

M2S2 Presentation



Robotics MMRP TO#004 Vegetation Removal Fort Bragg Aerial Gunnery Range (AGR)



Agenda



- **Project Summary**
- **Staff Overview**
- **Robotic Platforms**
- **Command Units**
- **Fort Bragg AGR Specifics**
- **Challenges**
- **POCs**



Project Summary



| | |
|----------------------------|---|
| <u>Contract No.</u> | W912DY-13-D-0065 - TO 0004 |
| <u>Title:</u> | Ft. Bragg AGR, Tree Thinning and Cutting |
| <u>Issued by:</u> | USAESCH |
| <u>Location:</u> | Ft. Bragg, NC |
| <u>Awarded:</u> | April 2015 |
| <u>Completed:</u> | January 2016 |



Project Summary

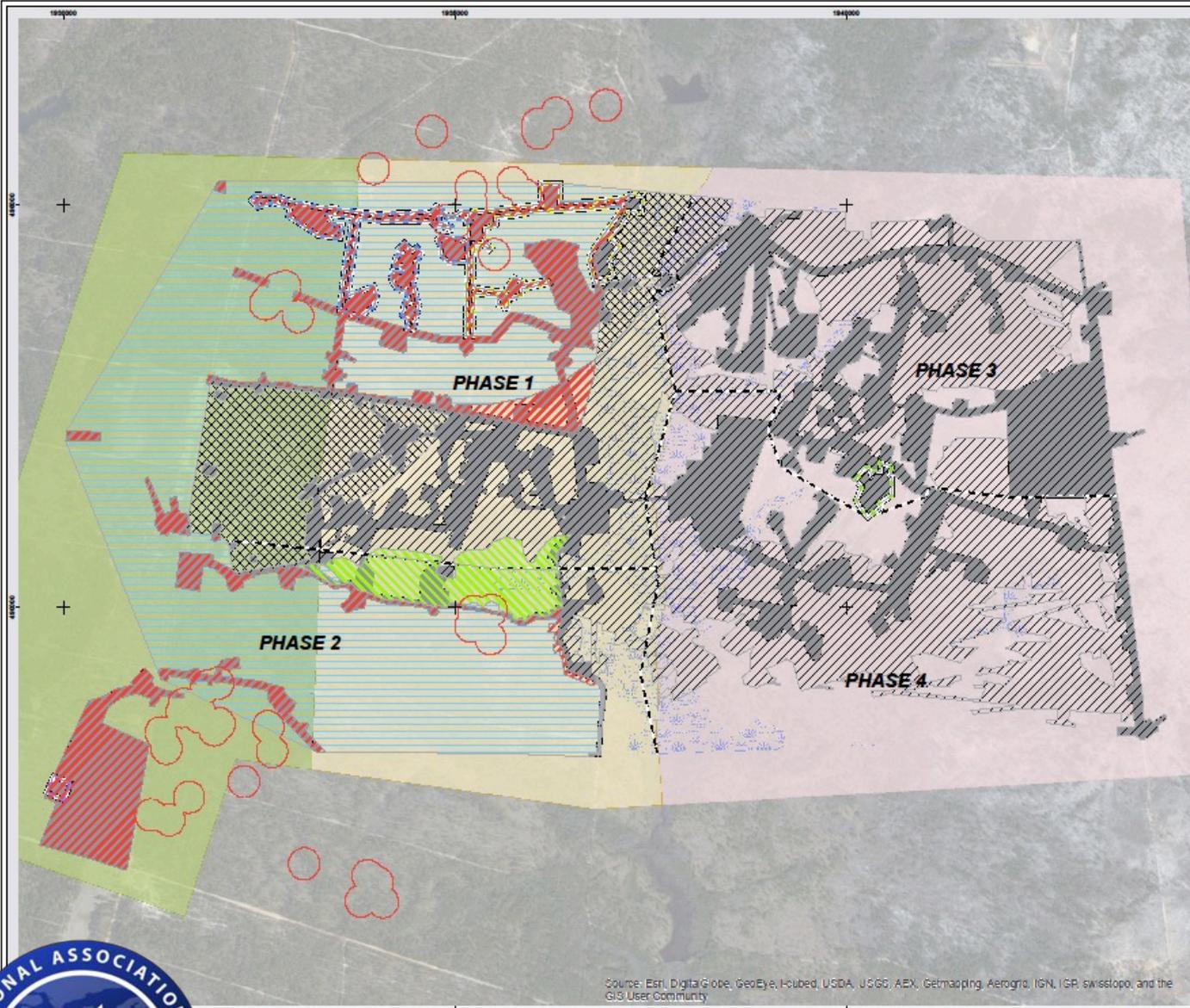


Scope of Work:

- Perform tree cutting and tree thinning activities in 1168 acre MEC and MPPEH contaminated area in support of range construction.
- Prepare and gain approval of a Tree Thinning Plan for a 130 acre area designated for tree thinning only.
- Stabilize disturbed soil by seeding.
- Conduct field repair and repair testing of GFE.
- Surveying.
- MEC Escort.



Fort Bragg, NC AGR (PN 55121) Tree Cutting/Tree Thinning Exhibit A



Legend

| | Base Acres | Option 1 Acres | Option 2 Acres | Option 3 Acres | Option 4 Acres |
|---|----------------|----------------|----------------|----------------|----------------|
| Contractor Tree Cutting Area, (See Note 1) | 429.5 | 0 | 3.5 | 4.6 | 0 |
| Fort Bragg Conducted Tree Thinning, (Contractor to Re-occupy), (See Note 2) | 120.2 | 20.8 | 13.9 | 0 | 1.2 |
| Conditional Fort Bragg Conducted Tree Thinning, (Contractor to Re-occupy) (See Note 2) | 43.3 | 0 | 0 | 0 | 0 |
| Contractor Conducted Tree Thinning for RCW Habitat, (See Note 4) | 150.8 | 0 | 0 | 0 | 0 |
| Fort Bragg Conducted Tree Thinning for RCW Habitat, (Contractor to Not Re-occupy), (See Note 5) | Not Applicable |

- Option 1 Base and options refer to AGR construction base and options.
- Option 2 Options under this task order are anticipated to mirror construction options actually awarded. The Base area is defined as the delineated project area excluding any options.
- Option 3
- Option 4
- Existing Cemetery (See Note 6)
- Jurisdiction Determination Wetlands (JDW), 170.0 Acres (See Note 7)
- Construction Footprint (See Note 8)
- RCW Cavity Trees, 200 Ft Buffer (See Note 9)
- Low Risk (See Note 10)
- Medium Risk
- High Risk
- Cutting/Thinning Phase (See Note 11)

- Notes:**
1. Tree cutting shall be conducted by the Contractor in area depicted (i.e., uplands and Jurisdictional Determination Wetlands (JDW)). See PWS for seeding requirements after cutting.
 2. Fort Bragg Forestry Department intends to remove trees from the depicted area that they consider marketable (greater than 5 inches in diameter and not metal contaminated). This selective tree cutting is more accurately regarded as thinning, but is not to be confused with areas that are to be thinned for the purpose of providing RCW habitat. The Contractor will be required to re-occupy the area and cut and dispose of all remaining trees and vegetation (in uplands and JDW) to a height of 8 inches as required by the PWS for cut areas.
 3. Fort Bragg Forestry Department intends to remove trees from the depicted area that they consider marketable (greater than 5 inches in diameter); however, potential metal contamination in the trees may prevent this. Fort Bragg will not remove trees that they believe to be metal contaminated and not marketable. This selective tree cutting is more accurately regarded as thinning, but is not to be confused with areas that are to be thinned for the purpose of producing RCW habitat. The Contractor will be required to cut and dispose of all remaining trees and vegetation (in uplands and JDW) to a height of 8 inches as required by the PWS for cut areas.
 4. Seeding is not required in areas that are thinned for producing RCW habitat.
 5. Thinning in the depicted area to be performed by Fort Bragg Forestry Department for the purpose of producing RCW habitat. No Contractor effort is required in the depicted area.
 6. The Contractor shall coordinate with Fort Bragg DPW Cultural Resources (910-396-6680) before working in the vicinity of the existing cemetery. The existing cemetery is not to be disturbed.
 7. See PWS for work restrictions in the JDW. Depicted JDW acreage only includes portions of the wetlands that the Contractor will be working in.
 8. See PWS for vegetation disposal restrictions in the construction footprint.
 9. No tree cutting or thinning may occur within the 200 foot Red-Cockaded Woodpecker (RCW) buffer during the RCW nesting season. See PWS for additional details and restrictions.
 10. Low risk areas associated with previous DMPRO-AVN subsurface clearances not shown for clarity.
 11. See PWS for phasing requirements.



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Source: Esri, DigitalGlobe, GeoEye, Earthstar, USDA, U.S.G.S., AEX, GeoMapping, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community

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 Imagery Source: As referenced on map Coordinate System: NAD83 State Plane North Carolina, Feet

Staff Overview



| USAESCH | |
|---------------------|------------------|
| Contracting Officer | Kenneth Bryant |
| PgM | Spencer O'Neal |
| Technical Mgr. | Charles Pregeant |
| | |
| | |

| ECC | |
|---------------|----------------|
| PgM | Mike Davis |
| PM | Ray Velazquez |
| Robotics Mgr | Ryan O'Donnell |
| SUXOS | Chris Talbot |
| UXOSO/ QCS | Rick Rogaliner |





Robotic Platforms

(6) Bobcat T770 w/MRAK

Attachments:

- Mulcher
- Bucket
- Root Grappler
- Mower deck
- Buncher
- Tree Shear
- Forklift
- Excavator



Robotic Platforms



Robotic Platforms





Robotic Platforms

(3) Caterpillar
521B Feller-
Bunchers w/
MRAK

Attachments:

- Hot Saw
- Mulcher head



Robotic Platforms



Command Units





Command Units



Command Units





Ft Bragg AGR

| Acres | Area |
|-------|------------------------------|
| 829.5 | Tree Cutting |
| 8.1 | Option 2, Option 3 |
| 120.2 | Bragg Tree Thinning |
| 36.1 | Option 1, Option 2, Option 4 |
| 43.3 | Conditional Bragg Thinning |
| 130.8 | Tree Thinning for RCW |
| 1168 | <i>Project Total</i> |

Total Acreage % Complete

93.5%
(6.5% were inaccessible)

Duration

270 days

Avg. Daily Production Rate

4.5 acres/day



Ft Bragg AGR



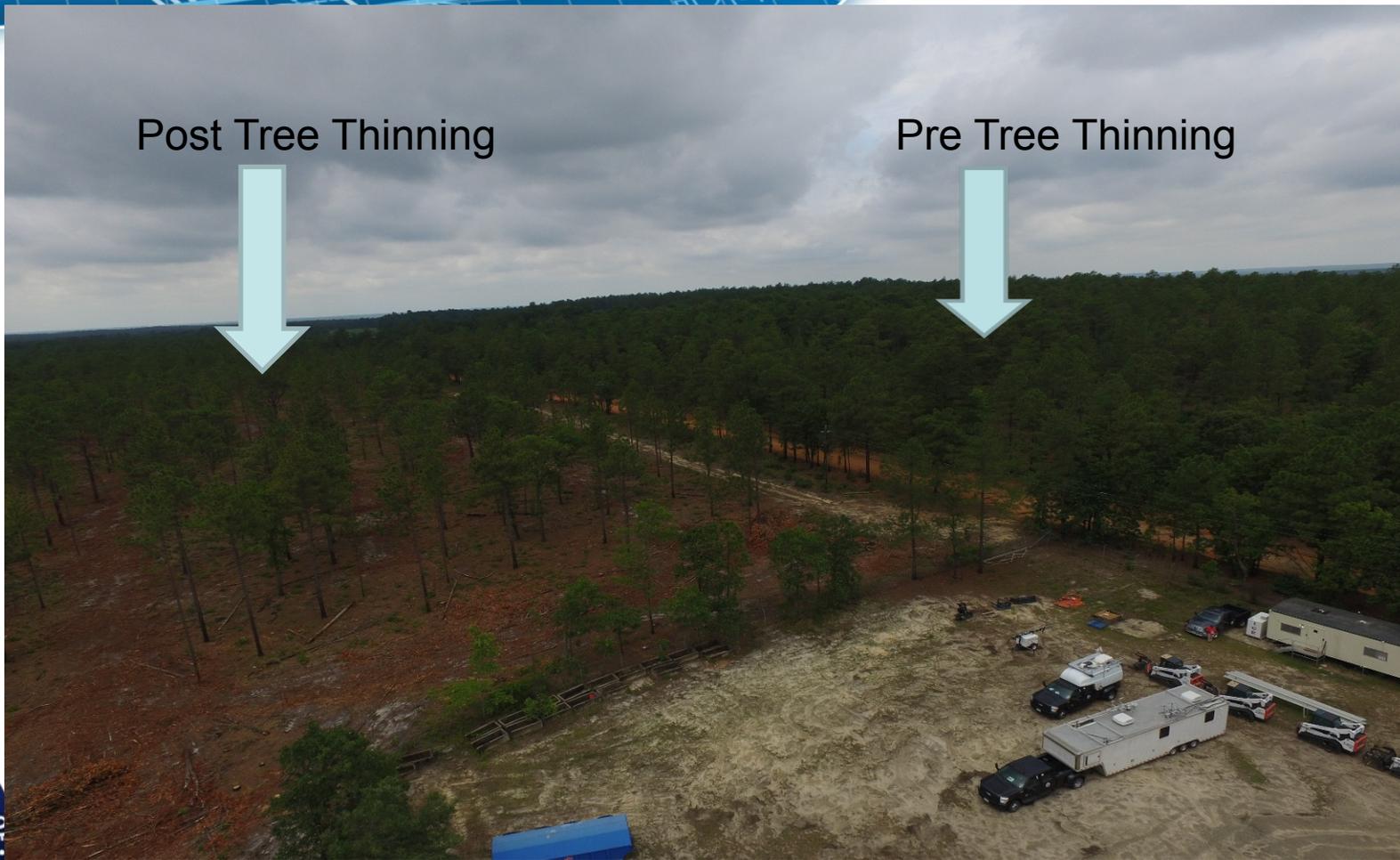


Ft Bragg AGR

Post Tree Thinning

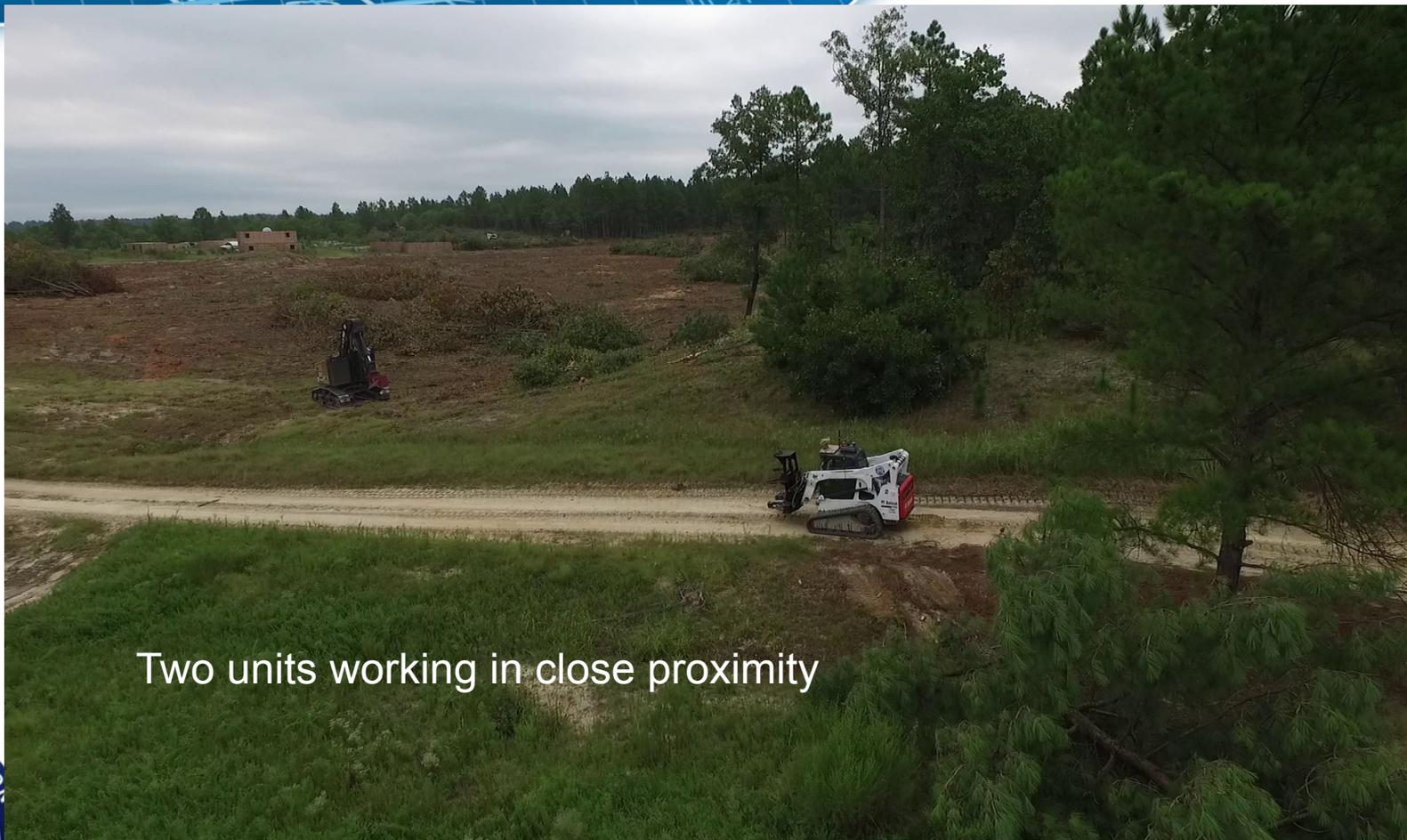


Pre Tree Thinning





Ft Bragg AGR



Two units working in close proximity





Ft Bragg AGR - Challenges

| Challenges | Solutions |
|---------------------|---|
| RCW Habitats | Operating during non RCW nesting season. No operations within 200 feet of RCW buffer. |
| Wetlands | Operations during dry season; manual tree cutting; low ground pressure platforms. |
| Line of Site Issues | Placement of repeaters to maximize range and LOS. |
| Cultural sites | Coordination with installation cultural monitors. |



POCs



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**US Army Corps
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