

U.S. DEPARTMENT OF AGRICULTURE  
REGION 9  
SUPERIOR NATIONAL FOREST  
ENGINEERING

2/2/2023

TOFTE AND GUNFLINT RANGER DISTRICT  
Project Statement of Work (SOW)

## 1.0 PROJECT INTRODUCTION

Project Name: East Zone Tree Cooler Installation

### 1.1 PROJECT BACKGROUND

The goal of this project is to supply and install a free-standing outdoor tree cooler to the Tofte and Gunflint Ranger Districts. The work on this project includes structure excavation, pouring of concrete slab (sized accordingly to manufacturers specifications) placement of free-standing outdoor tree cooler (contractor supplied), and the running and connecting of power to the tree coolers.

### 1.2 PROJECT SCOPE

In accordance with the terms and conditions of the Contract, the Contractor shall perform the work of this Statement of Work (SOW) for the USDA-Forest Service (FS) as described below.

The Contractor shall perform inspection, design, and construction services in accordance with the requirements within the contract.

The Contractor shall perform all services necessary to produce a complete and usable project in accordance with the project goals and design intent stated herein.

### 1.3 PROJECT LOCATION

Tofte Ranger District  
7355 W. Highway 61  
Tofte, MN 55615  
218-663-8060

Gunflint Ranger District  
2020 W. Highway 61  
Grand Marais, MN 55604  
218-387-1750

### 1.4 PROJECT SCHEDULE

All work shall be completed by September 15, 2023.

## 1.5 WORK HOUR RESTRICTIONS

All work and deliveries shall be limited to the weekday hours of 7:00 am to 6:00 pm unless otherwise approved by the COR. No work shall occur on Federal holidays or weekends without prior approval.

## 1.6 QUALITY CONTROL

The quality of all work shall be the responsibility of the Contractor. Inspect and test all work as needed to ensure that the quality of materials, workmanship, construction, finish, and functional performance follows applicable specifications and drawings. Failure to provide adequate quality control will result in retention and other contract actions.

## 1.7 APPLICABLE CODES

All work in this contract shall be done, when applicable, in accordance with the following in their most current edition:

1. National Fire Protection Association (NFPA)
2. OSHA – Occupational Safety and Health Act
3. IBC 2018 – International Building Codes 2018 Edition
4. NEC 2017 – National Electric Code 2017 Edition
5. ABAAS – Architectural Barriers Act Accessibility Standard
6. ADA – Americans with Disabilities Act
7. Forest Service Outdoor Recreation Accessibility Guide (FSORAG)
8. All local safety and fire regulations
9. All manufacturer installation instructions.
10. All other codes and standards referenced in the specifications.

## 1.8 PERMITS AND LOCATING

Contractor will be responsible for locating electrical and communication cable prior to excavation.

## 2.0 GENERAL REQUIREMENT BY WORK ITEM

The contractor shall be responsible for the conditions and proper relation of their work to the site conditions and will familiarize themselves with all details of the work and working conditions. The contractor shall verify all dimensions in the field and generate their own quantities for work provided. Any, and all, incidental items not specifically

listed in this contract are to be included in the bid to provide to the government a finished operating end product.

## 2.1 STRUCTURE EXCAVATION-

Excavate area according to required depth and dimensions necessary for the accomplishment of the project. Oversize the excavation a minimum of 12-inches on all sides of the concrete slab's footprint. All removal debris shall become property of the contractor for legal disposal away from the project site. See Tree Cooler Concrete drawing for excavation specifications. Refer to the FP-14, Forest Service Supplemental Specifications and Tree Cooler Concrete drawing for further specifications.

Some landscape restorations will be needed to blend the excavated area in with the surrounding landscape and to backfill around the slab.

## 2.2 AGGREGATE BASE BACKFILL MATERIAL

MNDOT Type II Geotextile fabric will be required under the aggregate base. Prepare the subgrade by using a MNDOT Class 5 Aggregate Base. Fill material is to be approved by the COR and compacted in 2-inch lifts. Compact each layer with at least three passes of a lightweight mechanical tamper, roller, or vibrating system. Refer to the FP-14, Forest Service Supplemental Specifications and Tree Cooler Concrete drawing for further specifications.

## 2.3 CONCRETE WORK

### Tofte tree Cooler

This work consists of constructing a 5" depth, reinforced concrete slab on the prepared subgrade with a broomed finish. Concrete slab should be sized to the tree cooler manufacturer's suggested specifications. Concrete Slab Shall be sloped toward the Cooler door for drainage. Refer to the FP-14, Forest Service Supplemental Specifications and Tree Cooler Concrete drawing for further specifications.

### Gunflint tree cooler

This work consists of constructing a 5" depth, reinforced concrete slab on the prepared subgrade with a broomed finish. Concrete slab should be sized to the tree cooler manufacturer's suggested specifications with a 5' apron to transition from cooler pad to the existing sidewalk. Concrete Slab Shall be sloped toward the Cooler door for drainage. Refer to the FP-14, Forest Service Supplemental Specifications and Tree Cooler Concrete drawing for further specifications.

## 2.4 TREE COOLER

### Tofte

The contractor will be responsible for supplying a 16ft x 30ft tree cooler for the project. The **Polar King International, Inc. Model H1630 Cooler 35°F**, with the following specifications, and options, has been preapproved for this project. If the contractor chooses to use an “or equal” product, product data sheets must be submitted a minimum of two weeks prior to start of work period for review and approval. Please see cooler drawing. Final product to be approved by COR prior to construction of cooler.

#### Polar King International:

##### Model: H1630 Cooler 35°F

**25 Year Insulation Warranty**

**12 Year Structural Warranty**

**5 Year Compressor Warranty 208-230/1/60 Refrigeration System Anti-Microbial Interior Finish**

Condensate Line

Crowned Roof

Defrost Timer

Door Closer/Door Sweep Seal Exterior Hasp Lock

Heated Relief Port on Freezer Heated Door on -10° Freezer Interior Lighting

Lockable Door Latch

Low Ambient Pressure Controls Magnetic Gasket/Heated Door Jamb Pre-charged Refrigerant

Rain Cap Above Exterior Doors Seamless Fiberglass Interior/Exterior

Single Point Electrical Connection

Beige in Color

#### **Include the following options:**

Vinyl Strip Door

Aluminum Diamond Tread Kick Plate

60" Door Upgrade

64 Linear Feet - Pallet Bumper Guard

Extra Heavy-Duty Floor (for electric pallet jacks)

60-inch pallet duty ramp

2- 115 volt outlets, surface mounted

Extra LED light

Exterior Flood Light

### Gunflint

The contractor will be responsible for supplying a 16ft x 30ft tree cooler for the project. The **Polar King International, Inc. Model H1630 Cooler 35°F**, with the following specifications, and options, has been preapproved for this project. If the contractor chooses to use an “or equal” product, product data sheets must be submitted a minimum of two weeks prior to start of work period for review and approval. Please see cooler drawing. Final product to be approved by COR prior to construction of cooler.

**Polar King International:**

**Model: H1630 Cooler 35°F**

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Condensate Line

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Heated Relief Port on Freezer Heated Door on -10° Freezer Interior Lighting

Lockable Door Latch

Low Ambient Pressure Controls Magnetic Gasket/Heated Door Jamb Pre-charged Refrigerant

Rain Cap Above Exterior Doors Seamless Fiberglass Interior/Exterior

Single Point Electrical Connection

Beige in Color

**Include the following options:**

Vinyl Strip Door

Aluminum Diamond Tread Kick Plate

60" Door Upgrade

84 Linear Feet - Pallet Bumper Guard

Extra Heavy-Duty Floor (for electric pallet jacks)

60-inch pallet duty ramp

2- 115 volt outlets, surface mounted

Extra LED light

Exterior Flood Light

Floor Drain

3x3 frame

Shelf mount refrigeration

Evap Freeze protection

## 2.5 ELECTRICAL CONNECTION

Contractor is responsible for running and connecting electrical power to the tree cooler after delivery. The contractor shall follow the manufacturer's specifications for the connection of power. Electrical power is currently located approximately 30ft from the cooler's final location. No excavation of concrete or pavement is expected for power installation.

## 3.0 CONSTRUCTION SPECIFICATIONS

The Forest Service, US Department of Agriculture has adopted the Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-14, U.S. Customary Units for construction of National Forest System Roads and other projects.

The full provisions of the FP-14 shall apply as applicable on this contract, unless modified by the Special Project Specifications.

An electronic version of the FP-14 can be found at the following web address:

<http://flh.fhwa.dot.gov/resources/pse/specs/>

## 4.0 SPECIAL PROJECT SPECIFICATIONS

### **Forest Service Supplemental Specifications East Zone Tree Cooler Site Work**

Tofte and Gunflint Ranger District

Superior National Forest  
Cook County, Minnesota

### **Table of Contents**

Table of Contents .....	5
Preface.....	7
<u>STANDARD SPECIFICATION SECTIONS</u> .....	7
<u>SUPPLEMENTAL SPECIFICATIONS</u> .....	8
101 - Terms, Format, and Definitions.....	8
102 - Bid, Award, and Execution of Contract .....	10
102 Bid, Award, and Execution of Contract.....	10
103 - Scope of Work.....	10
Deletions .....	10
104 - Control of Work.....	10
Deletions .....	10
104.06 Use of Roads by Contractor.....	10
106 - Acceptance of Work .....	11
106.07 Delete .....	11
107 - Legal Relations and Responsibility to the Public.....	11
107.05 Responsibility for Damage Claims. ....	11
107.06 Contractor's Responsibility for Work.....	11

107.09 Legal Relationship of the Parties. ....	11
107.10 Environmental Protection. ....	11
108 - Prosecution and Progress.....	12
108 Delete. ....	12
109 - Measurement and Payment.....	13
109 Deletions .....	13
109.02 Measurement Terms and Definitions.....	13
151 - Mobilization.....	13
155 - Schedules for Construction Contracts .....	14
155 Delete. ....	14
203 – Removal of Structures and Obstructions .....	14
601 - Minor Concrete.....	15
Table 601-2. Sampling and Testing Requirements.....	19
615 – Tree Cooler Concrete Slab.....	20

## Preface

Preface\_wo\_03\_15\_2004\_m

Delete all but the first paragraph and add the following:

The Forest Service, US Department of Agriculture has adopted the Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-14, U.S. Customary Units (FP-14) for construction of National Forest System Roads and other projects.

The full provisions of FP-14 shall apply as applicable on this contract, unless modified by the Special Project Specifications.

STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON  
FEDERAL HIGHWAY PROJECTS, FP-14, AS MODIFIED BY U.S. FOREST SERVICE  
SPECIAL PROJECT SPECIFICATIONS

### STANDARD SPECIFICATION SECTIONS

Applicable Standard Specification Sections include but are not limited to the following:

SECTION 101	TERMS, FORMAT AND DEFINITIONS
SECTION 104	CONTROL OF WORK
SECTION 105	CONTROL OF MATERIAL
SECTION 106	ACCEPTANCE OF WORK
SECTION 107	LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC
SECTION 109	MEASUREMENT AND PAYMENT
SECTION 154	CONTRACTOR SAMPLING AND TESTING
SECTION 207	EARTHWORK GEOTEXTILES
SECTION 209	STRUCTURE EXCAVATION AND BACKFILL
SECTION 404	MINOR HOT ASPHALT CONCRETE
SECTION 552	STRUCTURAL CONCRETE
SECTION 624	TOPSOIL
SECTION 627	SOD
SECTION 713	ROADSIDE IMPROVEMENT MATERIAL



## SUPPLEMENTAL SPECIFICATIONS

### 101 - Terms, Format, and Definitions

101.00\_nat\_us\_07\_25\_2005

101.01\_nat\_us\_01\_22\_2009

#### 101.01 Meaning of Terms

Delete all references to the TAR (Transportation Acquisition Regulations) in the specifications.

101.03\_nat\_us\_06\_16\_2006

#### 101.03 Abbreviations.

Add the following to (a) Acronyms:

AFPA	American Forest and Paper Association
MSHA	Mine Safety and Health Administration
NIST	<a href="#">National Institute of Standards and Technology</a>
NESC	National Electrical Safety Code
WCLIB	West Coast Lumber Inspection Bureau

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Add the following to (b) SI symbols:

mp	Milepost
ppm	Part Per Million

101.04\_nat\_us\_03\_29\_2007

#### 101.04 Definitions.

Delete the following definitions and substitute the following:

**Bid Schedule**--The Schedule of Items.

**Bridge**--No definition.

**Contractor**--The individual or legal entity contracting with the Government for performance of prescribed work. In a timber sale contract, the contractor is the “purchaser”.

**Culvert**--No definition.

**Right-of-Way**--A general term denoting (1) the privilege to pass over land in some particular line (including easement, lease, permit, or license to occupy, use, or traverse public or private lands), or (2) Real property necessary for the project, including roadway, buffer areas, access, and drainage areas.

Add the following:

**Adjustment in Contract Price**--“Equitable adjustment,” as used in the Federal Acquisition Regulations, or “construction cost adjustment,” as used in the Timber Sale Contract, as applicable.

**Change**--“Change” means “change order” as used in the Federal Acquisition Regulations, or “design change” as used in the Timber Sale Contract.

**Design Quantity**--“Design quantity” is a Forest Service method of measurement from the FS-96 *Forest Service Specifications for the Construction of Roads and Bridges*. Under these FP specifications this term is replaced by the term “Contract Quantities”.

**Forest Service**--The United States of America, acting through the Forest Service, U.S. Department of Agriculture.

**Neat Line**--A line defining the proposed or specified limits of an excavation or structure.

**Schedule of Items**--A schedule in the contract that contains a listing and description of construction items, quantities, units of measure, unit price, and amount.

## 102 - Bid, Award, and Execution of Contract

102.00\_nat\_us\_02\_16\_2005

### 102 Bid, Award, and Execution of Contract

Delete Section 102 in its entirety.

## 103 - Scope of Work

103.00\_nat\_us\_02\_16\_2005

### Deletions

Delete all but subsection 103.01 Intent of Contract.

## 104 - Control of Work

104.00\_nat\_us\_06\_16\_2006

### Deletions

Delete Sections 104.01, 104.02, and 104.04.

104.06\_nat\_us\_02\_17\_2005

Add the following subsection:

### 104.06 Use of Roads by Contractor

The Contractor is authorized to use roads under the jurisdiction of the Forest Service for all activities necessary to complete this contract, subject to the limitations and authorizations designated in the Road Order(s) or described in the contract, when such use will not damage the roads or national forest resources, and when traffic can be accommodated safely.

## 106 - Acceptance of Work

106.07\_nat\_us\_05\_11\_2004

### 106.07 Delete

Delete subsection 106.07.

## 107 - Legal Relations and Responsibility to the Public

107.05\_nat\_us\_05\_11\_2004

### 107.05 Responsibility for Damage Claims.

Delete the entire subsection.

107.06\_nat\_us\_06\_16\_2006

### 107.06 Contractor's Responsibility for Work.

Delete the following from the first paragraph.

“except as provided in Subsection 106.07”.

107.09\_nat\_us\_06\_16\_2006

### 107.09 Legal Relationship of the Parties.

Delete the entire subsection.

107.10\_nat\_us\_06\_16\_2006

### 107.10 Environmental Protection.

Add the following:

Design and locate equipment repair shops, stationary refueling sites, or other facilities to minimize the potential and impacts of hazardous material spills on Government land.

Immediately notify the CO of all hazardous material spills. Provide a written narrative report form no later than 24 hours after the initial report and include the following:

- Description of the item spilled (including identity, quantity, manifest number, and other identifying information).
- Whether amount spilled is EPA or state reportable, and if so whether it was reported, and to whom.
- Exact time and location of spill including a description of the area involved.
- Containment procedures.

- Summary of any communications the Contractor had with news media, Federal, state and local regulatory agencies and officials, or Forest Service officials.
- Description of clean-up procedures employed or to be employed at the site including final disposition and disposal location of spill residue.

When available provide copies of all spill related clean up and closure documentation and correspondence from regulatory agencies.

The Contractor is solely responsible for all spills or leaks that occur during the performance of this contract. Clean up spills or leaks to the satisfaction of the CO and in a manner that complies with Federal, state, and local laws and regulations.

## **108 - Prosecution and Progress**

108.00\_nat\_us\_02\_16\_2005

### **108 Delete.**

Delete Section 108 in its entirety.

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## 109 - Measurement and Payment

109.00\_nat\_us\_02\_17\_2005

### 109 Deletions

Delete the following entire subsections:

**109.06 Pricing of Adjustments.**

**109.07 Eliminated Work.**

**109.08 Progress Payments.**

**109.09 Final Payment.**

109.02\_nat\_us\_06\_16\_2006

### 109.02 Measurement Terms and Definitions.

**(b) Contract quantity.**

Add the following:

Contract quantities will be adjusted only when there are errors in the original design of 15% or more.

Change the following:

“(b) Cubic yard” to “(c) Cubic yard”.

## 151 - Mobilization

151.03\_nat\_us\_08\_05\_2005

### 151.03 Payment

Delete the entire subsection and add the following:

### 151.03 Payment

Mobilization is considered an indirect cost of this contract and will not be compensated as a separate work item.

## 155 - Schedules for Construction Contracts

155.00\_nat\_us\_05\_11\_2004

### 155 Delete.

Delete Section 155 in its entirety.

## 203 – Removal of Structures and Obstructions

### Description

**203.01** This work consists of removing and disposing of excavated soils and other obstructions.

### Material

**203.02** Conform to the following Section and Subsection:

Backfill material	615
Concrete	601

### Construction Requirements

#### 203.03 Removing Material.

Construct structurally adequate debris shields to contain debris within the construction limits. Do not permit debris to enter waterways, travel lanes open to public traffic, or areas designated not to be disturbed.

Remove all obstructions interfering with the work and not designated to remain.

**203.04 Disposing of Material.** Dispose of debris and unsuitable and excess material as follows:

(a) **Remove from project.** Recycle or dispose of material legally off the project.

**203.05 Acceptance.** Removal of structures and obstructions will be evaluated under Subsection 106.02.

### Measurement

**203.07** Measure the Section 203 items listed in the bid schedule according to Subsection 109.02.

### Payment

**203.08** The accepted quantities will be paid at the contract price per unit of measurement for the Section 203 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

## **601 - Minor Concrete**

601.00\_nat\_us\_02\_27\_2007

Delete the entire specification and replace it with the following:

### **Description**

601.01 This work consists of constructing minor concrete structures.

### **Material**

**601.02** Conform to the following Subsections:

Air-entraining admixtures	711.02
Chemical admixtures	711.03
Coarse aggregate	703.02
Curing material	711.01
Fine aggregate	703.01
Fly ash	725.04
Hydraulic Cement	701.01
Joint fillers	702.01
Reinforcing Steel	709.01
Water	725.01

**601.03 Concrete Composition.** Use the designated concrete composition:



(a) Method A. Submit a mix design showing the proposed masses of aggregate, water, and cement per cubic yard of concrete a minimum of 7 days prior to beginning placement. Proportion the cement, aggregate, and water to obtain concrete with good workability.

#### Composition of Minor Structure Concrete

Property	Specification	Test Method
Cement Content	590 pounds per CY minimum	
Water/Cement ratio	0.50 maximum	
Slump	2-inch min. to 4-inch max.	AASHTO T 119
Air content	6.0 % plus or minus 1.5%	AASHTO T 152 or T 196
Size of Coarse Aggregate	100% passing the 1.5-inch sieve	AASHTO M 43
28-day compressive strength	3900 psi	AASHTO T 23 and T 22

#### Construction Requirements

**601.04 General.** Perform excavation and backfill work according to Section 209. When concrete is cracked, spalling, or scaling, remove concrete to the nearest joint or to a designated saw cut location.

Design and construct forms that conform to the lines of the original design requirements and allow for removal without injuring the concrete. When concrete contains a retarding admixture, fly ash, or other pozzolan replacement for cement, design the forms for a lateral pressure equal to that exerted by a fluid with a mass of 2.5 ton per cubic yard.

Use wood, metal, or other suitable material for forms. Keep forms clean and coat with a form release agent or form oil before placing concrete.

##### (a) Reinforcing Steel

**Reinforcing bars.** Furnish deformed, grade 60 bars conforming to AASHTO M 31, M 42, or M 53.

**Placing and fastening.** Place and fasten reinforcing steel in accordance with the following:

Support the bars on precast concrete blocks or metal supports according to the *CRSI Manual of Standard Practice*. Attach concrete block supports to the supported bar with wire cast in the center of each block. Use class 1 (plastic protected) or class 2, type B (stainless steel

protected) metal supports in contact with exposed concrete surfaces. Use stainless steel conforming to ASTM A 493, type 430.

Coat chairs, tie wires, and other devices used to support, position, or fasten epoxy-coated reinforcement with a dielectric material. Do not use plastic supports.

Space slab bar supports no more than 4 feet apart transversely or longitudinally. Do not use bar supports either directly or indirectly to support runways for concrete buggies or other similar construction loads.

Space parallel bars within 1½ inches of the required location. Do not cumulate spacing variations. The average of any two adjacent spaces shall not exceed the required spacing.

Provide 2 inches clear cover for all reinforcement except as otherwise shown on the plans.

Do not place concrete in any member until the placement of the reinforcement is approved.

**Splices.** Splicing, except as shown on the plans, is not permitted without approval. Provide lap lengths shown on the plans. Splice reinforcing bars only where shown on the plans or accepted drawings. Do not place slab bar mechanical splices adjacent to each other.

Make lapped splices by placing the reinforcing bars in contact and wiring them together to maintain the alignment and position of the bars.

**601.05 Placing Concrete.** Do not place concrete until the grading and forms have been inspected and approved by the CO. Provide 24 hour written notice prior to placement of any concrete. Moisten the forms and foundation immediately before placing concrete.

Discharge all concrete prepared into the forms within the time limits shown in table 601-1. These time limits are based on jobsite ambient air temperature, cement type, and admixture used. Begin counting time from when the cement is introduced into the aggregate. Do not re-temper concrete. When required cement must be added to the mixer at the jobsite. Do not mix or place concrete when the temperature is, or is expected to be, less than 40 °F unless adequate provisions are made to protect the concrete.

Place concrete to avoid segregation. Use high-frequency internal vibrators for consolidating concrete in the forms. Operate vibrators to produce concrete free of voids, but do not hold them in one place long enough to result in segregation or formation of laitance on the surface.

Do not use aluminum pipe, conduit, or troughs for transporting concrete. When concrete is pumped, take samples from the discharge stream at the point of placement. Do not apply water to plastic concrete surfaces during finishing operations.

**Table 601-1 Concrete discharge time limits.**

Cement Type With and Without Admixtures	Time limit (hour)	
	< 85 °F <sup>1</sup>	>85 °F <sup>1</sup>
Type I, IA, II, or IIA	2.0	1.5

Type I, IA, II, or IIA with water reducing or retarding admixture	3.0	2.0
Type III	1.5	1.0
Type III with water reducing or retarding admixture	2.0	1.5

<sup>1</sup> Ambient air temperature.

**601.06 Curing Concrete.** Cure concrete a minimum of 7 days before loading. Cure according to Subsection 552.15. Finish exposed concrete surfaces according to Subsection 552.16(b).

**601.07 Acceptance.** See Table 601-2 for Contractor Quality Control sampling and testing requirements.

Sampling and testing of the concrete for Quality Assurance may also be conducted by the Forest Service at the Governments expense.

Material for minor concrete structures including reinforcing steel, will be evaluated under Subsections 106.02 and 106.03.

The concrete mixture's slump, air content, compressive strength, unit mass, and temperature will be evaluated under Subsections 106.02 and 106.04.

Excavation and backfill will be evaluated under Section 209.

Construction of minor concrete structures will be evaluated under Subsections 106.02 and 106.04.

**Table 601-2. Sampling and Testing Requirements.**

<b>Material or Product</b>	<b>Type of Acceptance (Subsection)</b>	<b>Characteristic</b>	<b>Category</b>	<b>Test Methods Specifications</b>	<b>Sampling Frequency</b>	<b>Point of Sampling</b>	<b>Split Sample</b>	<b>Reporting Time</b>
Concrete	Measured and tested for conformance (106.04)	Unit Mass	-	AASHTO T 121	One set per 32 cubic yards but not less than one per day	Point of discharge	-	Upon completion of project
		Air content	-	AASHTO T 152 or AASHTO T 196	“	“	-	“
		Slump	-	AASHTO T 119	“	“	-	“
		Temperature	-	Field Measured	“	“	-	“
		Compressive strength	-	AASHTO T 22 & AASHTO T 23	“	Discharge stream at point of placement	-	“

## 615 – Tree Cooler Concrete Slab

### Description

**615.01** This work consists of constructing 5” depth concrete slab on a prepared subgrade, with a 5’ apron to match sidewalk. Work covered by this section includes furnishing and placing geotextile under the aggregate base, base aggregate, and concrete slab.

### Material

**615.02** Conform to the following Sections and Subsections:

Concrete	601
Base Aggregate	703.05
Curing material	711.01
Geotextile	714.01

**615.03 Base Aggregate.** Furnish Base Aggregate Grading Designation E in accordance with Specification Section 703.05. (MnDOT Class 5 Aggregate Gradation is an acceptable alternate specification)

(a) Gradation E	Table 703-2
(b) Liquid limit, AASHTO T 89	25 max.

**Table 703-2**  
**Base Aggregate Gradation**

Sieve Size	Percent by Mass Passing Designated Sieve (AASHTO T 27 & T 11)
3/4 inch	100
3/8 inch	62-90
No. 4	36-74
No. 40	12-26
No. 200	4-7

**615.04 Geotextile.** Furnish Type II-B Separation Geotextile under the base aggregate material. Install in accordance with Specification Section 207.

**615.05 Bituminous Patching.** Bituminous Patching along the front edge of the concrete slab will be in accordance with Specification Section 404 – Minor Hot Asphalt Concrete.

## **Construction Requirements**

**615.06 General.** Excavate and backfill according to Section 209. Place aggregate material in layers not exceeding 6 inches in compacted thickness. Compact each layer with at least three passes of a lightweight mechanical tamper, roller, or vibratory system.

**615.07 Concrete Tree Cooler Slab.** Perform the work according to Section 601. Use forms that extend for the full depth of the concrete.

**(a) Finishes.** Provide a Class 2 Rubbed Finish in accordance with Subsection 552.16(b). Edge outside edges of slab with a 1/4-inch radius edging tool.

Cure the concrete for at least 72 hours with liquid membrane curing compound. Protect the work from pedestrian traffic for 72 hours and from heavier loading for 7 days.

**615.08 Acceptance.** See Table 601-2 for Quality Control sampling and testing requirements (by the Contractor).

Reinforcing steel will be evaluated under Subsections 106.02 and 106.03.

Bed course material will be evaluated under Subsections 106.02 and 106.04.

Construction of concrete slabs will be evaluated under Subsections 106.02 and 106.04.

Excavation and backfill will be evaluated under Section 209.

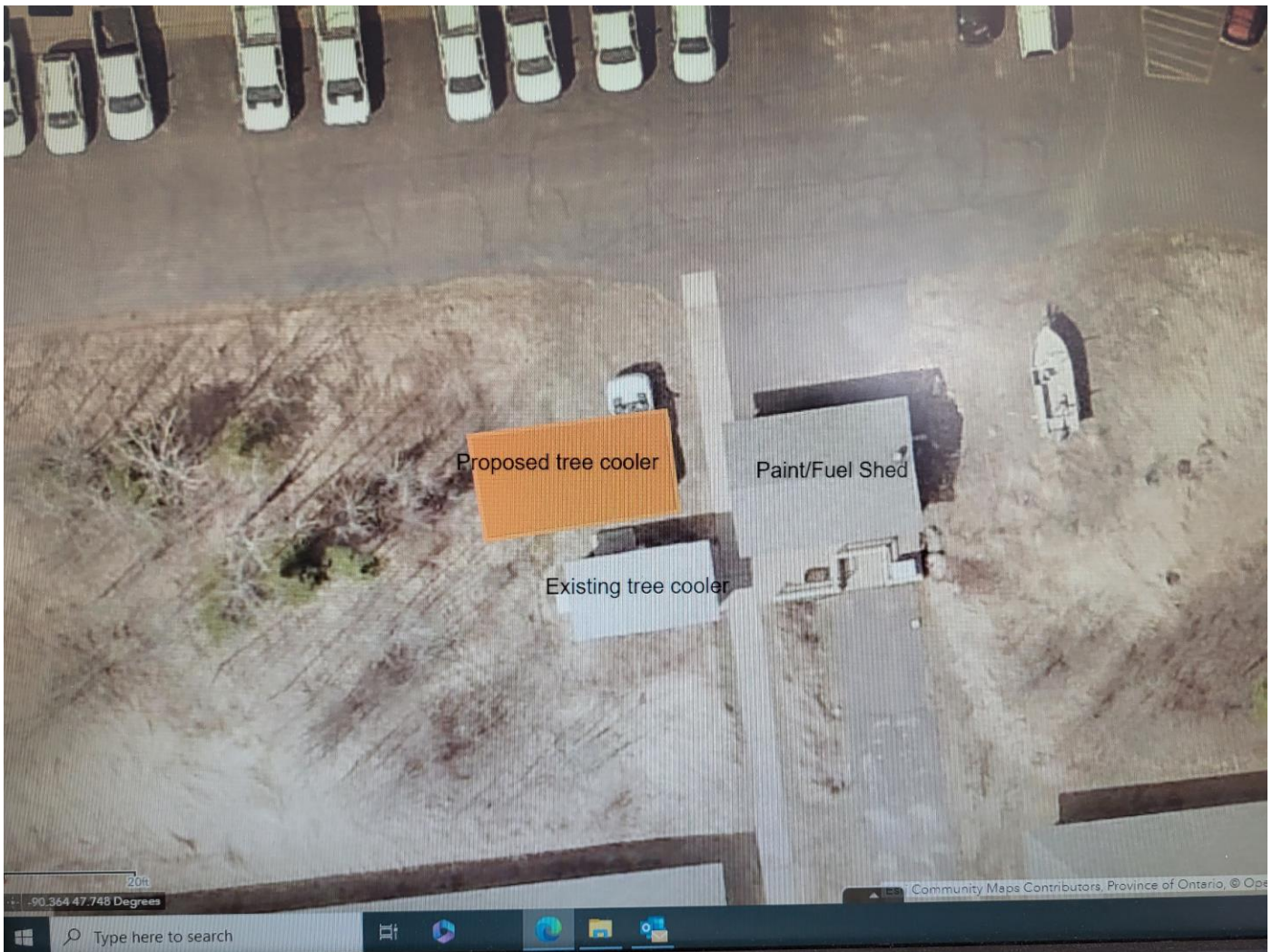
Concrete will be evaluated under Section 601.

## **Measurement**

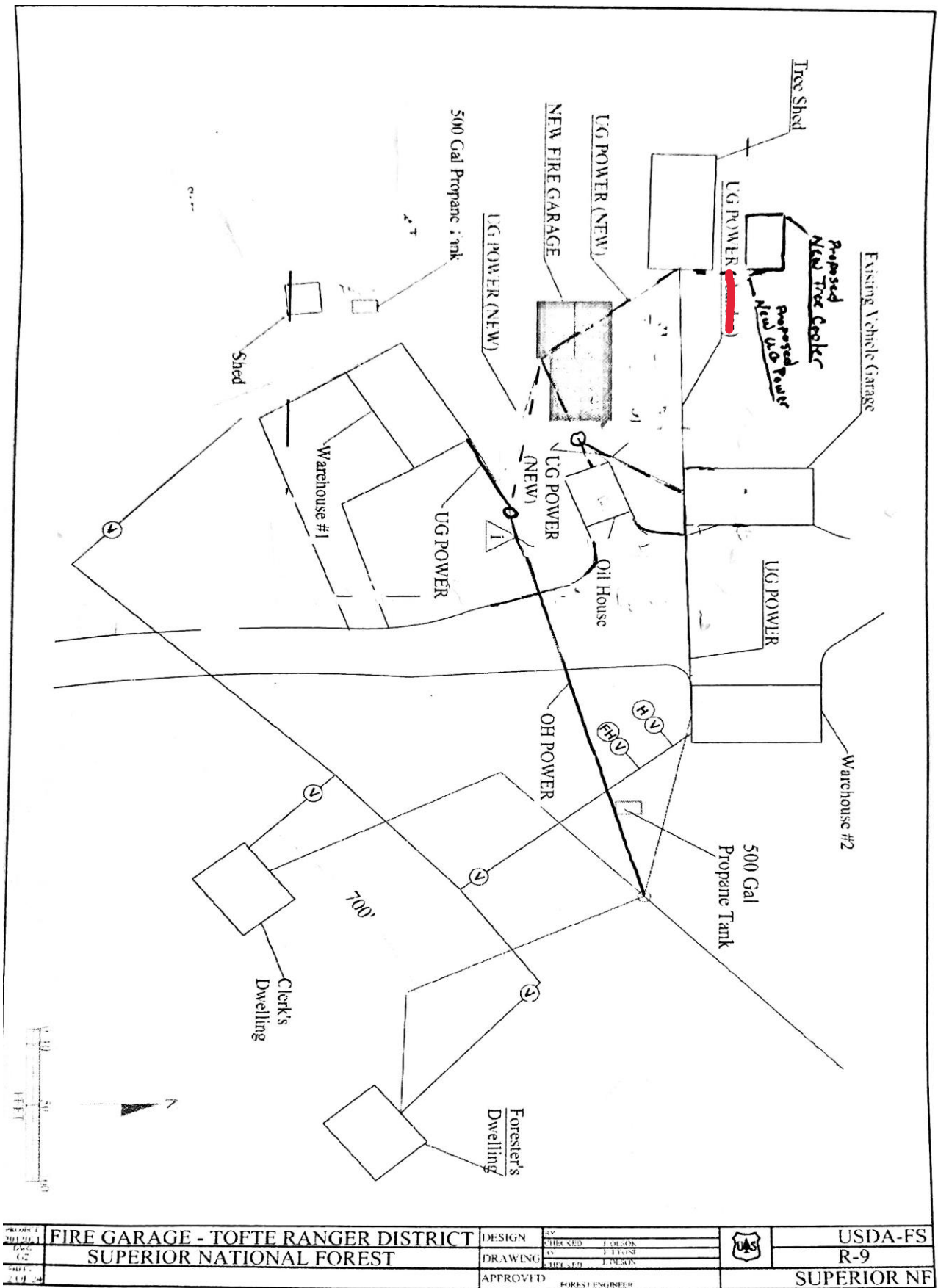
**615.09** Measure the Section 615 items listed in the bid schedule according to Subsection 109.02. Geotextile is considered incidental to other items in the contract and will not be measured for payment.

## **Payment**

**615.10** The accepted quantities will be paid at the contract price per unit of measurement for the Section 615 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.



Gunflint Tree Cooler Location



Tofte Tree Cooler Location