WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

TR-081231-P

Washington State Department of Transportation Petitioner, vs. **Central Puget Sound Regional Transportation Authority and City of Lakewood** Respondent	)	DOCKET NO. TR- PETITION TO MODIFY A HIGHWAY-RAIL GRADE CROSSING **Bridgeport Way SW** USDOT CROSSING # **085821P** UTC CROSSING # **1L.60**

The Petitioner asks the Washington Utilities and Transportation Commission to approve modification of a highway-rail grade crossing.

Section 1 – Petitioner's Information

Washington State Department of Transportation

Petitioner

310 North Maple Park Ave SE

Street Address

Olympia, WA 98504

City, State and Zip Code

PO Box 47387, Olympia, WA 98504-7387

Mailing Address, if different than the street address

Kevin Jeffers

Contact Person Name

360-705-7982; JefferK@wsdot.wa.gov

Contact Phone Number and E-mail Address

Section 2 – Respondent's Information

Central Puget Sound Regional Transportation Authority ("Sound Transit")

Respondent

401 South Jackson Street

Street Address

Seattle, WA 98104-2826

City, State and Zip Code

Mailing Address, if different than the street address

Jodi Mitchell

Contact Person Name

206-398-5080; Jodi.Mitchell@SoundTransit.org

Contact Phone Number and E-mail Address

Section 3 – Current Crossing Information

1. Railroad company(ies) _____
   - Tracks owned by: **Sound Transit**
   - Operating railroad: **Tacoma Rail, BNSF**

2. Type of railroad at crossing ☑ Common Carrier ☐ Logging ☐ Industrial

   ☐ Passenger ☐ Excursion

3. Type of tracks at crossing ☑ Main Line, number of tracks **1**
   ☐ Siding or Spur, number of tracks ____

4. Average daily train traffic, freight **2 per day (trains typically operate 4-5 days/week, max.)**

   Authorized freight train speed **10 mph** Operated freight train speed **10 mph**

5. Average daily train traffic, passenger **0**

   Authorized passenger train speed **N/A** Operated passenger train speed **N/A**

6. Describe current crossing configuration including type of train detection, active warning devices, preemption, etc.:
There is currently a single-track crossing with cantilever-mounted flashing lights.

The existing detection circuitry is by conventional relay track circuit.

There is an existing median on the south side of the crossing, but the median ends approximately 50' short of the track. There is no median on the north side of the crossing.

Section 4 – Expected Crossing Characteristics After Modification

1. Type of railroad operations at crossing ☑ Common Carrier ☐ Logging ☐ Industrial

   ☑Passenger ☐ Excursion

2. Type of tracks at crossing ☑ Main Line, number of tracks **2**
   ☐ Siding or Spur, number of tracks _____

3. Average daily train traffic, freight **2**

   Authorized freight train speed **40 mph** Operated freight train speed **40 mph**

4. Average daily train traffic, passenger **12**

   Authorized passenger train speed **79 mph** Operated passenger train speed **79 mph**

5. Will the modified crossing eliminate the need for one or more existing crossings?
   Yes ____ No **X**

6. If so, state the distance and direction from the modified crossing.

   _____

   _____

   _____

7. Does the petitioner propose to close any existing crossings and if yes, which crossings?
   Yes ____ No **X**

   _____

Section 5 – Proposed Temporary Crossing

1. Will a temporary crossing be installed? Yes ____ No __X__

2. If so, describe the purpose of the crossing and the estimated time it will be needed

_____

_____

_____

3. Will the petitioner remove the crossing at completion of the activity requiring the temporary crossing? Yes ____ No ____ **N/A**

Approximate date of removal _____

Section 6 – Current Highway Traffic Information

1. Name of roadway/highway **Bridgeport Way SW**

2. Roadway classification **Arterial**

3. Road authority **City of Lakewood**

4. Average annual daily traffic (AADT) **23,330 (in year 2006)**

5. Number of lanes **2 NB through, 2 SB through**

6. Roadway speed **35mph**

7. Is the crossing part of an established truck route? Yes __X__ No ____

8. If so, trucks are what percent of total daily traffic? **2.9% (of peak hour)**

9. Is the crossing part of an established school bus route? Yes __X__ No ____

10. If so, how many school buses travel over the crossing each day? **239**

11. Describe any changes to the information in 1 through 7, above, expected within ten years:
AADT estimated to grow to 35,010 (in year 2020).

Section 7 – Alternatives to the Proposed Modifications

1. Does a safer location for a crossing exist within a reasonable distance of the current or proposed location? Yes ____ No **X**

2. If a safer location exists, explain why the crossing should not be located at that site.

_____

_____

_____

_____

3. Are there any hillsides, embankments, buildings, trees, railroad loading platforms or other barriers in the vicinity which may obstruct a motorist's view of the crossing?
Yes **X** No ____

4. If a barrier exists, describe:
- ♦ Whether petitioner can relocate the crossing to avoid the obstruction and if not, why not.
- ♦ How the barrier can be removed.
- ♦ How the petitioner or another party can mitigate the hazard caused by the barrier.

Views are obstructed a buildings in the northwest, northeast, and southeast quadrants.

It is infeasible to relocate the buildings, and the existing street grid cannot accommodate a crossing at another location. The barriers to sight lines will be addressed with active warning devices (new cantilever-mounted flashing lights and crossing gates), as well as revised advance pre-emption timing at the intersection of Bridgeport Way SW and Pacific Highway SW. Medians on the south side of the track will be extended northward to reach closer to the track, while new medians will be constructed on the north side of the crossing.

5. Is it feasible to construct an over-crossing or under-crossing at the proposed location as an alternative to an at-grade crossing?
Yes ____ No **X**

6. If an over-crossing or under-crossing is not feasible, explain why.
The existing site is nearly flat, and is very close to an adjacent intersection, with several businesses in the vicinity. The grades required for the roadway approaches would not meet AASHTO guidelines for vertical curvature unless the street grid in this area were significantly reconfigured.

7. Does the railway line, at any point in the vicinity of the modified crossing, pass over a fill area or trestle or through a cut where it is feasible to construct an over-crossing or an under-crossing, even though it may be necessary to relocate a portion of the roadway to reach that point?

Yes ____ No **X**

8. If such a location exists, state:
   - ♦ The distance and direction from the proposed crossing.
   - ♦ The approximate cost of construction.
   - ♦ Any reasons that exist to prevent locating the crossing at this site.

9. Is there an existing public or private crossing in the vicinity of the proposed modified crossing?

Yes ____ No **X**

10. If a crossing exists, state:
   - ♦ The distance and direction from the proposed crossing.
   - ♦ Whether it is feasible to divert traffic from the proposed to the existing crossing.

Section 8 – Sight Distance

1. Complete the following table, describing the sight distance for motorists when approaching the tracks from either direction after modification. **"Number of feet from proposed crossing" is measured from the crossing gate along the centerline of the "outside" lane. Sight distance is measured from the edge of traveled way (edge of fog line or curb line) along the CL of track at the crossing. NOTE - for "Left" sight distances, the edge of traveled way is on the *opposite* side of the roadway. The sightlines are restricted by the skew of the crossing. Because this is a skewed crossing, the table is based on sight distances available beginning at the crossing gate, and within a 90-degree range of vision either side of the roadway centerline. Significantly longer sight distances are available in the field if the range of vision is increased beyond 90-degrees.**

a. Approaching the crossing from **NORTH** , the current approach provides an unobstructed view as follows: (North, South, East, West)

Direction of sight (left or right)	Number of feet from proposed crossing	Provides an unobstructed view for how many feet
Right	300	**30**
Right	200	**40**
Right	100	**95**
Right	50	**800**
Right	25	**800**
Left	300	**65**
Left	200	**70**
Left	100	**75**
Left	50	**55**
Left	25	**20**

b. Approaching the crossing from **SOUTH** , the current approach provides an unobstructed view as follows: (Opposite direction-North, South, East, West)

Direction of sight (left or right)	Number of feet from proposed crossing	Provides an unobstructed view for how many feet
Right	300	**60**
Right	200	**60**
Right	100	**100**
Right	50	**200**
Right	25	**260**
Left	300	**95**
Left	200	**130**
Left	100	**100**
Left	50	**35**
Left	25	**0 (due to skew)**

2. Will the modified crossing provide a level approach measuring 25 feet from the center of the railway on both approaches to the crossing?

Yes ____ No **X**

3. If not, state in feet the length of level grade from the center of the railway on both approaches to the crossing. **From the south, the grade is nearly level. From the north, the grade slopes down toward the crossing at approximately 0.65% for approximately 75 feet.**

4. Will the modified crossing provide an approach grade of not more than five percent prior to the level grade?

Yes X No ___

3. If not, state the percentage of grade prior to the level grade and explain why the grade exceeds five percent.

_____

_____

_____

_____

Section 9 – Illustration of Modified Crossing Configuration

Attach a detailed diagram, drawing, map or other illustration showing the following:

- ♦ The vicinity of the modified crossing.
- ♦ Layout of the railway and highway 500 feet adjacent to the crossing in all directions.
- ♦ Percent of grade.
- ♦ Obstructions of view as described in Section 7 or identified in Section 8.
- ♦ Traffic control layout showing the location of the existing and proposed signage.

Existing features (buildings, trees, etc) that are obstructions are shown on the accompanying plan in "screened" or "grayscale" lines.

Section 10 – Proposed Warning Signals or Devices

1. Explain in detail the number and type of proposed automatic signals or other warning devices planned at the crossing, including a cost estimate for each. If the proposed medications include adding or modifying preemption, contact UTC for the additional worksheets.

Modifications to the existing warning devices include construction of new cantilevers and gates. Wayside horns will be provided. The existing track will be removed. Two new tracks will be constructed, one approximately 8' to the left of the existing track, and the other approximately 8' to the right of the existing track.

The control equipment for the railroad warning devices will be upgraded to modern constant warning time units, replacing the existing relay circuit. The new circuitry will allow for additional advanced pre-emption time. The interconnection between the grade crossing control equipment and the roadway signal traffic controller will be upgraded to a 6-wire supervisory configuration. The roadway authority can use 2 or 6 of these wires, depending upon their interconnection wiring preferences.

The approximate cost for crossing improvements at Bridgeport Way SW is $433,000.

Section 11 – Justification of Installation of Wayside Horn (if applicable)

1. Describe in detail why this crossing should have a wayside horn installed. Also include a description of where the wayside horns and indicator lights will be installed at the crossing.

With higher speed operations, wayside horns are being installed to help avoid creating noise for residents and businesses near the track. With higher speed trains, the train horn would begin sounding farther from the crossing, near residential areas and a school located along the tracks south of Bridgeport Way. The indicator lights will be installed on top of the cantilever masts or on their own mast, mounted high so that engineers can see them from a distance. The wayside horns will be installed in the northwest and southeast quadrants of the crossing.

Section 12 – Additional Information

Provide any additional information supporting the proposal, including information such as the public benefits that would be derived from modifying the crossing as proposed.

The single existing track will be removed and replaced with two new tracks.

New concrete crossing panels will be installed on both tracks, and the roadway repaved to match the elevation of the panels. The old tracks will be removed, and the medians made continuous in place of the old tracks.

A pre-signal is proposed for the southbound approach along Bridgeport Way SW. It will be timed with the signal at the intersection of Bridgeport Way SW and Pacific Highway SW such that the pre-signal turns red just prior to the signal at Pacific Highway SW turning red. This will help discourage queue formation at the tracks.

Section 13 – Waiver of Hearing by Respondent

Waiver of Hearing

The undersigned represents the Respondent in the petition to modify a highway-railroad grade crossing.

We have investigated the conditions at the crossing proposed for modification. We are satisfied the conditions are the same as described by the Petitioner in this docket. We agree the crossing be modified and consent to a decision by the commission without a hearing.

Dated at _____ , Washington, on the _____ day of

_____, 20 ____.

_____

Printed name of Respondent

_____

Signature of Respondent's Representative

_____

Title

_____

Phone number and e-mail address

_____

_____

Mailing address

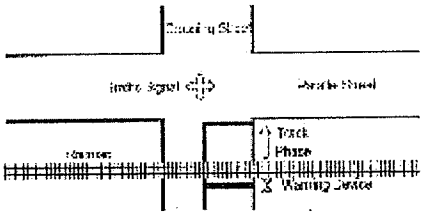
GUIDE FOR DETERMINING TIME REQUIREMENTS FOR TRAFFIC SIGNAL PREEMPTION AT HIGHWAY-RAIL GRADE CROSSINGS

GUIDE FOR DETERMINING TIME REQUIREMENTS FOR
TRAFFIC SIGNAL PREEMPTION AT HIGHWAY-RAIL GRADE CROSSINGS

City: Lakewood
County: Pierce
District:

Date: 6/5/2008
Completed by: Tony Wang
District Approval:

Show North Arrow



Parallel Street Name: Pacific Hwy SW
Crossing Street Name: Bridgeport Way SW

Railroad: Sound Transit (owner)
Railroad Contact:
Phone: 206-398-5035
Crossing DOT#: 085821P

SECTION 1: RIGHT-OF-WAY TRANSFER TIME CALCULATION

Preempt verification and response time

			Remarks
1. Preempt delay time (seconds)	1.	0	
2. Controller response time to preempt (seconds)	2.	0	Controller type: Tap 170
3. Preempt verification and response time (seconds): add lines 1 and 2	3.	0	

Worst-case conflicting vehicle time

			Remarks
4. Worst-case conflicting vehicle phase number	4.	2	
5. Minimum green time during right-of-way transfer (seconds)	5.	6.0	
6. Other green time during right-of-way transfer (seconds)	6.	0	
7. Yellow change time (seconds)	7.	3.5	
8. Red clearance time (seconds)	8.	2	
9. Worst-case conflicting vehicle time (seconds): add lines 5 through 8	9.	11.5	

Worst-case conflicting pedestrian time

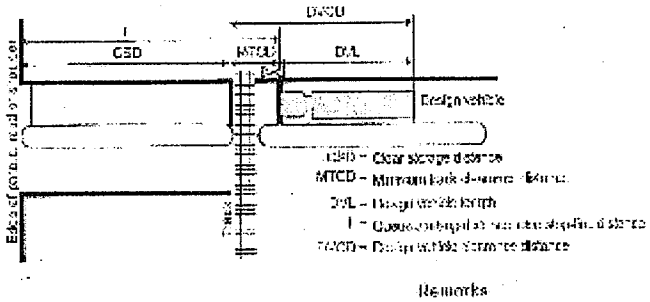
			Remarks
10. Worst-case conflicting pedestrian phase number	10.	0	
11. Minimum walk time during right-of-way transfer (seconds)	11.	0	omitted
12. Pedestrian clearance time during right of way transfer (seconds)	12.	3.5	
13. Vehicle yellow change time, if not included on line 12 (seconds)	13.	4.0	
14. Vehicle red clearance time, if not included on line 13 (seconds)	14.	5.5	
15. Worst-case conflicting pedestrian time (seconds): add lines 11 through 14	15.	5.5	

Worst-case conflicting vehicle or pedestrian time

16. Worst-case conflicting vehicle or pedestrian time (seconds): maximum of lines 9 and 15	16.	11.5
17. Right-of-way transfer time (seconds): add lines 3 and 16	17.	11.5

Page 1

SECTION 2: QUEUE CLEARANCE TIME CALCULATION



			Remarks
18. Clear storage distance (CSD), feet	18.	210	
19. Minimum track clearance distance (MTCD, feet)	19.	83	Skewed Crossing
20. Design vehicle length (DVL, feet)	20.	67	Design vehicle type:
21. Queue start-up distance, L (feet): add lines 18 and 19	21.	293	
22. Time required for design vehicle to start moving (seconds): calculate as 2+(L÷20)	22.	16.65	Remarks
23. Design vehicle clearance distance, DVCD (feet): add lines 19 and 20	23.	150	
24. Time for design vehicle to accelerate through the DVCD (seconds)	24.	17	Read from Figure 2 in instructions
25. Queue clearance time (seconds): add lines 22 and 24	25.	33.65	

SECTION 3: MAXIMUM PREEMPTION TIME CALCULATION

			Remarks
26. Right-of-way transfer time (seconds): line 17	26.	11.5	
27. Queue clearance time (seconds): line 25	27.	33.7	
28. Desired minimum separation time (seconds)	28.	4.0	
29. Maximum preemption time (seconds): add lines 26 through 28	29.	49.2	

SECTION 4: SUFFICIENT WARNING TIME CHECK

			Remarks
30. Required minimum time, MT (seconds), per regulations	30.	20.0	
31. Clearance time, CT (seconds), get from railroad	31.	40	Rail signal design
32. Minimum warning time, MWT (seconds): add lines 30 and 31	32.	24.0	Excludes buffer time (BT)
33. Advance preemption time, APT, if provided (seconds): get from railroad	33.	25.2	
34. Warning time provided by the railroad (seconds): add lines 32 and 33	34.	49.2	
35. Additional warning time required from railroad (seconds): subtract line 34 from line 29, round up to nearest full second, enter 0 if less than 0	35.	0	

If the additional warning time required (line 35) is greater than zero, additional warning time has to be requested from the railroad. Alternatively, the maximum preemption time (line 29) may be decreased after performing an engineering study to investigate the possibility of reducing the values on lines 1, 5, 6, 7, 8, 11, 12, 13 and 14.

Remarks:

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⟨x⟩ ROADWAY CONSTRUCTION NOTES

1. CEMENT CONCRETE TRAFFIC CURB AND GUTTER PER C.O.T. STD. PLAN NO. SU-03.
2. MODIFIED WSDOT CEMENT CONC. SIDEWALK FOR MEDIAN (PER DETAIL DRAWING RDDET113A).
3. CEMENT CONCRETE SIDEWALK (PER C.O.T. STD. PLAN SU-04).
4. CONCRETE CROSSING PANELS WITH ELASTOMERIC FLANGE FILLER. SEE TRACK PLAN AND PROFILE DRAWINGS.
5. CROSSING SIGNAL EQUIPMENT. SEE GRADE CROSSING SIGNAL PLANS.
6. CEMENT CONCRETE TRAFFIC BARRIER CURB PER CITY OF LAKEWOOD STD. PLAN S-2F.
7. CEMENT CONCRETE SIDEWALK (PER CITY OF LAKEWOOD STD. PLAN S-2A).
8. (NOT USED)
9. CEMENT CONCRETE DRIVEWAY ENTRANCE TYPE 2 PER C.O.T. STD. PLAN SU-08 MODIFIED WITH CURB AT BACK OF S/W. (SEE TYPICAL SECTIONS).
10. CRUSHED SURFACING BASE COURSE (ACCESS PAD TO RAILROAD SIGNAL EQUIPMENT: 6" CSBC COMPACTED DEPTH OVER GRAVEL BORROW SUBGRADE).
11. (NOT USED)
12. (NOT USED)
13. TYPE C PRECAST TRAFFIC CURB (PER WSDOT STD. PLAN F-2).
14. CEMENT CONCRETE TRAFFIC CURB PER C.O.T. STD. PLAN NO. SU-03.
15. CHAINLINK FENCE TYPE 3 (PER WSDOT STD. PLAN L-20.10-00). (NOT USED)
16. BEAM GUARDRAIL TYPE 1 PER WSDOT STD. PLAN NO. C-1 (NOT USED)
17. (NOT USED)
18. (NOT USED)
19. (NOT USED)
20. CEMENT CONC. DRIVEWAY ENTRANCE-MODIFIED (PER DETIAL DRAWING RDDET114A).
21. STATION/OFFSET LOCATION FOR DETECTABLE WARNING PATTERN. SEE DRAWINGS RDDET110A AND RDDET111A.
22. CEMENT CONCRETE TRAFFIC CURB AND GUTTER PER CITY OF LAKEWOOD STD. PLAN S-2F.
23. ADJUST UTILITY TO GRADE.
24. TYPICAL CURB AND GUTTER/SIDEWALK TRANSITION AT RAIL CROSSING (PER DETIAL DRAWING RDDET110A.)
25. (NOT USED)
26. (NOT USED)
27. CEMENT CONC. TRAFFIC CURB AND GUTTER PER WSDOT STD. PLAN F-10.12-00. (NOT USED)
28. CEMENT CONC. SIDEWALK (PER WSDOT STD. PLAN F-30.10-00). (NOT USED)
29. (NOT USED)
30. (NOT USED)
31. CEMENT CONC. SIDEWALK (PER CITY OF LAKEWOOD STD PLAN S-2B).
32. (NOT USED)
33. (NOT USED)
34. (NOT USED)
35. TYPICAL CURB AND GUTTER TRANSITION AT RAIL CROSSING (PER DETAIL DRAWING RDDET110A). (NOT USED)
36. (NOT USED)
37. (NOT USED)
38. TYPICAL CURB AND GUTTER/PLANTER/SIDEWALK TRANSITION AT RAIL CROSSING (PER DETAIL DRAWING RDDET111A).
39. (NOT USED)
40. TYPICAL DEPRESSED SIDEWALK AT RAIL CROSSING (PER DETAIL DRAWING RDDET111A). (NOT USED)
41. CONCRETE PAD FOR BUS STOP (PER DETAIL DRAWING RDDET112A).

⟨x⟩ ROADWAY CONSTRUCTION NOTES (CONT.)

42. DUAL FACED CEMENT CONC. TRAFFIC CURB (PER WSDOT STD. PLAN F-10.12-00). (NOT USED)
43. (NOT USED)
44. (NOT USED)
45. (NOT USED)
46. HMA CURB (PER DETAIL DRAWING RDDET113A).
47. (NOT USED)
48. SIDEWALK RAMP TYPE 2 PER CITY OF LAKEWOOD STD. PLAN S-3B.
49. (NOT USED)
50. HMA SIDEWALK RAMP (PER DETAIL DRAWING RDDET113A).
51. CURB AND GUTTER TRANSITION TO HMA CURB (PER DETAIL DRAWING RDDET113A).
52. CEMENT CONCRETE SIDEWALK RAMP TYPE 2 MODIFIED (PER DETAIL DRAWING RDDET110A). (NOT USED)
53. (NOT USED)
54. MOUNTABLE CEMENT CONCRETE TRAFFIC CURB AND GUTTER (PER DETAIL DRAWING RDDET114A).
55. (NOT USED)
56. CEMENT CONCRETE DRIVEWAY ENTRANCE TYPE 1 (PER C.O.T. STD. PLAN NO. SU-07).
57. (NOT USED)
58. CEMENT CONC. SIDEWALK RAMP TYPE 3B PER WSDOT STD. PLAN F-40.15-00. (NOT USED)
59. STORMWATER CURB BREAK (PER DETAIL DRAWING RDDET112A). (NOT USED)
60. (NOT USED)
61. CEMENT CONC. TRAFFIC CURB (PER WSDOT STD. PLAN F-10.12-00). (NOT USED)
62. PRECAST DUAL FACED SLOPED MOUNTABLE CURB (PER WSDOT STD PLAN F-10.64-01). (NOT USED)
63. CEMENT CONC. SIDEWALK RAMP TYPE 5 PER WSDOT STD PLAN F-42.10-00. (NOT USED)
64. BEAM GUARDRAIL ANCHOR TYPE 1 (PER WSDOT STD PLAN C-6 WITH END SECTION DESIGN C PER WSDOT STD PLAN C-7). (NOT USED)

GENERAL NOTES – ROADWAY CONSTRUCTION

1. SEE UTILITY RELOCATION AND PROTECTION PLANS FOR STORM DRAINAGE, MISC. CONDUIT AND CASING INSTALLATION.
2. SEE SHEETS RDAL121A–RDAL125A FOR ROADWAY MEDIAN DETAILS.
3. SEE SHEETS RDTS110A–RDTS128A FOR PAVEMENT SECTIONS.
4. CURB AND CURB AND GUTTER DEFINED BY FACE OF CURB UNLESS OTHERWISE NOTED. ALL ELEVATIONS ARE PROVIDED AT TOP OF CURB UNLESS OTHERWISE NOTED AND DO NOT REJECT CURB CUTS OR SIDEWALK RAMPS.
5. ALL CURB RETURN ELEVATIONS ARE TO TOP OF CURB UNLESS OTHERWISE NOTED. AT CURB CUT RAMPS, CURB RETURN ELEVATIONS ARE INDICATED AT A POINT 6" ABOVE GUTTER FLOWLINE UNLESS OTHERWISE NOTED.
6. ALL UNITS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
7. DRIVEWAYS ARE STATIONED AT CENTERLINE OF DRIVEWAY

FILE NAME	PD_RDCNA.dwg					REGION NO.	STATE
TIME	10:40am					10	WASH
DATE	May 09, 2008					JOB NUMBER	
PLOTTED BY	cwilcox					43068	
DESIGNED BY	RDH					CONTRACT NO.	
ENTERED BY	RDH					CONO10778	
CHECKED BY	XXX						
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

SOUNDTRANSIT

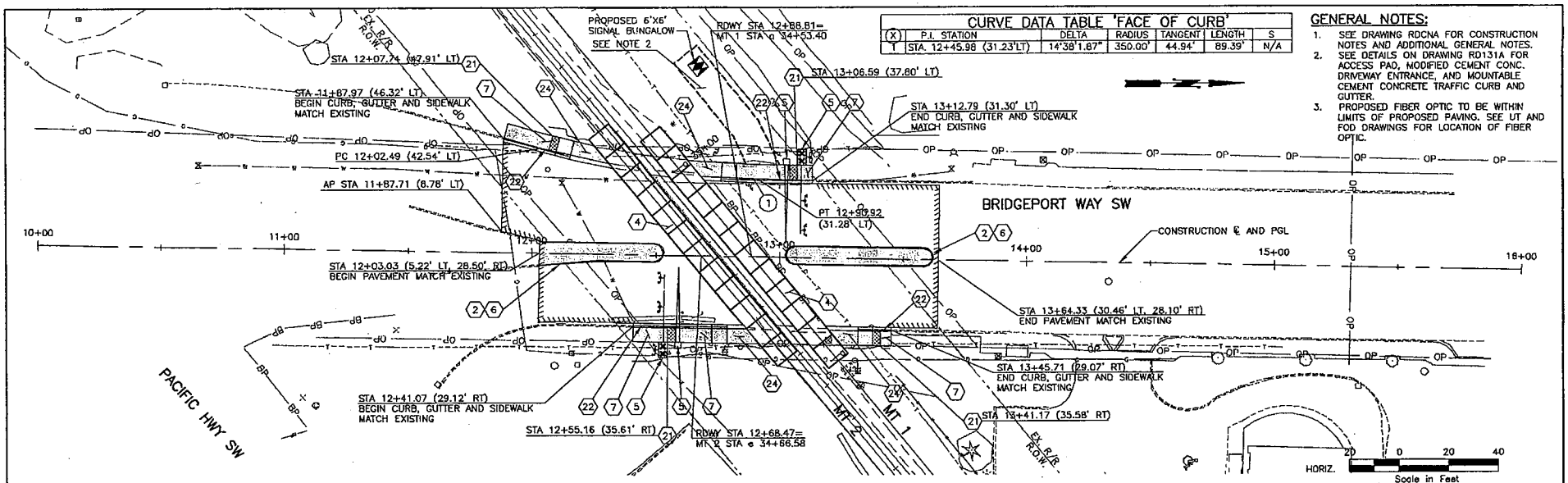
HDR ENGINEERING INC.

POINT DEFIANCE BYPASS PROJECT
100% PS&E SUBMITTAL
ROADWAY CONSTSTRUCTION NOTES

ROADWAY CONSTRUCTION NOTES

RDCNA

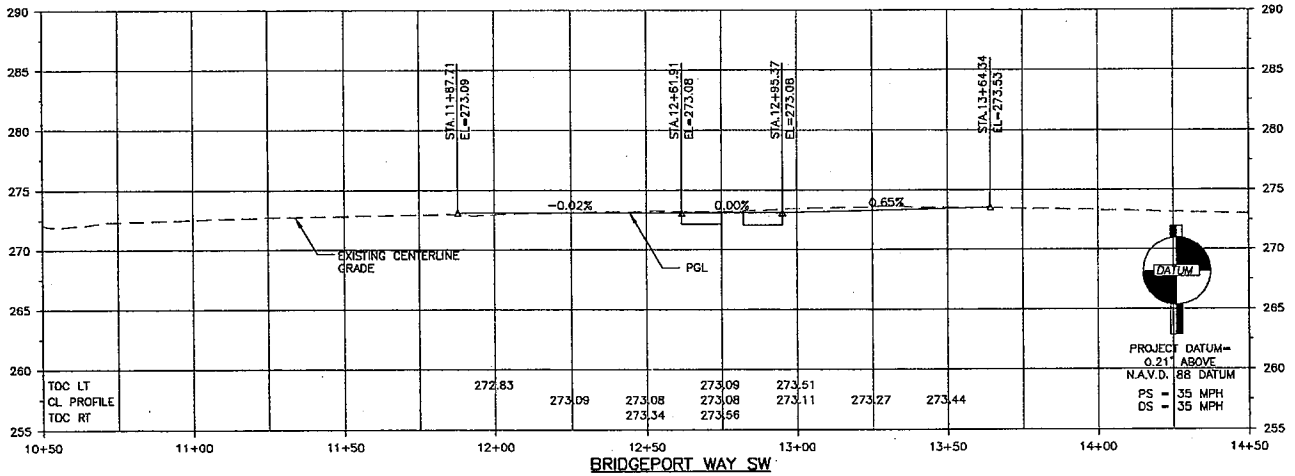
SHEET X OF X SHEETS



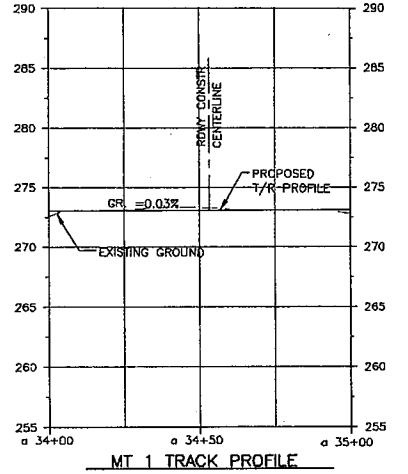
CURVE DATA TABLE 'FACE OF CURB'						
(X)	P.I. STATION	DELTA	RADIUS	TANGENT	LENGTH	S
T	STA. 12+45.98 (31.23'LT)	14°38'1.87"	350.00'	44.94'	89.39'	N/A

GENERAL NOTES:

1. SEE DRAWING RDCNA FOR CONSTRUCTION NOTES AND ADDITIONAL GENERAL NOTES.
2. SEE DETAILS ON DRAWING RD131A FOR ACCESS PAD, MODIFIED CEMENT CONC. DRIVEWAY ENTRANCE, AND MOUNTABLE CEMENT CONCRETE TRAFFIC CURB AND GUTTER.
3. PROPOSED FIBER OPTIC TO BE WITHIN LIMITS OF PROPOSED PAVING. SEE UT AND FOD DRAWINGS FOR LOCATION OF FIBER OPTIC.



BRIDGEPORT WAY SW
SCALE (FULL SIZE): 1" = 20' HORIZ.
1" = 5' VERT.



MT 1 TRACK PROFILE
SCALE (FULL SIZE): 1" = 20' HORIZ.
1" = 5' VERT.

FILE NAME	PD_RD125A.dwg
TIME	9:09pm
DATE	May 08, 2008
PLOTTED BY	cwilcox
DESIGNED BY	RDH
ENTERED BY	RDH
CHECKED BY	CR
PROJ. ENGR.	BB
REGIONAL ADM.	

REVISION	DATE	BY

REGION NO.	STATE
10	WASH
JOB NUMBER	
43088	
CONTRACT NO.	
C0N0010776	

SOUNDTRANSIT

DENNIS J. MILES REGISTERED PROFESSIONAL ENGINEER

HDR ENGINEERING INC.

POINT DEFIANCE BYPASS PROJECT
100% PS&E SUBMITTAL
BRIDGEPORT WAY SW

RD125A

ROADWAY PLAN AND PROFILE

SHEET X OF X SHEETS

(x) ROADWAY CHANNELIZATION NOTES

14. PAINTED TWO WAY LEFT TURN STRIP WITH RAISED PAVEMENT MARKERS PER C.O.T. CHANNELIZATION DETAILS, RAISED PAVEMENT MARKERS AND PAINT STRIPING STD. PLAN.
15. PAINTED 4" LANE STRIPE WITH RAISED PAVEMENT MARKERS PER C.O.T. CHANNELIZATION DETAILS, RAISED PAVEMENT MARKERS AND PAVEMENT STRIPING STD. PLAN.
21. PLASTIC PAVEMENT "ONLY" PER C.O.T. PLASTIC PAVEMENT "ONLY" STD. PLAN.
22. THERMOPLASTIC TRAFFIC ARROW PER C.O.T. TYPICAL THERMOPLASTIC TRAFFIC ARROW STD. PLAN.
40. PLASTIC TYPE D STOP BAR PER WSDOT STD. PLAN M-11.10-01.
41. PLASTIC TYPE D RAILROAD CROSSING SYMBOL PER WSDOT STD. PLAN M-11.10-01, WITH EXCEPTIONS TO STANDARD LAYOUT DIMENSIONS AS NOTED IN PLAN VIEW.
42. PLASTIC TYPE D EDGE LINE YELLOW PER WSDOT STD. SPECIFICATIONS.
43. PLASTIC TYPE D EDGE LINE WHITE PER WSDOT STD. SPECIFICATIONS. (NOT USED)
44. CITY OF LAKEWOOD DURABLE MARKING TRAFFIC ARROW TYPE 2SR PER WSDOT STD. PLAN M-24.40-01.
45. PLASTIC TYPE D CROSSWALK LINE PER WSDOT STD. PLAN M-15.10-01. (NOT USED)
46. PLASTIC TYPE D WIDE LINE PER WSDOT STD. SPECIFICATIONS. (NOT USED)
47. PLASTIC TYPE D DOUBLE YELLOW CENTER LINE PER WSDOT STD. SPECIFICATIONS. (NOT USED)
48. PLASTIC TYPE D LANE LINE PER WSDOT STD. SPECIFICATIONS. (NOT USED)
49. CITY OF LAKEWOOD DURABLE MARKING RAILROAD CROSSING SYMBOL PER WSDOT STD. PLAN M-11.10-01, WITH EXCEPTIONS TO STANDARD LAYOUT DIMENSIONS AS NOTED IN PLAN VIEW.
50. CITY OF LAKEWOOD DURABLE MARKING STOP BAR PER WSDOT STD. PLAN M-11.10-00.
51. CITY OF LAKEWOOD DURABLE MARKING TRAFFIC ARROW TYPE 2SL PER WSDOT STD. PLAN M-24.40-01.
52. CITY OF LAKEWOOD DURABLE MARKING TRAFFIC LETTTERS "ONLY", DIMENSIONS PER WSDOT STD. SPECIFICATIONS.
53. CITY OF LAKEWOOD DURABLE MARKING EDGE LINE YELLOW, DIMENSIONS PER WSDOT STD. SPECIFICATIONS.
54. CITY OF LAKEWOOD DURABLE MARKING 24" STOP BAR PER CITY OF LAKEWOOD STD. PLAN CH-1.
55. PLASTIC TYPE D TRAFFIC ARROW TYPE 2SL PER WSDOT STD. PLAN M-24.40-01. (NOT USED)
56. PLASTIC TYPE D TRAFFIC LETTERS "ONLY" PER WSDOT STD. SPECIFICATIONS. (NOT USED)
57. CITY OF LAKEWOOD DURABLE MARKING BICYCLE LANE SYMBOL PER WSDOT STD. PLAN M-9.50-01.
58. CITY OF LAKEWOOD DURABLE MARKING EDGE LINE WHITE, DIMENSIONS PER WSDOT STD. SPECIFICATIONS.
59. CITY OF LAKEWOOD DURABLE MARKING WIDE LINE, DIMENSIONS PER WSDOT STD. SPECIFICATIONS.
60. CITY OF LAKEWOOD DURABLE MARKING DOUBLE YELLOW CENTER LINE, DIMENSIONS PER WSDOT STD. SPECIFICATIONS.
61. TYPE 1 AND 2 RPM DOUBLE YELLOW CENTER LINE PER WSDOT STD. PLAN M-20.50.01. (NOT USED)
62. RAISED PAVEMENT MARKER TYPE 1Y DOUBLE YELLOW CENTER LINE PER WSDOT STD. PLAN M-20.50-01. (NOT USED)
63. RAISED PAVEMENT MARKER TYPE 1W AND LANE LINE PER DETAIL SHEET RDDET112A.
64. RAISED PAVEMENT MARKER TYPE 1Y AND TWO WAY LEFT TURN LINE PER DETAIL SHEET RDDET112A.
65. PLASTIC TYPE D TRAFFIC ARROW TYPE 6SL. DIMENSIONS PER WSDOT STD. PLAN M-24.40.01. LAYOUT PER LANE REDUCTION DETAIL ON SHEET RDDET118A. (NOT USED)
66. PLASTIC TYPE D TRAFFIC ARROW TYPE 2SR PER WSDOT STD. PLAN M-24.40-01. (NOT USED)
67. CITY OF LAKEWOOD DURABLE MARKING CROSSWALK PER CITY OF LAKEWOOD STD. PLAN CH-1.
68. CITY OF LAKEWOOD DURABLE MARKING LANE LINE PER SPECIFICATION SECTION 01900. REVISIONS TO WSDOT STD. SPECIFICATION 8-22 AND 9-34. DIMENSIONS PER WSDOT STD. SPECIFICATIONS.
69. PLASTIC TYPE D STOP LINE PER WSDOT STD. PLAN M-15.10-01. (NOT USED)
70. PAINT TOP AND EXPOSED SIDES OF CURB YELLOW, WITH GLASS BEADS, PER SPECIFICATION SECTION 01900.

GENERAL NOTES – ROADWAY CHANNELIZATION

1. ALL UNITS ARE IN FEET UNLESS OTHERWISE SPECIFIED.

FILE NAME	PD_RDCHCNA.dwg				REGION NO.	STATE	
TIME	10:23am				10	WASH	
DATE	May 09, 2008				JOB NUMBER		
PLOTTED BY	cwilcox				43066		
DESIGNED BY	RDH				CONTRACT NO.		
ENTERED BY	RDH				CONDO10776		
CHECKED BY	XXX						
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

SOUNDTRANSIT

BRIAN MILES BERGER — REGISTERED PROFESSIONAL ENGINEER — 43066 — STATE OF WASHINGTON — EXPIRES 11/06/

HDR ENGINEERING INC.

POINT DEFIANCE BYPASS PROJECT
100% PS&E SUBMITTAL
ROADWAY CHANNELIZATION NOTES

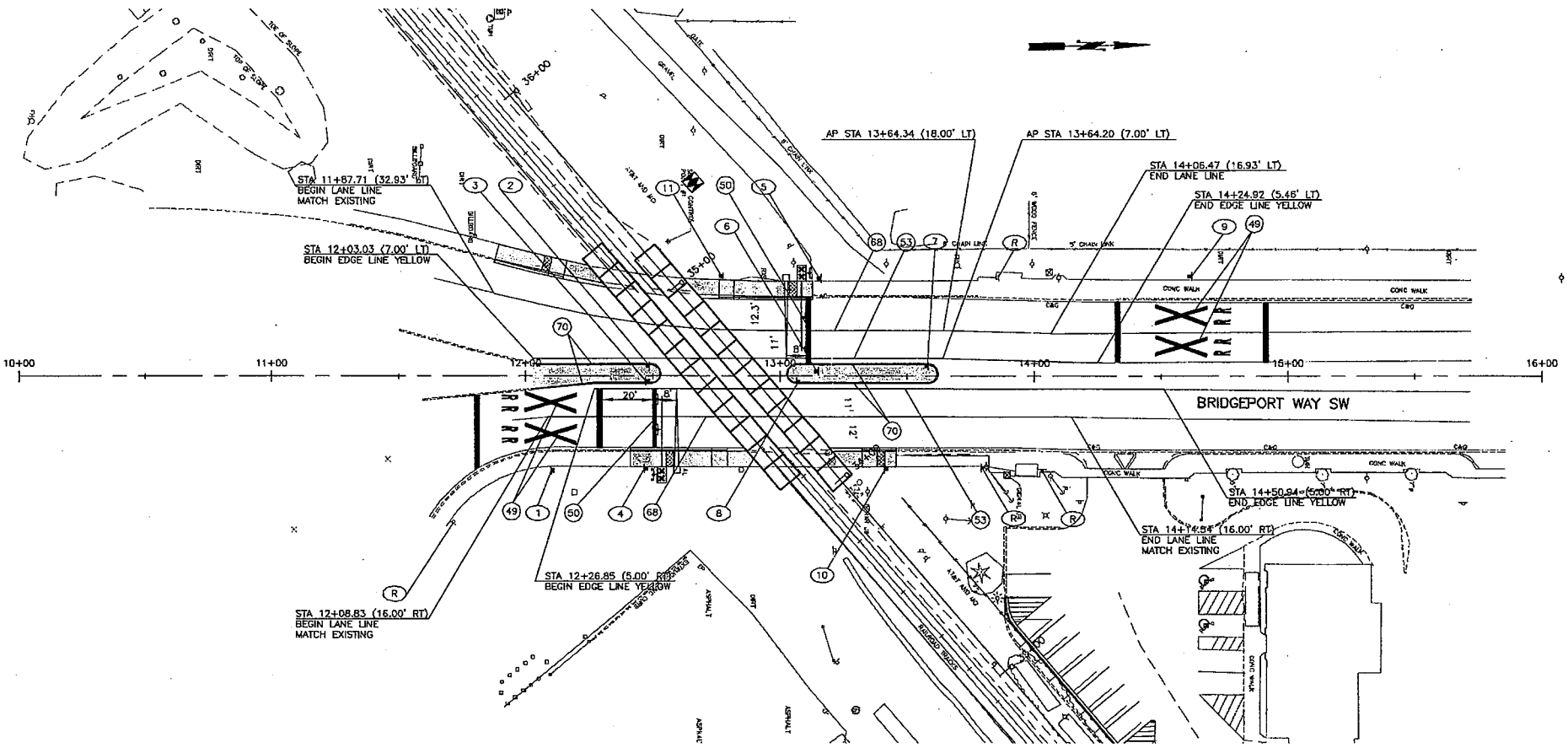
ROADWAY CHANNELIZATION NOTES

RDCHCNA

SHEET X OF X SHEETS

GENERAL NOTES:

1. SEE SHEET RDCHCNA FOR CHANNELIZATION NOTES AND ADDITIONAL GENERAL NOTES.
2. SEE SHEET RDS113A FOR SIGN SCHEDULE AND RDS110A FOR NOTES.



FILE NAME	PD_RDCH113b.A.dwg				REGION NO.	STATE	
TIME	10:24am				10	WASH	
DATE	May 09, 2008				JOB NUMBER		
PLOTTED BY	cwilcox				43088		
DESIGNED BY	RDH				CONTRACT NO.		
ENTERED BY	RDH				CONO010776		
CHECKED BY	CR						
PROJ. ENGR.	BB						
REGIONAL ADM.		REVISION	DATE	BY			

SOUNDTRANSIT

HDR ENGINEERING INC.

Washington State Department of Transportation

POINT DEFIANCE BYPASS PROJECT
100% PS&E SUBMITTAL
BRIDGEPORT WAY SW

CHANNELIZATION AND SIGNING PLAN

RDCH 113b.A

SHEET X OF X SHEETS

GENERAL NOTES:

1. SEE DRAWING RDS110A FOR SIGNING LEGEND AND ADDITIONAL GENERAL NOTES.

Sheet Number	Sign Number	Sign Code	Location	Size		Sheeting Type	Letter Size or Code	Post Material	Post Size	Post Length	Clearance		Remarks	Action
				X	Y						V	W		
RDCH113A	1	W12-401L	10+92.29	12	36	III or IV	N/A	WOOD	4"x4"	10.0'	4'	2.5'	LATERAL CLEARANCE MARKER (LEFT)	NEW
RDCH113A	2	W12-401L	12+72.93	12	36	-	N/A	WOOD	4"x4"	10.5'	4'	2.5'	LATERAL CLEARANCE MARKER (LEFT)	RELOCATE
RDCH113A	3	R8-8	12+71.75	24	30	III or IV	STANDARD	WOOD	4"x4"	12.5'	7'	12.5'	DO NOT STOP ON TRACKS	NEW
RDCH113A	4	R8-8	12+58.54	24	30	III or IV	STANDARD	WOOD	4"x4"	12.5'	7'	3'	DO NOT STOP ON TRACKS	NEW
RDCH113A	5	W12-401L	13+11.43	12	36	III or IV	N/A	WOOD	4"x4"	10.0'	4'	2.5'	LATERAL CLEARANCE MARKER (LEFT)	NEW
RDCH113A	6	R8-8	13+26.58	24	30	III or IV	STANDARD	WOOD	4"x4"	12.5'	7'	3'	DO NOT STOP ON TRACKS	NEW
RDCH113A	7	R8-10L	13+28.65	24	36	III or IV	STANDARD	WOOD	4"x4"	13.0'	7'	12.5'	STOP HERE WHEN FLASHING	NEW
RDCH113A	8	W12-401L	13+68.12	12	36	-	-	WOOD	4"x4"	10.0'	4'	2.5'	LATERAL CLEARANCE MARKER (LEFT)	RELOCATE
RDCH113A	9	NOT USED												
RDCH113A	10	R4-7	13+67.98	24	30	-	-	WOOD	4"x4"	12.5'	7'	6'	KEEP RIGHT SYMBOL	RELOCATE
RDCH113A	11	R8-8	13+17.75	24	30	III or IV	STANDARD	WOOD	4"x4"	12.5'	7'	13.9'	DO NOT STOP ON TRACKS	NEW
RDCH113A	12	R8-10L	12+56.56	24	36	III or IV	STANDARD	WOOD	4"x4"	13.0'	7'	12.9'	STOP HERE WHEN FLASHING	NEW
RDCH113A	13	W10-1	11+12.91	DIA.	36	III or IV	STANDARD	WOOD	4"x4"	13.0'	7'	13.2'	RAILROAD ADVANCE SIGN	NEW
RDCH113A	14	R3-2	13+91.04	24	24	III or IV	STANDARD	WOOD	4"x4"	12.0'	7'	3'	NO LEFT TURN SYMBOL	NEW
RDCH113A	15	R3-7R	14+03.49	30	30	III or IV	STANDARD	WOOD	4"x4"	13.0'	7'	12'	RIGHT LANE MUST TURN RIGHT	NEW
RDCH113B.A	1	W10-1	12+09.80	DIA.	36	III or IV	STANDARD	WOOD	4"x4"	13.5'	7'	8.2'	RAILROAD ADVANCE SIGN	NEW
RDCH113B.A	2	W12-401L	12+48.61	12	36	III or IV	N/A	WOOD	4"x4"	9.5'	4'	3.0'	LATERAL CLEARANCE MARKER (LEFT)	NEW
RDCH113B.A	3	R8-8	12+47.18	24	30	III or IV	STANDARD	WOOD	4"x4"	12.5'	7'	3.0'	DO NOT STOP ON TRACKS	NEW
RDCH113B.A	4	R8-10L	12+46.59	24	36	III or IV	STANDARD	WOOD	4"x4"	13.0'	7'	7.5'	STOP HERE WHEN FLASHING	NEW
RDCH113B.A	5	R8-10L	13+16.02	24	36	III or IV	STANDARD	WOOD	4"x4"	13.5'	7'	7.5'	STOP HERE WHEN FLASHING	NEW
RDCH113B.A	6	R8-8	13+14.80	24	30	III or IV	STANDARD	WOOD	4"x4"	12.5'	7'	5.0'	DO NOT STOP ON TRACKS	NEW
RDCH113B.A	7	W12-401L	13+58.34	12	36	III or IV	N/A	WOOD	4"x4"	10.0'	4'	2.75'	LATERAL CLEARANCE MARKER (LEFT)	NEW
RDCH113B.A	8	W12-401L	13+06.42	12	36	III or IV	N/A	WOOD	4"x4"	9.5'	4'	2.75'	LATERAL CLEARANCE MARKER (LEFT)	NEW
RDCH113B.A	9	W10-1	14+61.82	DIA.	36	III or IV	STANDARD	WOOD	4"x4"	13.0'	7'	9.65'	RAILROAD ADVANCE SIGN	NEW
RDCH113B.A	10	R8-8	13+41.12	24	30	III or IV	STANDARD	WOOD	4"x4"	13.0'	7'	7.5'	DO NOT STOP ON TRACKS	NEW
RDCH113B.A	11	R8-8	12+77.62	24	30	III or IV	STANDARD	WOOD	4"x4"	12.5'	7'	7.5'	DO NOT STOP ON TRACKS	NEW

FILE NAME	PD_RDS113A.dwg
TIME	9:30pm
DATE	May 08, 2008
PLOTTED BY	cwilcox
DESIGNED BY	CLC
ENTERED BY	JTB
CHECKED BY	CR
PROJ. ENGR.	BB
REGIONAL ADM.	

REVISION	DATE	BY

REGION NO. 10 STATE WASH

JOB NUMBER 43088

CONTRACT NO. CONO010775

SOUNDTRANSIT

HDR ENGINEERING INC.

POINT DEFIANCE BYPASS PROJECT
100% PS&E SUBMITTAL
108th STREET SW/BRIDGEPORT WAY

SIGN SCHEDULE

RDS113A

SHEET X OF X SHEETS