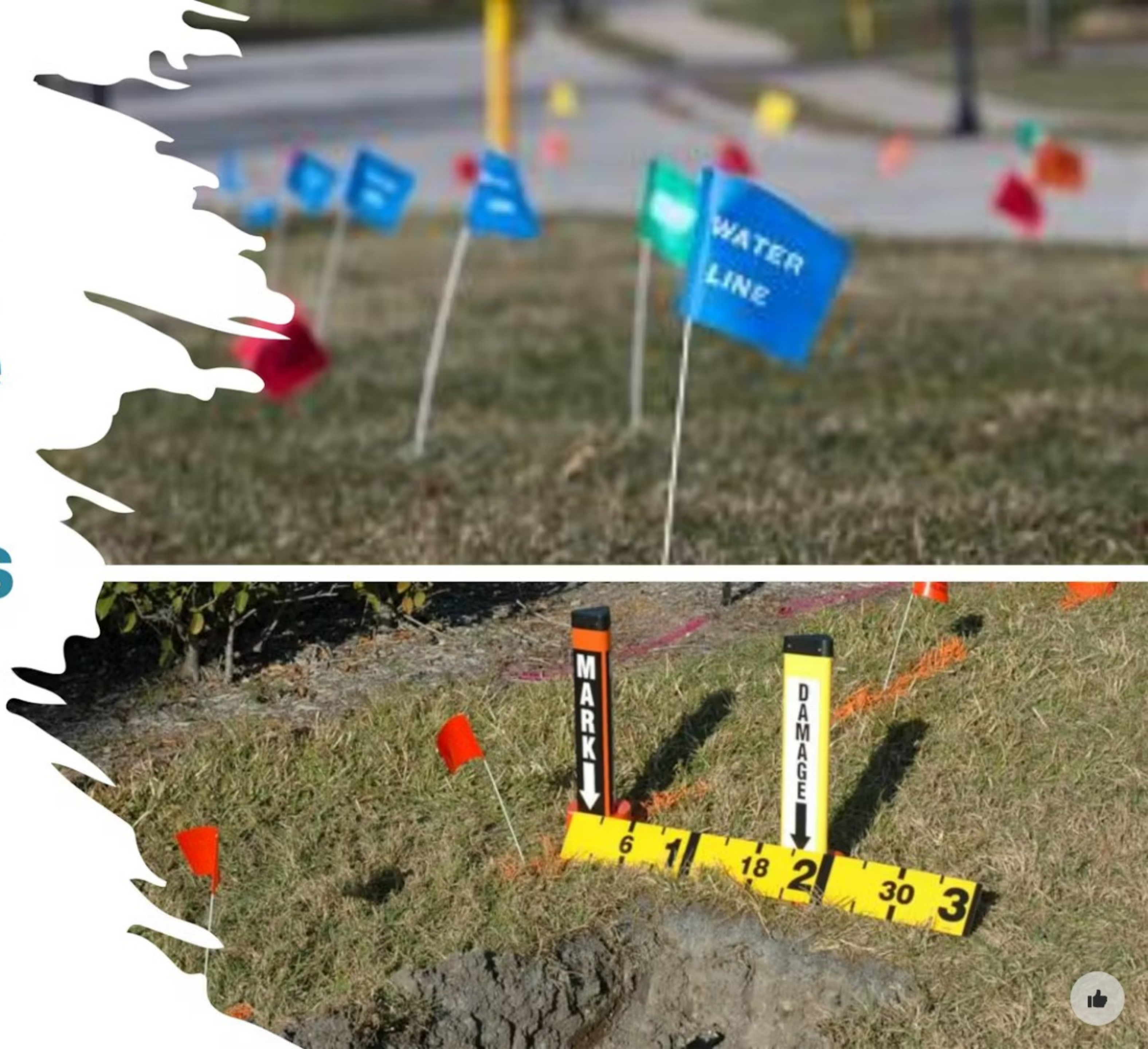




Collaborating to Reduce the Number of Refresh Marks

- **Kenny Franklin**, Parsons
- **Aaron Day**, StructurePoint



Instructions



Who is with us in the room today?



What are your biggest challenges in marking utilities timely, accurately, and comprehensively?

Capacity

USIC

Getting media marked

Timely

Marking the project

Accuracy

marking it correctly

Too many tickets

What are your biggest challenges in marking utilities timely, accurately, and comprehensively?

811 locators not locating

USIC

Getting them to show up

Getting locates in a timely manner.

Too many tickets for amount of staff

Capacity

Fiber companies not responding

Time

What are your biggest challenges in marking utilities timely, accurately, and comprehensively?

Large volumes of tickets at once

Too many utilities to locate

size of locating projects

Staff

Positive response not updated

Too many tickets

Getting locators to show up in a timely manner

Positive response

What are your biggest challenges in marking utilities timely, accurately, and comprehensively?

Giving or receiveing accurate information

Showing up in a timely manner

Not all Utility Co's are members with IN-811.

Getting the companies to locate

Getting them scheduled,

Resubmitting due to missing marks

Address descriptions

Being overwhelmed by contractors calling in too much or continuing call ins after work is complete

What are your biggest challenges in marking utilities timely, accurately, and comprehensively?

Footage not needed but the whole project is called in.

Capacity

Performing and positive response

Waste. Over burdened by requests not truly needed or project is complete.

Utilities not marking or not being located

Locates not being done.
No flags.

Timely

Unclear directions

What are the current requirements for refreshing locates on a construction site?

21 days

2 weeks

21 days

Every 21 days

14 days

20 days

Completed every 20 days

2 days

What are the current requirements for refreshing locates on a construction site?

20 days

2 weeks

Call for extension within 2 weeks

Every 21 days

21 days

20 days

Call two days prior to tickets expiring

7 days

What are the current requirements for refreshing locates on a construction site?

21

14 days

21 days

14 days

20 days

Must be done within 3 days of expire

21 days

21 days

What are the current requirements for refreshing locates on a construction site?

Recall before ticket expires to allow no gap

10 days

2 weeks

If disturbed, destroyed or work location changes

every

Somewhat



Some fun stats from the DIRT Report

As often as **56%** of the time, excavators cannot legally begin work on their planned start date as a result of late or no locates.

2,827 damages from instances where excavator dug on valid ticket after expiration.



42 Million

One-Call tickets annually

263,683,474

Notices

**Numbers to
make you
think!**

One Call Market price of

\$5,243,669,480

annually

20\$

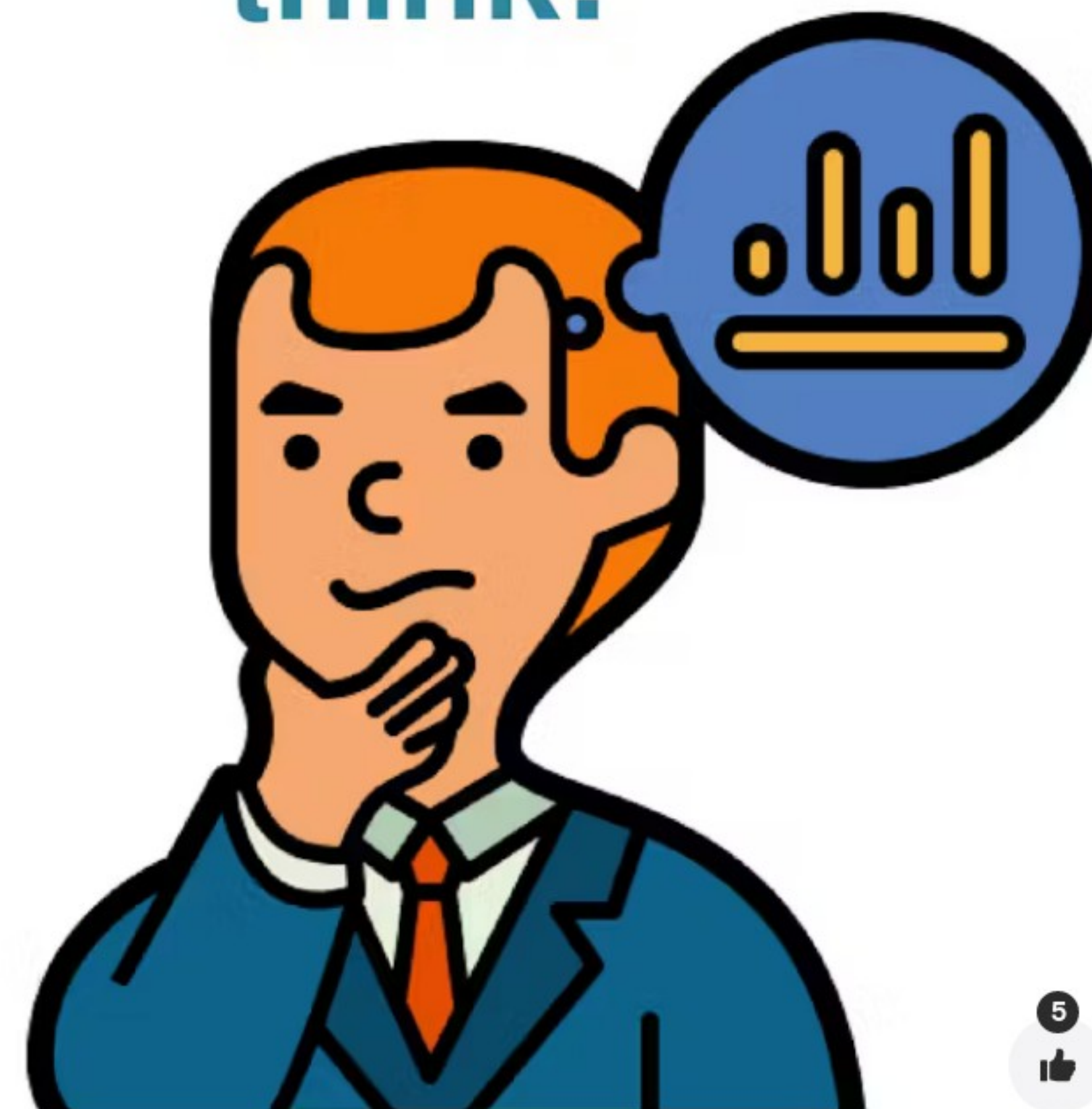
Average ticket price

40%

Of tickets are
refresh/remark

40%

Of tickets don't get
marked timely





How might we use new and improving technologies?



Technology is changing fast!



3

Underground communication pipeline

Confirmed with visual evidence - spray marks



Advanced Level Result

Visual evidence examples location:

- Electricity
- Water
- Sewer
- Communication
- Gas

Project Overview

EVLE Test 1 Rev1
Advanced Utility Research

Analytics

4 Utility Owners

No. of Utility Owners / Sector

Electricity	1	Energy	1
Water	1	Sewer	2

Analytics

Utility Line Length

Total	Underground	Aboveground
10.9mi	8.6mi	2.3mi

Utility Segmentation

Reclaimed Water	20 ft
Sewage	2.7 mi
Water	1.6 mi
Energy	3,405.6 ft
Communication	2.9 mi
Electricity	3.1 mi
Undetermined	175 ft

Total Detected Objects

653 Objects Detected

Objects Segmentation

Meter	35	Valve	90
Receptor	104	Pole	148
Manhole	233	Control Box	9
Hydrant	11	Undetermined	8
Pedestal	17		

Total Intersection Count

352 Utility Intersections

Standard Utility Research

Lighting Cables

Utility Sector: Electricity

Utility Owner: Snohomish County Public Utility Distric...

Elevation: Underground

Line Length: 1648 ft

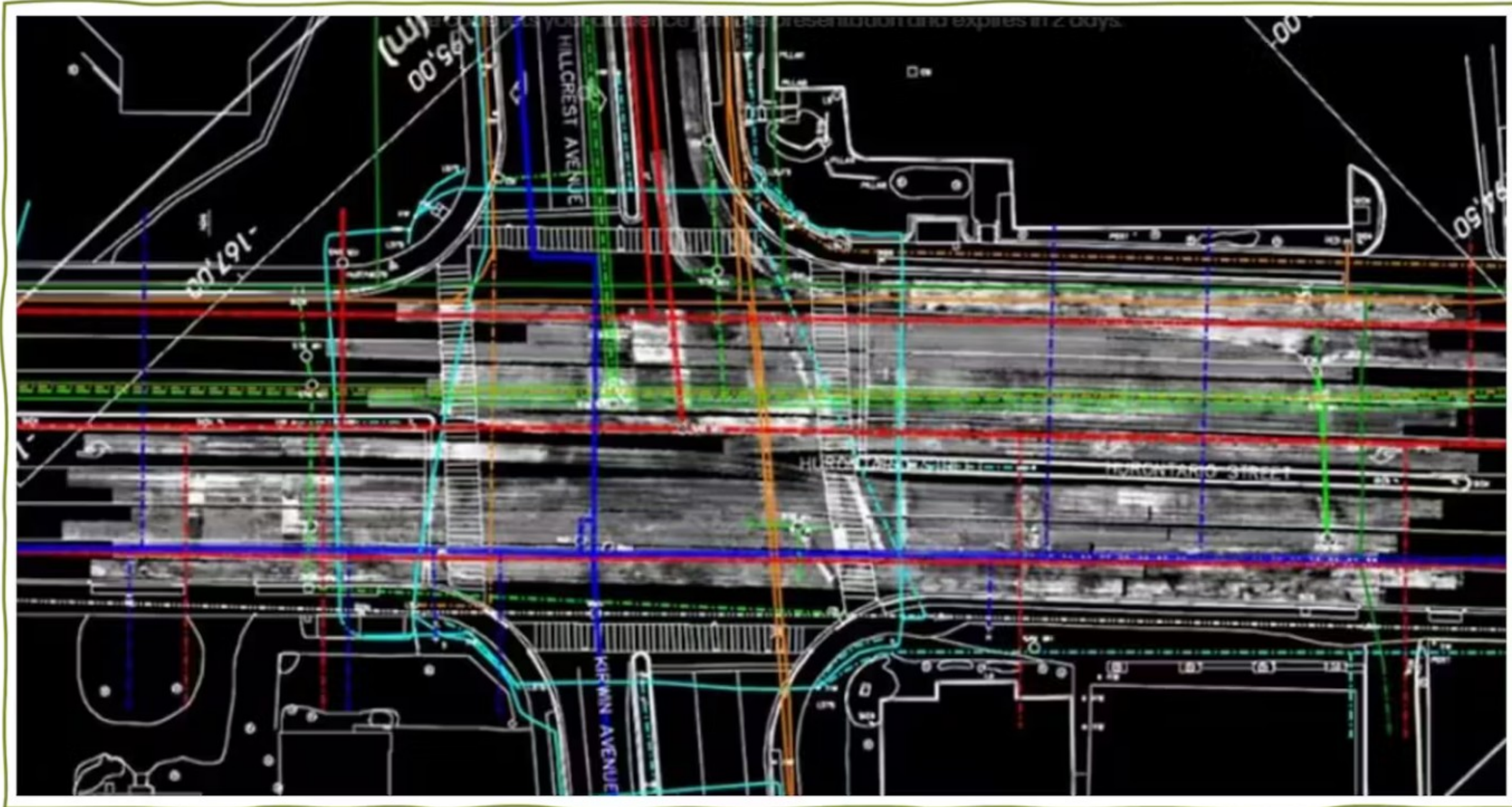
Download Project Files

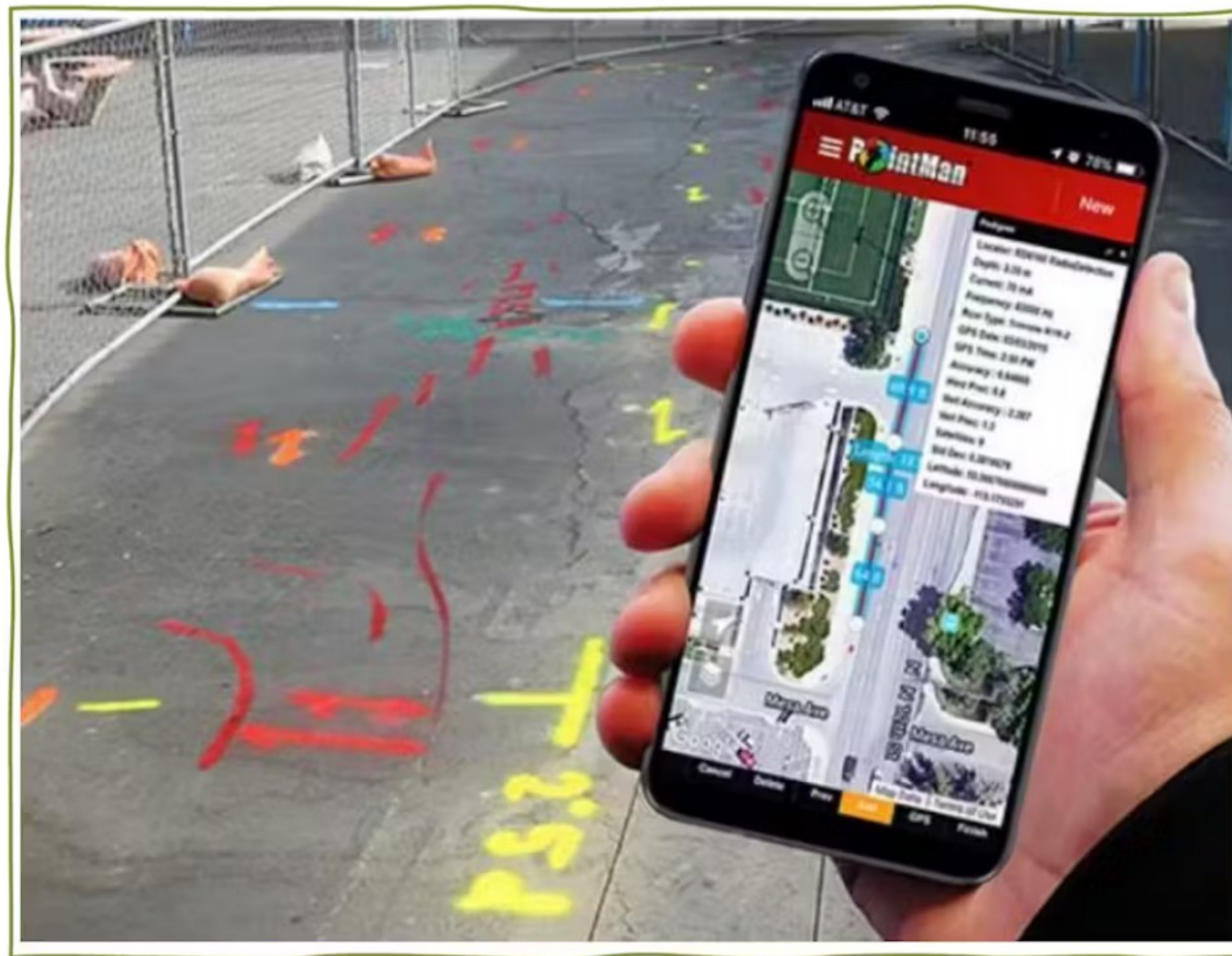
GIS Download GIS

CAD Download CAD Data

PDF Download PDF



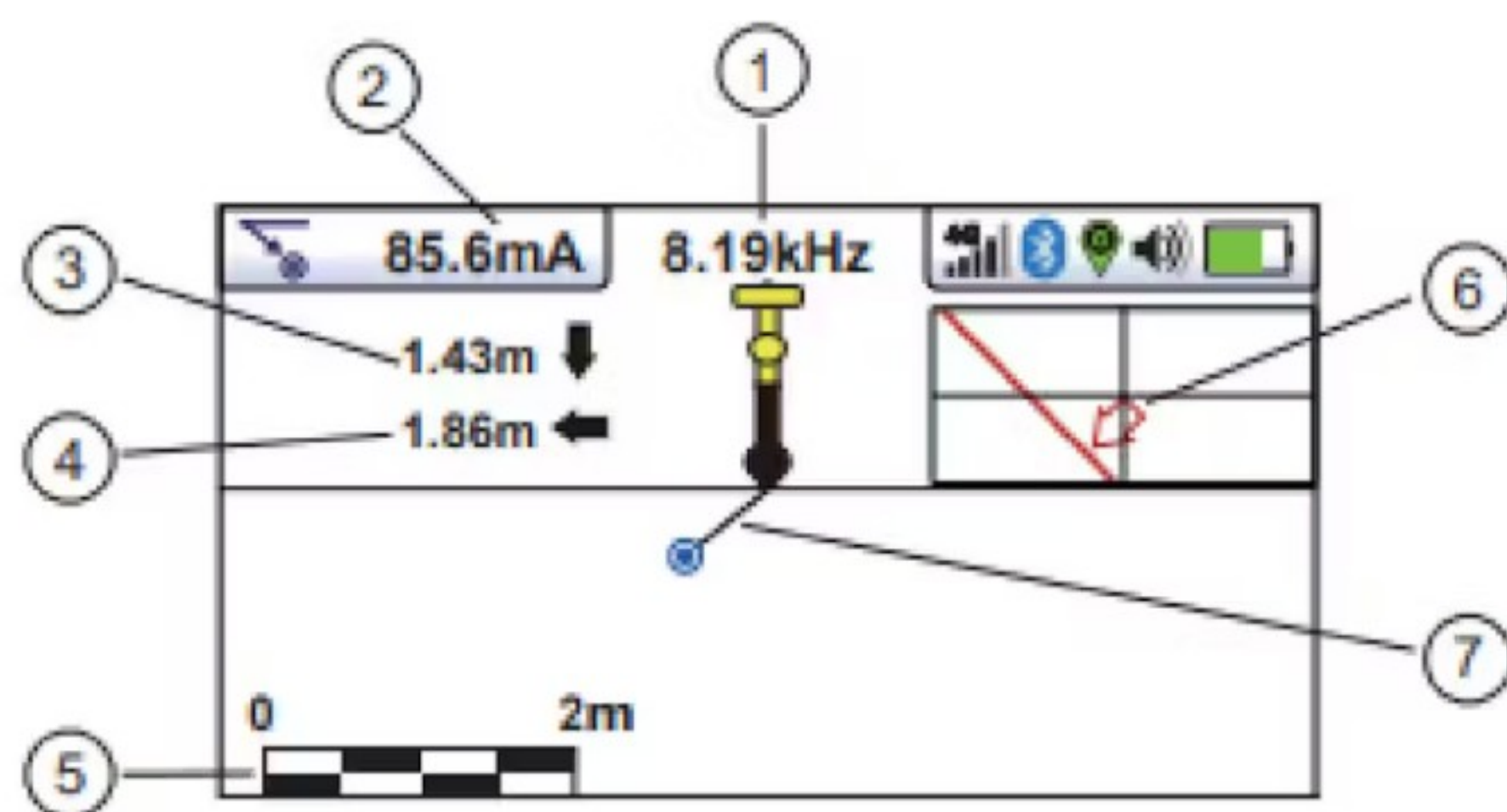






Improvements in Utility Locating & Data Collection

■ Pipe/Line Location Indicators



1	Frequency selected
2	Signal current
3	Depth to the target line
4	Horizontal distance to the target
5	Scaling (adjust with +/- keys)
6	Plan View of the target
7	Cross-section view that shows vectors to target

■ Distortion Indicators

Signal distortion indicators are shown on the receiver's screen



A green bar graph indicates clean locating conditions with very low distortion



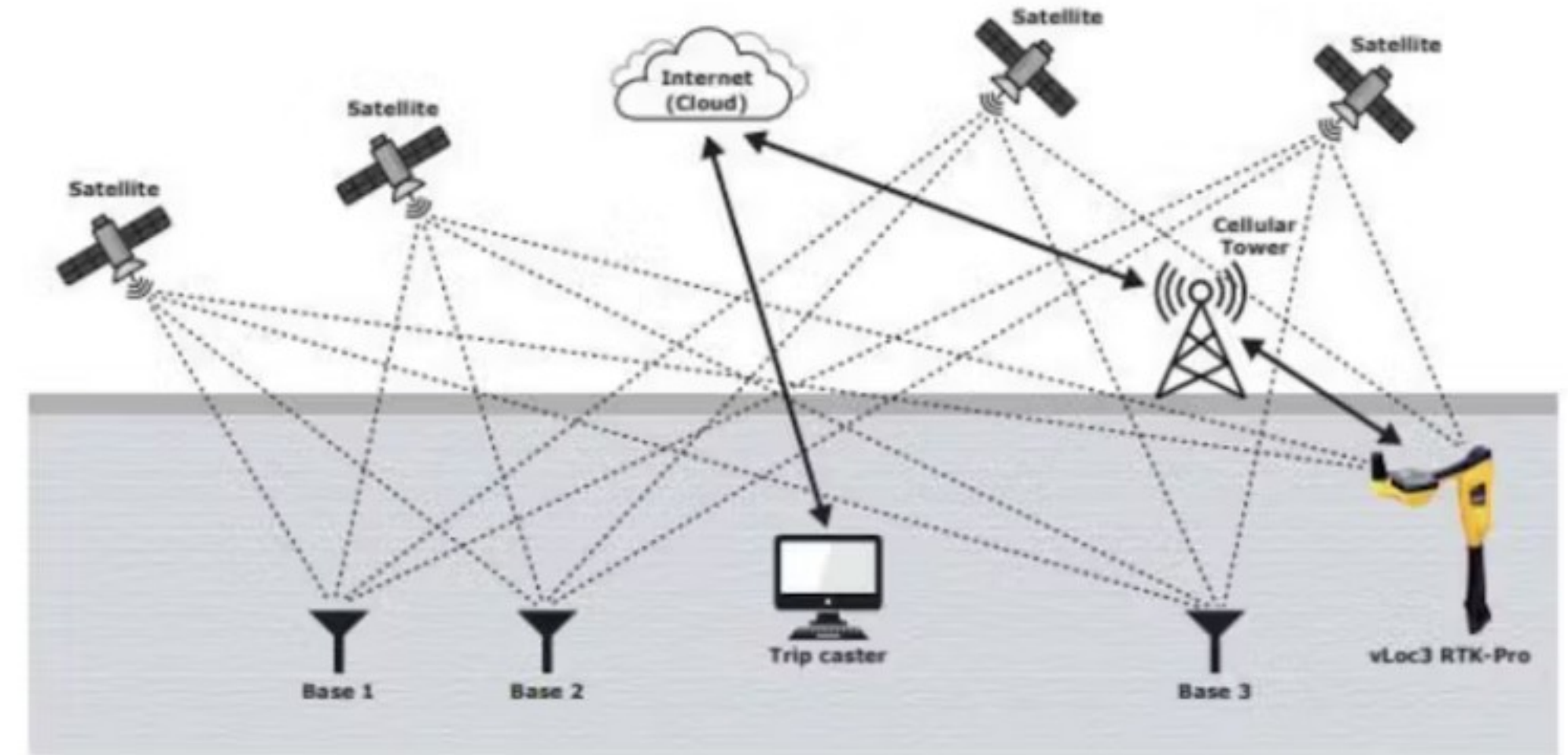
A blue bar graph indicates a medium level of distortion



A red bar graph indicates very high distortion. Both Peak and Null locates are subject to significant positional errors

GPS Location Based on Signal

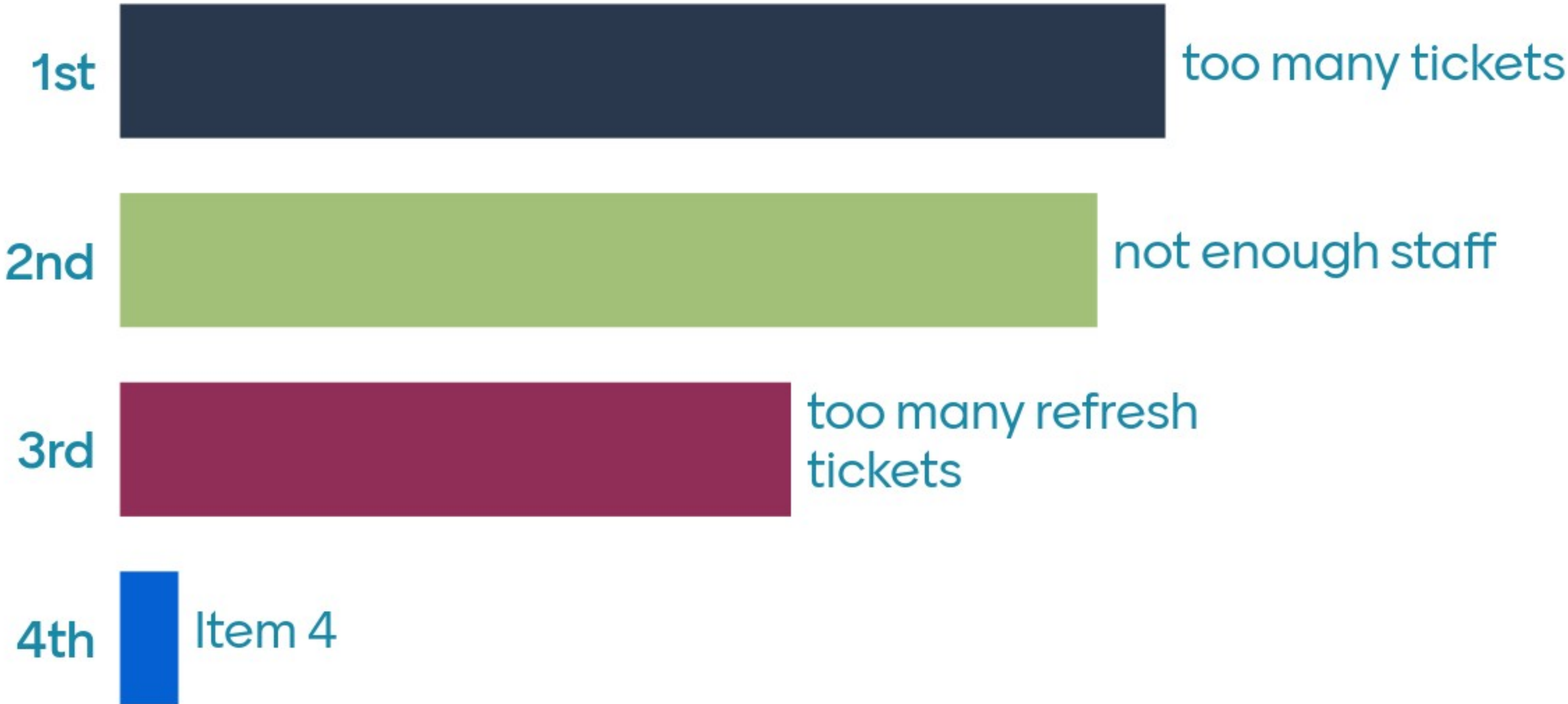
Depth (sft)	Frequency	Locate Vie	Bargraph	Locator G	Bargraph	Battery (%)	Offset (sft)
5.06	8192	CLASSIC	PEAK	62	55.435	100	-0.66
0			NONE	0	0		0
4.18	8192	CLASSIC	PEAK	62	77.17	100	-0.35
0			NONE	0	0		0
3.94	8192	CLASSIC	PEAK	60	69.267	100	-0.06
0			NONE	0	0		0
4.7	8192	CLASSIC	PEAK	60	50.561	100	0.14
0			NONE	0	0		0
5.04	8192	CLASSIC	PEAK	60	47.542	100	0.04
0			NONE	0	0		0
4.93	8192	CLASSIC	PEAK	60	46.365	100	-0.09
0			NONE	0	0		0
3.35	8192	CLASSIC	PEAK	59	55.556	100	0.58
0			NONE	0	0		0
5.39	8192	CLASSIC	PEAK	59	33.043	100	0.19
0			NONE	0	0		0
5.39	8192	CLASSIC	PEAK	63	47.646	100	-1.15
0			NONE	0	0		0



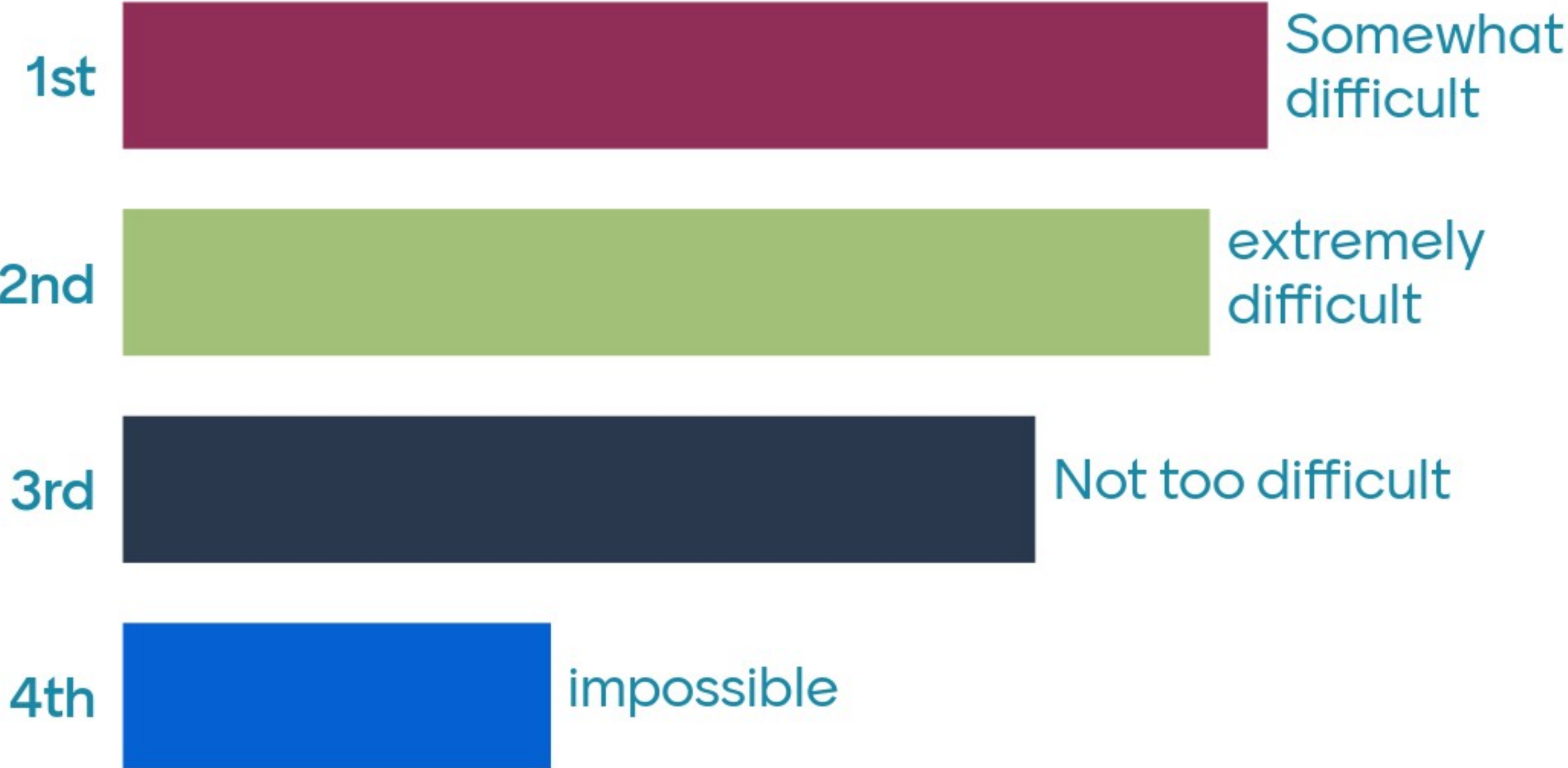
Collecting utility data onsite



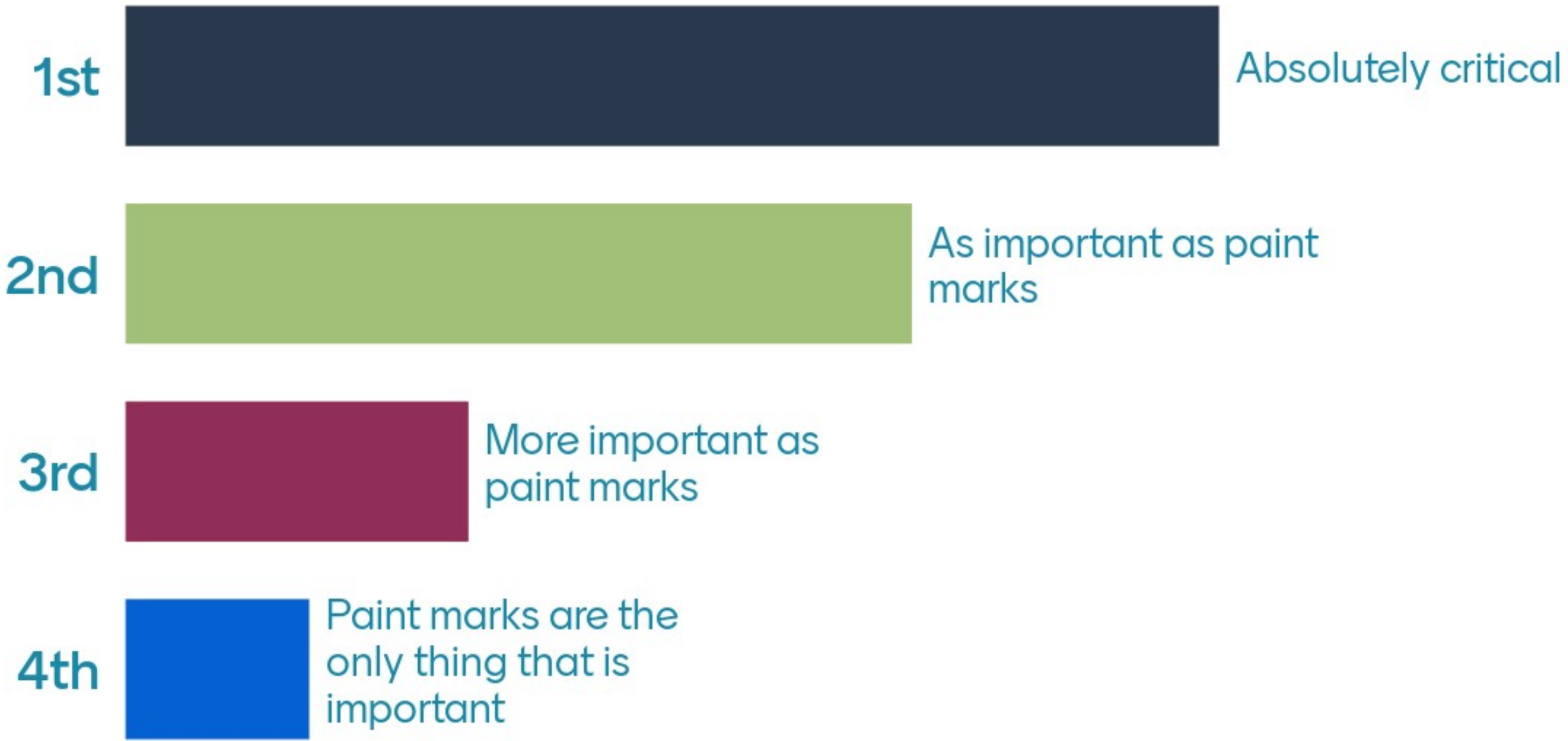
The main reason we struggle to mark construction projects timely is:



How difficult is it to maintain utility markings on your construction site?



How critical is it to safe construction to accurately depict utilities on plans and in the GPS enabled equipment?





The main thing I would like to see changed in the dig law regarding refresh marking is:

Getting 811 to actually listen. Which they won't

Responsible party for damages?

Penalty for not marking

Need legislative changes

All utilities are penalized for not marking, not just gas

More requirement for Comms to locate like the gas and electric companies

Excavators responsible for maintenance of marks/refresh

Locate response time tiered

The main thing I would like to see changed in the dig law regarding refresh marking is:

Utilities need to be responsible for keeping records updated and get penalties if not

Significant increases in project costs

Utilities must give written notice

Who's going to pay for the SUE investigation.

Refresh if the project size changes or contractor calls.

Penalties for no marks

It would help.

who is paying

The main thing I would like to see changed in the dig law regarding refresh marking is:

Shouldn't be able to call in locate multiple times without doing the dig for the locate

cost to tax payer for sue

Thank You



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