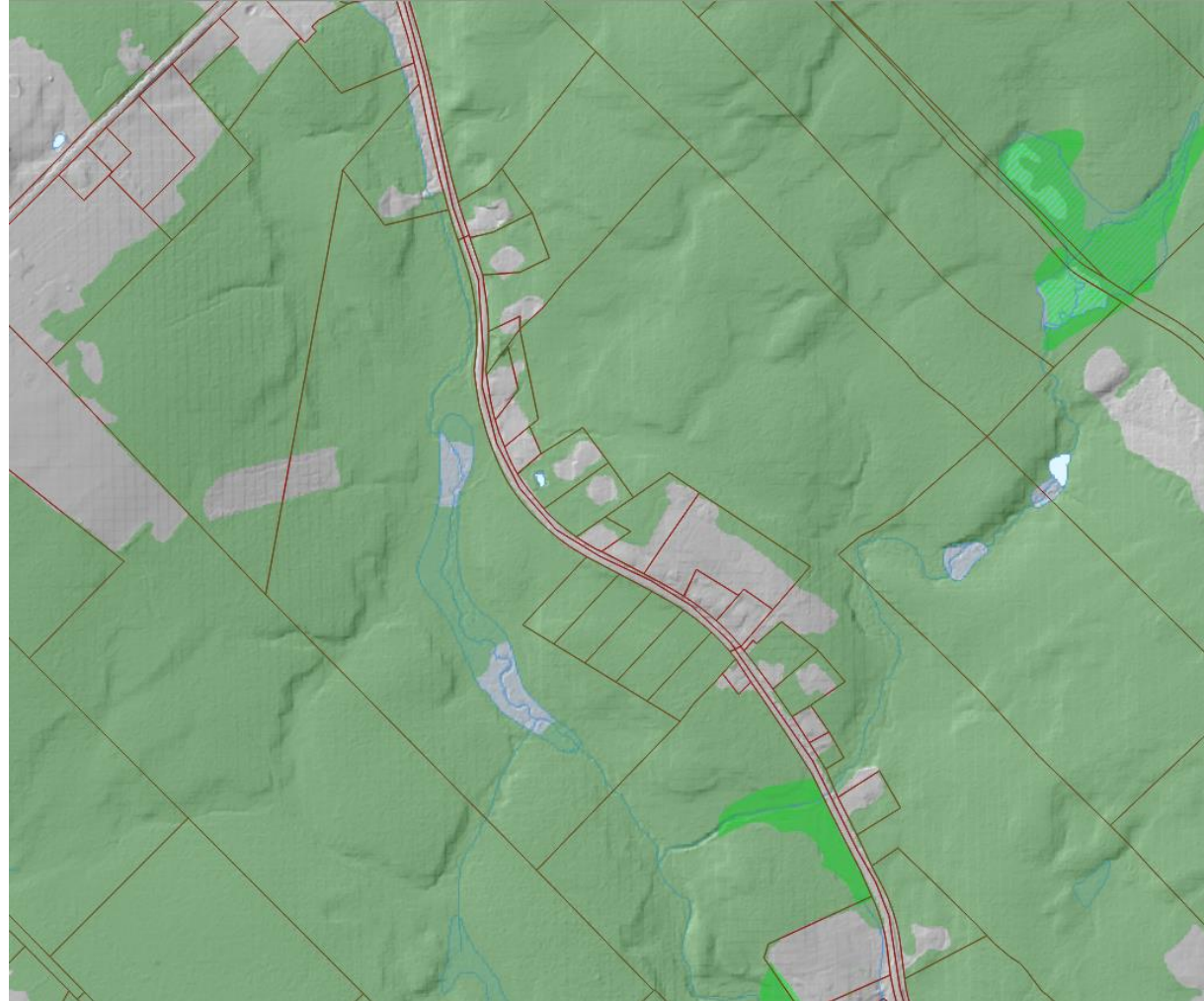
Proposed Subdivision Example

Desktop Research
Property Online Mapping
With Topo Layers



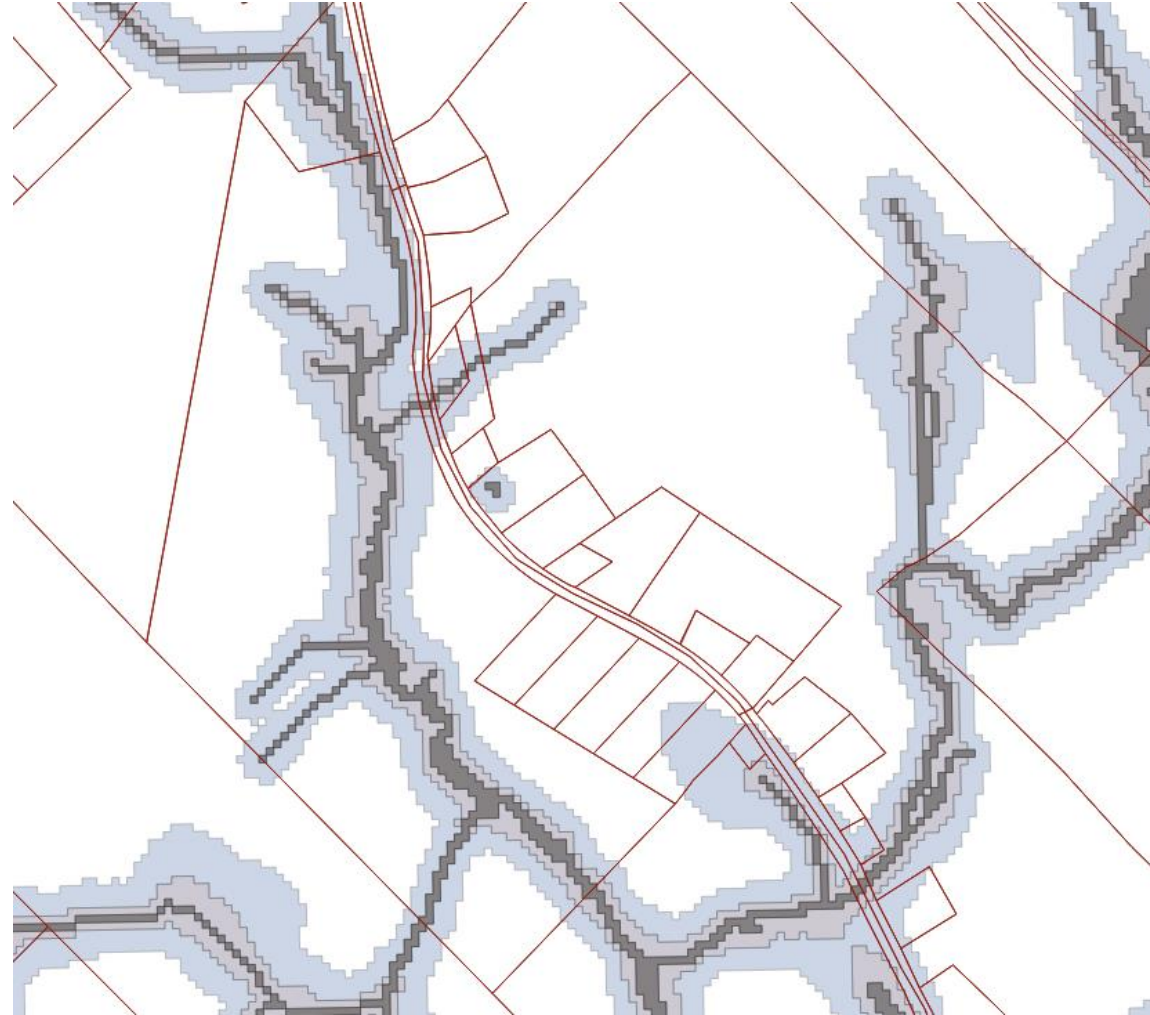
Proposed Subdivision Example

Desktop Research
DNR Wetland Mapping



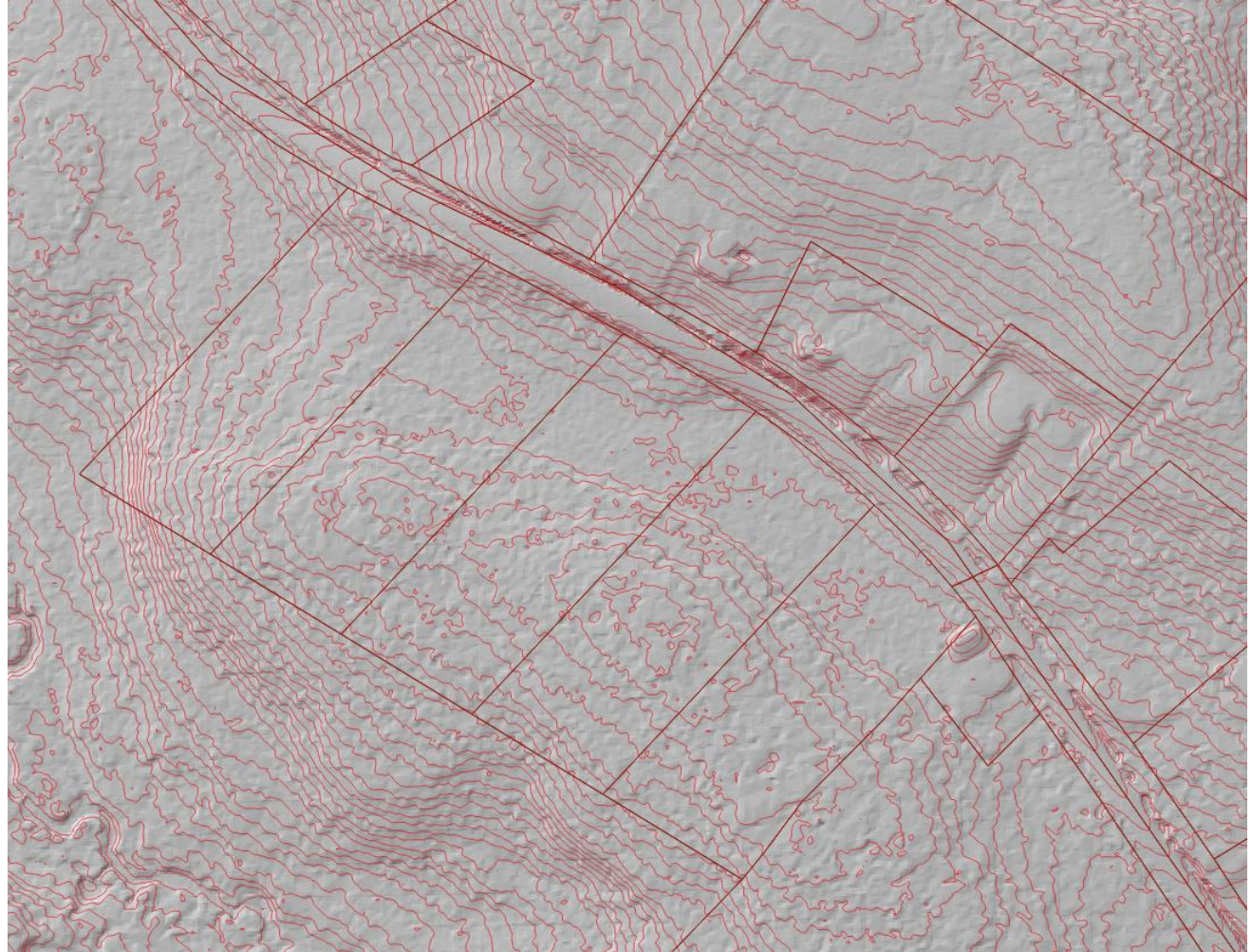
Proposed Subdivision Example

Desktop Research
Wet Area Mapping



Proposed Subdivision Example

Desktop Research
Contours From LiDAR Data



Proposed Subdivision Example

Desktop Research

Nova Scotia Orthophoto Imagery Vs Satellite Imagery



Nova Scotia Orthophoto Imagery



Google Satellite Imagery

Site Visit

- Surveyor / Engineer/ QP Visits Site
 - Look for water courses and wetlands
 - Based on Site Observations, is a wetland Delineation Required?
 - Wetland Indicators
- Wetland Delineator
- Proposed Lot Development

Site Visit - Wetland Indicators

NSECC released the Wetland Conservation Policy on October 14, 2011.

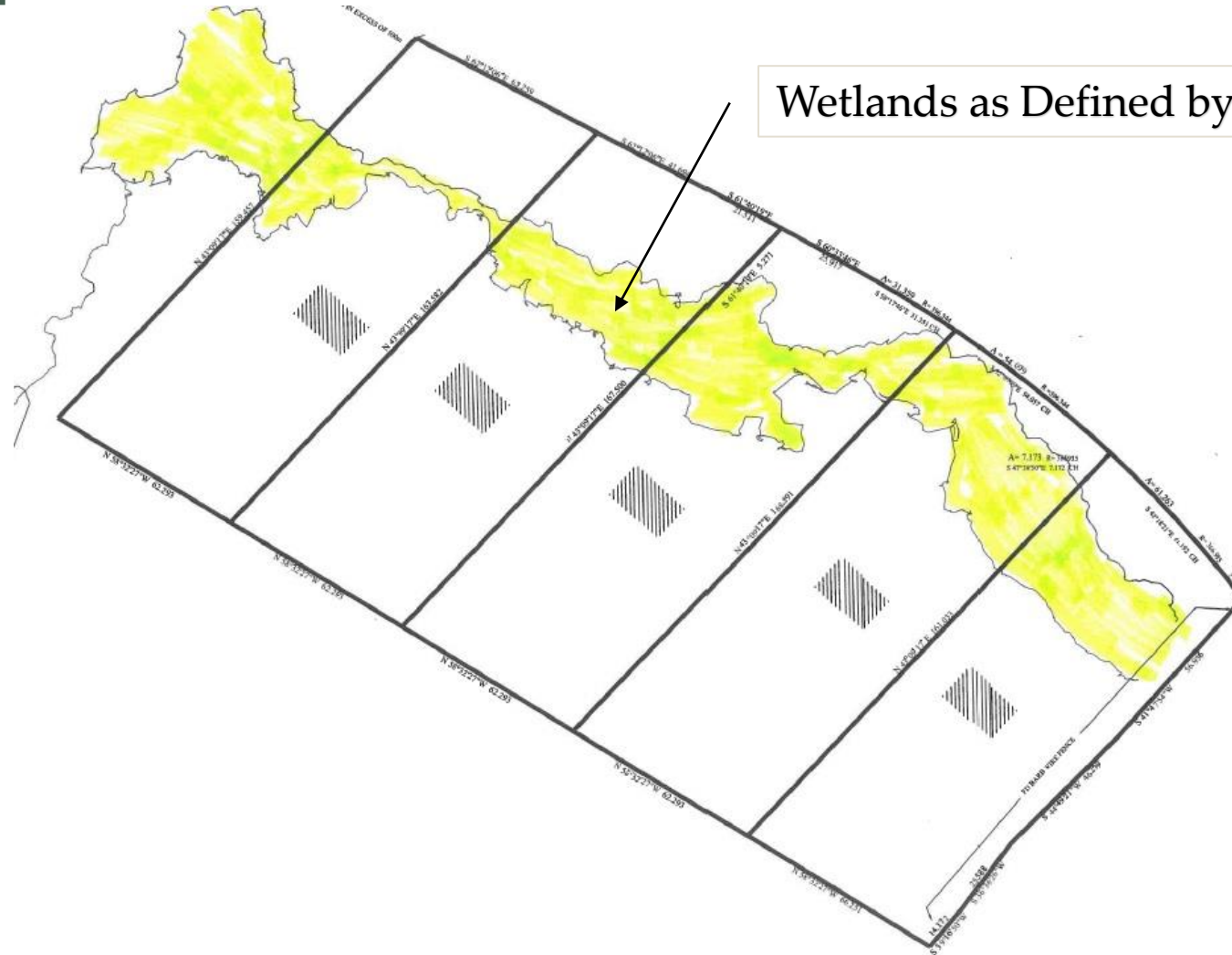
Wetland Specialists are looking for 3 Indicator Types when Identifying Wetlands

- Plants
 - Wetland vs Upland Plants
- Soil
 - Organic Layers, Depleted/Increased Chroma (Colour)
- Water
 - Surface Water, High Water Table, Saturated Soils
 - Seasonal Vs Year-Round



Proposed Subdivision Example

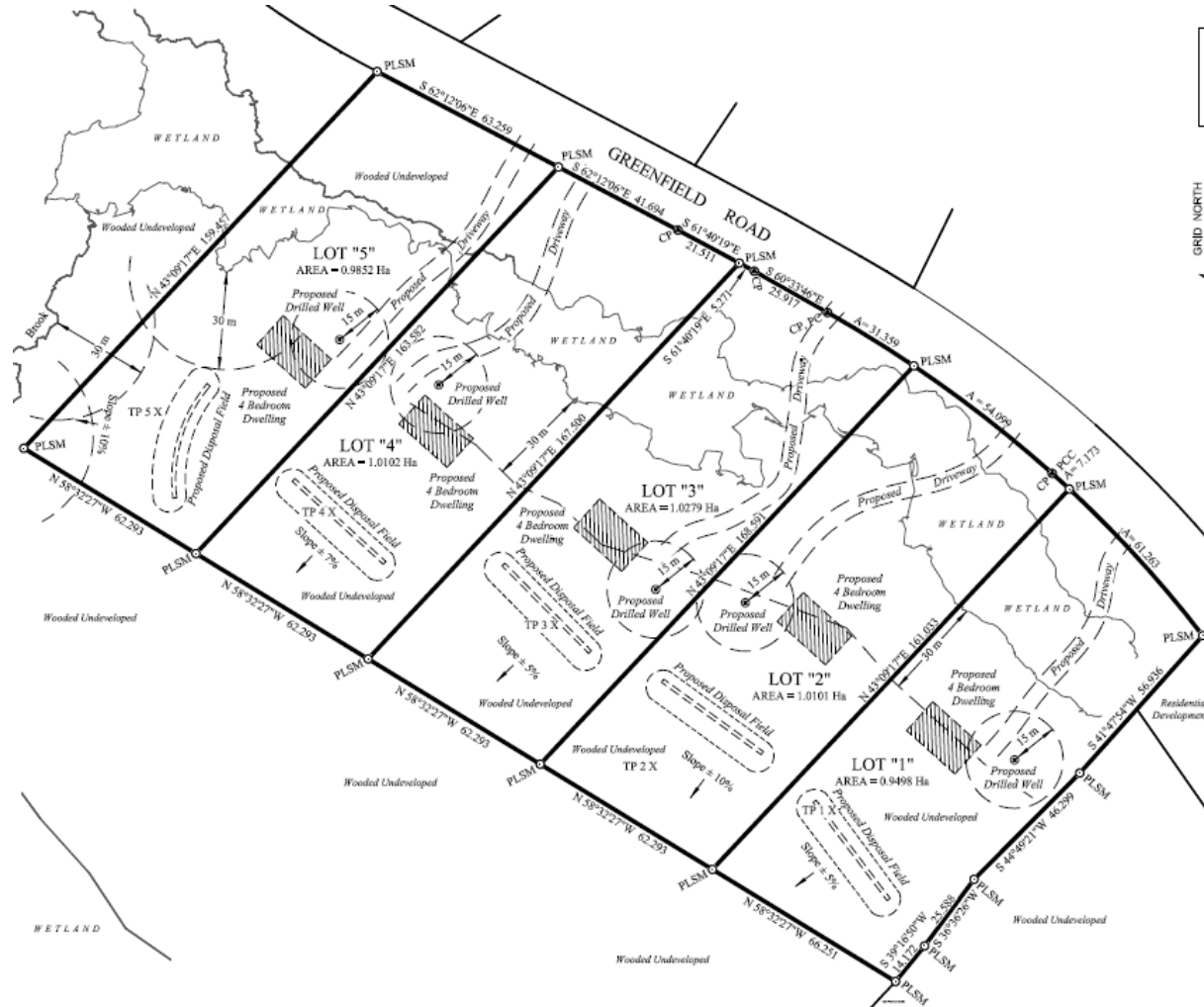
Site Visits
Wetland Delineation



Wetlands as Defined by a Wetland Delineator

Proposed Subdivision Example

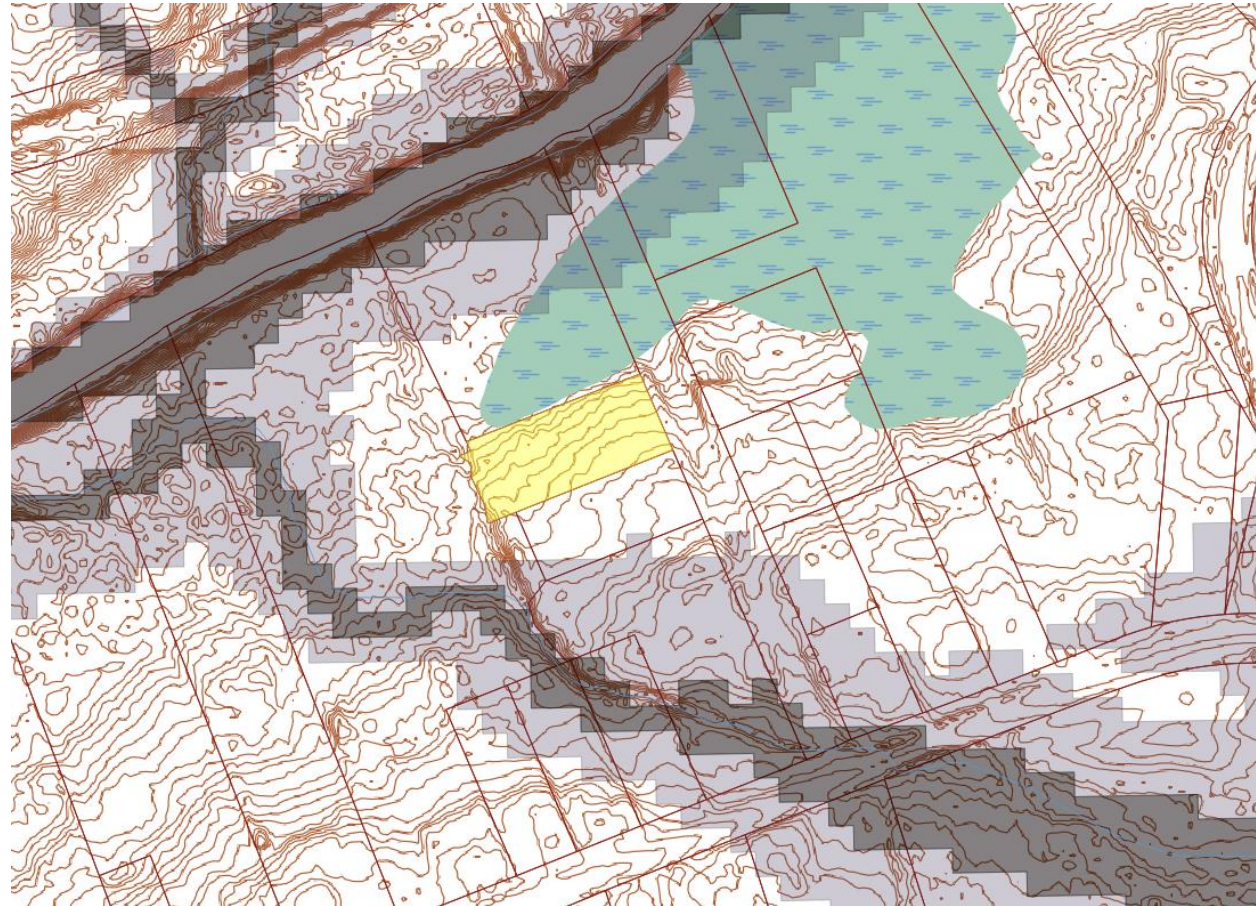
Final Product
Proposed Lot Development



Proposed Vacant Lot Example

(Lot created prior to S/D regs)

Desktop Research
Property Online Mapping
Topo Layers
Wetland Mapping
Wet Area Mapping
Contours from LiDAR Data



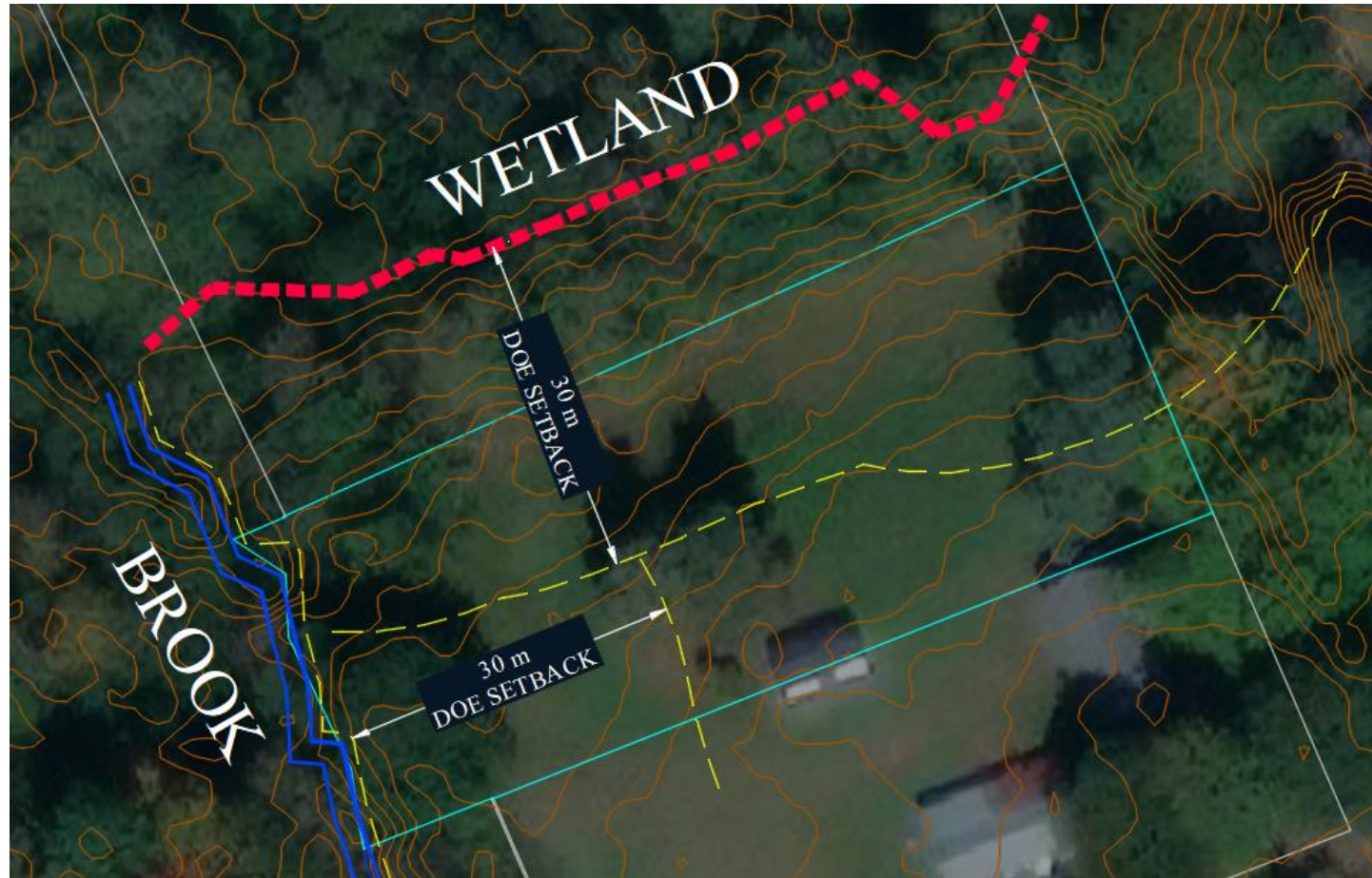
Proposed Vacant Lot Example

(Lot created prior to S/D regs)

Site Visit

Wetland Delineation
Locate Watercourse

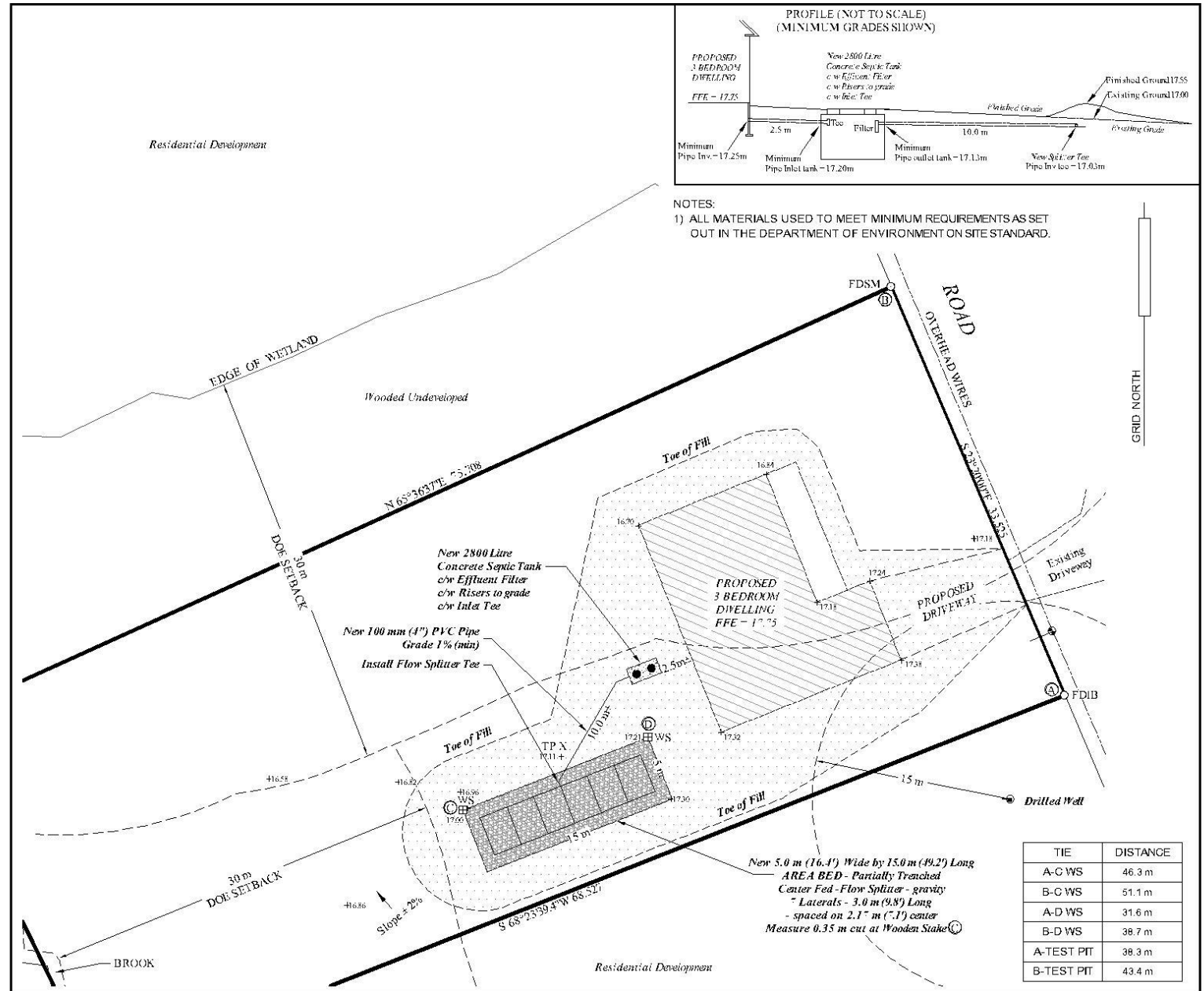
Apply Setbacks and Quantify
Developable Areas on Site



Proposed Vacant Lot Example

(Lot created prior to S/D regs)

Final Product
Proposed Lot Development

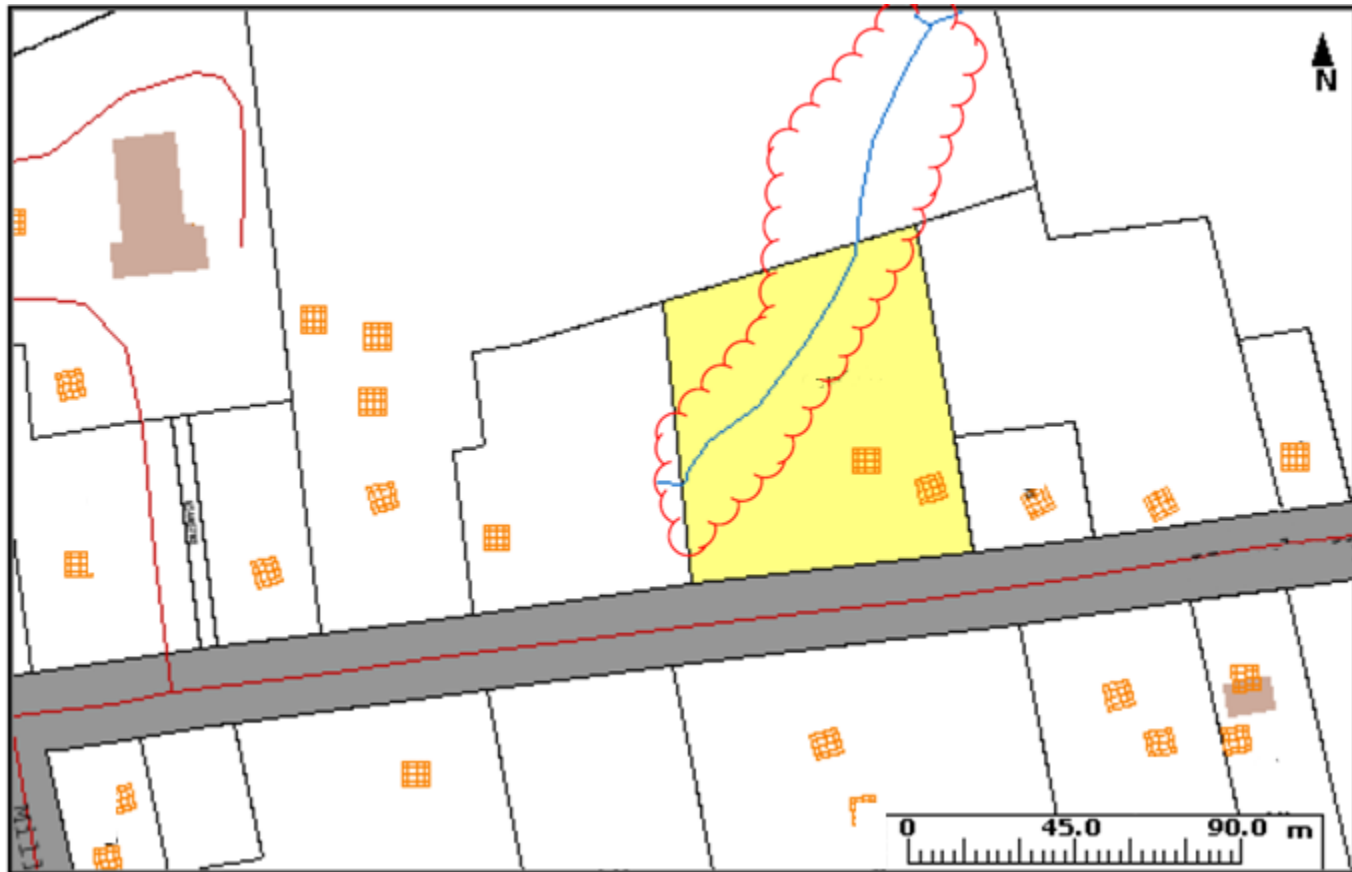




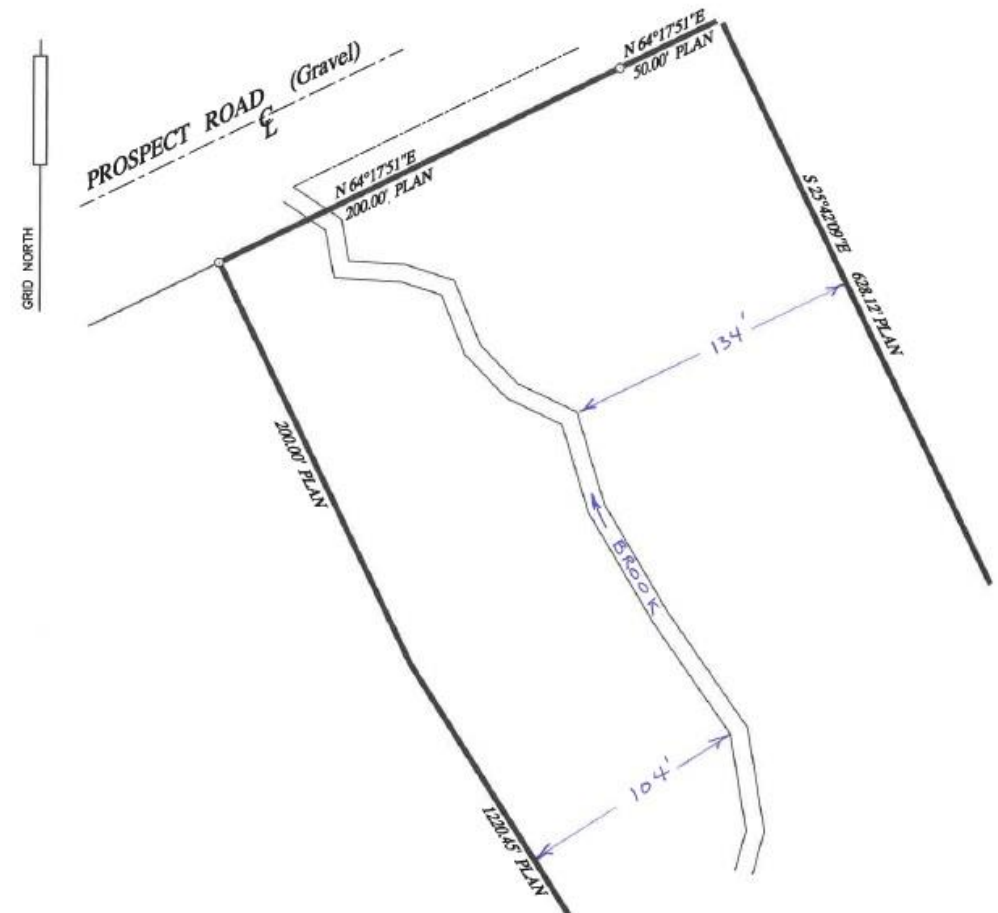
Additional Examples

Proposed Vacant Lot

(Lot created prior to S/D regs)

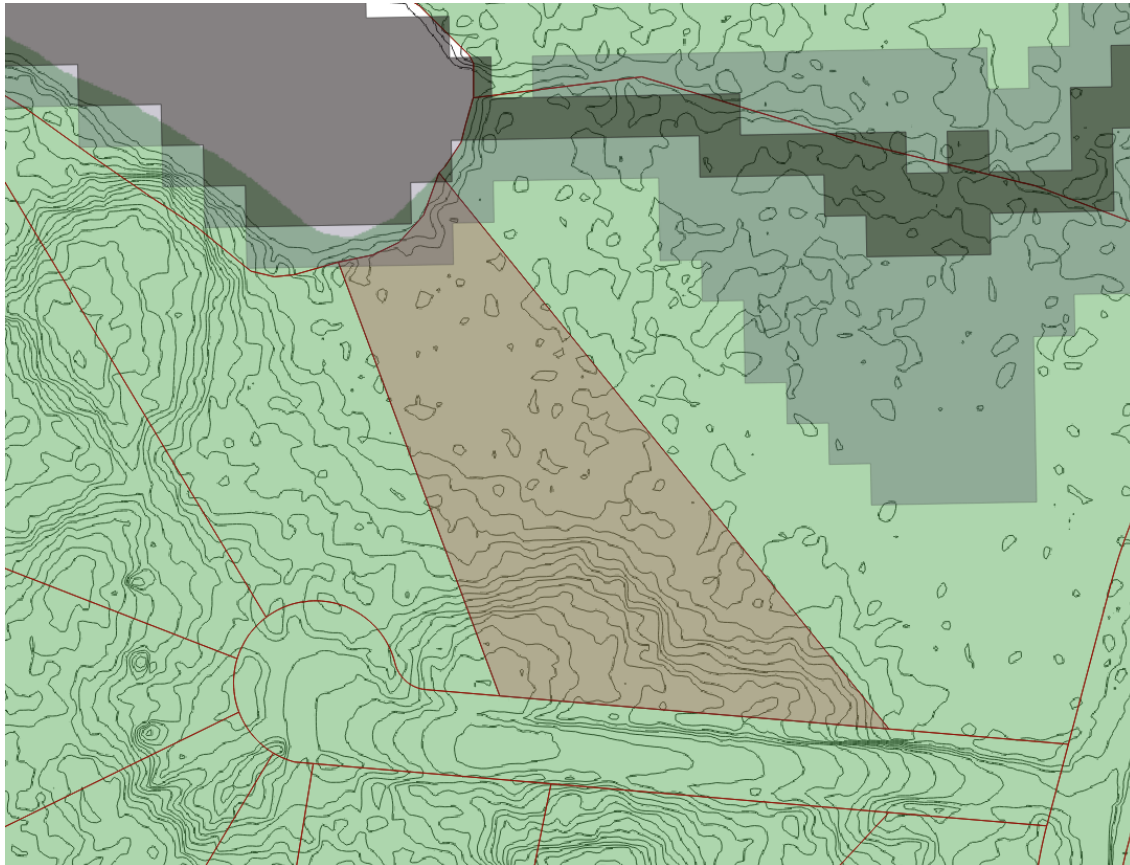


Proposed Vacant Lot Development (Lot created 2009)

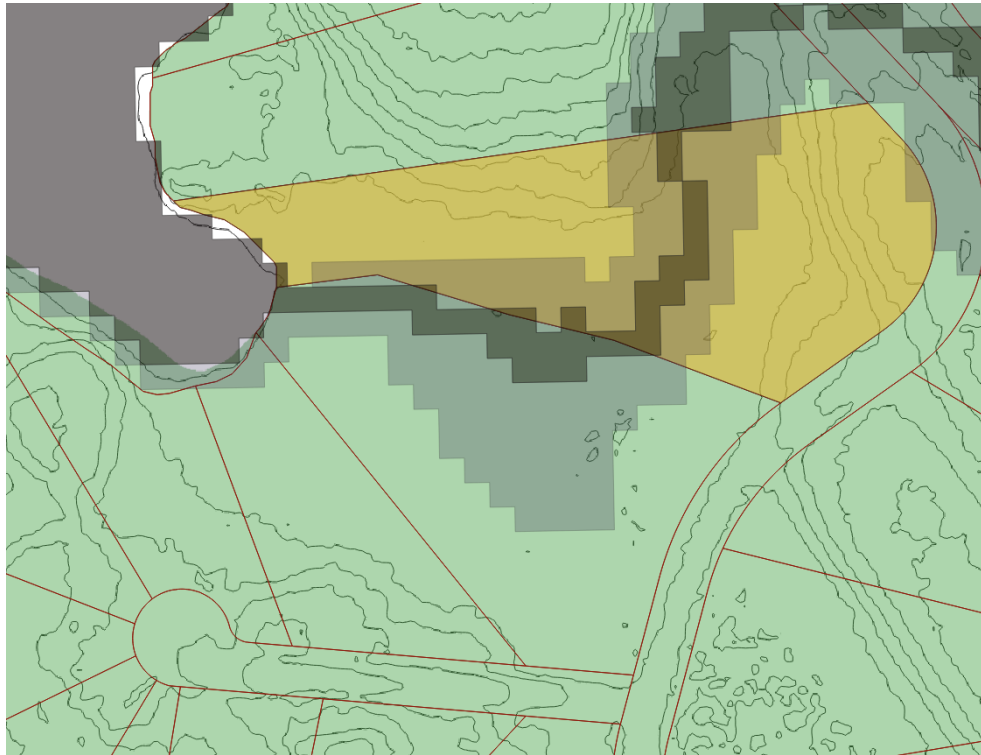


Proposed Vacant Lot Development

(Lot created 2004)

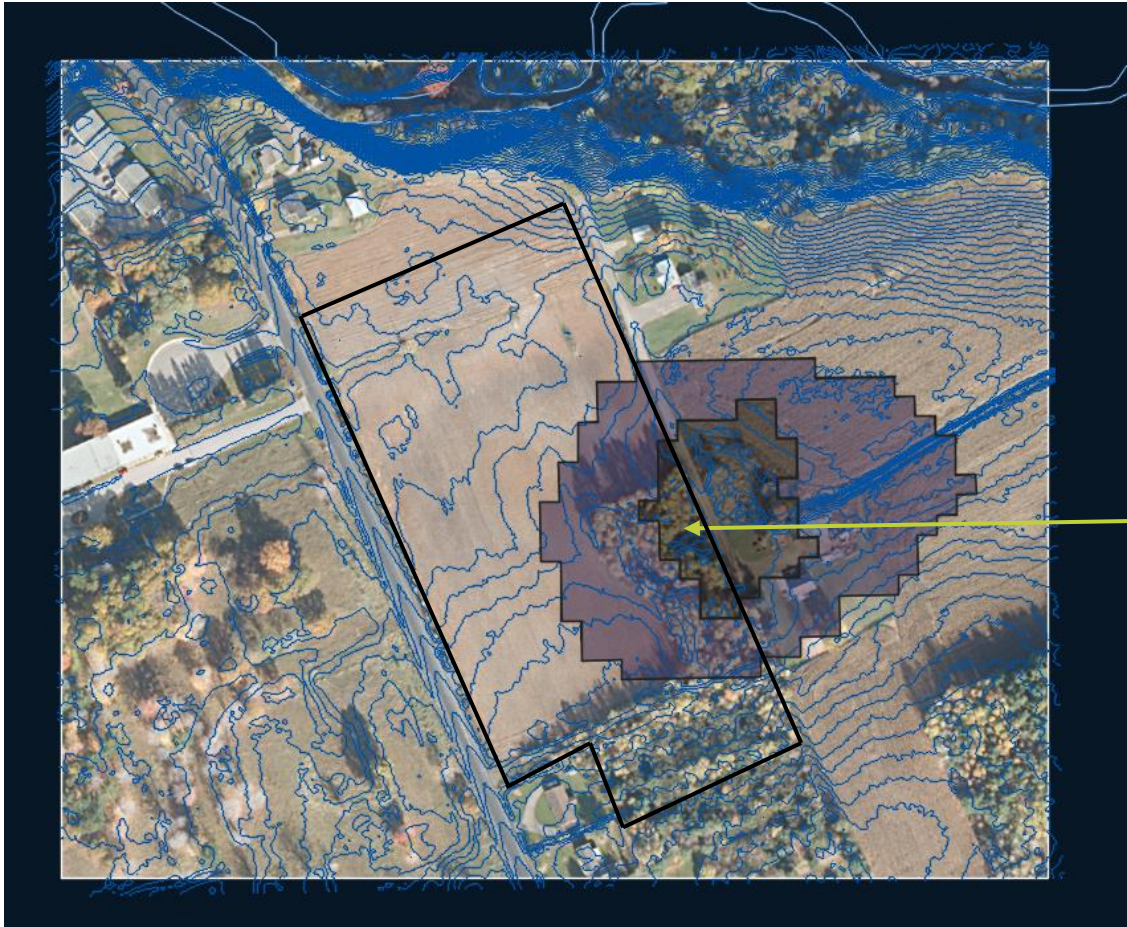


Proposed Vacant Lot Development (Lot created 2004)



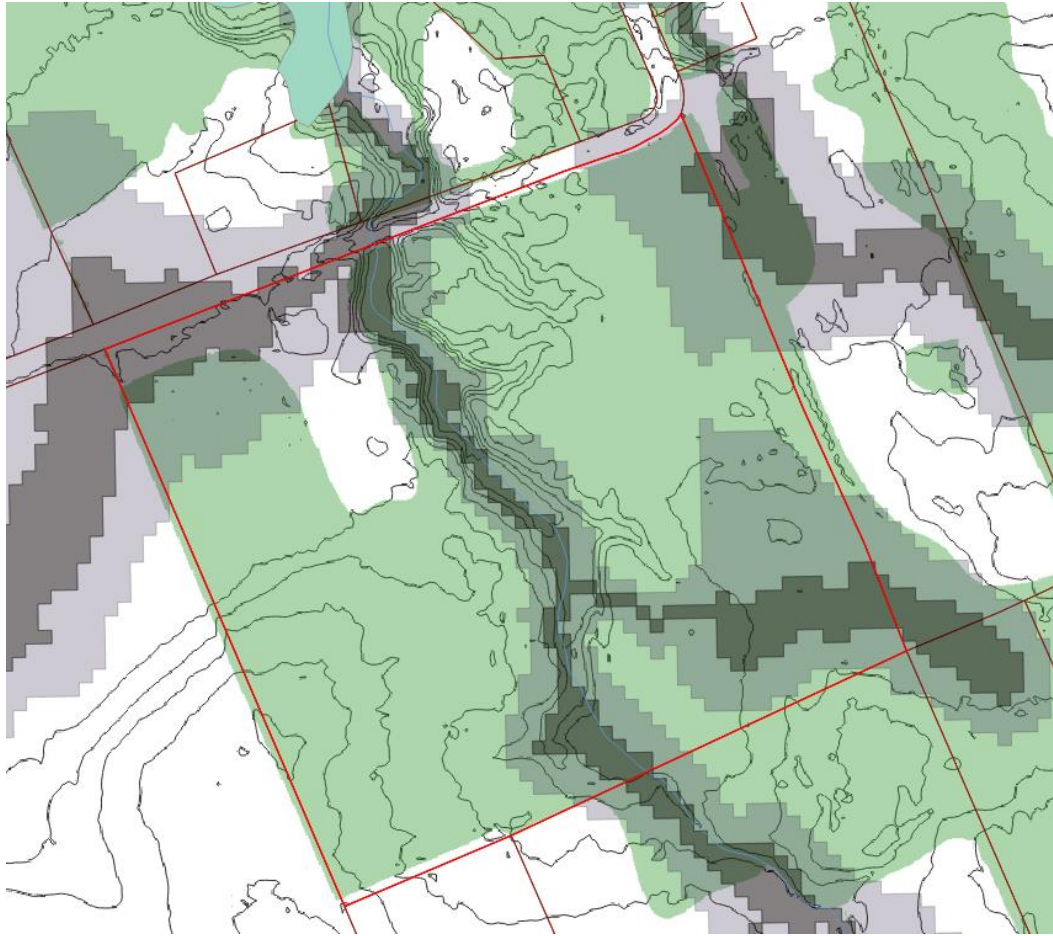
Proposed Vacant Lot S/D

(Lot created prior to S/D Regs)

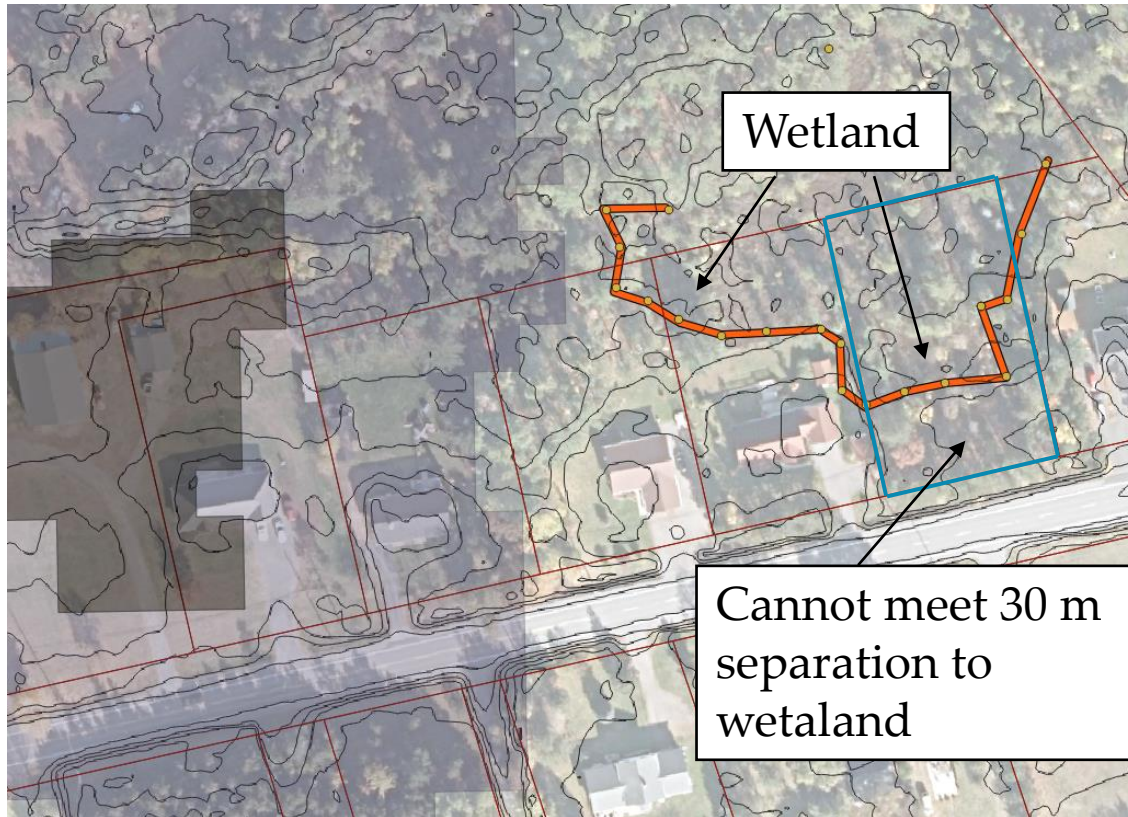


Proposed Vacant Lot S/D

(Lot created prior to S/D Regs)



Proposed Vacant Lot Development (Lot created 1995)



- Lot approved in 1995
- Lot was assessed in 1995 by Dept. of Health as a building lot
- Currently not able to develop unless an Engineer can obtain an approval for an on site sewage disposal system design