

When, why, and how to collaborate with the FAA on development projects

Prepared for:

Airport Technical Assistance Program

Date: **February 9, 2023**



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Why are we all here talking to you?



Perfect site for a new hangar
and apron?



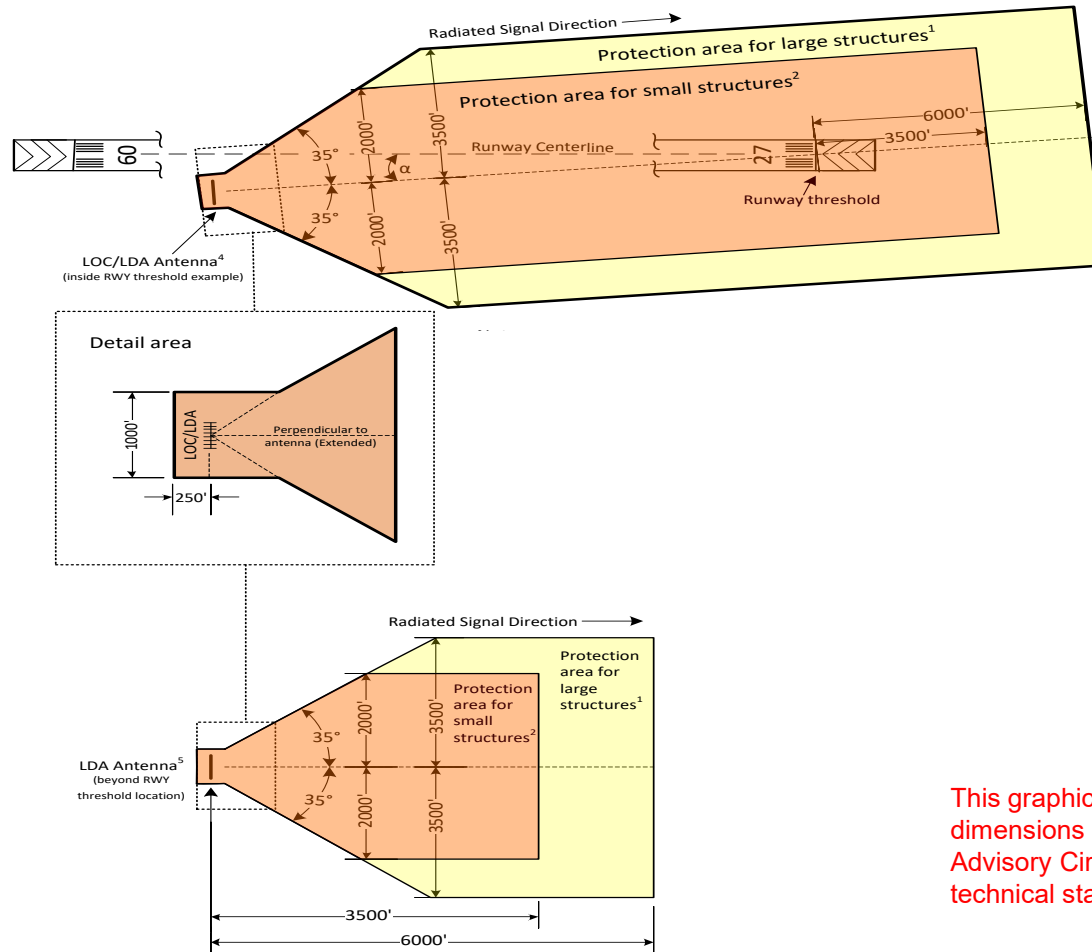
“It’ll be hundreds of feet away from anything important...”



**“We just need to start construction
within 2-3 months.”**



Just one of MANY technical reasons that site might not work so well...



This graphic is purely illustrative. For actual dimensions and constraints, refer to the appropriate Advisory Circulars, Engineering Briefs, or other technical standards.



Agenda

- Why, when and how to engage with FAA
- Illustrative examples of potential problems
- Role of the Airports District Office (ADO)
- Role of ATO Technical Operations
- Reimbursable Agreements
- Questions
- Contact Information



Benefits of early outreach to FAA

- Identify potential problems with a particular site before:
 - Making land-use commitments;
 - Making business, financial, or schedule commitments;
 - Starting environmental review; and/or
 - Spending money on detailed engineering in the wrong location.

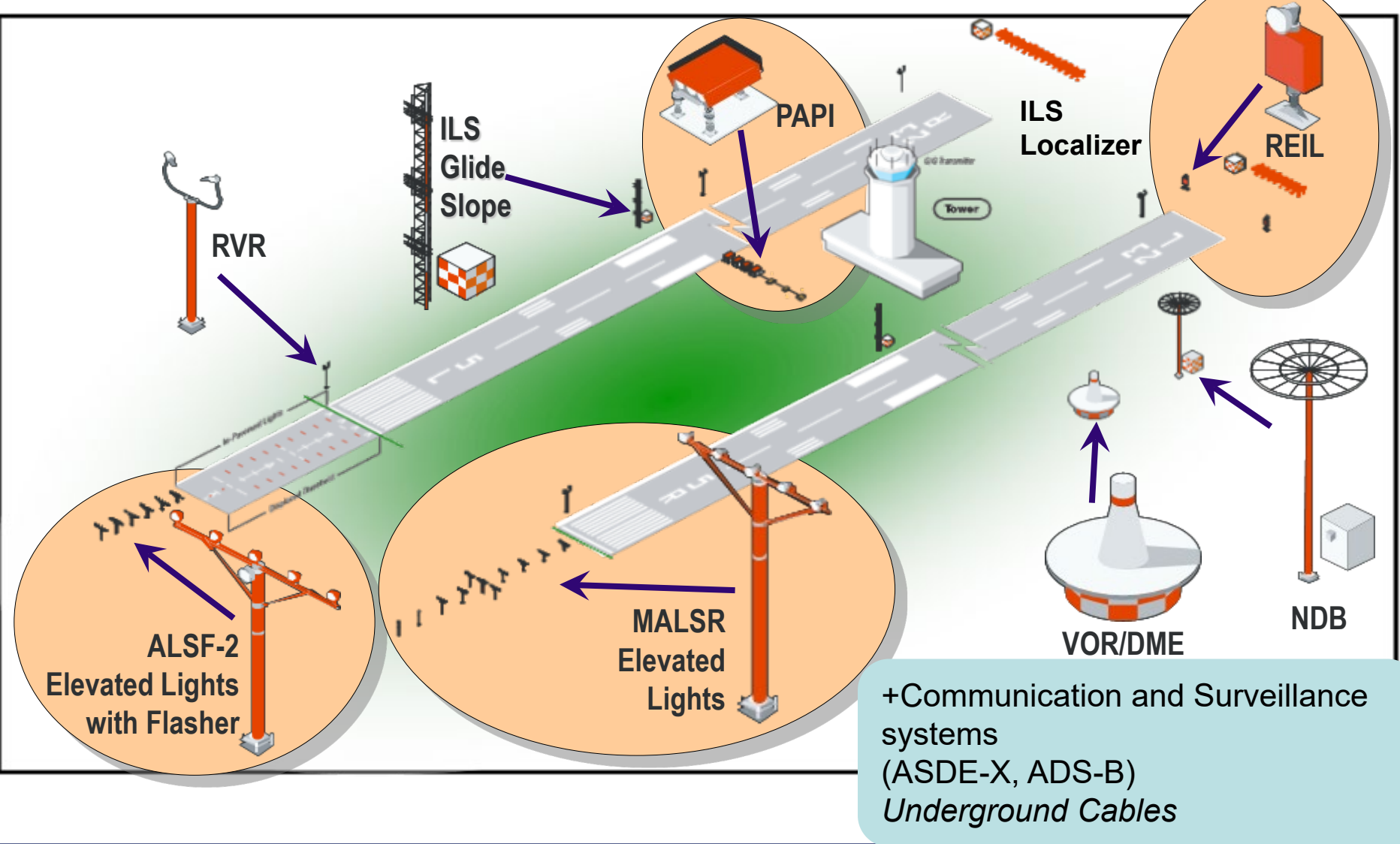


Illustrative examples of potential problem areas

The graphics that follow are purely illustrative. For actual dimensions and constraints, refer to the appropriate Advisory Circulars, Engineering Briefs, or other technical standards.



Various types of airport ATO equipment



Air Traffic Control, Communication and Surveillance Facilities

- Construction anywhere on an airfield that has these types of facilities has the potential of causing interference:
 - ATCT
 - RTR/RCO
 - ASDE
 - ASDE-X
 - ASR

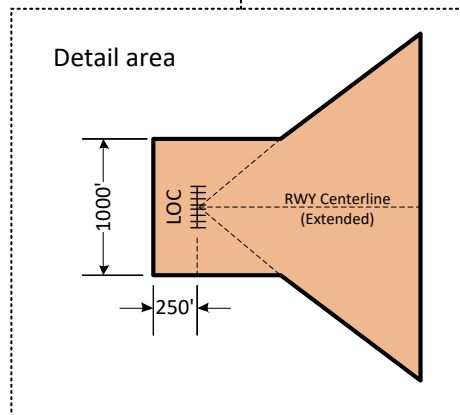
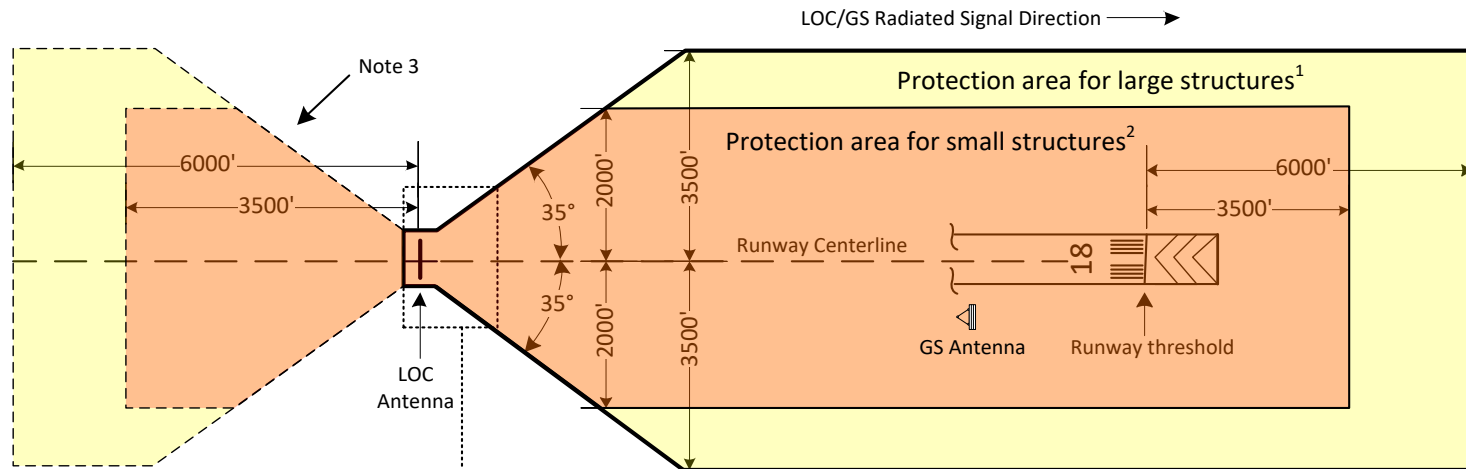


Localizers/Glide Slopes

- **LOC vulnerable to multipath reflections (Hangars, terminal buildings, towers)**
- **GS Develops its service by bouncing signals off the ground**
- **Proposed construction in the areas depicted need coordination well in advance (2+ years)**



Localizers/Glide Slopes



Notes:

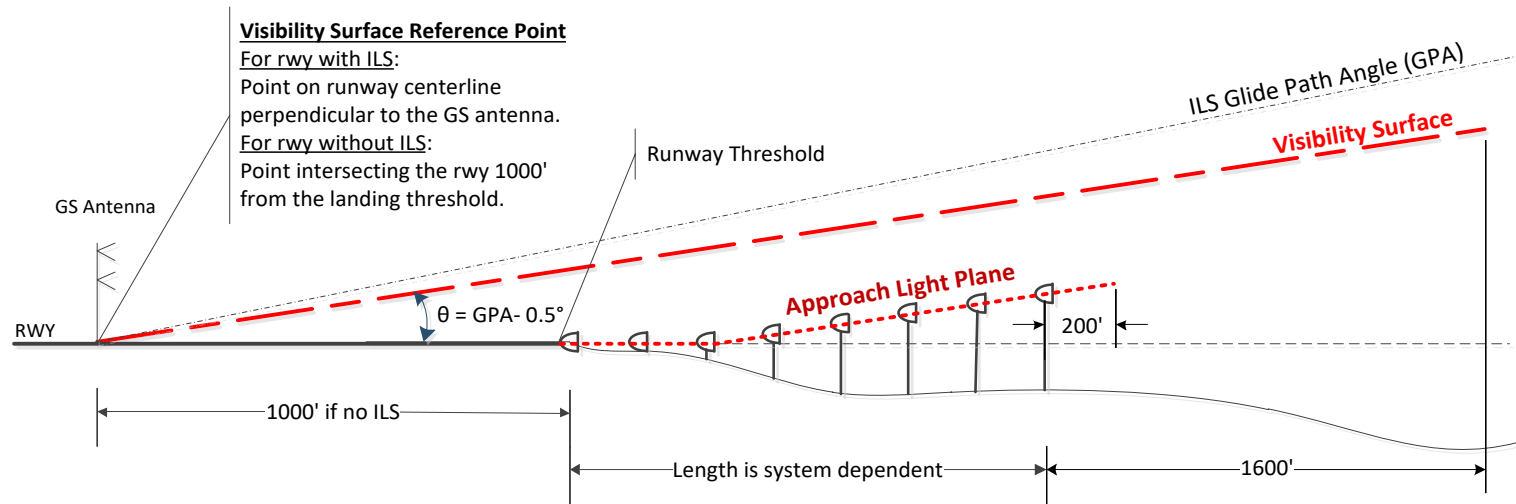
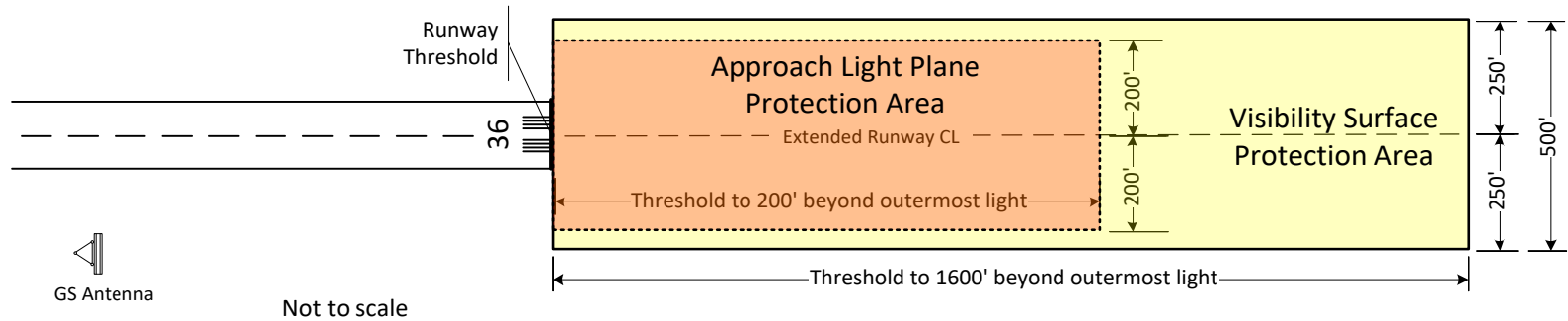
- 1) The large structure protection area is for any structure not considered small. This area also encompasses the small structure protection area.
- 2) Small structures typically have a small horizontal component e.g. single utility pole, boom crane, light poles, etc.
- 3) The protection area beyond 250' behind the LOC antenna array is only applicable when the LOC is used in a back course procedure.

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Approach Lighting Systems



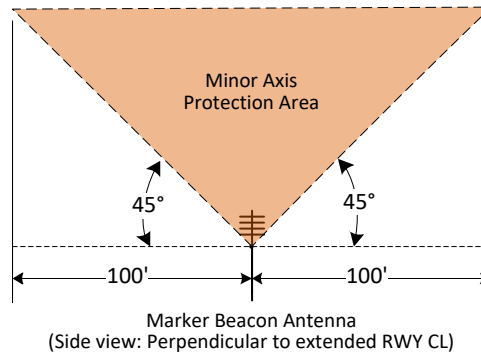
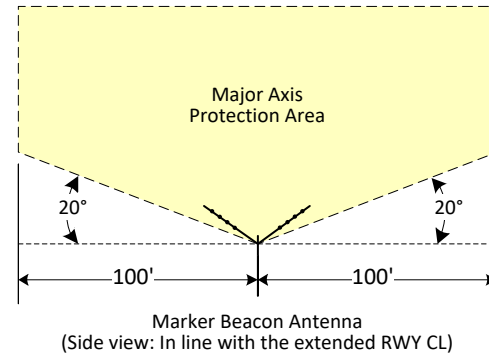
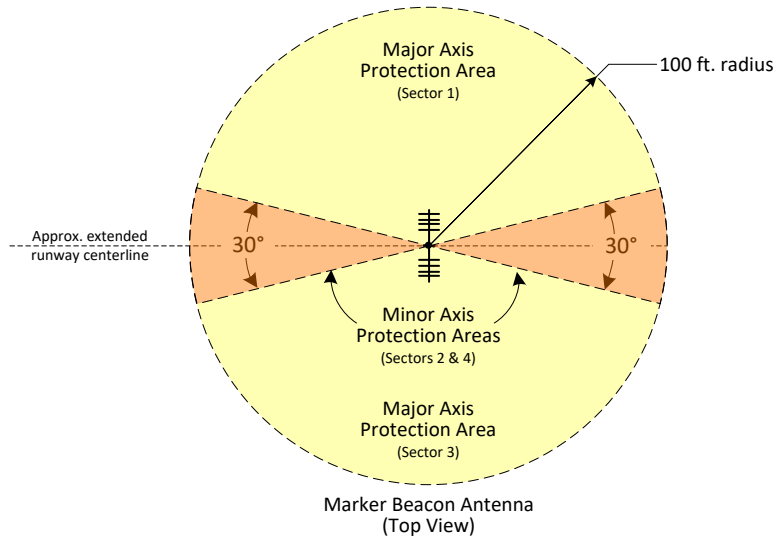
Vertical View

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Marker Beacons

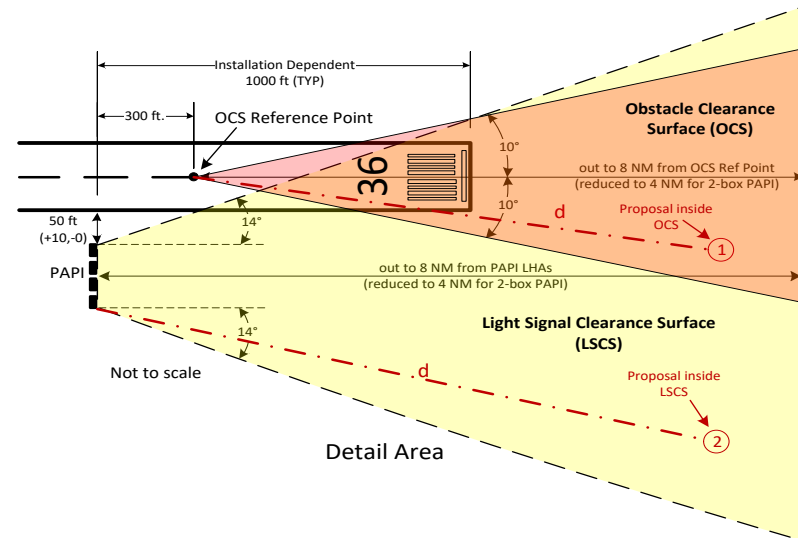
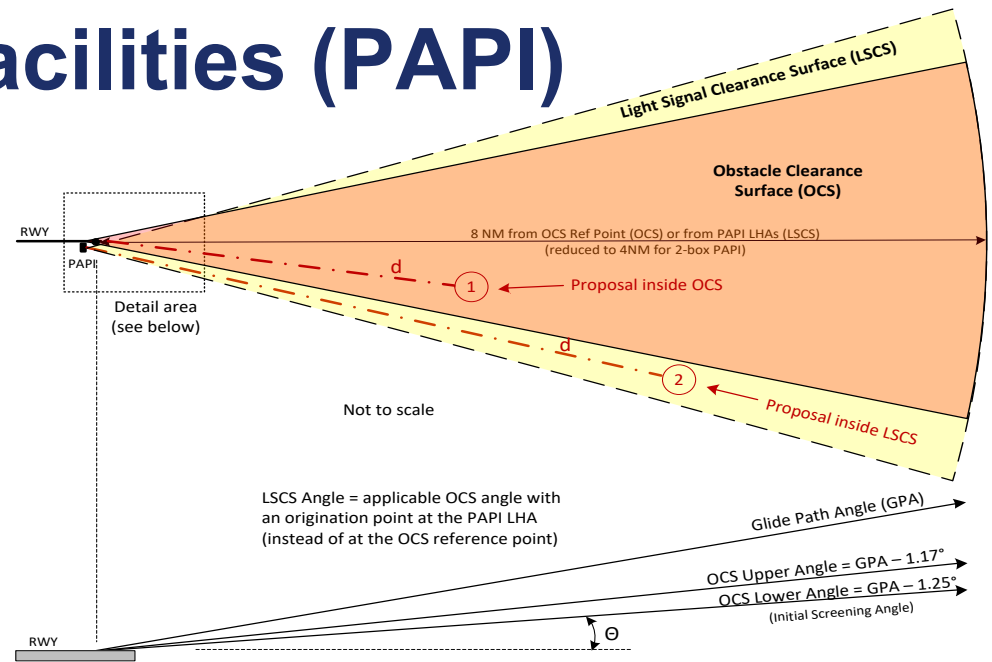


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Visual Guidance Facilities (PAPI)

Proposed construction in the areas depicted need brought to FAA's attention in advance



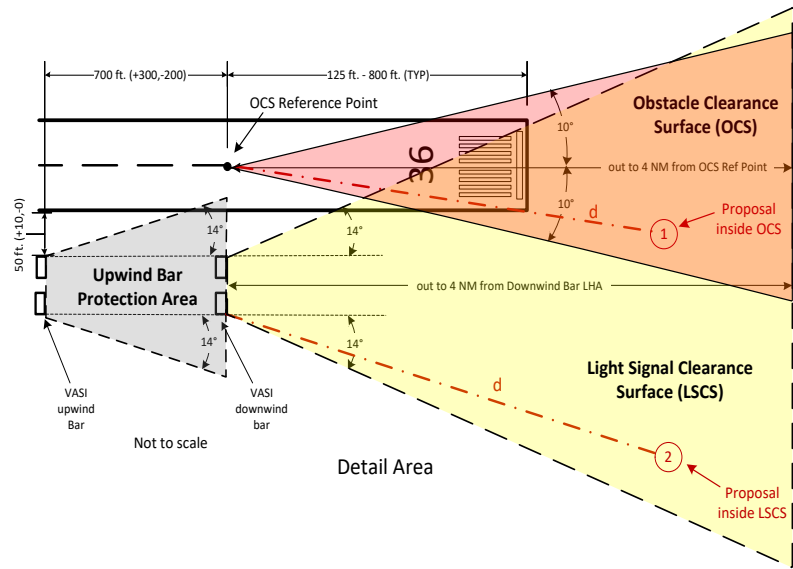
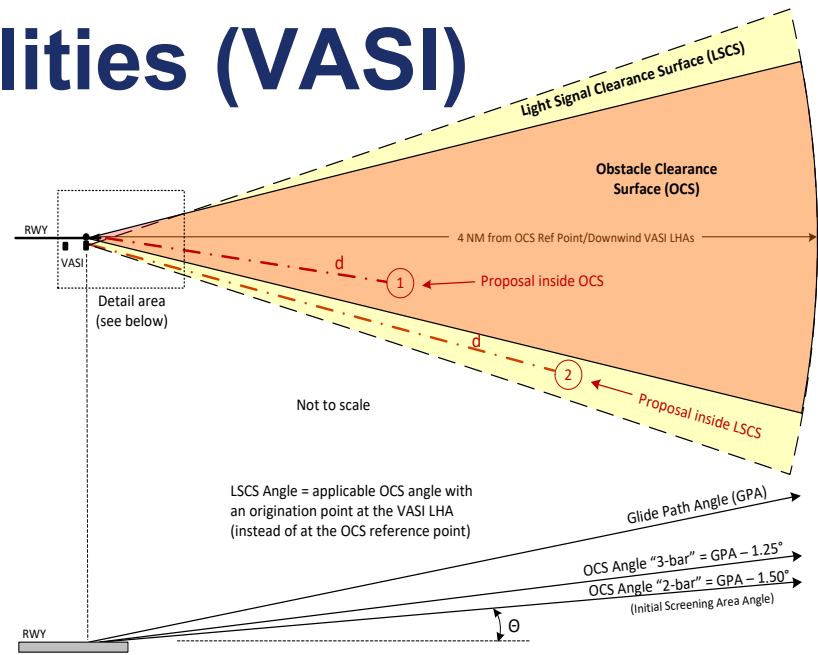
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Visual Guidance Facilities (VASI)

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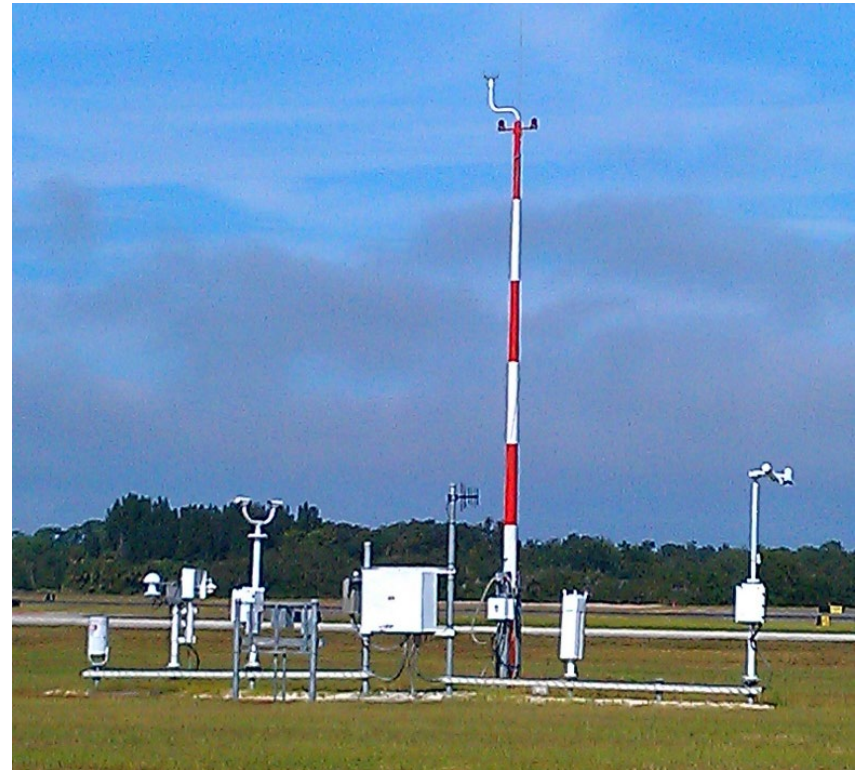
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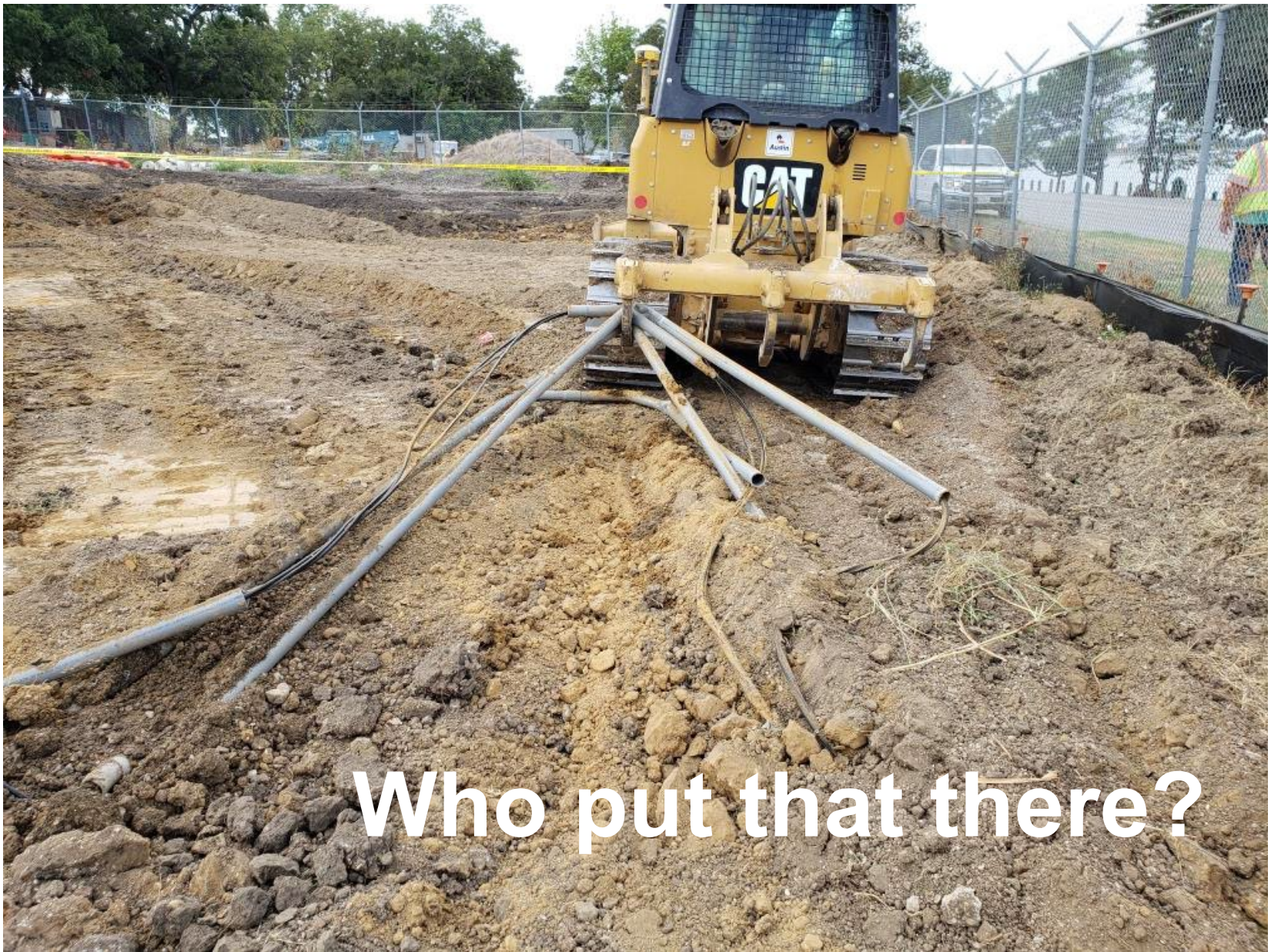
Other facilities

- Weather Sensors
AWOS/ASOS/WEF
- NDB
- VOR
- VOT



**Risk continues after planning,
environmental and design is
complete...**





Who put that there?



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I knew I felt a bump!



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Maybe that
was there to
protect something?



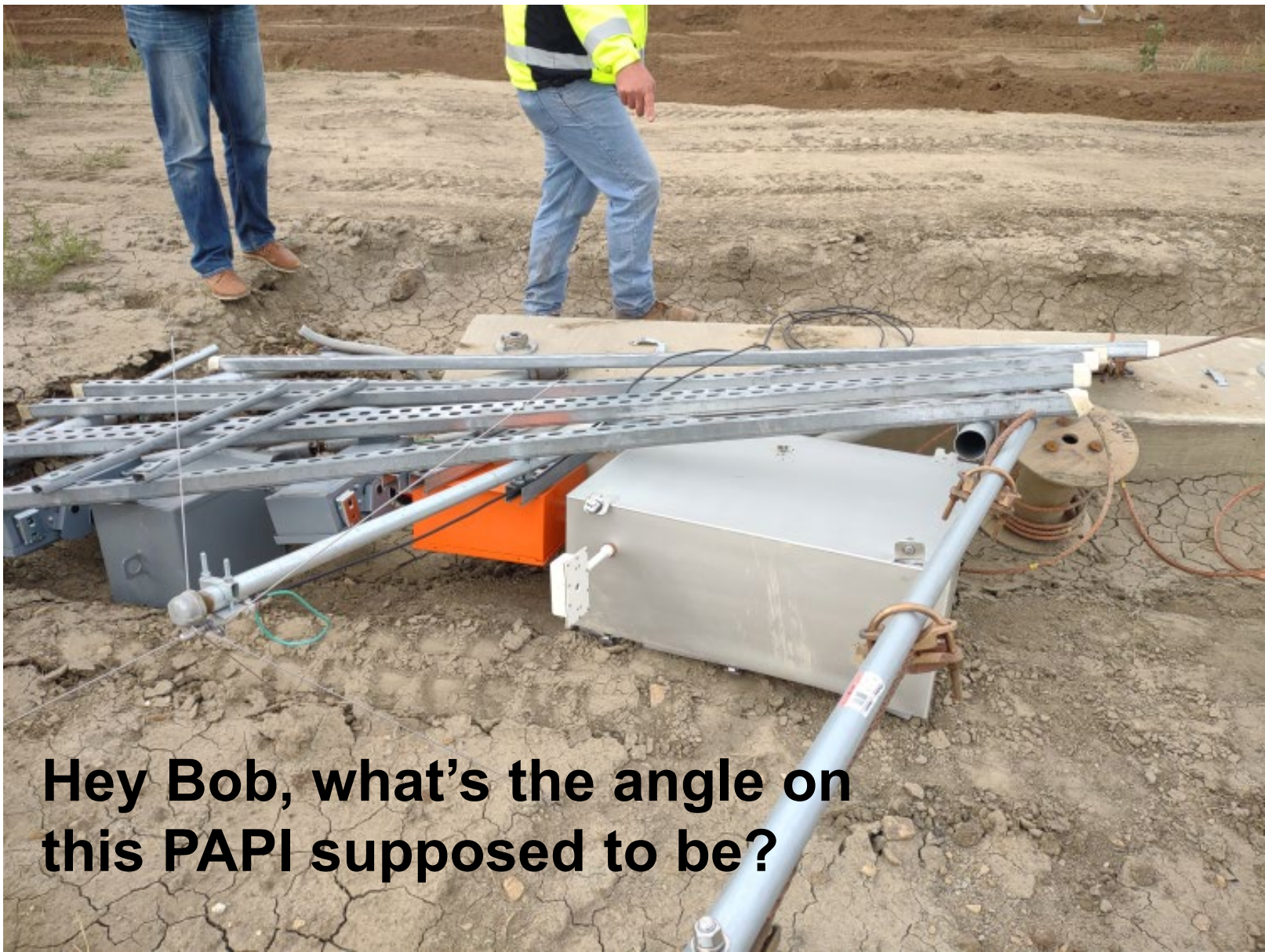
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From conduit to can't-do-it?



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Hey Bob, what's the angle on this PAPI supposed to be?



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Role of the FAA's Airports District Office (ADO)



How can the ADO help your Airport?

PLAN, DESIGN, ENGINEER, COMPLY, MONEY & SAFETY

We are your front door to the FAA – Let us help!

- **Planning** for Airport projects & Master Plans
- **Environmental** reviews for projects on Airport
- **Guidance** for airport design standards
- **Compliance** with grant assurances
- **Financial** assistance programs (AIP, BIL, PFC etc.)
- **Oversight** Safety and airport certification (Part 139)



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Do you have Federal Equipment on your Airport? Yes?? Don't know??

WE CAN LOOK IT UP!

Some examples include:

- Instrument Landing Systems (ILS)
- PAPIs/REILs
- Localizer/Glide Slope
- VOR/DME

TechNet's RMLS FSEP Application

Help

Search Results (74)

ID	Type	City	State	ATOW	Rest	GSA	Monit	Tier	Status	Fac Code
DLH	ADPRS	DULUTH	MN	WB353			NEC	XXX	Z	
Fac Desc: N/A										
DLH	ALS	DULUTH	MN	WCM15	24	6302	MOC	444	D	3317HL
Fac Desc: N BEDFORD PANORAMEX ALSF-II(DUAL MODE)CAT III/III RMS										
DLH	ASOS	DULUTH	MN	WB354			OEC	XXX	\$	
Fac Desc: N/A										
DLH	ASR	DULUTH	MN	WCM15	24	6302	MOC	444	D	4SC02A
Fac Desc: ASR-8 WITH CTD STANDARD FACILITY										
DLH	ATCT	DULUTH	MN	WCM15	96	6302	MOC	444	S	4CM05T
Fac Desc: ATCT (UP/DOWN) STANDARD FACILITY										



Timing & Communication

Proposed projects that need a pause or conversation:

BELOW GROUND-DIGGING

- **Putting Shovel in the ground**
 - Underground facilities – cables or connectivity
 - Safety Area grading
 - Safety Area construction
 - Water & Sewer

ABOVE GROUND

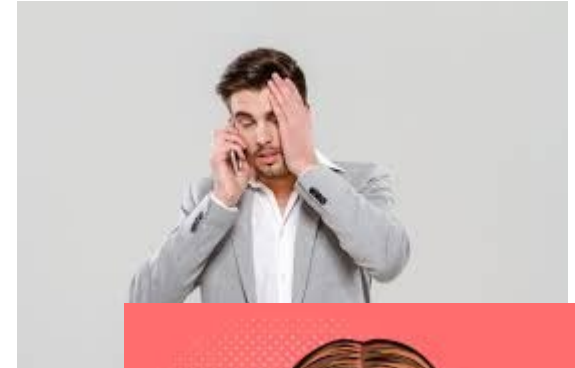
- **Construct a Building or Facility**
 - Hangar or other facility on or near airport
 - Reflectivity, Obstructions, Signal blockages
 - Equipment Protection areas – later in presentation

- ✓ Often the FAA doesn't know about a project until it's too late to help.
- ✓ Please don't wait until you're submitting an airspace case to the FAA a few months before you want to dig or build!



Partnership with ADO

- **Schedule a CIP meeting**
- **Schedule monthly meetings**
- **If a tenant or developer wants to build, work with them to engage the FAA early, too.**
- **Invite us to your airport**
- **Always reach out with questions**



Role of the FAA's Air Traffic Organization



Buried Infrastructure Damage to Control and Signal Cabling

- Most Common type of incident
- Can cause catastrophic interruption to any FAA facility on the airfield
- Excavation plans need to be coordinated well in advance (2 years)



What do you see?





What does the FAA see?

- Runway narrowing
- Procedure impacts-all associated
- Relocation of visual aids
- FAA infrastructure impacts, RA needed likely design and construction
- Target of opportunity to update PAPI's & REILs





Proposed hangar construction in an established building area.



What do you see?



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What does the FAA see?

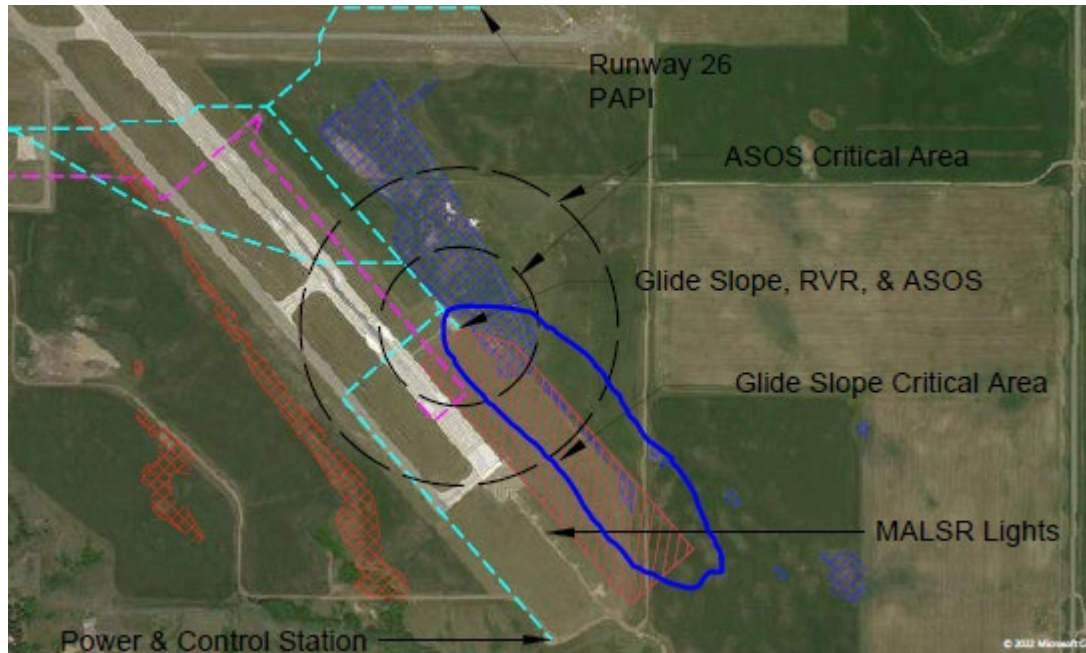
ATCT Line of Sight potential issues

RTR LOS potential issues

Missed approach potential issues



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What does the FAA see?

Grading on the airfield may impact FAA cables

Grading appears to impact the Glideslope Critical area

Impacts to glideslope may render the ILS inoperative



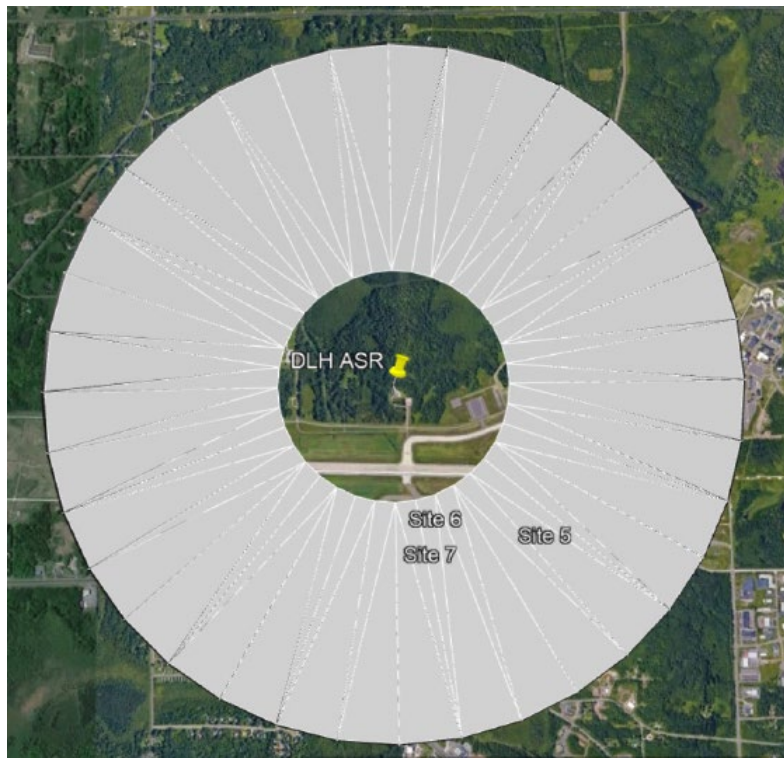
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•*What do you see?*



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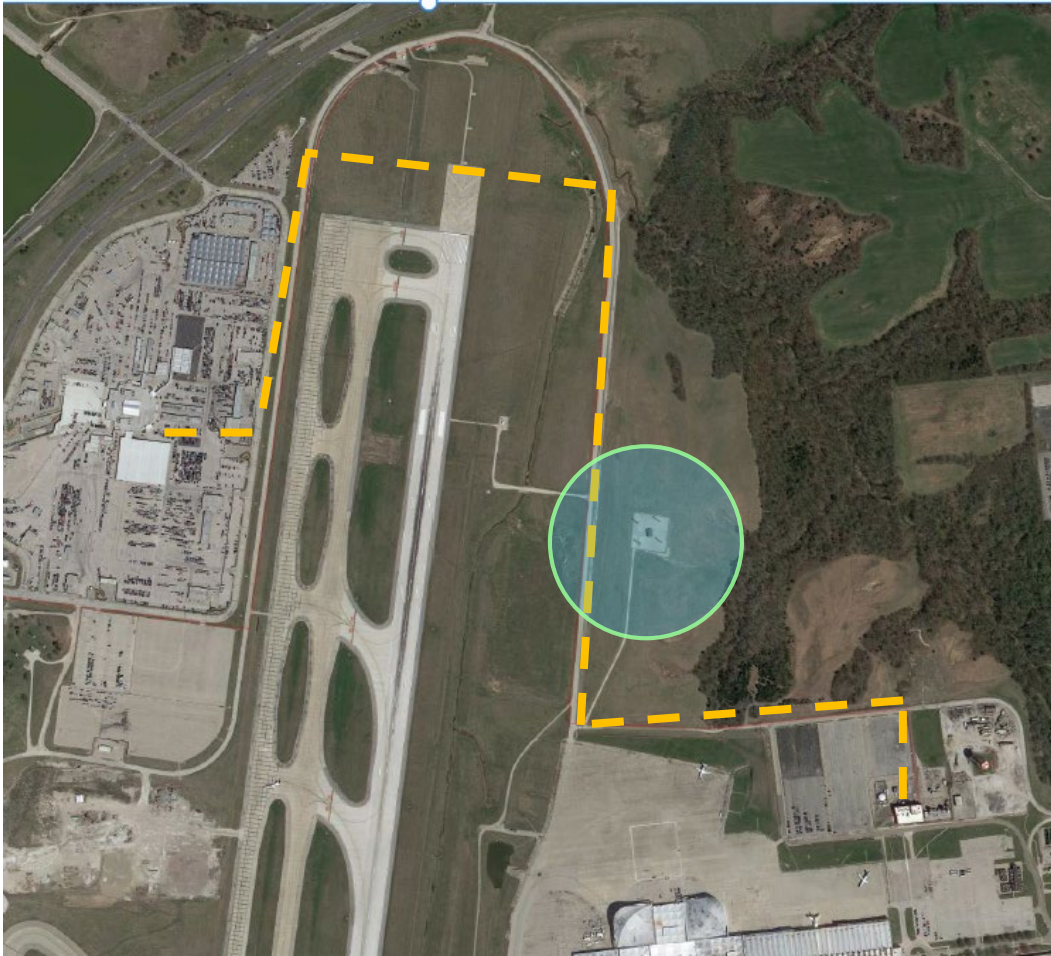
• *What does the FAA see?*

• Any new building constructed on this location has the following impacts:

- **ASR Impacts**
- **Localizer Impacts**
- **Procedure impacts CAT-II**
- **RVR Impacts**



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What do you see?

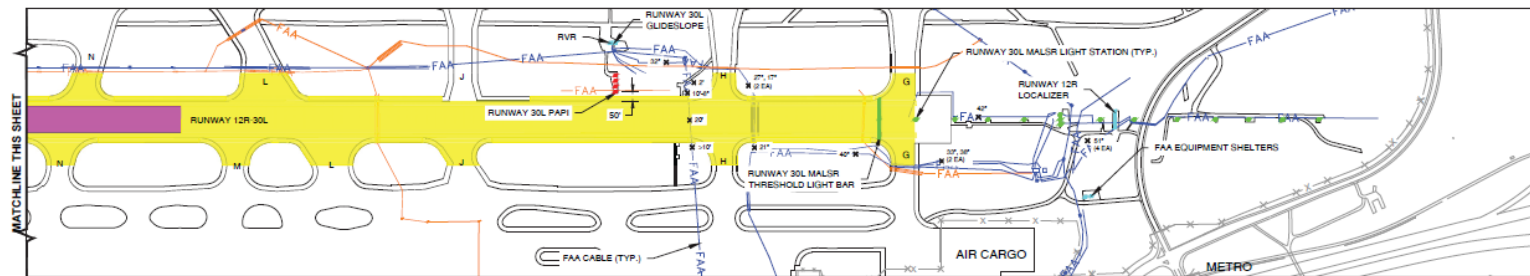
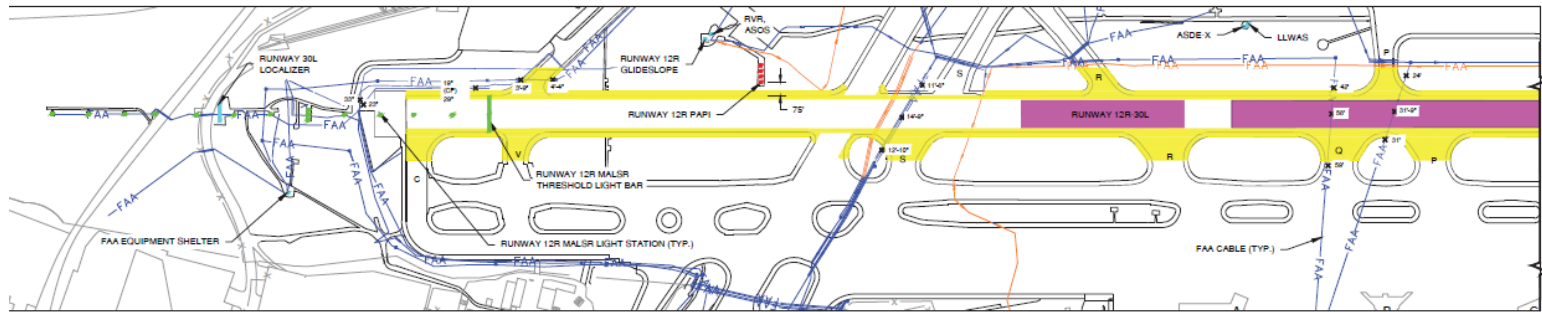
What does the FAA see?



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What do you see?

What does the FAA see?



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**So you have Federal Equipment
and an Airport project that
could impact it?**

What's next?



Reimbursable Agreements



What is a Reimbursable Agreement?

- An RA is a Memorandum of Agreement between the FAA and another entity (e.g., airport authority):
 - Airport provides funding to the FAA for goods and/or services supporting the airport's initiative while protecting the National Airspace System (NAS).
 - Unused funds are refunded to the Sponsor once work is done.

FAA services can include:

- - Technical analysis, site selection
- - Engineering, engineering design / oversight
- - Equipment specifications
- - Equipment changes as a Target of Opportunity (TOO)
- - Construction oversight
- - Installation & testing
- - Flight inspection



When is a Reimbursable Agreement required?

- **During the Initial discovery phase of the Sponsor's Project to allow the FAA to engage with the Sponsor to determine the extent of required FAA equipment impacts.**
- **When relocation, replacement, or modification of an FAA facility or due to the Airport's or Sponsor's improvement and / or project is planned.**
- **When it is anticipated or probable that the technical and operational characteristics of an FAA facility will be impaired.**
- **When the development of a new flight procedure is anticipated and/or required.**
- **When Flight Inspection is mandatory to recertify an FAA facility.**
(Note: This may be required even if the FAA facility is not relocated)

Reference Advisory Circular 150/5300 - 7B



When should an Airport contact NAS Planning Team?

- **Ideally – 3+ years before construction**
 - **ATO has a work plan to modernize and sustain the NAS expanding out 5+ years. RA work needs to be integrated into that work plan.**
 - **Allows ATO to research future FAA equipment replacements and integrate into airport's project**
 - **Reduces/prevents multiple runway shutdowns**
 - **De-conflict projects that might otherwise constrain operations or increase risk**
- **Utilities location/relocation**
- **Requesting new Services**
- **Airport Master Plan Updates**



Time to develop, sign & fund RAs

- Small Scale RA: 2-4 weeks (restrictive)
- Standard Design/Engineering RA: 2-4 weeks (best)
- Engineering & RE Oversight RA: 3-6 weeks (small projects)
- Construction/Installation scope RA: 2-6 months
 - Takes longest due to equipment-specific planning
 - Amended scope/cost from Design/Engineering RA
 - May include flight inspection

Note: *If ES contracts out the FAA construction work, then 6-8 months after funds are processed for contract award is customary. Hence need to start preliminary design at least 18 months before airport construction.*

Note: *This timeline assumes Sponsor & FAA processes steps within 3 business days.*



Risks of untimely funded RA

- **Not having a funded RA in place can:**
 - Extensively delay AOA availability for operations (potential loss of revenue) due to fracturing NAS systems during construction activities
 - Can diminish NAS services for users on and around the airport (frustrates the users and increases risk to safety of flight)
 - Delay ES' ability to support design and construction efforts (ES can only support once RA is funded)
 - Delays ES & consultant coordination for tech specs and project timeline (ES cannot use labor hours to support until funded)



NPT	LEAD PLANNER	ASSIGNMENT AREA
CSC	Eric P. Thacker 817.222.4506 eric.p.thacker@faa.gov	ND, SD, MN
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	John Fowler 404.305.7326 John.fowler@faa.gov	WV
WSC	Chad Bridges 404.305.7310 chad.bridges@faa.gov	KY, MS, AL, LA, AR, OK, MO
	Matthew Josal 206.231.2966 Matthew.josal@faa.gov	ND, SD
	Jake Florendo 424.405.7704 jake.florendo@faa.gov	CO
	Matt Robertson 206.231.2855 mattthew.d.robertson@faa.gov	NE, KS, AZ, NM

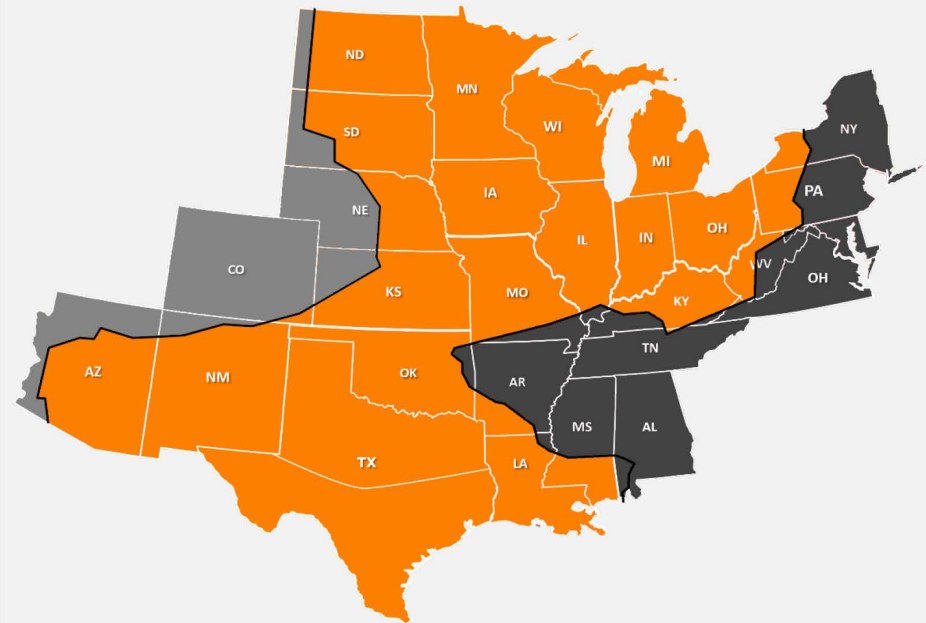
NAS PLANNING TEAM

GEOGRAPHICAL ASSIGNMENTS

Central Service Center



TEAM MANAGER
John Lerch
john.lerch@faa.gov
 404.276.3546



Questions?



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FAA Regional Airports Offices

https://www.faa.gov/about/office_org/headquarters_offices/arp/offices/regional_offices



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Panelist Contact Information

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