

APPENDIX G.2: SR 509 EXTENSION, BASELINE BRIDGE PLAN MARKUPS

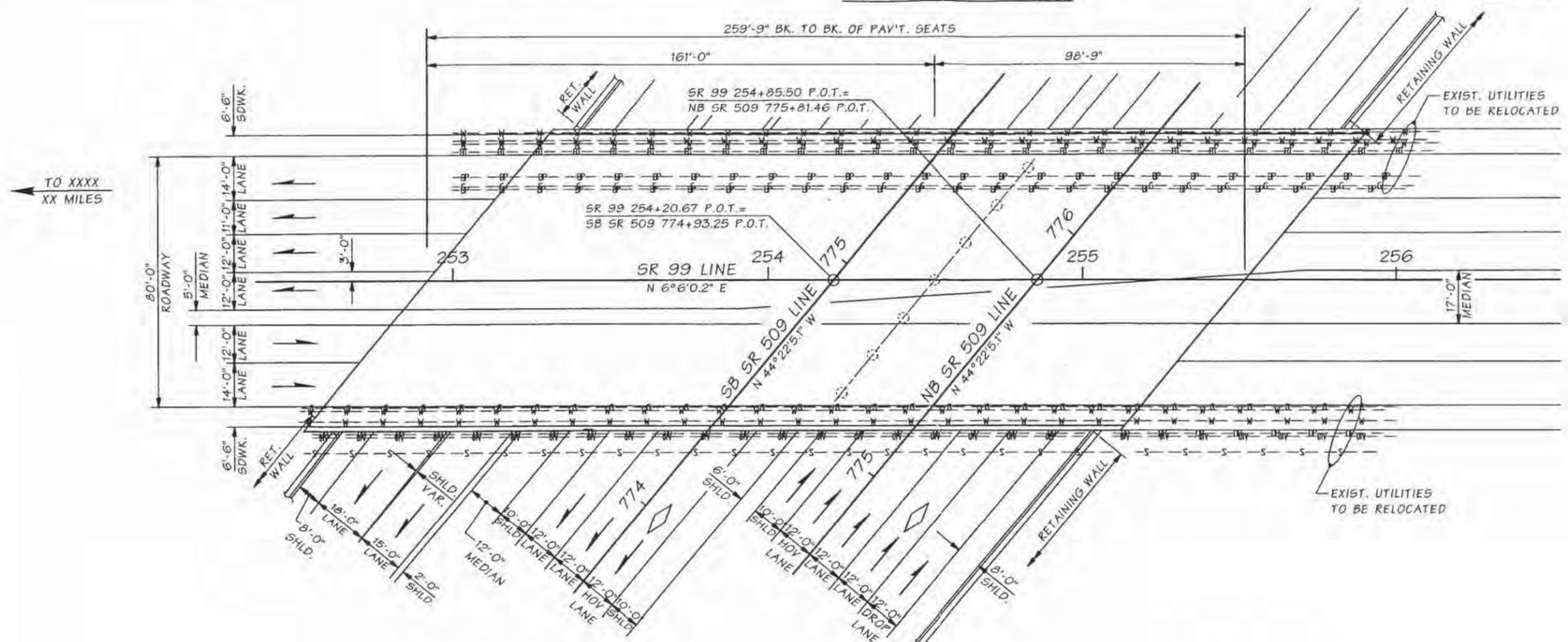
Note: Recommended revisions to the WSDOT baseline designs in the Appendix G.2 plans are shown in red and clouded per the following.



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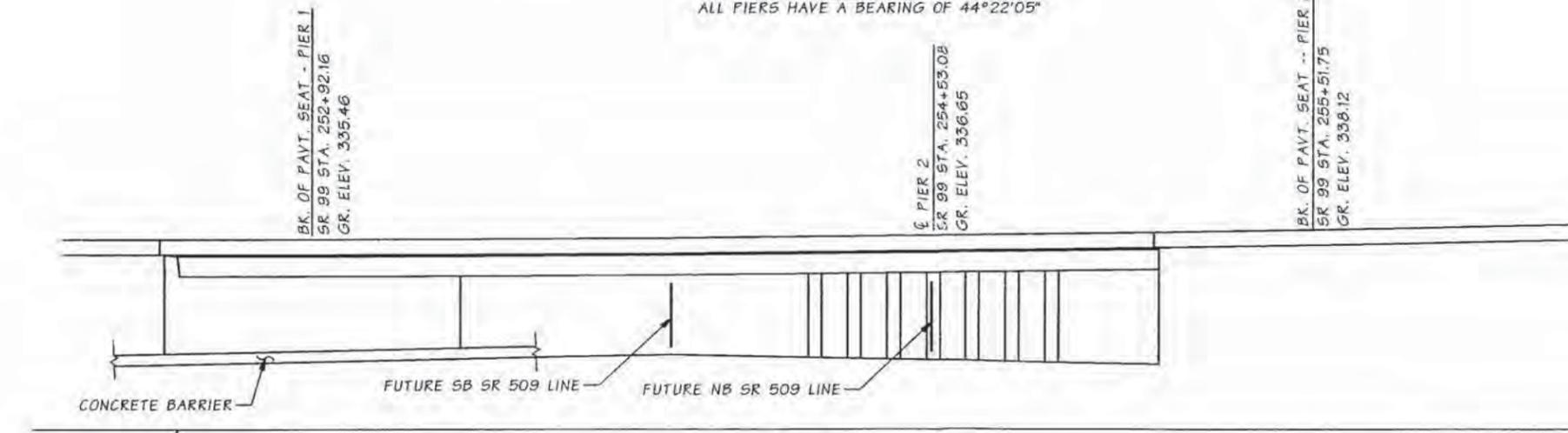
SEC. 04, T. 22N., R.4E., W.M.
CITY OF SEATAC

SR 99



PLAN

ALL PIERS HAVE A BEARING OF 44°22'05"

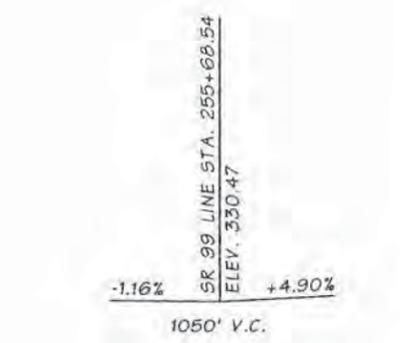


ELEVATION

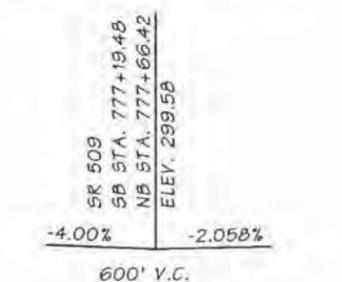
GRADE ELEVATIONS SHOWN ARE FINISH GRADES AT TOP OF ROADWAY SLAB ON SR 99 LINE AND ARE EQUAL TO PROFILE GRADE



TO XXXX
XX MILES



SR 99 LINE PROFILE



SB & NB
SR 509 LINE PROFILE

**P.C. GIRDER (WF66G)
CONT. FOR LL
~~CAST-IN-PLACE~~
~~POST TENSIONED~~
~~CONCRETE BOX GIRDER~~
LOADING HL-93**

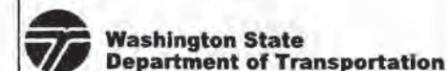
DATUM
N.A.V.D. OF 1988

SR 509 JOB NO. SHEET 1

Bridge Design Engr.	M:\Y-Team\SR509-99>window files\LAYOUT.WND
Supervisor	
Designed By	Kirker, K.N. 06/03
Checked By	
Detailed By	Evans, P.D. 06/03
Bridge Projects Engr.	
Prelim. Plan By	Pawelka, M 06/03
Architect/Specialist	
DATE	REVISION
BY	APP'D

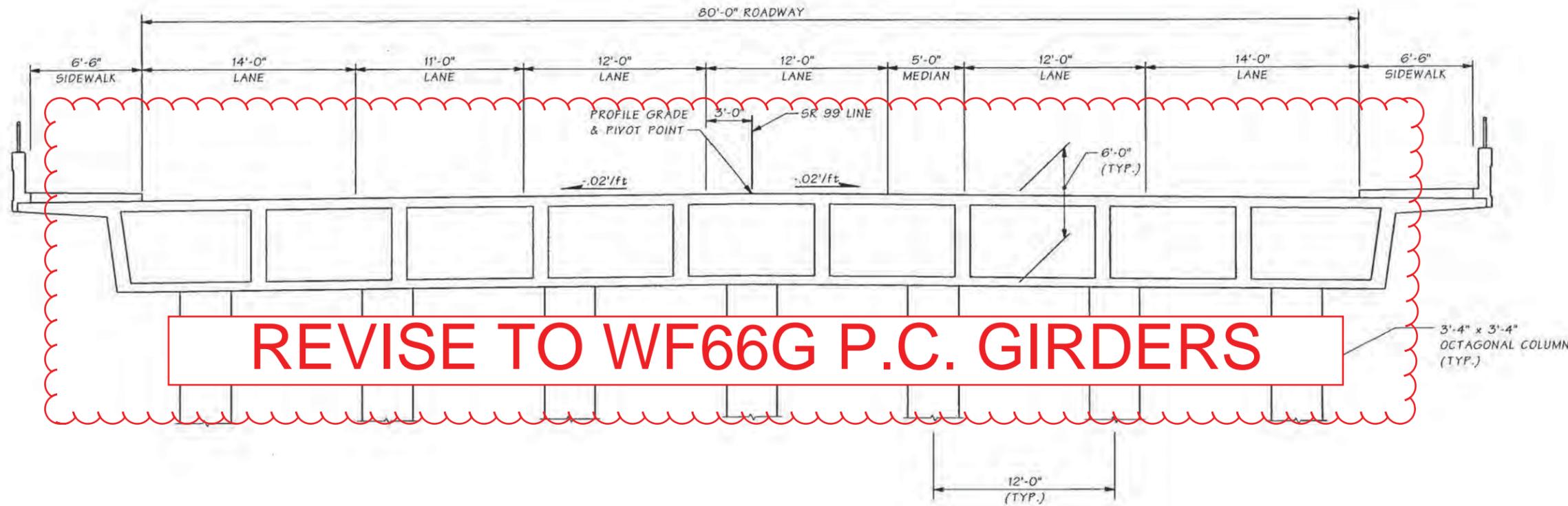
REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10	WASH.			
JOB NUMBER				

BRIDGE
AND
STRUCTURES
OFFICE



PRELIMINARY PLAN

SHEET NO.	1
SHEET	
OF	
SHEETS	



REVISE TO WF66G P.C. GIRDERS

TYPICAL SECTION

SHOWN LOOKING AHEAD ON STATIONING NEAR PIER 1
COLUMN DIMENSIONS AND SPACING ARE APPROXIMATE

SR 509 JOB NO. SHEET 2

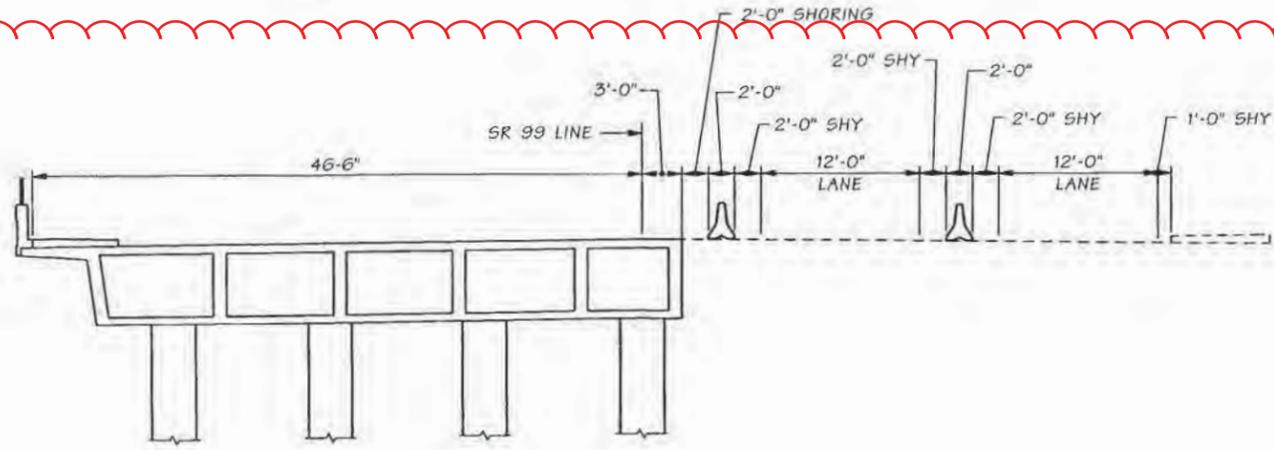
Bridge Design Engr.	M:\V-Team\SR509-99>window files\TYP SECT.WND		REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor			10	WASH.			
Designed By	Kirker, K.N.	06/03	JOB NUMBER				
Checked By							
Detailed By	Evans, P.D.	06/03					
Bridge Projects Engr.							
Prelim Plan By	Pawelka, M	06/03					
Architect/Specialist							
	DATE	REVISION	BY	APP'D			

BRIDGE AND STRUCTURES OFFICE

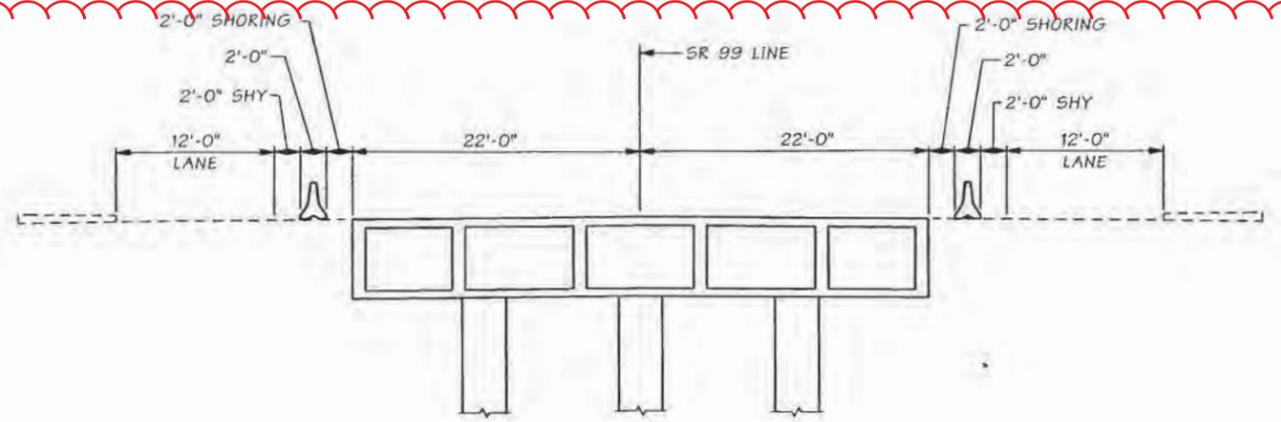


PRELIMINARY PLAN

BRIDGE SHEET NO. 2 OF SHEETS

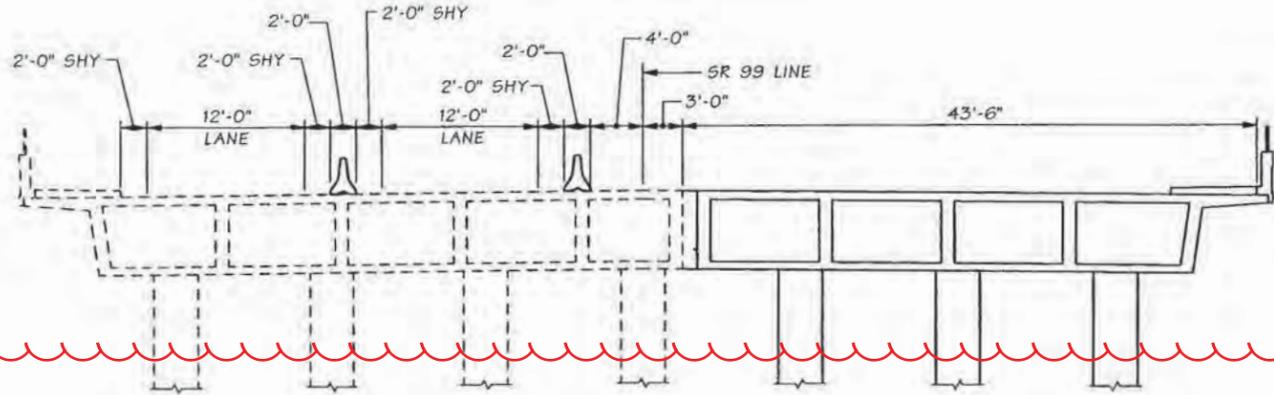


STAGE 1



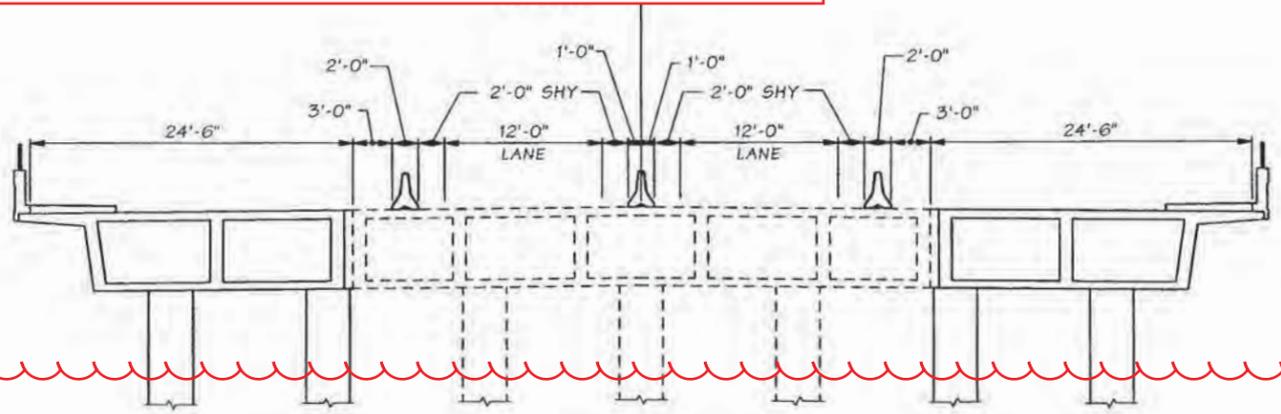
STAGE 1

REVISE TO WF66G P.C. GIRDERS



STAGE 2

OPTION A



STAGE 2

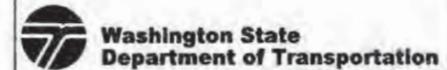
OPTION B

STAGE CONSTRUCTION SEQUENCE

SHOWN LOOKING AHEAD ON STATIONING NEAR PIER 1

Bridge Design Engr.	M:\Y-Team\SR509-99>window files\CONST SEQ.WND			REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor				10	WASH.			
Designed By	Kirker, K.N.	06/03		JOB NUMBER				
Checked By								
Detailed By	Evans, P.D.	06/03						
Bridge Projects Engr.								
Prelim. Plan By	Pawelka, M	06/03						
Architect/Specialist			DATE	REVISION	BY	APPD		

BRIDGE
AND
STRUCTURES
OFFICE



PRELIMINARY PLAN

CURV DATA

P.I. STATION	Δ	RADIUS	TANGENT	LENGTH	BK. TAN. BRG.
SB 853+33.82	76° 21' 40" RT	4170.00'	3279.18'	5557.59'	N 65°54'37" W

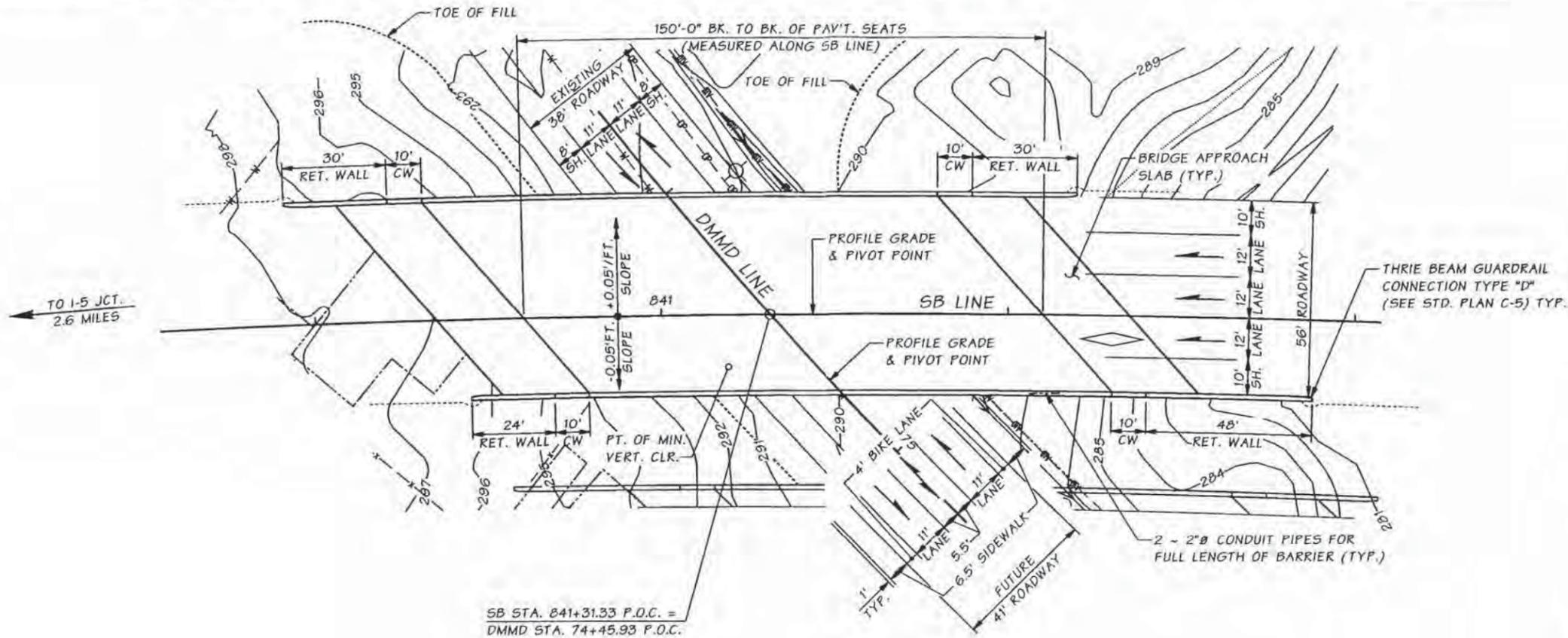
SEC. 5, T.22N., R.4E., W.M.
KING COUNTY

SR 509

PT. OF MIN. VERT. CLR.
SB STA. 841+20 ~ 15' RT =
DMMD STA. 74+46 ~ 19' RT.

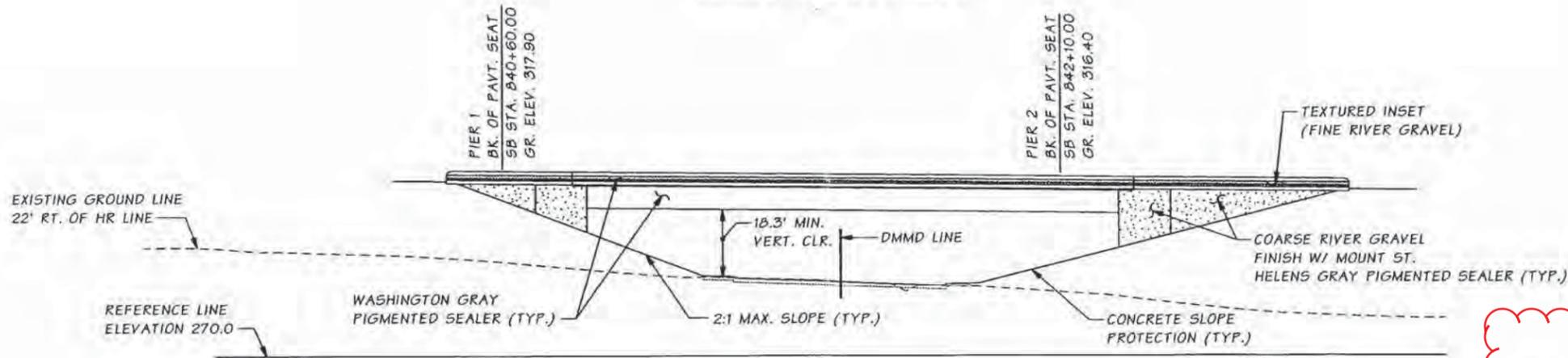
BRIDGE WITH APPROACH FILLS
P.T. CONCRETE BOX GIRDER 7'-0" DEEP
DECK PROTECTIVE SYSTEM I (EPOXY COATED REBARS)
CAST-IN-PLACE CONCRETE STRENGTH SHALL BE 4000 PSI

SR 509 JOB NO. 7016 SHEET 1 OF 2



PLAN

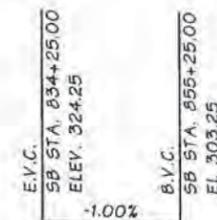
BEARING OF PIERS IS N 11°38'58" E



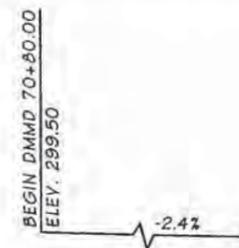
ELEVATION

GRADE ELEVATIONS SHOWN ARE FINISH GRADES AT TOP OF ROADWAY SLAB ON SB LINE AND ARE EQUAL TO PROFILE GRADE. SEE STD. PLAN H-9 FOR EMBANKMENT DETAILS AT BRIDGE ENDS.

SB LINE PROFILE



DMMD LINE PROFILE



DATUM

NAVY 1988

PLAN APPROVED BY:

Jugesh Kapur 11-28-05
BRIDGE AND STRUCTURES ENGINEER

ENGINEERING MANAGER

Supervisor	<i>[Signature]</i> 11/23/05
Designed By	<i>[Signature]</i> 11/23/05
Checked By	Sherkat, M 05/05
Detailed By	Evans, P. 04/05
Bridge Projects Engr	<i>[Signature]</i> 11/23/05
Prelim. Plan By	MINNS, SEC 04/05
Architect/Specialist	Kinderman/Khalleghi/08/05

11/23/05

11/23/05

05/05

04/05

11/23/05

08/05

DATE REVISION BY APPD

Wed Nov 23 08:19:56 2005

M:\PRELIMINARY PLANS\SR 509\7 NORTH BRIDGES\DES MOINES MEM DR SB\DES MOINES SB BSD.MAN	
REGION NO.	STATE
10	WASH.
JOB NUMBER	
FED. AID PROJ. NO.	SHEET NO.
	TOTAL SHEETS

BRIDGE AND STRUCTURES OFFICE



Washington State Department of Transportation

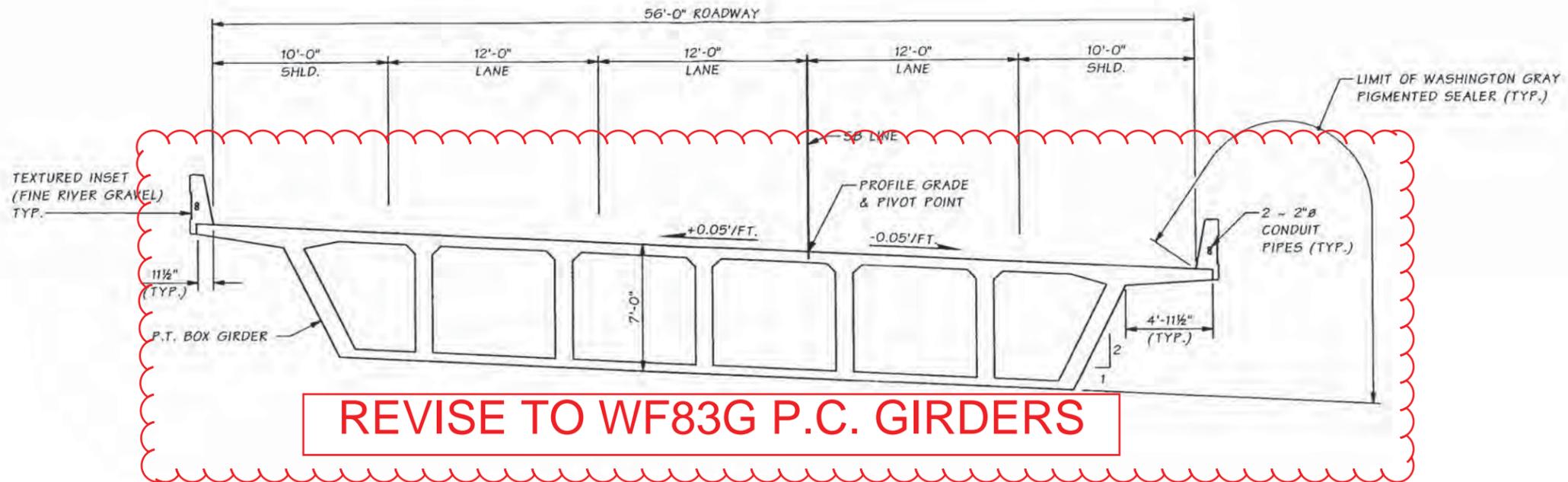
P.C. GIRDER (WF66G)
P.T. CONCRETE BOX GIRDER
LOADING: HL-93

SB SR 509 OVER DES MOINES MEMORIAL DRIVE

PRELIMINARY PLAN

BRIDGE SHEET 1 OF 2

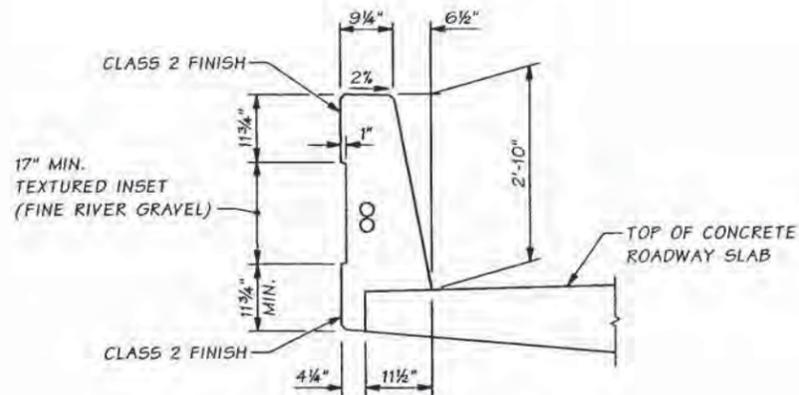
PROJ. NO. XL2398F ~ NORTHWEST REGION ~ SR 509 ~ I-5 TO SOUTH 176TH STREET ~ SB SR 509 OVER DES MOINES MEMORIAL DRIVE C.S. 1739



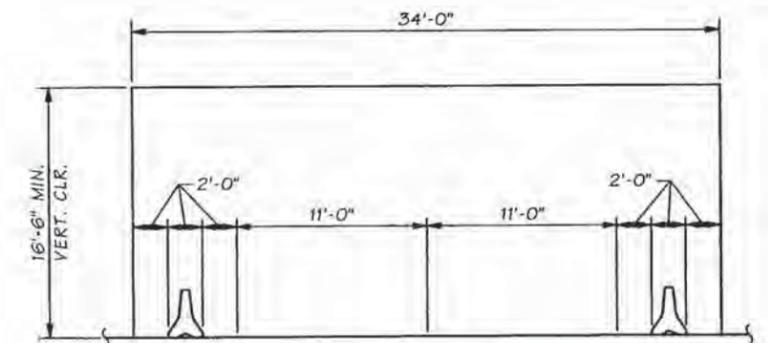
TYPICAL SECTION ~ SB
HORIZONTAL DIMENSIONS ARE NORMAL TO SB LINE.

NOTE TO REGION

WE SHOW POST TENSIONED BOX GIRDERS FOR THESE BRIDGES. POST TENSIONED TRAPEZOIDAL TUB GIRDERS MAY BE USED IF CONSTRUCTION COST AND SCHEDULING ARE ADVANTAGEOUS.



TRAFFIC BARRIER DETAIL



CONSTRUCTION OPENING

DMMD LINE

SR 509 JOB NO. 7016 SHEET 2 OF 2

Bridge Design Engr. <i>[Signature]</i>	M:\PRELIMINARY PLANS\SR 509\7 NORTH BRIDGES\DES MOINES MEM DR SB\DMMD SB TYP SECT.MAN	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor		10	WASH.			
Designed By		JOB NUMBER				
Checked By	Sherkat, M 05/05					
Detailed By	Evans, P. 04/05					
Bridge Projects Engr.	<i>[Signature]</i> 11/05					
Prelim. Plan By	MINNS, CE 04/05					
Architect/Specialist	Kinderman/khaleghi 08/05	DATE	REVISION	BY	APPD	

BRIDGE AND STRUCTURES OFFICE



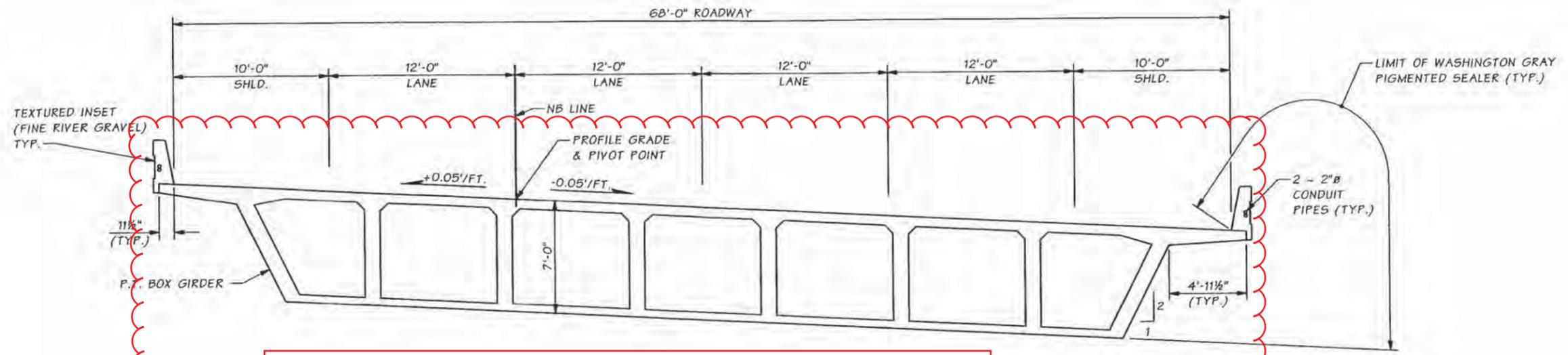
Washington State Department of Transportation

SB SR 509 OVER DES MOINES MEMORIAL DRIVE

PRELIMINARY PLAN

BRIDGE SHEET NO. 2 OF SHEETS

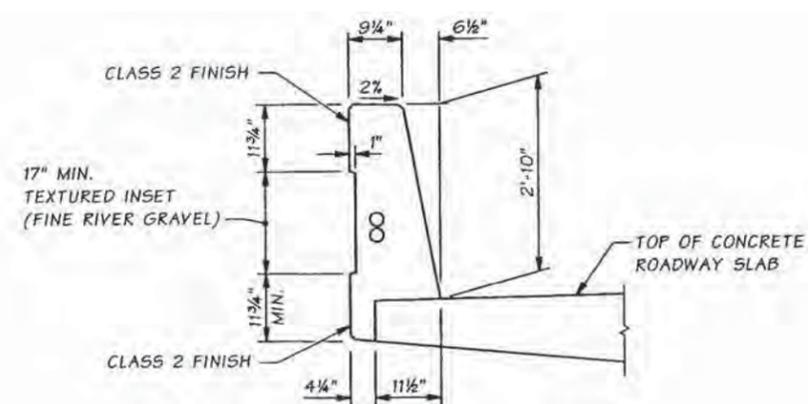
C.S. 1739 ~ PROJ. NO. XL2398F ~ NORTHWEST REGION ~ SR 509 ~ I-5 TO SOUTH 176TH STREET ~ SB SR 509 OVER DES MOINES MEMORIAL DRIVE



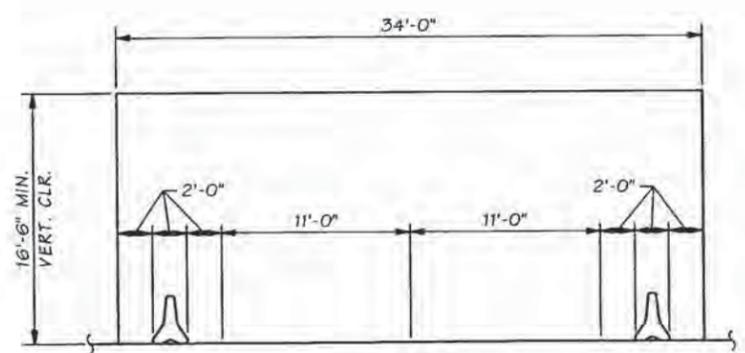
REVISE TO WF66G P.C. GIRDERS

TYPICAL SECTION ~ NB
HORIZONTAL DIMENSIONS ARE NORMAL TO NB LINE.

NOTE TO REGION
WE SHOW POST TENSIONED BOX GIRDERS FOR THESE BRIDGES. POST TENSIONED TRAPEZOIDAL TUB GIRDERS MAY BE USED IF CONSTRUCTION COST AND SCHEDULING ARE ADVANTAGEOUS.



TRAFFIC BARRIER DETAIL



CONSTRUCTION OPENING
DMMD LINE

SR 509 JOB NO. 7017 SHEET 2 OF 2

Bridge Design Engr.	<i>[Signature]</i>	M:\PRELIMINARY PLANS\SR 509\7 NORTH BRIDGES\DES MOINES MEM DR NB\DMMD NB TYP SECT.MAN			
Supervisor		REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By		10	WASH.		TOTAL SHEETS
Checked By	Shekhat, M 05/05	JOB NUMBER			
Detailed By	Evans, P. 04/05				
Bridge Projects Engr.	<i>[Signature]</i>				
Prelim. Plan By	KINNS, GEC 04/05				
Architect/Specialist	Kinderman/Khaleghi 08/05	DATE	REVISION	BY	APP'D

BRIDGE AND STRUCTURES OFFICE



NB SR 509 OVER DES MOINES MEMORIAL DRIVE
PRELIMINARY PLAN

BRIDGE SHEET NO. 2

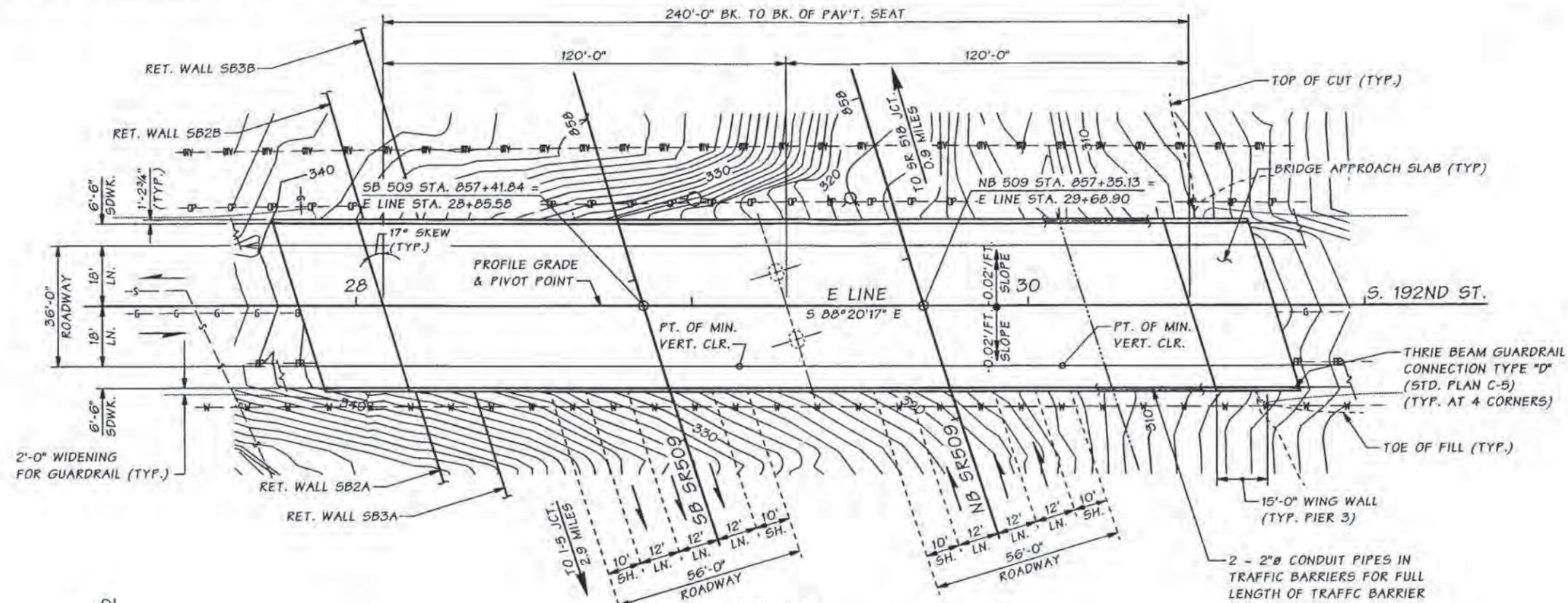
C.S. 1739 ~ PROJ. NO. XL2398G ~ NORTHWEST REGION ~ SR 509 ~ I-5 TO SOUTH 176TH STREET ~ NB SR 509 OVER DES MOINES MEMORIAL DRIVE

CUR DATA

P.I. STATION	Δ	RADIUS	TANGENT	LENGTH	BK. TAN. BRG.
NB 852+48.56	78° 33' 26" RT	4150.00'	3394.16'	5690.00'	N 69° 03' 29" W
SB 853+33.82	76° 21' 40" RT	4170.00'	3279.18'	5557.59'	N 65° 54' 36" W

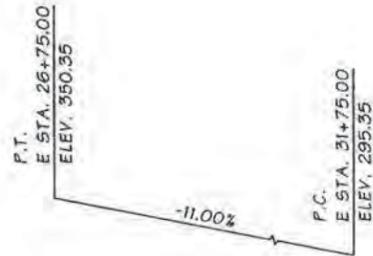
**SEC. 5, T.22N., R4E. W.M.
KING COUNTY**

SR 509

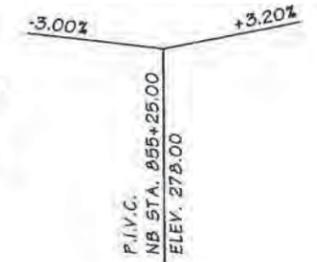


PLAN

BEARING OF PIERS IS N 15° 20' 17" W



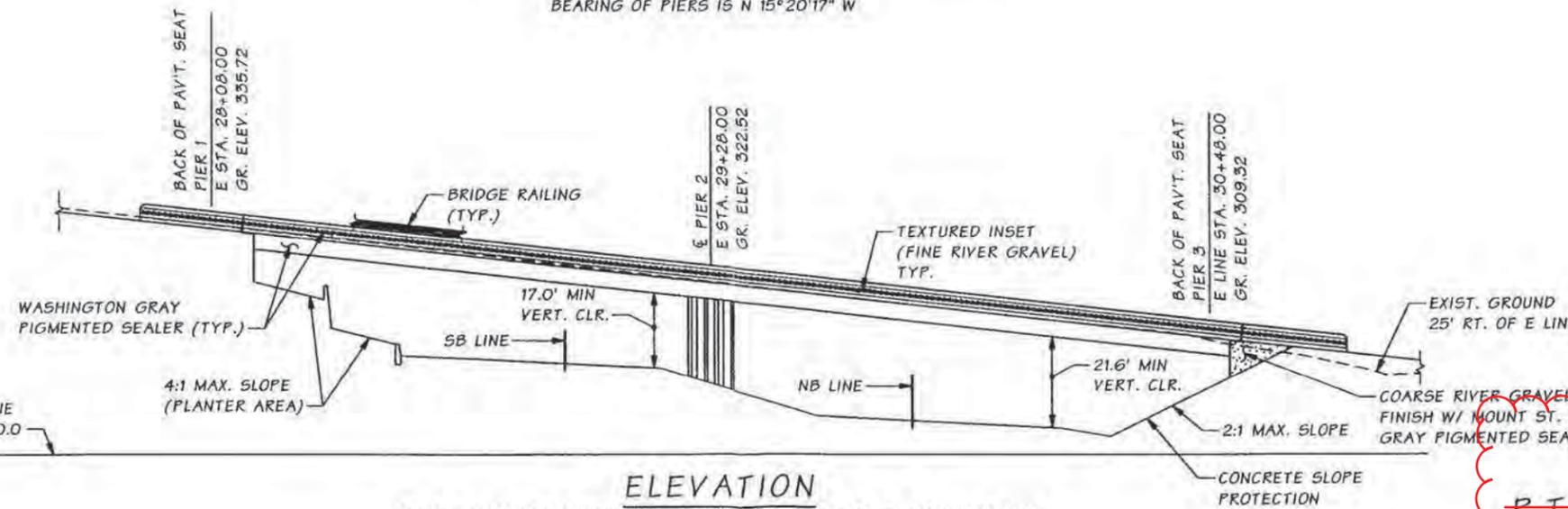
E LINE PROFILE



NB PROFILE



SB PROFILE



ELEVATION

GRADE ELEVATIONS SHOWN ARE FINISH GRADES AT TOP OF ROADWAY SLAB ON E LINE AND ARE EQUAL TO PROFILE GRADE. SEE STD. PLAN H-9 FOR EMBANKMENT DETAILS AT BRIDGE ENDS.

**P.C. GIRDER (WF50G)
CONT. FOR LL
P.T. CONCRETE BOX GIRDER
LOADING: HL-93**

BRIDGE WITH APPROACH FILLS
P.T. CONCRETE BOX GIRDER, 5'-0" DEEP
DECK PROTECTIVE SYSTEM 1 (EPOXY COATED REBARS)
CAST-IN-PLACE CONCRETE STRENGTH SHALL BE 4000 PSI

PT. OF MIN. VERT. CLR.
NB STA. 857+06 ~ 34' RT. = E STA. 30+10 ~ 18' RT.
SB STA. 857+16 ~ 22' RT. = E STA. 29+14 ~ 18' RT.

DATUM

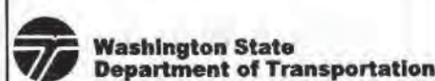
NAVD 1988

PLAN APPROVED BY:
Jugrsh Kapur 11-28-05
BRIDGE AND STRUCTURES ENGINEER

ENGINEERING MANAGER	<i>Jugrsh Kapur</i> 11/05
Bridge Design Engr.	<i>Jugrsh Kapur</i> 11/05
Supervisor	<i>Jugrsh Kapur</i> 11/05
Designed By	
Checked By	Sherkat, M 11/05
Detailed By	Foot, J. 04/05
Bridge Projects Engr.	<i>Jugrsh Kapur</i> 11/05
Prelim. Plan By	MINNS, SEC 04/05
Architect/Specialist	Kinderman/Khaleghi 11/05

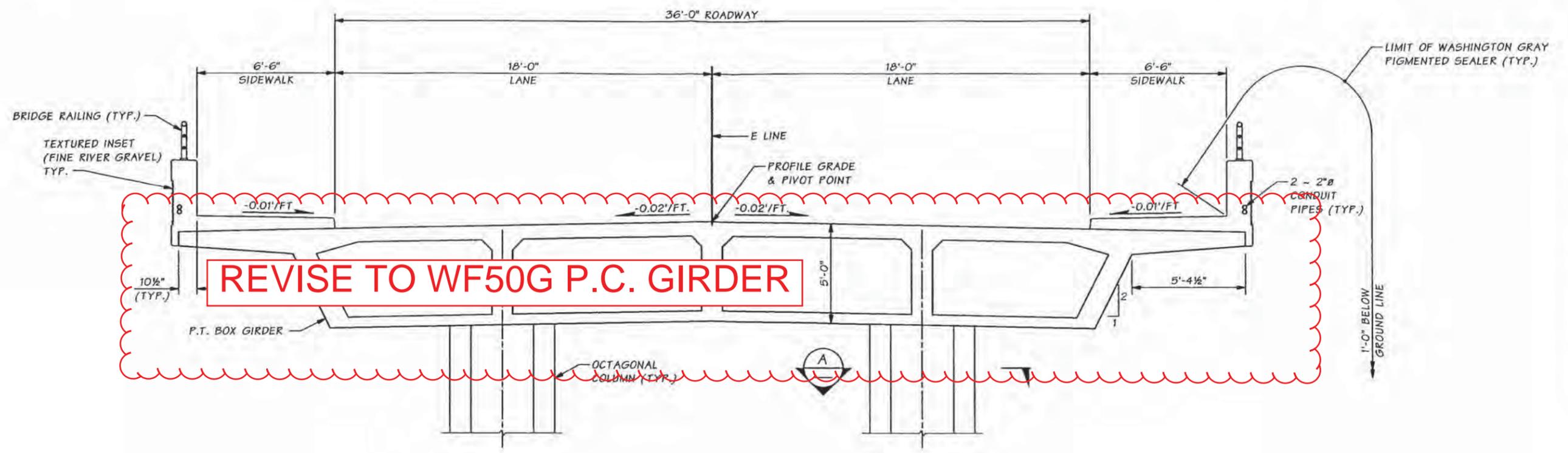
M:\PRELIMINARY PLANS\SR 509\7 NORTH BRIDGES\192 ND ST U'XING\LAYOUIZ.MAN	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
	10	WASH.			
	JOB NUMBER				
DATE	REVISION	BY	APP'D		

BRIDGE AND STRUCTURES OFFICE



SOUTH 192ND STREET OVER SR 509		BRIDGE SHEET NO.	1
PRELIMINARY PLAN		SHEET	OF
		SHEETS	

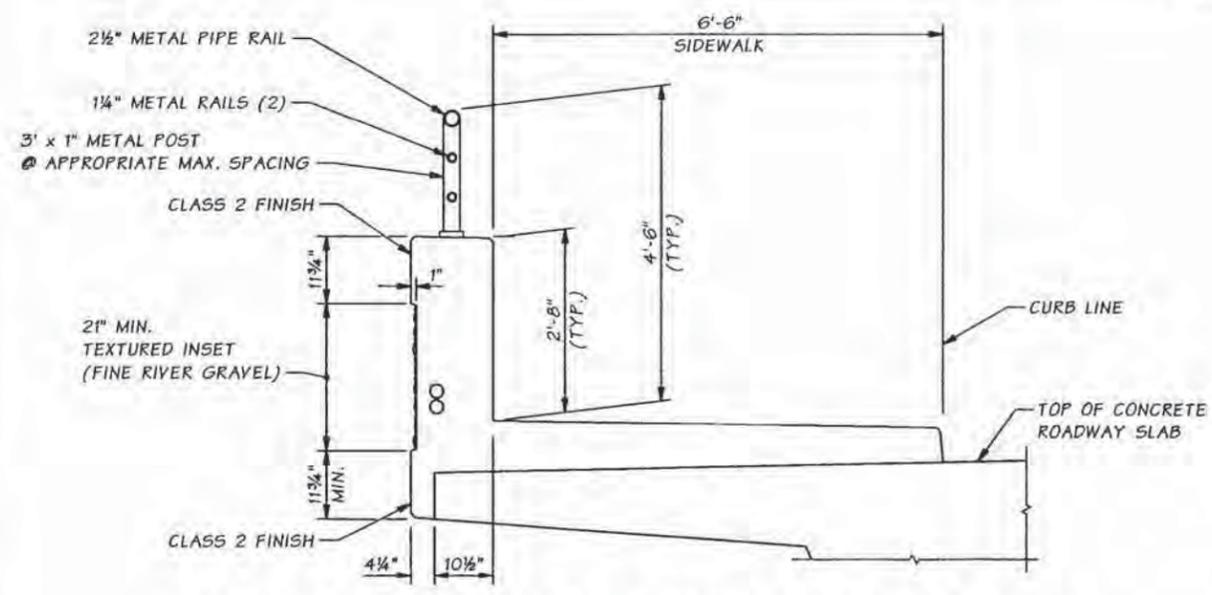
C.S. 1739 ~ PROJ. NO. XL2398D ~ NORTHWEST REGION ~ SR 509 ~ 1-5 TO SOUTH 176 STREET ~ SOUTH 192ND STREET OVER SR 509



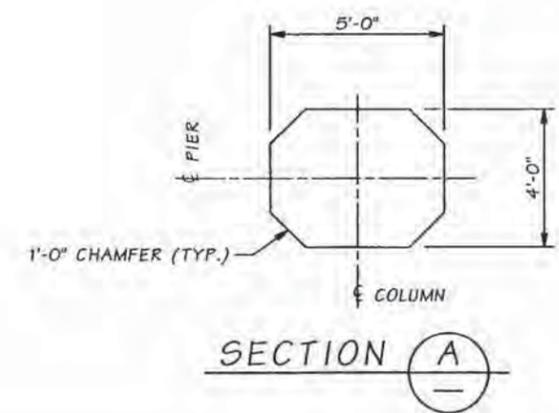
TYPICAL SECTION ~ SOUTH 192ND ST.
HORIZONTAL DIMENSIONS ARE NORMAL TO E LINE

NOTES TO REGION

1. WILL BRIDGES BE CONSTRUCTED IN STAGES? IF SO, PLEASE PROVIDE STAGING REQUIREMENTS.
2. RETAINING WALLS WITH PLANTER AREAS ARE SHOWN NEAR PIER 1. DOES REGION CONCUR? IF SO, PLEASE PROVIDE DETAILS.



PEDESTRIAN BARRIER WITH BRIDGE RAILING



Bridge Design Engr.	<i>[Signature]</i>	M:\PRELIMINARY PLANS\SR 509\7 NORTH BRIDGES\S 192 ND ST U'XING\TYP SECT.MAN
Supervisor	<i>[Signature]</i>	
Designed By		
Checked By	Sherkat, M	11/05
Detailed By	Footel, N.	04/05
Bridge Projects Engr.	<i>[Signature]</i>	
Prelim. Plan By	MINNS, GEC	04/05
Architect/Specialist	Kinderman/Khaleghi	11/05
DATE	REVISION	BY APP'D

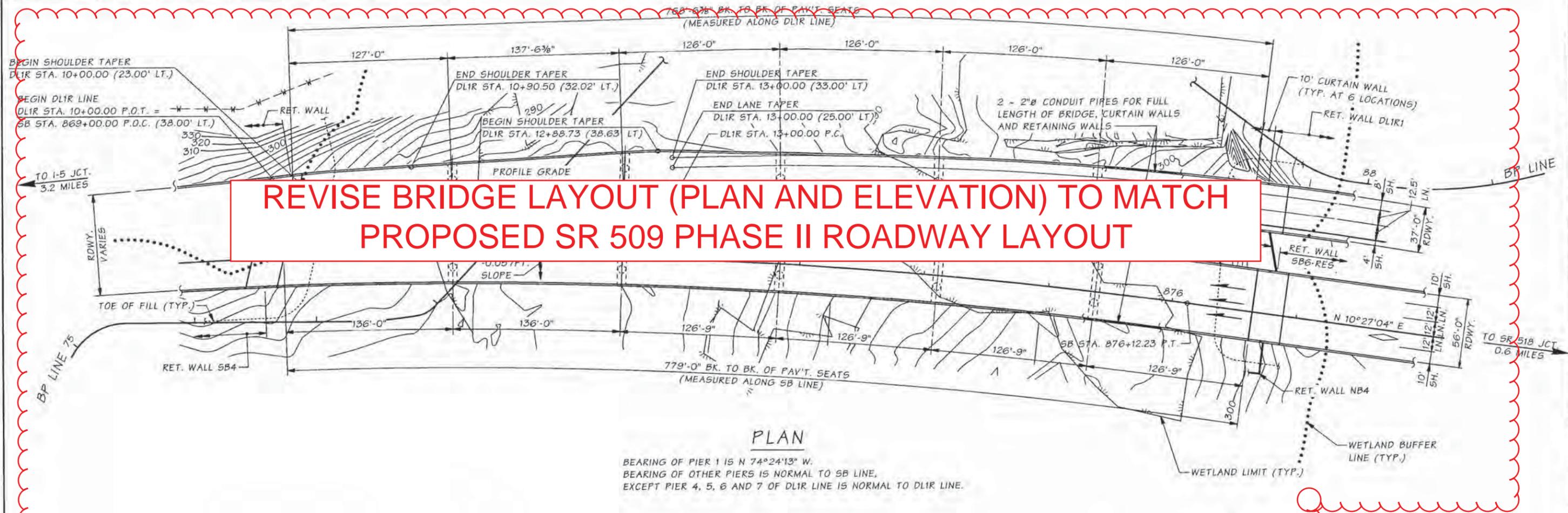
BRIDGE AND STRUCTURES OFFICE Washington State Department of Transportation	SOUTH 192ND STREET OVER SR 509 PRELIMINARY PLAN	BRIDGE SHEET NO. 2 SHEET OF SHEETS
	REGION NO. STATE FED. AID PROJ. NO. SHEET NO. TOTAL SHEETS 10 WASH. JOB NUMBER	

CURVE DATA

P.I. STATION	Δ	RADIUS	TANGENT	LENGTH	BK. TAN. BRG.
SB 853+33.82	76° 21' 40" RT.	4170.00'	3279.18'	5557.59'	N 65°54'37" W
DLIR 15+51.22	9° 34' 25" RT.	3000.00'	251.22'	501.27'	N 00°39'54" E

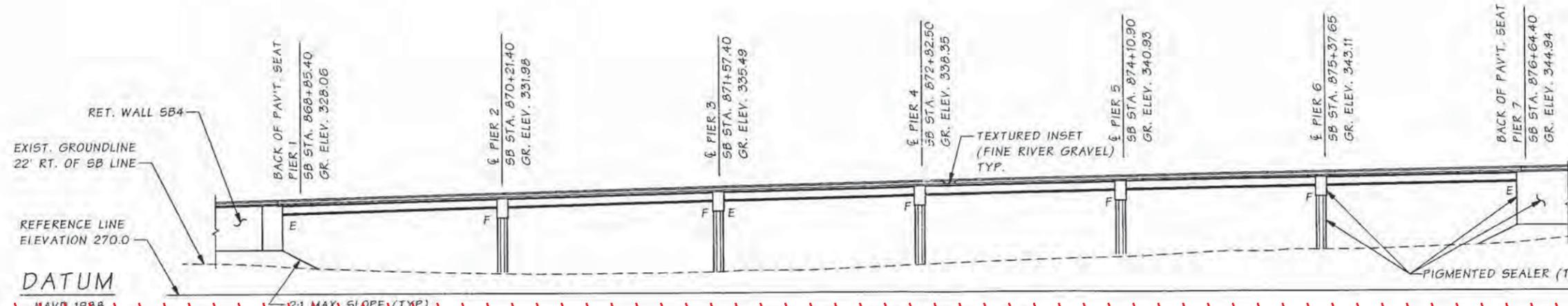
SEC. 32, T.23N., R.4E., W.M.
KING COUNTY

SR 509



PLAN

BEARING OF PIER 1 IS N 74°24'13" W.
BEARING OF OTHER PIERS IS NORMAL TO SB LINE,
EXCEPT PIER 4, 5, 6 AND 7 OF DLIR LINE IS NORMAL TO DLIR LINE.



ELEVATION ~ SB

GRADE ELEVATIONS SHOWN ARE FINISH GRADES AT TOP OF
ROADWAY SLAB ON SB LINE AND ARE EQUAL TO PROFILE GRADE.
SEE SHEET 2 FOR ELEVATION ~ DLIR

**P.C. GIRDERS (WF74G)
CONT. FOR LL
LOADING: HL-93**

SR 509 JOB NO. 7013 SHEET 1 OF 4

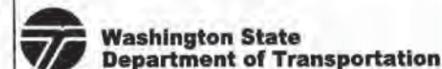
PLAN APPROVED BY:

Jugesh Kapur for 07/27/05
BRIDGE AND STRUCTURES ENGINEER
Susan Everett 08/15/05
ENGINEERING MANAGER

BRIDGE DESIGN ENGR.	DATE	REVISION	BY	APPD.
Kapur, J.	07/05			

REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10	WASH.			

BRIDGE AND STRUCTURES OFFICE

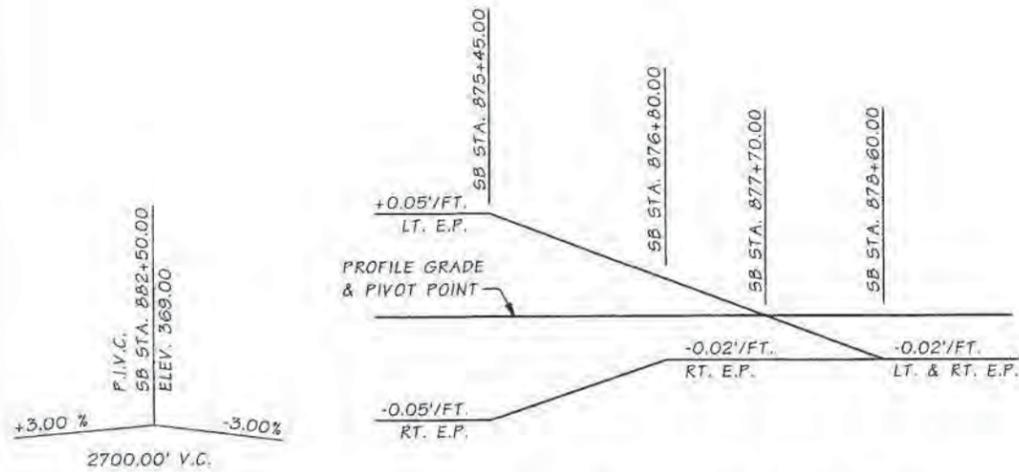


SB SR 509 OVER WETLAND B BRIDGE

PRELIMINARY PLAN

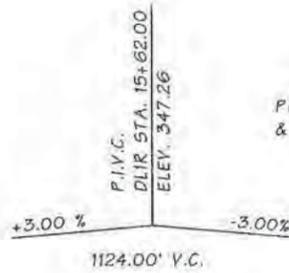
BRIDGE SHEET NO. 1

PROJ. NO. XL2398B ~ NORTHWEST REGION ~ SR 509 ~ I-5 TO SOUTH 176 STREET ~ SB SR 509 OVER WETLAND B BRIDGE C.S. 1739



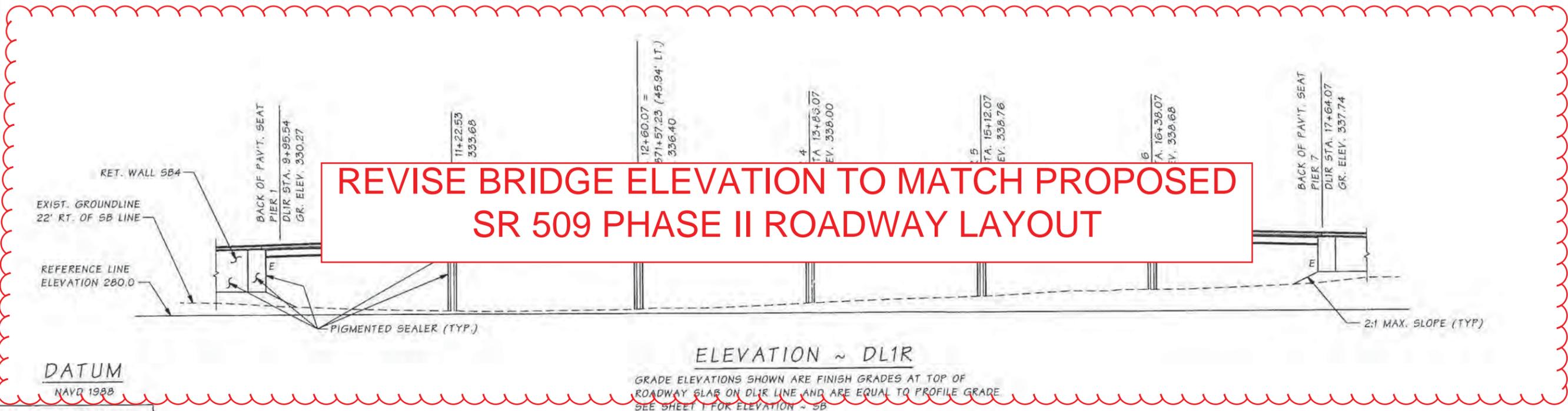
SB LINE PROFILE

SB LINE SUPERELEVATION TRANSITION DIAGRAM



DL1R LINE PROFILE

DL1R LINE SUPERELEVATION TRANSITION DIAGRAM



REVISE BRIDGE ELEVATION TO MATCH PROPOSED SR 509 PHASE II ROADWAY LAYOUT

DATUM
NAVD 1988

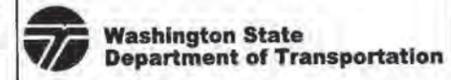
ELEVATION ~ DL1R

GRADE ELEVATIONS SHOWN ARE FINISH GRADES AT TOP OF ROADWAY SLAB ON DL1R LINE AND ARE EQUAL TO PROFILE GRADE. SEE SHEET 1 FOR ELEVATION ~ SB

PLAN APPROVED BY:
Jugesh Kapur for 07/27/05
BRIDGE AND STRUCTURES ENGINEER
Susan Everett 08/15/05
ENGINEERING MANAGER

Bridge Design Engr.	Kapur, J.	07/05	M:\PRELIMINARY PLANS\SR 509\7 NORTH BRIDGES\WETLAND B O'XING SB\SB LAYOUT 2 ALT GIRDER.MAN
Supervisor			
Designed By			
Checked By	Sherkat, M	05/05	
Detailed By	Foote, N.	04/05	
Bridge Projects Engr.	Kirker, KN	07/05	
Prelim. Plan By	MINNS, GEC	04/05	
Architect/Specialist	Kinderman/khaleghi	05/05	

BRIDGE AND STRUCTURES OFFICE



SB SR 509 OVER WETLAND B BRIDGE

PRELIMINARY PLAN

BRIDGE SHEET NO. 2 OF SHEETS

SR 509 JOB NO. 7013 SHEET 2 OF 4

C.S. 1739 ~ PROJ. NO. XL2398B ~ NORTHWEST REGION ~ SR 509 ~ I-5 TO SOUTH 176 STREET ~ SB SR 509 OVER WETLAND B BRIDGE