



Showcasing Water Innovation

**Best Management Practices
Photo Journal**

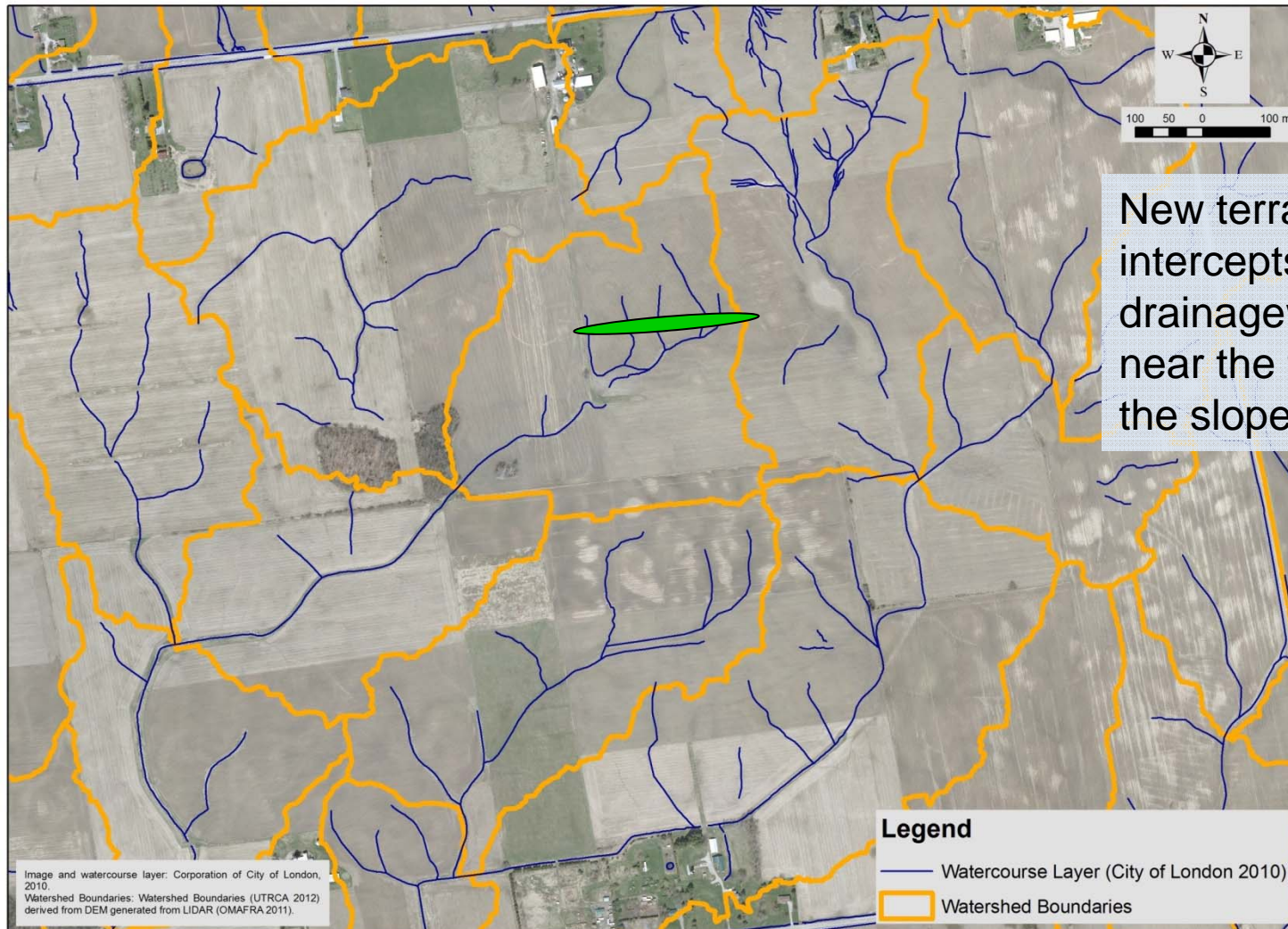
UPPER THAMES RIVER
CONSERVATION AUTHORITY

An aerial photograph of a field terrace, showing a grid of circular terracing structures. The structures are arranged in a regular pattern, with each structure consisting of several concentric rings. The ground between the rings is a light brown color, while the rings themselves are a darker, more textured brown. The overall appearance is that of a well-organized agricultural landscape. The text "Site 1: Field Terrace" is overlaid in the center of the image.

Site 1: Field Terrace

Site 1: Aerial View of Terrace Location

Watershed Boundaries Derived from DEM generated from LIDAR



New terrace intercepts five drainageways near the top of the slope.

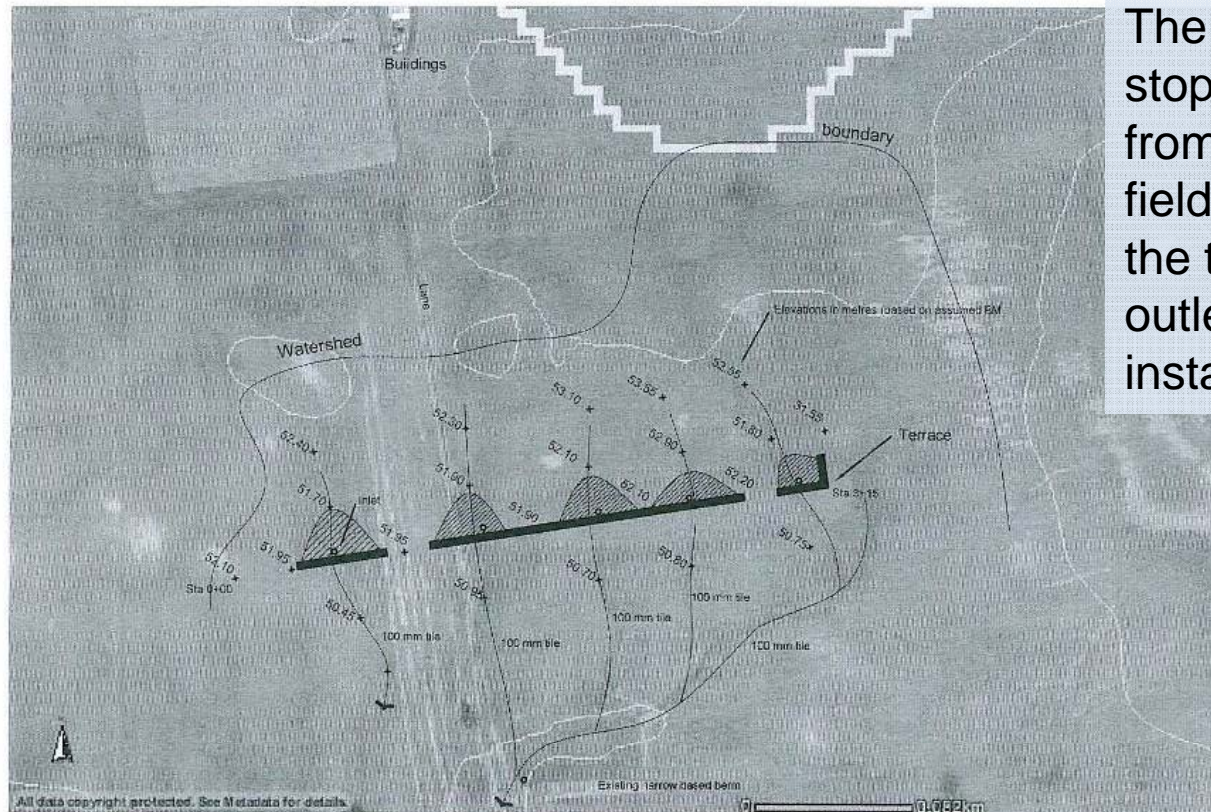
Image and watercourse layer: Corporation of City of London, 2010.
Watershed Boundaries: Watershed Boundaries (UTRCA 2012) derived from DEM generated from LIDAR (OMAFRA 2011).

Site 1: Before (Upslope)



Surface erosion
from side slopes
on this farm field.

Site 1: Site Plan



The long terraces stop surface runoff from eroding the field downslope of the terrace. Five outlets pipes were installed.

Notes:
 This plan is designed to address erosion on the property. A single terrace is proposed as the solution. A broad-based or narrow based tie-out terrace may be considered.
 The project meets Clean Water Program specifications.
 Approval must be acquired from the local municipality where any erosion control works are to be located in or around municipal drainage works.

Project
 Erosion Control Plan
 Plan View
Location
 G McPherson Farm
 City of London

UPPER THAMES RIVER
CONSERVATION AUTHORITY
 1424 Clarke Road, London, Ontario N5V 5B9
 Contact: B Gasman

Date: May 2011
 Sheet: 2 of 2

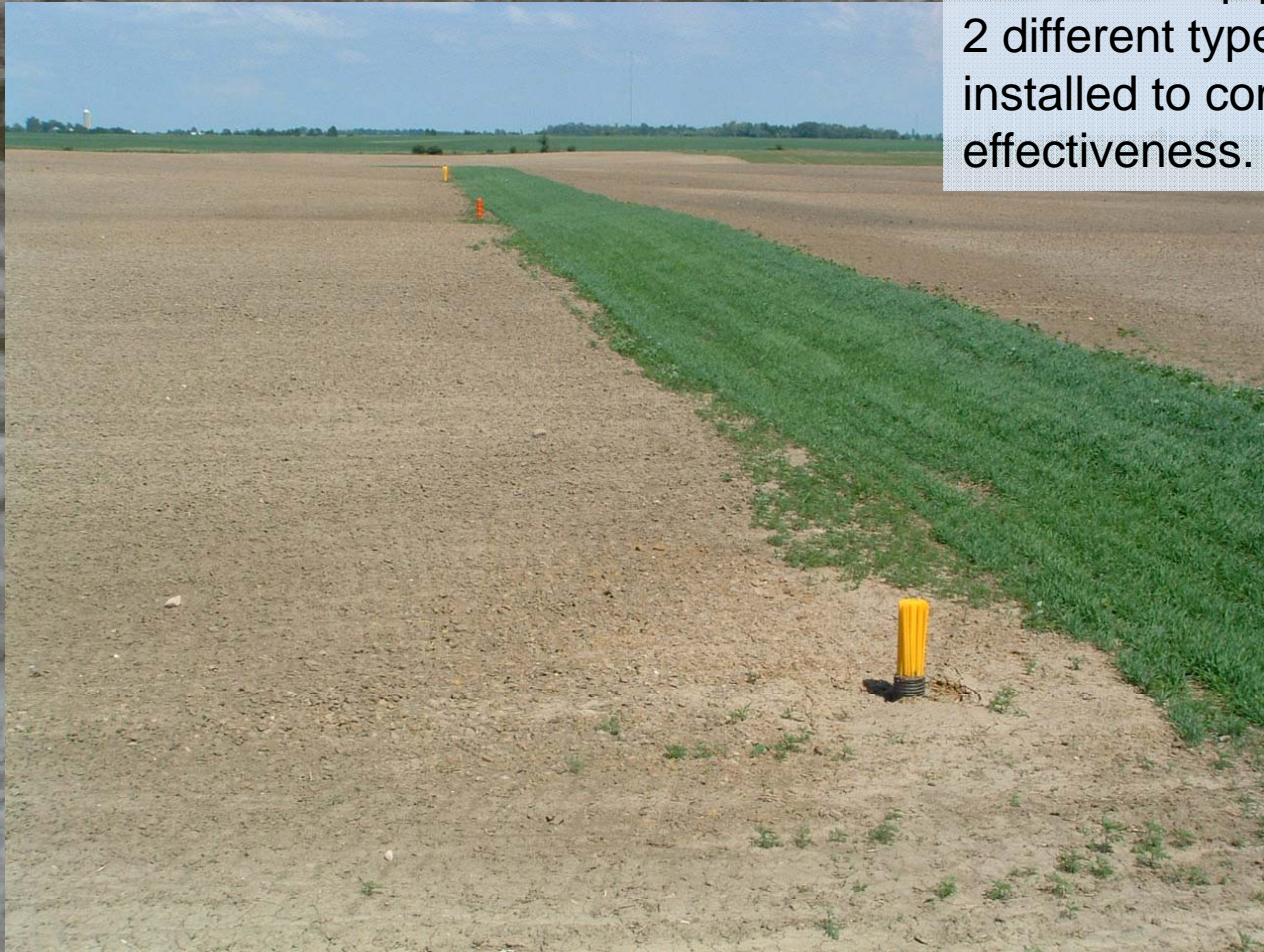


Plan View

Notes: Existing laneway will need to be incorporated into berm construction.

Site 1: After

Outlet standpipes –
2 different types were
installed to compare
effectiveness.



Site 1: After

Storm water is ponded behind the new terrace. Yellow standpipe drains water to subsurface tile.

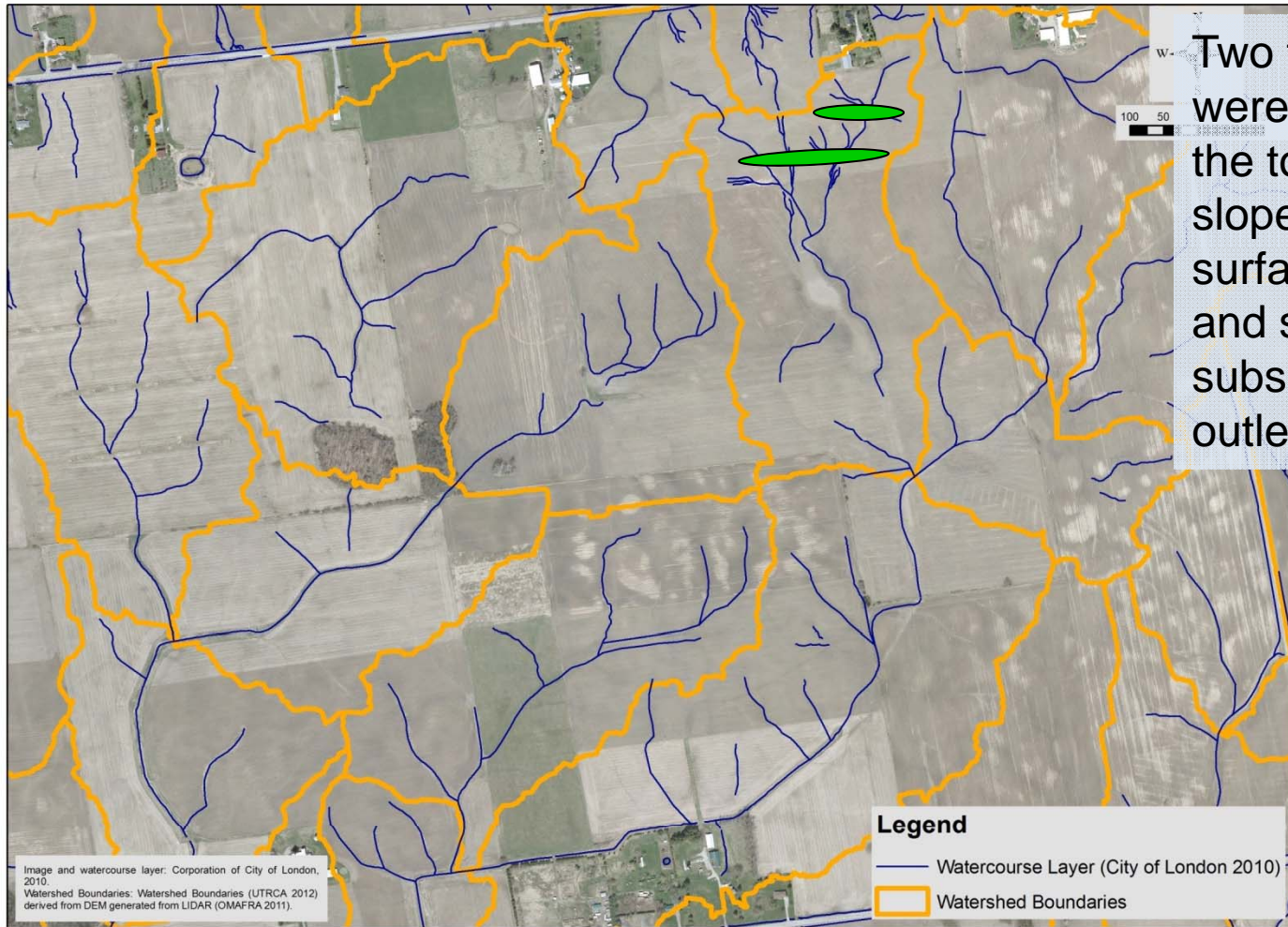


An aerial photograph showing a series of concentric circular terraces in a field. The terraces are arranged in a roughly circular pattern, with each terrace being a slightly higher or lower level than the one it surrounds. The ground between the terraces is covered with sparse vegetation, and the overall appearance is that of a well-maintained agricultural site. The text "Site 2: Field Terrace Sequence" is overlaid in the center of the image.

Site 2: Field Terrace Sequence

Site 2: Aerial View of Terrace Locations

Watershed Boundaries Derived from DEM generated from LIDAR



Two terraces were installed at the top of the slope to intercept surface runoff and send it to a subsurface tile outlet.

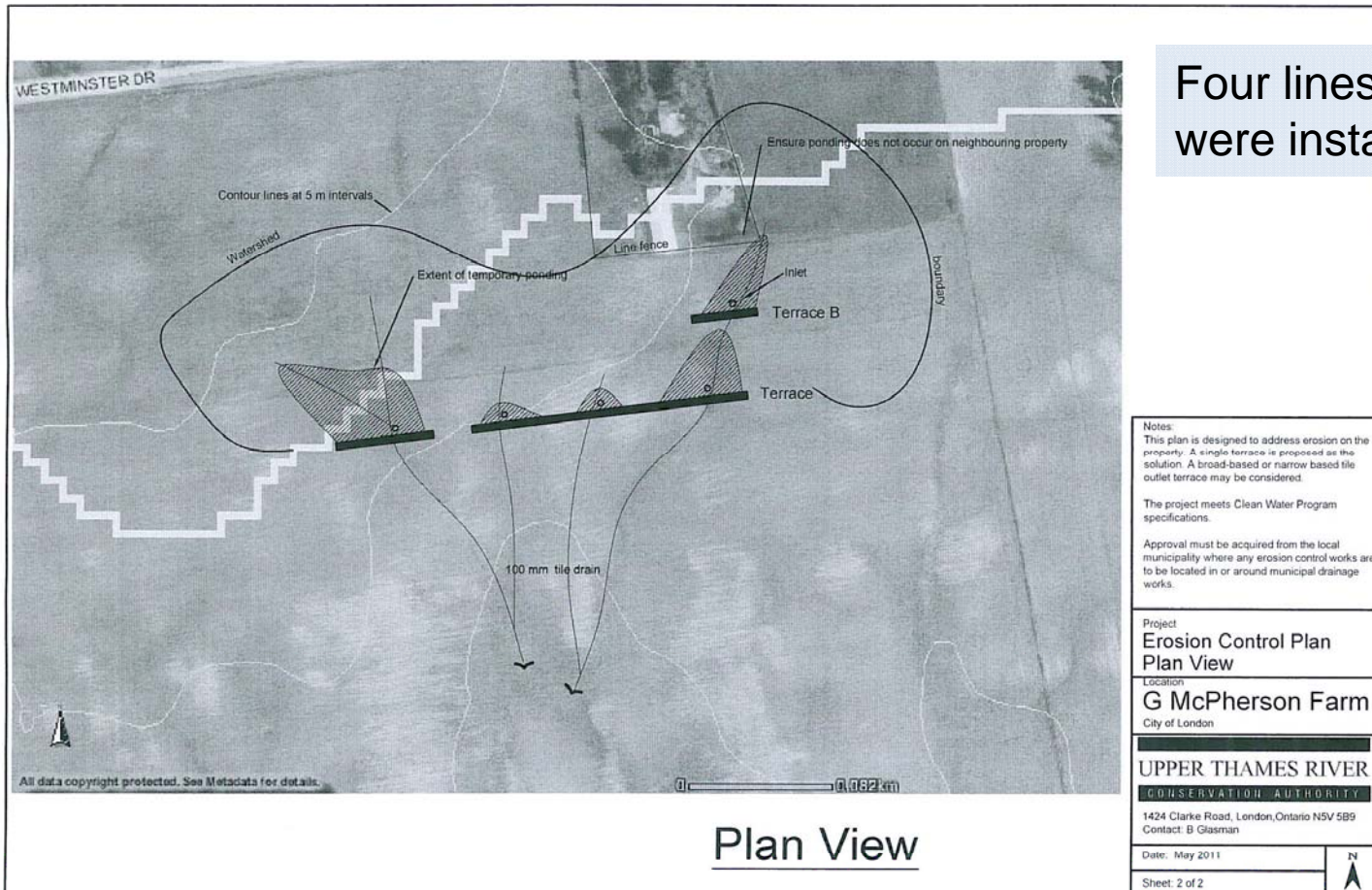
Site 2: Before (Field Cut and Soil Loss)



The landowner planted a cover crop in the eroded area in an unsuccessful attempt to slow surface runoff and gully erosion.



Site 2: Site Plan



Four lines of tile were installed.

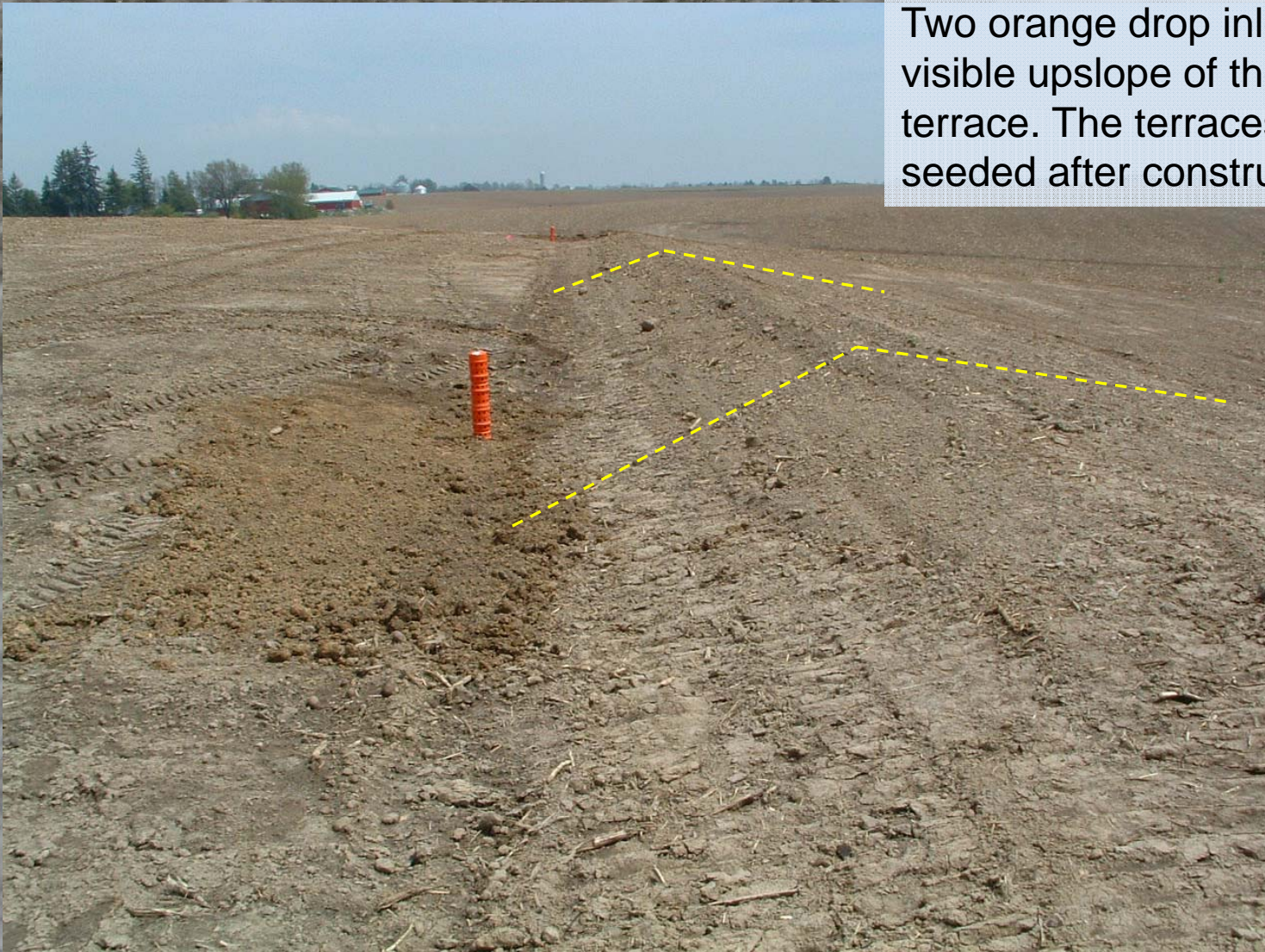
Site 2: Tile Installation

Plastic 4" tile was installed to provide an outlet for the water ponded by the new terraces.



Site 2: Construction

Two orange drop inlets are visible upslope of the terrace. The terraces were seeded after construction.



Site 2: After

Looking west: Water ponds behind the terraces and is drained away over a 24 hour period.



Site 2: After

Looking east after a winter rainfall event:
The terrace is designed to force overflow water into the next inlet.



An aerial photograph of an agricultural berm, showing a grid of circular features. The features are arranged in a regular pattern, with some larger and more prominent than others. The overall appearance is that of a well-maintained agricultural site. The text "Site 3: Agricultural Berm" is overlaid in the center of the image.

Site 3: Agricultural Berm

Site 3: Before (Upslope)



Surface sheet erosion
upslope of the new berm.

Site 3: Before (Downslope)



Concentrated flows
downslope cut a
gully in the field.

Site 3: Construction



Top soil is stripped back to construct the new berm with subsoil. Top soil will be pushed back onto the new berm.

Site 3: After



New berm is seeded.
Soil is trapped
upslope of the berm
during heavy rainfall
events.



Site 4: Bunker Silo Runoff Treatment
System

Site 4: Before



Runoff from the bunker silos and manure storage area runs out into adjacent cropped field.

Site 4: Before

Runoff moves down the slope beside the buildings.



Site 4: Construction

Runoff treatment system is constructed by stripping soil and creating a ponding area and grassed waterway with a unique phosphorus treatment system made of slag.



Site 4: Treatment of Phosphorus

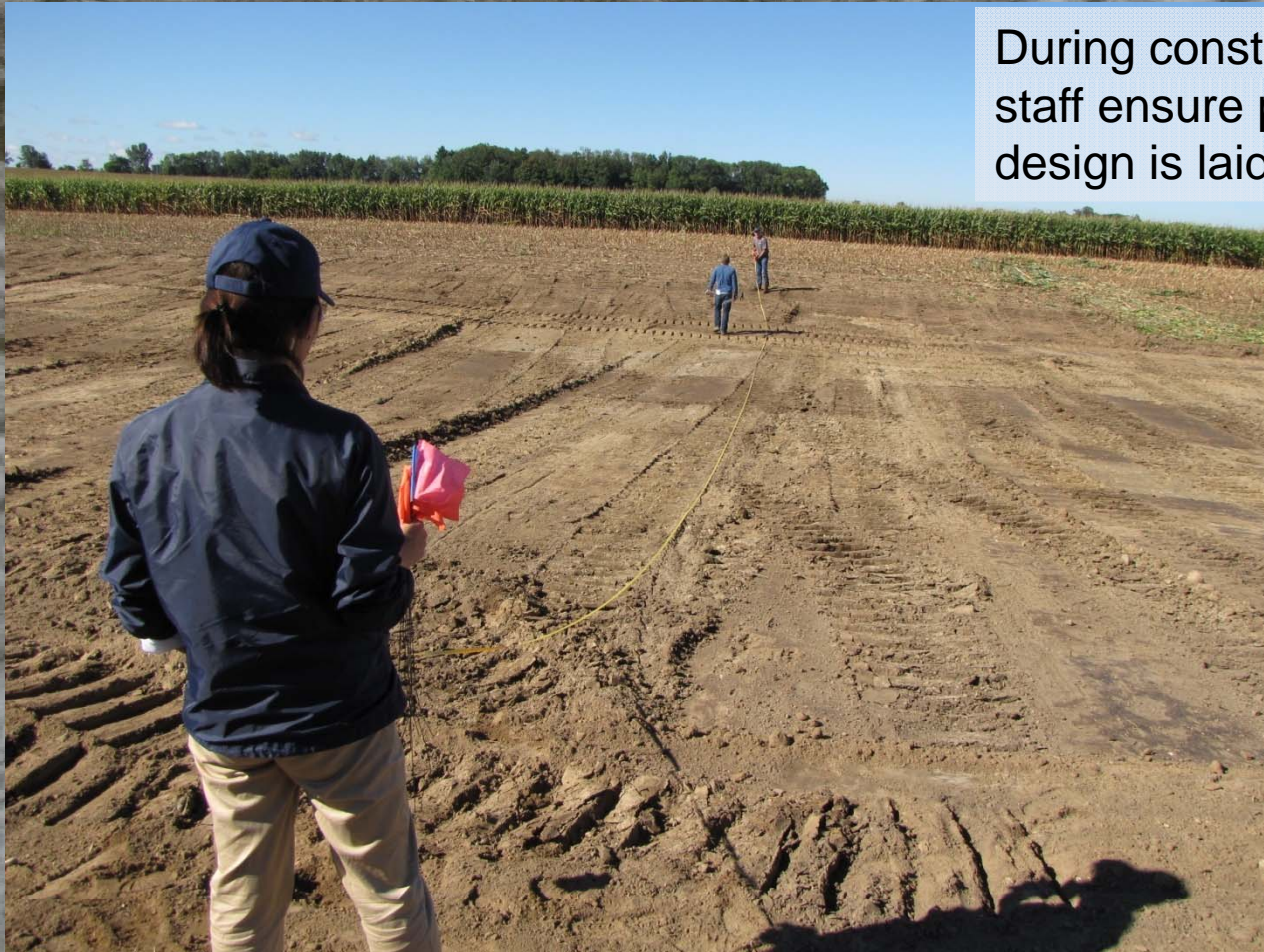


Slag is used to 'bind' the phosphorus in the contaminated runoff. A trench full of slag will be installed at the top end of the grassed waterway.



Site 4: Construction

During construction, staff ensure proper design is laid out.



Site 4: Construction

Proper grades are important to ensure runoff is contained and treated.



A black and white photograph of water with many ripples from raindrops. The ripples are concentric circles of varying sizes, creating a dense, textured pattern across the entire frame. The lighting is soft, highlighting the peaks and troughs of the water's surface.

Site 5: Farm Storm Water Management

Site 5: After

Berm traps surface runoff from storm events and snow melt.

