

## **Information for: File # 2014-01165-RQM**

**Applicant: Crow Wing County Highway Department**

**Corps Contact: Robert Maroney**

**Address: 10867 East Gull Lake Drive NW Brainerd, Minnesota 56401**

**E-Mail: robert.q.maroney@usace.army.mil**

**Phone: (651) 290-5766**

**Primary County: Crow Wing County, Minnesota**

**Section, Township, Range: Sections 19, 30 Township 137 North, Range 26 West and  
Sections 21-18, Township 137 North, Range 27 West**

**Information Complete On: 13 June 2014**

**Posting Expires On: 23 June 2014**

**Authorization Type: LOP-05-MN**

This application is being reviewed in accordance with the practices for documenting Corps jurisdiction under Sections 9 & 10 of the Rivers and Harbor Act of 1899 and Section 404 of the Clean Water Act identified in Regulatory Guidance Letter 07-01. We have made a preliminary determination that the aquatic resources that would be impacted by the proposed project are regulated by the Corps of Engineers under Section 404 of the Clean Water Act. Our jurisdictional review and final jurisdictional determination could result in modifications to the scope of the project's regulated water body and/or wetland impacts and compensatory mitigation requirements identified above. Approved jurisdictional determinations are posted on the St. Paul District web page at <http://www.mvp.usace.army.mil/>.

### **Project:**

#### **PROJECT DESCRIPTION AND PURPOSE:**

This project would be an upgrade of a 4.6-mile segment of CSAH 36 between CSAH 3 and TH 6 in Crow Wing County, Minnesota. A slight realignment to around Velvet Lake is proposed. The project is anticipated to include road reconstruction, stormwater pond construction, signing and/or striping, and culvert replacement. The existing roadway is a rural 22' wide paved roadway with a posted speed of 55 mph, which is classified as a rural major and urban collector. The paved surface is deteriorated with cross-slopes approximately 4-6%. The surrounding terrain is considered level to rolling. This corridor

is the east gateway to the City of Crosslake. The City of Crosslake is known for tourism and the Whitefish Chain of Lakes. It is this reason this corridor can see high season peaks of traffic. This area also is a wooded area that supports the logging industry. Depending which parcels are being logged off this corridor could see a fluctuation of logging trucks.

### **Project Purpose**

The purpose of the proposed action is to provide a safe and efficient transportation route in Crow Wing County.

### **Project Need**

Currently the corridor cross-section has two paved eleven-foot driving lanes with one foot gravel shoulders and obstructions near the edge of the driving lane. The current structural strength of the cross-section is rated at seven ton. A reconstructed road on this corridor meeting the minimum design standards would have twelve-foot driving lanes, six foot paved shoulders, and a ten-ton structural design strength. Obstructions would be also kept at least twenty five to thirty feet from the edge of the driving lane with in-slopes at least 1:4 or flatter within the recovery zone. The horizontal alignment consists of mostly of a straight alignment except for four curves, which align the corridor around Velvet Lake. Three of the curves meet a 40 m.p.h. design speed which have radii of 600, 619, and 564 feet. One curve meets a 30 m.p.h. design speed which has a radius of 340 feet. Reconstructing this corridor would allow these curves to have at least a minimum radius of 1070 feet and would allow traffic to drive comfortably and safely. The crash history of CSAH 36 from CSAH 37 to CR 114 averages approximately one crash each year from the past ten years for a total of ten crashes. The location of these crashes typically occurred at an intersection or a location where the horizontal and/or vertical geometry of the road was substandard. Correcting the substandard elements of the roadway should reduce the number of accidents in the future.

### **WATERS OF THE UNITED STATES SUBJECT TO LOSS:**

Aquatic resource types and quantities impacted by this project include 1.24 acres of wetlands. Wetland community types and quantities impacted by this project are: 0.81 acres of fresh wet meadow (Type 2), 0.13 acres of shallow marsh wetland community (Type 3), 0.04 acres of deep marsh, 0.25 acres of shrub carr wetland community (Type 6), and 0.01 acres of hardwood swamp wetland community (Type 7).

The Crow Wing County Highway Department provided the following information regarding minimization of wetland impacts: All alignment options analyzed on this project contained the same amount of wetland impact. This means most of the wetland impact is due to the fact it abuts the existing roadbed on a straight established alignment. The widening of this roadway is the main cause of wetland impacts. Impacts are computed based on the typical section shown on the Alternative Figures. Further design of the roadway with the implementation of broken-back inslopes could result in less impact to the wetlands. The preferred Alternative A reduces the impact to wetlands. This

alternative is four feet narrower than Alternative B by utilizing six-foot shoulders versus 8' shoulders.

## **ALTERNATIVES CONSIDERED:**

The Crow Wing County Highway Department provided the following alternatives analysis:

### **No-Build Alternative**

Under the No-Build Alternative, CSAH 36 will continue as a 22' wide paved roadway with deteriorated pavement. Improvements will be limited to normal pavement maintenance operations. The effects of existing traffic and future traffic increases will be borne by the existing CSAH 36, causing increased vehicular conflicts, poor pavement quality, poor drainage, and poor visibility. The No-Build Alternative served as a baseline for comparison of the build alternatives.

### **Design/Construction Alternatives**

Shoulder width was an alternative considered throughout the process. The recommendation for shoulder width was six feet paved shoulders. It was mentioned to the local governments that if they would be interested in eight foot shoulders that they would pay the extra two feet of shoulder width on each side. Some people were in favor of this to provide more room for biking, walking, jogging, and even parking on the side of the road. The decision was made by the City of Crosslake and Fairfield Township to stay with the recommended six feet shoulder width.

### **Location Alternatives**

Two alignment alternatives were presented through the public involvement process. The two alternatives named Alternative A and Alternative B are described in detail below. The only variation between the two was around Velvet Lake. This was approximately from station 90+00 to 190+00. The other section of roadway stations 0+00 to 90+00 and 190+00 to 246+50 were positioned in the same location of the existing centerline. At those areas, the centerline follows the section lines.

### **Alternative A (Applicant Preferred)**

Alternative A took an approach to minimize right of way impact as much as possible around Velvet Lake. Although Alternative A and Alternative B impacts the same amount of area, Alternative A impacts more of the larger, rural parcels resulting in less number of parcels being affected. Alternative A has a large sweeping curve on the southwest side of Velvet Lake station 90+00 to 125+00 by utilizing Crow Wing County Tax Forfeit property. This kept the road further away from a residential residence currently on the inside of the curve. Along the west side of Velvet Lake from station 125+00 to 140+00, the road shifted to the west approximately seventeen feet. This allowed the proposed 1

00' right of way to match the existing 66' right of way for the lake parcels on the lakeside of the roadway. By doing this, all of the additional proposed right of way would be obtained from a large wooded vacant lot on the west side of the road. This would also shift the road away from the lake resulting in better control of water before entering the lake. On the north side of Velvet Lake from station 140+00 to 163+00, the road goes north of the existing roadway to create one circular curve. This creates more separation between the lake and the road. This also creates better visibility and ride than the existing curve tangent curve layout of the existing roadway. On the east side of the lake from station 163+00 to 180+00 the new centerline is set approximately 17' east of the existing centerline. This is done for the same reasoning of the west side of the lake. On the southeast side of Velvet Lake from station 180+00 to 190+00 the sharp non-standard curve is flattened out to create a curve that supports a 55 mph design speed.

### **Alternative B**

Alternative B took a simplistic approach to flatten out each substandard curve around Velvet Lake. Wherever the curve was not being flattened out, it would stay on the existing centerline around Velvet Lake. Alternative B flattened out the existing substandard curve on the southwest side of Velvet Lake station 110+00 to 125+00 by simply fitting a 55 mph design speed curve in at this location. This kept the road on the existing centerline the longest. Along the west side of Velvet Lake from station 125+00 to 140+00, the road stayed on the existing centerline impacting properties on both sides of the road. Right of way would need to be acquired 17' on each parcel to expand the right of way from 66' to 100'. On the north side of Velvet Lake from station 140+00 to 163+00 the road flattens out the two existing substandard curves to create a curve-tangent-curve layout. On the east side of the lake from station 163+00 to 180+00 the road follows the existing centerline. This is done the same as the west side of the lake. On the southeast side of Velvet Lake from station 180+00 to 190+00 the sharp substandard curve is flattened out to create a curve that supports a 55 mph design speed.

**COMPENSATORY MITIGATION:** Compensatory wetland mitigation credits for unavoidable wetland impacts from the project are proposed to be debited through the BWSR Road Replacement Program.

### **National Historic Preservation Act (Section 106)**

Mn/DOT's Cultural Resources Unit (CRU) has determined that no historic properties eligible for or listed in the National Register of Historic Places will be affected by the project.

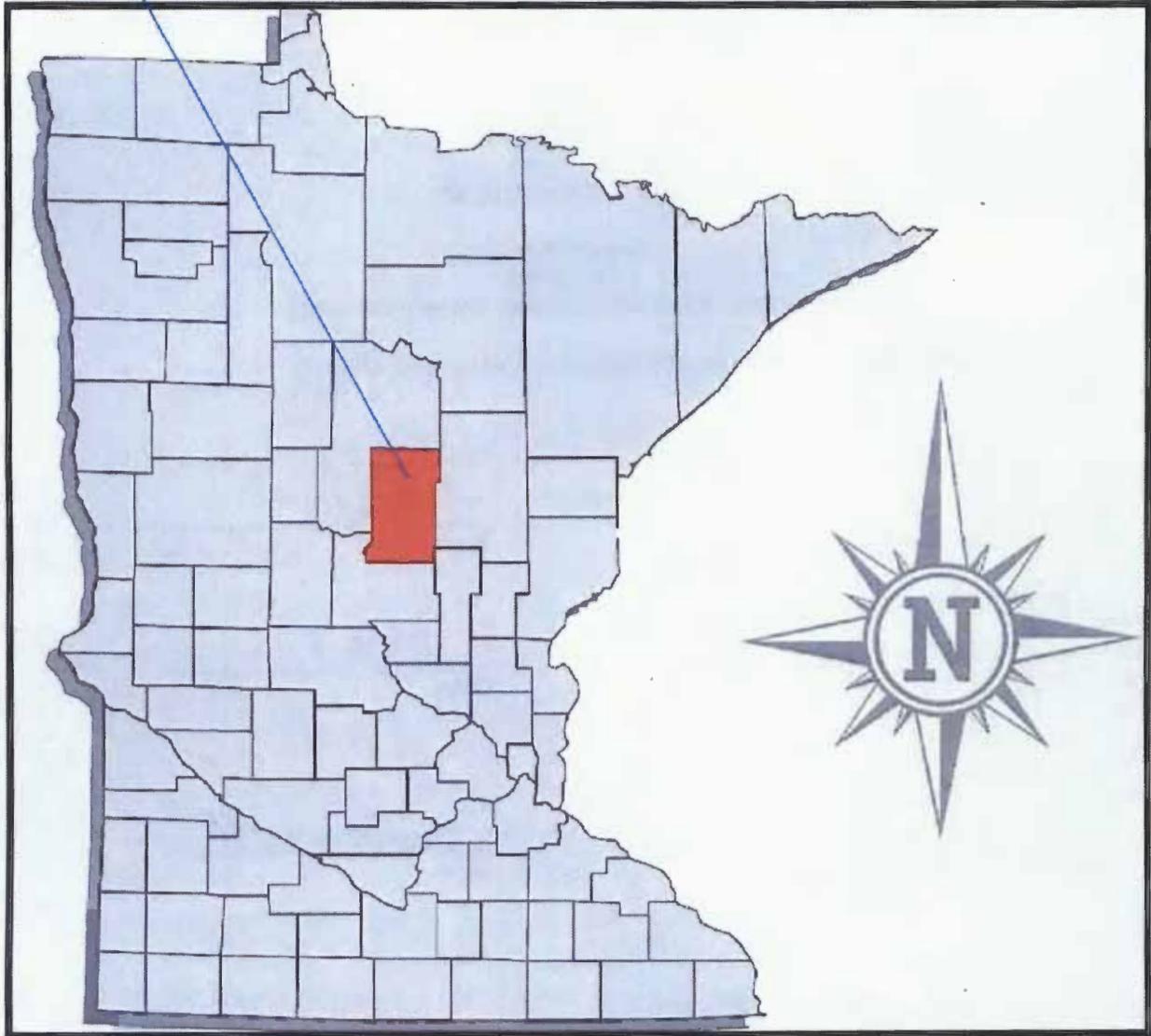
### **Endangered Species Act**

The Minnesota Department of Transportation, Office of Environmental Services acting as the non-federal representative for the Federal Highway Administration has made a determination of "No Effect", completing the consultation requirements defined in Section 7 of the Endangered Species Act of 1973, as amended.

**Drawings** See attached.

**STATE MAP**

**Project Location - City of Crosslake and Fairfield Township located in Crow Wing County**

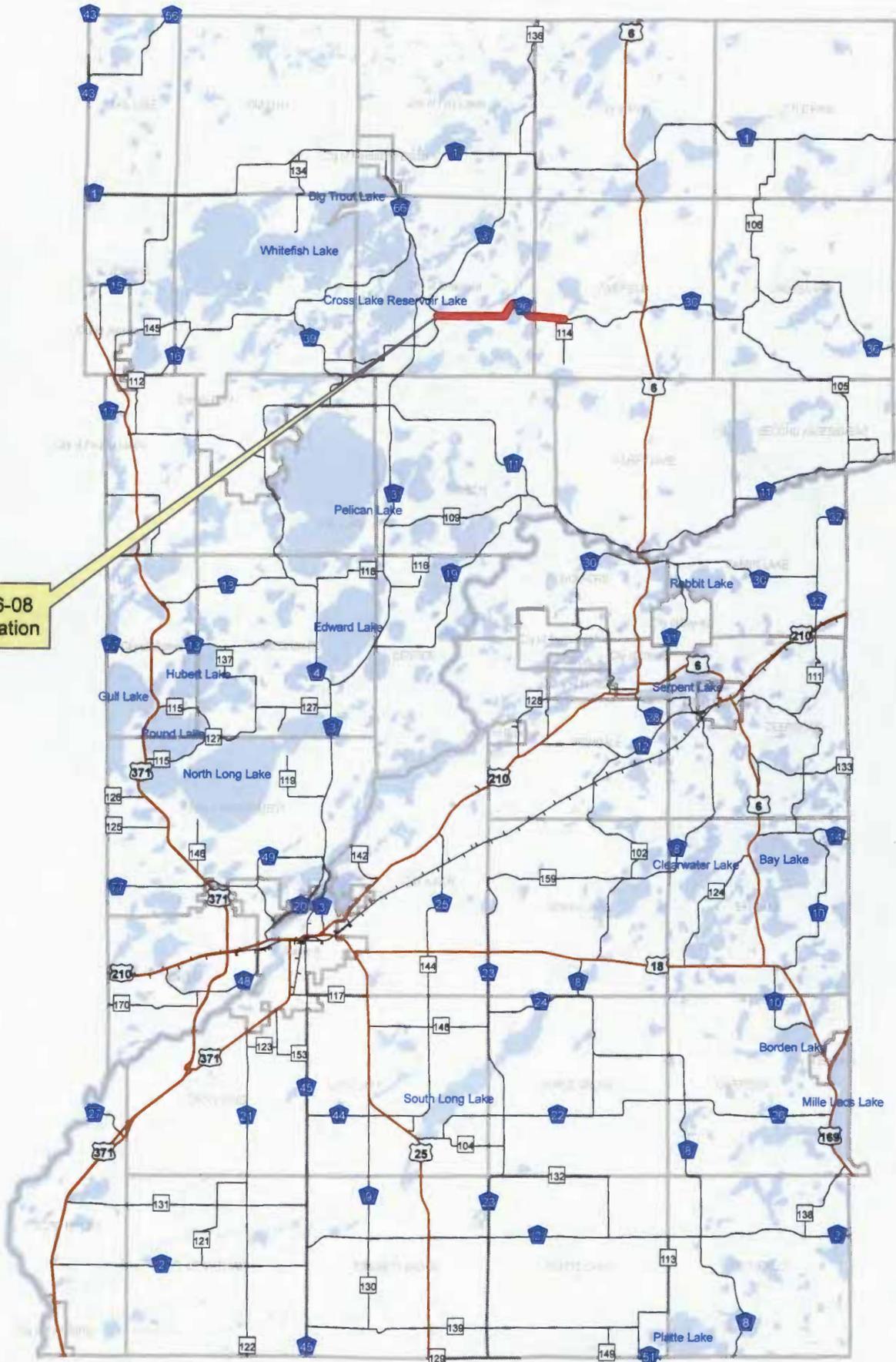


# CROW WING COUNTY

## SAP 18-636-08



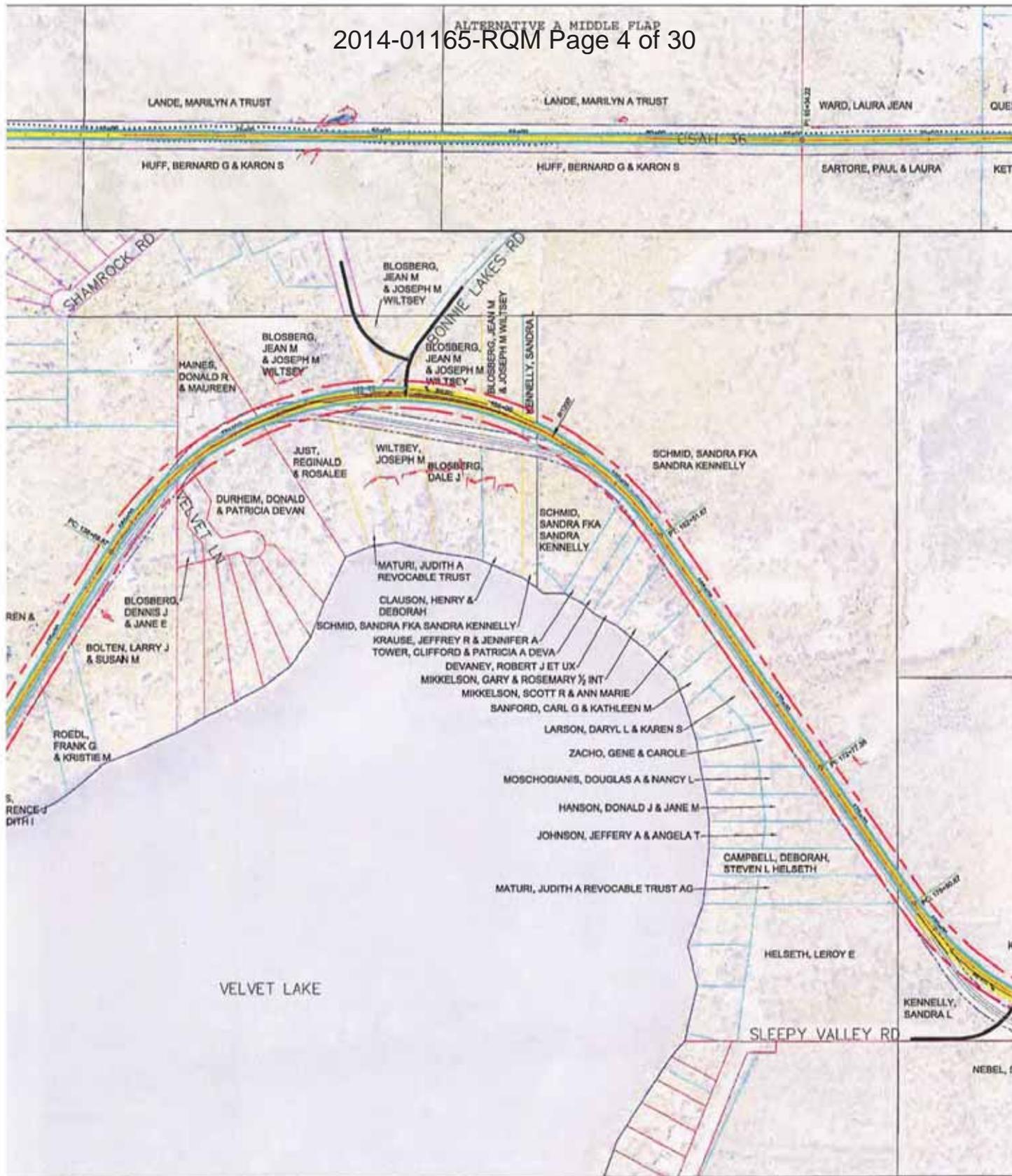
SAP 18-636-08  
Project Location



Map by Crow Wing County Highway Department.  
For Questions or Information Contact County Hwy. Dept. at 218-824-1110.  
For information on State Highways Contact MnDOT at 218-828-2570



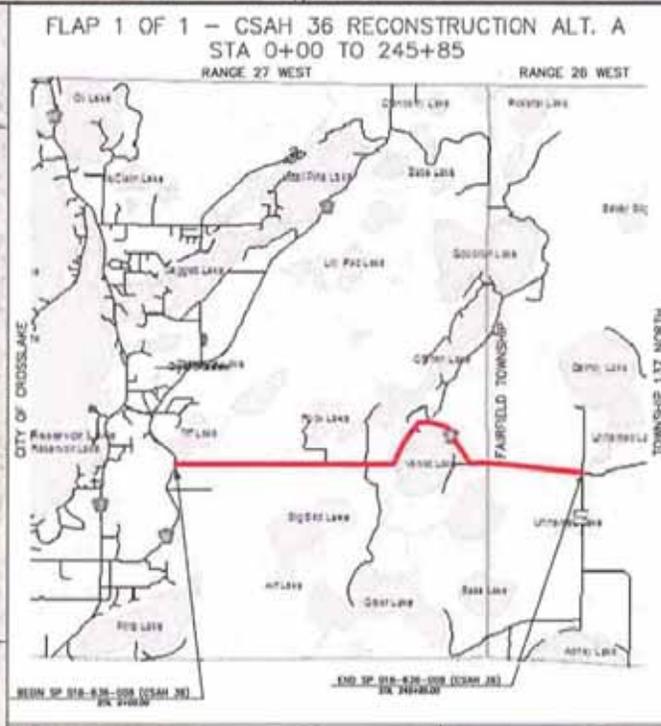
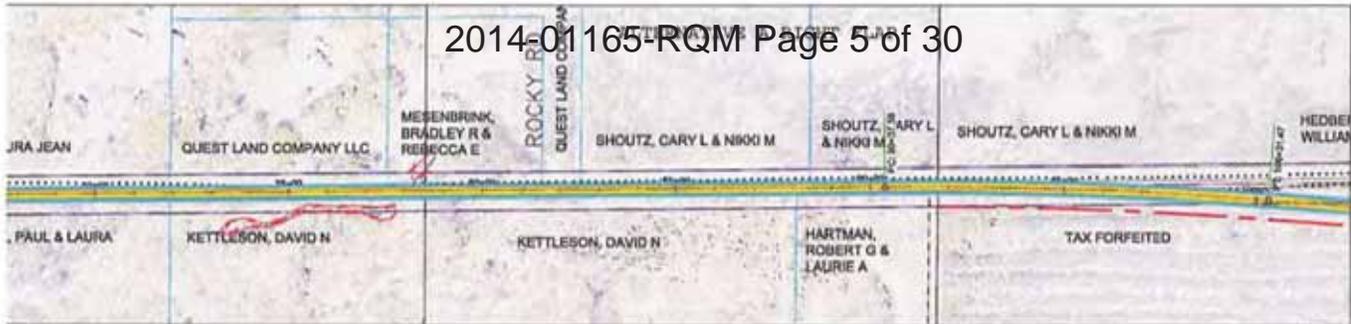
ALTERNATIVE A MIDDLE FLAP



RAIL PROPOSED ON SOUTH SIDE IN LIEU OF ID SOUTH SIDE TO 245+65

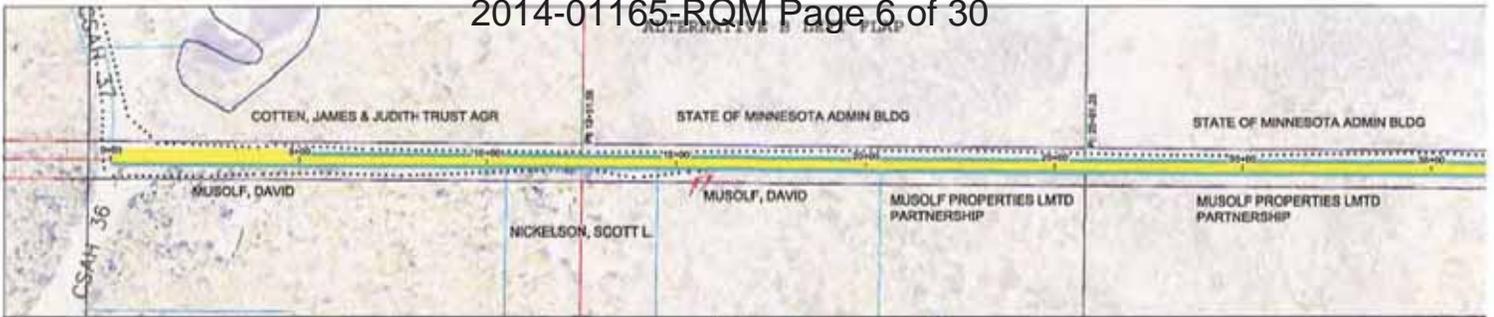


ALTERNATIVE A PROJECT LAYOUT – SUBJECT TO CHANGE



PROJECT LOCATION SP 018-636-008





**MINNESOTA DEPARTMENT OF TRANSPORTATION  
CROW WING COUNTY**

**CONSTRUCTION PLAN FOR GRADING, ADD BASE, BIT SURFACING**

LOCATED ON CSAH 36 BETWEEN CSAH 37 AND CSAH 114

FROM APPROX 100+00 TO APPROX 245+00 TO CENTER OF THE QUARTER

SECTION 36 TOWNSHIP 121N RANGE 27W SECTION 36 TOWNSHIP 121N RANGE 27W

DISTRICT NO. 219-825-003

PROJECT LOCATION: COUNTY: CROW WING DISTRICT: 3

**LAYOUT NOTES:**

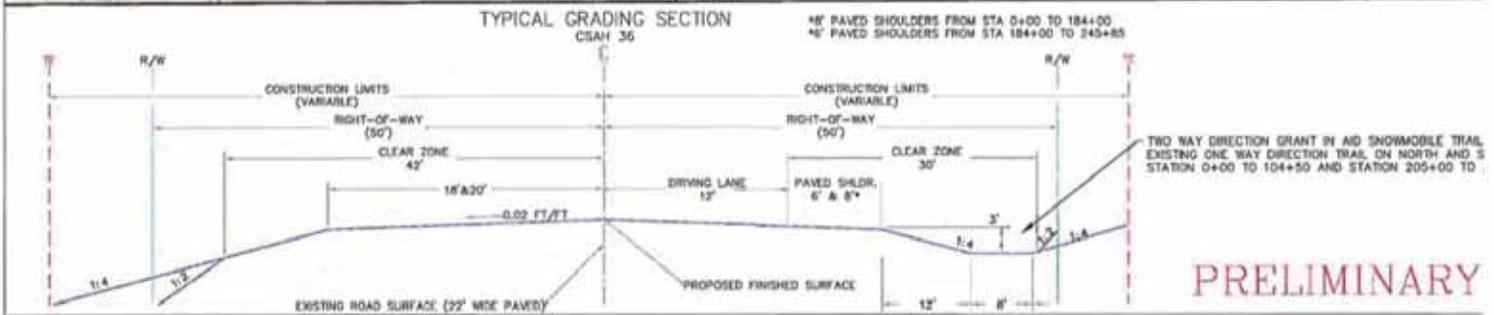
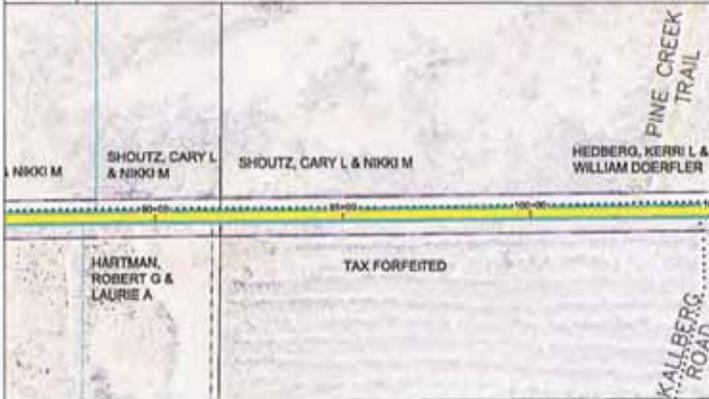
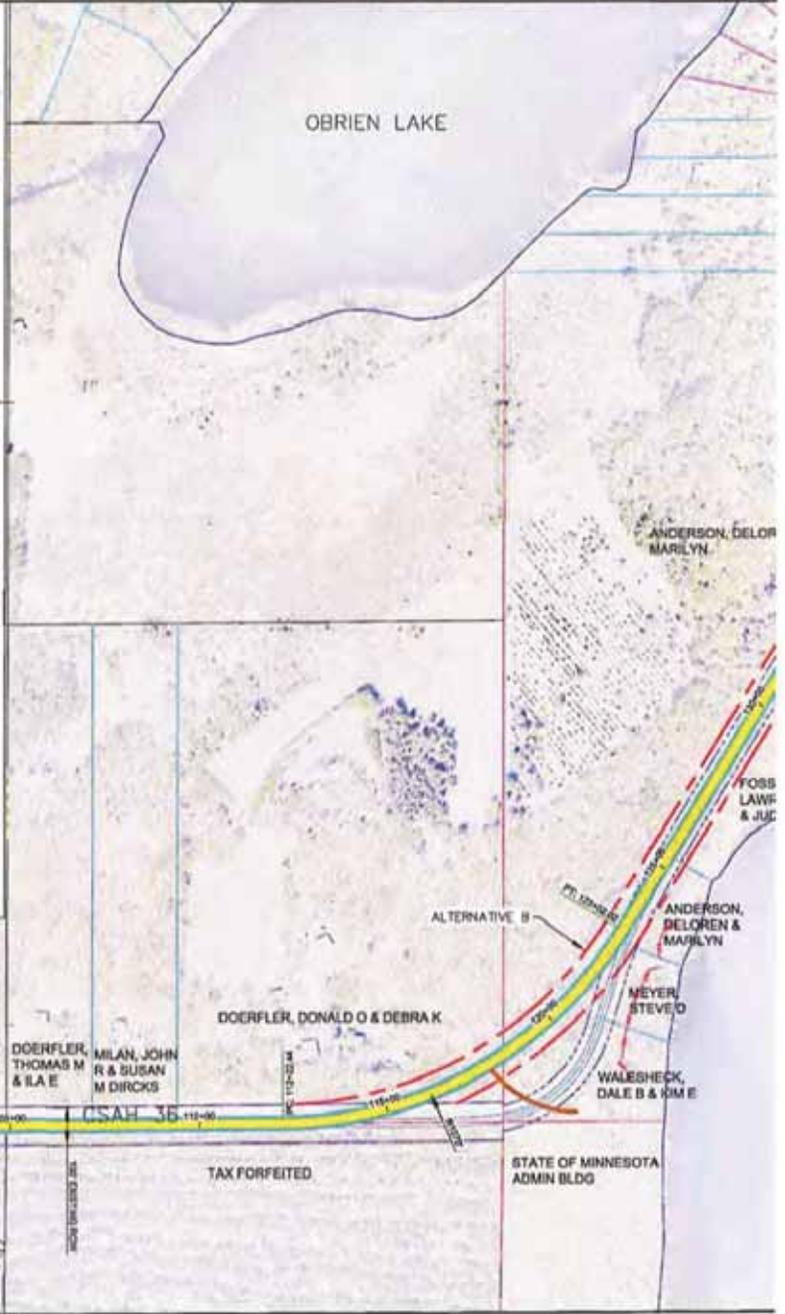
- 55 MPH LAYOUT ALTERNATIVE B AROUND VELVET LAKE WITH MINIMUM RADIUS OF 1070' @ 6% SUPERELEVATION.
- AREA BY BONNIE LAKES ROAD WILL BE A CURVE-TANGENT-CURVE AREA WITH SUPERELEVATION TRANSITIONING BACK TO APPROX. 2.2% BEFORE TRANSITIONING INTO A FULL 6% SUPER AGAIN.
- ACCESS ROADS HAVE 200' RADIUS (30 MPH DESIGN).
- LAYOUT KEEPS EXISTING CENTERLINE EXCEPT FOR FLATTENING OF CURVES.
- RIGHT TURN LANES LOCATED AT CSAH 37, BONNIE LAKES ROAD, SLEEPY VALLEY ROAD, AND CR 114.
- LEFT TURN LANE LOCATED AT BONNIE LAKES ROAD.

PREPARED ON: MARCH 26, 2013  
PREPARED BY: CROW WING COUNTY HIGHWAY DEPARTMENT

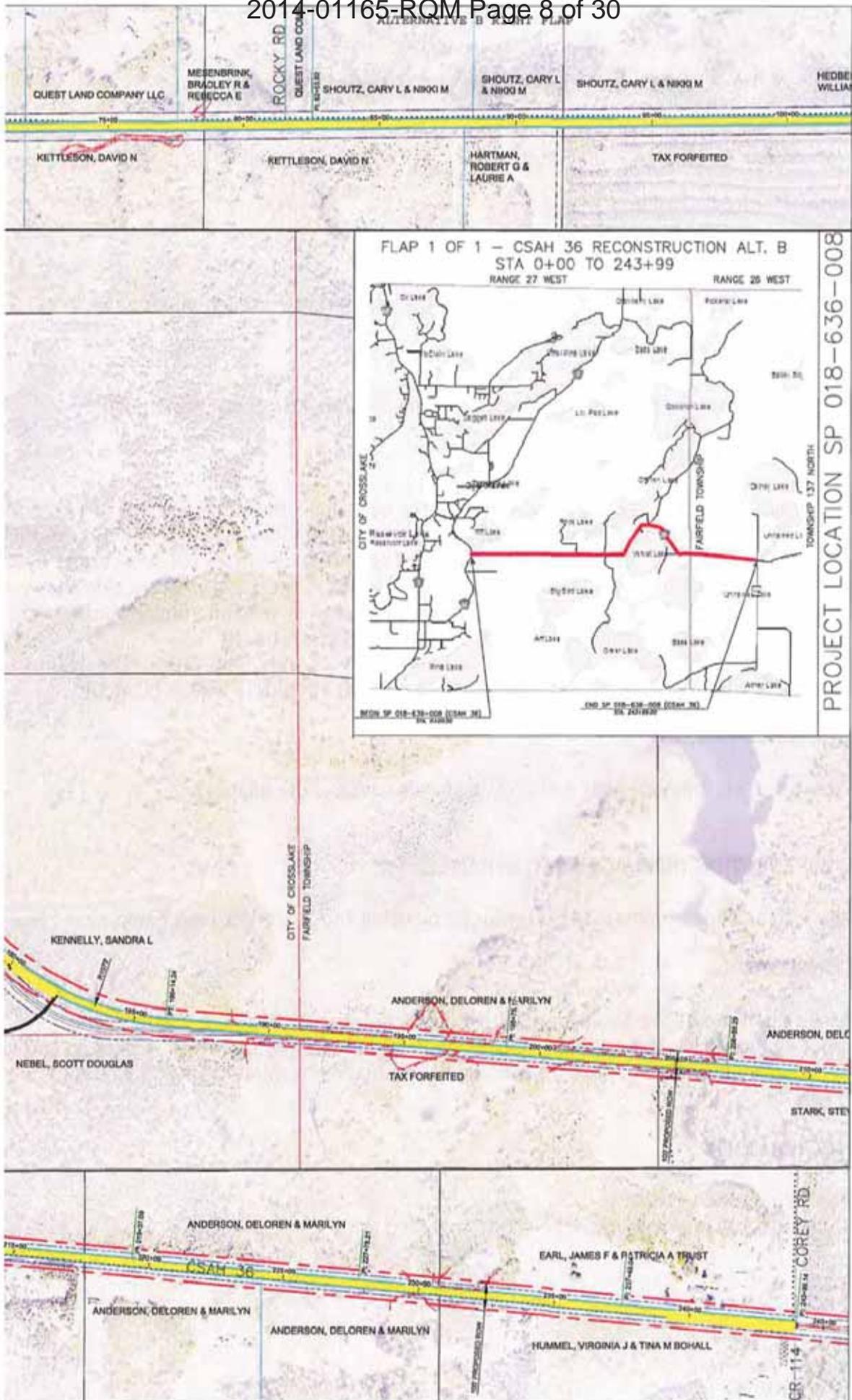
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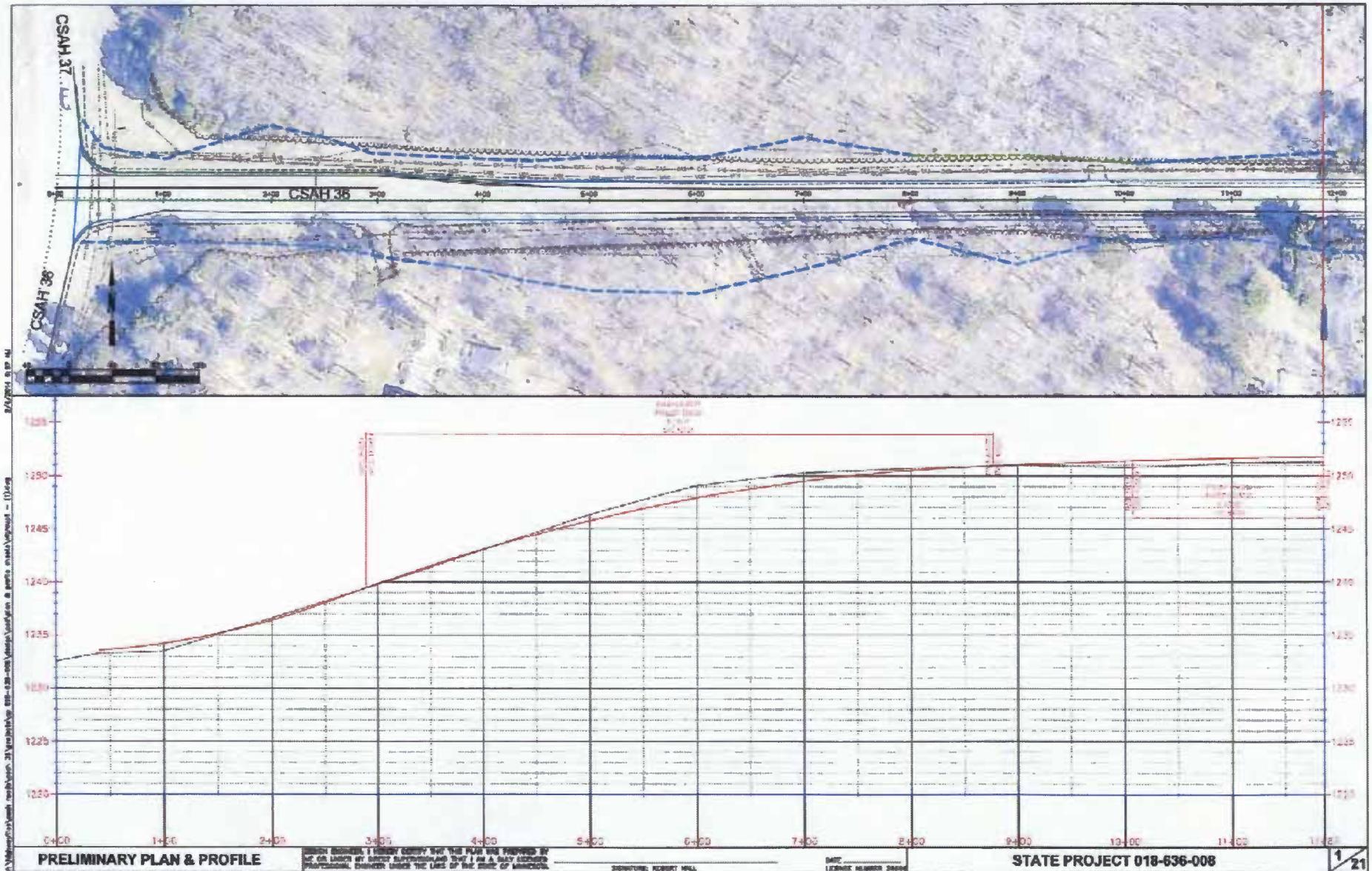
EXISTING CONDITIONS/LINE	PROPOSED CONSTRUCTION LINE	PROPOSED CONSTRUCTION LINE
Centerline	Proposed Alignment	Shoulder
Edge of Right-of-Way	Edge of Pavement	Proposed Shoulder
Force Main Pipe	Force Main Proposed	Proposed Grading & Curve
Force Sewer Line	Force Sewer Proposed	Driveway
Force Water	Force Water Proposed	Driveway
Force Gas	Force Gas Proposed	Proposed
Overhead Cable TV	Overhead Cable Proposed	Subcontract Proposed
Overhead Electric	Overhead Electric Proposed	
Overhead Pole	Overhead Pole Proposed	
Sanitary	Sanitary Proposed	
Retaining Wall	Retaining Wall Proposed	
Sanitary Sewer	Sanitary Sewer Proposed	
Sanitary Sewer Service	Sanitary Sewer Service Proposed	
Water Sewer	Water Sewer Proposed	
Water Sewer Service	Water Sewer Service Proposed	
Water Mains	Water Mains Proposed	
Water Main Service	Water Main Service Proposed	
Water Line	Water Line Proposed	
Water Pole	Water Pole Proposed	
Water Valve	Water Valve Proposed	
Water Valve	Water Valve Proposed	

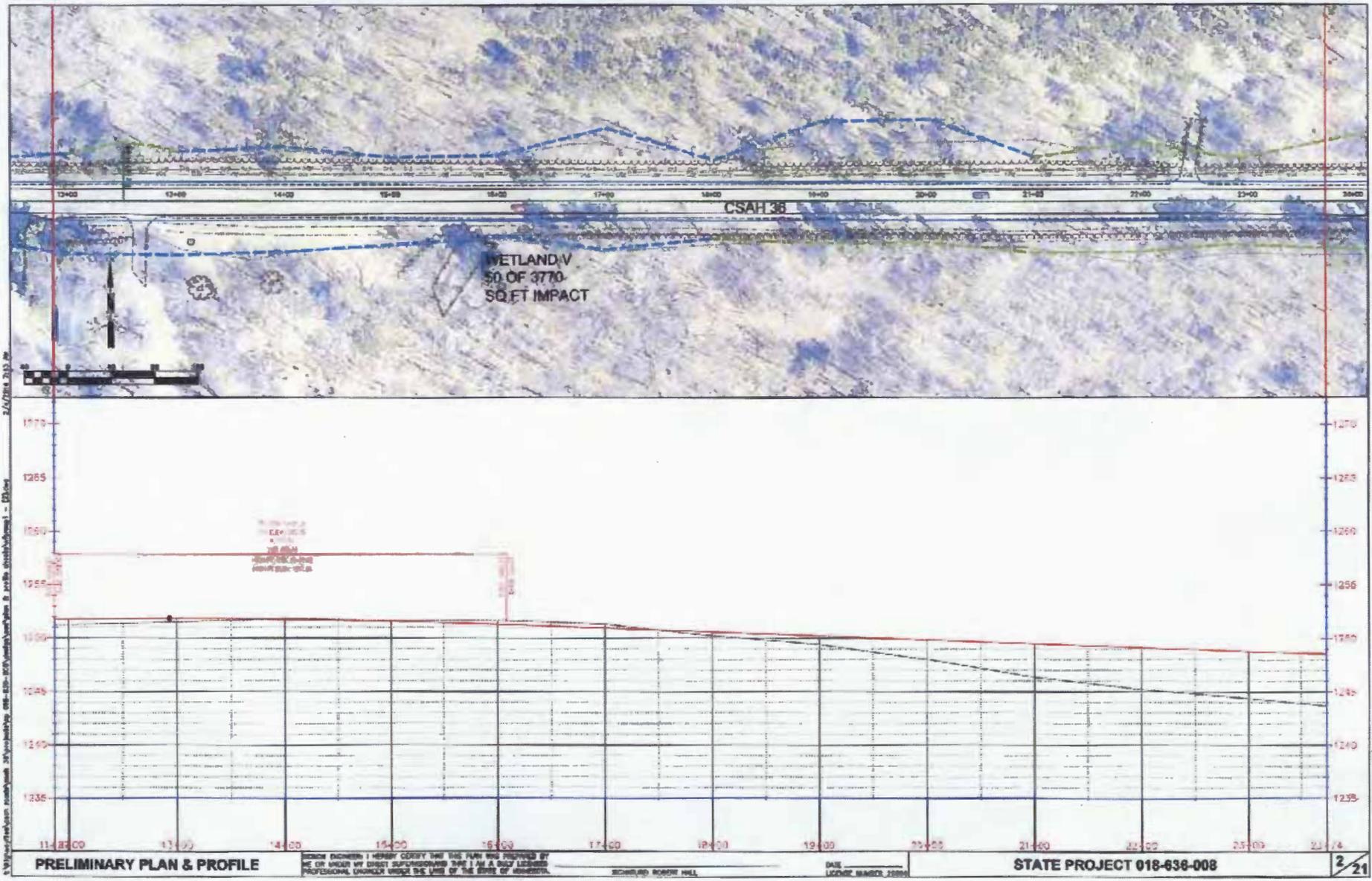
SCALE: 1 INCH = 150 FEET

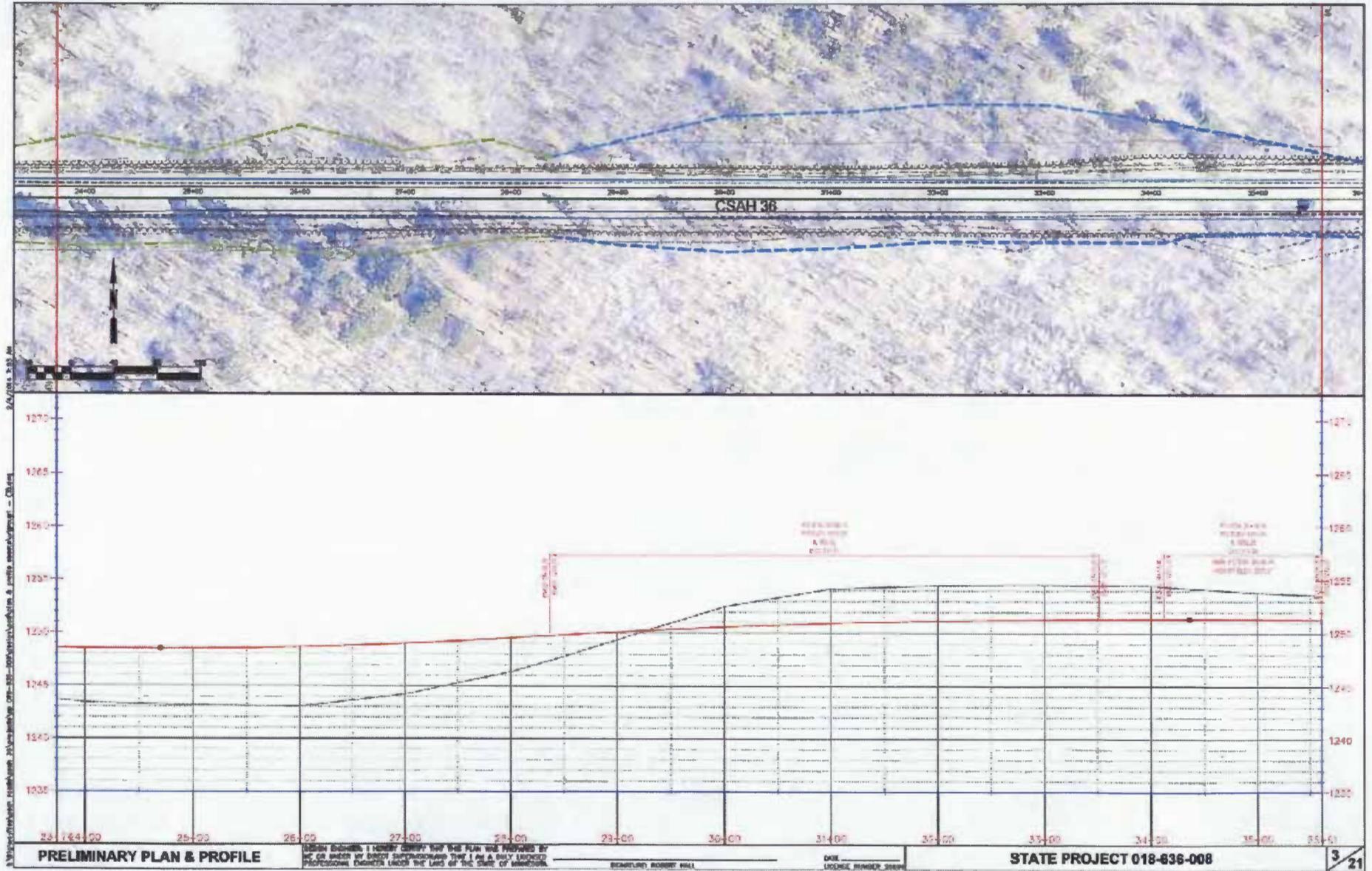


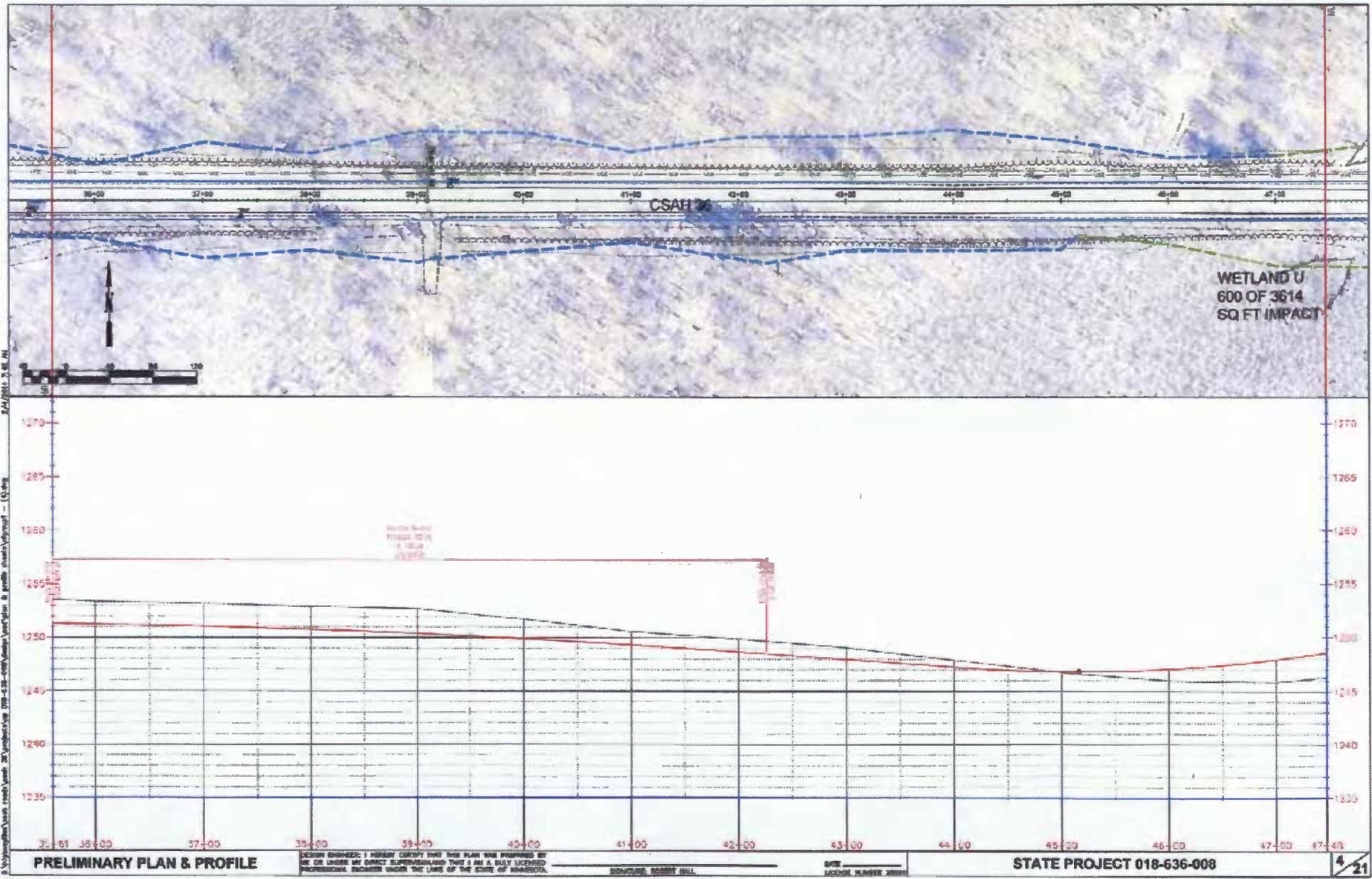


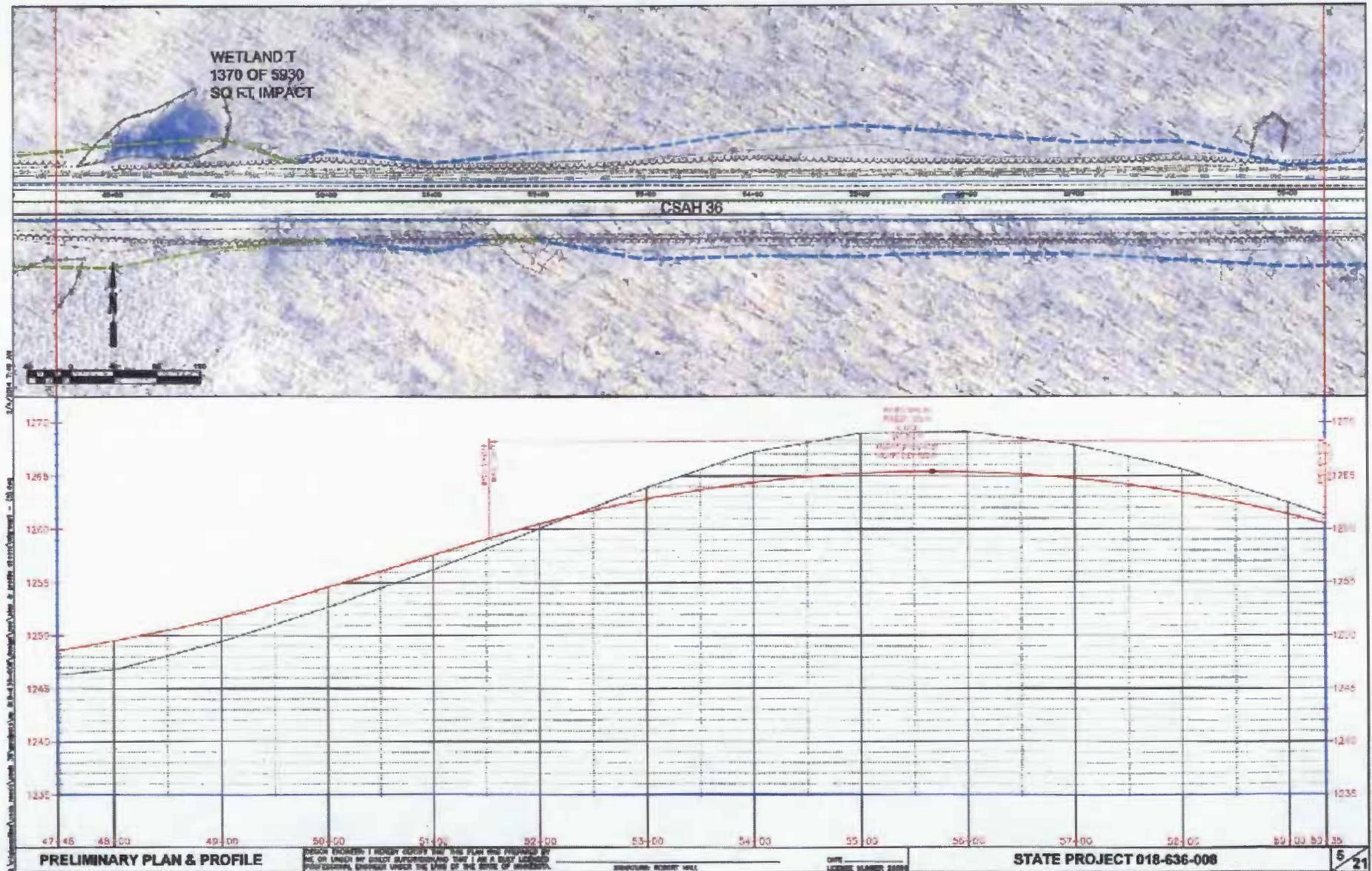


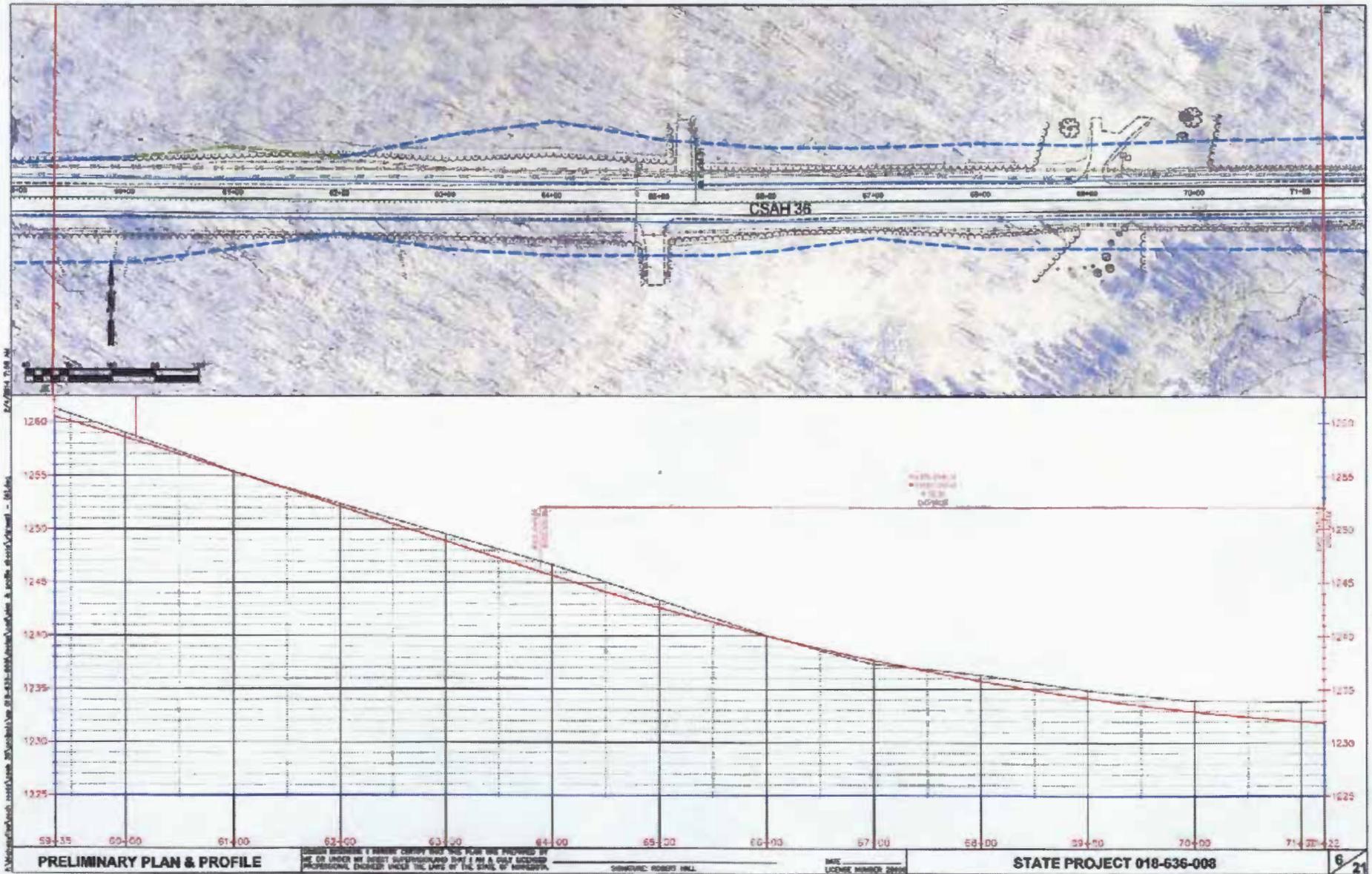


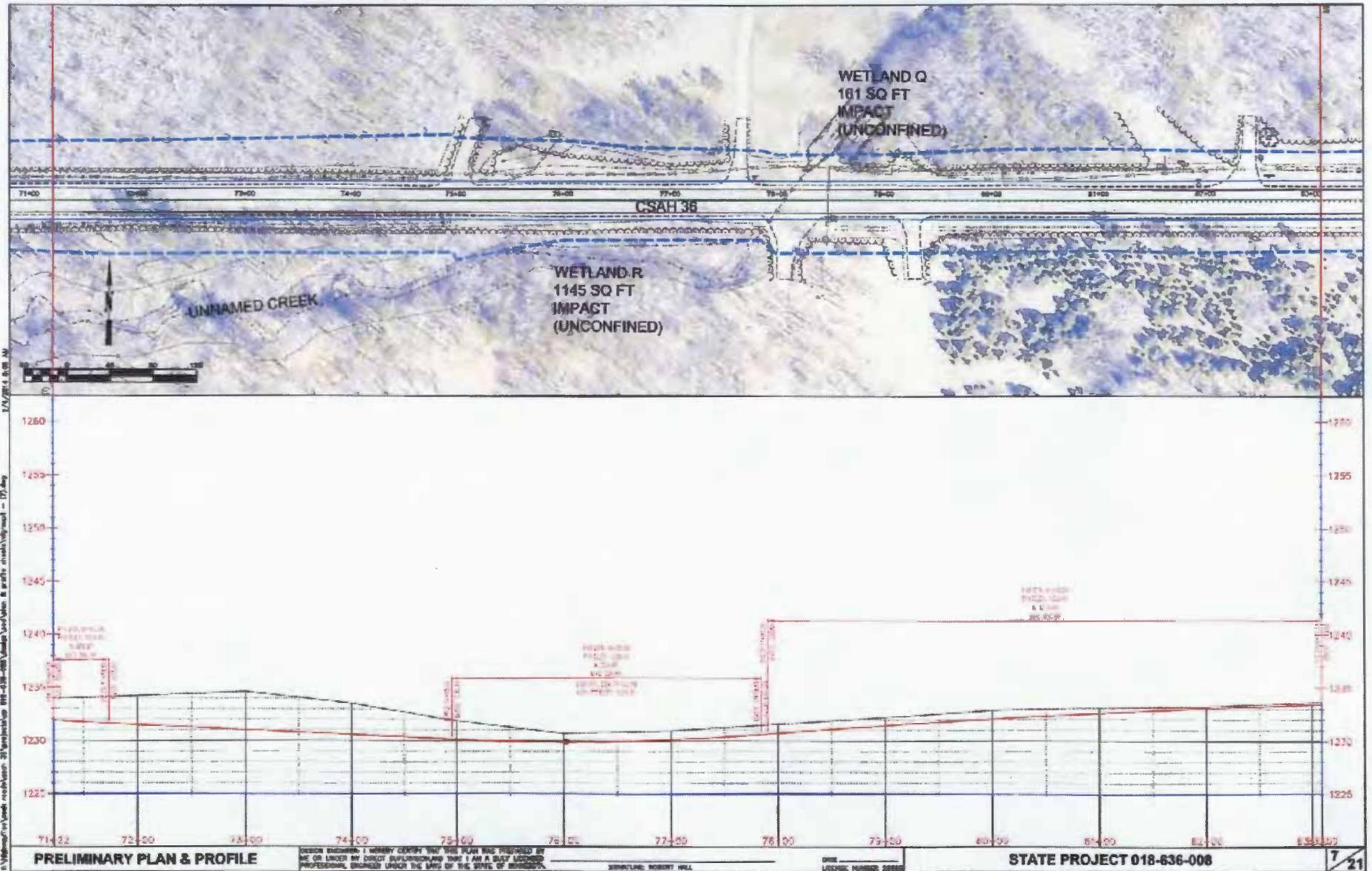


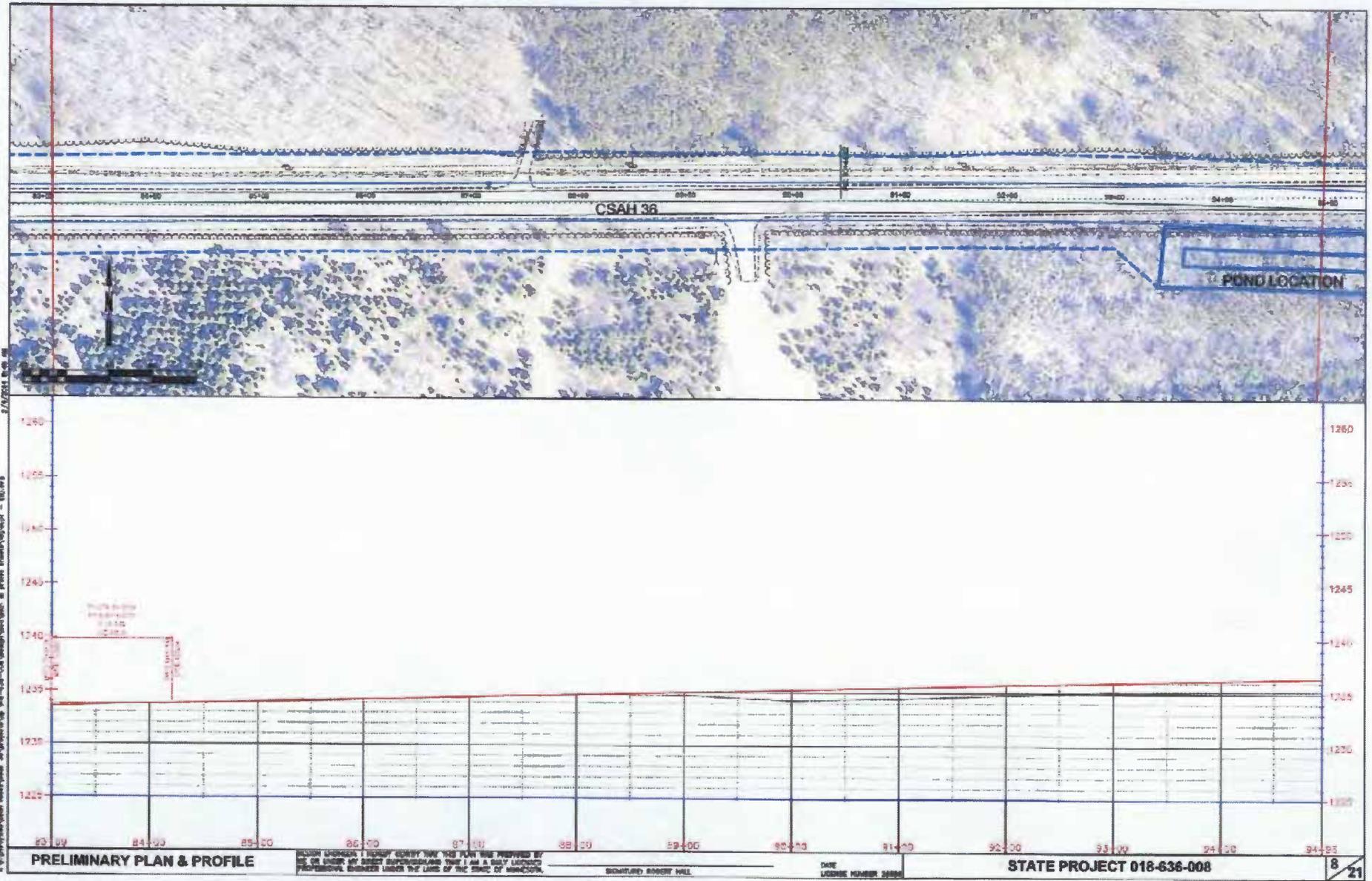












PRELIMINARY PLAN & PROFILE

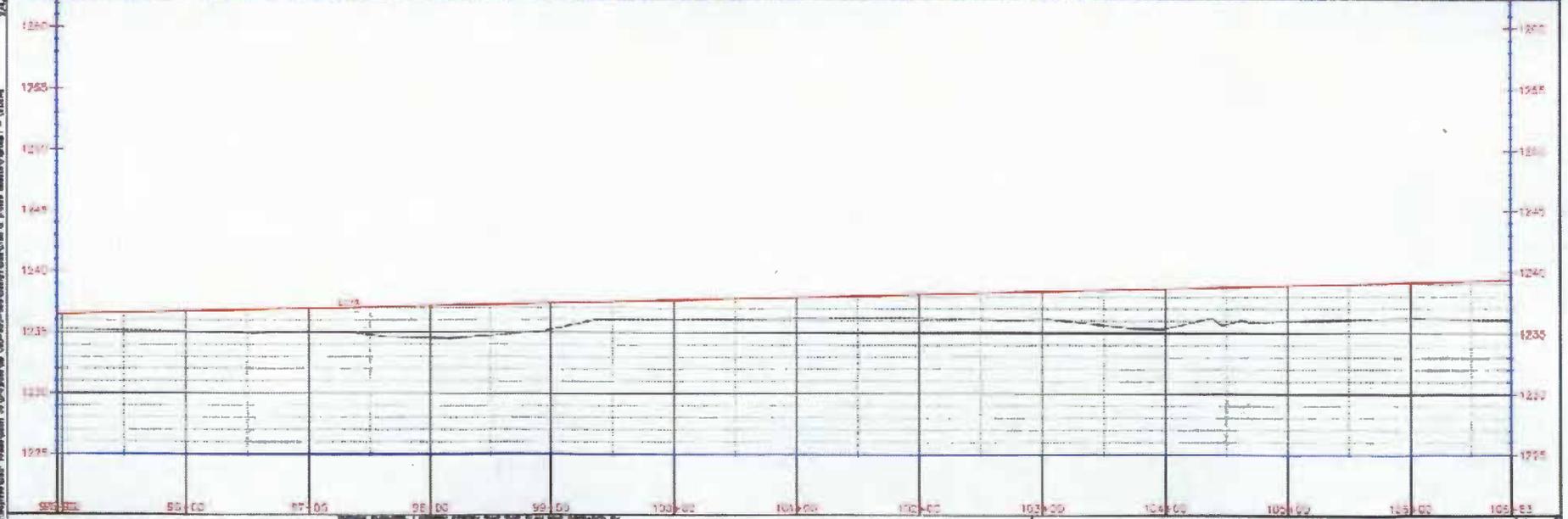
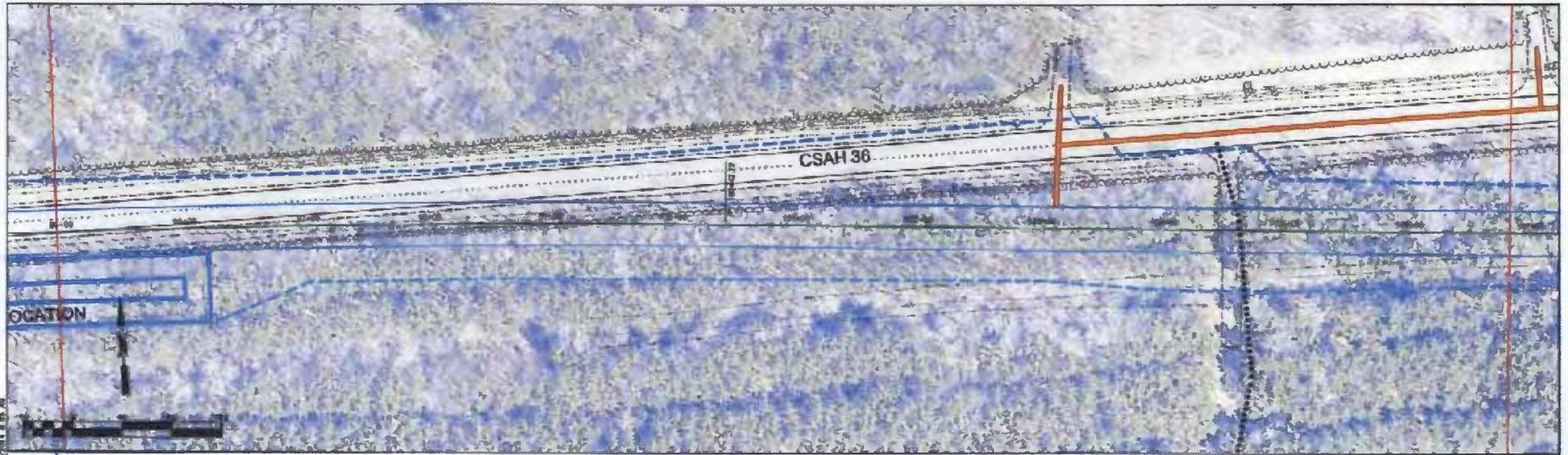
I HEREBY CERTIFY THAT THE PLAN AND PROFILE SHOWN ON THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY CLOSE SUPERVISION AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE ROBERT HILL

DATE LICENSE NUMBER 38884

STATE PROJECT 018-636-008

8/21



**PRELIMINARY PLAN & PROFILE**

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A QUALY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

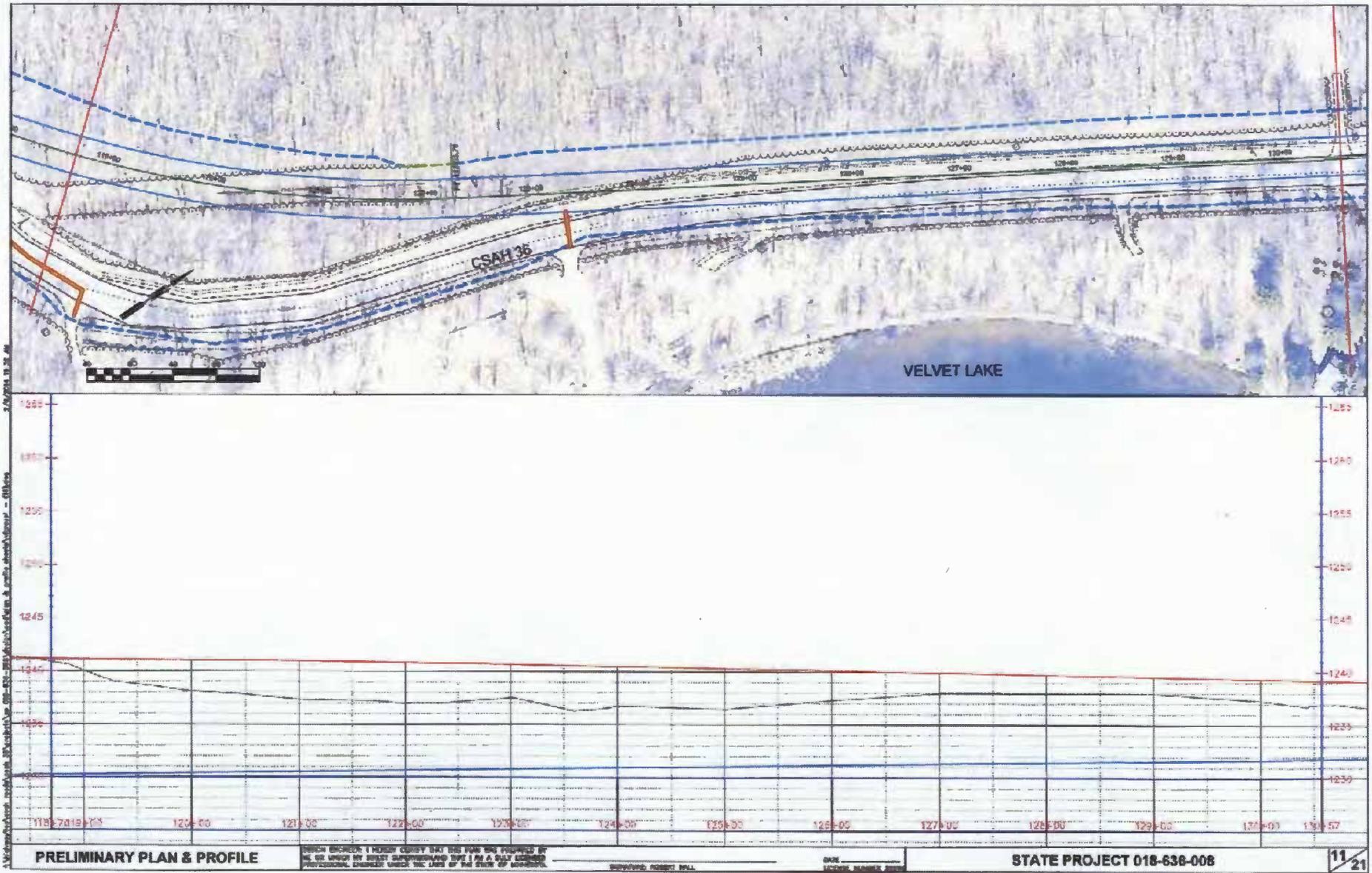
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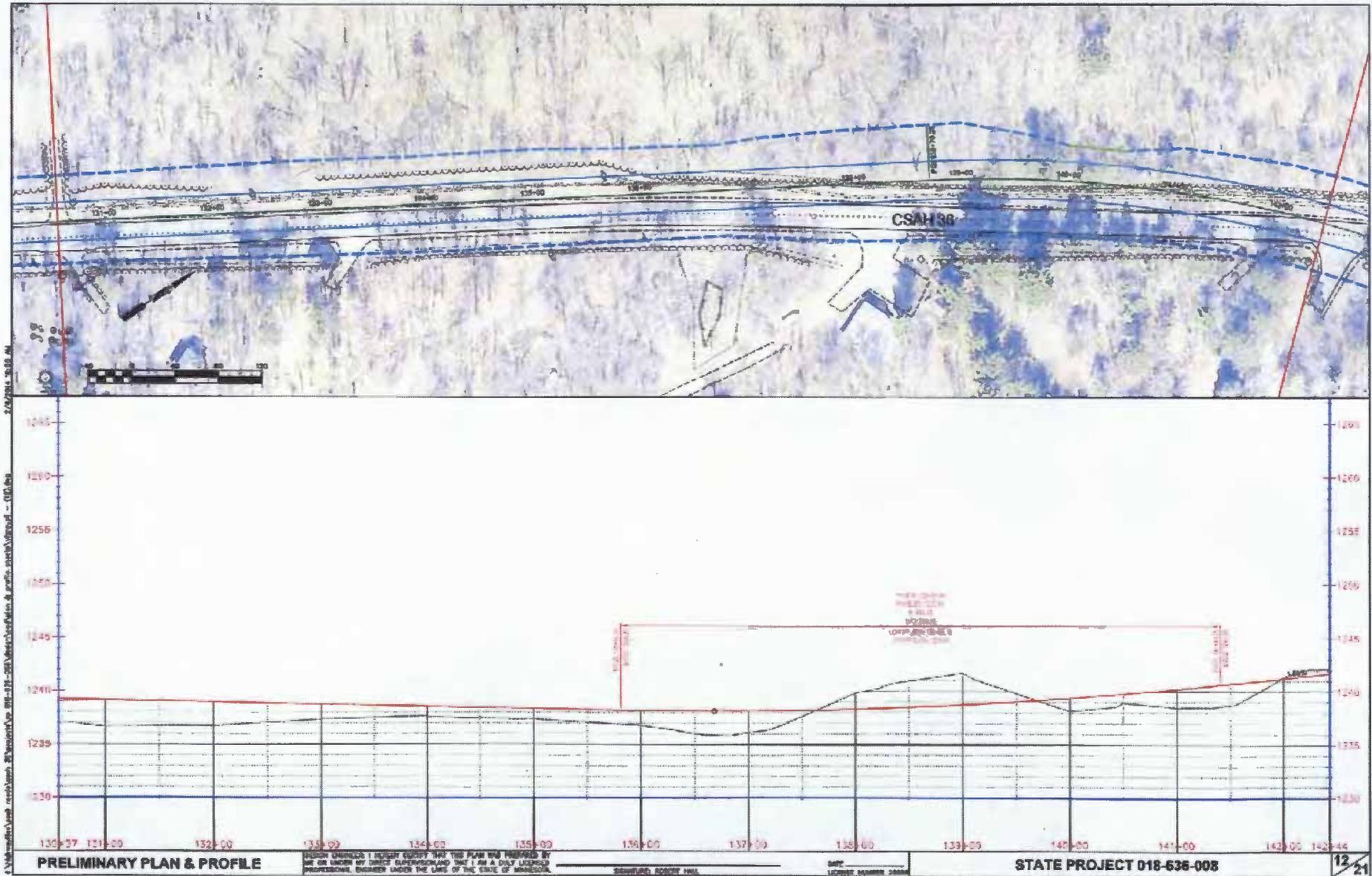
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**STATE PROJECT 018-636-008**

**9/21**







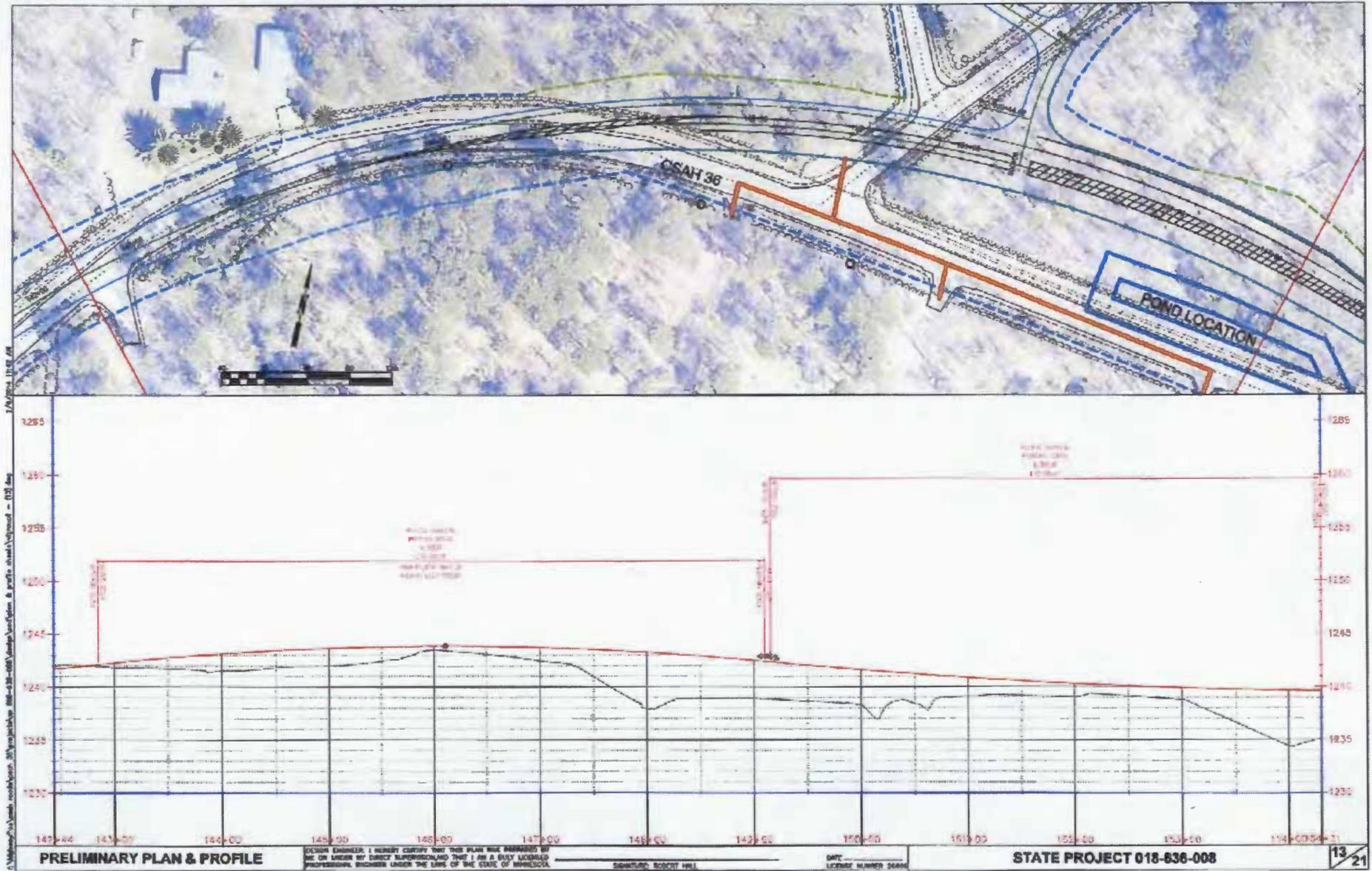
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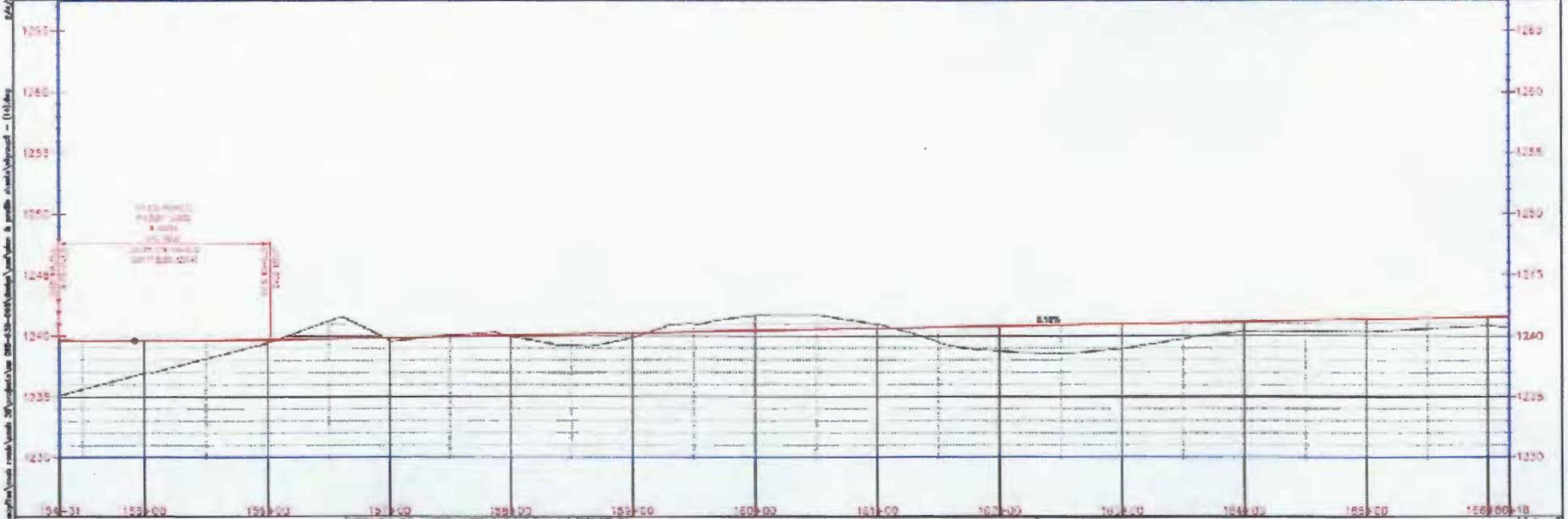
DESIGN ENGINEER I HEREBY CERTIFY THAT THE PLAN AND PROFILE WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WYOMING.

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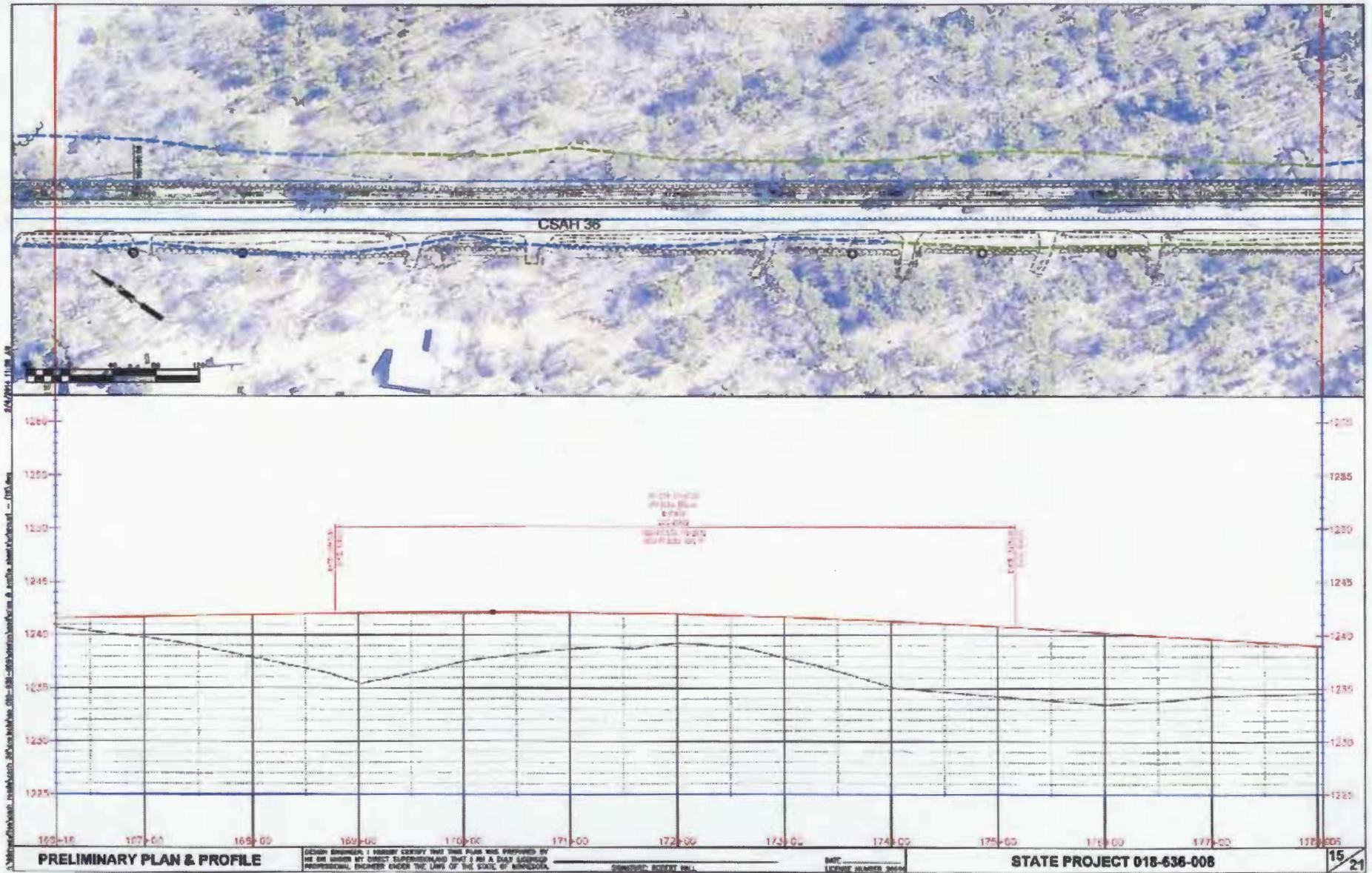
**PRELIMINARY PLAN & PROFILE**

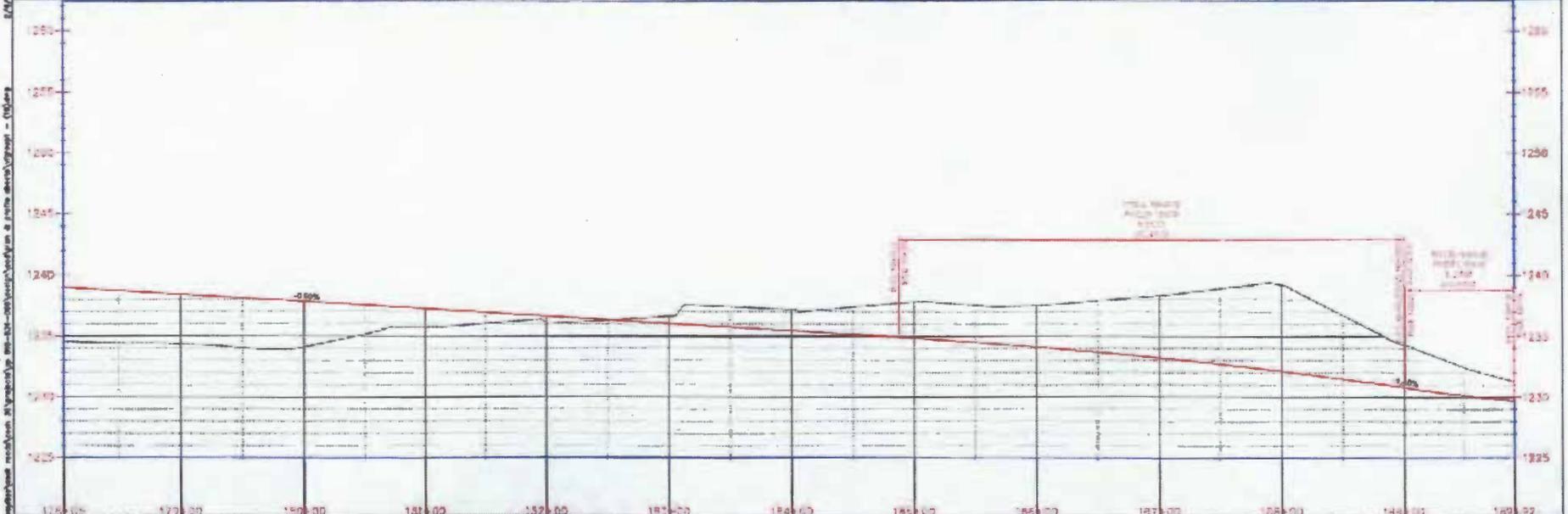
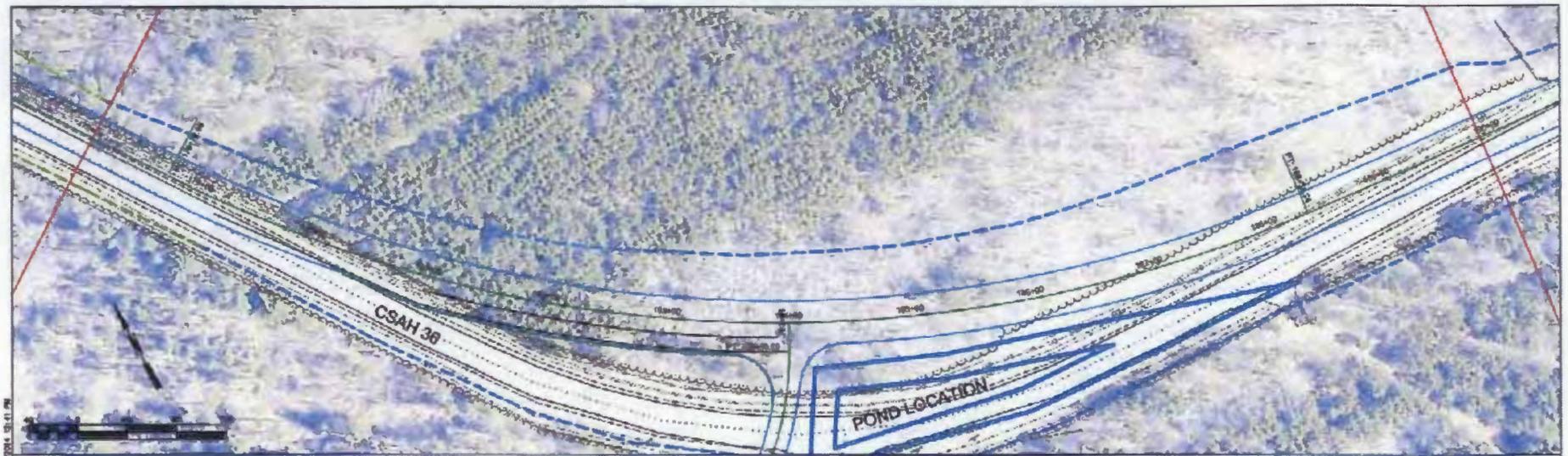
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CONTRACT NUMBER: 018-636-008

DATE: \_\_\_\_\_  
LICENSE NUMBER: \_\_\_\_\_

**STATE PROJECT 018-636-008**





**PRELIMINARY PLAN & PROFILE**

SILVER CREEK | HENRY COUNTY DISTRICT ENGINEER  
 HE OR UNDER HIS DIRECT SUPERVISION AND THAT I AM A duly LICENSED  
 PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MISSISSIPPI.

CONVINCED ROBERT HALL

DATE  
 LICENSE NUMBER AREA

**STATE PROJECT 018-636-008**

