

Appendix A

Preliminary Alternatives, Lewis County



Department of Public Works

LEUDINGHAUS BRIDGE ALTERNATES

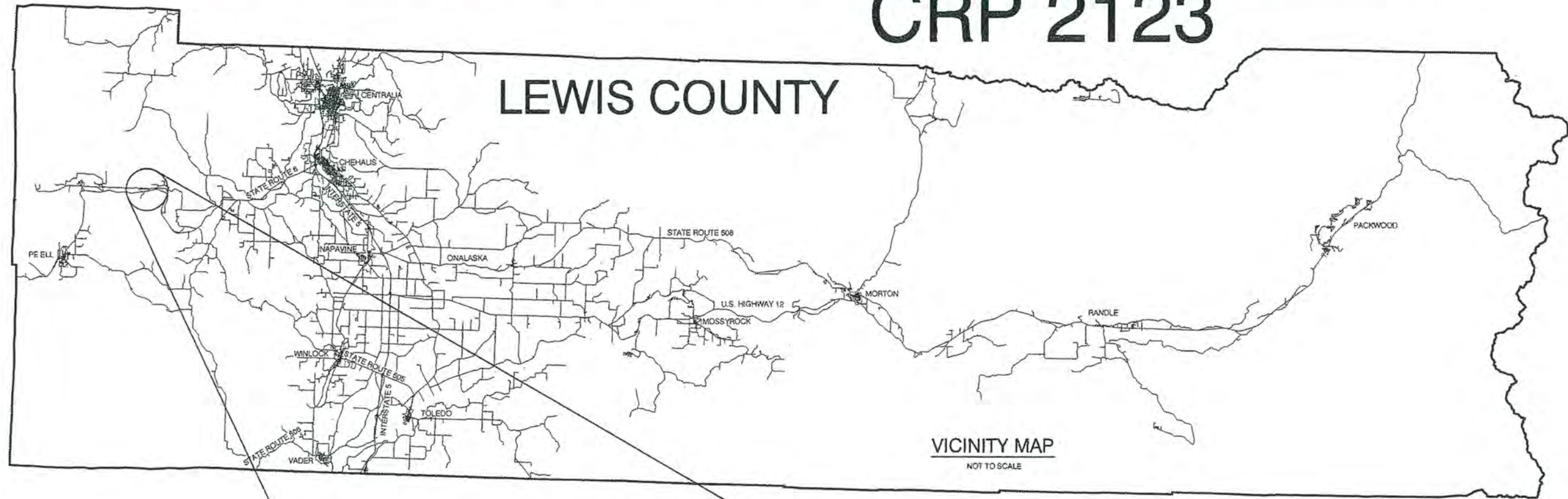
The Bailey Bridge will be removed by June 2011. It is anticipated that if the Leudinghaus Bridge is built, construction will start in June 2012

All project costs shown are estimates. The Current Preliminary FEMA funding is 87.5% of \$640,000 (\$560,000) The Maximum FEMA Funding is anticipated to be 87.5% of \$2,835,000 (\$2,480,000)

ALTERNATE	ALTERNATE TITLE	BRIDGE COST	ROADWAY COST	PRELIMINARY ENGINEERING COST	CONSTRUCTION ENGINEERING COST	TOTAL COST	COST TO LEWIS COUNTY	KNOWN ADVANTAGES	KNOWN DISADVANTAGES
A	Current Design	\$1,135,000.00	\$1,350,000.00	\$50,000.00	\$300,000.00	\$2,835,000.00	\$355,000.00	The Preliminary Engineering is 90% complete, Environmental permitting is 75% complete, Project is FEMA funded to 87.5% of cost, Meskill Road alignment is improved	Local Property Owners and residences are impacted
B	Current Design with New SR6 Intersection	\$1,135,000.00	\$1,600,000.00	\$75,000.00	\$300,000.00	\$3,110,000.00	\$530,000.00	The Preliminary Engineering is 80% complete, Less impact to residence on south side of River Road, Meskill alignment is improved, Intersection with SR6 is improved.	Local Property Owners and residences are impacted, Tight curves necessitate wider lanes and warning signs, FEMA participation is capped at \$2,480,000
C	New Design at original bridge site with new SR6 Intersection	\$1,135,000.00	\$1,350,000.00	\$280,000.00	\$300,000.00	\$3,065,000.00	\$505,000.00	Less Impact to residence on south side of River Road	New bridge plans must be developed at county expense (\$250,000), FEMA participation is capped at \$2,480,000, existing Meskill road alignment is retained.
D	New Design at Intersection of River Road and SR6	\$1,507,350.00	\$2,088,750.00	\$380,000.00	\$400,000.00	\$4,376,100.00	\$2,146,100.00	Minimal impact to residences	FEMA funding is capped at \$2,480,000, New bridge plans must be developed at county expense (\$250,000), Work must be performed on SR6 to bring roadway profile up to bridge elevation, WSDOT approval of plans required, River Road is no longer a through route.
E	New Design at Intersection of Hatchery Road and SR6	\$1,139,000.00	\$1,497,500.00	\$280,000.00	\$325,000.00	\$3,241,500.00	\$761,000.00	Good Approach to SR6	FEMA funding is capped at \$2,480,000, New bridge plans must be developed at county expense (\$250,000), Residences on north side of Chehalis River Impacted, Fish bearing stream impacted on south side of Chehalis River.
F	New Design on Hatchery Road	\$1,625,000.00	\$945,500.00	\$280,000.00	\$300,000.00	\$3,150,000.00	\$670,000.00	Good Approach to SR6, Minimal impacts to residences	FEMA funding is capped at \$2,480,000, New bridge plans must be developed at county expense (\$250,000)
G	Alternate Project					\$576,000	\$72,000.00	A temporary bridge could be purchased to use in emergency situations, 87.5% FEMA funded to \$576,000	No Bridge would be built

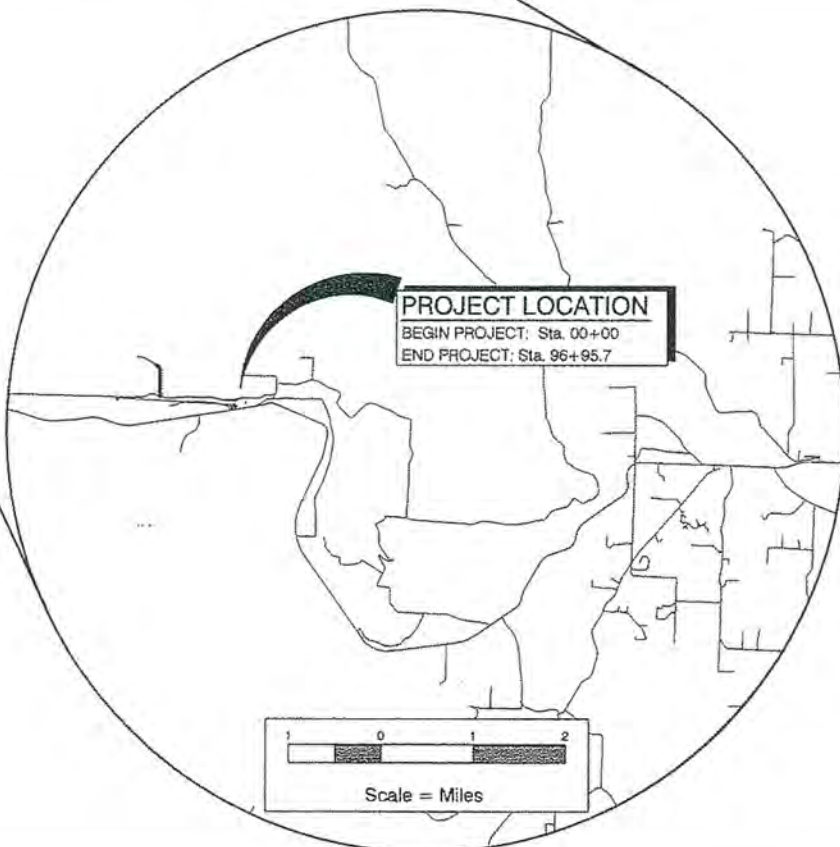
Appendix B
40% Plan Sheets

LEUDINGHAUS BRIDGE PROJECT CRP 2123



LEWIS COUNTY
DEPARTMENT OF PUBLIC WORKS
APPROVED FOR CONSTRUCTION:

Assistant County Engineer _____ Date _____



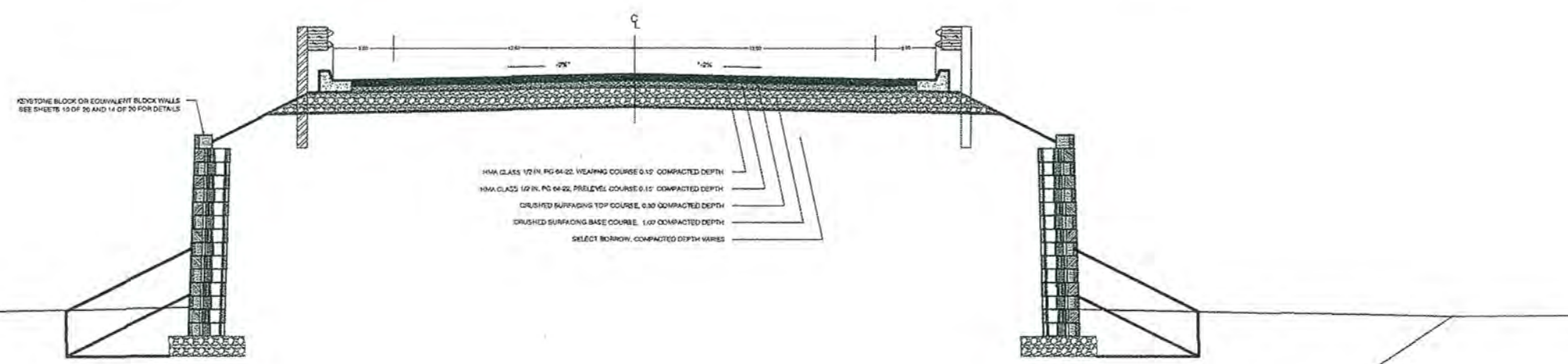
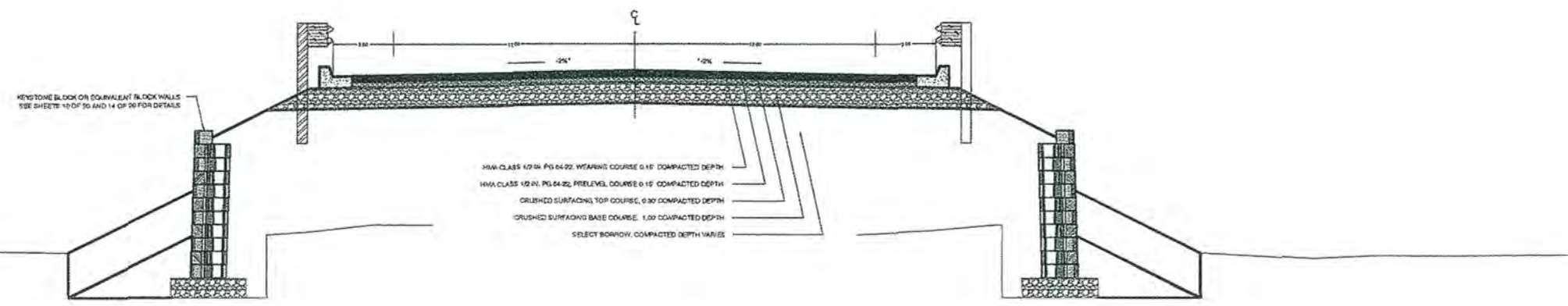
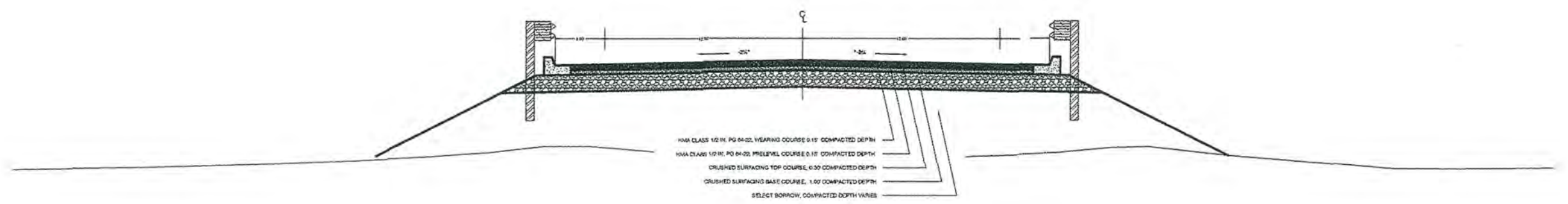
SHEET INDEX		LEGEND	
NO.	DESCRIPTION		
1			
2			
3	ROADWAY		
4		— — — — —	CENTERLINE
5		- - - - -	CUT LIMITS
6		—————	FILL LIMITS
7		- - - - -	WETLAND BUFFER BOUNDARY
8		—————	WETLAND BOUNDARY
9			
10			
11			
12			
13			
14			
15			
16	WALLS		
17			
18			
19			
20			
21			
22			
23			
24			
25			
26	MISCELLANEOUS DETAILS		
27			
28			

40% PLANS
NOT FOR CONSTRUCTION

COMMISSIONERS:

EDNA FUND, DISTRICT 1
P.W. SCHULTE, DISTRICT 2
F. LEE GROSE, DISTRICT 3

ENGINEERING-
DESIGN SECTION



40% PLANS
NOT FOR CONSTRUCTION

Lewis County
2025 NE KRESKY AVE.
CHEHALIS WA 98532
PHONE # (360) 740-1123
FAX # (360) 740-2719

DESIGNED BY : KRM
DRAWN BY : KRM
CHECKED BY :
DATE :

NO.	DATE	REVISION	BY	APP.

**LEUDINGHAUS
BRIDGE PROJECT**

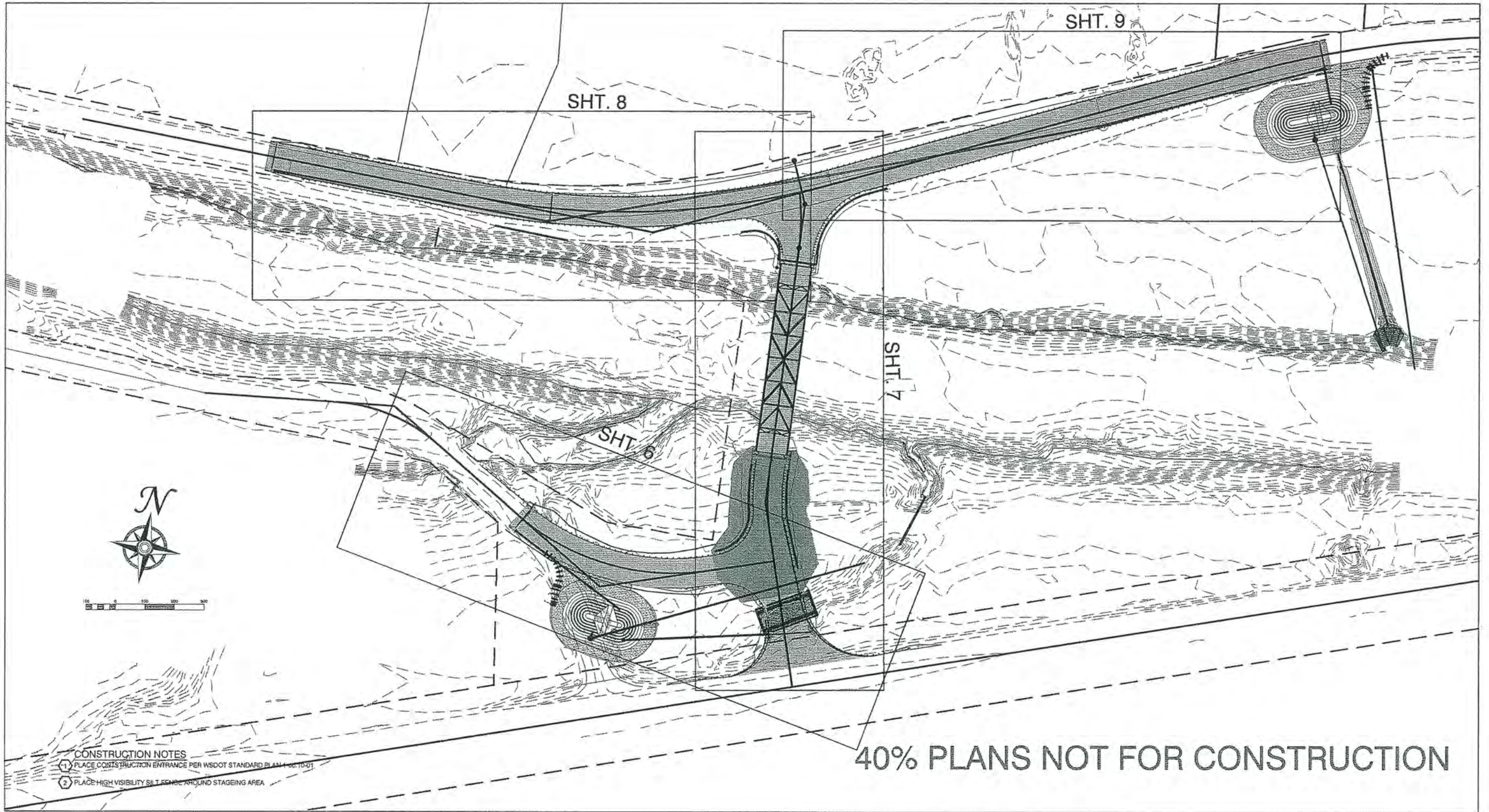
LEUDINGHAUS BRIDGE PROJECT
CRP 2123
TYPICAL SECTIONS

SHEET
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OF
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Keith Robert Muggoch, P.E.
Senior Engineer/Design
Date: _____

TWP. 14N. RGE. 2W. W.M.



- CONSTRUCTION NOTES**
- 1 PLACE CONSTRUCTION ENTRANCE PER WSDOT STANDARD PLAN 1-80-10-01
 - 2 PLACE HIGH VISIBILITY SILT FENCE AROUND STAGING AREA

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LEUDINGHAUS BRIDGE PROJECT

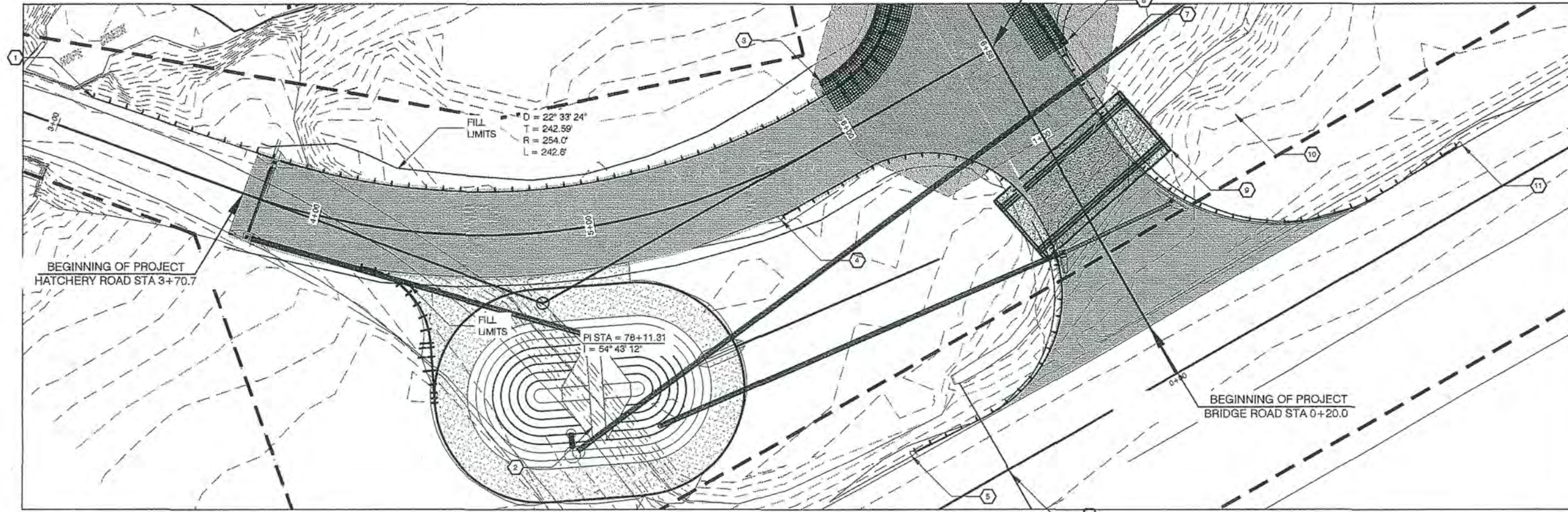
LEUDINGHAUS BRIDGE PROJECT
 CRP 2123
 SHEET LAYOUT

SHEET
 5 OF 00



TWP. 14N. RGE. 2W. W.M.

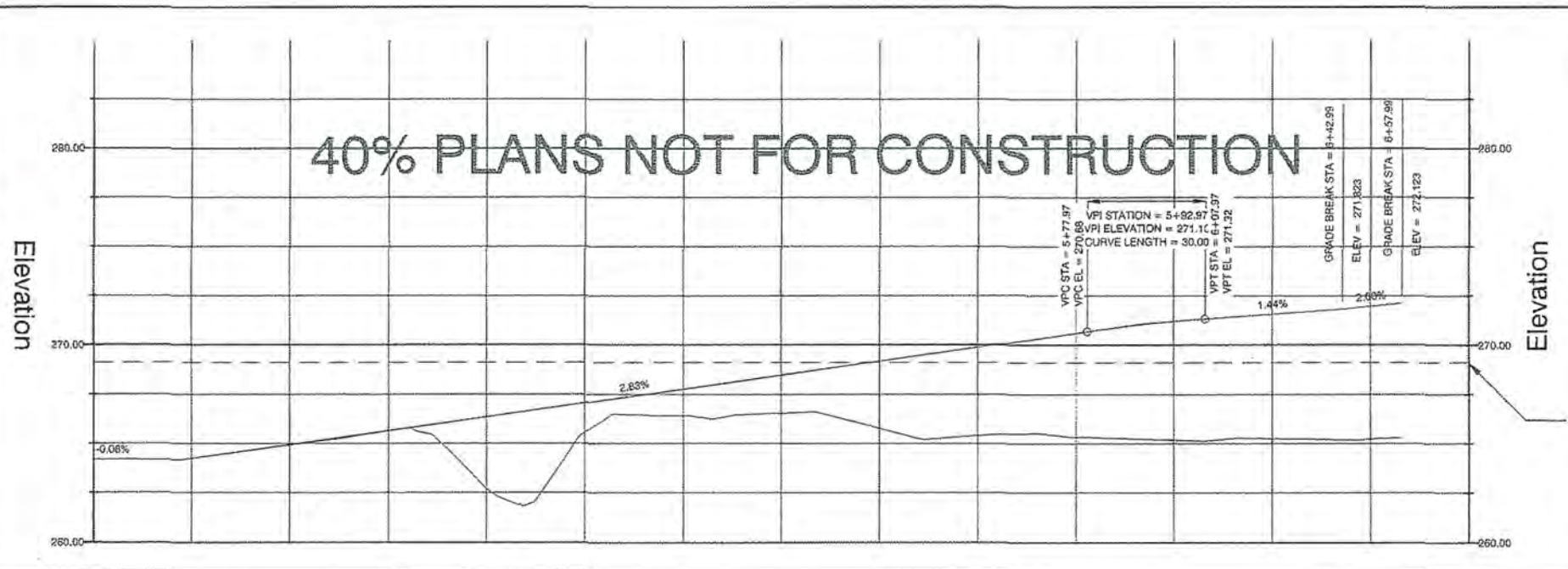
HATCHERY & BRIDGE ROAD INTERSECTION
BRIDGE ROAD STA 1+34.5; HATCHERY ROAD STA 6+58.0



Structure Excavation Class B Incl. Haul
Embankment Compaction

35 C.Y.
2345 C.Y.

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- CONSTRUCTION NOTES**
- 1 STA 9+08.50 RT. ATTACH BEAM GUARDRAIL TYPE 31 TO BEAM GUARDRAIL TYPE 1 WSDOT STD. PLAN C-25.80-02
 - 2 STORM WATER POND SEE SHEET 10 FOR ALL STORM WATER DETAILS.
 - 3 STA 8+00.00 RT. WALL A SEE SHEET 14 & 18
 - 4 STA 5+89.65 LT. INSTALL NON FLARED TERMINAL PER WSDOT STD. PLAN C-22.40-02. OFFSET END OF TERMINAL 1' FROM TYPE 31 BEAM GUARDRAIL. OFFSET FACE OF RAIL TYPE 31 BEAM GUARDRAIL 15' OFF CENTERLINE.
 - 5 STA 0+20.00 RT. BRIDGE ROAD ALIGNMENT INSTALL NON FLARED TERMINAL PER WSDOT STD. PLAN C-22.40-02. OFFSET END OF TERMINAL 1' FROM TYPE 31 BEAM GUARDRAIL. OFFSET FACE OF RAIL TYPE 31 BEAM GUARDRAIL 15' OFF CENTERLINE.
 - 6 STA 0+20.00 RT. BRIDGE ROAD ALIGNMENT EXISTING 24" RCP TO REMAIN IN PLACE
 - 7 EXCAVATION LIMITS FOR UNSUITABLE MATERIAL SEE SHEETS 9 AND 7
 - 8 STA 1+23.00 LT BRIDGE ROAD ALIGNMENT WALL B SEE SHEET 15 & 18
 - 9 STA 0+77.50 BRIDGE ROAD ALIGNMENT INSTALL 8' X 20' X 00' PRECAST CONCRETE CULVERT SEE SHEETS 11 AND 12
 - 10 STA 0+77.50 BRIDGE ROAD ALIGNMENT; DITCH REGRADE SEE SHEET 11
 - 11 STA 0+20.00 LT. BRIDGE ROAD ALIGNMENT INSTALL NON FLARED TERMINAL PER WSDOT STD. PLAN C-22.40-02. OFFSET END OF TERMINAL 1' FROM TYPE 31 BEAM GUARDRAIL. OFFSET FACE OF RAIL TYPE 31 BEAM GUARDRAIL 15' OFF CENTERLINE.



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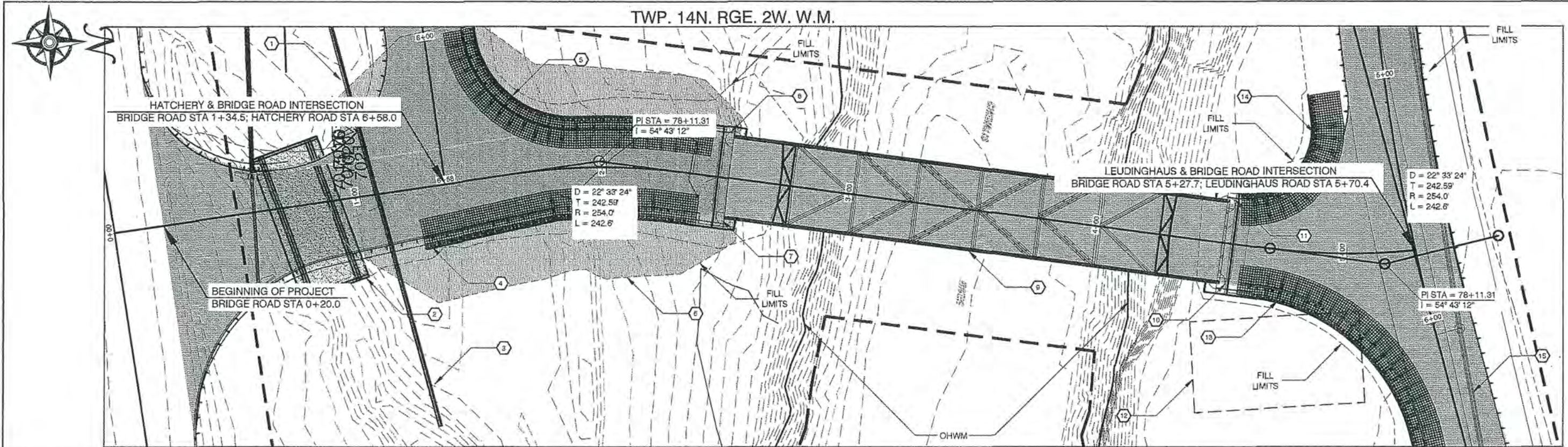
**LEUDINGHAUS
BRIDGE PROJECT**

LEUDINGHAUS BRIDGE PROJECT
CRP 2123
PLAN PROFILE 0+00 - 9+00

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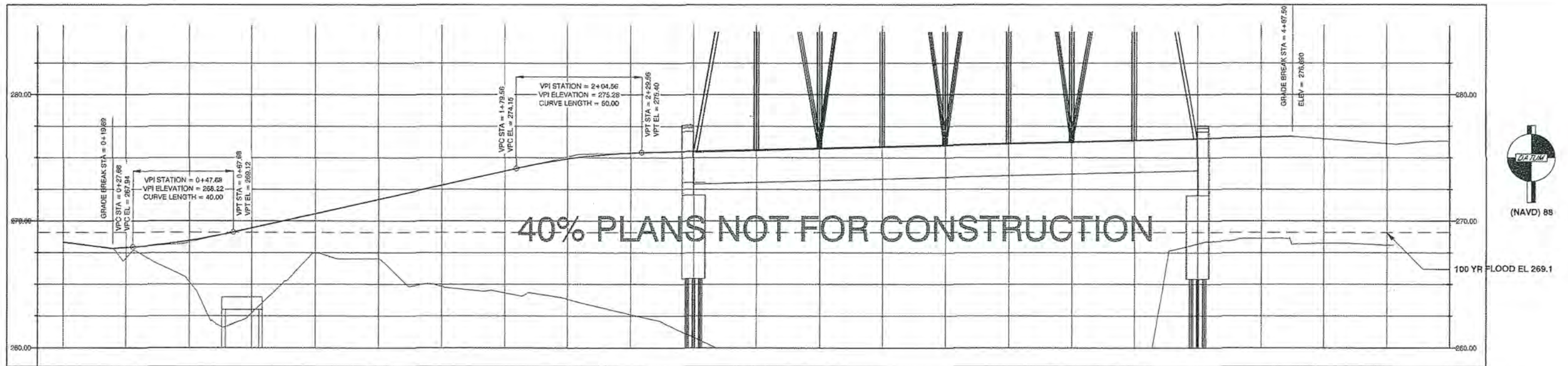


Keith Robert Muggoch, P.E.
Senior Engineer/Design
Date: _____



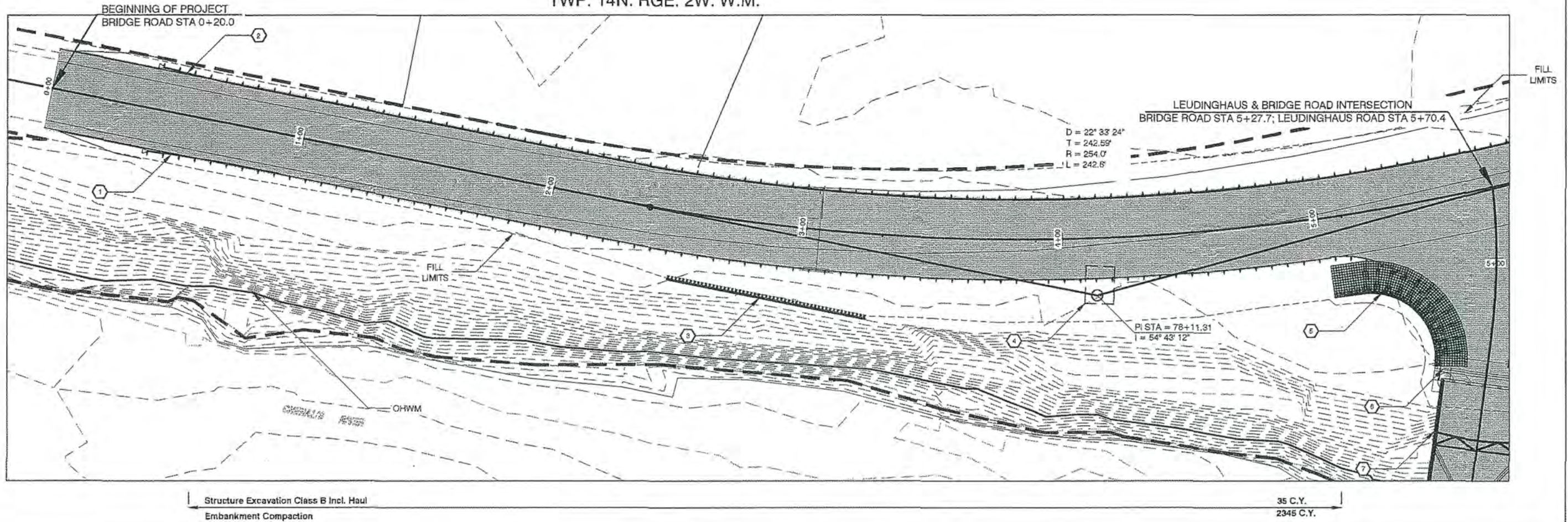
CONSTRUCTION NOTES

- 1 STORM WATER POND SEE SHEET 10 FOR ALL STORM WATER DETAILS.
- 2 STA 0+77.50 INSTALL 5' X 20' X 60" PRECAST CONCRETE CULVERT SEE SHEETS 11 AND 12
- 3 STA 0+77.50 DITCH REGRADE SEE SHEET 11
- 4 STA 1+23.00 LT WALL B SEE SHEET 15 & 18
- 5 STA 2+40.00 LT. WALL A SEE SHEET 14 & 18
- 6 EXCAVATION LIMITS FOR UNSUITABLE MATERIAL SEE SHEETS 3 AND 7
- 7 STA. 2+50.00 RT INSTALL BEAM GUARDRAIL (TYPE 31) TRANSITION SECTION TYPE 23 PER WSDOT STANDARD PLAN C-25-26-02
- 8 STA. 2+50.00 LT INSTALL BEAM GUARDRAIL (TYPE 31) TRANSITION SECTION TYPE 23 PER WSDOT STANDARD PLAN C-25-26-02
- 9 STA 2+50.00 TO STA 4+50.00 STEEL TRUSS BRIDGE SEE SHEETS S-1 TO S-10
- 10 STA. 4+50.00 RT INSTALL BEAM GUARDRAIL (TYPE 31) TRANSITION SECTION TYPE 23 PER WSDOT STANDARD PLAN C-25-26-02
- 11 STA. 4+50.00 LT INSTALL BEAM GUARDRAIL (TYPE 31) TRANSITION SECTION TYPE 23 PER WSDOT STANDARD PLAN C-25-26-02
- 12 REMOVAL OF STRUCTURE SEE SPECIAL PROVISION ??,??
- 13 STA 4+60.00 RT. CONSTRUCT WALL C SEE SHEET 16 & 18
- 14 STA 4+60.00 LT. CONSTRUCT WALL D SEE SHEET 17 & 18
- 15 STORM WATER PIPE SEE SHEET 10 FOR ALL STORM WATER DETAILS.
- 16 4



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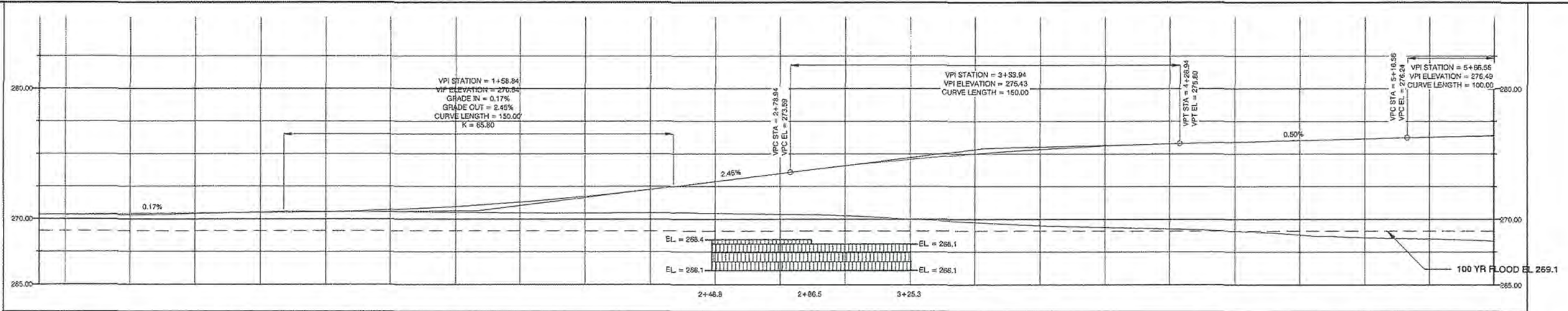
Structure Excavation Class B Incl. Haul
Embankment Compaction

35 C.Y.
2345 C.Y.

CONSTRUCTION NOTES

- 1 STA 00+41.25 RT. INSTALL NON FLARED TERMINAL PER WSDOT STD. PLAN C-22-40-02. OFFSET END OF TERMINAL 1' FROM TYPE 31 BEAM GUARDRAIL. OFFSET FACE OF RAIL TYPE 31 BEAM GUARDRAIL 15' OFF CENTERLINE.
- 2 STA 00+41.25 RT. INSTALL NON FLARED TERMINAL PER WSDOT STD. PLAN C-22-40-02. OFFSET END OF TERMINAL 1' FROM TYPE 31 BEAM GUARDRAIL. OFFSET FACE OF RAIL TYPE 31 BEAM GUARDRAIL 15' OFF CENTERLINE.
- 3 STA 2+48.00 RT. OFFSET FACE OF WALL 27.0' CONSTRUCT WALL E TO STA 3+25.3 RT. OFFSET 33.5 (ACTUAL LENGTH 79.5 FEET) SEE SHEET 16.
- 4 REMOVAL OF STRUCTURE SEE SPECIAL PROVISION ?? ??
- 5 STA 5+02.02 RT. CONSTRUCT WALL D SEE SHEET 17 & 18
- 6 STA. 4+50.00 LT BRIDGE ROAD ALIGNMENT; INSTALL BEAM GUARDRAIL (TYPE 31) TRANSITION SECTION TYPE 23 PER WSDOT STANDARD PLAN C-25-25-02
- 7 STA 2+50.00 TO STA 4+50.00 BRIDGE ROAD ALIGNMENT; STEEL TRUSS BRIDGE SEE SHEETS S-1 TO S-10

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**LEUDINGHAUS
BRIDGE PROJECT**

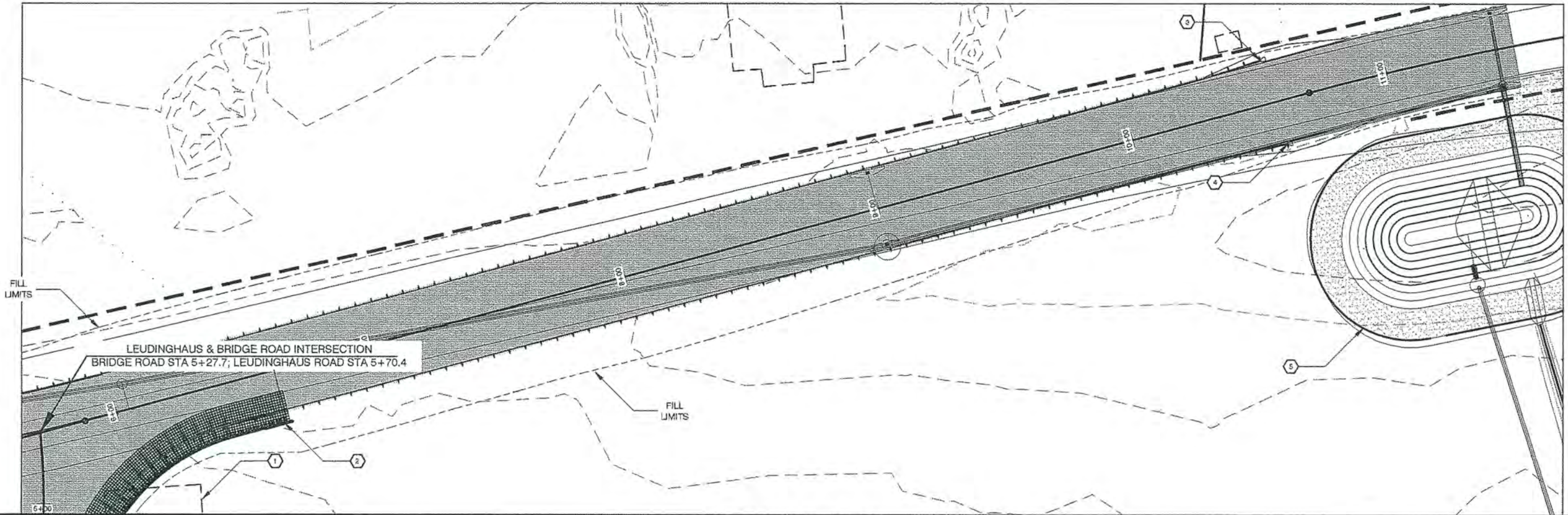
LEUDINGHAUS BRIDGE PROJECT
CRP 2123
PLAN PROFILE 0+00 - 9+00

SHEET
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Keith Robert Muggoch, P.E.
Senior Engineer/Design

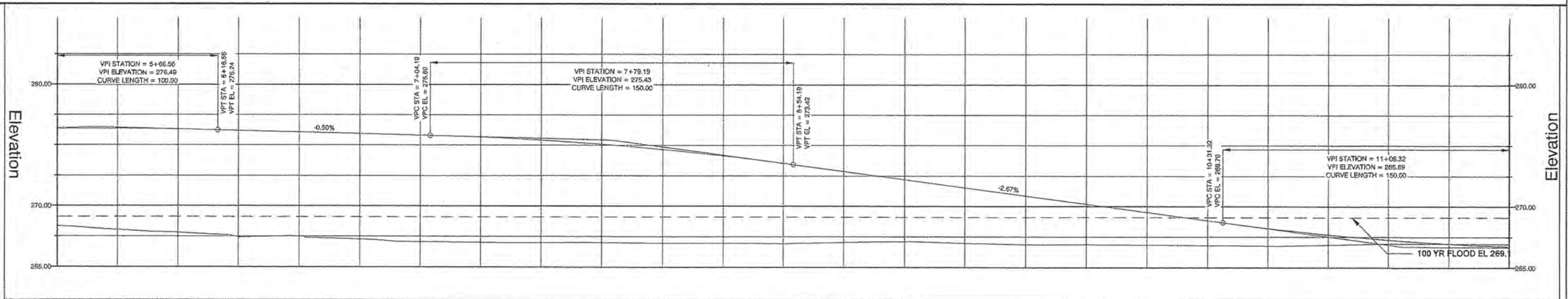
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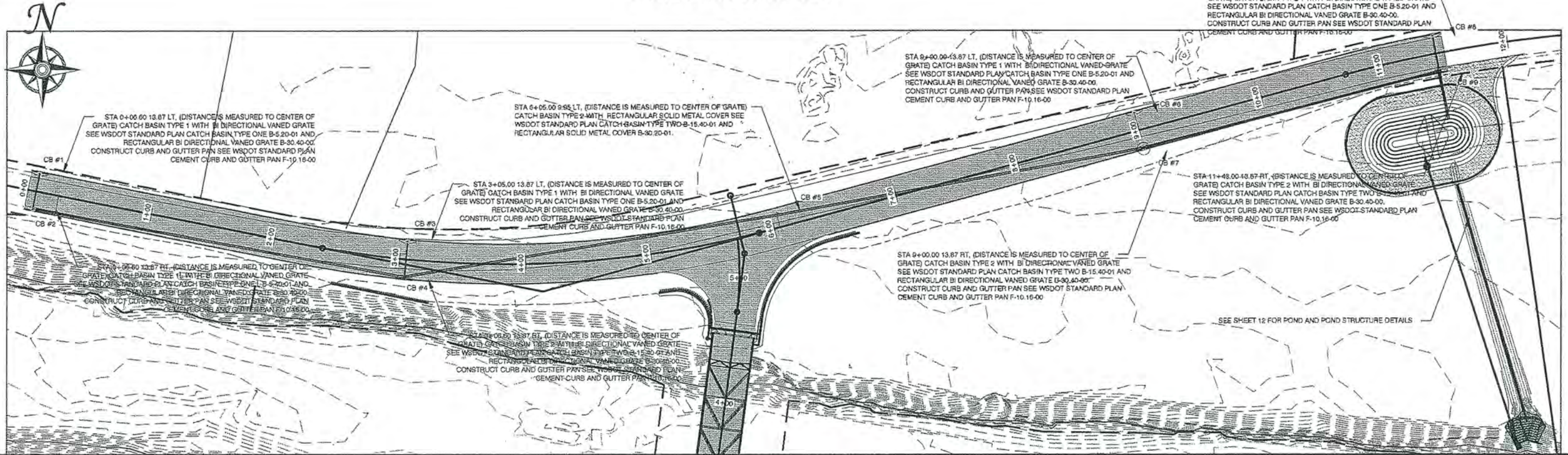
CONSTRUCTION NOTES

- 1 REMOVAL OF STRUCTURE SEE SPECIAL PROVISION ??
- 2 STA 6+81.40 LT WALL C SEE SHEET 16 & 18
- 3 STA 10+54.6 LT BRIDGE ROAD ALIGNMENT INSTALL NON FLARED TERMINAL PER WSDOT STD. PLAN C-22.40-02. OFFSET END OF TERMINAL 1' FROM TYPE 31 BEAM GUARDRAIL. OFFSET FACE OF RAIL TYPE 31 BEAM GUARDRAIL 15' OFF CENTERLINE.
- 4 STA 10+56.7 RT. BRIDGE ROAD ALIGNMENT INSTALL NON FLARED TERMINAL PER WSDOT STD. PLAN C-22.40-02. OFFSET END OF TERMINAL 1' FROM TYPE 31 BEAM GUARDRAIL. OFFSET FACE OF RAIL TYPE 31 BEAM GUARDRAIL 15' OFF CENTERLINE.
- 5 STORM WATER POND SEE SHEET 10 FOR ALL STORM WATER DETAILS.

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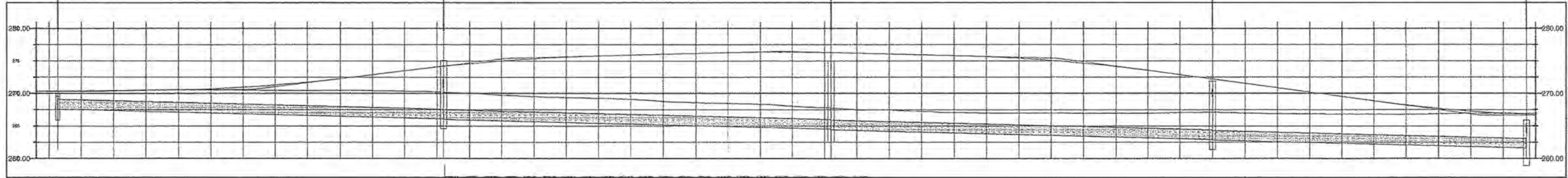
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<p>CB #1 STA 0+06.60 TYPE 1 CB, 13.87 LT W/B-DIRECTIONAL VANED GRATE (DISTANCE TO CENTER OF GRATE) RIM = 270.08 IE = 266.00 (12' S)</p>	<p>CB #3 STA 3+05.00 TYPE 1 CB, 13.87 LT W/B-DIRECTIONAL VANED GRATE (DISTANCE TO CENTER OF GRATE) RIM = 273.28 IE = 271.20 (12' S)</p>	<p>CB #5 STA 6+05.00 TYPE 2 CB 48 IN. DIAM, 9.95 LT W/RECTANGULAR SOLID COVER (DISTANCE TO CENTER OF COVER) RIM = 275.90 IE = 264.50 (18' W) IE = 264.40 (18' E)</p>	<p>CB #6 STA 9+00.00 TYPE 1 CB, 13.87 LT W/B-DIRECTIONAL VANED GRATE (DISTANCE TO CENTER OF GRATE) RIM = 271.90 IE = 269.80 (12' S)</p>	<p>CB #8 STA 11+43.00 TYPE 1 CB, 13.87 LT W/B-DIRECTIONAL VANED GRATE (DISTANCE TO CENTER OF GRATE) RIM = 267.70 IE = 265.60 (12' S)</p>
<p>CB #2 STA 0+06.60 TYPE 1L CB, 13.87 RT W/B-DIRECTIONAL VANED GRATE (DISTANCE TO CENTER OF GRATE) RIM = 270.08 IE = 267.85 (18' E) IE = 267.85 (12' N)</p>	<p>CB #4 STA 3+05.00 TYPE 2 CB 48 IN. DIAM, 13.87 RT W/B-DIRECTIONAL VANED GRATE (DISTANCE TO CENTER OF GRATE) RIM = 275.08 IE = 271.05 (12' N) IE = 268.10 (18' W) IE = 268.00 (18' E)</p>		<p>CB #7 STA 9+00.00 TYPE 2 CB 48 IN. DIAM, 13.87 RT W/B-DIRECTIONAL VANED GRATE (DISTANCE TO CENTER OF GRATE) RIM = 271.90.17 IE = 269.05 (12' N) IE = 262.90 (18' W) IE = 262.90 (18' E)</p>	<p>CB #9 STA 11+43.00 TYPE 2 CB 48 IN. DIAM, 13.87 RT W/B-DIRECTIONAL VANED GRATE (DISTANCE TO CENTER OF GRATE) RIM = 265.90 IE = 264.10 (12' N) IE = 261.80 (18' W) IE = 261.50 (18' S)</p>



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DATE :

NO.	DATE	REVISION	BY	APP.

LEUDINGHAUS BRIDGE PROJECT

LEUDINGHAUS BRIDGE PROJECT
CRP 2123
STORMWATER NORTH

SHEET
10
OF
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Keith Robert Muggoch, P.E.
Senior Engineer/Design
Date: _____



STA 3+78.00 13.87 LT, (DISTANCE IS MEASURED TO CENTER OF GRATE FROM HATCHERY RD. CL) CATCH BASIN TYPE 1 WITH BI DIRECTIONAL VANED GRATE SEE WSDOT STANDARD PLAN CATCH BASIN TYPE ONE B-5.20-01 AND RECTANGULAR BI DIRECTIONAL VANED GRATE B-30.40-00. CONSTRUCT CURB AND GUTTER PAN SEE WSDOT STANDARD PLAN CEMENT CURB AND GUTTER PAN F-10.16-00

STA 3+78.00 13.87 RT, (DISTANCE IS MEASURED TO CENTER OF GRATE FROM HATCHERY RD. CL) CATCH BASIN TYPE 1L WITH BI DIRECTIONAL VANED GRATE SEE WSDOT STANDARD PLAN CATCH BASIN TYPE ONE L-B-5.40-01 AND RECTANGULAR BI DIRECTIONAL VANED GRATE B-30.40-00. CONSTRUCT CURB AND GUTTER PAN SEE WSDOT STANDARD PLAN CEMENT CURB AND GUTTER PAN F-10.16-00

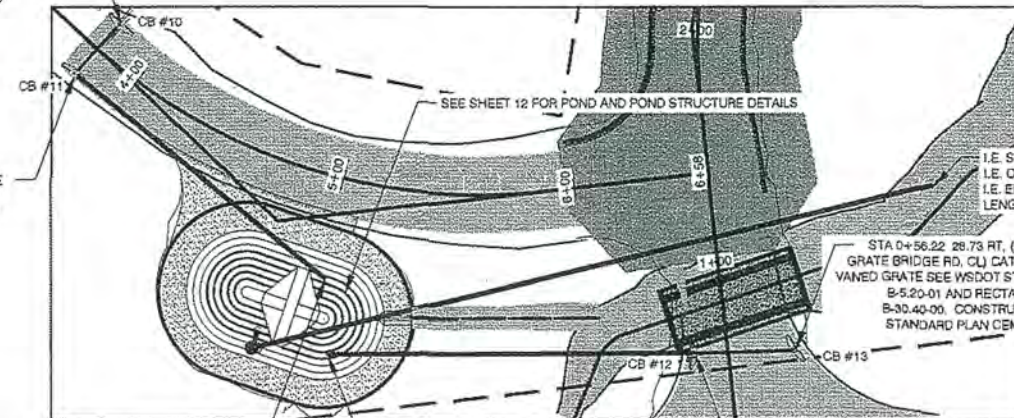
STA 5+02.00 44.00 RT, (DISTANCE IS MEASURED TO HATCHERY RD. CL) I.E. ELEVATION = 261.50

STA 5+06.90 75.30 RT, (DISTANCE IS MEASURED TO HATCHERY RD. CL) I.E. ELEVATION = 263.00

STA 0+58.15 14.20 LT, (DISTANCE IS MEASURED TO CENTER OF GRATE FROM BRIDGE RD. CL) CATCH BASIN TYPE 1L WITH BI DIRECTIONAL VANED GRATE SEE WSDOT STANDARD PLAN CATCH BASIN TYPE ONE L-B-5.40-01 AND RECTANGULAR BI DIRECTIONAL VANED GRATE B-30.40-00. CONSTRUCT CURB AND GUTTER PAN SEE WSDOT STANDARD PLAN CEMENT CURB AND GUTTER PAN F-10.16-00

I.E. STA. 1+18.5 BRIDGE ROAD CL
I.E. OFFSET 06.2 BRIDGE ROAD CL
I.E. ELEV = 256.00'
LENGTH OF PIPE = 300.00'

STA 0+58.22 28.73 RT, (DISTANCE IS MEASURED TO CENTER OF GRATE BRIDGE RD. CL) CATCH BASIN TYPE 1 WITH BI DIRECTIONAL VANED GRATE SEE WSDOT STANDARD PLAN CATCH BASIN TYPE ONE B-5.20-01 AND RECTANGULAR BI DIRECTIONAL VANED GRATE B-30.40-00. CONSTRUCT CURB AND GUTTER PAN SEE WSDOT STANDARD PLAN CEMENT CURB AND GUTTER PAN F-10.16-00



(NAVD) 88

40% PLANS NOT FOR CONSTRUCTION

CB #10

STA. 3+78.00 HATCHERY CL
TYPE 1 CB, 13.87 LT
W/B-DIRECTIONAL VANED GRATE
(DISTANCE TO CENTER OF GRATE)
RIM = 264.40
I.E. = 263.25 (12' S)

CB #11

STA. 3+78.00 HATCHERY CL
TYPE 1L CB, 13.87 RT
W/B-DIRECTIONAL VANED GRATE
(DISTANCE TO CENTER OF GRATE)
RIM = 265.68
I.E. = 262.97 (12' N)
I.E. = 262.25 (18' E)

PIPE INVERT

STA. 5+02.00 HATCHERY CL
44.00 RT
I.E. = 261.50

PIPE INVERT

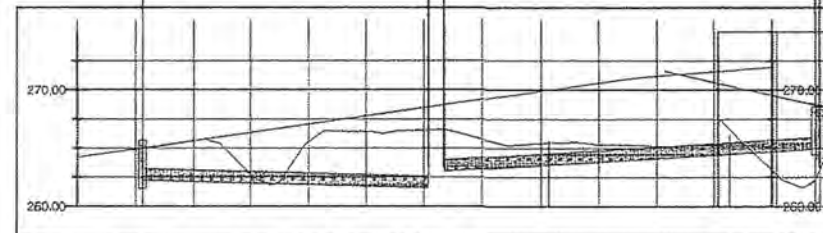
STA. 0+58.22 HATCHERY CL
75.30 RT
I.E. = 263.00

CB #12

STA. 0+58.15 BRIDGE CL
TYPE 1L CB, 14.20 LT
W/B-DIRECTIONAL VANED GRATE
(DISTANCE TO CENTER OF GRATE)
RIM = 266.37
I.E. = 264.90 (12' W)
I.E. = 265.25 (12' E)

CB #13

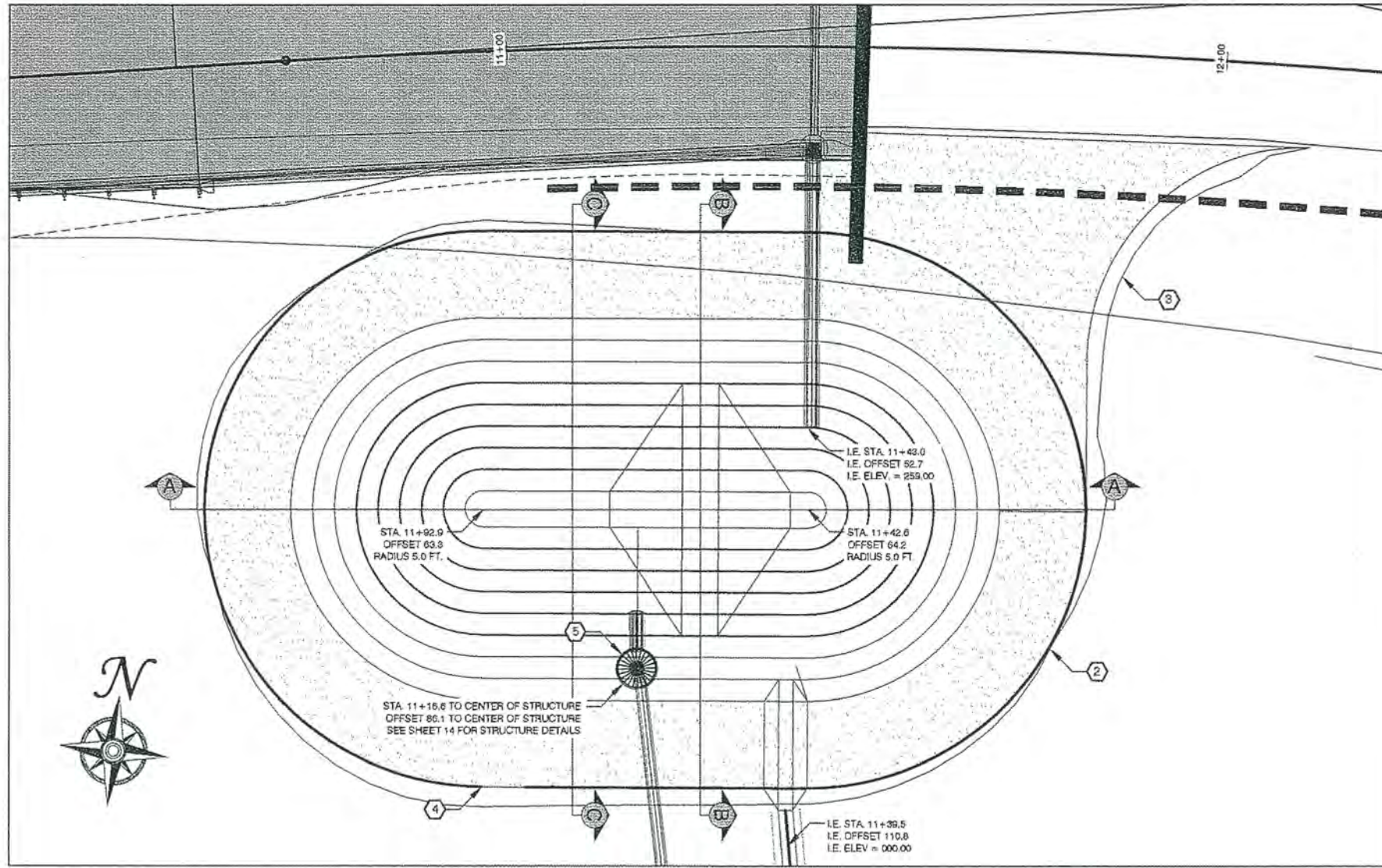
STA. 0+58.22 BRIDGE CL
TYPE 1 CB, 28.73 RT
W/B-DIRECTIONAL VANED GRATE
(DISTANCE TO CENTER OF GRATE)
RIM = 268.08
I.E. = 265.50 (12' W)



NO.	DATE	REVISION	BY	APP.

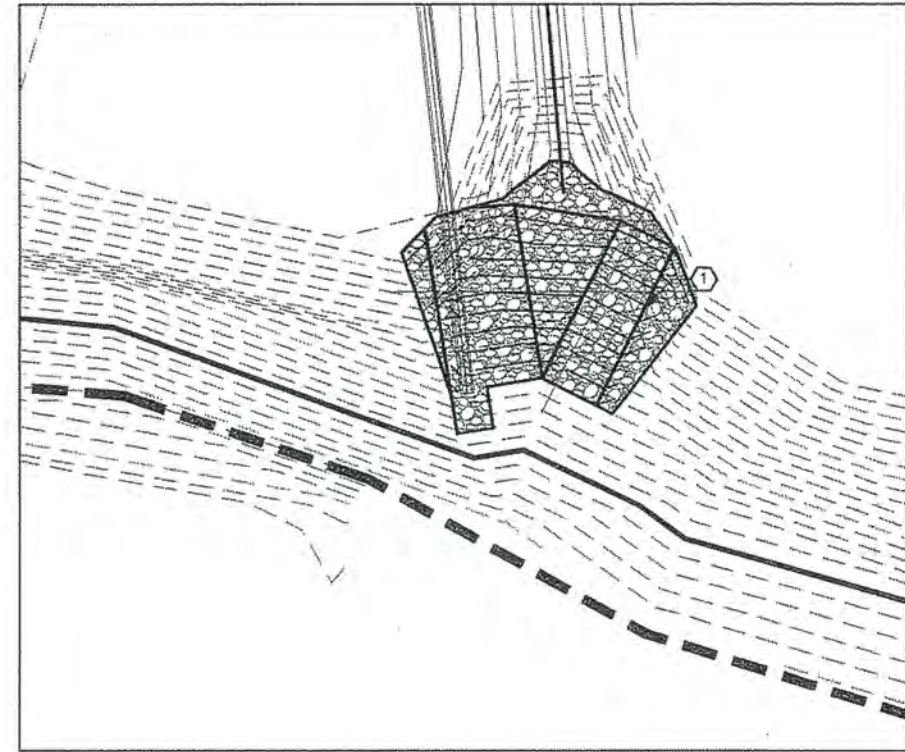


TWP. 14N. RGE. 2W. W.M.

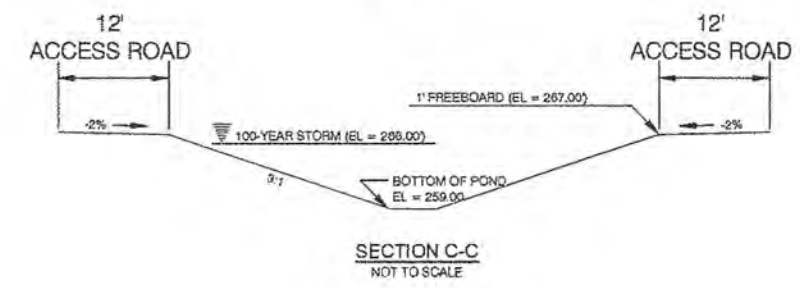
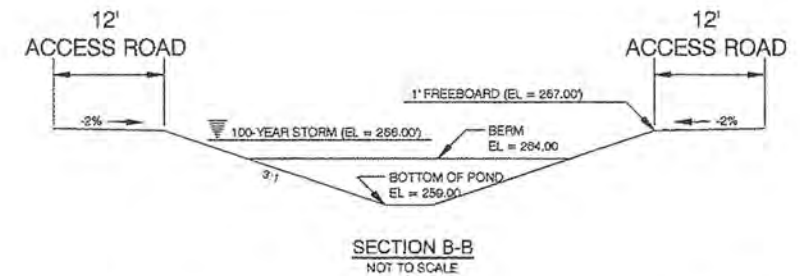
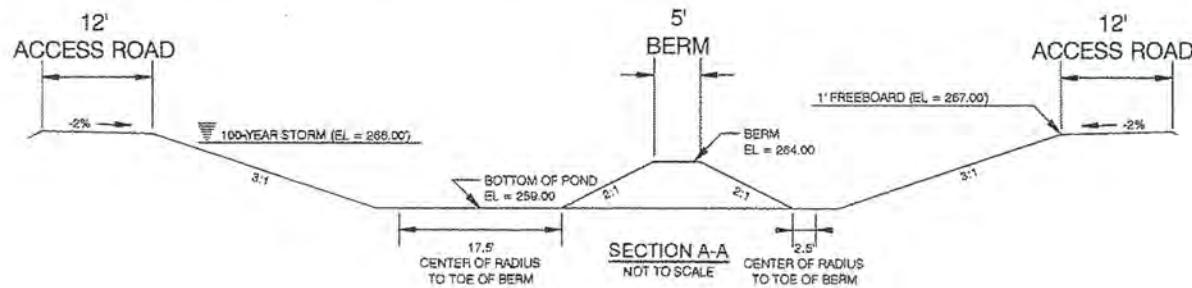


CONSTRUCTION NOTES

- 1 CONSTRUCT ROCK PAD AT THE OUTLET OF STORM WATER DITCH. SEE ROCK PAD DETAIL ON TREATMENT SHEET 14 OF 22. 5 TON QUARRY SPALLS
- 2 CONSTRUCT STORMWATER TREATMENT & DETENTION POND AS STAKED IN THE FIELD. 1201 C.Y. STRUCTURE EXCAVATION INCL. HAUL CLASS B
- 3 CONSTRUCT ROAD APPROACH AS STAKED IN THE FIELD. 1201 C.Y. CSTC
- 4 CONSTRUCT EMERGENCY OVERFLOW SPILLWAY. SEE EMERGENCY OVERFLOW SPILLWAY DETAIL ON SHEET 45 OF 60. 75 TON QUARRY SPALLS
20 S.Y. CONSTRUCTION GEOTEXTILE FOR DITCH LINING
- 5 CONSTRUCT DETENTION POND STORMWATER OUTLET STRUCTURE. SEE OUTLET STRUCTURE SPECIAL 54 IN. TYPE 2 WITH DEBRIS CAGE DETAIL ON SHEET 14 OF 22. 10 TON QUARRY SPALLS
- 6 CONSTRUCT 1' FLAT BOTTOM DRAINAGE DITCH. SEE DRAINAGE DITCH DETAIL ON 49 OF 60.



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 CHEHALIS WA 98532
 PHONE # (360) 740-1123
 FAX # (360) 740-2719

DESIGNED BY : KRM
 DRAWN BY : KRM
 CHECKED BY :
 DATE :

NO.	DATE	REVISION	BY	APP.

**LEUDINGHAUS
 BRIDGE PROJECT**

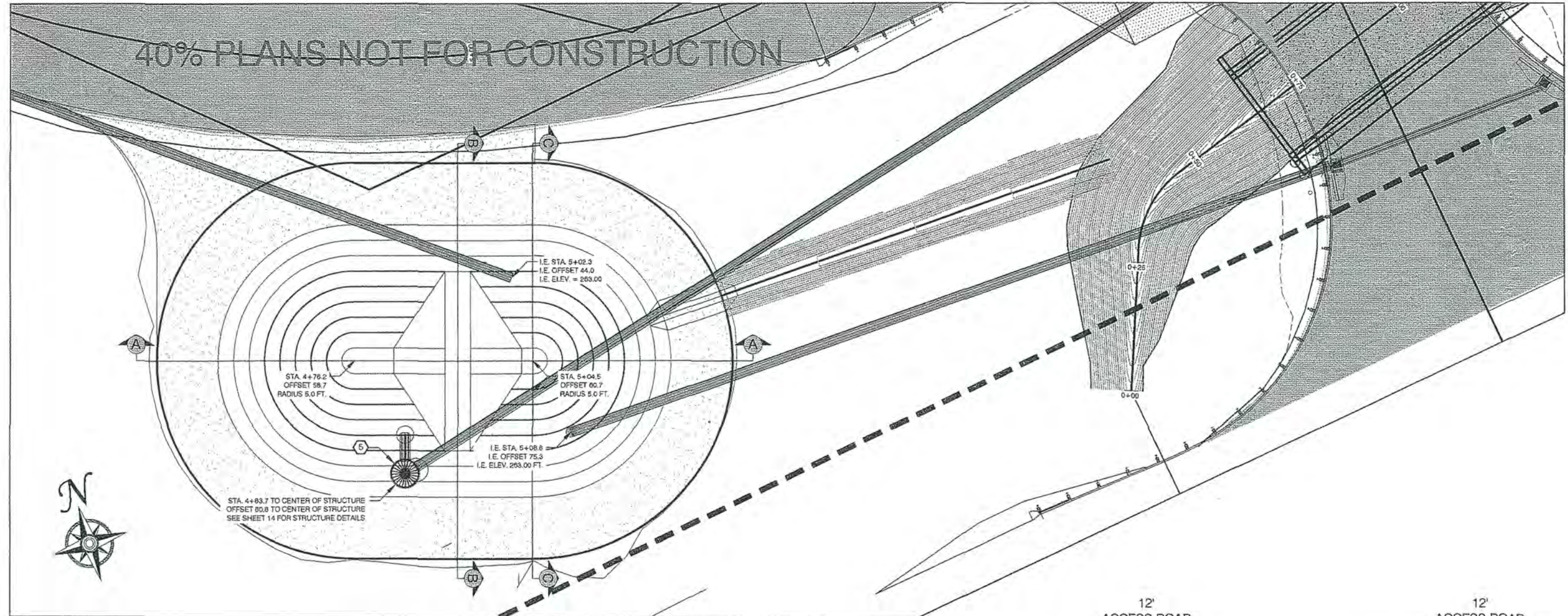
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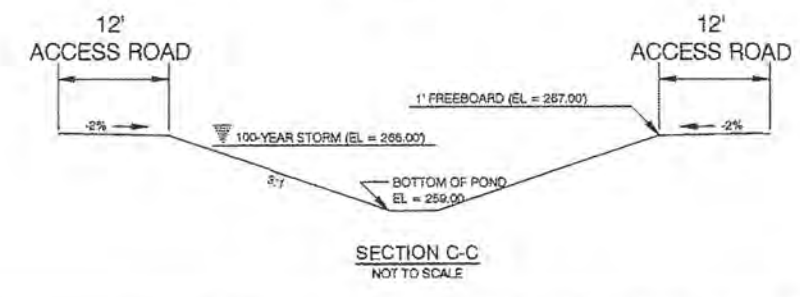
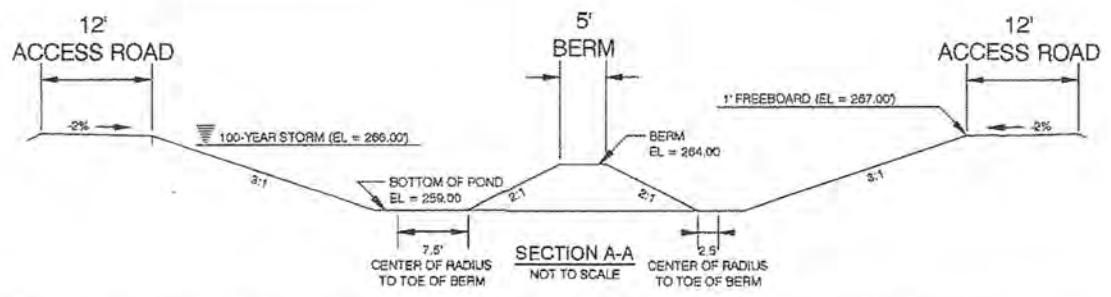
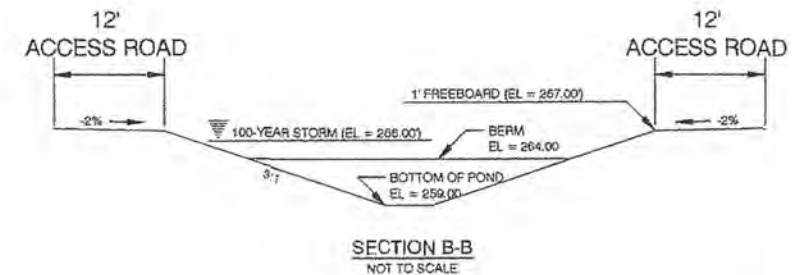
Keith Robert Muggoch, P.E.
 Senior Engineer/Design
 Date: _____

40% PLANS NOT FOR CONSTRUCTION



CONSTRUCTION NOTES

- 1 CONSTRUCT ROCK PAD AT THE OUTLET OF 18 IN. DIAM. STORM SEWER PIPE. SEE ROCK PAD DETAIL ON TREATMENT SHEET 14 OF 22..... 5 TON QUARRY SPALLS
- 1 CONSTRUCT STORMWATER TREATMENT & DETENTION POND AS STAKED IN THE FIELD..... 1201 C.Y. STRUCTURE EXCAVATION INCL. HAUL CLASS B
- 1 CONSTRUCT ROAD APPROACH AS STAKED IN THE FIELD..... 1201 C.Y. CSTC
- 1 CONSTRUCT EMERGENCY OVERFLOW SPILLWAY. SEE EMERGENCY OVERFLOW SPILLWAY DETAIL ON SHEET 40 OF 60..... 75 TON QUARRY SPALLS AND 20 S.Y. CONSTRUCTION GEOTEXTILE FOR DITCH LINING
- 1 CONSTRUCT DETENTION POND STORMWATER OUTLET STRUCTURE. SEE OUTLET STRUCTURE SPECIAL 54 IN. TYPE 2 WITH DEBRIS CAGE DETAIL ON SHEET 14 OF 22..... 10 TON QUARRY SPALLS
- 1 CONSTRUCT 1' FLAT BOTTOM DRAINAGE DITCH. SEE DRAINAGE DITCH DETAIL ON 49 OF 80.



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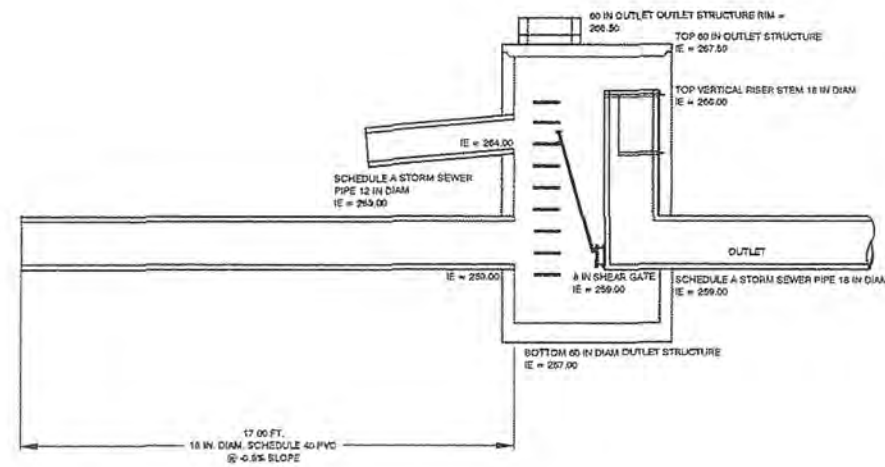
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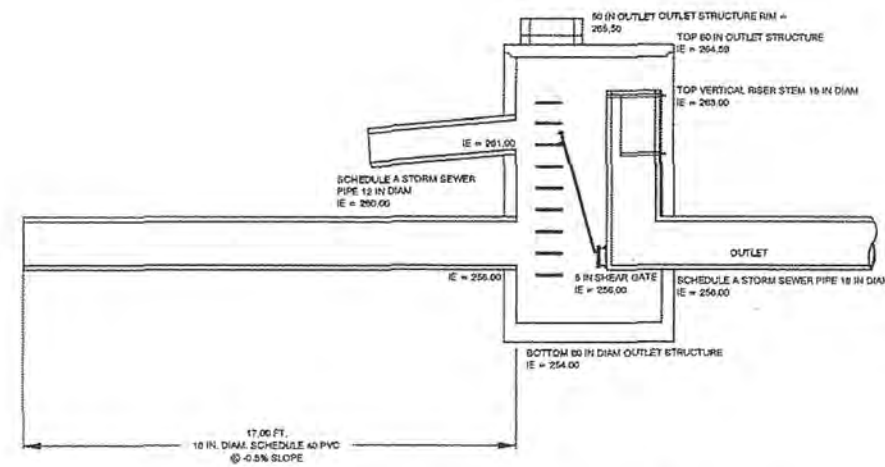
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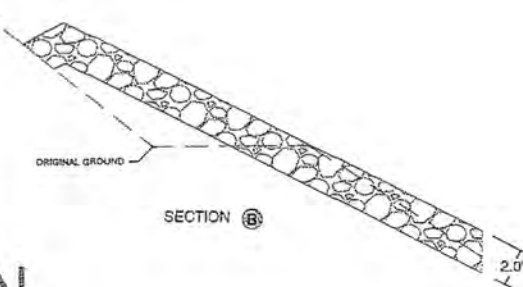
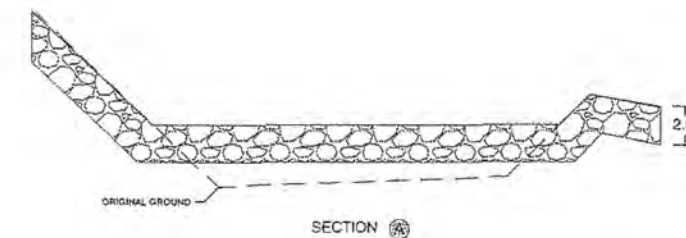
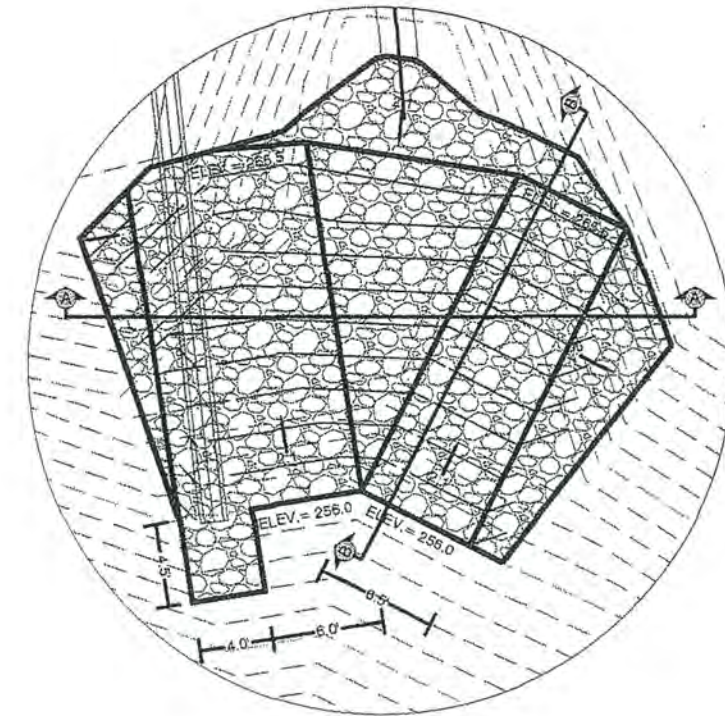
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HATCHERY POND
OUTLET STRUCTURE



LEUDINGHAUS POND
OUTLET STRUCTURE



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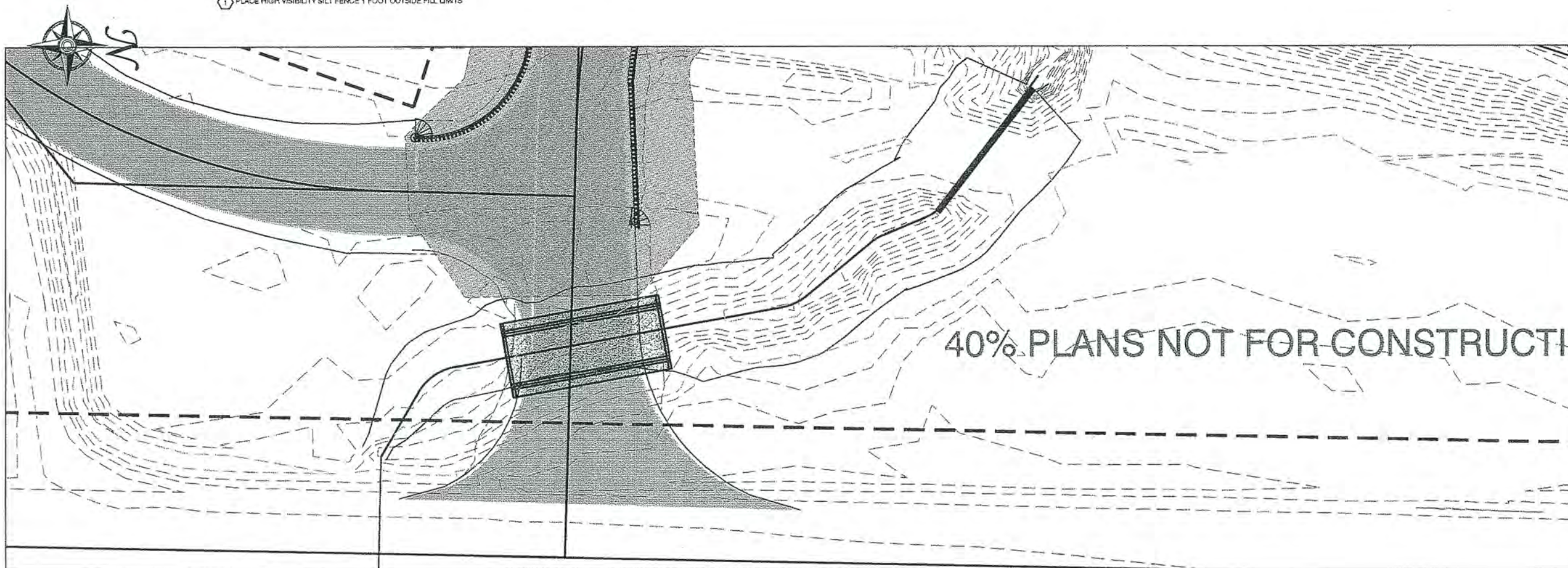
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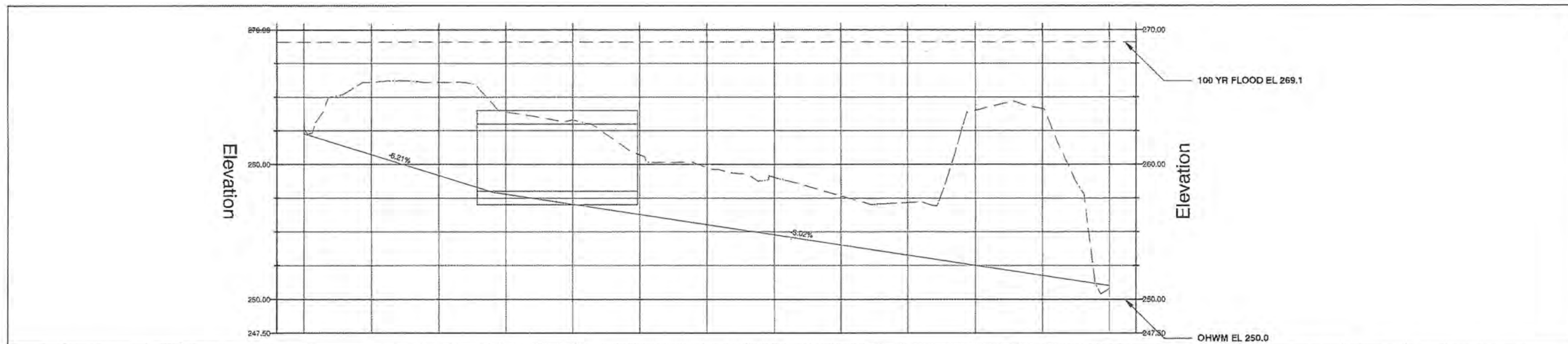
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Senior Engineer/Design
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CONSTRUCTION NOTES
 ① PLACE HIGH VISIBILITY SILT FENCE 1 FOOT OUTSIDE FILL LIMITS



40% PLANS NOT FOR CONSTRUCTION



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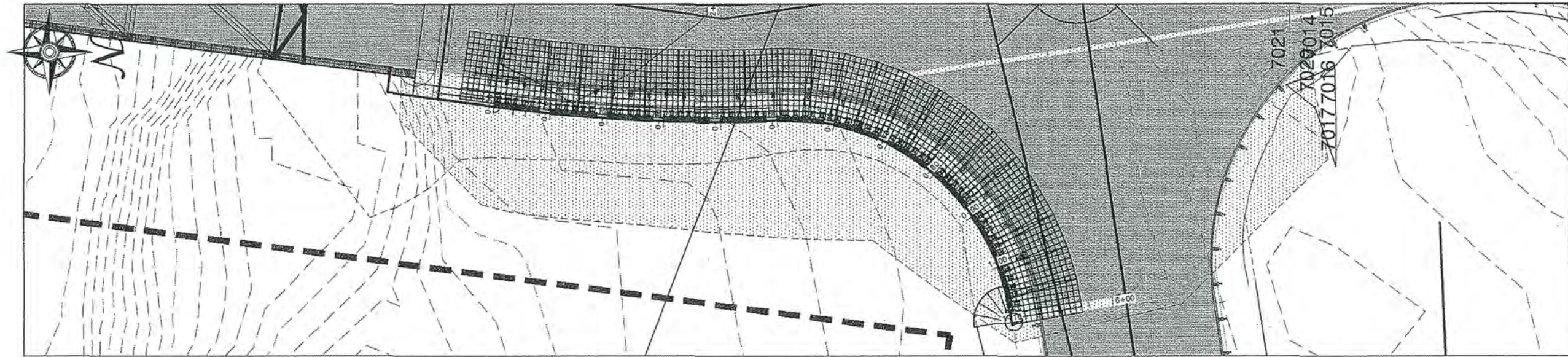


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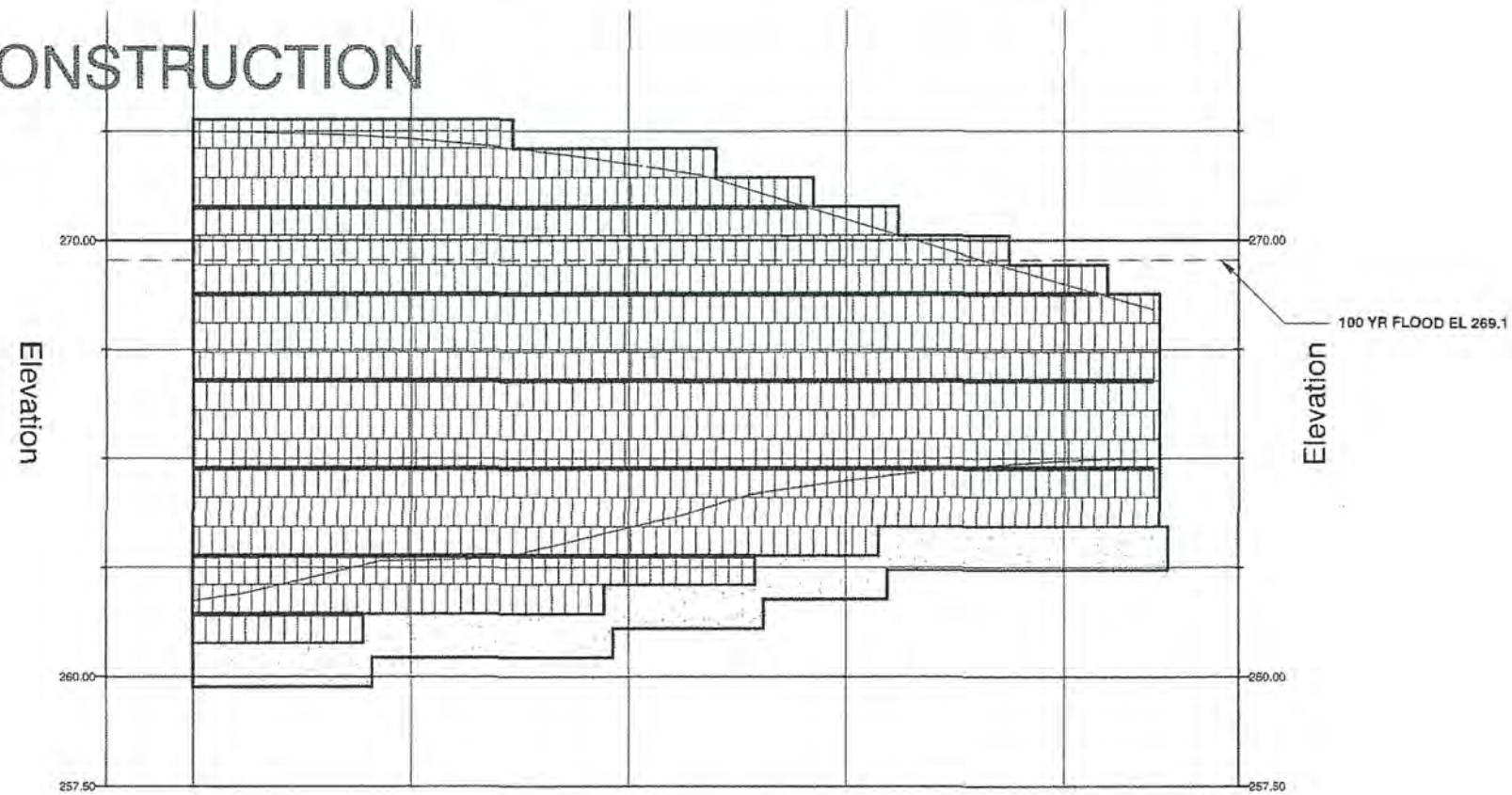
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CONSTRUCTION NOTES
 1 PLACE HIGH VISIBILITY SILT FENCE 1 FOOT OUTSIDE FILL LIMITS



40% PLANS NOT FOR CONSTRUCTION



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**LEUDINGHAUS
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 CRP 2123
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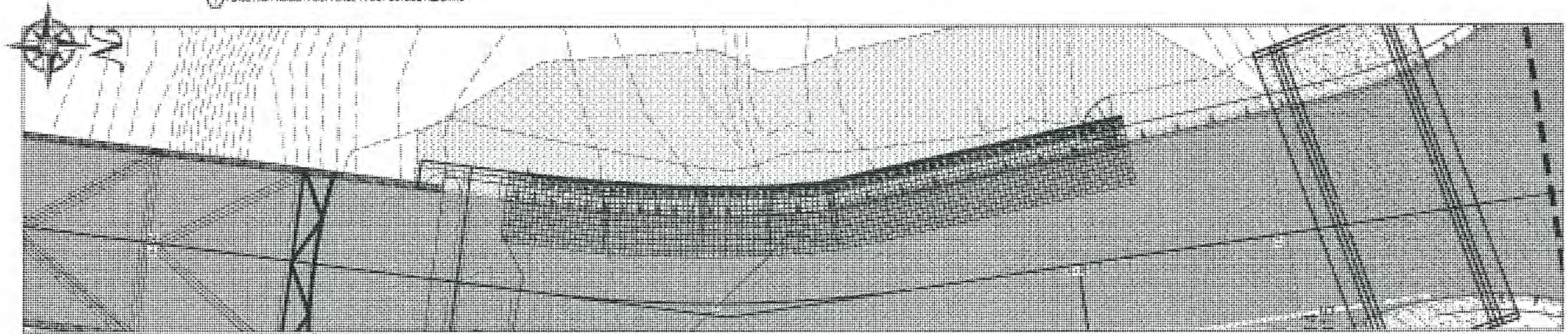
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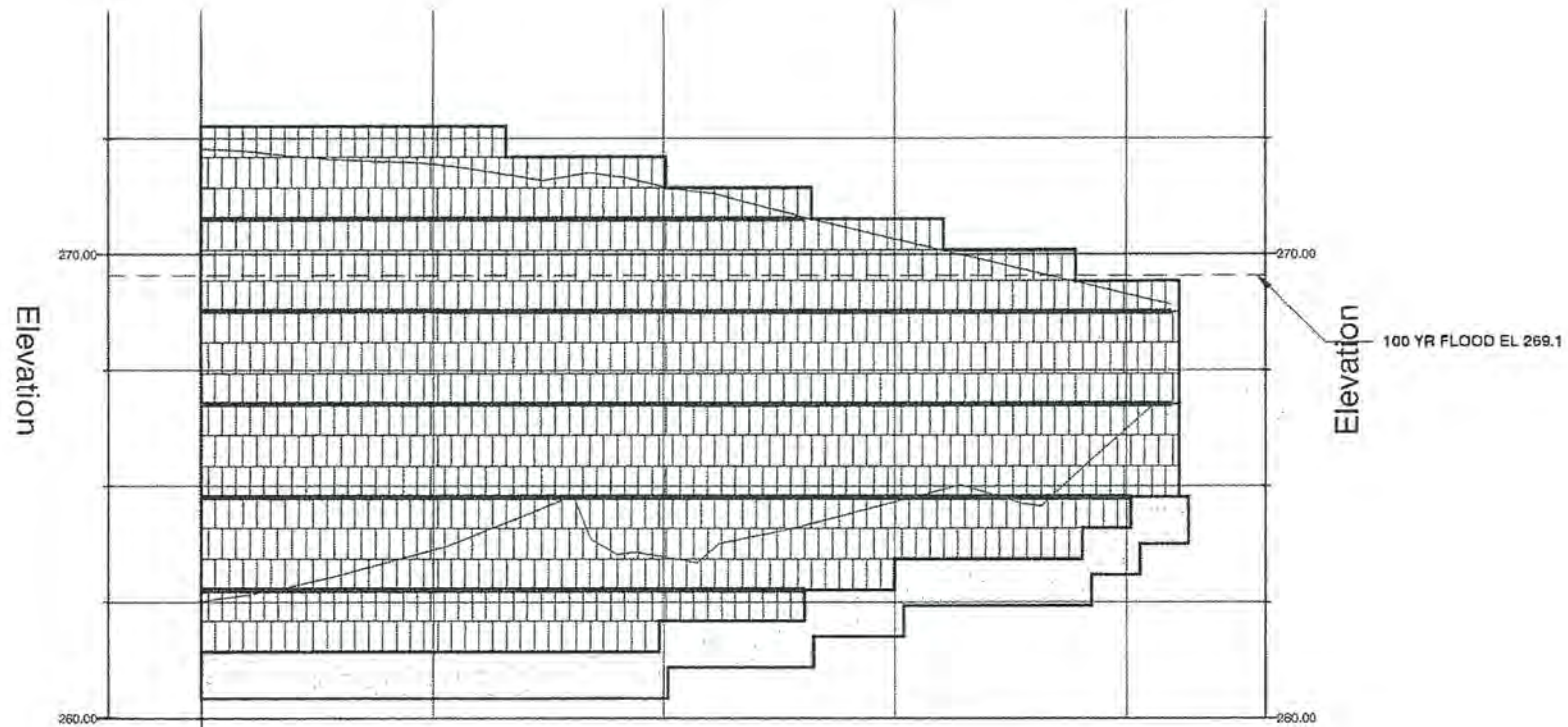
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 Senior Engineer/Design
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CONSTRUCTION NOTES
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 CRP 2123
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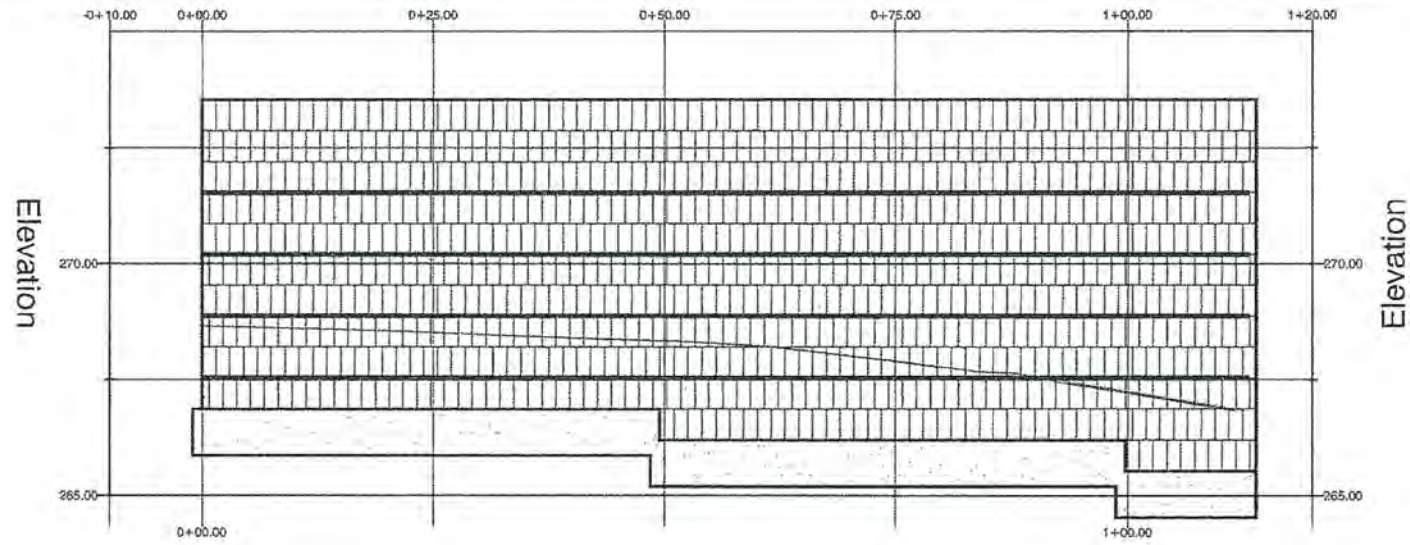
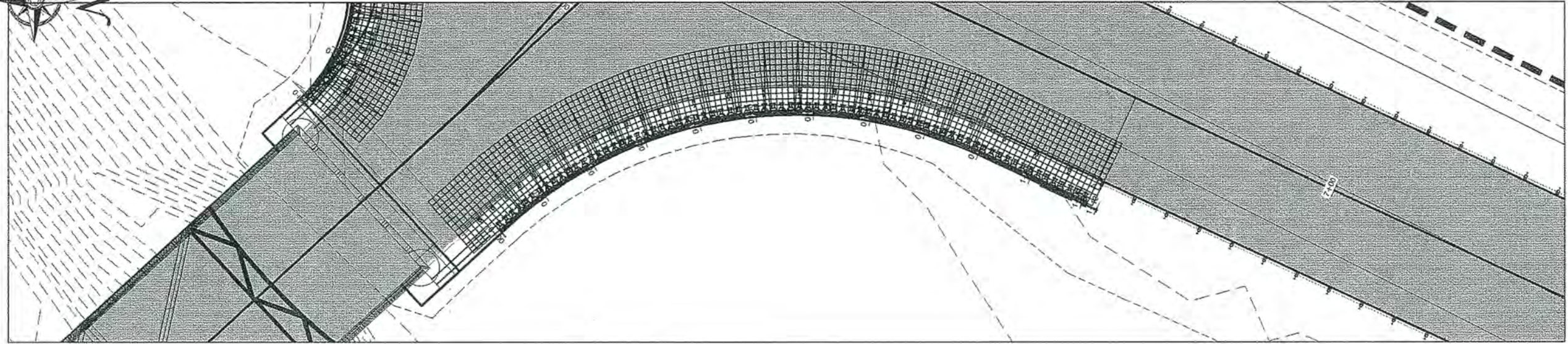
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Keith Robert Muggoch, P.E.
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TWP. 14N. RGE. 2W. W.M.

CONSTRUCTION NOTES
 1 PLACE HIGH VISIBILITY SILT FENCE 1 FOOT OUTSIDE FILL LIMITS



40% PLANS NOT FOR CONSTRUCTION

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 BRIDGE PROJECT**

LEUDINGHAUS BRIDGE PROJECT
 CRP 2123
 WALL C PLAN PROFILE

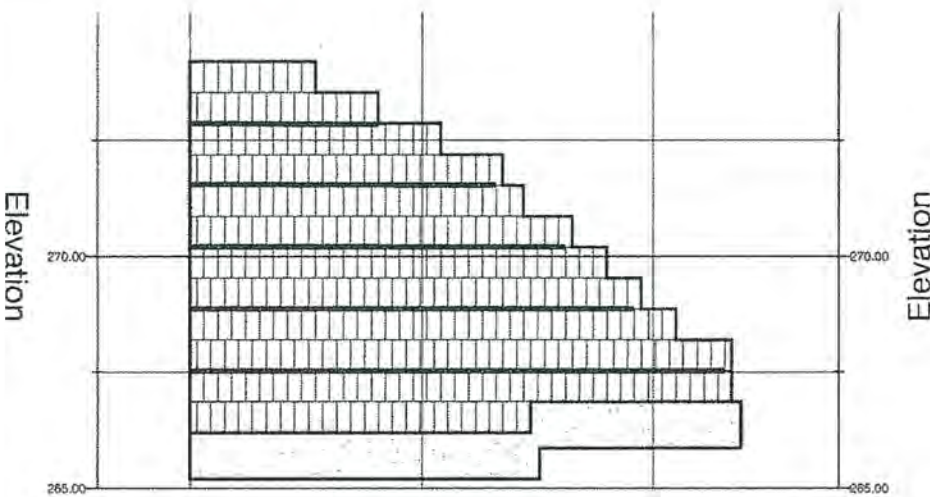
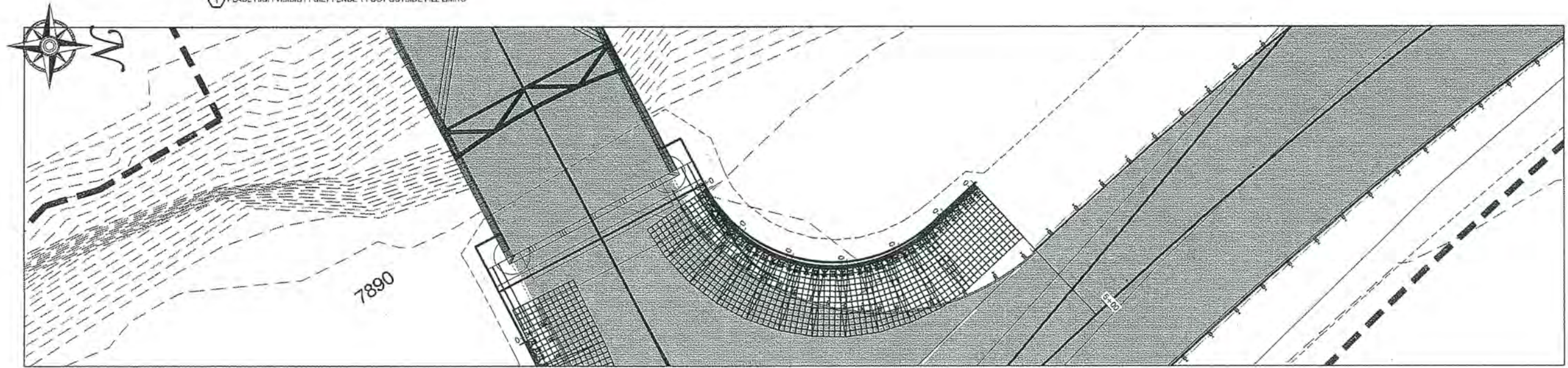
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CONSTRUCTION NOTES
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 CRP 2123
 WALL C PLAN PROFILE

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Appendix C
Important Farmland Analysis

**FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS**

PART I (To be completed by Federal Agency)	3. Date of Land Evaluation Request 1/31/13	4. Sheet 1 of 2
---	--	------------------------

1. Name of Project Leudinghaus Bridge Replacement	5. Federal Agency Involved Federal Emergency Management Agency
--	---

2. Type of Project Bridge construction over Chehalis River	6. County and State Lewis County, Washington
---	---

PART II (To be completed by NRCS)	1. Date Request Received by NRCS 1/31/13	2. Person Completing Form C. Natsuhara
--	--	--

3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	4. Acres Irrigated Average Farm Size 7292 77 acs.
--	--

5. Major Crop(s) forage, hay, corn, christmas trees, berrries	6. Farmable Land in Government Jurisdiction Acres: 609,971 % 49.6	7. Amount of Farmland As Defined in FPPA Acres: 596,072 % 48.5
---	--	---

8. Name Of Land Evaluation System Used Lewis County	9. Name of Local Site Assessment System none	10. Date Land Evaluation Returned by NRCS 2/19/13
---	--	---

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	7.3	11		
B. Total Acres To Be Converted Indirectly, Or To Receive Services	0	0		
C. Total Acres In Corridor	7.3	11		

PART IV (To be completed by NRCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	7.3	9.7		
B. Total Acres Statewide And Local Important Farmland	0	1.3		
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.001%	0.002%		
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	7.0%	12.8%		

PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)				
	100	98		

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))	Maximum Points				
1. Area in Nonurban Use	15	15	15		
2. Perimeter in Nonurban Use	10	10	10		
3. Percent Of Corridor Being Farmed	20	0	0		
4. Protection Provided By State And Local Government	20	0	9		
5. Size of Present Farm Unit Compared To Average	10	0	0		
6. Creation Of Nonfarmable Farmland	25	25	25		
7. Availability Of Farm Support Services	5	2	2		
8. On-Farm Investments	20	0	0		
9. Effects Of Conversion On Farm Support Services	25	0	0		
10. Compatibility With Existing Agricultural Use	10	0	0		
TOTAL CORRIDOR ASSESSMENT POINTS	160	52	61	0	0

PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)	100	100	98	0	0
Total Corridor Assessment (From Part VI above or a local site assessment)	160	52	61	0	0
TOTAL POINTS (Total of above 2 lines)	260	152	159	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>
-----------------------	---	-----------------------	--

5. Reason For Selection:

Signature of Person Completing this Part:	DATE:
---	-------

NOTE: Complete a form for each segment with more than one Alternate Corridor

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?

More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?

More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?

More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?

Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ?

(Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with \$1,000 or more in sales.)

As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?

Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?

All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?

High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

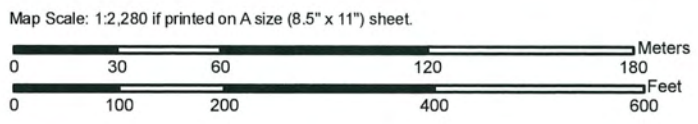
(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?

Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?

Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

Farmland Classification—Lewis County Area, Washington
(Alt 1)




Farmland Classification—Lewis County Area, Washington
(Atl 2)



MAP LEGEND









Area of Interest (AOI)








 Area of Interest (AOI)

Soils

 Soil Map Units

Soil Ratings


-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of local importance
-  Farmland of unique importance
-  Not rated or not available

Political Features

 Cities

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

MAP INFORMATION

Map Scale: 1:2,280 if printed on A size (8.5" x 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 10N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lewis County Area, Washington
Survey Area Data: Version 9, Jun 29, 2012

Date(s) aerial images were photographed: 7/21/2006

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Farmland Classification— Summary by Map Unit — Lewis County Area, Washington (WA641)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
47	Chehalis silt loam	All areas are prime farmland	7.0	88.5%
61	Cloquato silt loam	All areas are prime farmland	0.3	4.0%
W	Water	Not prime farmland	0.6	7.5%
Totals for Area of Interest			7.9	100.0%

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary


Tie-break Rule: Lower

Farmland Classification—Lewis County Area, Washington
(Atl 2)



MAP LEGEND


Area of Interest (AOI)


 Area of Interest (AOI)

Soils


 Soil Map Units

Soil Ratings


 Not prime farmland


 All areas are prime farmland


 Prime farmland if drained


 Prime farmland if protected from flooding or not frequently flooded during the growing season


 Prime farmland if irrigated


 Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

 Prime farmland if irrigated and drained


 Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

 Prime farmland if subsoiled, completely removing the root inhibiting soil layer

 Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60

 Prime farmland if irrigated and reclaimed of excess salts and sodium

 Farmland of statewide importance

 Farmland of local importance

 Farmland of unique importance

 Not rated or not available

Political Features

 Cities

Water Features

 Streams and Canals


Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

MAP INFORMATION

Map Scale: 1:3,170 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

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Source of Map: Natural Resources Conservation Service
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Farmland Classification

Farmland Classification— Summary by Map Unit — Lewis County Area, Washington (WA641)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
9	Baumgard silt loam, very deep, 8 to 30 percent slopes	Farmland of statewide importance	1.3	10.7%
47	Chehalis silt loam	All areas are prime farmland	9.7	80.2%
148	Newberg fine sandy loam	All areas are prime farmland	0.1	0.9%
W	Water	Not prime farmland	1.0	8.1%
Totals for Area of Interest			12.0	100.0%

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

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