Mobile Construction Inspection and Data Collection App

OnStation

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Wisconsin Asphalt Pavement Association Conference
Wisc. Dells

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Agenda

- Overview of OnStation
- Problem Solving
- Safety
- Communication
- Improving accuracy
- Looking at the OnStation App and Tools
- WisDOT feedback
- WisDOT outlook
- Takes Aways
- Questions

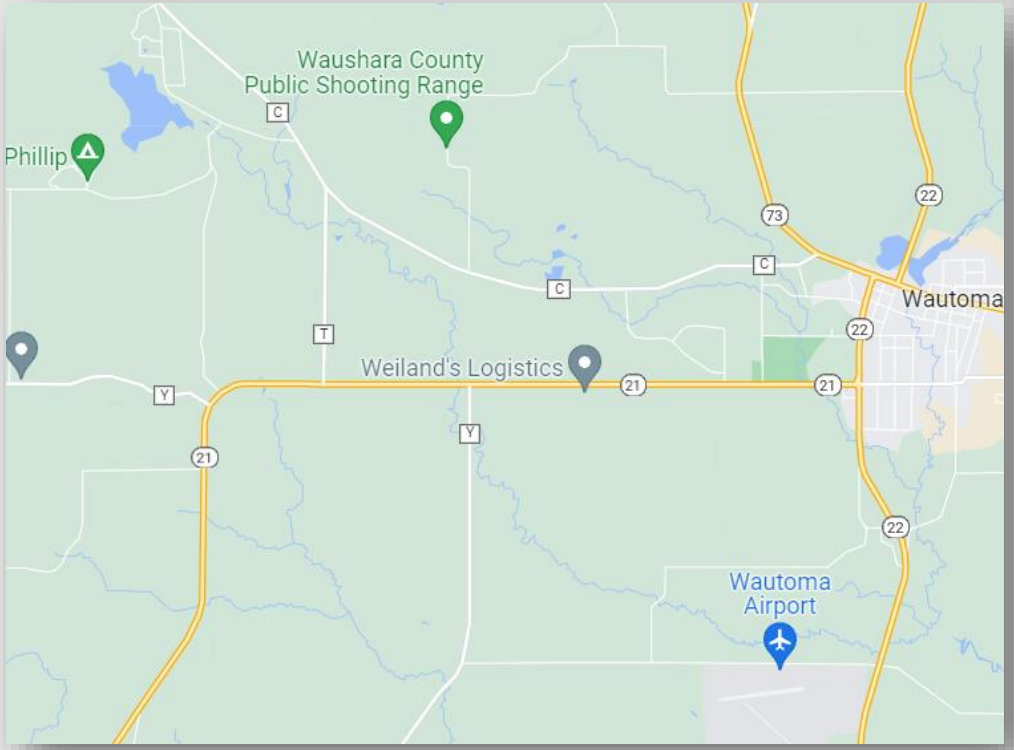
OnStation Mobile App

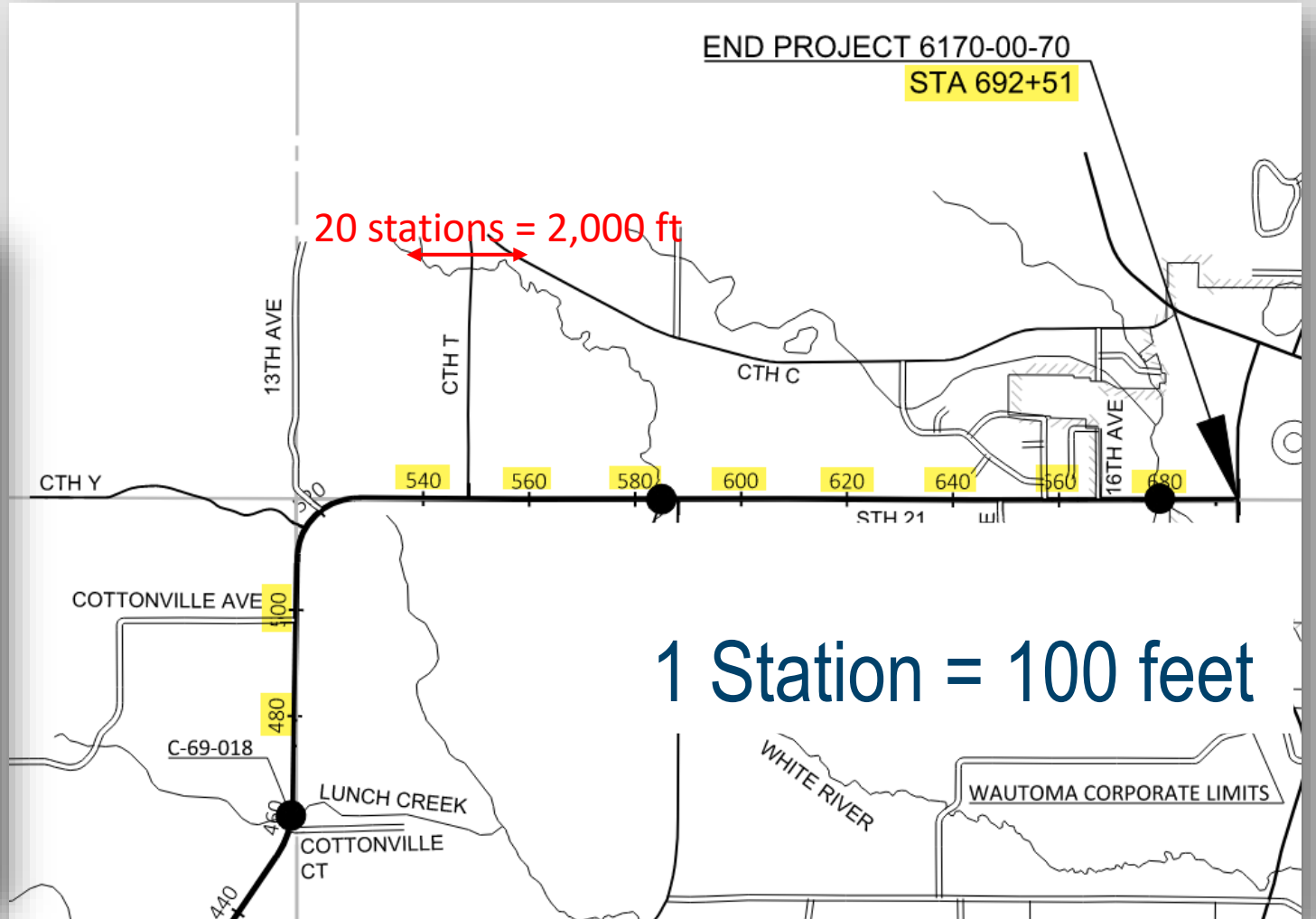
Digital Station Tool

- Utilizes phone-based GPS to give real time on project location
  - Compatible with any type of Apple or Android mobile device
  - iPhone, iPad, Samsung, Motorola, Google

OnStation App

What is Stationing?





What is Stationing?

WISCONSIN DEPARTMENT OF TRANSPORTATION

Station Finder

Active GPS tracking allows you to view your current location.

5ft Accuracy

Factors that affect GPS accuracy are categorized into three portions; position of satellites, features of GPS receivers, and the signal effect from surrounding environment.

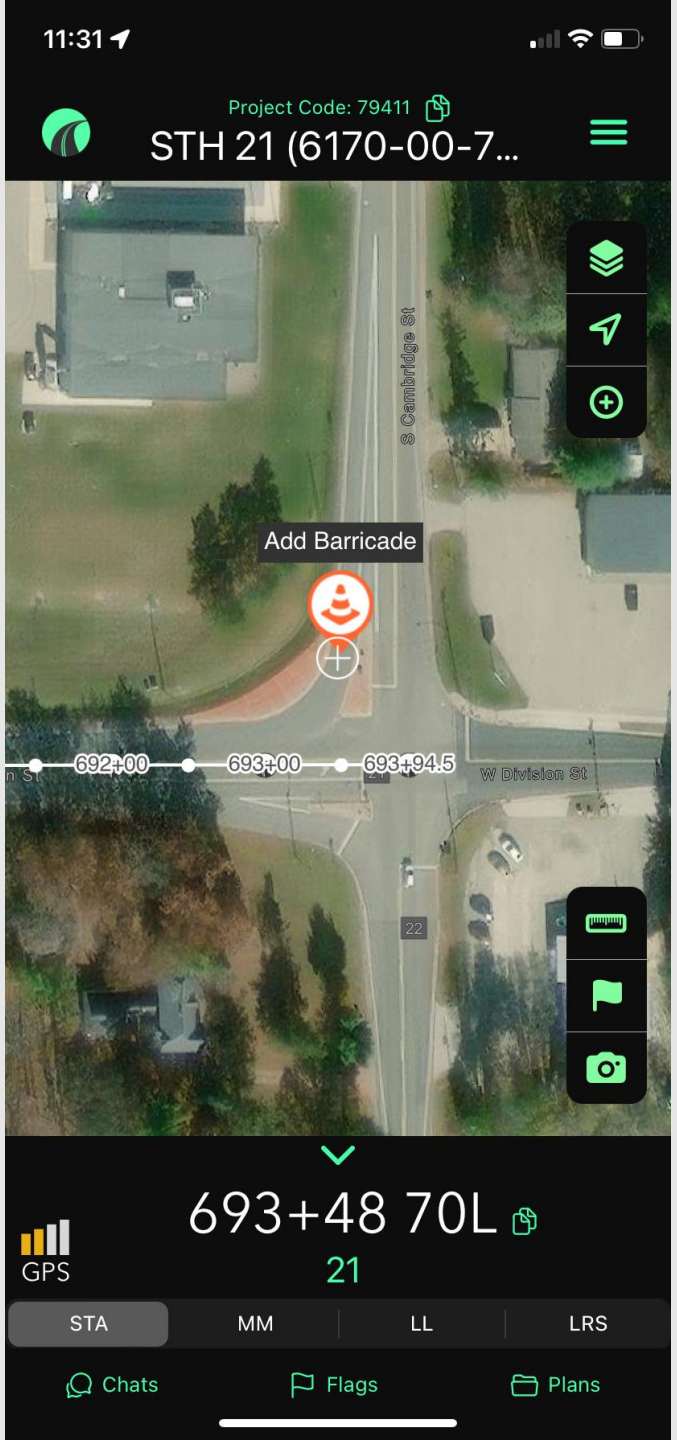
Station Reading

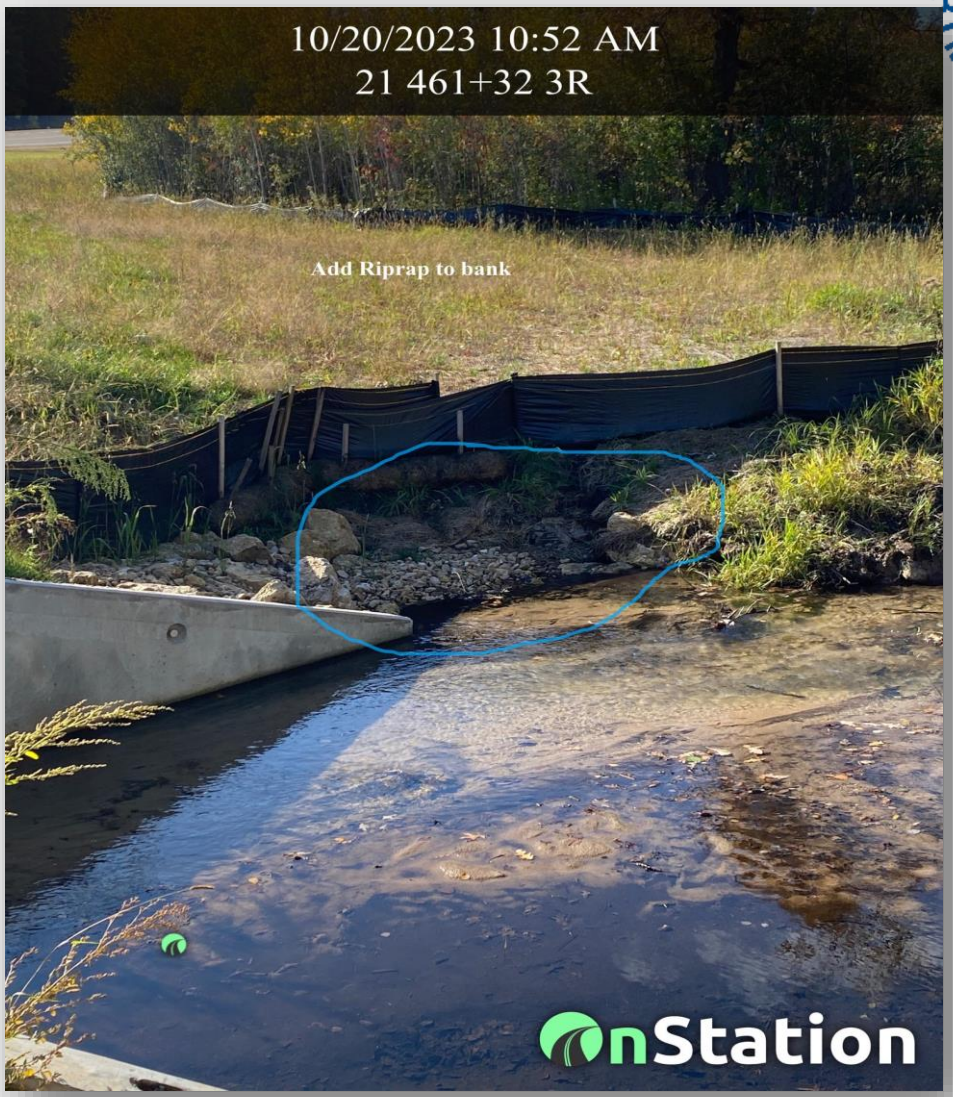
+98

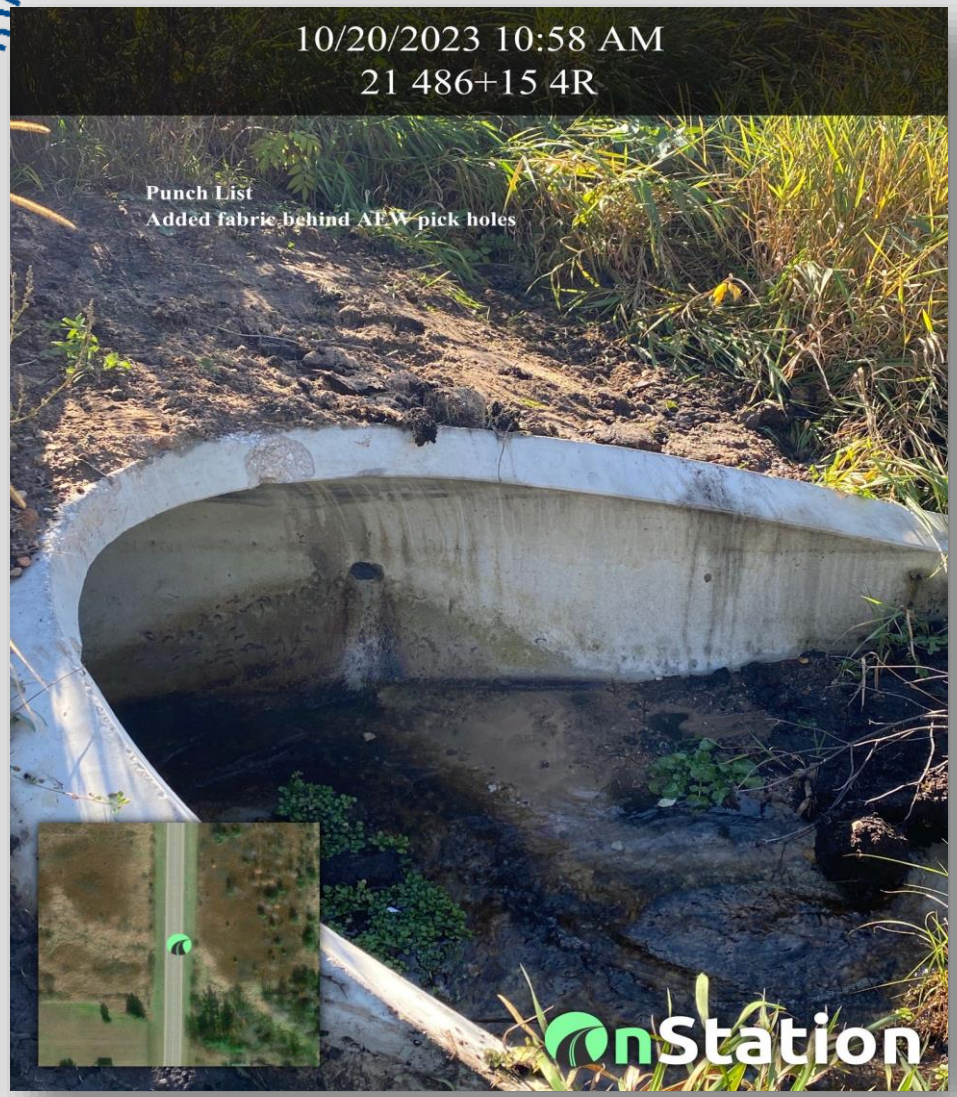
A station is the horizontal measurement along the Survey Center Line of a project. One hundred feet make up a Highway Station.

OnStation App
Collaboration

- Tags can be shared between all users
  - Traffic Control Modifications
  - Photos of issues
  - Punchlist locations
- Improved Communication
  - Reduces redundant data collection by sharing data across team




10/20/2023 10:52 AM
21 461+32 3R
Add Riprap to bank
OnStation


10/20/2023 10:58 AM
21 486+15 4R
Punch List
Added fabric behind AEW pick holes
OnStation

Problem Solving

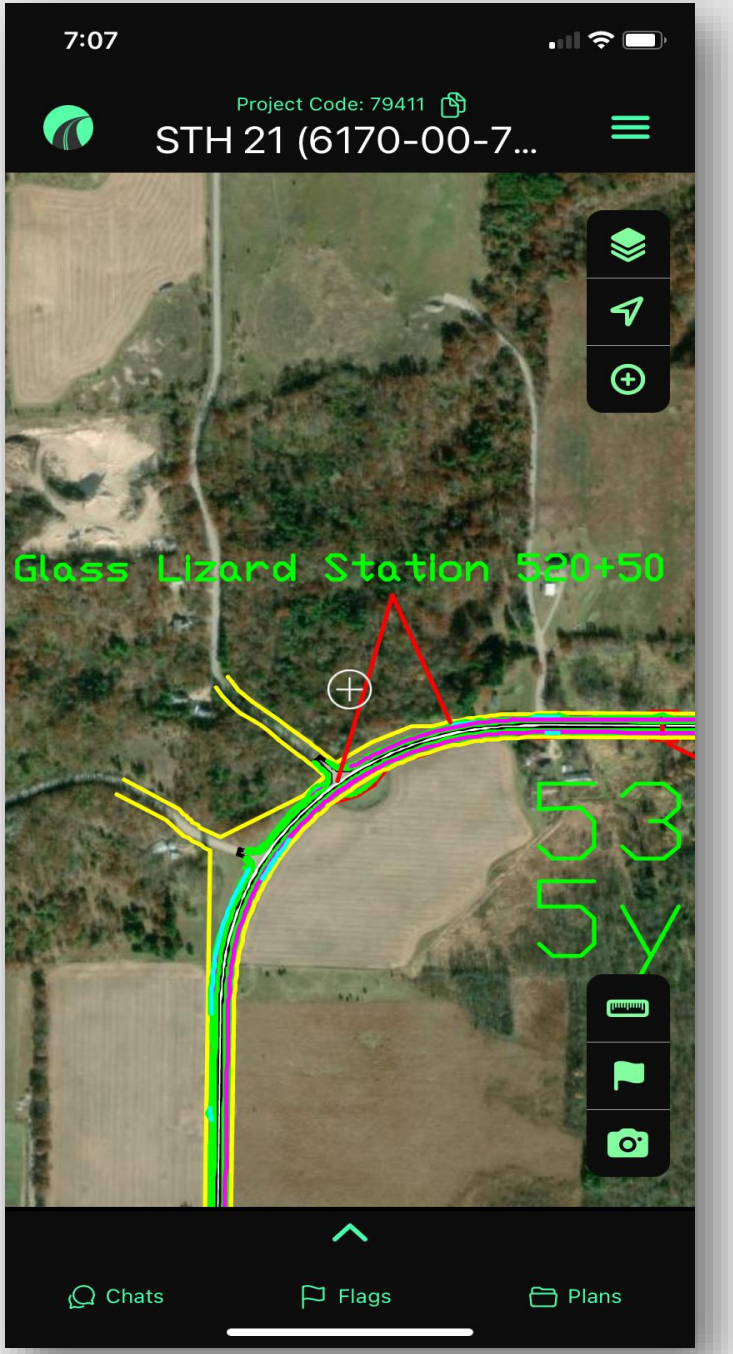
- Environmental Restrictions

Slender Glass Lizard

Suitable habitat for the Slender Glass Lizard exists within the project area at the following locations:

- Station 520+50 – Station 525+00 LT
- Station 575+00 – Station 582+50 RT
- Station 579+00 – Station 582+50 LT
- Station 637+00 – Station 640+50 RT

Utilize amphibian and reptile exclusion fencing protocols and mowing to avoid impacts to the Slender Glass Lizard. Mowing needs to begin during the inactive season (September 16 - April 31). No ground disturbing activities should occur in these areas until after May 1. Install fencing after May 1, prior to any ground disturbing activities, and mow the area between the fence and the grading areas once per week as shown in the plans and according to SPV.0060.02. Fencing should remain in place until the final stabilization of graded areas. If erosion mat is required in these locations, install an urban, non-knotted erosion mat.

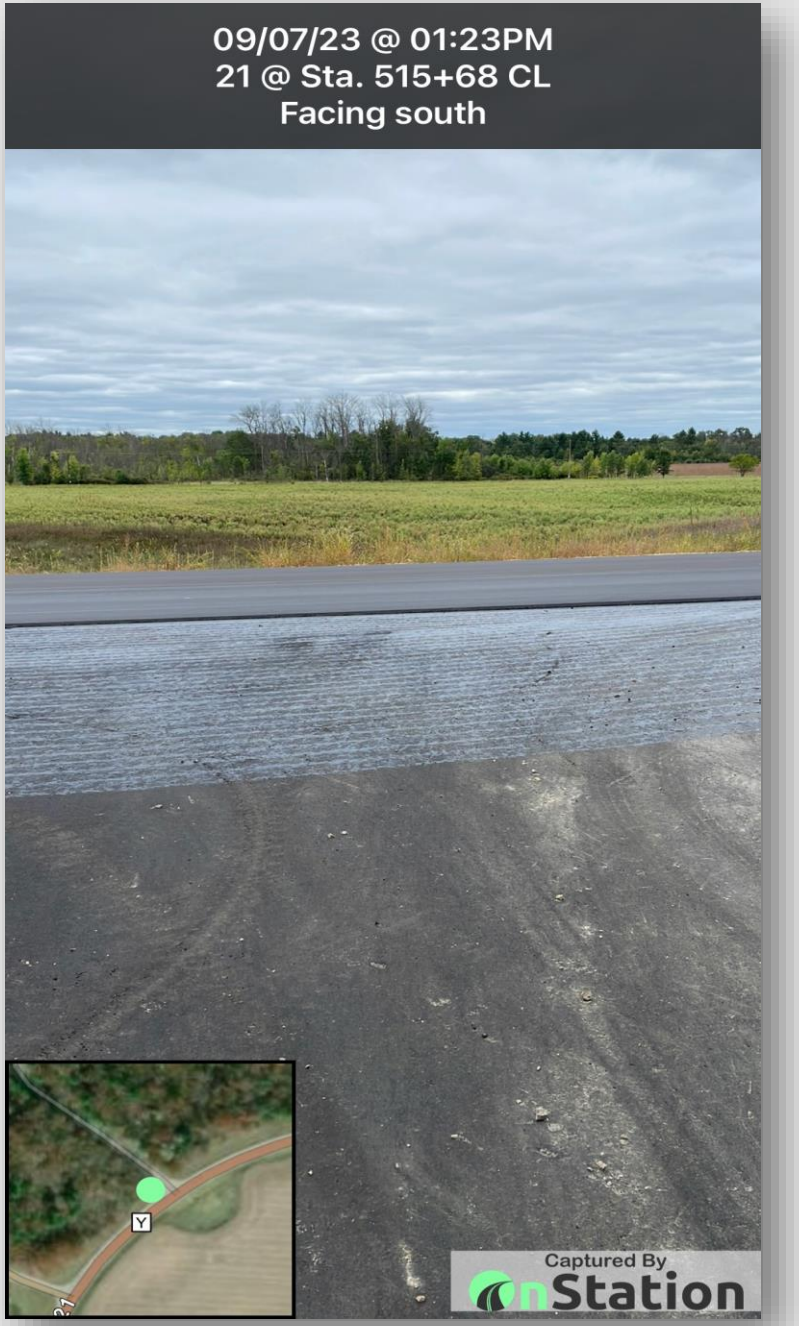


Safety Enhancements

- Mobile App reduces exposure time to heavy equipment by expediting location reference, measurements, and tags
- Nighttime Construction
  - Within 5-foot horizontal accuracy
  - Daily paving limits or QC/QV test locations

Improved Communication

- Contractor Coordination
  - Erosion control maintenance items
  - Punchlist locations
  - Issues to be reviewed or watched
- Reduces redundant data collection by sharing data across team



Opportunity for Improved Accuracy

- Tool enables GNSS Capabilities
- Explore ties to WisCORS

OnStation App		w/ GNSS		GPS - TRIMBLE	
STA	OFFSET	STA	OFFSET	STA	OFFSET
5+97	14 R	6+00	1 R	6+00	0
6+91	7 R	7+00	12 R	7+00	11.8 R
7+99	15 L	8+01	21 L	8+00	21.4 L
8+99	22 R	9+00	22 R	9+00	22.3 R
9+89	16 R	9+99	23 R	10+00	22.3 R
10+94	13 R	11+00	21 R	11+00	20.3 R
234+07	14 R	234+05	16 R	234+00	16.0 R
234+95	10 R	234+99	18 R	235+00	20.0 R
235+93	15 R	236+00	20 R	236+00	20.0 R
236+86	36 R	237+00	17 R	237+00	19.0 R
237+95	17 R	237+99	19 R	238+00	20.0 R
238+89	16 R	238+90	21 R	239+00	20.0 R

OnStation Demo

While we switch over to App

- Any questions or comments
  - Have you used OnStation
  - Useful Tool?
  - Issues?

WisDOT Feedback

- What does WisDOT use OnStation for
  1. Project location (General Location Only)
  2. Collaboration
  3. Photos
- Benefits
  - Finding where you are on the project
  - Time savings
  - Better communication
  - Less costly alternative to determine estimated location

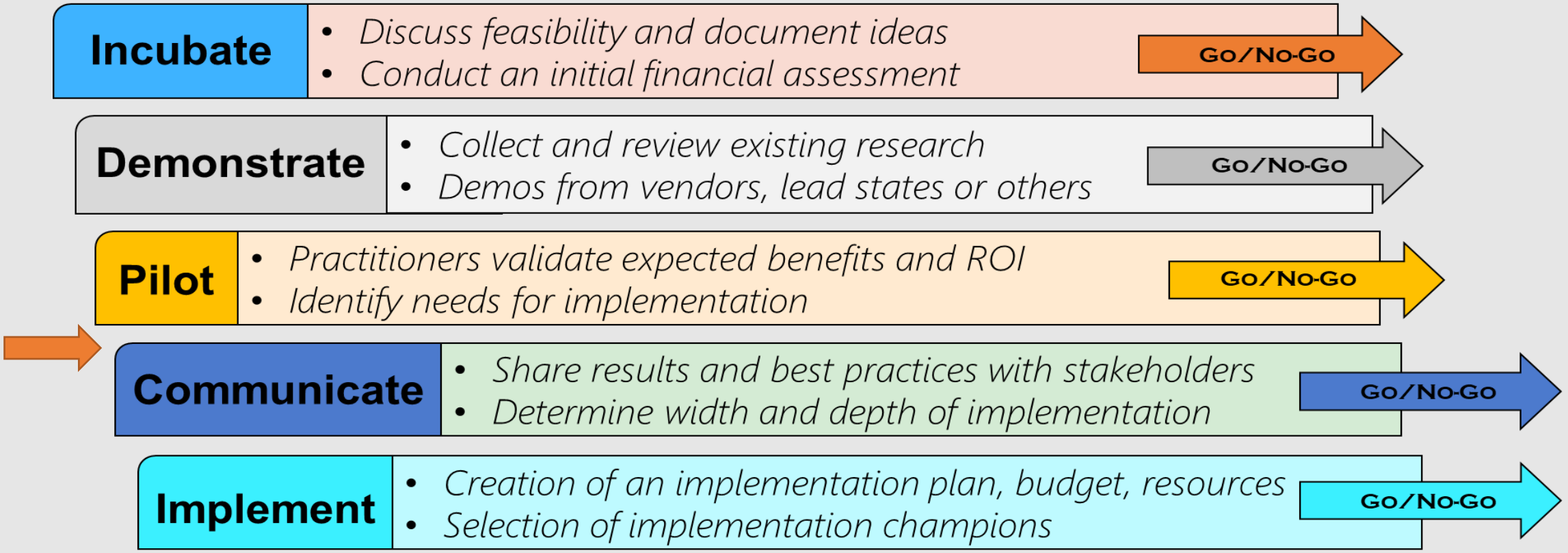
WisDOT Feedback

- WisDOT concerns with use of OnStation
  - Accuracy
  - Consistency of Accuracy
  - Wi-Fi Connection
  - Blurry Images

WisDOT Outlook

- Will continue to evaluate the use of OnStation and other similar tools
- Will continue to use and expand the use of OnStation on projects
- Plan to define what OnStation can and will not be used for
- Reviewing renewal and procurement of OnStation licenses
- 5 Steps to Innovation

5 Steps to Innovation



Take Aways

- WisDOT and partners have seen benefits with the use of OnStation.
  - General Project Location
  - Project Collaboration
    - Punchlist items
    - Photos
    - Visual representation of the project
    - Layer capability
    - Real time collaboration

Open Discussion and Closeout

- Any questions & comments

Thank You