



**THURBER** ENGINEERING LTD.

**FOUNDATION INVESTIGATION AND DESIGN REPORT  
OVERHEAD SIGN SUPPORT STRUCTURES  
HIGHWAY 400, 401, 427, AND 404  
CENTRAL REGION  
BOWMANVILLE TO TORONTO, ONTARIO  
Contract Number: 2017-2029**

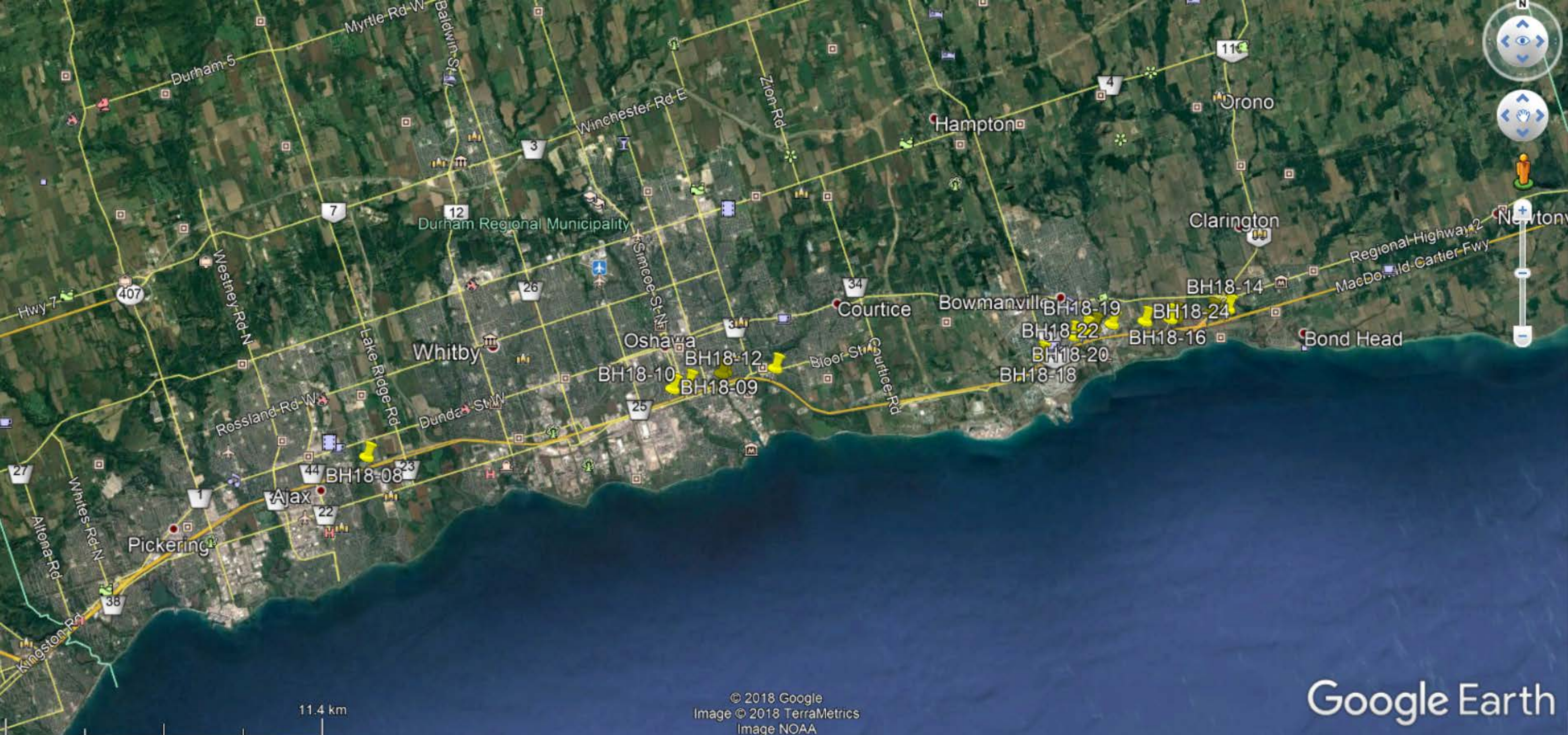
**GEOCRES No.**

**Report**

**to**

**MTO**

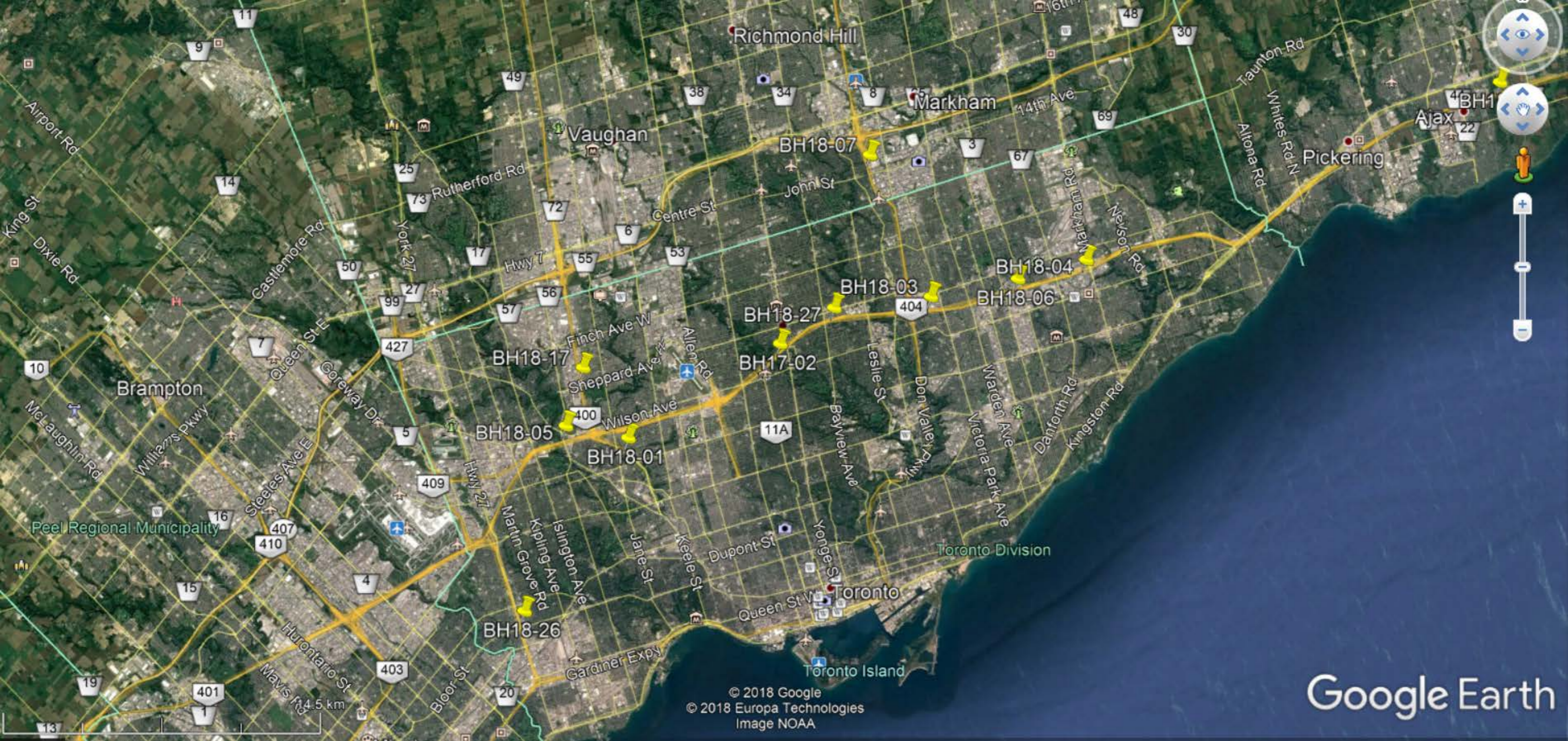
Date: July 27, 2018  
File: 21892



Google Earth

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Image © 2018 TerraMetrics  
Image NOAA

Imagery Date: 10/9/2016 lat 44.007419° lon -79.144873° elev 322 m eye alt 49.67 km



Google Earth

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Image NOAA

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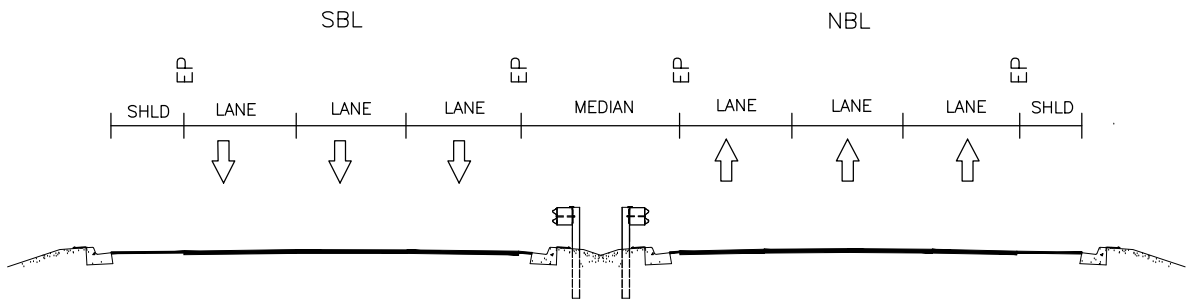
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TO VERIFY EXISTING CONDITIONS

PLATE No  
CONT 2017-2029  
GWP 2031-13-00

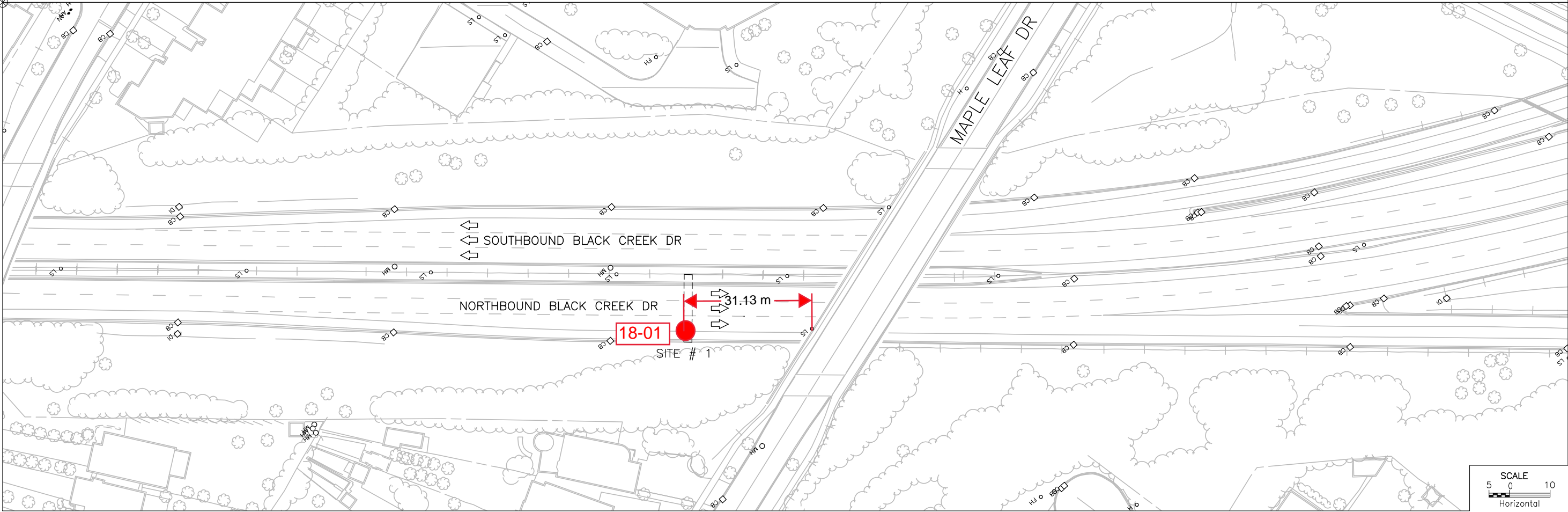
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TO STA  
Survey \_\_\_\_\_ Revised \_\_\_\_\_



SHEET  
1



ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 1  
N.T.S.



METRIC

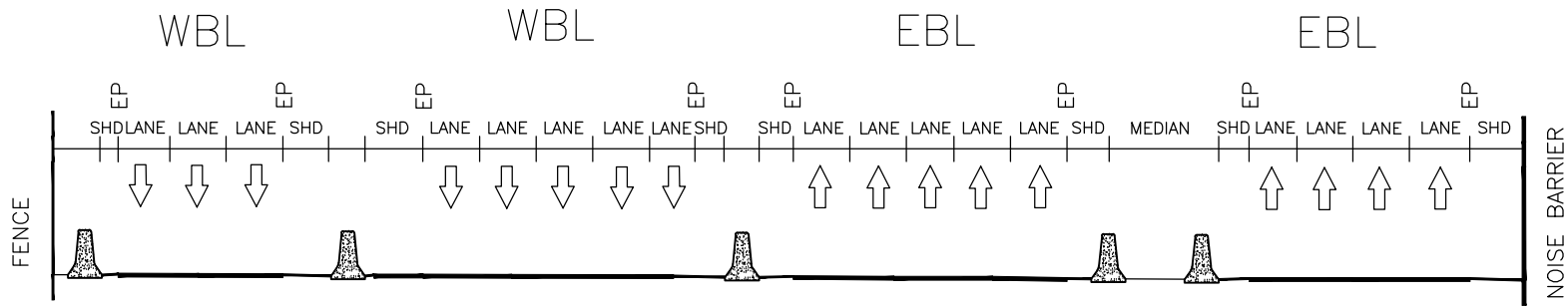
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CONT 2017-2029  
GWP 2031-13-00

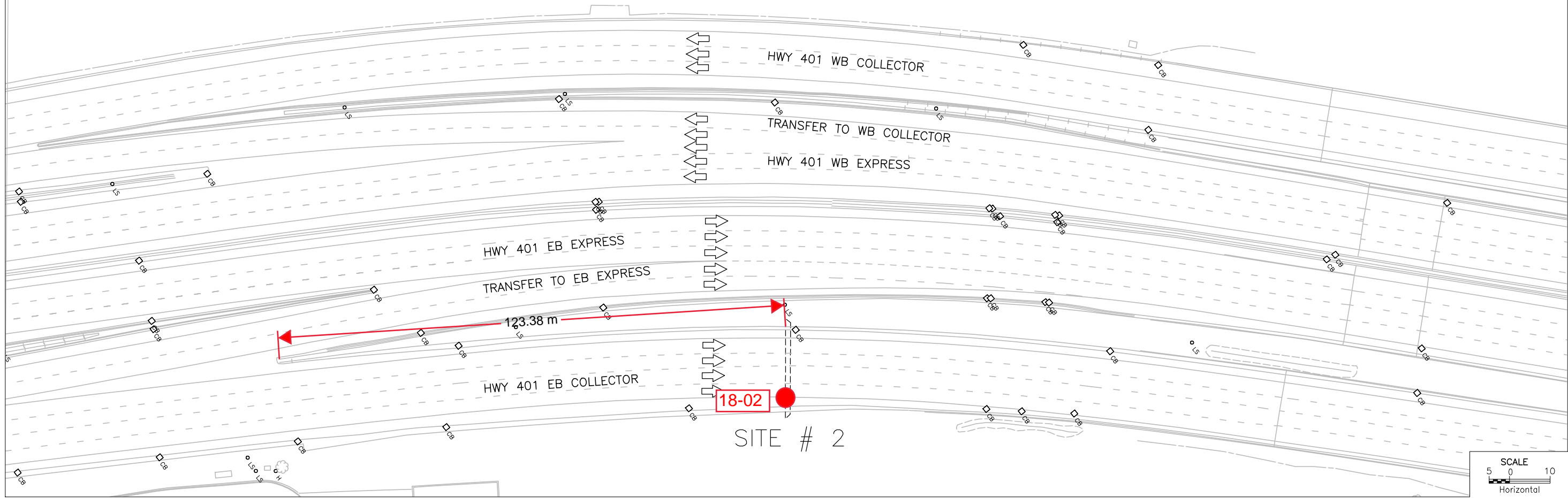
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TO STA  
Survey \_\_\_\_\_ Revised \_\_\_\_\_



SHEET  
2



ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 2  
N.T.S.



PR-D-707 88-05  
MINISTRY OF TRANSPORTATION, ONTARIO  
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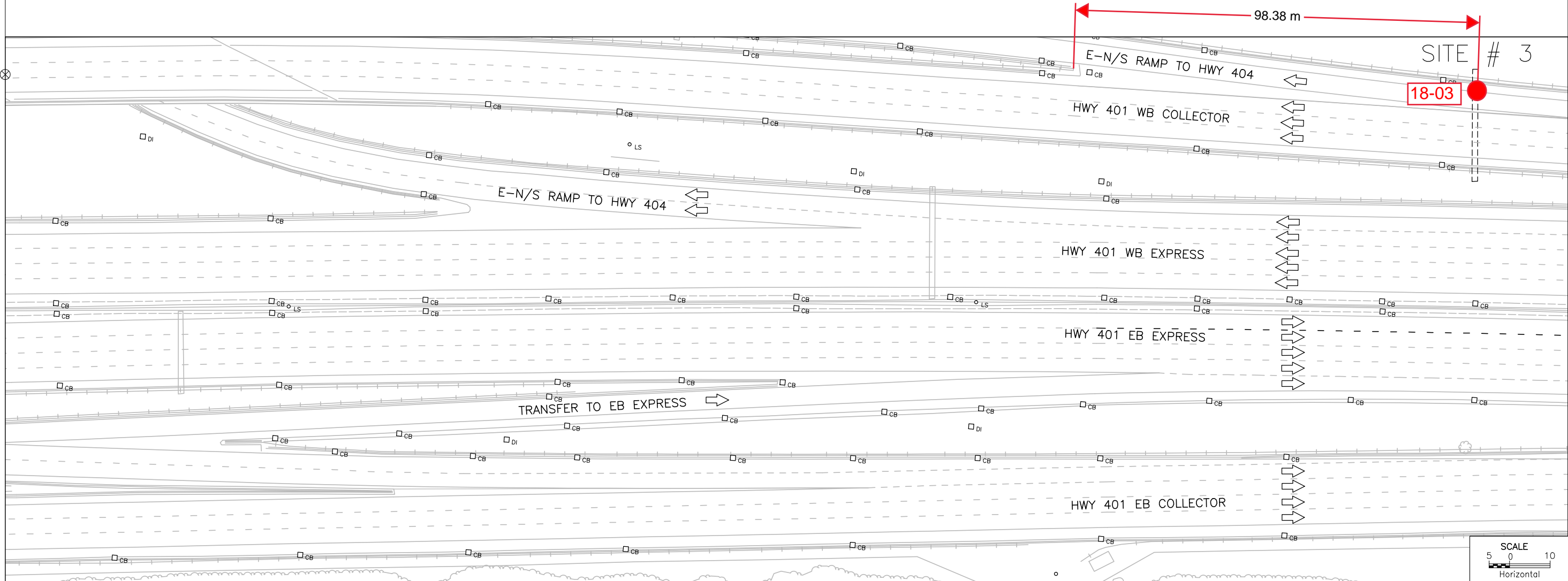
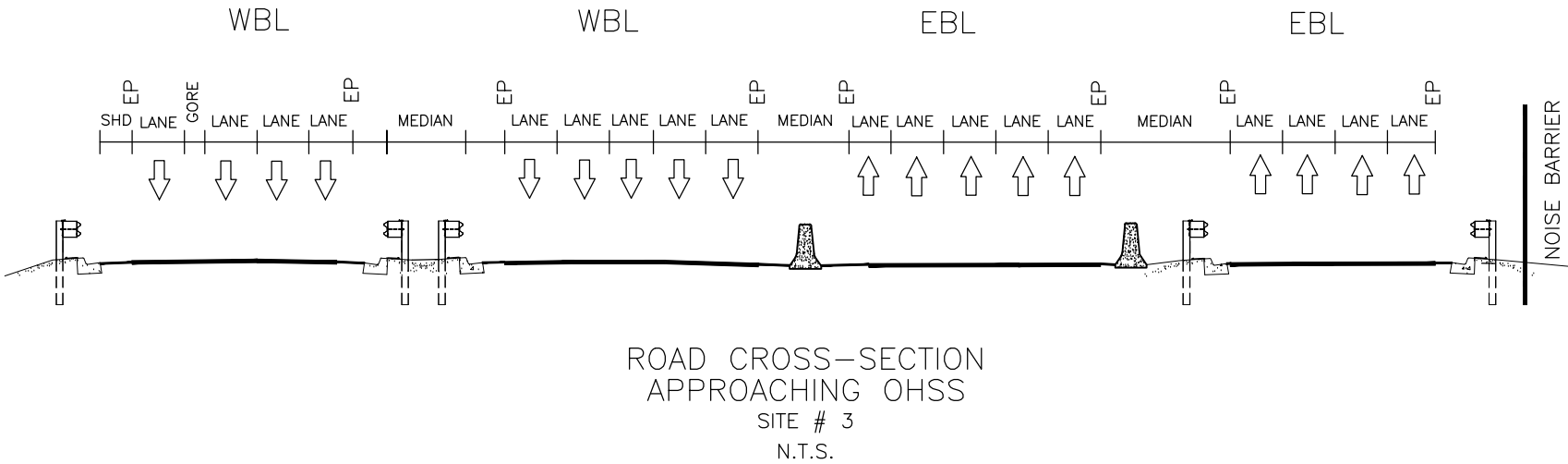
PLATE No  
CONT 2017-2029  
GWP 2031-13-00



SHEET  
3

EXISTING  
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Survey \_\_\_\_\_ Revised \_\_\_\_\_

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TO VERIFY EXISTING CONDITIONS

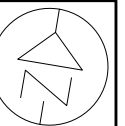


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METRIC

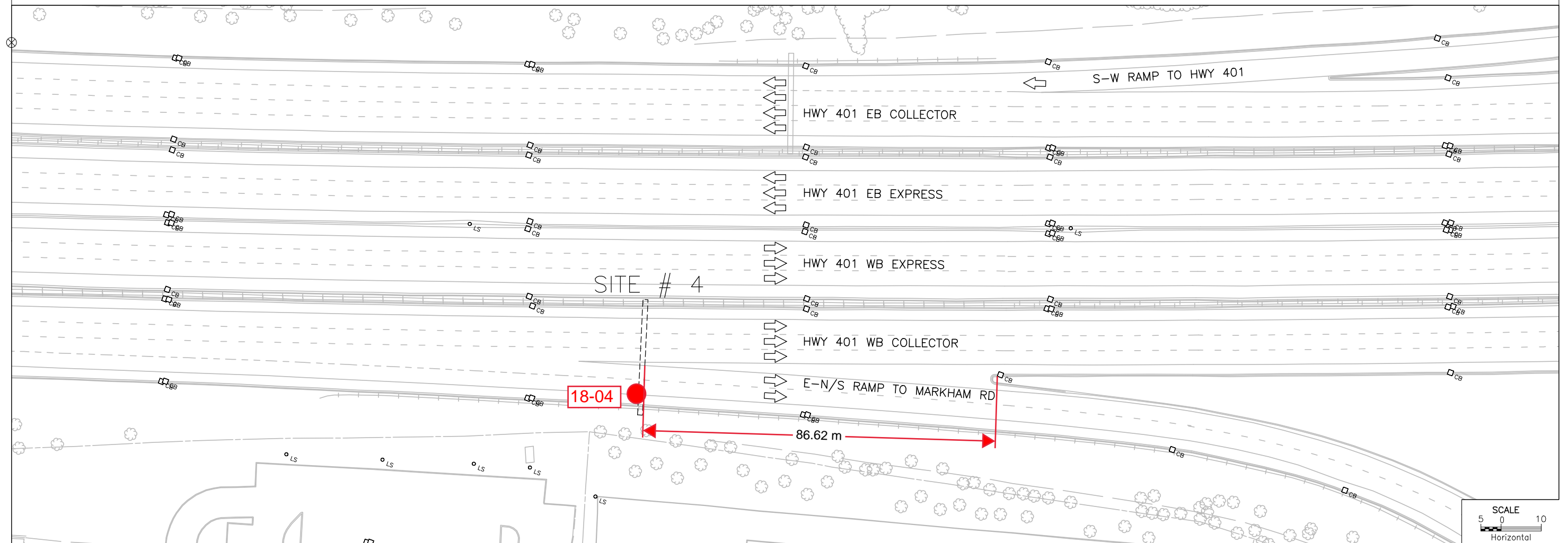
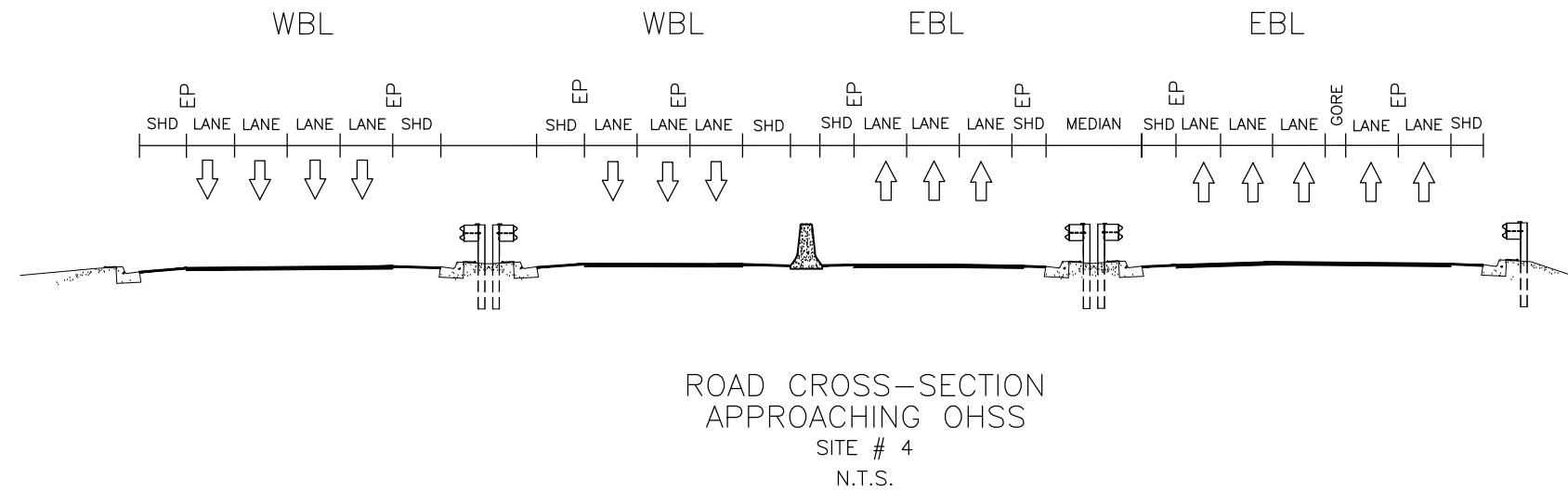
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GWP 2031-13-00

EXISTING  
STA TO STA  
Survey \_\_\_\_\_ Revised \_\_\_\_\_



SHEET  
4

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TO VERIFY EXISTING CONDITIONS



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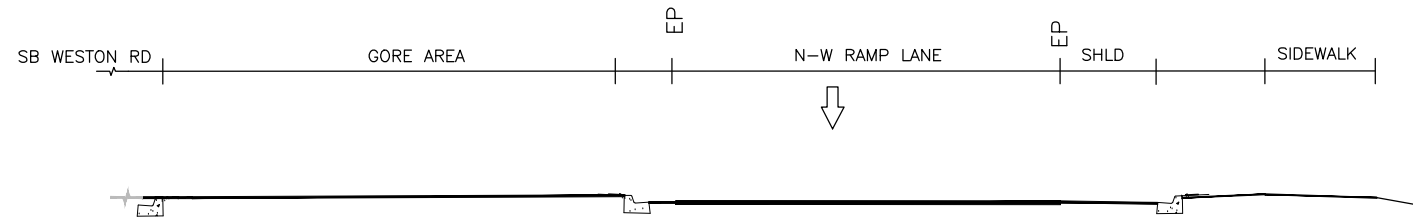
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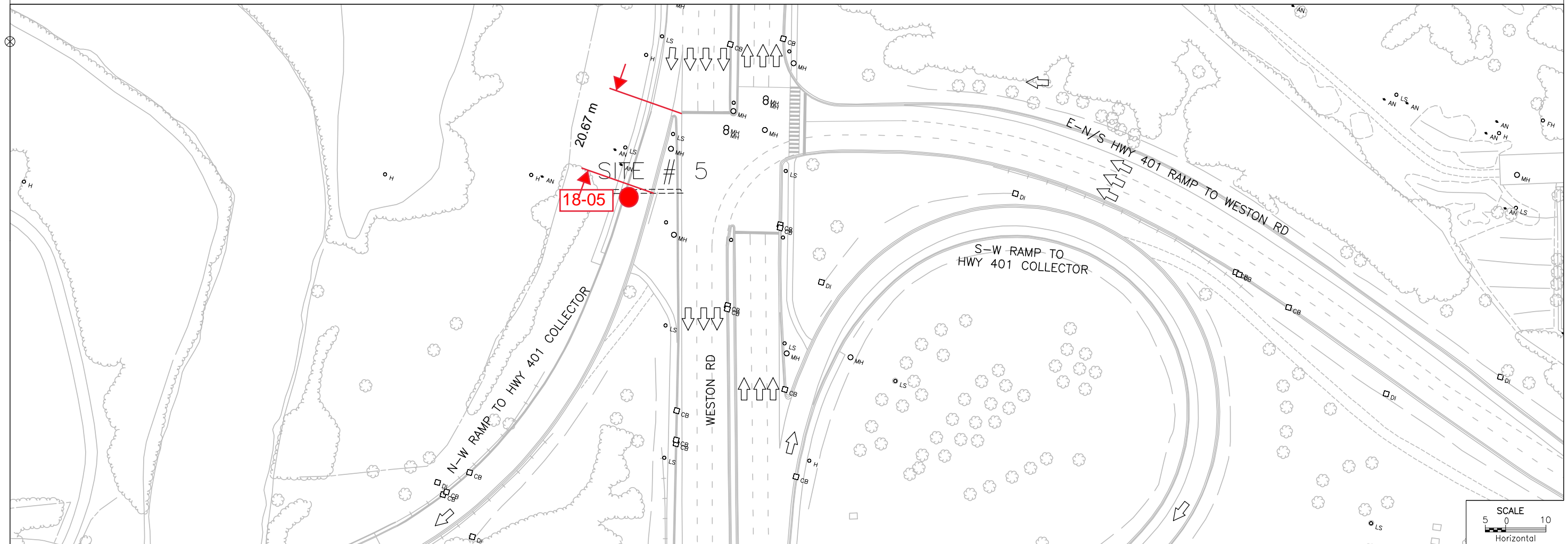
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Survey \_\_\_\_\_ Revised \_\_\_\_\_



SHEET  
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ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE #5  
N.T.S.



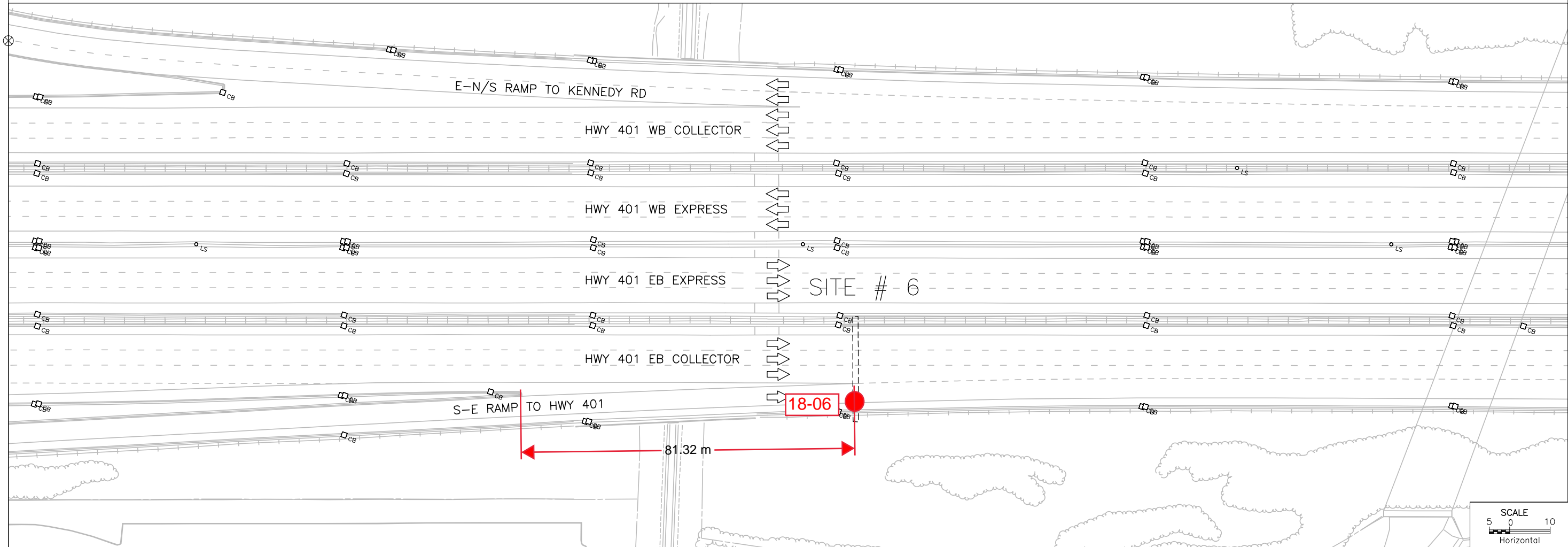
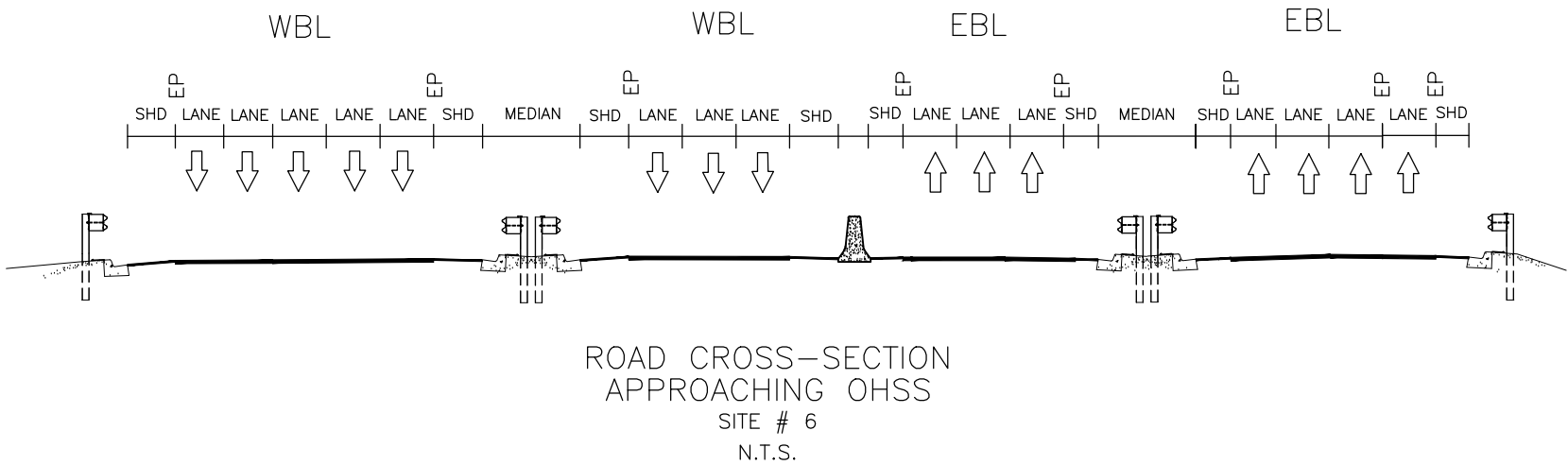
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PLATE No  
CONT 2017-2029  
GWP 2031-13-00

EXISTING  
STA TO STA  
Survey \_\_\_\_\_ Revised \_\_\_\_\_

SHEET  
6



SCALE  
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Horizontal

METRIC

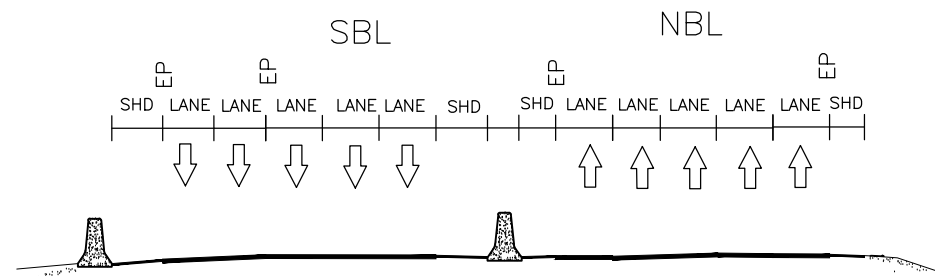
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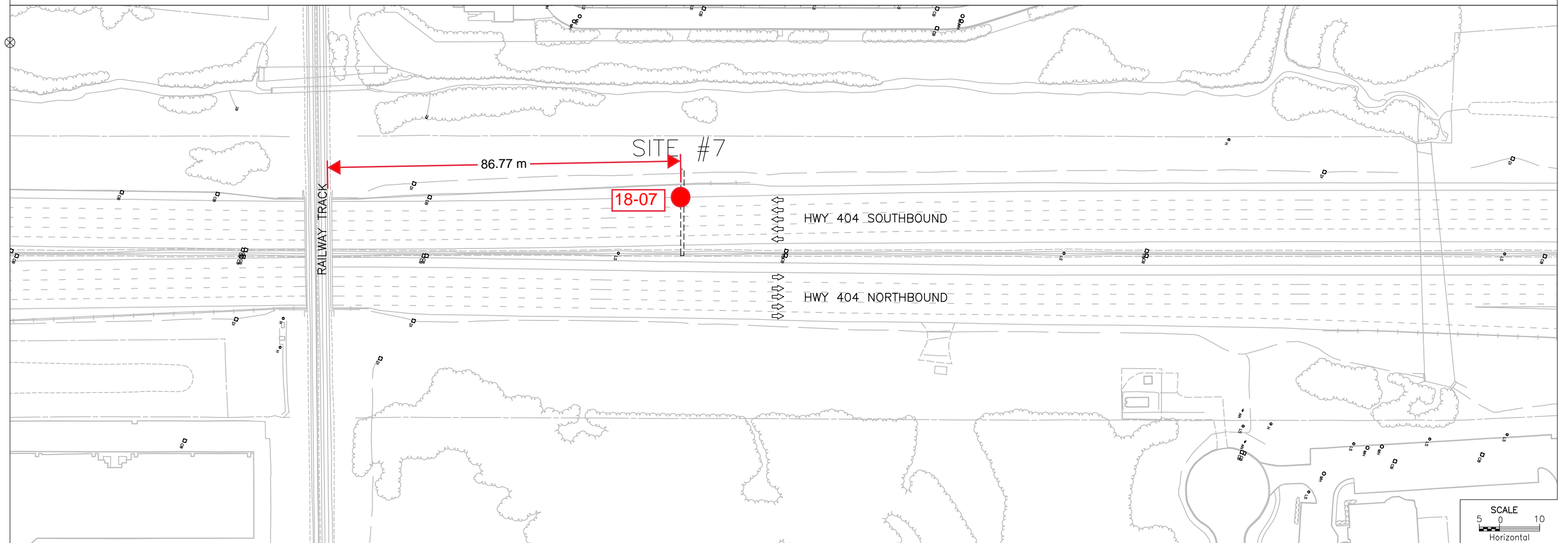
STA  
Survey  
EXISTING  
TO STA  
Revised



SHEET  
7



ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 7  
N.T.S.



SCALE  
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Horizontal

PR-D-707 88-05  
MINISTRY OF TRANSPORTATION, ONTARIO  
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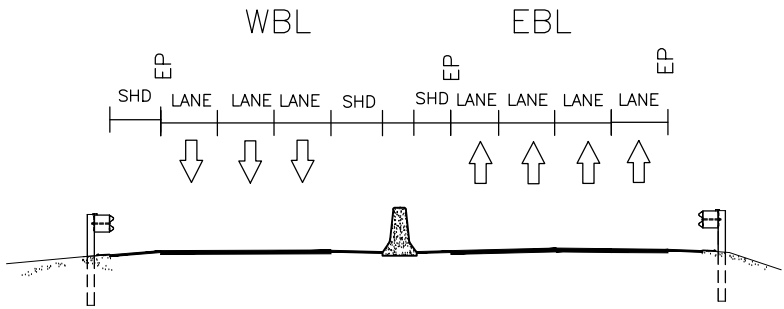
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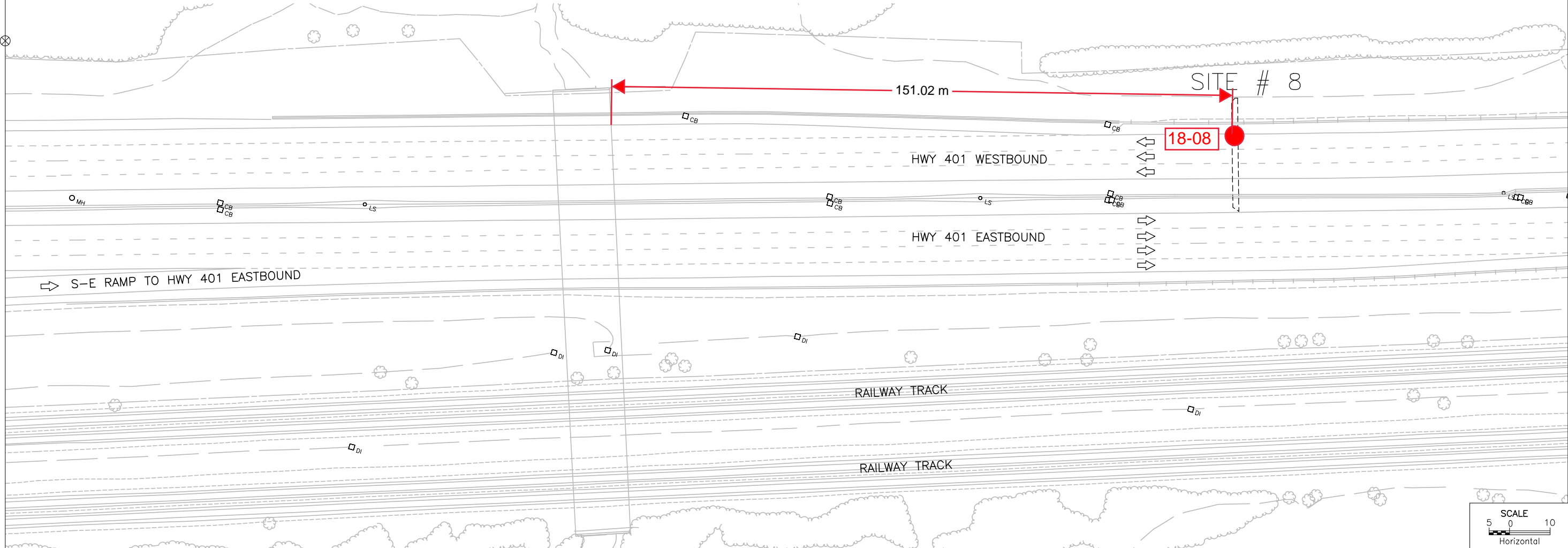
PLATE No  
CONT 2017-2029  
GWP 2031-13-00

EXISTING  
STA TO STA  
Survey Revised

SHEET  
8



ROAD CROSS-SECTION  
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SITE # 8  
N.T.S.



METRIC

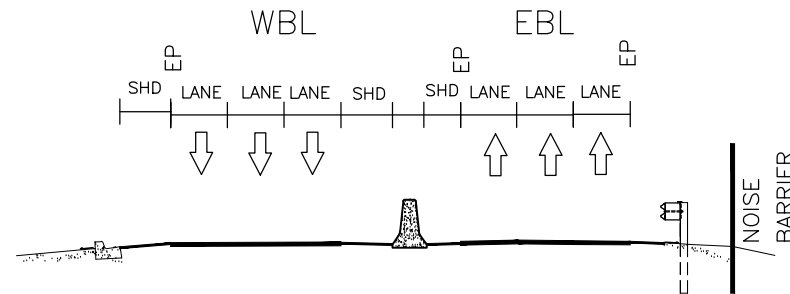
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GWP 2031-13-00

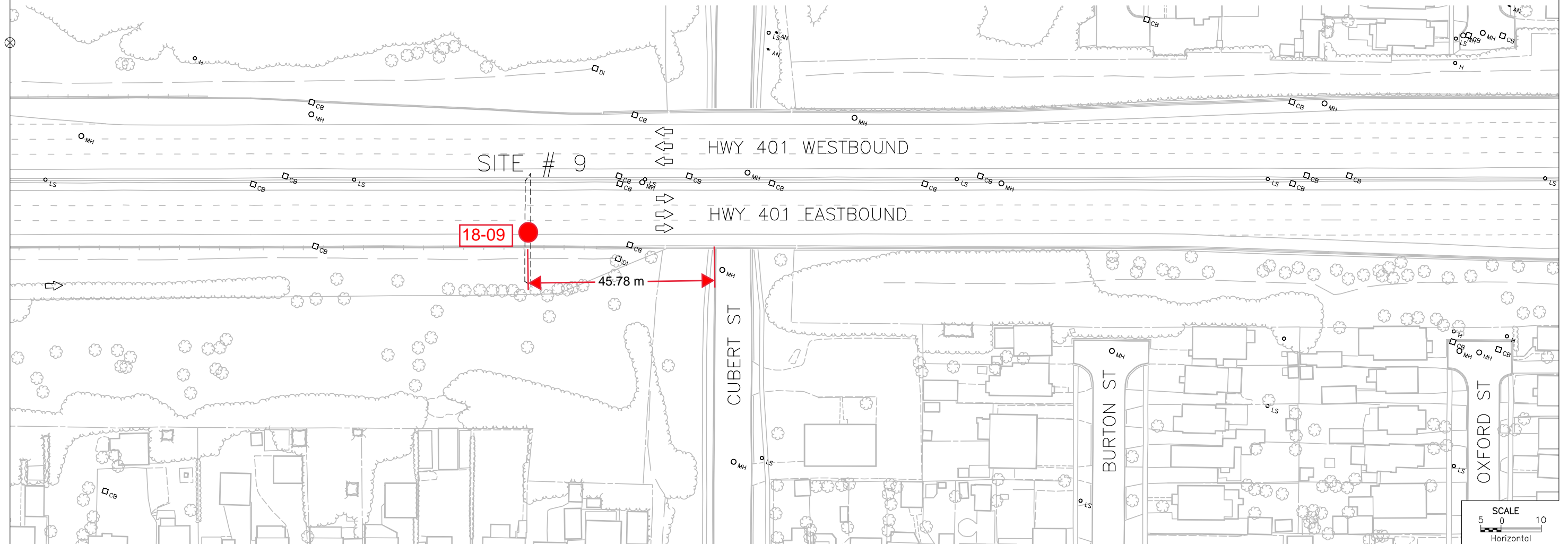
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Survey \_\_\_\_\_ Revised \_\_\_\_\_



SHEET  
9



ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 9  
N.T.S.



PR-D-707 88-05  
MINISTRY OF TRANSPORTATION, ONTARIO  
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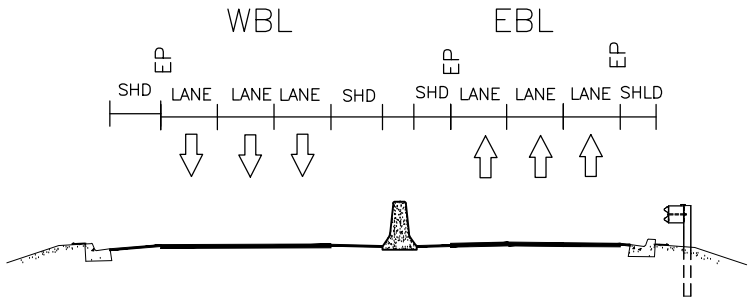
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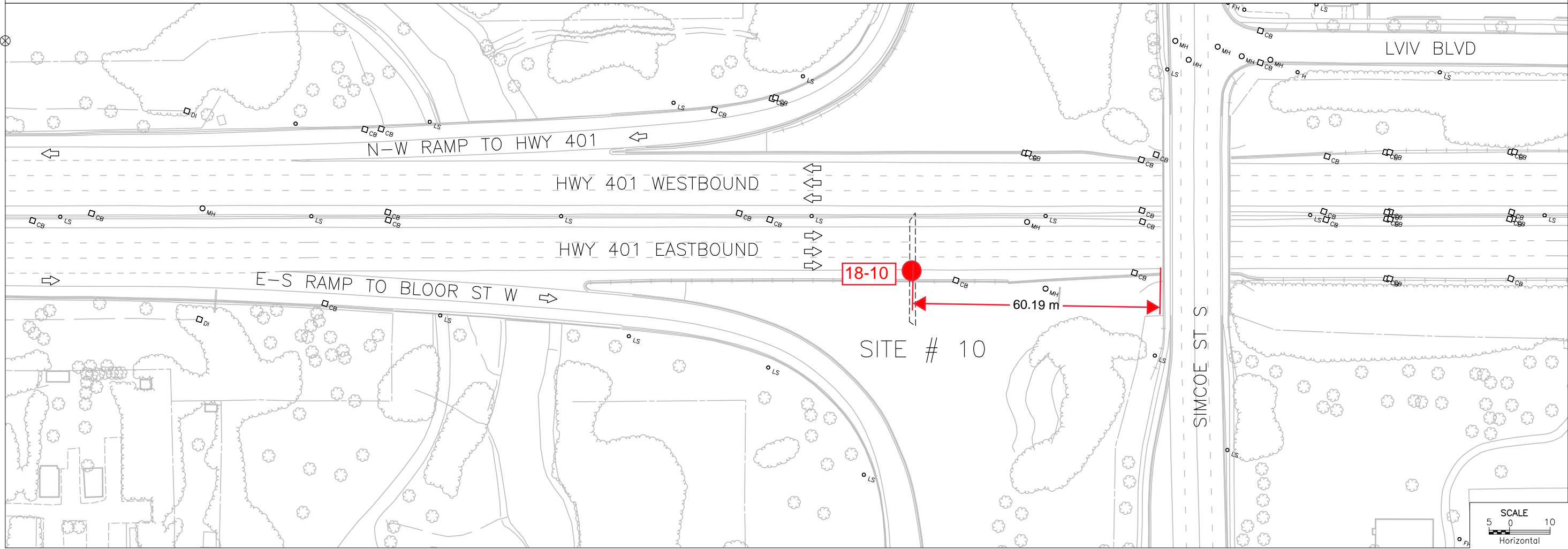
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CONT 2017-2029  
GWP 2031-13-00

EXISTING  
TO STA  
Survey \_\_\_\_\_ Revised \_\_\_\_\_

SHEET  
10



ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 10  
N.T.S.



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PR-D-707 88-05  
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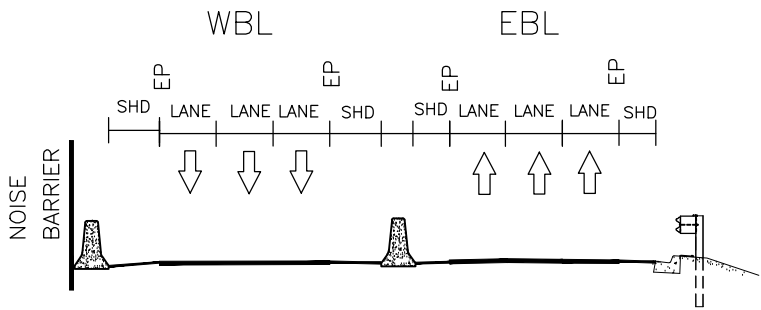
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CONT 2017-2029  
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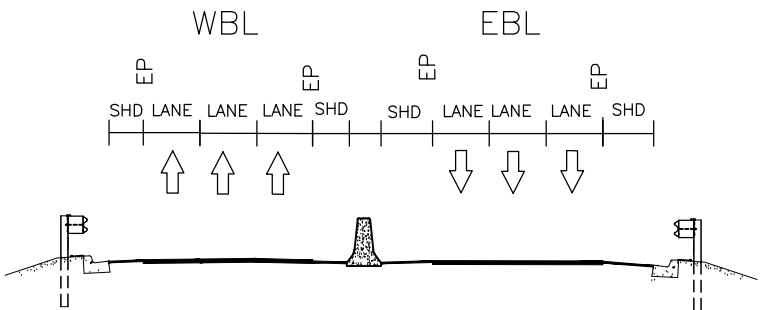
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EXISTING  
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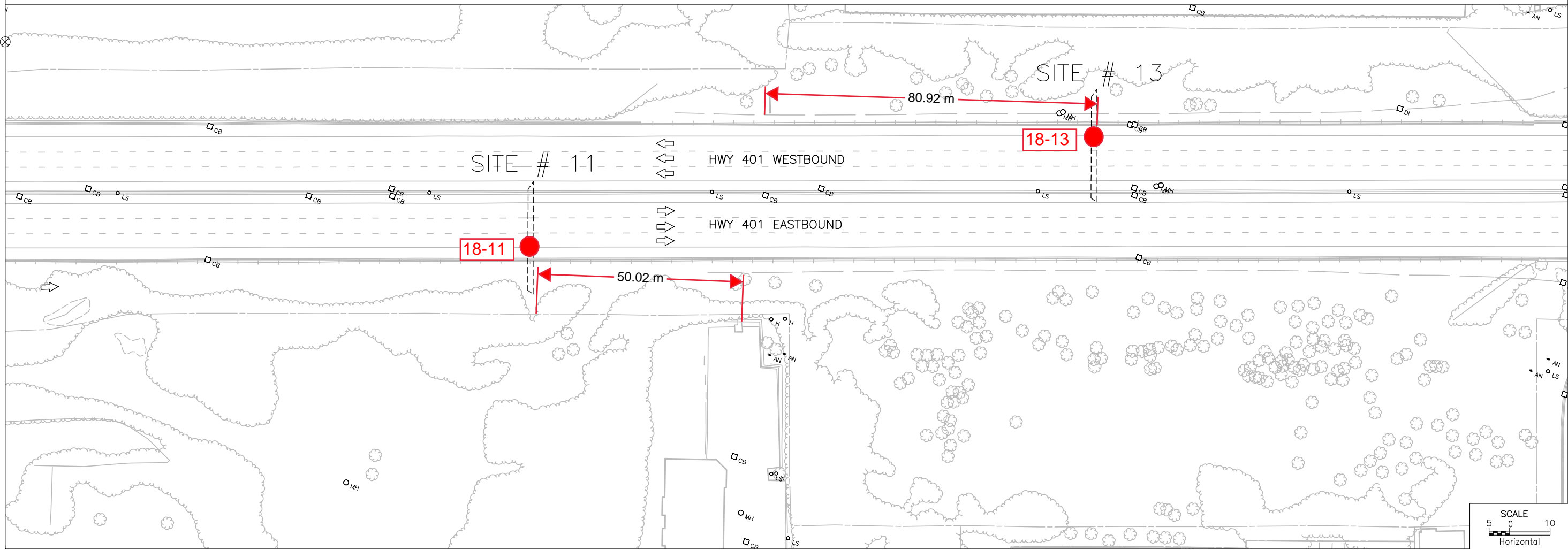
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ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 11  
N.T.S.



ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 13  
N.T.S.

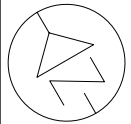


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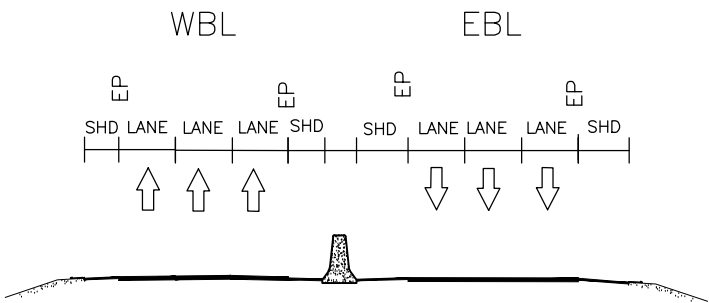
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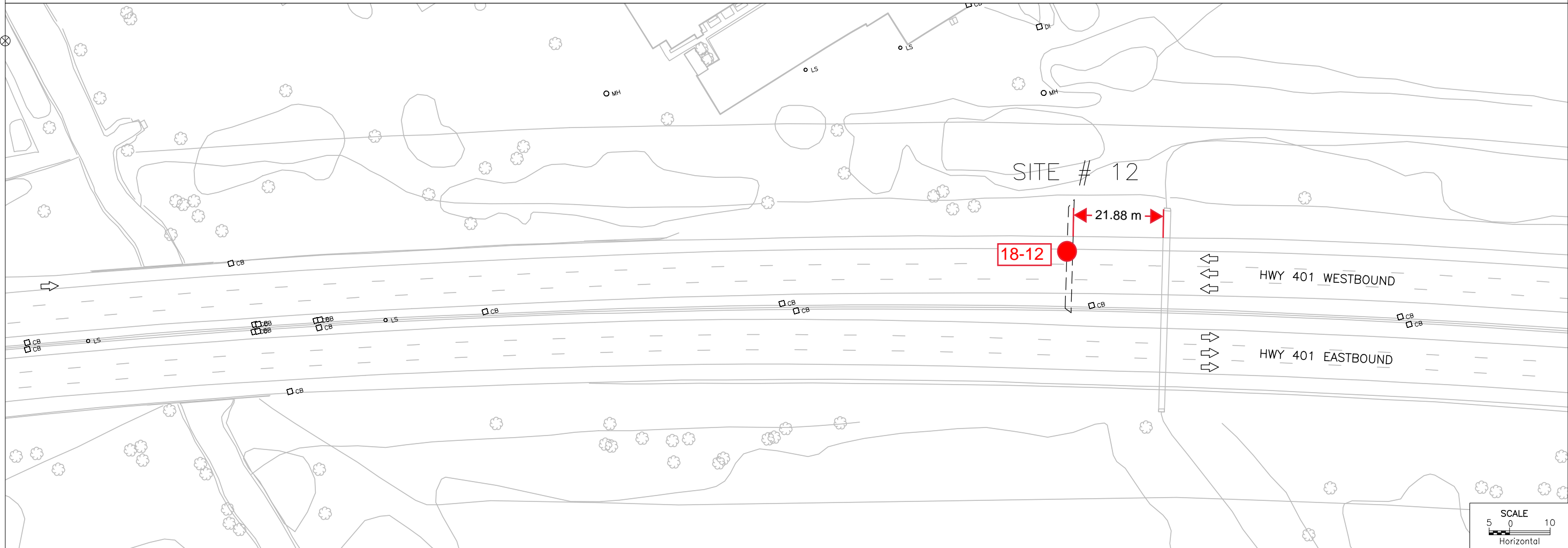
EXISTING  
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Survey \_\_\_\_\_ Revised \_\_\_\_\_



SHEET  
12



ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 12  
N.T.S.



SCALE  
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Horizontal

PR-D-707 88-05  
MINISTRY OF TRANSPORTATION, ONTARIO  
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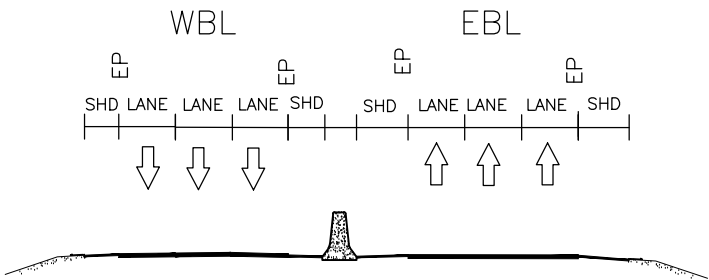
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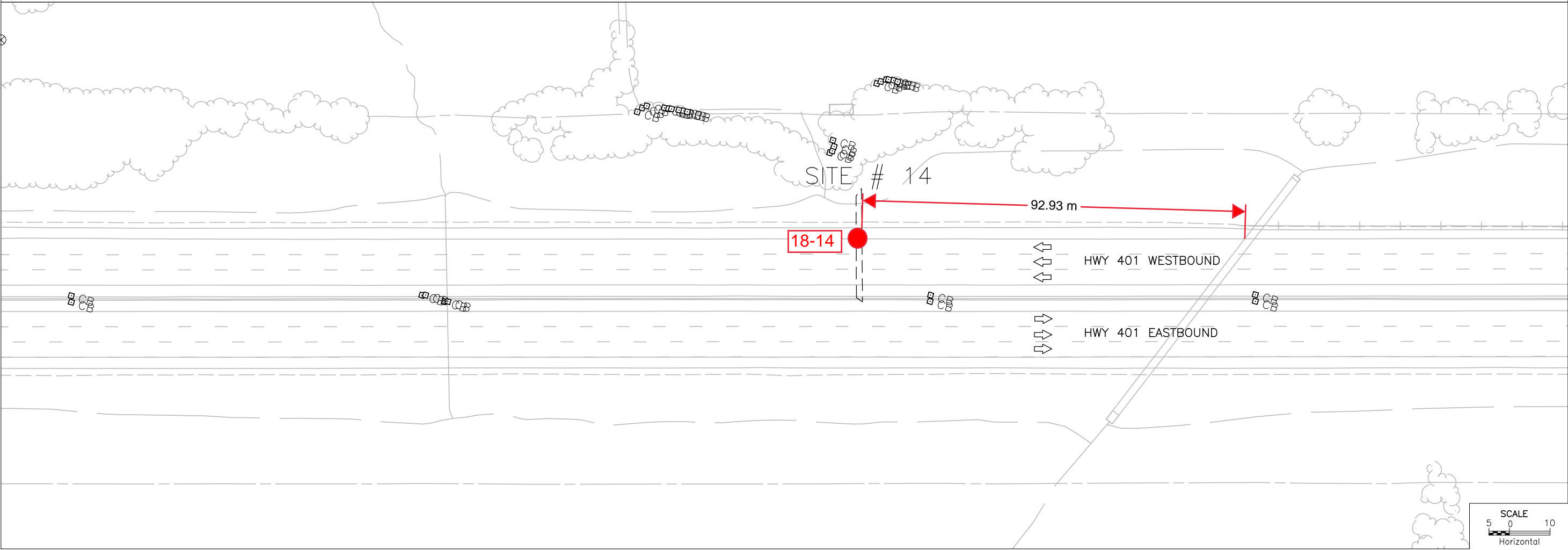
PLATE No  
CONT 2017-2029  
GWP 2031-13-00

EXISTING  
TO STA  
Survey \_\_\_\_\_ Revised \_\_\_\_\_

SHEET  
13



ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 14  
N.T.S.



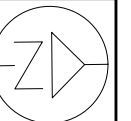
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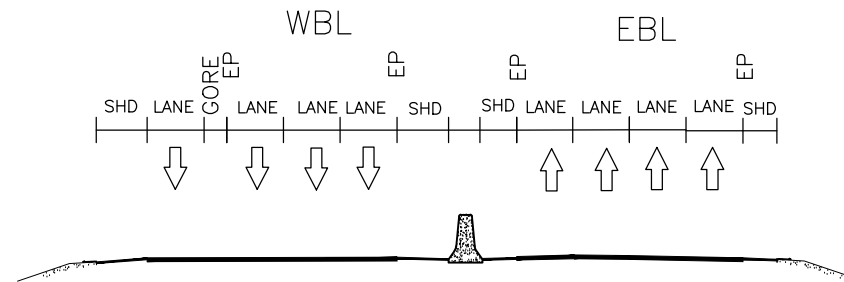
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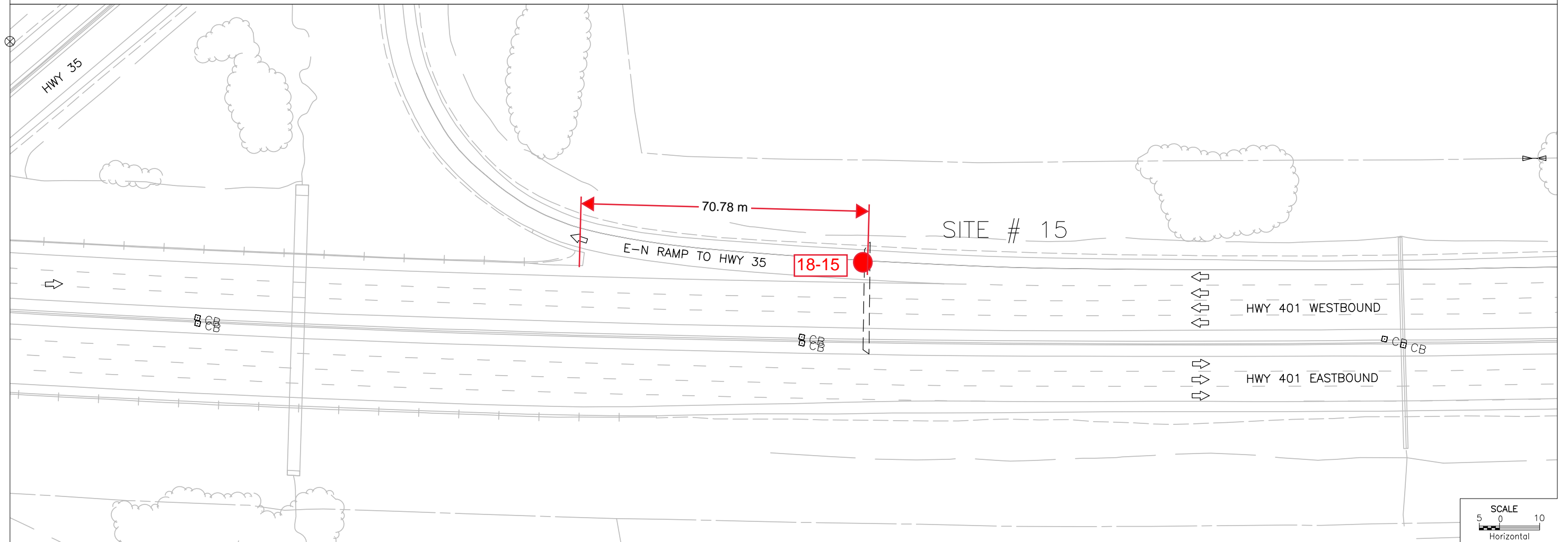
EXISTING  
STA TO STA  
Survey Revised



SHEET  
14



ROAD CROSS-SECTION  
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SITE # 15  
N.T.S.



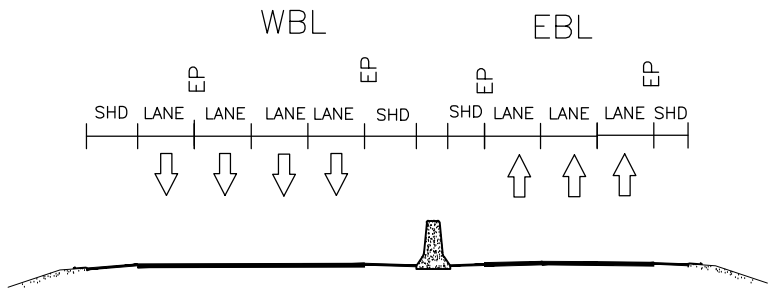
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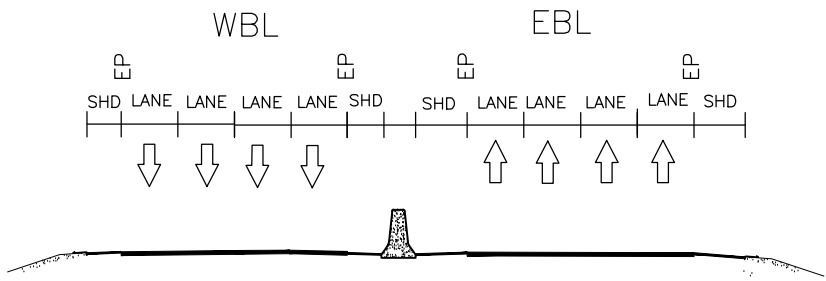
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SHEET  
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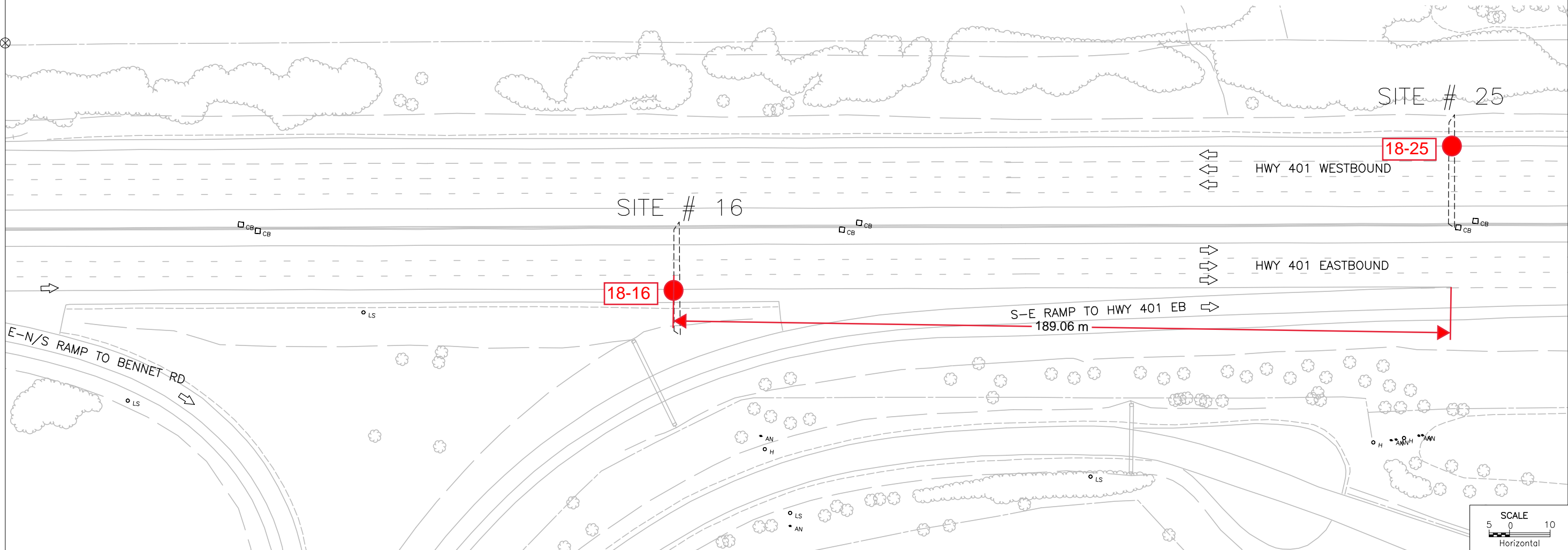
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ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 16  
N.T.S.



ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 25  
N.T.S.



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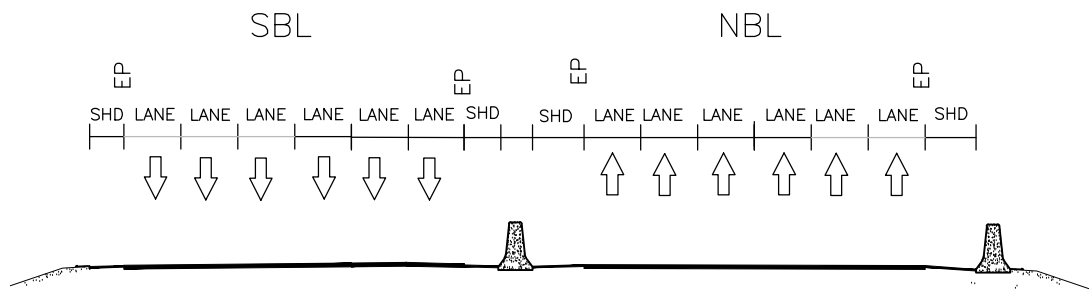
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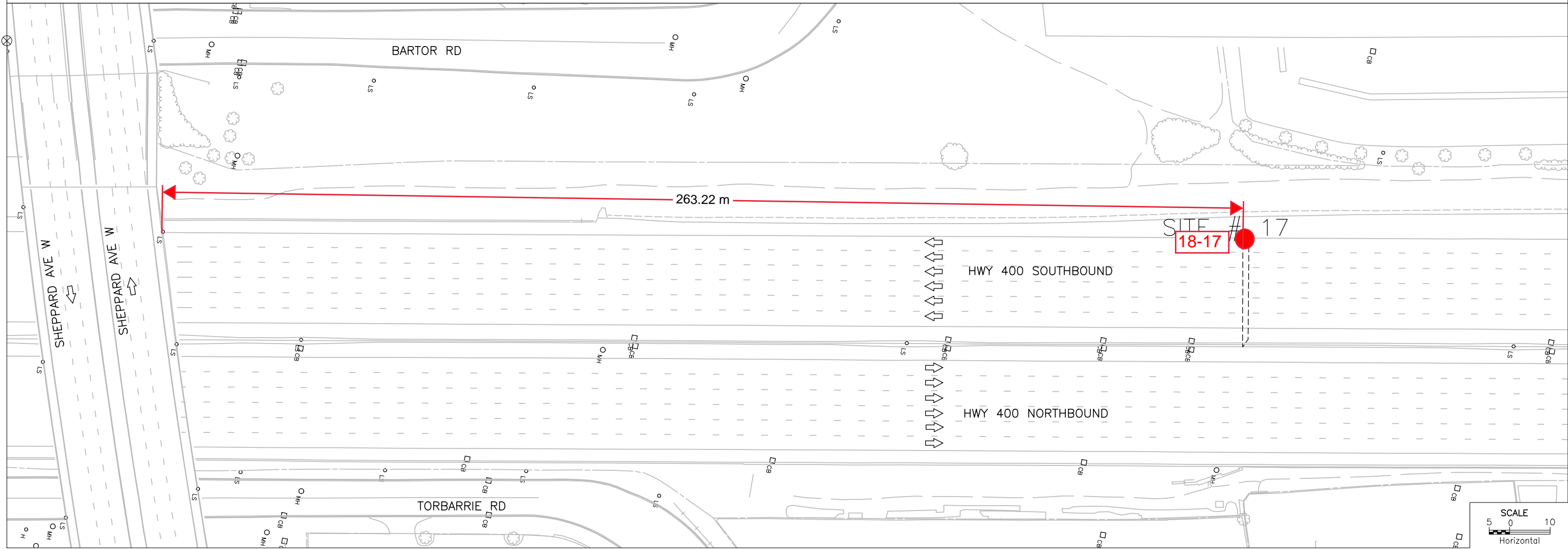
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GWP 2031-13-00

EXISTING  
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Survey Revised

SHEET  
16



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SITE # 17  
N.T.S.



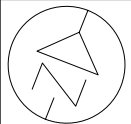
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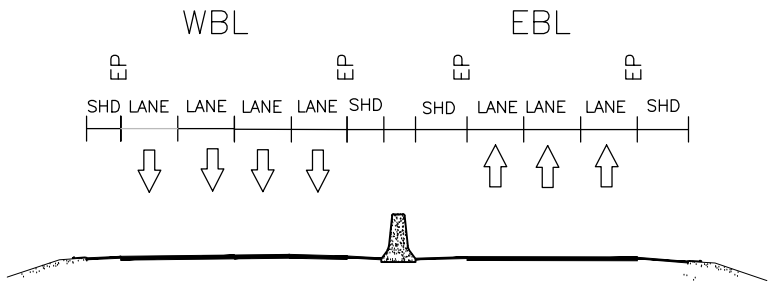
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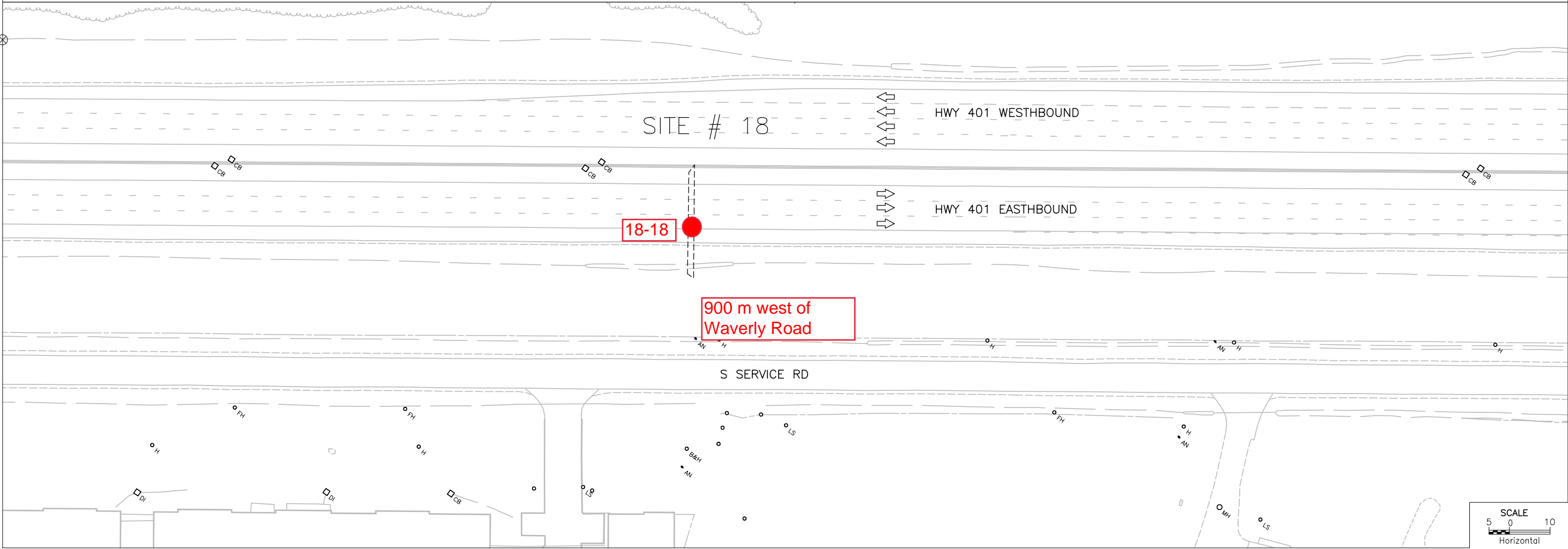
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Revised



SHEET  
17



ROAD CROSS-SECTION  
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N.T.S.



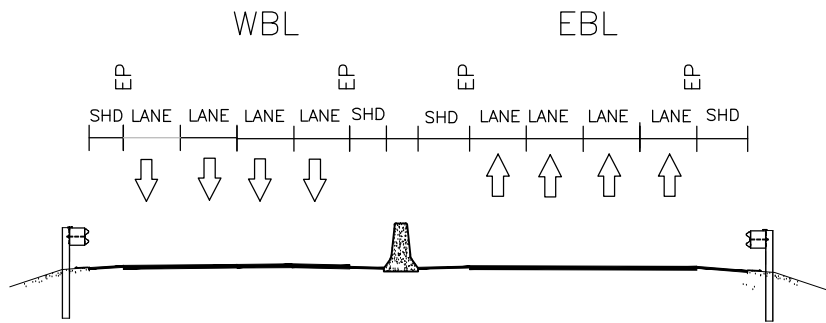
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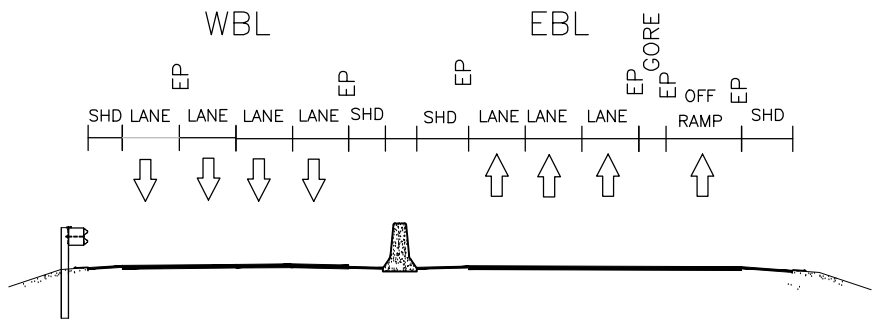
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Revised

SHEET  
18

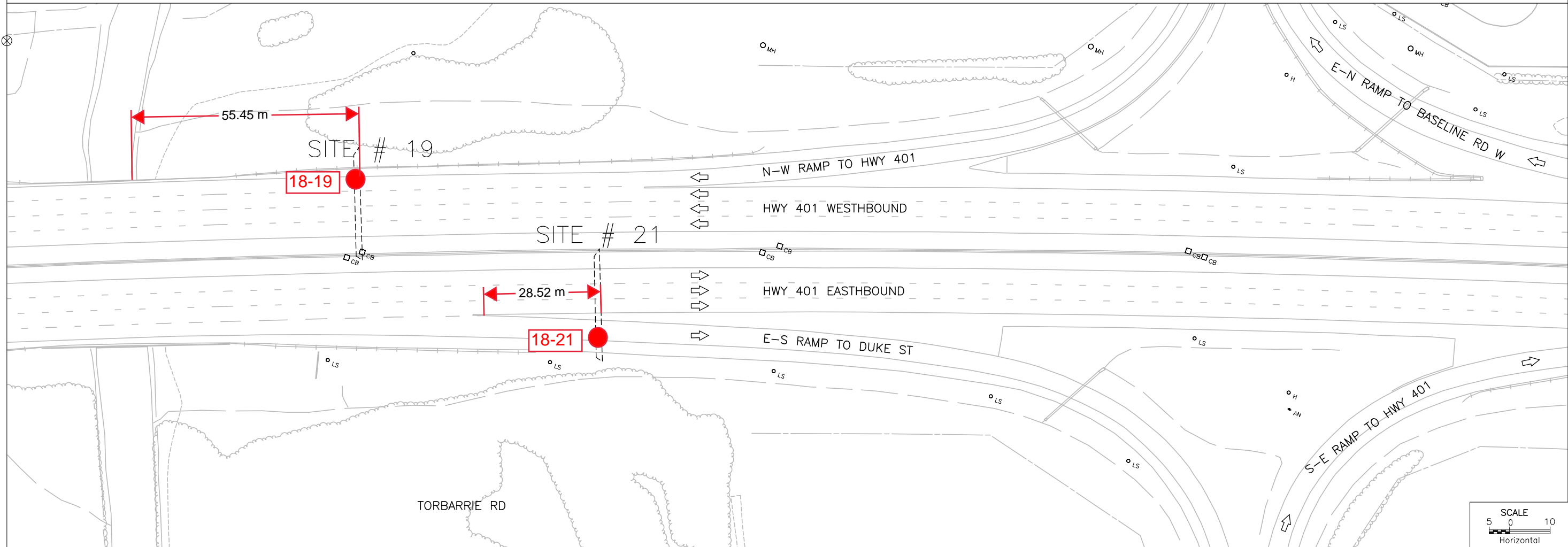
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ROAD CROSS-SECTION  
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SITE # 19  
N.T.S.



ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 21  
N.T.S.

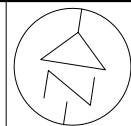


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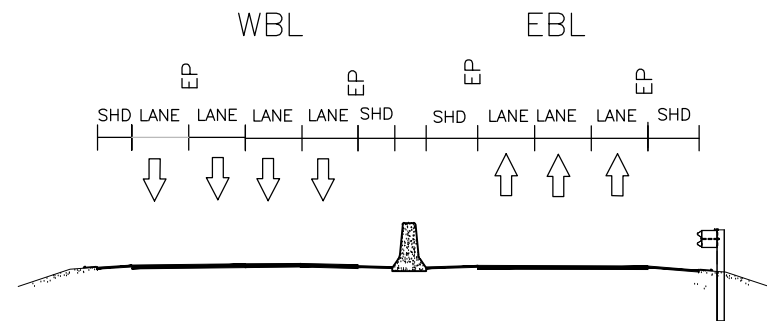
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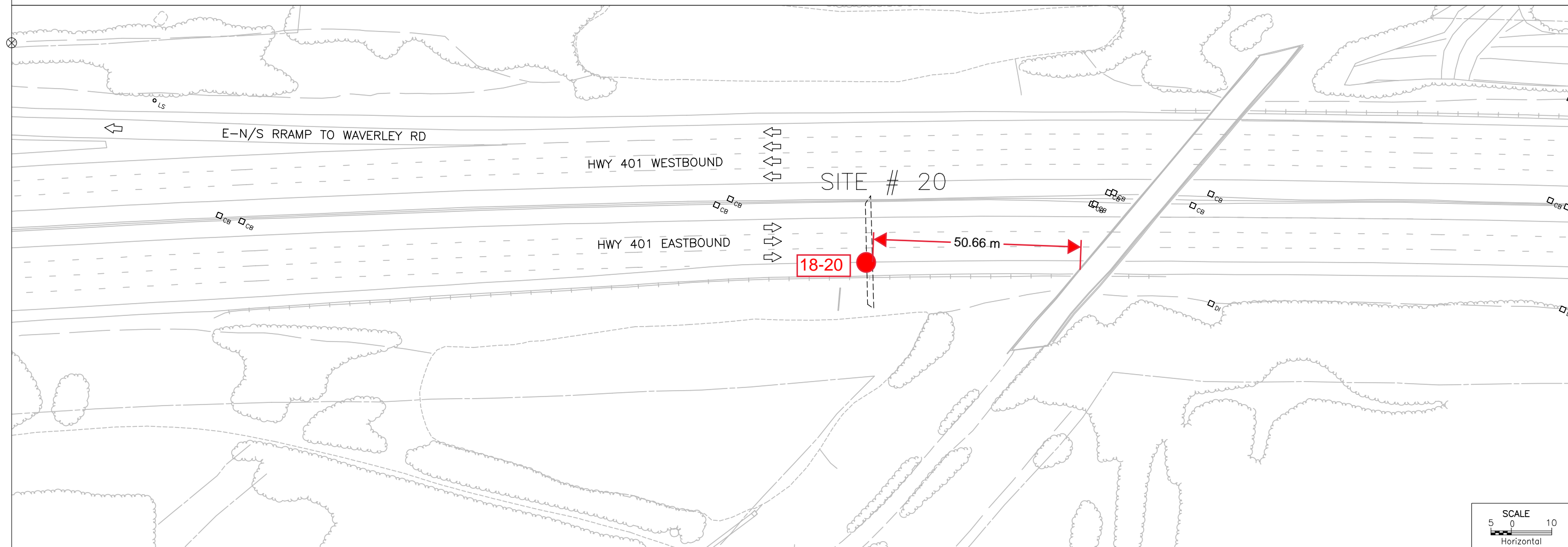
EXISTING  
STA TO STA  
Survey Revised



SHEET  
19



ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 20  
N.T.S.



SCALE  
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Horizontal

METRIC

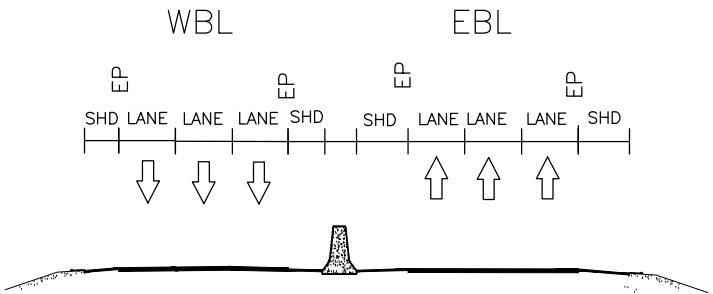
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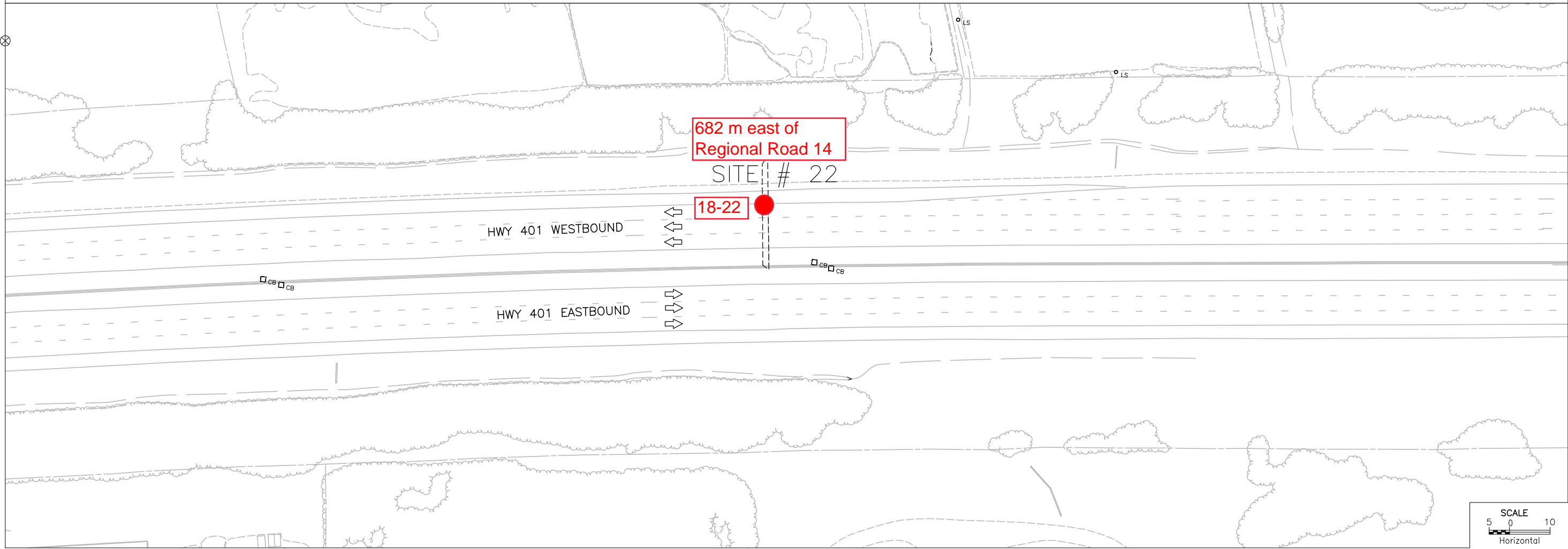
EXISTING  
STA TO STA  
Survey Revised



SHEET  
20



ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 22  
N.T.S.



PR-D-707 88-05  
MINISTRY OF TRANSPORTATION, ONTARIO  
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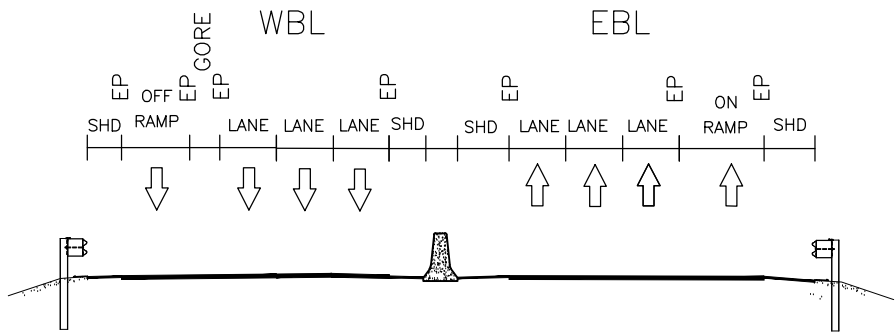
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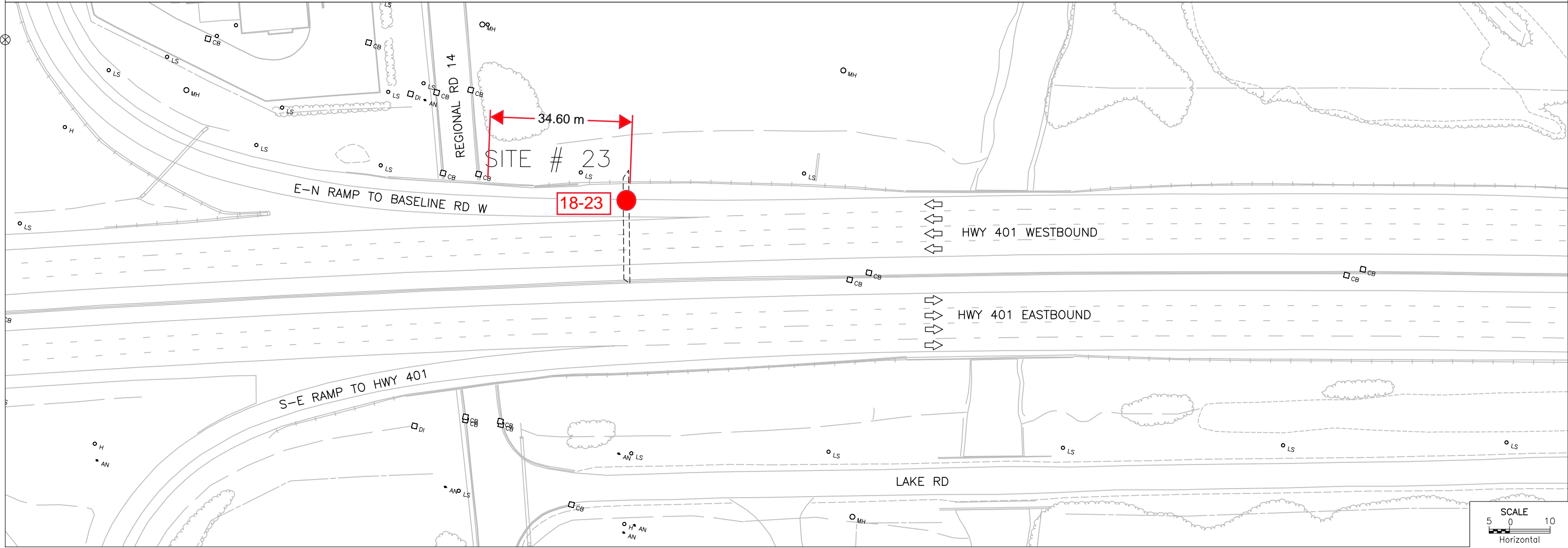
EXISTING  
STA TO STA  
Survey Revised



SHEET  
21



ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 23  
N.T.S.



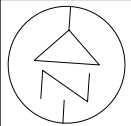
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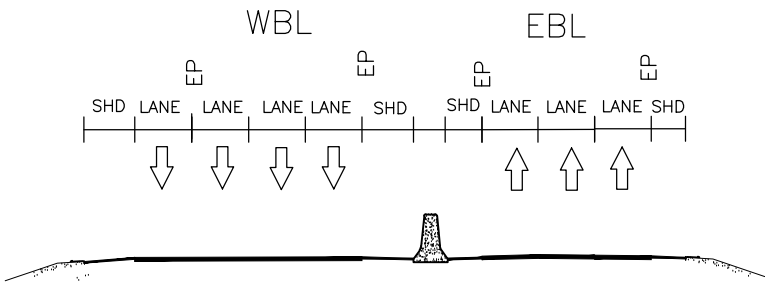
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NOTE:  
INFORMATION PURPOSES ONLY.  
DESIGN BUILDER IS RESPONSIBLE  
TO VERIFY EXISTING CONDITIONS

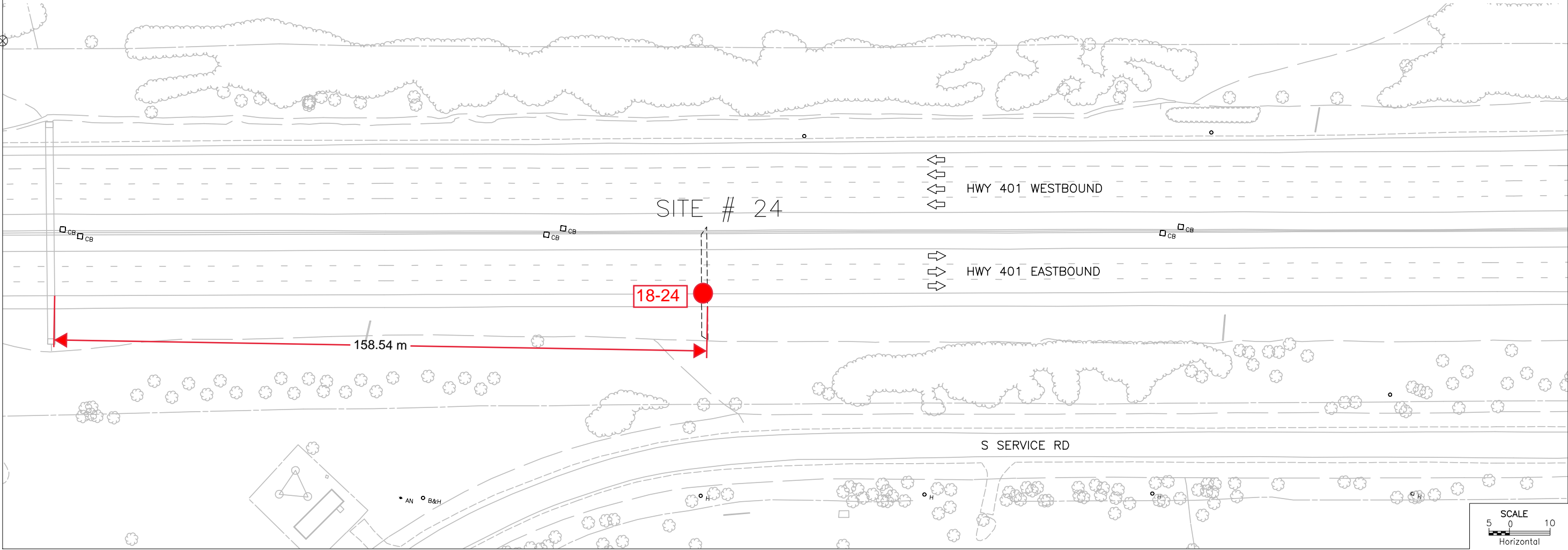
PLATE No	
CONT 2017-2029	
GWP 2031-13-00	
STA Survey	EXISTING TO STA Revised



SHEET 22

ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 24  
N.T.S.



SCALE  
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Horizontal

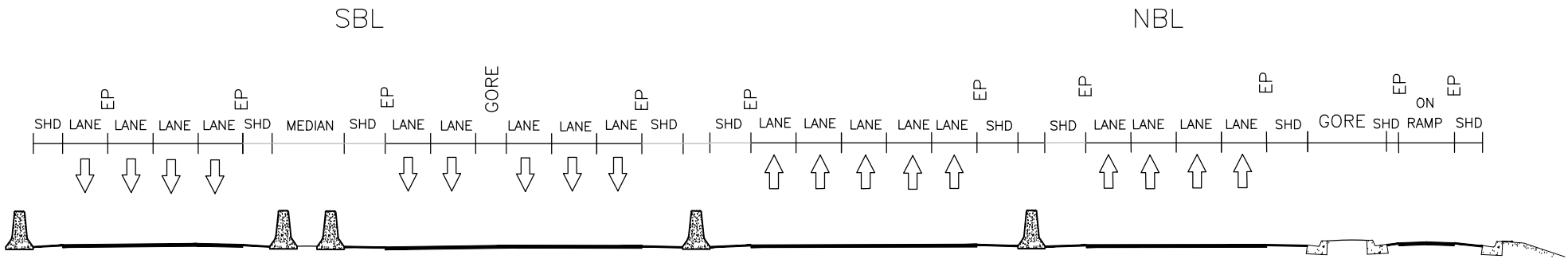
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PLATE No  
CONT 2017-2029  
GWP 2031-13-00

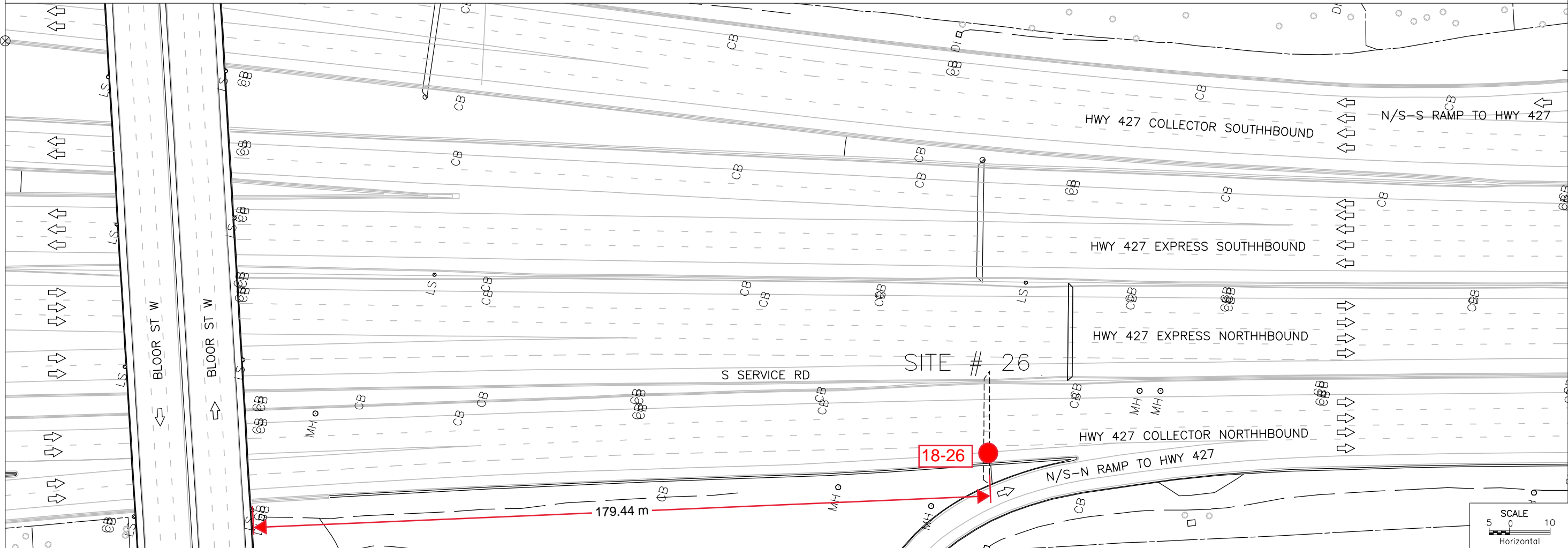
EXISTING  
TO STA  
Survey \_\_\_\_\_ Revised \_\_\_\_\_

SHEET  
23

NOTE:  
INFORMATION PURPOSES ONLY.  
DESIGN BUILDER IS RESPONSIBLE  
TO VERIFY EXISTING CONDITIONS



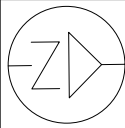
ROAD CROSS-SECTION  
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SITE # 26  
N.T.S.



METRIC

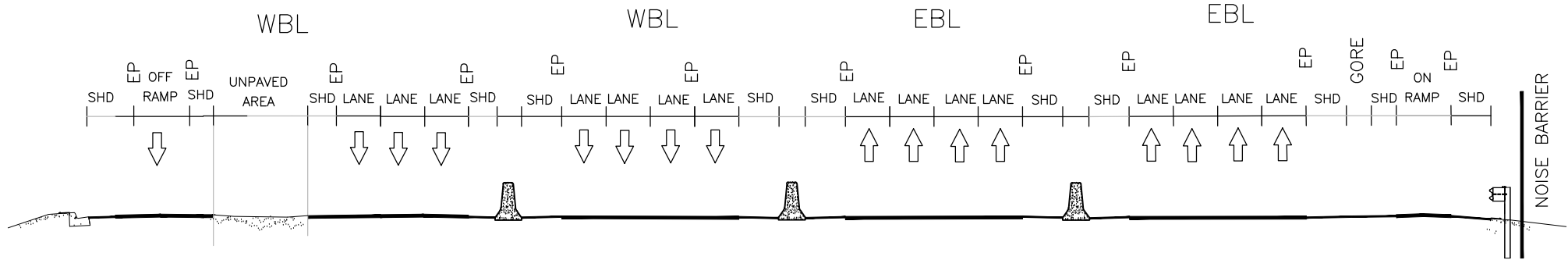
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CONT 2017-2029  
GWP 2031-13-00

EXISTING  
STA TO STA  
Survey Revised

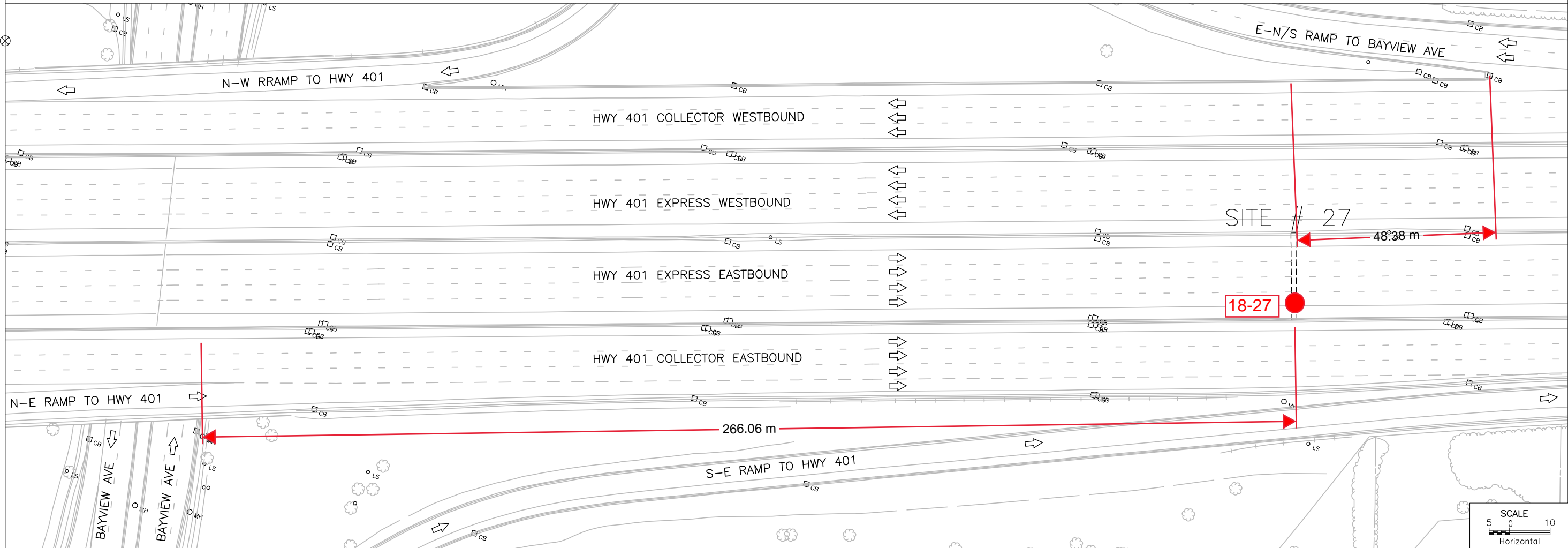


SHEET  
24

NOTE:  
INFORMATION PURPOSES ONLY.  
DESIGN BUILDER IS RESPONSIBLE  
TO VERIFY EXISTING CONDITIONS



ROAD CROSS-SECTION  
APPROACHING OHSS  
SITE # 27  
N.T.S.



SCALE  
5 0 10  
Horizontal