

HWY 567/Pipe Creek Road
Libby North Corridor Planning Study

Roadway Inventory

December 2007

Volume II

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THIS DESIGN CRITERIA WAS USED IN DEVELOPING THIS ROADWAY INVENTORY. SUBSTANDARD ROADWAY ELEMENTS ARE COMPARED TO THIS TABLE.

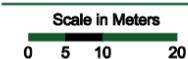
LIBBY NORTH CORRIDOR STUDY

HWY 567 / PIPE CREEK ROAD

EXISTING GEOMETRICS EVALUATION CRITERIA			Manual Section	Design Criteria
Design Element			Manual Section	Design Criteria
Design Controls	Design Forecast Year		8.4	2030
	Design Speed	Mountainous	8.3	45 mph (70km/h)
	Level of Service		8.4	B
Roadway Elements	Design Year Traffic	Current AADT	N/A	350
		DHV		44
	Roadway Width (Travel Lanes & Shoulders)		11.2	28 ft (8.4 m)
	Cross Slope	Travel Lane	11.2	2%
		Shoulder		2%
Median Width		11.3	N/A	
Earth Cut Section	Inslope		11.4	4:1 (6.0 ft - 2.0 m)
	Ditch	Width	11.4	10 ft (3.0 m)
		Slope		20:1
	Back Slope; Cut Depth at Slope Stake	0'-5' (0-1.5m)	11.4	5:1
		5' - 10' (1.5m - 3.0m)		3:1
		10' - 15' (3.0m - 4.5m)		2:1
12' - 20' (4.5m - 6.0m)		1.5:1		
> 20' (6.0m)	1.5:1			
Earth Fill Slopes	Fill Height at Slope Stake	0'-10' (0-3.0)	11.4	4:1
		10' - 20' (3.0m - 6.0m)		3:1
		20' - 30' (6.0m - 9.0m)		3:1
		> 30'(9.0m)		2:1
Alignment Elements	DESIGN SPEED		N/A	45 mph (70km/h)
	Stopping Sight Distance		8.6	360 ft (105m)
	Passing Sight Distance		8.6	1625 ft (490m)
	Minimum Radius (e=8.0%)		9.2	590 ft (175m)
	Superelevation Rate		9.3	emax = 8.0%
	Vertical Curvature (k-value)	Crest	10.5	61 (17 metric)
		Sag		79 (23 metric)
	Maximum Grade	Mountainous	10.3	10%
Minimum Vertical Clearance		10.6	16.5 ft (5.05m)	

(1) All Information listed here was taken from Figure 12-5 "Geometric Design Criteria for Rural Collector Roads" Montana Department of Transportation Road Design Manual Chapter 12 except where otherwise noted.

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LEGEND	
Edge of Pavement	Creek or Ditch
Major Contours	Existing Guard Rail
Minor Contours	Power Pole
Mall Box	Section Line
Existing Right of Way	1/4 Section Line
Property Line	Property Corner Found
Fire Hydrant	Well
High Water Mark	CROSS CULVERT
Snow Storage Problem Area	W / FLOW DIRECTION

NOTES:

1. a. CULTURAL RESOURCE INFORMATION TAKEN FROM "CULTURAL RESOURCE INVENTORY AND EVALUATION VOLUME 1: REPORT 11Km NORTH OF LIBBY NORTH HIGHWAY RECONSTRUCTION PROJECT LINCOLN COUNTY, MONTANA", JANUARY 2004.
- b. ONLY THOSE SITES LISTED AS ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES ARE SHOWN.
2. WILDLIFE LINKAGE ZONES TAKEN FROM THE STUDY "11 KM NORTH OF LIBBY - NORTH CORRIDOR STUDY: PRELIMINARY WILDLIFE HABITAT LINKAGE ANALYSIS."
3. GRIZZLY BEAR RECOVERY AND DISTRIBUTION ZONES TAKEN FROM US FISH AND WILDLIFE SERVICE DATA.
4. TRAIL INFORMATION TAKEN FROM US FOREST SERVICE MAPS, AERIAL PHOTOS, AND FIELD OBSERVATIONS.

SITES	DESCRIPTION
24LN1338 / 24LN1343	PIPE CREEK MAINLINE LOGGING RAILROAD
24LN1339	SPRING BOARD STUMPS
24LN1340	SPRING BOARD STUMPS
24LN1342	SPRING BOARD STUMPS
24LN997	SPRING BOARD STUMPS



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Keymap

— Edge of Pavement	- - - - - Creek or Ditch	MB Mail Box	- - - - - Section Line	⊙ Fire Hydrant	⊙ Well
— Major Contours	— Existing Guard Rail	— Existing Right of Way	- - - - - 1/4 Section Line	⊙ High Water Mark	⊙ CROSS CULVERT
— Minor Contours	⬮ Power Pole	— Property Line	⬮ Property Corner Found	⬮ Snow Storage Problem Area	⬮ W / FLOW DIRECTION

CORRIDOR LENGTH = 14 MILES



NAIP 2005 AERIAL

7/31/2007 #FILES

Keymap

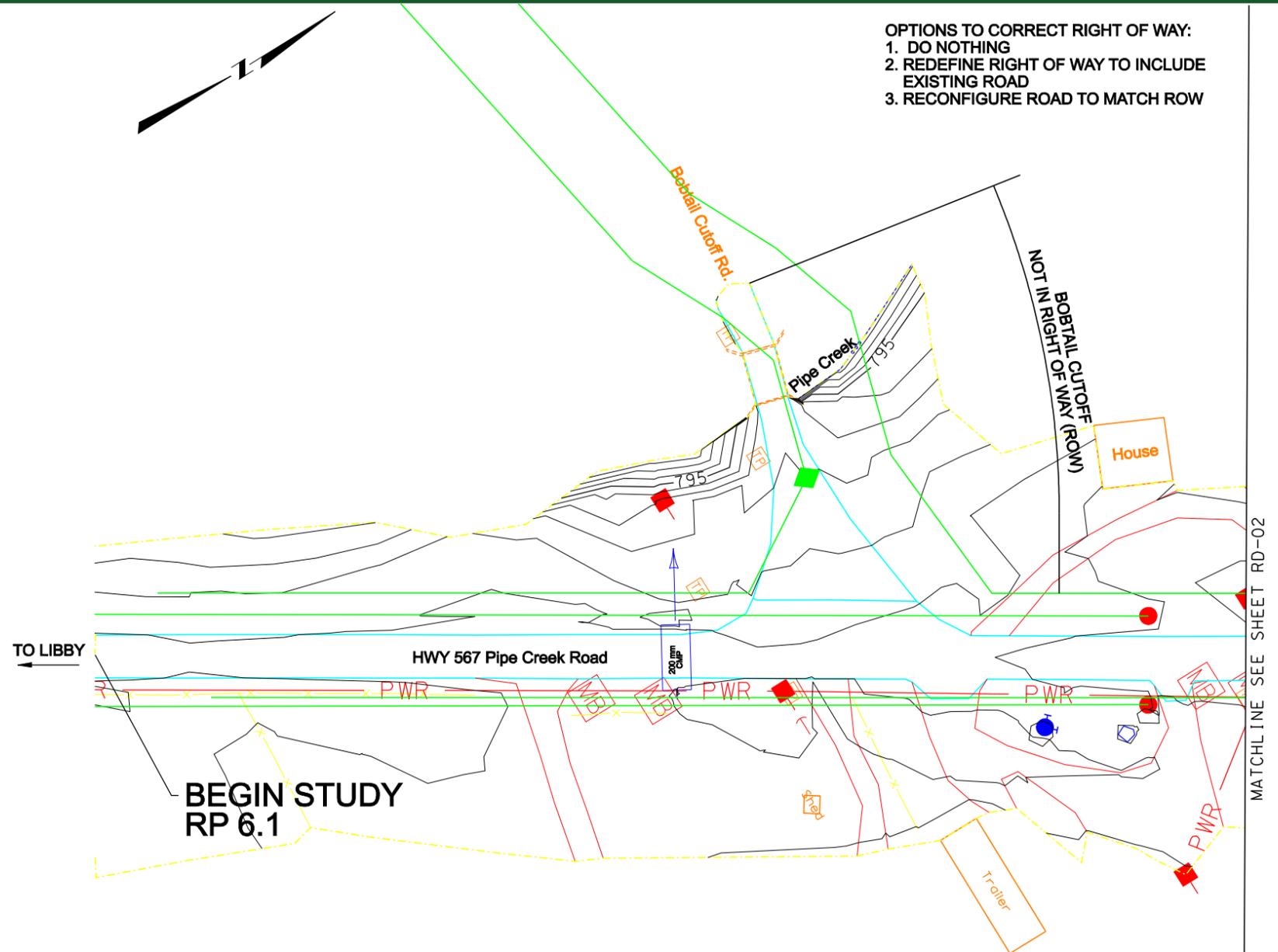
LEGEND	
Edge of Pavement	Creek or Ditch
Major Contours	Existing Guard Rail
Minor Contours	Power Pole
Mail Box	Existing Right of Way
1/4 Section Line	Fire Hydrant
Property Line	High Water Mark
Property Corner Found	Well
Snow Storage Problem Area	CROSS CULVERT W / FLOW DIRECTION

Sheet: RD-00

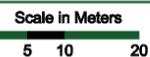
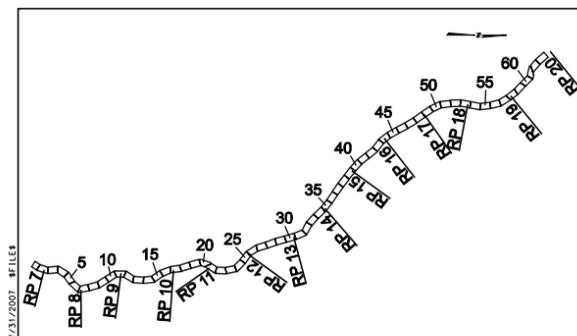
Roadway Inventory Index

Prepared By: D. Naillon
Reviewed By: R. Clegg

- OPTIONS TO CORRECT RIGHT OF WAY:
1. DO NOTHING
 2. REDEFINE RIGHT OF WAY TO INCLUDE EXISTING ROAD
 3. RECONFIGURE ROAD TO MATCH ROW

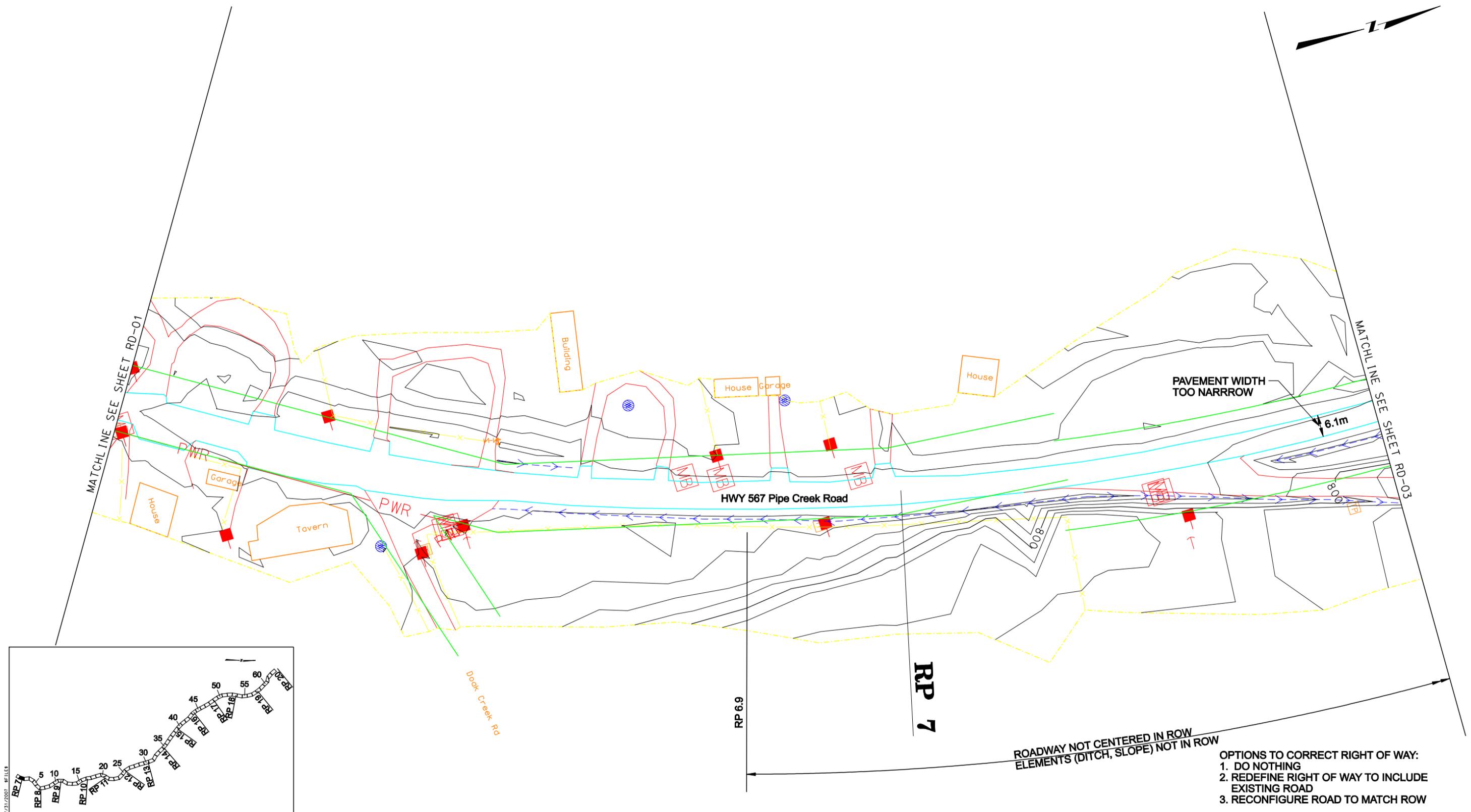


BEGIN STUDY
RP 6.1



LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION



MATCHLINE SEE SHEET RD-01

MATCHLINE SEE SHEET RD-03

PAVEMENT WIDTH TOO NARROW

6.1m

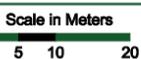
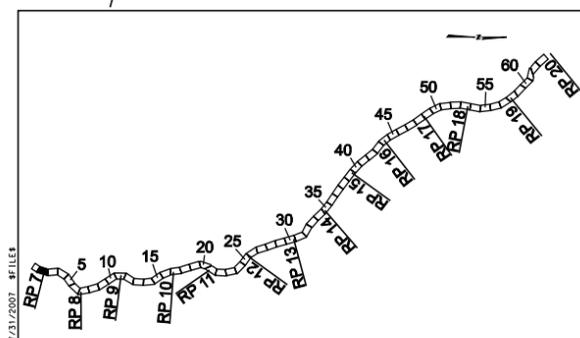
HWY 567 Pipe Creek Road

RP 7

RP 6.9

ROADWAY NOT CENTERED IN ROW
ELEMENTS (DITCH, SLOPE) NOT IN ROW

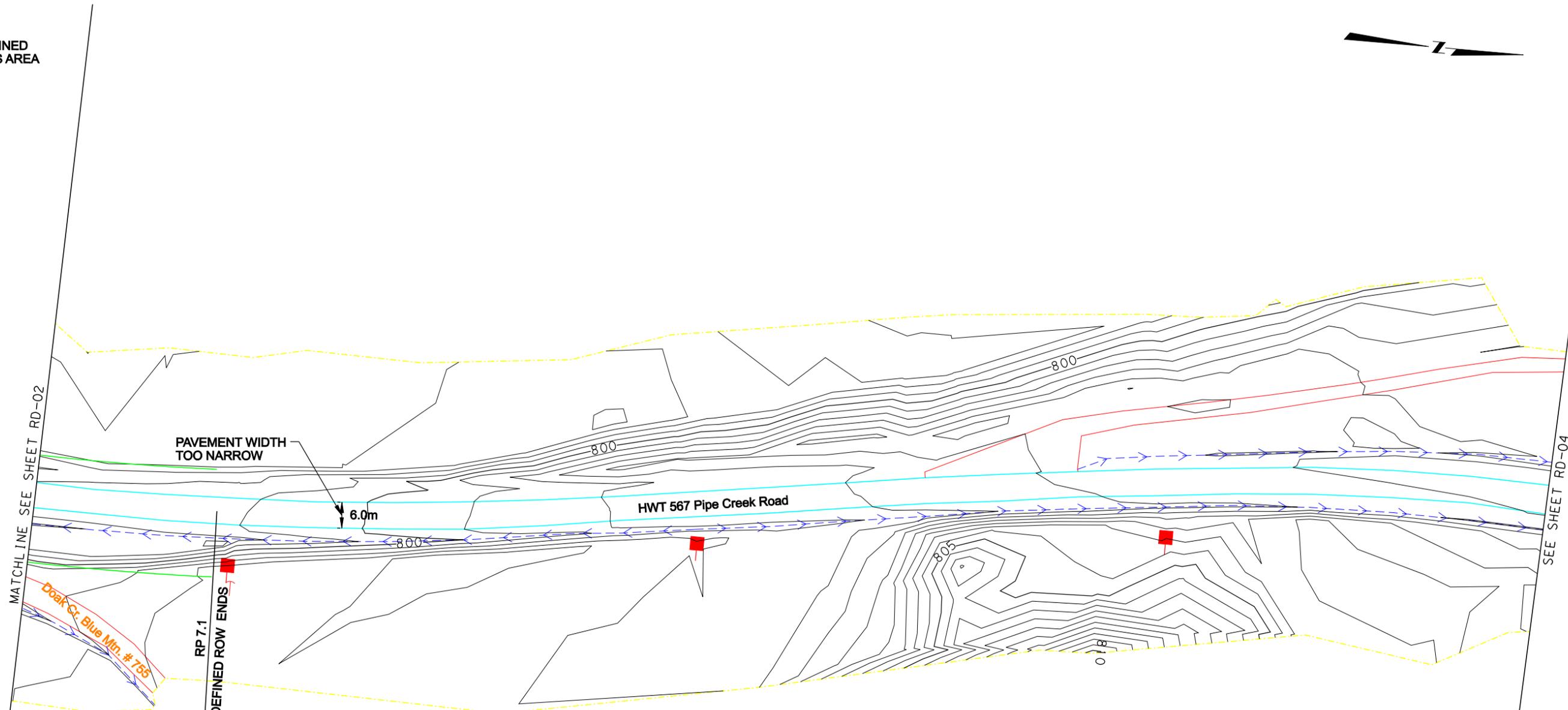
- OPTIONS TO CORRECT RIGHT OF WAY:
1. DO NOTHING
 2. REDEFINE RIGHT OF WAY TO INCLUDE EXISTING ROAD
 3. RECONFIGURE ROAD TO MATCH ROW



LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA AFTER RP 7.1.



PAVEMENT WIDTH TOO NARROW

6.0m

HWT 567 Pipe Creek Road

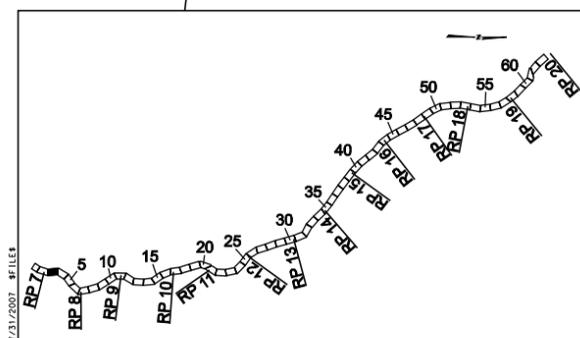
RP 7.1
DEFINED ROW ENDS

MATCHLINE SEE SHEET RD-02

SEE SHEET RD-04

ROADWAY NOT CENTERED IN ROW
ELEMENTS (DITCH, SLOPE) NOT IN ROW

- OPTIONS TO CORRECT RIGHT OF WAY:
1. DO NOTHING
 2. REDEFINE RIGHT OF WAY TO INCLUDE EXISTING ROAD
 3. RECONFIGURE ROAD TO MATCH ROW

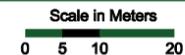
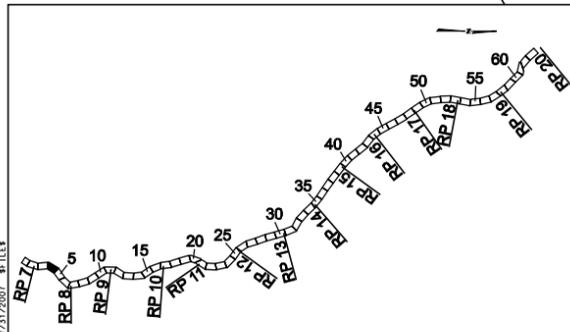
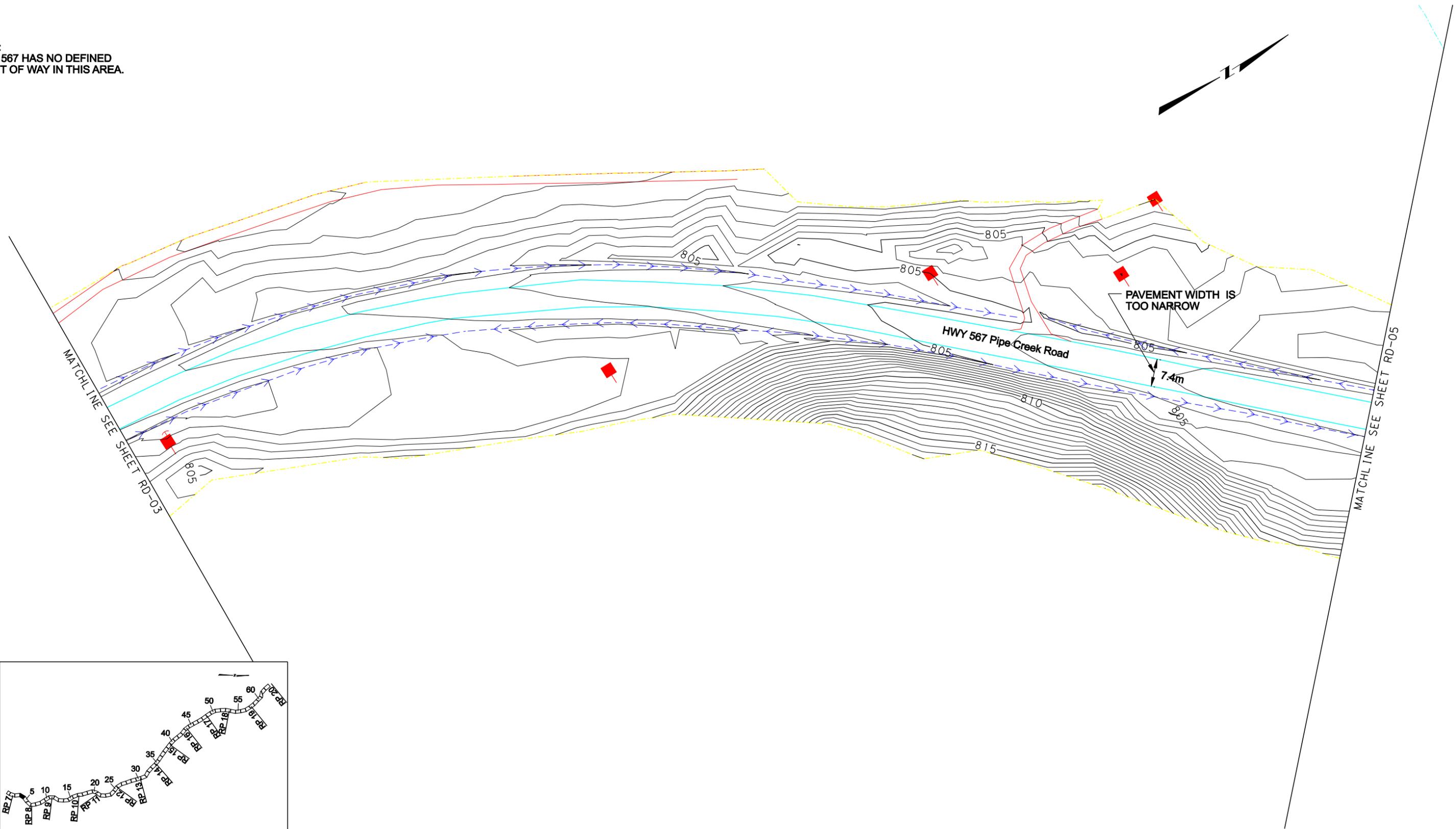


Scale in Meters
0 5 10 20

LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT W / FLOW DIRECTION
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.



LEGEND	
	Creek or Ditch
	Existing Guard Rail
	Power Pole
	Mall Box
	Existing Right of Way
	Property Line
	Section Line
	1/4 Section Line
	Property Corner Found
	Fire Hydrant
	High Water Mark
	Snow Storage Problem Area
	Well
	CROSS CULVERT W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

Timberlane X-C Ski Loop

Timberlane Campground

Forest Service Rd. # 4667

HWY 567 Pipe Creek Road

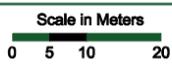
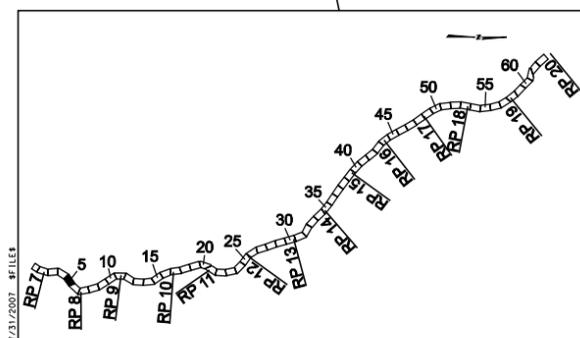
Pipe Creek

PAVEMENT WIDTH IS TOO NARROW

7.2m

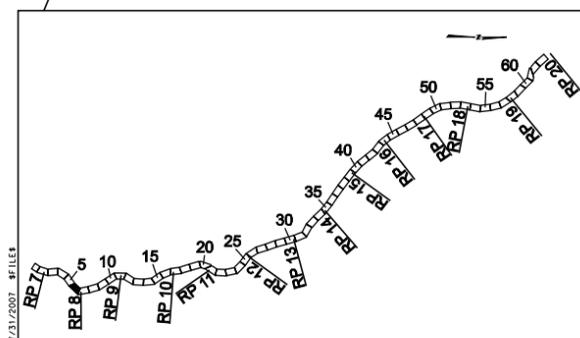
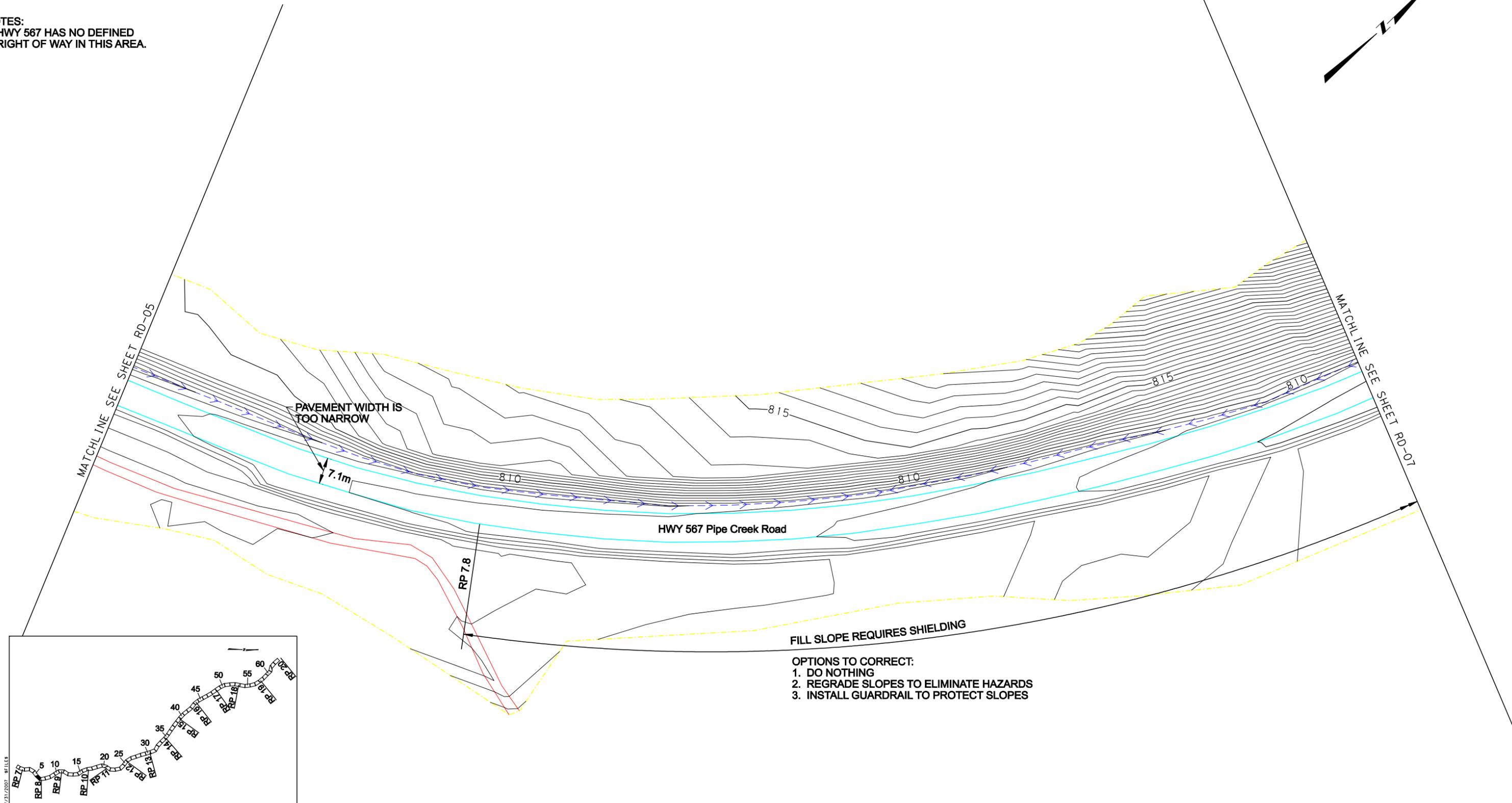
MATCHLINE SEE SHEET RD-04

MATCHLINE SEE SHEET RD-06



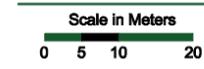
LEGEND											
	Edge of Pavement		Creek or Ditch		Mall Box		Section Line		Fire Hydrant		Well
	Major Contours		Existing Guard Rail		Existing Right of Way		1/4 Section Line		High Water Mark		CROSS CULVERT W / FLOW DIRECTION
	Minor Contours		Power Pole		Property Line		Property Corner Found		Snow Storage Problem Area		

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.



FILL SLOPE REQUIRES SHIELDING

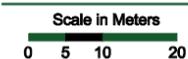
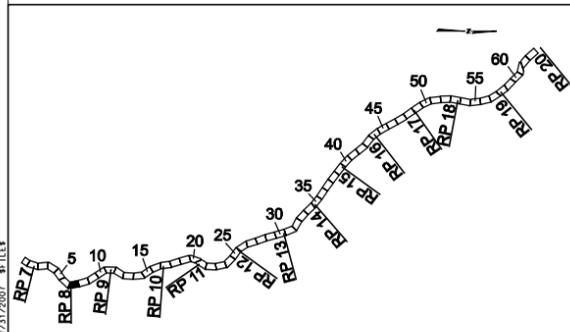
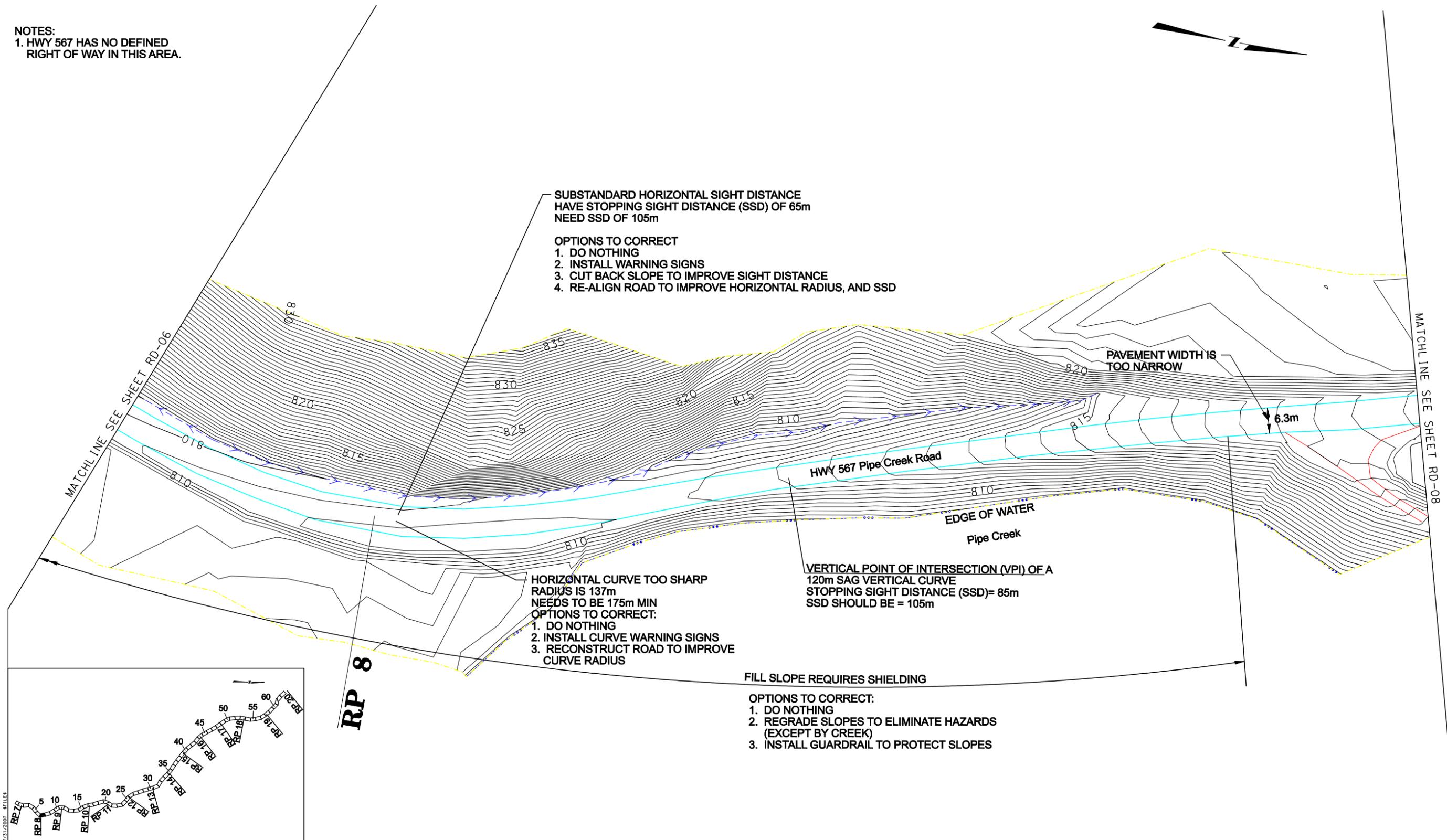
OPTIONS TO CORRECT:
1. DO NOTHING
2. REGRADE SLOPES TO ELIMINATE HAZARDS
3. INSTALL GUARDRAIL TO PROTECT SLOPES



LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT W / FLOW DIRECTION
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	

NOTES:
 1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.



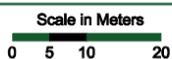
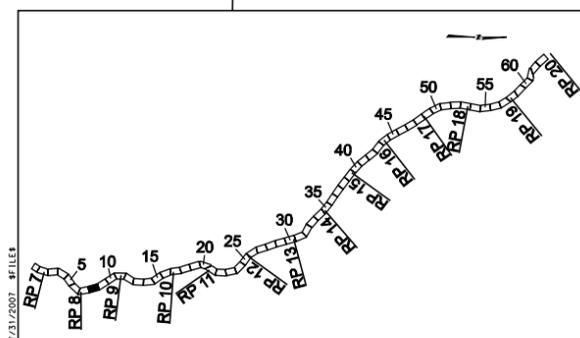
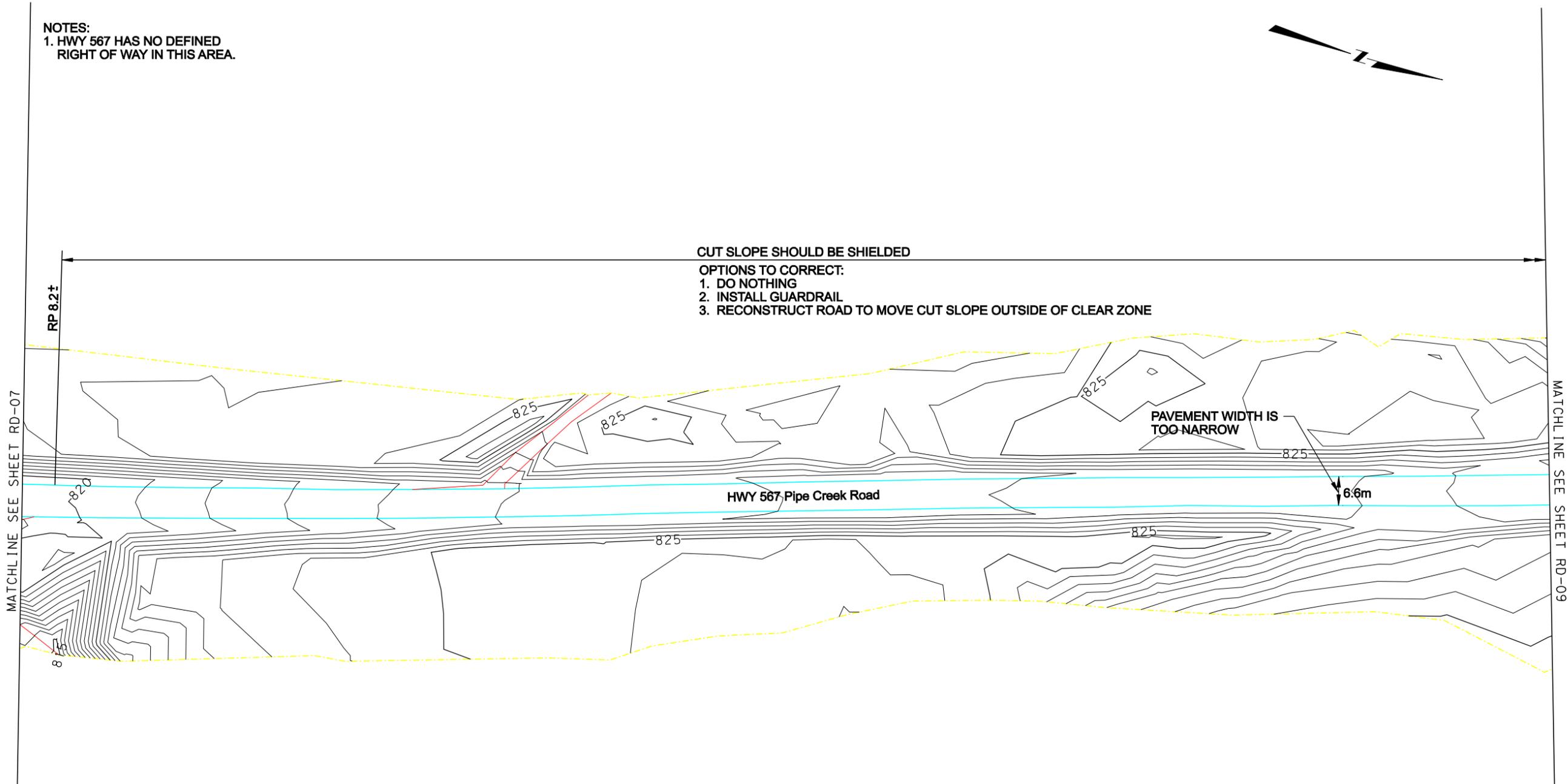
LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

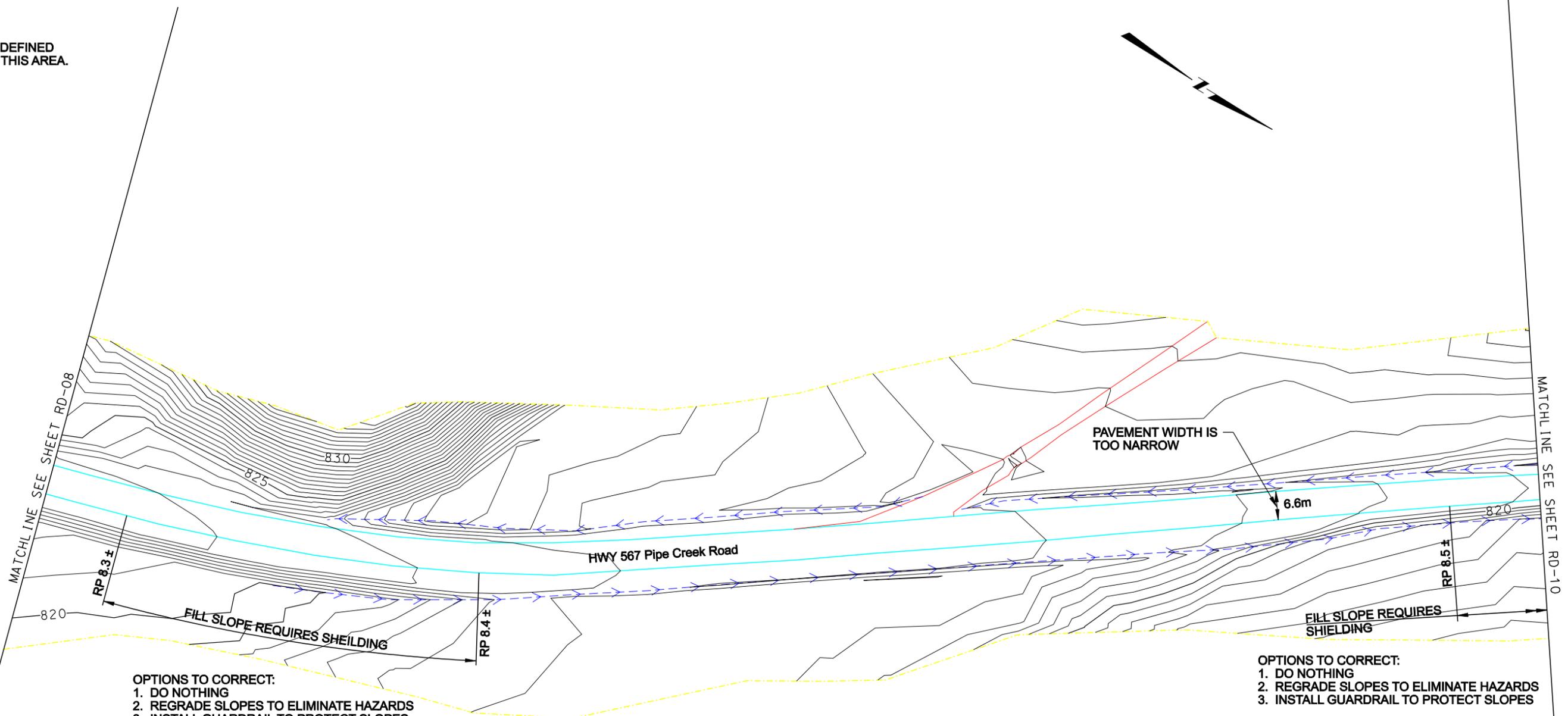
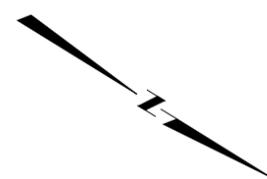


CUT SLOPE SHOULD BE SHIELDED
OPTIONS TO CORRECT:
1. DO NOTHING
2. INSTALL GUARDRAIL
3. RECONSTRUCT ROAD TO MOVE CUT SLOPE OUTSIDE OF CLEAR ZONE



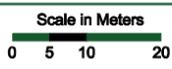
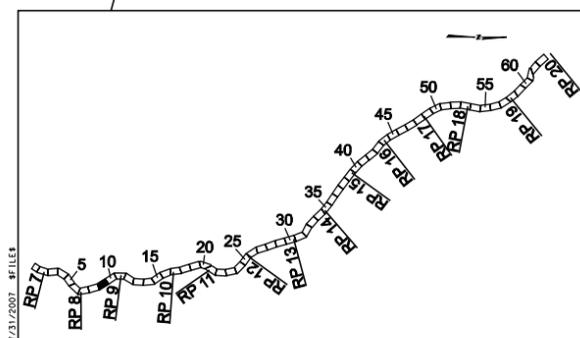
LEGEND											
	Edge of Pavement		Creek or Ditch		Mall Box		Section Line		Fire Hydrant		Well
	Major Contours		Existing Guard Rail		Existing Right of Way		1/4 Section Line		High Water Mark		CROSS CULVERT
	Minor Contours		Power Pole		Property Line		Property Corner Found		Snow Storage Problem Area		W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.



OPTIONS TO CORRECT:
1. DO NOTHING
2. REGRADE SLOPES TO ELIMINATE HAZARDS
3. INSTALL GUARDRAIL TO PROTECT SLOPES

OPTIONS TO CORRECT:
1. DO NOTHING
2. REGRADE SLOPES TO ELIMINATE HAZARDS
3. INSTALL GUARDRAIL TO PROTECT SLOPES

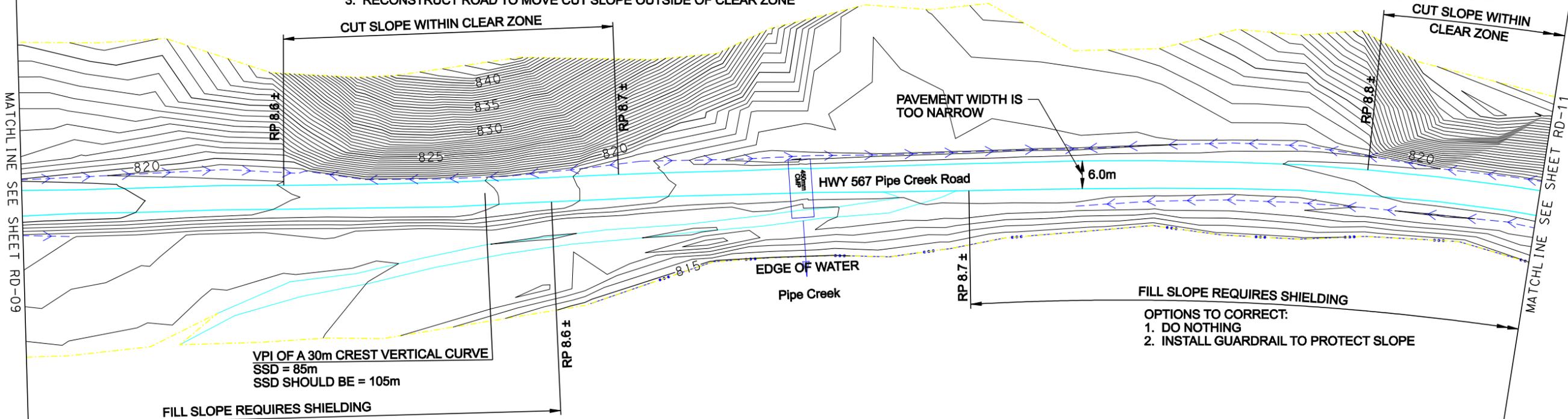


LEGEND	
	Edge of Pavement
	Major Contours
	Minor Contours
	Creek or Ditch
	Existing Guard Rail
	Power Pole
	Mall Box
	Existing Right of Way
	Property Line
	Section Line
	1/4 Section Line
	Property Corner Found
	Fire Hydrant
	High Water Mark
	Snow Storage Problem Area
	Well
	CROSS CULVERT W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

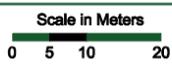
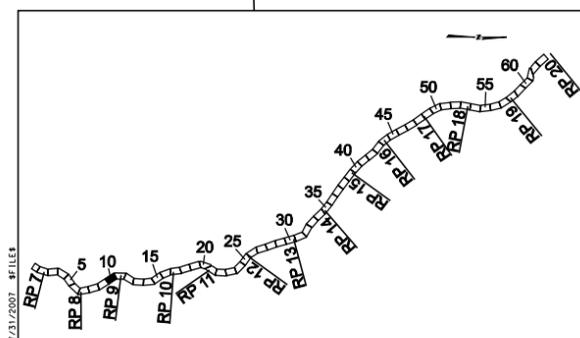
OPTIONS TO CORRECT:
1. DO NOTHING
2. INSTALL GUARDRAIL
3. RECONSTRUCT ROAD TO MOVE CUT SLOPE OUTSIDE OF CLEAR ZONE

OPTIONS TO CORRECT:
1. DO NOTHING
2. INSTALL GUARDRAIL
3. RECONSTRUCT ROAD TO MOVE CUT SLOPE OUTSIDE OF CLEAR ZONE



FILL SLOPE REQUIRES SHIELDING
OPTIONS TO CORRECT:
1. DO NOTHING
2. REGRADE SLOPES TO ELIMINATE HAZARDS
3. INSTALL GUARDRAIL TO PROTECT SLOPES

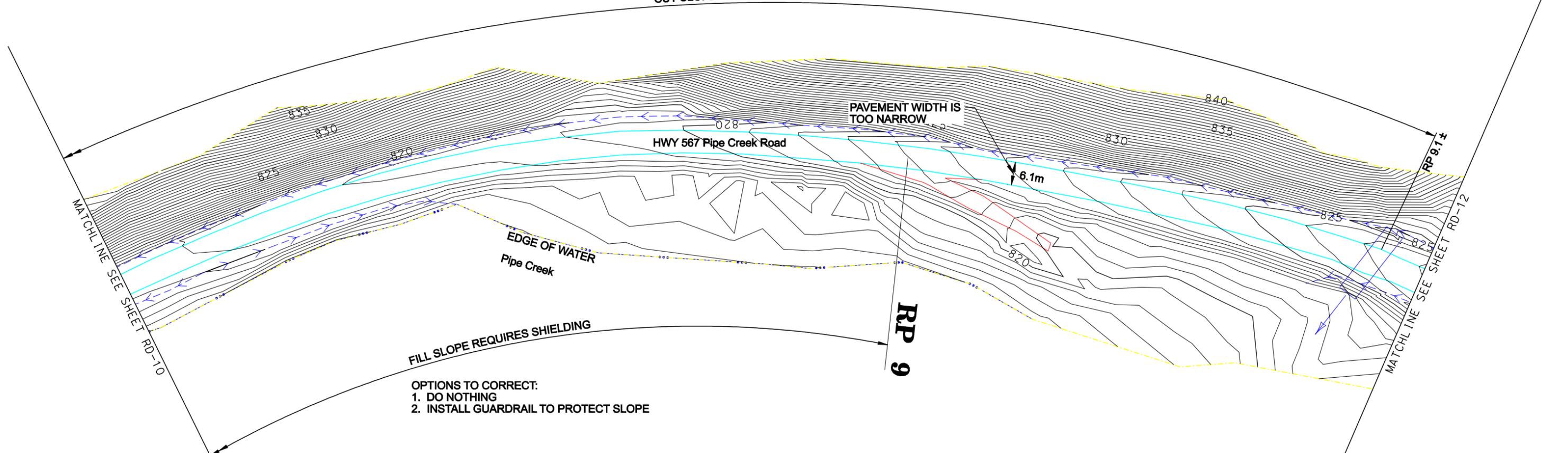
FILL SLOPE REQUIRES SHIELDING
OPTIONS TO CORRECT:
1. DO NOTHING
2. INSTALL GUARDRAIL TO PROTECT SLOPE



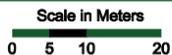
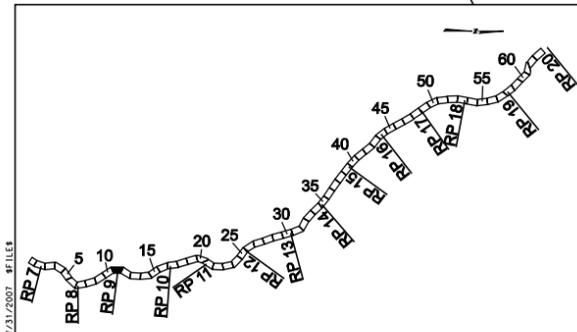
LEGEND	
Edge of Pavement	--- Section Line
Major Contours	--- 1/4 Section Line
Minor Contours	--- Property Line
--- Creek or Ditch	MB Mail Box
--- Existing Guard Rail	--- Existing Right of Way
--- Power Pole	--- Property Line
--- Fire Hydrant	--- Snow Storage Problem Area
--- High Water Mark	--- Well
--- Property Corner Found	--- CROSS CULVERT W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

OPTIONS TO CORRECT:
1. DO NOTHING
2. INSTALL GUARDRAIL
3. RECONSTRUCT ROAD TO MOVE CUT SLOPE OUTSIDE OF CLEAR ZONE
CUT SLOPE WITHIN CLEAR ZONE

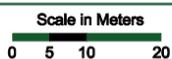
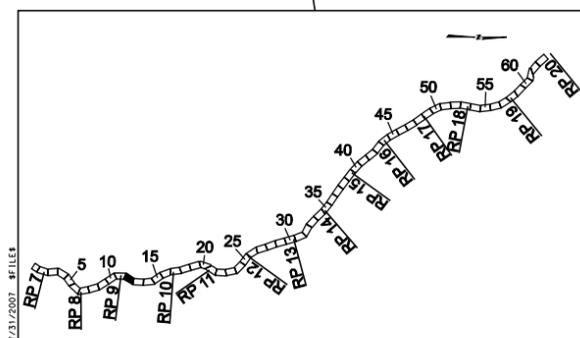
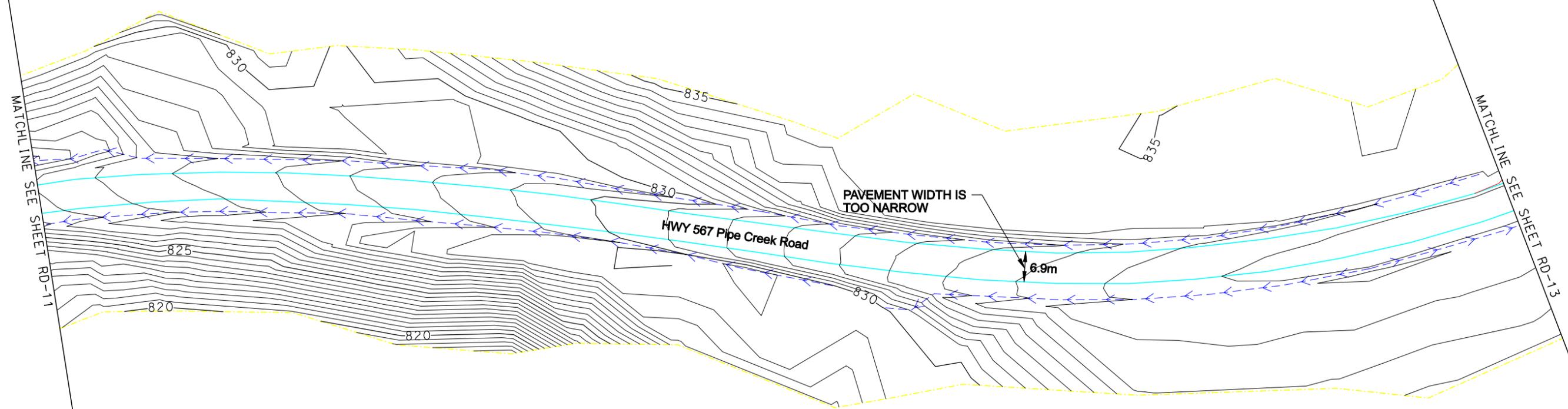
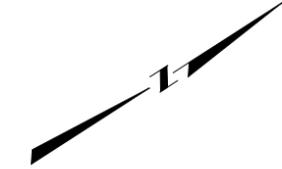


OPTIONS TO CORRECT:
1. DO NOTHING
2. INSTALL GUARDRAIL TO PROTECT SLOPE



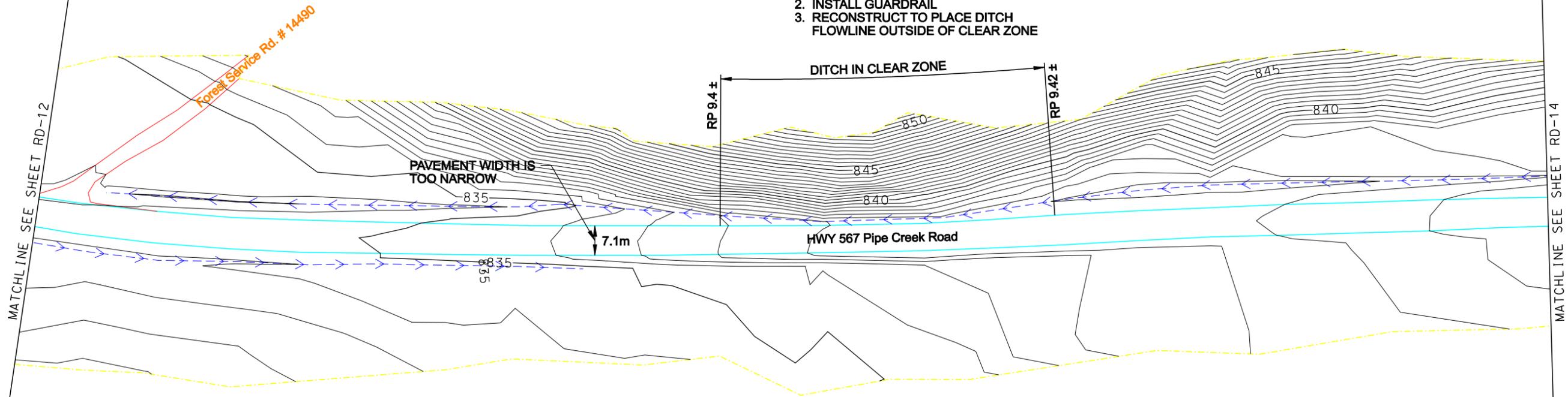
LEGEND	
	Edge of Pavement
	Major Contours
	Minor Contours
	Creek or Ditch
	Existing Guard Rail
	Power Pole
	Mall Box
	Existing Right of Way
	Property Line
	Section Line
	1/4 Section Line
	Property Corner Found
	Fire Hydrant
	High Water Mark
	Snow Storage Problem Area
	Well
	CROSS CULVERT W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

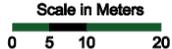
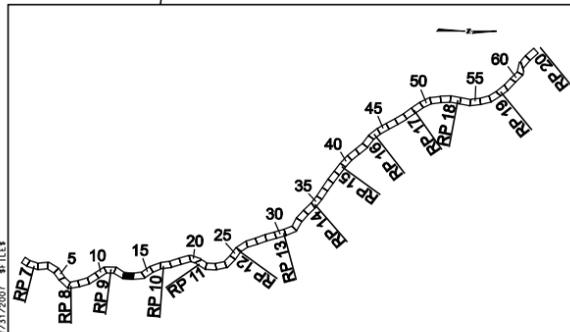


LEGEND	
	Edge of Pavement
	Creek or Ditch
	Power Pole
	Section Line
	Fire Hydrant
	Mall Box
	Existing Right of Way
	High Water Mark
	1/4 Section Line
	Property Corner Found
	Snow Storage Problem Area
	Well
	CROSS CULVERT W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.



- OPTIONS TO CORRECT:
1. DO NOTHING
 2. INSTALL GUARDRAIL
 3. RECONSTRUCT TO PLACE DITCH FLOWLINE OUTSIDE OF CLEAR ZONE



LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.



- OPTIONS TO CORRECT:
1. DO NOTHING
 2. INSTALL WARNING SIGNS
 3. REDUCE SPEED
 4. INSTALL GUARDRAIL
 5. REGRADE CUT SLOPE TO BE OUTSIDE OF CLEAR ZONE

CUT SLOPE WITHIN CLEAR ZONE
RP 9.6 ±

SUBSTANDARD HORIZONTAL SIGHT DISTANCE
HAVE SSD OF 85m
NEED 105m OF SSD

FILL SLOPE REQUIRES SHIELDING
RP 9.6 ±

- OPTIONS TO CORRECT:
1. DO NOTHING
 2. INSTALL GUARDRAIL TO PROTECT SLOPE

- OPTIONS TO CORRECT:
1. DO NOTHING
 2. INSTALL WARNING SIGNS
 3. RECONSTRUCT ROAD TO MOVE CUT SLOPE OUTSIDE SIGHTLINES

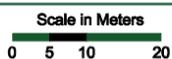
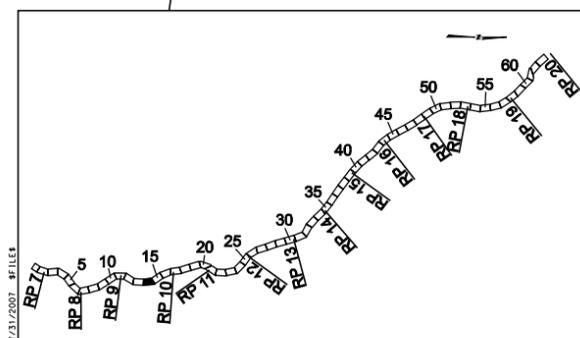
PAVEMENT WIDTH IS TOO NARROW

6.9m

HWY 567 Pipe Creek Road

MATCHLINE SEE SHEET RD-13

MATCHLINE SEE SHEET RD-15



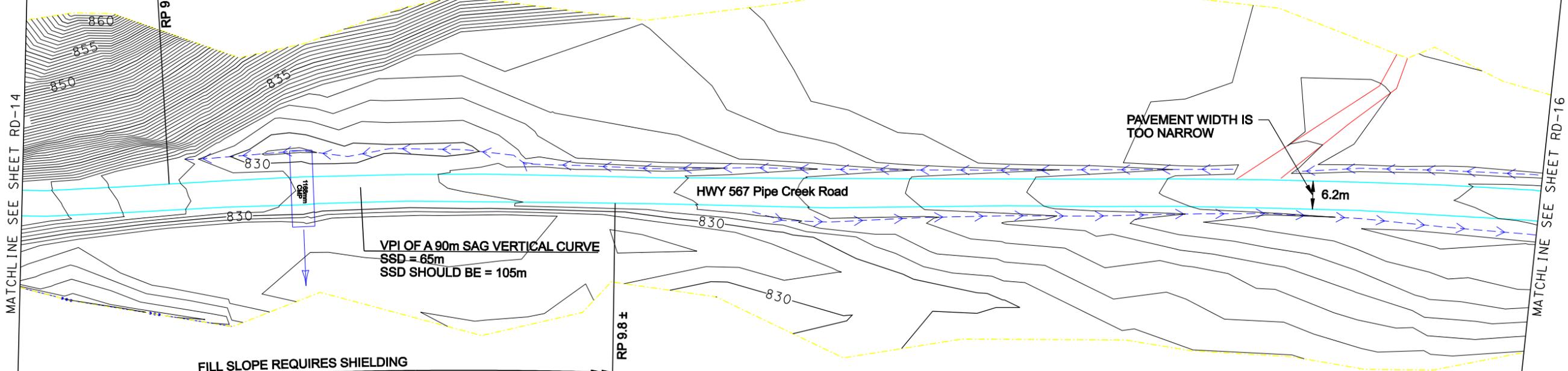
LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT W / FLOW DIRECTION
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

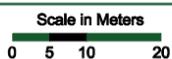
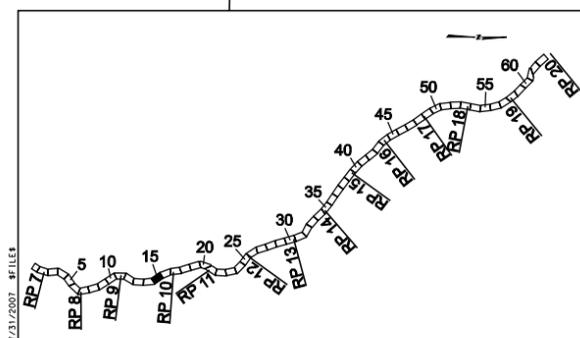
- OPTIONS TO CORRECT:
1. DO NOTHING
 2. INSTALL WARNING SIGNS
 3. REDUCE SPEED
 4. INSTALL GUARDRAIL
 5. REGRADE CUT SLOPE TO BE OUTSIDE OF CLEAR ZONE

CUT SLOPE WITHIN CLEAR ZONE



FILL SLOPE REQUIRES SHIELDING

- OPTIONS TO CORRECT:
1. DO NOTHING
 2. INSTALL GUARDRAIL TO PROTECT SLOPES

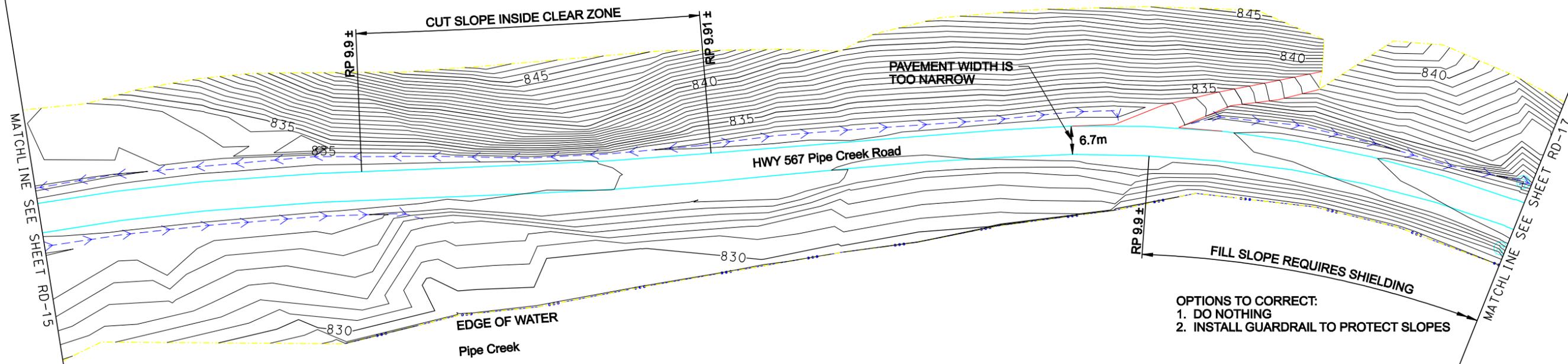
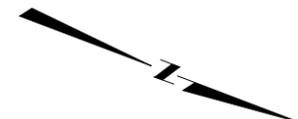


LEGEND

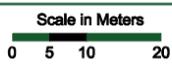
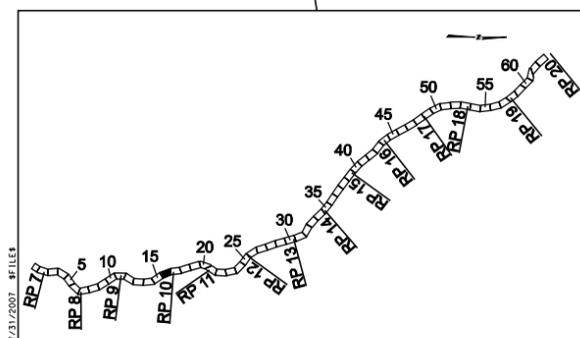
Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT W / FLOW DIRECTION
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

OPTIONS TO CORRECT:
1. DO NOTHING
2. INSTALL WARNING SIGNS
3. INSTALL GUARDRAIL
4. REGRADE CUT SLOPE TO BE OUTSIDE OF CLEAR ZONE

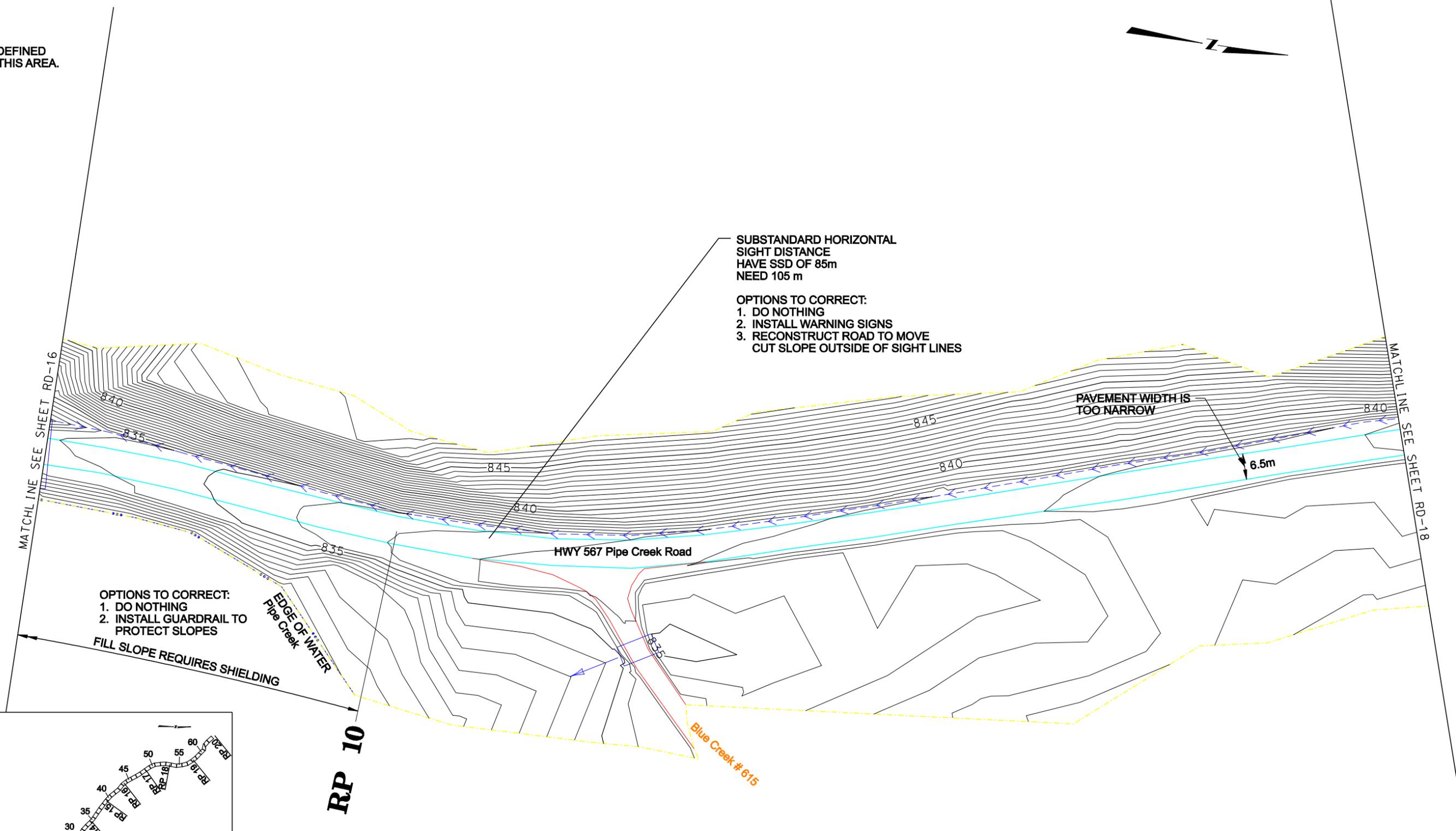


OPTIONS TO CORRECT:
1. DO NOTHING
2. INSTALL GUARDRAIL TO PROTECT SLOPES



LEGEND	
	Edge of Pavement
	Creek or Ditch
	Mall Box
	Section Line
	Major Contours
	Existing Guard Rail
	Existing Right of Way
	Minor Contours
	Power Pole
	Property Line
	1/4 Section Line
	Fire Hydrant
	High Water Mark
	Well
	Property Corner Found
	Snow Storage Problem Area
	CROSS CULVERT W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.



OPTIONS TO CORRECT:
1. DO NOTHING
2. INSTALL GUARDRAIL TO PROTECT SLOPES

SUBSTANDARD HORIZONTAL SIGHT DISTANCE
HAVE SSD OF 85m
NEED 105 m

OPTIONS TO CORRECT:
1. DO NOTHING
2. INSTALL WARNING SIGNS
3. RECONSTRUCT ROAD TO MOVE CUT SLOPE OUTSIDE OF SIGHT LINES

PAVEMENT WIDTH IS TOO NARROW

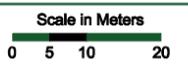
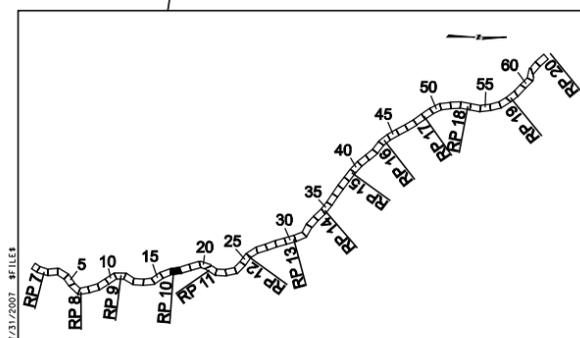
6.5m

HWY 567 Pipe Creek Road

EDGE OF WATER
Pipe Creek

Blue Creek # 615

RP 10



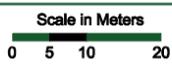
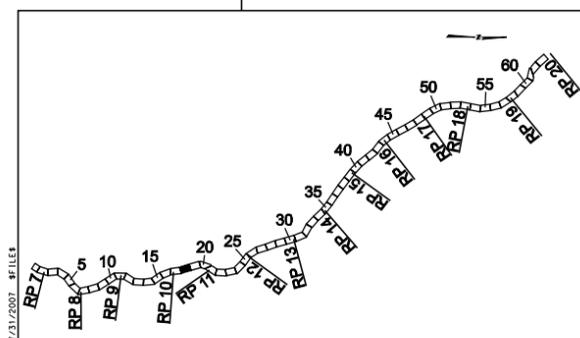
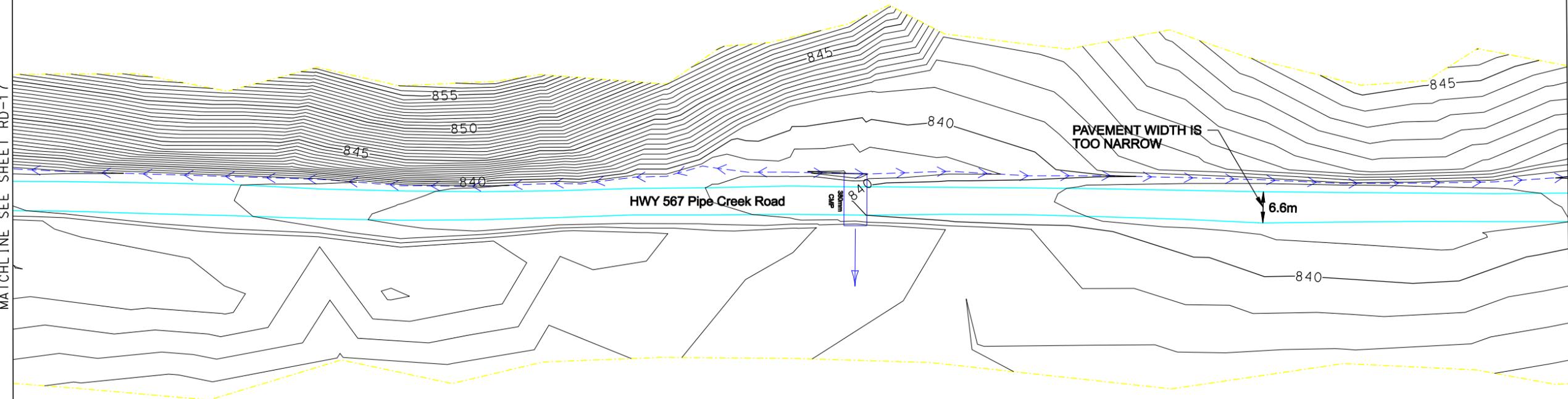
LEGEND											
	Edge of Pavement		Creek or Ditch		Mall Box		Section Line		Fire Hydrant		Well
	Major Contours		Existing Guard Rail		Existing Right of Way		1/4 Section Line		High Water Mark		CROSS CULVERT W / FLOW DIRECTION
	Minor Contours		Power Pole		Property Line		Property Corner Found		Snow Storage Problem Area		

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.



MATCHLINE SEE SHEET RD-17

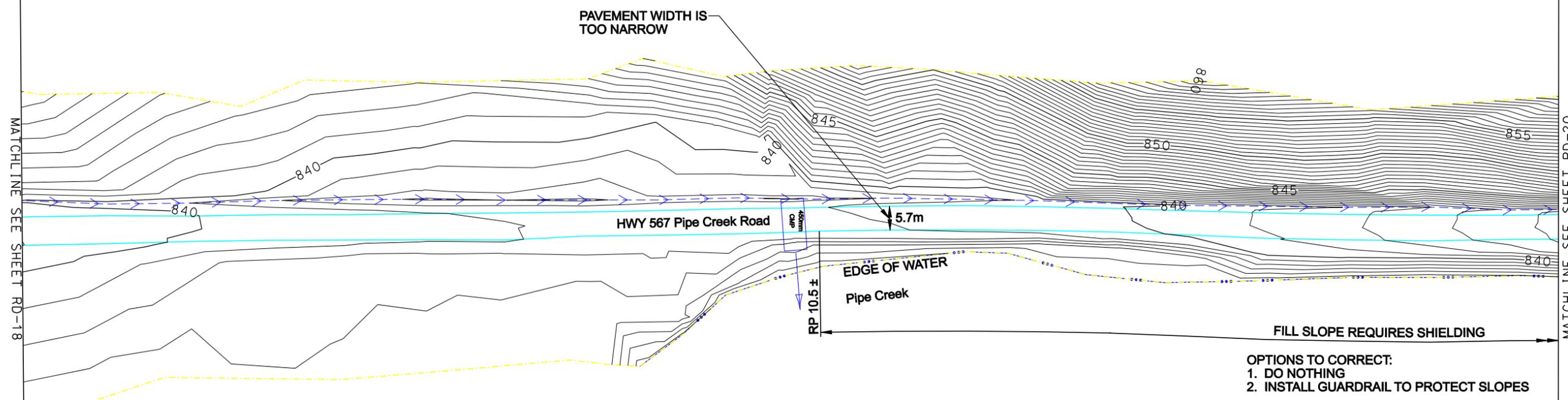
MATCHLINE SEE SHEET RD-19



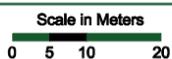
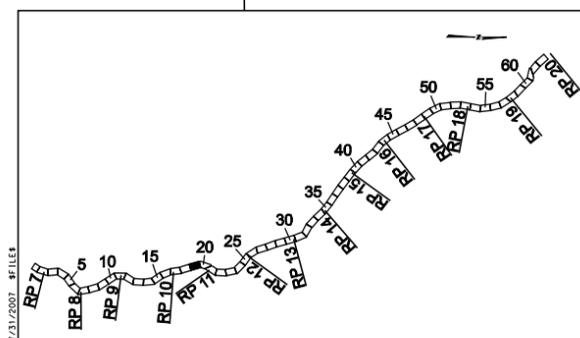
LEGEND	
	Edge of Pavement
	Major Contours
	Minor Contours
	Creek or Ditch
	Existing Guard Rail
	Power Pole
	Mall Box
	Existing Right of Way
	Property Line
	Section Line
	1/4 Section Line
	Property Corner Found
	Fire Hydrant
	High Water Mark
	Snow Storage Problem Area
	Well
	CROSS CULVERT W / FLOW DIRECTION

NOTES:

- 1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.
- 2. REFER TO THE PRELIMINARY GEOTECHNICAL REPORT FOR MDT PROJECT STPS567-1(4)7 FOR GEOTECHNICAL RECOMMENDATIONS IN THIS AREA.



- OPTIONS TO CORRECT:
- 1. DO NOTHING
 - 2. INSTALL GUARDRAIL TO PROTECT SLOPES

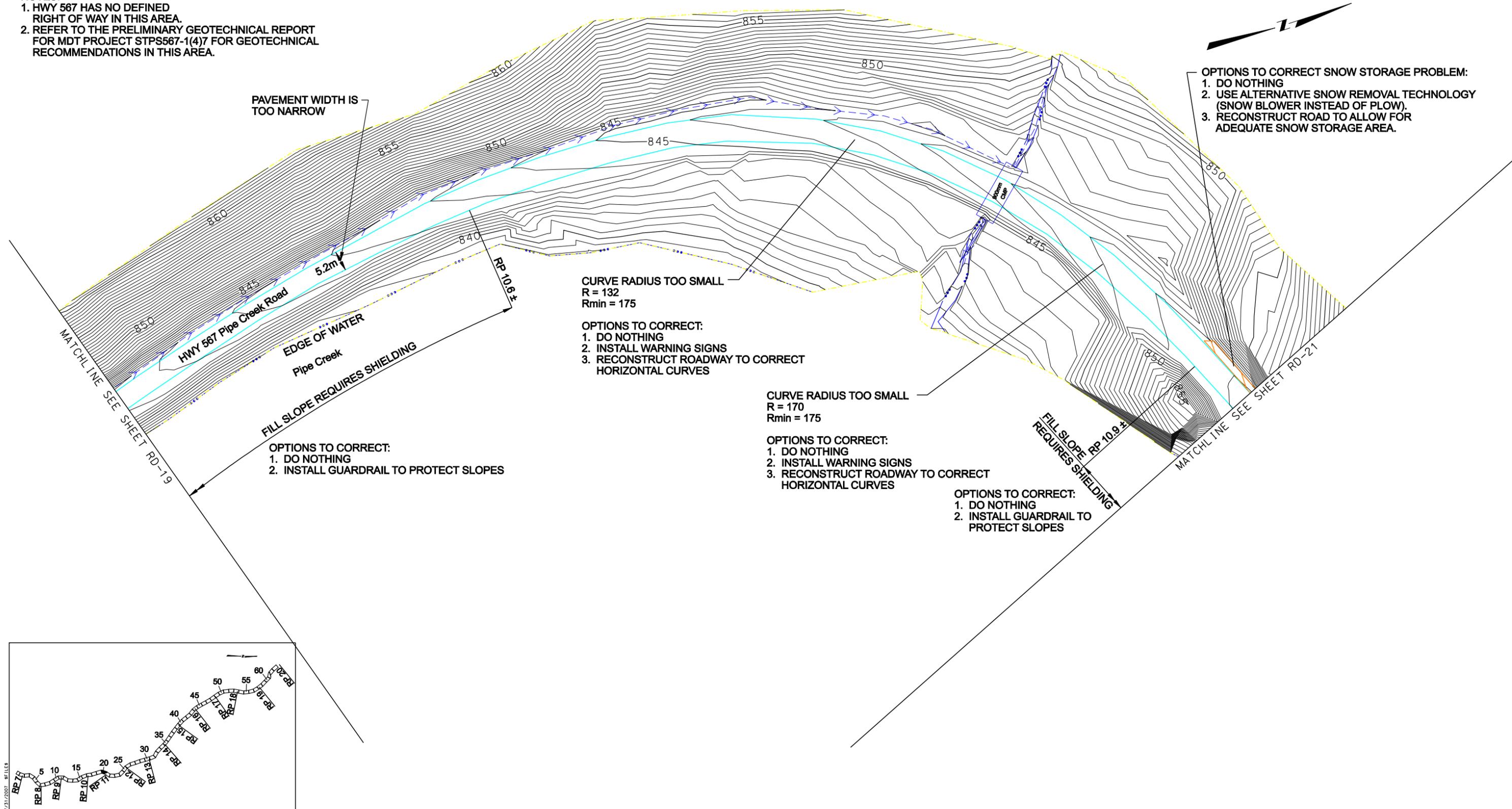


LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT W / FLOW DIRECTION
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	

NOTES:

1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.
2. REFER TO THE PRELIMINARY GEOTECHNICAL REPORT FOR MDT PROJECT STPS567-1(4)7 FOR GEOTECHNICAL RECOMMENDATIONS IN THIS AREA.



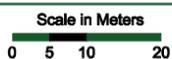
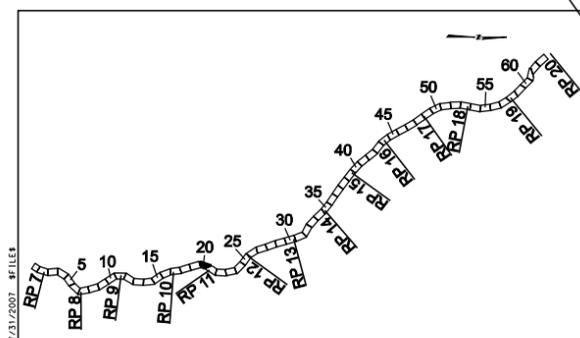
- OPTIONS TO CORRECT SNOW STORAGE PROBLEM:**
1. DO NOTHING
 2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
 3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.

- CURVE RADIUS TOO SMALL**
 R = 132
 Rmin = 175
- OPTIONS TO CORRECT:**
1. DO NOTHING
 2. INSTALL WARNING SIGNS
 3. RECONSTRUCT ROADWAY TO CORRECT HORIZONTAL CURVES

- CURVE RADIUS TOO SMALL**
 R = 170
 Rmin = 175
- OPTIONS TO CORRECT:**
1. DO NOTHING
 2. INSTALL WARNING SIGNS
 3. RECONSTRUCT ROADWAY TO CORRECT HORIZONTAL CURVES

- OPTIONS TO CORRECT:**
1. DO NOTHING
 2. INSTALL GUARDRAIL TO PROTECT SLOPES

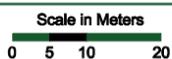
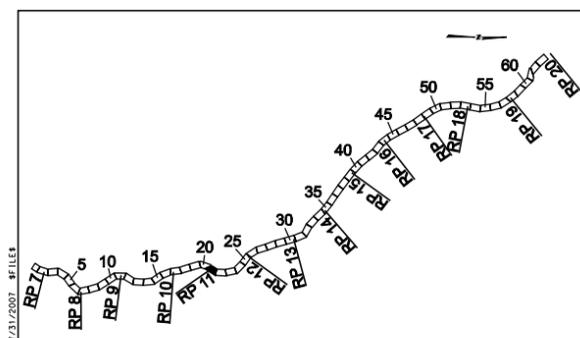
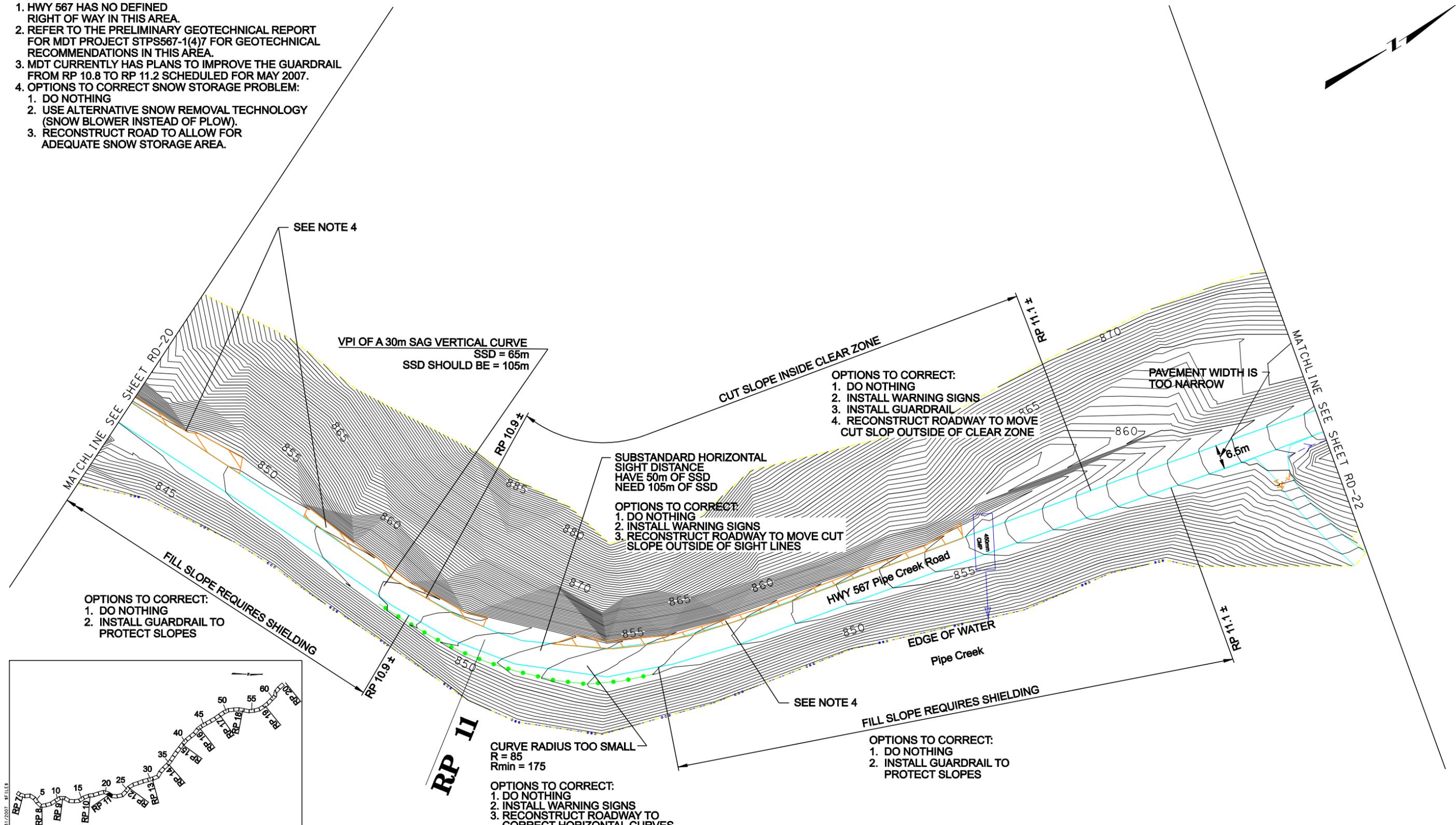
- OPTIONS TO CORRECT:**
1. DO NOTHING
 2. INSTALL GUARDRAIL TO PROTECT SLOPES



LEGEND

Edge of Pavement	Creek or Ditch	Mail Box (MB)	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark (HW)	CROSS CULVERT W / FLOW DIRECTION
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	

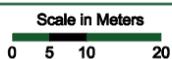
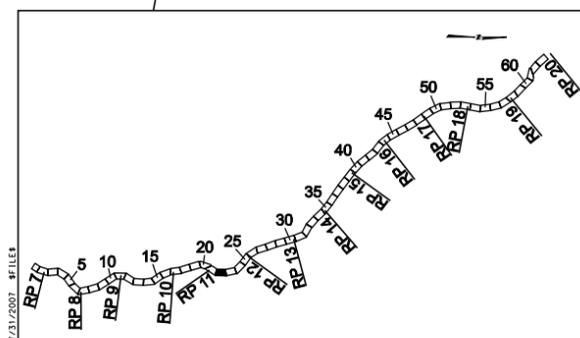
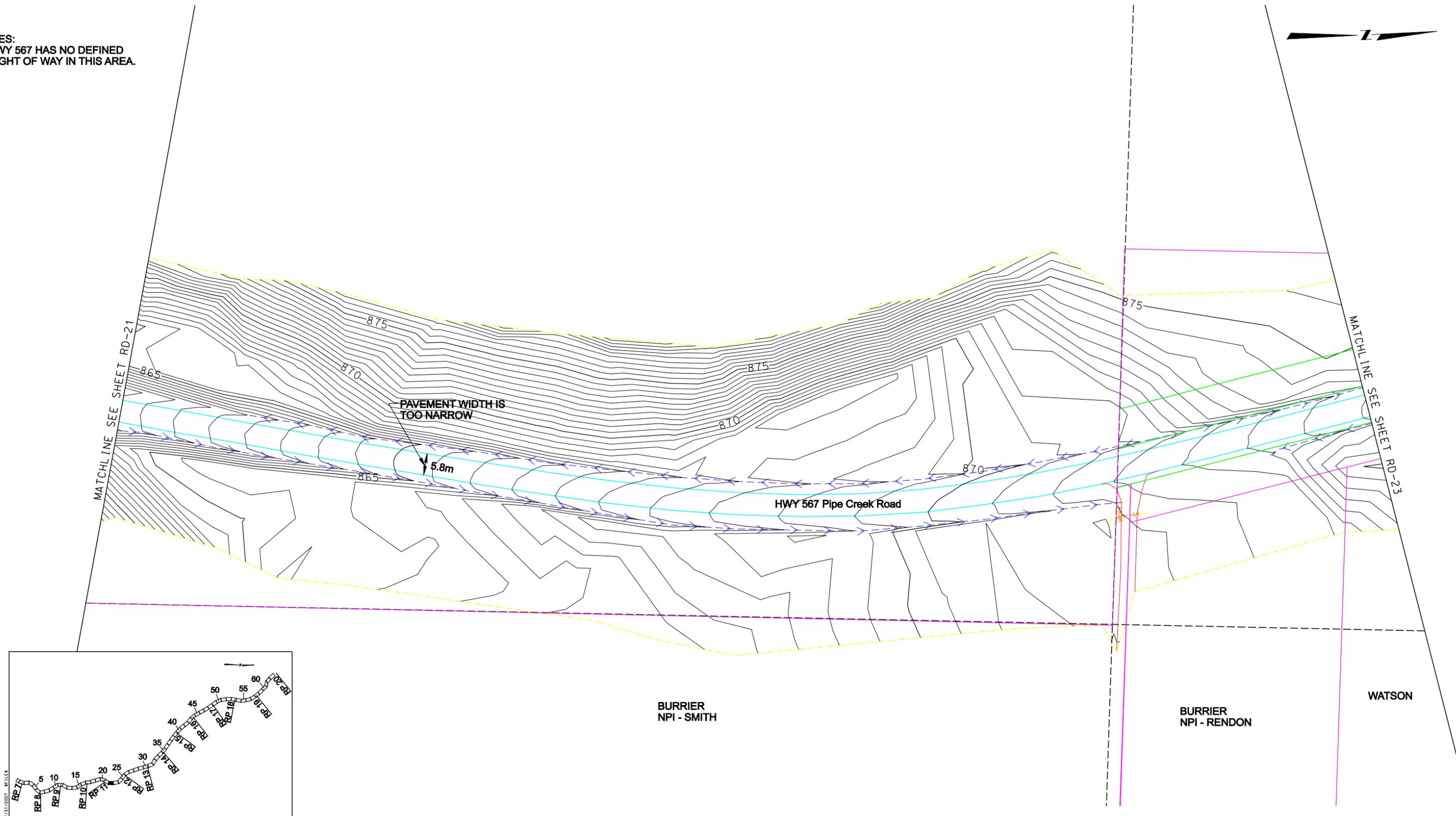
- NOTES:**
- HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.
 - REFER TO THE PRELIMINARY GEOTECHNICAL REPORT FOR MDT PROJECT STPS567-1(4)7 FOR GEOTECHNICAL RECOMMENDATIONS IN THIS AREA.
 - MDT CURRENTLY HAS PLANS TO IMPROVE THE GUARDRAIL FROM RP 10.8 TO RP 11.2 SCHEDULED FOR MAY 2007.
 - OPTIONS TO CORRECT SNOW STORAGE PROBLEM:
 - DO NOTHING
 - USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
 - RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.



LEGEND

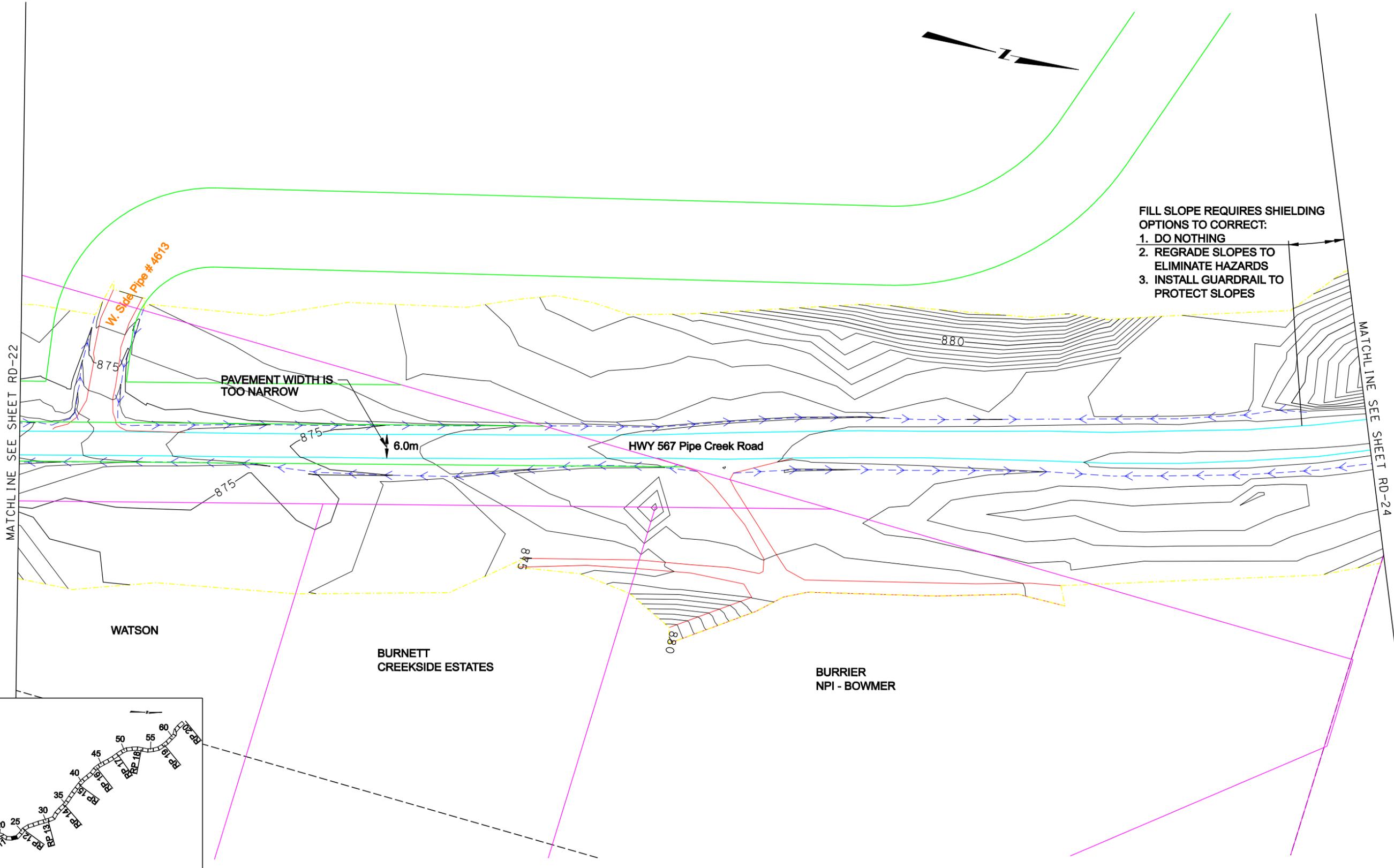
Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.



LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION



FILL SLOPE REQUIRES SHIELDING
 OPTIONS TO CORRECT:
 1. DO NOTHING
 2. REGRADE SLOPES TO ELIMINATE HAZARDS
 3. INSTALL GUARDRAIL TO PROTECT SLOPES

PAVEMENT WIDTH IS TOO NARROW

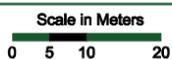
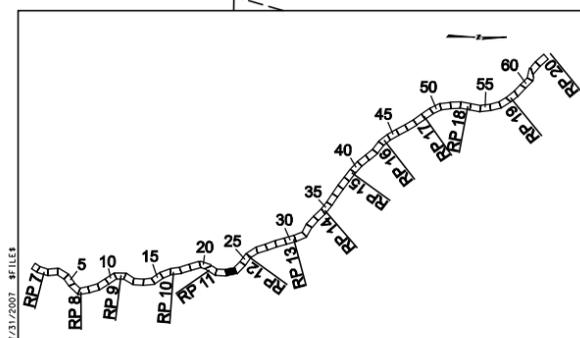
6.0m

HWY 567 Pipe Creek Road

WATSON

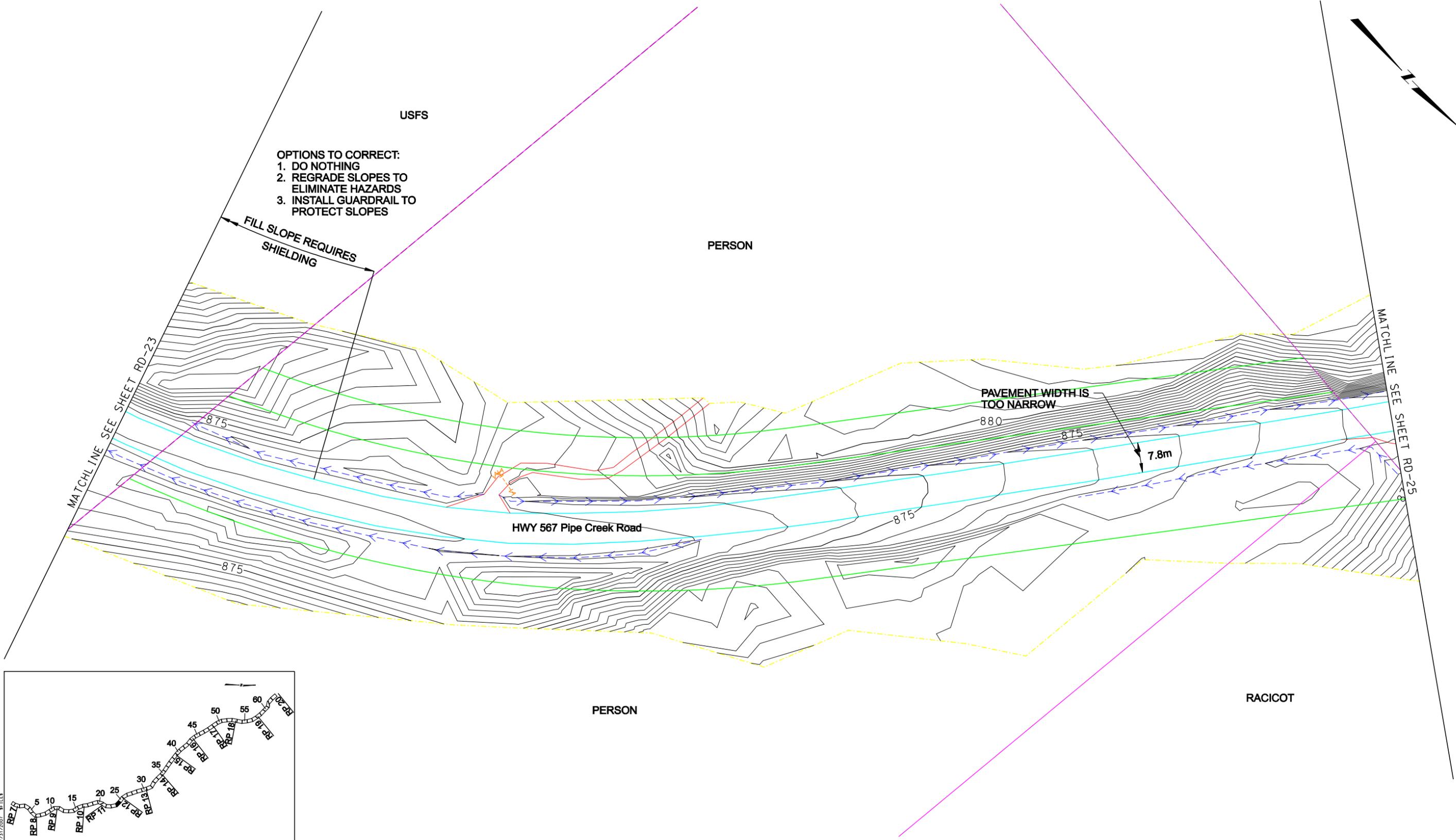
BURNETT
 CREEKSIDE ESTATES

BURRIER
 NPI - BOWMER



LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION



- OPTIONS TO CORRECT:**
1. DO NOTHING
 2. REGRADE SLOPES TO ELIMINATE HAZARDS
 3. INSTALL GUARDRAIL TO PROTECT SLOPES

FILL SLOPE REQUIRES SHIELDING

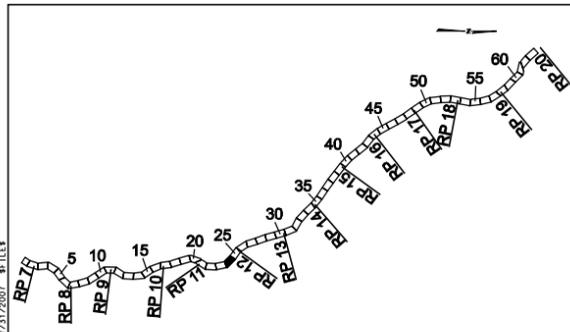
PAVEMENT WIDTH IS TOO NARROW

7.8m

HWY 567 Pipe Creek Road

MATCHLINE SEE SHEET RD-23

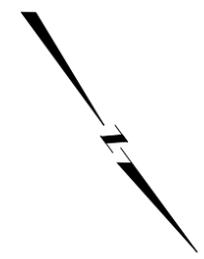
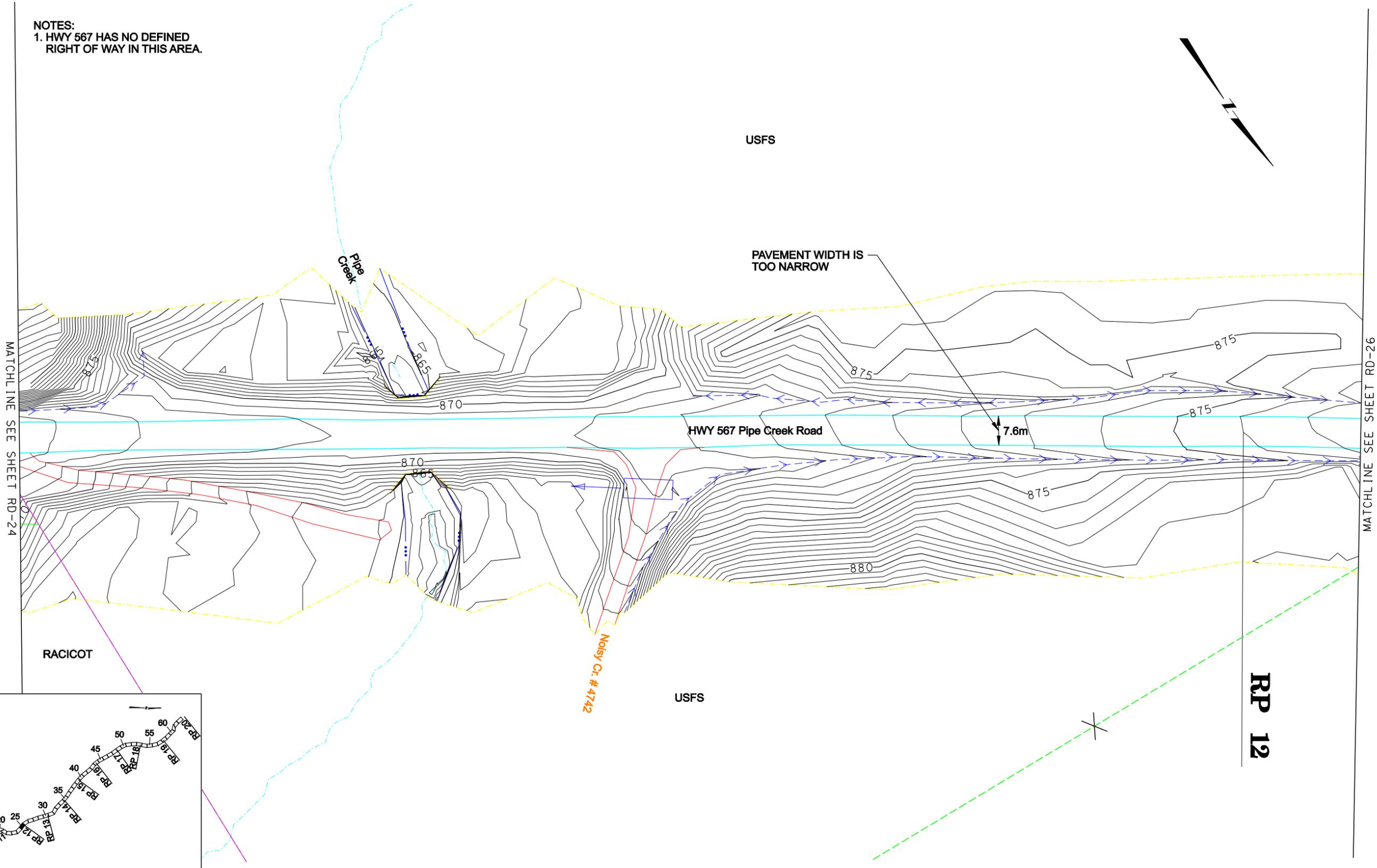
MATCHLINE SEE SHEET RD-25



LEGEND

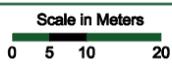
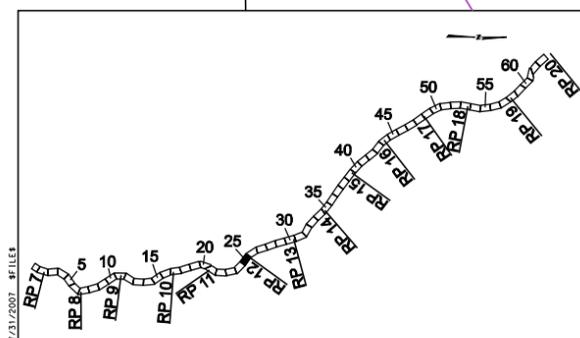
Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT W / FLOW DIRECTION
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.



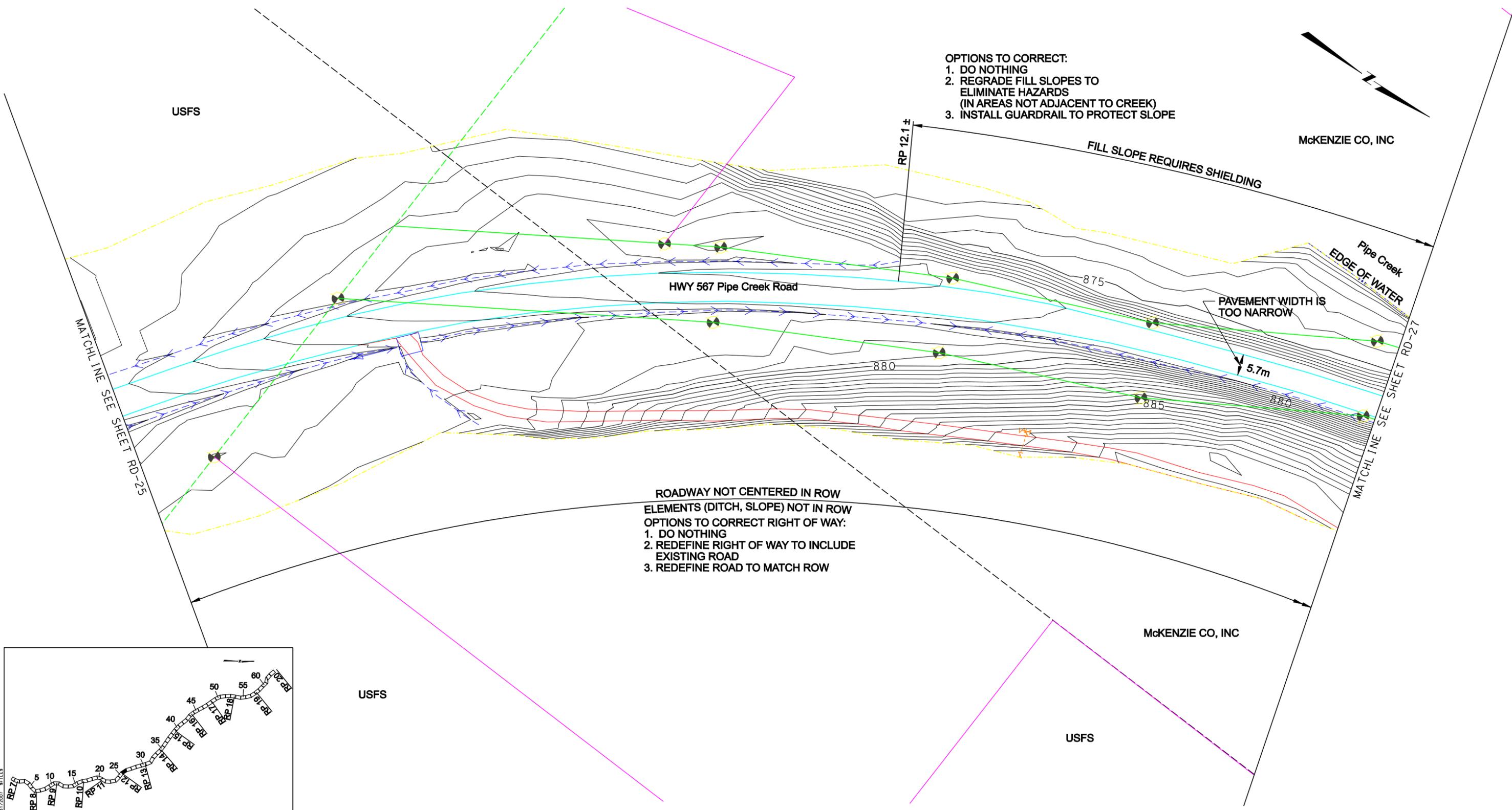
MATCHLINE SEE SHEET RD-24

MATCHLINE SEE SHEET RD-26



LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT W / FLOW DIRECTION
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	

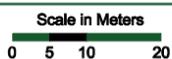
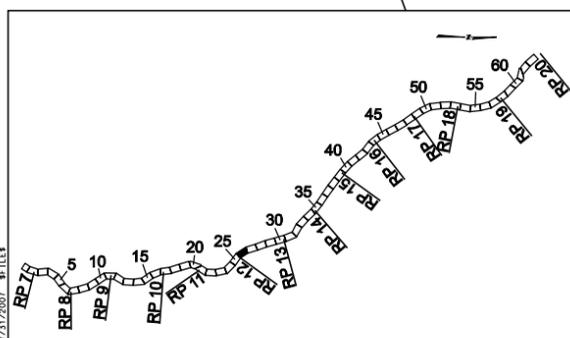


- OPTIONS TO CORRECT:
1. DO NOTHING
 2. REGRADE FILL SLOPES TO ELIMINATE HAZARDS (IN AREAS NOT ADJACENT TO CREEK)
 3. INSTALL GUARDRAIL TO PROTECT SLOPE

- ROADWAY NOT CENTERED IN ROW ELEMENTS (DITCH, SLOPE) NOT IN ROW
- OPTIONS TO CORRECT RIGHT OF WAY:
1. DO NOTHING
 2. REDEFINE RIGHT OF WAY TO INCLUDE EXISTING ROAD
 3. REDEFINE ROAD TO MATCH ROW

MATCHLINE SEE SHEET RD-25

MATCHLINE SEE SHEET RD-27



LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION

McKENZIE CO, INC

PURDY/PURDY-CRAVER

- OPTIONS TO CORRECT:
1. DO NOTHING
 2. REGRADE FILL SLOPES TO ELIMINATE HAZARDS (IN AREAS NOT ADJACENT TO CREEK)
 3. INSTALL GUARDRAIL TO PROTECT SLOPE

FILL SLOPE REQUIRES SHIELDING

RP 12.4 ±

Pipe Creek
EDGE OF WATER

HWY 567 Pipe Creek Road

MATCHLINE SEE SHEET RD-26

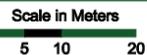
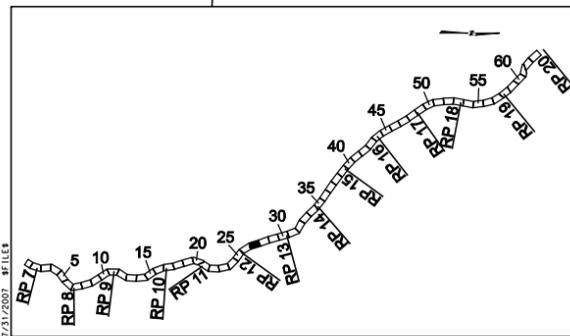
MATCHLINE SEE SHEET RD-28

ROADWAY NOT CENTERED IN ROW
PARTS (DITCH, SLOPE) NOT IN ROW

- OPTIONS TO CORRECT RIGHT OF WAY:
1. DO NOTHING
 2. REDEFINE RIGHT OF WAY TO INCLUDE EXISTING ROAD
 3. REDEFINE ROAD TO MATCH ROW

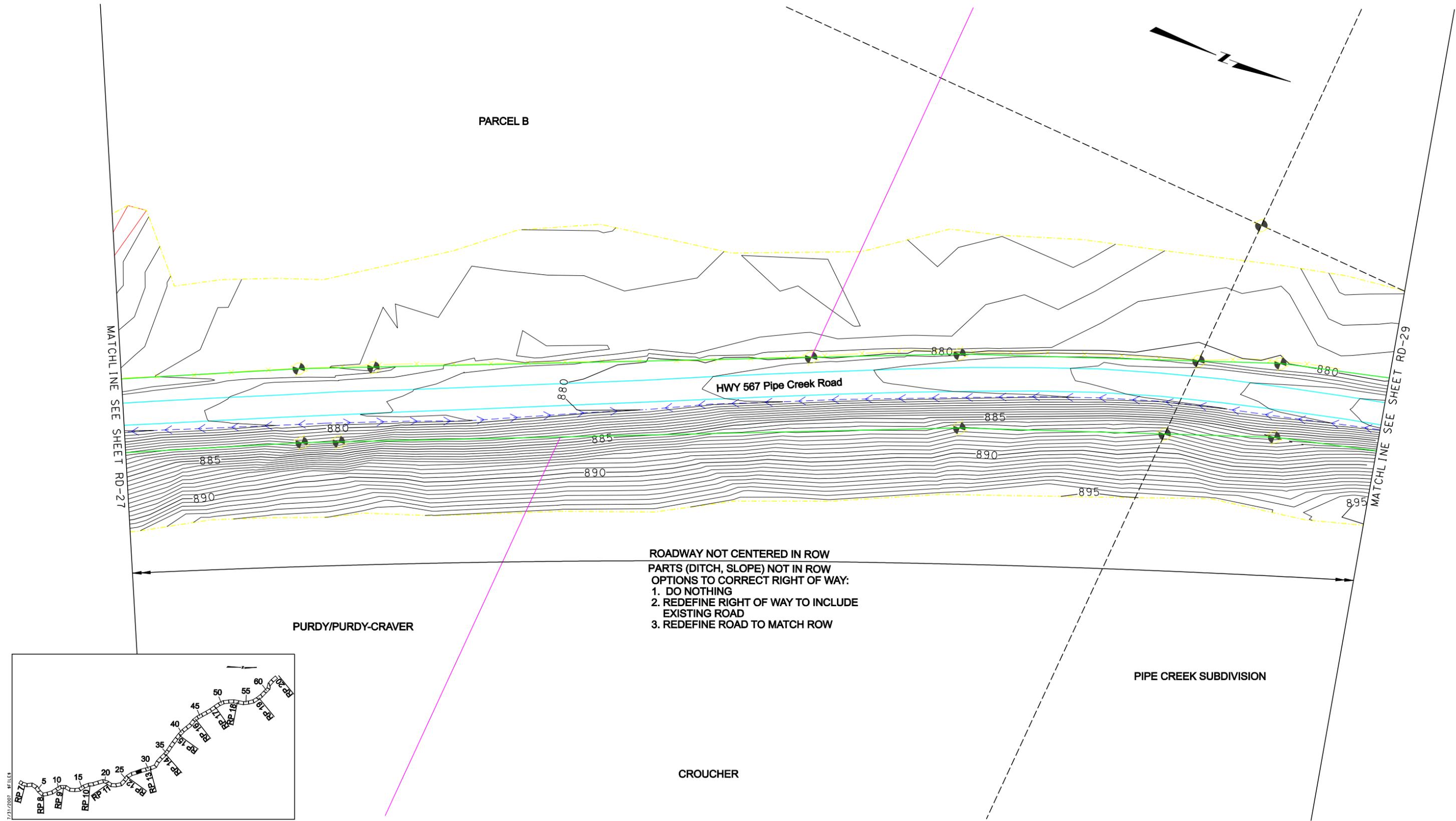
McKENZIE CO, INC

PURDY/PURDY-CRAVER

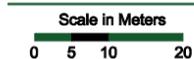
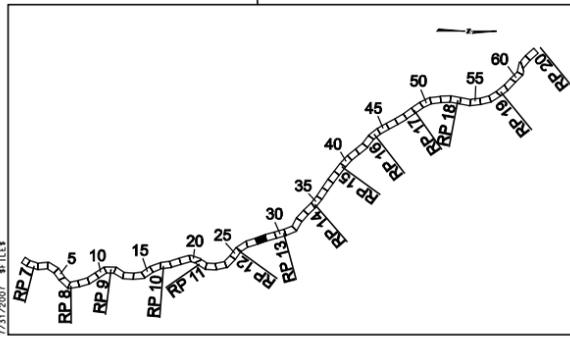


LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION

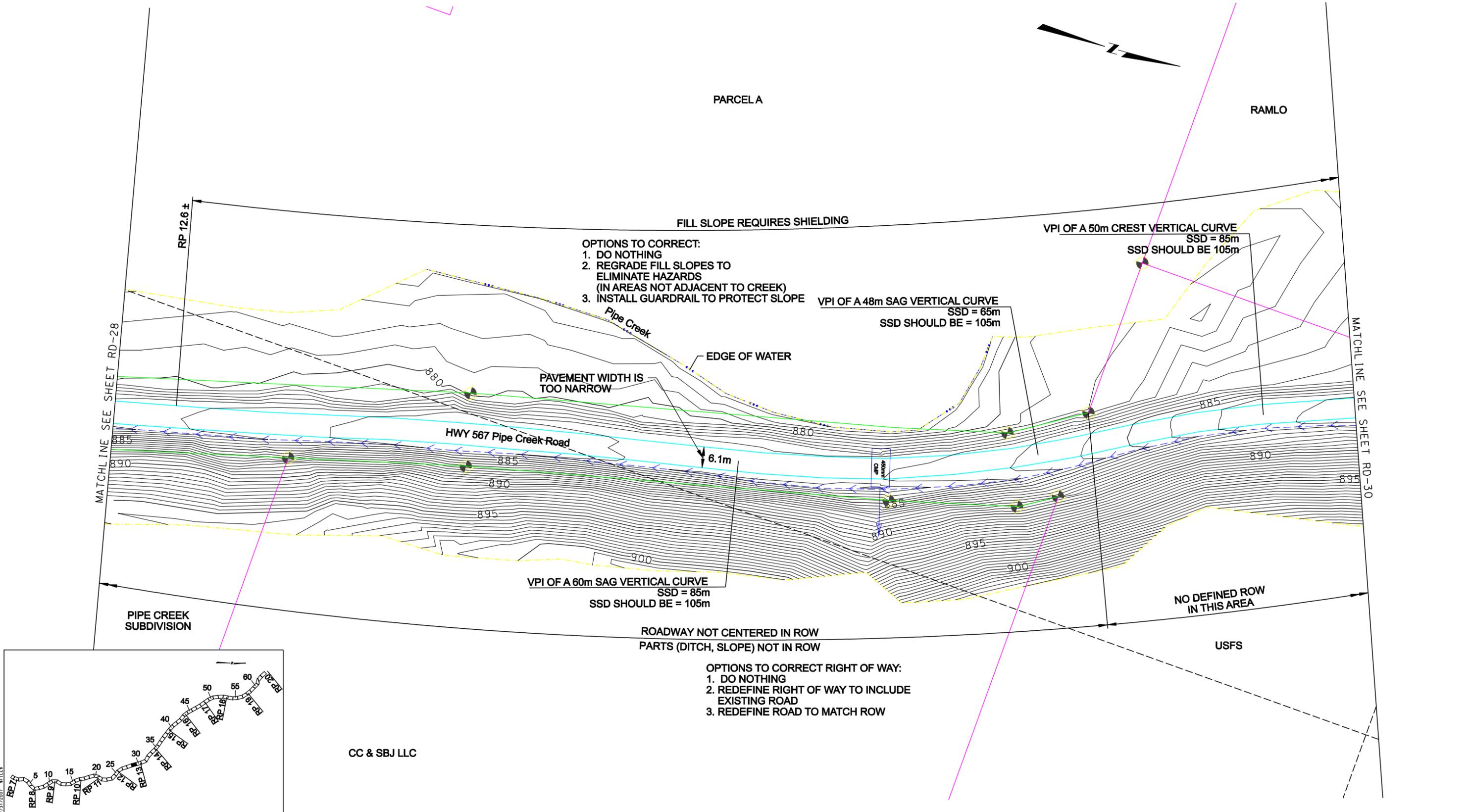


ROADWAY NOT CENTERED IN ROW
 PARTS (DITCH, SLOPE) NOT IN ROW
 OPTIONS TO CORRECT RIGHT OF WAY:
 1. DO NOTHING
 2. REDEFINE RIGHT OF WAY TO INCLUDE EXISTING ROAD
 3. REDEFINE ROAD TO MATCH ROW



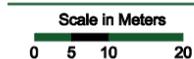
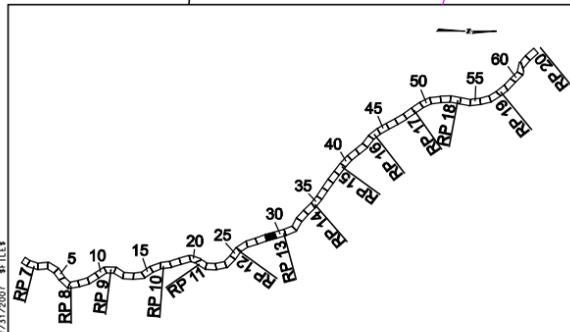
LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT W / FLOW DIRECTION
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	



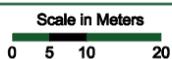
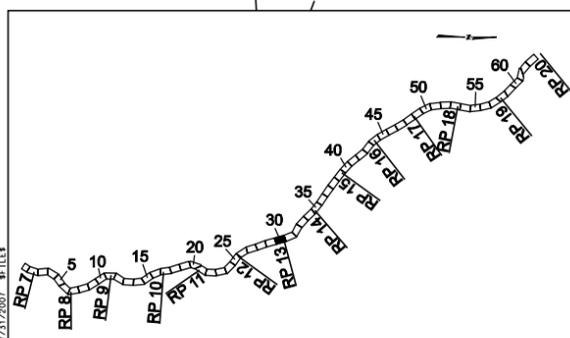
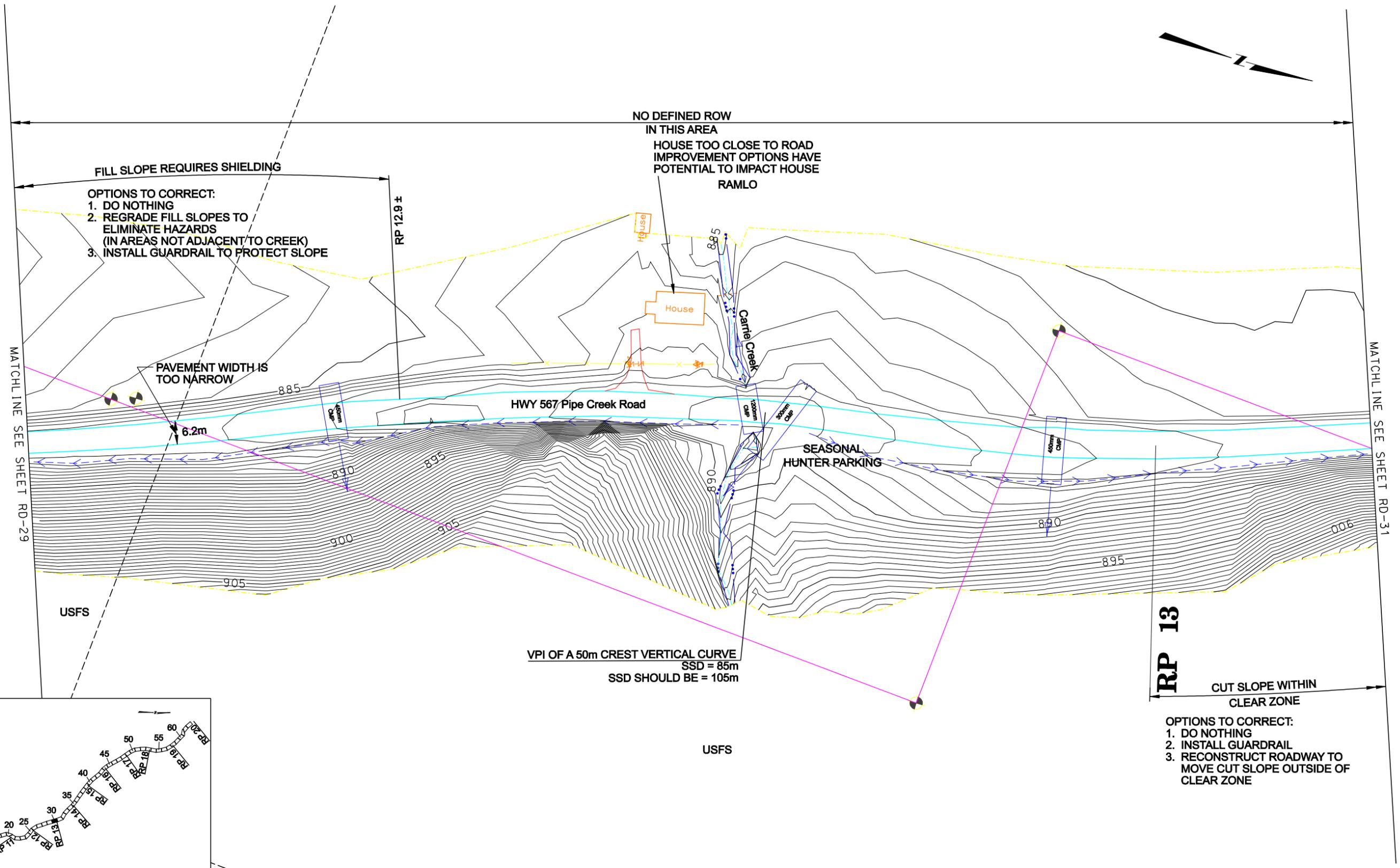
- OPTIONS TO CORRECT:**
1. DO NOTHING
 2. REGRADE FILL SLOPES TO ELIMINATE HAZARDS (IN AREAS NOT ADJACENT TO CREEK)
 3. INSTALL GUARDRAIL TO PROTECT SLOPE

- OPTIONS TO CORRECT RIGHT OF WAY:**
1. DO NOTHING
 2. REDEFINE RIGHT OF WAY TO INCLUDE EXISTING ROAD
 3. REDEFINE ROAD TO MATCH ROW



LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION

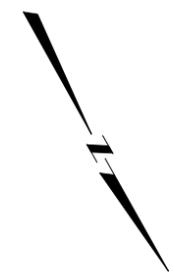


LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION

- OPTIONS TO CORRECT:**
1. DO NOTHING
 2. INSTALL GUARDRAIL
 3. RECONSTRUCT ROADWAY TO MOVE CUT SLOPE OUTSIDE OF CLEAR ZONE

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.



MATCHLINE SEE SHEET RD-31

MATCHLINE SEE SHEET RD-33

EDGE OF WATER

885 Pipe Creek

885
PAVEMENT WIDTH IS TOO NARROW

6.4m

HWY 567 Pipe Creek Road

890

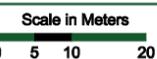
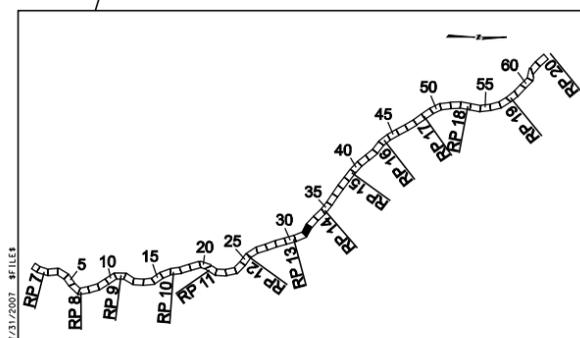
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900

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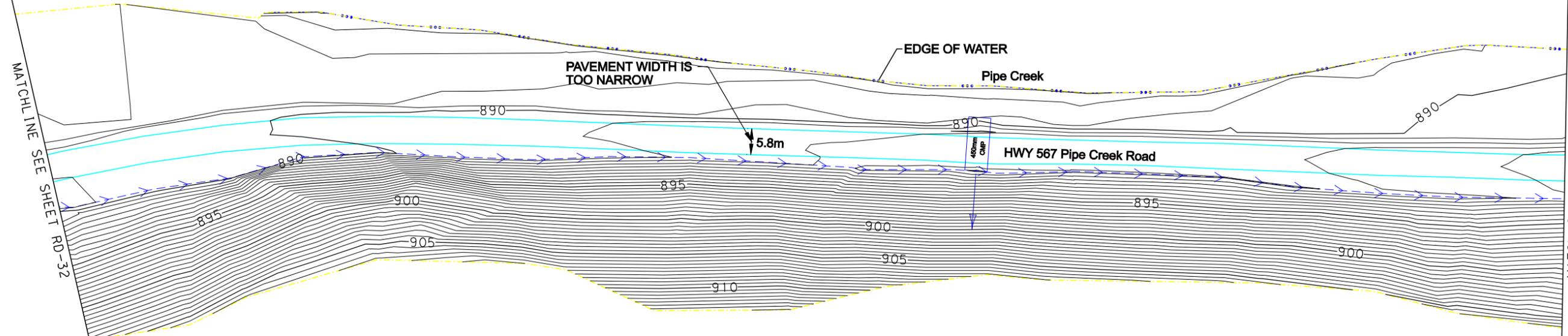
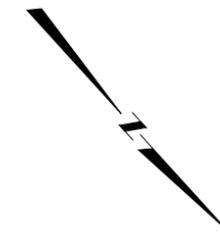
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895



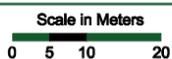
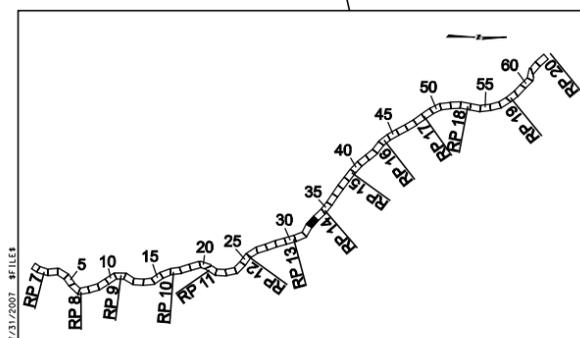
LEGEND	
	Edge of Pavement
	Major Contours
	Minor Contours
	Creek or Ditch
	Existing Guard Rail
	Power Pole
	Mall Box
	Existing Right of Way
	Property Line
	Section Line
	1/4 Section Line
	Property Corner Found
	Fire Hydrant
	High Water Mark
	Snow Storage Problem Area
	Well
	CROSS CULVERT W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED
RIGHT OF WAY IN THIS AREA.



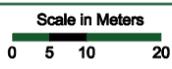
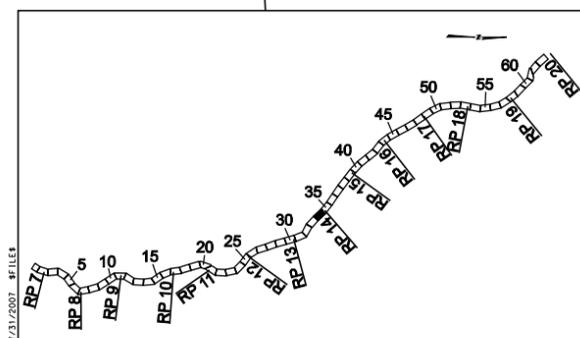
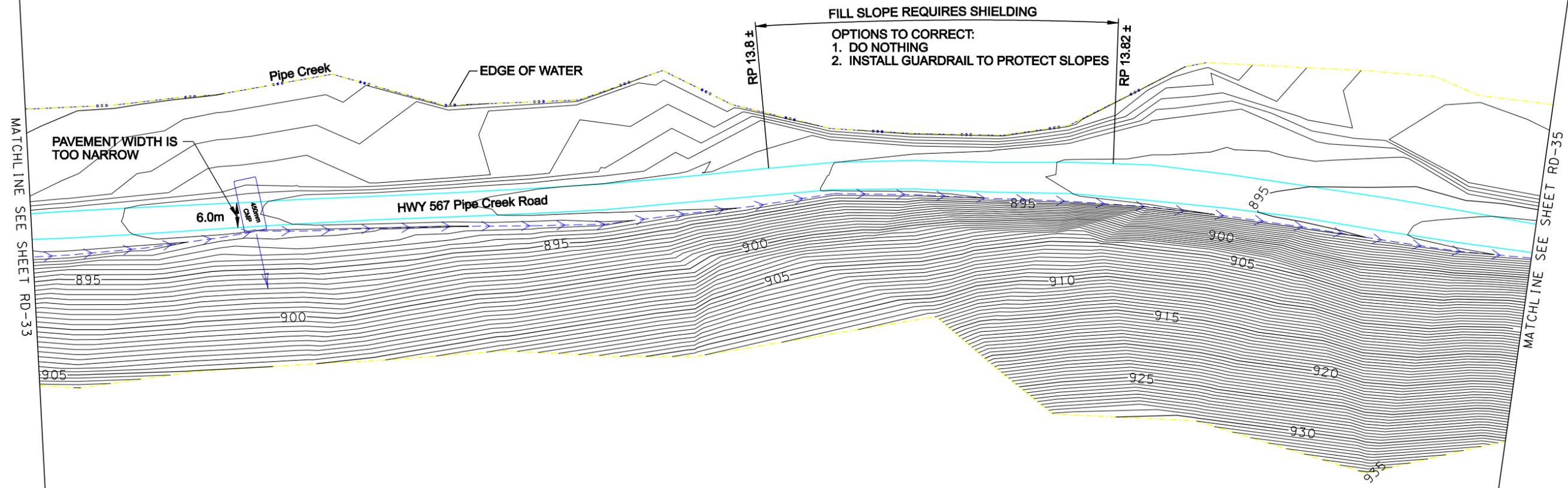
MATCHLINE SEE SHEET RD-32

MATCHLINE SEE SHEET RD-34



LEGEND	
	Edge of Pavement
	Major Contours
	Minor Contours
	Creek or Ditch
	Existing Guard Rail
	Power Pole
	Mall Box
	Existing Right of Way
	Property Line
	Section Line
	1/4 Section Line
	Property Corner Found
	Fire Hydrant
	High Water Mark
	Snow Storage Problem Area
	Well
	CROSS CULVERT W / FLOW DIRECTION

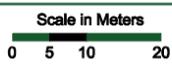
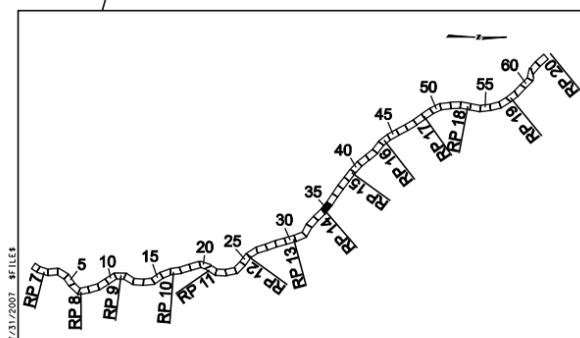
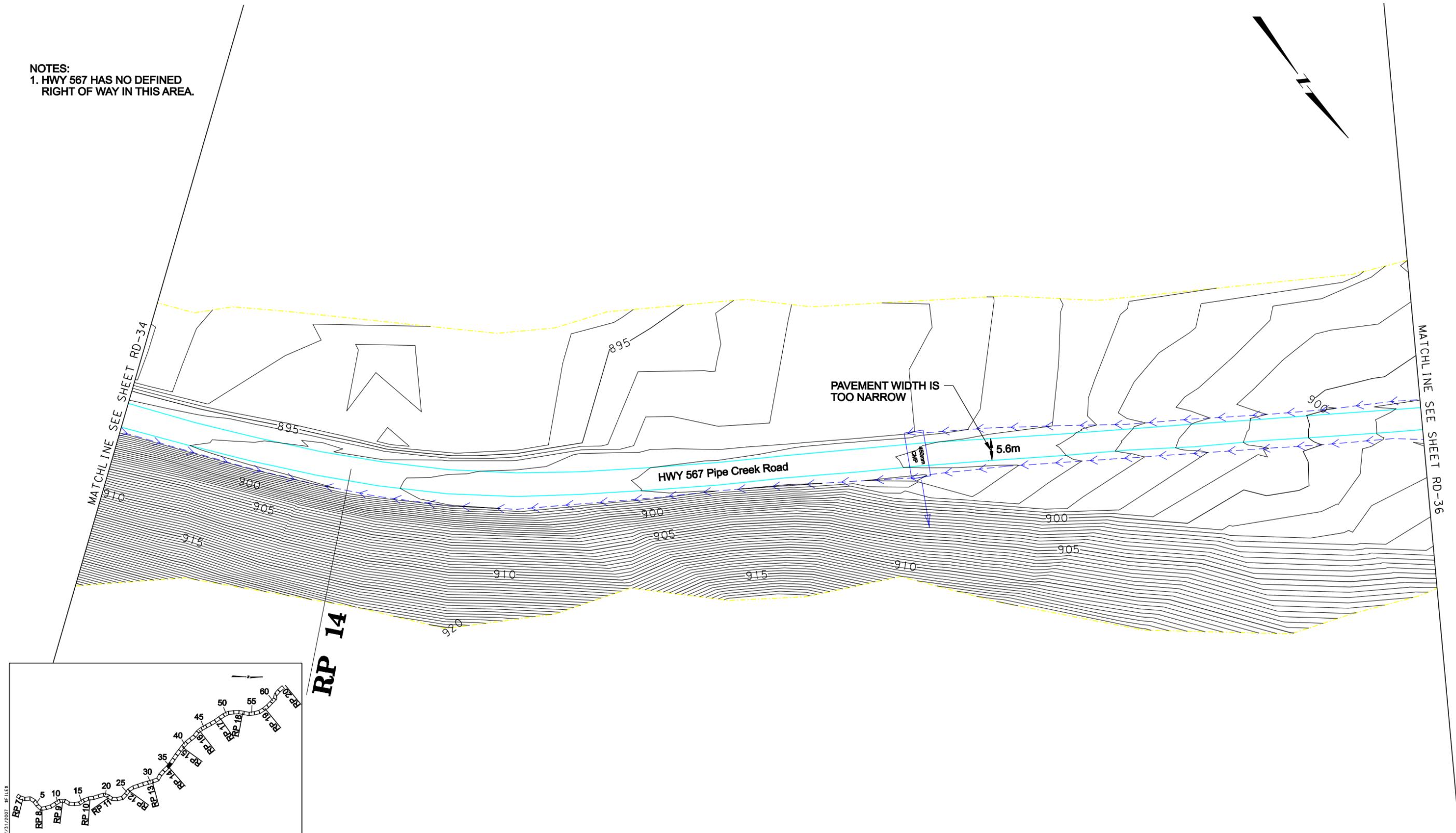
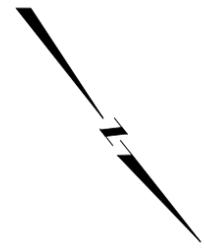
NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.



LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION

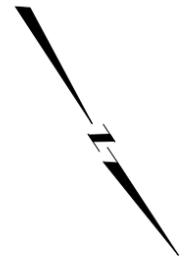
NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.



LEGEND

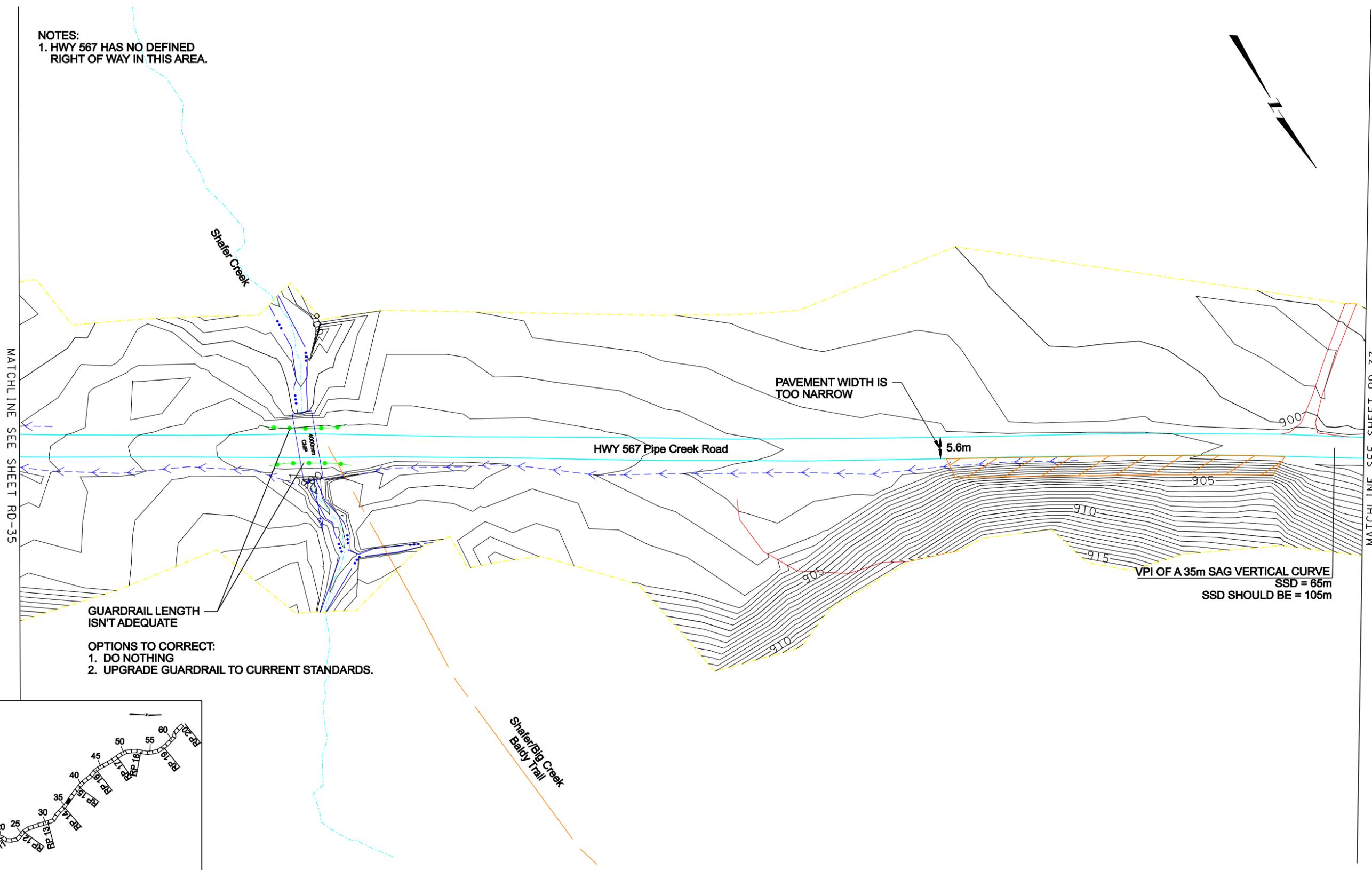
Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.



MATCHLINE SEE SHEET RD-35

MATCHLINE SEE SHEET RD-37



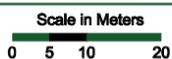
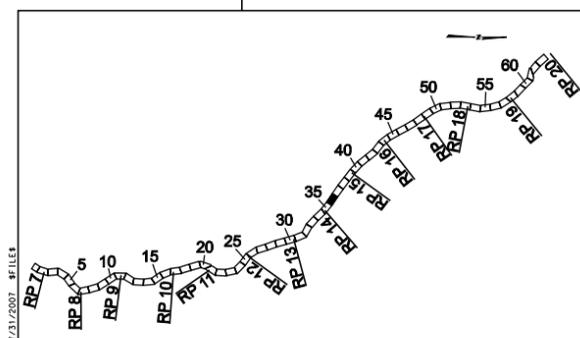
PAVEMENT WIDTH IS TOO NARROW

5.6m

GUARDRAIL LENGTH ISN'T ADEQUATE

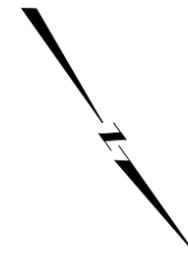
OPTIONS TO CORRECT:
1. DO NOTHING
2. UPGRADE GUARDRAIL TO CURRENT STANDARDS.

VPI OF A 35m SAG VERTICAL CURVE
SSD = 65m
SSD SHOULD BE = 105m



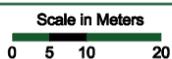
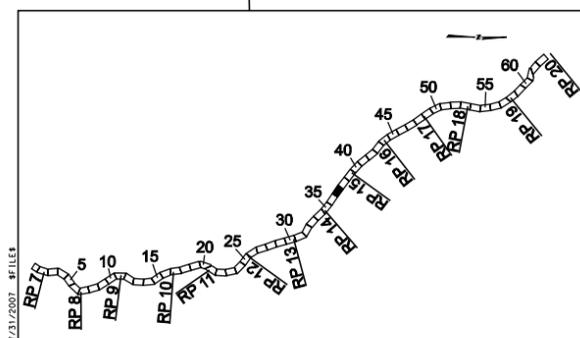
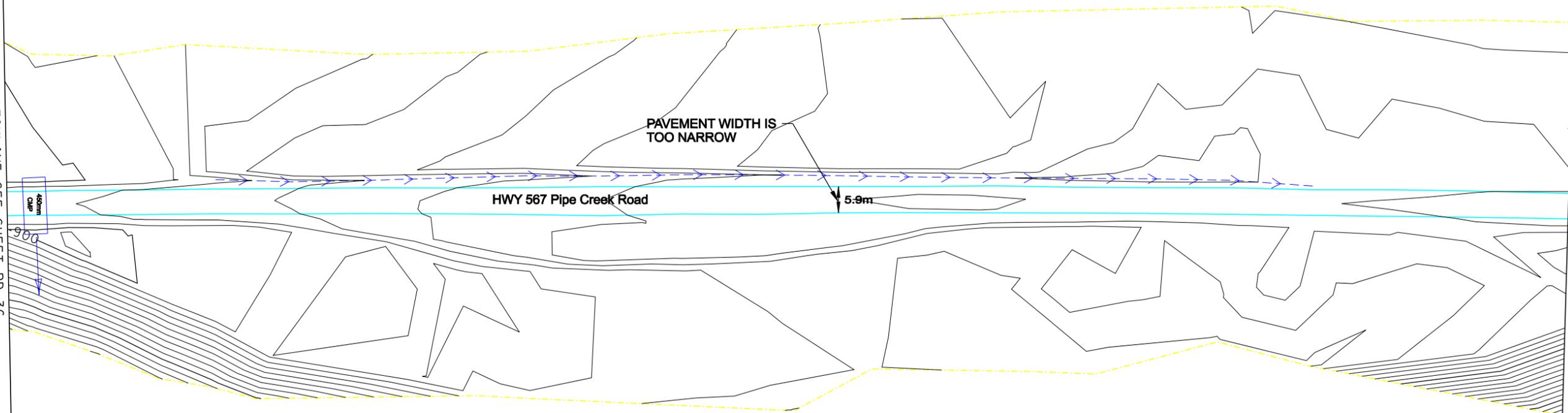
LEGEND	
	Edge of Pavement
	Major Contours
	Minor Contours
	Creek or Ditch
	Existing Guard Rail
	Power Pole
	Mail Box
	Existing Right of Way
	Property Line
	Section Line
	1/4 Section Line
	Property Corner Found
	Fire Hydrant
	High Water Mark
	Snow Storage Problem Area
	Well
	CROSS CULVERT W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED
RIGHT OF WAY IN THIS AREA.



MATCHLINE SEE SHEET RD-36

MATCHLINE SEE SHEET RD-38

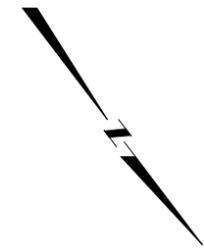


LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT W / FLOW DIRECTION
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	

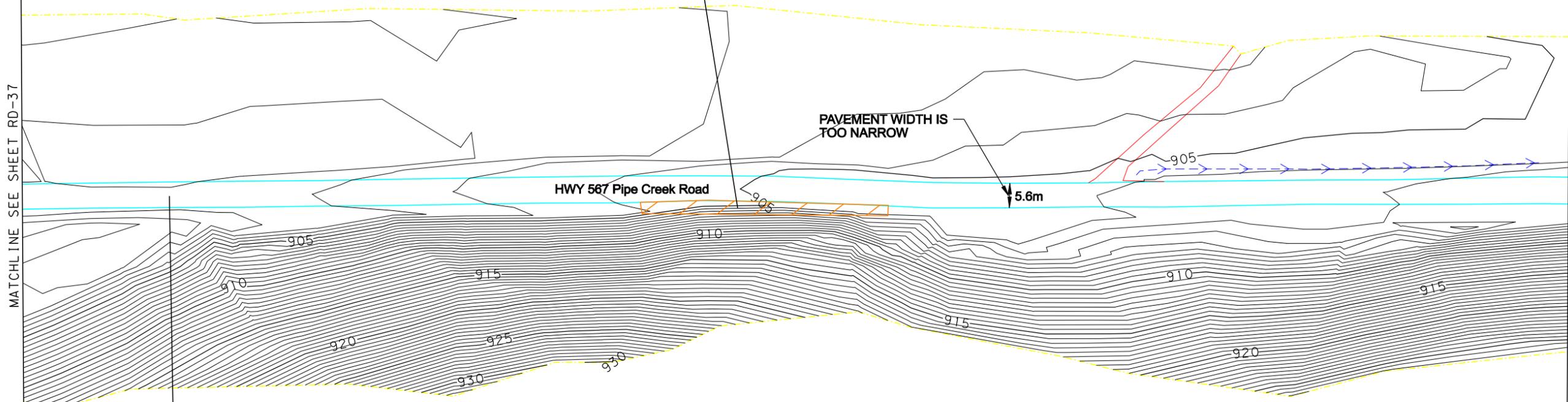
NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

OPTIONS TO CORRECT SNOW STORAGE PROBLEM:
1. DO NOTHING
2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.

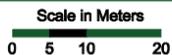
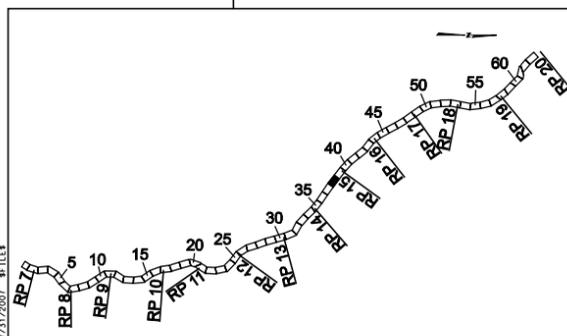


MATCHLINE SEE SHEET RD-37

MATCHLINE SEE SHEET RD-39

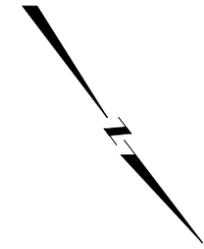


VPI OF A 35m VERTICAL CURVE
SSD = 65m
SSD SHOULD BE = 105m



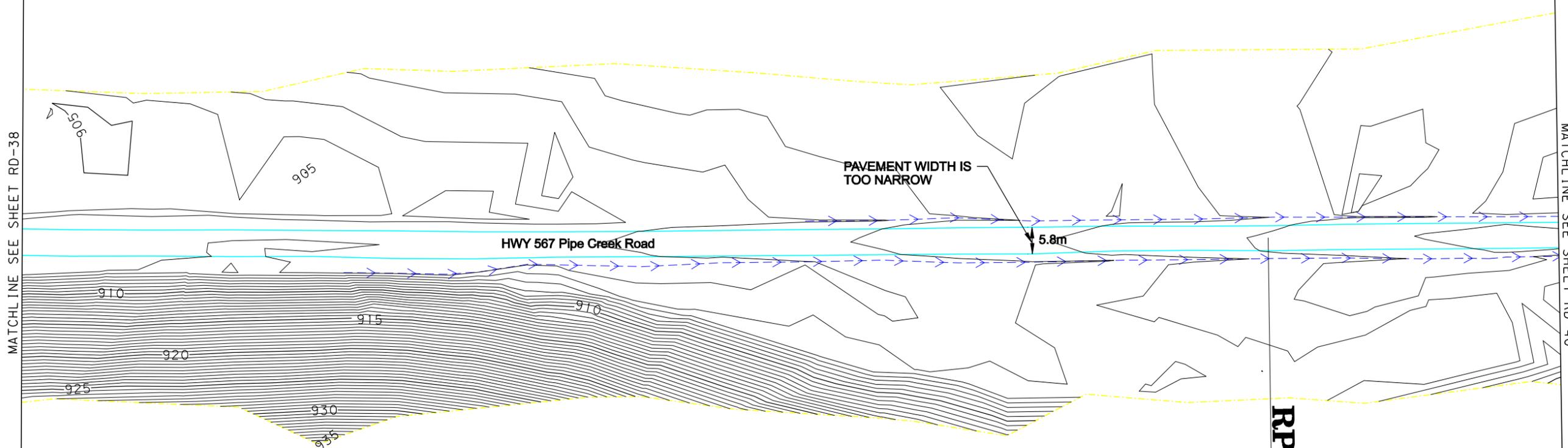
— Edge of Pavement	- - - - - Creek or Ditch	MB Mail Box	- - - - - Section Line	● Fire Hydrant	○ Well
— Major Contours	— Existing Guard Rail	— Existing Right of Way	- - - - - 1/4 Section Line	HW High Water Mark	□ CROSS CULVERT
— Minor Contours	■ Power Pole	— Property Line	◆ Property Corner Found	■ Snow Storage Problem Area	← W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

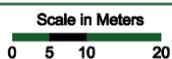
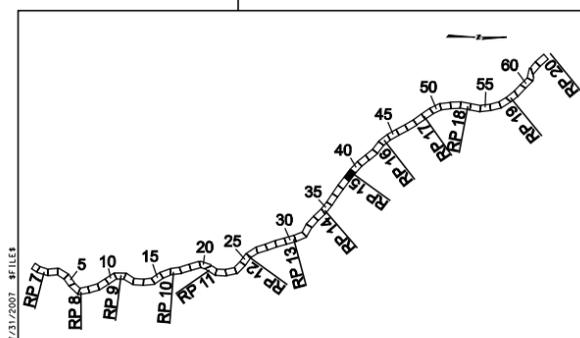


MATCHLINE SEE SHEET RD-38

MATCHLINE SEE SHEET RD-40



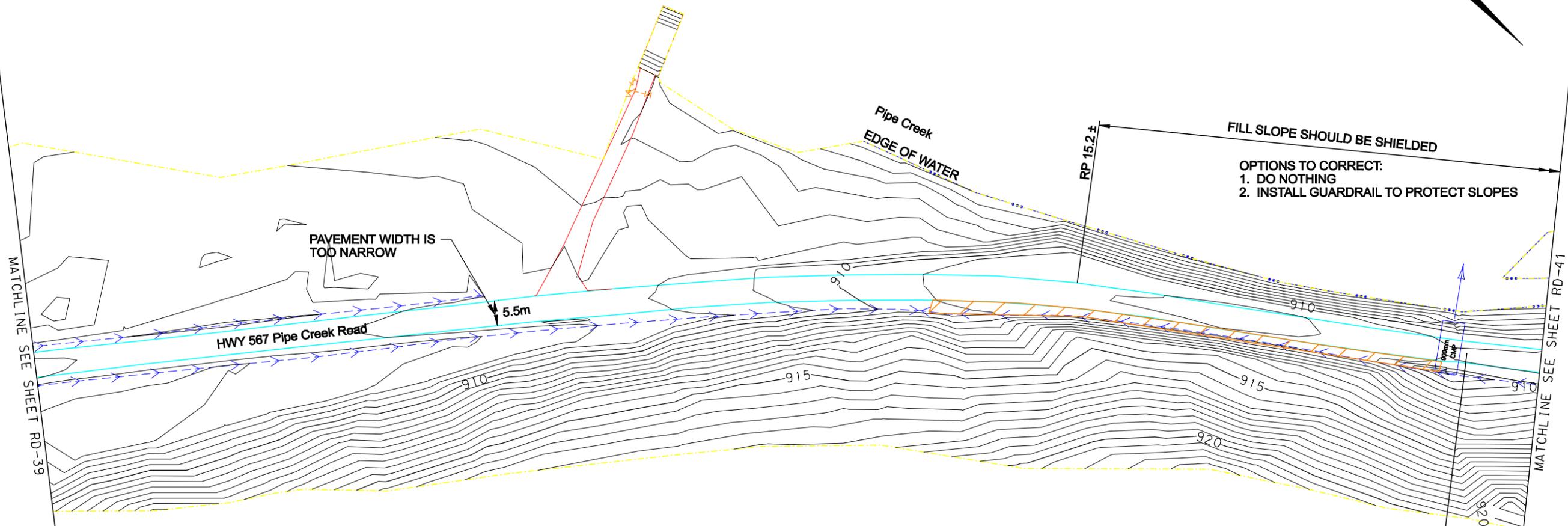
RP 15



LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION

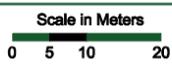
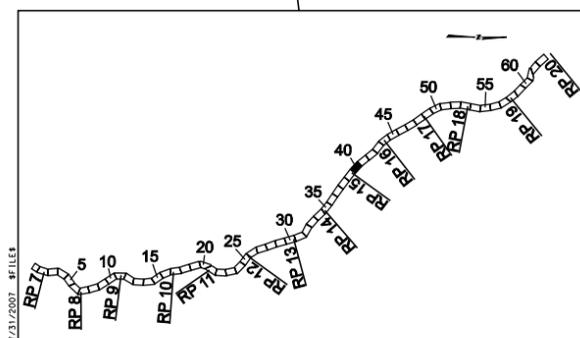
NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.



PAVEMENT WIDTH IS TOO NARROW

FILL SLOPE SHOULD BE SHIELDED
OPTIONS TO CORRECT:
1. DO NOTHING
2. INSTALL GUARDRAIL TO PROTECT SLOPES

VPI OF A 17m SAG VERTICAL CURVE
SSD = 35m
SSD SHOULD BE = 105m



LEGEND											
	Edge of Pavement		Creek or Ditch		Mall Box		Section Line		Fire Hydrant		Well
	Major Contours		Existing Guard Rail		Existing Right of Way		1/4 Section Line		High Water Mark		CROSS CULVERT
	Minor Contours		Power Pole		Property Line		Property Corner Found		Snow Storage Problem Area		W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

OPTIONS TO CORRECT:
1. DO NOTHING
2. INSTALL GUARDRAIL TO PROTECT SLOPES

FILL SLOPE SHOULD BE SHIELDED

FILL SLOPE REQUIRES SHIELDING

OPTIONS TO CORRECT:
1. DO NOTHING
2. INSTALL GUARDRAIL TO PROTECT SLOPES

PAVEMENT WIDTH IS TOO NARROW

5.4m

HWY 567 Pipe Creek Road

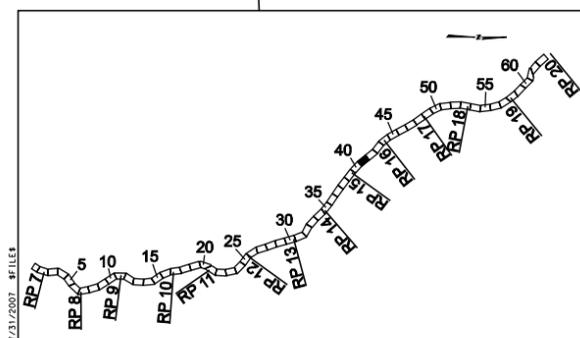
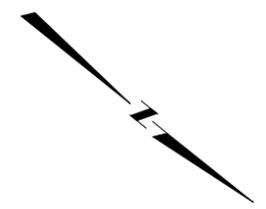
EDGE OF WATER

Pipe Creek

OPTIONS TO CORRECT SNOW STORAGE PROBLEM:
1. DO NOTHING
2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.

MATCHLINE SEE SHEET RD-40

MATCHLINE SEE SHEET RD-42



LEGEND	
	Edge of Pavement
	Creek or Ditch
	Mall Box
	Section Line
	1/4 Section Line
	Existing Right of Way
	Fire Hydrant
	High Water Mark
	Minor Contours
	Power Pole
	Property Line
	Property Corner Found
	Snow Storage Problem Area
	Well
	CROSS CULVERT W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

OPTIONS TO CORRECT:
1. DO NOTHING
2. REGRADE FILL SLOPES TO ELIMINATE HAZARDS (IN AREAS NOT ADJACENT TO CREEK)
3. INSTALL GUARDRAIL TO PROTECT SLOPE

FILL SLOPE REQUIRES SHIELDING

EDGE OF WATER

PAVEMENT WIDTH IS TOO NARROW

Pipe Creek

5.2m

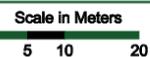
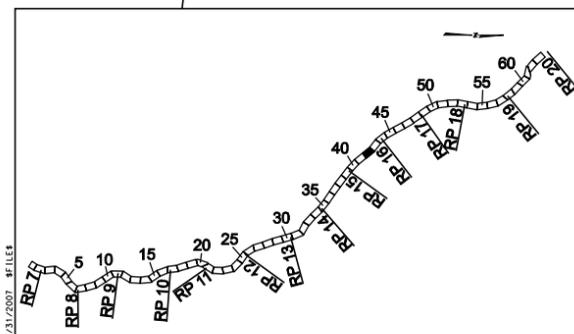
460mm CURB

HWY 567 Pipe Creek Road

OPTIONS TO CORRECT SNOW STORAGE PROBLEM:
1. DO NOTHING
2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.

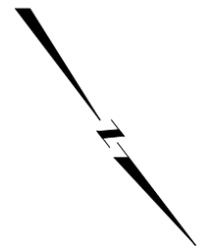
MATCHLINE SEE SHEET RD-41

MATCHLINE SEE SHEET RD-43



LEGEND	
	Edge of Pavement
	Major Contours
	Minor Contours
	Creek or Ditch
	Existing Guard Rail
	Power Pole
	Mall Box
	Existing Right of Way
	Property Line
	Section Line
	1/4 Section Line
	Property Corner Found
	Fire Hydrant
	High Water Mark
	Well
	CROSS CULVERT W / FLOW DIRECTION
	Snow Storage Problem Area

NOTES:
1. HWY 567 HAS NO DEFINED
RIGHT OF WAY IN THIS AREA.



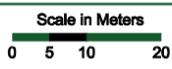
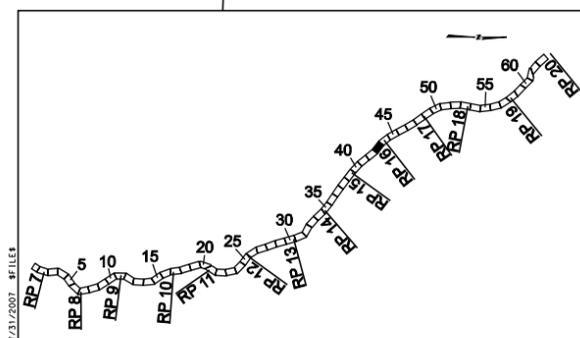
MATCHLINE SEE SHEET RD-42

MATCHLINE SEE SHEET RD-44

PAVEMENT WIDTH IS
TOO NARROW

6.2m

40mm
CMP
HWY 567 Pipe Creek Road



LEGEND											
	Edge of Pavement		Creek or Ditch		Mall Box		Section Line		Fire Hydrant		Well
	Major Contours		Existing Guard Rail		Existing Right of Way		1/4 Section Line		High Water Mark		CROSS CULVERT
	Minor Contours		Power Pole		Property Line		Property Corner Found		Snow Storage Problem Area		W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

FILL SLOPE REQUIRES SHIELDING

- OPTIONS TO CORRECT:**
1. DO NOTHING
 2. REGRADE SLOPES TO ELIMINATE HAZARDS (IN AREAS NOT ADJACENT TO CREEK)
 3. INSTALL GUARDRAIL TO PROTECT SLOPES

PAVEMENT WIDTH IS TOO NARROW

BAD HORIZONTAL SIGHT DISTANCE
HAVE 85m OF SSD
NEED 105m OF SSD

- OPTIONS TO CORRECT:**
1. DO NOTHING
 2. INSTALL WARNING SIGNS
 3. RECONSTRUCT ROADWAY TO MOVE CUT SLOPE OUTSIDE OF SIGHT LINES

VPI OF A 20m CREST VERTICAL CURVE
SSD = 50m
SSD SHOULD BE = 105m

VPI OF A 80m SAG VERTICAL CURVE
SSD = 65m
SSD SHOULD BE = 105m

- OPTIONS TO CORRECT SNOW STORAGE PROBLEM:**
1. DO NOTHING
 2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
 3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.

RP 16

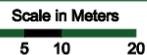
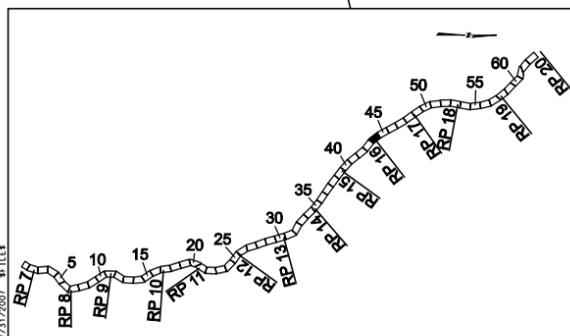
RP 15.9 ±

5.4m

MATCHLINE SEE SHEET RD-43

MATCHLINE SEE SHEET RD-45

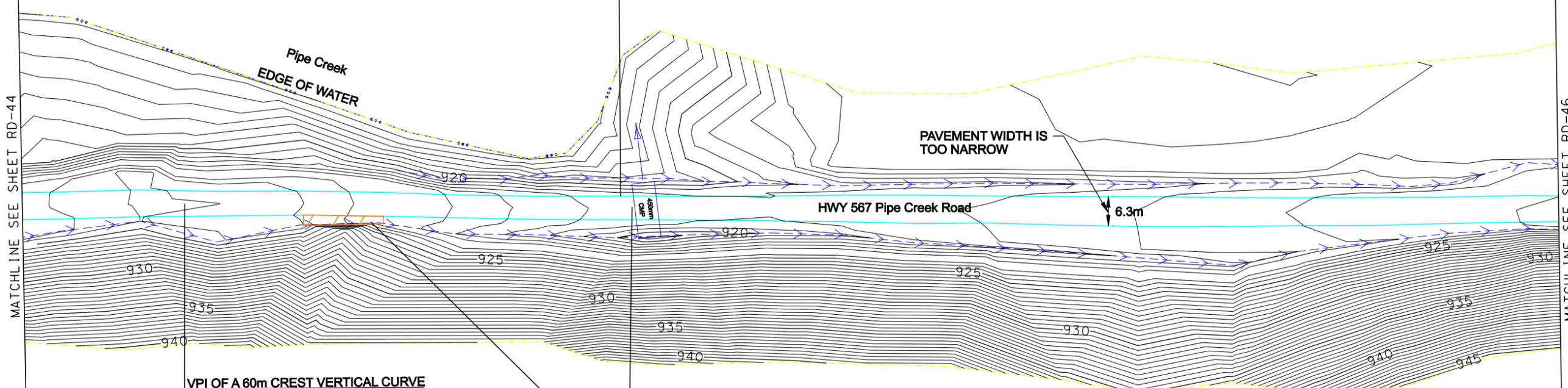
HWY 567 Pipe Creek Road



LEGEND	
	Edge of Pavement
	Creek or Ditch
	Mall Box
	Section Line
	Major Contours
	Existing Guard Rail
	Existing Right of Way
	Fire Hydrant
	1/4 Section Line
	Power Pole
	Property Line
	Property Corner Found
	Well
	High Water Mark
	SNOW STORAGE PROBLEM AREA
	CROSS CULVERT
	W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

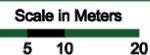
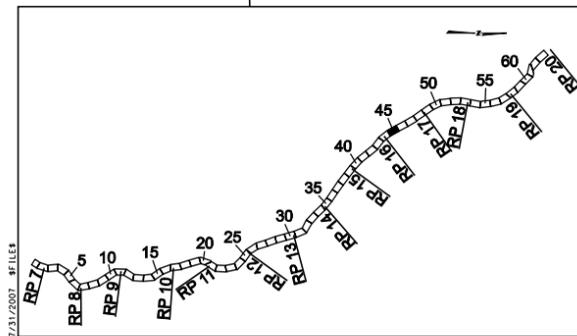
FILL SLOPE REQUIRES SHIELDING
OPTIONS TO CORRECT:
1. DO NOTHING
2. REGRADE FILL SLOPES TO ELIMINATE HAZARDS (IN AREAS NOT ADJACENT TO CREEK)
3. INSTALL GUARDRAIL TO PROTECT SLOPE



VPI OF A 60m CREST VERTICAL CURVE
SSD = 65m
SSD SHOULD BE = 105m

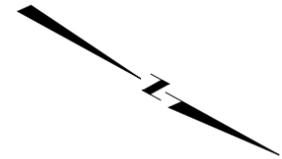
VPI OF A 80m SAG VERTICAL CURVE
SSD = 65m
SSD SHOULD BE = 105m

OPTIONS TO CORRECT SNOW STORAGE PROBLEM:
1. DO NOTHING
2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.



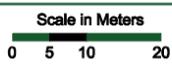
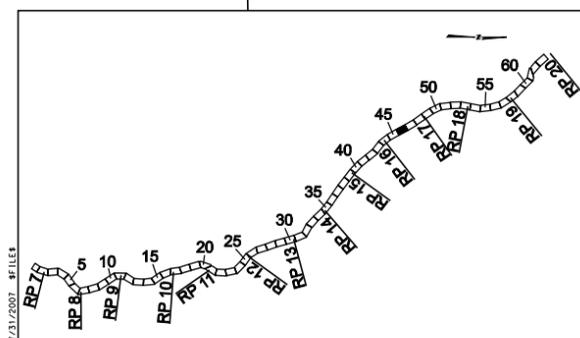
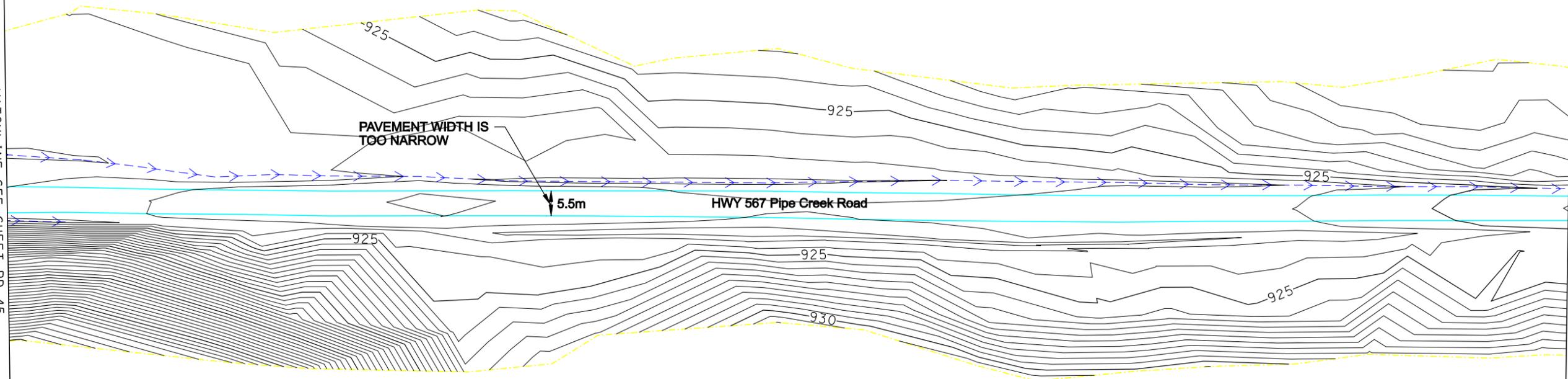
LEGEND	
Edge of Pavement	Creek or Ditch
Major Contours	Existing Guard Rail
Minor Contours	Power Pole
Mall Box	Section Line
Existing Right of Way	1/4 Section Line
Property Line	Property Corner Found
Fire Hydrant	Well
High Water Mark	CROSS CULVERT
Snow Storage Problem Area	W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED
RIGHT OF WAY IN THIS AREA.



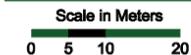
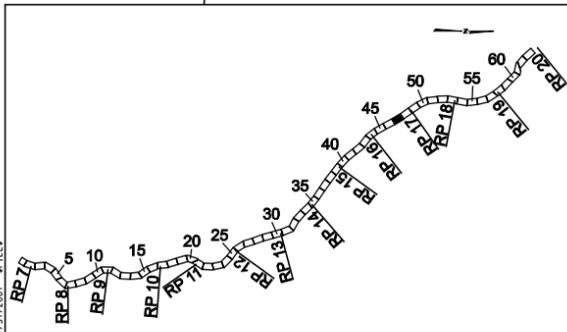
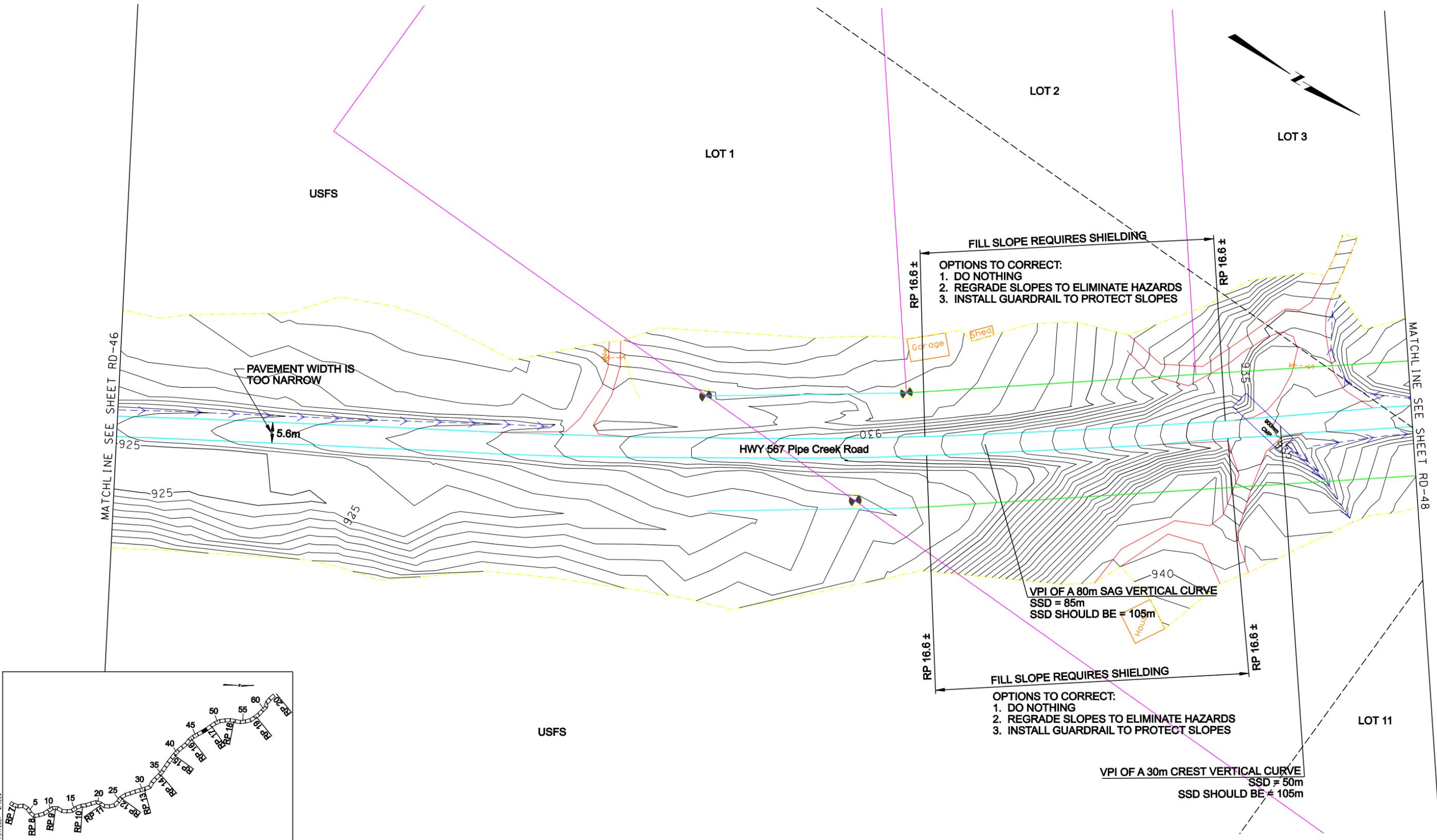
MATCHLINE SEE SHEET RD-45

MATCHLINE SEE SHEET RD-47



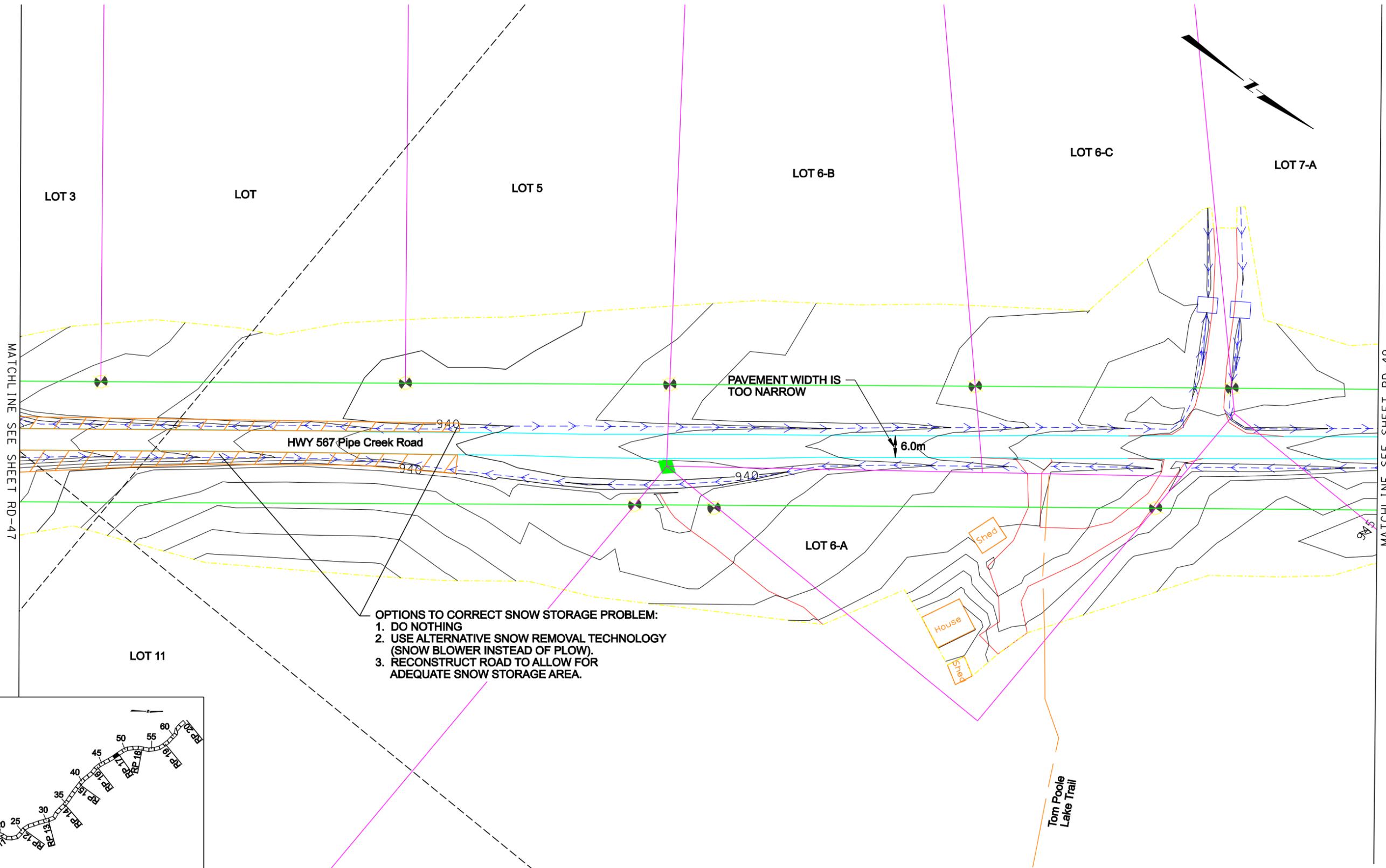
LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT W / FLOW DIRECTION
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	



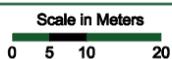
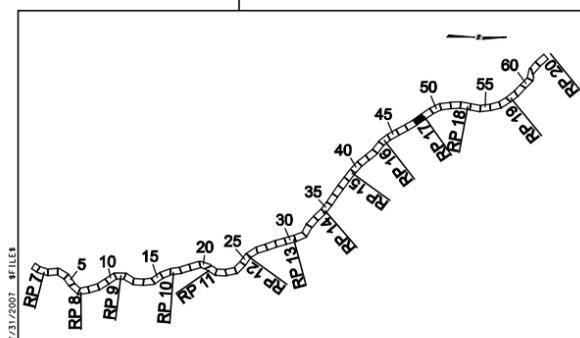
LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION



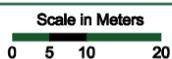
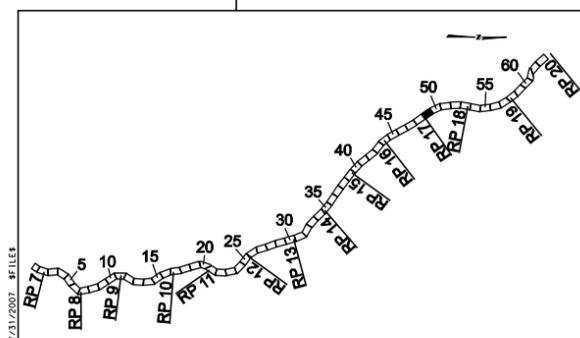
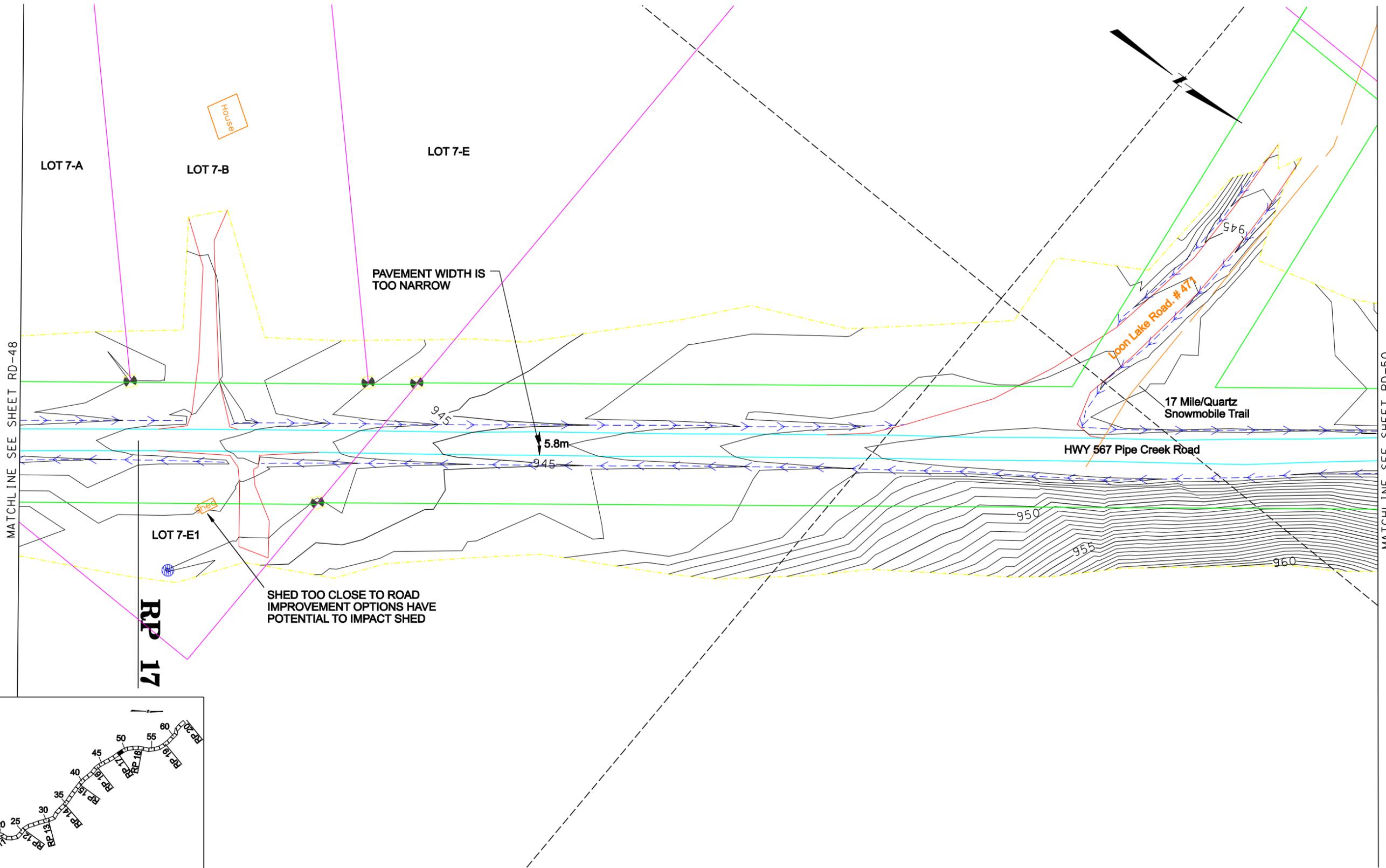
OPTIONS TO CORRECT SNOW STORAGE PROBLEM:

1. DO NOTHING
2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.



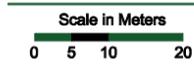
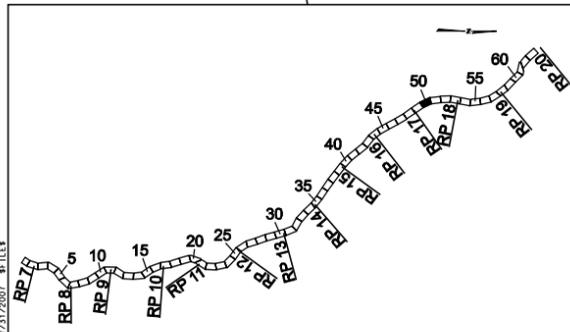
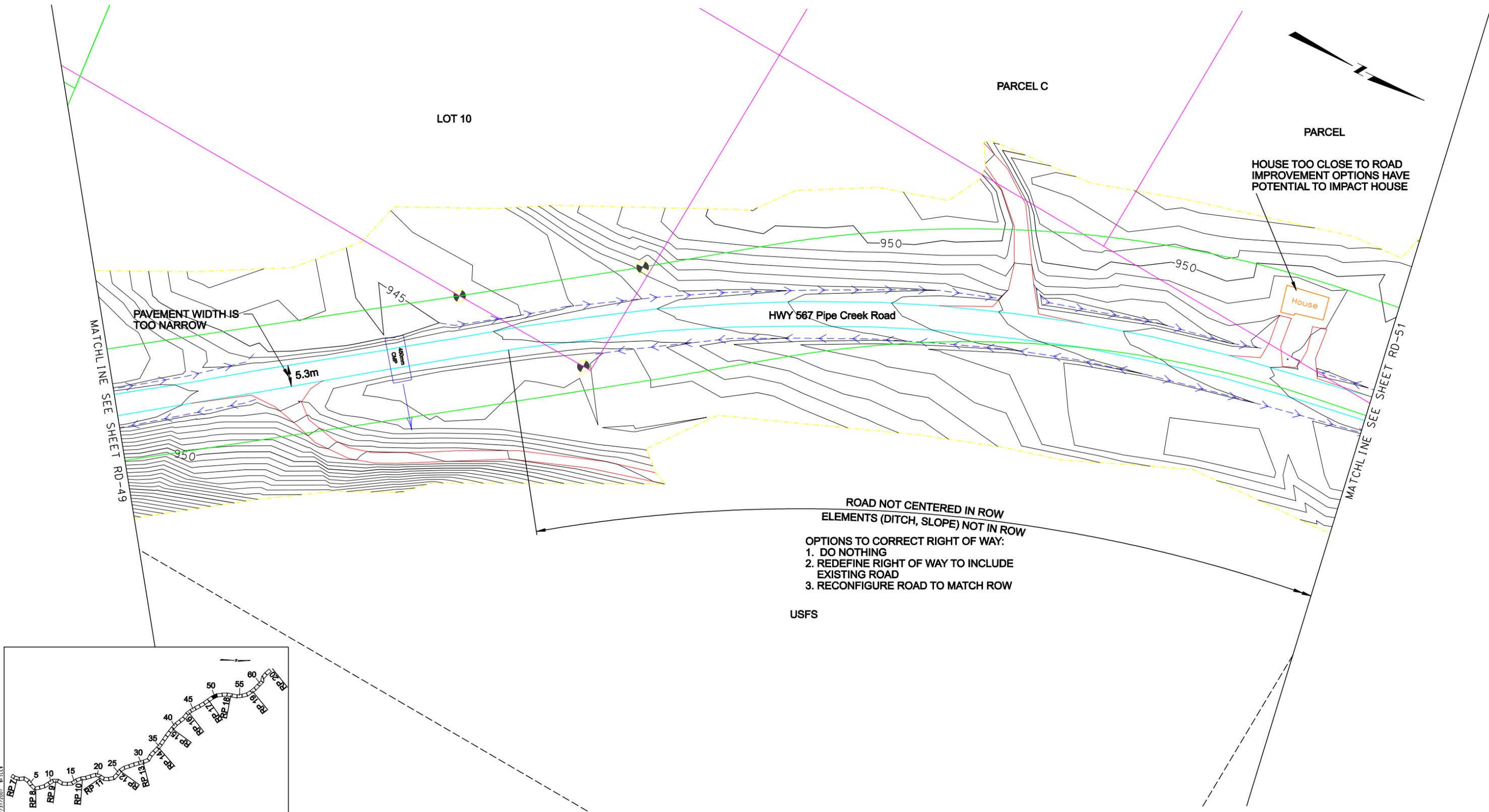
LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT W / FLOW DIRECTION
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	



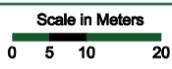
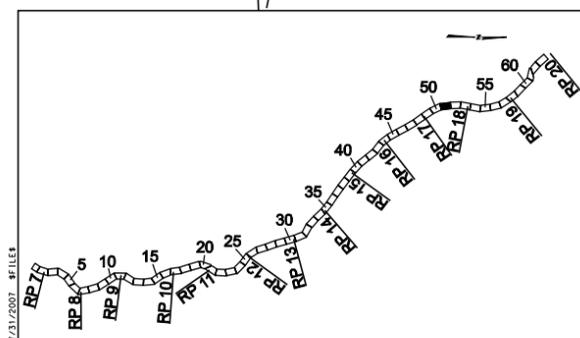
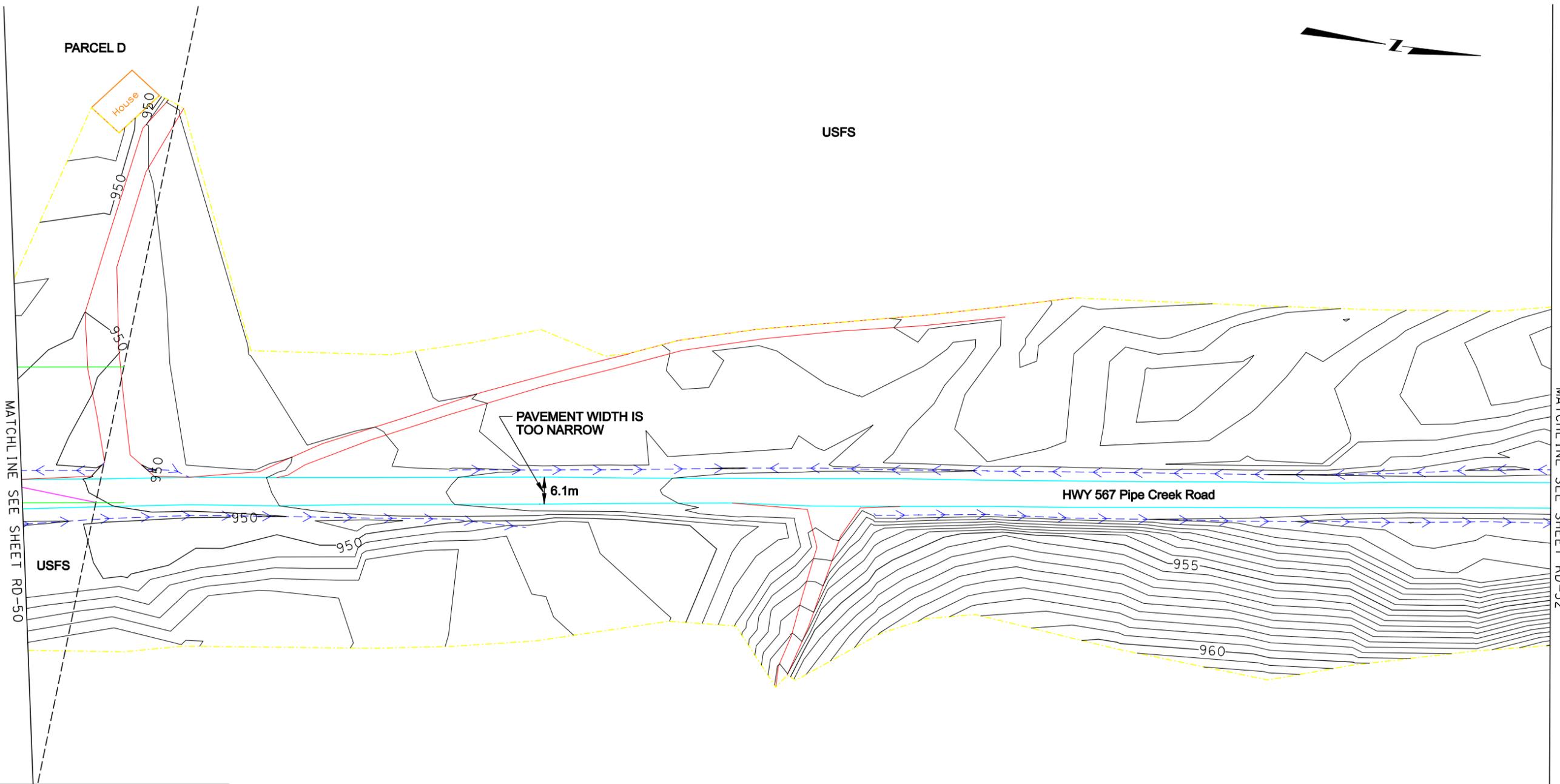
LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION



LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION



LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT W / FLOW DIRECTION
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

OPTIONS TO CORRECT:
1. DO NOTHING
2. REGRADE SLOPES TO ELIMINATE HAZARDS
3. INSTALL GUARDRAIL TO PROTECT SLOPES

FILL SLOPE REQUIRES SHIELDING

PAVEMENT WIDTH IS TOO NARROW

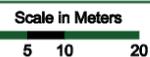
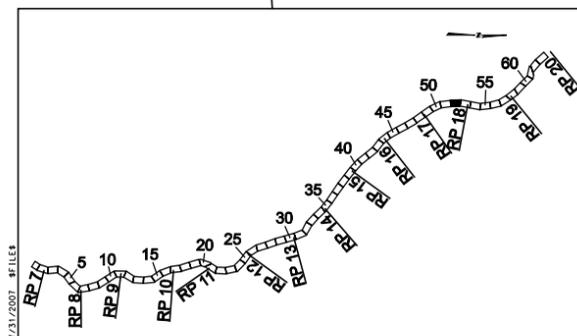
5.9m

HWY 567 Pipe Creek Road

RP 17.7 ±

MATCHLINE SEE SHEET RD-51

MATCHLINE SEE SHEET RD-53



LEGEND	
	Edge of Pavement
	Major Contours
	Minor Contours
	Creek or Ditch
	Existing Guard Rail
	Power Pole
	Mall Box
	Existing Right of Way
	Property Line
	Section Line
	1/4 Section Line
	Property Corner Found
	Fire Hydrant
	High Water Mark
	Snow Storage Problem Area
	Well
	CROSS CULVERT
	W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

OPTIONS TO CORRECT:
1. DO NOTHING
2. REGRADE SLOPES TO ELIMINATE HAZARDS
3. INSTALL GUARDRAIL TO PROTECT SLOPES

OPTIONS TO CORRECT:
1. DO NOTHING
2. REGRADE SLOPES TO ELIMINATE HAZARDS
3. INSTALL GUARDRAIL TO PROTECT SLOPES

FILL SLOPE REQUIRES SHIELDING

FILL SLOPE REQUIRES SHIELDING

PAVEMENT WIDTH IS TOO NARROW

6.5m

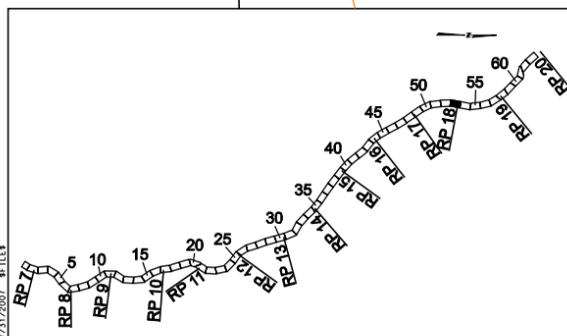
HWY 567 Pipe Creek Road

RP 18

OPTIONS TO CORRECT SNOW STORAGE PROBLEM:
1. DO NOTHING
2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.

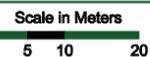
MATCHLINE SEE SHEET RD-52

MATCHLINE SEE SHEET RD-54



Upper Pipe Trail

Turner Mountain Trail



LEGEND	
	Edge of Pavement
	Major Contours
	Minor Contours
	Creek or Ditch
	Existing Guard Rail
	Power Pole
	Mall Box
	Existing Right of Way
	Property Line
	Section Line
	1/4 Section Line
	Property Corner Found
	Fire Hydrant
	High Water Mark
	Well
	CROSS CULVERT
	W / FLOW DIRECTION
	Snow Storage Problem Area

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.



FILL SLOPE REQUIRES SHIELDING

- OPTIONS TO CORRECT:
1. DO NOTHING
 2. REGRADE SLOPES TO ELIMINATE HAZARDS
 3. INSTALL GUARDRAIL TO PROTECT SLOPES

PAVEMENT WIDTH IS TOO NARROW

5.2m

EDGE OF WATER

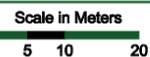
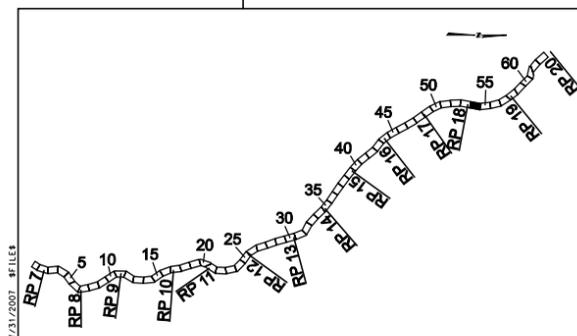
Pipe Creek

HWY 567 Pipe Creek Road

- OPTIONS TO CORRECT SNOW STORAGE PROBLEM:
1. DO NOTHING
 2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
 3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.

MATCHLINE SEE SHEET RD-53

MATCHLINE SEE SHEET RD-55



LEGEND	
	Edge of Pavement
	Major Contours
	Minor Contours
	Creek or Ditch
	Existing Guard Rail
	Power Pole
	Mall Box
	Existing Right of Way
	Property Line
	Section Line
	1/4 Section Line
	Property Corner Found
	Fire Hydrant
	High Water Mark
	Well
	CROSS CULVERT W / FLOW DIRECTION
	Snow Storage Problem Area

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

OPTIONS TO CORRECT:
1. DO NOTHING
2. REGRADE SLOPES TO ELIMINATE HAZARDS
3. INSTALL GUARDRAIL TO PROTECT SLOPES

FILL SLOPE REQUIRES SHIELDING

OPTIONS TO CORRECT SNOW STORAGE PROBLEM:
1. DO NOTHING
2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.

PAVEMENT WIDTH IS TOO NARROW

HWY 567 Pipe Creek Road

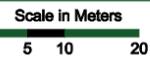
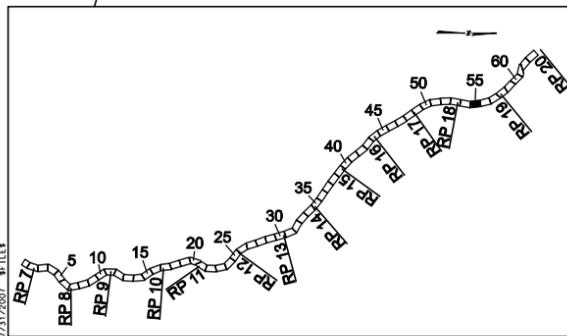
6.3m

VPI OF A 43m CREST VERTICAL CURVE
SSD = 85m
SSD SHOULD BE = 105m

VPI OF A 19m CREST VERTICAL CURVE
SSD = 50m
SSD SHOULD BE = 105m

MATCHLINE SEE SHEETS RD-54

MATCHLINE SEE SHEET RD-56



LEGEND	
	Creek or Ditch
	Existing Guard Rail
	Power Pole
	Mall Box
	Existing Right of Way
	Property Line
	Section Line
	1/4 Section Line
	Property Corner Found
	Fire Hydrant
	High Water Mark
	Well
	CROSS CULVERT W / FLOW DIRECTION
	Snow Storage Problem Area

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

VPI OF A 65m SAG VERTICAL CURVE
SSD = 65m
SSD SHOULD BE = 105m

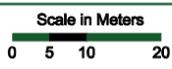
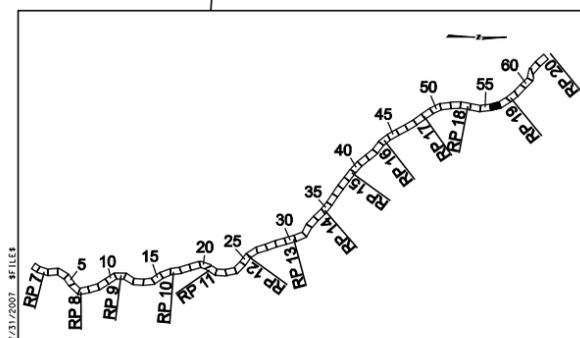
PAVEMENT WIDTH IS TOO NARROW

6.3m

HWY 567 Pipe Creek Road

MATCHLINE SEE SHEET RD-55

MATCHLINE SEE SHEET RD-57



LEGEND	
	Edge of Pavement
	Major Contours
	Minor Contours
	Creek or Ditch
	Existing Guard Rail
	Power Pole
	Mall Box
	Existing Right of Way
	Property Line
	Section Line
	1/4 Section Line
	Property Corner Found
	Fire Hydrant
	High Water Mark
	Snow Storage Problem Area
	Well
	CROSS CULVERT W / FLOW DIRECTION

NOTES:
1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.

OPTIONS TO CORRECT SNOW STORAGE PROBLEM:
1. DO NOTHING
2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.

OPTIONS TO CORRECT SNOW STORAGE PROBLEM:
1. DO NOTHING
2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.

FILL SLOPE SHOULD BE SHIELDED
OPTIONS TO CORRECT:
1. DO NOTHING
2. REGRADE SLOPES TO ELIMINATE HAZARDS (EXCEPT BY CREEK)
3. INSTALL GUARDRAIL TO PROTECT SLOPES

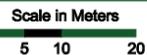
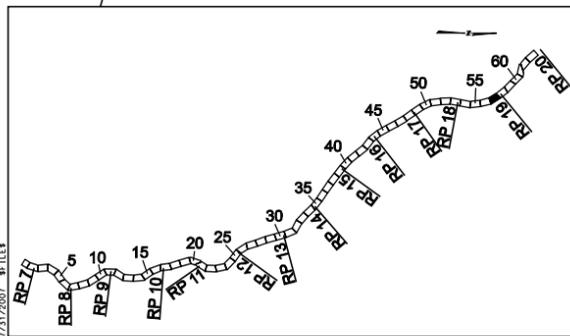
FILL SLOPE REQUIRES SHIELDING
OPTIONS TO CORRECT:
1. DO NOTHING
2. REGRADE SLOPES TO ELIMINATE HAZARDS (EXCEPT BY CREEK)
3. INSTALL GUARDRAIL TO PROTECT SLOPES

PAVEMENT WIDTH IS TOO NARROW

5.8m

RP 18.7 ±

RP 18.8 ±



LEGEND	
	Edge of Pavement
	Major Contours
	Minor Contours
	Creek or Ditch
	Existing Guard Rail
	Power Pole
	Mall Box
	Existing Right of Way
	Property Line
	Section Line
	1/4 Section Line
	Property Corner Found
	Fire Hydrant
	High Water Mark
	Well
	CROSS CULVERT W / FLOW DIRECTION
	Snow Storage Problem Area

NOTES:
 1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.
 2. REFER TO THE PRELIMINARY GEOTECHNICAL REPORT FOR MDT PROJECT STPS567-1(4)7 FOR GEOTECHNICAL RECOMMENDATIONS IN THIS AREA.



OPTIONS TO CORRECT SNOW STORAGE PROBLEM:
 1. DO NOTHING
 2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
 3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.

CURVE TOO SHARP
 R = 154.7 m
 Rmin = 175 m

OPTIONS TO CORRECT:
 1. DO NOTHING
 2. INSTALL WARNING SIGNS
 3. REDUCE SPEED OF ROAD.
 4. RECONSTRUCT ROADWAY TO CORRECT HORIZONTAL CURVE

PAVEMENT WIDTH IS TOO NARROW

5.2m

EDGE OF WATER
 Pipe Creek

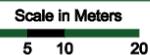
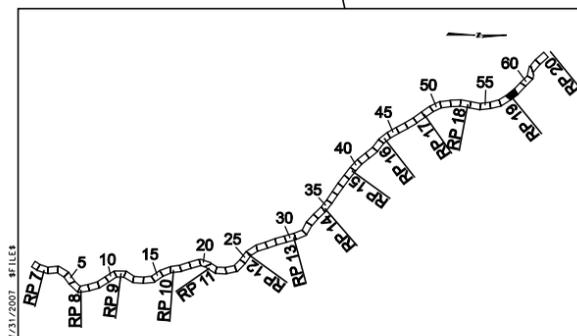
RP 19

FILL SLOPE REQUIRES SHIELDING

OPTIONS TO CORRECT:
 1. DO NOTHING
 2. INSTALL GUARDRAIL TO PROTECT SLOPES

MATCHLINE SEE SHEET RD-57

MATCHLINE SEE SHEET RD-59



LEGEND	
	Edge of Pavement
	Major Contours
	Minor Contours
	Creek or Ditch
	Existing Guard Rail
	Power Pole
	Mall Box
	Existing Right of Way
	Property Line
	Section Line
	1/4 Section Line
	Property Corner Found
	Fire Hydrant
	High Water Mark
	Well
	CROSS CULVERT
	W / FLOW DIRECTION
	Snow Storage Problem Area

NOTES:
 1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.
 2. REFER TO THE PRELIMINARY GEOTECHNICAL REPORT FOR MDT PROJECT STPS567-1(4)7 FOR GEOTECHNICAL RECOMMENDATIONS IN THIS AREA.

OPTIONS TO CORRECT SNOW STORAGE PROBLEM:
 1. DO NOTHING
 2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
 3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.

SUBSTANDARD HORIZONTAL SIGHT DISTANCE (SSD)
 HAVE 85m OF SSD
 NEED 105m OF SSD

OPTIONS TO CORRECT:
 1. DO NOTHING
 2. INSTALL WARNING SIGNS
 3. REDUCE SPEED OF ROAD
 4. RECONSTRUCT ROAD TO MOVE CUT SLOPE OUTSIDE SIGHT LINES

SUBSTANDARD HORIZONTAL SIGHT DISTANCE (SSD)
 HAVE 85m OF SSD
 NEED 105m OF SSD

OPTIONS TO CORRECT:
 1. DO NOTHING
 2. INSTALL WARNING SIGNS
 3. REDUCE SPEED OF ROAD
 4. RECONSTRUCT ROAD TO MOVE CUT SLOPE OUTSIDE SIGHT LINES

PAVEMENT WIDTH IS TOO NARROW

5.2m

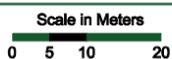
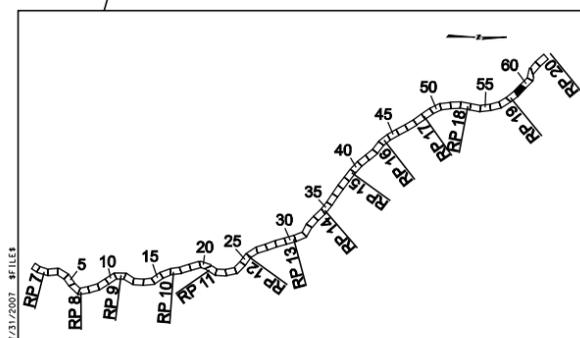
FILL SLOPE REQUIRES SHIELDING
OPTIONS TO CORRECT:
 1. DO NOTHING
 2. INSTALL GUARDRAIL TO PROTECT SLOPES

MATCHLINE SEE SHEET RD-58

MATCHLINE SEE SHEET RD-60

HWY 567 Pipe Creek Road

EDGE OF WATER
Pipe Creek



LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT W / FLOW DIRECTION
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	

NOTES:

- 1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.
- 2. REFER TO THE PRELIMINARY GEOTECHNICAL REPORT FOR MDT PROJECT STPS567-1(4)7 FOR GEOTECHNICAL RECOMMENDATIONS IN THIS AREA.

OPTIONS TO CORRECT SNOW STORAGE PROBLEM:

- 1. DO NOTHING
- 2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
- 3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.

RADIUS TOO SHARP
 $R=164.5\text{ m}$
 $R_{min} = 175\text{ m}$

- OPTIONS TO CORRECT:
- 1. DO NOTHING
 - 2. INSTALL WARNING SIGNS
 - 3. REDUCE SPEED OF ROAD.
 - 4. RECONSTRUCT ROADWAY TO CORRECT HORIZONTAL CURVE

SUBSTANDARD HORIZONTAL SIGHT DISTANCE (SSD)
 HAVE 65m OF SSD
 NEED 105m OF SSD

- OPTIONS TO CORRECT:
- 1. DO NOTHING
 - 2. INSTALL WARNING SIGNS
 - 3. REDUCE SPEED OF ROAD
 - 4. RECONSTRUCT ROAD TO MOVE CUT SLOPE OUTSIDE SIGHT LINES

PAVEMENT WIDTH IS TOO NARROW

4.8m

SUBSTANDARD COMPOUND CURVE
 $R1 = 508\text{m}$
 $R2 = 203\text{m}$
 $R2_{min} = 254\text{m}$
 (GOING SOUTHBOUND TO LIBBY)

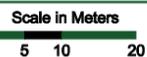
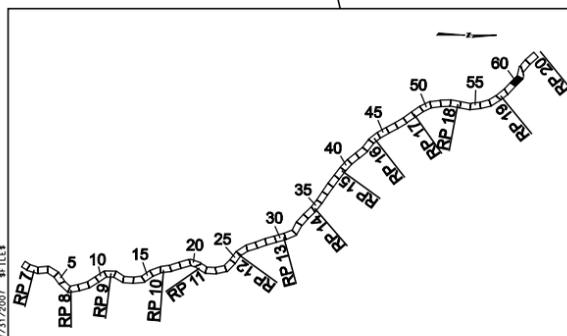
- OPTIONS TO CORRECT:
- 1. DO NOTHING
 - 2. RECONSTRUCT ROADWAY TO ELIMINATE DEFICIENCY

FILL SLOPE REQUIRES SHIELDING

- OPTIONS TO CORRECT:
- 1. DO NOTHING
 - 2. INSTALL GUARDRAIL TO PROTECT SLOPES

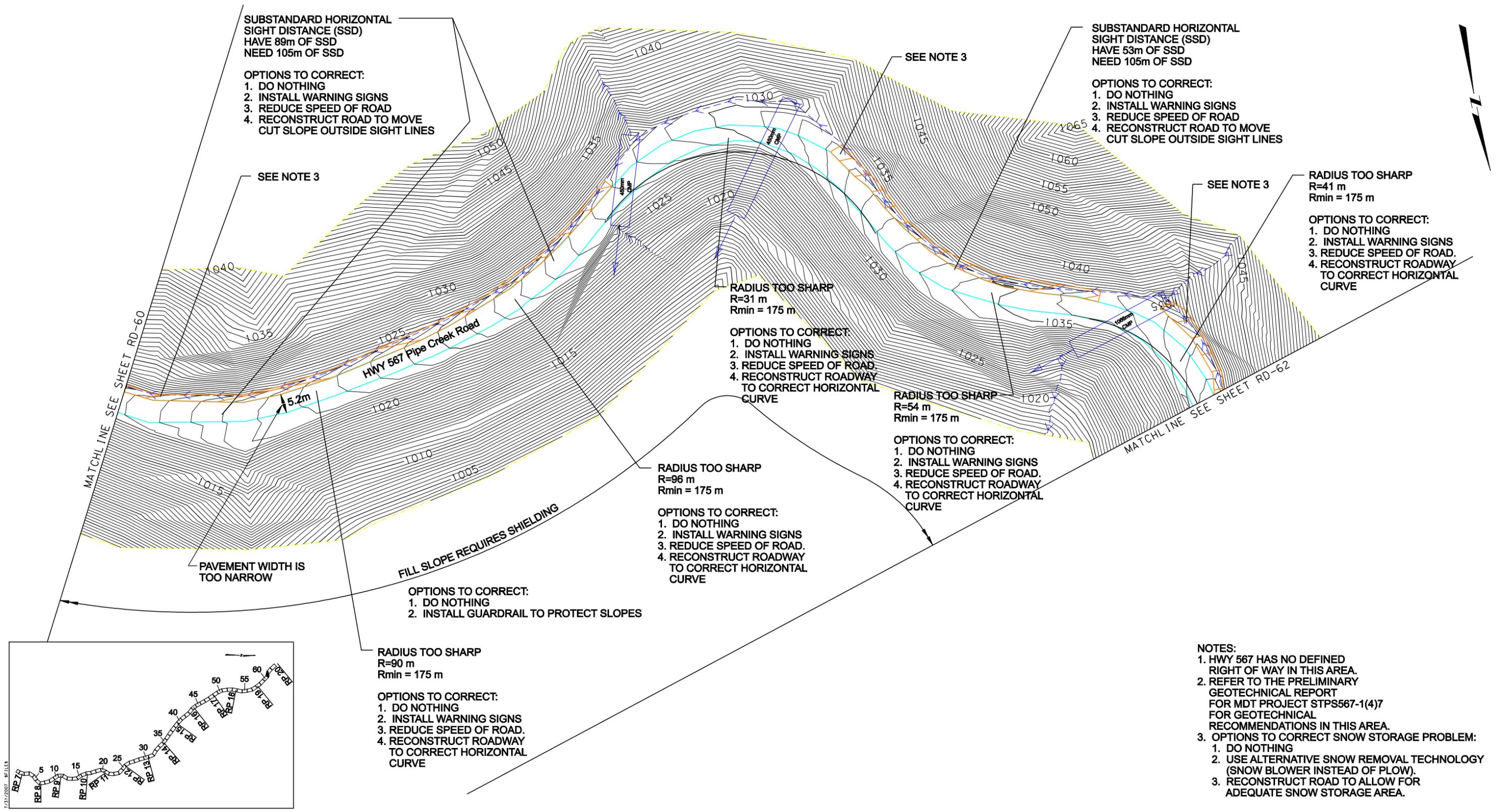
MATCHLINE SEE SHEET RD-59

MATCHLINE SEE SHEET RD-61

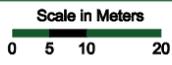
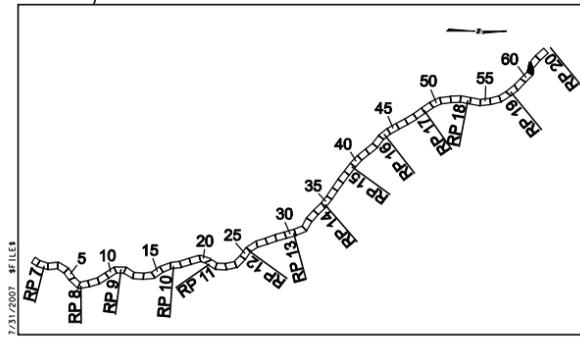


LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT W / FLOW DIRECTION
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	



- NOTES:**
- HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.
 - REFER TO THE PRELIMINARY GEOTECHNICAL REPORT FOR MDT PROJECT STPS567-1(4)7 FOR GEOTECHNICAL RECOMMENDATIONS IN THIS AREA.
 - OPTIONS TO CORRECT SNOW STORAGE PROBLEM:
 - DO NOTHING
 - USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
 - RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.



LEGEND

Edge of Pavement	Creek or Ditch	Mail Box	Section Line	Fire Hydrant	Well
Major Contours	Existing Guard Rail	Existing Right of Way	1/4 Section Line	High Water Mark	CROSS CULVERT
Minor Contours	Power Pole	Property Line	Property Corner Found	Snow Storage Problem Area	W / FLOW DIRECTION

NOTES:

- 1. HWY 567 HAS NO DEFINED RIGHT OF WAY IN THIS AREA.
- 2. REFER TO THE PRELIMINARY GEOTECHNICAL REPORT FOR MDT PROJECT STPS567-1(4)7 FOR GEOTECHNICAL RECOMMENDATIONS IN THIS AREA.

- OPTIONS TO CORRECT SNOW STORAGE PROBLEM:
- 1. DO NOTHING
 - 2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
 - 3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.

SUBSTANDARD HORIZONTAL SIGHT DISTANCE (SSD)
HAVE 50m OF SSD
NEED 105m OF SSD

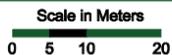
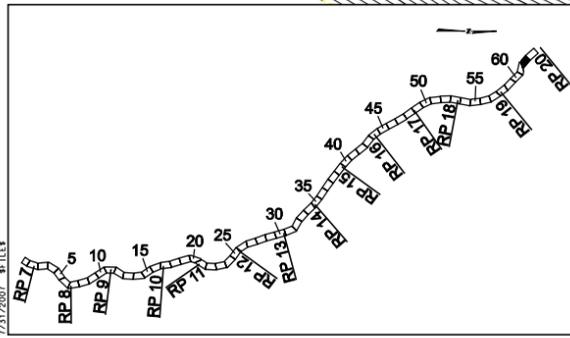
- OPTIONS TO CORRECT:
- 1. DO NOTHING
 - 2. INSTALL WARNING SIGNS
 - 3. REDUCE SPEED OF ROAD
 - 4. RECONSTRUCT ROAD TO MOVE CUT SLOPE OUTSIDE SIGHT LINES

PAVEMENT WIDTH IS TOO NARROW

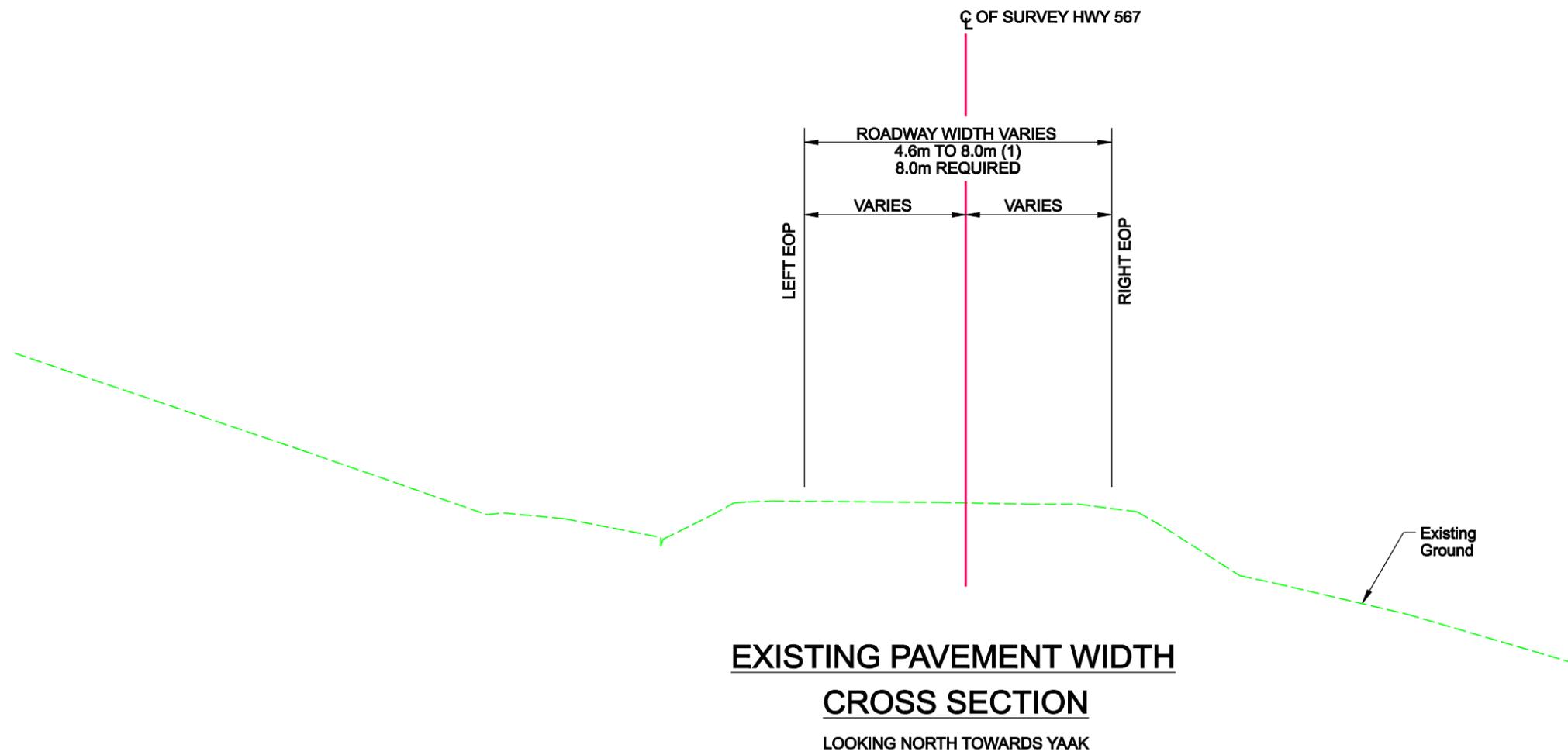
- OPTIONS TO CORRECT SNOW STORAGE PROBLEM:
- 1. DO NOTHING
 - 2. USE ALTERNATIVE SNOW REMOVAL TECHNOLOGY (SNOW BLOWER INSTEAD OF PLOW).
 - 3. RECONSTRUCT ROAD TO ALLOW FOR ADEQUATE SNOW STORAGE AREA.

FILL SLOPE REQUIRES SHIELDING

- OPTIONS TO CORRECT:
- 1. DO NOTHING
 - 2. INSTALL GUARDRAIL TO PROTECT SLOPES



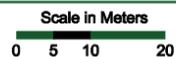
LEGEND	
	Edge of Pavement
	Major Contours
	Minor Contours
	Creek or Ditch
	Existing Guard Rail
	Power Pole
	Mail Box
	Existing Right of Way
	Property Line
	Section Line
	1/4 Section Line
	Fire Hydrant
	High Water Mark
	Well
	CROSS CULVERT
	W / FLOW DIRECTION
	Property Corner Found
	Snow Storage Problem Area



**EXISTING PAVEMENT WIDTH
CROSS SECTION**
LOOKING NORTH TOWARDS YAAK

1. SEE ROADWAY INVENTORY SHEETS (RD-01 TO RD-63) FOR PAVEMENT WIDTH LOCATION INFORMATION
2. THERE IS NO STRIPING ON THE EXISTING ROADWAY.
3. OPTIONS TO CORRECT:
 - a. STRIPE CENTER OF ROAD.
 - b. RECONSTRUCT ROADWAY TO HAVE 8.0m OF PAVEMENT WIDTH.

7/31/2007 - #FILE4



— Edge of Pavement	- - - - - Creek or Ditch	MB Mail Box	- - - - - Section Line	⊕ Fire Hydrant	⊕ Well
— Major Contours	● - - - - Existing Guard Rail	— Existing Right of Way	- - - - - 1/4 Section Line	⊕ High Water Mark	⊕ CROSS CULVERT
— Minor Contours	■ Power Pole	— Property Line	⊕ Property Corner Found	⊕ Snow Storage Problem Area	⊕ W / FLOW DIRECTION