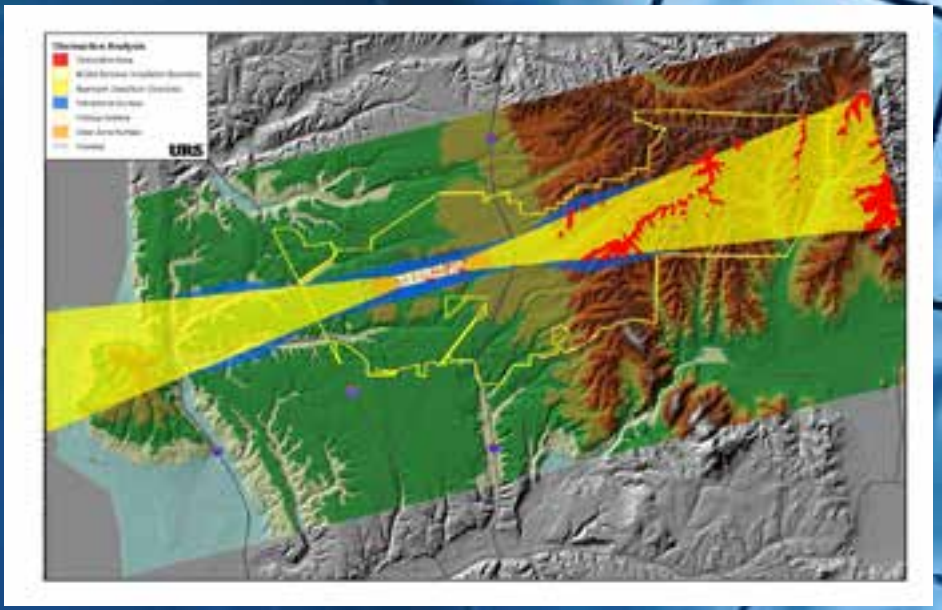
Airfield Analysis Tool
San Diego, CA

- URS created Airport Land Use Compatibility Tools (Project Siting Tool and Obstruction Analysis)
- CA, APA Award for Outstanding Planning – Best Practices: for Airfield Waiver Study and Project Siting Tool, 2013



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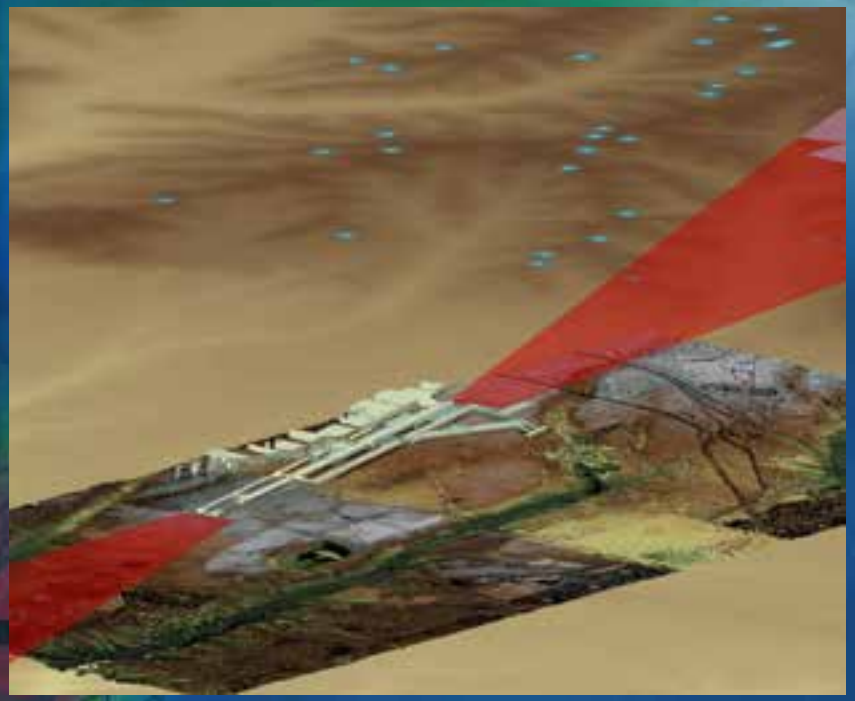
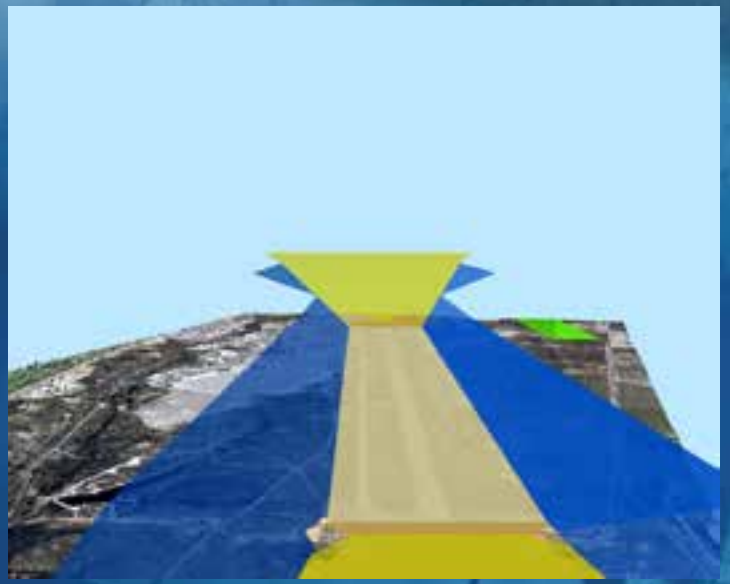
- GIS was used to create 3D imaginary surfaces representing aircraft flight paths that need to be free of obstructions





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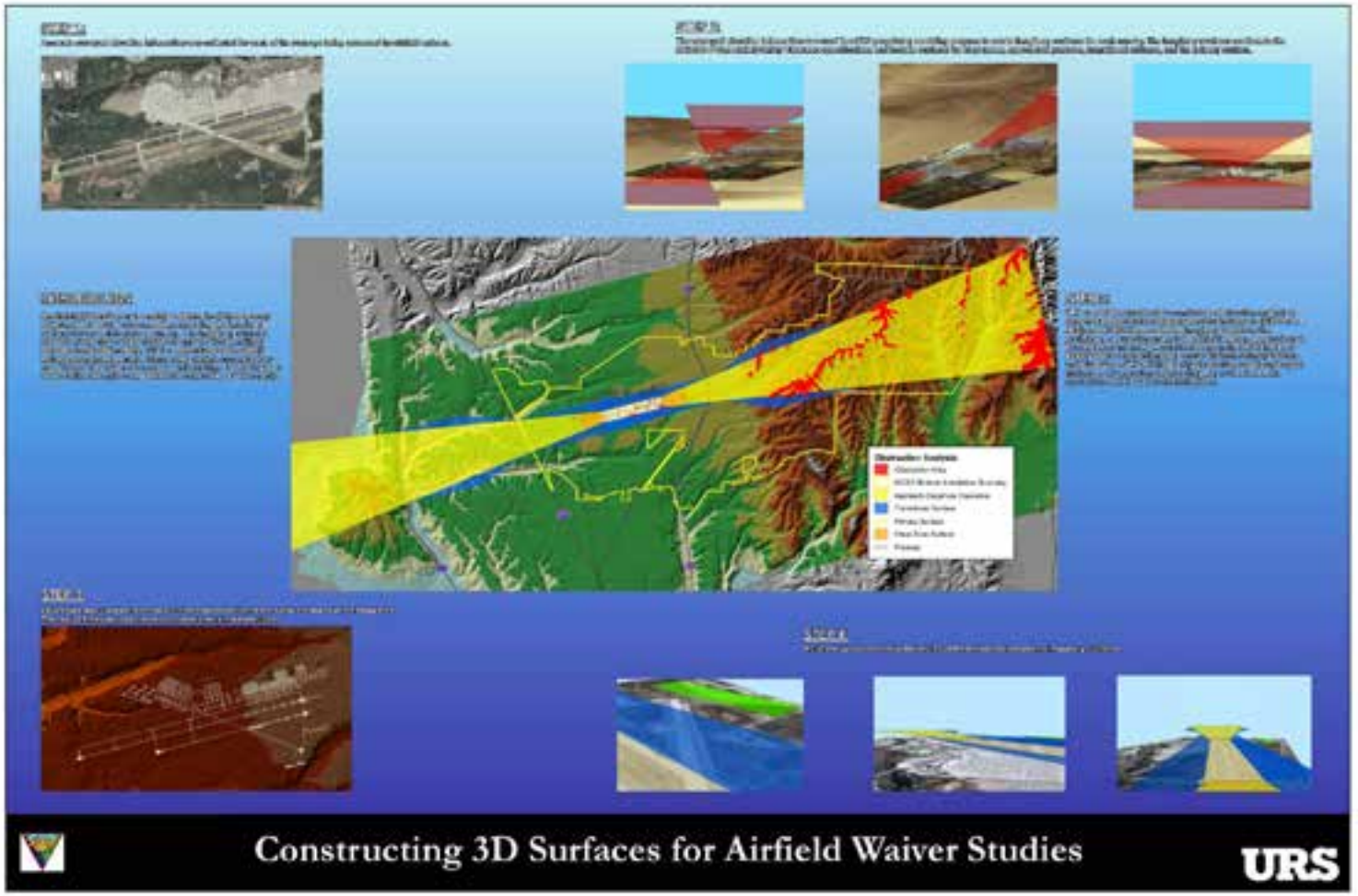
- LiDAR data was collected and used for obstruction analysis against the 3D imaginary surfaces



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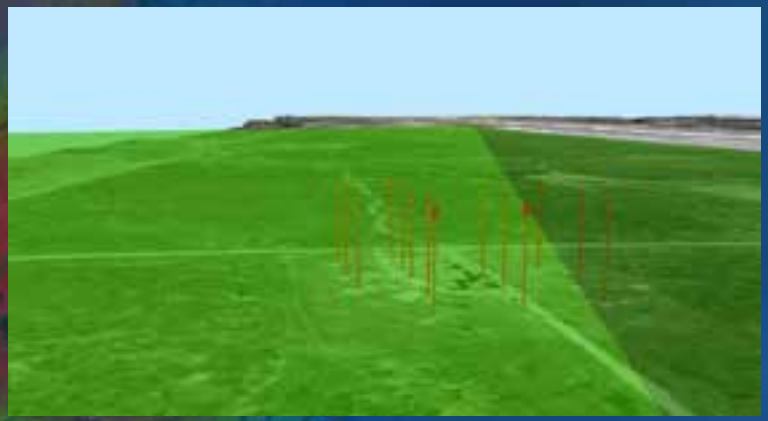
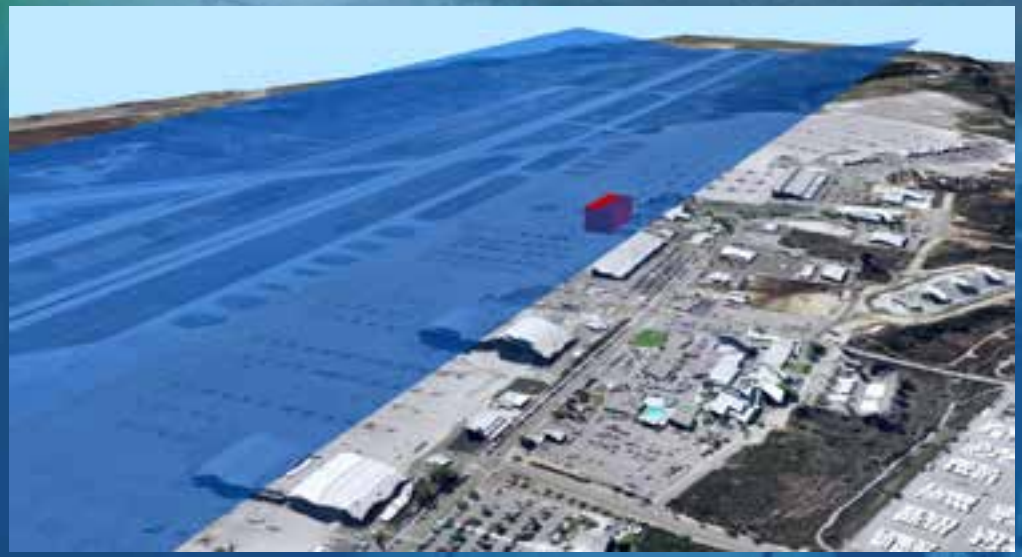
- Project Siting Tool: Using 3D GIS software (ArcScene) new potential projects can be analyzed to see if they will interfere with aircraft imaginary surfaces





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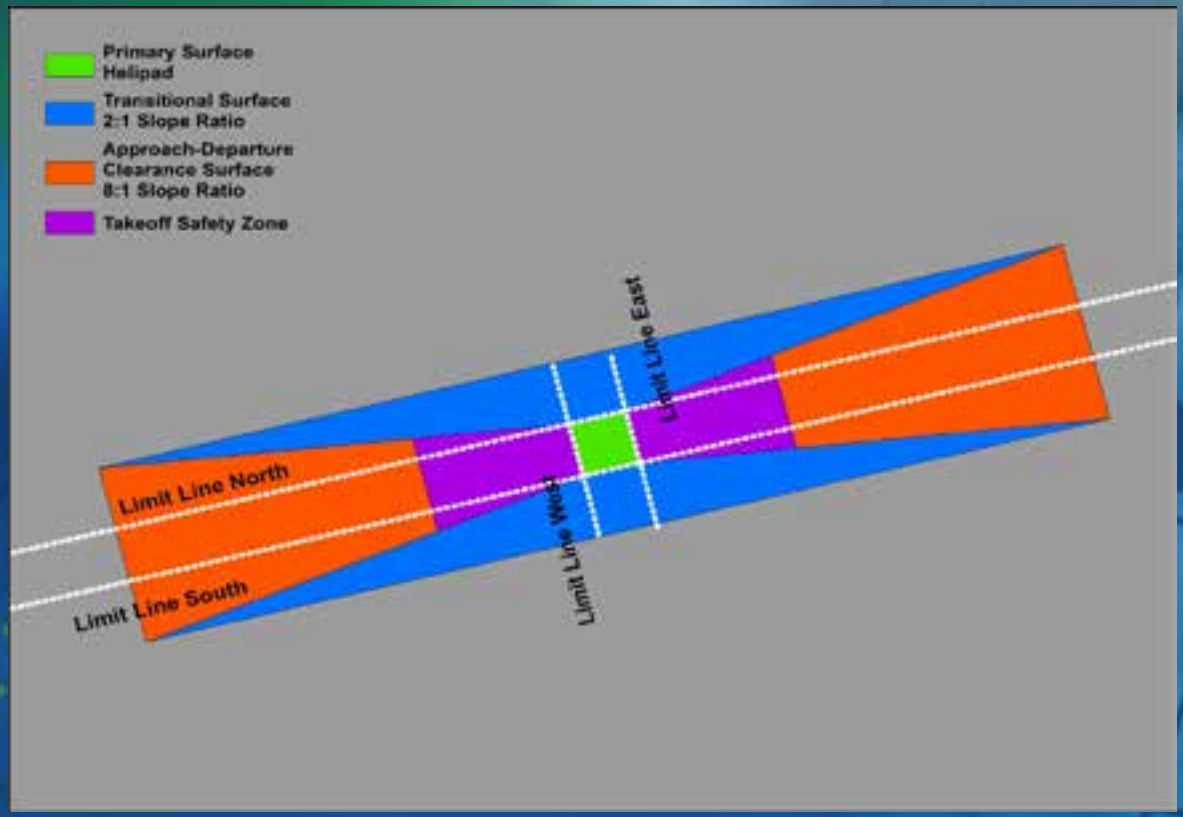
- To convert 3D surfaces to 2D paper model, marking lines were created adjacent to primary surfaces upon which predefined slope ratios would be established according to NAVFAC/FAA guidelines



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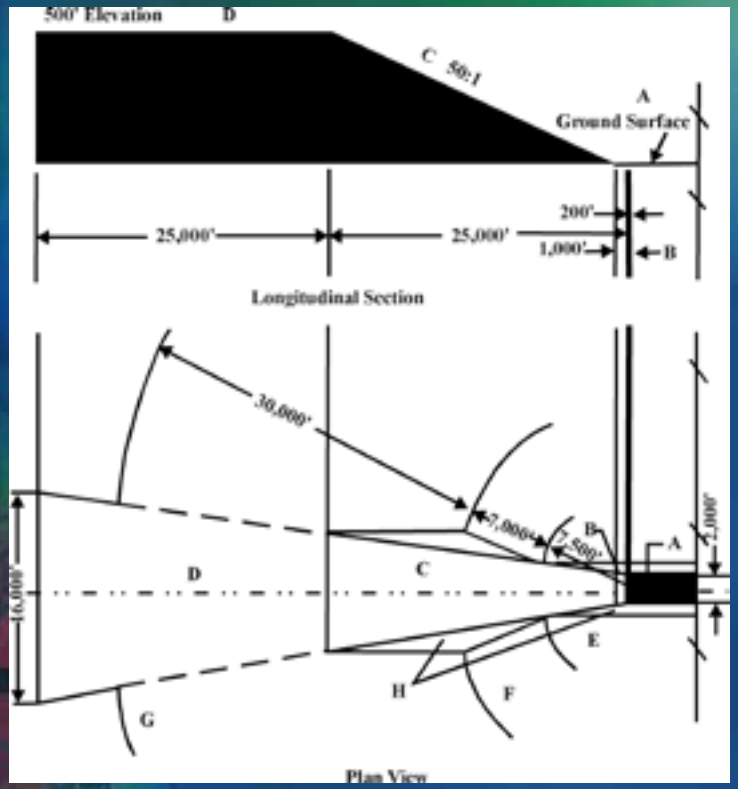
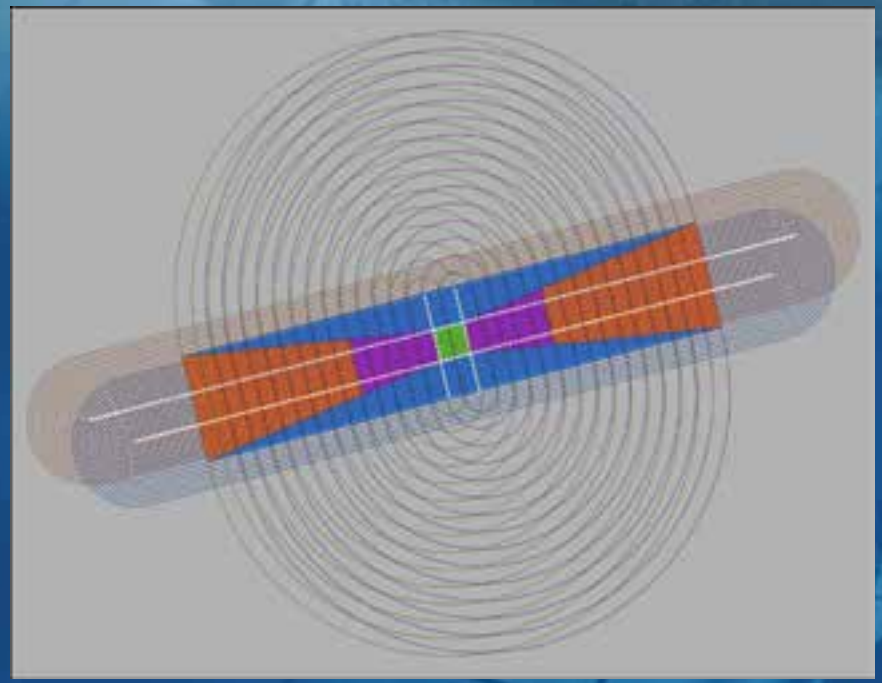
- Multi-ring buffer tool was used to create concentric circles around the marking lines at distances consistent with established slope ratios and distances





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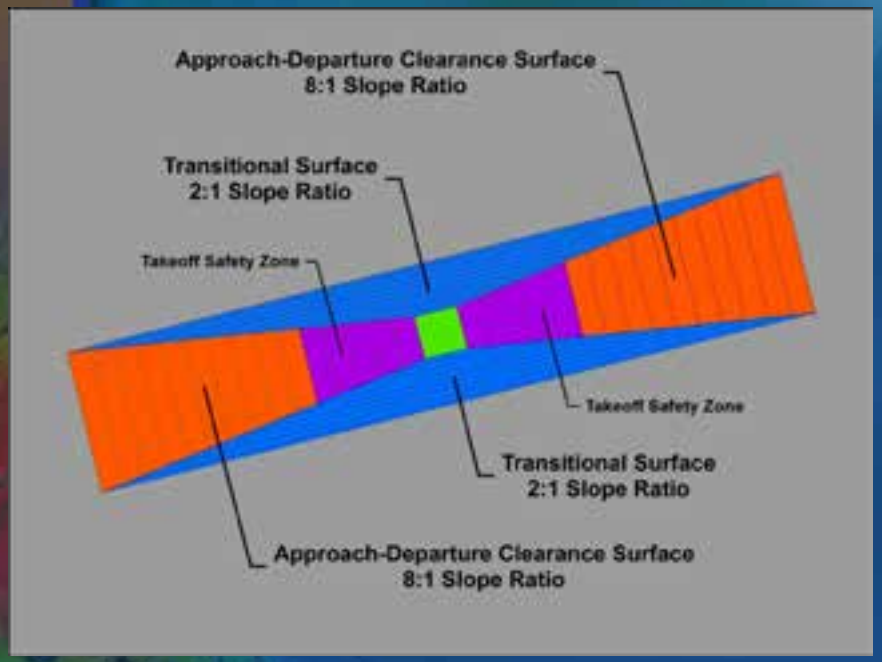
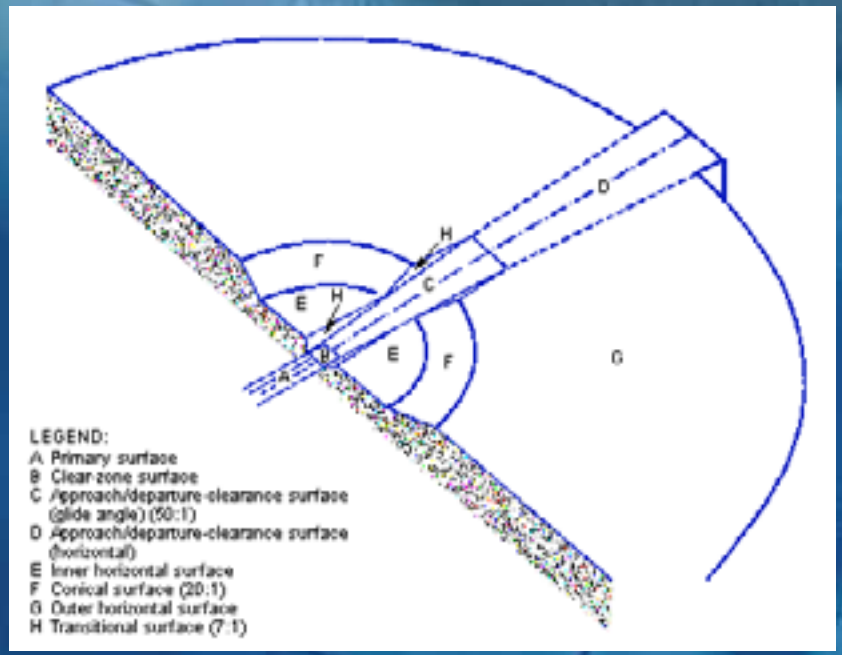
- Buffers were clipped to imaginary surfaces and assigned values based on FAA guidelines
- Approach-Departure Clearance Surfaces 8:1 slope ratio
- Transitional Surfaces 2:1 slope ratio





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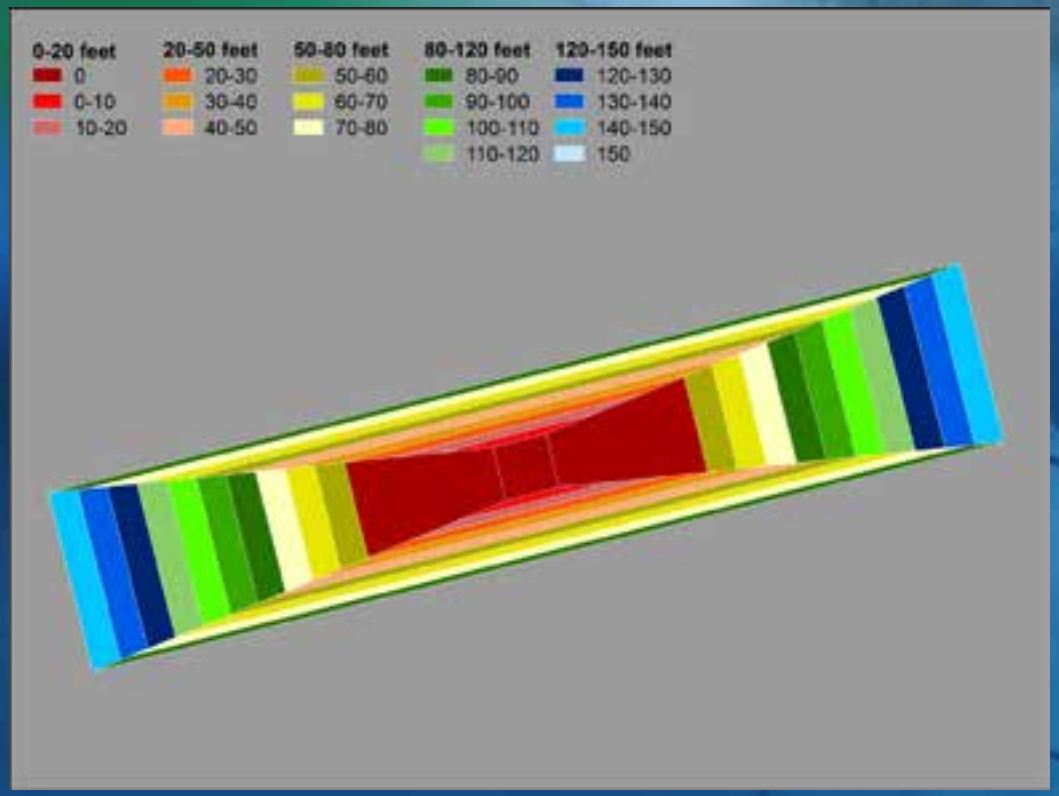
- Geoprocessing results were color coded to represent height restrictions
- Restrictions default to the lowest height, in the case of takeoff safety zones and clear zones



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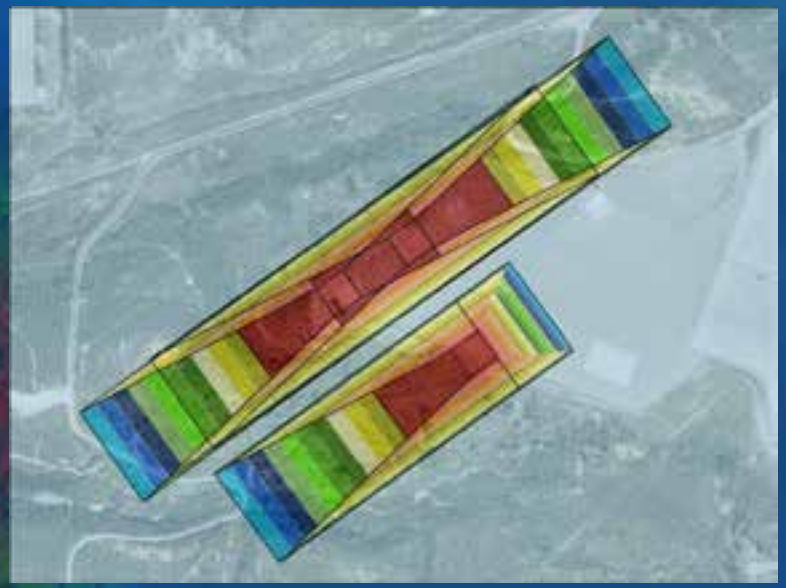
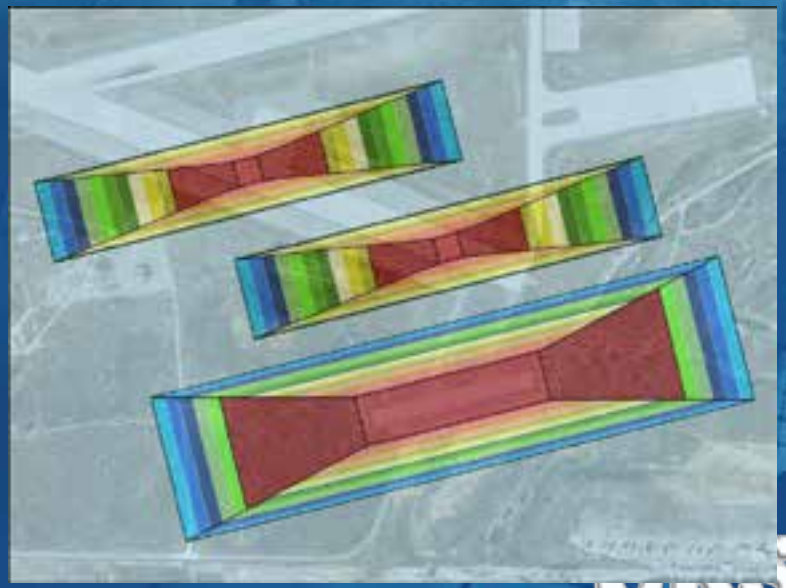
- The finished product is a 2D height restrictions map for helipad runways and imaginary surfaces
- Height restriction 2D layers can be used to determine obstruction analysis for projects within airfield imaginary surface boundaries for overlapping or parallel runways





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- For larger airfield runways, 2D height restrictions maps could be used by planners as a quick reference guide for siting a new projects