

# SOUTH SLOUGH BRIDGE #91 DECK REPLACEMENT R.C. # 7246 SURVEY # 3822

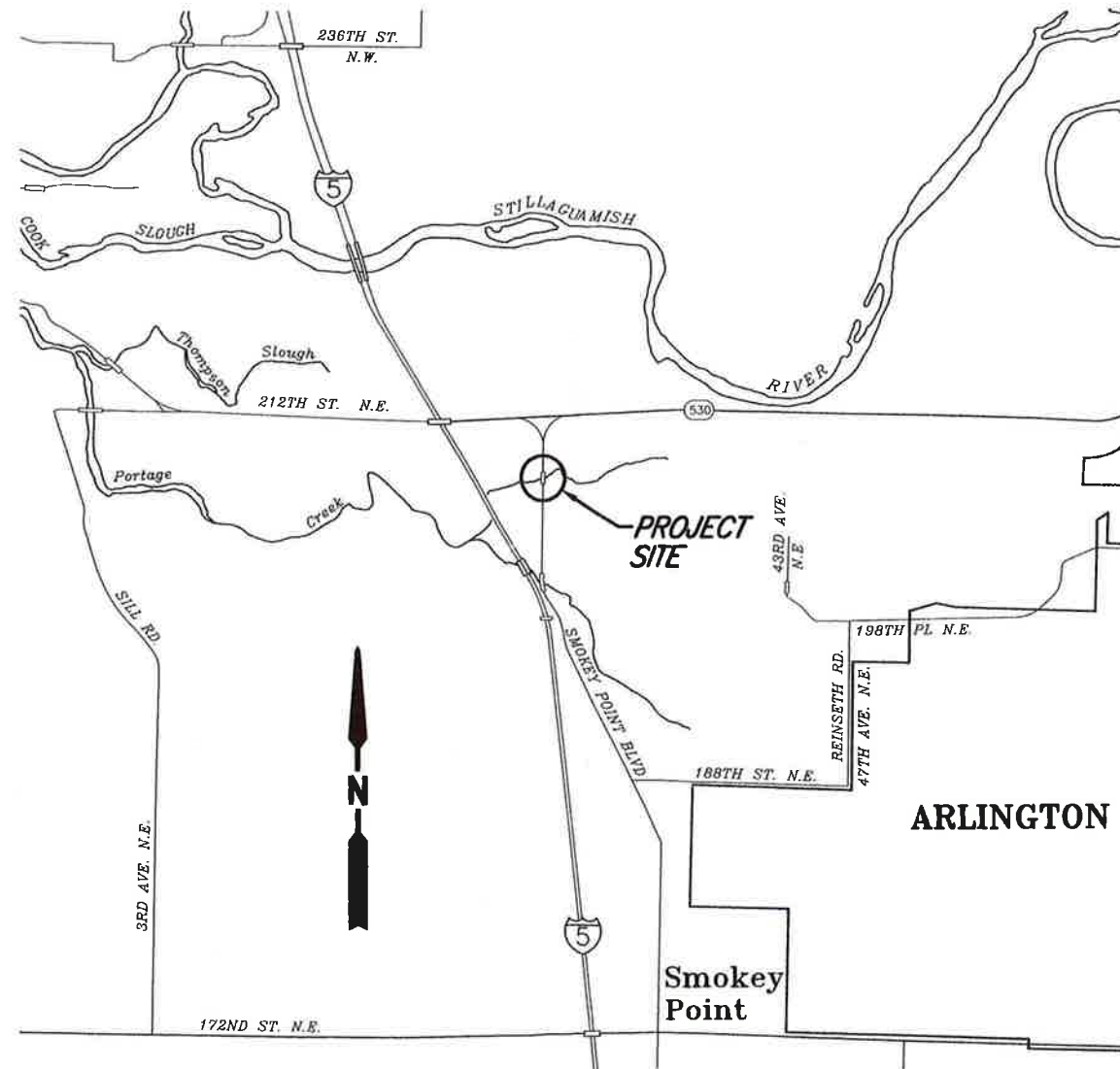
6/14/07  
HS-3822

**SHEET INDEX CIVIL**

SHEET NAME	SHEET #
COVER SHEET	1
SUMMARY OF QUANTITIES	2a-2b
LEGEND AND ABBREVIATIONS	3
DETOUR PLAN	4
TYPICAL ROAD SECTIONS	5
EROSION CONTROL NOTES	6
EROSION CONTROL AND GRADING PLAN	7
EROSION CONTROL DETAILS	8
PLAN AND PROFILE	9
MITIGATION PLAN AND DETAILS	10

**SHEET INDEX STRUCTURAL**

SHEET NAME	SHEET #
BRIDGE LAYOUT	S1
GENERAL STRUCTURAL NOTES AND LEGEND	S2
DEMOLITION PLAN AND SEQUENCE	S3
BACKFILL PLAN AND SEQUENCE	S4
CONSTRUCTION SEQUENCE	S5
FRAMING PLAN	S6
PRECAST SLAB DETAILS	S7
BRIDGE RAILS DETAILS - 1	S8
BRIDGE RAILS DETAILS - 2	S9



**VICINITY MAP**  
N.T.S.



**Snohomish County Officials**

**DIRECTOR OF PUBLIC WORKS**  
STEVEN E. THOMSEN, P.E.

**COUNTY ENGINEER**  
OWEN B. CARTER, P.E.

**EXECUTIVE**  
AARON G. REARDON

**COUNCIL MEMBERS**  
JOHN KOSTER - DIST. 1  
KIRKE SIEVERS - DIST. 2  
GARY NELSON - DIST. 3  
DAVE GOSSETT - DIST. 4  
DAVE SOMERS - DIST. 5

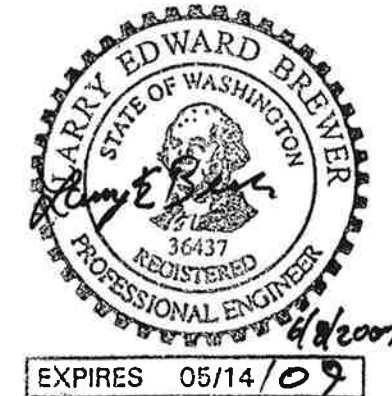
**CONVENIENCE COPY**

**SUMMARY OF QUANTITIES  
SOUTH SLOUGH BRIDGE NO. 91  
SMOKEY POINT BLVD.**

REGION  
10

STATE  
WA

ITEM NO.	PLAN QUANTITY	UNIT	DESCRIPTION	STD ITEM NO.	GROUP 1 SNOH. CO. RC 7246
<b>PREPARATION</b>					
1	1	L.S.	MOBILIZATION	0001	1
2	1	L.S.	CLEARING AND GRUBBING	0035	1
3	1	L.S.	REMOVING EXISTING BRIDGE NO. 91 DECK / PARAPET	----	1
4	103	L.F.	REMOVING GUARDRAIL	170	103
5	2	EACH	REMOVING GUARDRAIL ANCHOR	182	2
<b>GRADING</b>					
6	209	C.Y.	ROADWAY EXCAVATION INCL. HAUL	0310	209
7	40	C.Y.	GRAVEL BORROW INCL. HAUL	0431	40
<b>STRUCTURES</b>					
8	2461	C.Y.	STRUCTURE EXCAVATION CLASS A INCL. HAUL	4006	2461
9	1	L.S.	SHORING OR EXTRA EXCAVATION CL. A	4013	1
<b>SURFACING</b>					
10	430	TON	CRUSHED SURFACING TOP COURSE	5120	430
11	4800	TON	RAILROAD BALLAST	----	4800
<b>LIQUID ASPHALT</b>					
12	2000	EST.	ANTI-STRIPPING ADDITIVE	5334	2000
<b>HOT MIX ASPHALT</b>					
13	118	S.Y.	PLANING BITUMINOUS PAVEMENT	5711	118
14	300	TON	HMA CL. 1/2 IN. PG 64-22	5767	300
15	81	TON	HMA CL. 1 IN. PG 64-22	5769	81
<b>EROSION CONTROL AND PLANTING</b>					
16	340	L.F.	SILT FENCE	6373	340
17	10	DAY	ESC LEAD	6403	10
18	60	C.Y.	TOPSOIL TYPE A	6405	60
19	0.04	ACRE	SEEDING AND MULCHING	6414	0.04
20	560	S.Y.	PERMANENT EROSION CONTROL BLANKET	6452	560
21	5000	EST.	EROSION/WATER POLLUTION CONTROL	6490	5000
22	20	C.Y.	BARK OR WOOD CHIP MULCH	6580	20
23	35	EACH	PSIPE - RUBUS SPECTABILIS (SALMONBERRY), 1 GAL.	6552	35
24	35	EACH	PSIPE - RUBUS PARVIFLORUS (THIMBLEBERRY), 1 GAL.	6552	35



Approved for Construction

*Owen B. Carter*

Owen B. Carter, P.E.  
County Engineer

6/12/07

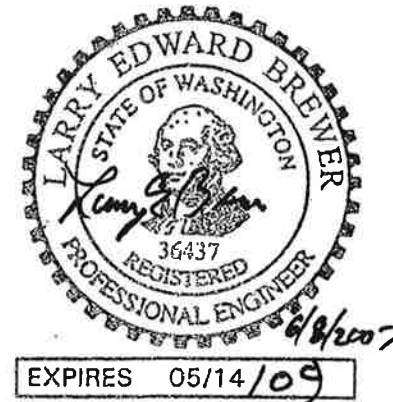
Date


**SUMMARY OF QUANTITIES  
SOUTH SLOUGH BRIDGE NO. 91  
SMOKEY POINT BLVD.**

REGION  
10

STATE  
WA

ITEM NO.	PLAN QUANTITY	UNIT	DESCRIPTION	STD ITEM NO.	GROUP 1 SNOH. CO. RC 7246
25	35	EACH	PSIPE - SYMPHORICARPOS ALBUS (SNOWBERRY), 1 GAL.	6552	35
<b>TRAFFIC</b>					
26	4	EACH	BEAM GUARDRAIL TRANSITION TYPE 1a	6760	4
27	2	EACH	BEAM GUARDRAIL NON-FLARED TERMINAL	6717	2
28	2	EACH	BEAM GUARDRAIL ANCHOR TYPE 1	6771	2
29	2400	L.F.	PAINT LINE	6806	2400
30	1	L.S.	PROJECT TEMPORARY TRAFFIC CONTROL	6971	1
<b>OTHER ITEMS</b>					
31	10	MGAL	WATER	7018	10
32	1	L.S.	CURE BOX	7028	1
33	5000	EST.	ROADSIDE CLEANUP	7480	5000
34	782	S.F.	GEOSYNTHETIC RETAINING WALL	7559	782
35	1000	EST.	REIMBURSEMENT FOR THIRD PARTY DAMAGE	7725	1000
36	1	L.S.	SPCC PLAN	7736	1



Approved for Construction  
  
 Owen B. Carter, P.E.  
 County Engineer  
6/12/07  
 Date

**ABBREVIATIONS**

& - AND  
 ACP - ASPHALT CONCRETE PAVEMENT  
 @ - AT  
 BLVD. - BOULEVARD  
 BMP - BEST MANAGEMENT PRACTICES  
 BVCE - BEGINNING VERTICAL CURVE ELEVATION  
 BVCS - BEGINNING VERTICAL CURVE STATION  
 C/L or C - CENTERLINE  
 CCL - CONSTRUCTION CENTERLINE  
 CLR. - CLEAR  
 CONC. - CONCRETE  
 C.S.T.C. - CRUSHED SURFACING TOP COURSE  
 # or DIA. - DIAMETER  
 DIST. - DISTANCE  
 ELEV. - ELEVATION  
 E.O.P. - EDGE OF PAVEMENT  
 EQ. - EQUAL  
 E.S.C. - EROSION SEDIMENTATION CONTROL  
 EXIST. - EXISTING  
 EVCE - END VERTICAL CURVE ELEVATION  
 EVCS - END VERTICAL CURVE STATION  
 FT - FEET  
 GALV. - GALVANIZED  
 HORZ. - HORIZONTAL  
 L.F. - LINEAL FEET  
 LT. - LEFT  
 MAX. - MAXIMUM  
 MIN. - MINIMUM  
 N.T.S. - NOT TO SCALE  
 O.C. - ON CENTER  
 OHW - ORDINARY HIGH WATER MARK  
 PG - PERFORMANCE GRADE  
 PLQ. - PLACARD  
 P.V.I. - POINT OF VERTICAL INTERSECTION  
 RWCL - RIGHT OF WAY CENTERLINE  
 R - RADIUS  
 RD. - ROAD  
 REQD. - REQUIRED  
 RT. - RIGHT  
 R/W - RIGHT OF WAY  
 SQ. FT. - SQUARE FEET  
 SHLD - SHOULDER  
 SR - STATE ROUTE  
 ST. - STREET  
 SHT. - SHEET  
 SPA. - SPACE  
 SPCC - SPILL PREVENTION, CONTROL AND COUNTERMEASURES  
 SPEC. - SPECIFICATIONS  
 STA. - STATION  
 STD. - STANDARD  
 T.E.S.C. - TEMPORARY EROSION SEDIMENT CONTROL  
 TYP. - TYPICAL  
 VC - VERTICAL CURVE  
 VERT. - VERTICAL  
 W/ - WITH

**UTILITY SYMBOLS**

SYMBOL EXISTING	SYMBOL PROPOSED	DESCRIPTION
(Symbol)	(Symbol)	UTILITY POLE
(Symbol)	(Symbol)	UTILITY POLE ANCHOR

**SURFACE FEATURES / LANDSCAPING**

SYMBOL EXISTING	SYMBOL PROPOSED	DESCRIPTION
(Symbol)	(Symbol)	EMBANKMENT
(Symbol)	(Symbol)	MAIL BOX
(Symbol)	(Symbol)	SIGN
(Symbol)	(Symbol)	TREE (Conifer)
(Symbol)	(Symbol)	TREE (Deciduous)
(Symbol)	(Symbol)	BORING
(Symbol)	(Symbol)	PILE
(Symbol)	(Symbol)	ROCKERY
(Symbol)	(Symbol)	PLAINING EXISTING PAVEMENT

**LINE TYPES**

(Line Type)	EDGE OF PAVEMENT (EXISTING)
(Line Type)	BRIDGE
(Line Type)	BRIDGE (PROPOSED)
(Line Type)	CREEK EDGE
(Line Type)	CURB/CONC./PAVEMENT (PROPOSED)
(Line Type)	FENCE (EXISTING)
(Line Type)	GRAVEL (EXISTING)
(Line Type)	GUARDRAIL (EXISTING)
(Line Type)	GUARDRAIL (PROPOSED)
(Line Type)	ORDINARY HIGH WATER MARK
(Line Type)	VEGETATION LINE
(Line Type)	WETLAND BUFFER
(Line Type)	CENTERLINE (EXISTING)
(Line Type)	CENTERLINE (PROPOSED)
(Line Type)	CONTOUR (EXISTING)
(Line Type)	CONTOUR (PROPOSED)
(Line Type)	PROPERTY LINE
(Line Type)	RIGHT-OF-WAY (EXISTING)
(Line Type)	SECTION LINE
<b>UTILITIES (EXISTING):</b>	
(Line Type)	POWER (AERIAL)
(Line Type)	TELEPHONE (AERIAL)
(Line Type)	SANITARY SEWER (FORCE MAIN)
(Line Type)	WATER (BURIED)

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PLAN CHECK	BY	DATE	REVISION	BY

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

DESIGNED BY:	DRAWN BY:
MMA	MMA / MFH
FIELD BOOK(S):	DRAWING #

DATE	NO.	REVISION	BY



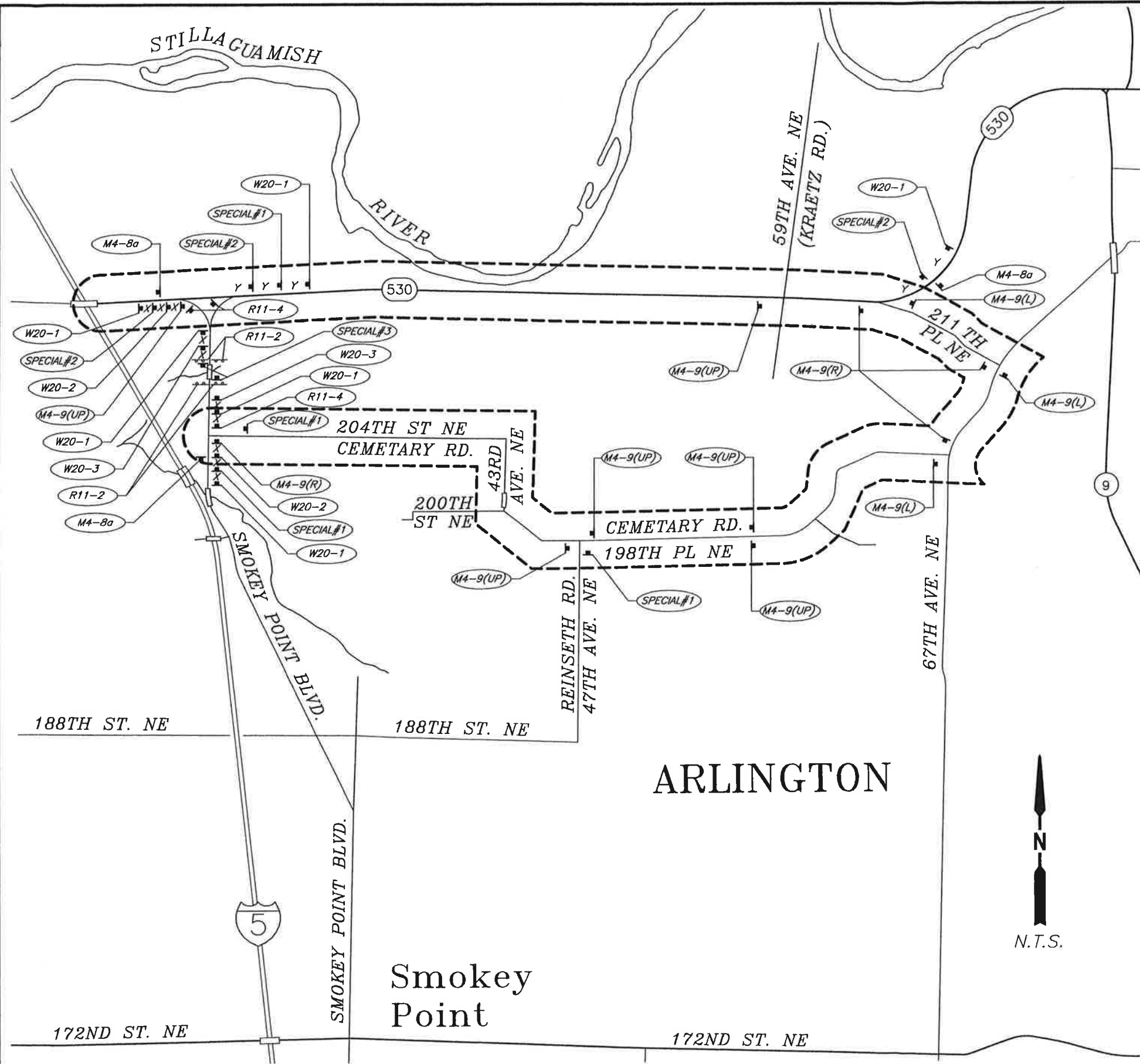
APPROVED FOR CONSTRUCTION  
  
 OWEN B. CARTER, P.E.  
 SNOHOMISH COUNTY ENGINEER  
 6/12/07  
 DATE APPROVED:

SNOHOMISH COUNTY  
 DEPARTMENT OF  
 PUBLIC WORKS  
 PROJECT NO. RC #7246

**SOUTH SLOUGH BR. #91**  
**DECK REPLACEMENT**  
**LEGEND**  
**AND ABBREVIATIONS**

SURVEY NO. 3822  
 SHEET 3 OF 10 SHEETS

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SIGN SCHEDULE						
SIGN CODE NUMBER	COLOR	EACH	SIGN SIZE		REMARKS	
			X	Y		
R11-2	BW	4	60"	30"	WITH TYPE III BARRICADE	
W20-3	BO	2	48"	48"	(ROAD CLOSED AHEAD)	
W20-1	BO	6	48"	48"	(ROAD WORK AHEAD)	
R11-4	BW	3	60"	30"	(ROAD CLOSED TO THRU TRAFFIC)	
W20-2	BO	2	48"	48"	(DETOUR AHEAD)	
M4-9 (R)	BO	4	30"	24"	WITH ST. NAME PLQ. (SMOKEY POINT BLVD.)	
M4-9 (UP)	BO	6	30"	24"	WITH ST. NAME PLQ. (SMOKEY POINT BLVD.)	
M4-9 (L)	BO	3	30"	24"	WITH ST. NAME PLQ. (SMOKEY POINT BLVD.)	
M4-8a	BO	3	30"	24"	(END DETOUR)	
SPECIAL#1	BO	4	VARIES		SMOKEY POINT BLVD. CLOSED BETWEEN 204TH ST. NE AND SR 530 DATE XX/XX/XX TO DATE XX/XX/XX NOTE: 6" CHARACTERS	
SPECIAL#2		3			VARIABLE MESSAGE SIGN NOTE: PORTABLE	
SPECIAL#3	BO	2	48"	48"	THIS ROAD TO BE CLOSED DATE XX/XX/XX TO DATE XX/XX/XX	

**ABBREVIATIONS:**  
 BW = BLACK ON WHITE  
 BO = BLACK ON ORANGE  
 OW = ORANGE ON WHITE

- SIGNING NOTES:**
- POSTS SHALL BE RED CEDAR, 4"x4"x16'. FINAL LENGTHS SHALL BE DETERMINED IN THE FIELD PRIOR TO FABRICATION.
  - FOR STRUCTURE AND MOUNTING DETAIL REQUIREMENTS SEE STANDARD PLAN SERIES G.
  - SPECIAL #3 MUST BE INSTALLED 14 WORKING DAYS PRIOR TO START OF PROJECT.
  - EACH DAY BEFORE LEAVING THE WORK SITE, THE TYPE III BARRICADES MUST BE SECURED. AT ANYTIME THE BARRICADES ARE NOT SECURED A FLAGGER MUST BE STATIONED AT THE CLOSURE.
  - ALL SIGNS MUST MEET THE STANDARD REQUIREMENTS OF M.U.T.C.D. AND THE W.S.D.O.T. TRAFFIC MANUAL.

**LEGEND:**

--- DETOUR ROUTE

(XXX) SIGN PLACEMENT AND IDENTIFICATION

X = 350' SPACING BETWEEN SIGNS

Y = 500' SPACING BETWEEN SIGNS

**NOTE:**  
 Closures to be coordinated with  
 WSDOT-Project Office  
 425-225-8796 and shall not  
 coincide with SR9/Schloman Road  
 project road closures.

SNOHOMISH COUNTY  
 TRAFFIC ENGINEER  
 APPROVED FOR CONSTRUCTION  
 BY *[Signature]* 6/7/07  
 BLOODGOOD, P.E.

PLAN CHECK	BY	DATE	REVISION	BY

APPROVED FOR CONSTRUCTION

*[Signature]*  
 OWEN B. CARTER, P.E.  
 SNOHOMISH COUNTY ENGINEER  
 6/12/07  
 DATE APPROVED:

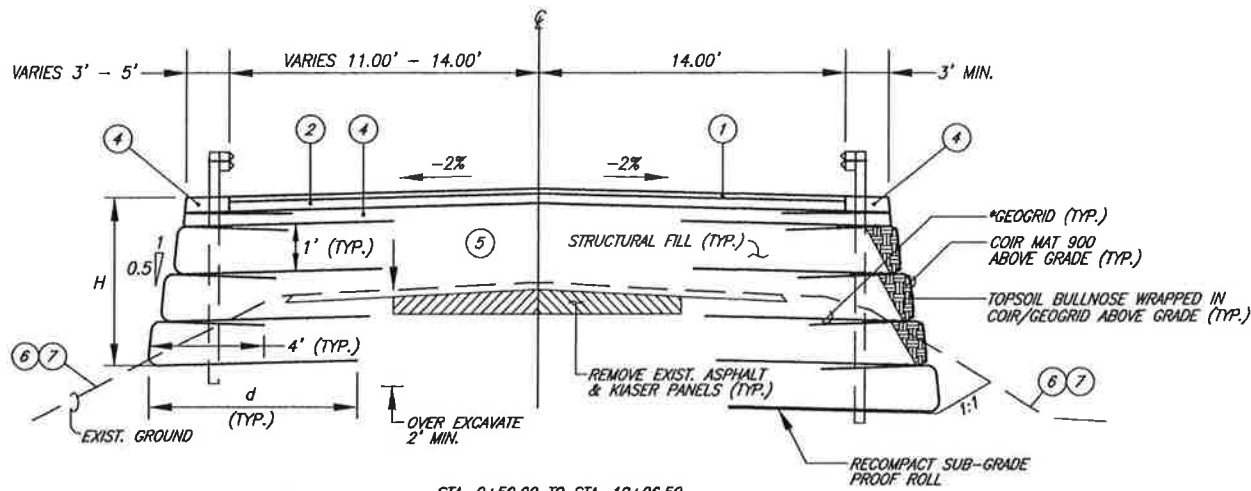
EXPIRES 05/14/09

SNOHOMISH COUNTY  
 DEPARTMENT OF  
 PUBLIC WORKS

FUNDING NO. RC# 7246

SOUTH SLOUGH BRIDGE #91  
 DECK REPLACEMENT  
 DETOUR  
 PLAN

REFERENCE SHEET NO.  
 SHEET  
 4  
 OF  
 10  
 SHEETS

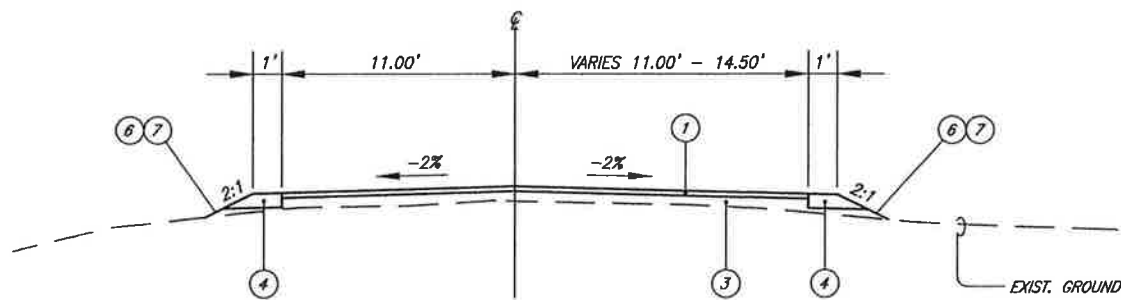


**ROAD SECTION W/ WALL LT. & RT.**  
N.T.S.

**SLOPE REINFORCEMENT TABLE**

H	d
H < 6'	8'

\* ROLL OUT GRID IN STRONG DIRECTION AS PER MANUFACTURER'S RECOMMENDATIONS, STRONG DIRECTION SHALL BE PERPENDICULAR TO FACE OF WALL BEING SUPPORTED BY MATERIAL COIR SHALL BE WRAPPED ON THE OUTSIDE OF BULLNOSE.



**ROAD SECTION**  
N.T.S.

**LEGEND:**

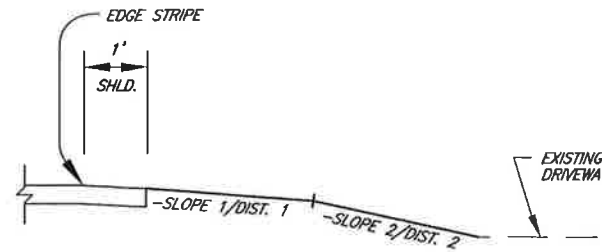
- ① 0.25' COMPACTED DEPTH HOT MIX ASPHALT (HMA) CL. 1/2" PG 64-22 APPLIED IN TWO LIFTS AT 0.125" EACH.
- ② 0.34' COMPACTED DEPTH HOT MIX ASPHALT (HMA) CL. 1" PG 64-22.
- ③ VARIES, COMPACTED DEPTH HOT MIX ASPHALT (HMA) CL. 1" PG 64-22.
- ④ 0.50' MINIMUM CRUSHED SURFACING TOP COURSE, COMPACTED TO 95% DENSITY.
- ⑤ RAILROAD BALLAST 2" CLEAN, 1' MAXIMUM LIFT HEIGHT.
- ⑥ TOP SOIL TYPE "A" 1' MINIMUM.
- ⑦ SEED AND MULCH.

**NOTES:**

- 1. TACK COAT SHALL BE APPLIED TO ALL SURFACES COVERED BY ASPHALT CONCRETE PAVEMENT.
- 2. BEGIN BRIDGE REPLACEMENT SECTION STA. 9+96.00 TO STA. 12+52.00.

APPROACH SCHEDULE						
STATION LEFT (L.T.) OR RIGHT (R.T.)	BEARING	TYPE	W WIDTH (FT.)	** LENGTH OF PAVED APRON	SLOPE 1/ DISTANCE 1	SLOPE 2/ DISTANCE 2
<b>SMOKEY POINT BLVD.</b>						
8+31.15 (RT.)	S89°34'50"E		16'	5'	G	-4%/10'
9+23.15 (RT.)	S88°52'55"E		14'	5'	G	-5%/10' -13%/8'
13+27.89 (LT.)	N89°34'50"W		12'	5'	G	-5%/5' -13%/8'

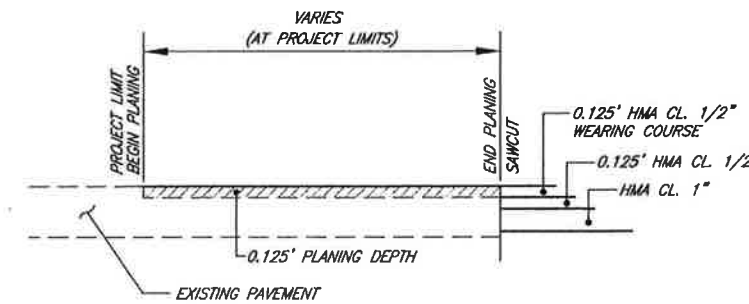
\* E.S. DENOTES EXISTING SURFACE  
G = GRAVEL  
\*\* LENGTH AND BEARING ARE FROM EDGE OF PAVEMENT.



(SEE SLOPE/DIST COLUMNS IN APPROACH SCHEDULE TABLE)

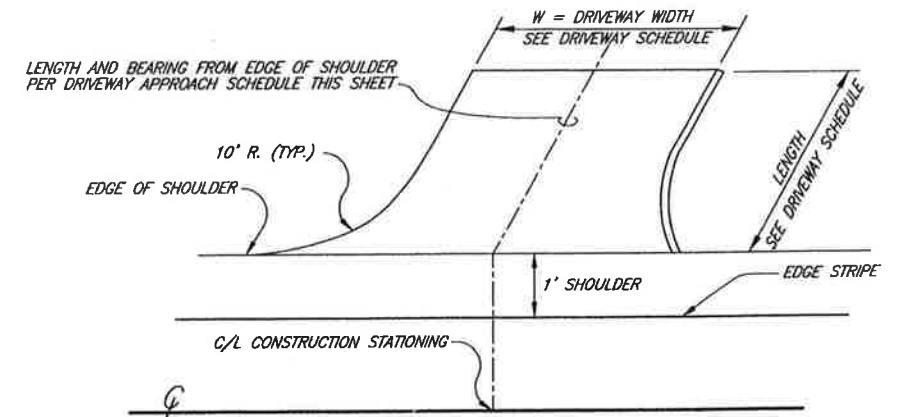
**DRIVEWAY PROFILE**

N.T.S.



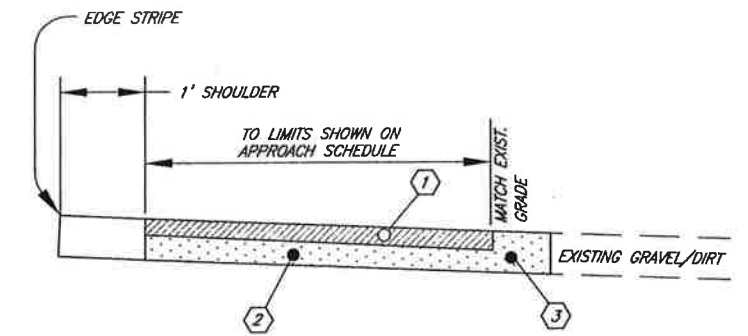
**PAVEMENT PLANING @ PROJECT LIMITS**

(BEGINNING OF PROJECT SHOWN END OF PROJECT OPPOSITE)  
N.T.S.



**DRIVEWAY APPROACH PLAN**

N.T.S.



**TYPICAL DRIVEWAY DETAILS**

N.T.S.

**DRIVEWAY NOTE:**

- ① ASPHALT CONCRETE APPROACH SHALL BE PAID FOR UNDER HMA CL. 1/2" PG 64-22, 0.20' COMPACTED DEPTH.
- ② CRUSHED SURFACING TOP COURSE, 0.40' COMPACTED DEPTH (FOR SHALLOW INSTALLATIONS OVER EXISTING A.C.P., OMIT C.S.T.C. AND FEATHER A.C.P.).
- ③ CRUSHED SURFACING TOP COURSE, 0.60' COMPACTED DEPTH.

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PLAN CHECK	BY	DATE	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
			10	WASH.		
			DESIGNED BY: LBREWER, MMA		DRAWN BY: MFH	
			FIELD BOOK(S):		DRAWING #	
			DATE	NO.	REVISION	BY



APPROVED FOR CONSTRUCTION

OWEN B. CARTER, P.E.  
SNOHOMISH COUNTY ENGINEER  
DATE APPROVED:

SNOHOMISH COUNTY  
DEPARTMENT OF  
PUBLIC WORKS

PROJECT NO. RC #7248

**SOUTH SLOUGH BRIDGE #91**  
DECK REPLACEMENT

**TYPICAL ROAD SECTIONS**

SURVEY NO. 3822  
SHEET 5 OF 10 SHEETS

**GENERAL NOTES: TEMPORARY EROSION & SEDIMENTATION CONTROL (T.E.S.C.)**

ALL GRADING SHALL COMPLY TO CHAPTER 33 OF THE UNIFORM BUILDING CODE, TITLE 30.62B, AND TITLE 30.63A OF THE SNOHOMISH COUNTY UNIFIED DEVELOPMENT CODE (CURRENT EDITION). COMPLIANCE WITH THE EROSION AND SEDIMENT CONTROL (T.E.S.C.) REQUIREMENTS WILL BE THROUGH IMPLEMENTATION OF A T.E.S.C. PLAN PREPARED IN ACCORDANCE WITH THE PUGET SOUND WATER QUALITY CONTROL MANUAL AND PUGET SOUND STORM WATER MANAGEMENT MANUAL, CURRENT EDITION, AND SCC TITLE 30.63A. THE T.E.S.C. MINIMUM REQUIREMENTS INCLUDE:

1. THE CONTRACTOR SHALL PROVIDE AN EROSION AND SEDIMENTATION CONTROL DRAWING TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. THIS PLAN SHALL SHOW DETAILS TO SUIT ALL STAGING NEEDS & SEASONS. THE BMP'S SHOWN ON THIS PLAN ARE THE RECOMMENDED MINIMUMS.
2. PRIOR TO ANY SITE DISTURBING ACTIVITY INCLUDING CLEARING, LOGGING, OR GRADING, THE SITE CLEARING LIMITS SHALL BE LOCATED AND STAKED BY THE PROJECT SURVEYOR OR ENGINEER.  
PROJECT SURVEYOR'S NAME AND TELEPHONE NUMBER: RON TORRENCE, P.L.S., 425-388-6651
3. FIELD MARKING: BEFORE PERFORMING ANY GRADING OR CLEARING, THE CONTRACTOR SHALL INSTALL SILT FENCING AND ORANGE BARRIER FENCING AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. ORANGE SILT FENCE LOCATION SHALL BE APPROVED BY THE ENGINEER BEFORE INSTALLATION. MAINTAIN AND PROTECT ALL TREES AND VEGETATION OUTSIDE SILT FENCE OR ORANGE BARRIER FENCE AND AS NOTED, OR AS DIRECTED BY THE ENGINEER.
4. PRIOR TO LEAVING THE SITE, STORM WATER RUNOFF SHALL PASS THROUGH A SEDIMENT POND, SEDIMENT TRAP, OR OTHER APPROPRIATE BMP'S. IN NO EVENT SHALL SEDIMENT LADEN RUNOFF CAUSE A VIOLATION OF TURBIDITY OR ANY OTHER STATE WATER QUALITY STANDARD. DURING THE DRY SEASON (APRIL 1 TO SEPTEMBER 30), NO SOILS SHALL BE EXPOSED FOR MORE THAN SEVEN DAYS. IF EXPOSED SOILS WILL REMAIN UNWORKED FOR MORE THAN SEVEN DAYS, THEY SHALL BE STABILIZED BY SUITABLE APPLICATION OF BMP'S. DURING THE WET SEASON (OCTOBER 1 THROUGH MARCH 31) ALL DISTURBED SOIL THAT IS LEFT UNWORKED FOR 48 HOURS SHALL BE COVERED.
5. PROTECTION OF ADJACENT PROPERTIES: PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION.
6. CONTROL OF OFF-SITE EROSION: PROPERTIES AND WATERWAYS DOWNSTREAM FROM THE PROJECT SITE SHALL BE PROTECTED FROM EROSION DUE TO INCREASES IN THE CONCENTRATION, VOLUME, VELOCITY, AND/OR PEAK FLOW RATE OF STORM WATER RUNOFF FROM THE PROJECT SITE.
7. STORM DRAIN INLET PROTECTION: ALL STORM DRAIN INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT STORM WATER RUNOFF WILL NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
8. CONSTRUCTION ACCESS ROUTES: WHEREVER CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED ROADS, PROVISIONS MUST BE MADE TO PREVENT THE TRANSPORT OF SEDIMENT (MUD) ONTO THE ROAD. AT THE DIRECTION OF THE ENGINEER, PROVIDE A STABILIZED PAD OF ROCK SPALLS AT THE ENTRANCE TO THE CONSTRUCTION SITE AS NEEDED TO REDUCE THE AMOUNT OF DIRT, MUD, AND ROCKS TRANSPORTED ON TO PUBLIC ROADS. ALL PAVED PUBLIC ROADS SHALL BE SWEEPED CLEAR OF DEBRIS DAILY.
9. MAINTENANCE: ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSPECTED ON A REGULAR BASIS AND SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL, AND AT LEAST DAILY DURING PROLONGED RAINFALL. SEDIMENT SHALL BE REMOVED BEHIND SILT FENCES WHEN IT REACHES APPROXIMATELY 1/3 THE HEIGHT OF THE FENCE.
10. REMOVAL OF T.E.S.C. MEASURES: THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL BMP'S AND ACCUMULATED SEDIMENT WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THEY ARE NO LONGER NECESSARY, AS DIRECTED BY THE ENGINEER.
11. PERMANENT VEGETATIVE COVER: BEFORE CONSTRUCTION ACCEPTANCE BY THE COUNTY, THE APPLICANT SHALL ESTABLISH A PERMANENT VEGETATIVE GROUND COVER MATURE ENOUGH TO CONTROL SOIL EROSION AND TO SURVIVE SEVERE WEATHER CONDITIONS ON ALL AREAS OF LAND DISTURBANCE NOT OTHERWISE PERMANENTLY STABILIZED BY IMPERVIOUS SURFACES OR OTHER MEANS.
12. ALL WORK PERTAINING TO THIS PROJECT SHALL BE SUBJECT TO INSPECTION BY THE COUNTY INSPECTOR OR HIS DESIGNATED REPRESENTATIVE.
13. THE CONTRACTOR AND SNOHOMISH COUNTY ARE RESPONSIBLE FOR WATER QUALITY. A MONITORING PROGRAM SHALL BE ESTABLISHED BY THE PROJECT ENGINEER.
14. NONCOMPLIANCE WITH THE EROSION CONTROL REQUIREMENTS, WATER QUALITY REQUIREMENTS AND/OR CLEARING LIMITS MAY RESULT IN REVOCATION OF PROJECT PERMITS, PLAN APPROVAL AND BOND FORECLOSURES.
15. THE CONTRACTOR WILL IDENTIFY AN EROSION AND SEDIMENT CONTROL LEAD. THE LEAD SHALL IMPLEMENT THE T.E.S.C. PLAN.
16. THE CONTRACTOR SHALL SUBMIT A SPILL PREVENTION, CONTROL AND COUNTERMEASURES PLAN (S.P.C.C.) FOR APPROVAL. WASTES GENERATED FROM THE PROJECT SHALL BE DISPOSED OF IN AN APPROVED MANNER.
17. CUT AND FILL SLOPES NEED TO BE PROTECTED FROM EROSION FLOWS AND CONCENTRATED FLOWS UNTIL PERMANENT SITE COVER AND DRAINAGE CONVEYANCE SYSTEMS ARE IN PLACE. THE CONTRACTOR IS TO PROVIDE PERMANENT SEEDING DURING ALLOWED PLANTING PERIODS OR TEMPORARY STABILIZATION, INCLUDING MULCH OR TEMPORARY COVERS, AS SOON AS THE GRADING OF SLOPES IS COMPLETE. PERMANENT COVER MEASURES INCLUDE PLACEMENT OF NATIVE TOPSOIL OVER ROUGHENED SUBGRADE AND THE APPLICATION OF STRAW MULCH, WOOD MULCH AND HYDROSEED WITH SEED MIX PER THE SPECIAL PROVISIONS. THE CONTRACTOR SHALL PROVIDE SUFFICIENT IRRIGATION TO ASSURE THE GROWTH AND VITALITY OF THE SEEDED AREAS.
18. SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH BMP'S WITHIN 24 HOURS OF FORMATION.

**CONSTRUCTION SEQUENCE FOR T.E.S.C.**

1. PRE-CONSTRUCTION CONFERENCE. CONTRACTOR SUBMITS T.E.S.C. PLAN AND S.P.C.C. PLAN.
2. T.E.S.C. AND S.P.C.C. PLANS APPROVED BY THE ENGINEER.
3. FLAG OR FENCE CLEARING LIMITS, PER SURVEY ALIGNMENT AND CONTROL PLAN.
4. POST SIGN WITH NAME AND PHONE NUMBER OF T.E.S.C. SUPERVISOR.
5. INSTALL PERIMETER PROTECTION (SILT FENCE, BARRIER FENCE, ETC.), 2' INSIDE CLEARING LIMITS.
6. INSTALL STORM DRAIN INLET PROTECTION, IF REQUIRED.
7. INSTALL CONSTRUCTION ENTRANCE(S), IF REQUIRED.
8. CONSTRUCT SEDIMENT PONDS AND TRAPS.
9. CONSTRUCT DETENTION PONDS.
10. CONSTRUCT STORM DRAIN MAINLINE.
11. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, SWALES, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING.
12. STABILIZE ALL AREAS THAT REACH FINAL GRADE WITHIN SEVEN DAYS. (NO EXCAVATION OR EMBANKMENT PAYMENT WILL BE MADE UNTIL COMPLETED AREAS ARE TRIMMED, CATWALKED, TOPSOIL PLACED, EROSION CONTROL BLANKET INSTALLED, AND READY FOR SEEDING.)
13. SEED OR SOD ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.

**SITE SPECIFIC NOTES**

1. EXISTING STORMWATER RUNOFF WITHIN THE PROJECT LIMITS CURRENTLY SHEET FLOWS, THEN INFILTRATES INTO PROJECT STREAM.
2. MAINTAIN DRIVEWAY ACCESS. DO NOT BLOCK DRIVEWAY WITH SILT FENCE OR ORANGE BARRIER FENCE.
3. STOCKPILING AND EQUIPMENT STAGING SHALL NOT OCCUR WITHIN 150' OF STREAM AND/OR WETLANDS. NO EQUIPMENT SHALL OPERATE IN THE WATER OR ON THE SLOPES ABOVE THE WATER.
4. VEHICLE AND EQUIPMENT MAINTENANCE AND REFUELING ACTIVITIES SHALL NOT OCCUR WITHIN 150' OF STREAM AND/OR WETLANDS.
5. ALL CONCRETE SAW SLURRY PRODUCED DURING CONCRETE RAILING REMOVAL SHALL BE CAPTURED.
6. CONCRETE DEBRIS SHALL BE PREVENTED FROM ENTERING THE WATERWAY.

**PERMIT RESTRICTIONS**

1. THIS PROJECT HAS NO HPA FISH WINDOW.

CALL 2 DAYS BEFORE YOU DIG  
1-800-424-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE)

Last Saved By: spwrmm Apr 24, 2007 - 8:03am

PLAN CHECK	BY	DATE	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
			10	WASH.		
			DESIGNED BY:	MMA	DRAWN BY:	MMA
			FIELD BOOK(S):		DRAWING #	
			DATE	NO.	REVISION	BY



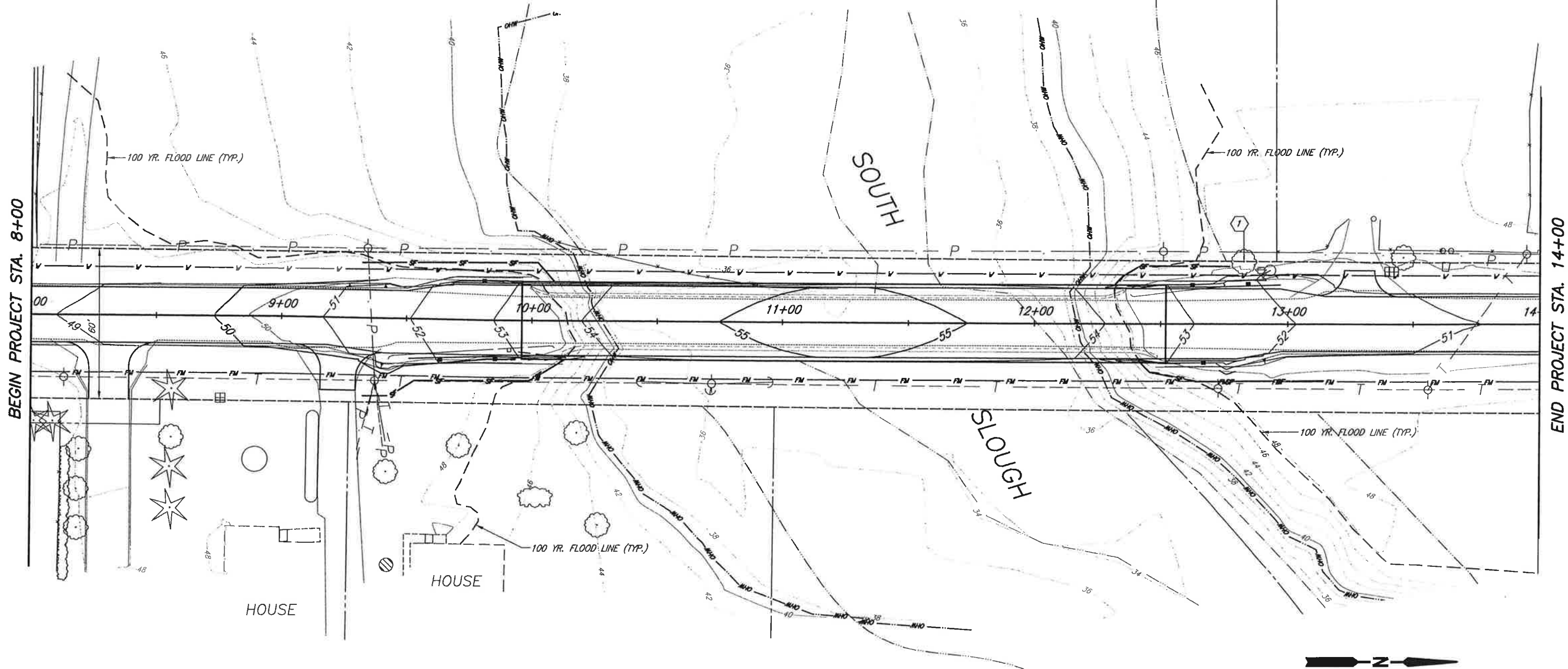
APPROVED FOR CONSTRUCTION  
*Ows Ct*  
OWEN B. CARTER, P.E.  
SNOHOMISH COUNTY ENGINEER  
6/12/07  
DATE APPROVED:

SNOHOMISH COUNTY  
DEPARTMENT OF  
PUBLIC WORKS  
PROJECT NO. RC #7246

**SOUTH SLOUGH BRIDGE #91**  
**DECK REPLACEMENT**  
**EROSION CONTROL**  
**NOTES**

SURVEY NO. 3822  
SHEET 6 OF 10 SHEETS

SECTION 8 , T. 31 N., R. 5 E., W.M.



BEGIN PROJECT STA. 8+00

END PROJECT STA. 14+00

**CONSTRUCTION NOTES:**

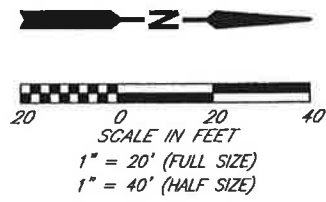
- ① TREE TO REMAIN IN PLACE, PROTECT TREE WITH ORANGE BARRIER OR ORANGE SILT FENCE.

**NOTE:**

1. SEE TEMPORARY EROSION SEDIMENT CONTROL NOTES AND CONSTRUCTION SEQUENCE SHEET 6.
2. PERMANENT INFILTRATION AREAS SHALL BE PROTECTED FROM CONSTRUCTION SEDIMENT.
3. DEWATERING AREA THRU FILTER BAG, STAY 50' MIN. FROM OHW.

**LEGEND:**

- 5' — ORANGE SILT FENCE / CLEARING LIMITS
- - - - 100 YEAR FLOOD LINE - ELEV. = 47.6'



CALL 2 DAYS BEFORE YOU DIG  
1-800-424-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE)

Last Saved By: spwmma Apr 24, 2007 - 8:03am

PLAN CHECK	BY	DATE	NO.	REVISION	BY

REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
10	WASH.		
DESIGNED BY:	MMA	DRAWN BY:	MMA
FIELD BOOK(S):		DRAWING #	



APPROVED FOR CONSTRUCTION  
*[Signature]*  
OWEN B. CARTER, P.E.  
SNOHOMISH COUNTY ENGINEER  
6/12/07  
DATE APPROVED:

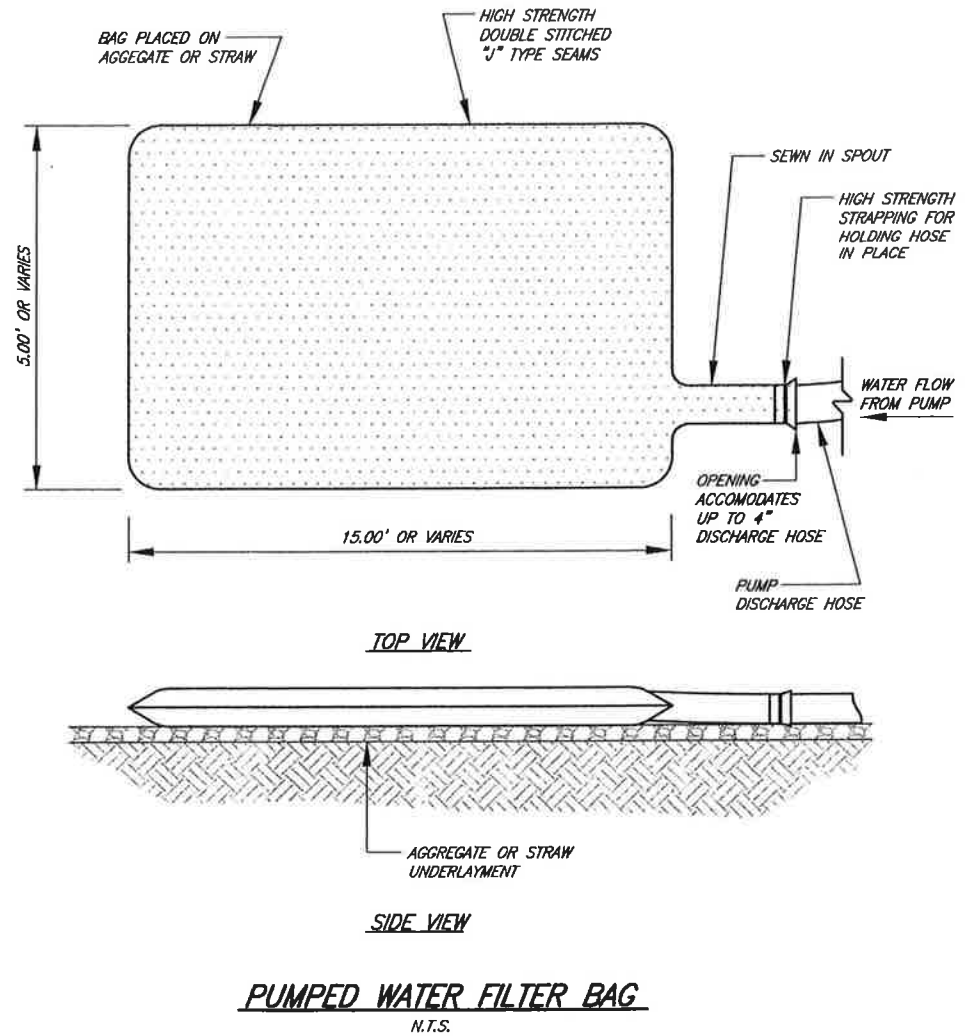
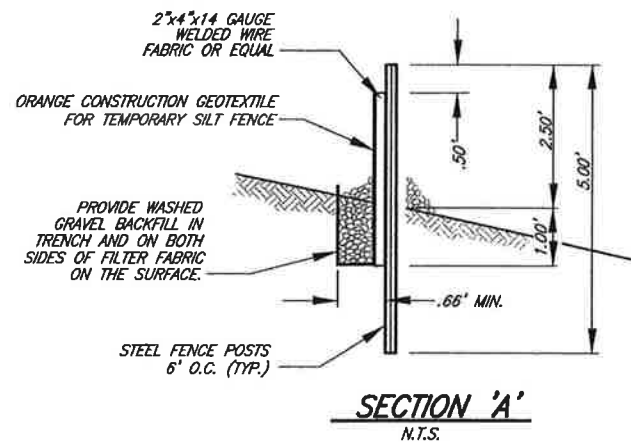
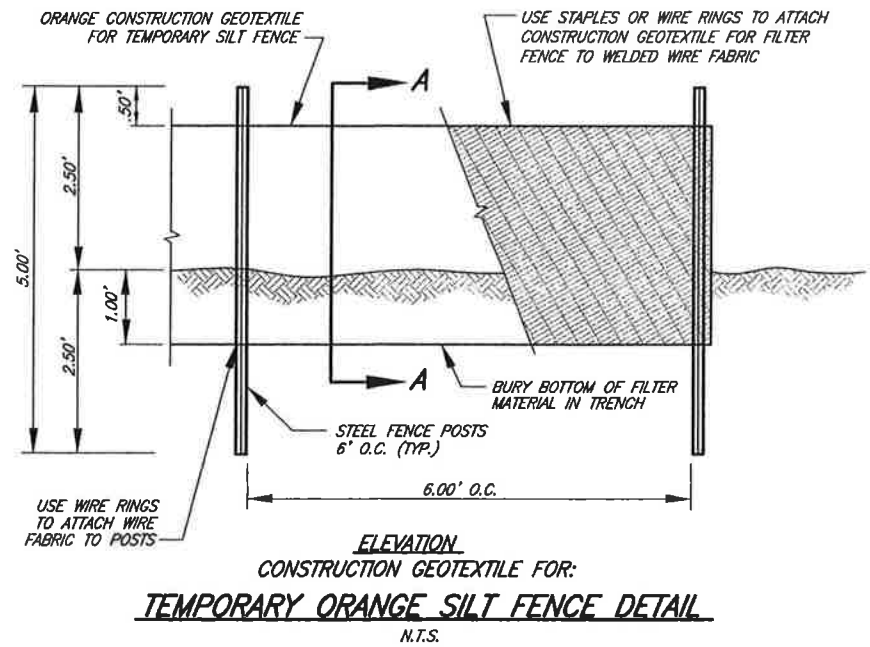
SNOHOMISH COUNTY DEPARTMENT OF PUBLIC WORKS  
PROJECT NO. RC #7246

**SOUTH SLOUGH BRIDGE #91**  
DECK REPLACEMENT  
EROSION CONTROL AND GRADING PLAN

SURVEY NO. 3822  
SHEET 7 OF 10 SHEETS



Jun 05, 2007 - 7:53am spwrmma W:\PW\_ESP\proj\3822\RC7246\Drawings\Design\SE3822-EC.DWG Layout Name: TESC-DETAILS



**NOTE:**

1. BAGS SHALL BE LOCATED IN WELL VEGETATED (GRASSY) AREA AND DISCHARGE ONTO STABLE EROSION RESISTANT AREAS. DO NOT PLACE WATER FILTER BAG IN WETLANDS.
2. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.
3. THE PUMPING RATE SHALL BE NO GREATER THAN 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER. PUMP INTAKES SHOULD BE FLOATING AND SCREENED.
4. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.
5. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.
6. ALL COST INCURRED BY THE CONTRACTOR FOR PROVIDING, INSTALLING, MAINTAINING AND DISPOSING FILTER BAG SHALL BE PAID UNDER THE ITEM "EROSION / WATER POLLUTION CONTROL".

Last Saved By: spwrmma Apr 24, 2007 - 8:03am

PLAN CHECK	BY	DATE	REVISION	BY	DATE	NO.	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
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							DESIGNED BY: MMA		DRAWN BY: MMA	
							FIELD BOOK(S):		DRAWING #	



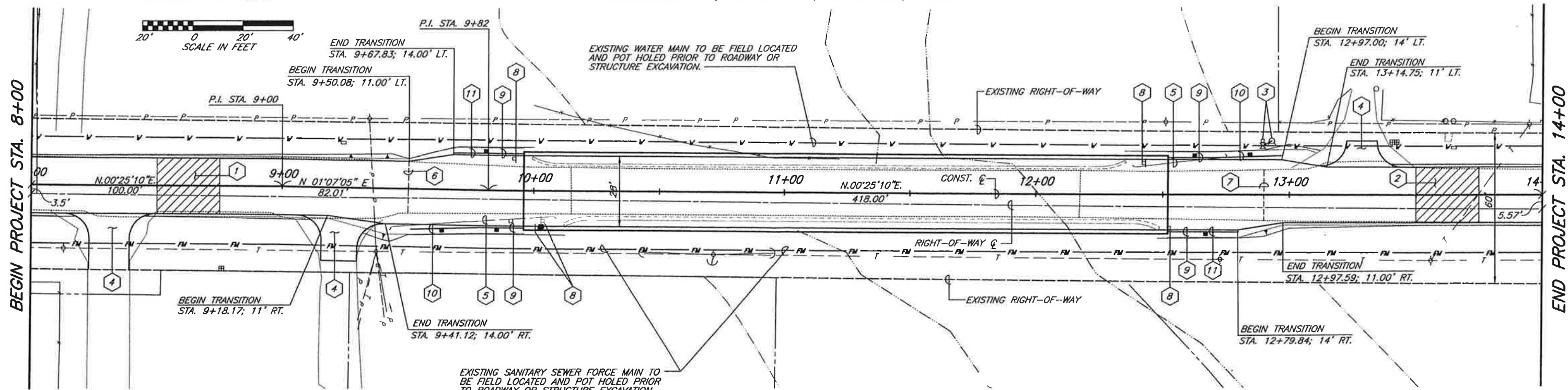
APPROVED FOR CONSTRUCTION  
  
 OWEN B. CARTER, P.E.  
 SNOHOMISH COUNTY ENGINEER  
 6/12/07  
 DATE APPROVED:

SNOHOMISH COUNTY  
 DEPARTMENT OF  
 PUBLIC WORKS  
 PROJECT NO. RC #7246

**SOUTH SLOUGH BRIDGE #91**  
 DECK REPLACEMENT  
 EROSION CONTROL  
 DETAILS

SURVEY NO. 3822  
 SHEET 8 OF 10 SHEETS

SECTION 8, T. 31 N., R. 5 E., W.M.



**CONSTRUCTION NOTES:**

- 1 BEGIN PLANING BITUMINOUS ASPHALT PAVEMENT STA. 8+50 TO STA. 8+75 SEE DETAIL SHEET 5.
- 2 BEGIN PLANING BITUMINOUS ASPHALT PAVEMENT STA. 13+50 TO STA. 13+75 SEE DETAIL SHEET 5.
- 3 TO BE RELOCATED OR ADJUSTED BY UTILITY COMPANY.
- 4 CONSTRUCT DRIVEWAY PER SCHEDULE SEE SHEET 5.
- 5 REMOVE EXISTING BEAM GUARDRAIL, INCLUDES ANCHORS AND TERMINALS.

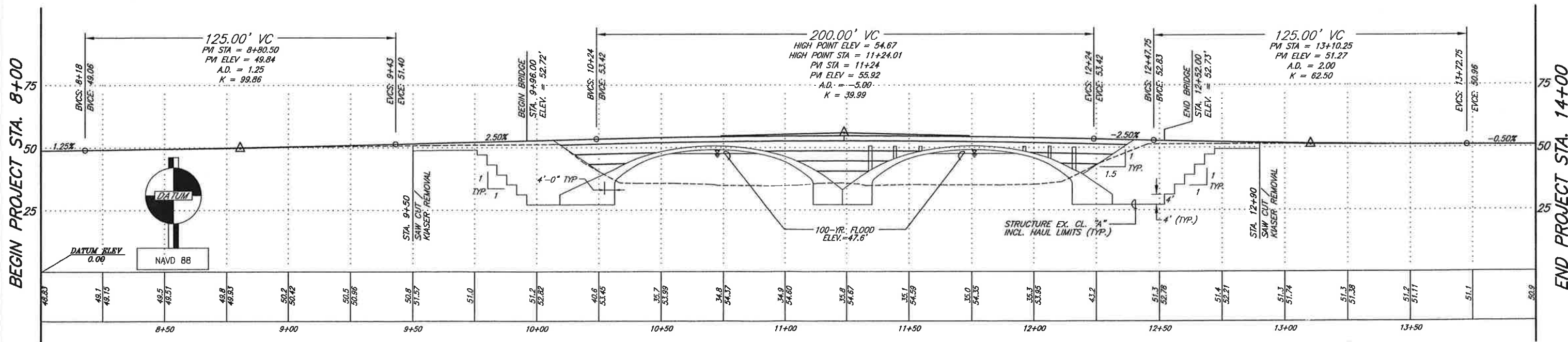
- 6 SAWCUT EXISTING ASPHALT PAVEMENT STA. 9+50. REMOVE EXISTING ASPHALT PAVEMENT, AND CONCRETE KIASER PANELS STA. 9+50 TO STA. 10+15±.
- 7 SAWCUT EXISTING ASPHALT PAVEMENT STA. 12+90. REMOVE EXISTING ASPHALT PAVEMENT, AND CONCRETE KIASER PANELS STA. 12+17.50 TO STA. 12+90±.
- 8 RELOCATE EXISTING SIGN.

- 9 INSTALL GUARDRAIL TRANSITION SECTION PER STD. PLAN C-3 TYPE 1a.
- 10 INSTALL BEAM GUARDRAIL, NON-FLARED TERMINAL ET-PLUS (TL2) PER STD. PLAN C-4e.
- 11 INSTALL BEAM GUARDRAIL ANCHOR TYPE 1 PER STD. PLAN C-6.

**GENERAL NOTES:**

1. SEE APPROACH WALL ROAD SECTION SHEET 5.

CALL 2 DAYS BEFORE YOU DIG  
1-800-424-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE)

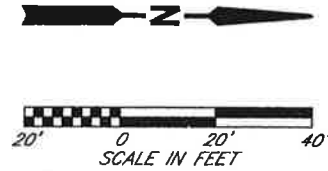


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PLAN CHECK	BY	DATE	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
			10	WASH.		
DESIGNED BY:	DRAWN BY:					
FIELD BOOK(S):	DRAWING #					
DATE	NO.	REVISION	APPROVED FOR CONSTRUCTION		SNOHOMISH COUNTY DEPARTMENT OF PUBLIC WORKS SOUTH SLOUGH BRIDGE #91 DECK REPLACEMENT PLAN AND ELEVATION PROJECT NO. RC #7246	
			OWEN B. CARTER, P.E. SNOHOMISH COUNTY ENGINEER 6/12/07 DATE APPROVED:		SURVEY NO. 3822 SHEET 9 OF 10 SHEETS	

Jun 05, 2007 - 8:18am spwrmm W:\PW\_ESP\Proj\3822\ARC7246\Drawings\Design\PS\3822-PP.dwg Layout Name: PLAN-PROF

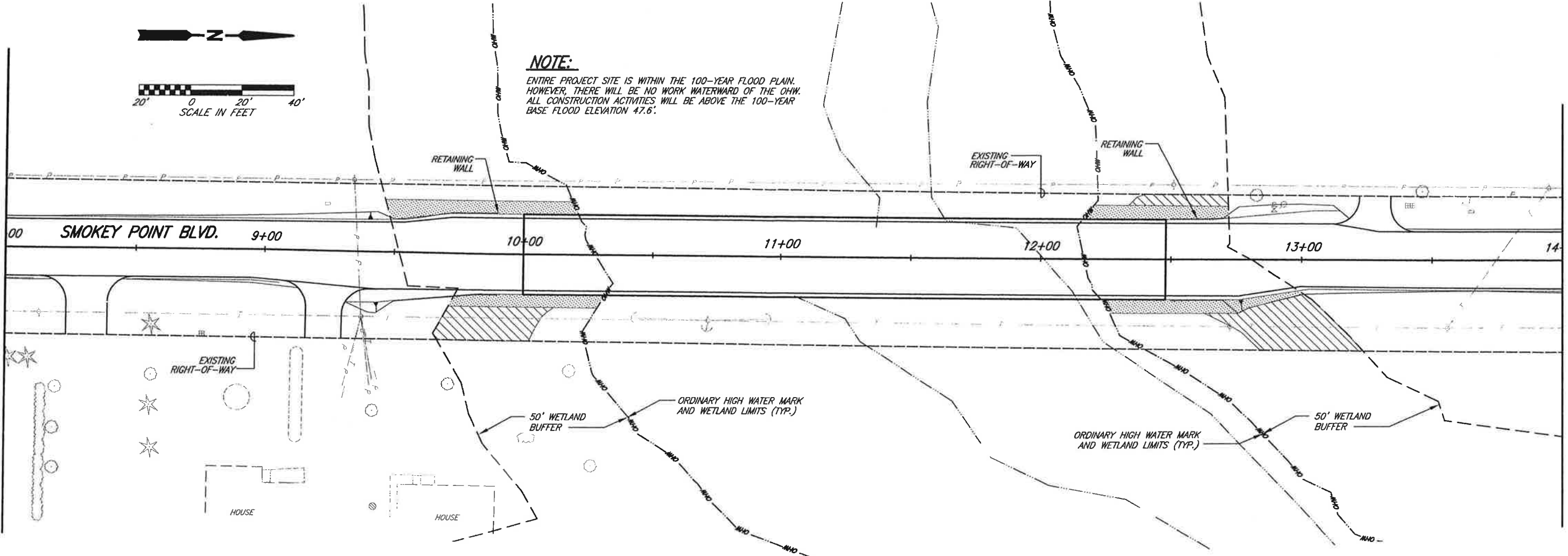
SECTION 8 , T. 31 N., R. 5 E., W.M.



**NOTE:**  
ENTIRE PROJECT SITE IS WITHIN THE 100-YEAR FLOOD PLAIN. HOWEVER, THERE WILL BE NO WORK WATERWARD OF THE OHW. ALL CONSTRUCTION ACTIVITIES WILL BE ABOVE THE 100-YEAR BASE FLOOD ELEVATION 47.6'.

BEGIN PROJECT STA. 8+00

END PROJECT STA. 14+00



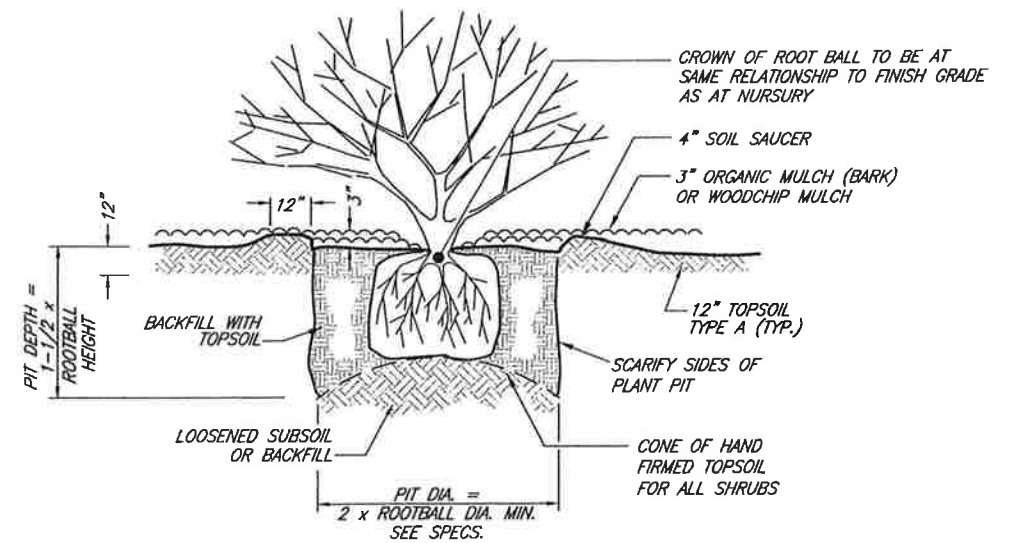
PLANTING SCHEDULE FOR BUFFER AREAS				
COMMON NAME	SPECIES	SIZE	SPACING	QUANTITY
<b>SHRUBS:</b>				
SALMONBERRY	<i>Rubus Spectabilis</i>	1+ GAL.	5' O. C.	35
THIMBLEBERRY	<i>Rubus Parviflorus</i>	1+ GAL.	5' O. C.	35
SNOWBERRY	<i>Symphoricarpos Albus</i>	1+ GAL.	5' O. C.	35
TOTAL:				105

- NOTES FOR LANDSCAPING AREAS:**
1. PLANT GROUPINGS TO BE STAKED IN THE FIELD BY CONSTRUCTION ENGINEER OR ASSIGNED DESIGNER.
  2. AMEND SOILS BY PLACING 4 INCHES OF COMPOST AND TILLING INTO TOPSOIL TYPE 'A'.
  3. HYDROSEED UNPLANTED AREAS WITH LOW GROW MIX.
  4. MINIMUM TOPSOIL TYPE 'A' OR EXISTING TOPSOIL IF EQUIVALENT.

- NOTES FOR SLOPE PLANTING AREAS:**
1. SLOPE PLANTINGS WILL BE A MINIMUM WIDTH OF 4 FEET.
  2. PLACE 1 FOOT OF TOPSOIL TYPE 'A'.
  3. PLANTING HOLES TO BE DUG TO TWICE THE DIAMETER OF PLANTING STOCK.
  4. PLANTS WILL BE PLANTED SO THAT ALL ROOTS ARE COVERED BY SOIL.
  5. PLANTS IN SLOPE PLANTING AREAS WILL HAVE WATERING RINGS FORMED AROUND THEM DURING INSTALLATION AND PLACEMENT OF MULCH.
  6. BARK MULCH WILL BE TAPERED TO SURFACE OF SOIL AT PLANT STEMS AND FORMED SUCH THAT 'A' WATERING RING 1 FOOT IN DIAMETER IS FORMED.
  7. PLANTS WILL BE WATERED IN AT THE TIME OF INSTALLATION SO THAT THE ROOTS ARE SATURATED.

**LEGEND:**

- BUFFER ENHANCEMENT  
1,391 SQ. FT. (.03 ACRE)
- BUFFER RESTORATION  
1,277 SQ. FT. (.03 ACRE)



**TREE AND SHRUB PLANTING DETAIL**  
N.T.S.

Last Saved By: spwrtr Jun 05, 2007 - 8:38am

PLAN CHECK	BY	DATE	REVISION	BY

REGION NO. 10	STATE WASH.	FED. AID PROJ. NO.	SHEET NO.
DESIGNED BY: L. BREWER, MMA		DRAWN BY: MMA, RTR	
FIELD BOOK(S):		DRAWING #	



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*[Signature]*  
OWEN B. CARTER, P.E.  
SNOHOMISH COUNTY ENGINEER  
6/12/07  
DATE APPROVED:

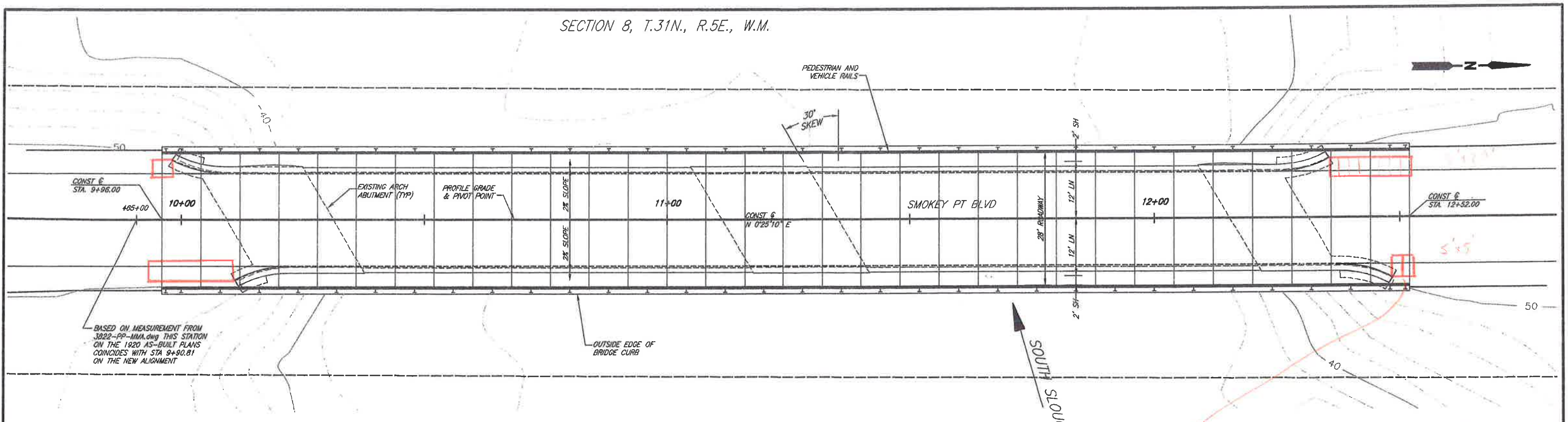
SNOHOMISH COUNTY  
DEPARTMENT OF  
PUBLIC WORKS  
PROJECT NO. RC #7246

**SOUTH SLOUGH BR.#91  
DECK REPLACEMENT  
MITIGATION PLAN  
AND DETAILS**

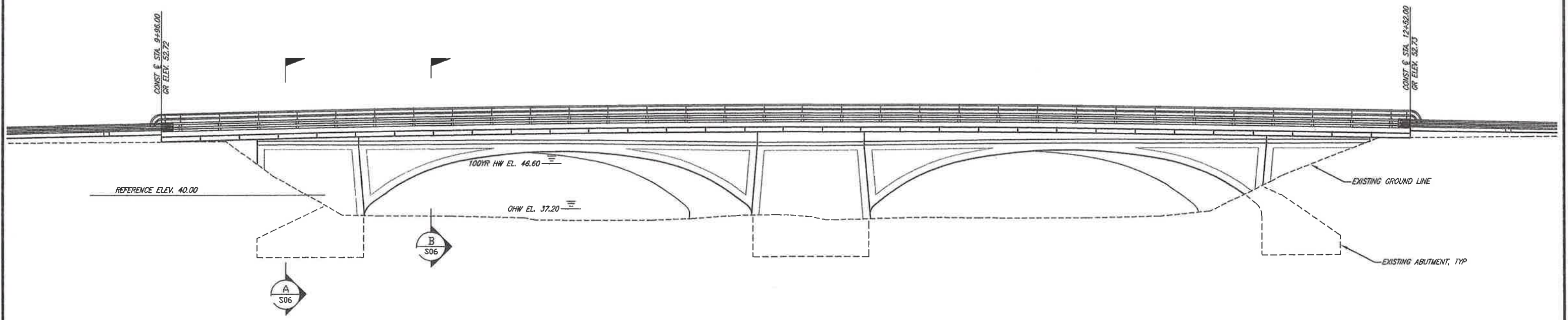
SURVEY NO. 3822
SHEET 10 OF 10 SHEETS

Jun 05, 2007 - 8:42am spwrtr W:\PW\_ESP\proj\3822\RC7246\Drawings\Design\3822 MITIGATION PLAN.dwg Layout Name: Mitigation Plan

SECTION 8, T.31N., R.5E., W.M.



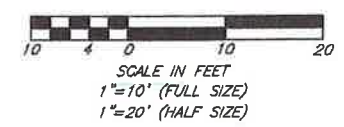
PLAN



ELEVATION



N.A.V.D. OF 1988



PLAN CHECK	BY	DATE
	YQG	4/07

DATE	NO.	REVISION	BY

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REGION NO.	STATE	FED. AID PROJ. NO.	SURVEY NO.
10	WASH.		3822
DESIGNED BY: CB		DRAWN BY: MS/CB	
FIELD BOOK(S):		UPI#	

APPROVED FOR CONSTRUCTION

OWEN B. CARTER, P.E.  
SNOHOMISH COUNTY ENGINEER  
6/12/07

DATE APPROVED: 6/12/07

EXPIRES 02/12/08

SNOHOMISH COUNTY  
DEPARTMENT OF  
PUBLIC WORKS

FUNDING NO. RC#7246

**SOUTH SLOUGH BR. #91  
DECK REPLACEMENT  
BRIDGE  
LAYOUT**

REFERENCE SHEET NO. S1

SHEET 1 OF 9 SHEETS

May 17, 2007 - 9:55am blinkley M:\160062 Snohomish On Call\Task Orders\Bridge 91\CADD\STRCSHT\BR91-BP-S1.dwg Layout Name: LAYOUT

## GENERAL STRUCTURAL NOTES:

- A. THESE NOTES CONTAIN GENERAL INFORMATION AND ARE NOT COMPLETE FOR CONSTRUCTION PURPOSES. CONTRACTOR SHALL VERIFY INFORMATION GIVEN HERE WITH SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS.
- B. ALL DIMENSIONS AND DETAILS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATION AND CONSTRUCTION.
- C. ALL SHOP DRAWINGS FOR PRECAST CONCRETE ELEMENTS, REINFORCING STEEL, AND MISCELLANEOUS STEEL SHALL BE SUBMITTED TO AND REVIEWED BY THE COUNTY PRIOR TO FABRICATION.
- D. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATE OF WASHINGTON DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION DATED 2006, EXCEPT AS NOTED IN THE PROJECT SPECIAL PROVISIONS & CONTRACT PLANS.
- E. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE:
- SNOHOMISH COUNTY ENGINEERING DESIGN AND DEVELOPMENT STANDARDS (EDDS)
  - WASHINGTON STATE DEPARTMENT OF TRANSPORTATION "2006 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION"
  - WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD PLANS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION - ENGLISH, M21-01 WITH REVISIONS THROUGH 6-08-2006.
  - AASHTO "LRFD BRIDGE DESIGN SPECIFICATIONS," 3RD EDITION, 2004 WITH 2006 INTERIMS FOR THE ROADWAY SLAB
  - WSDOT BRIDGE DESIGN MANUAL LRFD (M23-50), 2006.

### F. MATERIALS OF CONSTRUCTION

#### 1. CONCRETE

PRECAST ROADWAY SLABS CLASS 4,000  
CURBS CLASS 4,000

#### 2. BACKFILL

LOW DENSITY CELLULAR CONCRETE FILL  
MAX DENSITY 30 PCF  
MIN COMPRESSIVE STRENGTH 40 PSI

#### 3. REINFORCEMENT

REINFORCING STEEL SHALL BE AASHTO M31 (ASTM A615) GRADE 60 (UNLESS SPECIFIED DIFFERENTLY IN THE PLANS).  
REBAR CLEARANCE INDICATED IN THE PLANS ARE FROM SURFACE OF CONCRETE TO THE SURFACE OF THE REBAR.  
ALL HOOKS SHALL BE STANDARD HOOKS UNLESS NOTED OTHERWISE.

#### 4. GROUT

ALL GROUT, EXCEPTED AS NOTED IN THE SPECIFICATION, SHALL BE PREPACAGED, NON-SHRINK GROUT, MIXED, PLACED AND CURED AS RECOMMENDED BY THE MANUFACTURER. MINIMUM GROUT STRENGTH SHALL BE 4000 PSI.

#### 5. STRUCTURAL STEEL

ALL STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M270 (ASTM A709), GRADE 50, UNLESS OTHERWISE NOTED IN THE PLANS. ALL STRUCTURAL STEEL SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION EXCEPT AS NOTED.

#### 6. BOLTS

ALL BOLTED CONNECTIONS ARE FRICTION TYPE UNLESS NOTED OTHERWISE CONFORMING TO THE STANDARD SPECIFICATIONS FOR HIGH STRENGTH BOLTS, AASHTO M164 (ASTM A325).

ALL BOLTS THAT HAVE LOCK WASHERS SHALL BE TIGHTENED TO SNUG ONLY. "SNUG TIGHT" IS DEFINED IN THE W.S.D.O.T. STANDARD SPEC. SECTION 6-03.3(32)

#### 7. TIE RODS

THE LONGITUDINAL TIE RODS SHALL BE  $\frac{3}{8}$ " AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM A449. ALL THE TIE RODS, PLATES, NUTS AND WASHERS SHALL BE GALVANIZED. STEEL PLATES SHALL CONFORM TO AASHTO M163. TIE ROD WASHERS SHALL BE LOAD INDICATOR WASHERS CONFORMING TO ASTM F959. OTHER WASHERS SHALL CONFORM TO AASHTO M293 (ASTM F436). NUTS SHALL CONFORM TO AASHTO M291 (ASTM A563, GRADE 1H).

G. UNLESS OTHERWISE NOTED ON THE PLANS, THE CONCRETE COVER TO THE FACE OF THE OUTERMOST REINFORCING BAR SHALL BE 2"

H. ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER, UNLESS OTHERWISE NOTED.

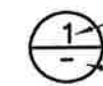
I. ALL DIMENSIONS SHOWN ARE HORIZONTAL OR VERTICAL UNLESS OTHERWISE NOTED. ALL PLAN DIMENSIONS ARE BASED ON A NORMAL INSTALLATION TEMPERATURE OF 64° F.

## LEGEND:



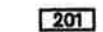
LETTER IDENTIFIES SECTION OR VIEW

IDENTIFIES SHEET NO. ON WITCH SECTION, VIEW OR DETAIL IS SHOWN OR TAKEN FROM



NUMBER IDENTIFIES DETAILS

"-" INDICATES SHOWN ON THE SAME SHEET



REINFORCEMENT BAR MARK



EPOXY COATED BAR

## ABBREVIATION:

ABT ABOUT  
APPROX APPROXIMATE  
BOT BOTTOM  
BRG BEARING  
CLR CLEARLINE  
CLR CLEAR  
CIP CAST IN PLACE  
CG CENTER OF GRAVITY  
GSTC CRUSHED SURFACING TOP COURSE  
DEMO DEMOLITION  
EA EACH  
EF EACH FACE  
EL ELEVATION  
EQ EQUAL  
EXT EXTERNAL  
FT FOOT/FEET  
FF FAR FACE  
GR GRADE  
H.S. HIGH STRENGTH  
IN INCHES  
INT INTERNAL  
LDCC LOW DENSITY CELLULAR CONCRETE  
LT LEFT  
MAX MAXIMUM  
MIN MINIMUM  
N NORTH  
NF NEAR FACE  
NTS NOT TO SCALE  
OHW ORDINARY HIGH WATER  
P/S PRESTRESSED  
PT POINT  
R RADIUS  
RC REINFORCED CONCRETE  
RT RIGHT  
SEW STRUCTURAL EARTH WALL  
SH SHOULDER  
SHT SHEET  
SPA SPACING  
STA STATION  
SYM SYMMETRICAL  
TYP TYPICAL  
UNO UNLESS NOTED OTHERWISE  
W/ WITH  
W/O WITHOUT  
& AND

PLAN CHECK	BY	DATE	REVISION	BY
	YQG	4/07		

Last Saved By: blinkley May 17, 2007 - 10:06am				
REGION NO.	STATE	FED. AID PROJ. NO.	SURVEY NO.	
10	WASH.		3822	
DESIGNED BY:		DRAWN BY:		
CB		CB/MS		
FIELD BOOK(S):		UPI#		

**PB** PARSONS BRINCKERHOFF

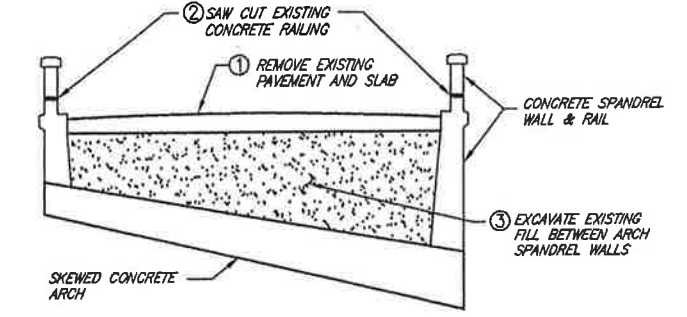
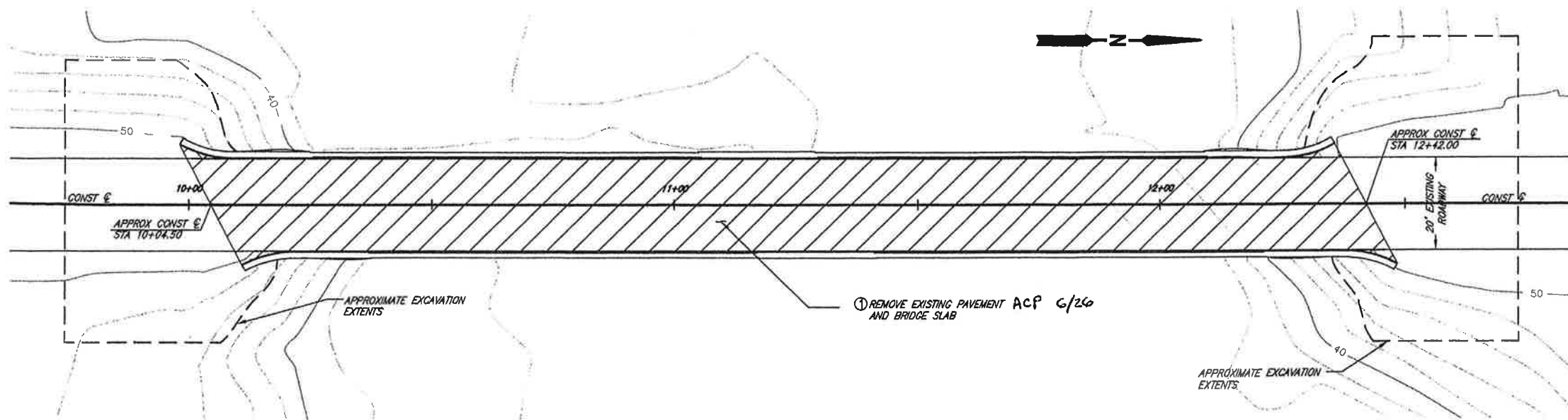


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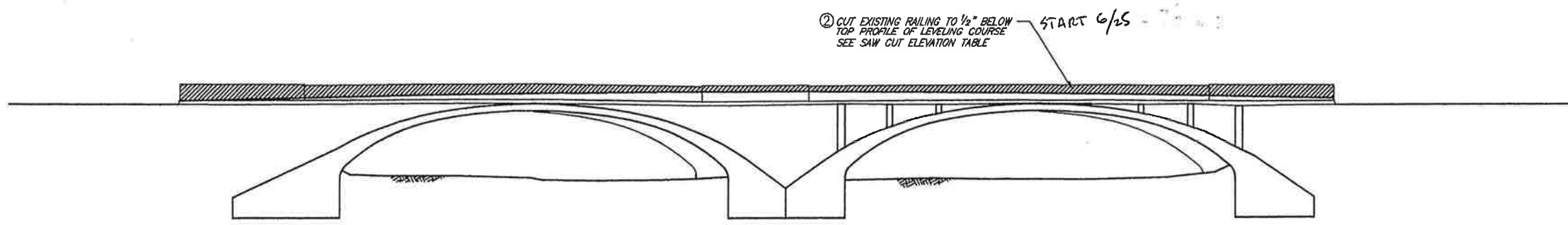
OWEN B. CARTER, P.E.  
SNOHOMISH COUNTY ENGINEER  
5/21/07 6/12/07  
DATE APPROVED:

EXPIRES 02/12/08

SNOHOMISH COUNTY DEPARTMENT OF PUBLIC WORKS FUNDING NO. RC #7246	SOUTH SLOUGH BR. #91 DECK REPLACEMENT GENERAL STRUCTURAL NOTES AND LEGEND	REFERENCE SHEET NO. S2
		SHEET 2 OF 9 SHEETS

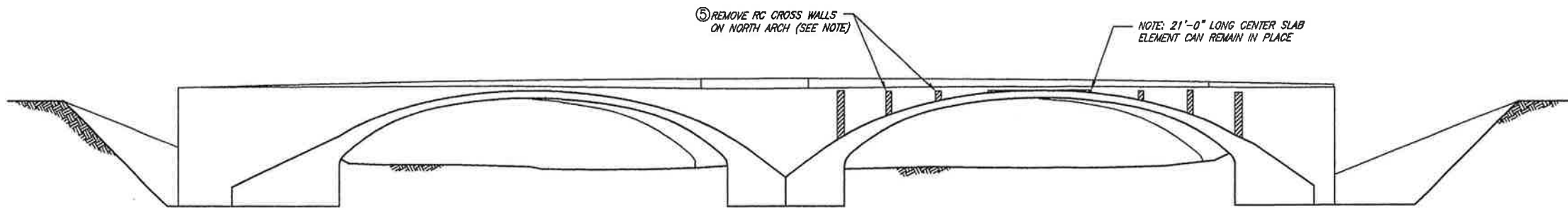
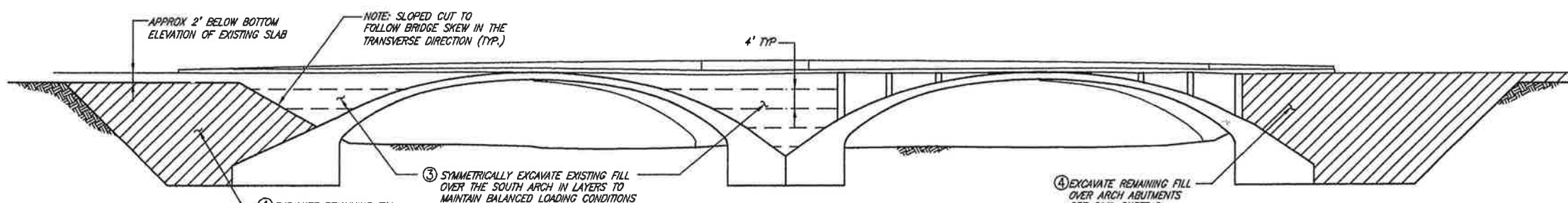


**SCHEMATIC SECTION OF EXISTING ARCH**



**SAW CUT ELEVATIONS**

PT.	STA.	ELEV.
1	9+50.00	50.032
2	9+60.00	50.282
3	9+70.00	50.532
4	9+80.00	50.782
5	9+90.00	51.032
6	10+00.00	51.282
7	10+10.00	51.532
8	10+20.00	51.782
9	10+30.00	52.028
10	10+40.00	52.250
11	10+50.00	52.448
12	10+60.00	52.620
13	10+70.00	52.768
14	10+80.00	52.891
15	10+90.00	52.988
16	11+00.00	53.061
17	11+10.00	53.108
18	11+20.00	53.131
19	11+24.00	53.133
20	11+30.00	53.129
21	11+40.00	53.101
22	11+50.00	53.048
23	11+60.00	52.971
24	11+70.00	52.868
25	11+80.00	52.741
26	11+90.00	52.588
27	12+00.00	52.411
28	12+10.00	52.208
29	12+20.00	51.981
30	12+30.00	51.733
31	12+40.00	51.483
32	12+50.00	51.233
33	12+60.00	50.995
34	12+70.00	50.773
35	12+80.00	50.566
36	12+90.00	50.376
37	13+00.00	50.202



**NOTE:**  
 REMOVAL OF CROSS WALLS IS OPTIONAL. IF CROSS WALLS ARE LEFT INTACT THEN EXTRA CARE SHALL BE TAKEN TO ENSURE THAT BALANCED LOADING CONDITIONS BE MAINTAINED ON THE ARCH DURING LDCC FILL PLACEMENT  
 REMOVAL OF EXISTING CROSS WALLS SHALL BE CONDUCTED IN SUCH A MANNER AS TO AVOID ANY DAMAGE TO THE EXISTING STRUCTURAL ARCHES.  
 UNLESS IT IS EVIDENT THAT THE CROSS WALLS CAN BE FULLY REMOVED WITHOUT DAMAGE TO THE ARCH ITSELF, THE CONTRACTOR SHALL LEAVE THE LOWER 6" OF EACH CROSS WALL INTACT.  
 NO HAMMERING SHALL BE ALLOWED DURING REMOVAL OF THE RC CROSS WALLS.

May 17, 2007 - 9:56am binkley M:\160062 Snohomish On Call\Task Orders\Bridges\91\CADD\STRUC\BTRF91-FP-S3.dwg Layout Name: Layout1

PLAN CHECK	BY	DATE	NO.	REVISION	BY
	YQG	4/07			

Last Saved By: binkley May 17, 2007 - 9:49am

REGION NO.	STATE	FED. AID PROJ. NO.	SURVEY NO.
10	WASH.		3822

DESIGNED BY: CB  
 DRAWN BY: CB/MS  
 FIELD BOOK(S):  
 UPI#

**PB PARSONS BRINCKERHOFF**

APPROVED FOR CONSTRUCTION

OWEN B. CARTER, P.E.  
 SNOHOMISH COUNTY ENGINEER

5/22/07 6/12/07

EXPIRES 02/12/08 DATE APPROVED:

SNOHOMISH COUNTY  
 DEPARTMENT OF  
 PUBLIC WORKS

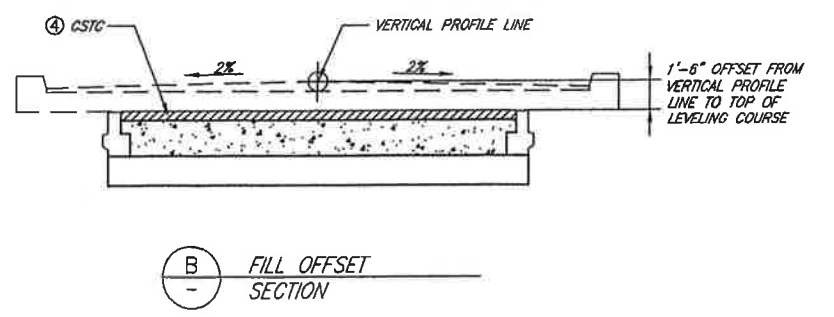
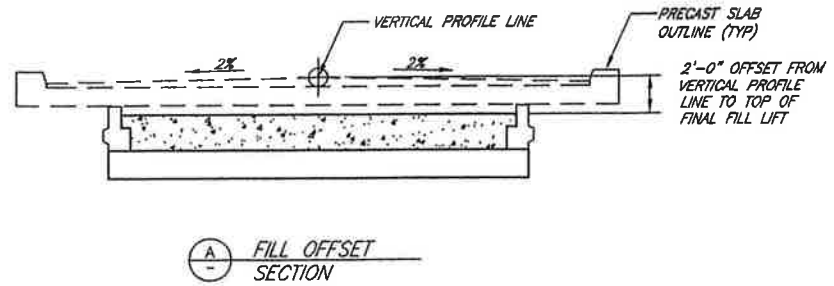
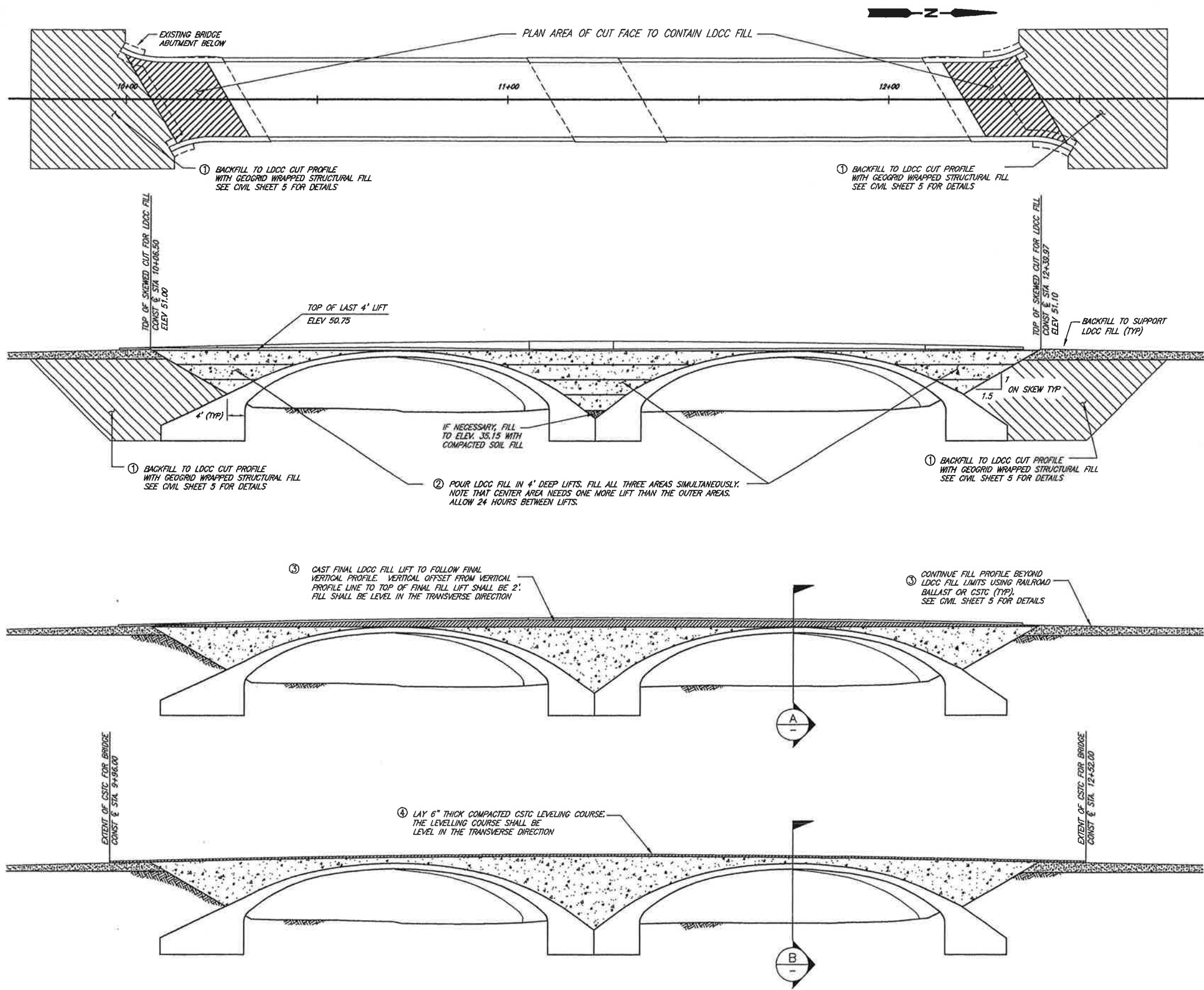
FUNDING NO. RC#7246

**SOUTH SLOUGH BRIDGE #91**  
 DECK REPLACEMENT  
 DEMOLITION PLAN  
 AND SEQUENCE

REFERENCE SHEET NO. S3

SHEET 3 OF 9 SHEETS

May 17, 2007 - 9:56am blinkley M:\160062 Snohomish On Call\Task Orders\Bridge 91\CAD\DISTRICTS\HTBF91-WD-S4.dwg Layout Name: Layout1



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REGION NO.	STATE	FED. AID PROJ. NO.	SURVEY NO.
10	WASH.		3822
DESIGNED BY:	DRAWN BY:		
CB	CB/MS		
FIELD BOOK(S):	UPI#		

**PARSONS BRINCKERHOFF**

APPROVED FOR CONSTRUCTION

OWEN B. CARTER, P.E.  
SNOHOMISH COUNTY ENGINEER

5/22/07 6/12/07

DATE APPROVED:

EXPIRES 02/12/08

SNOHOMISH COUNTY  
DEPARTMENT OF  
PUBLIC WORKS

FUNDING NO. RC #7246

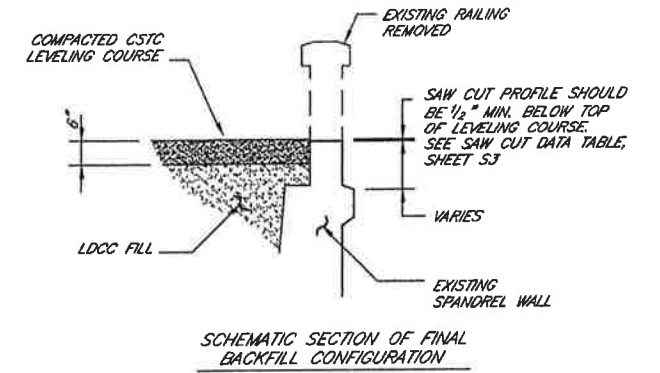
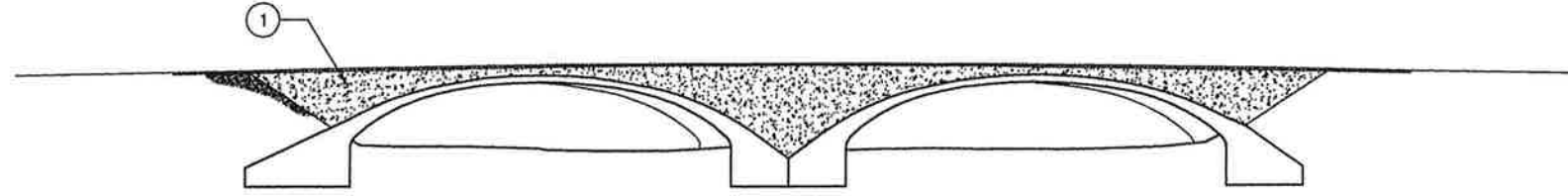
**SOUTH SLOUGH BR. #91  
DECK REPLACEMENT  
BACKFILL PLAN  
AND SEQUENCE**

REFERENCE SHEET NO. S4

SHEET 4 OF 9 SHEETS

STAGE 1

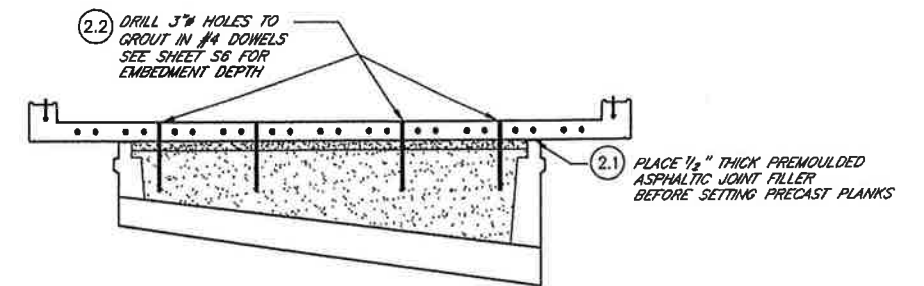
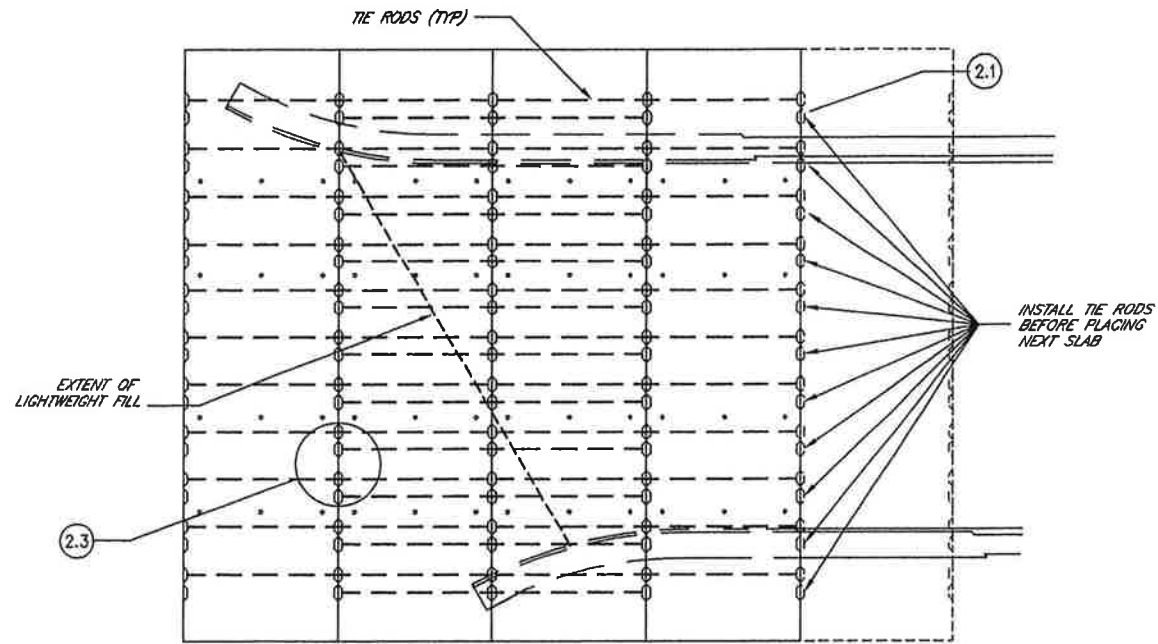
1. COMPLETE DEMOLITION AND BACKFILL SEQUENCE: SHEETS S3 & S4



SCHEMATIC SECTION OF FINAL BACKFILL CONFIGURATION

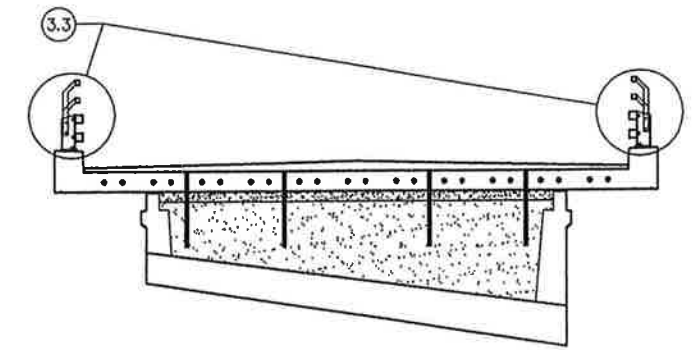
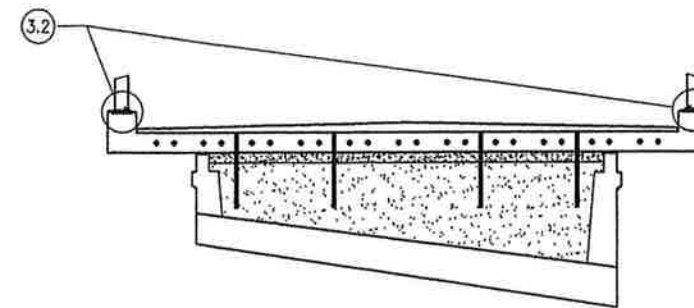
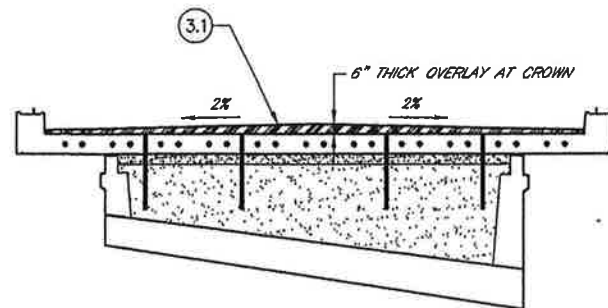
STAGE 2

- 2.1. PLACE PRECAST CONCRETE PLANKS AND ASPHALTIC JOINT FILLER; SEE DETAIL 1, SHEET S6; INSTALL THE RODS BETWEEN PLANKS AS PLANK PLACEMENT PROGRESSES
- 2.2. USING EXISTING HOLES IN THE PRECAST PLANKS AS A GUIDE, DRILL 3/8" HOLES INTO LDCC FILL. INSTALL REBAR DOWELS IN HOLES THEN GROUT IN PLACE.
- 2.3. SEAL AND GROUT KEYWAYS BETWEEN PRECAST PLANKS



STAGE 3

- 3.1. PLACE ASPHALT CONCRETE OVERLAY
- 3.2. LEVEL GUARDRAIL POSTS USING JAM NUTS. GROUT CURB RECESS
- 3.3. INSTALL GUARDRAIL



PLAN CHECK	BY	DATE	NO.	REVISION	BY
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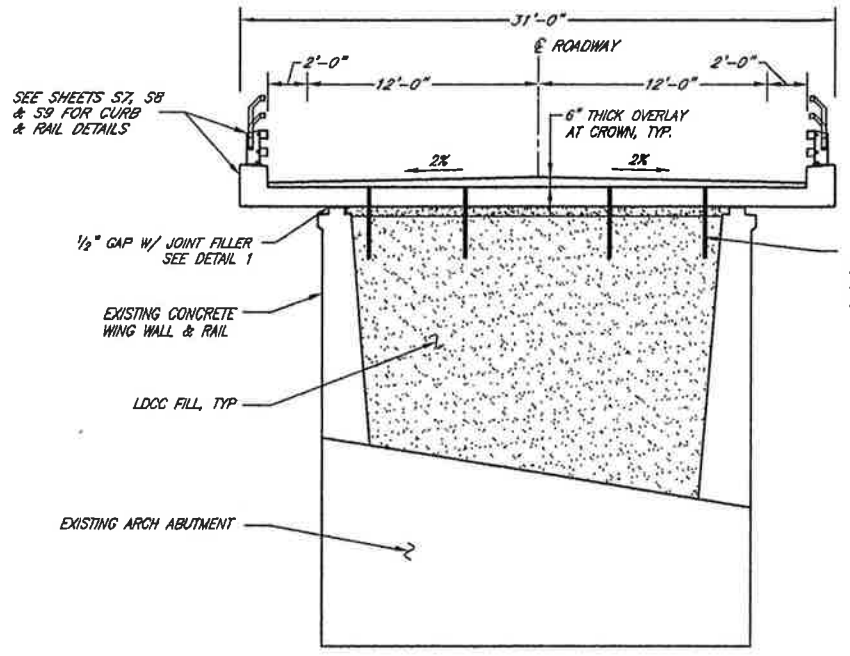
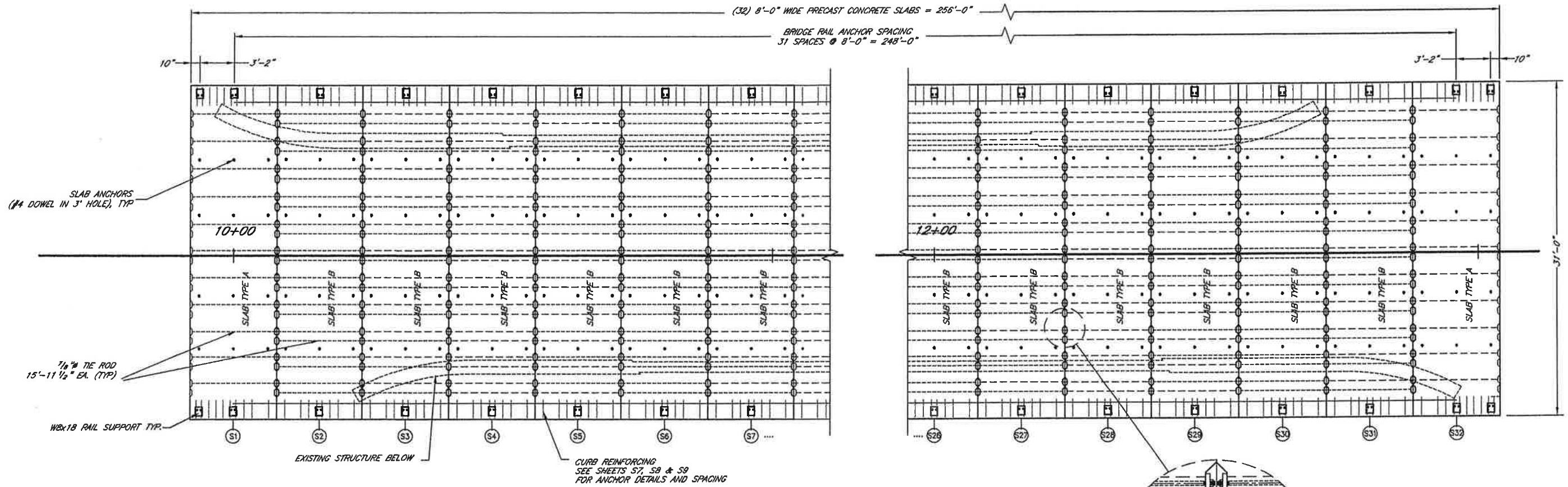
SNOHOMISH COUNTY  
 DEPARTMENT OF  
 PUBLIC WORKS  
 FUNDING NO. RC #7246

**SOUTH SLOUGH BR. #91  
 DECK REPLACEMENT  
 CONSTRUCTION SEQUENCE**

REFERENCE SHEET NO.	S5
SHEET	5
OF	9
SHEETS	

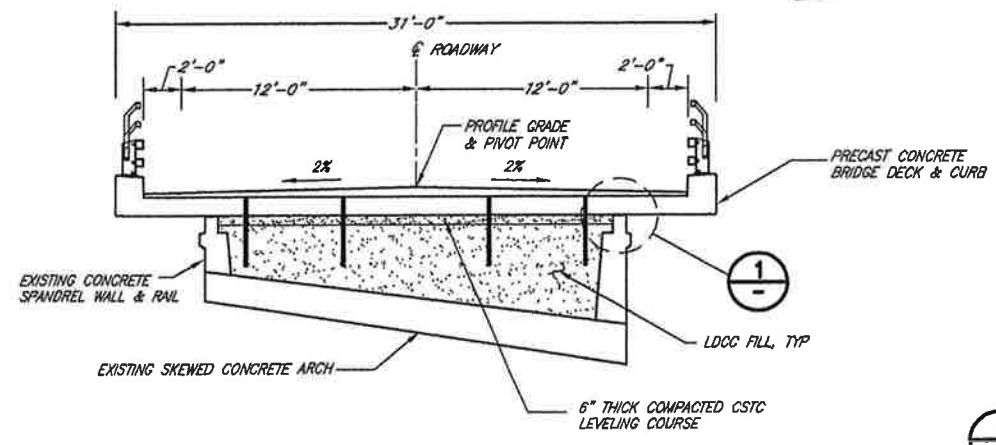


May 17, 2007 - 9:56am binkley M:\160062 Snohomish On Call\Task Orders\Bridges\91\CADD\STRCS\SH\TBR91-FP-S6.dwg Layout Name: Layout

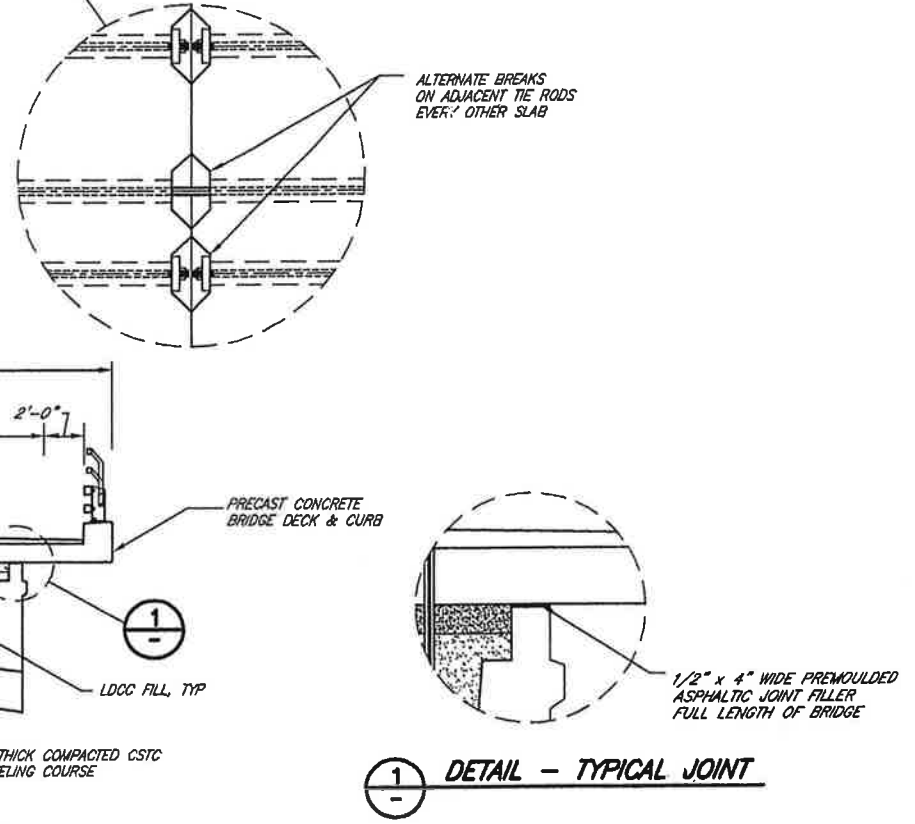


DOWEL EMBEDMENT DEPTH	
SLAB #	EMBEDMENT DEPTH INTO LDCC FILL
S1-S6	2'-7"
S7-S12	1'-7"
S13-S20	2'-7"
S21-S26	1'-7"
S27-S32	2'-7"

**A** SECTION AT SOUTH ABUTMENT  
 S1 LOOKING AHEAD STATION, SECTION CUT PERPENDICULAR TO CONST E



**B** SECTION AT ARCH QUARTER SPAN  
 S1 LOOKING AHEAD STATION, SECTION CUT PERPENDICULAR TO CONST E



PLAN CHECK	BY	DATE	NO.	REVISION	BY
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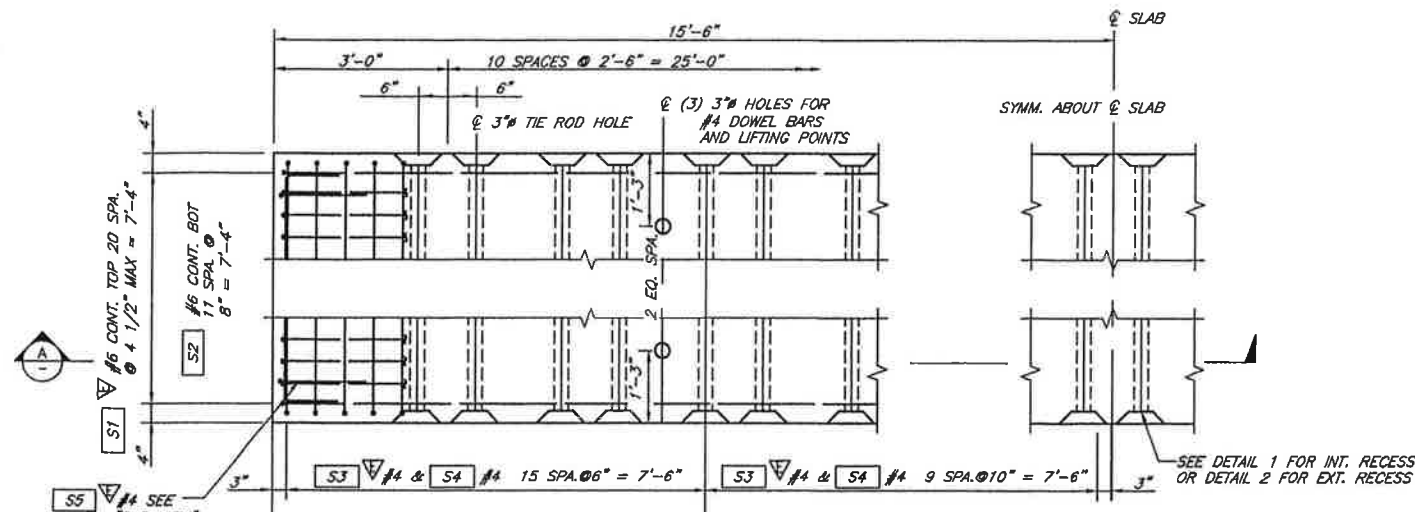
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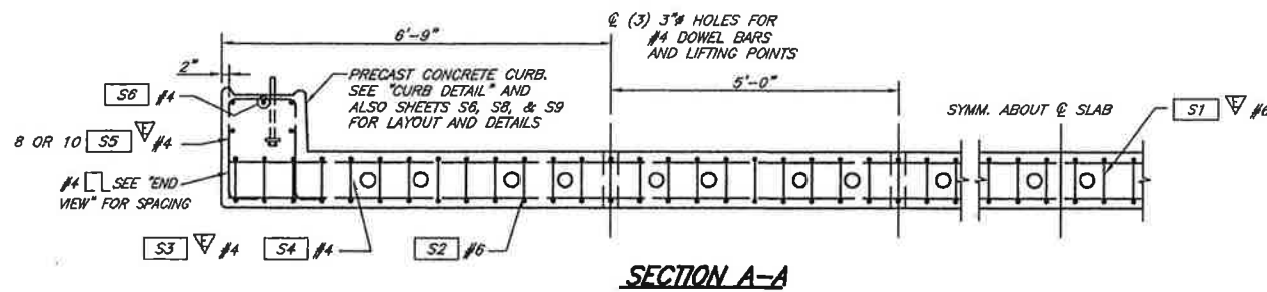
**SOUTH SLOUGH BR. #91  
 DECK REPLACEMENT  
 FRAMING PLAN**

REFERENCE SHEET NO.	S6
SHEET	6
OF	9
SHEETS	

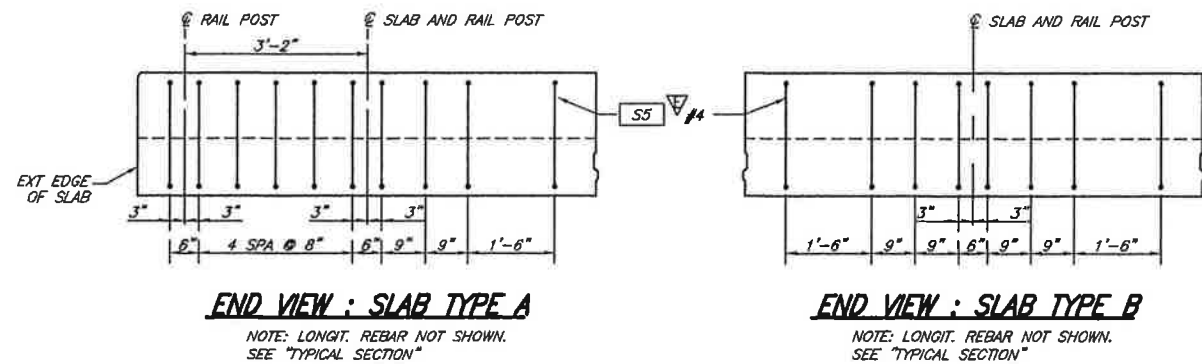
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**PLAN VIEW: PRECAST SLAB REINFORCEMENT**



**SECTION A-A**



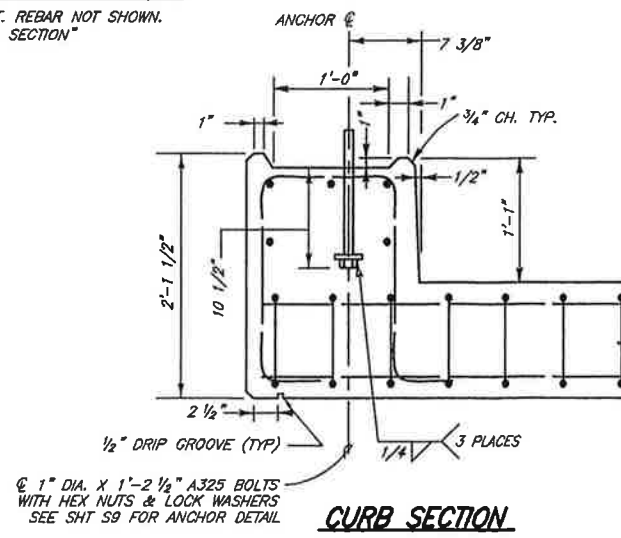
**END VIEW: SLAB TYPE A**

NOTE: LONGIT. REBAR NOT SHOWN. SEE "TYPICAL SECTION"

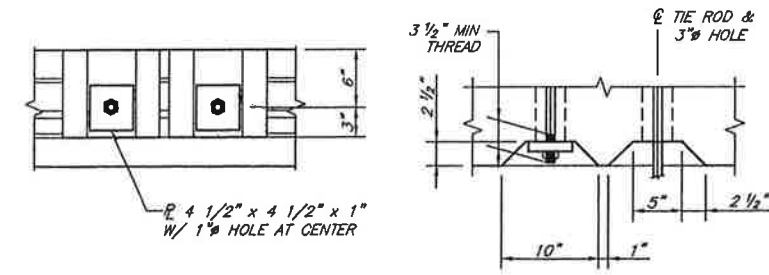
**END VIEW: SLAB TYPE B**

NOTE: LONGIT. REBAR NOT SHOWN. SEE "TYPICAL SECTION"

SLAB BAR LIST				
ALL REINFORCING SHALL BE AASHTO M 31 (GRADE 60)				
MARK	LOCATION	SIZE	NO. REQ'D.	BENDING DIAGRAM
S1	SLAB LONGIT. - TOP	6	21	
S2	SLAB LONGIT. - BOT	6	12	
S3	SLAB TRANSV. - TIE	4	50	
S4	SLAB TRANSV. - STRIP	4	50	
S5	SLAB TO CURB (SLAB A)	4	20	
S5	SLAB TO CURB (SLAB B)	4	15	
S6	CURB - HORIZ.	4	10	

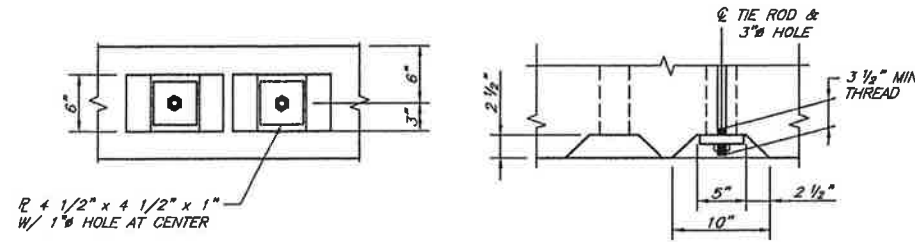


**CURB SECTION**



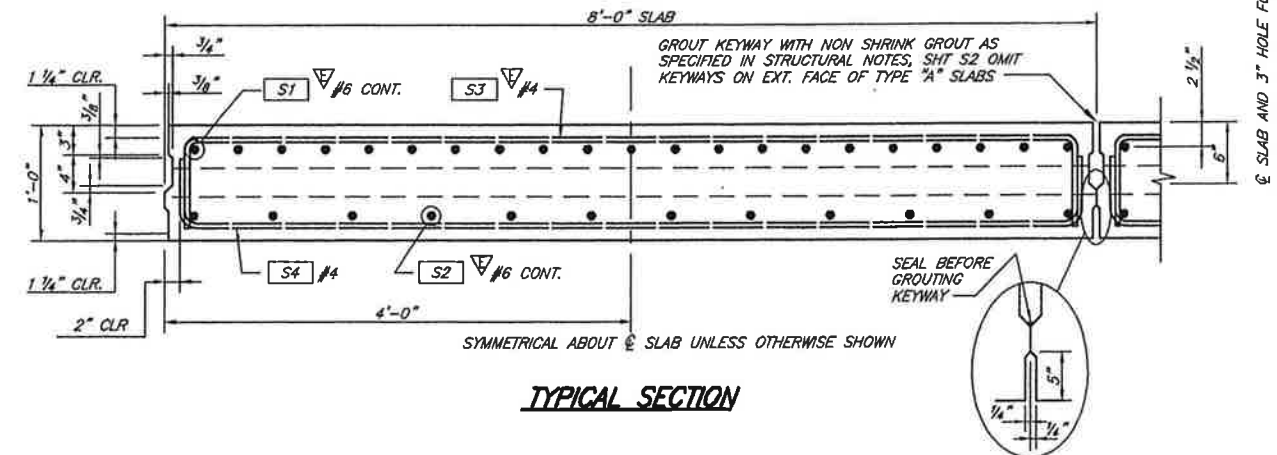
**1 DETAIL - INTERIOR RECESS**

FORM INTERIOR RECESS ON ALL TYPE B SLABS AND INTERIOR FACE OF TYPE A SLABS.  
NOTE: GROUT TIE ROD RECESSES CONCURRENTLY WITH KEYWAY

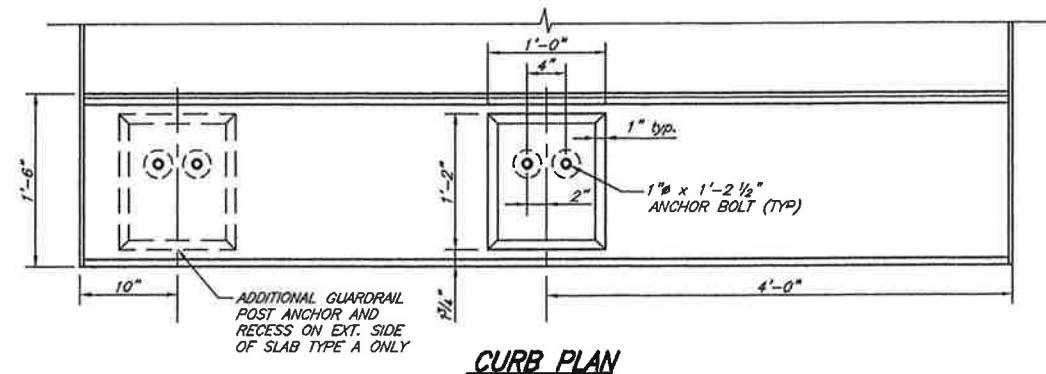


**2 DETAIL - EXTERIOR RECESS**

FORM RECESSED BEARING AREA PERPENDICULAR TO THE ROD @ AS SHOWN. TYPE "1" DETAIL IS SIMILAR EXCEPT THAT BLOCKOUT EXTENDS TO TOP SURFACE OF SLAB.  
FORM EXTERIOR RECESS ON EXTERIOR FACE OF TYPE A SLABS ONLY



**TYPICAL SECTION**



**CURB PLAN**

**DESIGN NOTES:**

- SLABS ARE DESIGNED FOR HL93 LIVE LOADING AND THE FOLLOWING DEAD LOADS:
  - SELF WEIGHT OF THE SLAB (39.7 Kips)
  - ASPHALT OVERLAY SUPERIMPOSED DEAD LOAD OF 50 lbs/ft<sup>2</sup> OVER THE CENTRAL 28 FT OF THE SLAB
  - RAILING SUPERIMPOSED DEAD LINE LOAD OF 320 lb/ft ACTING AT BOTH OUTER EDGES OF THE SLAB
  - SUPERIMPOSED DEAD LINE LOAD OF 120 lb/ft ACTING AT BOTH OUTER EDGES OF THE SLAB REPRESENTING POSSIBLE FUTURE UTILITIES
- CONCRETE SHALL BE CLASS 4000  
CONCRETE SELF WEIGHT ASSUMED TO BE 160 pcf

**CONSTRUCTION NOTES**

- TIGHTEN TIE RODS TO A MINIMUM TENSION OF 39 KIP USING MECHANICALLY GALVANIZED LOAD INDICATOR WASHERS CONFORMING TO ASTM F959.
- SLAB REINFORCEMENT SHALL BE LAID OUT IN SUCH A PATTERN TO AVOID PREFORMED HOLES IN THE PREFABRICATED SLAB.
- FOR LOCATIONS OF SLAB TYPES A & B, SEE SHEET S6

PLAN CHECK	BY	DATE	NO.	REVISION	BY
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REGION NO.	STATE	FED. AID PROJ. NO.	SURVEY NO.
10	WASH.		3822
DESIGNED BY:	CB	DRAWN BY:	LB/CB
FIELD BOOK(S):		UPI#	

**PB PARSONS BRINGKERHOFF**

APPROVED FOR CONSTRUCTION

OWEN B. CARTER, P.E.  
SNOHOMISH COUNTY ENGINEER  
6/12/07  
DATE APPROVED:

SNOHOMISH COUNTY  
DEPARTMENT OF  
PUBLIC WORKS  
FUNDING NO. RC #7246

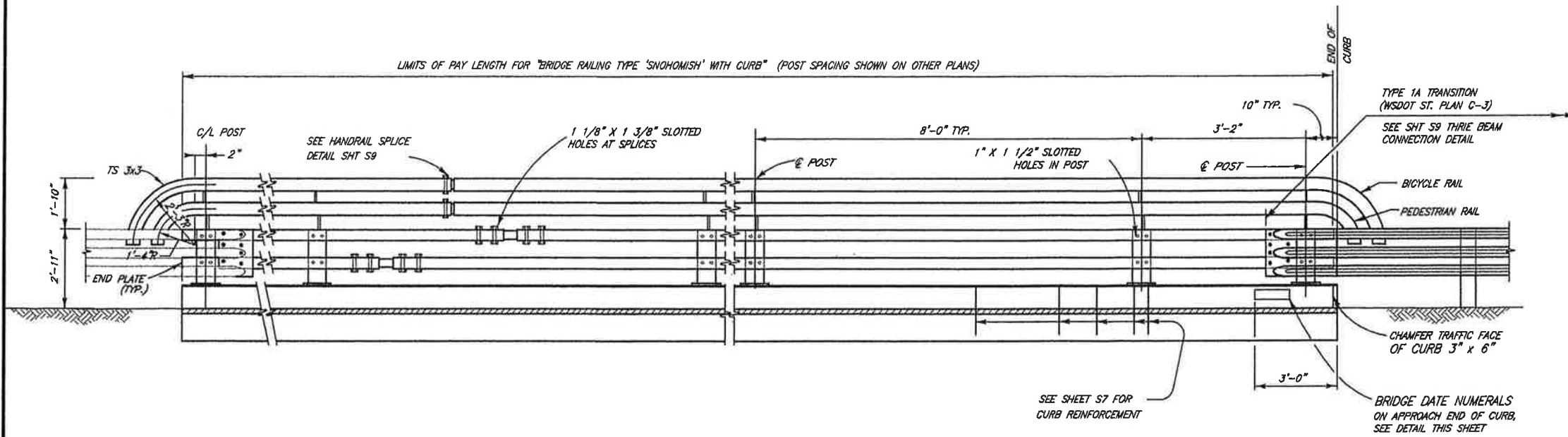
**SOUTH SLOUGH BR. #91  
DECK REPLACEMENT  
PRECAST SLAB DETAILS**

REFERENCE SHEET NO.	S7
SHEET	7
OF	9
SHEETS	

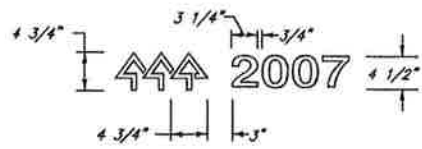
**NARRATIVE:**

THE SNOHOMISH FOUR-TUBE RAIL WITH CURB WAS DEVELOPED TO MEET THE REQUIREMENTS OF SECTION 1.3, RAILINGS, OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 1998, 2nd EDITION WITH THE 2000 INTERIM REVISIONS.

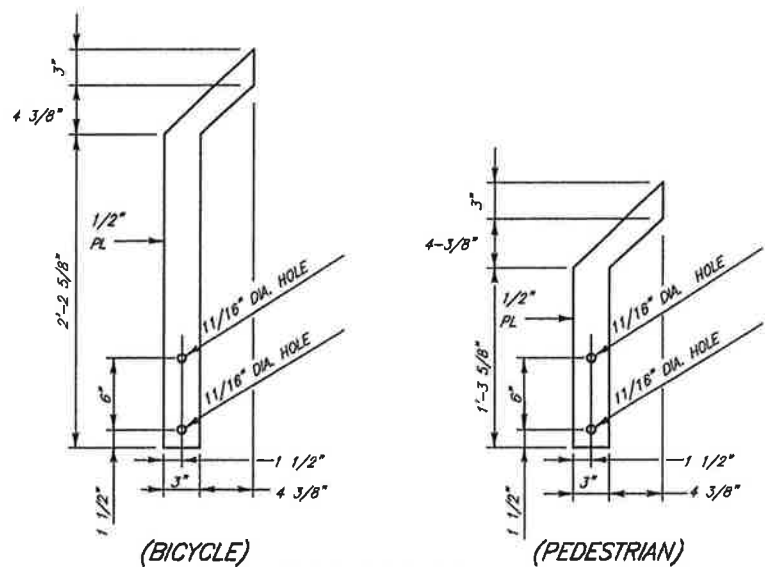
THIS RAIL DESIGN WAS ACCEPTED BY THE FHWA IN JULY 2002 AS A NCHRP REPORT 350 TEST LEVEL 4 (TL-4) DESIGN. THIS DESIGN MODIFIED THE TL-4 APPROVED COLORADO D.O.T. "BRIDGE RAIL TYPE 10" AND ADDED THE TWO SMALLER RAILS FOR PEDESTRIAN AND BICYCLE PROTECTION.



**ELEVATION - BRIDGE RAIL**



**DATE DETAIL**  
SEE WSDOT STD. PLAN E-1

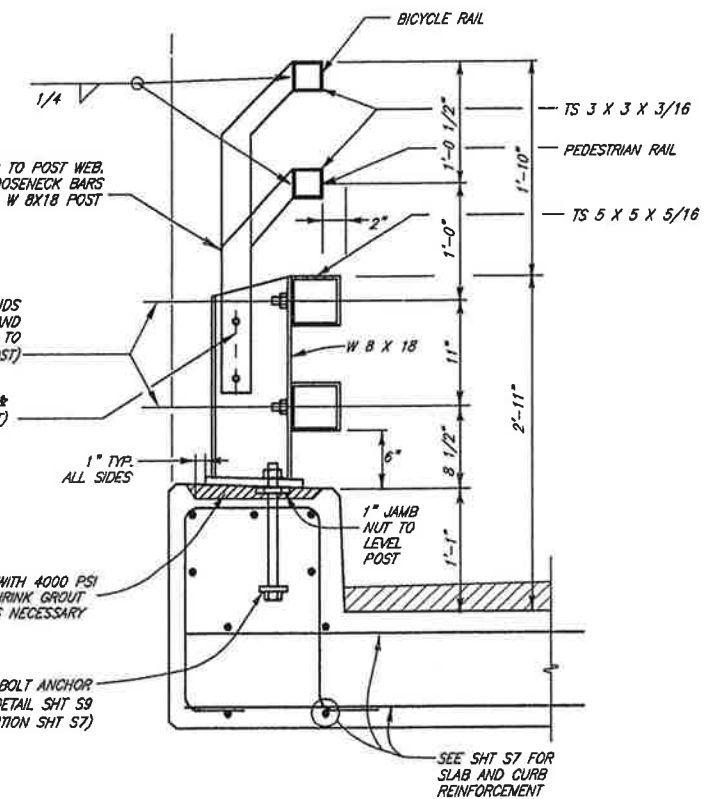


**GOOSENECK DETAIL**  
MATERIAL SHALL BE ASTM A-572 GRADE 50  
(1 EACH REQUIRED PER W8 POST)

1/2" GOOSENECK BARS BOLTED TO POST WEB. PLACE PEDESTRIAN AND BICYCLE RAIL GOOSENECK BARS CONSISTENTLY ON OPPOSITE SIDES OF THE W 8 X 18

Ø 3/4" DIA. X 2" THREADED ANCHOR STUDS WITH HEX NUTS, HARDENED WASHERS, AND LOCK WASHERS AUTOMATICALLY END WELDED TO TUBE (2 PER RAIL PER POST)

Ø 5/8" DIA. X 2 1/4" H.S. BOLTS (A325) & NUT W/ WASHER (2 PER POST)



**SECTION**

PLAN CHECK	BY	DATE	NO.	REVISION	BY
	YQG	4/07			

Last Saved By: binkey May 17, 2007 - 9:50am			
REGION NO.	STATE	FED. AID PROJ. NO.	SURVEY NO.
10	WASH.		3822
DESIGNED BY: CB		DRAWN BY: CB/MS	
FIELD BOOK(S):		UPI#	

**PB PARSONS BRINCKERHOFF**

APPROVED FOR CONSTRUCTION

OWEN B. CARTER, P.E.  
SNOHOMISH COUNTY ENGINEER

DATE APPROVED: 6/12/07

EXPIRES 02/12/08

SNOHOMISH COUNTY  
DEPARTMENT OF  
PUBLIC WORKS

FUNDING NO. RC #7246

**SOUTH SLOUGH BR. #91  
DECK REPLACEMENT  
BRIDGE RAILS  
DETAILS - 1**

REFERENCE SHEET NO. S8

SHEET 8 OF 9 SHEETS

May 17, 2007 - 9:56am binkey M:\160062 Snohomish On Call\Task Orders\Bridges 91\CADD\STRUCTURE\BTR91-RD-SB.dwg Layout Name: Layout1

**NOTES:**

**MATERIALS:**  
 ALL TUBES SHALL BE ASTM A500 GRADE B.  
 ALL POSTS AND BASE PLATES SHALL BE ASTM A572 GRADE 50.  
 ALL OTHER STEEL SHALL BE ASTM A-36 UNLESS OTHERWISE NOTED.  
 PORTLAND CEMENT CONCRETE FOR THE CURB SHALL BE CLASS 4000 D.  
 ALL BOLTS SHALL BE ASTM A325 UNLESS OTHERWISE NOTED.  
 ALL CURB REINFORCING STEEL SHALL BE GRADE 60 AND EPOXY COATED.

THIS BRIDGE RAILING SHALL BE CONSTRUCTED IN ACCORDANCE WITH W.S.D.O.T. STANDARD SPEC. SECTION 6-06.

THE TUBES SHALL BE SHOP BENT OR FABRICATED TO FIT HORIZONTAL CURVE WHEN RADIUS IS LESS THAN 1,500 FEET.

TUBES SHALL BE CONTINUOUS OVER NOT LESS THAN TWO POSTS. NO WELDED BUTT SPLICES WILL BE ALLOWED IN THE TUBE SECTIONS.

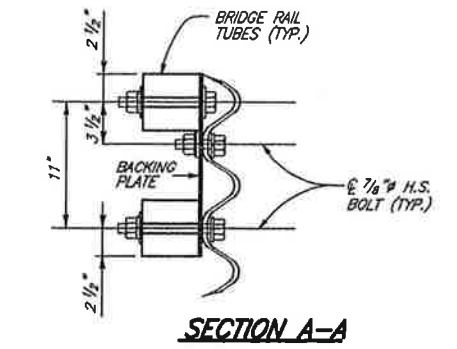
THE CENTERLINE OF THE TUBE SPLICE SHALL BE 1'-8" MINIMUM AND 2'-6" MAXIMUM FROM THE CENTERLINE OF THE POSTS.

ALL BOLTS THAT HAVE LOCK WASHERS SHALL BE TIGHTENED TO SNUG ONLY. "SNUG TIGHT" IS DEFINED IN THE W.S.D.O.T. STANDARD SPEC. SECTION 6-03.3(32)

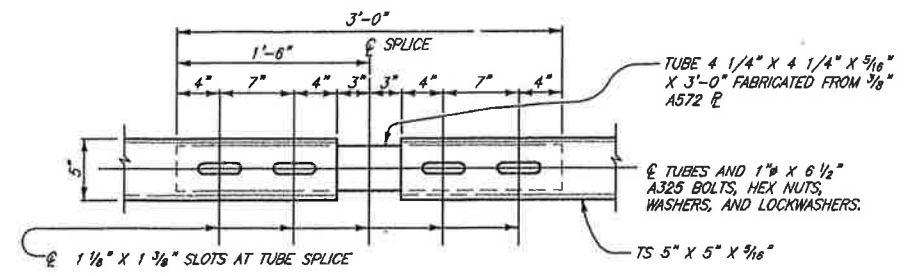
PAYMENT WILL BE MADE UNDER "BRIDGE RAILING TYPE 'SNOHOMISH' WITH CURB" FOR ALL POSTS, POST ANCHORS, BASE PLATES, BACKING PLATES, MISCELLANEOUS BOLTS, NUTS, WASHERS, TUBES, TUBE EXPANSION DEVICES, TUBE SPLICES, END PLATES, CURB CONCRETE (CLASS 4000), CURB REINFORCING STEEL, GALVANIZING, FABRICATION, AND INSTALLATION.

RAILING SHALL BE FABRICATED TO THE HORIZONTAL AND VERTICAL AND PLUMB IN SECTION.  
 ALIGNMENT OF THE STRUCTURE. POSTS SHALL BE NORMAL TO GRADE

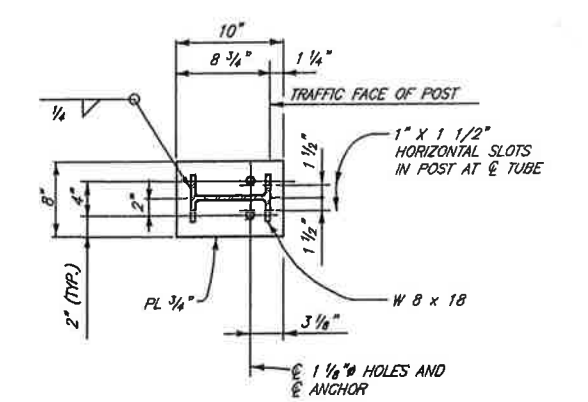
ALL STRUCTURAL STEEL INCLUDING FASTENERS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION, EXCEPT AS NOTED. GALVANIZED-CONTROL SILICON MEANS SILICON CONTENT OF 0.0% TO 0.06% (PREFERABLY 0.0% TO 0.04%) OR 0.15% TO 0.28% (PREFERABLY 0.15% TO 0.25%).



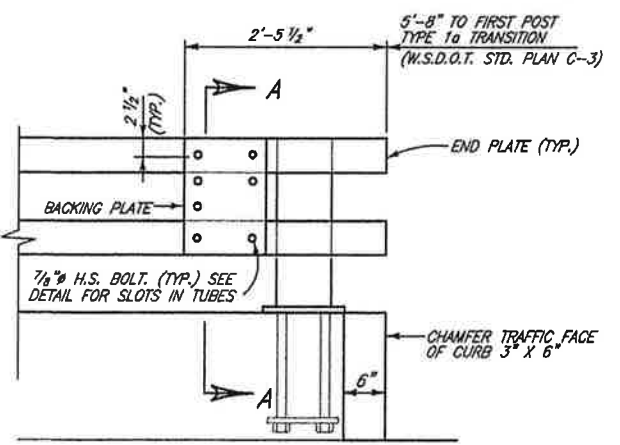
**SECTION A-A**



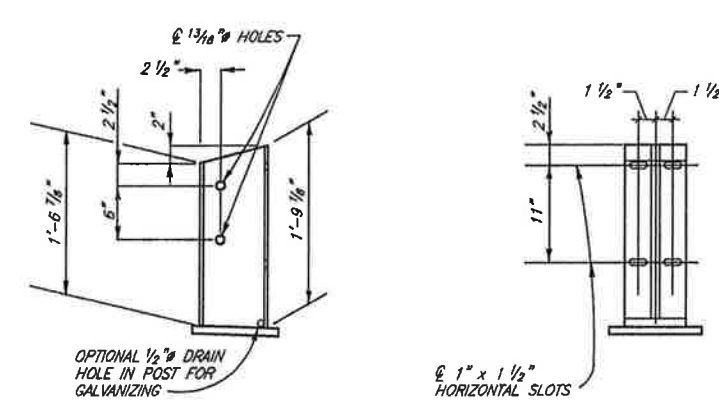
**PLAN - TUBE SPLICE**



**PLAN - POST DETAIL**

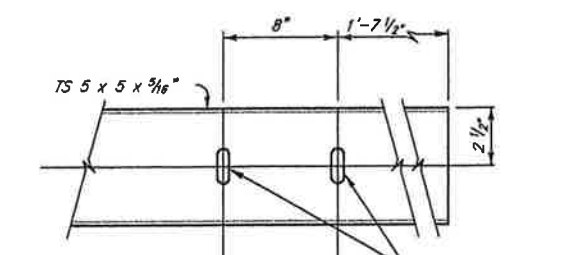


**RAIL-THRIE BEAM CONNECTION DETAIL**



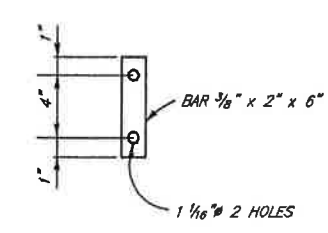
**ELEVATION**

**FRONT**



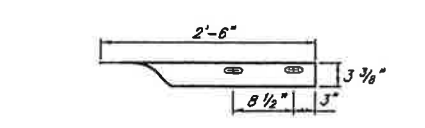
**SLOT DETAIL**

SLOTS AT END OF RAIL ARE REQUIRED TO ATTACH BACKING PLATE AND THRIE BEAM



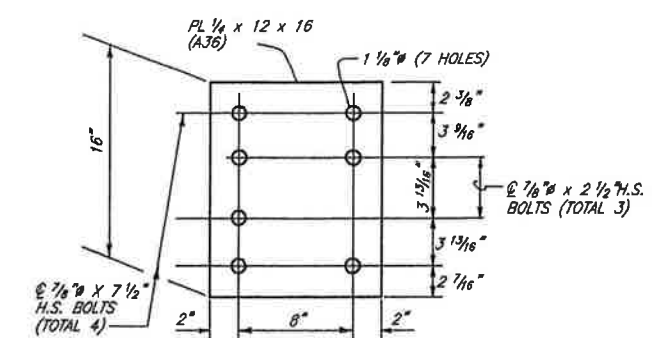
MATERIAL SHALL BE ASTM A-36 STEEL (1 PER POST)

**ANCHOR DETAIL**



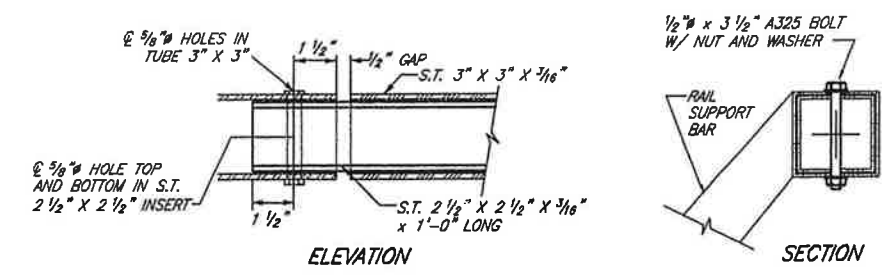
**THRIE BEAM END SECTION**

(NOTE: STD. PLAN C-7a DESIGN F HAS BEEN MODIFIED BY MAKING ALL ROUND HOLES 1" DIAMETER)



**BACKING PLATE**

(NOTE: ALL BOLTS FOR BACKING PLATE SHALL HAVE HEXNUTS, 2 PL WASHERS, AND 1 LOCK WASHER)



**ELEVATION**

**SECTION**

**HANDRAIL SPLICE DETAIL**

SPLICE HANDRAIL IN SAME SPANS AS LARGER RAILS

INFORMATION ONLY		
DESCRIPTION	UNIT	PER LIN. FT.
STRUCTURAL STEEL (GALV.)	LB.	69.10
CONCRETE CLASS 4000	C.Y.	.06
ST. REINFORCING BAR (EPOXY)	LB.	6.60

THE FOUR-TUBE RAIL WITH 13-INCH CURB WEIGHS 320 LBS. PER FOOT OF LENGTH.

May 17, 2007 - 9:56am binkley MA16062 Snohomish On Call\Task Orders\Bridges\91\CADD\STRUCT\CISH\BR91-FD-S9.dwg Layout Name: Layout1

PLAN CHECK	BY	DATE				Last Saved By: binkley May 17, 2007 - 9:50am	
	YQG	4/07				REGION NO.	STATE
						10	WASH.
						FED. AID PROJ. NO.	SURVEY NO.
							3822
						DESIGNED BY:	DRAWN BY:
						CB	CB/MS
						FIELD BOOK(S):	UPI#
DATE	NO.	REVISION	BY				

**PB PARSONS BRINCKERHOFF**



APPROVED FOR CONSTRUCTION  
 OWEN B. CARTER, P.E.  
 SNOHOMISH COUNTY ENGINEER  
 DATE APPROVED: 4/20/07

SNOHOMISH COUNTY  
 DEPARTMENT OF  
 PUBLIC WORKS  
 FUNDING NO. RC #7246

**SOUTH SLOUGH BR. #91  
 DECK REPLACEMENT  
 BRIDGE RAILS  
 DETAILS - 2**

REFERENCE SHEET NO. S9  
 SHEET 9 OF 9 SHEETS