

**PLAN SYMBOLS**

- STATE LINE
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- PROPERTY LINE
- CORPORATE OR CITY LIMITS
- RAILROAD
- RAILROAD RIGHT-OF-WAY
- RIVER OF CREEK
- CULVERT
- GUARDRAIL
- WOOD FENCE
- BARBED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- TIMBER WALL
- STONE WALL
- HEDGE
- RAILROAD CROSSING SIGN
- CROSSING GATE
- MEANDER CORNER
- SLOPE EASEMENT (CONST. LIMITS)
- MARSH
- DECIDUOUS TREE
- CONIFEROUS TREE
- BUSH OR SHRUB
- WOODS
- CATCH BASIN
- BRIDGE
- IRON PIPE OR ROD
- MONUMENT (STONE, CONCRETE OR METAL)
- WOODEN HUB

**UTILITY SYMBOLS**

- UTILITY POLE
- GUY OR ANCHOR
- STREET LIGHT
- TELEPHONE PEDESTAL
- GAS MAIN
- WATER MAIN
- TELEPHONE VAULT
- ELECTRIC VAULT
- TELEPHONE CABLE
- ELECTRIC CABLE
- STORM SEWER
- SANITARY SEWER
- SEWER MANHOLE
- GATE VALVE
- CONTROLLER CABINET
- EXISTING HYDRANT
- CABLE TELEVISION-BURIED
- FIBER OPTIC CABLE
- TRAFFIC SIGNAL LINE
- TRAFFIC SIGNAL HAND HOLE

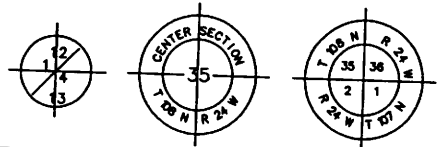
FOR PLANS AND UTILITIES SYMBOLS SEE MN/DOT TECHNICAL MANUAL.

**-GOVERNING SPECIFICATIONS-**

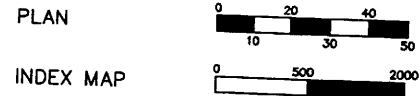
THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MMUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, SEE [HTTP://WWW.DOT.STATE.MN.US/TRAFFICENG/](http://www.dot.state.mn.us/trafficeng/)

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.



**SCALES IN FEET**



GROSS LENGTH 2587.50 FEET 0.490 MILES  
 BRIDGE LENGTH -----  
 EXCEPTIONS -----  
 NET LENGTH 2587.50 FEET 0.490 MILES



**RAMSEY COUNTY**  
 DEPARTMENT OF PUBLIC WORKS

PLAN FOR THE BITUMINOUS MILL & OVERLAY OF  
**BUFFALO STREET**

BETWEEN: TH61 and PORTLAND AVENUE  
 COUNTY PROJECT P5001

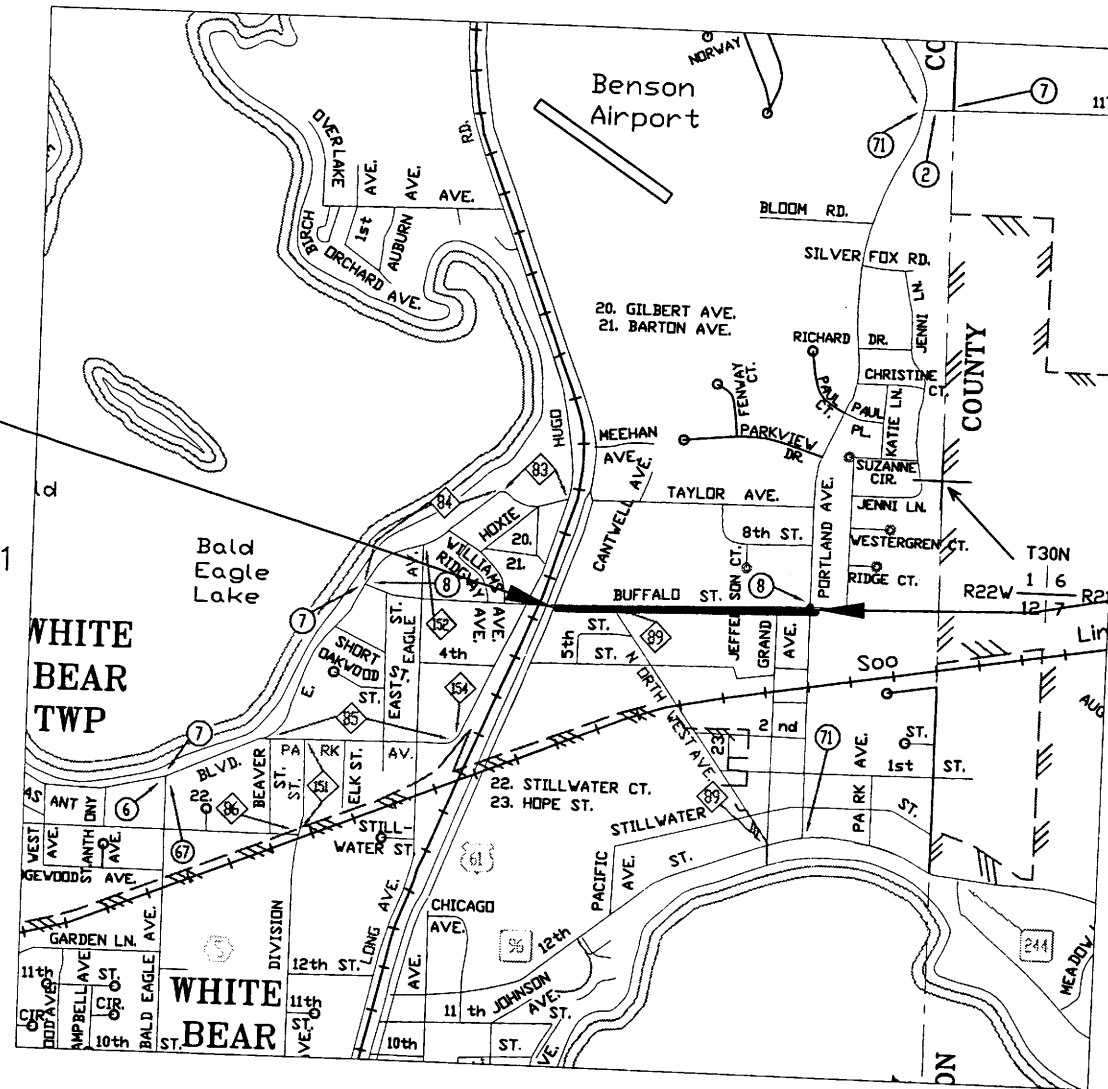
**INDEX**

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATED QUANTITIES
3	TYPICAL SECTIONS
4-5	ROADWAY PLAN SHEETS
6-7	STRIPING PLAN

THIS PLAN CONTAINS 7 SHEETS

**PROJECT START**  
**BUFFALO STREET**  
**STA. 0+84.80**  
 COUNTY PROJECT P5001

**PROJECT END**  
**BUFFALO STREET**  
**STA. 26+72.30**  
 COUNTY PROJECT P5001



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

JERRY AUGER REG. NO. \_\_\_\_\_ DATE \_\_\_\_\_

RECOMMENDED FOR APPROVAL \_\_\_\_\_ DATE \_\_\_\_\_  
 RAMSEY COUNTY ENGINEER

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
 CITY OF WHITE BEAR LAKE ENGINEER

DRAWN BY MICHAEL DIEGEL DATE 5-28-2013

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

PLAN REVISIONS		
DATE	SHEET NO. & DESCRIPTION	BY

MINNESOTA DEPARTMENT OF TRANSPORTATION

DISTRICT STATE AID ENGINEER REVIEWED FOR COMPLIANCE WITH STATE-AID RULES/POLICY DATE \_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED FOR STATE AID FUNDING: STATE AID ENGINEER

**DESIGN DESIGNATION**

BUFFALO STREET at TH61 TO PORTLAND AVENUE

PRESENT ADT (2013)	4550
PROJECTED ADT (2033)	5460
FUNCTIONAL CLASS	A MINOR ARTERIAL
TRAFFIC LANES	2
PARKING LANES	0

BASED ON STOPPING DISTANCE  
 HEIGHT OF EYE: 3.50 FEET  
 HEIGHT OF OBJECT: 2.00 FEET

Statement of Estimated Quantities

Bituminous Mill and Overlay 2014  
County Project P-5001

Item Number	Item	Unit	Quantity BUFFALO ST. P-5001
2021.501	Mobilization	LS	0.2
2104.501	Remove Curb & Gutter	LF	30
2104.511	Saw Concrete Curb & Walk Full Depth	LF	20
2104.513	Saw Bituminous Pavement Full Depth	LF	0
2104.603	Remove & Replace Bit Pavement (Fulldepth)ADA	LF	0
2105.503	Remove Concrete Walk	SF	0
2123.610	Street Sweeper	HOUR	20
2232.501	Mill Bituminous Surface (2")	SY	0
2232.501	Mill Bituminous Surface (4")	SY	0
2331.604	Bituminous Pavement Reclamation	SY	7,629.
2357.502	Bituminous Material for Tack Coat	GAL	381
2360.501	Type SPWEB340B Wearing Course Mixture	TON	0
2360.501	Type SPWEB340C Wearing Course Mixture	TON	1,755
2360.501	Type SPWEB340E Wearing Course Mixture	TON	0
2360.501	Type SPWEB340F Wearing Course Mixture	TON	0
2360.501	Type SPWEB440F Wearing Course Mixture	TON	0
2360.505	Bituminous Mixture for Patching	TON	100
2504.602	Adjust Valve Box	EACH	7
2506.522	Adjust Frame Ring & Casting	EACH	9
2506.602	Construct Survey Control Structure	EACH	0
2521.501	6" Concrete Walk (ADA)	SF	0.00
2531.501	Concrete Curb & Gutter Design B612 (ADA)	LF	30
2531.501	Concrete Curb & Gutter Design B618 (ADA)	LF	0
2531.501	Concrete Curb & Gutter Design D424 (ADA)	LF	0
2531.501	Concrete Curb & Gutter Design B624 (ADA)	LF	0
2531.502	Concrete Curb & Gutter Design Special (ADA)	LF	0
2531.502	Concrete Curb Design V (ADA)	LF	0
2531.618	Truncated Domes	SF	0
2535.501	Bituminous Curb	LF	140
2563.601	Traffic Control	LS	0.2
2563.601	Temporary Pedestrian Access Control	LS	0
2565.602	NMC Loop Detector 6' x 6'	EACH	0.0
2565.602	NMC Loop Detector 6' x 6'	LF	448
2565.602	Pedestrian Indication - Countdown	EACH	0
2565.602	Pedestrian Push Botton Station	EACH	0
2565.602	APS System	EACH	0
2573.530	Storm Drain Inlet Protection	EACH	10
2575.602	Site Restoration (ADA)	EACH	0
2582.501	Pavement Message Lt Arrow - Epoxy	EACH	0
2582.501	Pavement Message Rt Arrow - Epoxy	EACH	1
2582.501	Pavement Message Lt/Thru Arrow - Epoxy	EACH	0
2582.501	Pavement Message (RR Xing) - Epoxy	EACH	1
2582.502	4" Solid Line White - Epoxy	LF	76
2582.502	4" Solid Line Yellow - Epoxy	LF	0
2582.502	4" Dashed Line White - Epoxy	LF	0
2582.502	4" Dashed Line Yellow - Epoxy	LF	0
2582.502	4" Double Line Yellow - Epoxy	LF	2,522
2582.502	12" Solid Line White - Epoxy	LF	0
2582.502	24" Solid Line White - Epoxy	LF	48
2582.618	Crosswalk Marking-Epoxy	SF	255

MN/DOT STANDARD PLATES	
7038A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
8000I	STANDARD BARRICADES
8112F	PEDESTAL FOUNDATION
8122E	PEDESTAL & PEDESTAL BASE

QUANTITY NOTES	
1.	To be used for restoration of curb removal areas.
2.	Common excavation is measured 3 feet from the back of curb at a depth of 6 inches.
3.	Topsoil is measured 3 feet from back of curb at a depth of 6 inches.
4.	Tack coat is estimated at 0.05 gallons / square yard bituminous / lift
5.	Bituminous is estimated at 115 lbs / square yard / inch of bituminous
6.	Bituminous patching mix is SPWEB340C
7.	Rapid stabilization method 3 is estimated at 6,000 gallons / acre

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NO.	REV-DATE	BY:	DESCRIPTION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
SIGNED: \_\_\_\_\_  
REG NO: \_\_\_\_\_ DATE: \_\_\_\_\_

BUFFALO STREET  
TH61 to PORTLAND AVENUE

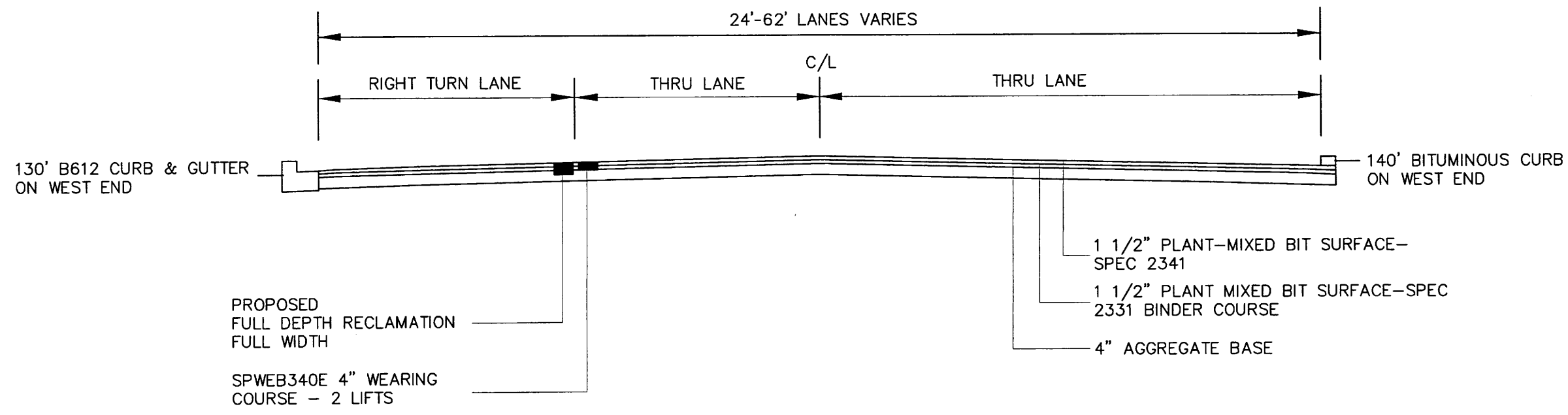
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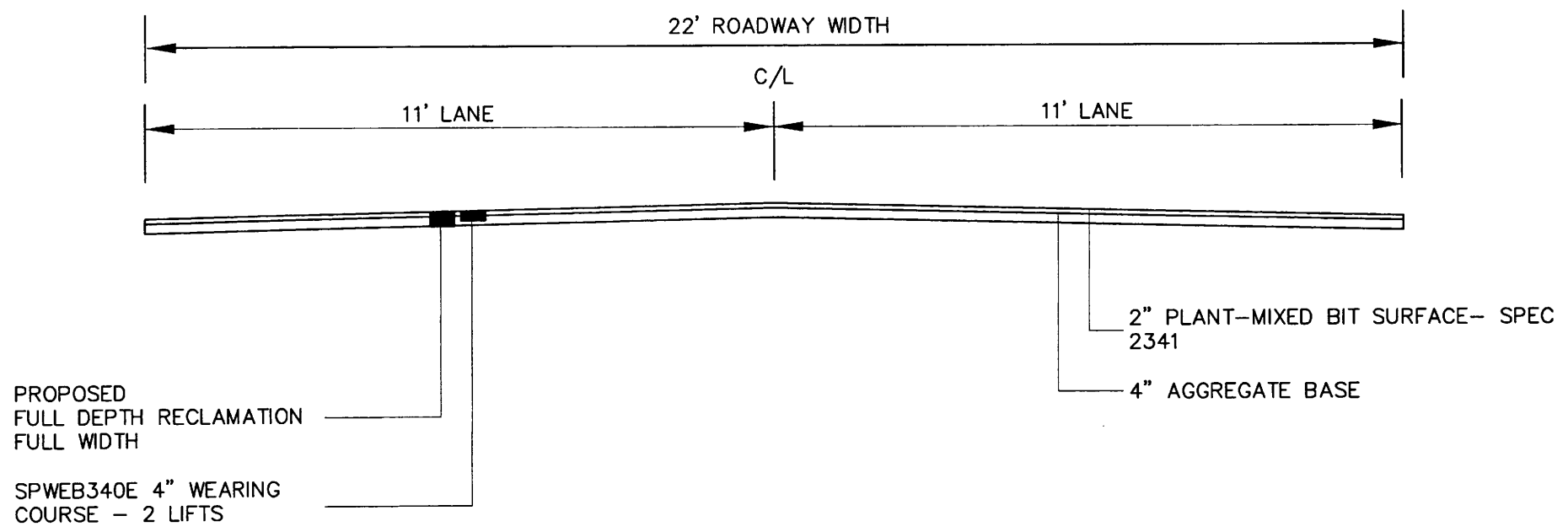
ESTIMATED QUANTITIES  
SHEET 2 OF 7 SHEETS

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### TYPICAL SECTION - BUFFALO STREET STA. 00+84 TO STA. 07+00



### TYPICAL SECTION - BUFFALO STREET STA. 07+00 TO STA. 26+72



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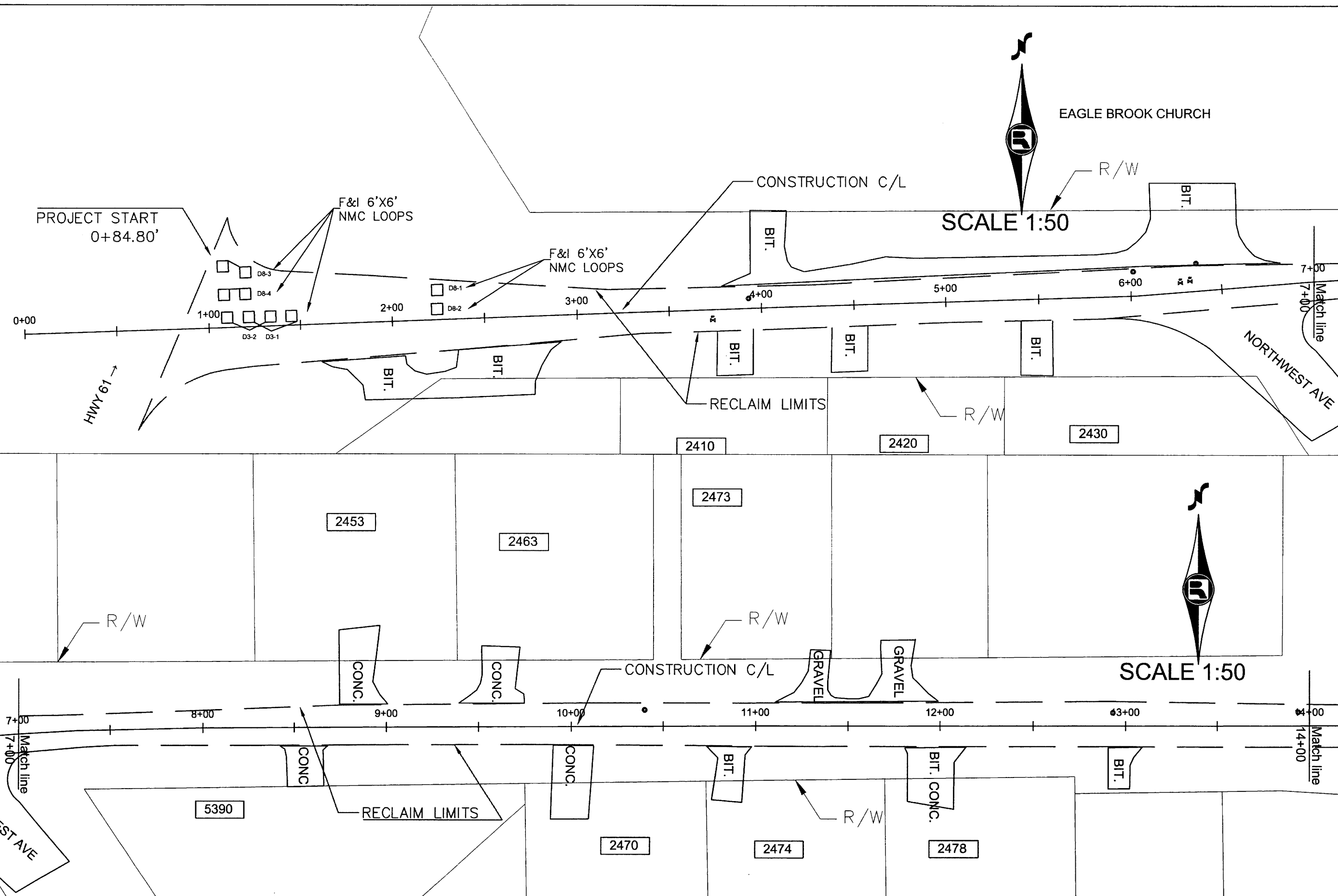
BUFFALO STREET  
TH61 to PORTLAND AVENUE

COUNTY PROJ. P5001



TYPICAL SECTION  
SHEET 3 OF 7 SHEETS

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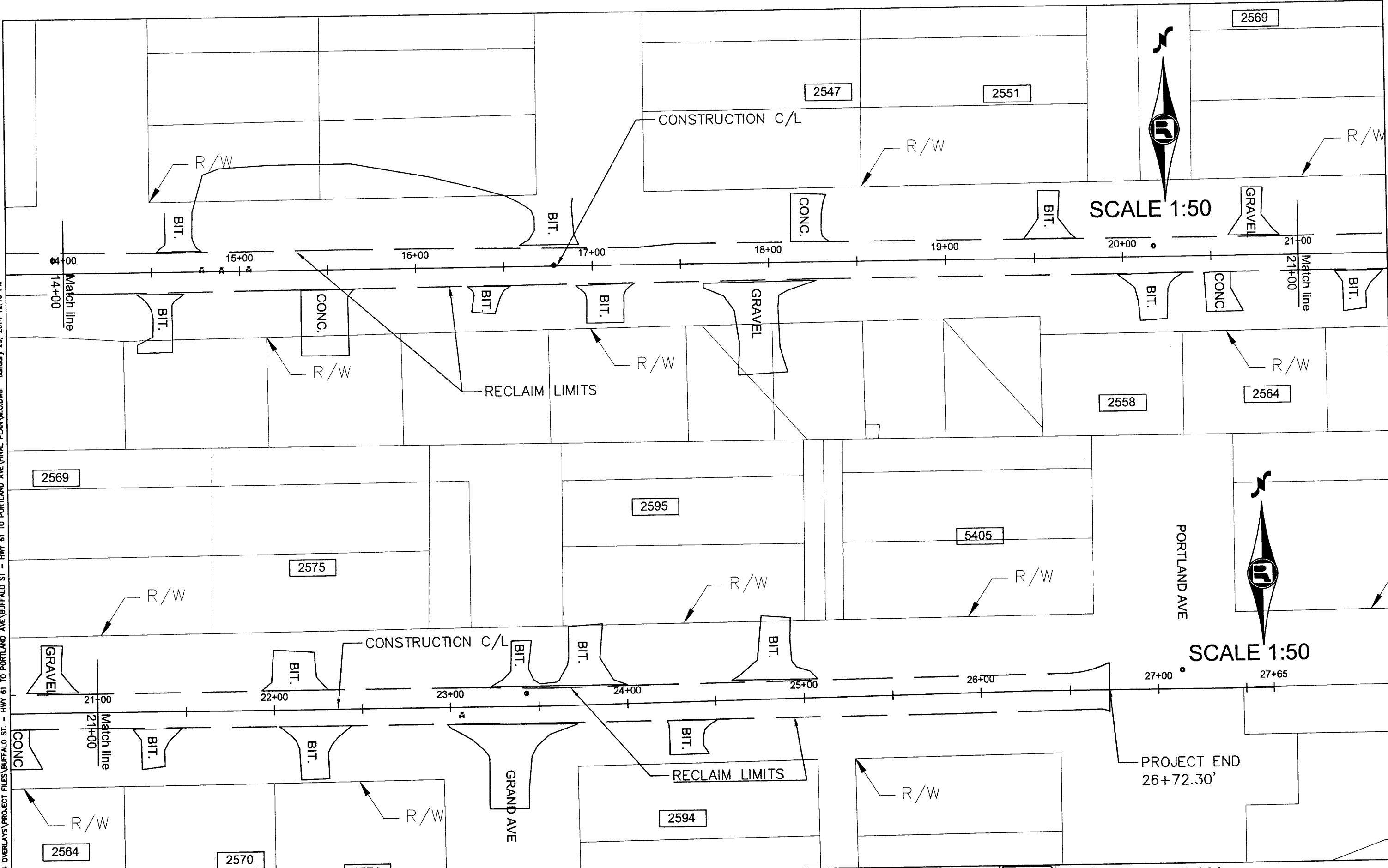
**BUFFALO STREET**  
TH61 to PORTLAND AVENUE

COUNTY PROJ. P5001



**ROADWAY PLAN**  
SHEET 4 OF 7 SHEETS

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SIGNED: \_\_\_\_\_  
 REG NO: \_\_\_\_\_ DATE: \_\_\_\_\_

**BUFFALO STREET**  
 TH61 to PORTLAND AVENUE

COUNTY PROJ. P-5001



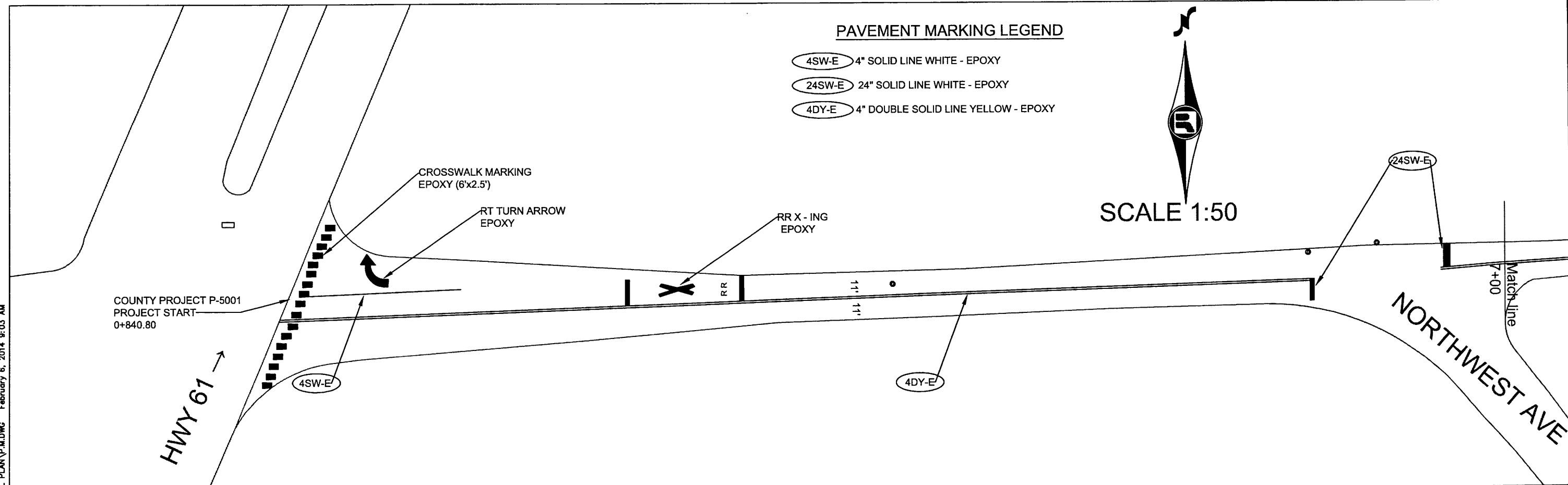
**ROADWAY PLAN**  
**SHEET 5 OF 7 SHEETS**

**PAVEMENT MARKING LEGEND**

- 4SW-E 4" SOLID LINE WHITE - EPOXY
- 24SW-E 24" SOLID LINE WHITE - EPOXY
- 4DY-E 4" DOUBLE SOLID LINE YELLOW - EPOXY



SCALE 1:50



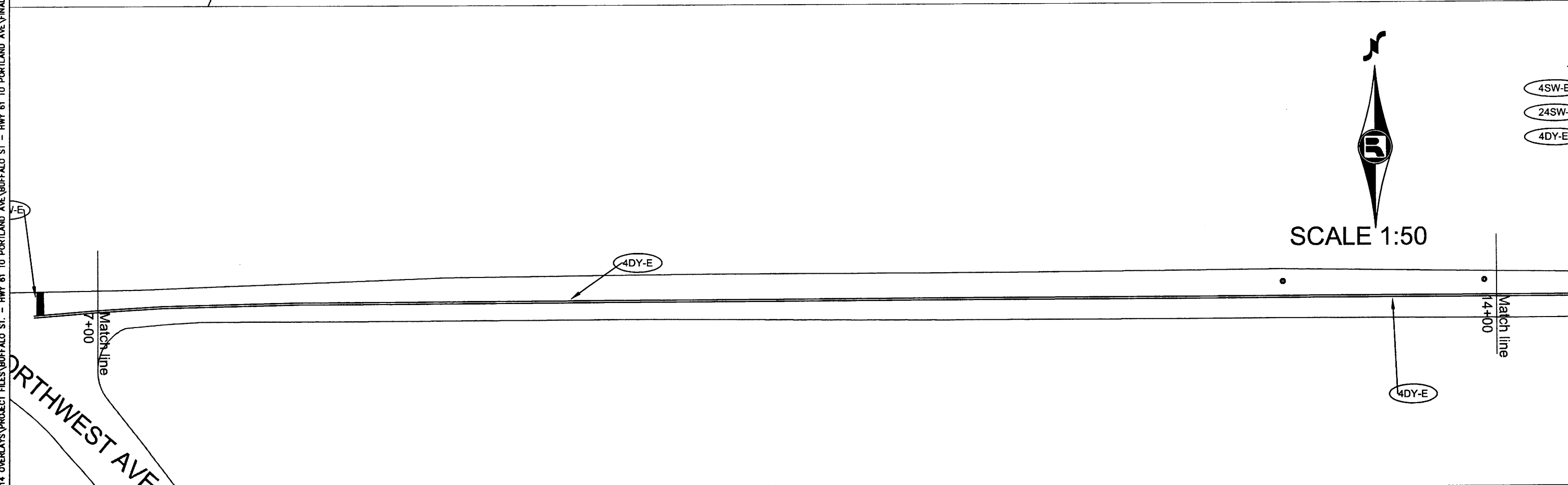
COUNTY PROJECT P-5001  
PROJECT START  
0+840.80

HWY 61 →

NORTHWEST AVE



SCALE 1:50



- 4SW-E
- 24SW-E
- 4DY-E

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**BUFFALO STREET**  
TH61 to PORTLAND AVENUE

COUNTY PROJ. P-5001



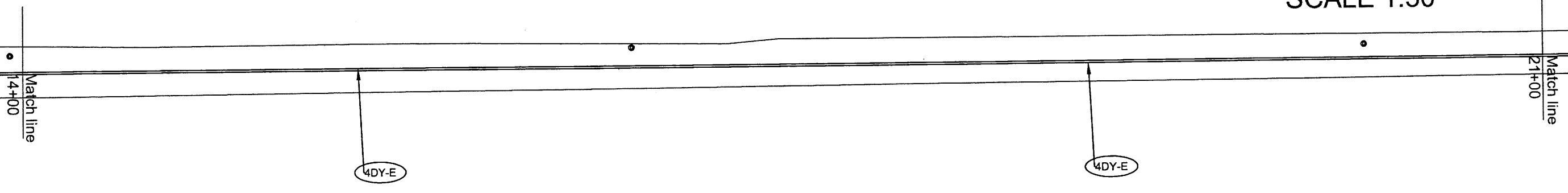
**PAVEMENT MARKING PLAN**  
SHEET 6 OF 7 SHEETS

**PAVEMENT MARKING LEGEND**

- 4SW-E 4" SOLID LINE WHITE - EPOXY
- 24SW-E 24" SOLID LINE WHITE - EPOXY
- 4DY-E 4" DOUBLE SOLID LINE YELLOW - EPOXY



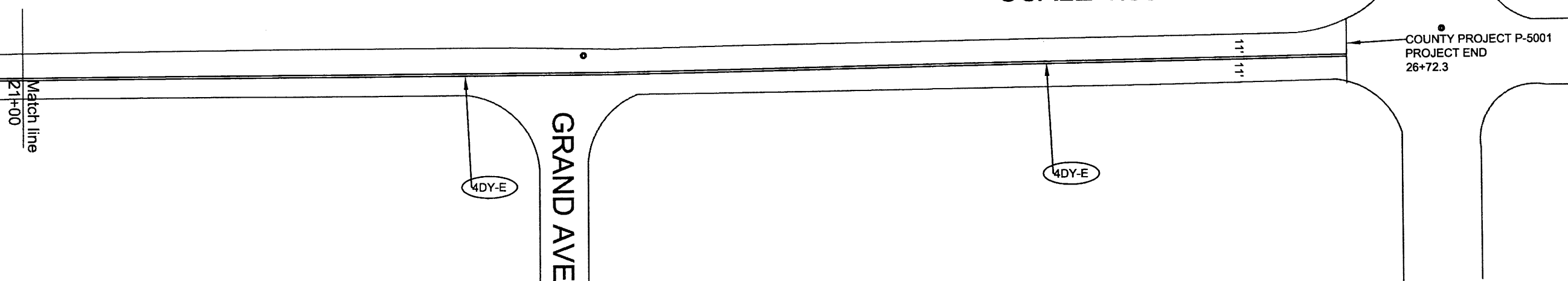
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SCALE 1:50

PORTLAND AVE

COUNTY PROJECT P-5001  
PROJECT END  
26+72.3



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**BUFFALO STREET**  
TH61 to PORTLAND AVENUE

COUNTY PROJ. P-5001



**PAVEMENT MARKING PLAN**  
**SHEET 7 OF 7 SHEETS**