APPENDIX E

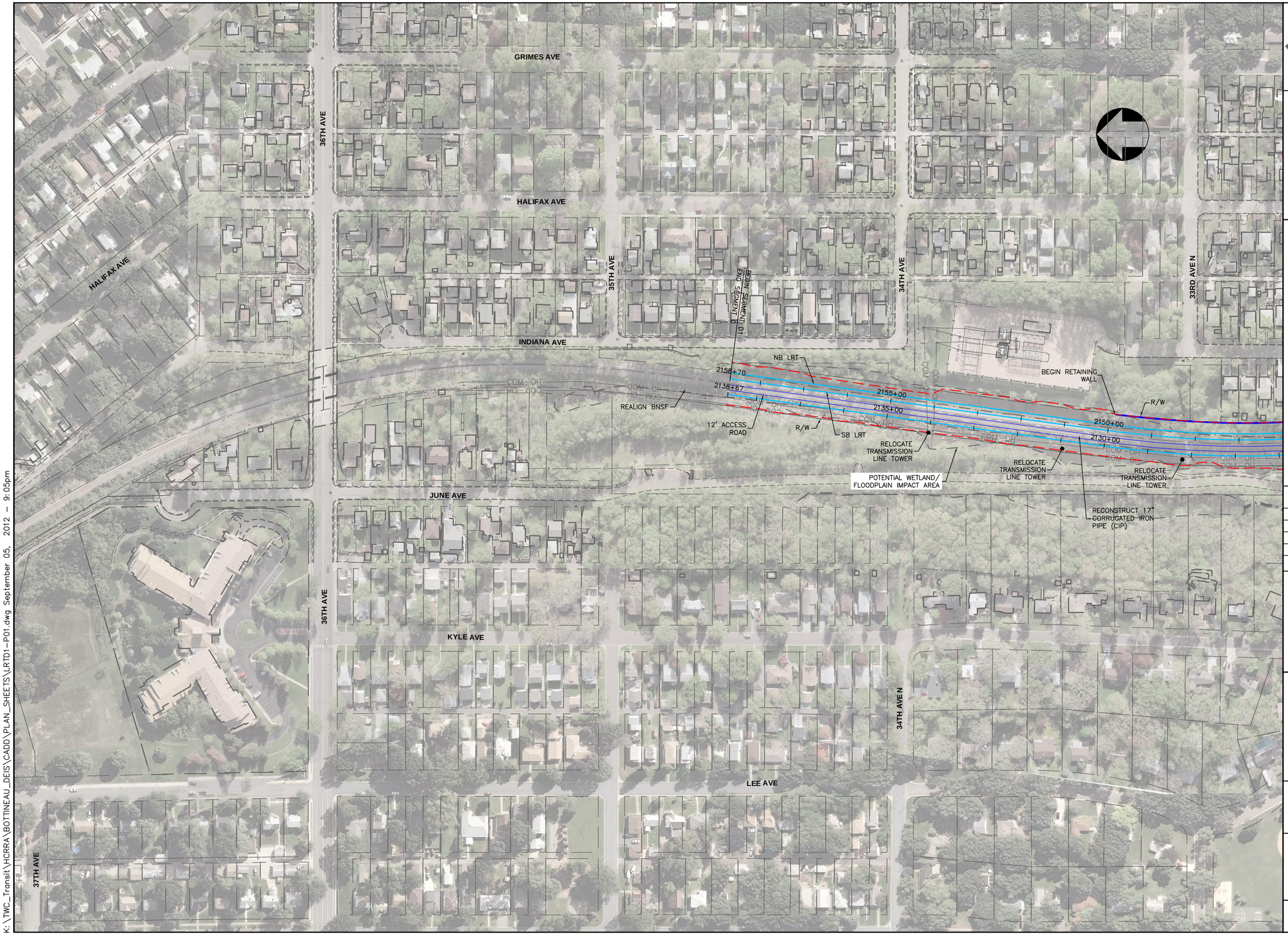
CONCEPTUAL ENGINEERING DRAWINGS

PART 2

Alignment D1 Drawings

Alignment D2 Drawings

Alignment D Common Section Drawings



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Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

DRAWING NAME	LRTD1-P01.dwg
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

SCALE
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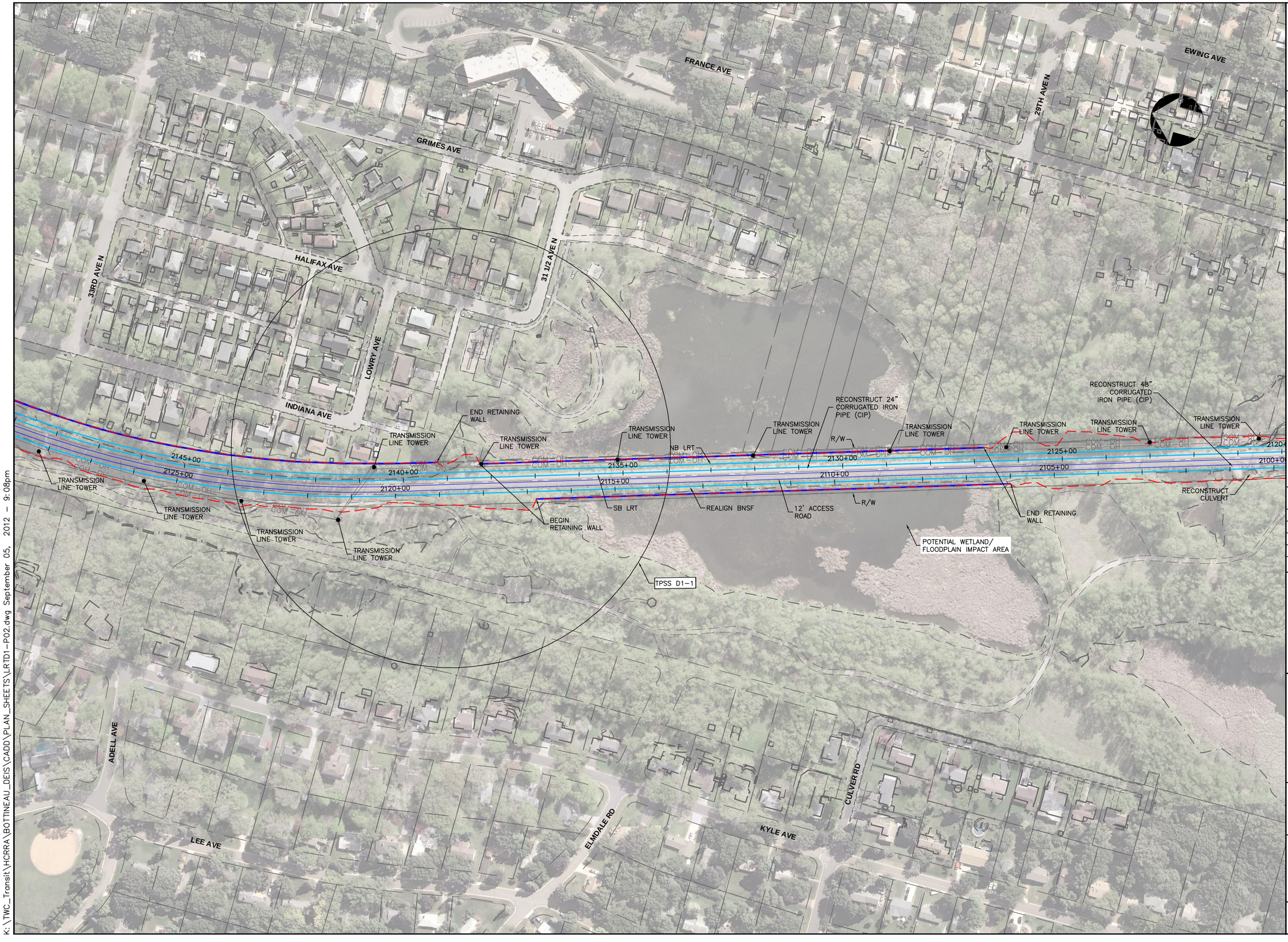
BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHEET 1 OF 18

ALIGNMENT PLAN

STA 2147+00 - 2158+70

SHEET NUMBER
76 OF 122



K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\LRTD1-P02.dwg September 05, 2012 - 9:08pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

DRAWING NAME	LRTD1-P02.dwg
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

SCALE
0 100' 200'

BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHEET 2 OF 18

ALIGNMENT PLAN

STA 2120+00 - 2148+00

SHEET NUMBER
77 OF 122



K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\LRTD1-P03.dwg September 05, 2012 - 9:11pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

DRAWING NAME	LRTD1-P03.dwg
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DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

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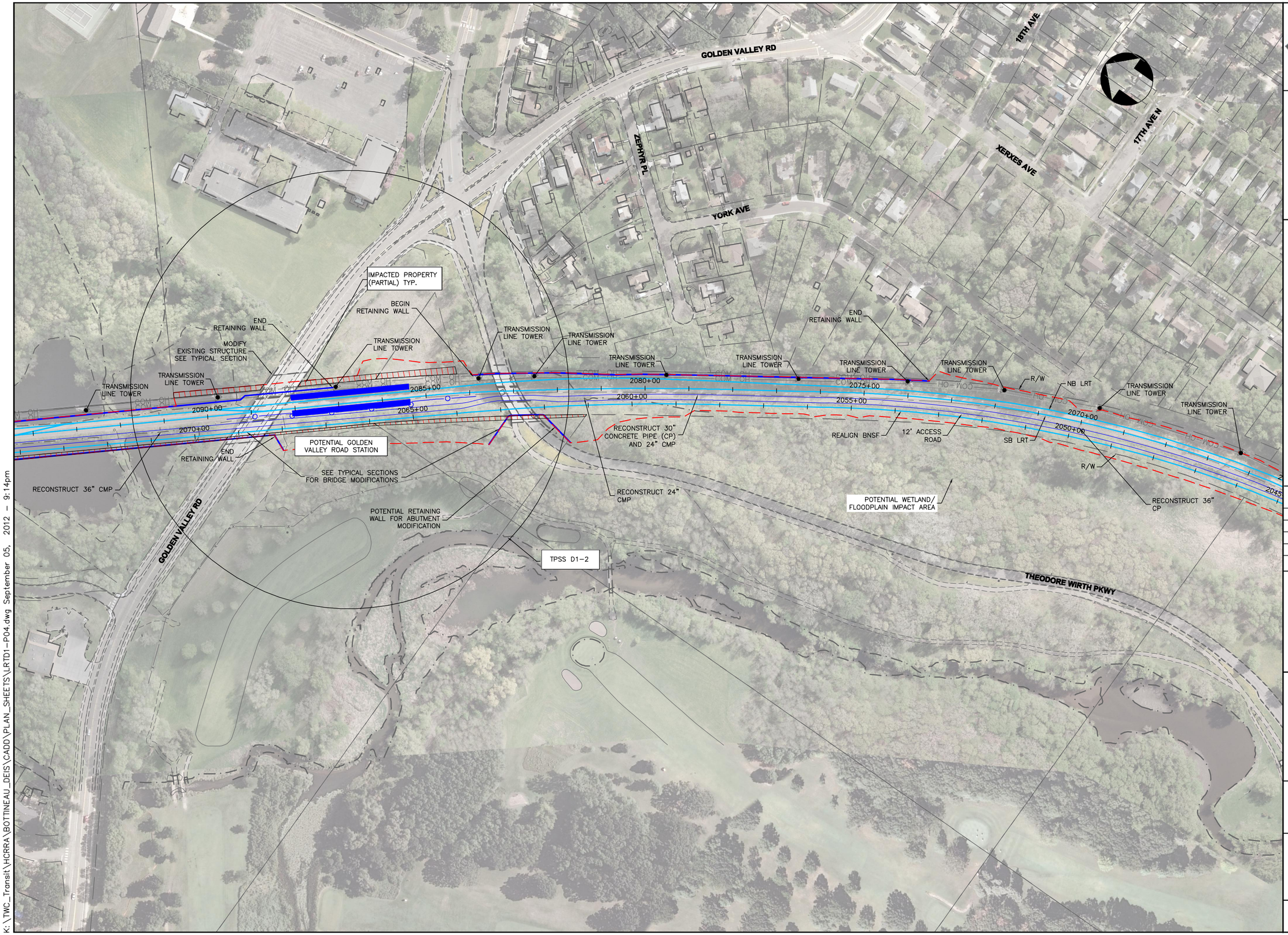
BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHEET 3 OF 18

ALIGNMENT PLAN

STA 2118+00 - 2096+00

SHEET NUMBER
78 OF 122



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Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

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LTK Engineering Services

DRAWING NAME	LRTD1-P04.dwg
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

SCALE
0 100' 200'

BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHEET 4 OF 18

ALIGNMENT PLAN

STA 2066+00 - 2094+00

SHEET NUMBER
79 OF 122



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Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
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TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

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LTK Engineering Services

DRAWING NAME
LRTD1-P05.dwg

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

SCALE
0 100' 200'

BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHEET 5 OF 18

ALIGNMENT PLAN

STA 2042+00 - 2070+00

SHEET NUMBER
80 OF 122



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Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

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DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

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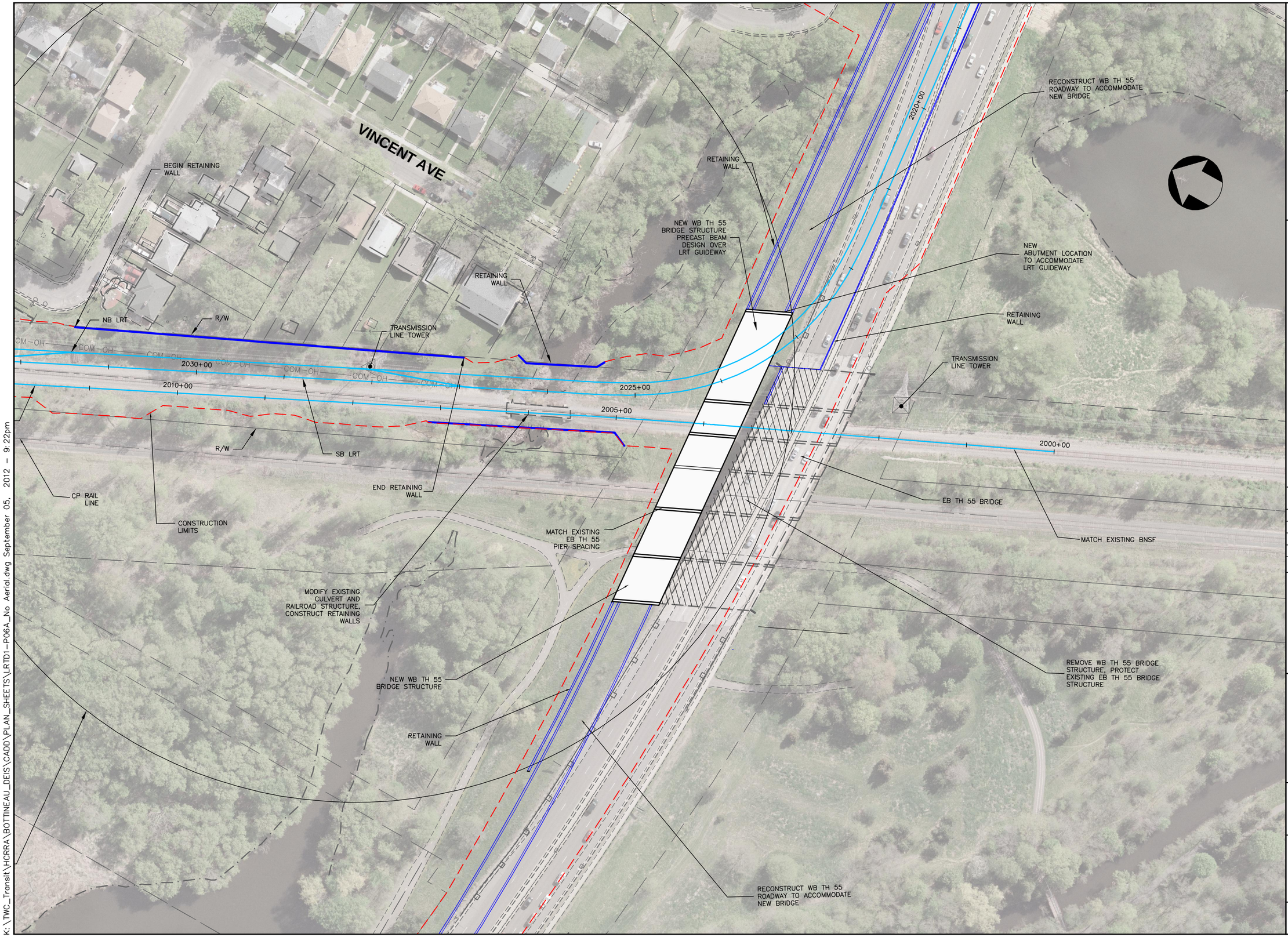
BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHEET 6 OF 18

ALIGNMENT PLAN

STA 2010+00 - 2046+00

SHEET NUMBER
81 OF 122



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Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

DRAWING NAME	LRTD1-P06A_No Aerial.dwg
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

SCALE
0 50' 100'

BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHEET 7 OF 18

ALIGNMENT PLAN

STA 2019+00 - 2032+00

SHEET NUMBER
82 OF 122



K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\LRTD1-P07.dwg September 05, 2012 - 9:23pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

DRAWING NAME	LRTD1-P07.dwg
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

SCALE
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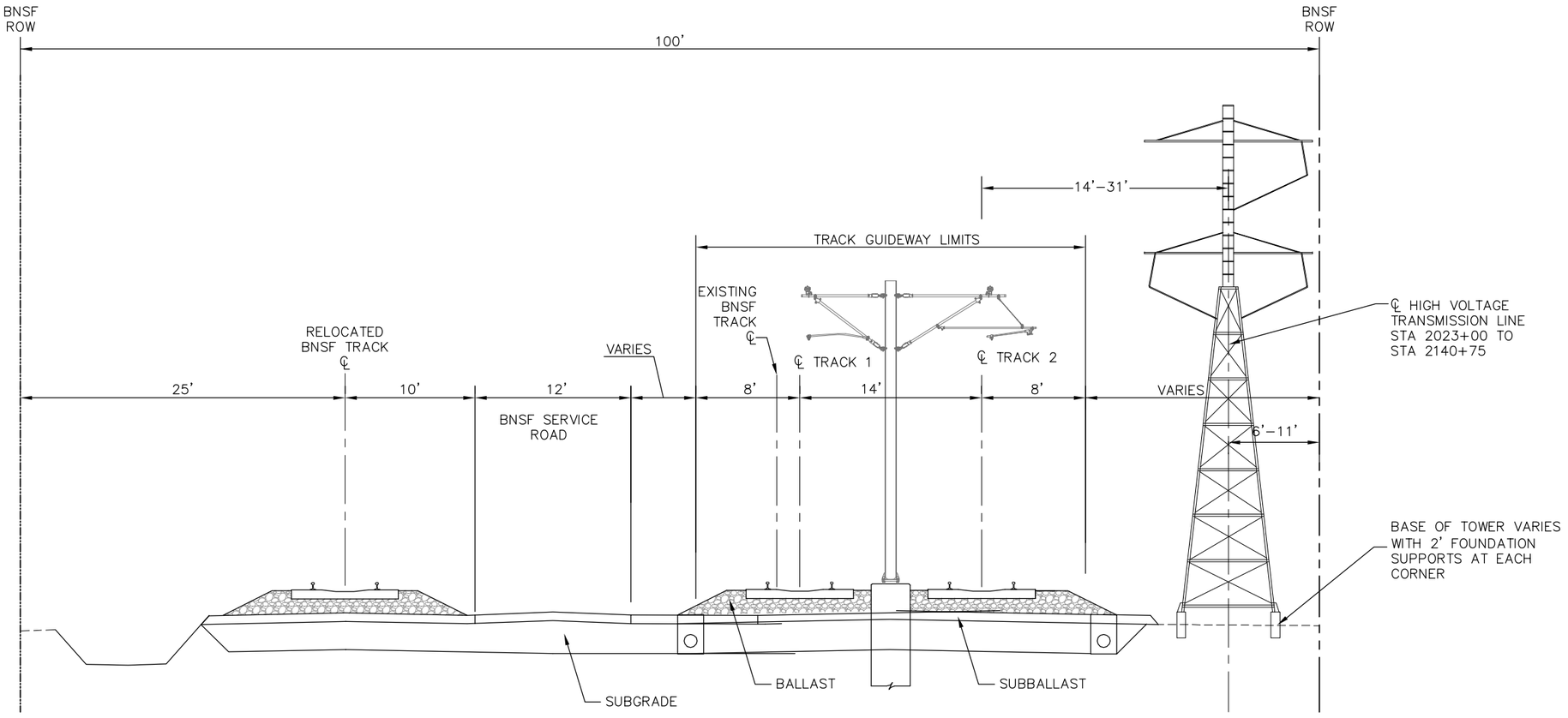
BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHEET 8 OF 18

ALIGNMENT PLAN

STA 2000+00 - 2032+00

SHEET NUMBER
83 OF 122



TYPICAL SECTION D1-1
SEG. D1 - STA. 2031+00 TO STA. 2045+00
STA. 2065+00 TO STA. 2170+00
STA. 2095+00 TO STA. 2108+00
STA. 2117+00 TO STA. 2127+00
STA. 2150+00 TO STA. 2158+70

NOTE: STATIONING REPRESENTS THE SB LRT TRACK

K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\BOTT-TYP D1-1.dwg January 08, 2013 - 3:01pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

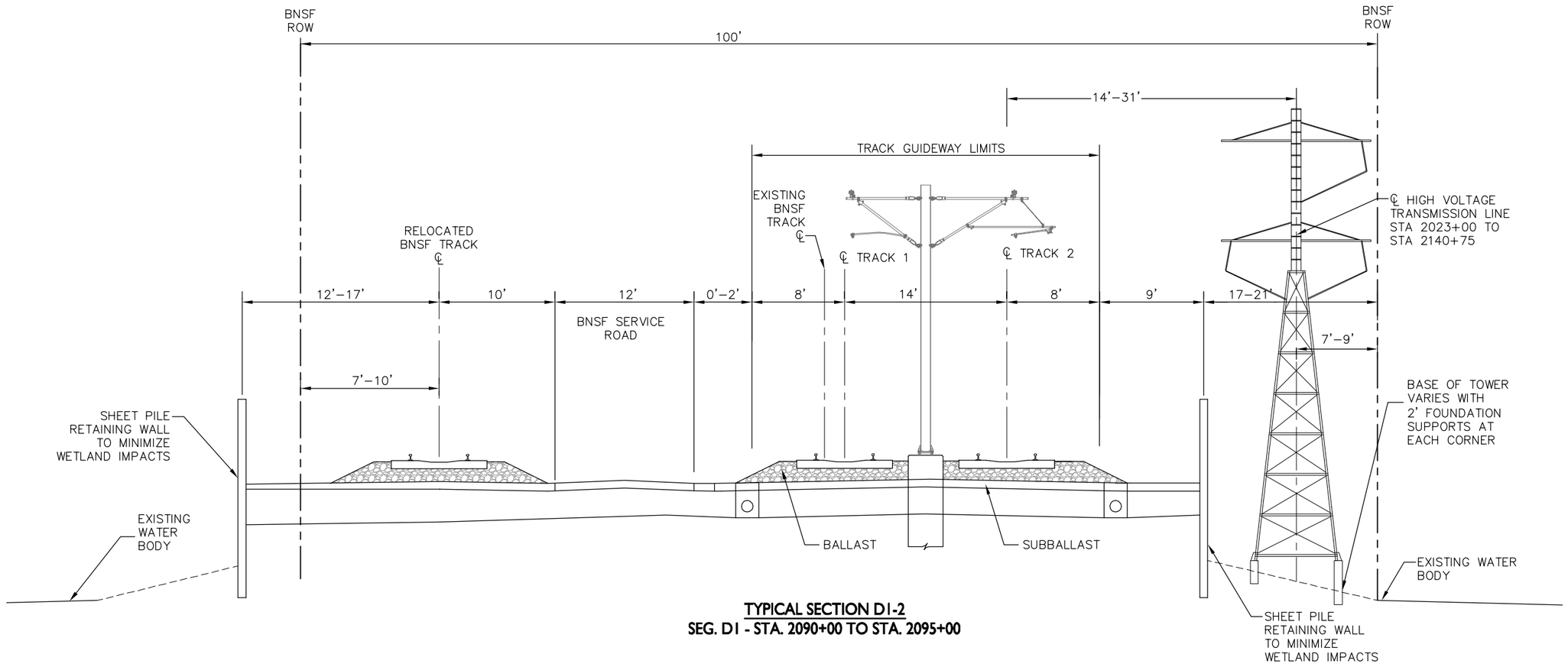
LTK Engineering Services

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DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHEET 9 OF 18

TYPICAL SECTION D1-1



TYPICAL SECTION D1-2
SEG. D1 - STA. 2090+00 TO STA. 2095+00

NOTE: STATIONING REPRESENTS THE SB LRT TRACK

K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\BOTT-TYP D1-2.dwg January 08, 2013 - 3:11pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

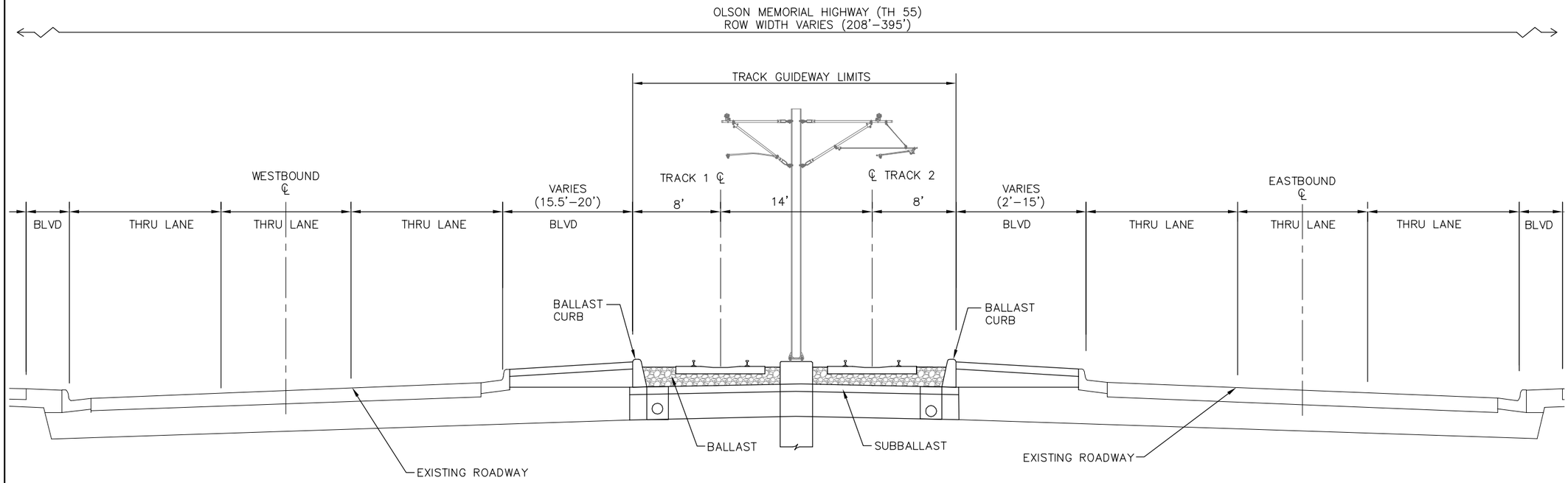
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DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR
DRAFT DEIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHEET 10 OF 18

TYPICAL SECTION D1-2

SHEET NUMBER
85 OF 122



TYPICAL SECTION D1-3
SEG. D1 - STA. 2000+00 TO STA. 2021+00

NOTE: STATIONING REPRESENTS THE SB LRT TRACK

K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\BOTT-TYP D1-3.dwg January 08, 2013 - 3:13pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

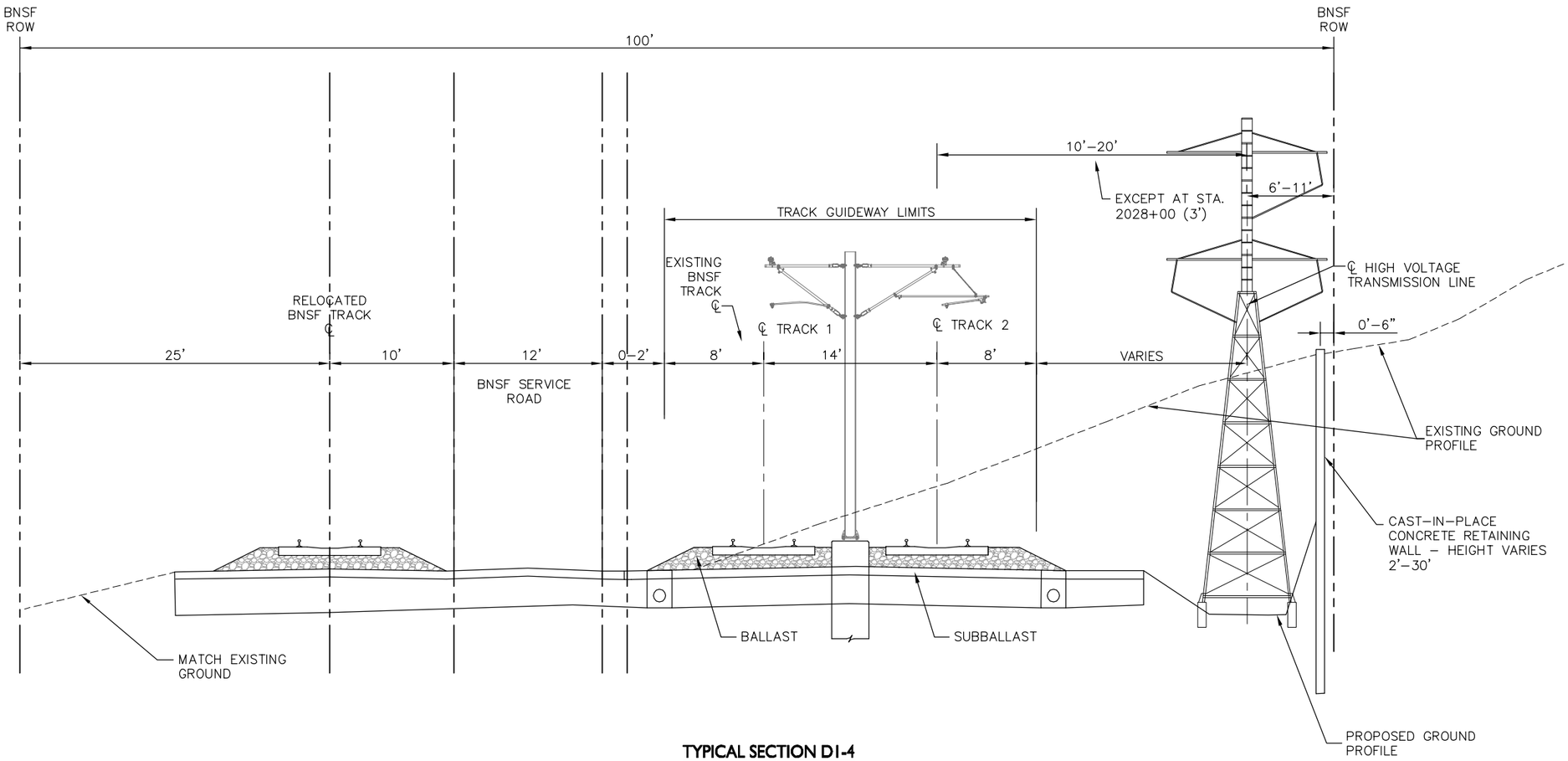
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DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHEET 11 OF 18

TYPICAL SECTION D1-3

SHEET NUMBER
86 OF 122



TYPICAL SECTION D1-4

SEG. D1 - STA. 2025+00 TO STA. 2031+00
STA. 2059+00 TO STA. 2065+00
STA. 2074+00 TO STA. 2081+00
STA. 2107+00 TO STA. 2117+00
STA. 2139+00 TO STA. 2150+00

NOTE: STATIONING REPRESENTS THE SB LRT TRACK

K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\BOTT-TYP D1-4.dwg January 08, 2013 - 1:15pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

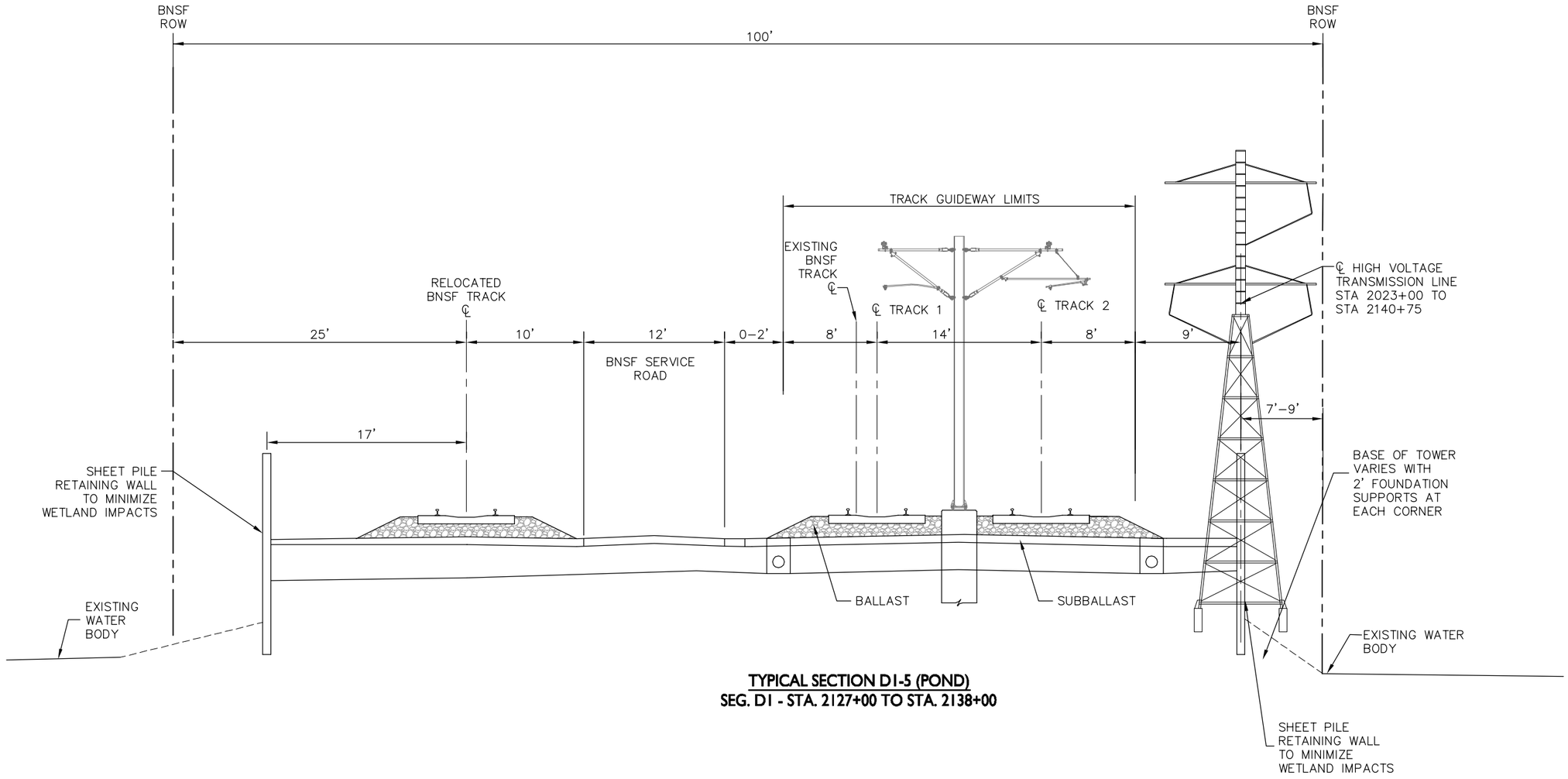
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DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR
DRAFT DEIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHEET 12 OF 18

TYPICAL SECTION D1-4

SHEET NUMBER
87 OF 122



TYPICAL SECTION D1-5 (POND)
SEG. D1 - STA. 2127+00 TO STA. 2138+00

NOTE: STATIONING REPRESENTS THE SB LRT TRACK

K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\BOTT-TYP D1-5.dwg January 08, 2013 - 3:25pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

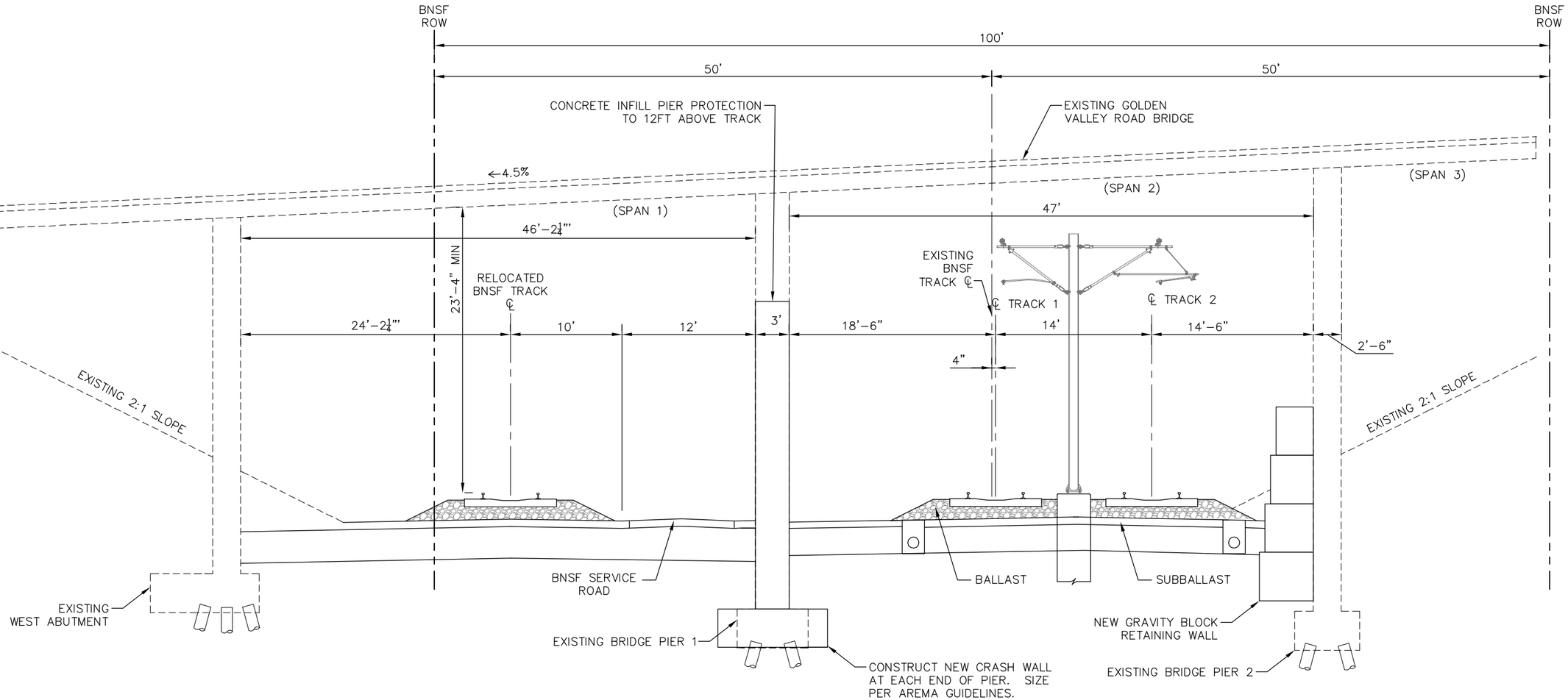
LTK Engineering Services

DRAWING NAME	BOTT-TYP D1-5.dwg
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR
DRAFT DEIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHEET 13 OF 18

TYPICAL SECTION D1-2



TYPICAL SECTION D1-6
Golden Valley Road Bridge
STA 2088+00 TO 2089+20

NOTE: STATIONING REPRESENTS THE SB LRT TRACK

K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\BOTT-TYP Golden Valley Rd.dwg January 08, 2013 - 3:25pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

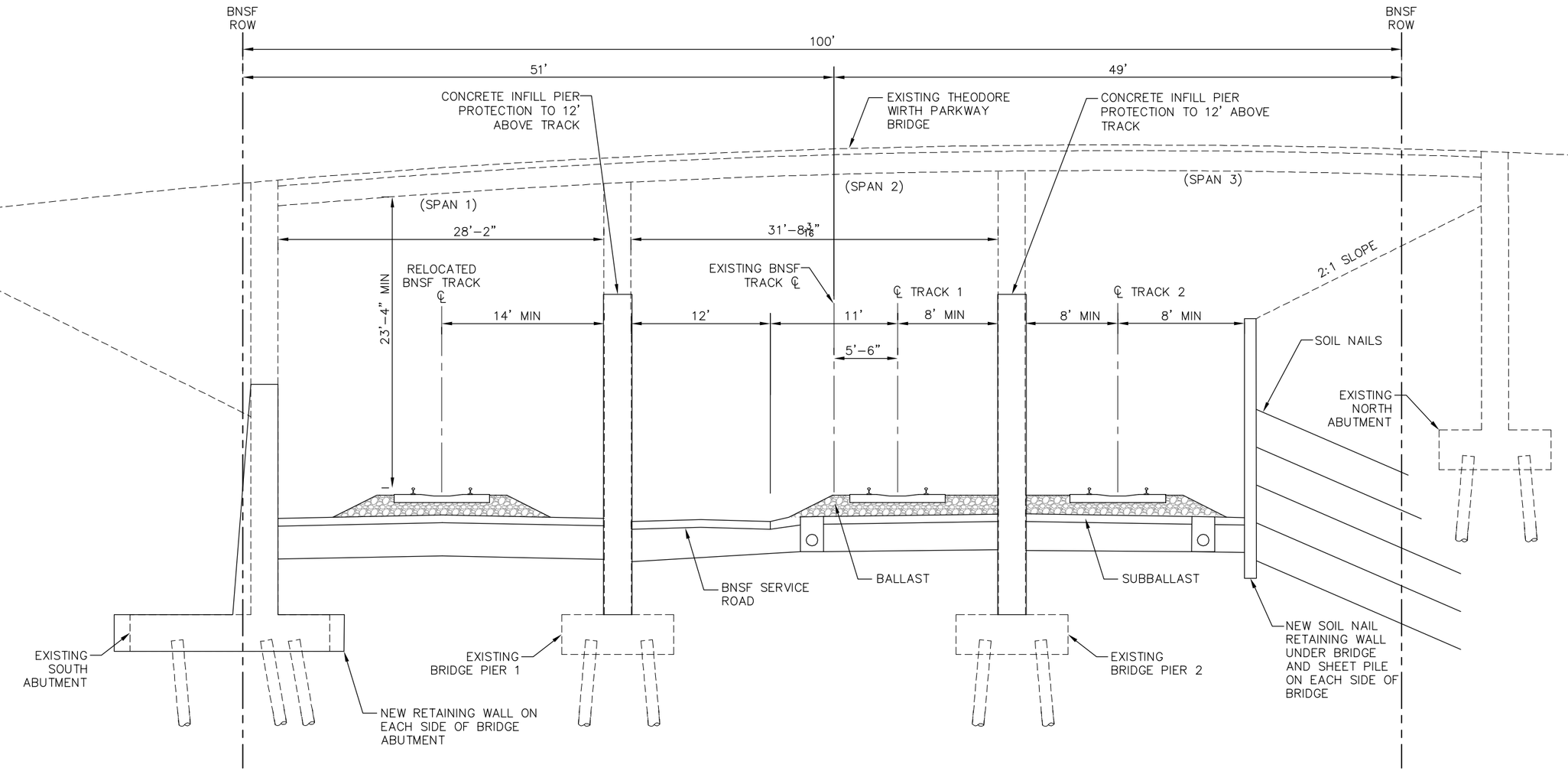
LTK Engineering Services

DRAWING NAME	BOTT-TYP Golden Valley Rd.dwg
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR ALTERNATIVES ANALYSIS CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHEET 14 OF 18

TYPICAL SECTION D1-6



TYPICAL SECTION D-7
Theodore Wirth Parkway
STA. 2082+50 TO STA. 2083+50

NOTE: STATIONING REPRESENTS THE SB LRT TRACK

K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\BOTT-TYP Theodore Wirth Pkwy.dwg January 08, 2013 - 3:55pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

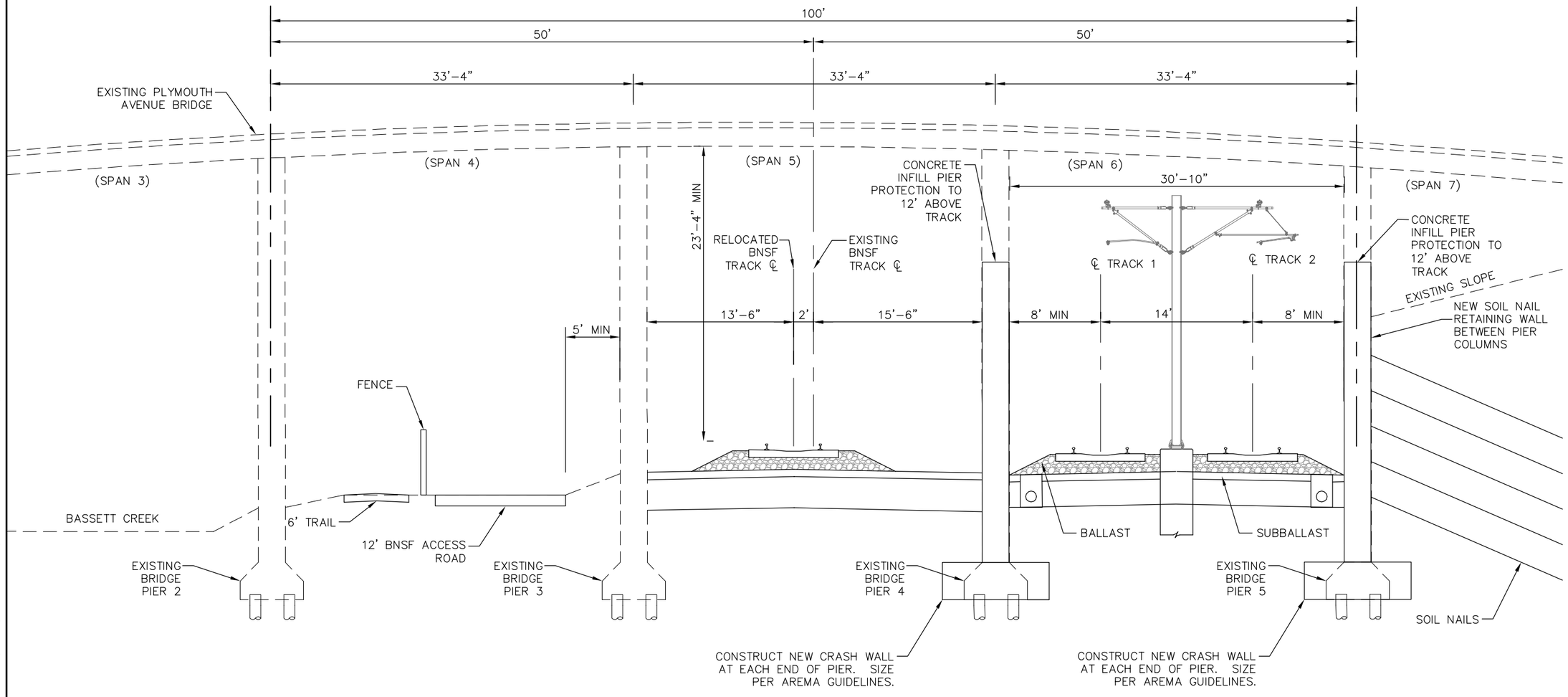
LTK Engineering Services

DRAWING NAME	BOTT-TYP Theodore Wirth Pkwy.dwg
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHEET 15 OF 18

TYPICAL SECTION D1-7



TYPICAL SECTION D1-8
Plymouth Ave Bridge
STA. 2052+00 TO STA. 2052+70

NOTE: STATIONING REPRESENTS THE SB LRT TRACK

K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\BOTT-TYP Plymouth Ave.dwg January 08, 2013 - 3:30pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

DRAWING NAME	BOTT-TYP Plymouth Ave.dwg
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

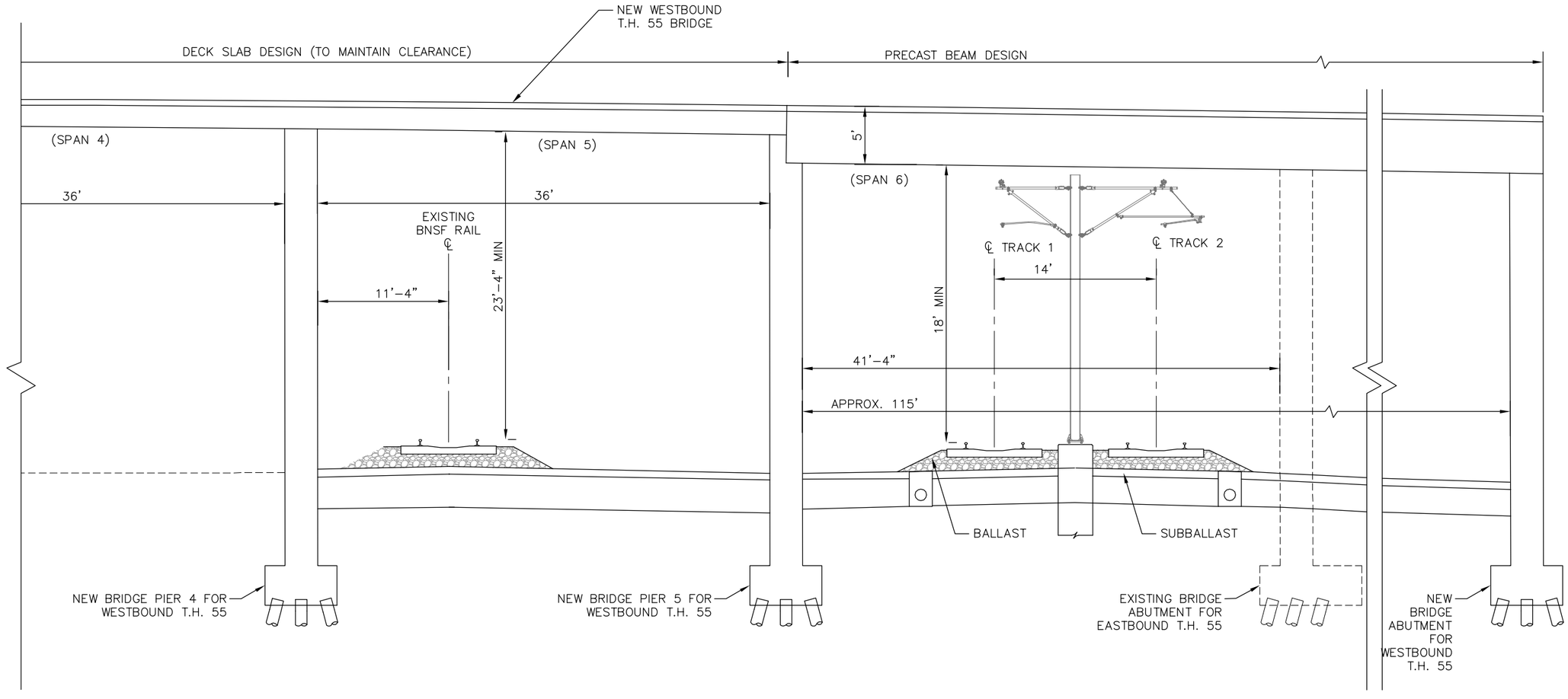
BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHEET 16 OF 18

TYPICAL SECTION D1-8

SHEET NUMBER
91 OF 122

ELEMENTS OF NEW T.H. 55 WESTBOUND BRIDGE
–BRIDGE STRUCTURE
–RETAINING WALLS (MSE)
  –ONE WALL ON WEST ABUTMENT
  –ONE WALL ON EAST ABUTMENT
–RETAINING WALLS (SHEET PILE)
  –ONE WALL ON EAST ABUTMENT OF EXISTING T.H. 55 EASTBOUND BRIDGE



TYPICAL SECTION D1-9
T.H. 55 Bridge
STA. 2020+00 TO STA. 2025+00

NOTE: STATIONING REPRESENTS THE SB LRT TRACK

K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\BOTT-TYP T.H. 55 Bridge.dwg January 08, 2013 - 2:48pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

DRAWING NAME	BOTT-TYP T.H. 55 Bridge.dwg
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D1
SHET 17 OF 18

TYPICAL SECTION D1-9

LOW POINT ELEV: 827.19
LOW POINT STA: 4161+38.88
PVI STA: 4163+08.00
PVI ELEV: 827.10
AD: 2.96%
K: 118.28
350.00' VC

BVCS: 4161+33.00
BVCE: 827.19

EVCS: 4164+83.00
EVCE: 832.19

TH 55 BRIDGE WESTBOUND

ROADWAY AERIAL GUIDEWAY

TOP OF ROADWAY

EXISTING GRADE

TOP OF RAIL SB LRT

2.91%

876 872 868 864 860 856 852 848 844 840 836 832 828 824 820 816 812 808 804

2027 2026 2025 2024 2023 2022 2021 2020 2019 2018

0 20 40 80
SCALE

0 4 8
VERTICAL SCALE

K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\Profile\BOTT-PRF-D1-01.dwg September 05, 2012 - 9:25pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

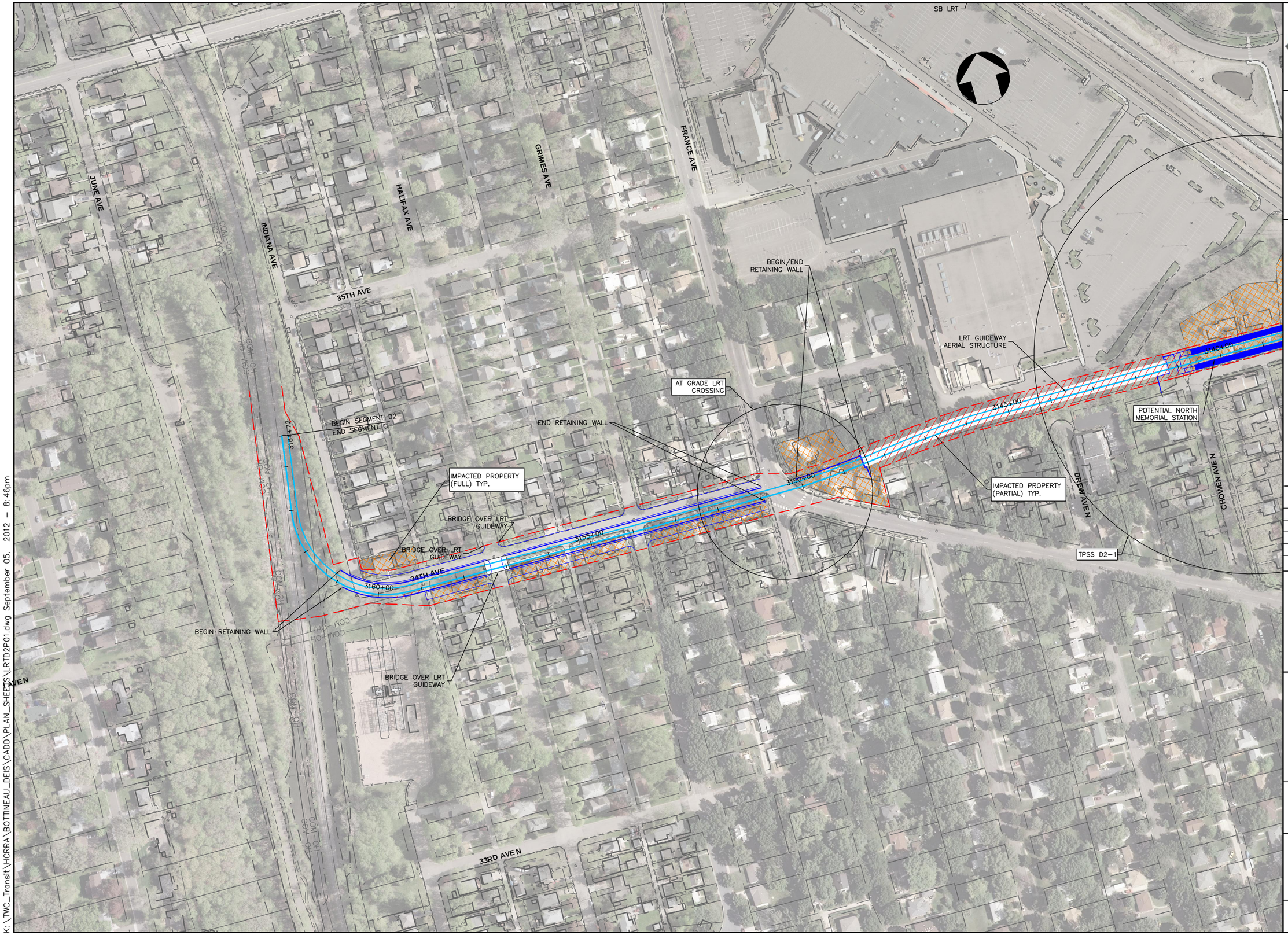
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DATE: 9/5/2012
PROJECT NO. 160528003.4.100

BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

ALIGNMENT D1
CRITICAL PROFILE
LRT CROSSING WB TH 55
SHEET 14 OF 18

CRITICAL PROFILE

SHEET NUMBER
93 OF 122



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Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
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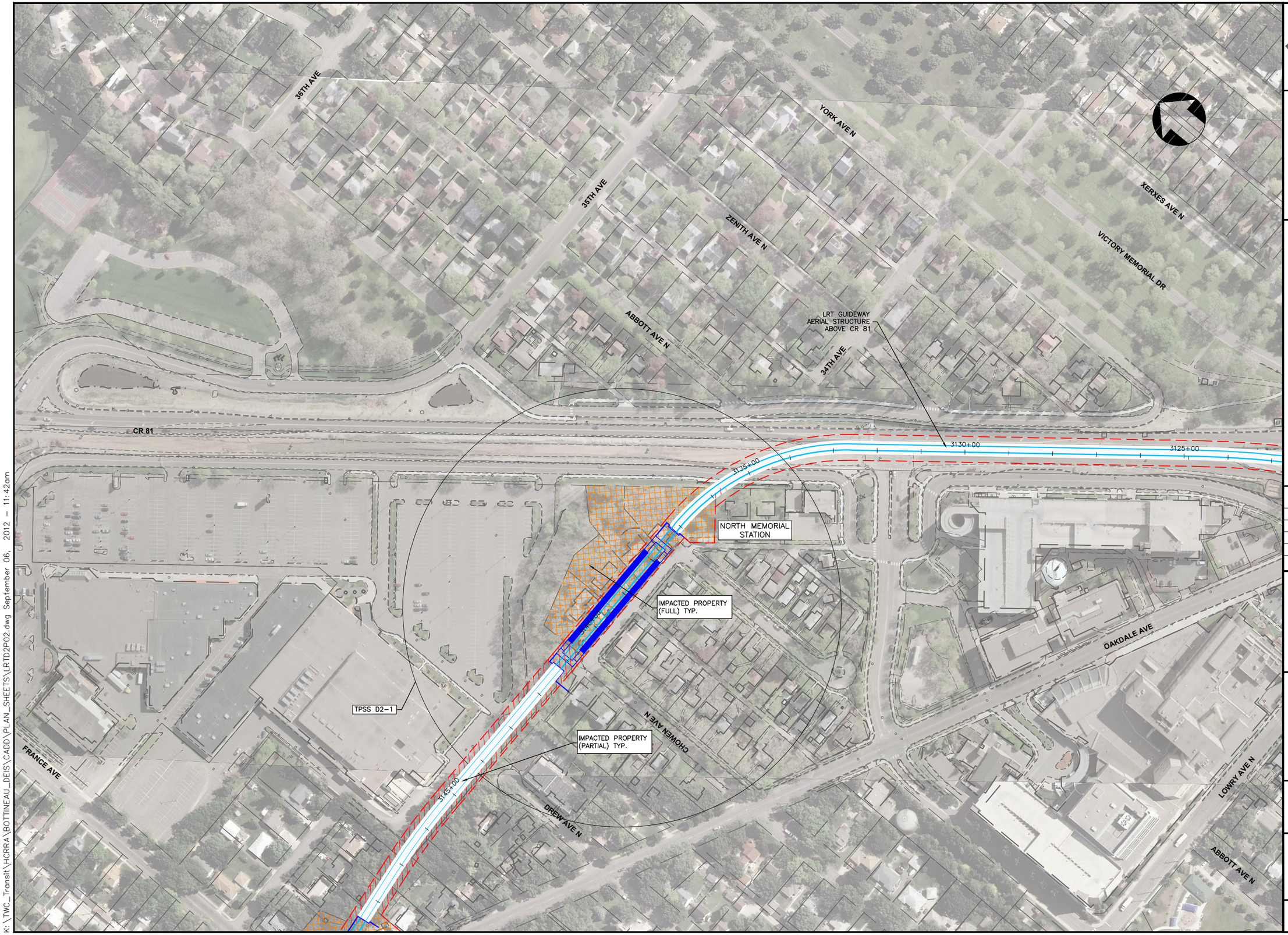
BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D2
SHEET 1 OF 20

ALIGNMENT PLAN

STA 3139+00 - 3164+72

SHEET NUMBER
94 OF 122



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Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

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2550 UNIVERSITY AVE. WEST, SUITE 345N
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PROJECT NO.	160528003.4.100

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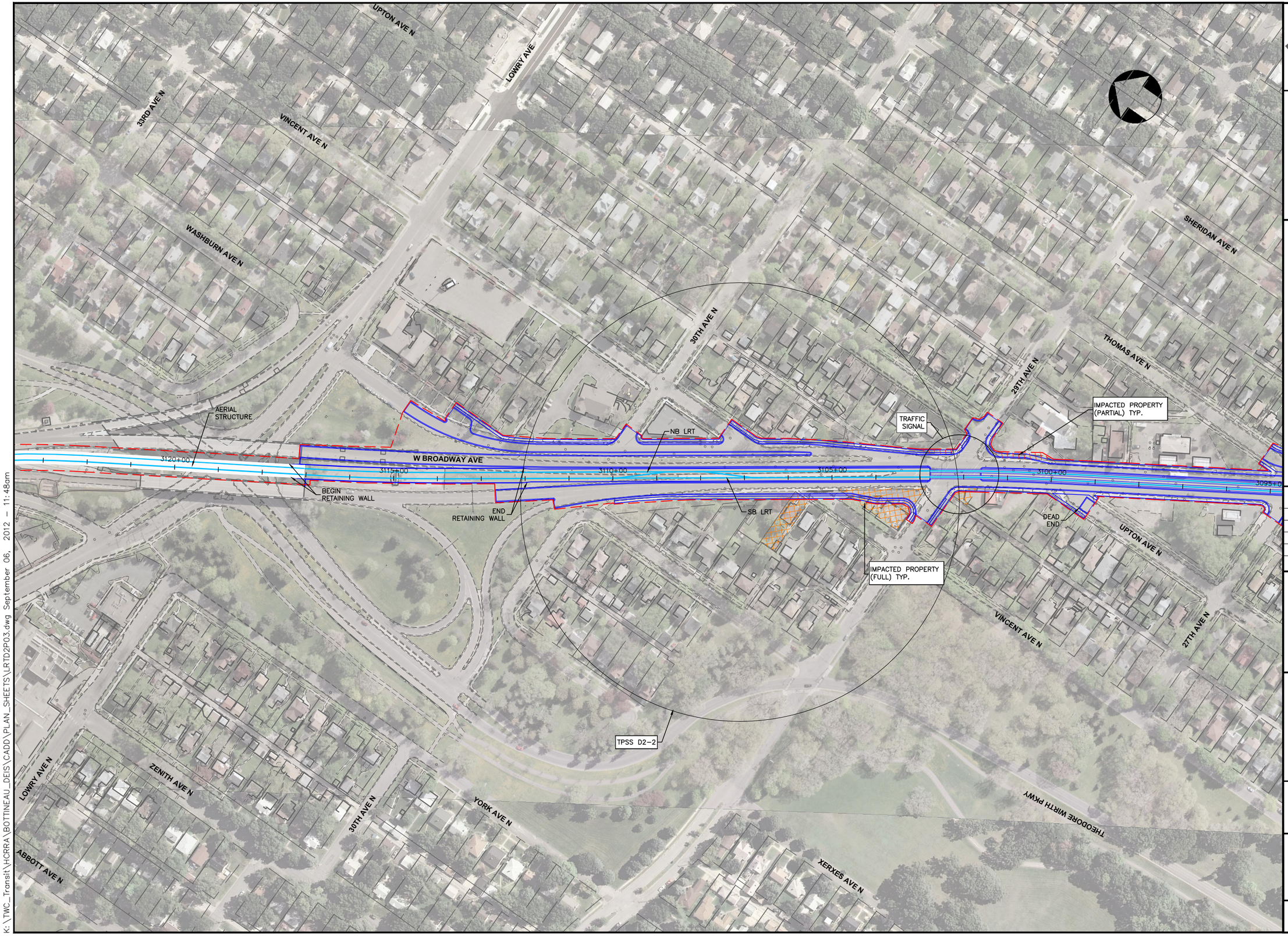
BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D2
SHEET 2 OF 20

ALIGNMENT PLAN

STA 3123+00 - 3148+00

SHEET NUMBER
95 OF 122



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Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

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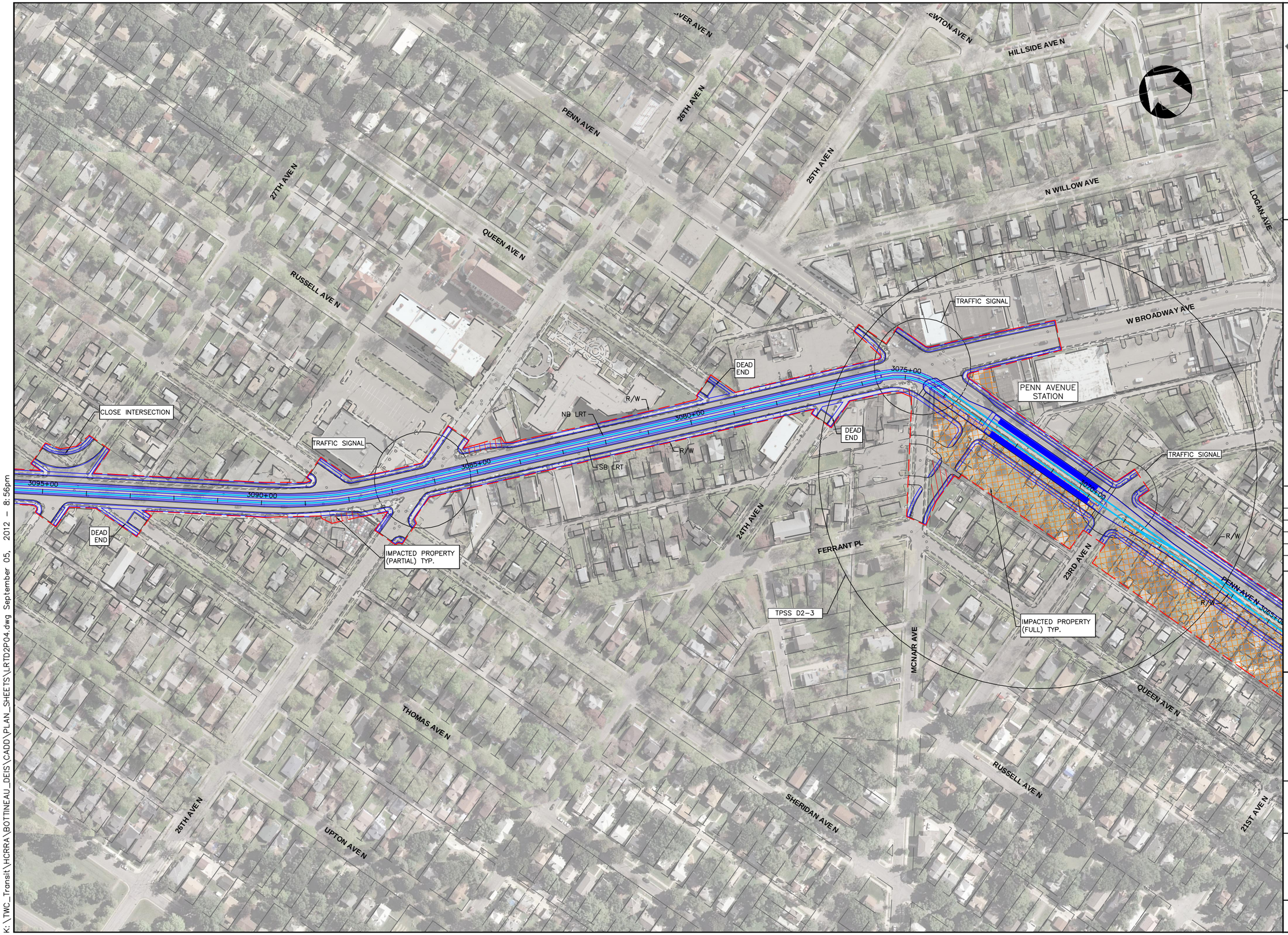
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DRAFT EIS
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LRT ALIGNMENT D2
SHEET 3 OF 20

ALIGNMENT PLAN

STA 3095+00 - 3123+00

SHEET NUMBER
96 OF 122



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Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
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BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D2
SHEET 4 OF 20

ALIGNMENT PLAN

STA 3065+00 - 3095+00

SHEET NUMBER
97 OF 122

N MORGAN AVE
LOGAN AVE
NEWTON AVE N
W BROADWAY AVE
OLIVER AVE N
17TH AVE N
16TH AVE N
NB LRT
R/W
3070+00
PENN AVE N
3065+00
3060+00
3055+00
3050+00
3045+00
R/W
TRAFFIC SIGNAL
TRAFFIC SIGNAL
SB LRT
23RD AVE N
QUEEN AVE N
21ST AVE N
GOLDEN VALLEY RD
17TH AVE N
IMPACTED PROPERTY (FULL) TYP.
TPSS D2-3
MCNAIR AVE
RUSSELL AVE N
SHERIDAN AVE N

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Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
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TEL. NO. (651) 645-4197
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SRF Consulting Group, Inc.

LTK Engineering Services

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PROJECT NO.	160528003.4.100

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BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D2
SHEET 5 OF 20

ALIGNMENT PLAN

STA 3044+00 - 3071+00

SHEET NUMBER
98 OF 122

N MORGAN AVE

NEWTON AVE N

OLIVER AVE N

QUEEN AVE N

RUSSELL AVE N

SHERIDAN AVE N

16TH AVE N

15TH AVE N

14TH AVE N

PLYMOUTH AVE N

12TH AVE N

OAK PARK AVE

TRAFFIC SIGNAL

PLYMOUTH AVENUE STATION

TRAFFIC SIGNAL

R/W

NB LRT

SB LRT

R/W

3040+00

3035+00

3030+00

3025+00

3020+00

IMPACTED PROPERTY (FULL) TYP.

MINIMIZE ROADWAY CROSS-SECTION TO MINIMIZE IMPACTS TO NORTHPOINT MEDICAL CENTER

TPSS D2-4

IMPACTED PROPERTY (PARTIAL) TYP.

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Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
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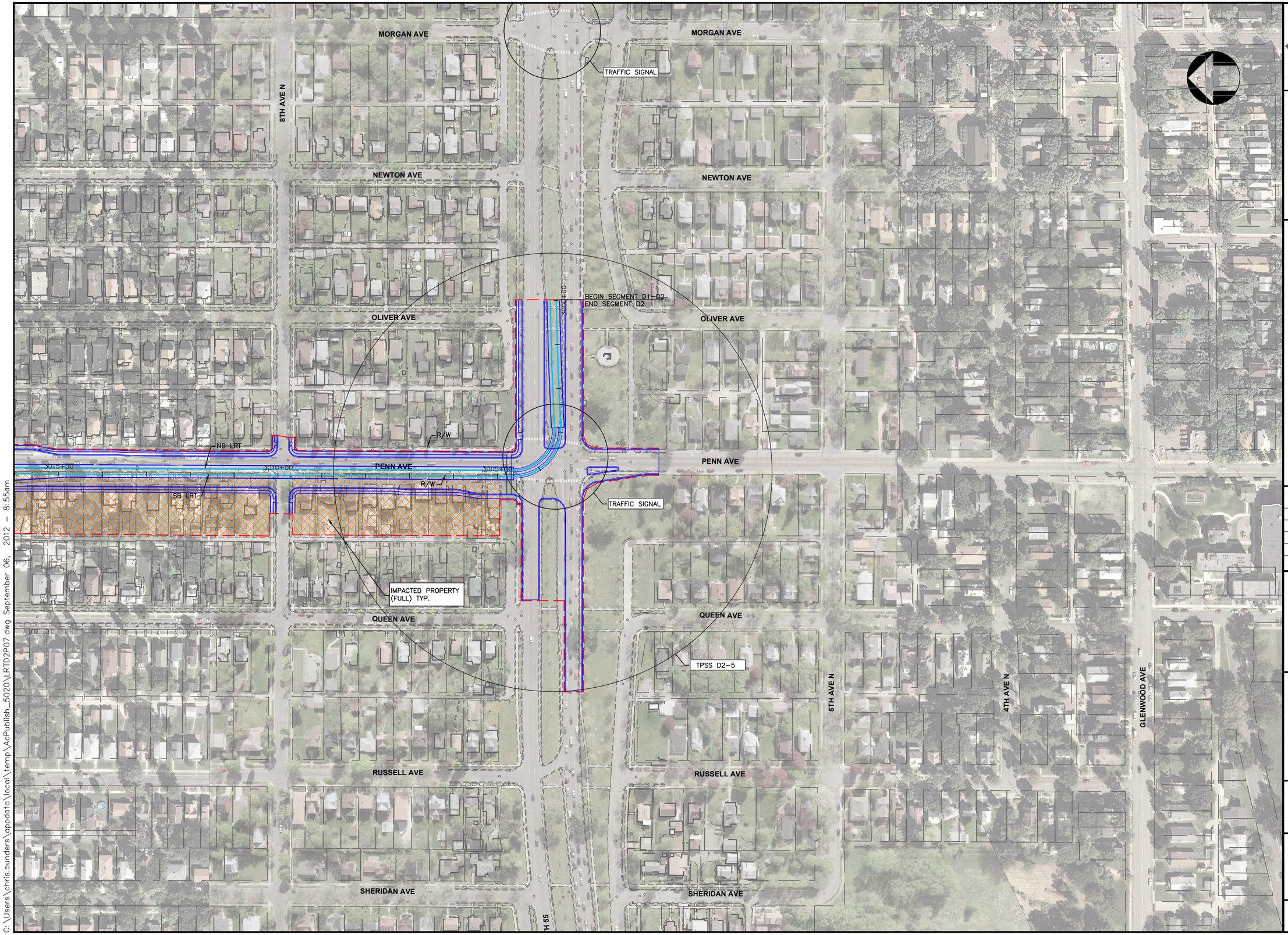
BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D2
SHEET 6 OF 20

ALIGNMENT PLAN

STA 3016+00 - 3044+00

SHEET NUMBER
99 OF 122



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Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

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PROJECT NO.	160528003.4.100

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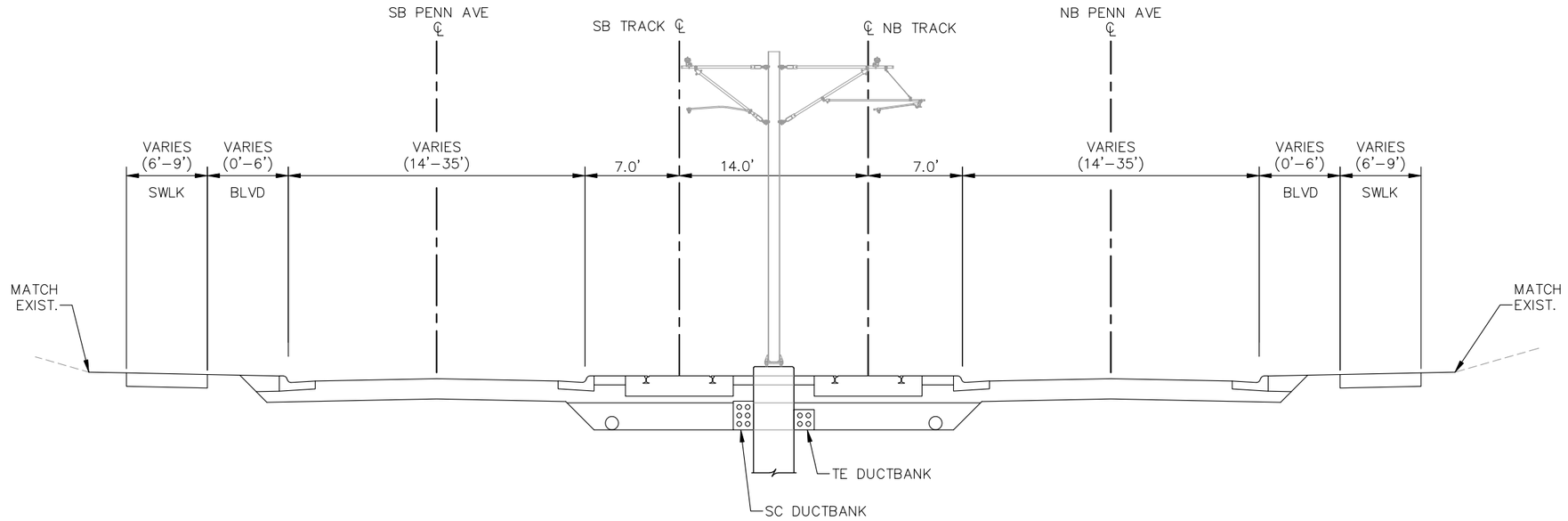
BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D2
SHEET 7 OF 20

ALIGNMENT PLAN

STA 3000+00 - 3016+00

SHEET NUMBER
100 OF 122



TYPICAL SECTION D2-01
ALIGNMENT D2 - STA. 3005+00 TO STA. 3075+00

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Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:
Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

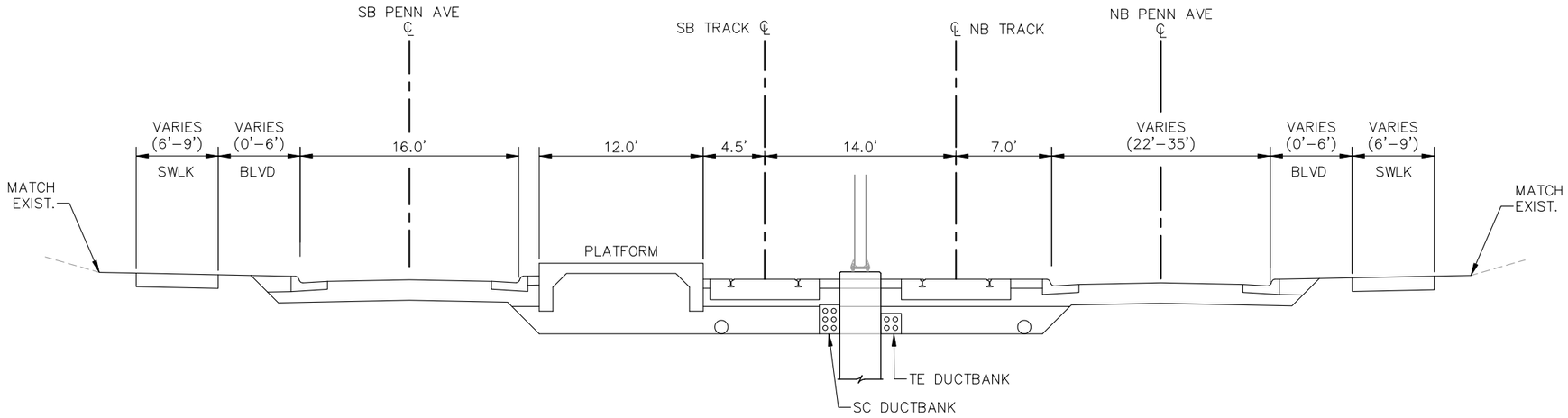
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PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

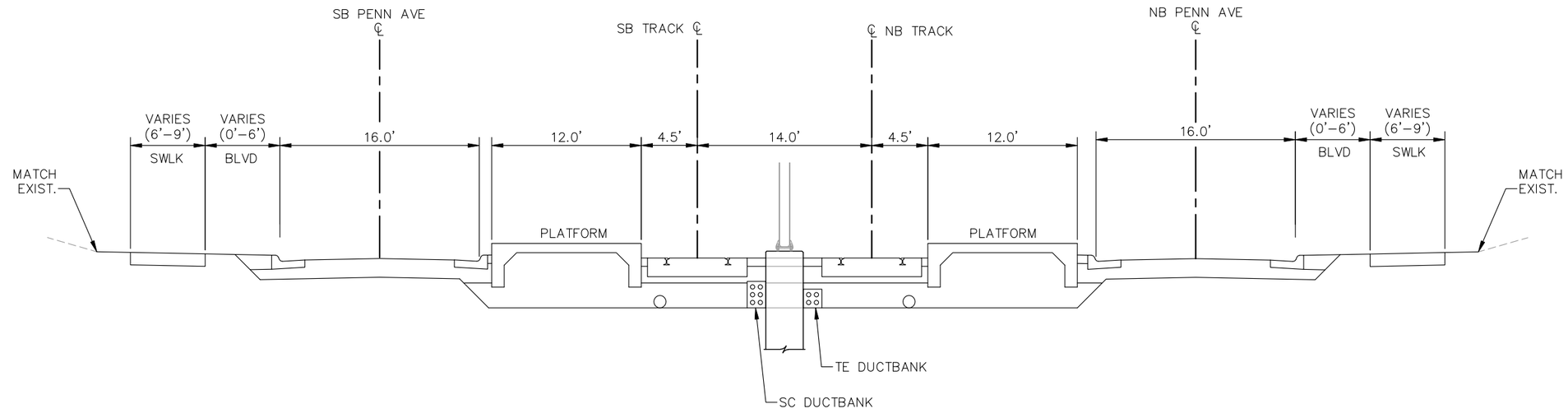
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SHEET 8 OF 20

TYPICAL SECTION D2-01

SHEET NUMBER
101 OF 122



TYPICAL SECTION D2-01A
ALIGNMENT D2 - PLYMOUTH AVENUE STATION
(SB PLATFORM SHOWN, NB SIMILAR)



TYPICAL SECTION D2-01B
ALIGNMENT D2 - BROADWAY / PENN STATION

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BottineauTransitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645–4197
FAX. NO. (651) 645–5116

SRF Consulting Group, Inc.

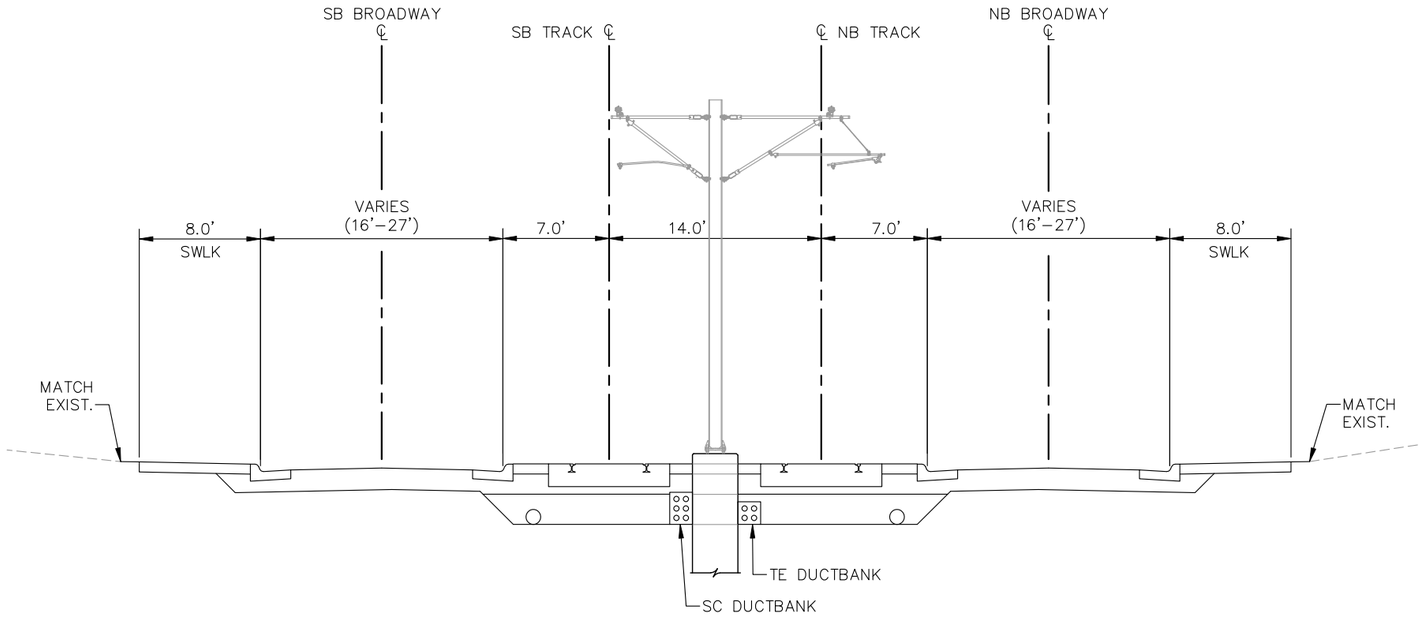
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BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D2
SHEET 9 OF 20

TYPICAL SECTION D2-01AB



TYPICAL SECTION D2-02
ALIGNMENT D2 - STA. 3075+00 TO STA. 3103+00

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Bottineau Transitway
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Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
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ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

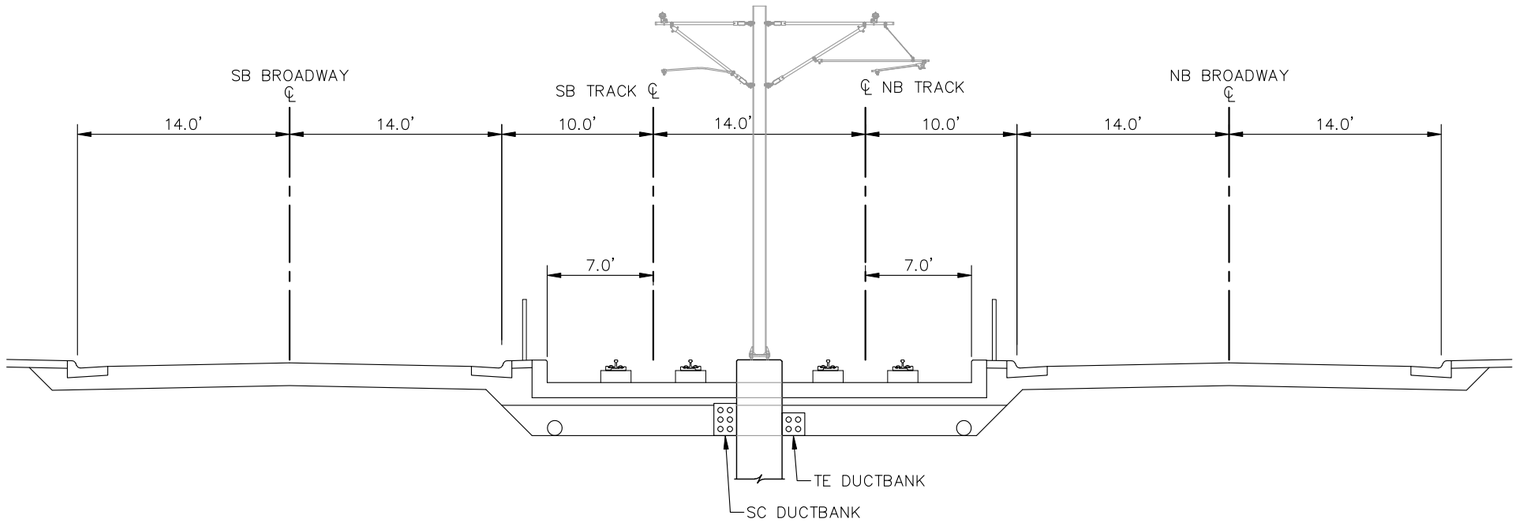
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BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D2
SHEET 10 OF 20

TYPICAL SECTION D2-02

SHEET NUMBER
103 OF 122



TYPICAL SECTION D2-03
ALIGNMENT D2 - STA. 3103+00 TO STA. 3117+00

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Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:
Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
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TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

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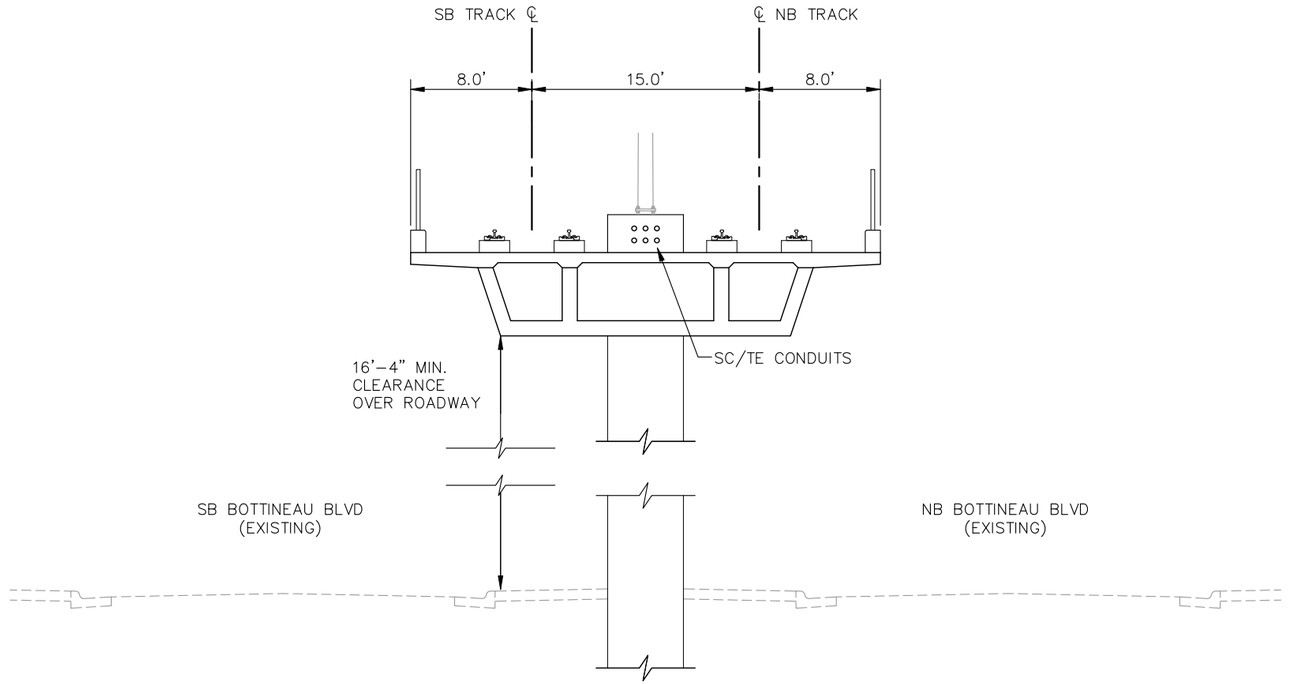
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BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D2
SHEET 11 OF 20

TYPICAL SECTION D2-03

SHEET NUMBER
104 OF 122



TYPICAL SECTION D2-04
ALIGNMENT D2 - STA. 3117+00 TO STA. 3137+00

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BottineauTransitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

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2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

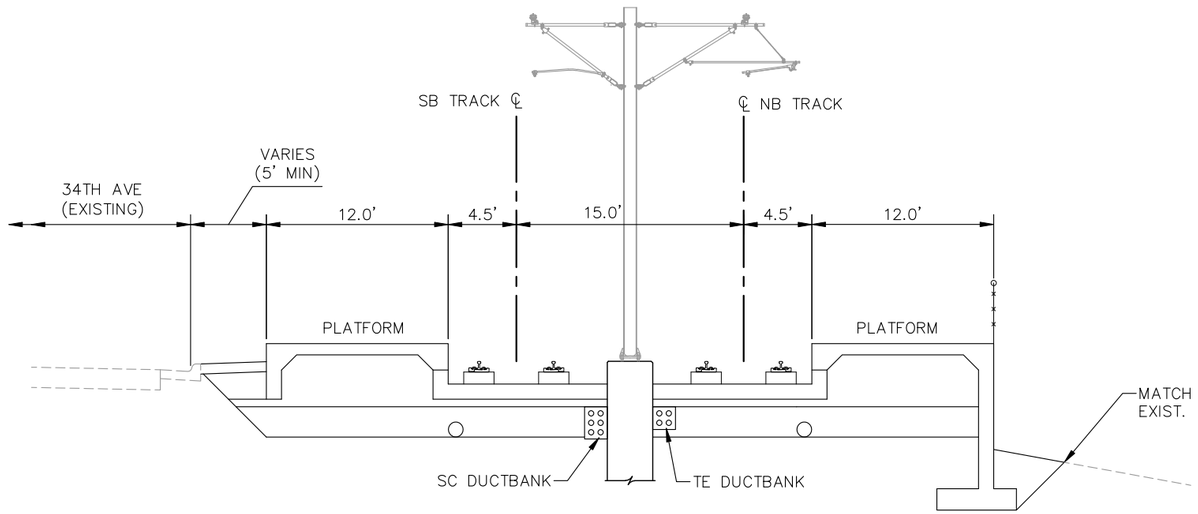
LTK Engineering Services

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PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D2
SHEET 12 OF 20

TYPICAL SECTION D2-04



TYPICAL SECTION D2-05
ALIGNMENT D2 - STA. 3137+00 TO STA. 3141+50
NORTH MEMORIAL STATION

CONSULTANTS:

Kimley-Horn and Associates, Inc.
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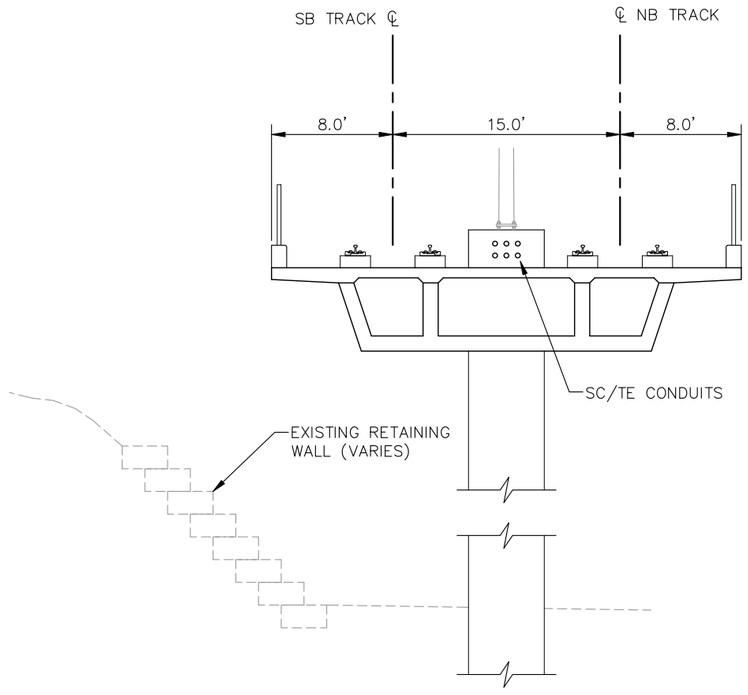
BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D2
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TYPICAL SECTION D2-05

SHEET NUMBER
106 OF 122

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TYPICAL SECTION D2-06
ALIGNMENT D2 - STA. 3141+50 TO STA. 3150+00

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BottineauTransitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:
Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
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SRF Consulting Group, Inc.

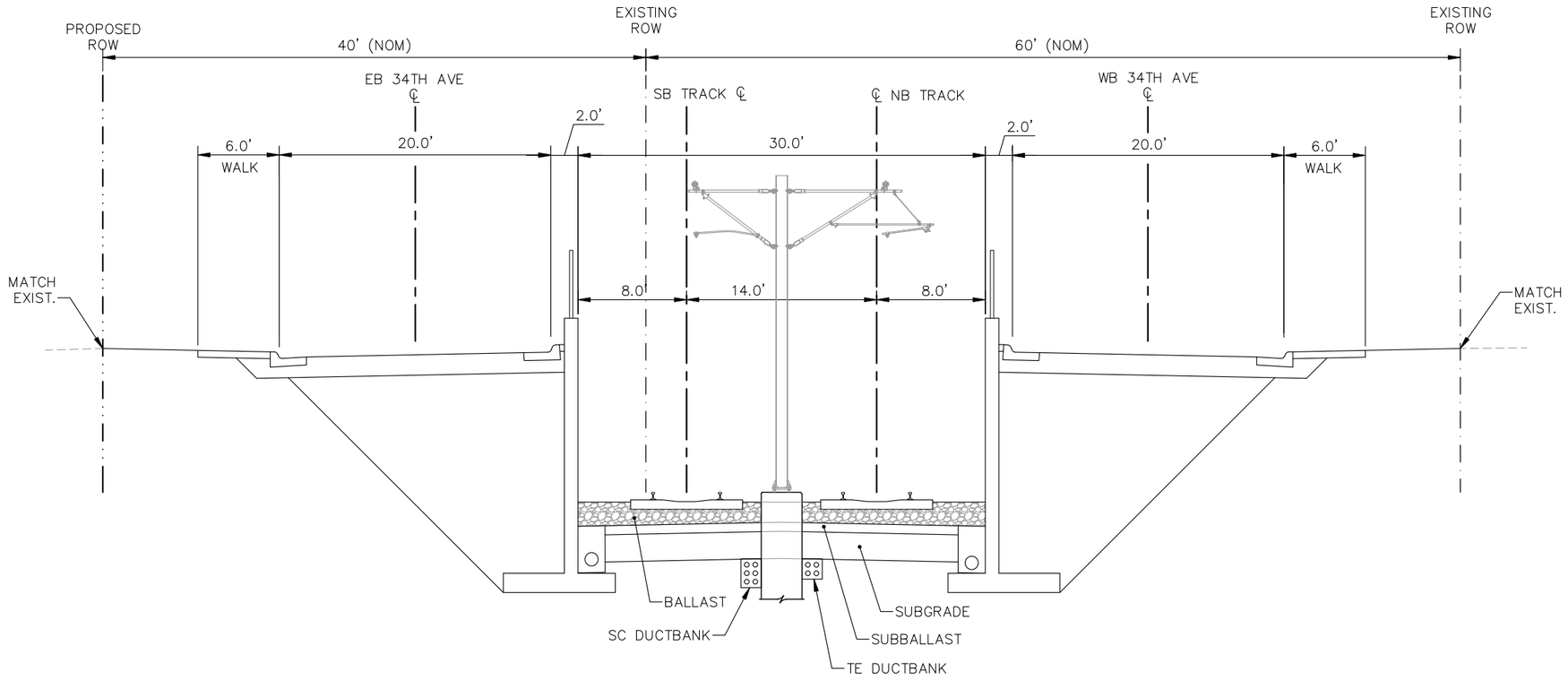
LTK Engineering Services

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BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D2
SHEET 14 OF 20

TYPICAL SECTION D2-06



TYPICAL SECTION D2-07
ALIGNMENT D2 - STA. 3151+00 TO STA. 3159+00

CONSULTANTS:

Kimley-Horn and Associates, Inc.
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SRF Consulting Group, Inc.

LTK Engineering Services

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PROJECT NO.	160528003.4.100

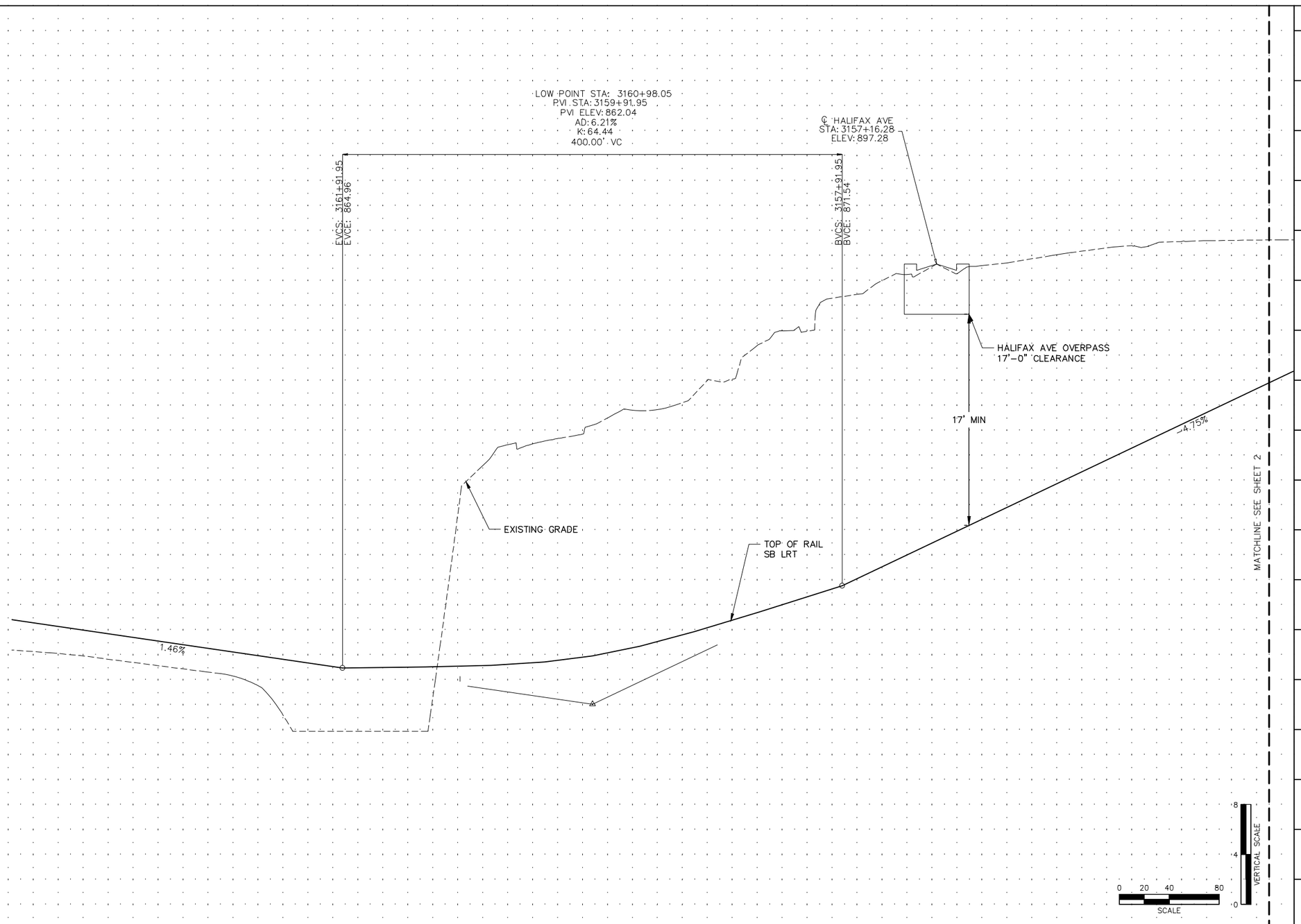
BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT ALIGNMENT D2
SHEET 15 OF 20

TYPICAL SECTION D2-07

SHEET NUMBER
108 OF 122

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BottineauTransitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
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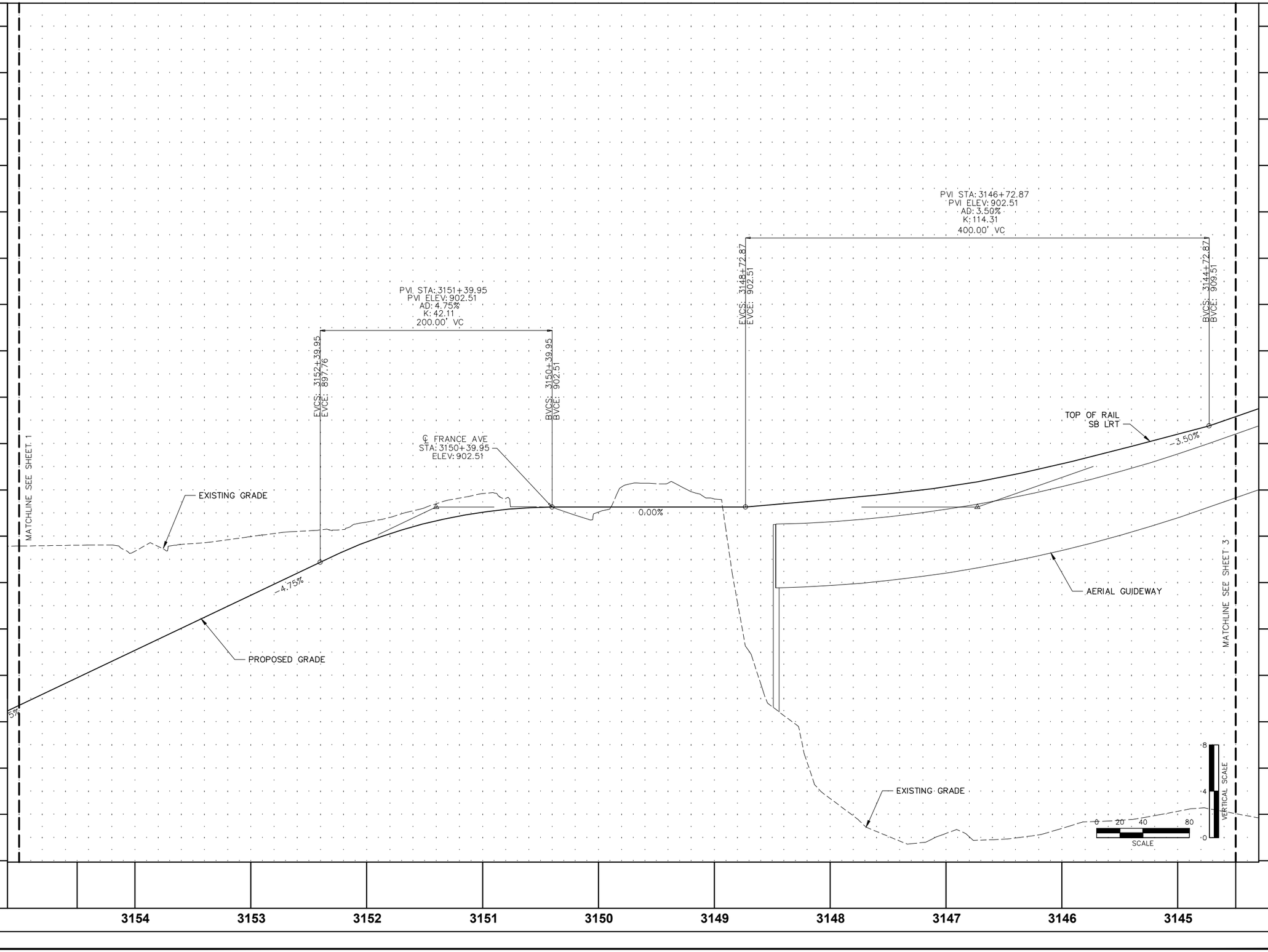
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DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

ALIGNMENT D2
CRITICAL PROFILE
HALIFAX AVE OVERPASS
SHEET 16 OF 20

CRITICAL PROFILE

SHEET NUMBER
109 OF 122



K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\Profile\BOTT-PRF-D2-02.dwg September 06, 2012 - 12:20pm

BottineauTransitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

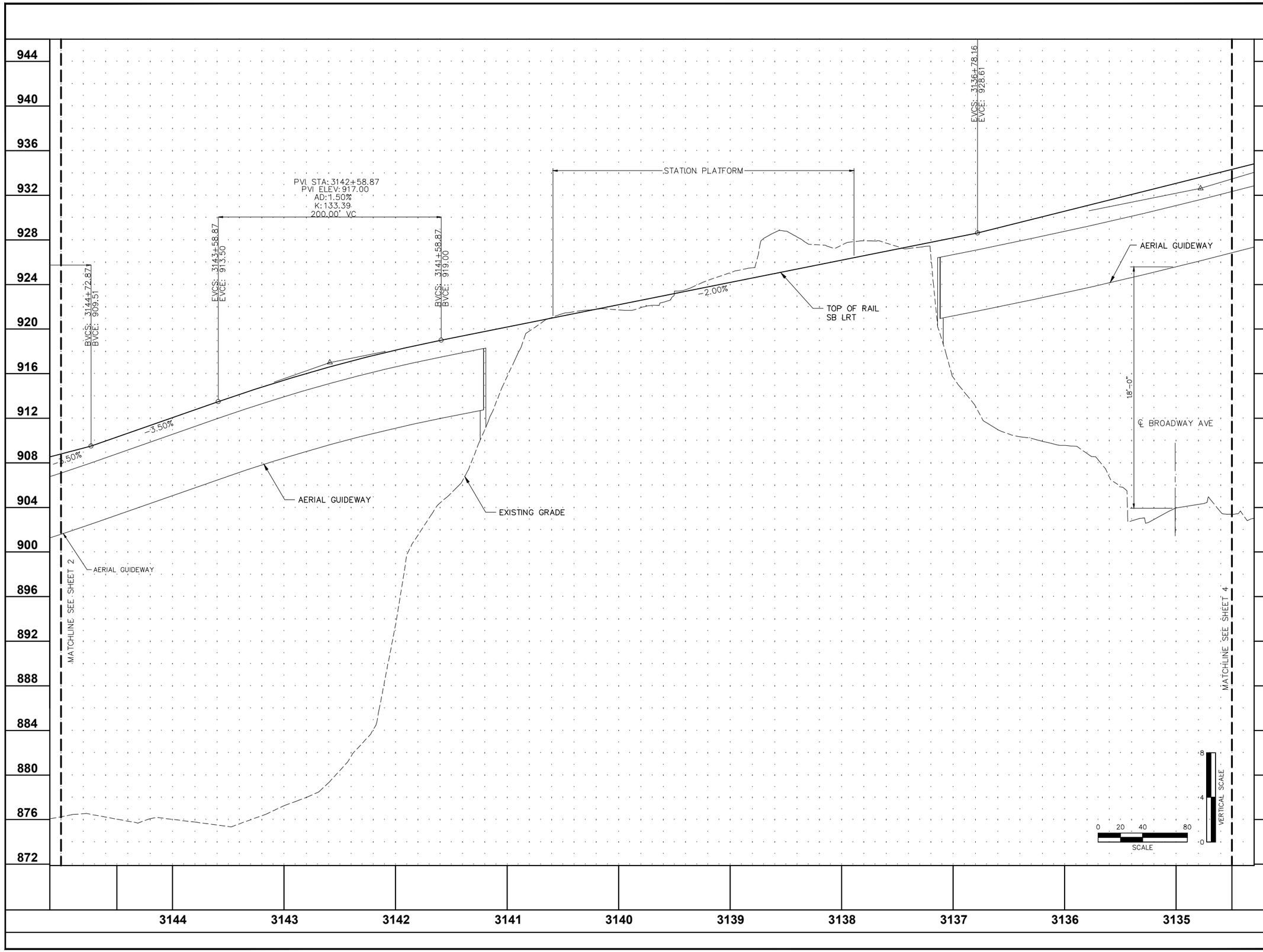
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DESIGNED BY:	
DRAWN BY:	
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DATE:	9/5/2012
PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

ALIGNMENT D2
CRITICAL PROFILE
BROADWAY OVER DREW AVE
SHEET 17 OF 20

CRITICAL PROFILE

SHEET NUMBER
110 OF 122



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Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

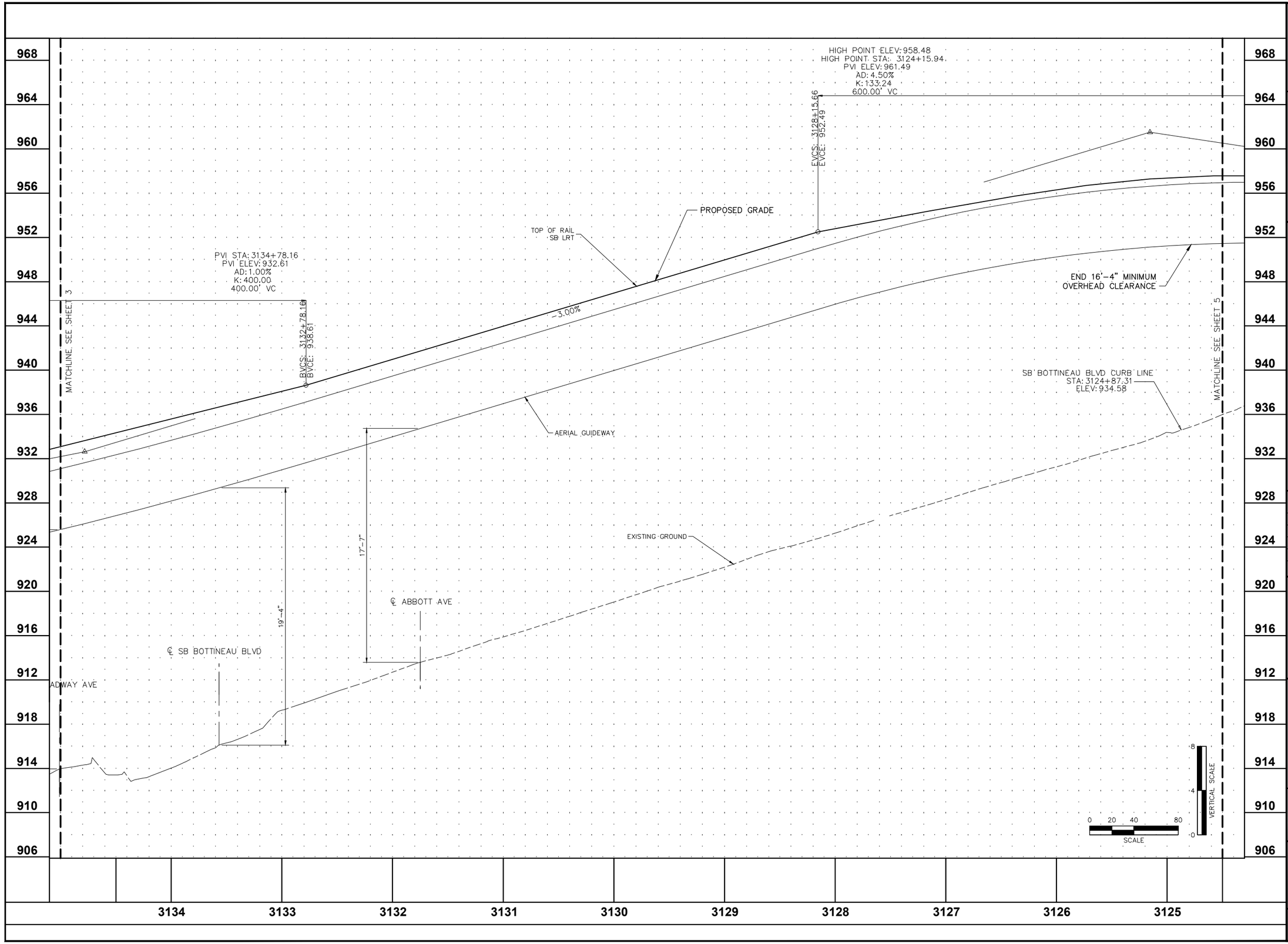
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DESIGNED BY:
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CHECKED BY:
DATE: 9/5/2012
PROJECT NO. 160528003.4.100

BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

ALIGNMENT D2
CRITICAL PROFILE
W. BROADWAY OVER TH 610
SHEET 18 OF 20

CRITICAL PROFILE

SHEET NUMBER
111 OF 122



K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\Profile\BOTT-PRF-D2-04.dwg September 06, 2012 - 12:08pm

BottineauTransitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

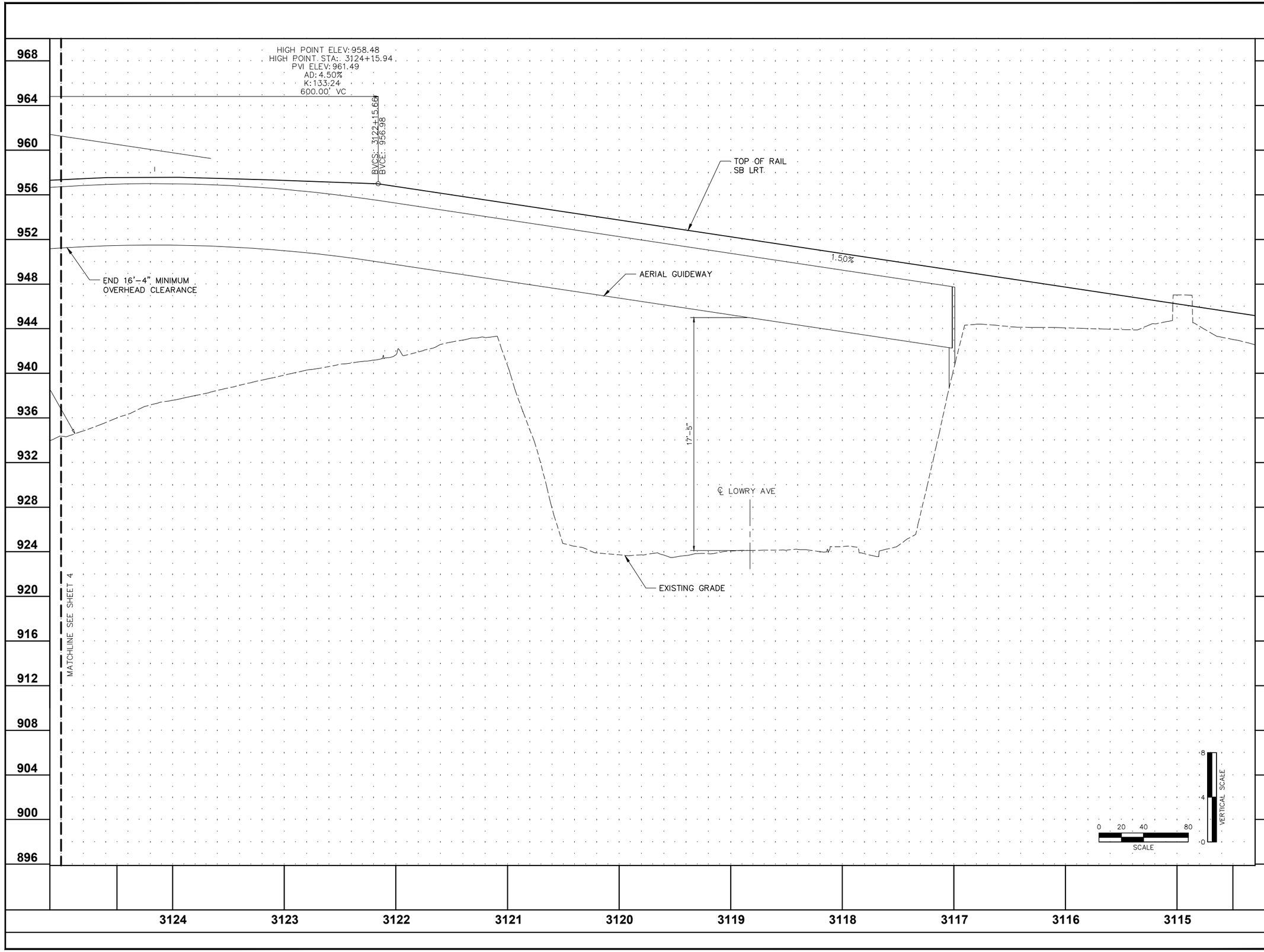
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DRAWN BY:
CHECKED BY:
DATE: 9/5/2012
PROJECT NO. 160528003.4.100

BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

ALIGNMENT D2
CRITICAL PROFILE
BROADWAY OVER ABOTT AVE
SHEET Value OF 20

CRITICAL PROFILE

SHEET NUMBER
112 OF 122



C:\Users\chris.bunders\appdata\local\temp\AcPublish_3100\BOTT-PRF-D2-05.dwg September 06, 2012 - 12:09pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

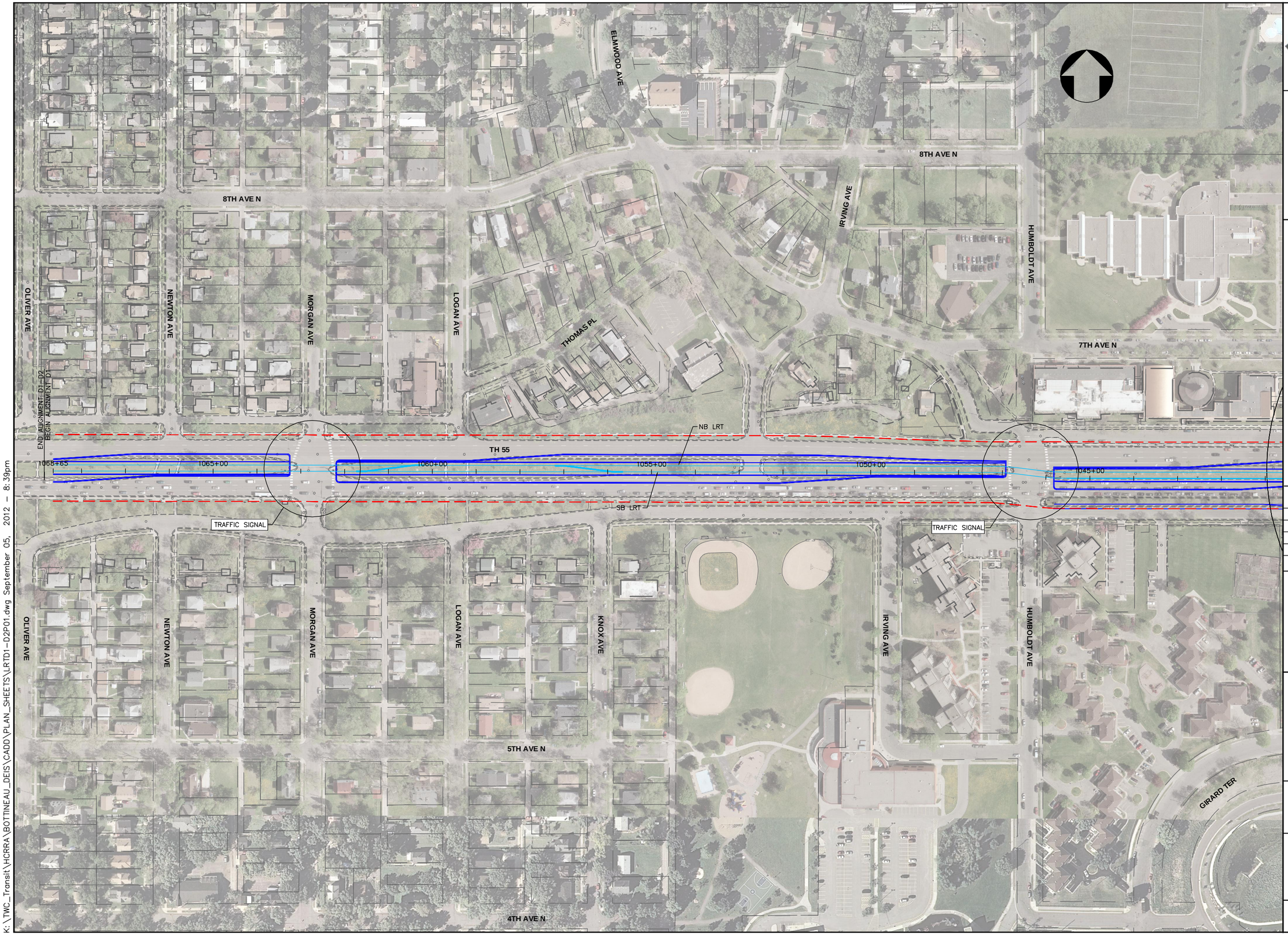
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CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

ALIGNMENT D2
CRITICAL PROFILE
BROADWAY OVER LOWRY AVE
SHEET 20 OF 20

CRITICAL PROFILE

SHEET NUMBER
113 OF 122



K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\LRTD1-D2P01.dwg September 05, 2012 - 8:39pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
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FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

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DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

SCALE
0 100' 200'

BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT COMMON ALIGN. D
SHEET 1 OF 9

ALIGNMENT PLAN

STA 1041+00 - 1068+84

SHEET NUMBER
114 OF 122

DUPONT AVE
8TH AVE N
EMERSON AVE
SUMMER PL
BRYANT AVE
7TH ST N
OAK LAKE AVE
7TH AVE N
7TH AVE N
TRAFFIC SIGNAL
TRAFFIC SIGNAL
NB LRT
TH 55
1040+00
1035+00
1030+00
1025+00
1020+00
1015+00
VAN WHITE BOULEVARD STATION
TRAFFIC SIGNAL
TRAFFIC SIGNAL
SB LRT
TRAFFIC SIGNAL
MODIFY CENTER PORTION OF EXISTING BRIDGE TO ACCOMODATE LRT GUIDEWAY
IMPACTED PROPERTY (PARTIAL) TYP.
GIRARD TER
TPSS D1/D2-1
BRYANT AVE
I-94
BORDER AVE
5TH AVE N
DUPONT AVE N
ALDRICH AVE
4TH AVE N

K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\LRTD1-D2P02.dwg September 05, 2012 - 8:41pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

DRAWING NAME	LRTD1-D2P02.dwg
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

SCALE
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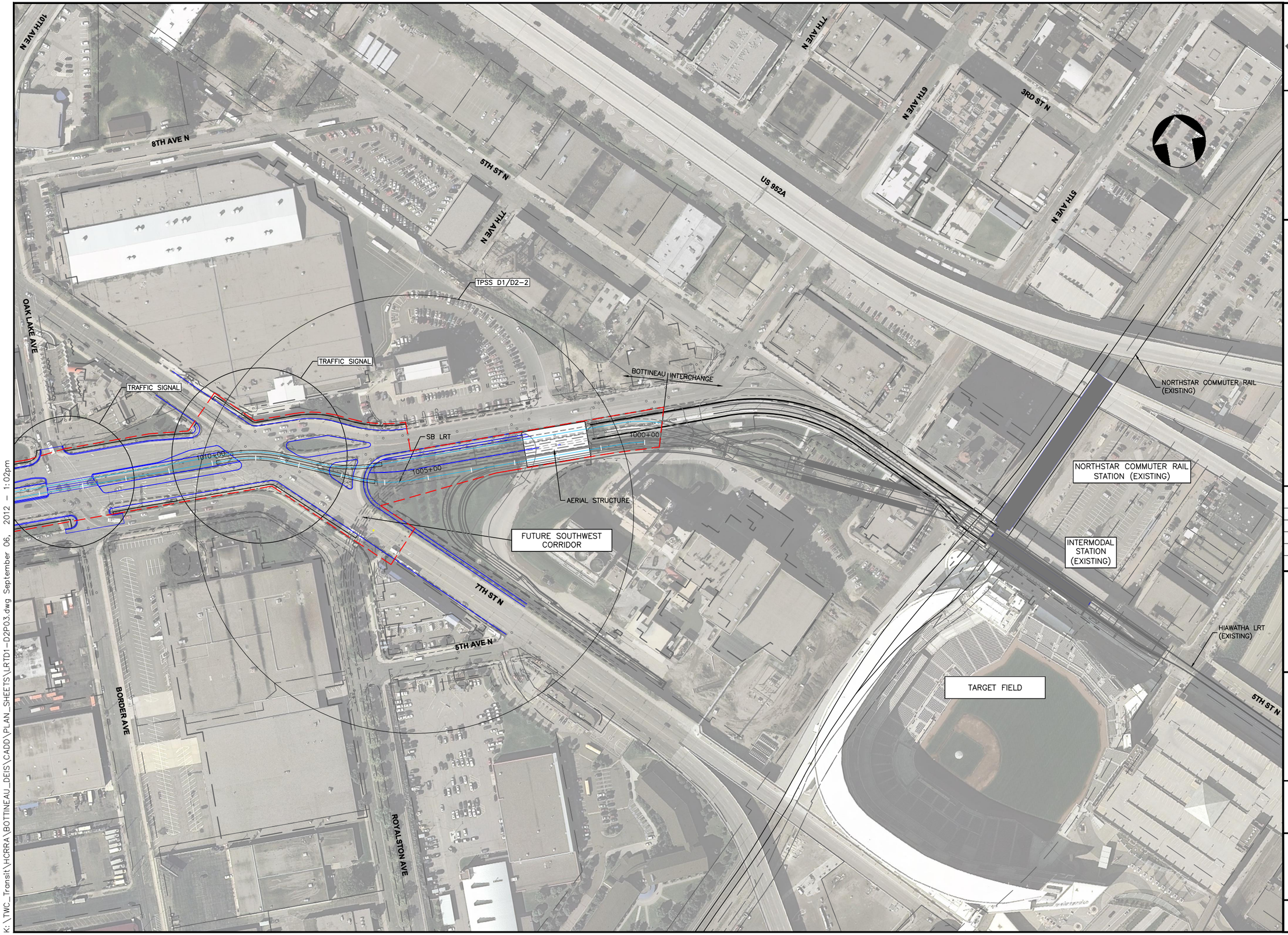
BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT COMMON ALIGN. D
SHEET 2 OF 9

ALIGNMENT PLAN

STA 1013+00 - 1041+00

SHEET NUMBER
115 OF 122



K:\TWC_Transit\HCRRA\BOTTINEAU_DEIS\CADD\PLAN_SHEETS\LRTD1-D2P03.dwg September 06, 2012 - 1:02pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

DRAWING NAME	LRTD1-D2P03.dwg
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DRAWN BY:	
CHECKED BY:	
DATE:	9/5/2012
PROJECT NO.	160528003.4.100

SCALE
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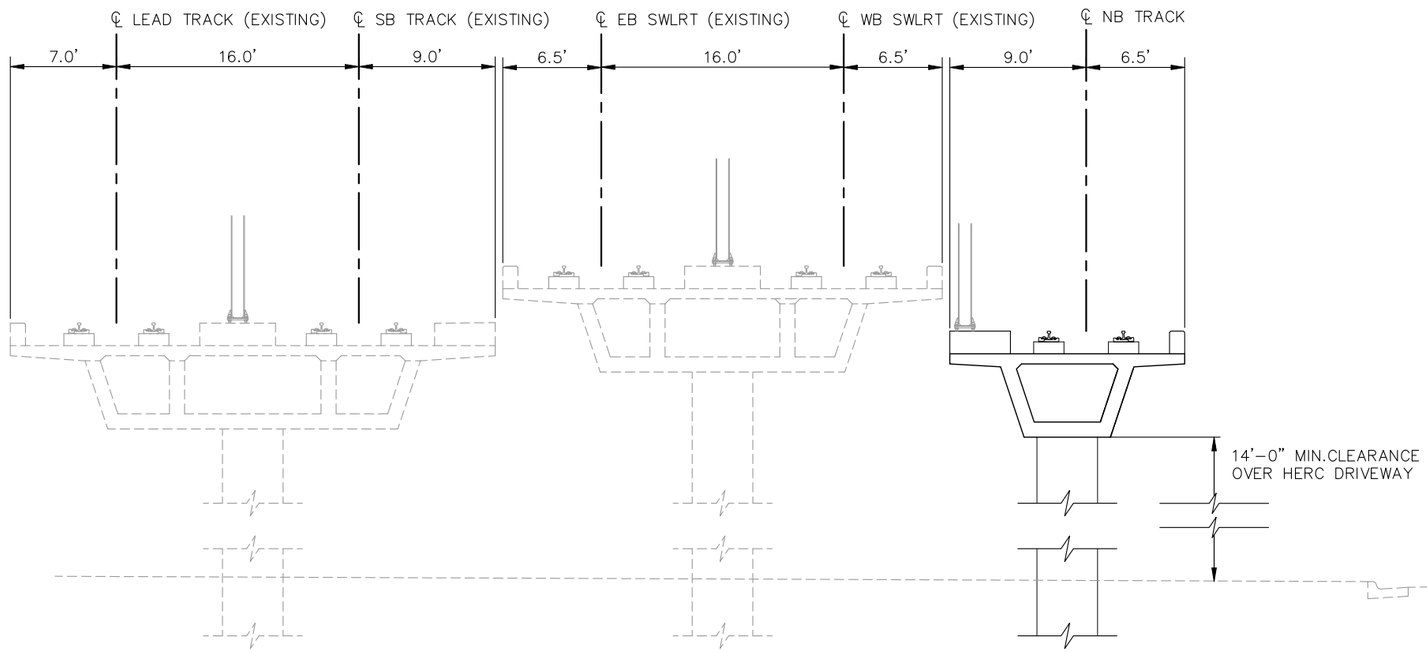
BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

LRT COMMON ALIGN. D
SHEET 3 OF 9

ALIGNMENT PLAN

STA 1000+00 - 1014+00

SHEET NUMBER
116 OF 122



TYPICAL SECTION D1D2-01
D1/D2 COMMON ALIGNMENT - STA. 1000+00 TO STA. 1004+50

P:\Projects\C4147.02 – Bottineau DEIS\C3D\BOTT–TYP D1D2_01.dwg August 24, 2012 – 9:35am

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:
Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645–4197
FAX. NO. (651) 645–5116

SRF Consulting Group, Inc.

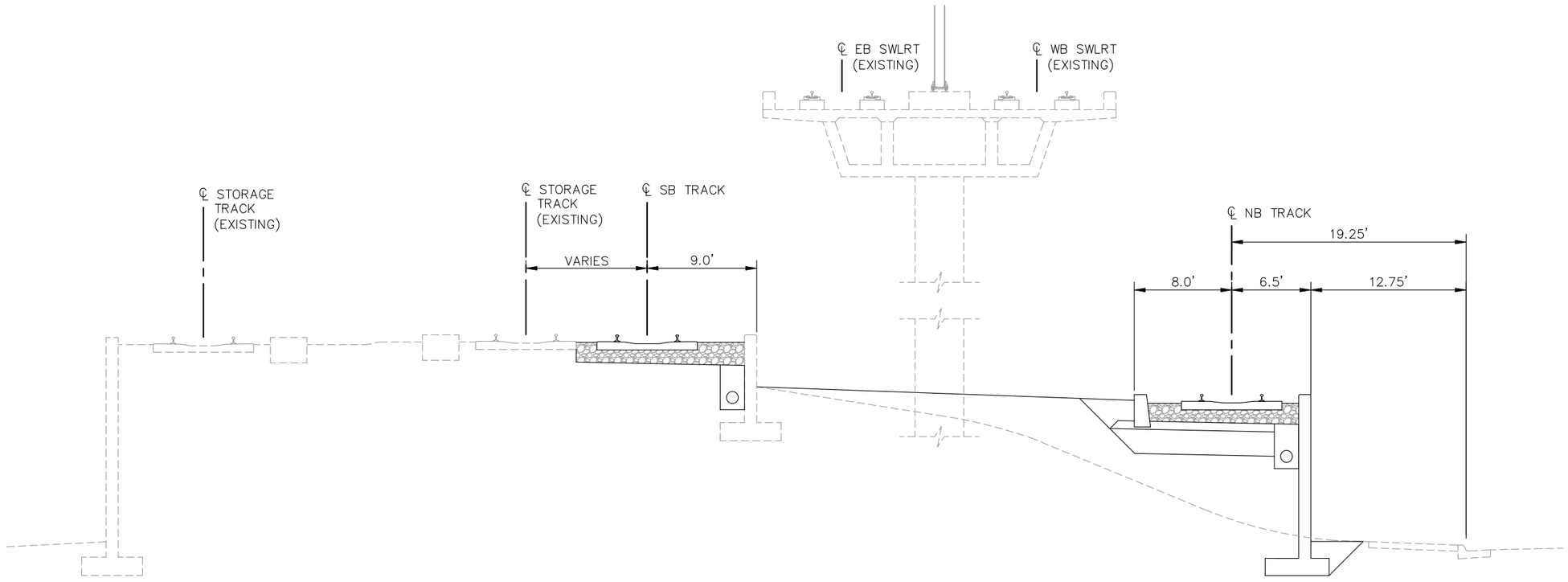
LTK Engineering Services

DRAWING NAME	BOTT–TYP D1D2_01.dwg
DESIGNED BY:	
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DATE:	6/29/12
PROJECT NO.	160528003.4.100

BOTTINEAU TRANSITWAY
DRAFT EIS
CONCEPTUAL DESIGN

D1/D2 COMMON ALIGNMENT
SHEET 4 OF 9

TYPICAL SECTION D1D2-01



TYPICAL SECTION D1D2-02
ALIGNMENT D1D2 - STA. 1004+50 TO STA. 1006+50

I:\900_CAD\DESIGN\LTK\Projects\C4147.02 - Bottineau DEIS\BOTT-TYP D1D2_02.dwg July 18, 2012 - 5:24pm

BottineauTransitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:
Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

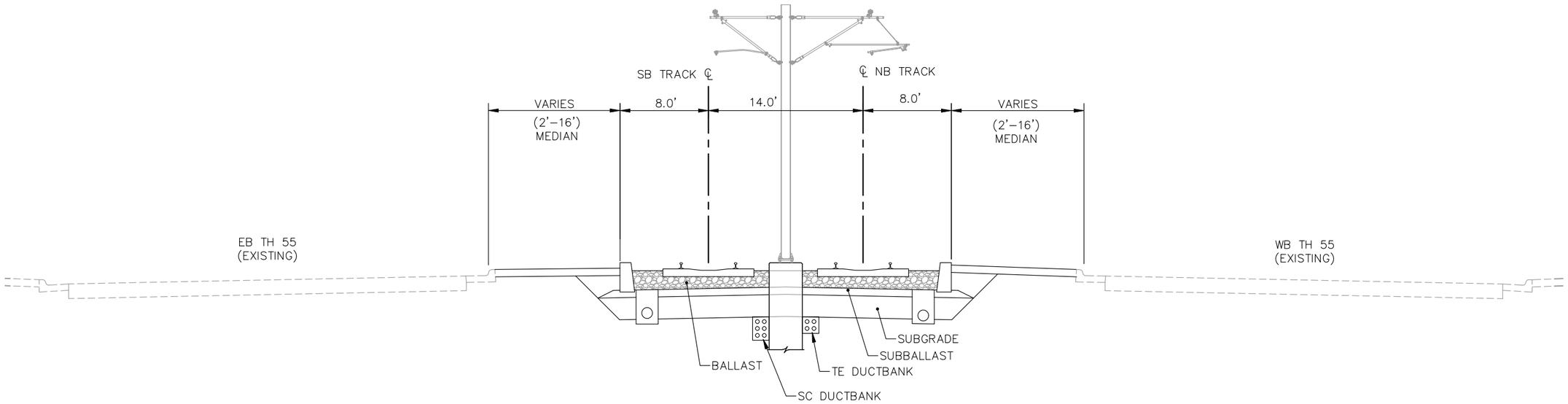
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DATE:	6/29/12
PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT COMMON ALIGN. D
SHEET 5 OF 9

TYPICAL SECTION D1D2-02

SHEET NUMBER
118 OF 122



TYPICAL SECTION D1D2-03
ALIGNMENT D1D2 - STA. 1006+50 TO STA. 1019+00

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Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:
Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

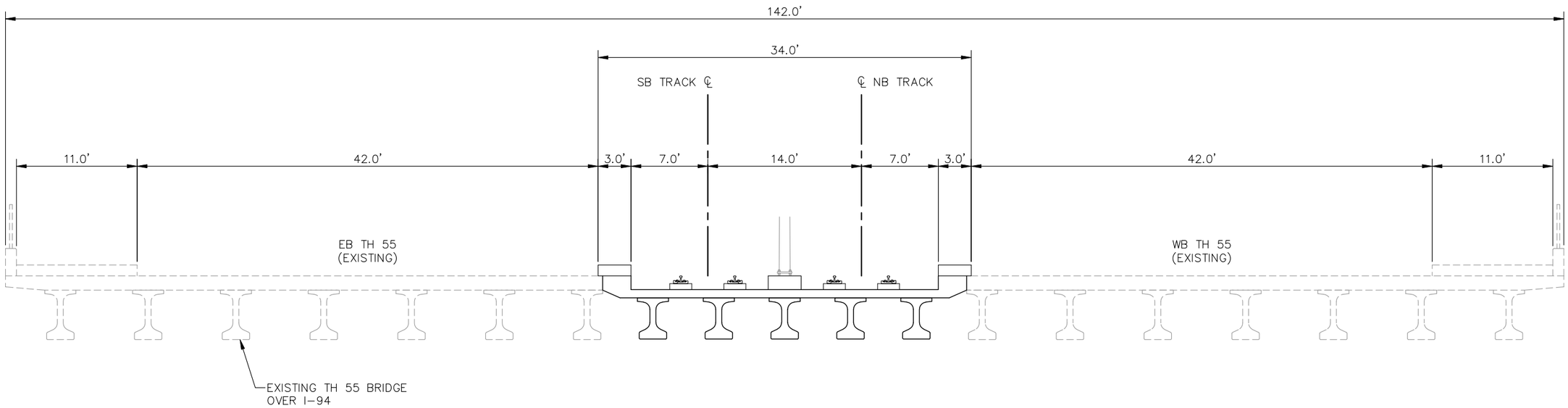
LTK Engineering Services

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DATE:	6/29/12
PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT COMMON ALIGN. D
SHEET 6 OF 9

TYPICAL SECTION D1D2-03



TYPICAL SECTION D1D2-04
ALIGNMENT D1D2 - STA. 1019+00 TO STA. 1021+50

BottineauTransitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 345N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

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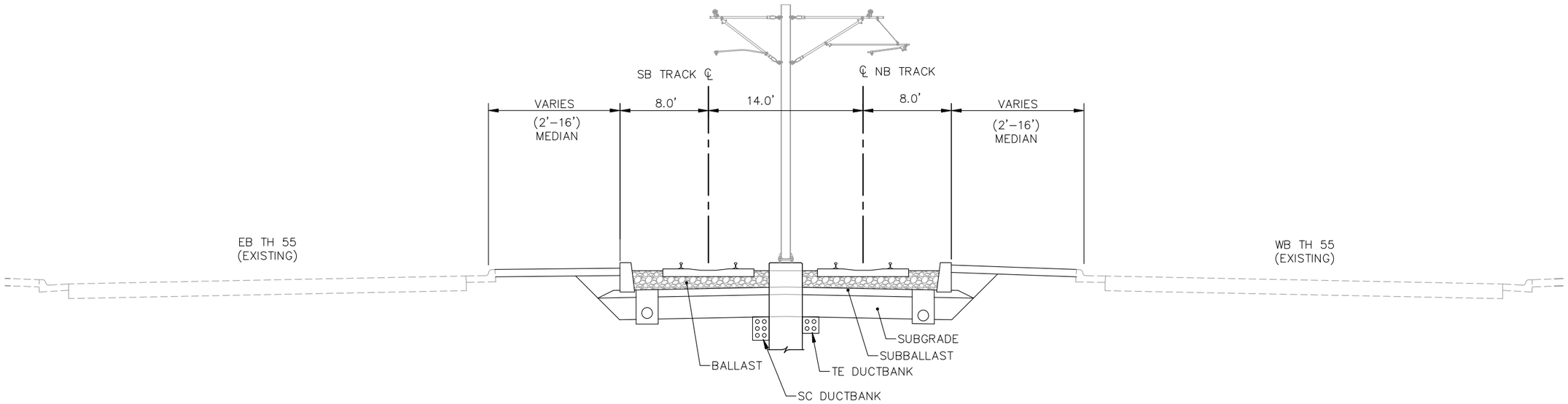
BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT COMMON ALIGN. D
SHEET 7 OF 9

TYPICAL SECTION D1D2-04

SHEET NUMBER
120 OF 122

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TYPICAL SECTION D1D2-05
ALIGNMENT D1D2 - STA. 1021+50 TO STA. 1068+84

I:\900_CAD\DESIGN\LTK\Projects\C4147.02 – Bottineau DEIS\BOTT-TYP D1D2_05.dwg July 18, 2012 – 5:24pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

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2550 UNIVERSITY AVE. WEST, SUITE 345N
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LTK Engineering Services

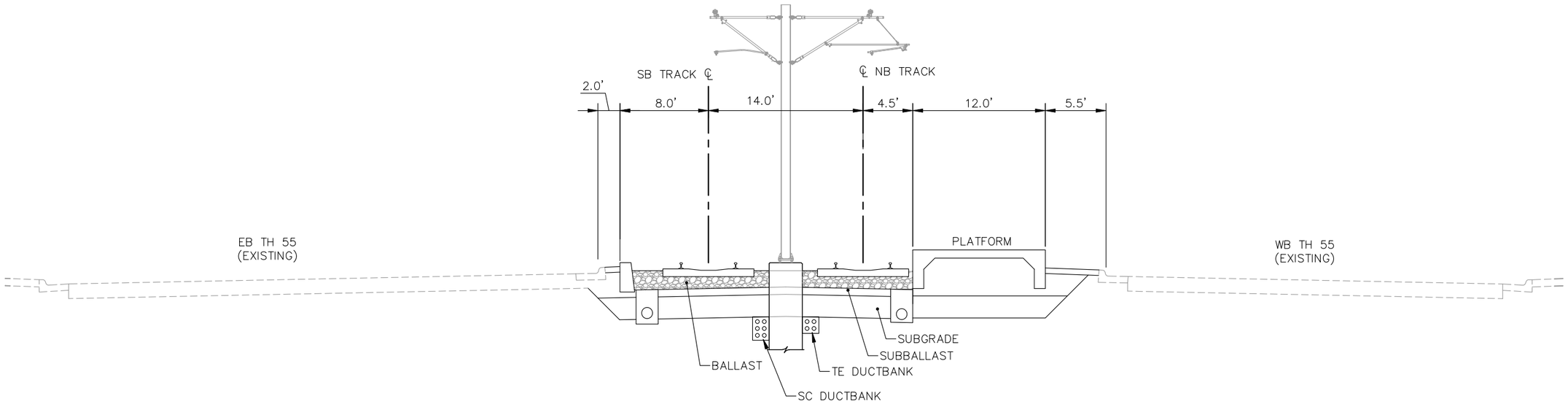
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PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT COMMON ALIGN. D
SHEET 8 OF 9

TYPICAL SECTION D1D2-05

SHEET NUMBER
121 OF 122



TYPICAL SECTION D1D2-05A
ALIGNMENT D1D2 - VAN WHITE STATION
(NB PLATFORM SHOWN, SB SIMILAR)

I:\900_CAD\DESIGN\LTK\Projects\C4147.02 - Bottineau DEIS\BOTT-TYP D1D2_05A.dwg July 18, 2012 - 5:24pm

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin

CONSULTANTS:

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2550 UNIVERSITY AVE. WEST, SUITE 345N
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FAX. NO. (651) 645-5116

SRF Consulting Group, Inc.

LTK Engineering Services

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PROJECT NO.	160528003.4.100

BOTTINEAU CORRIDOR
DRAFT EIS
CONCEPTUAL DESIGN

LRT COMMON ALIGN. D
SHEET 9 OF 9

TYPICAL SECTION D1D2-05A

SHEET NUMBER
122 OF 122