XEOS Aerial photography - Lidar
IA mapping

Understanding blue spots



What is a blue spot?

A blue spot is an area where the ground's topography forms a low point, allowing water to accumulate during heavy rainfall events.



What's the problem with blue spots?

Not all blue spots are problematic; only those where sensitive infrastructure (buildings, roads, etc.) is located and where the water depth is significant enough to cause damage.



Why map blue spots?

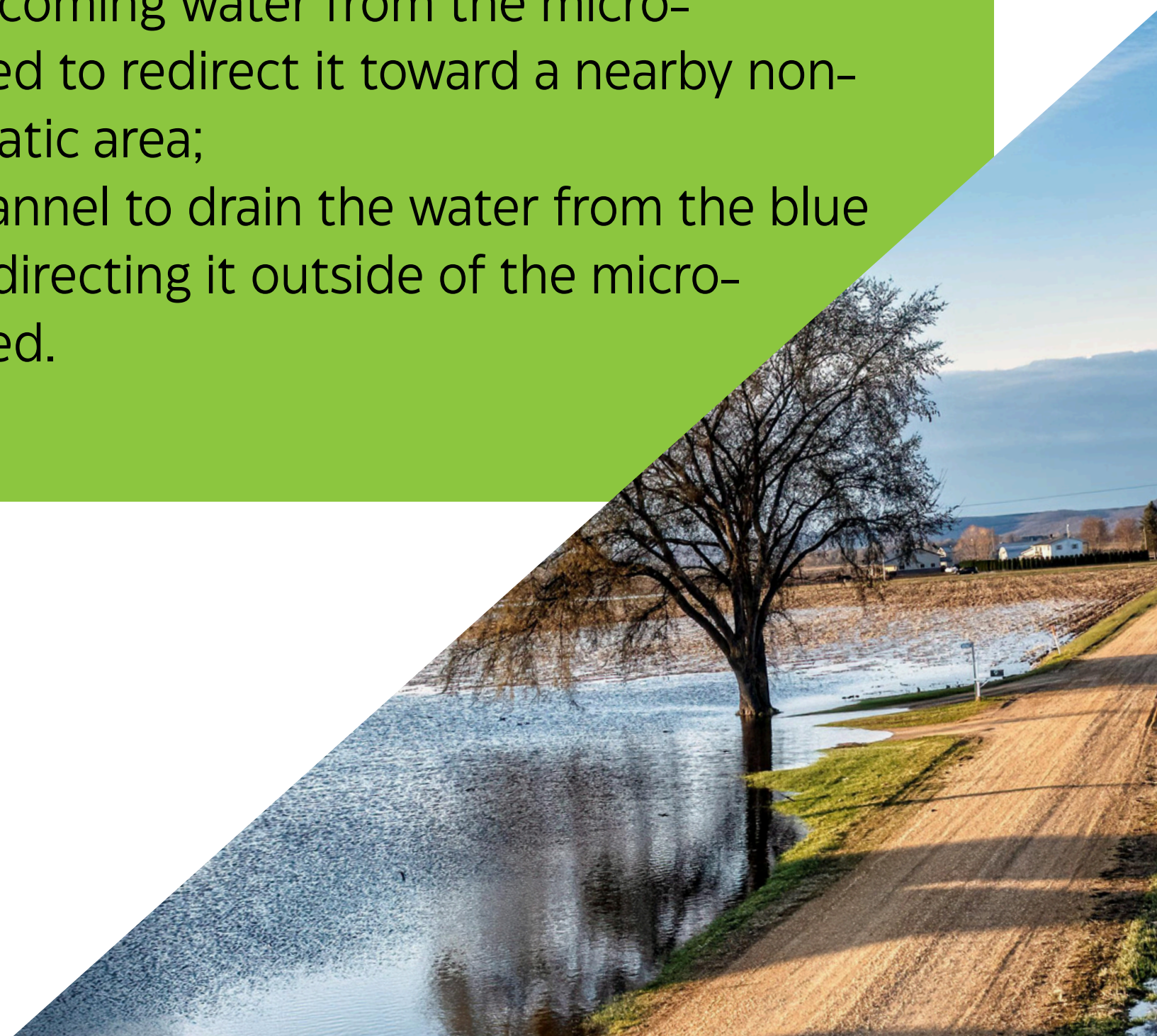


- To know areas at risk;
- To allow site configuration changes to prevent damage before it occurs.

How to eliminate problematic blue spots?

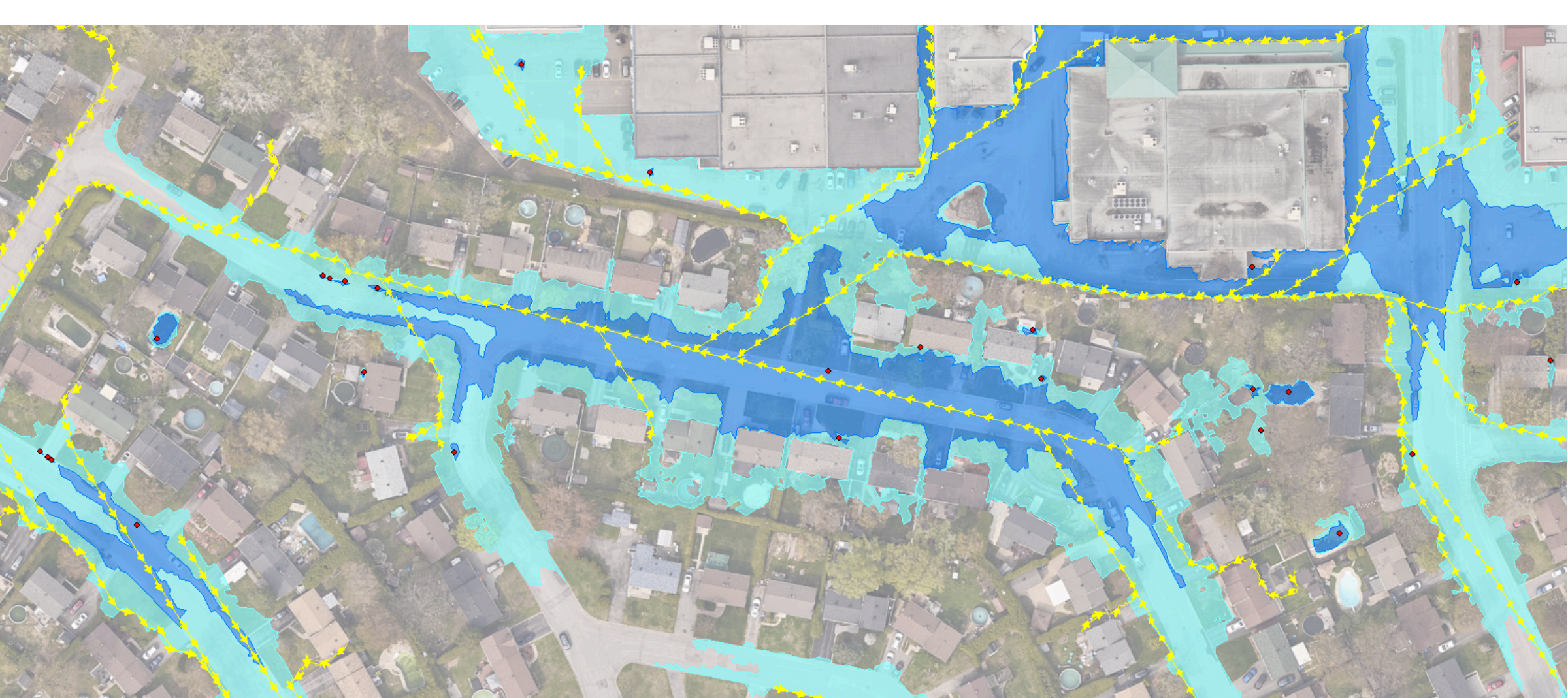
Three possible approaches when the contributing area feeding water into a blue spot (i.e., micro-watershed) is known:

- Modify the topography to eliminate the depression that forms the blue spot;
- Divert incoming water from the micro-watershed to redirect it toward a nearby non-problematic area;
- Dig a channel to drain the water from the blue spot by directing it outside of the micro-watershed.



What mapping information is needed to eliminate problematic blue spots?

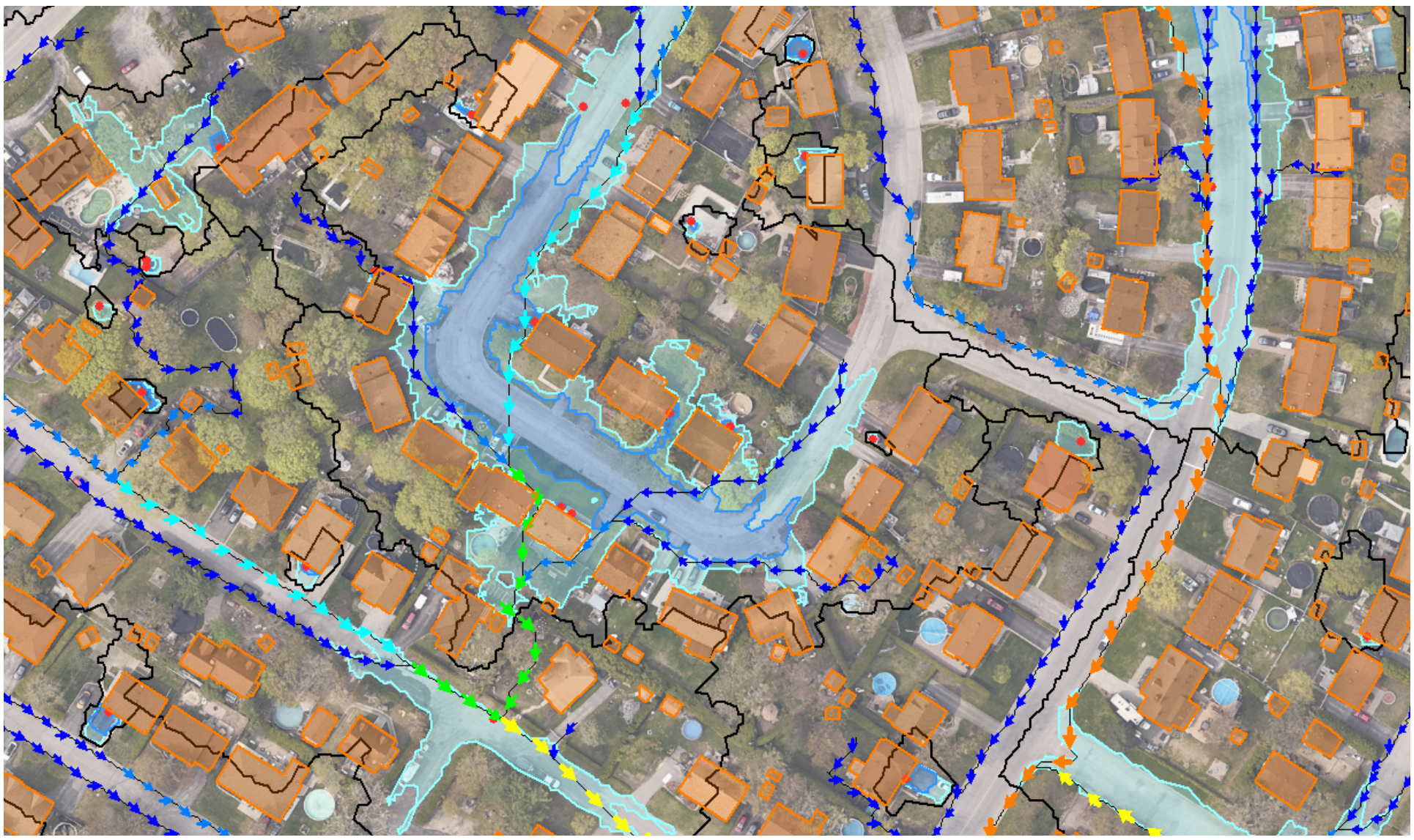
- Mapping of sensitive infrastructure;
- Delineation of blue spots that accumulate more than 30 cm of water;
- Delineation of the contributing area feeding each blue spot (micro-watershed);
- Mapping of surface water flow direction;
- Identification of the deepest point within each depression.

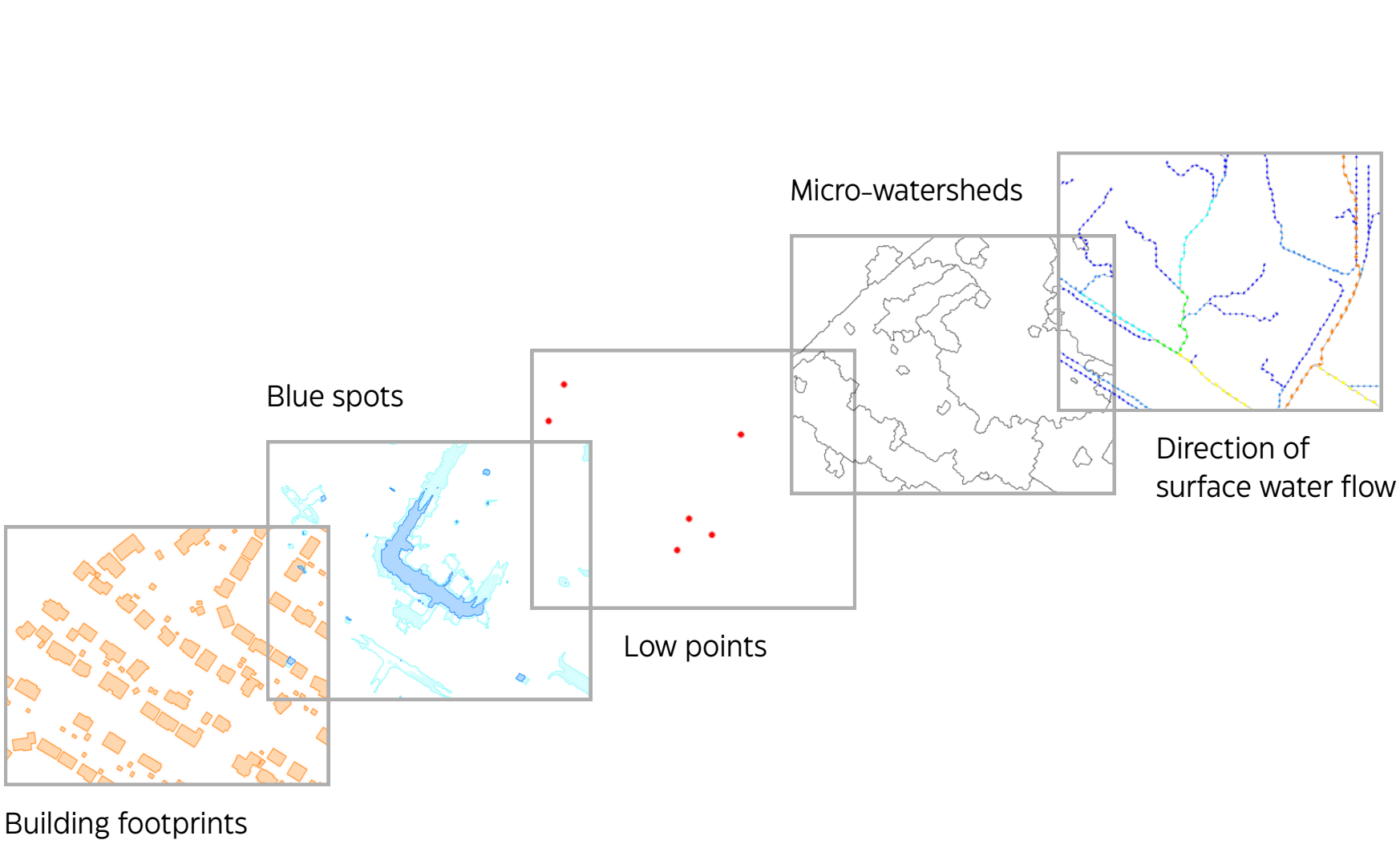


How are surface water flow and blue spots mapped?

- Surface water flow mapping is generated from high-precision LiDAR data, classified using XEOS's artificial intelligence;
- It is computed by simulating water movement across the terrain, considering topography and obstacles such as buildings;
- Flood-prone blue spot mapping assumes saturated soil, storm sewers, and culverts under 1.5 m in diameter are already at full capacity during heavy rainfall;
- Areas where water accumulates in pools deeper than 30 cm are identified as depressions.

What are the different XEOS map layers?





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Contact our specialists to obtain a map of your municipality.

xeosimaging.com

