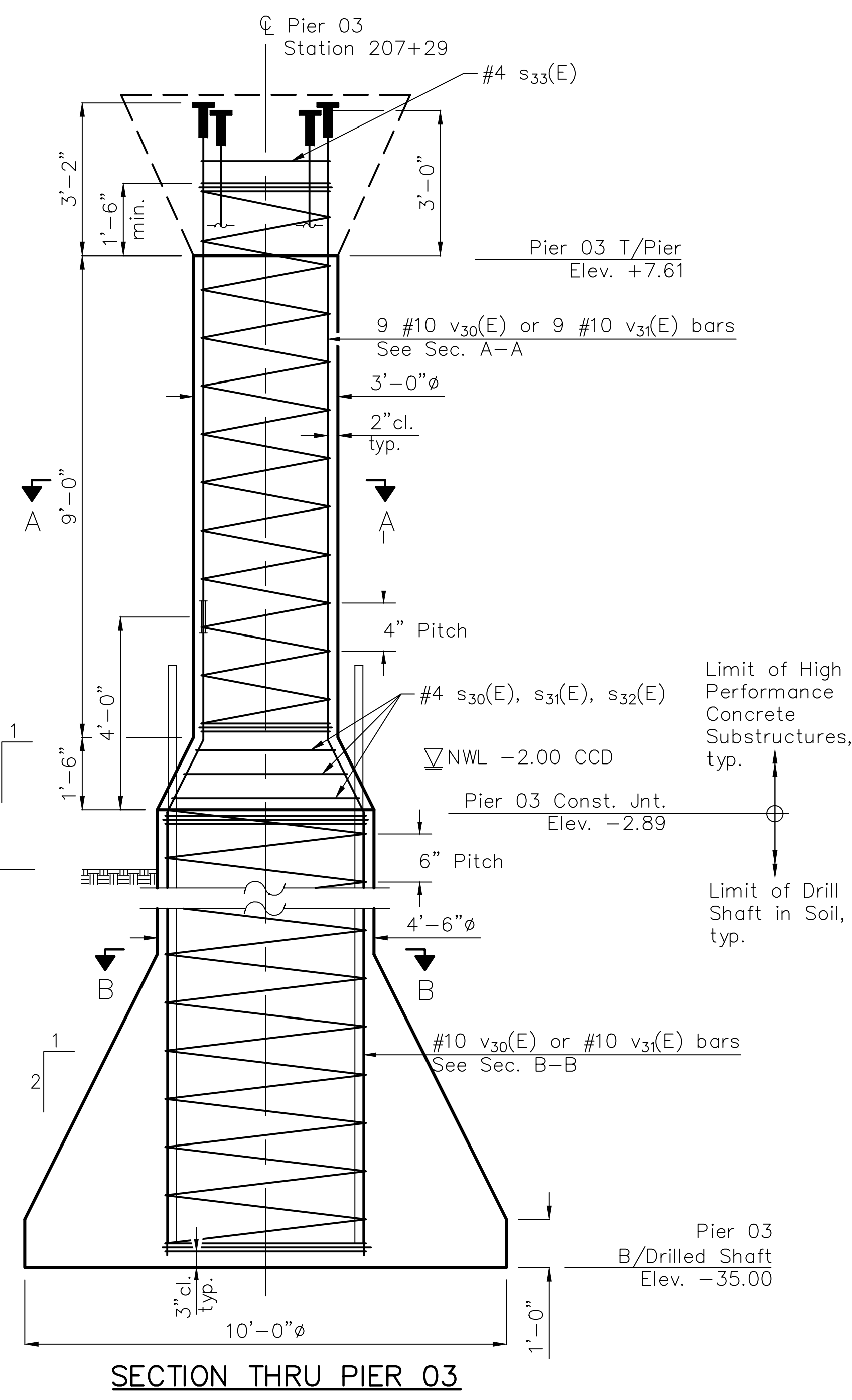
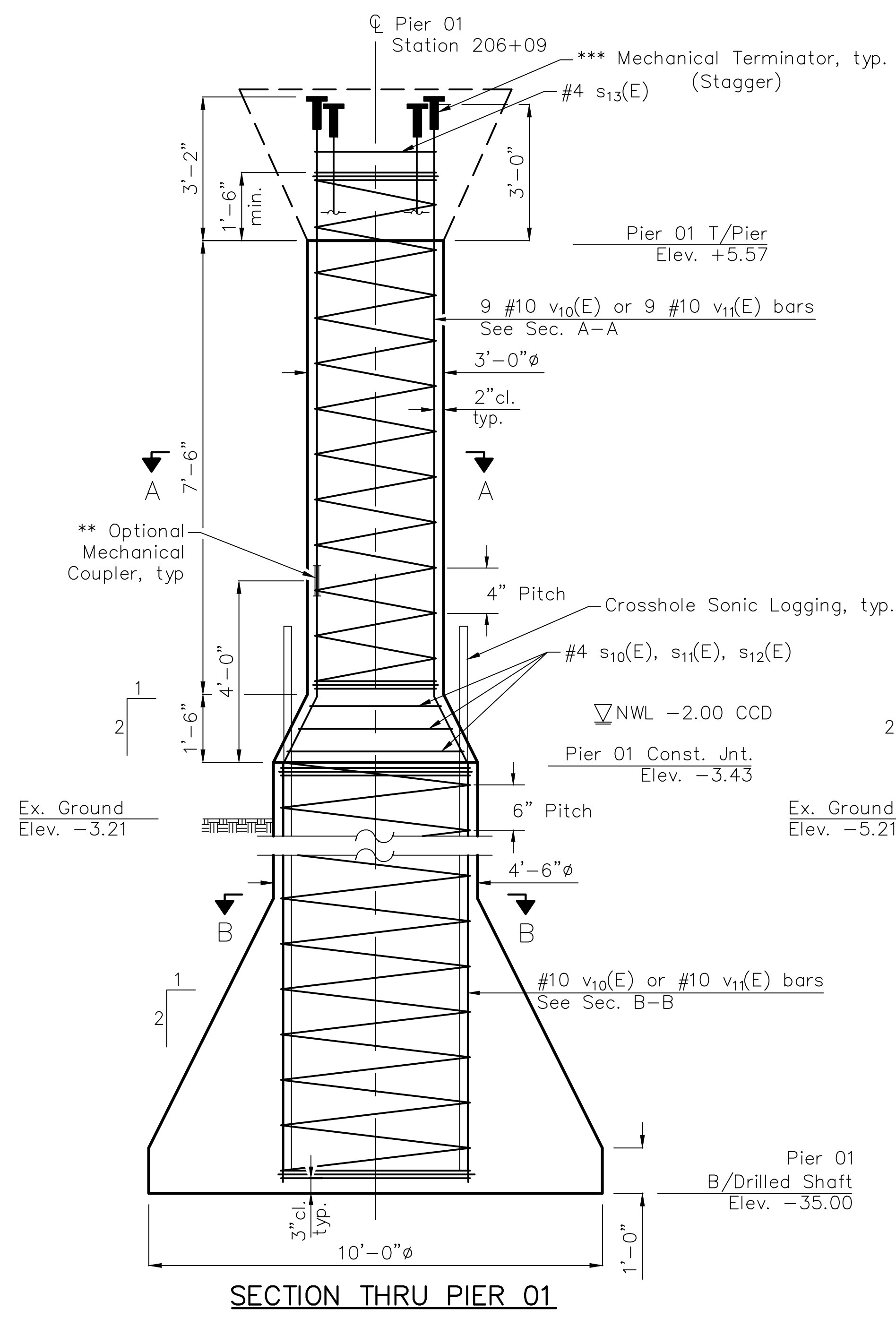


**BARS**  
s<sub>10</sub>(E), s<sub>11</sub>(E), s<sub>12</sub>(E), s<sub>13</sub>(E)  
s<sub>30</sub>(E), s<sub>31</sub>(E), s<sub>32</sub>(E), s<sub>33</sub>(E)

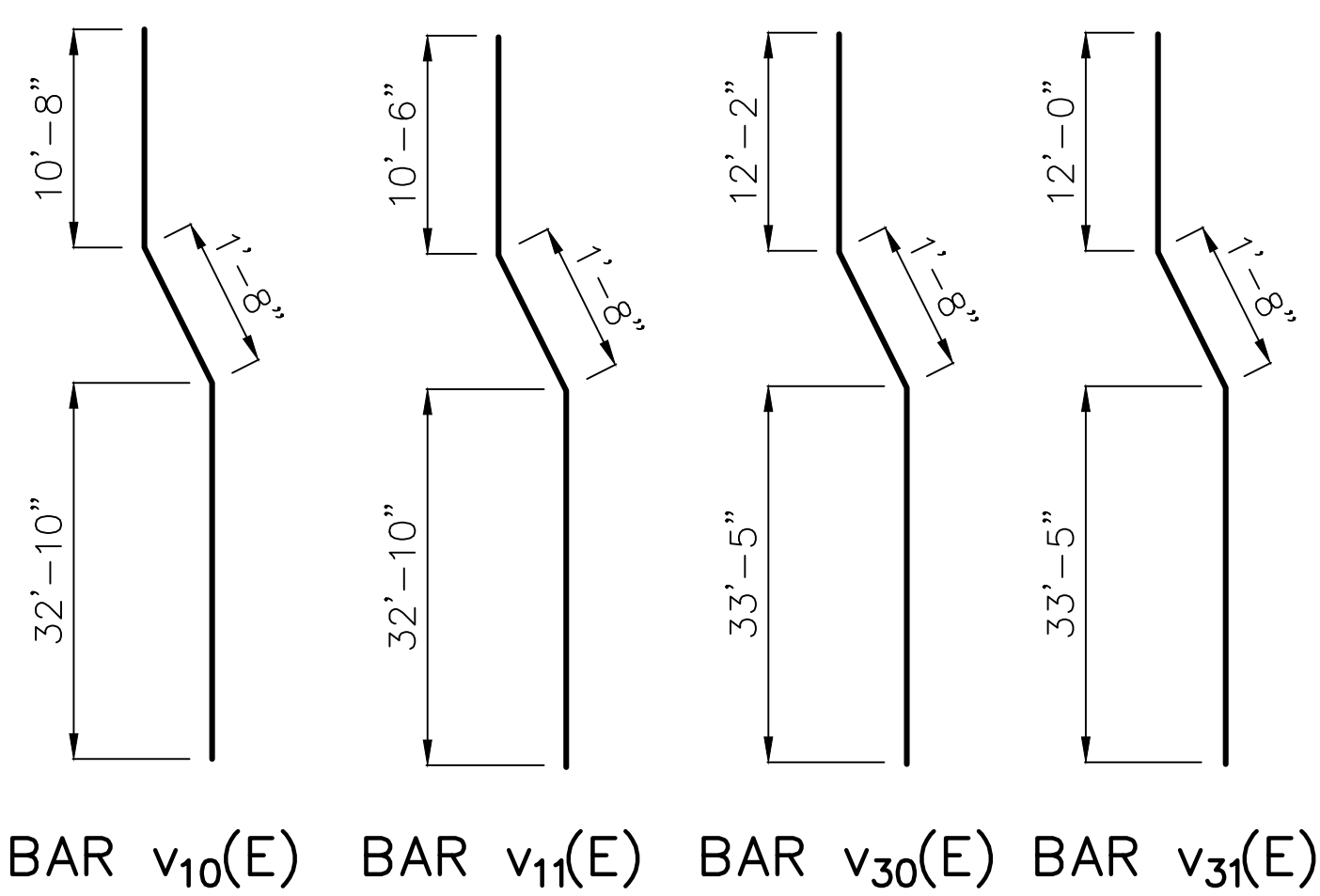


**PIER 01  
BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
v <sub>10</sub> (E)	9	#10	45'-2"	—
v <sub>11</sub> (E)	9	#10	45'-0"	—
s <sub>10</sub> (E)	1	#4	9'-7"	○
s <sub>11</sub> (E)	1	#4	11'-2"	○
s <sub>12</sub> (E)	1	#4	12'-9"	○
s <sub>13</sub> (E)	1	#4	8'-7"	○
* sp <sub>10</sub> (E)	1	#4	9'-0"	⌘
* sp <sub>11</sub> (E)	1	#4	31'-7"	⌘
Reinforcement Bars, Epoxy Coated		Pound	4,280	
High Strength High Performance Concrete Structures		Cu Yd	2.6	
Permanent Casing		Foot	26	
Drilled Shaft in Soil		Cu Yd	26.5	

**PIER 03  
BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
v <sub>30</sub> (E)	9	#10	47'-3"	—
v <sub>31</sub> (E)	9	#10	47'-1"	—
s <sub>30</sub> (E)	1	#4	9'-7"	○
s <sub>31</sub> (E)	1	#4	11'-2"	○
s <sub>32</sub> (E)	1	#4	12'-9"	○
s <sub>33</sub> (E)	1	#4	8'-7"	○
* sp <sub>30</sub> (E)	1	#4	10'-6"	⌘
* sp <sub>31</sub> (E)	1	#4	32'-2"	⌘
Reinforcement Bars, Epoxy Coated		Pound	4,480	
High Strength High Performance Concrete Structures		Cu Yd	3	
Permanent Casing		Foot	26	
Drilled Shaft in Soil		Cu Yd	26.9	



Maximum Bearing Pressure = 12.6 ksf  
 \* Length is height of spiral.  
 \*\* Zap Screwlok Epoxy Series, or approved equivalent.  
 \*\*\* Zap T-Lok, or approved equivalent  
 Mechanical terminator cost included with Reinforcement Bars, Epoxy Coated.  
**Note:**  
 1. When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.  
 2. For Crosshole Sonic Logging and typical bearing orientation details, see sheet S-61 of S-87

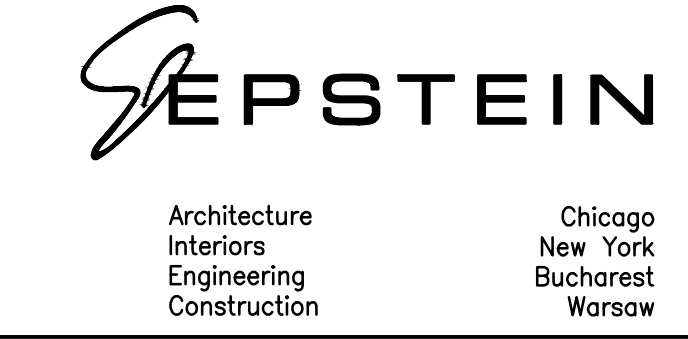
SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: J. MASI  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

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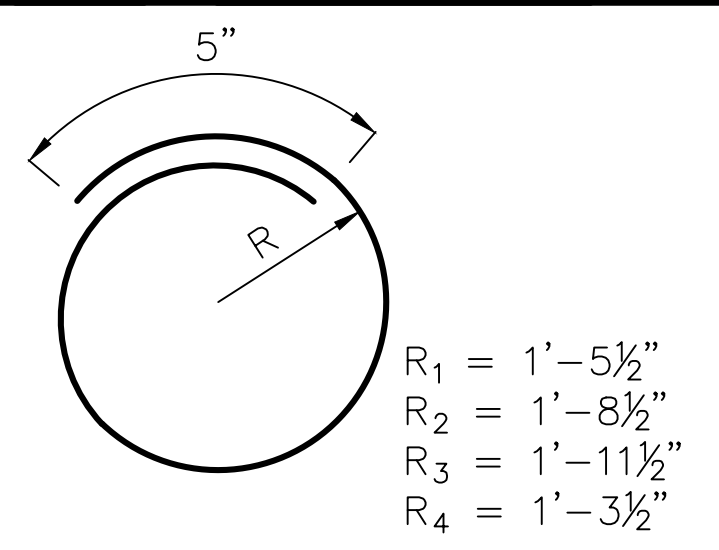
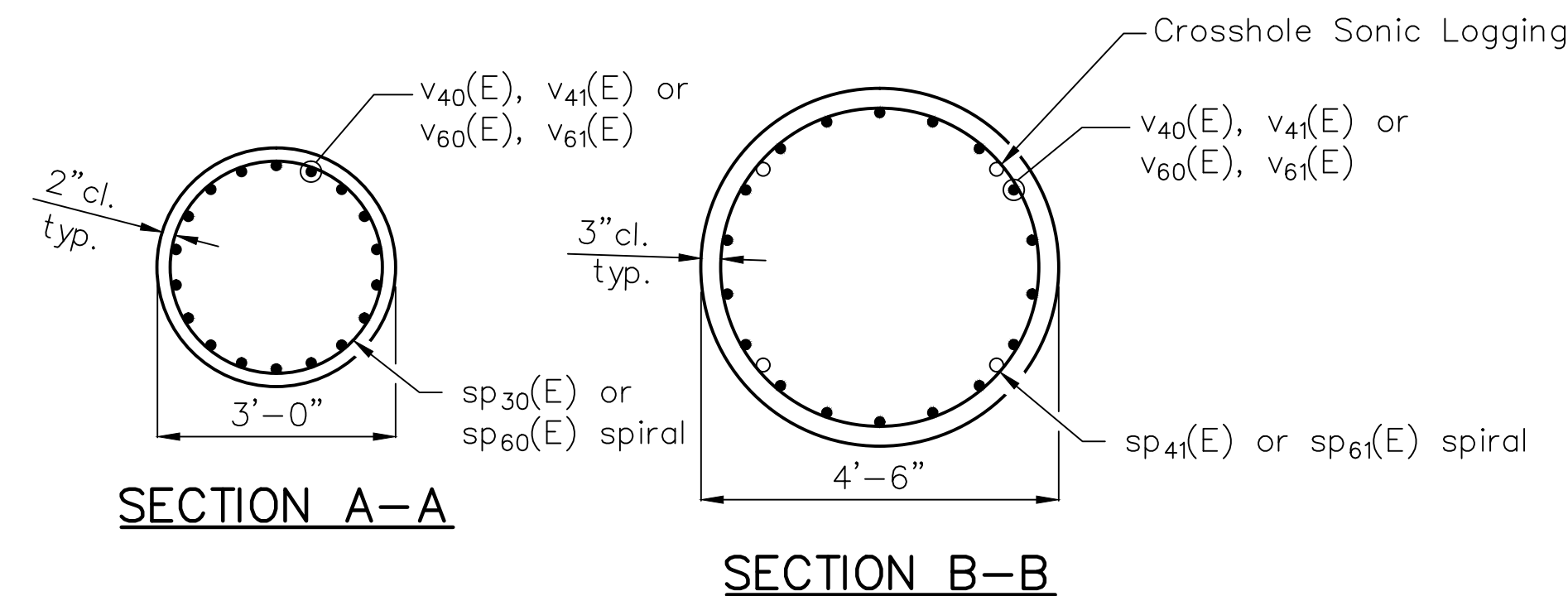
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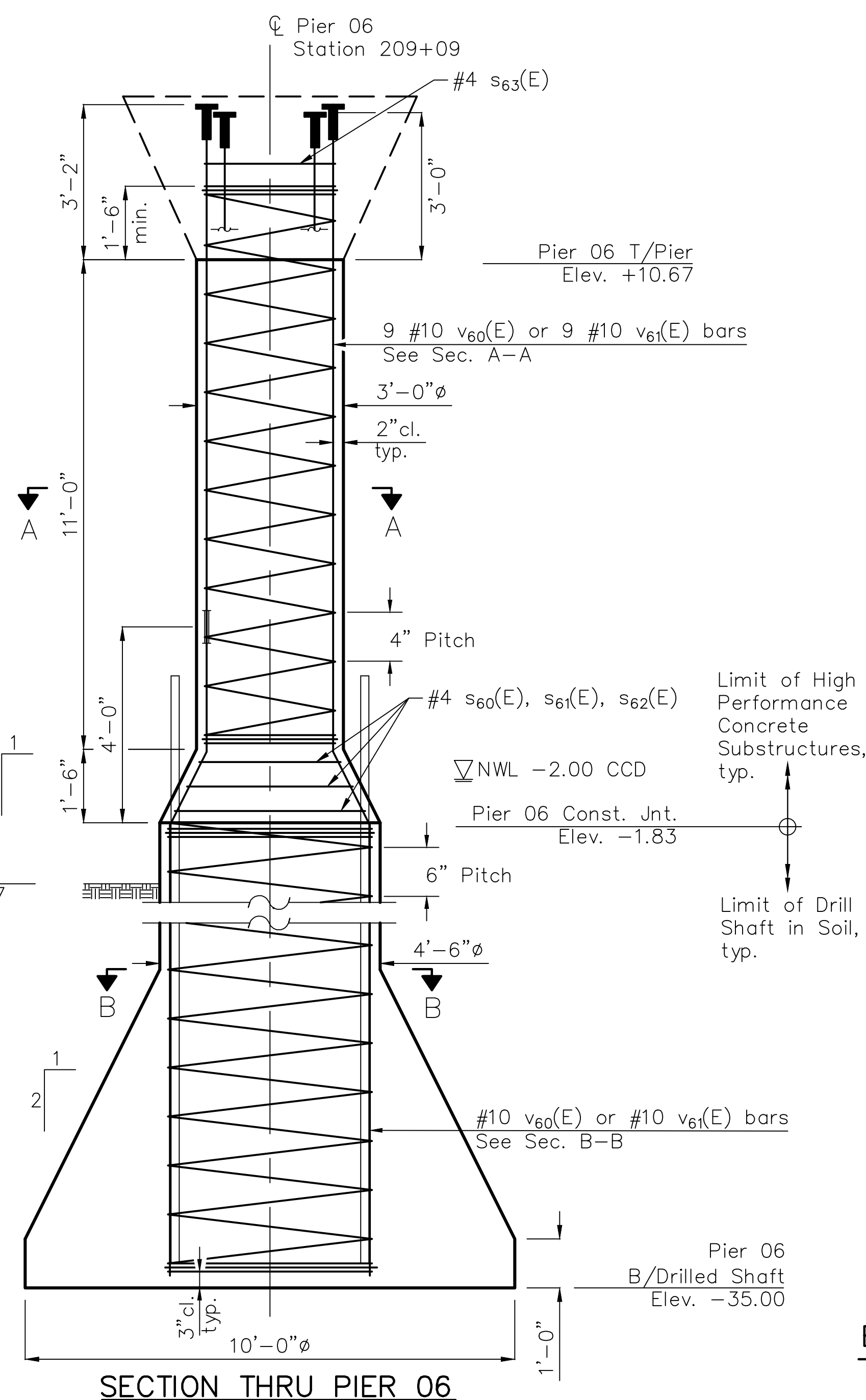
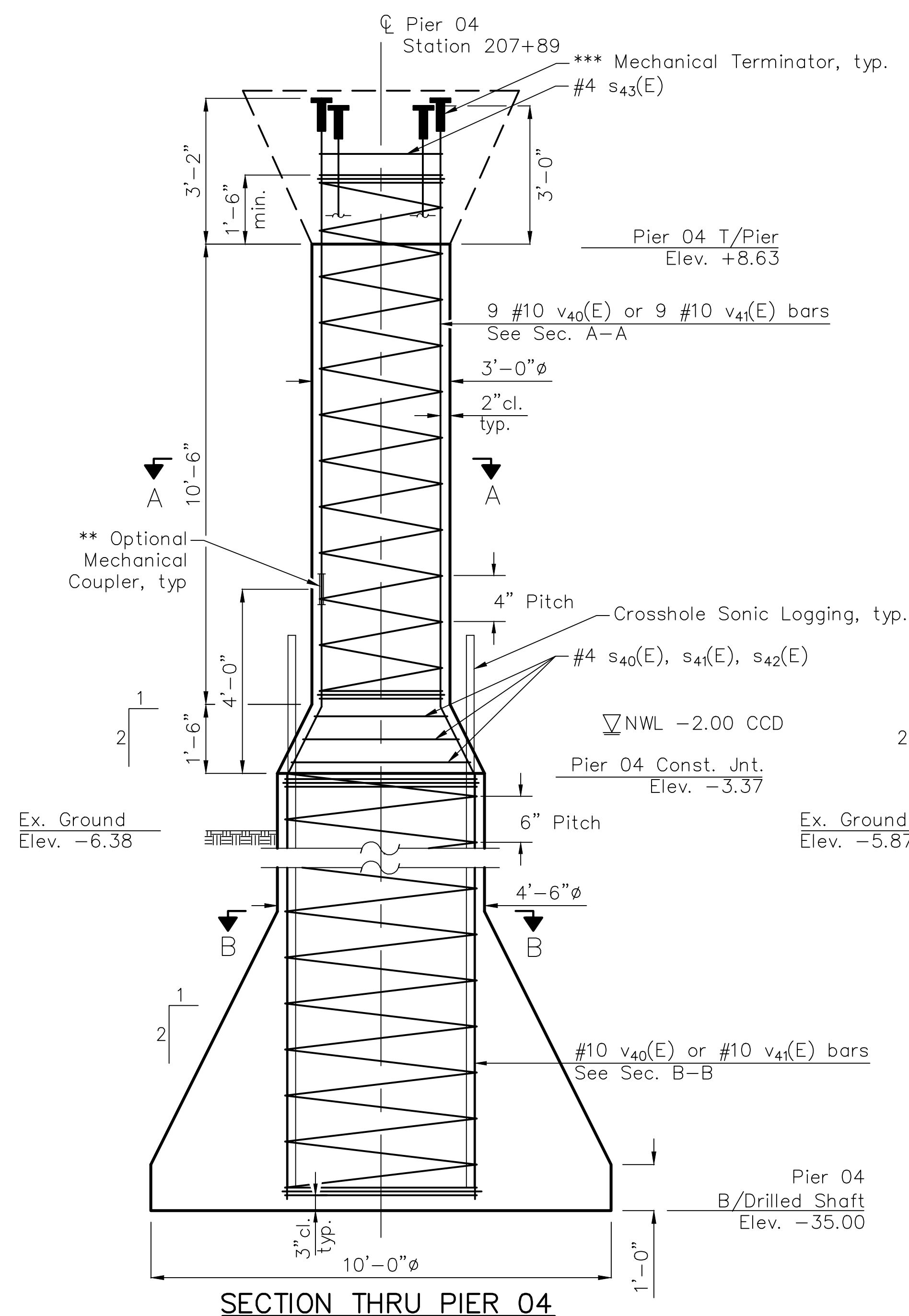
ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
 CLARK PARK TO CALIFORNIA PARK  
 STRUCTURE NO. 016-P025  
 SHEET NO. S-54  
 SHEET 101 OF 158

FIXED PIERS 1 AND 3





**BARS**  
s<sub>40</sub>(E), s<sub>41</sub>(E), s<sub>42</sub>(E), s<sub>43</sub>(E)  
s<sub>60</sub>(E), s<sub>61</sub>(E), s<sub>62</sub>(E), s<sub>63</sub>(E)

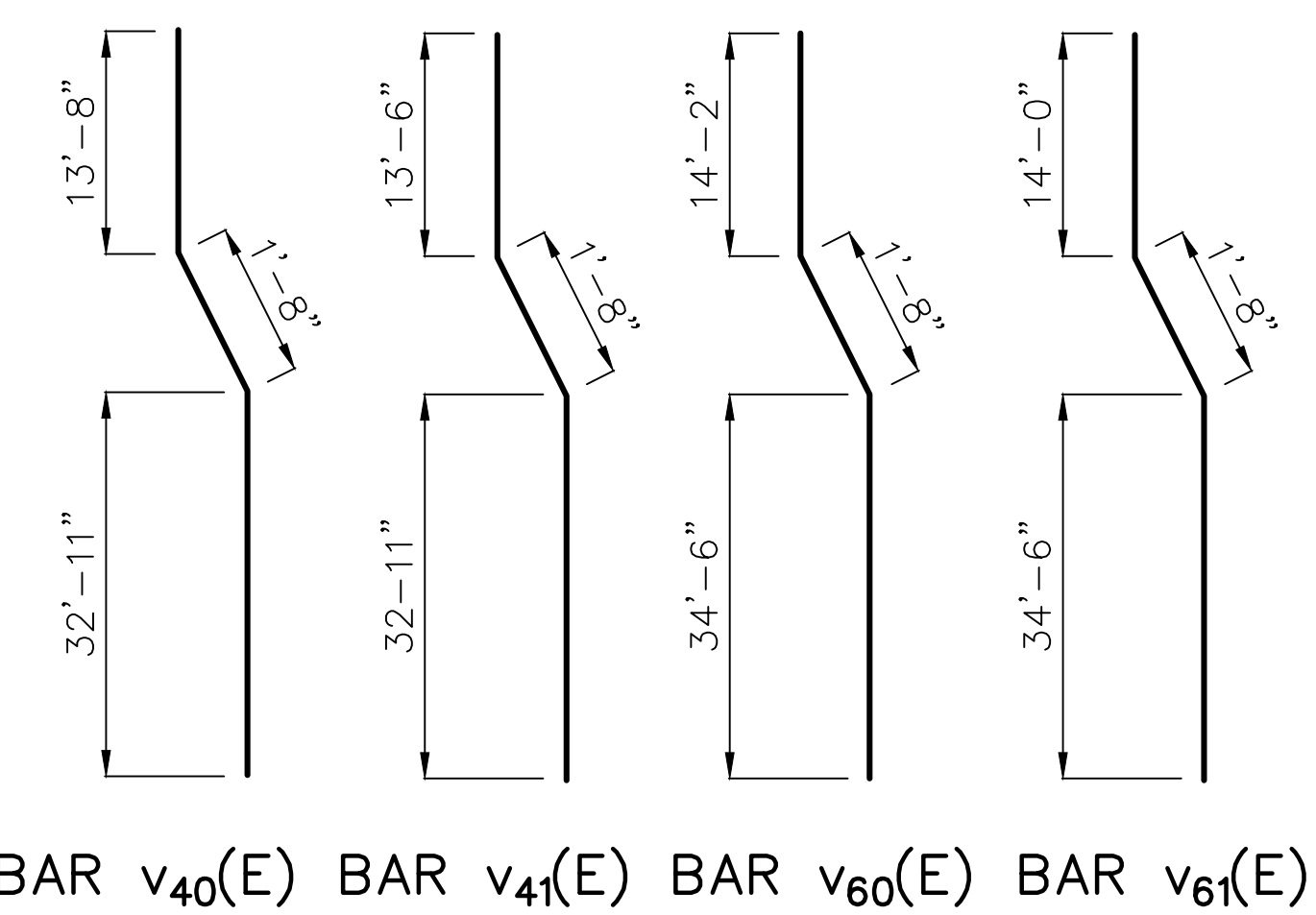


**PIER 04  
BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
v <sub>40</sub> (E)	9	#10	48'-3"	~
v <sub>41</sub> (E)	9	#10	48'-1"	~
s <sub>40</sub> (E)	1	#4	9'-7"	○
s <sub>41</sub> (E)	1	#4	11'-2"	○
s <sub>42</sub> (E)	1	#4	12'-9"	○
s <sub>43</sub> (E)	1	#4	8'-7"	○
* sp <sub>40</sub> (E)	1	#4	12'-0"	≡
* sp <sub>41</sub> (E)	1	#4	31'-7"	≡
Reinforcement Bars, Epoxy Coated		Pound	4,570	
High Strength High Performance Concrete Structures		Cu Yd	3.4	
Permanent Casing		Foot	26	
Drilled Shaft in Soil		Cu Yd	26.6	

**PIER 06  
BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
v <sub>60</sub> (E)	9	#10	50'-4"	~
v <sub>61</sub> (E)	9	#10	50'-2"	~
s <sub>60</sub> (E)	1	#4	9'-7"	○
s <sub>61</sub> (E)	1	#4	11'-2"	○
s <sub>62</sub> (E)	1	#4	12'-9"	○
s <sub>63</sub> (E)	1	#4	8'-7"	○
* sp <sub>60</sub> (E)	1	#4	12'-6"	≡
* sp <sub>61</sub> (E)	1	#4	33'-2"	≡
Reinforcement Bars, Epoxy Coated		Pound	4,770	
High Strength High Performance Concrete Structures		Cu Yd	3	
Permanent Casing		Foot	27	
Drilled Shaft in Soil		Cu Yd	27.5	



Maximum Bearing Pressure = 12.6 ksf  
\* Length is height of spiral.  
\*\* Zap Screwlok Epoxy Series, or approved equivalent.  
\*\*\* Zap T-Lok, or approved equivalent  
Mechanical terminator cost included with Reinforcement Bars, Epoxy Coated.

**Note:**  
1. When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.  
2. For Crosshole Sonic Logging and typical bearing orientation details, see sheet S-61 of S-87

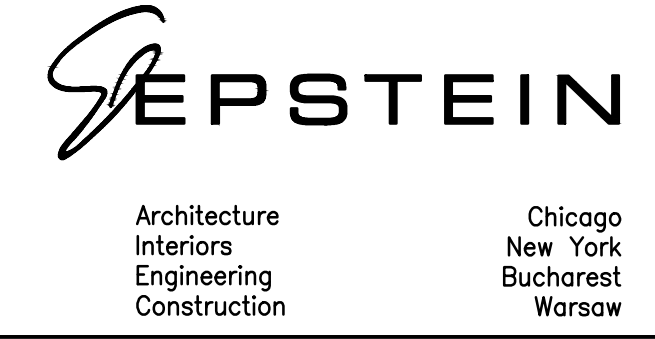
SECTION NO.: 12-E9121-00-BT  
DRAWN BY: J. MASI  
CHECKED BY: R. VARMA  
APPROVED BY: P. DOMBROWSKI  
DATE: 8/12/2016  
SCALE: N.T.S.

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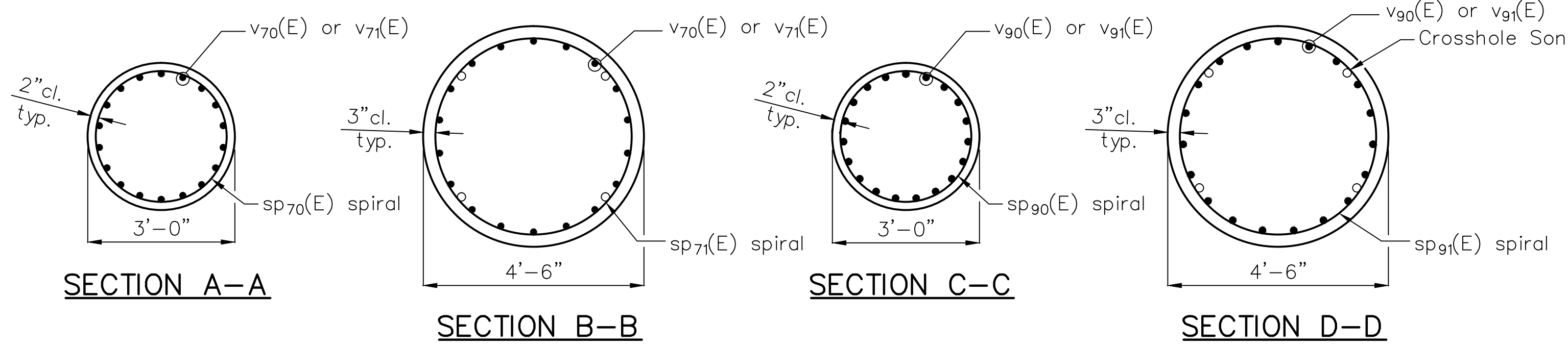
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FIXED PIERS 4 AND 6

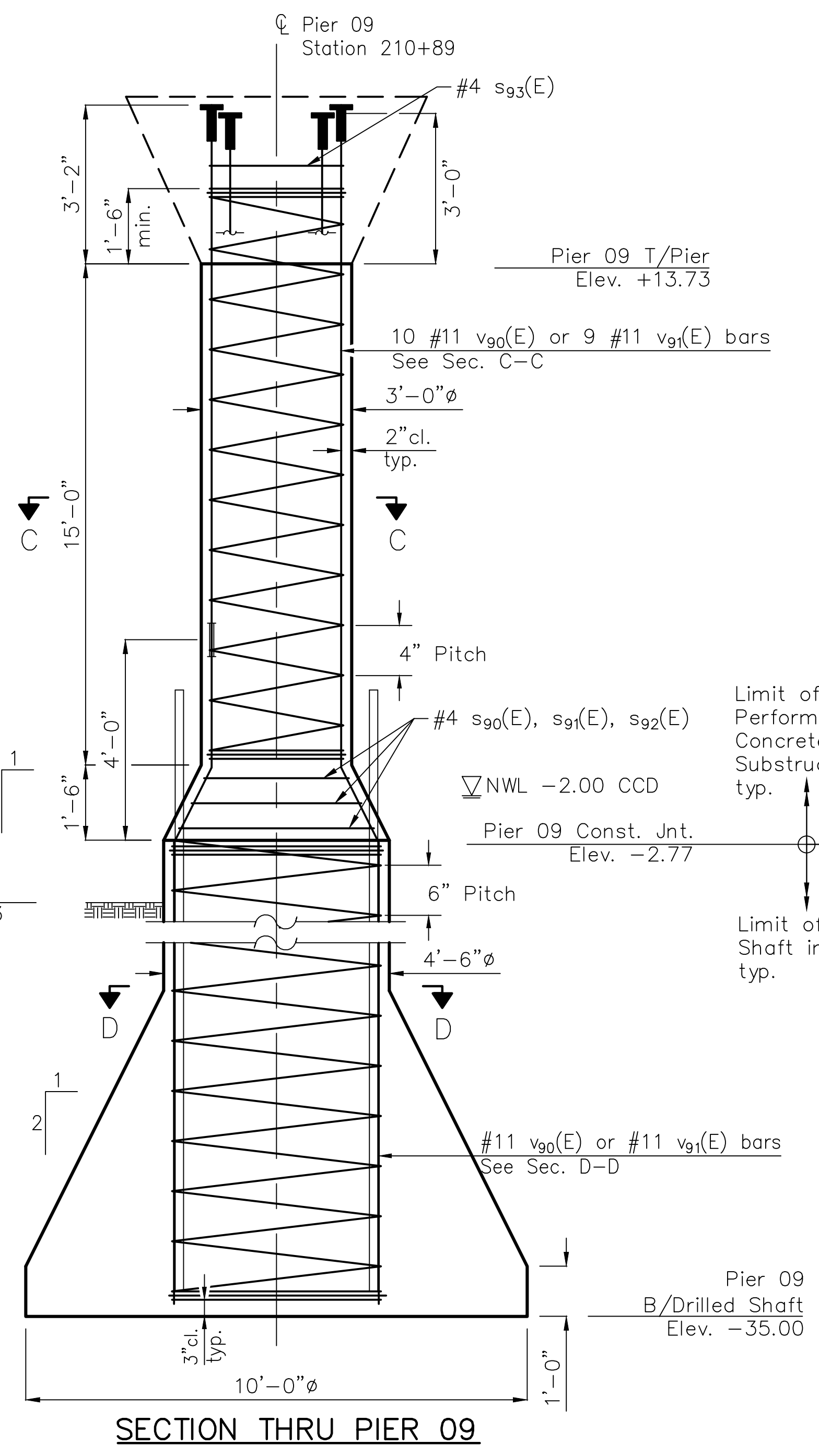
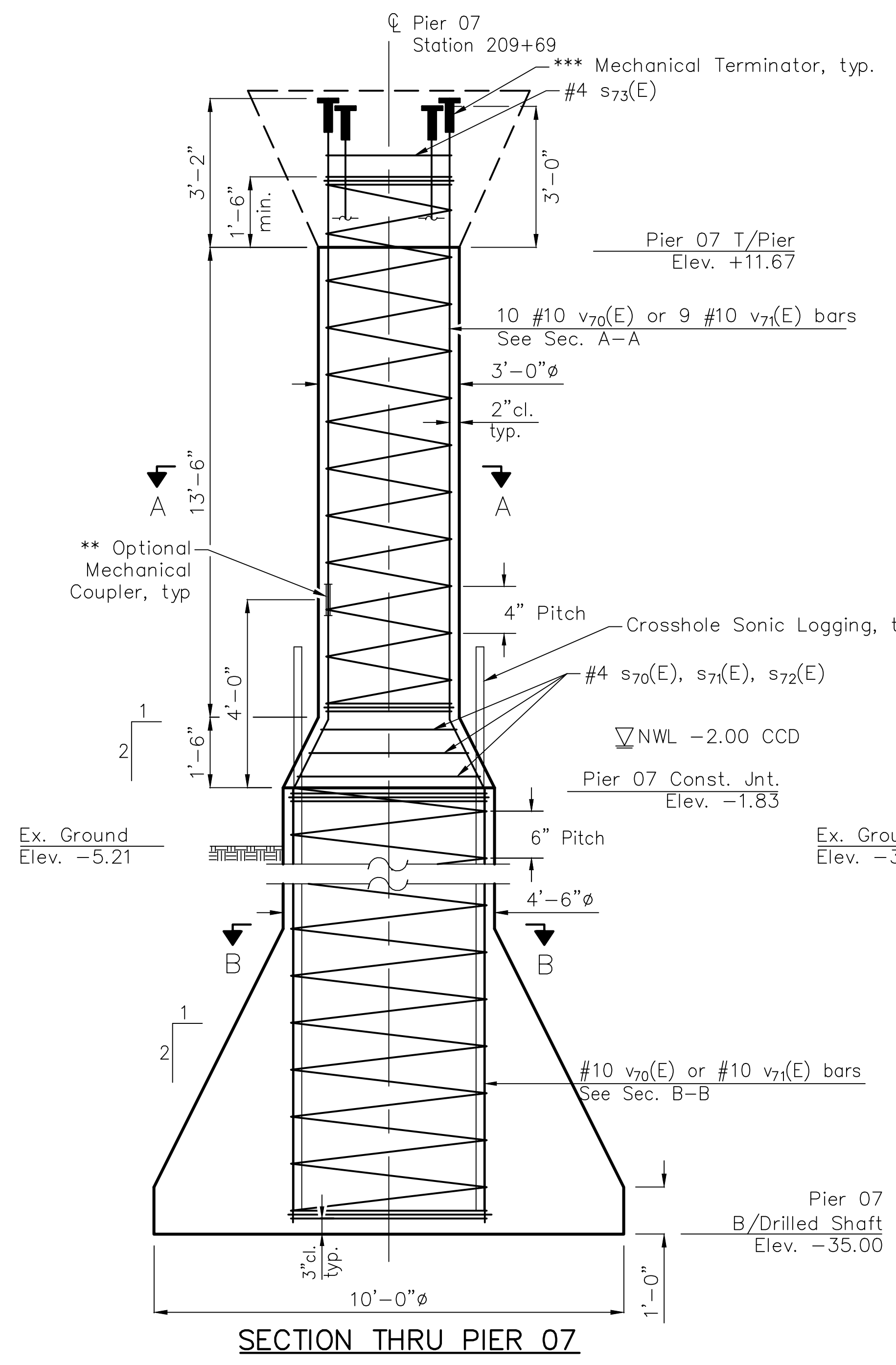
SHEET NO. S-55  
SHEET 102 OF 158  
REVISION





**BARS**  
S70(E), S71(E), S72(E), S73(E)  
S90(E), S91(E), S92(E), S93(E)

$R_1 = 1'-5\frac{1}{2}"$   
 $R_2 = 1'-8\frac{1}{2}"$   
 $R_3 = 1'-11\frac{1}{2}"$   
 $R_4 = 1'-3\frac{1}{2}"$

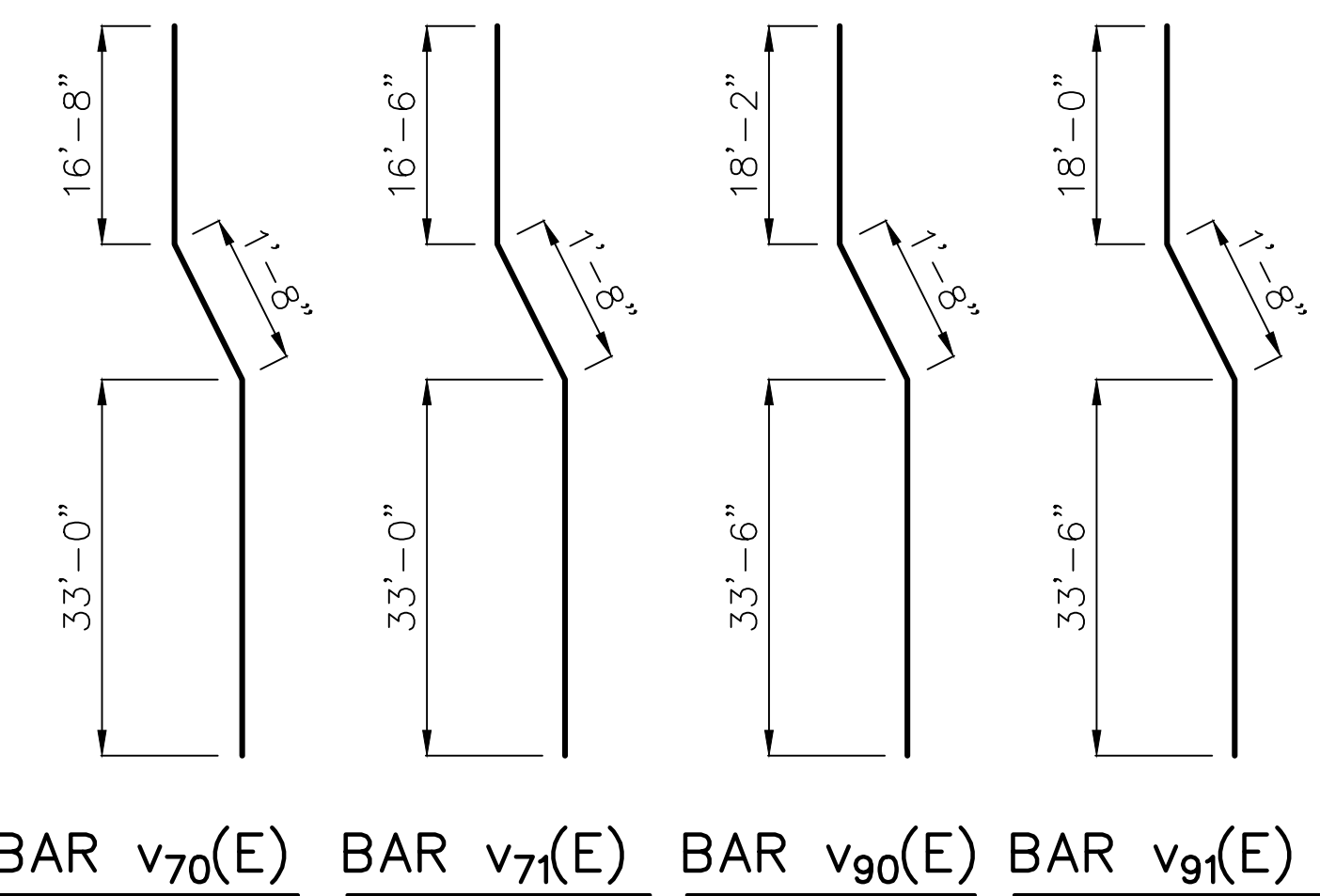


**PIER 07 BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
v70(E)	9	#10	51'-4"	~
v71(E)	9	#10	51'-2"	~
s70(E)	1	#4	9'-7"	○
s71(E)	1	#4	11'-2"	○
s72(E)	1	#4	12'-9"	○
s73(E)	1	#4	8'-7"	○
* sp70(E)	1	#4	15'-0"	⋈
* sp71(E)	1	#4	33'-2"	⋈
Reinforcement Bars, Epoxy Coated		Pound	4,890	
High Strength High Performance Concrete Structures		Cu Yd	4.2	
Permanent Casing		Foot	26	
Drilled Shaft in Soil		Cu Yd	26.6	

**PIER 09 BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
v90(E)	10	#11	53'-4"	~
v91(E)	9	#11	53'-2"	~
s90(E)	1	#4	9'-7"	○
s91(E)	1	#4	11'-2"	○
s92(E)	1	#4	12'-9"	○
s93(E)	1	#4	8'-7"	○
* sp90(E)	1	#4	16'-6"	⋈
* sp91(E)	1	#4	32'-3"	⋈
Reinforcement Bars, Epoxy Coated		Pound	6,310	
High Strength High Performance Concrete Structures		Cu Yd	4.6	
Permanent Casing		Foot	26	
Drilled Shaft in Soil		Cu Yd	26.9	



Maximum Bearing Pressure = 12.6 ksf

\* Length is height of spiral.

\*\* Zap Screwlok Epoxy Series, or approved equivalent.

\*\*\* Zap T-Lok, or approved equivalent

Mechanical terminator cost included with Reinforcement Bars, Epoxy Coated.

**Note:**

- When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.
- For Crosshole Sonic Logging and typical bearing orientation details, see sheet S-61 of S-87

SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: J. MASI  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

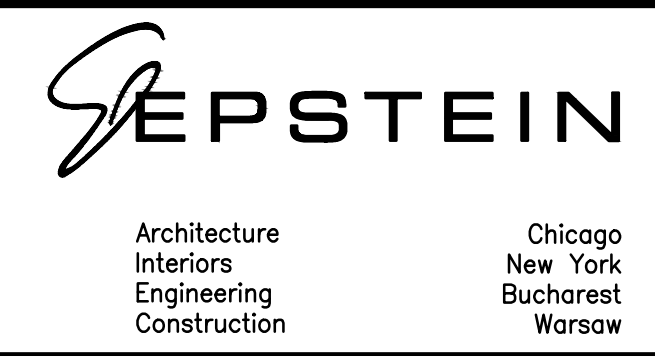
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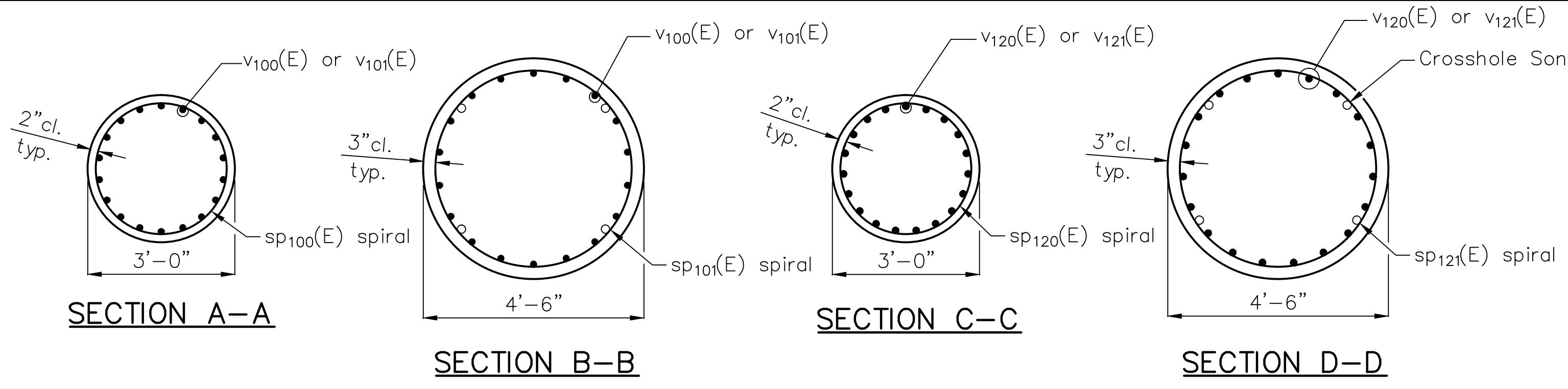


ADDISON UNDERBRIDGE TRAIL CONNECTION FROM CLARK PARK TO CALIFORNIA PARK STRUCTURE NO. 016-P025

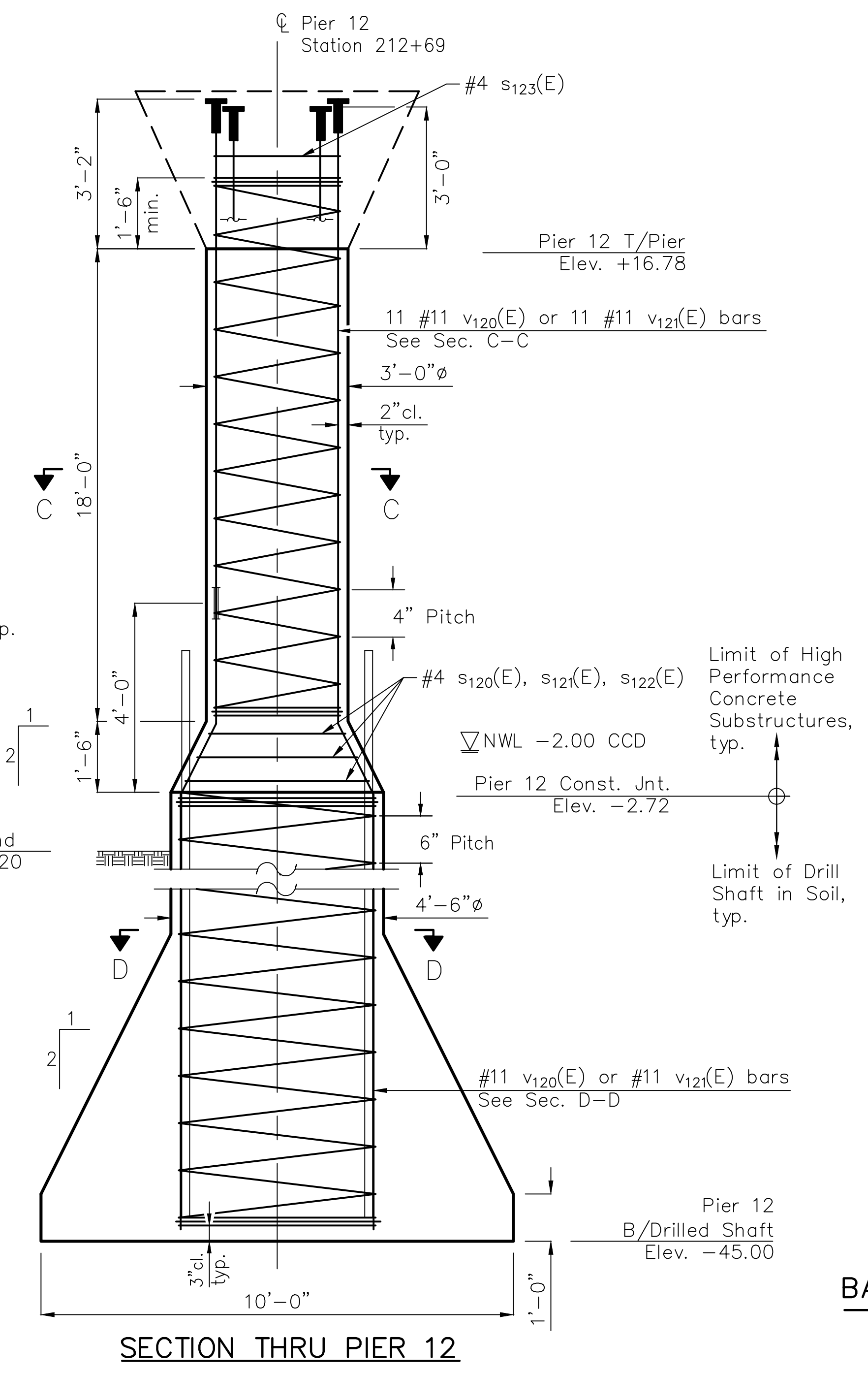
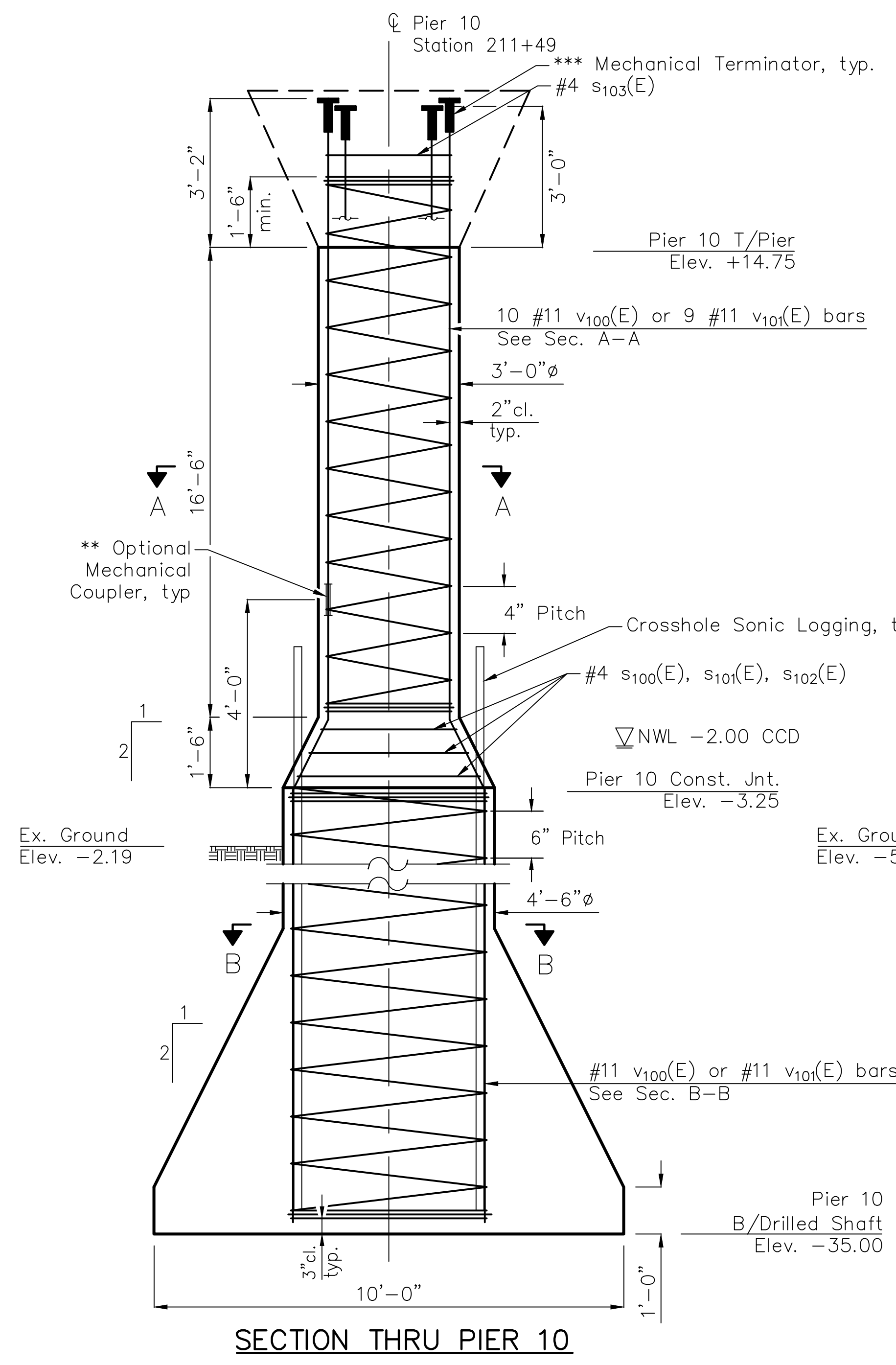
FIXED PIERS 7 AND 9

SHEET NO. S-56  
 SHEET 103 OF 158  
 REVISION





**BARS**  
S100(E), S101(E), S102(E), S103(E)  
S120(E), S121(E), S122(E), S123(E)

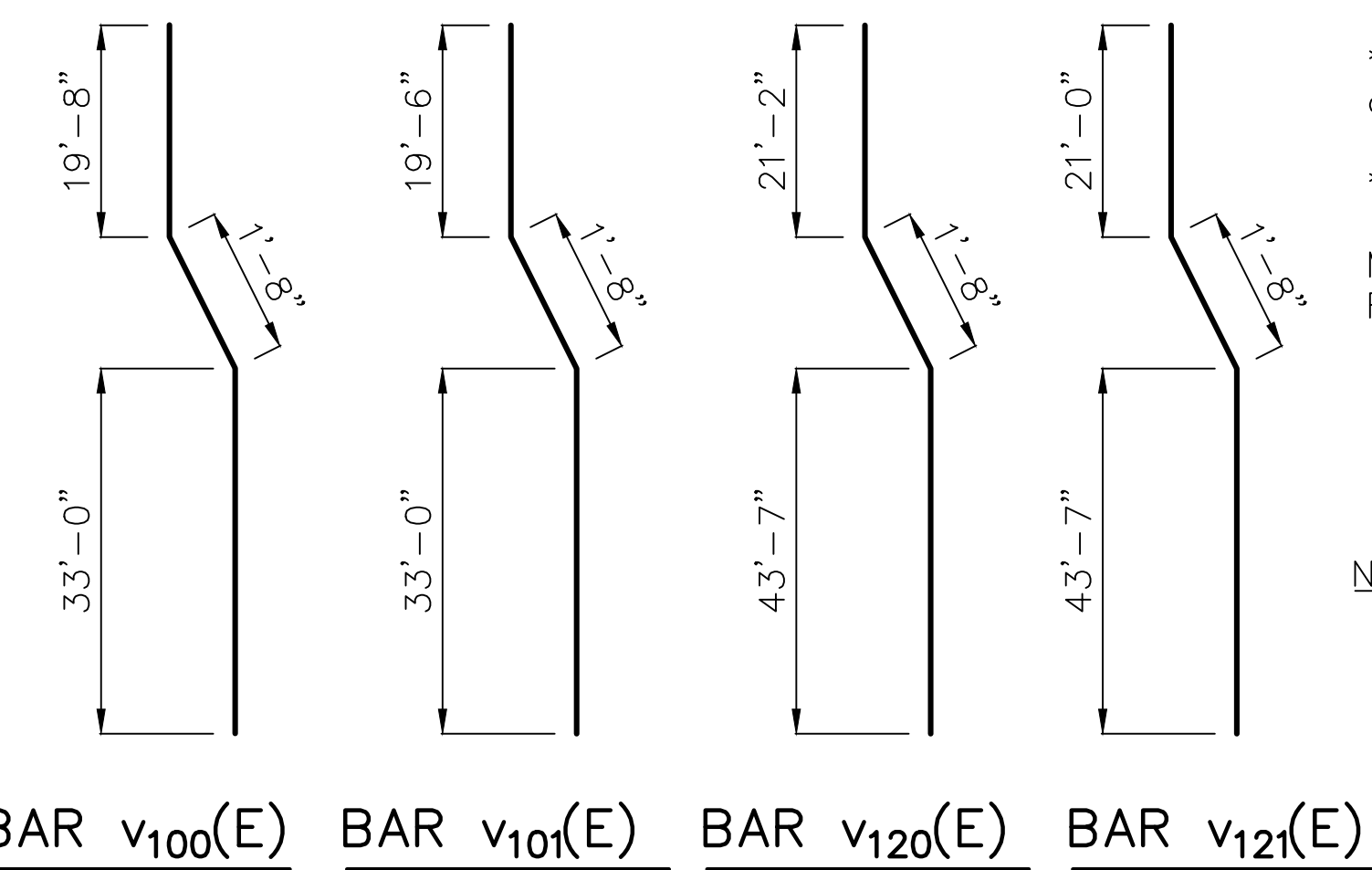


**PIER 10  
BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
v100(E)	10	#11	54'-4"	—
v101(E)	9	#11	54'-2"	—
s100(E)	1	#4	9'-7"	○
s101(E)	1	#4	11'-2"	○
s102(E)	1	#4	12'-9"	○
s103(E)	1	#4	8'-7"	○
* SP100(E)	1	#4	18'-0"	▩
* SP101(E)	1	#4	31'-9"	▩
Reinforcement Bars, Epoxy Coated		Pound	6,430	
High Strength High Performance Concrete Structures		Cu Yd	5	
Permanent Casing		Foot	26	
Drilled Shaft in Soil		Cu Yd	26.6	

**PIER 12  
BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
v120(E)	11	#11	66'-5"	—
v121(E)	11	#11	66'-3"	—
s120(E)	1	#4	9'-7"	○
s121(E)	1	#4	11'-2"	○
s122(E)	1	#4	12'-9"	○
s123(E)	1	#4	8'-7"	○
* SP120(E)	1	#4	19'-6"	▩
* SP121(E)	1	#4	42'-4"	▩
Reinforcement Bars, Epoxy Coated		Pound	8,910	
High Strength High Performance Concrete Structures		Cu Yd	5.4	
Permanent Casing		Foot	36	
Drilled Shaft in Soil		Cu Yd	32.8	



Maximum Bearing Pressure = 12.6 ksf  
 \* Length is height of spiral.  
 \*\* Zap Screwlok Epoxy Series, or approved equivalent.  
 \*\*\* Zap T-Lok, or approved equivalent  
 Mechanical terminator cost included with Reinforcement Bars, Epoxy Coated.  
**Note:**  
 1. When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.  
 2. For Crosshole Sonic Logging and typical bearing orientation details, see sheet S-61 of S-87

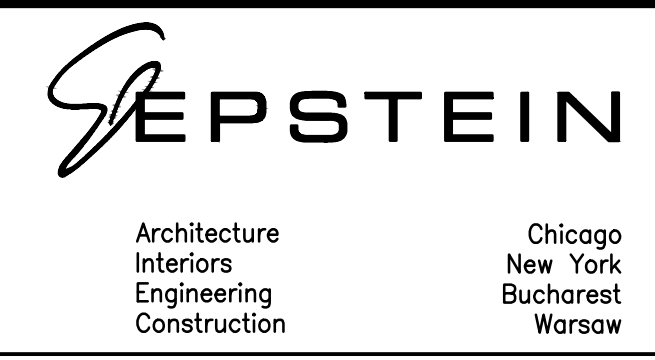
SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: J. MASI  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
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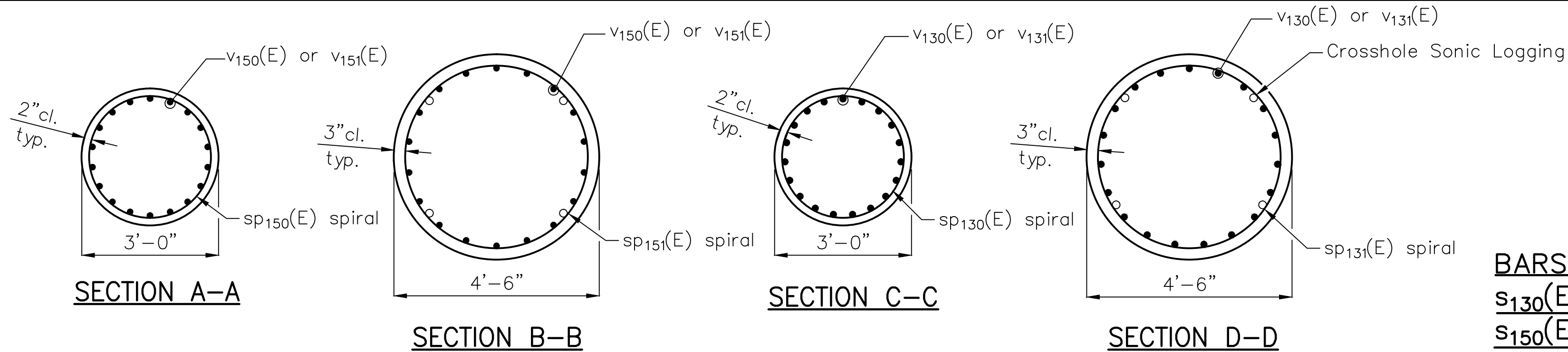


ADDISON UNDERBRIDGE TRAIL CONNECTION FROM CLARK PARK TO CALIFORNIA PARK STRUCTURE NO. 016-P025

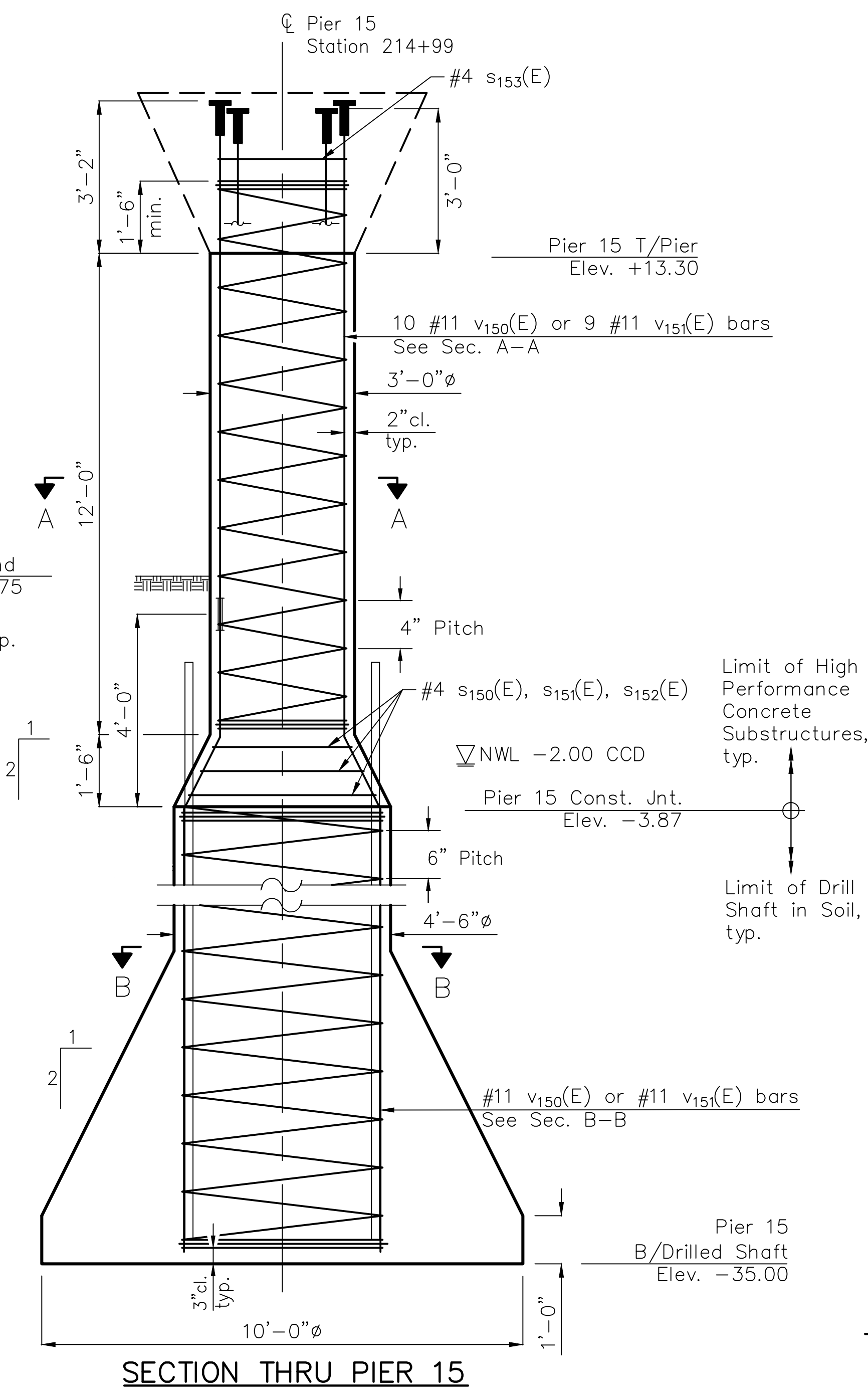
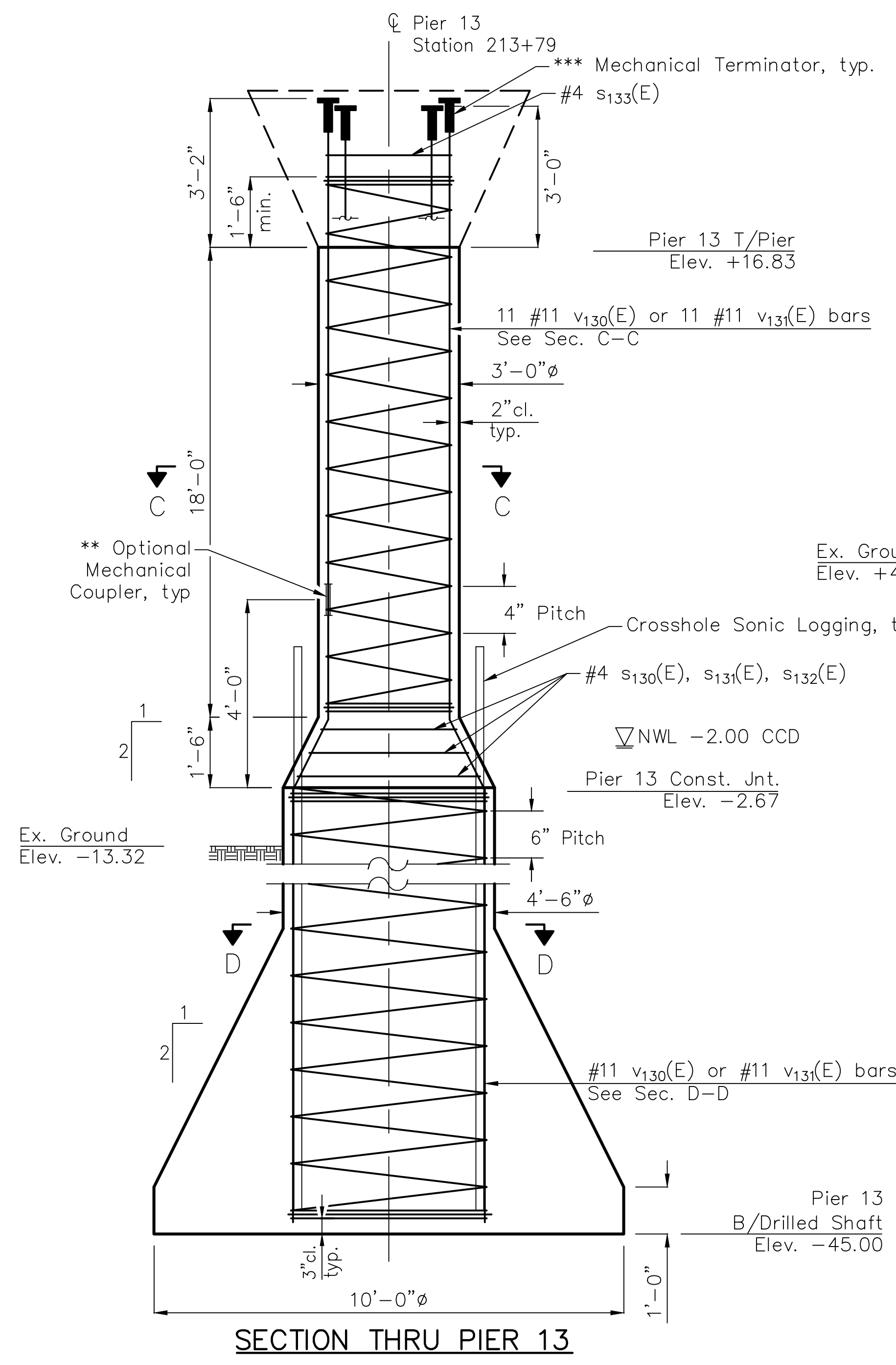
FIXED PIERS 10 AND 12

SHEET NO. S-57  
 SHEET 104 OF 158  
 REVISION





**BARS**  
S130(E), S131(E), S132(E), S133(E)  
S150(E), S151(E), S152(E), S153(E)

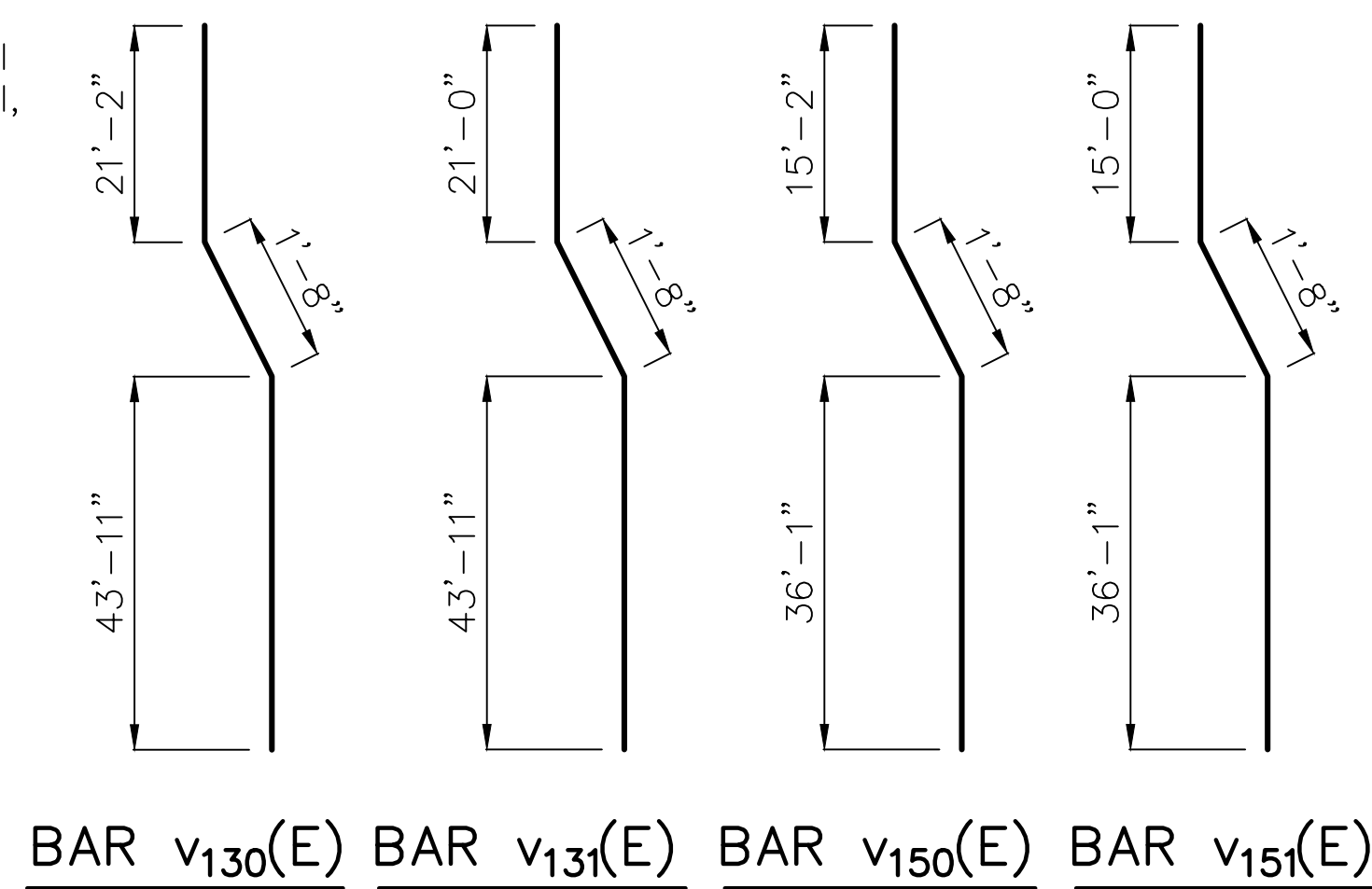


**PIER 13  
BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
v130(E)	11	#11	66'-9"	—
v131(E)	11	#11	66'-7"	—
s130(E)	1	#4	9'-7"	○
s131(E)	1	#4	11'-2"	○
s132(E)	1	#4	12'-9"	○
s133(E)	1	#4	8'-7"	○
* SP130(E)	1	#4	19'-6"	⌘
* SP131(E)	1	#4	42'-4"	⌘
Reinforcement Bars, Epoxy Coated			Pound	8,920
High Strength High Performance Concrete Structures			Cu Yd	5.4
Permanent Casing			Foot	36
Drilled Shaft in Soil			Cu Yd	32.9

**PIER 15  
BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
v150(E)	10	#11	55'-11"	—
v151(E)	9	#11	55'-9"	—
s150(E)	1	#4	9'-7"	○
s151(E)	1	#4	11'-2"	○
s152(E)	1	#4	12'-9"	○
s153(E)	1	#4	8'-7"	○
* SP150(E)	1	#4	13'-6"	⌘
* SP151(E)	1	#4	31'-2"	⌘
Reinforcement Bars, Epoxy Coated			Pound	6,200
High Strength High Performance Concrete Structures			Cu Yd	3.8
Permanent Casing			Foot	29
Drilled Shaft in Soil			Cu Yd	28.4



Maximum Bearing Pressure = 12.6 ksf

\* Length is height of spiral.

\*\* Zap Screwlok Epoxy Series, or approved equivalent.

\*\*\* Zap T-Lok, or approved equivalent

Mechanical terminator cost included with Reinforcement Bars, Epoxy Coated.

**Note:**

- When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.
- For Crosshole Sonic Logging and typical bearing orientation details, see sheet S-61 of S-87

SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: J. MASI  
 CHECKED BY: R. VARMA  
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 DATE: 8/12/2016  
 SCALE: N.T.S.

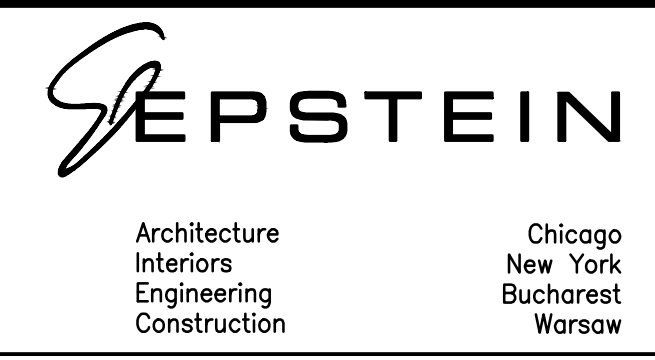
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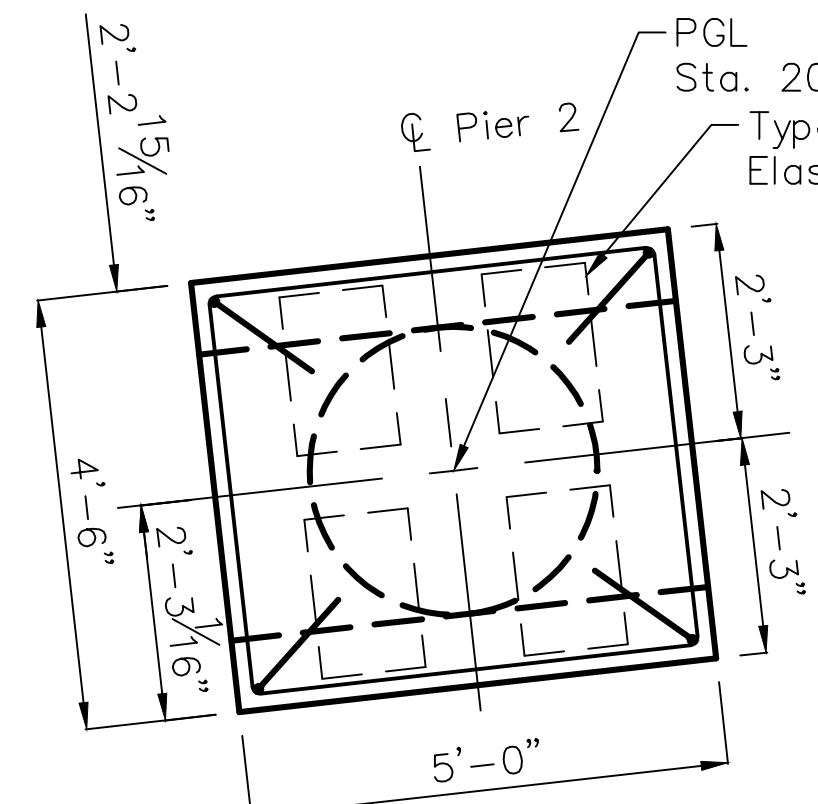
ADDISON UNDERBRIDGE TRAIL CONNECTION FROM CLARK PARK TO CALIFORNIA PARK STRUCTURE NO. 016-P025

FIXED PIERS 13 AND 15

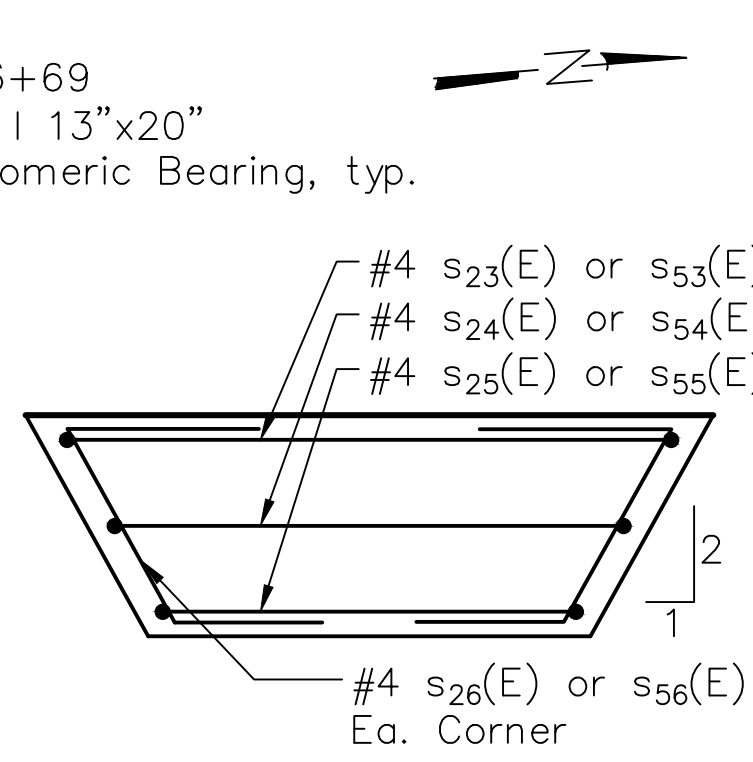
SHEET NO. S-58  
 SHEET 105 OF 158  
 REVISION



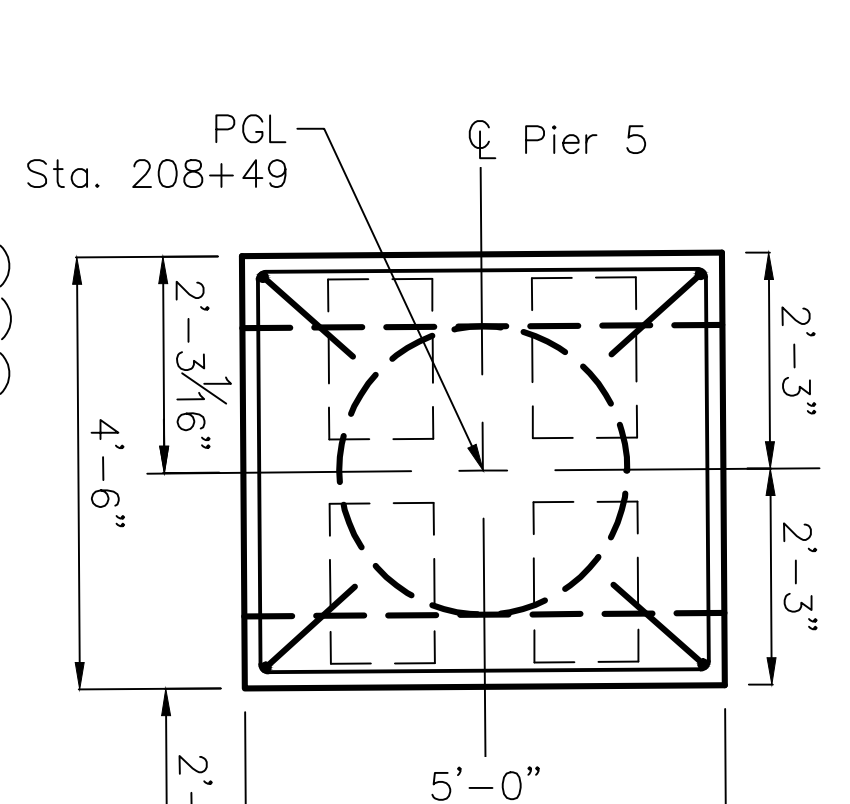
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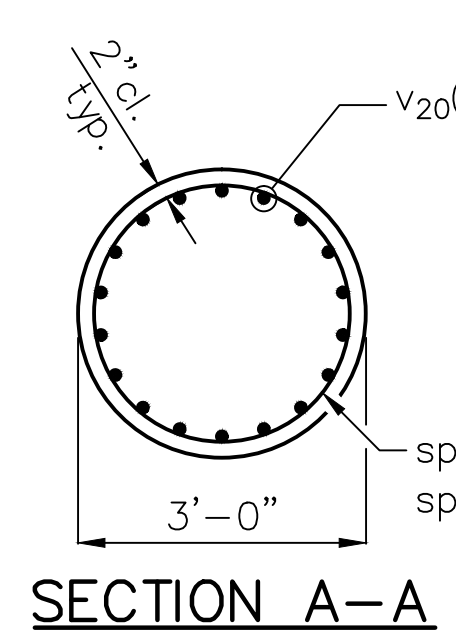
**PIER 2 CAP PLAN**



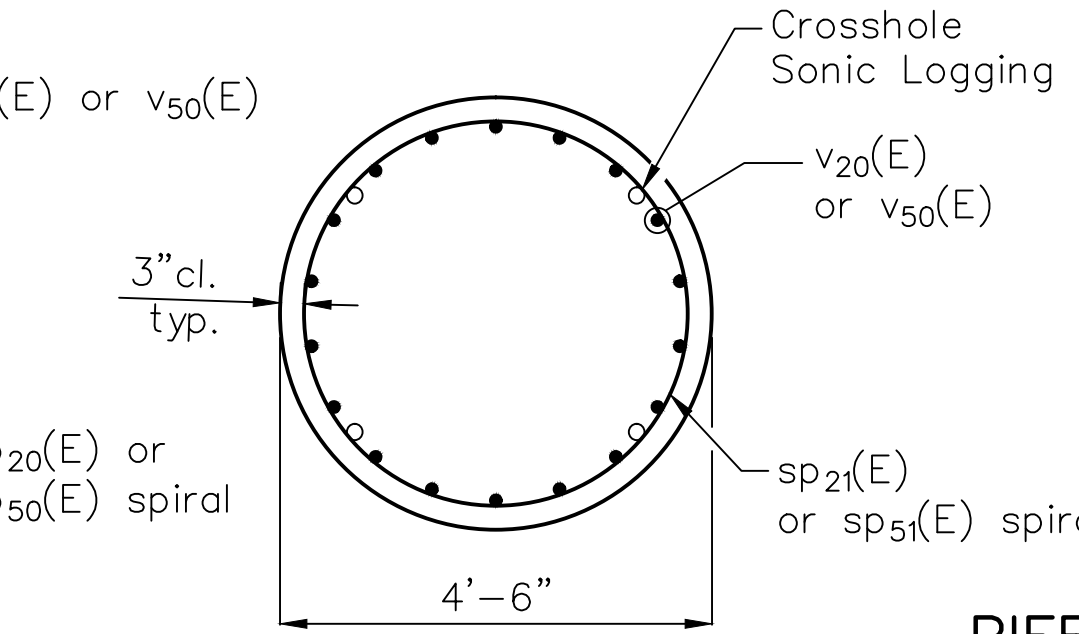
**SECTION C-C**



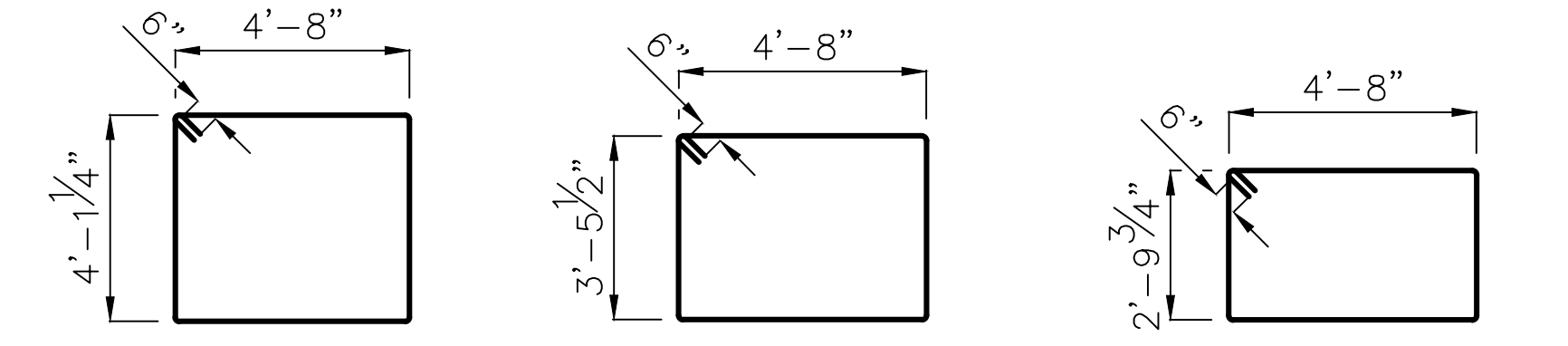
**PIER 5 CAP PLAN**



**SECTION A-A**



**SECTION B-B**



**PIER 2 BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
v20(E)	18	#10	43'-10"	—
s20(E)	1	#4	9'-7"	○
s21(E)	1	#4	11'-2"	○
s22(E)	1	#4	12'-9"	○
s23(E)	1	#4	18'-7"	□
s24(E)	1	#4	17'-3"	□
s25(E)	1	#4	16'-0"	□
s26(E)	4	#4	3'-8"	⌋
* sp20(E)	1	#4	9'-0"	⌋
* sp21(E)	1	#4	32'-8"	⌋
Reinforcement Bars, Epoxy Coated			Pound	4,280
High Strength High Performance Concrete Structures			Cu Yd	3.7
Permanent Casing			Foot	27
Drilled Shaft in Soil			Cu Yd	27.1

**PIER 5 BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
v50(E)	18	#10	46'-10"	—
s50(E)	1	#4	9'-7"	○
s51(E)	1	#4	11'-2"	○
s52(E)	1	#4	12'-9"	○
s53(E)	1	#4	18'-7"	□
s54(E)	1	#4	17'-3"	□
s55(E)	1	#4	16'-0"	□
s56(E)	4	#4	3'-8"	⌋
* sp50(E)	1	#4	12'-0"	⌋
* sp51(E)	1	#4	32'-8"	⌋
Reinforcement Bars, Epoxy Coated			Pound	4,570
High Strength High Performance Concrete Structures			Cu Yd	4.5
Permanent Casing			Foot	27
Drilled Shaft in Soil			Cu Yd	27.2

Maximum Bearing Pressure = 12.6 ksf

\* Length is height of spiral.

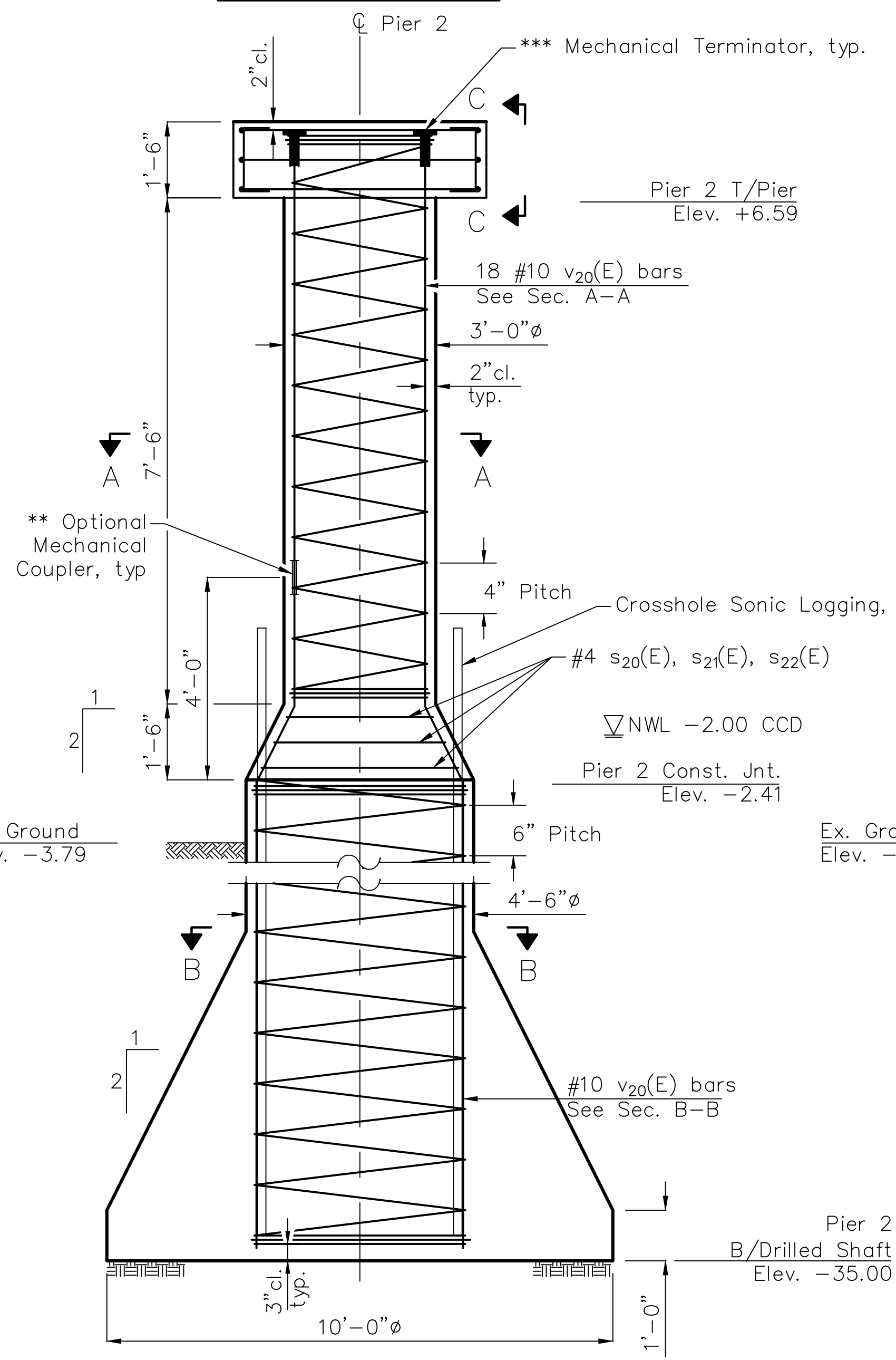
\*\* Zap Screwlok Epoxy Series, or approved equivalent.

\*\*\* Zap T-Lok, or approved equivalent

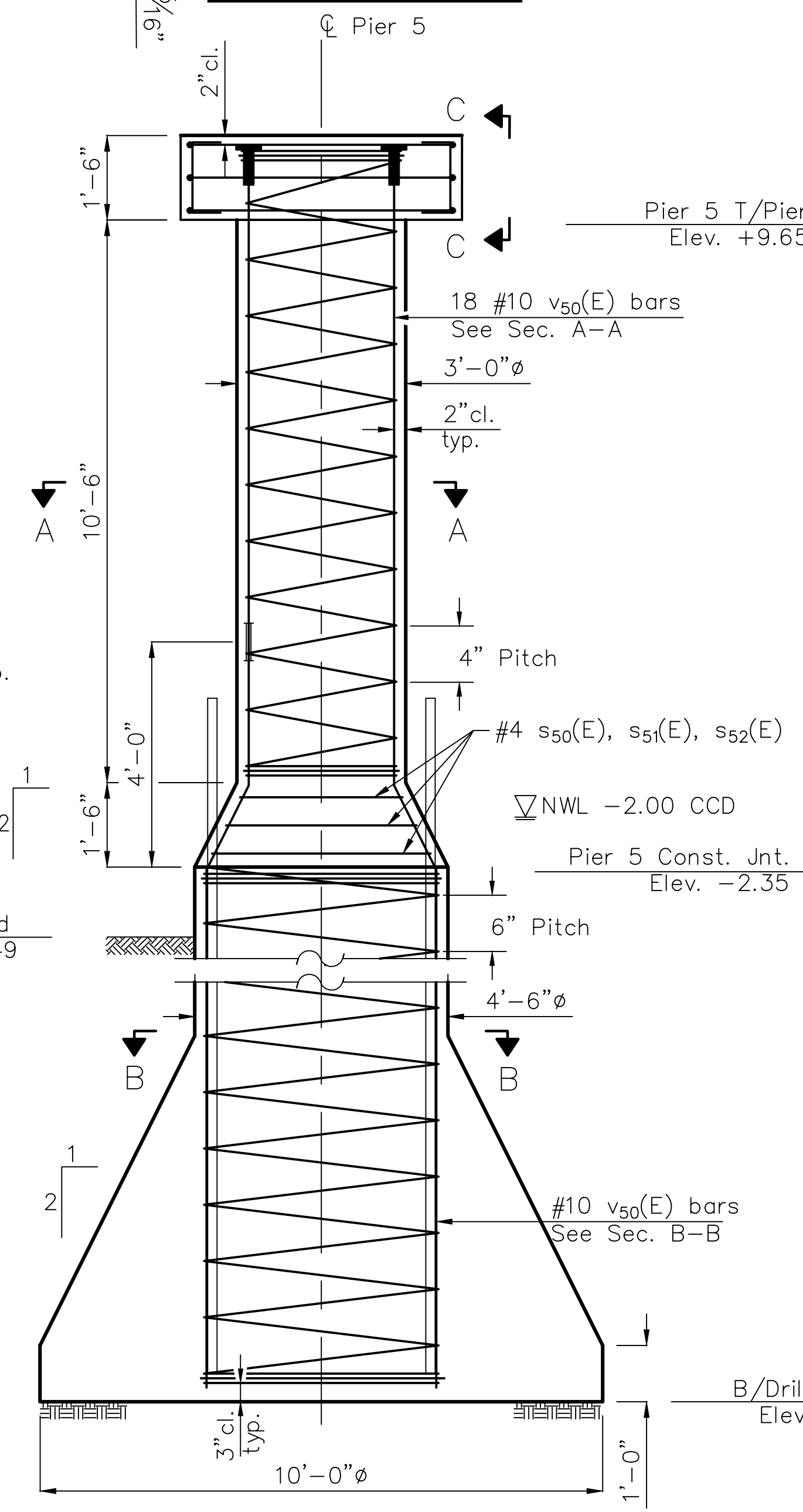
Mechanical terminator cost included with Reinforcement Bars, Epoxy Coated.

**Notes:**

- When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook
- For typical Permanent Casing, see sheet S-61 of S-87.
- For bearing details, see sheet S-49 of S-87.
- For Crosshole Sonic Logging and typical bearing orientation details, see sheet S-61 of S-87.



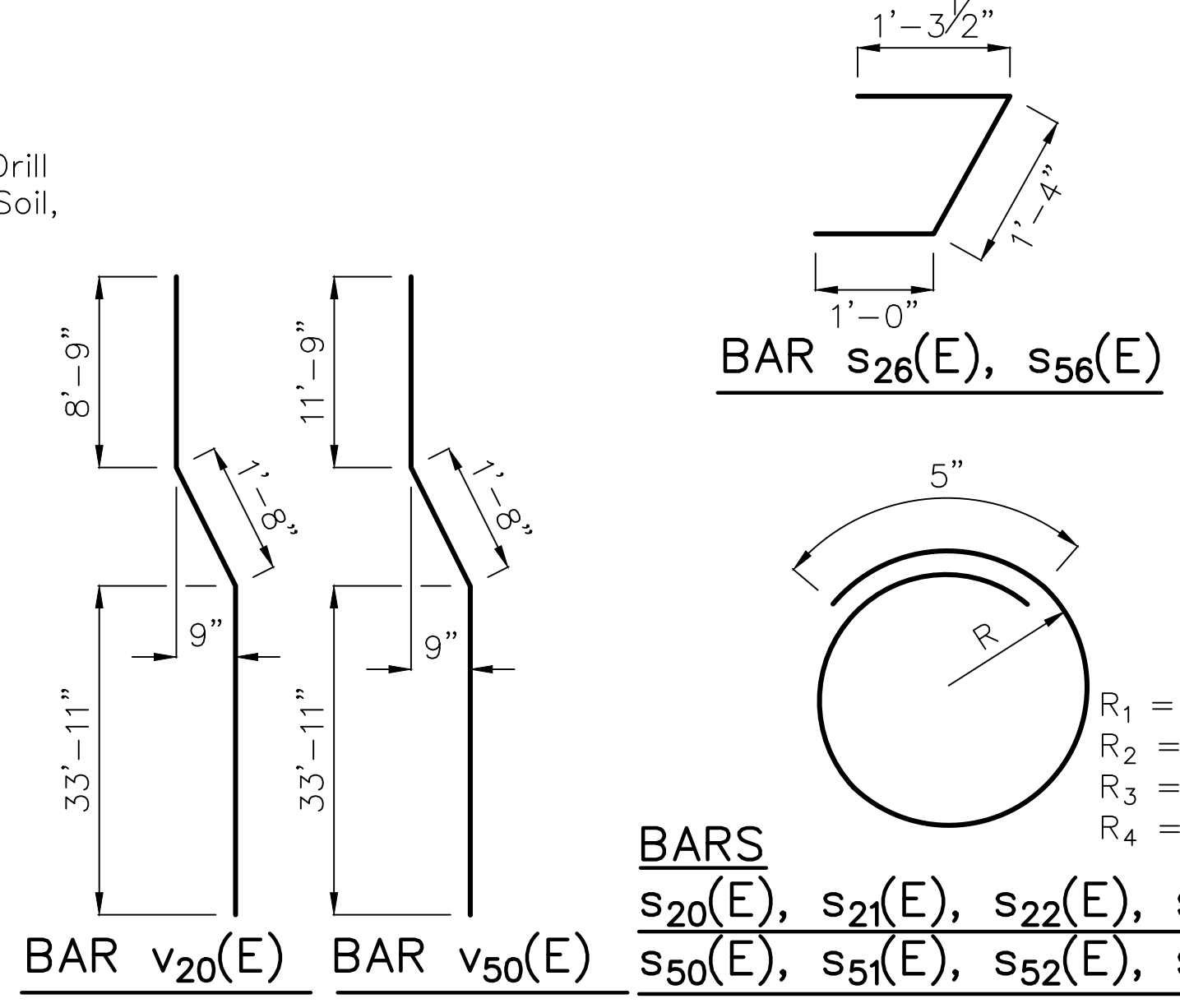
**SECTION THRU PIER 2**



**SECTION THRU PIER 5**

Limit of High Performance Concrete Substructures, typ.

Limit of Drill Shaft in Soil, typ.



**BARS**  
 s20(E), s21(E), s22(E), s23(E)  
 s50(E), s51(E), s52(E), s53(E)

SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: J. MASI  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

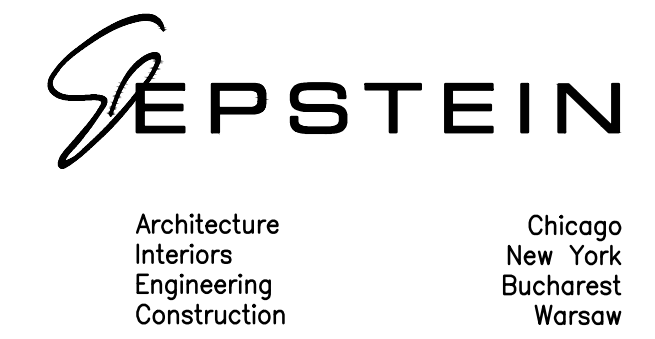
NO. DATE REVISIONS/ISSUANCES

8/12/16 ISSUED FOR FINAL  
 5/6/16 ISSUED FOR FINAL  
 6/05/15 ISSUED FOR FINAL REVIEW

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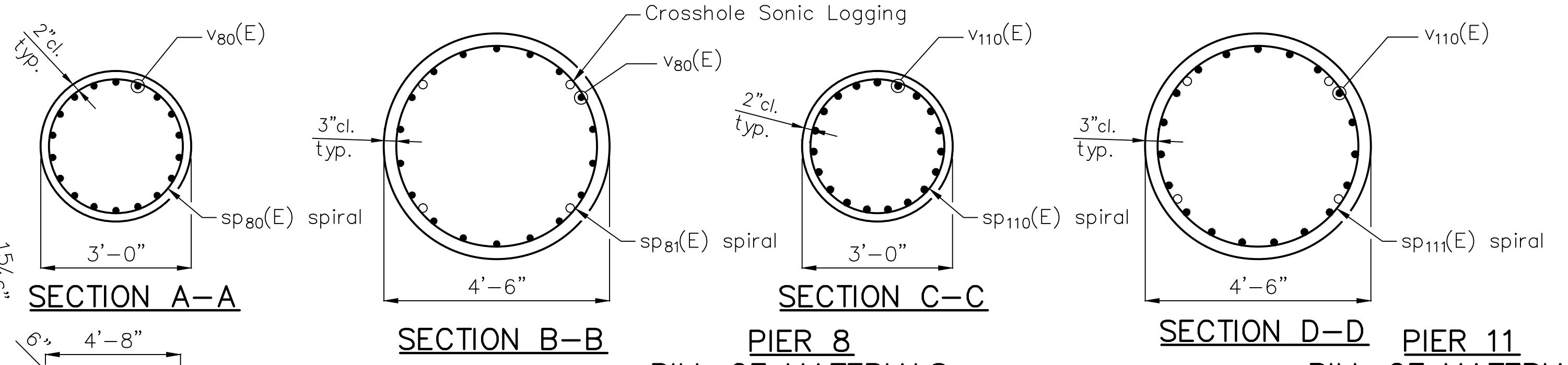
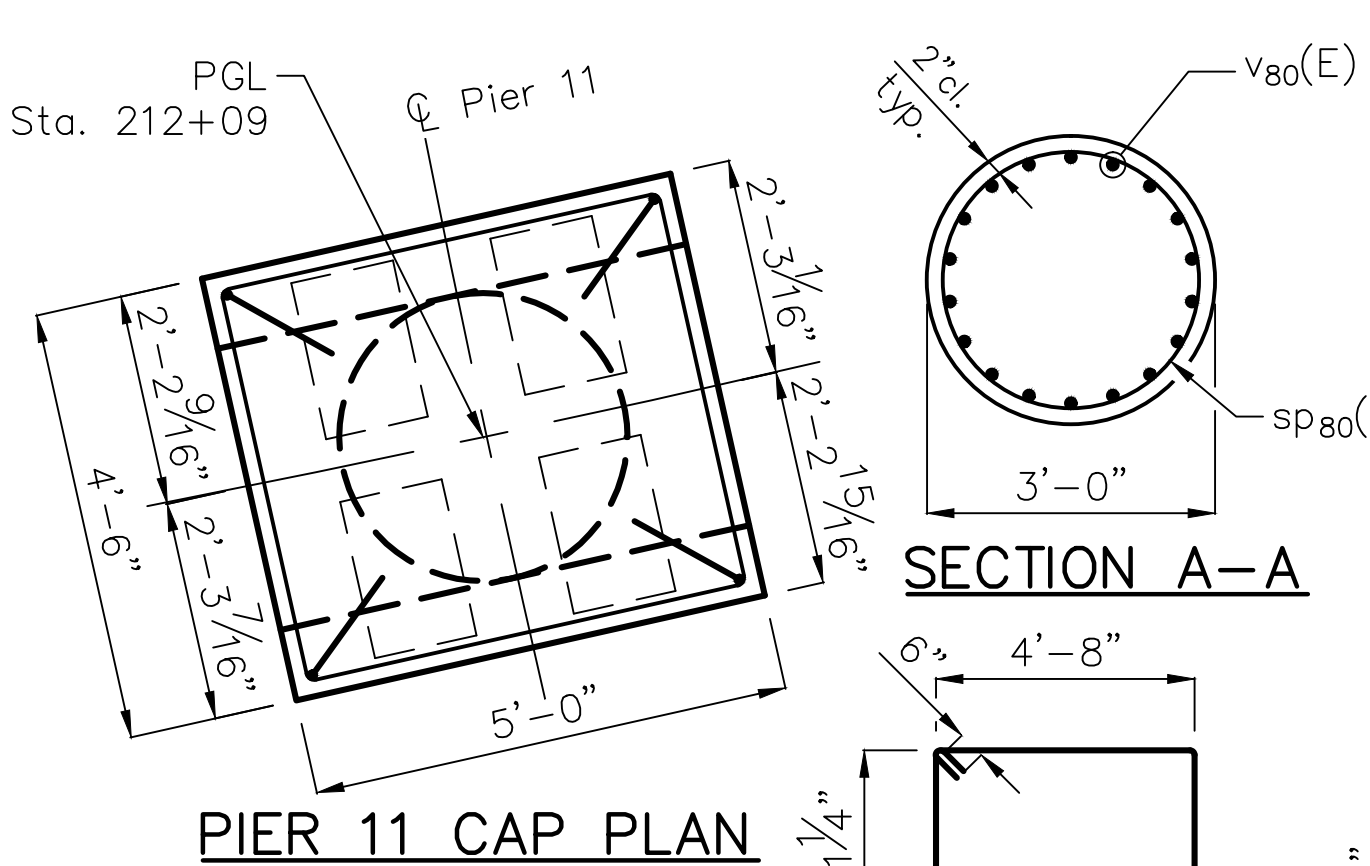
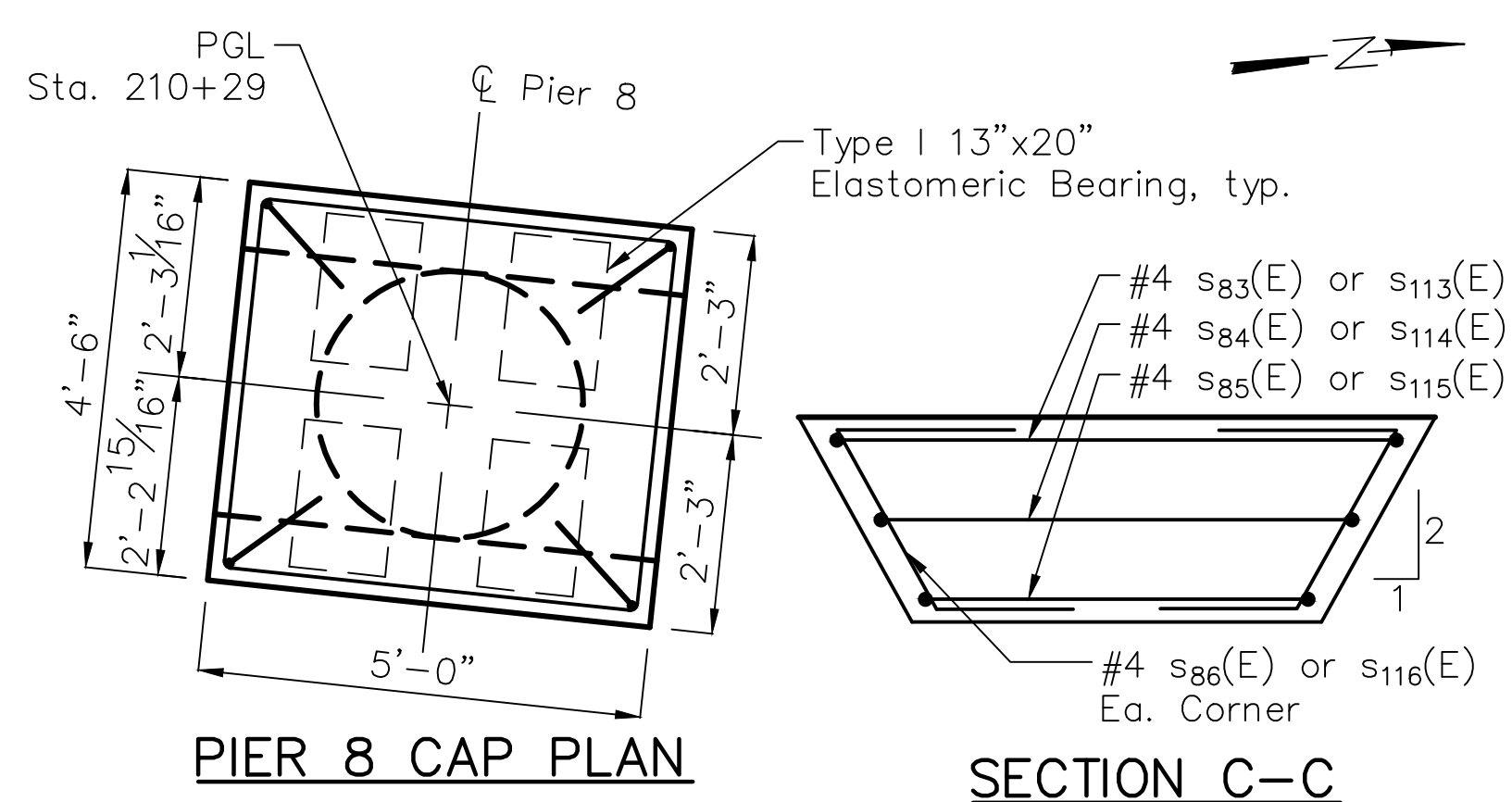


ADDISON UNDERBRIDGE TRAIL CONNECTION FROM CLARK PARK TO CALIFORNIA PARK STRUCTURE NO. 016-P025

DOUBLE EXPANSION PIERS 2 AND 5

SHEET NO. S-59  
 SHEET 106 OF 158  
 REVISION



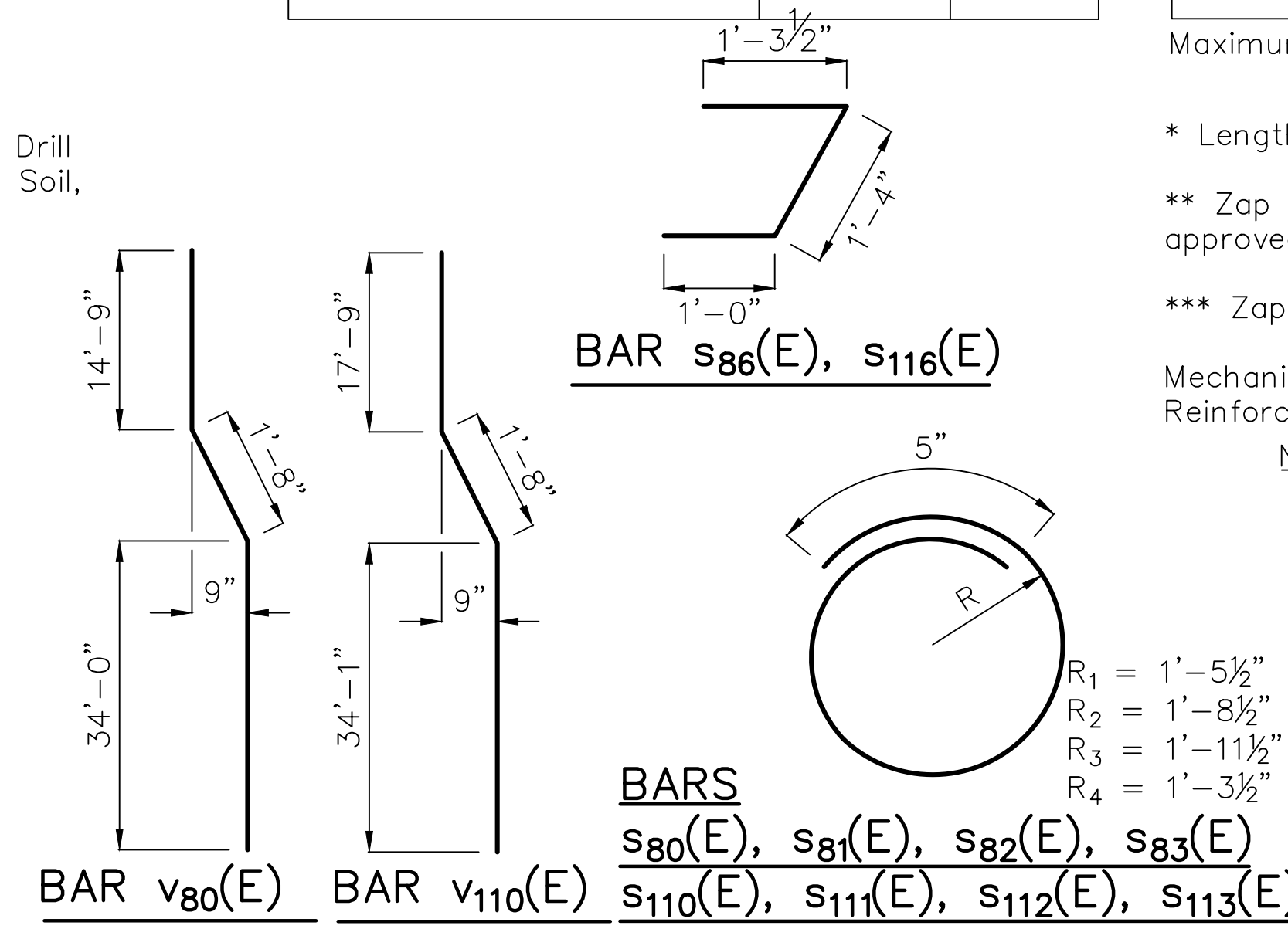
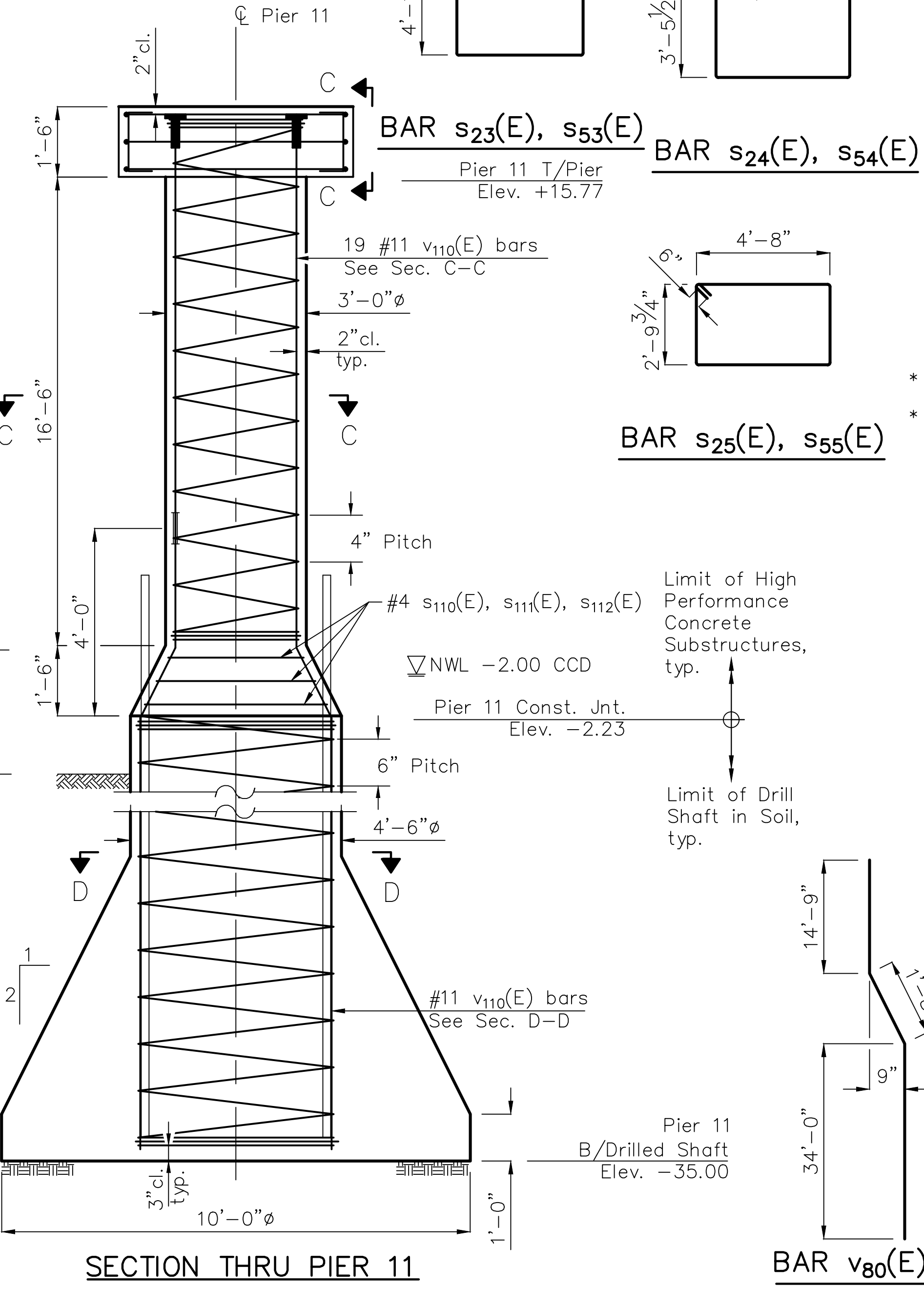
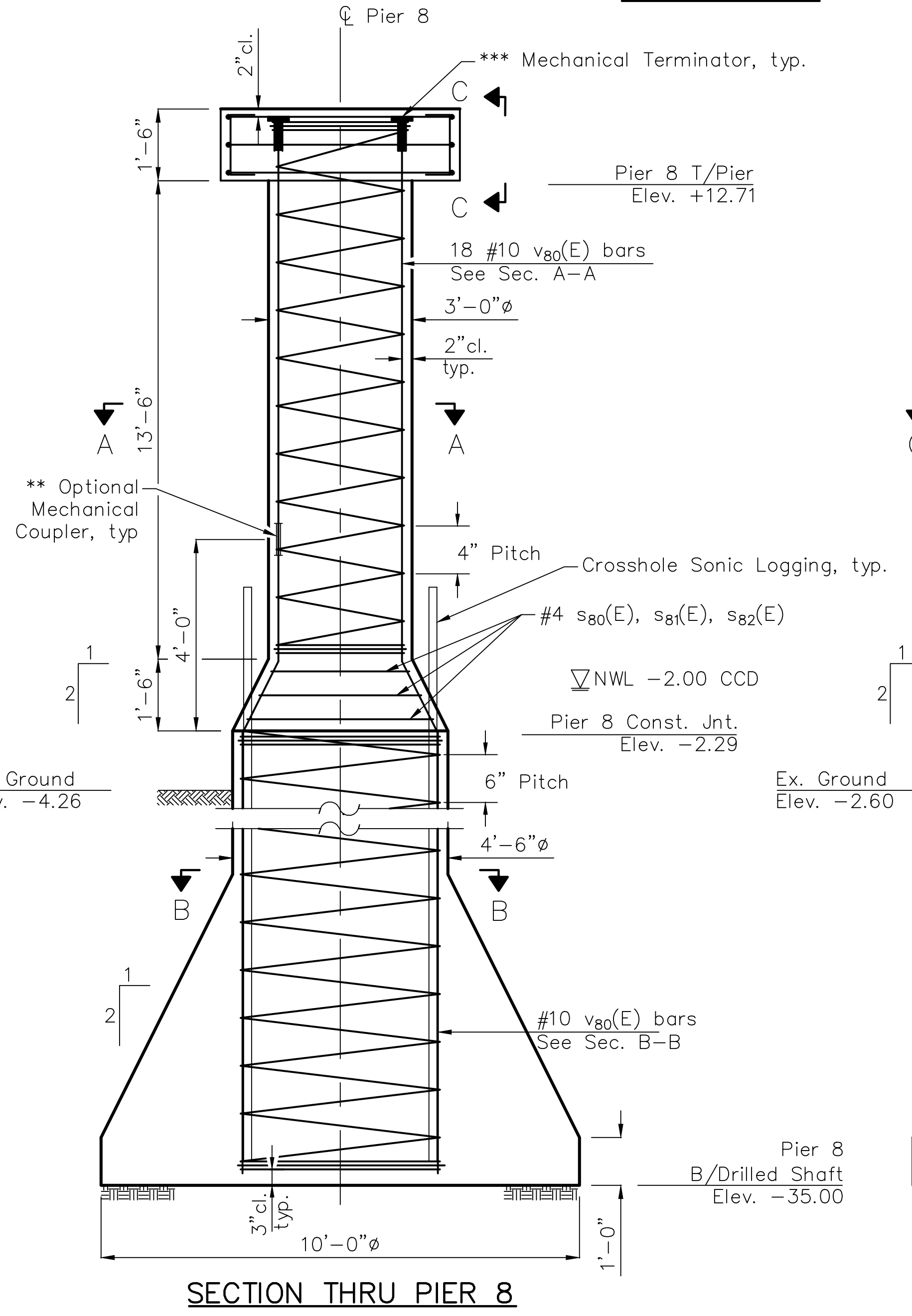


**PIER 8  
BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
v80(E)	18	#10	50'-5"	—
s80(E)	1	#4	9'-7"	○
s81(E)	1	#4	11'-2"	○
s82(E)	1	#4	12'-9"	○
s83(E)	1	#4	18'-7"	□
s84(E)	1	#4	17'-3"	□
s85(E)	1	#4	16'-0"	□
s86(E)	4	#4	3'-8"	⌋
* sp80(E)	1	#4	15'-0"	⌋
* sp81(E)	1	#4	32'-9"	⌋
Reinforcement Bars, Epoxy Coated		Pound	4,860	
High Strength High Performance Concrete Structures		Cu Yd	5.2	
Permanent Casing		Foot	27	
Drilled Shaft in Soil		Cu Yd	27.2	

**PIER 11  
BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
v110(E)	19	#11	53'-6"	—
s110(E)	1	#4	9'-7"	○
s111(E)	1	#4	11'-2"	○
s112(E)	1	#4	12'-9"	○
s113(E)	1	#4	18'-7"	□
s114(E)	1	#4	17'-3"	□
s115(E)	1	#4	16'-0"	□
s116(E)	4	#4	3'-8"	⌋
* sp110(E)	1	#4	18'-0"	⌋
* sp111(E)	1	#4	32'-9"	⌋
Reinforcement Bars, Epoxy Coated		Pound	6,400	
High Strength High Performance Concrete Structures		Cu Yd	6	
Permanent Casing		Foot	27	
Drilled Shaft in Soil		Cu Yd	27.2	



Maximum Bearing Pressure = 12.6 ksf

\* Length is height of spiral.

\*\* Zap Screwlok Epoxy Series, or approved equivalent.

\*\*\* Zap T-Lok, or approved equivalent

Mechanical terminator cost included with Reinforcement Bars, Epoxy Coated.

**Notes:**

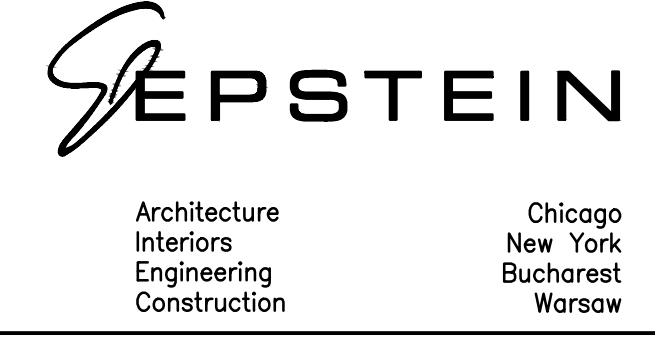
- When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook
- For typical Permanent Casing, see sheet S-61 of S-87.
- For bearing details, see sheet S-49 of S-87.
- For Crosshole Sonic Logging and typical bearing orientation details, see sheet S-61 of S-87.

SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: J. MASI  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
 CLARK PARK TO CALIFORNIA PARK  
 STRUCTURE NO. 016-P025

SHEET NO.  
 S-60  
 SHEET 107 OF 158



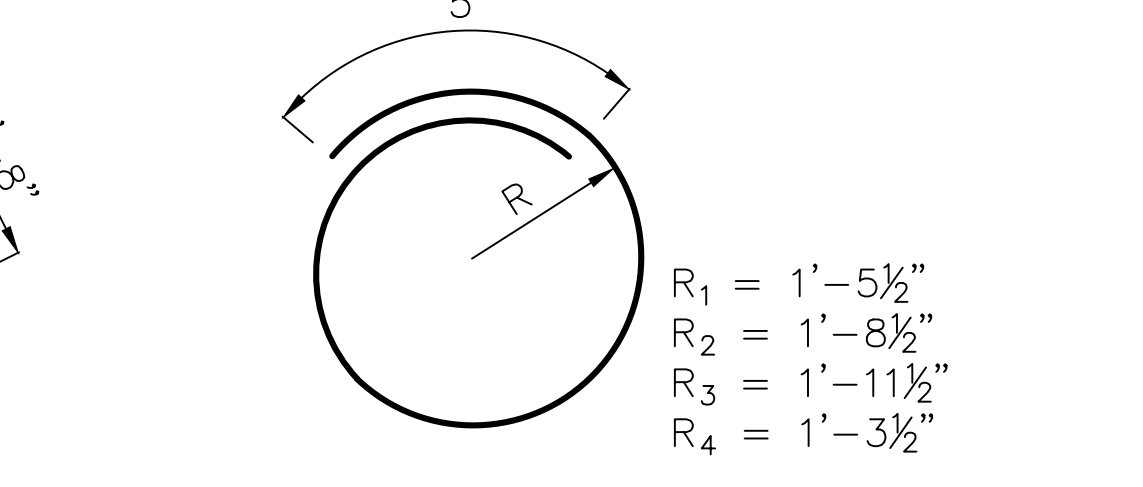
**PIER 14  
BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
v140(E)	19	#11	63'-10"	
s140(E)	1	#4	9'-7"	
s141(E)	1	#4	11'-2"	
s142(E)	1	#4	12'-9"	
s143(E)	1	#4	18'-7"	
s144(E)	1	#4	17'-3"	
s145(E)	1	#4	16'-0"	
s146(E)	4	#4	3'-8"	
sp140(E)	1	#4	18'-0"	
sp141(E)	1	#4	42'-8"	

Material	Unit	Quantity
Reinforcement Bars, Epoxy Coated	Pound	7,570
High Strength High Performance Concrete Structures	Cu Yd	6
Permanent Casing	Foot	37
Drilled Shaft in Soil	Cu Yd	33.1

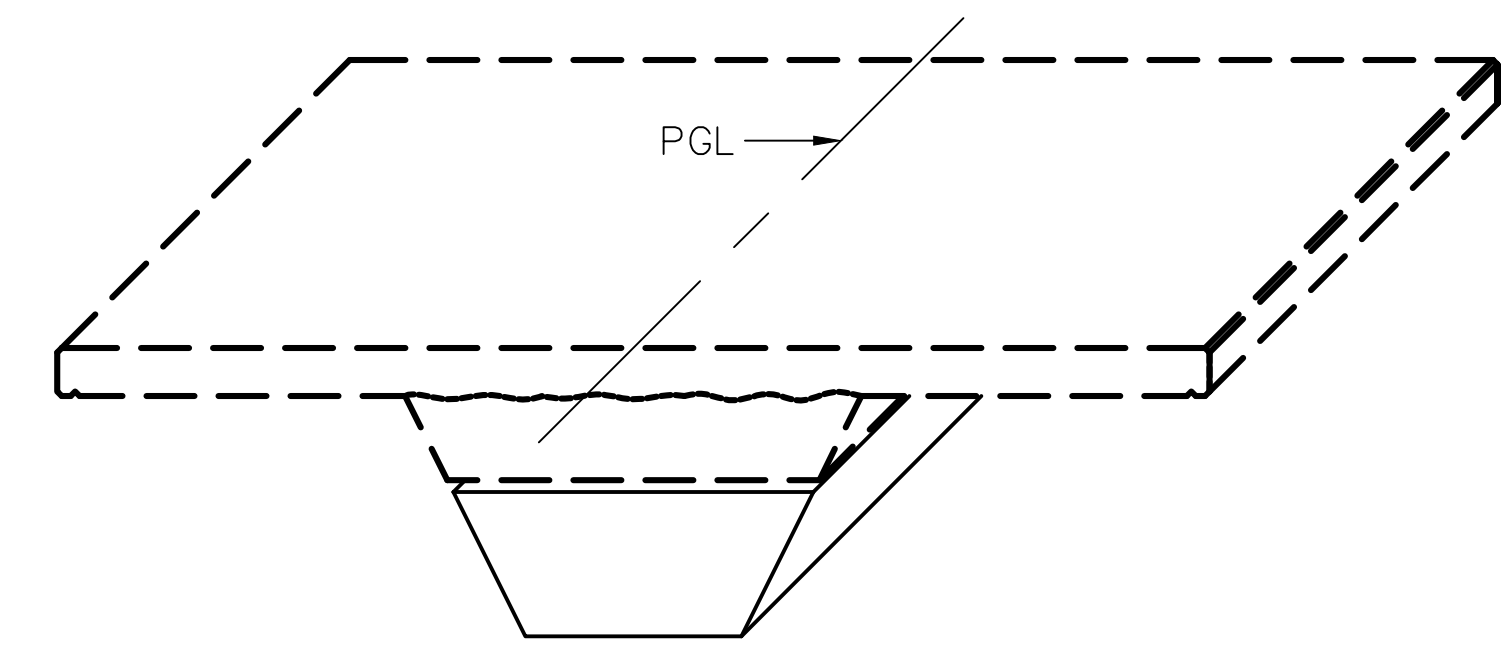
Maximum Bearing Pressure = 12.6 ksf  
 \* Length is height of spiral.  
 \*\* Zap Screwlok Epoxy Series, or approved equivalent.  
 \*\*\* Zap T-Lok, or approved equivalent

Mechanical terminator cost included with Reinforcement Bars, Epoxy Coated.

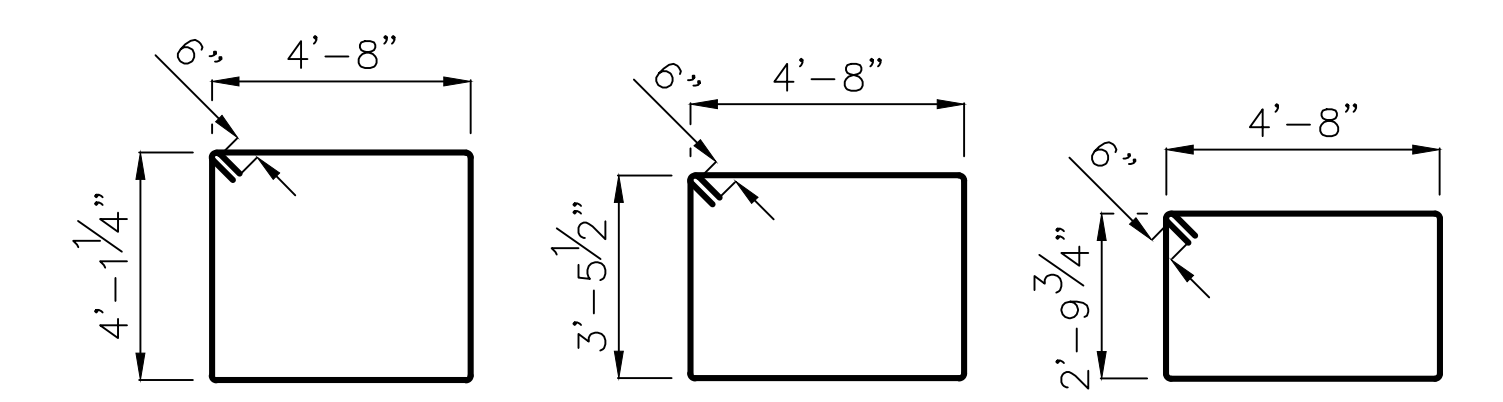


**BARS s140(E), s141(E), s142(E), s143(E)**

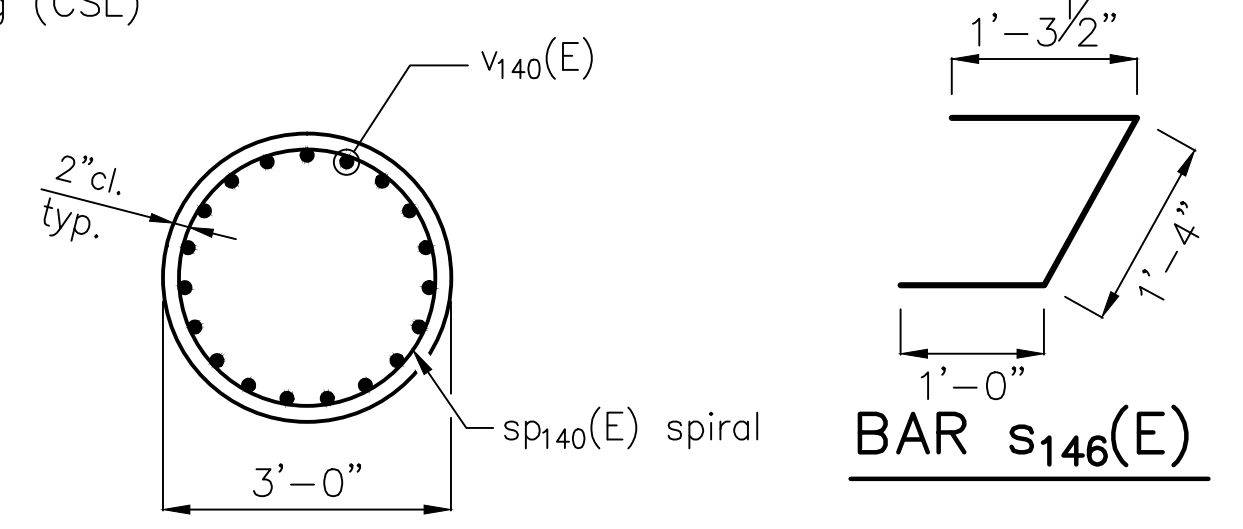
- Notes:
- When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook
  - For typical Permanent Casing, see sheet S-61 of S-87.
  - For bearing details, see sheet S-49 of S-87.
  - For Crosshole Sonic Logging and typical bearing orientation details, see sheet S-61 of S-87



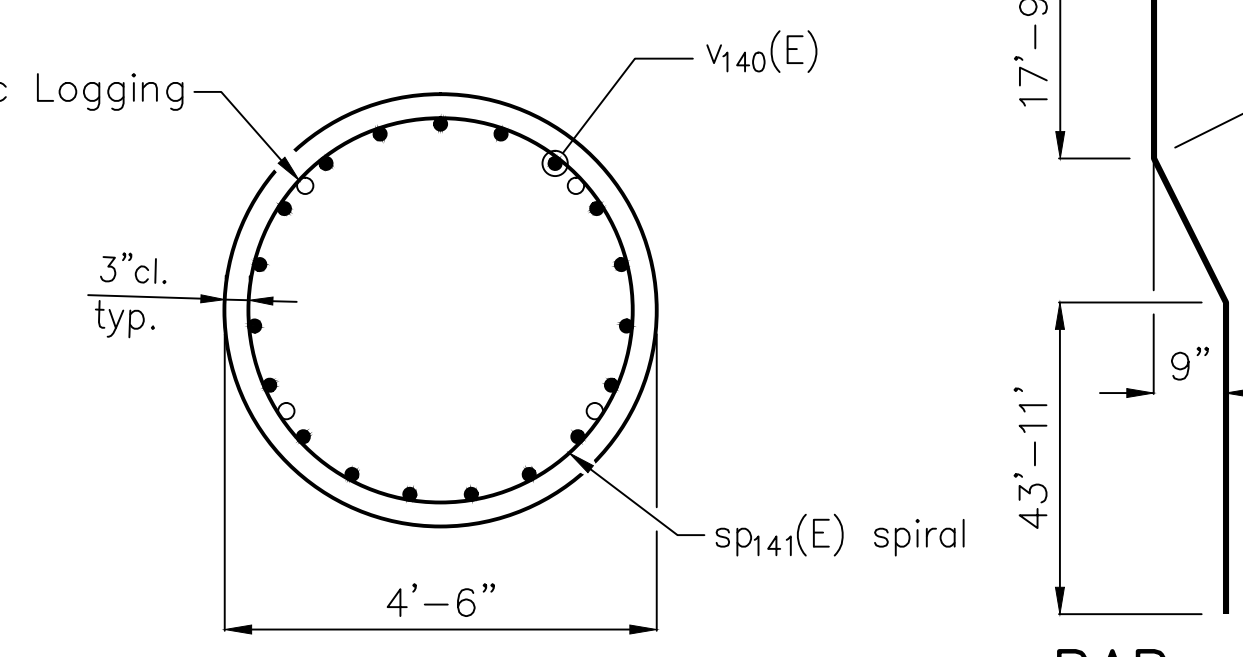
**ISOMETRIC VIEW**  
(typ. for all double expansion piers)



**BAR s143(E) BAR s144(E) BAR s145(E)**



**SECTION A-A**



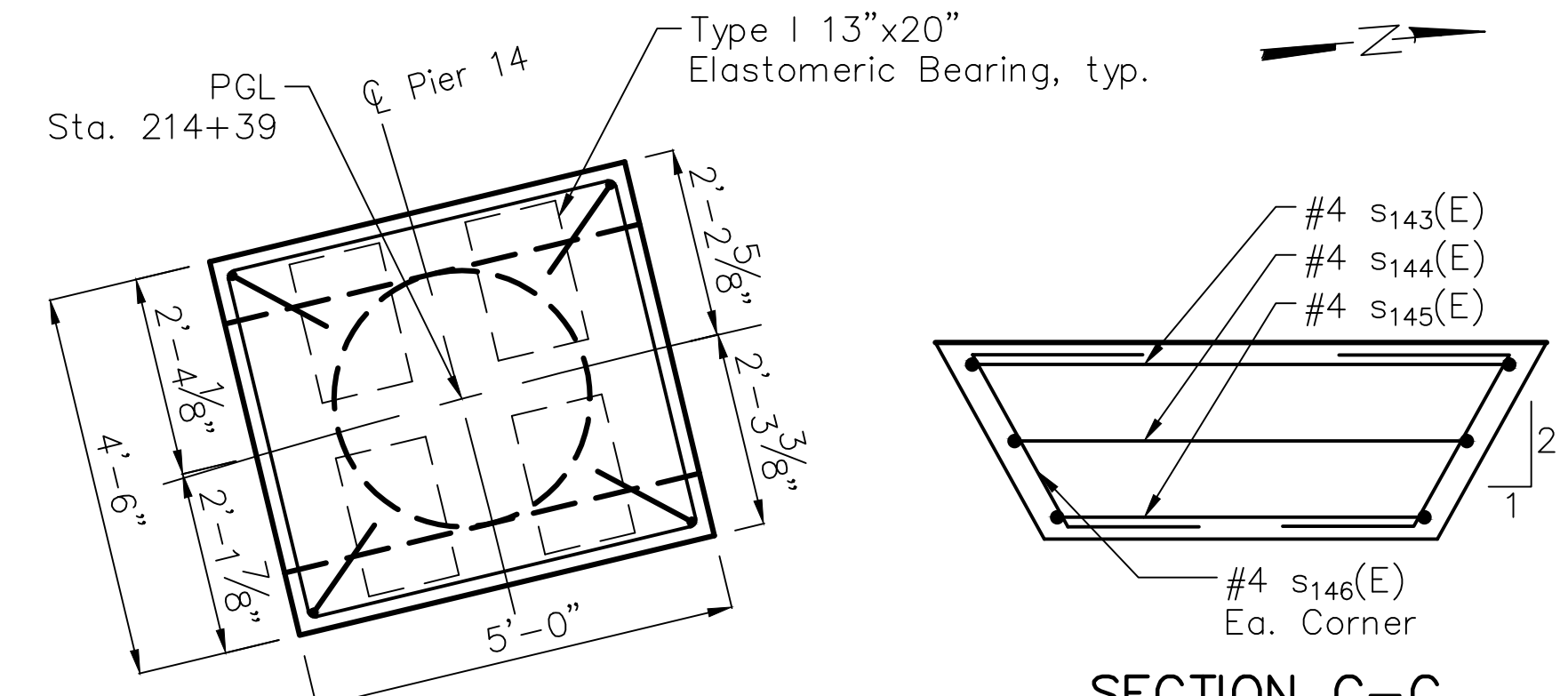
**SECTION B-B**

**BAR v50(E)**

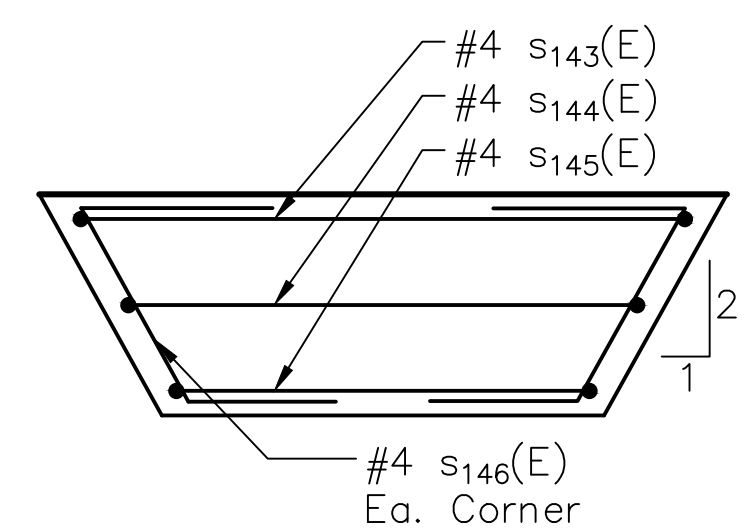
**BILL OF MATERIAL**

Crosshole Sonic Logging	Each	6
-------------------------	------	---

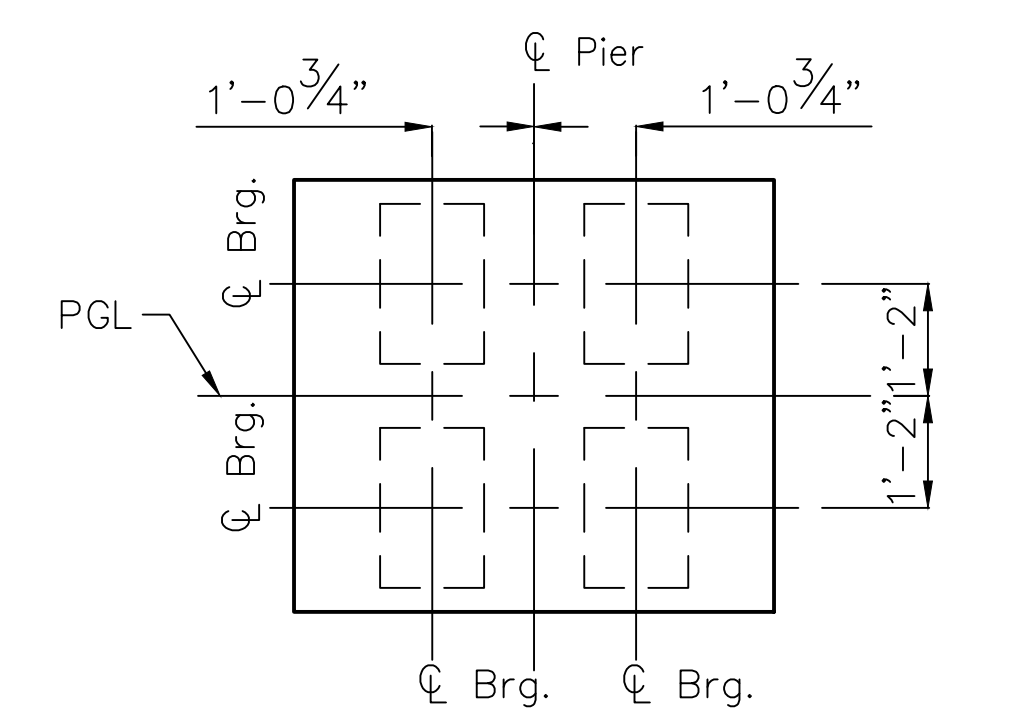
\*\*\*\* CSL tubes installed in all drilled shafts. CSL testing to be performed on one (1) drilled shaft per segment. Selection of CSL test locations per Resident Engineer's direction. Additional CSL tests, if required, to be performed at unit cost.



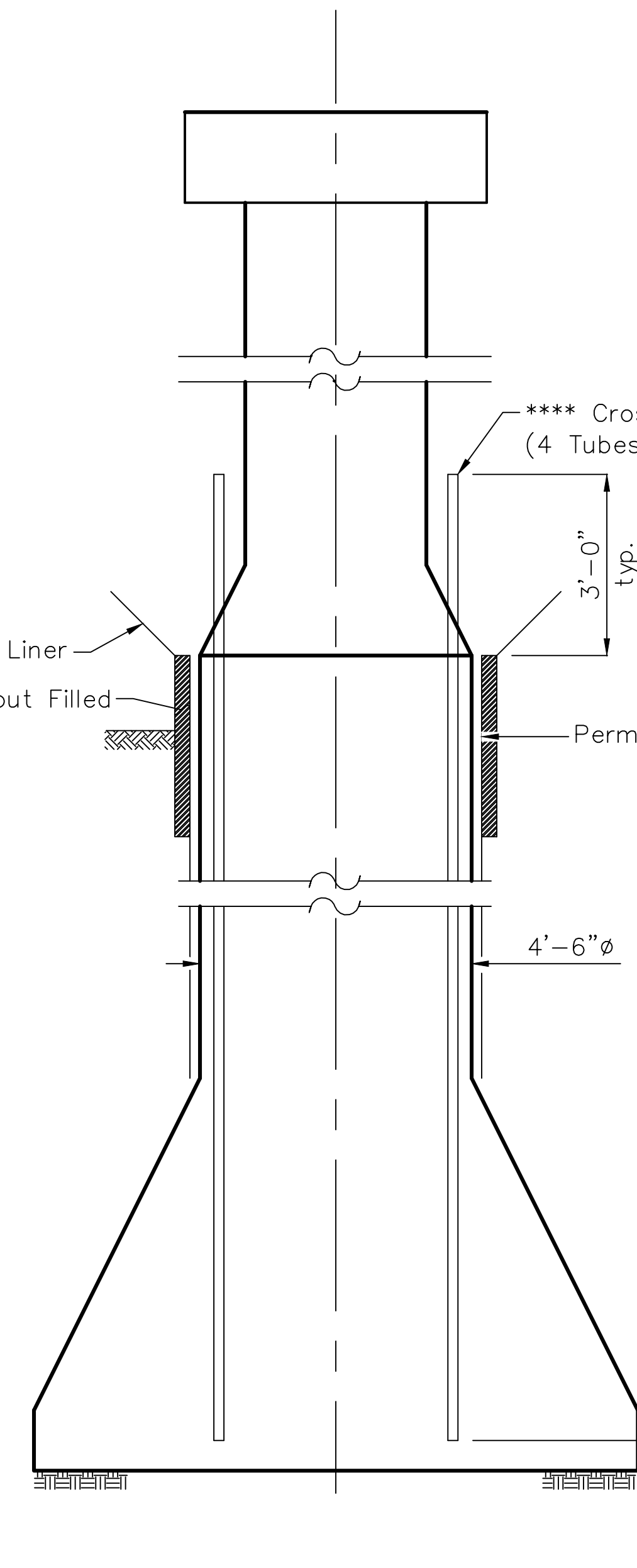
**PIER 14 CAP PLAN**



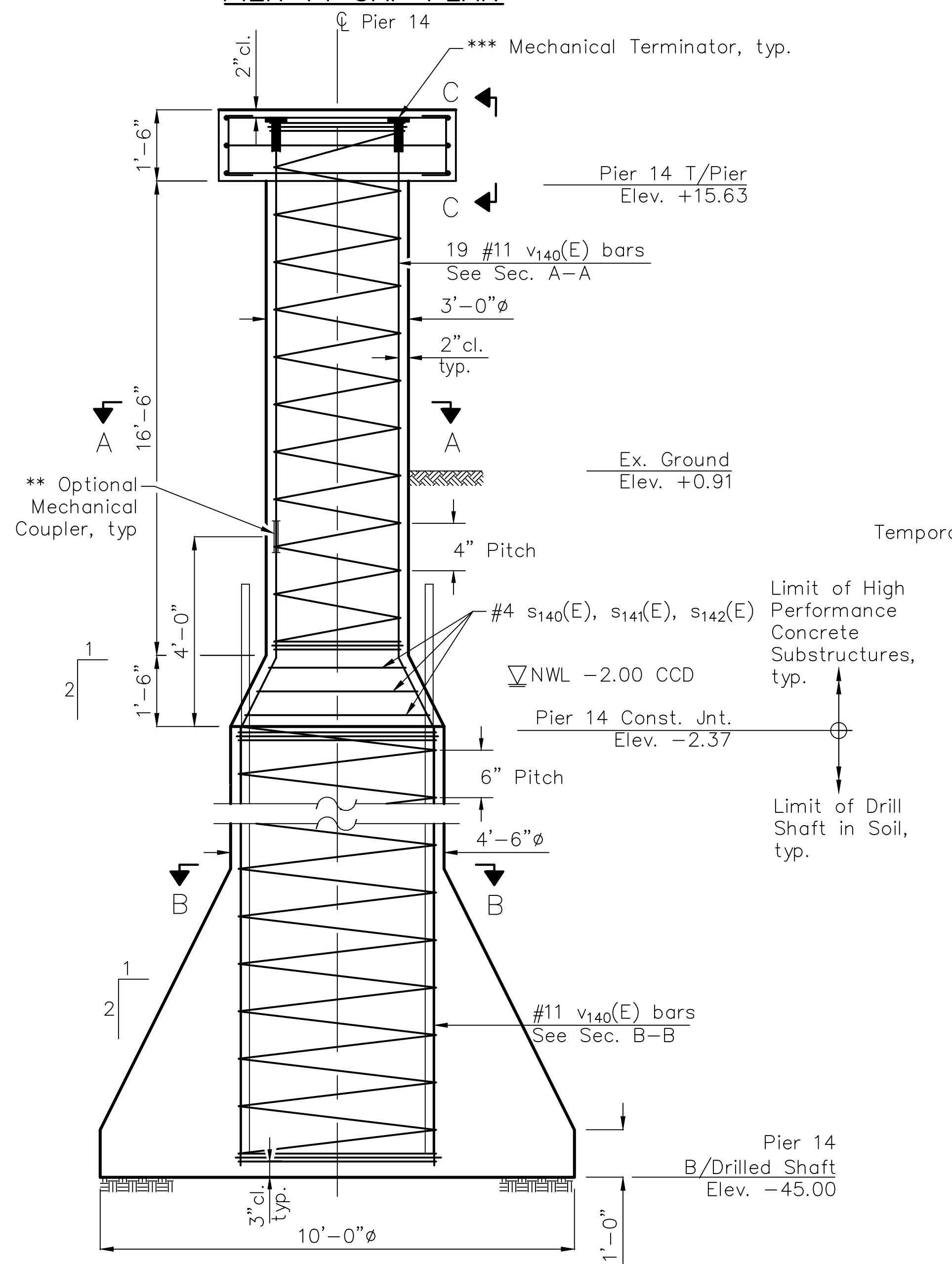
**SECTION C-C**



**TYPICAL BEARING ORIENTATION**  
Rotate Pier Cap to align with PGL, typ.



**TYPICAL CAISSON ELEVATION**



**SECTION THRU PIER 14**

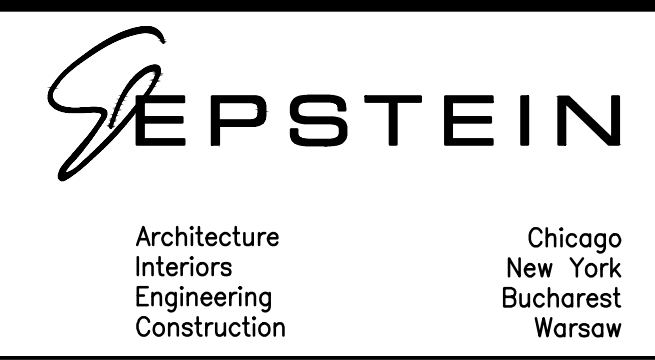
SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: J. MASI  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

NO.	DATE	REVISIONS/ISSUANCES
1	8/12/16	ISSUED FOR FINAL
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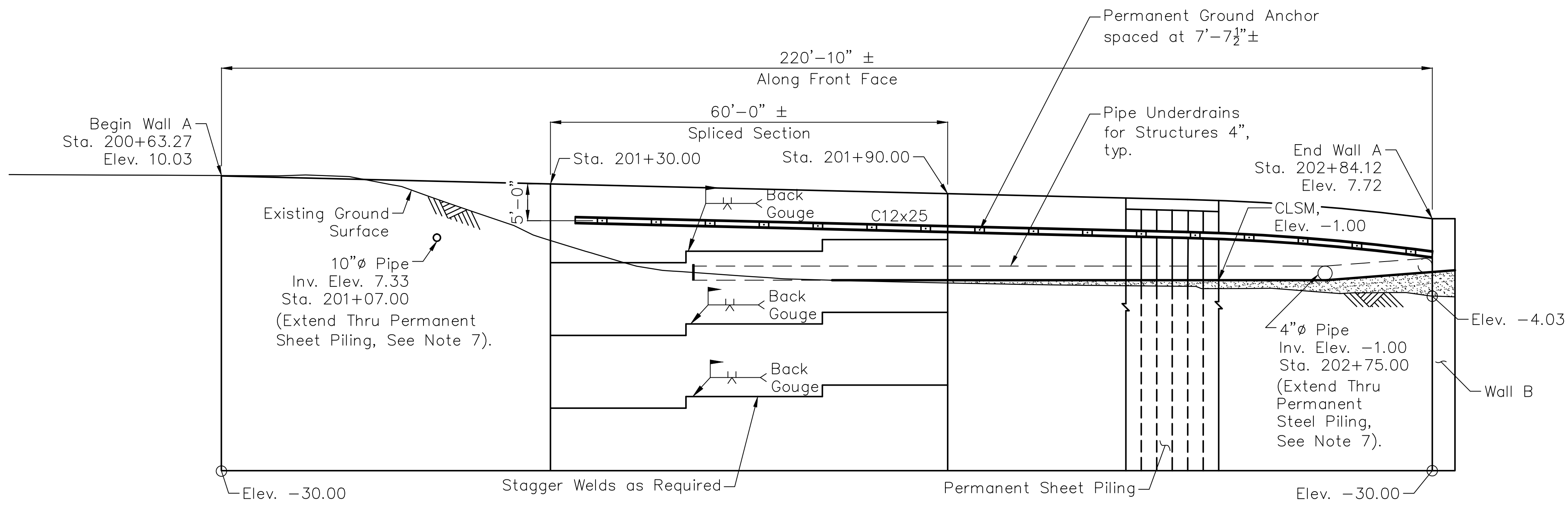
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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
 CLARK PARK TO CALIFORNIA PARK  
 STRUCTURE NO. 016-P025  
 DOUBLE EXPANSIONS PIER 14

SHEET NO. S-61  
 SHEET 108 OF 158  
 REVISION



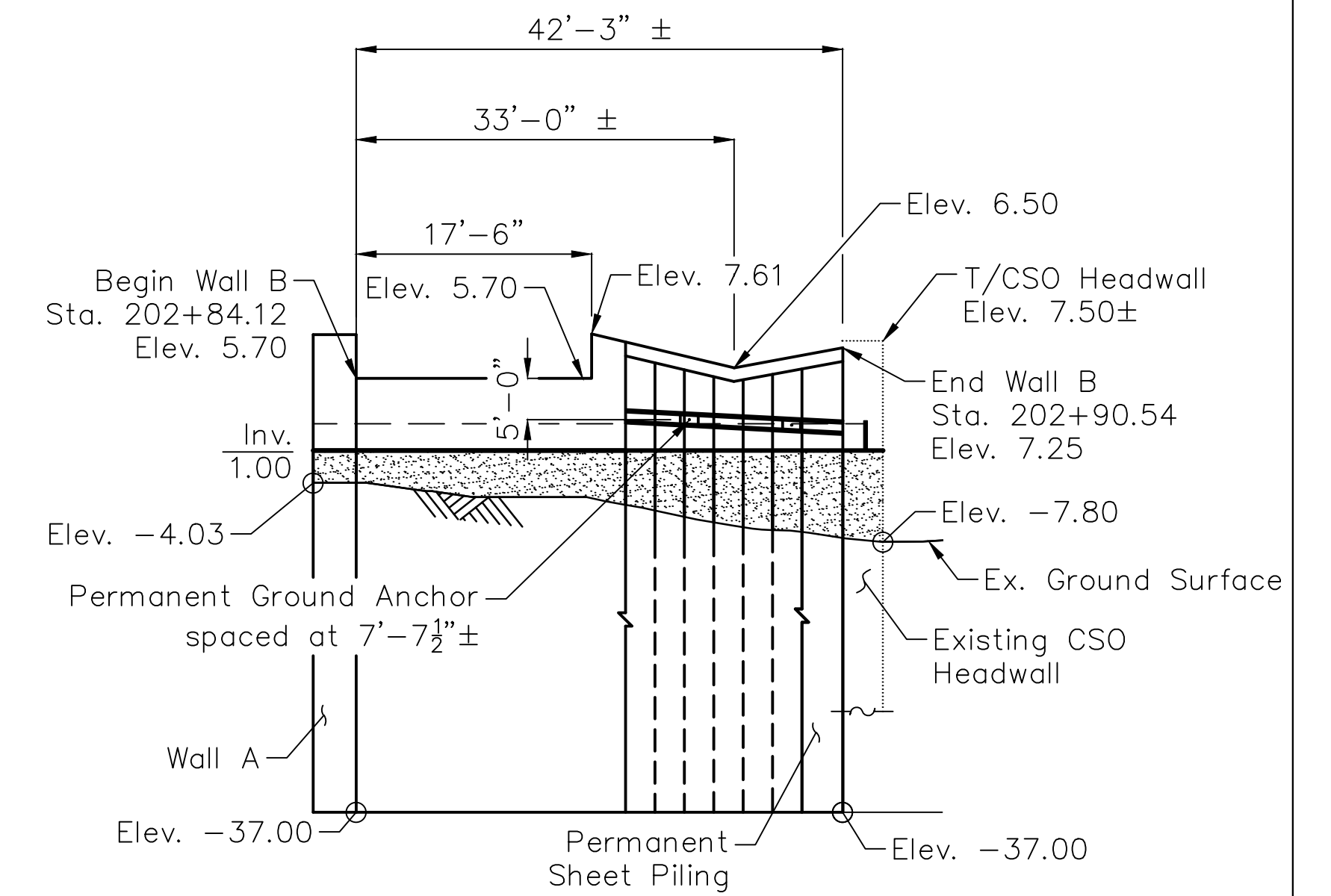


**WALL A ELEVATION**

Looking West

Field Welding cost included with "Permanent Sheet Piling"

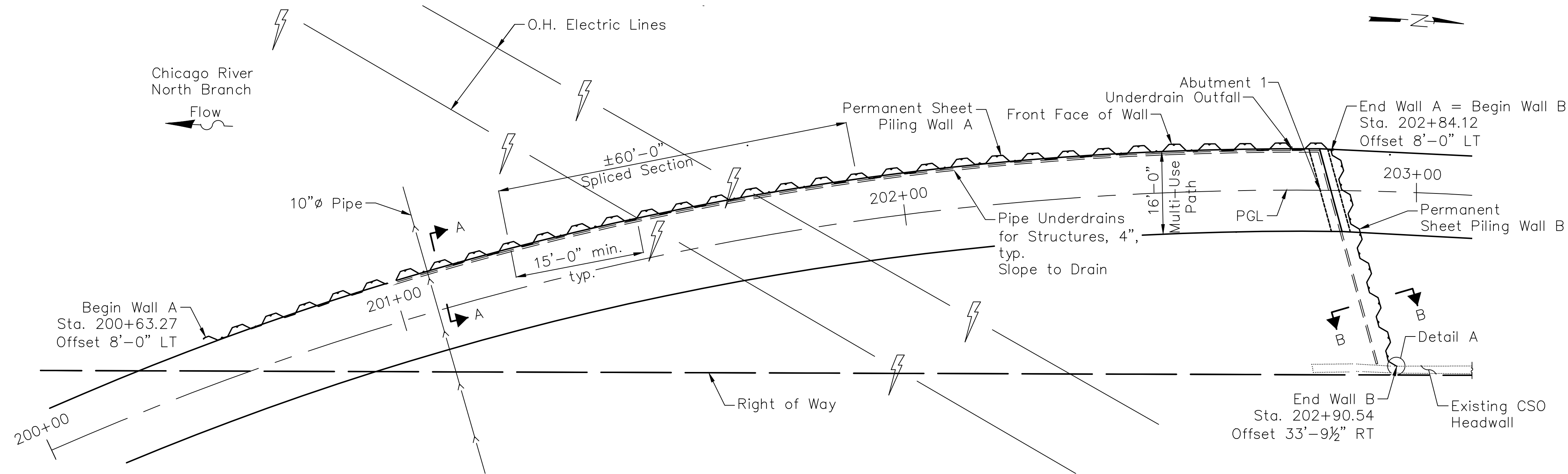
10'-0" max. un-anchored wall height.



**WALL B ELEVATION**

Looking North

10'-0" max. un-anchored wall height.



**PLAN**

**WALL A AND B  
BILL OF MATERIAL**

Description	Unit	Quantity	
		Wall A	Wall B
Permanent Sheet Piling	Sq. Ft.	8,586	1,834
Permanent Ground Anchors	Ea.	17	3
Pipe Underdrains for Structures 4"	Foot	220	42

**Notes:**

1. Minimum effective Permanent Sheet Piling section modulus,  $S_x = 89.3 \text{ in}^3/\text{ft}$ .
2. Strength of Permanent Sheet Piling,  $F_y = 50 \text{ ksi}$ .
3. For Sections A-A and B-B, see sheet S-65 of S-87.
4. Stations and offsets are given to the back face of the wall along PGL, (U.N.O.).
5. For Detail A, see sheet S-64 of S-87.
6. Contractor to field verify station & offset to existing CSO headwall.
7. Contractor to cut the Permanent Sheet Piling as needed to provide opening for pipes. For Penetration detail see sheet S-66 of S-87.
8. Final grouted anchor locations to be field determined and submitted to E.O.R. for review and approval prior to installation.
9. The Contractor shall investigate and determine the existence, nature, and exact location of all utility lines and appurtenances within the limits of the improvement prior to construction activity.

SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: J. GRIEGER  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

NO.	DATE	REVISIONS/ISSUANCES
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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
 CLARK PARK TO CALIFORNIA PARK  
 STRUCTURE NO. 016-P025

PERMANENT SHEET PILE WALL 1

SHEET NO.  
 S-62

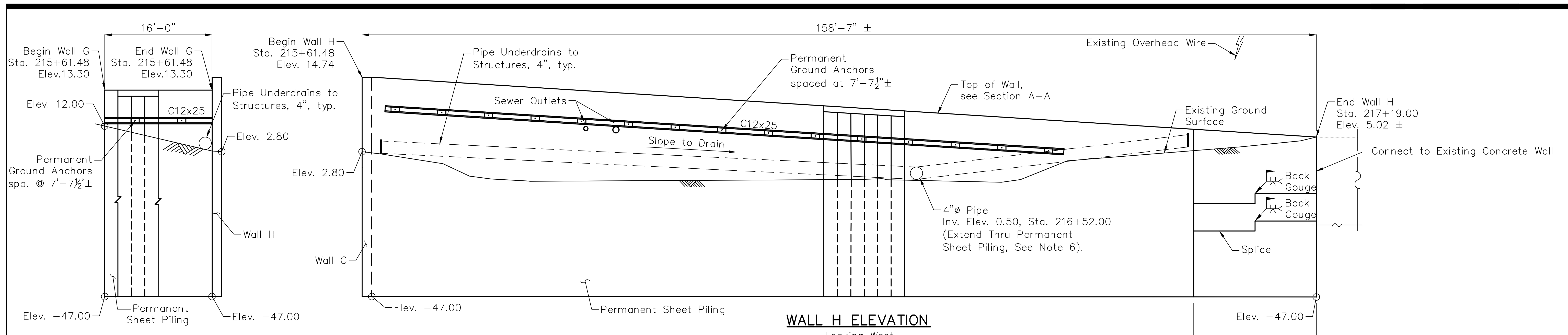
SHEET 109 OF 158

REVISION









**WALL G ELEVATION**

Looking North

6'-9" max. un-anchored wall height.

**WALL H ELEVATION**

Looking West

(Dimensions not measured along PGL)

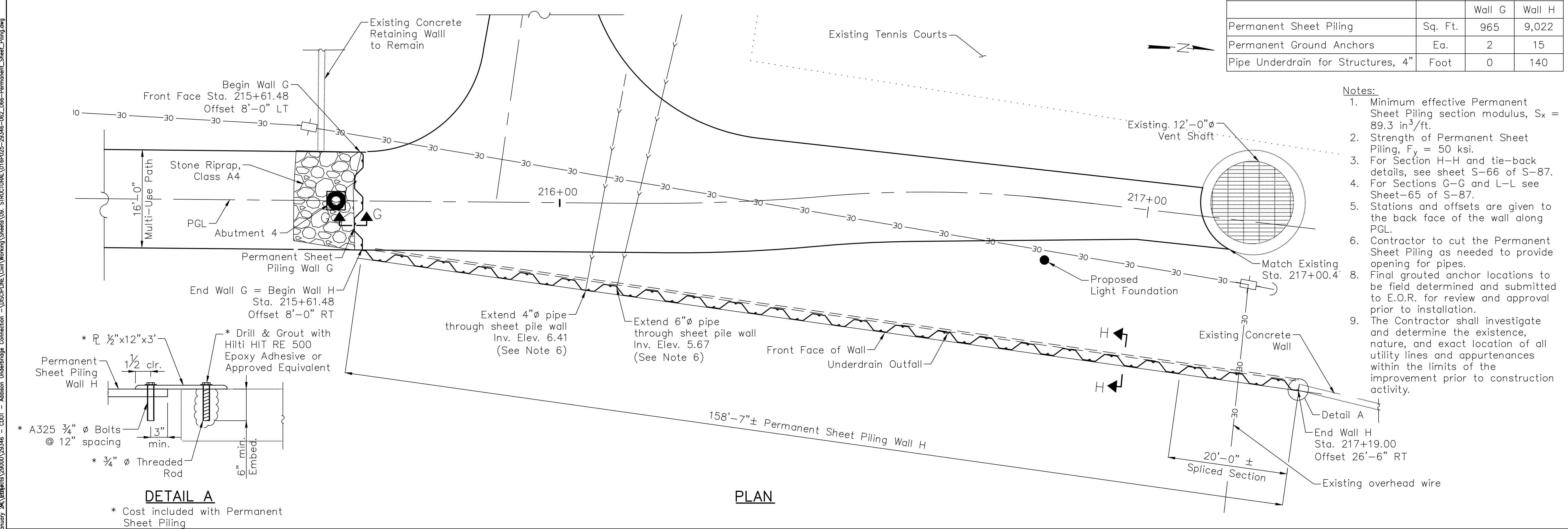
6'-9" max. un-anchored wall height.

**WALL G AND H  
BILL OF MATERIAL**

Description	Unit	Quantity	
		Wall G	Wall H
Permanent Sheet Piling	Sq. Ft.	965	9,022
Permanent Ground Anchors	Ea.	2	15
Pipe Underdrain for Structures, 4"	Foot	0	140

**Notes:**

1. Minimum effective Permanent Sheet Piling section modulus,  $S_x = 89.3 \text{ in}^3/\text{ft}$ .
2. Strength of Permanent Sheet Piling,  $F_y = 50 \text{ ksi}$ .
3. For Section H-H and tie-back details, see sheet S-66 of S-87.
4. For Sections G-G and L-L see Sheet-65 of S-87.
5. Stations and offsets are given to the back face of the wall along PGL.
6. Contractor to cut the Permanent Sheet Piling as needed to provide opening for pipes.
7. Final grouted anchor locations to be field determined and submitted to E.O.R. for review and approval prior to installation.
8. The Contractor shall investigate and determine the existence, nature, and exact location of all utility lines and appurtenances within the limits of the improvement prior to construction activity.



**DETAIL A**

\* Cost included with Permanent Sheet Piling

**PLAN**

SECTION NO.: 12-E9121-00-BT	NO. DATE	REVISIONS/ISSUANCES
DRAWN BY: J. GRIEGER	8/12/16	ISSUED FOR FINAL
CHECKED BY: R. VARMA	5/6/16	ISSUED FOR FINAL
APPROVED BY: P. DOMBROWSKI	6/05/15	ISSUED FOR FINAL REVIEW
DATE: 8/12/2016		
SCALE: N.T.S.		

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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
CLARK PARK TO CALIFORNIA PARK  
STRUCTURE NO. 016-P025

PERMANENT SHEET PILE WALL 3

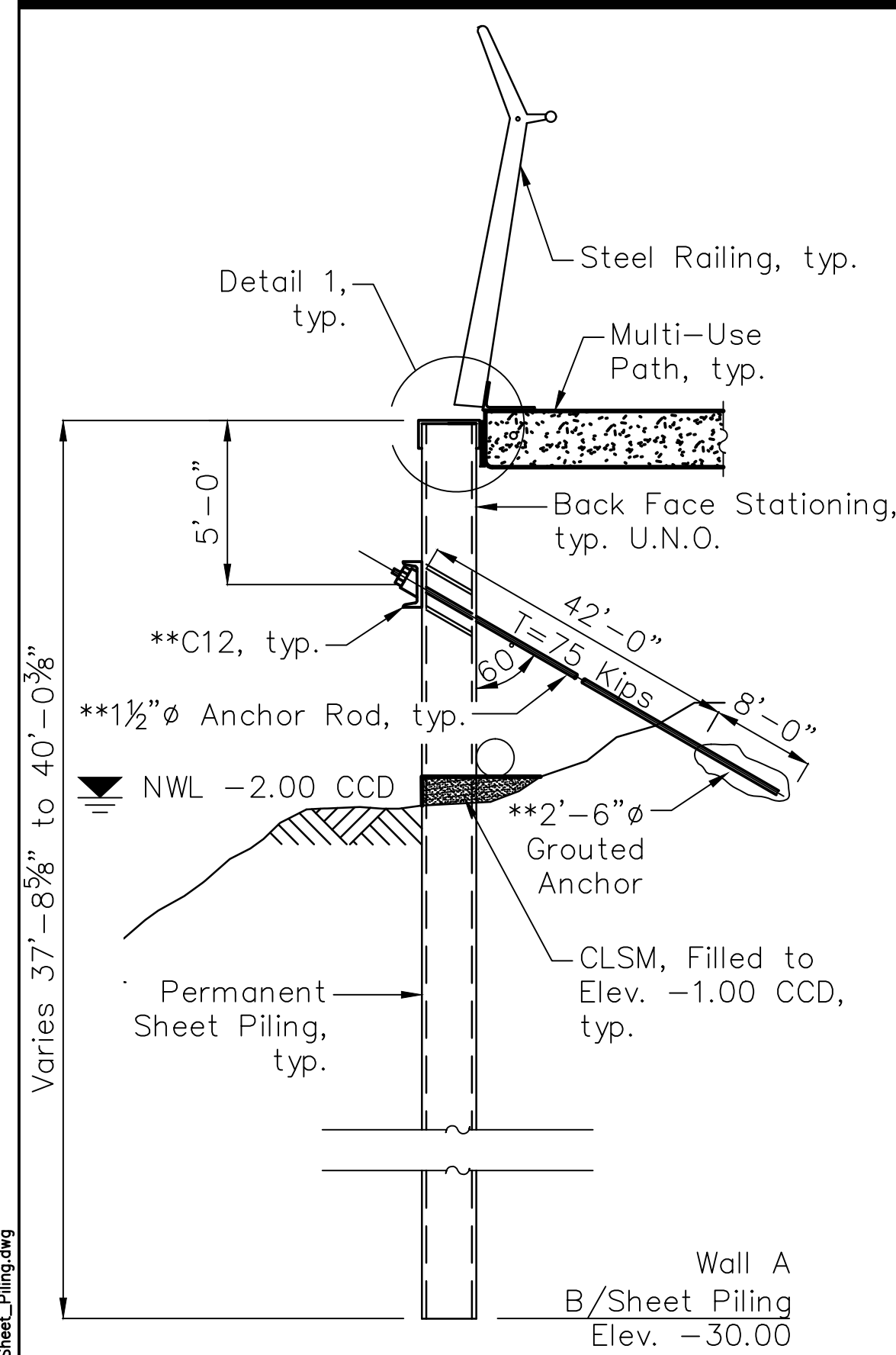
SHEET NO.  
S-64

SHEET 111 OF 158

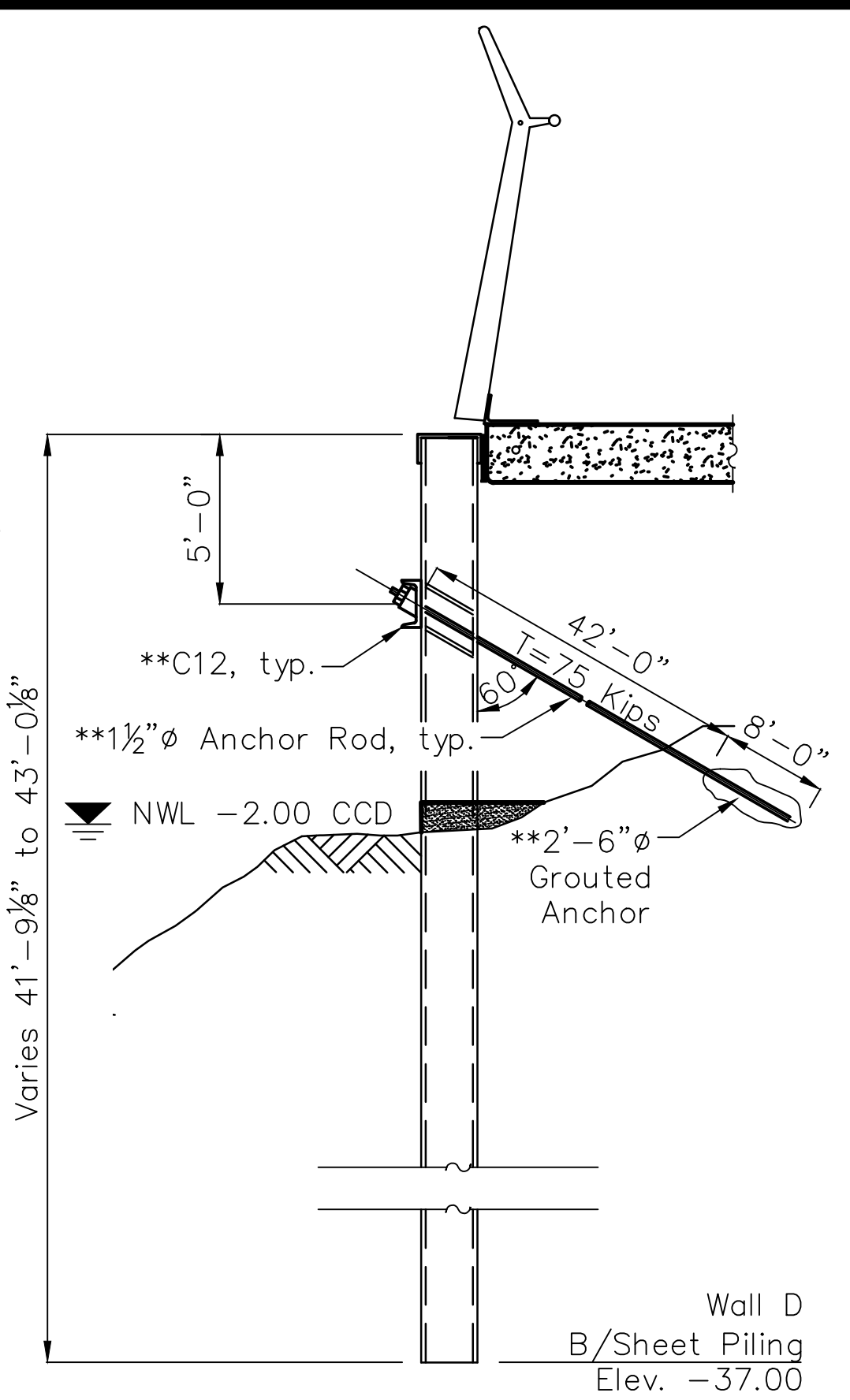
REVISION



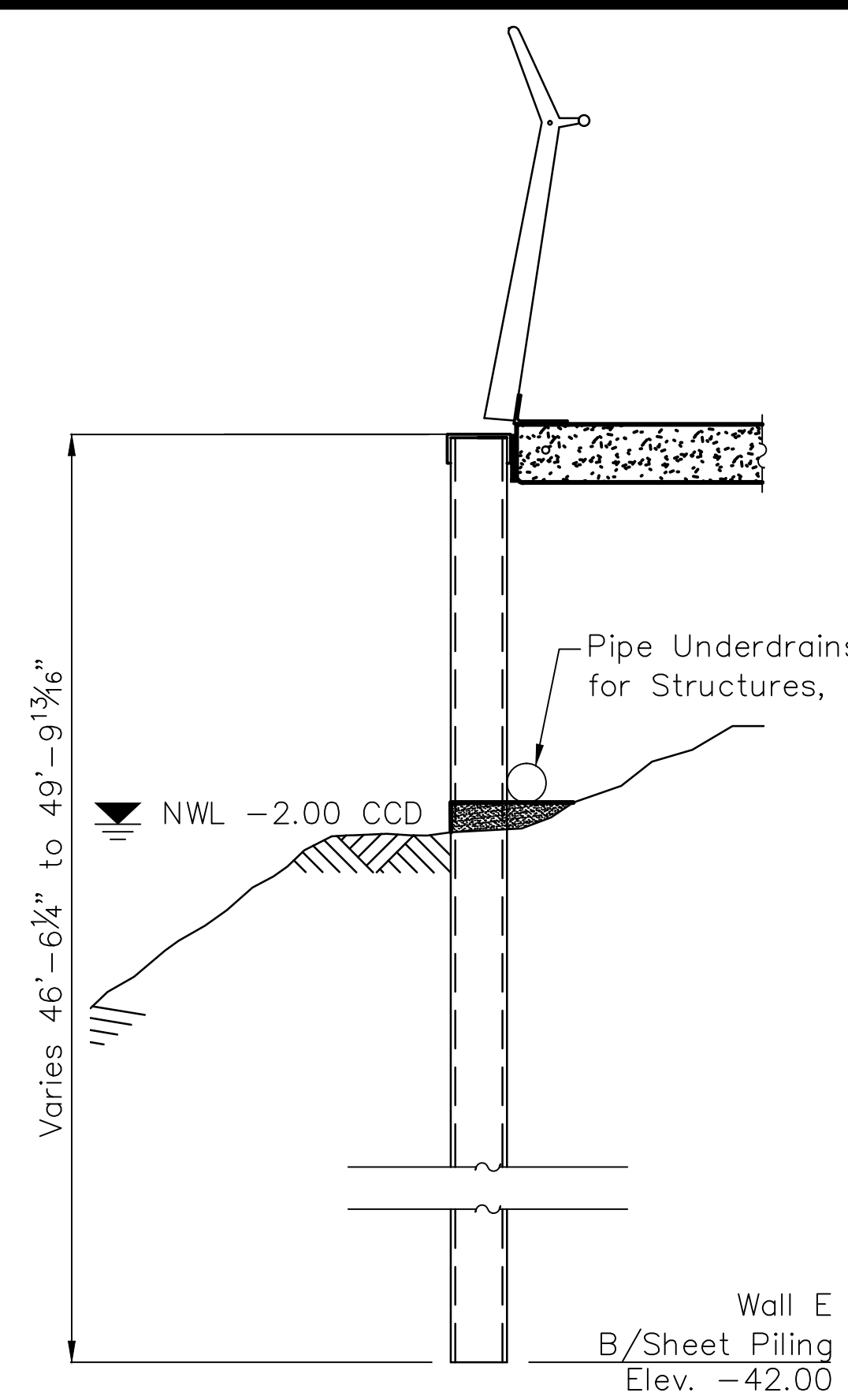
January 2016 Refetch 200001283346 - CDOT - Addison Underbridge Connection - USCP LINE Civil Working Sheets 09 - STRUCTURAL V01EPO05-29346-062-066-Permanent\_Sheet\_Piling.dwg  
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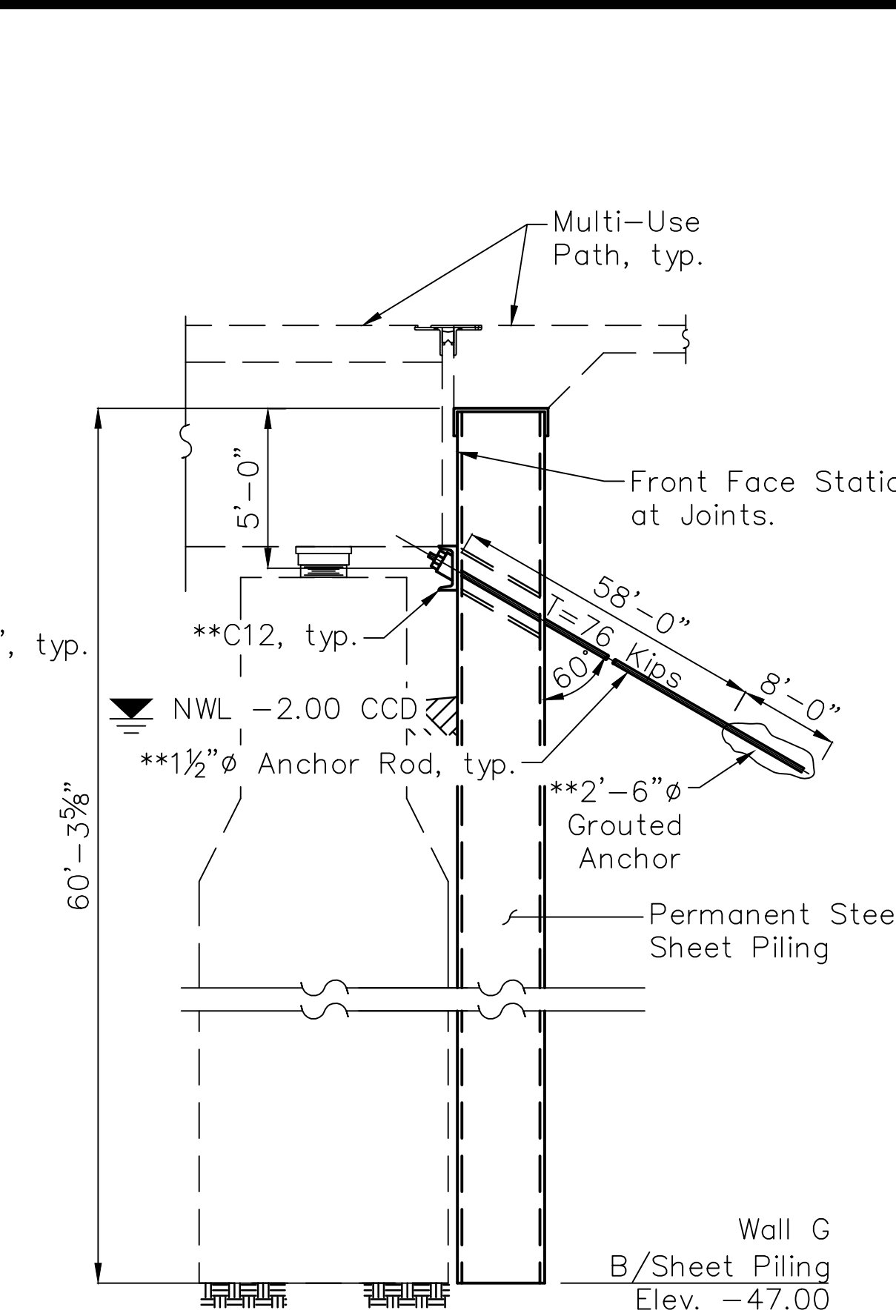
**SECTION A-A**  
 \*\* Cost included with "Permanent Ground Anchors"



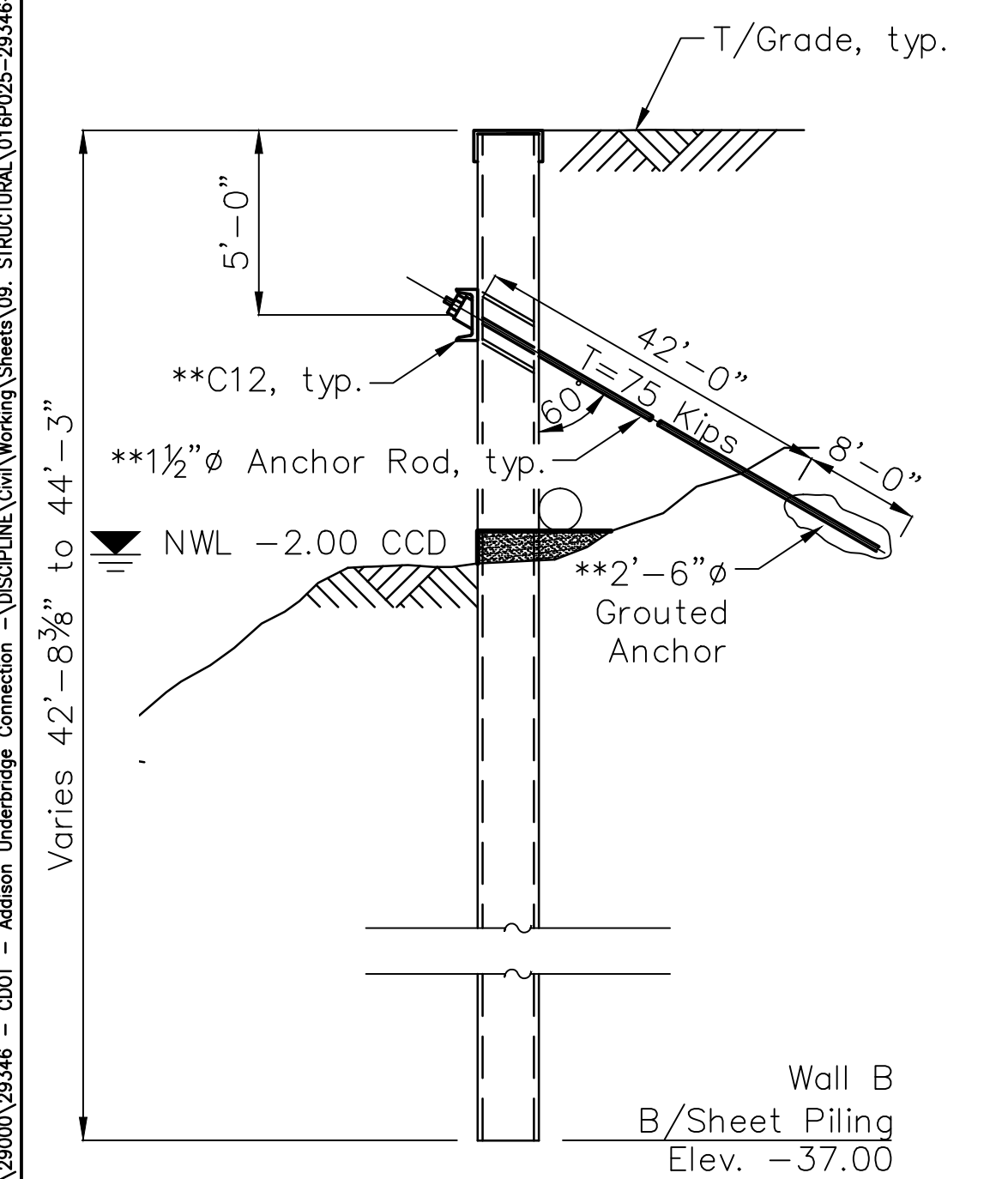
**SECTION D-D**  
 \*\* Cost included with "Permanent Ground Anchors"



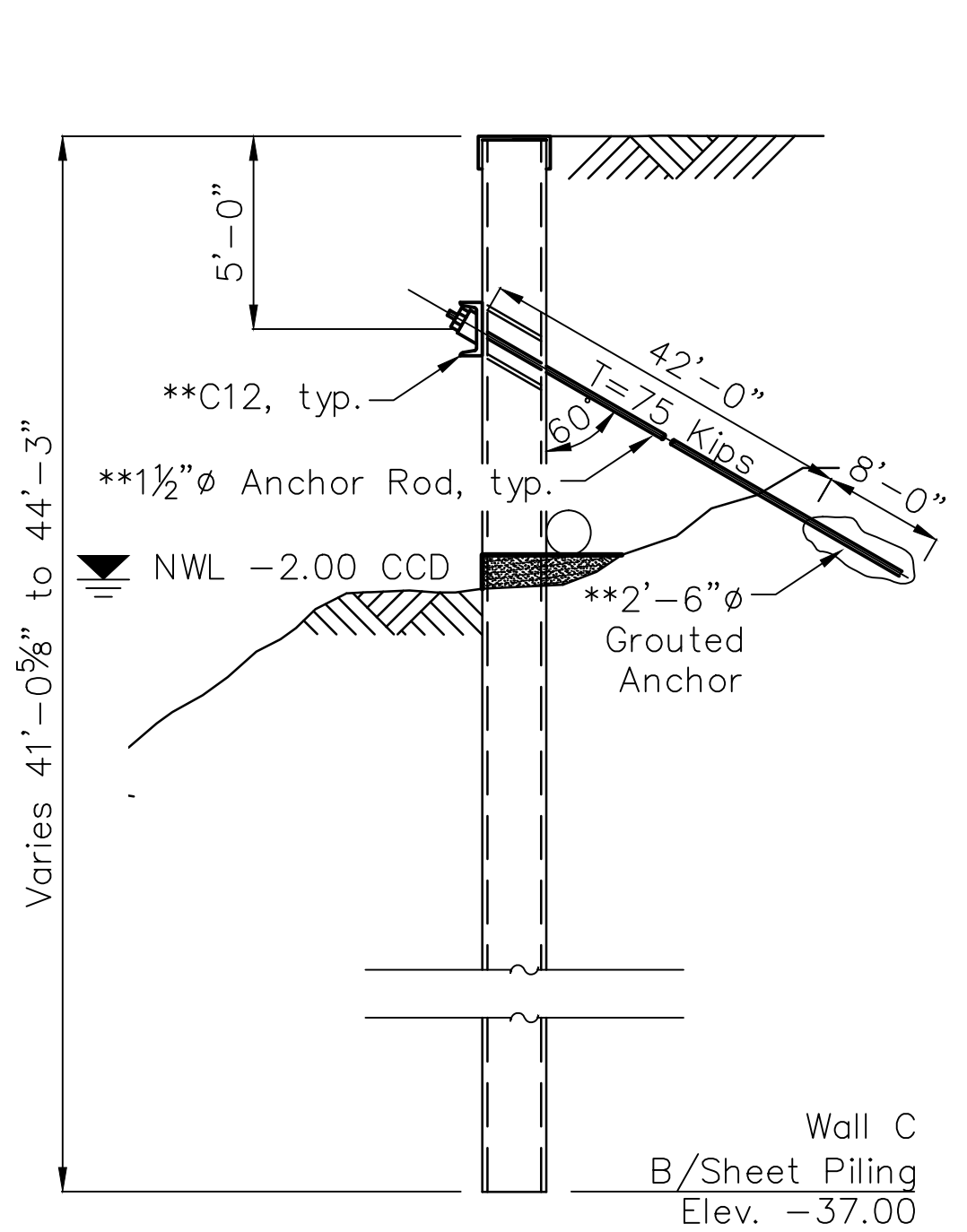
**SECTION E-E**  
 \*\* Cost included with "Permanent Ground Anchors"



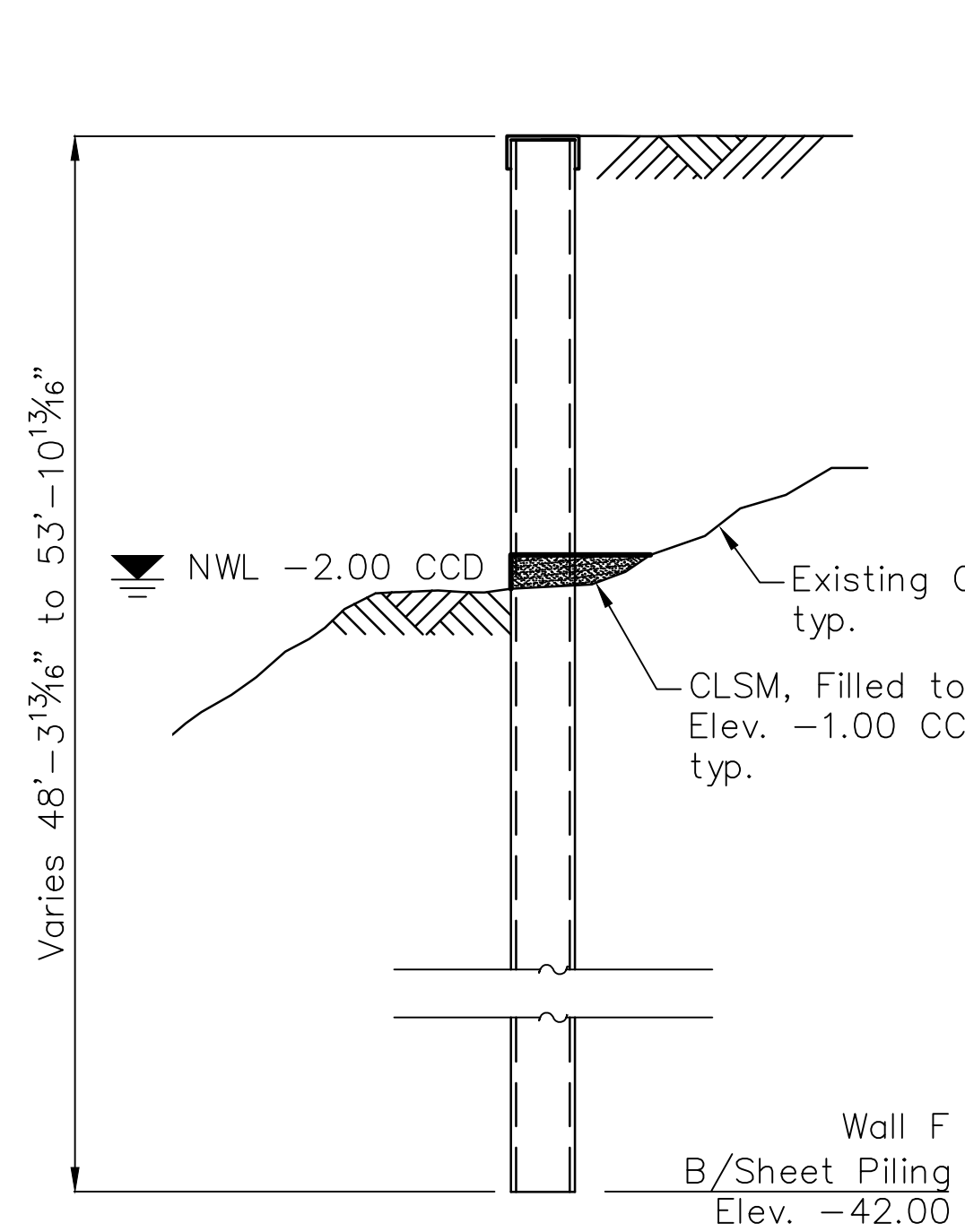
**SECTION G-G**  
 \*\* Cost included with "Permanent Ground Anchors"



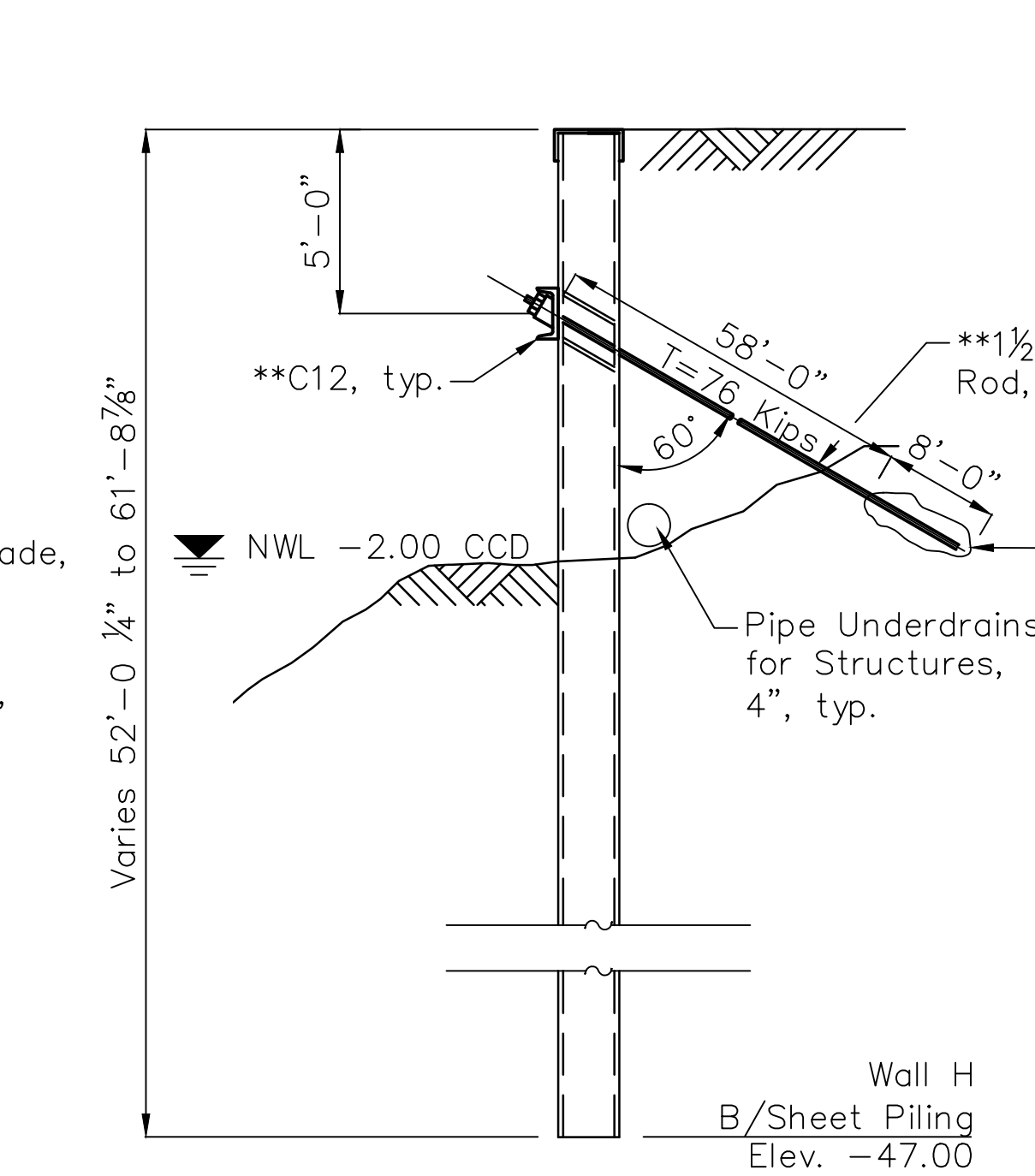
**SECTION B-B**  
 \*\* Cost included with "Permanent Ground Anchors"



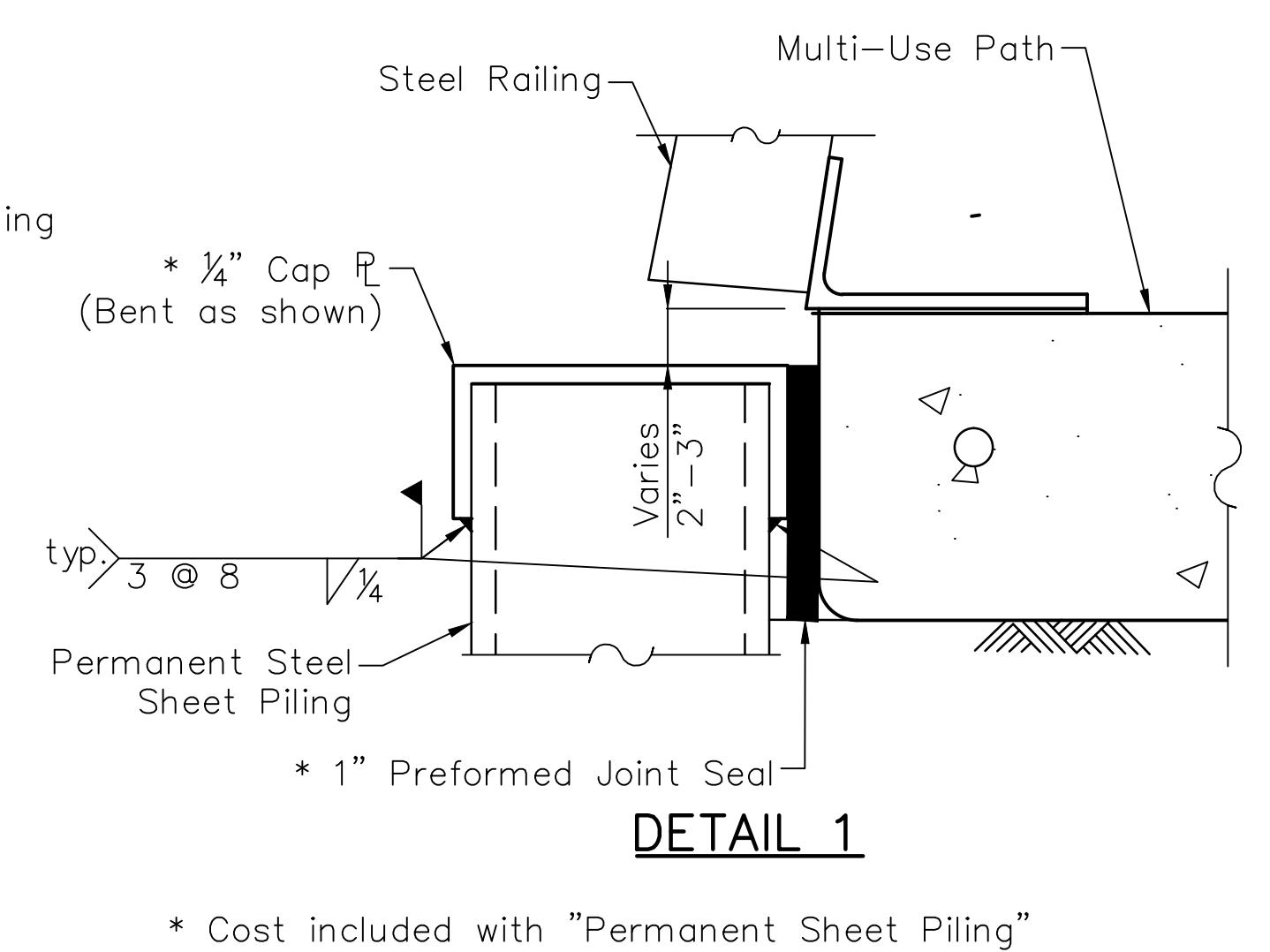
**SECTION C-C**  
 \*\* Cost included with "Permanent Ground Anchors"



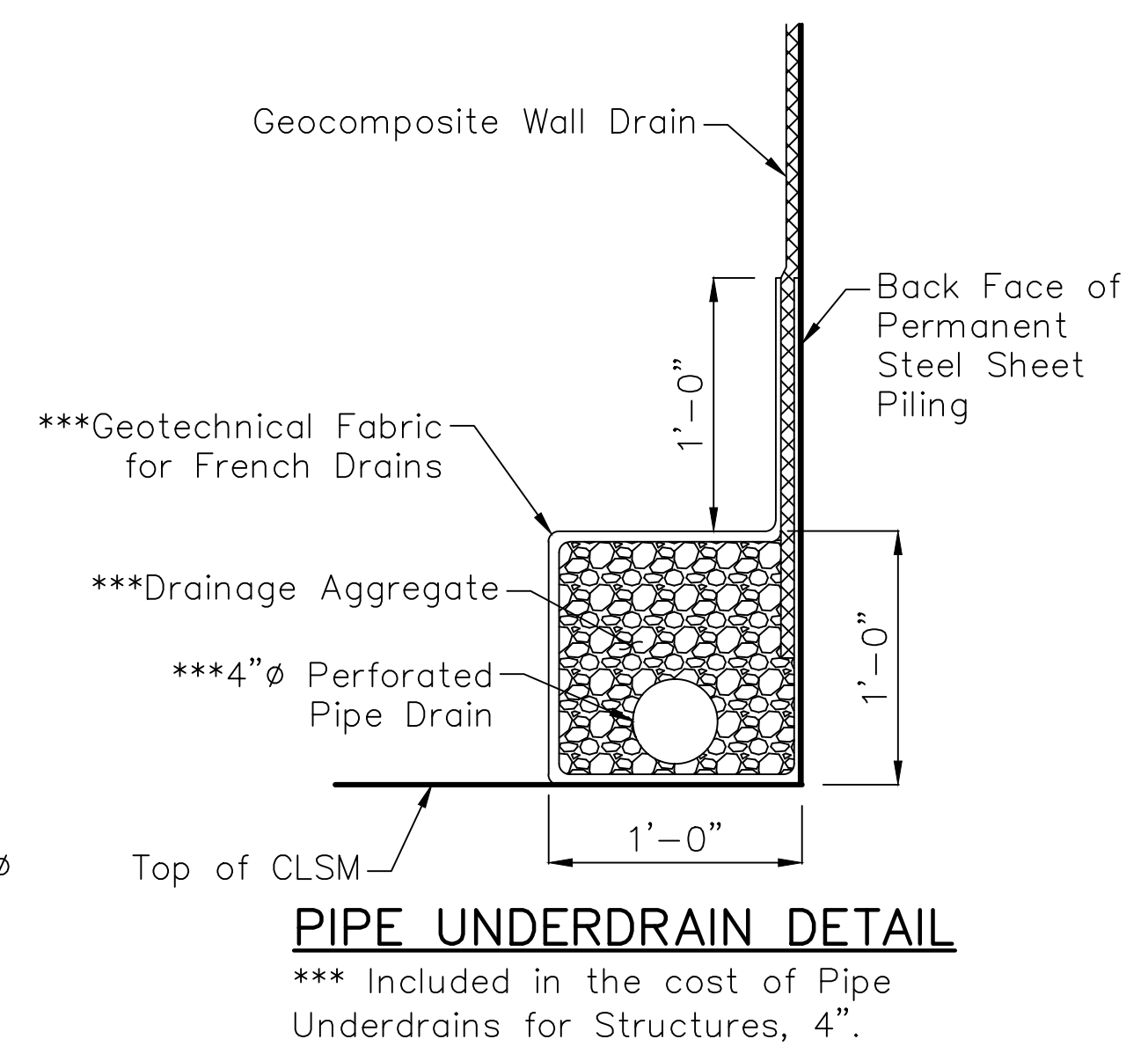
**SECTION F-F**



**SECTION H-H**  
 \*\* Cost included with "Permanent Ground Anchors"



\* Cost included with "Permanent Sheet Piling"



**PIPE UNDERDRAIN DETAIL**  
 \*\*\* Included in the cost of Pipe Underdrains for Structures, 4".

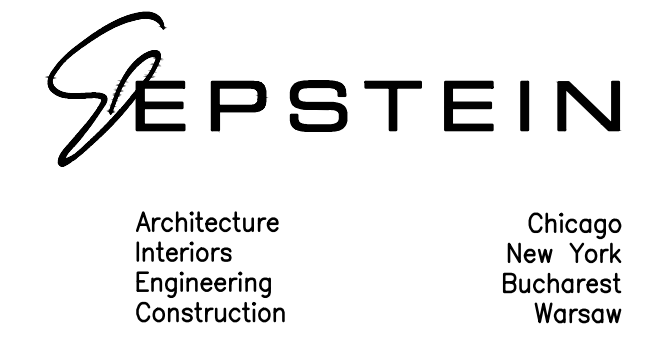
**Notes:**  
 1. Cost of "Permanent Sheet Piling" and "Permanent Ground Anchors" shall include costs associated with design, permitting, fabrication, and installation requirements to provide system in accordance with design intent. This may include coordination with City of Chicago Office of Underground Construction prior to fabrication and installation.

SECTION NO.: 12-E9121-00-BT	NO. DATE	REVISIONS/ISSUANCES
DRAWN BY: J. GRIEGER	8/12/16	ISSUED FOR FINAL
CHECKED BY: R. VARMA	5/6/16	ISSUED FOR FINAL
APPROVED BY: P. DOMBROWSKI	6/05/15	ISSUED FOR FINAL REVIEW
DATE: 8/12/2016		
SCALE: N.T.S.		

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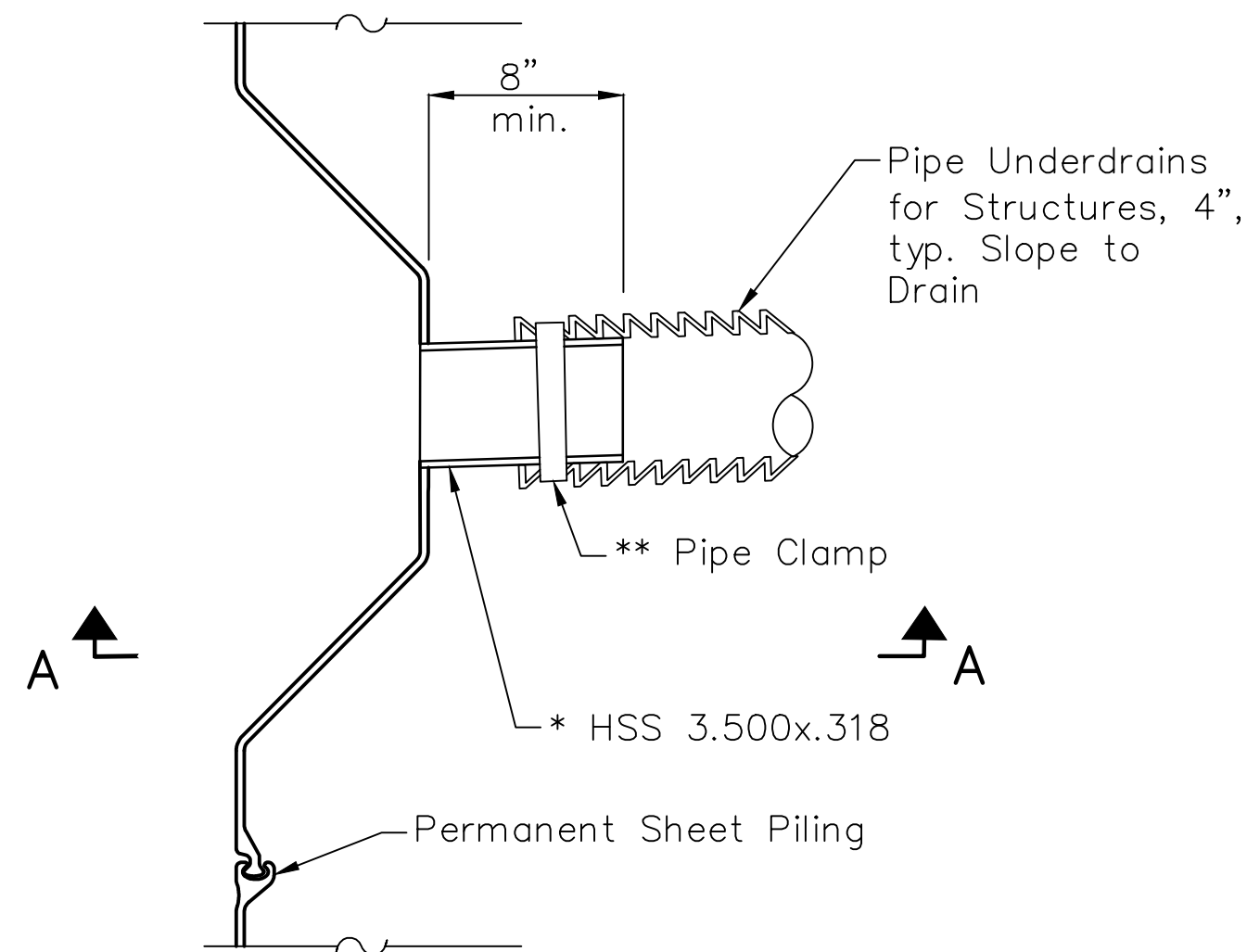
**CONSULTANT**  
 EPSTEIN  
 600 W. Fulton Street  
 Chicago, IL 60661-1259  
 312.454.9100  
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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM CLARK PARK TO CALIFORNIA PARK  
 STRUCTURE NO. 016-P025

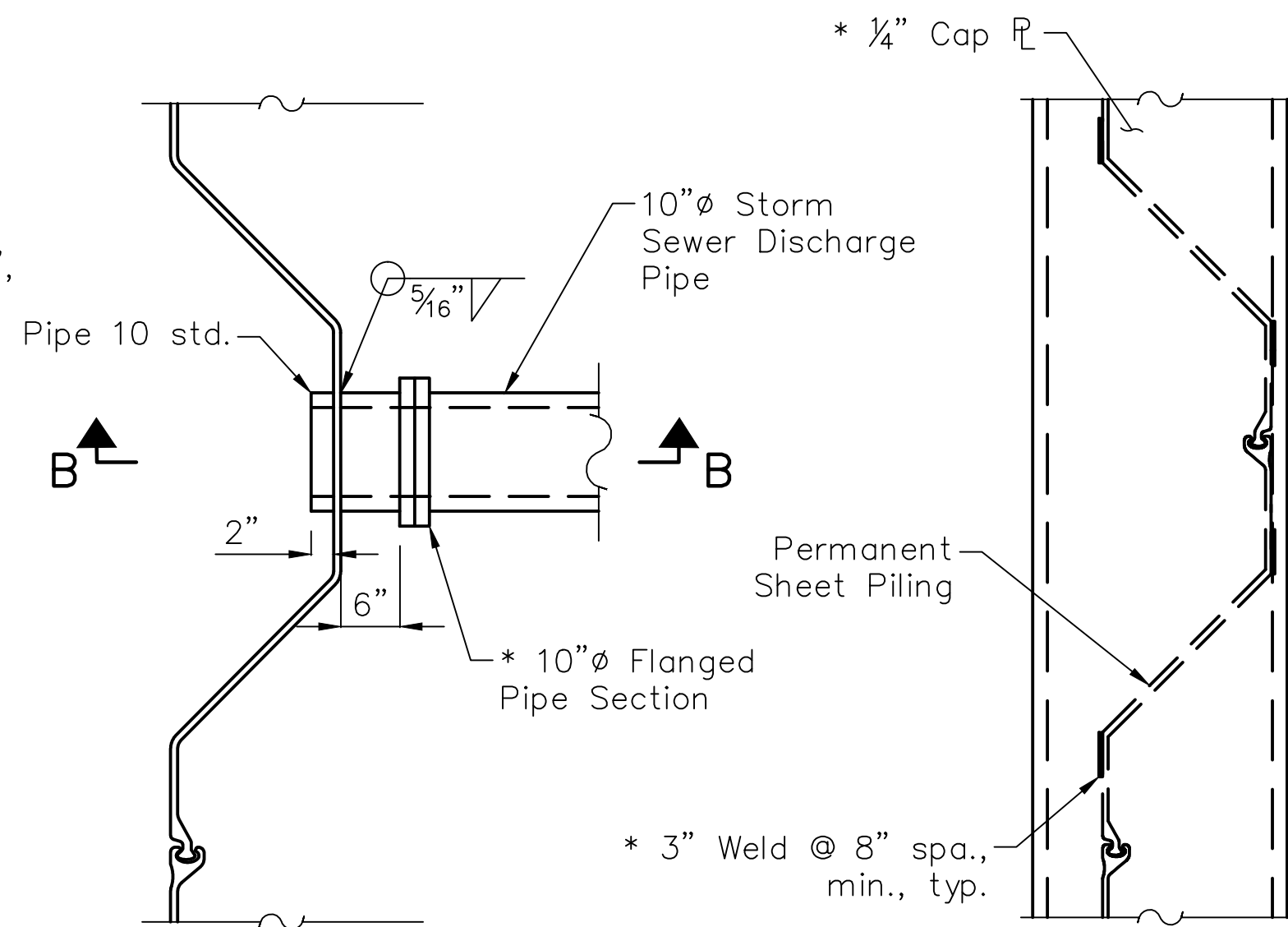
SHEET NO. S-65	REVISION
SHEET 112 OF 158	





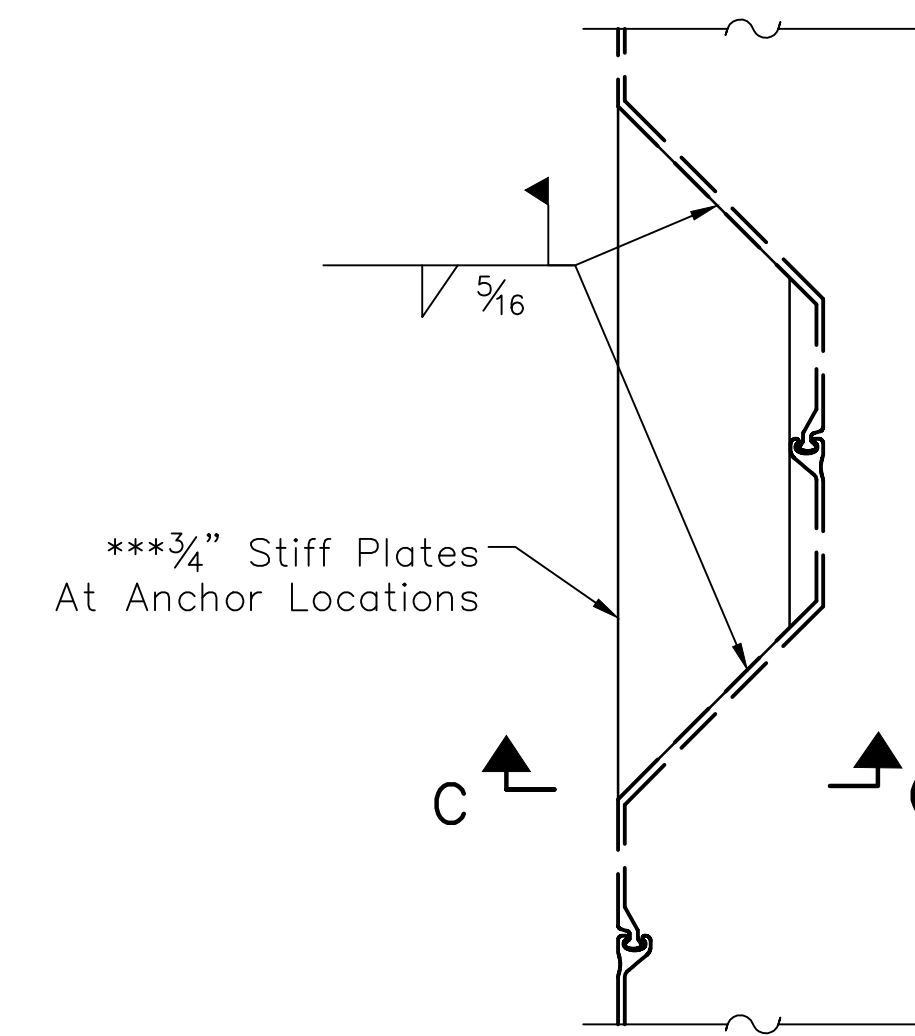
**UNDERDRAIN PENETRATION PLAN**

\* Cost included with "Permanent Sheet Piling"  
 \*\* Cost included with "Pipe Underdrains for Structures, 4" "



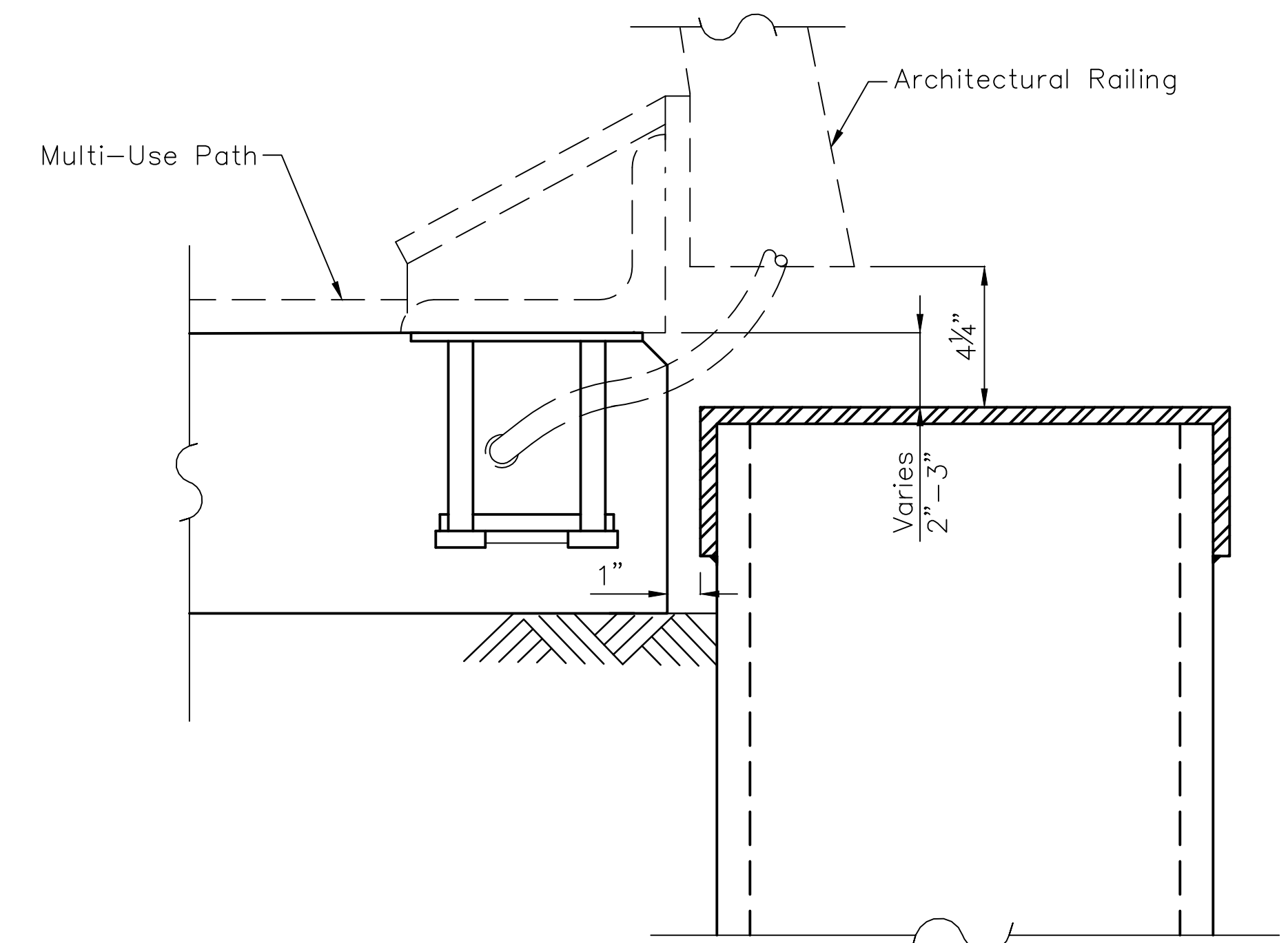
**PLAN - TYPICAL PIPE PENETRATION DETAIL THRU SHEET PILE RIVER WALL**

**PLAN - CAP DETAIL**



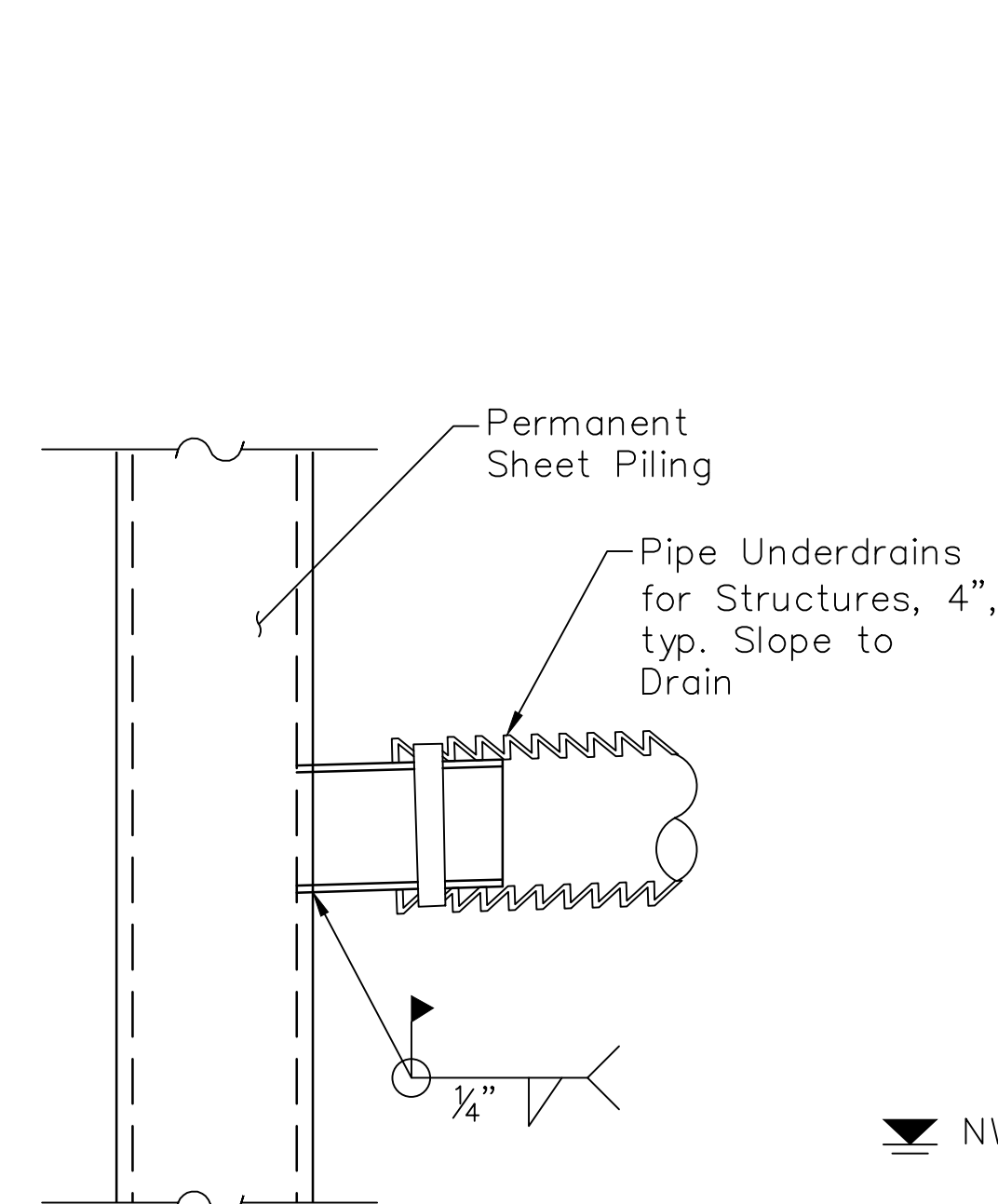
**ANCHOR STIFFNER**

\*\*\*Cost included with "Permanent Ground Anchors"



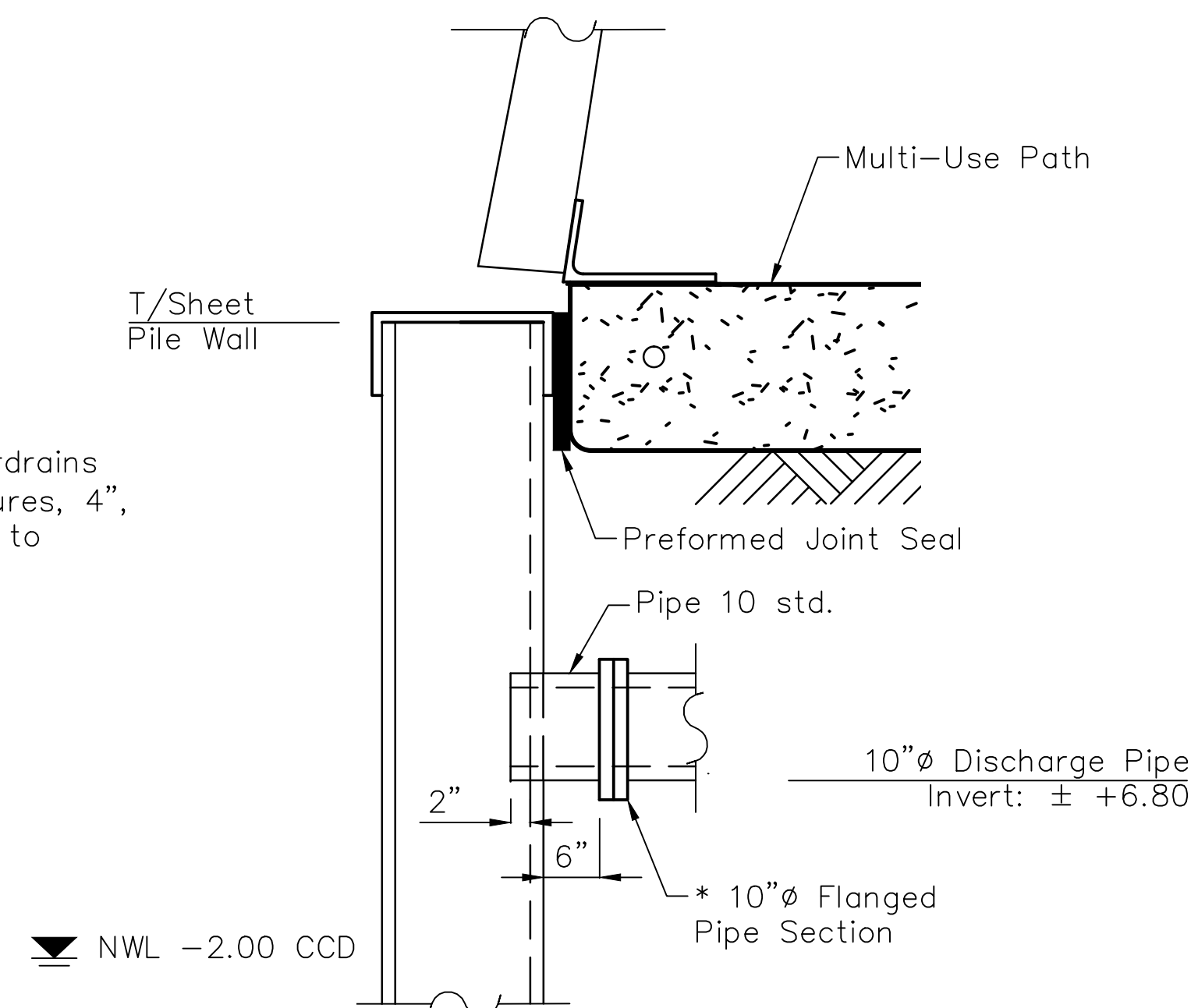
**CAP DETAIL WITH FLEXIBLE LIGHTING CONDUIT**

Cap plate joints (curved or segmented pieces) shall be made continuous along the path.

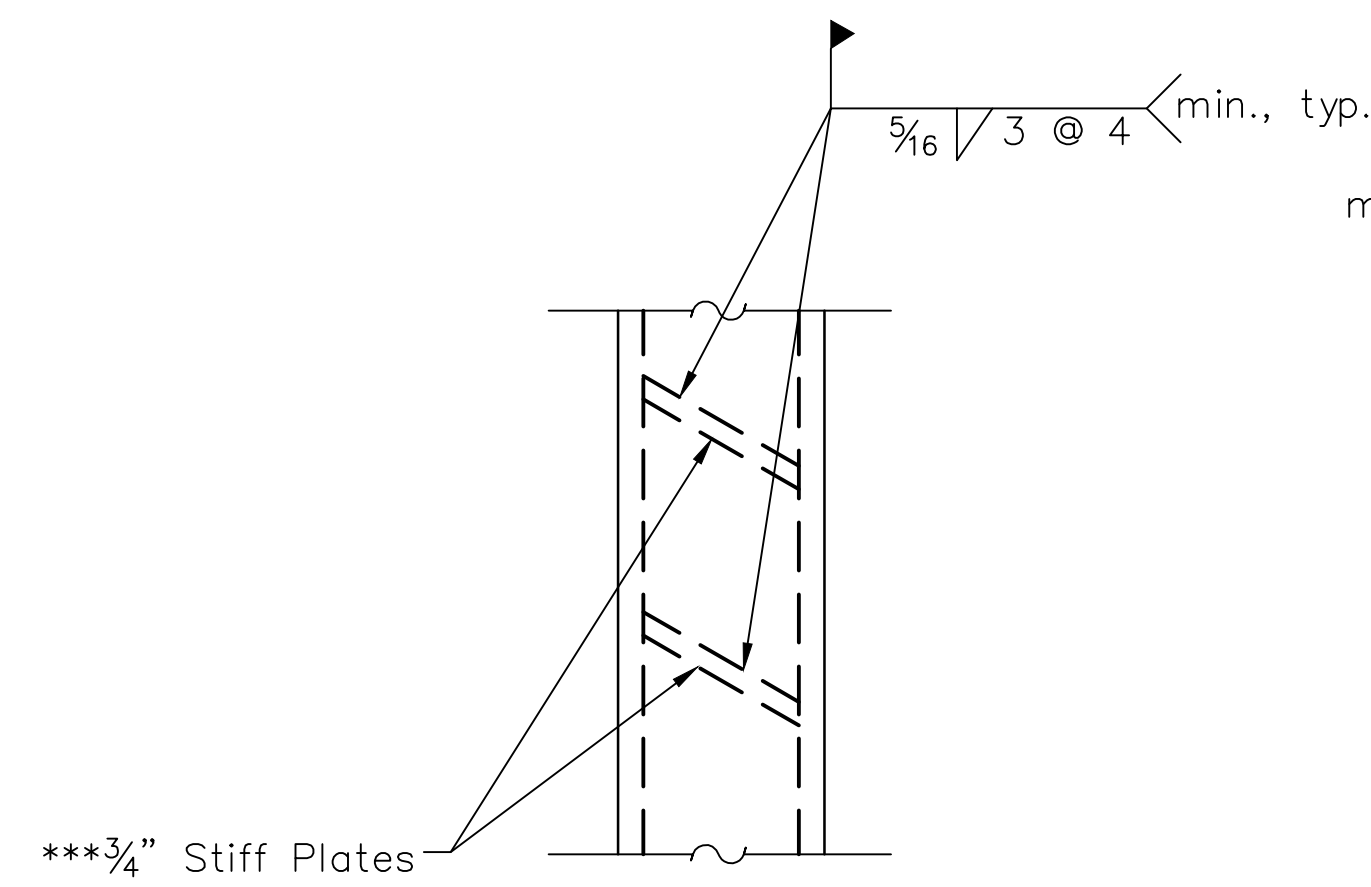


**SECTION A-A**

Cost of field welding included with "Permanent Steel Sheet Piling"



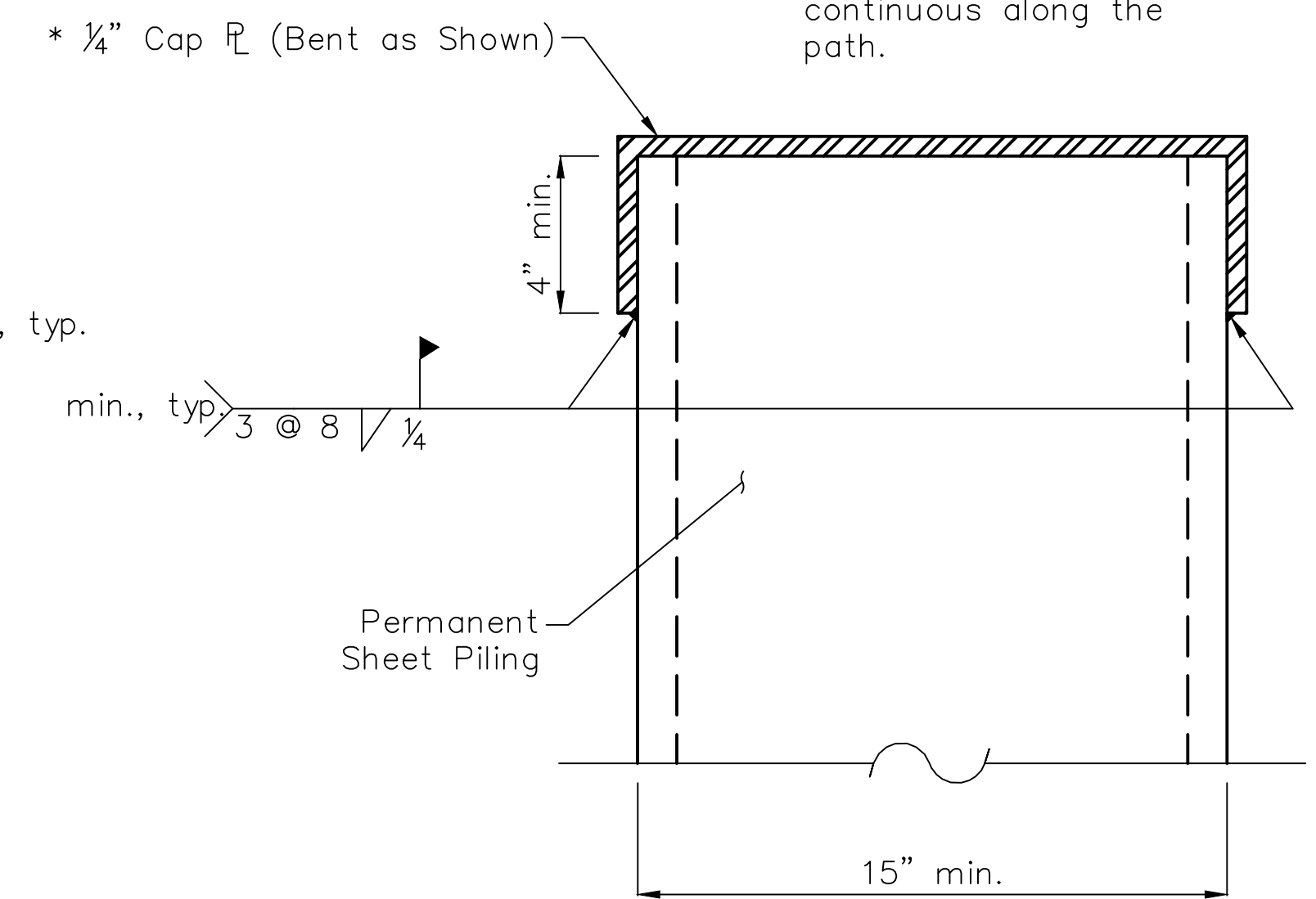
**SECTION B-B - TYPICAL PIPE PENETRATION DETAIL THRU SHEET PILE RIVER WALL**



**SECTION C-C**

Cost of field welding included with "Permanent Ground Anchors"

\*\*\*Cost included with "Permanent Ground Anchors"



**CAP DETAIL**

**Notes:**

1. Shop Drawings for Permanent Sheet Piling shall be submitted to the Engineer of Record for review and approval prior to fabrication. Include welded splice procedure, and 1/4" Cap Plate Detail.
2. Shop Drawings For Permanent Ground Anchors shall be submitted to the Engineer of Record for review and approval prior to fabrication.

SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: J. GRIEGER  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

NO. DATE REVISIONS/ISSUANCES  
 1 8/12/16 ISSUED FOR FINAL  
 2 5/6/16 ISSUED FOR FINAL  
 3 6/05/15 ISSUED FOR FINAL REVIEW

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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM CLARK PARK TO CALIFORNIA PARK STRUCTURE NO. 016-P025

PERMANENT SHEET PILE WALL DETAILS II

SHEET NO. S-66

SHEET 113 OF 158

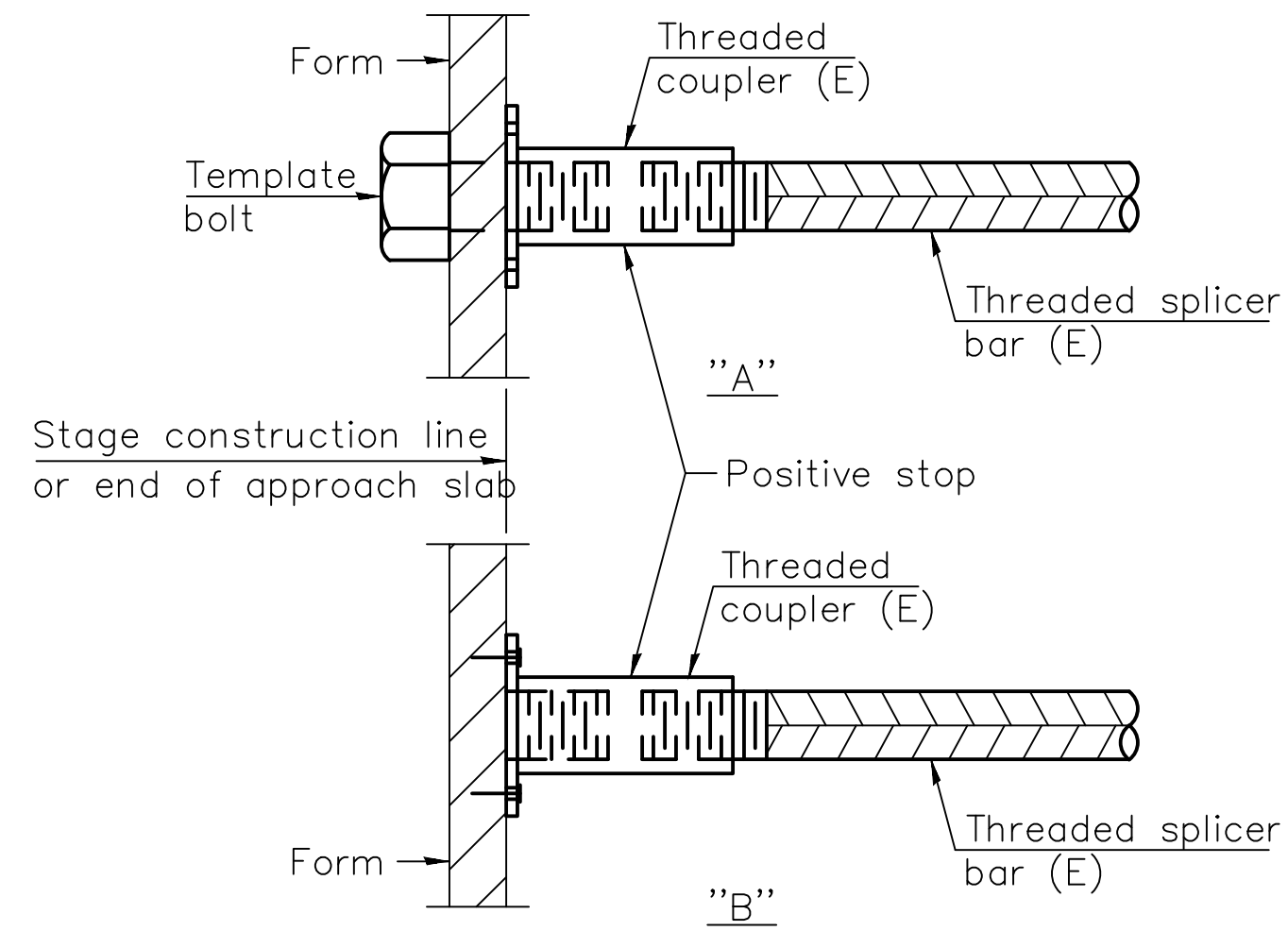
REVISION



Minimum Lap Lengths	
bar Size to be Spliced	Length
3, 4	1'-1"
5	2'-1"
6	2'-11"
7	3'-11"
8	5'-2"
9	6'-7"
10	8'-4"
11	10'-2"

Epoxy Bar, Class C

Threaded splicer bar length = min. lap length + 1½" + thread length.

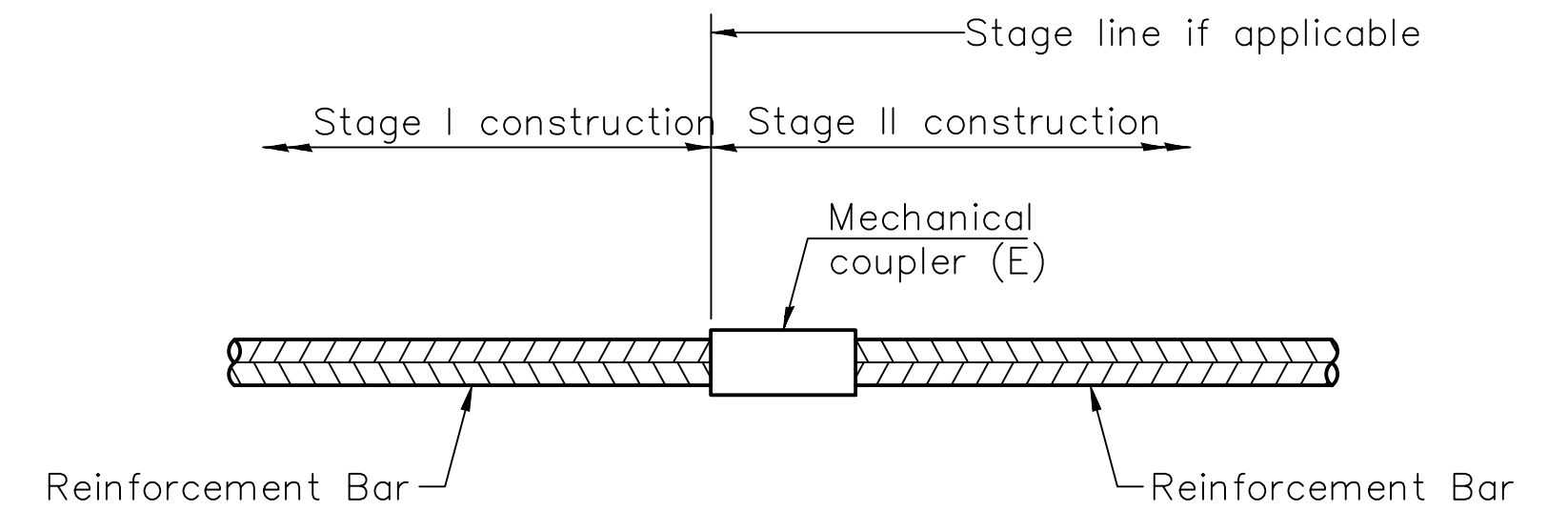


### INSTALLATION AND SETTING METHODS

"A" :Set bar splicer assembly by means of a template bolt.

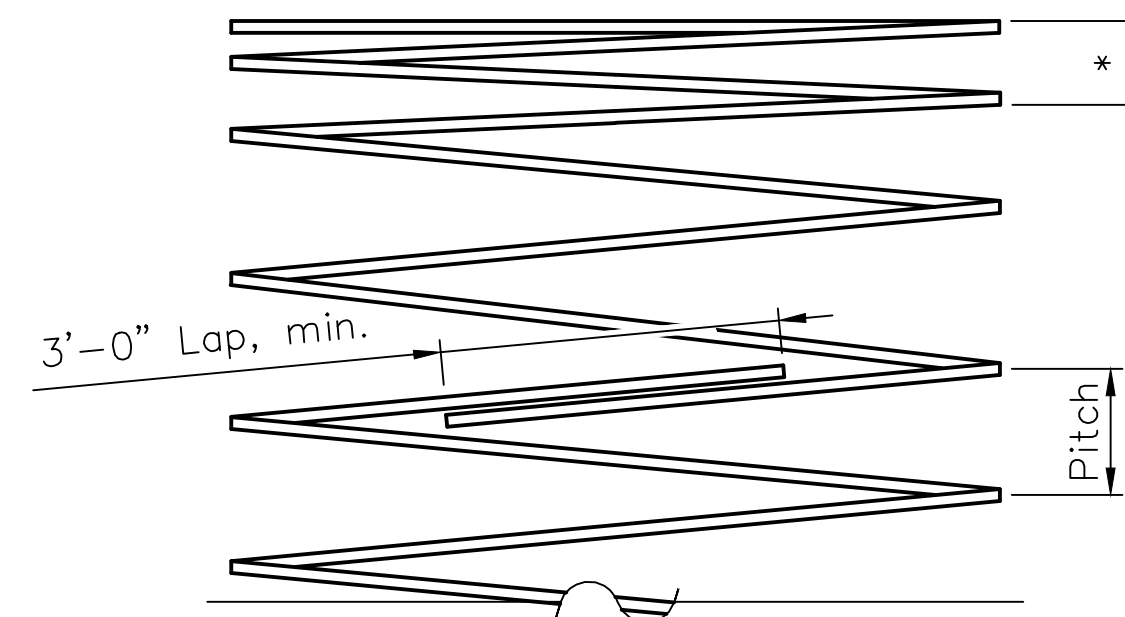
"B" :Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



### STANDARD MECHANICAL SPLICER

Location	Bar Size	No. Assemblies Required
Superstructure – T/Deck Longitudinal bars	#8	754
Superstructure – Side Longitudinal Bars	#8	383
Superstructure – Bottom Longitudinal Bars	#8	398
Superstructure – T/Deck Longitudinal bars	#10	244
Superstructure – Side Longitudinal Bars	#10	115
Superstructure – Bottom Longitudinal Bars	#10	163
Substructure – Abutments and Piers	#10	180
Substructure – Piers	#11	139



### TYPICAL SPIRAL SPLICE DETAIL

\* Provide 1½ extra turns top and bottom.

#### Note:

1. Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the IDOT Standard Specifications. See approved list of bar splicer assemblies and mechanical splicers for alternatives.
2. Lap splices for spiral reinforcement shall be 72.0 coated bar diameters per AASHTO LRFD Section 5.10.6.2. Contractor may submit shop welded lap splice as an alternative.

SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: P. DOMBROWSKI  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

NO. DATE REVISIONS/ISSUANCES  
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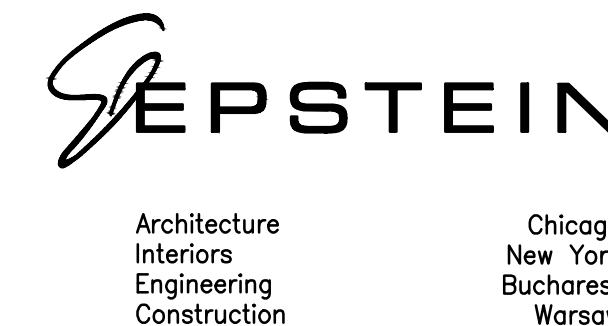
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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
 CLARK PARK TO CALIFORNIA PARK  
 STRUCTURE NO. 016-P025

BAR SPLICER ASSEMBLY DETAILS

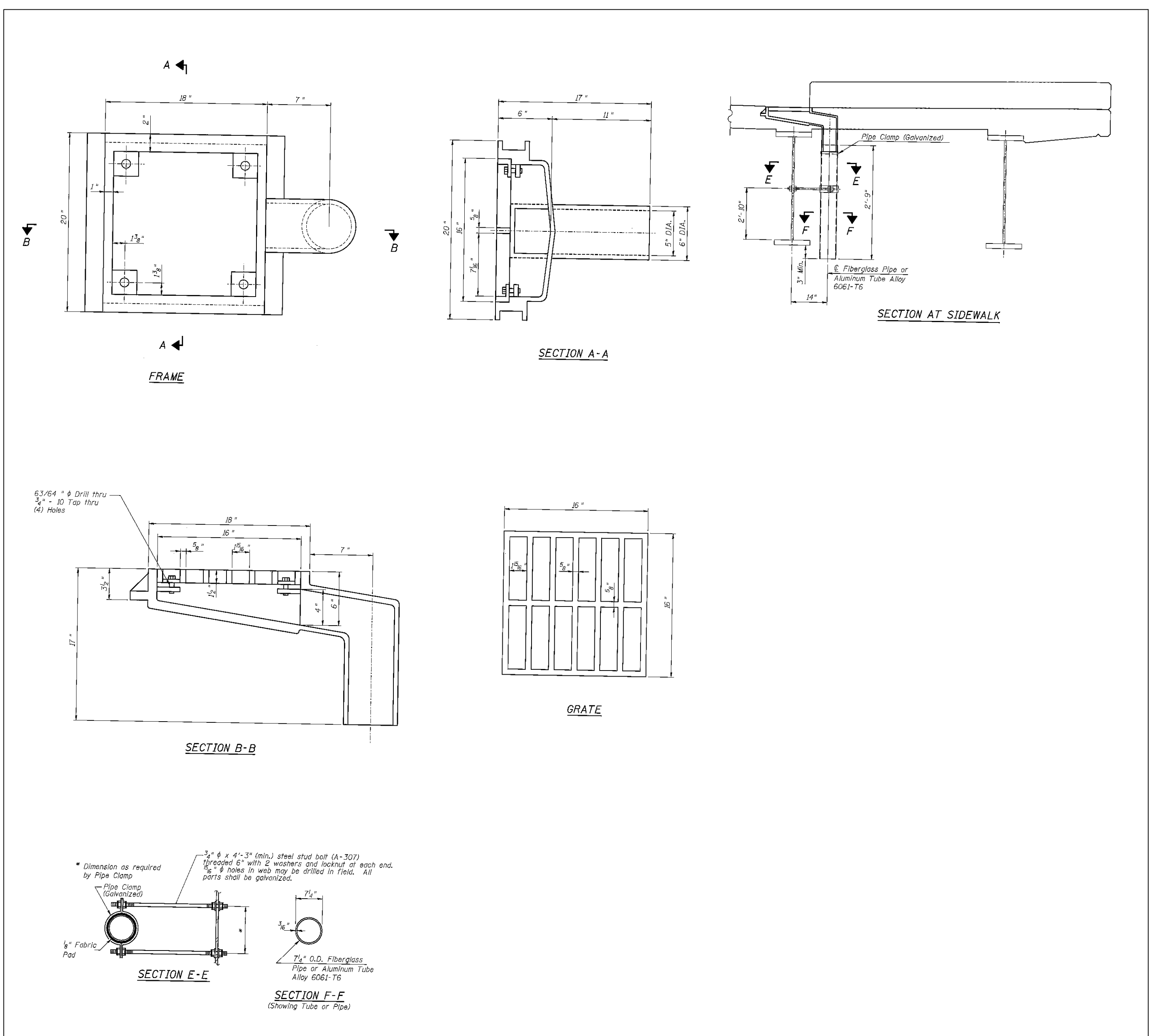
SHEET NO.  
 S-67

SHEET 114 OF 158

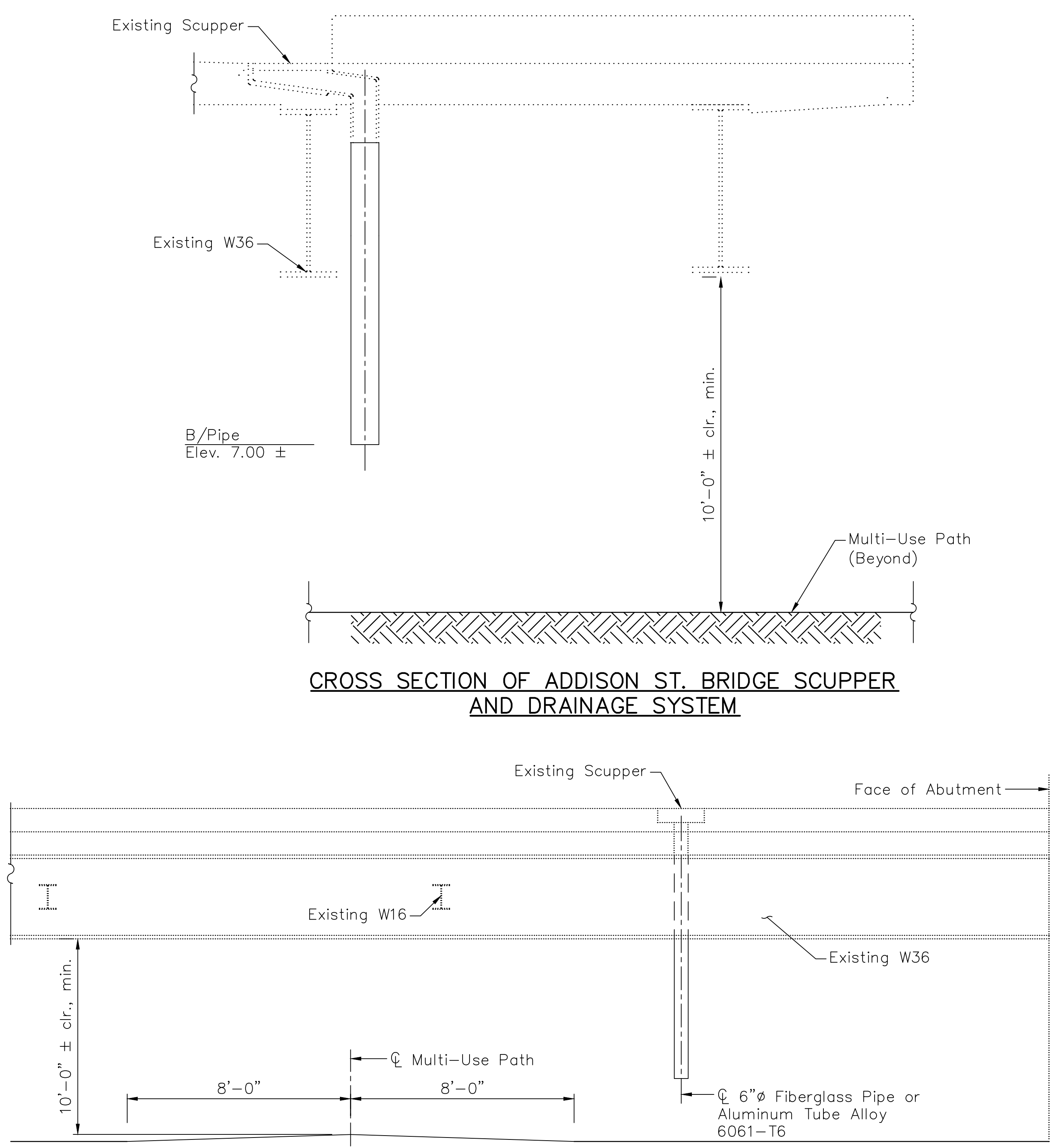
REVISION



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**EXISTING ADDISON ST. BRIDGE SCUPPER AND DRAINAGE SYSTEM**



**ELEVATION OF ADDISON ST. BRIDGE SCUPPER AND DRAINAGE SYSTEM**

(North and South Drains East End of Addison Bridge)

**BILL OF MATERIAL**

Description	Unit	Quantity
Drainage System	L. Sum	1

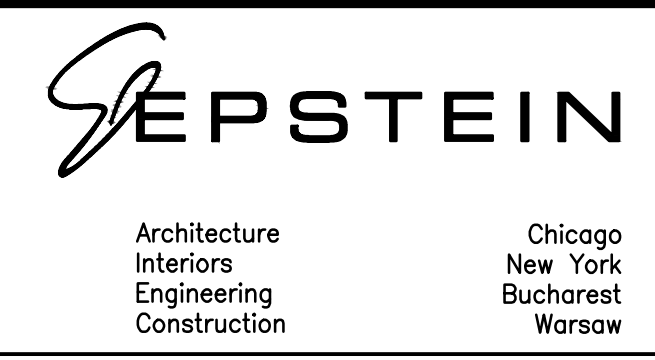
SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: J. MASI  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

NO.	DATE	REVISIONS/ISSUANCES
1	8/12/16	ISSUED FOR FINAL
2	5/6/16	ISSUED FOR FINAL
3	6/05/15	ISSUED FOR FINAL REVIEW

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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
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 STRUCTURE NO. 016-P025

ADDISON ST BRIDGE DRAINAGE EXTENSION

SHEET NO.  
**S-68**

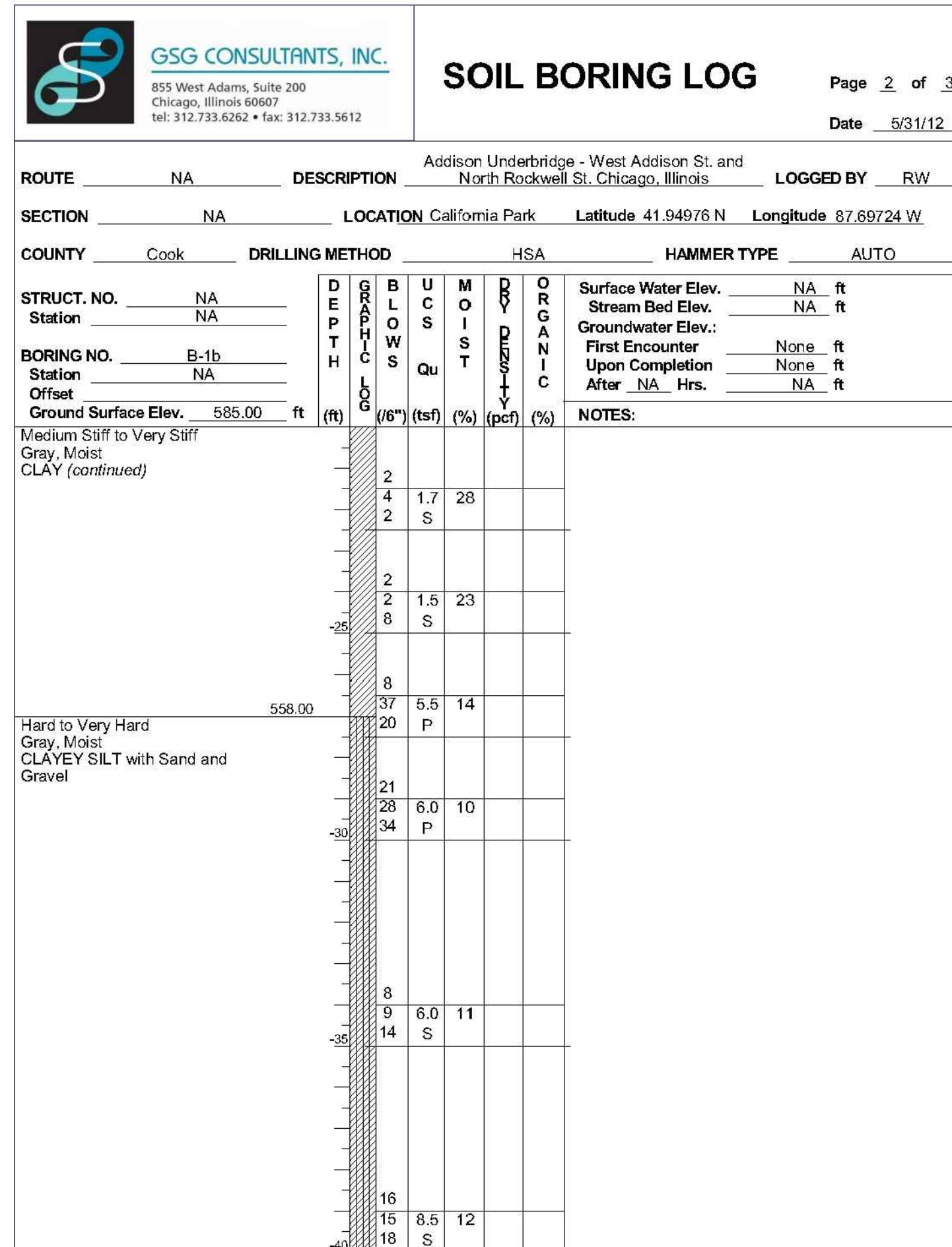
SHEET 115 OF 158

REVISION

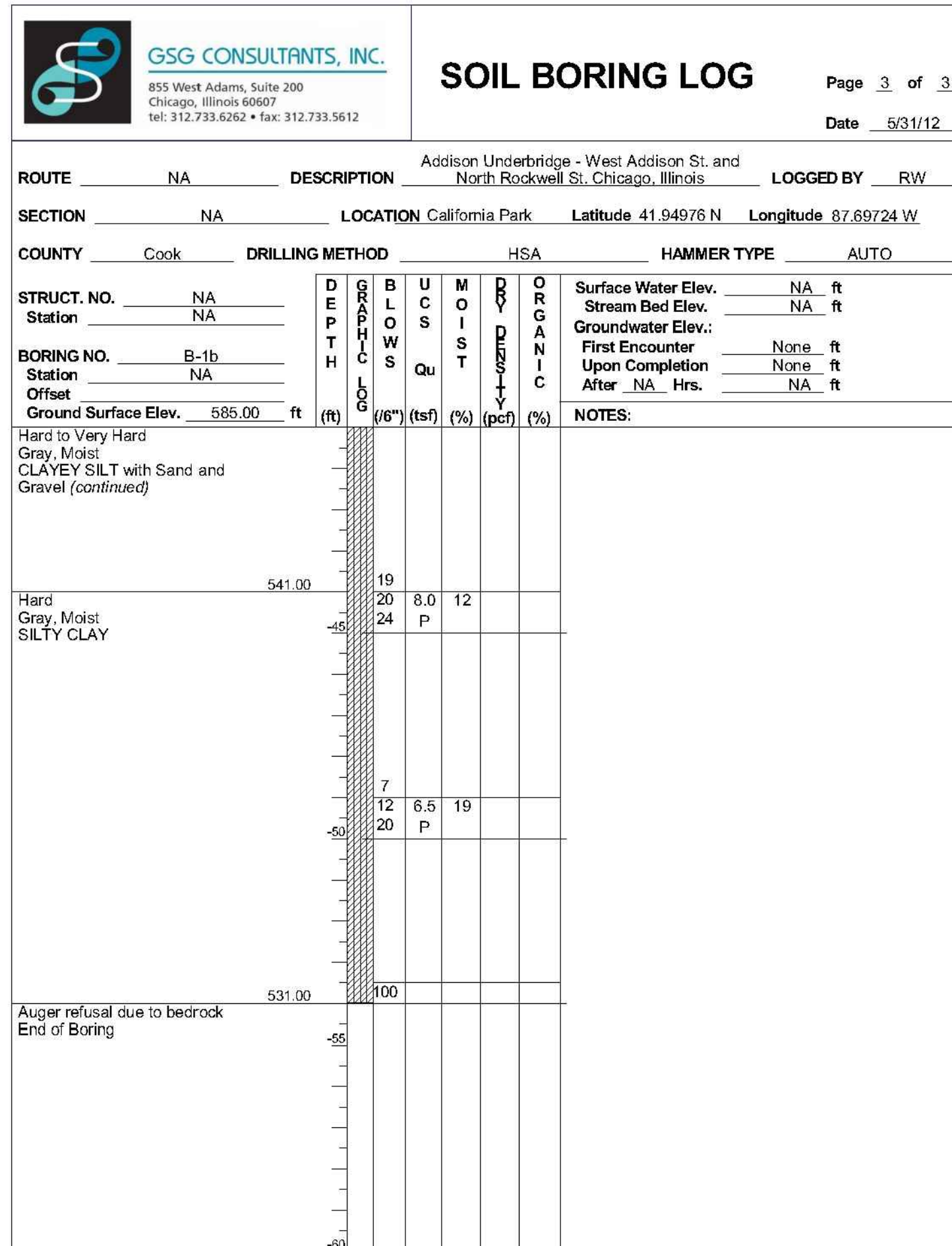




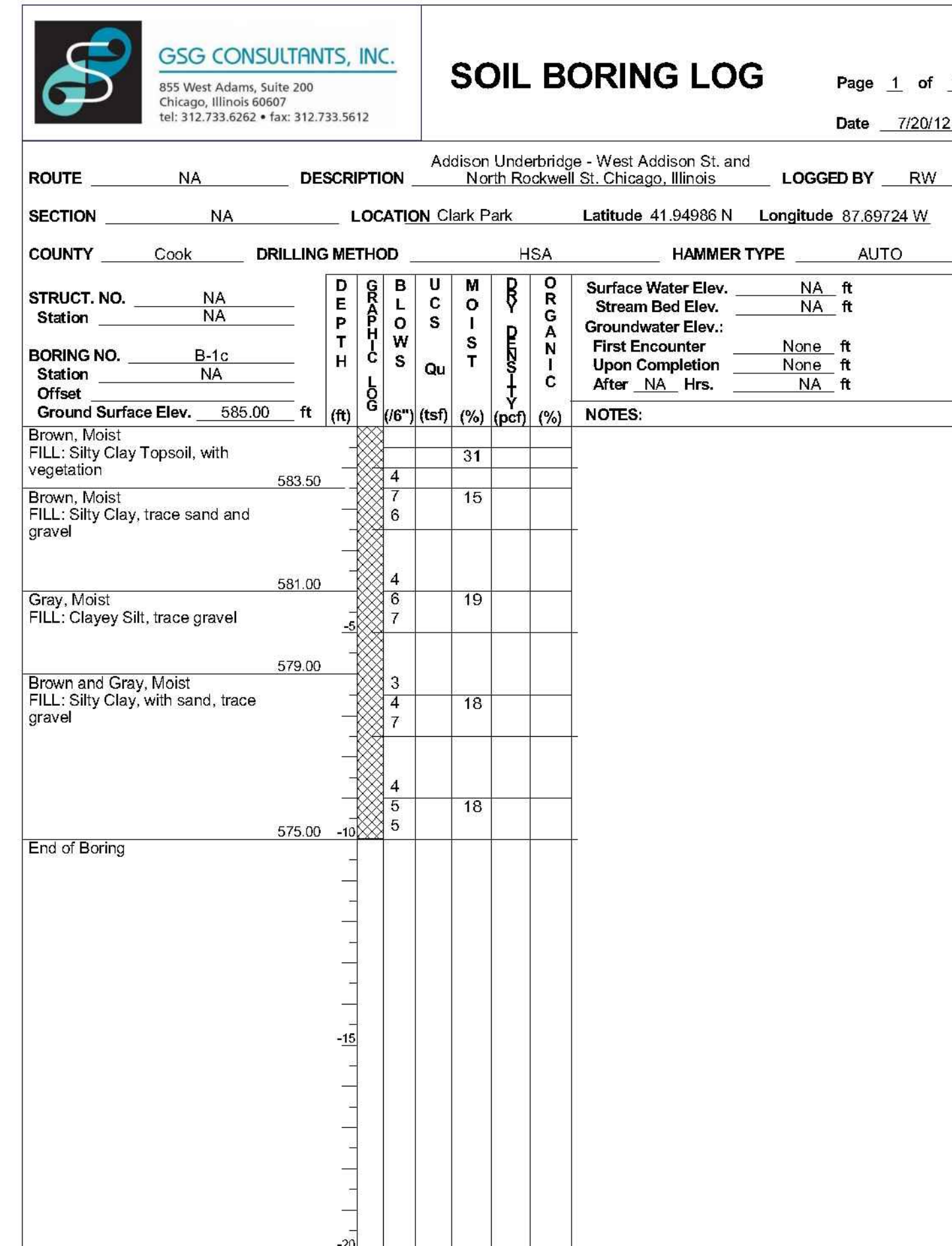




The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T266)



The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T266)



The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T266)

Note:

0.000 CCD = 579.12 Feet NAVD 88 = 578.5715 IGLD85

SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: N. FIRNBACH  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

NO. DATE REVISIONS/ISSUANCES  
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ADDISION UNDERBRIDGE TRAIL CONNECTION FROM  
 CLARK PARK TO CALIFORNIA PARK  
 STRUCTURE NO. 016-P025

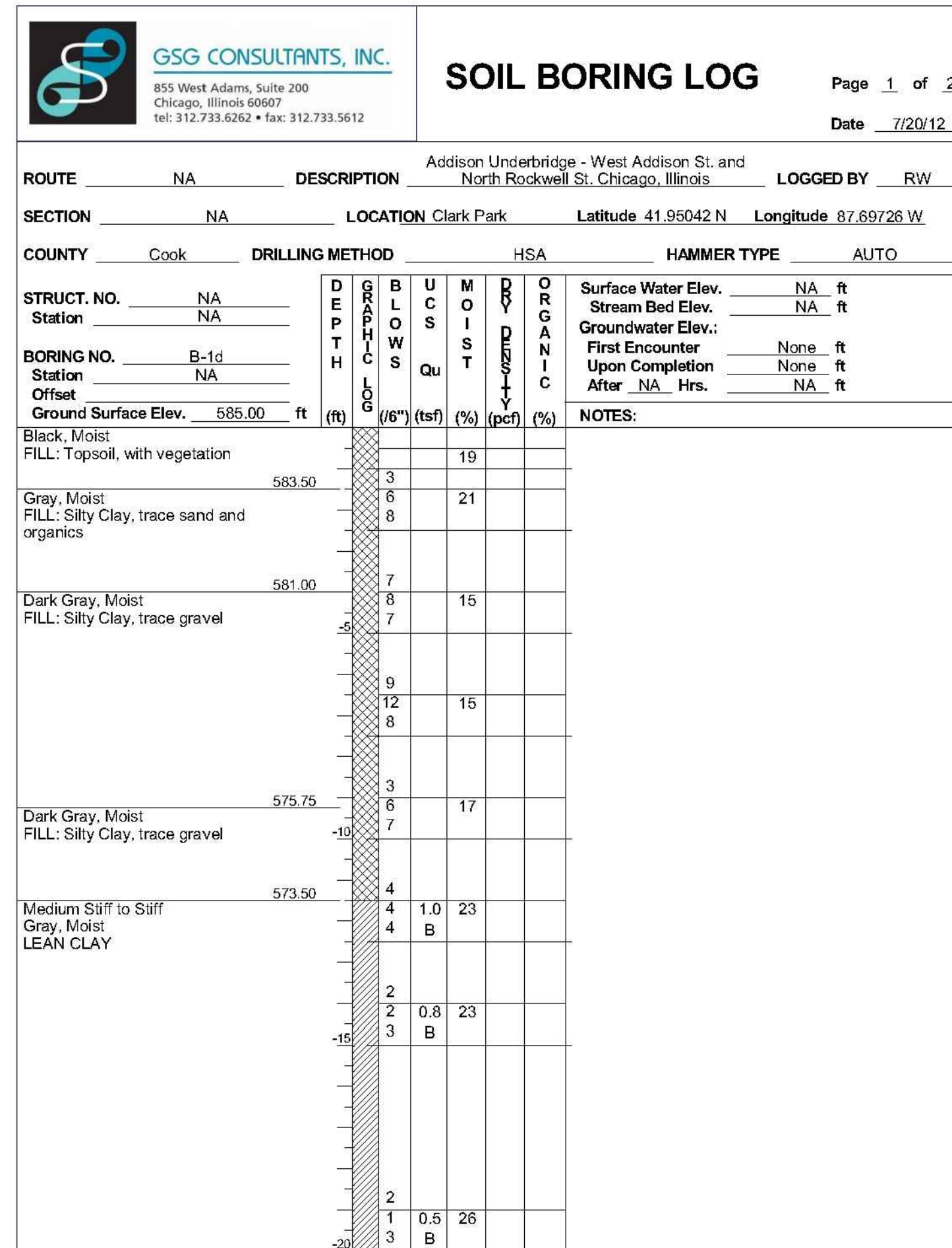
SOIL BORING LOGS

SHEET NO.  
 S-70

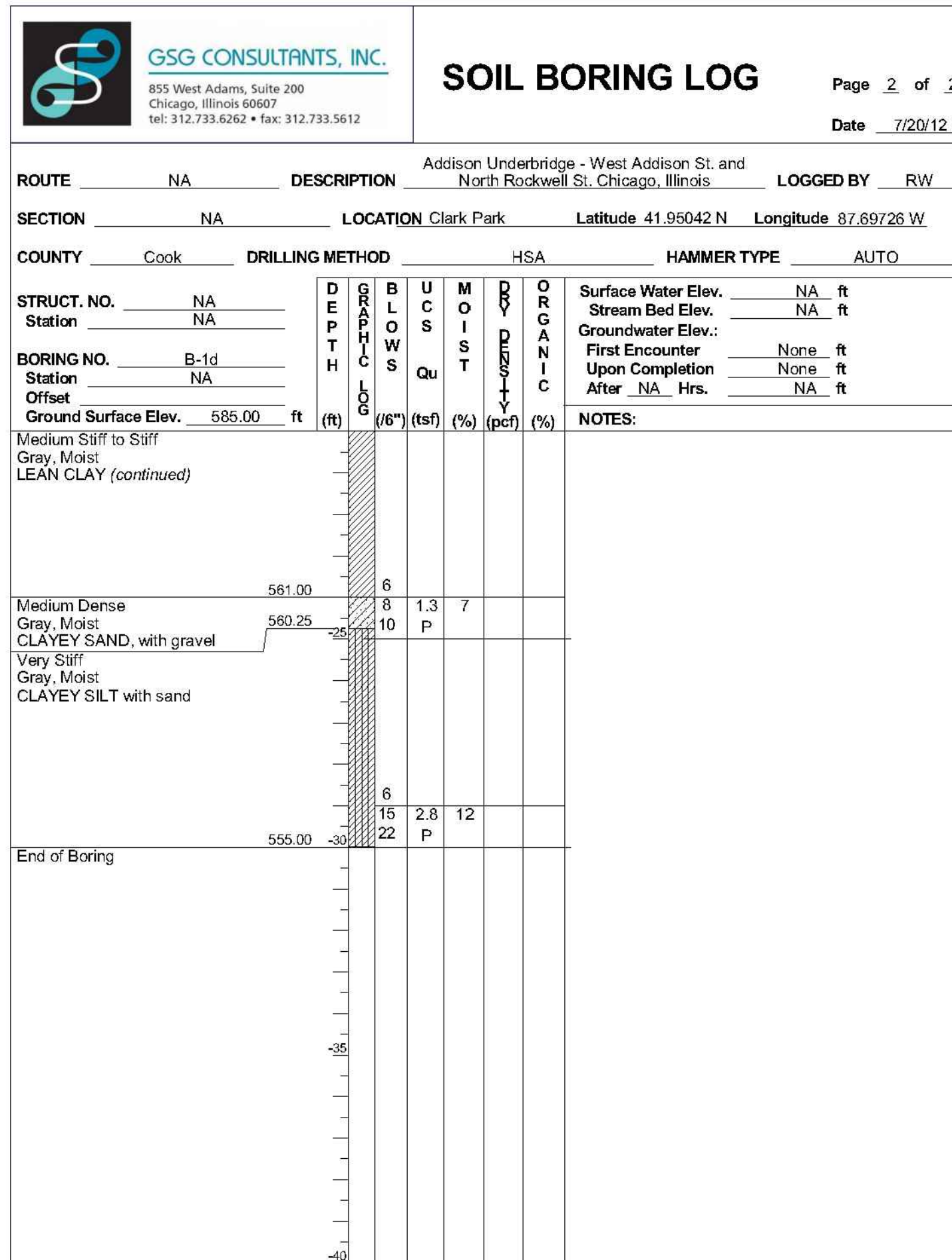
SHEET 117 OF 158

REVISION

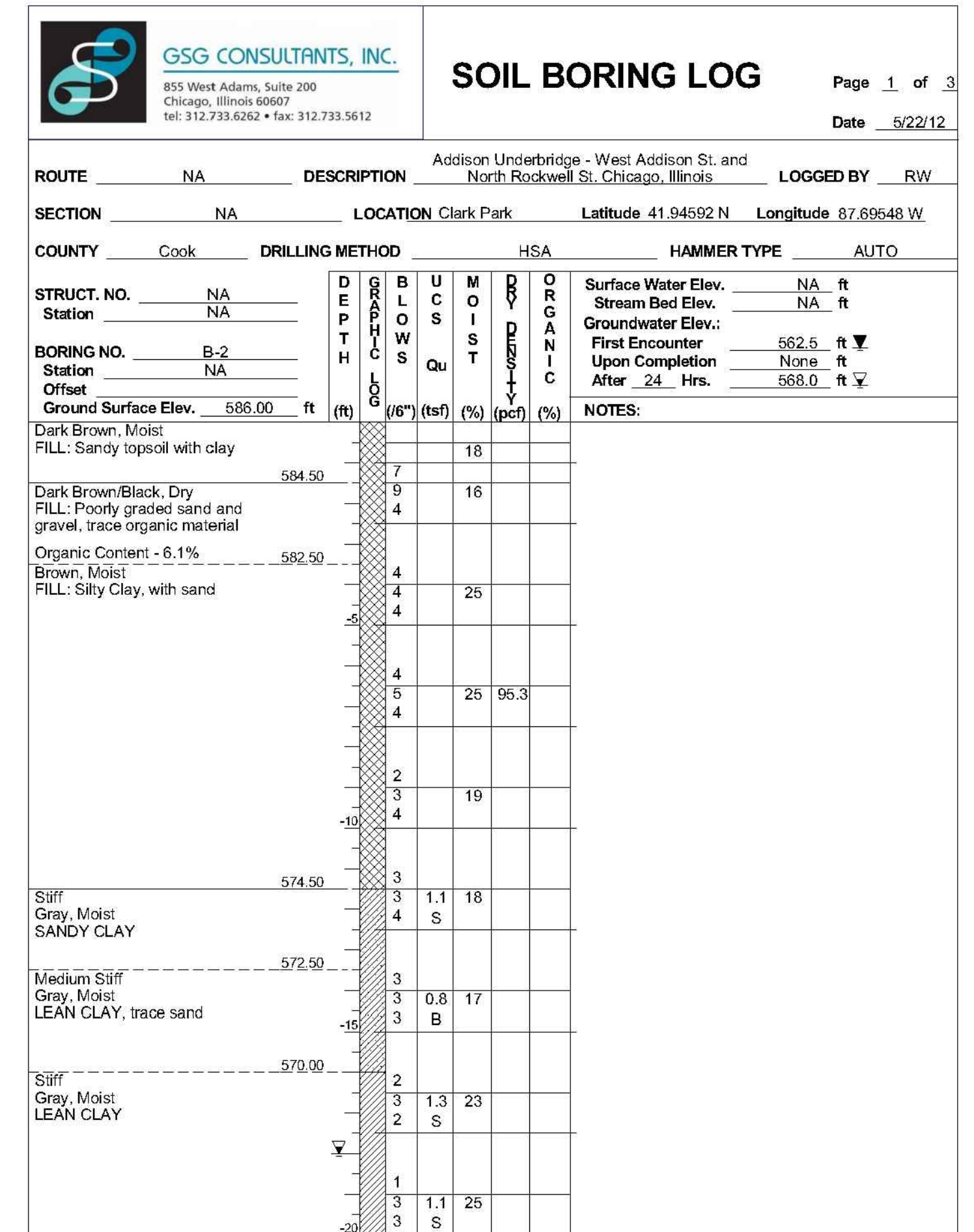




The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Note:

$$0.000 \text{ CCD} = 579.12 \text{ Feet NAVD } 88 = 578.5715 \text{ IGLD85}$$

SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: N. FIRNBACH  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

NO. DATE REVISIONS/ISSUANCES  
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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
 CLARK PARK TO CALIFORNIA PARK  
 STRUCTURE NO. 016-P025

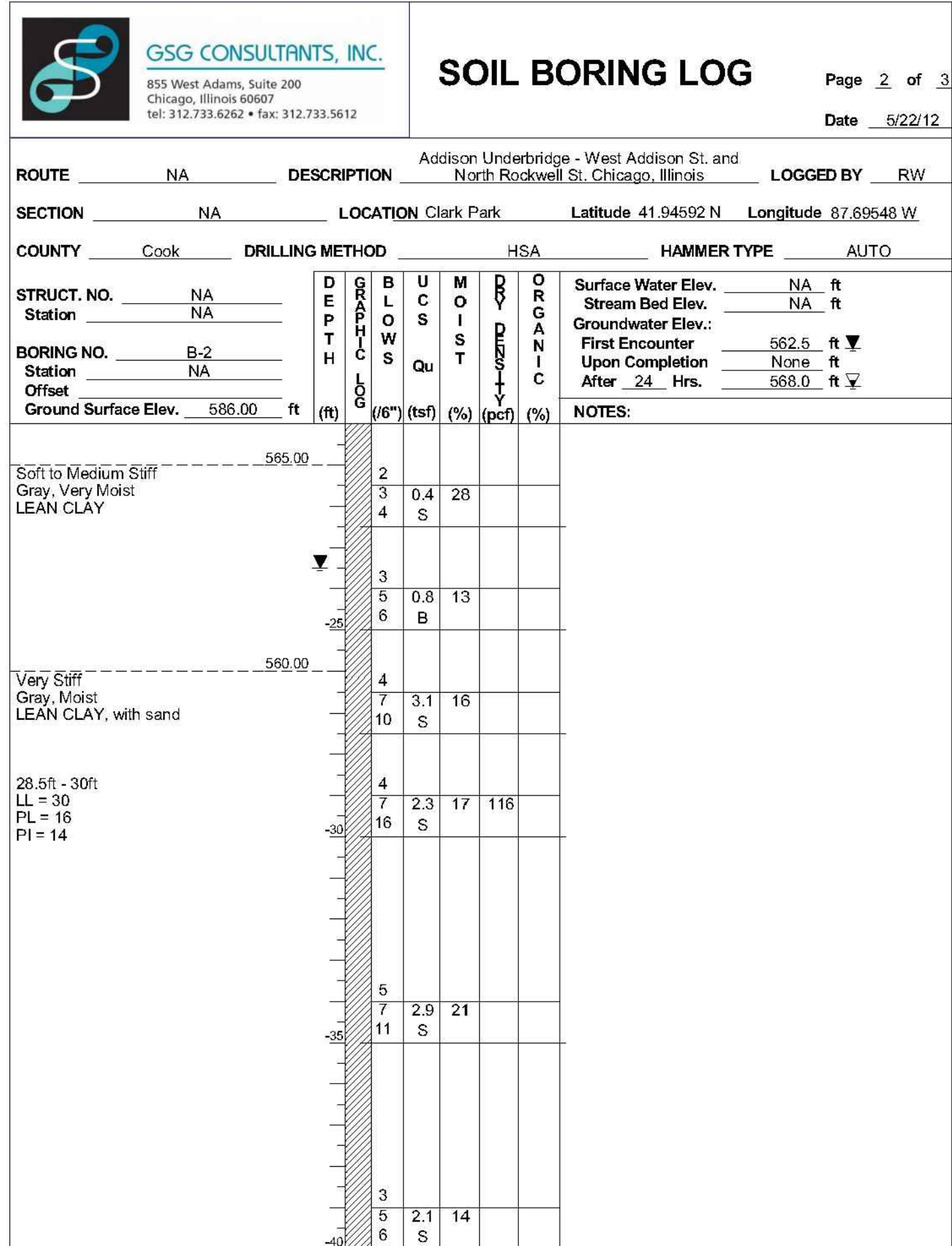
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 S-71

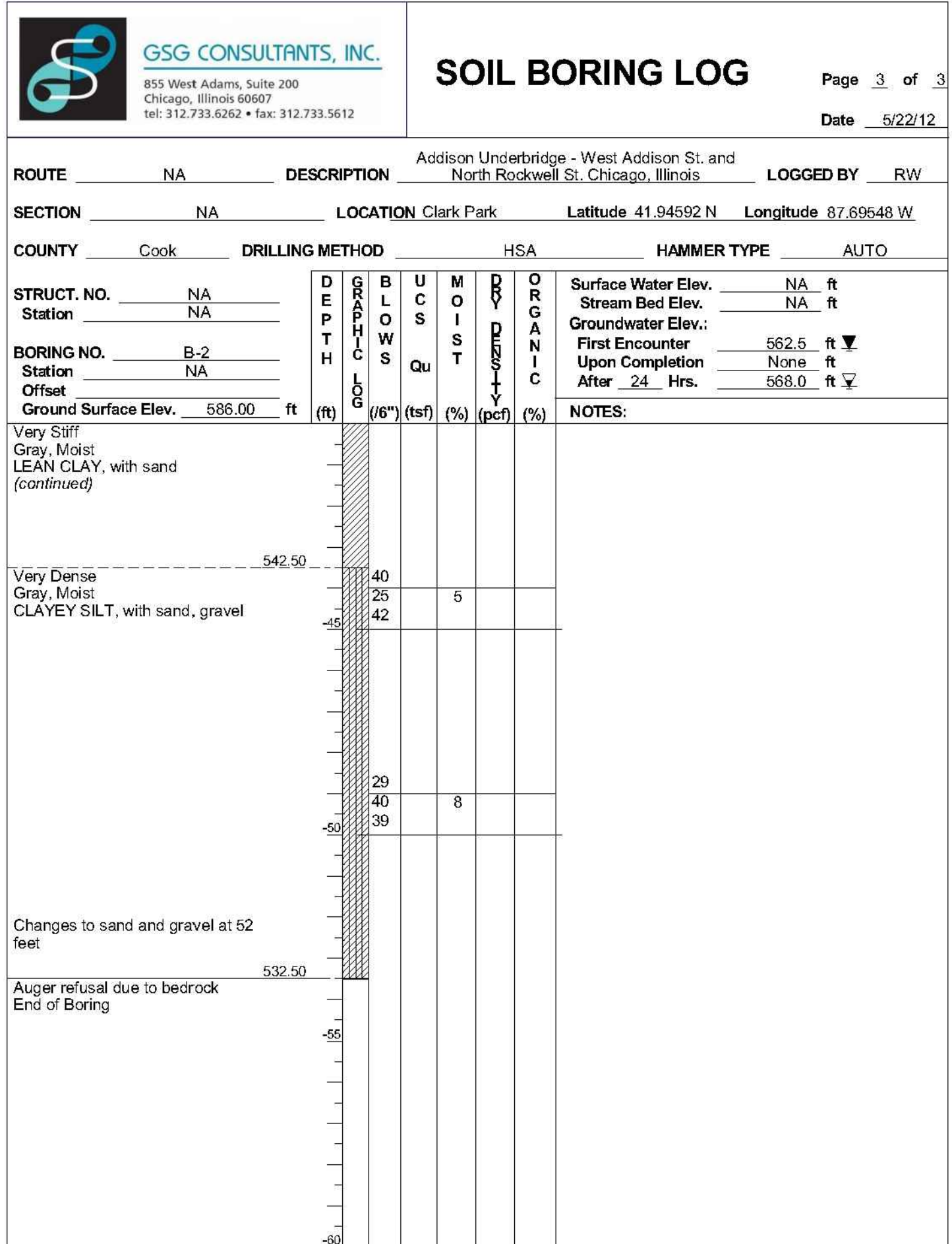
SHEET 118 OF 158

REVISION

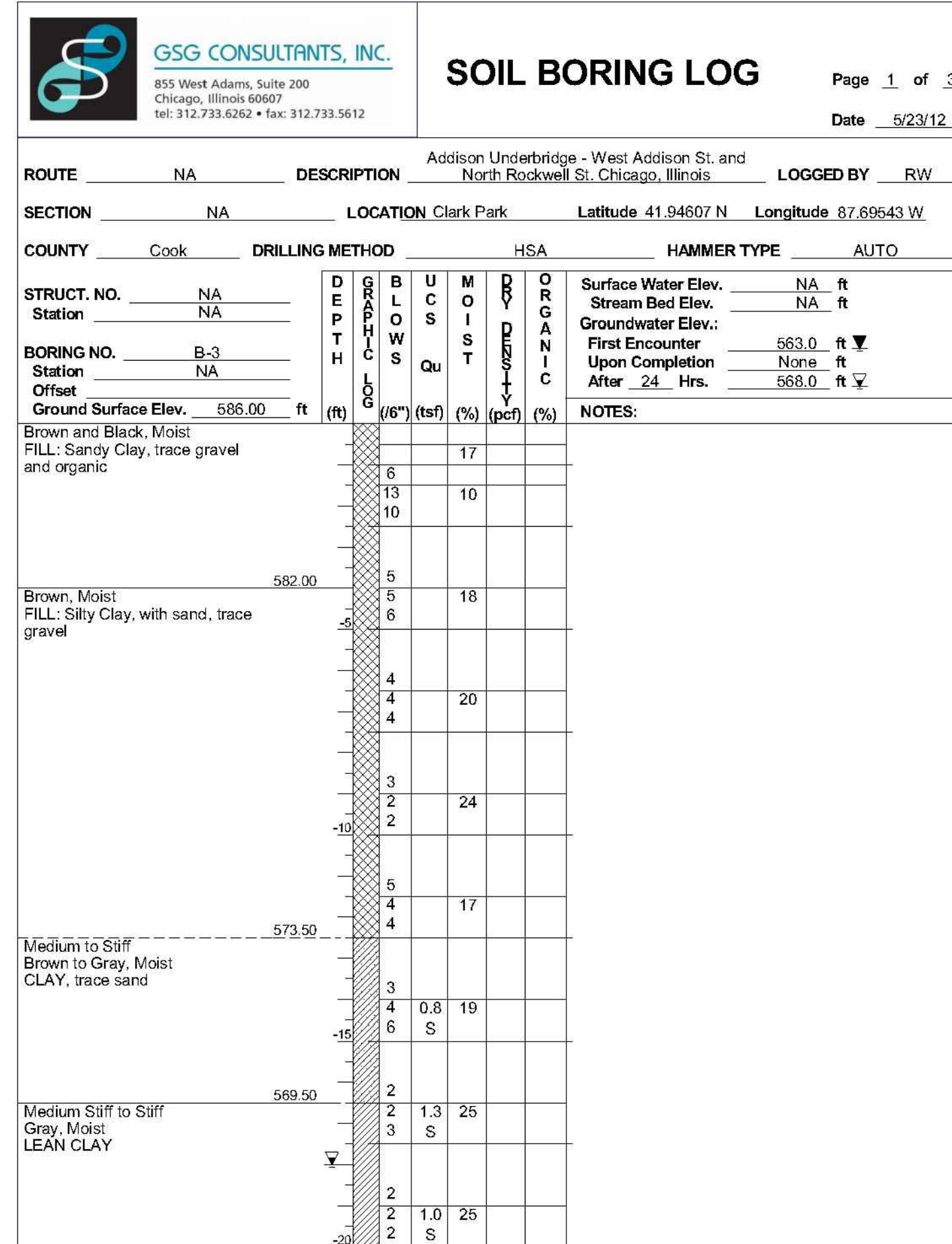




The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Note:

$$0.000 \text{ CCD} = 579.12 \text{ Feet NAVD } 88 = 578.5715 \text{ IGLD85}$$

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SECTION NO.: 12-E9121-00-BT  
DRAWN BY: N. FIRNBACH  
CHECKED BY: R. VARMA  
APPROVED BY: P. DOMBROWSKI  
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6/05/15 ISSUED FOR FINAL REVIEW

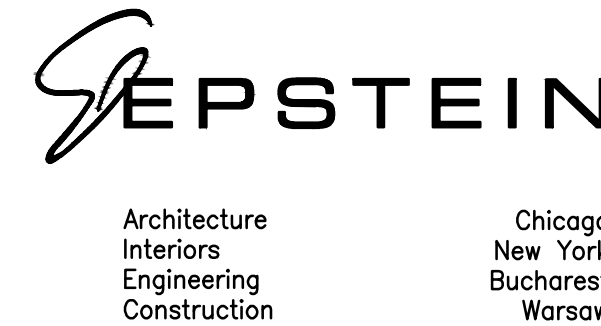
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STRUCTURE NO. 016-P025

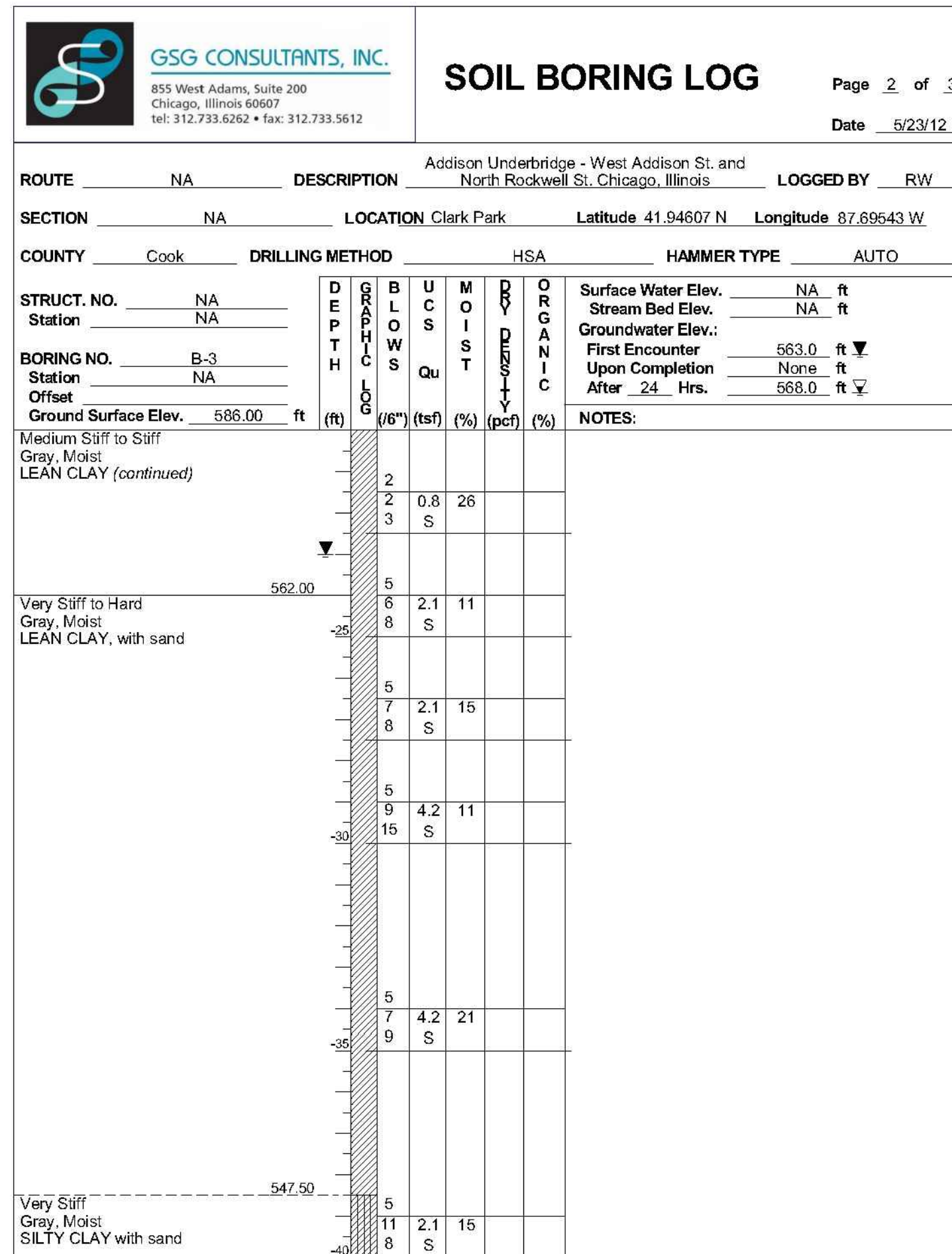
SOIL BORING LOGS

SHEET NO.  
S-72

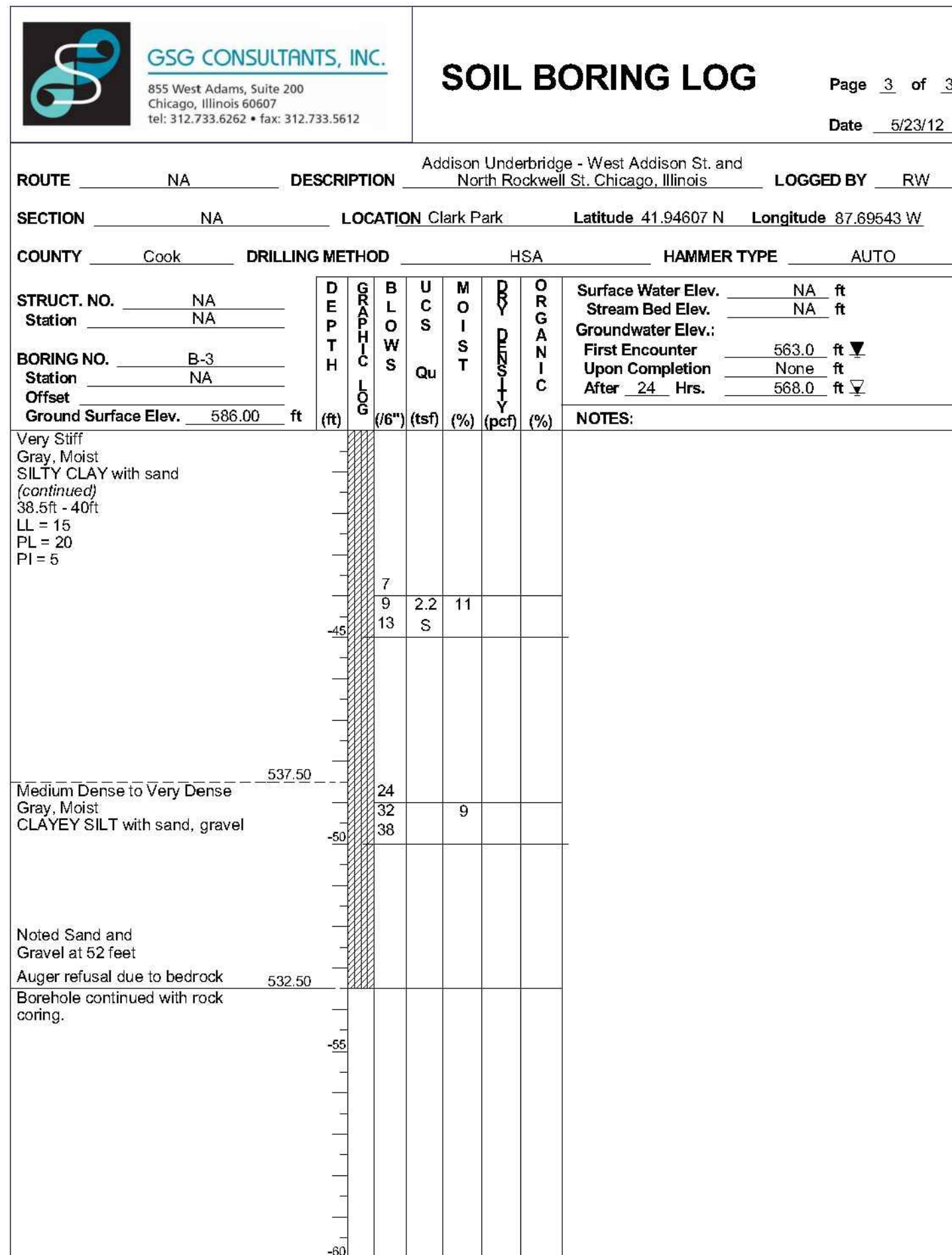
SHEET 119 OF 158

REVISION

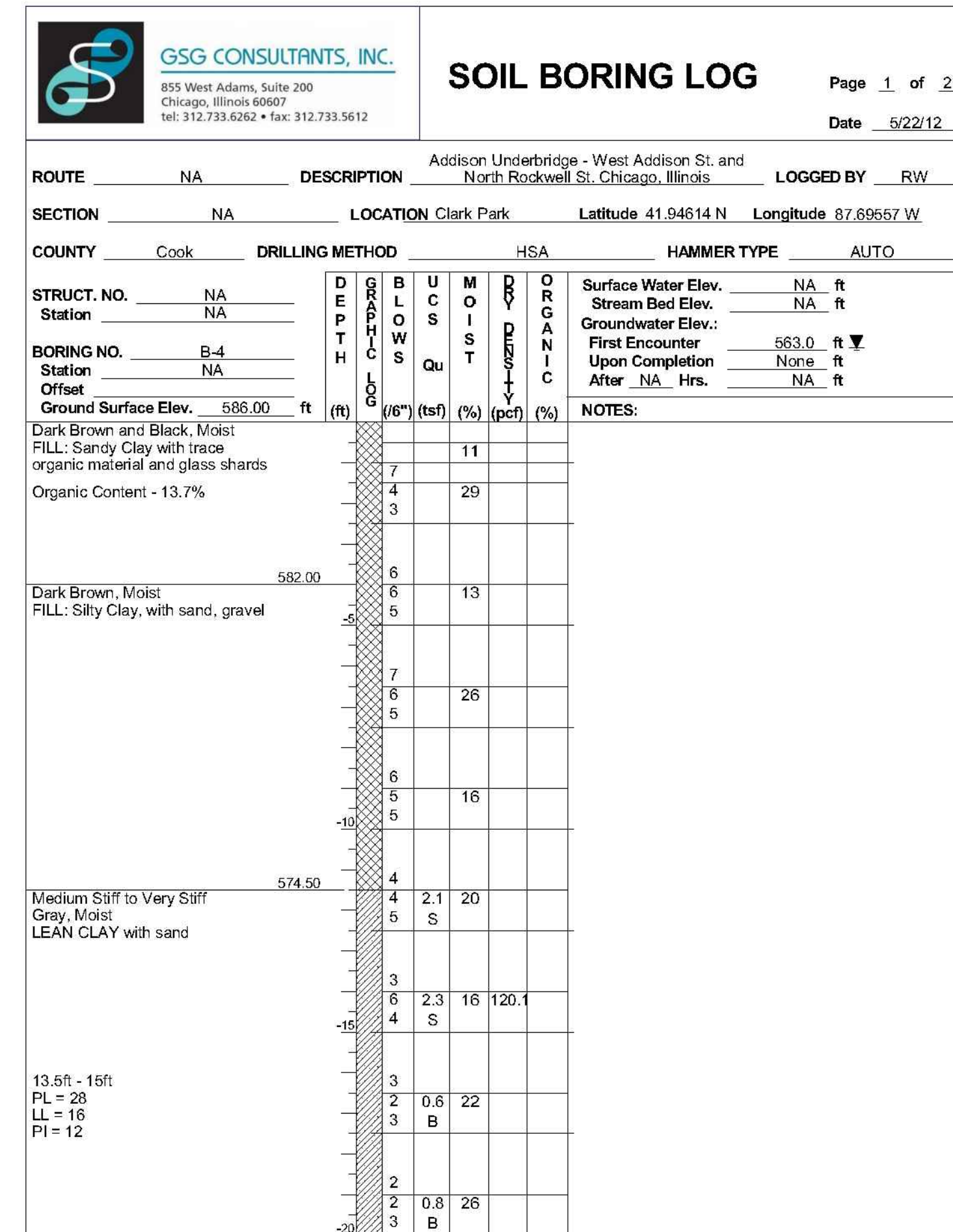




The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



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 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Note:

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SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: N. FIRNBACH  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
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 SCALE: N.T.S.

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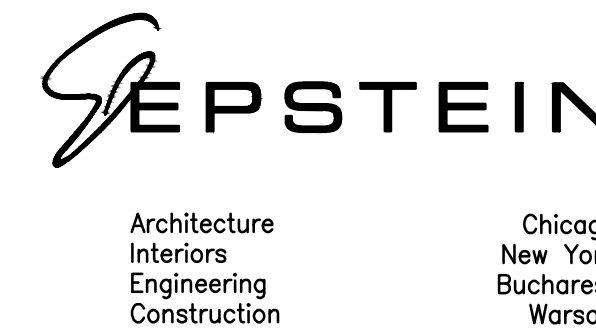
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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
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 STRUCTURE NO. 016-P025

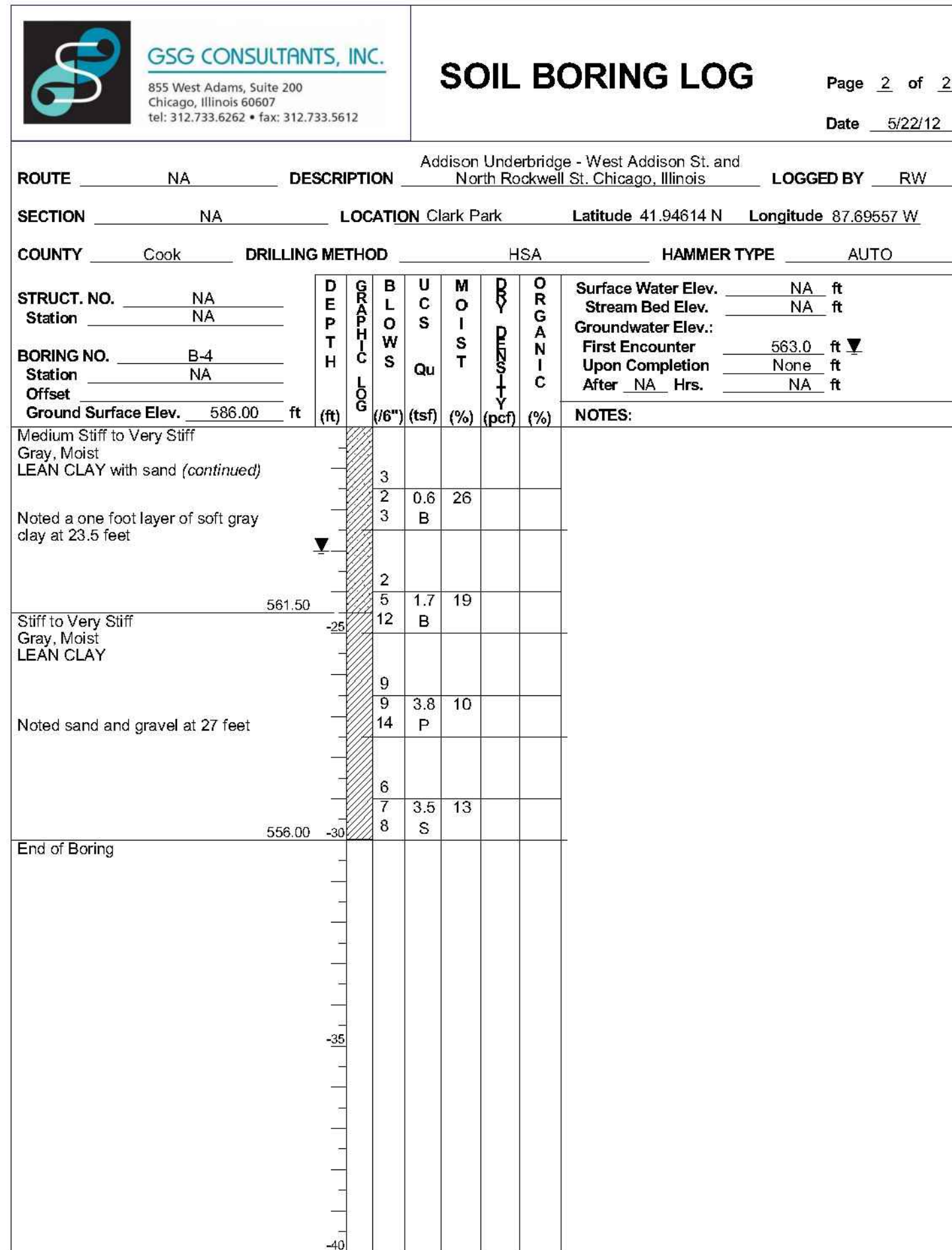
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SHEET NO.  
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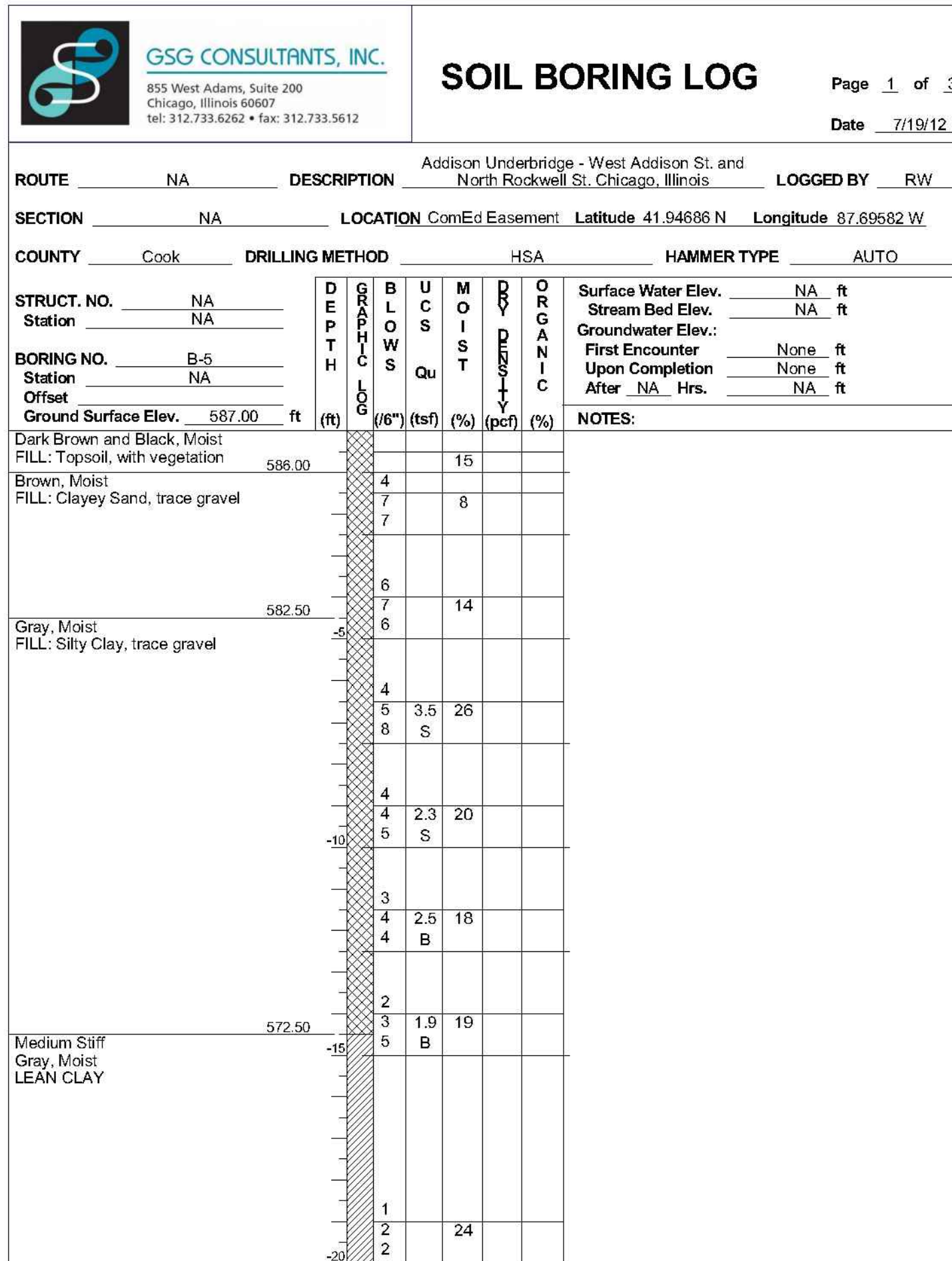
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REVISION

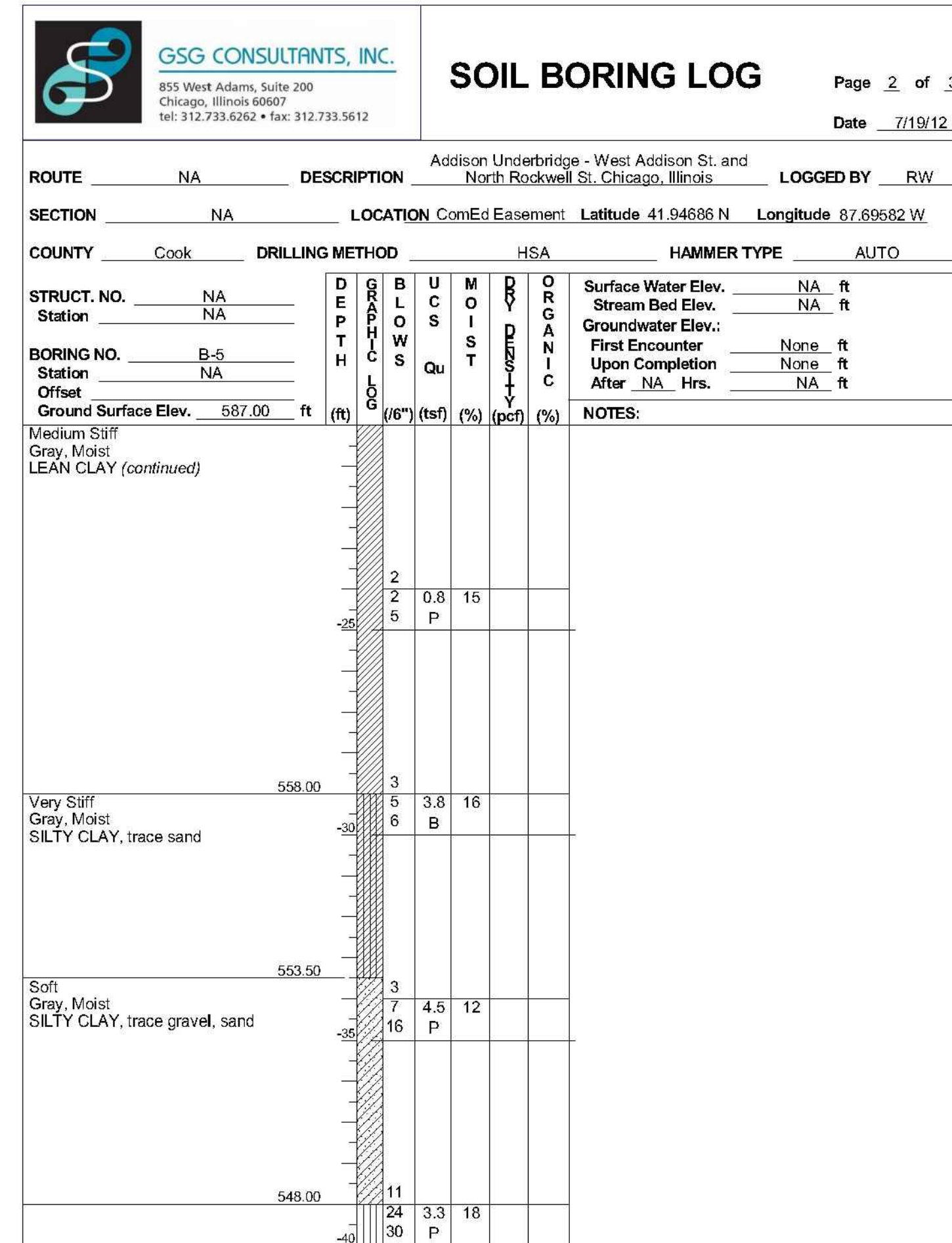




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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Note:

$$0.000 \text{ CCD} = 579.12 \text{ Feet NAVD } 88 = 578.5715 \text{ IGLD85}$$

SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: N. FIRNBACH  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

8/12/16 ISSUED FOR FINAL  
 5/6/16 ISSUED FOR FINAL  
 6/05/15 ISSUED FOR FINAL REVIEW  
 NO. DATE REVISIONS/ISSUANCES

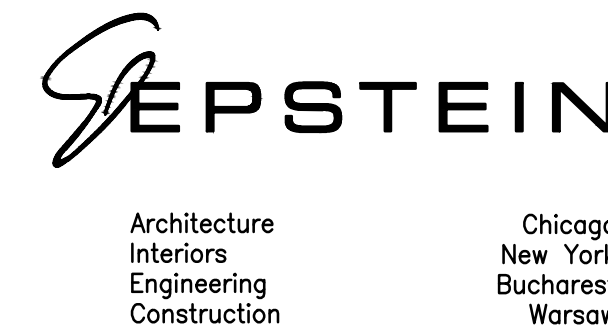
CITY OF CHICAGO

DEPARTMENT OF TRANSPORTATION  
 30 N LaSalle St. Suite 1100  
 Chicago, IL 60602  
 312.744.3600



CONSULTANT

EPSTEIN  
 600 W. Fulton Street  
 Chicago, IL 60661-1259  
 312.454.9100  
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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
 CLARK PARK TO CALIFORNIA PARK  
 STRUCTURE NO. 016-P025

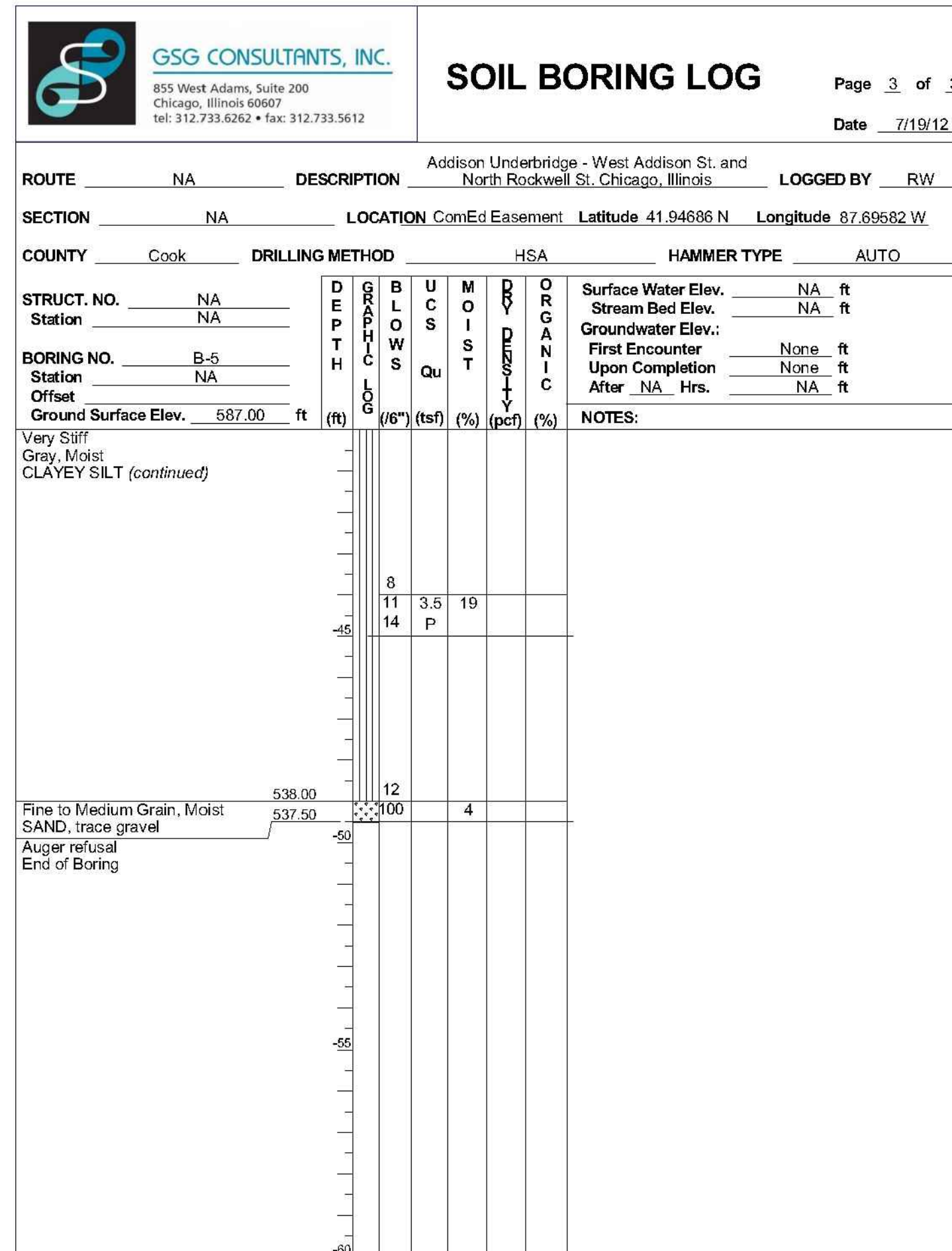
SOIL BORING LOGS

SHEET NO.  
 S-74

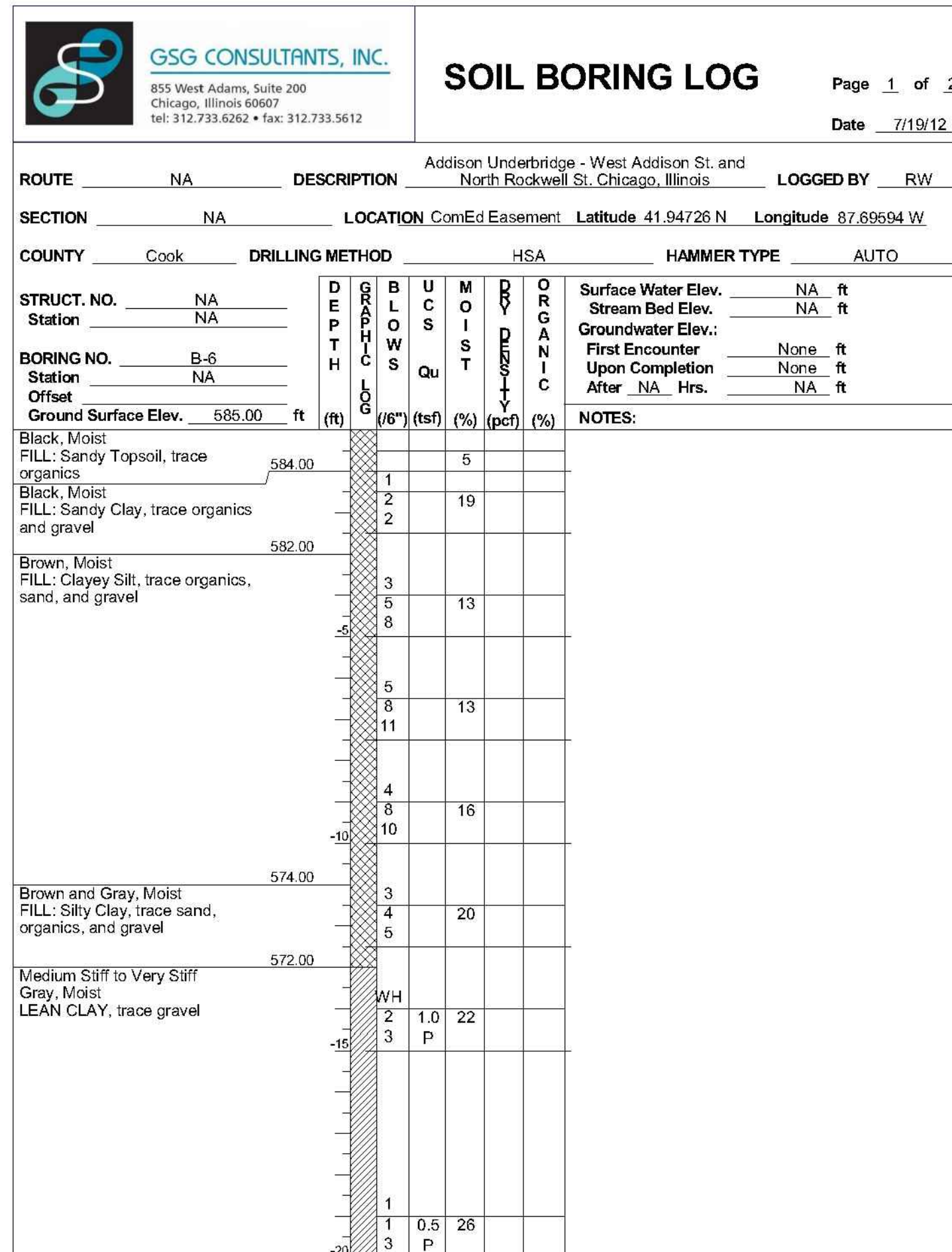
SHEET 121 OF 158

REVISION

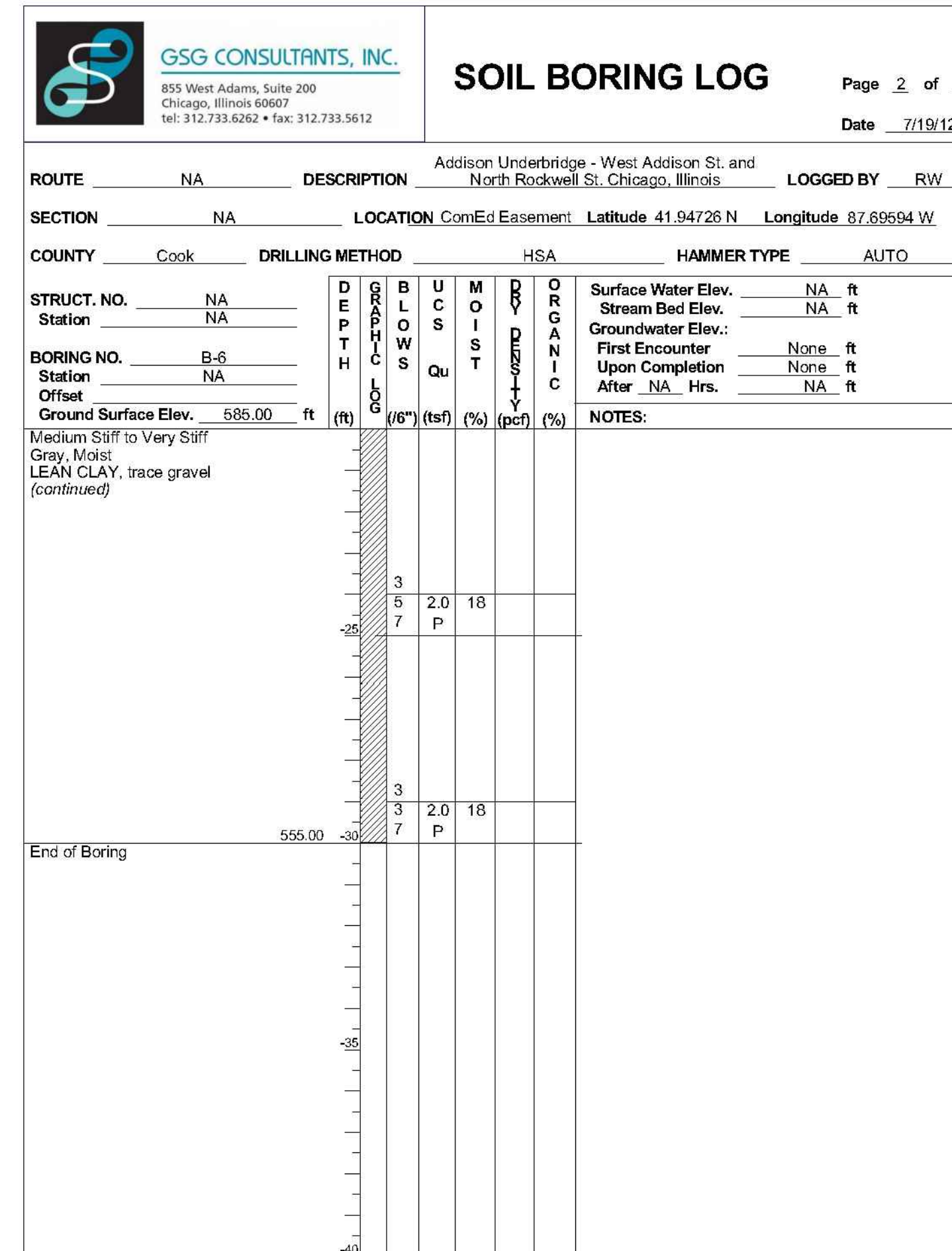




The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T208)



The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T208)



The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T208)

Note:  
 0.000 CCD = 579.12 Feet NAVD 88 = 578.5715 IGLD85

P:\Projects\20000\29346 - CDOT - Addison Underbridge Connection - DISCIPLINE Civil\Working\Sheet\09 - STRUCTURAL\016P025-29346-089\_089\_089 - Soil\_Boring\_Logs.dwg  
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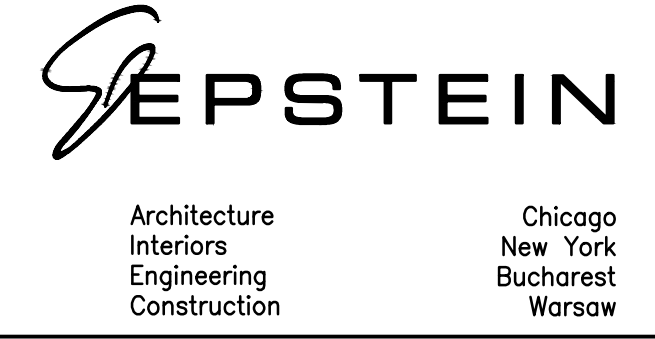
SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: N. FIRNBACH  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

NO. DATE REVISIONS/ISSUANCES  
 1 8/12/16 ISSUED FOR FINAL  
 2 5/6/16 ISSUED FOR FINAL  
 3 6/05/15 ISSUED FOR FINAL REVIEW

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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
 CLARK PARK TO CALIFORNIA PARK  
 STRUCTURE NO. 016-P025

SOIL BORING LOGS

SHEET NO. S-75  
 SHEET 122 OF 158  
 REVISION

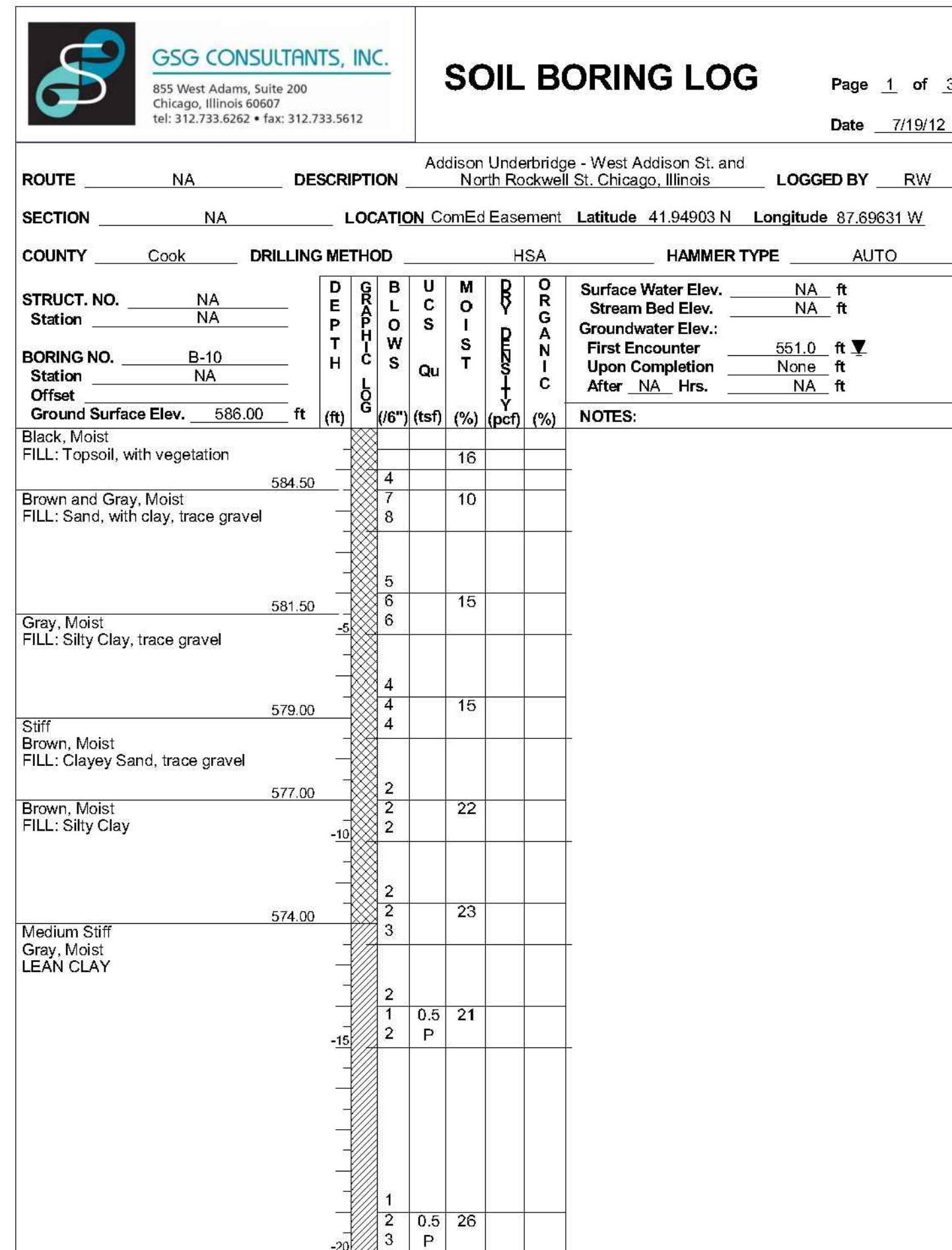




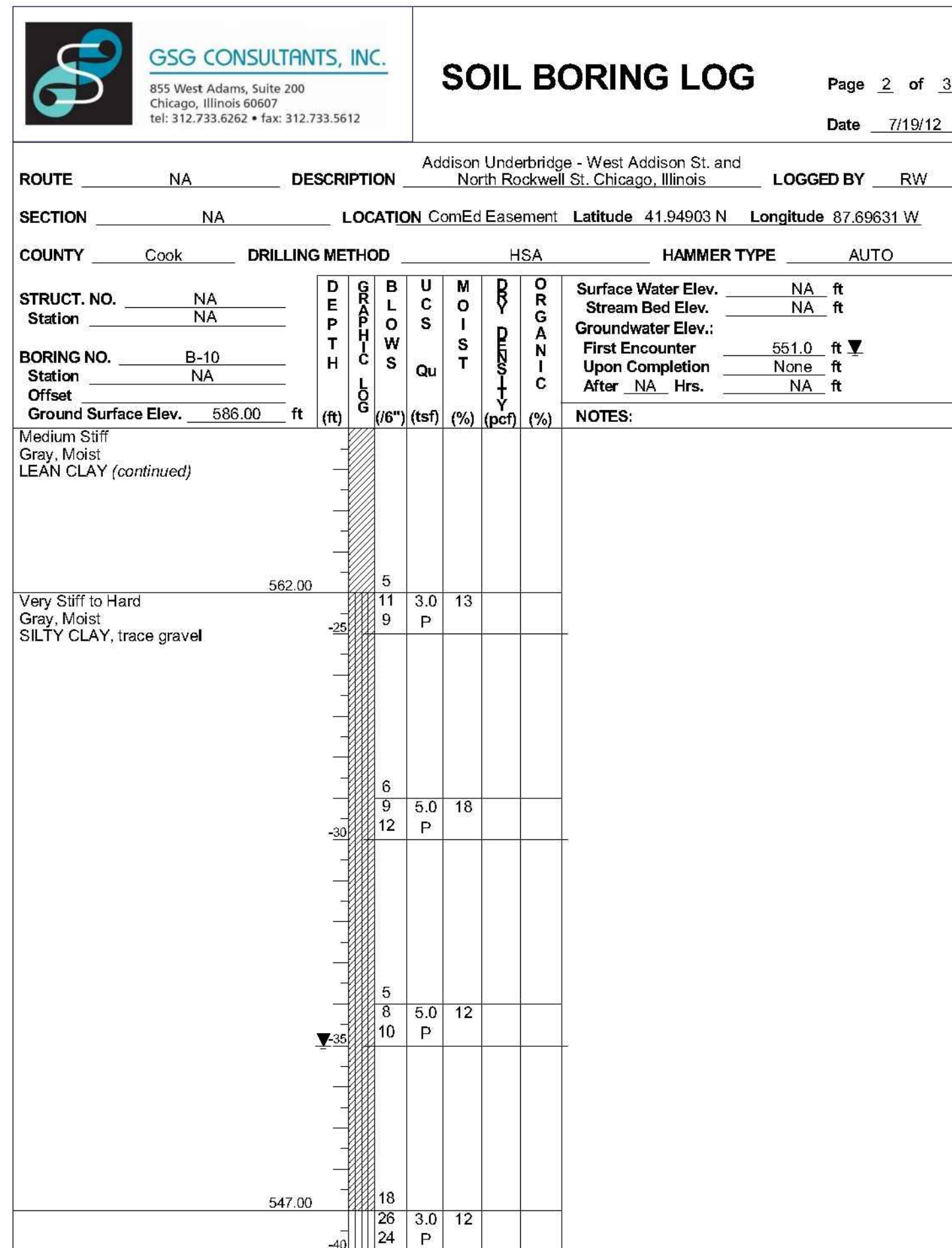




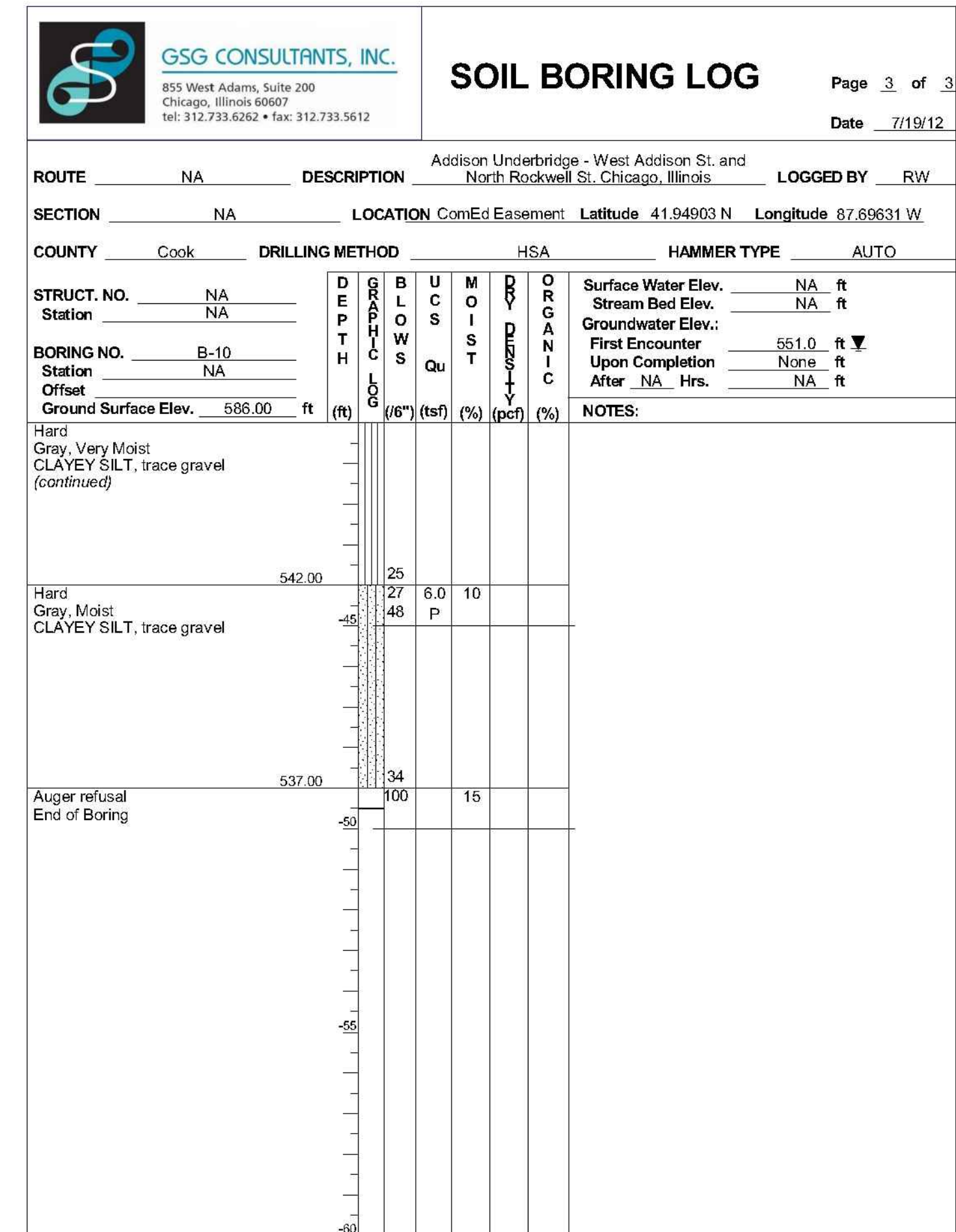




The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Note:

0.000 CCD = 579.12 Feet NAVD 88 = 578.5715 IGLD85

SECTION NO.: 12-E9121-00-BT  
DRAWN BY: N. FIRNBACH  
CHECKED BY: R. VARMA  
APPROVED BY: P. DOMBROWSKI  
DATE: 8/12/2016  
SCALE: N.T.S.

NO. DATE REVISIONS/ISSUANCES  
8/12/16 ISSUED FOR FINAL  
5/6/16 ISSUED FOR FINAL  
6/05/15 ISSUED FOR FINAL REVIEW

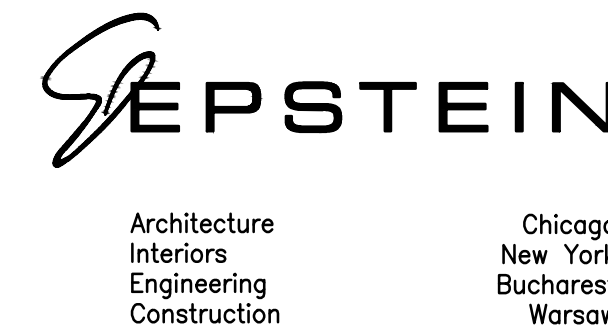
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30 N LaSalle St. Suite 1100  
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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
CLARK PARK TO CALIFORNIA PARK  
STRUCTURE NO. 016-P025

SOIL BORING LOGS

SHEET NO.  
S-78

SHEET 125 OF 158

REVISION











Bench Mark: Cut "□" on traffic signal base at Southeast corner of N. California and W. Addison. Elev. 3.843 m

Existing Structure: S.N. 016-6073 built in 1920. The existing structure is a non-redundant, two steel girder, bearing seat suspension span and bituminous concrete deck bridge. Individual spans measure 15.273 m, 24.384 m, and 15.273 m. The out to out deck dimension is 16.61 m. The abutments are closed and founded on timber piles. The piers consist of two hexagon shaped concrete columns supported by circular concrete caissons resting on rock. Retaining walls extend 60.96 m beyond each wingwall.

Major Work Items: Replace and widen superstructure, lower profile grade, modify abutments, replace concrete columns of piers with hammerhead walls, replace approach slabs, repair abutments, pier caisson caps and retaining walls.

Salvage: Ornamental Railing  
0.000 CCD = 176.626 m USGS

Notes:  
All dimensions are in millimeters (mm) except as noted.

**CONSTRUCTION PROCEDURE**

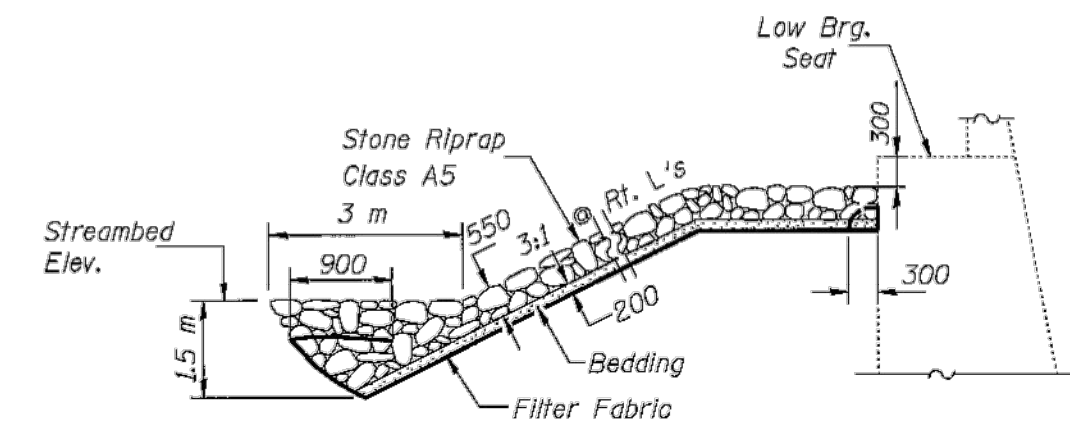
All work taking place below the waterline, except the riprap at the east abutment and the removal and replacement of the dolphins, will be temporary. The streambed elevation will not be altered.

West Abutment Footing Repair:  
Dikes (sand bags) may be placed around the footing which requires formed concrete repair.

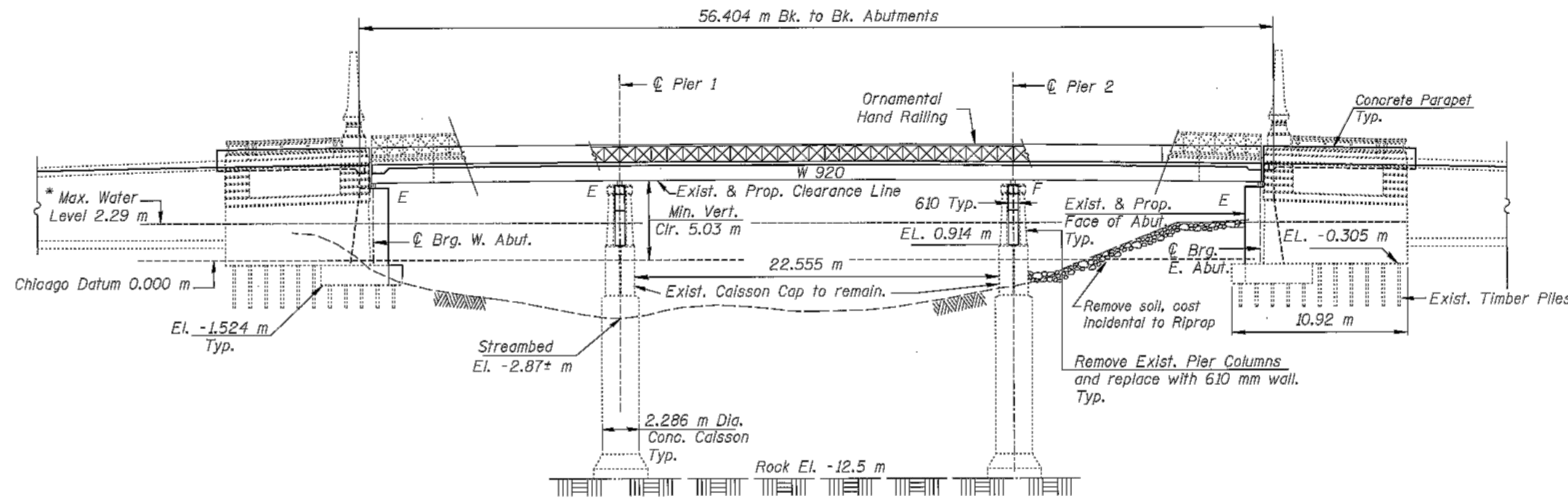
Pier Repair:  
The removal and replacement of the pier columns with a concrete wall may be performed from a barge. Formed concrete repair of the caisson cap may extend 300 mm below the water level. In the event the water level rises, concrete repair below the waterline shall be performed in accordance with Section 503.08 of the Standard Specifications.

Dolphin Repair:  
Existing timber piles will be removed and replaced.

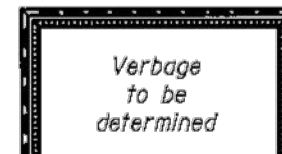
\* MWRD maximum water level at the North Branch PS N.S. Channel at Lawrence Ave. August 1987. Water elevation regulated by the Metropolitan Water Reclamation District of Greater Chicago.



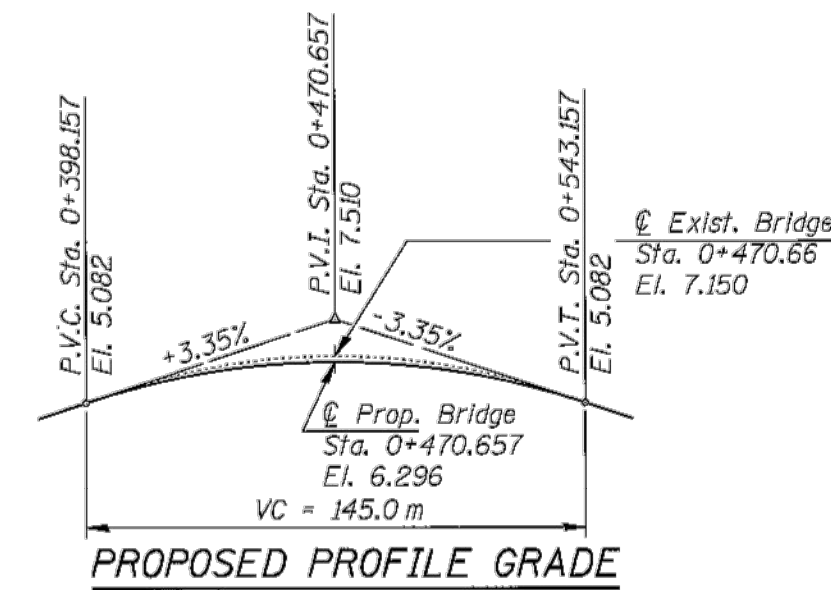
SECTION THRU EAST SLOPEWALL  
SHOWING RIPRAP ANCHOR DETAIL



ELEVATION



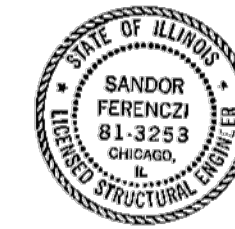
NAME PLATE  
See sheet 38 for details



PROPOSED PROFILE GRADE

APPROVED  
FOR STRUCTURAL ADEQUACY ONLY

Ralph E. Anderson  
Engineer of Bridges and Structures



Sandy Ferenczi  
License Expires: 11-30-1998  
Current Date: 3-22-1997

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of the structure and complies with requirements of the current "AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES".

**SEISMIC DATA**

Seismic Performance Category (SPC) = A  
Acceleration Coeff. (A) = 0.04 g  
Site Coefficient (S) = 1.0

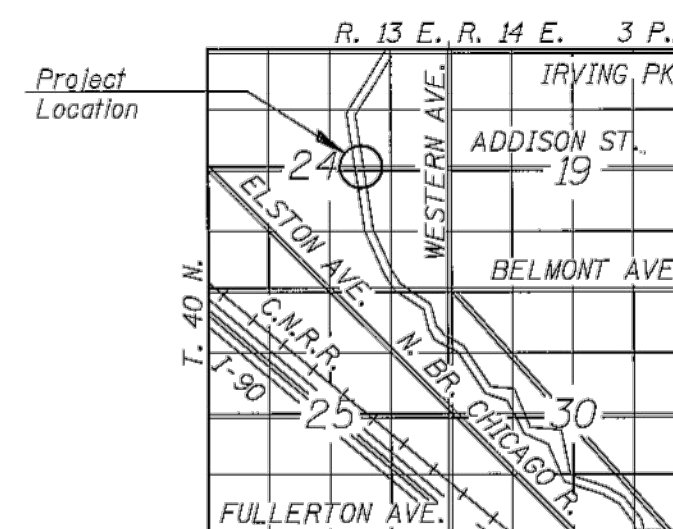
**DESIGN SPECIFICATIONS**

1992 AASHTO, & 1993, 1994 & 1995 Interim.

**LOADING MS18**

**DESIGN STRESSES**

FIELD UNITS  
f'c = 24 MPa  
fy = 400 MPa (reinf.)  
fy = 250 MPa (M270)

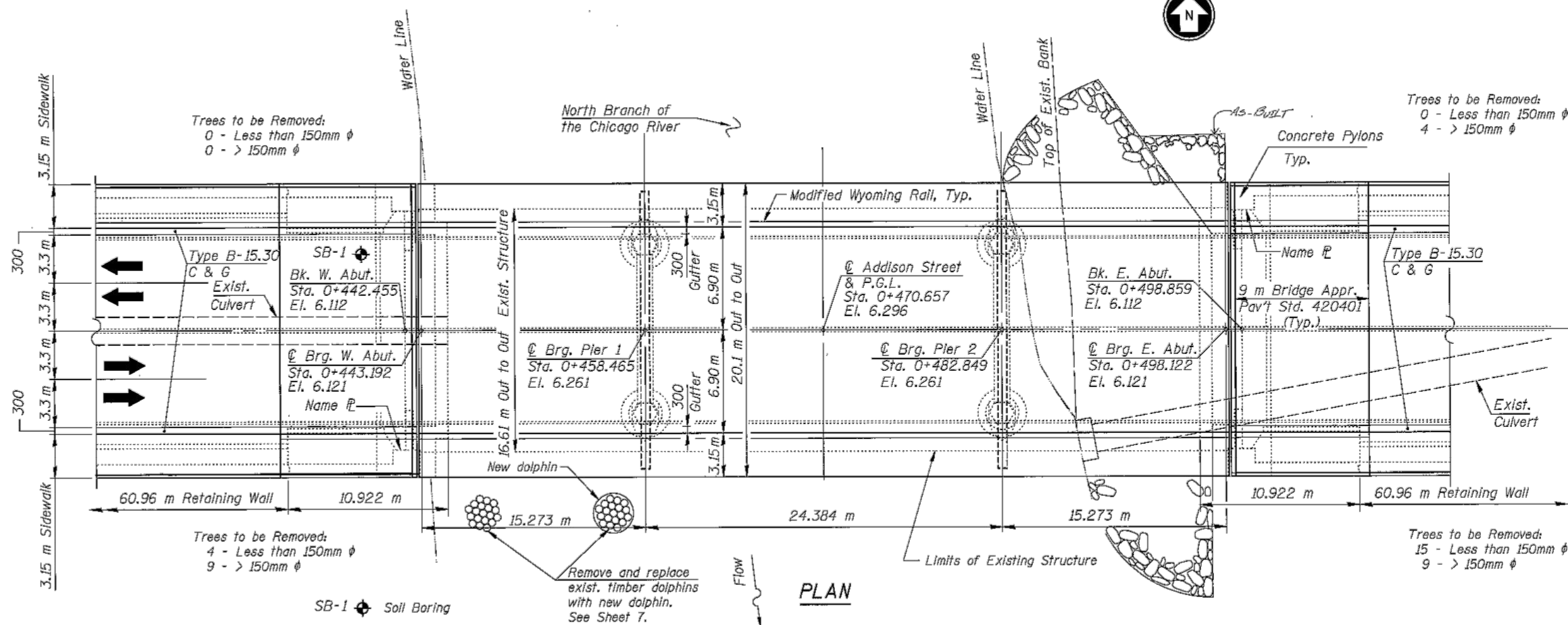


LOCATION SKETCH

LDRG CONSTRUCTION COMPANY 300 E. YOUR AVE DES PLAINES, ILLINOIS 60016			
NO.	BY	DATE	DESCRIPTION
REVISIONS			
<b>ADDISON STREET BRIDGE OVER NORTH BRANCH OF THE CHICAGO RIVER GENERAL PLAN AND ELEVATION</b>			
BOWMAN, BARRETT & ASSOCIATES INC. CONSULTING ENGINEERS 330 E. RANDOLPH CHICAGO, ILLINOIS 60601			
<b>CITY OF CHICAGO</b> DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGES AND TRANSIT			
DRAWN: JMC	CHECKED: BLU	APPROVED: SF	SHEET NO. 6 OF 90
DATE: 03-07-97	SCALE: NONE	CONTRACT NO.	PROJECT NO.

FOR  
INFORMATION  
ONLY

1660730068



PLAN

SECTION NO.: 12-E9121-00-BT  
DRAWN BY: N. FIRNBACH  
CHECKED BY: R. VARMA  
APPROVED BY: P. DOMBROWSKI  
DATE: 8/12/2016  
SCALE: N.T.S.

NO. DATE	REVISIONS/ISSUANCES
8/12/16	ISSUED FOR FINAL
5/6/16	ISSUED FOR FINAL
6/05/15	ISSUED FOR FINAL REVIEW

CITY OF CHICAGO

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Warsaw

ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
CLARK PARK TO CALIFORNIA PARK  
STRUCTURE NO. 016-P025

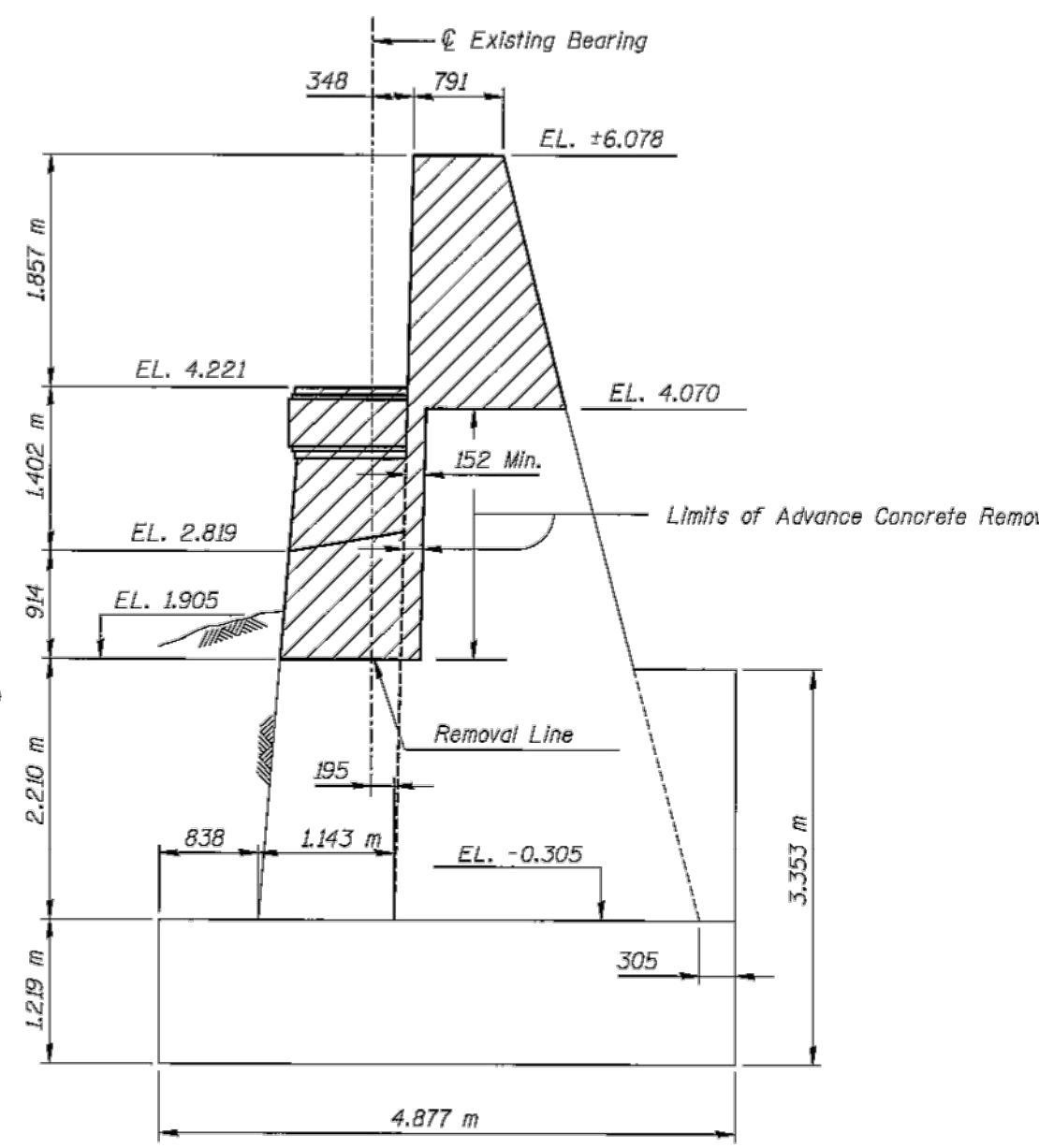
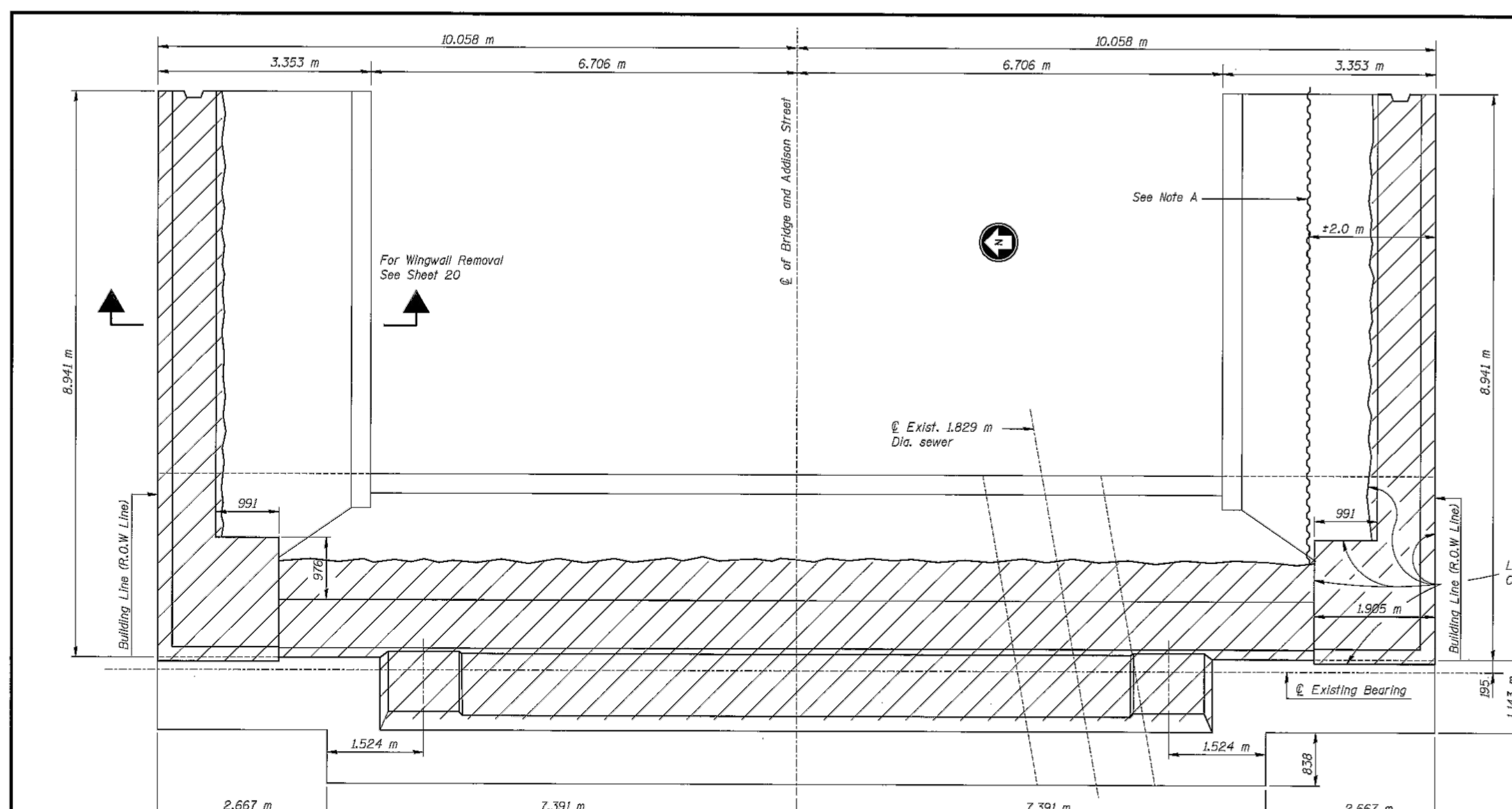
EXISTING DRAWINGS FOR INFORMATION ONLY

SHEET NO. S-81

SHEET 128 OF 158



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 P:\Projects\2000029346 - CDOT - Addison Underbridge Connection - DISCIPLINE Civil Working Sheets 08 STRUCTURAL V01 60205-29346-081\_086-Existing\_Addison.dwg 1/24/2017 11:06:55 PM



AS BUILT

LORIN CONSTRUCTION COMPANY  
 229 E. TOLSON AVE.  
 DES PLAINES, ILLINOIS 60018

**Note A:**  
 Temporary sheeting for Advance Concrete Removal is required. Design and details prepared and sealed by a Licensed Illinois Structural Engineer is required. Cost of temporary sheeting and its design is included with Concrete Removal. Contractor is responsible to locate all utilities prior to installation of sheeting. The Contractor shall pay damage that may occur to utilities during construction.

**Note B:**  
 Advance Concrete Removal is not a separate Pay Item. It is paid for as Concrete Removal.

**Note C:**  
 Hatched area indicates "Concrete Removal" for "Concrete Removal" Quantities see sh. 17.

Elevations and dimensions shown on this drawing are for the purpose of establishing limits for the removal of portions of existing structure. They are not to be used for construction of new work.

All dimensions are in millimeters (mm) except as noted.

NO.	BY	DATE	DESCRIPTION
REVISIONS			

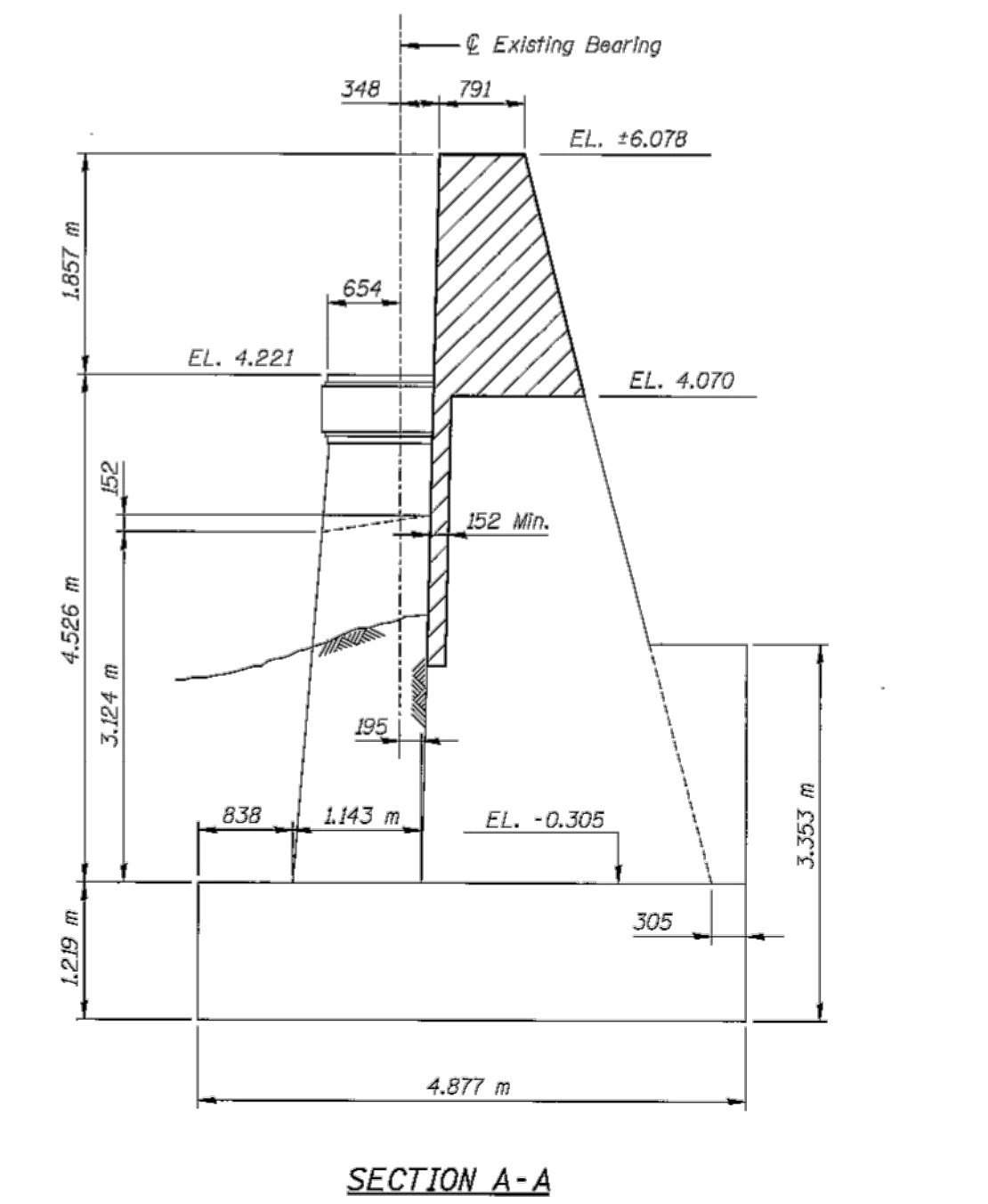
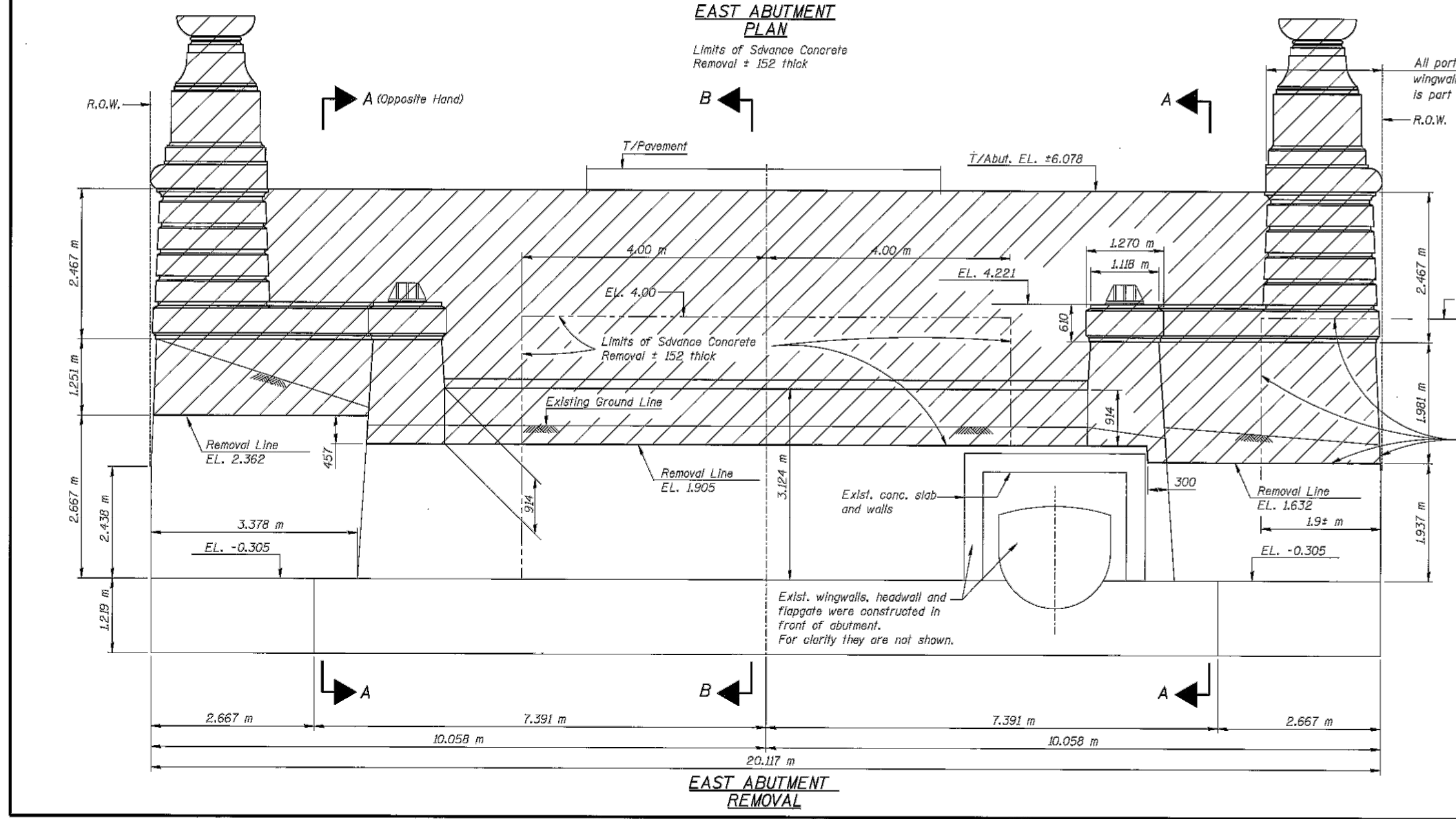
**ADDISON STREET BRIDGE  
 OVER  
 NORTH BRANCH OF THE CHICAGO RIVER  
 EAST ABUTMENT  
 REMOVAL**

BOWMAN, BARRETT & ASSOCIATES INC.  
 CONSULTING ENGINEERS  
 130 E. RANDOLPH  
 CHICAGO, ILLINOIS 60601

**CITY OF CHICAGO**  
 DEPARTMENT OF TRANSPORTATION  
 BUREAU OF BRIDGES AND TRANSIT

DRAWN JMC	SHEET NO.
CHECKED DS	16 OF 90
APPROVED SF	
DATE 04-25-97	
SCALE NONE	
CONTRACT NO.	PROJECT NO.

1666730078



**FOR  
 INFORMATION  
 ONLY**

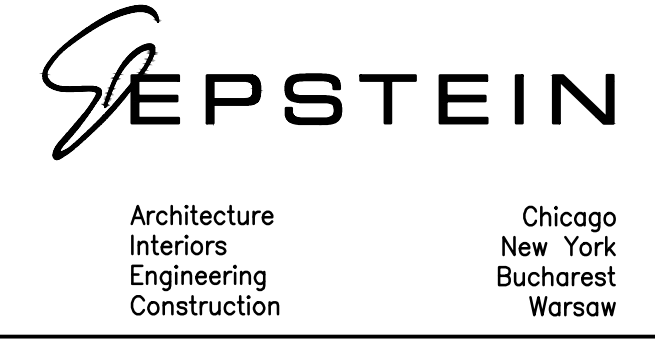
SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: N. FIRNBACH  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

NO.	DATE	REVISIONS/ISSUANCES

**CITY OF CHICAGO**  
 DEPARTMENT OF TRANSPORTATION  
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 312.454.9100  
 www.epsteinglobal.com

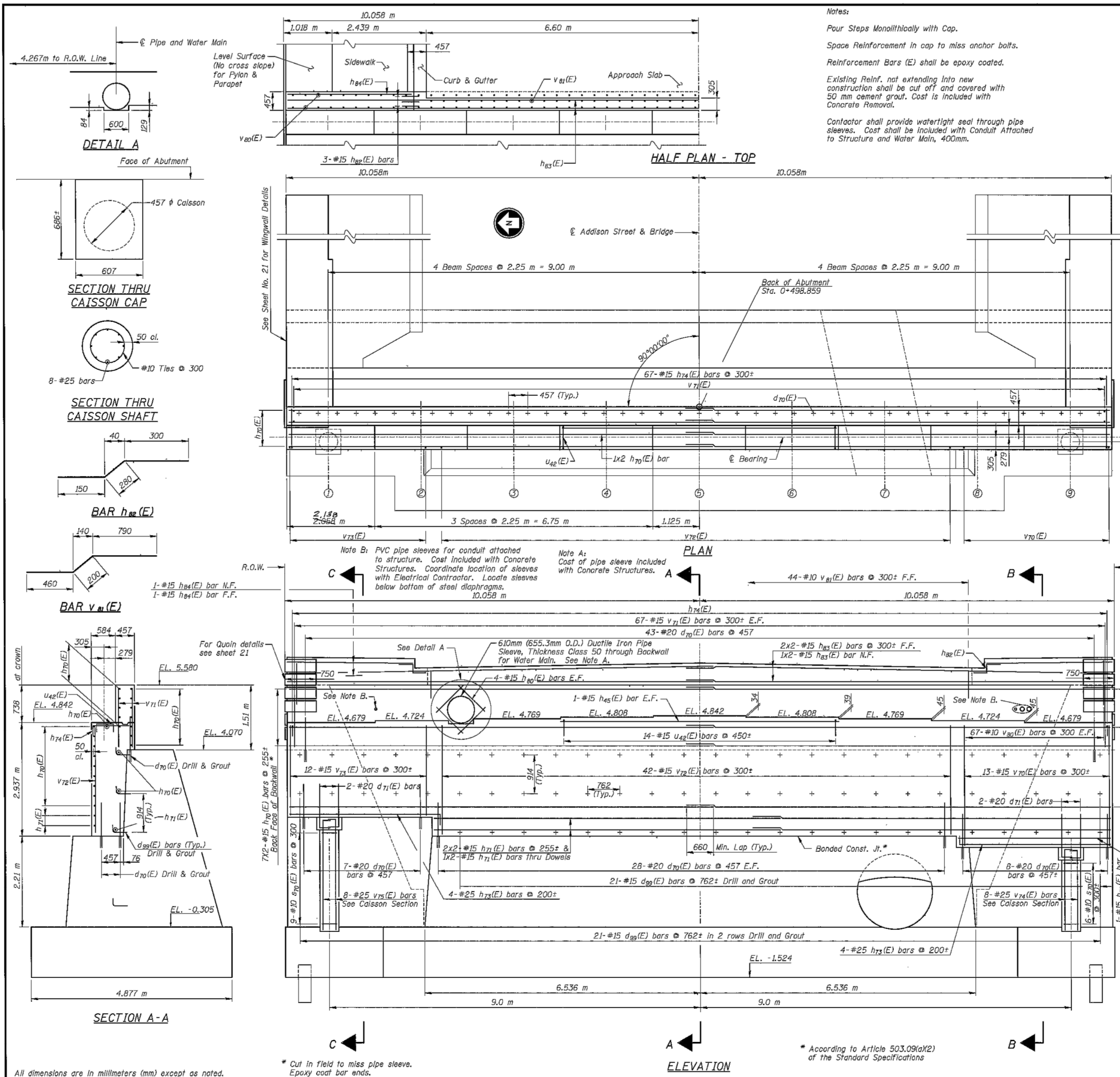


ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
 CLARK PARK TO CALIFORNIA PARK  
 STRUCTURE NO. 016-P025

EXISTING DRAWINGS FOR INFORMATION ONLY

SHEET NO. S-82  
 SHEET 129 OF 158  
 REVISION





**BILL OF MATERIAL**

BAR NO.	SIZE	LENGTH	SHAPE
d41(E)	#20	0.81 m	
d60(E)	#20	1.52 m	
d61(E)	#20	2.17 m	
d70(E)	#20	0.95 m	
d71(E)	#20	1.27 m	
d99(E)	#15	0.59 m	
h44(E)	#25	8.75 m	
h45(E)	#25	6.60 m	
h49(E)	#15	1.22 m	
h50(E)	#15	2.00 m	
h51(E)	#15	1.10 m	
h52(E)	#15	2.21 m	
h53(E)	#15	5.88 m	
h54(E)	#15	7.10 m	
h55(E)	#15	9.33 m	
h60(E)	#15	6.48 m	
h70(E)	#15	10.35 m	
h71(E)	#15	8.59 m	
h72(E)	#15	3.70 m	
h73(E)	#25	4.10 m	
h74(E)	#15	1.20 m	
h75(E)	#15	1.36 m	
h81(E)	#15	1.43 m	
h82(E)	#15	0.73 m	
h83(E)	#15	10.33 m	
h84(E)	#15	3.36 m	
v40(E)	#15	2.95 m	
v41(E)	#15	1.83 m	
v42(E)	#15	4.55 m	
v43(E)	#15	3.72 m	
v44(E)	#15	4.04 m	
v45(E)	#15	3.18 m	
v46(E)	#15	2.66 m	
v70(E)	#15	2.98 m	
v71(E)	#15	1.41 m	
v72(E)	#15	2.71 m	
v73(E)	#15	2.10 m	
v74(E)	#25	2.36 m	
v75(E)	#25	3.09 m	
v76(E)	#15	2.08 m	
v80(E)	#10	1.39 m	
v81(E)	#10	1.45 m	
u40(E)	#10	1.23 m	
u41(E)	#10	1.95 m	
u42(E)	#10	5.09 m	
u70(E)	#15	1.57 m	
u40(E)	#15	1.38 m	
u41(E)	#15	1.48 m	
u42(E)	#15	1.23 m	
Concrete Structures	m <sup>3</sup>	85.4	
Reinforcement Bars	kg	4,320	
Epoxy Coated Concrete Removal	m <sup>3</sup>	85.3	

NO.	BY	DATE	REVISION
REVISIONS			
ADDISON STREET BRIDGE OVER NORTH BRANCH OF THE CHICAGO RIVER EAST ABUTMENT			
BOWMAN, BARRETT & ASSOCIATES INC. CONSULTING ENGINEERS 130 E. RANDOLPH CHICAGO, ILLINOIS 60601			
CITY OF CHICAGO DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGES AND TRANSIT			
DRAWN	JMC	SHEET NO.	17 OF 90
CHECKED	DS	DATE	04-25-97
APPROVED	SF	SCALE	NONE
CONTRACT NO.		PROJECT NO.	1630730079

**FOR INFORMATION ONLY**

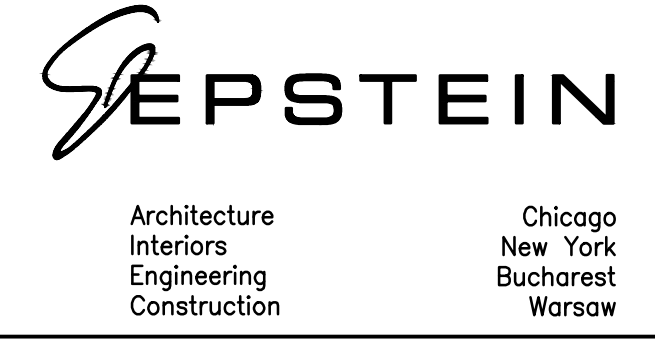
SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: N. FIRNBACH  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

NO.	DATE	REVISIONS/ISSUANCES
1	8/12/16	ISSUED FOR FINAL
2	5/6/16	ISSUED FOR FINAL
3	6/05/15	ISSUED FOR FINAL REVIEW

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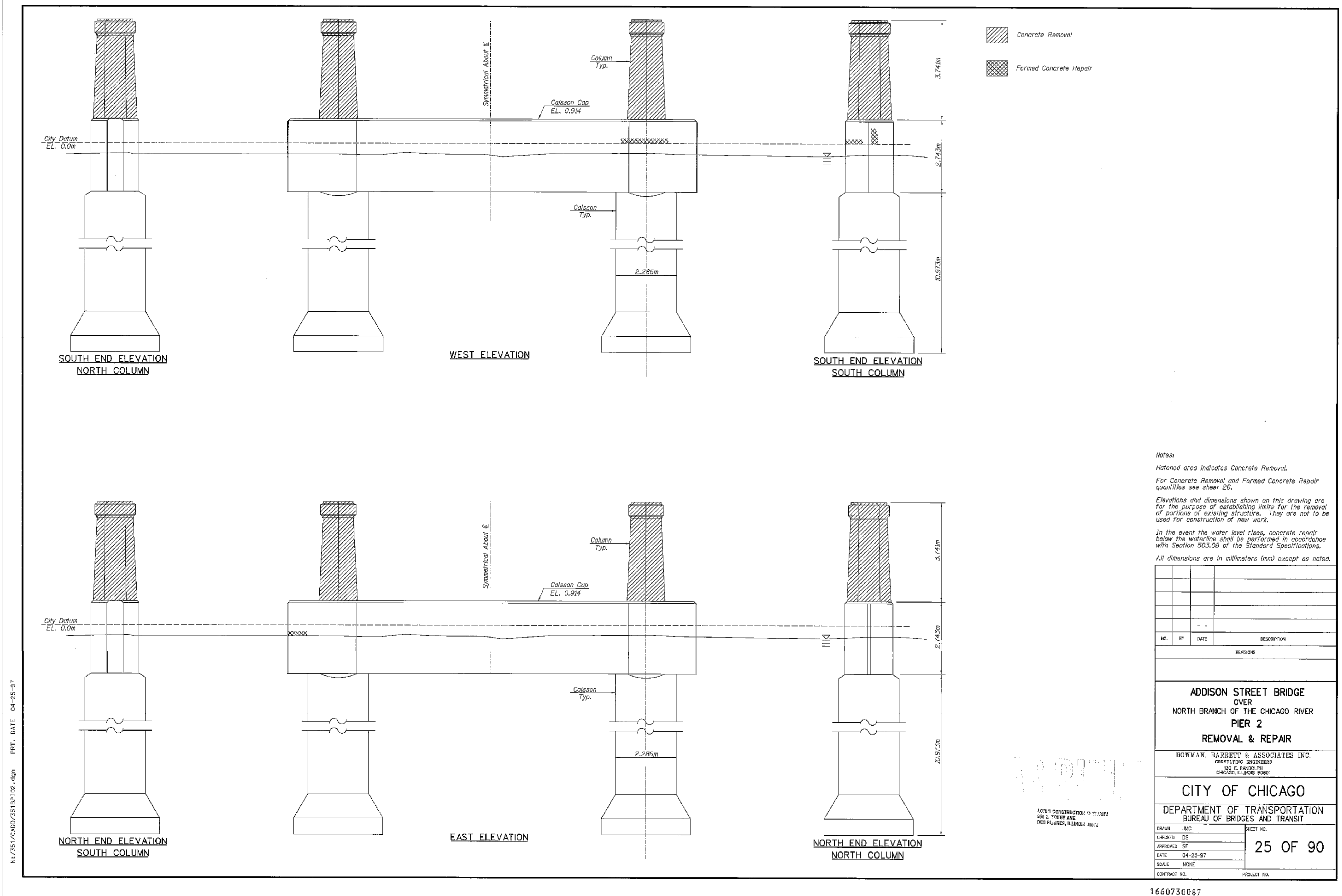


ADDISON UNDERBRIDGE TRAIL CONNECTION FROM CLARK PARK TO CALIFORNIA PARK STRUCTURE NO. 016-P025  
 EXISTING DRAWINGS FOR INFORMATION ONLY

SHEET NO. S-83  
 SHEET 130 OF 158  
 REVISION



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**Notes:**  
 Hatched area indicates Concrete Removal.  
 For Concrete Removal and Formed Concrete Repair quantities see sheet 26.  
 Elevations and dimensions shown on this drawing are for the purpose of establishing limits for the removal of portions of existing structure. They are not to be used for construction of new work.  
 In the event the water level rises, concrete repair below the waterline shall be performed in accordance with Section 503.08 of the Standard Specifications.  
 All dimensions are in millimeters (mm) except as noted.

NO.	BY	DATE	DESCRIPTION
REVISIONS			
<b>ADDISON STREET BRIDGE</b> OVER NORTH BRANCH OF THE CHICAGO RIVER <b>PIER 2</b> <b>REMOVAL &amp; REPAIR</b> BOWMAN, BARRETT & ASSOCIATES INC. CONSULTING ENGINEERS 130 E. RANDOLPH CHICAGO, ILLINOIS 60601			
<b>CITY OF CHICAGO</b> DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGES AND TRANSIT			
DRAWN JMC CHECKED DS APPROVED SF DATE 04-25-97 SCALE NONE CONTRACT NO.	SHEET NO. <b>25 OF 90</b> PROJECT NO.		

1660730087

**FOR INFORMATION ONLY**

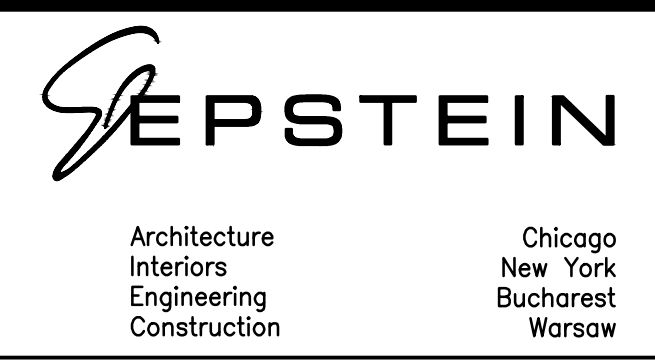
SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: N. FIRNBACH  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

NO.	DATE	REVISIONS/ISSUANCES
1	8/12/16	ISSUED FOR FINAL
2	5/6/16	ISSUED FOR FINAL
3	6/05/15	ISSUED FOR FINAL REVIEW

**CITY OF CHICAGO**  
 DEPARTMENT OF TRANSPORTATION  
 30 N LaSalle St. Suite 1100  
 Chicago, IL 60602  
 312.744.3600



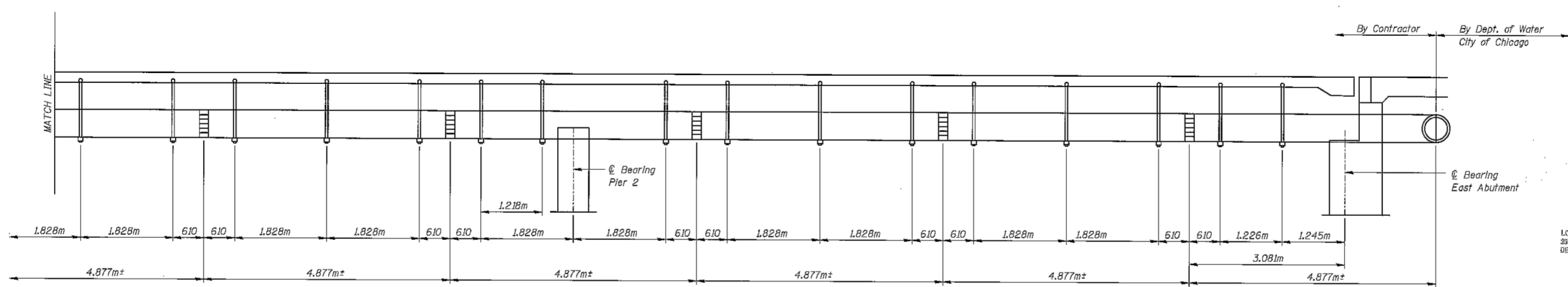
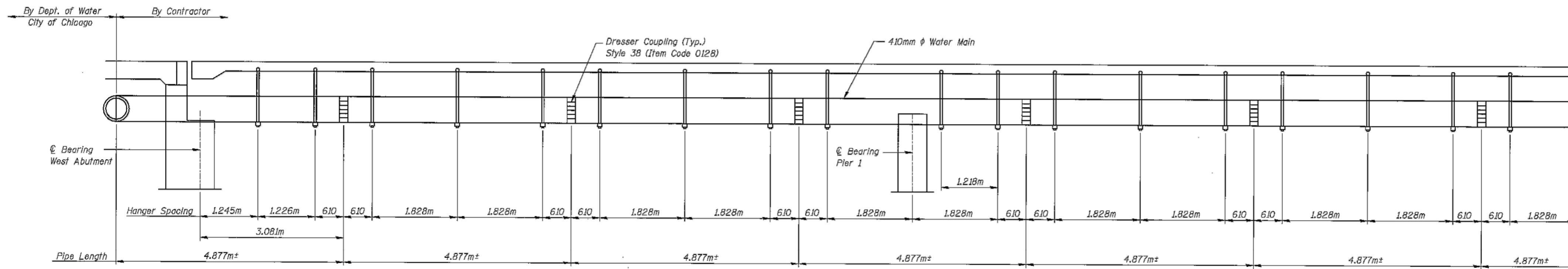
**CONSULTANT**  
 EPSTEIN  
 600 W. Fulton Street  
 Chicago, IL 60661-1259  
 312.454.9100  
 www.epsteinglobal.com



ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
 CLARK PARK TO CALIFORNIA PARK  
 STRUCTURE NO. 016-P025  
 EXISTING DRAWINGS FOR INFORMATION ONLY

SHEET NO.  
**S-84**  
 SHEET 131 OF 158  
 REVISION

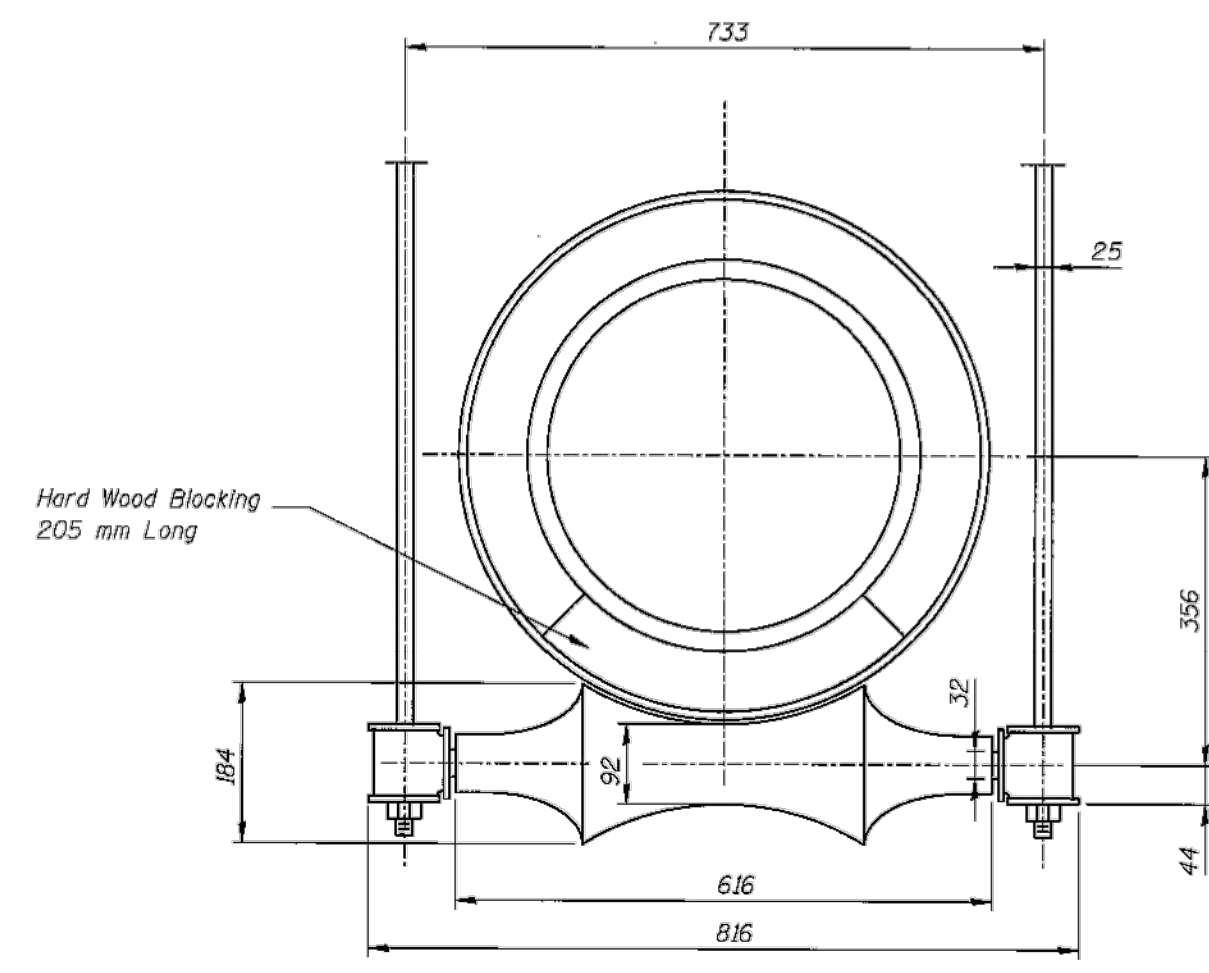




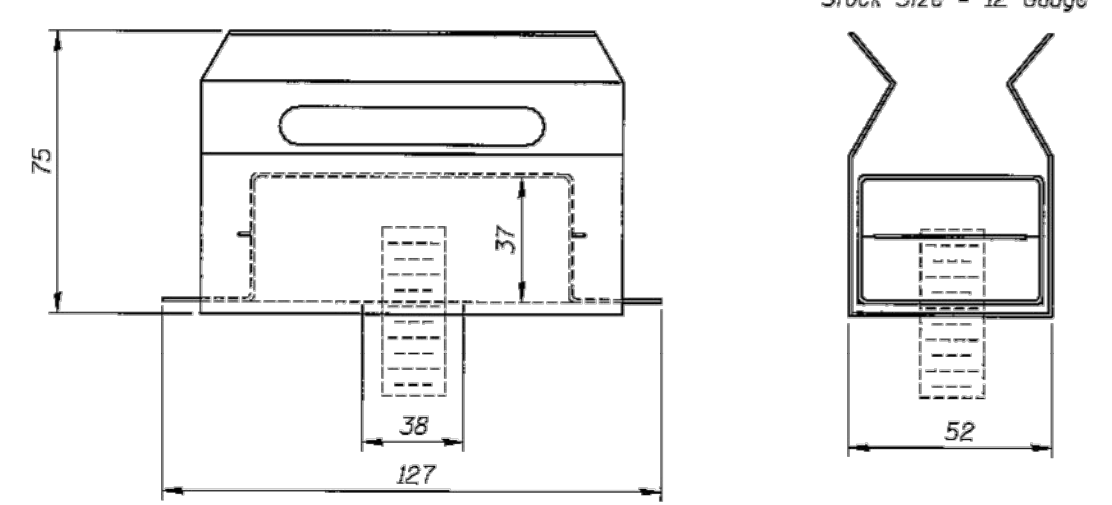
**WATER MAIN HANGER LAYOUT**

**BILL OF MATERIAL**

Item	Unit	Total
Ductile Iron Water Main, 400MM	M	58.5



**HANGER ASSEMBLY**  
"WITCH" #142



**CONCRETE INSERTS**  
"WITCH" #266

"WITCH" Products supplied by:  
Carpenter & Patterson, Inc.  
74 Commerce Way  
Woburn, MASS 01888  
(617) 935-2950

**Note:**  
Hanger assembly and concrete inserts shown herein were taken from catalogs provided by Witch Products. Contractor may submit an alternate design for the hanger assembly and concrete inserts to be approved by the Commissioner.  
Contractor shall provide a polyethylene jacket around pipe. Type and size to be approved by the Commissioner.  
Contractor shall insulate the pipe with a minimum of 50 mm polystyrene foam injection molded between jacket and ductile iron pipe or alternate material approved by the Commissioner.  
The Contractor shall provide a 205mm hardwood blocking over each roller support inside the polyethylene jacket.  
All steel rods shall be coated with an approved epoxy paint.  
Contractor shall coordinate installation of water main with City of Chicago Water Department.  
All dimensions are in millimeters (mm) except as noted.

NO.	BY	DATE	DESCRIPTION
REVISIONS			
<b>ADDISON STREET BRIDGE OVER NORTH BRANCH OF THE CHICAGO RIVER WATER MAIN DETAILS</b>			
BOWMAN, BARRETT & ASSOCIATES INC. CONSULTING ENGINEERS 130 E. RANDOLPH CHICAGO, ILLINOIS 60601			
CITY OF CHICAGO DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGES AND TRANSIT			
DRAWN	JMC	SHEET NO.	<b>37 OF 90</b>
CHECKED	SF		
APPROVED	SF		
DATE	04-25-97		
SCALE	NONE		
CONTRACT NO.		PROJECT NO.	

1660730099

**FOR INFORMATION ONLY**

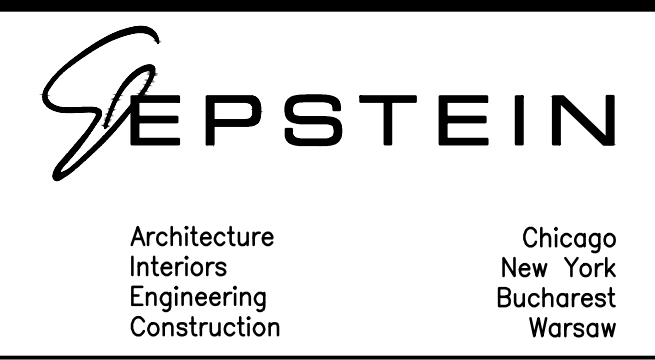
SECTION NO.: 12-E9121-00-BT  
DRAWN BY: N. FIRNBACH  
CHECKED BY: R. VARMA  
APPROVED BY: P. DOMBROWSKI  
DATE: 8/12/2016  
SCALE: N.T.S.

NO.	DATE	REVISIONS/ISSUANCES
1	8/12/16	ISSUED FOR FINAL
2	5/6/16	ISSUED FOR FINAL
3	6/05/15	ISSUED FOR FINAL REVIEW

**CITY OF CHICAGO**  
DEPARTMENT OF TRANSPORTATION  
30 N LaSalle St. Suite 1100  
Chicago, IL 60602  
312.744.3600



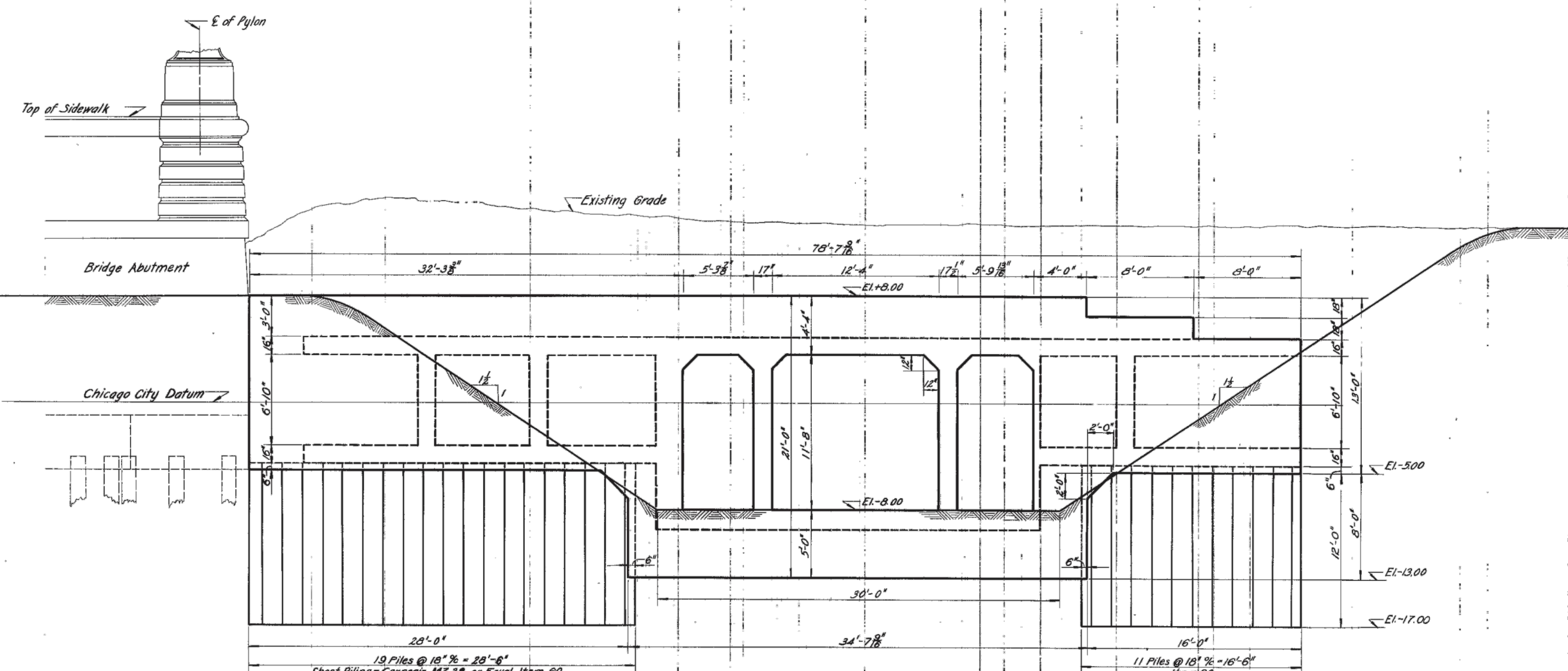
**CONSULTANT**  
EPSTEIN  
600 W. Fulton Street  
Chicago, IL 60661-1259  
312.454.9100  
www.epsteinglobal.com



ADDISON UNDERBRIDGE TRAIL CONNECTION FROM CLARK PARK TO CALIFORNIA PARK STRUCTURE NO. 016-P025  
EXISTING DRAWINGS FOR INFORMATION ONLY

SHEET NO. S-85  
SHEET 132 OF 158  
REVISION





FRONT ELEVATION

Notes:  
 For Location Plan See Sheet No. 25  
 For Plan & Sections See Sheet No. 26  
 Unless Otherwise Noted, All Work Shown on Sheets 25, 26, & 27 Is Part of Item 13.  
 For General Notes See Sheet No. 24  
 The Channel Face of The Structure Above Elevation -3.00 Shall be Left Smooth and Unbroken and Shall be Rubbed Down with Carborundum Brick.  
 All Exposed Edges Shall be Beveled as Shown in Detail "W" on Sheet No. 26

DRAWN BY E. Masi  
 TRACED BY D. Riehl  
 CHECKED BY E.C. Fricko  
 EXAMINED BY W. Chubb

APPROVED FOR  
 SANITARY DISTRICT OF CHICAGO  
 BY [Signature]  
 ASST. CHIEF ENGINEER



DATE	DESCRIPTION
8-25-14	Approved for Const. <u>[Signature]</u>

CORRECT [Signature]  
 APPROVED [Signature]  
 SUPERINTENDENT - SEWERS

CITY OF CHICAGO  
 DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF SEWERS  
 AUXILIARY OUTLET SEWERS  
 ADDISON ST. SYSTEM  
**OUTFALL STRUCTURE-W. ADDISON ST.  
 & NORTH BRANCH OF CHICAGO RIVER**  
 FRONT ELEVATION  
 SCALE: AS SHOWN  
 DATE: MARCH, 1947  
 CONTRACT SHEET NO. 27

FOR INFORMATION ONLY

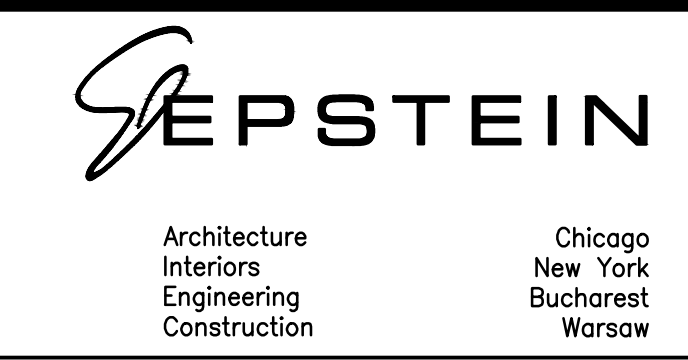
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 DRAWN BY: J. MASI  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

NO.	DATE	REVISIONS/ISSUANCES
1	8/12/16	ISSUED FOR FINAL
2	5/6/16	ISSUED FOR FINAL
3	6/05/15	ISSUED FOR FINAL REVIEW

CITY OF CHICAGO  
 DEPARTMENT OF TRANSPORTATION  
 30 N LaSalle St. Suite 1100  
 Chicago, IL 60602  
 312.744.3600



CONSULTANT  
 EPSTEIN  
 600 W. Fulton Street  
 Chicago, IL 60661-1259  
 312.454.9100  
 www.epsteinglobal.com

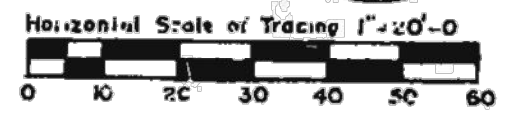
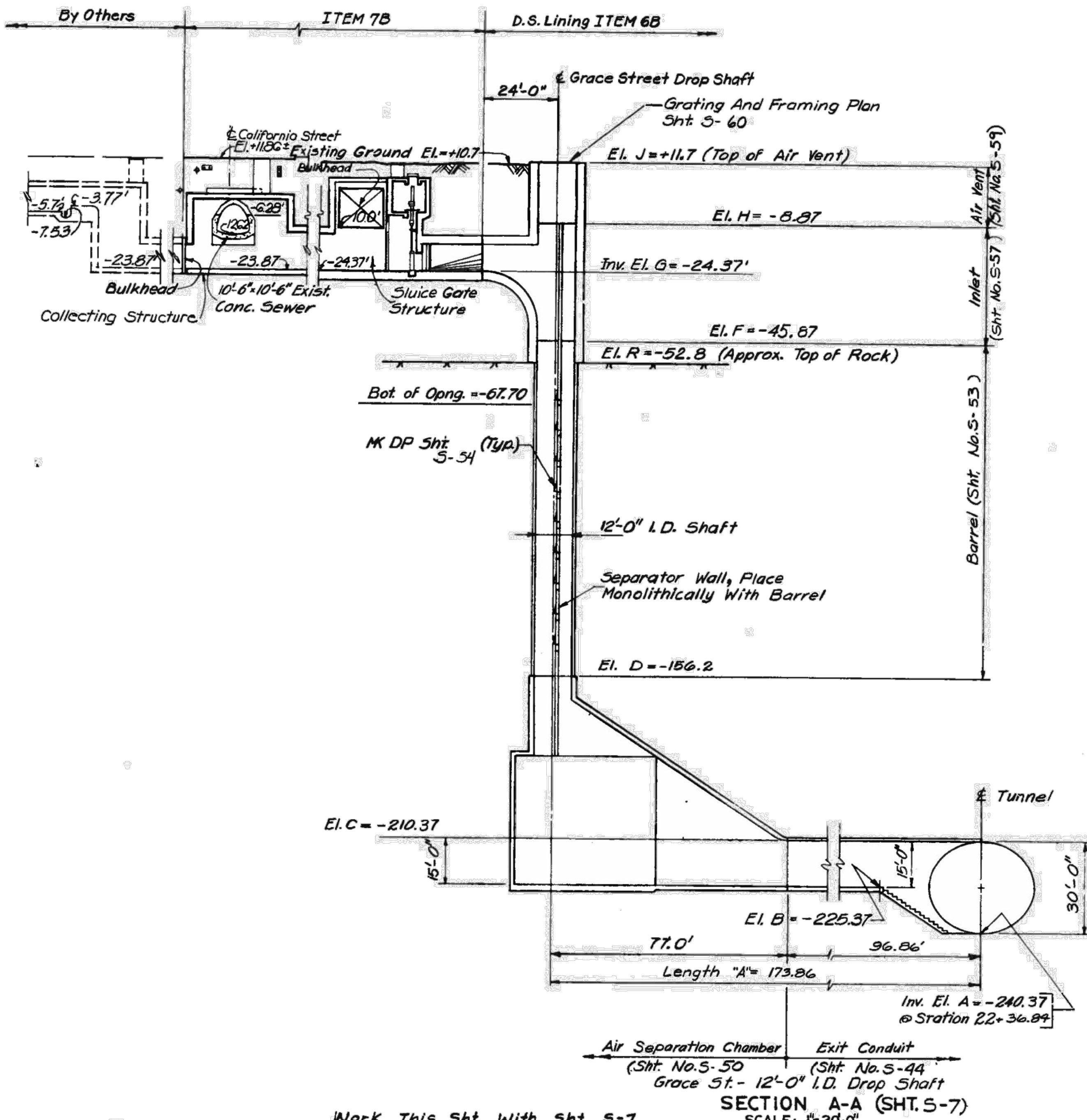


ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
 CLARK PARK TO CALIFORNIA PARK  
 STRUCTURE NO. 016-P025  
 EXISTING DRAWINGS FOR INFORMATION ONLY

SHEET NO. S-86  
 SHEET 133 OF 158  
 REVISION



GRACE ST.



Work This Sht. With Sht. S-7

REVISIONS		
NO.	DATE	BY

**THE METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO**  
**MAINSTREAM TUNNEL SYSTEM**  
**CONTRACT 73-058-DH**  
 ADDISON ST. TO MONTROSE AVE. CONNECTING STRUCTURES  
**GRACE STREET - SECTION**

Drawn: B. SWIRE, Traced: B.S., Checked: HWW/HR, DATE: AUG. 1979, SHEET NO. S-8

Contract: [Signature]  
 Approved: [Signature] Assistant Chief Engineer  
 Approved: [Signature] Chief Engineer

SCALES SHOWN ARE SCALES OF TRACINGS

KEIFER ENGINEERING, INC.  
 Approved: [Signature]

FOR INFORMATION ONLY

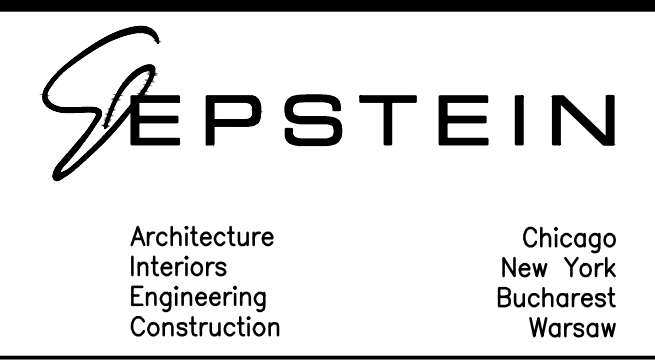
SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: J. MASI  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

NO.	DATE	REVISIONS/ISSUANCES

CITY OF CHICAGO  
 DEPARTMENT OF TRANSPORTATION  
 30 N LaSalle St. Suite 1100  
 Chicago, IL 60602  
 312.744.3600



CONSULTANT  
 EPSTEIN  
 600 W. Fulton Street  
 Chicago, IL 60661-1259  
 312.454.9100  
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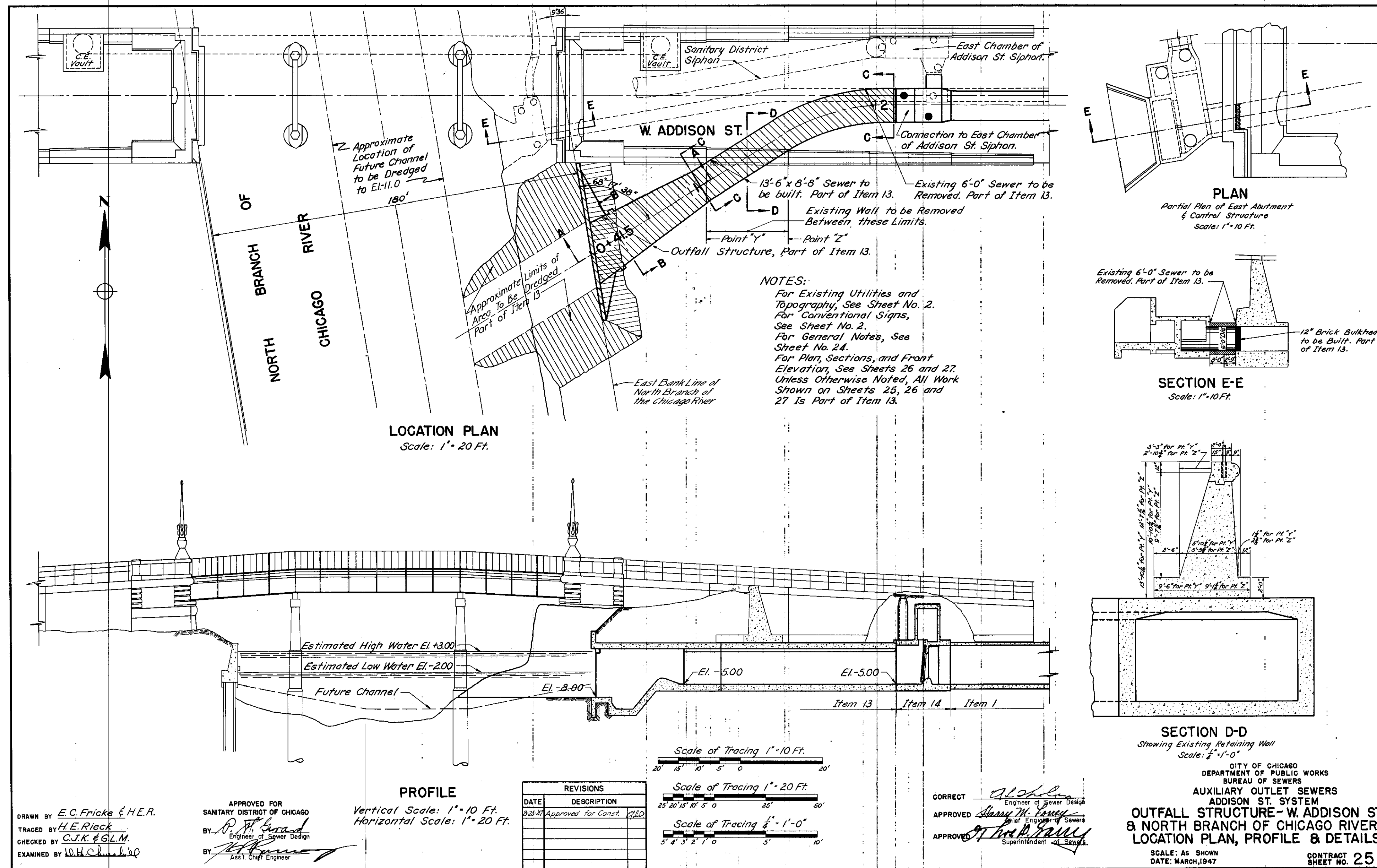
ADDISON UNDERBRIDGE TRAIL CONNECTION FROM CLARK PARK TO CALIFORNIA PARK  
 STRUCTURE NO. 016-P025  
 EXISTING DRAWINGS FOR INFORMATION ONLY

SHEET NO. S-87  
 SHEET 134 OF 158  
 REVISION









**NOTES:**  
 For Existing Utilities and Topography, See Sheet No. 2.  
 For Conventional Signs, See Sheet No. 2.  
 For General Notes, See Sheet No. 24.  
 For Plan, Sections, and Front Elevation, See Sheets 26 and 27.  
 Unless Otherwise Noted, All Work Shown on Sheets 25, 26 and 27 Is Part of Item 13.

REVISIONS	
DATE	DESCRIPTION
8-23-17	Approved for Const. <b>VALID</b>

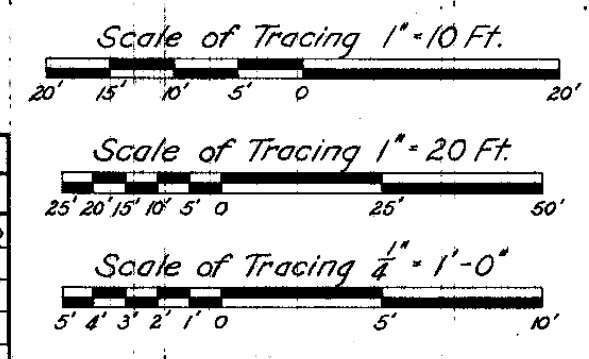
CORRECT *[Signature]*  
 APPROVED *[Signature]*  
 APPROVED *[Signature]*

CITY OF CHICAGO  
 DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF SEWERS  
 AUXILIARY OUTLET SEWERS  
 ADDISON ST. SYSTEM  
**OUTFALL STRUCTURE - W. ADDISON ST.  
 & NORTH BRANCH OF CHICAGO RIVER**  
 LOCATION PLAN, PROFILE & DETAILS  
 SCALE: AS SHOWN  
 DATE: MARCH, 1947  
 CONTRACT SHEET NO. 25

DRAWN BY *E.C. Fricke & H.E.R.*  
 TRACED BY *H.E. Rieck*  
 CHECKED BY *C.J.K. & G.L.M.*  
 EXAMINED BY *[Signature]*

APPROVED FOR  
 SANITARY DISTRICT OF CHICAGO  
 BY *[Signature]*  
 BY *[Signature]*

**PROFILE**  
 Vertical Scale: 1" = 10 Ft.  
 Horizontal Scale: 1" = 20 Ft.



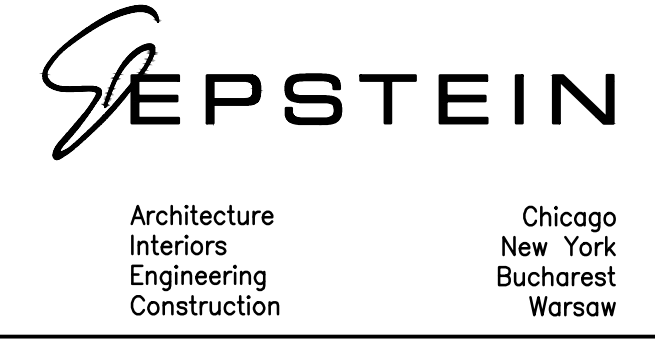
FOR  
 INFORMATION  
 ONLY

SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: J. MASI  
 CHECKED BY: R. VARMA  
 APPROVED BY: P. DOMBROWSKI  
 DATE: 8/12/2016  
 SCALE: N.T.S.

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 312.744.3600



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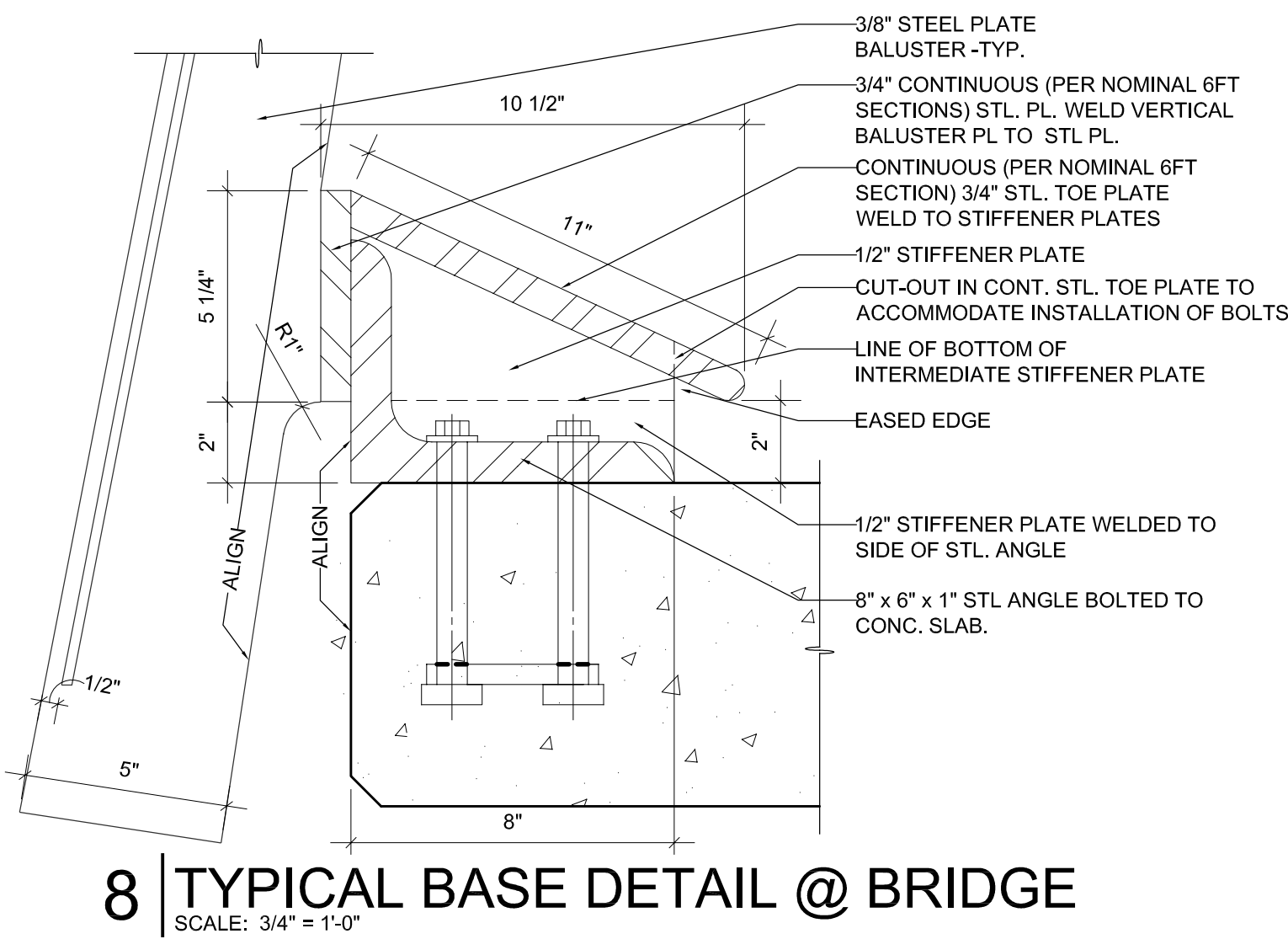
ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
 CLARK PARK TO CALIFORNIA PARK  
 STRUCTURE NO. 016-P025  
 EXISTING DRAWINGS FOR INFORMATION ONLY

SHEET NO. S-89  
 SHEET 136 OF 158  
 REVISION

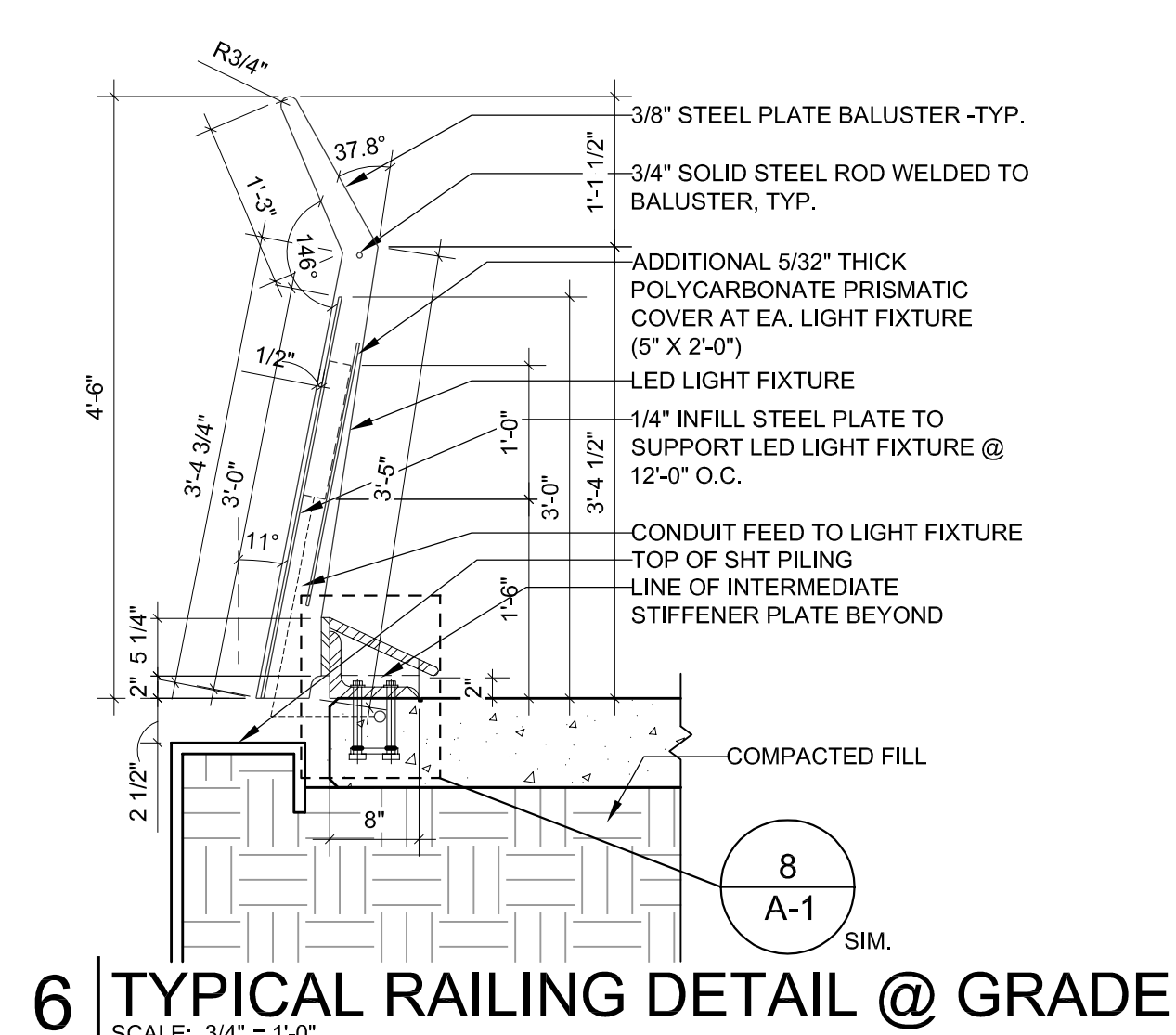
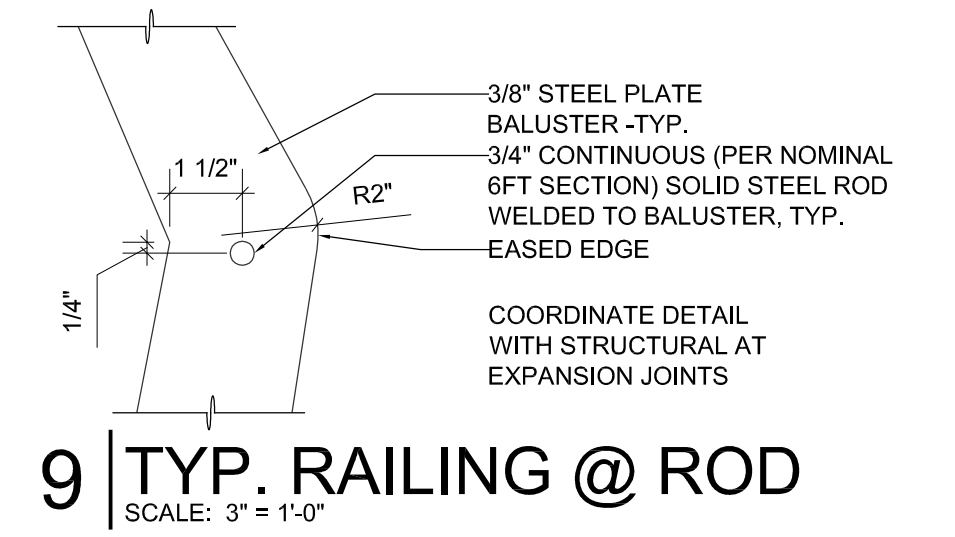
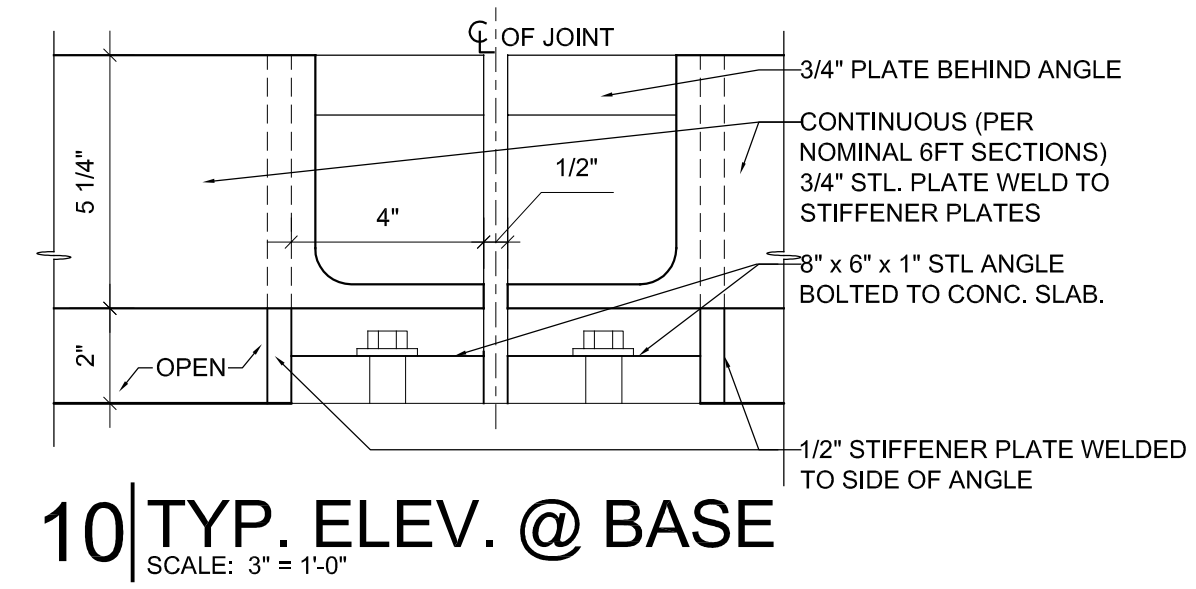
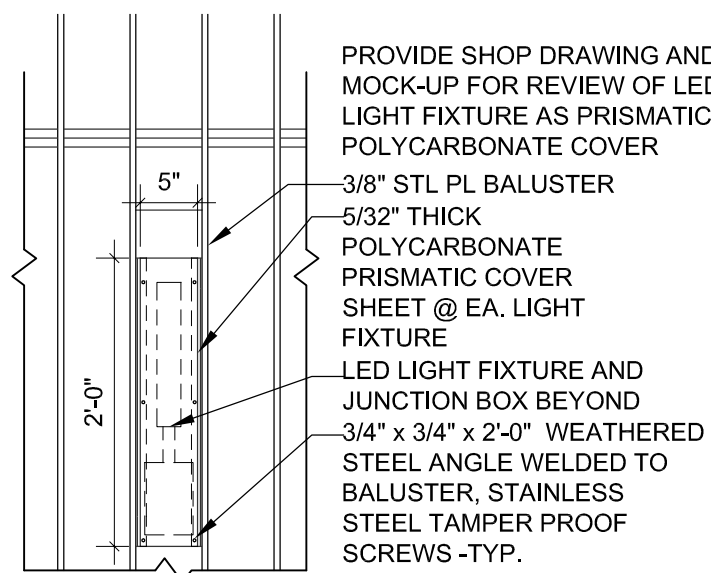


**NOTES:**

- 2" O.D. CLEAR ANODIZED ALUMINUM RAIL:
  - RAIL TO BE FABRICATED IN 18 FT NOMINAL LENGTHS, BUT NO LESS THAN 10 FT LENGTHS. AT JOINT BETWEEN RAIL SECTIONS PROVIDE TELESOPING RAIL PIECE WITH SET SCREWS, THE INTENT OF WHICH IS TO PROVIDE FOR THE EFFECT OF A CONTINUOUS RAILING. IN ALL CASES THE RAIL SHALL BE EQUAL IN LENGTH TO AN INTEGRAL NUMBER OF BALUSTER SECTIONS
- 2" O.D. CLEAR ANODIZE ALUMINUM RAIL AT EXPANSION JOINTS:
  - AT EXPANSION JOINTS PROVIDE GAP BETWEEN RAIL SEGMENTS EQUAL TO THE STRUCTURAL JOINT DIMENSION. THE RAILING SHALL BE DISCONTINUOUS AT THESE LOCATIONS. AT THESE LOCATIONS THE RAILING ENDS SHALL BE CAPPED WITH FLUSH ALUMINUM PLATE, WEATHER WELDED, GROUND SMOOTH, AND CLEAR ANODIZED TO MATCH ADJACENT RAIL.
- DISSIMILAR METALS
  - WHERE DISSIMILAR METALS ABUTT EACHOTHER, PROVIDE ASPHALTIC MEMBRANE OR COATING BETWEEN THESE MATERIALS TO PREVENT GALVANIC REACTION.
- 2" O.D. CLEAR ANODIZED ALUMINUM RAIL FABRICATION
  - FOR THE ENTIRE LENGTH OF THE BIKE PATH, THE ANODIZED ALUMINUM RAILING SHALL BE FABRICATED AS A CURVED PIPE SECTION, UTILIZING THE SAME RADIUS CENTER POINTS AS THE PRIMARY CONCRETE PATHWAY
- WELD COLORS AND ALL FASTENERS TO BE CONSISTENT WITH WEATHERED STEEL FINISH
  - \* THESE GENERAL NOTES APPLY TO ALL RAILING AND BIKE PATH DETAILS ILLUSTRATED ON SHEETS A-1 & A-2. \*

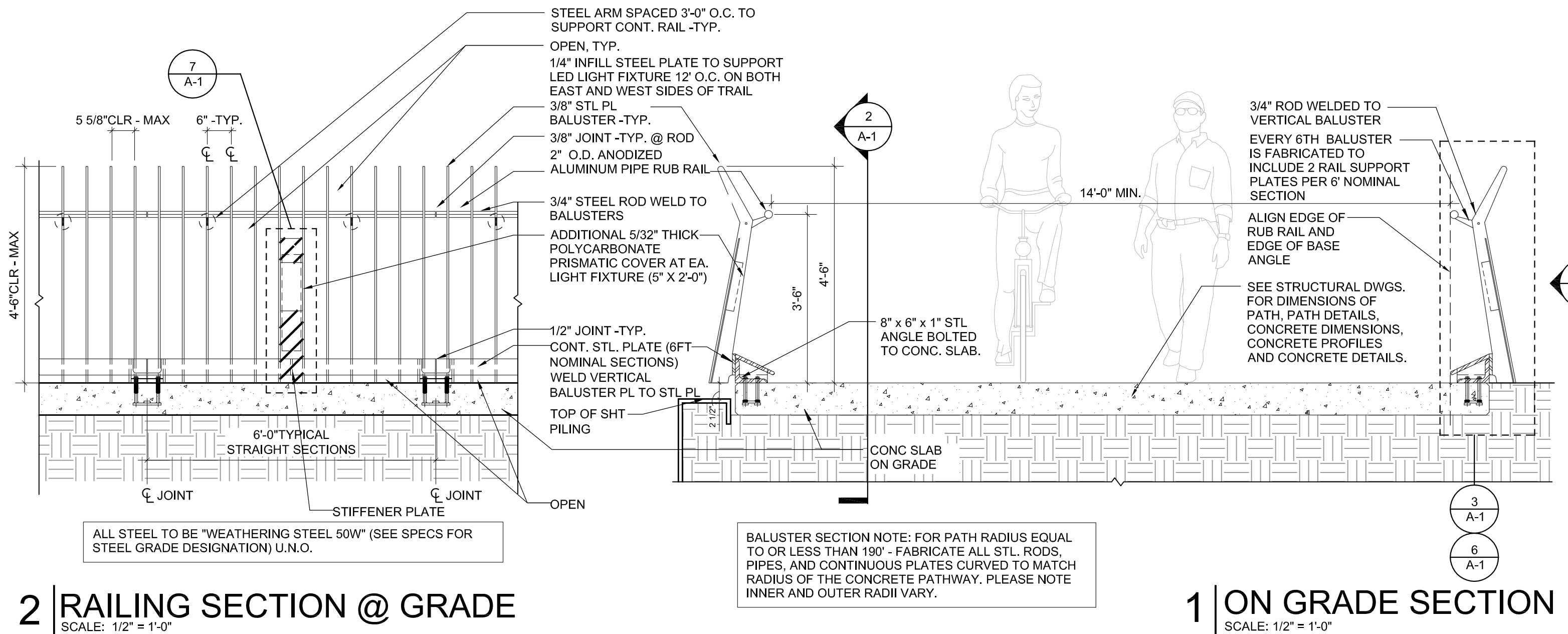
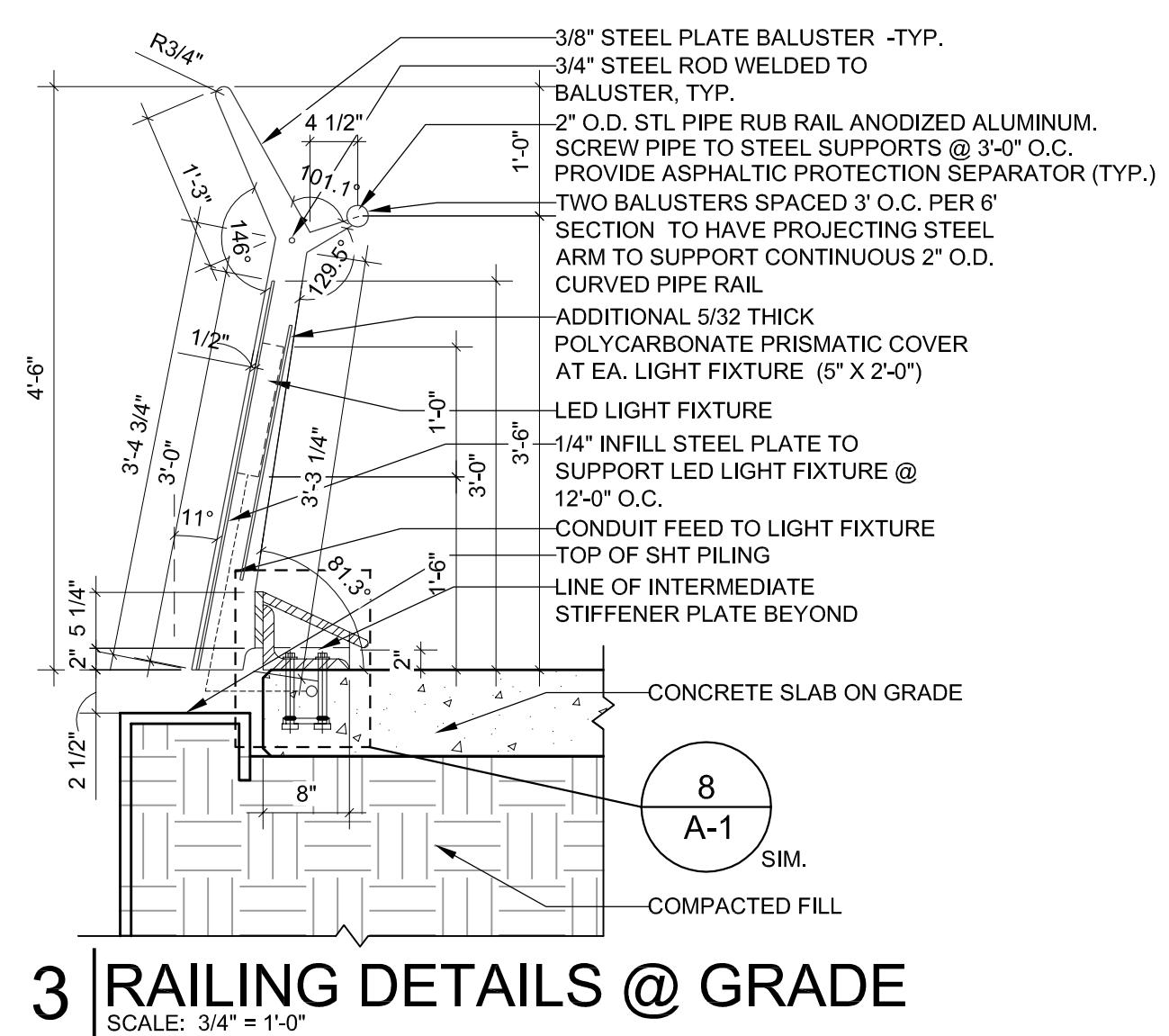
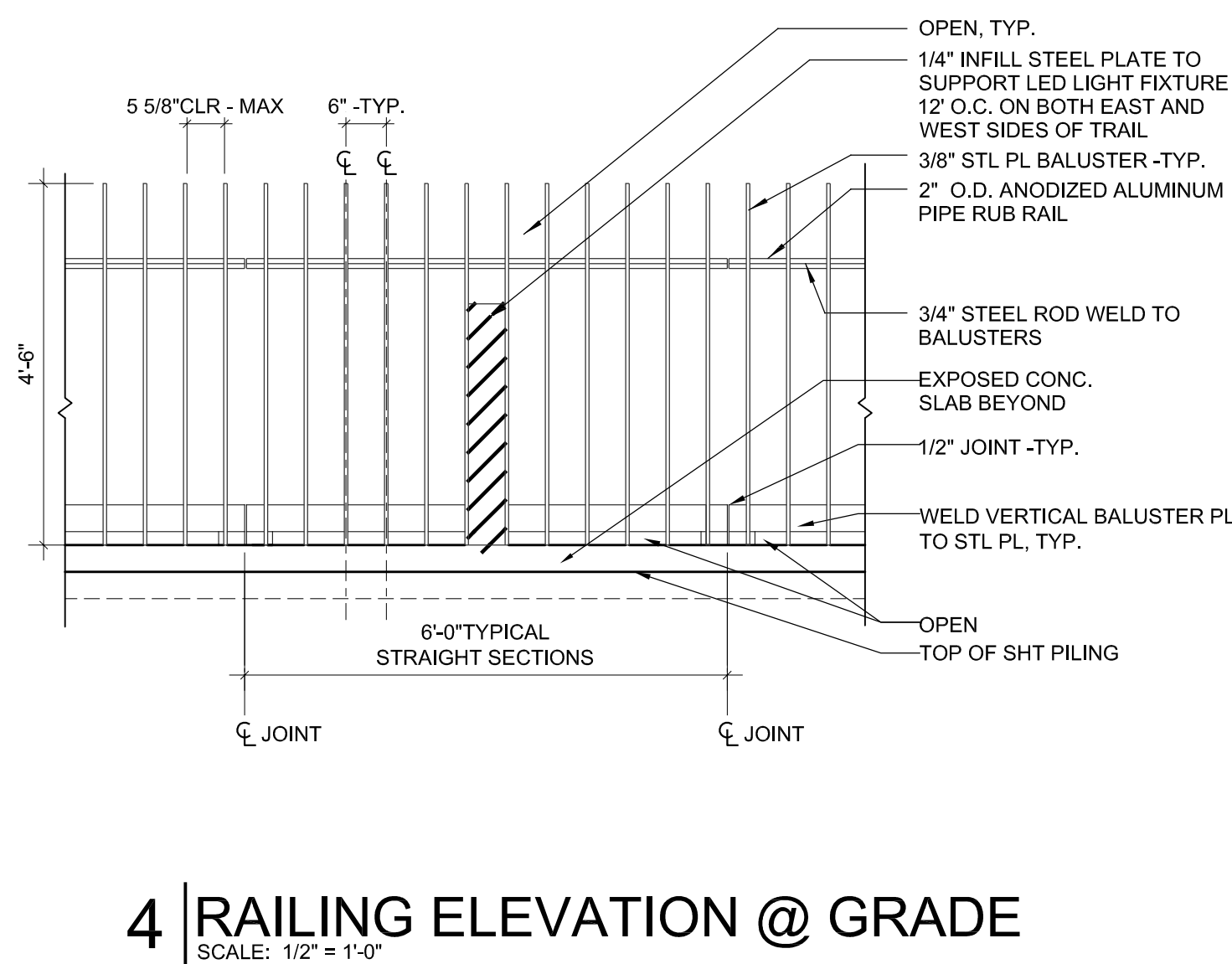
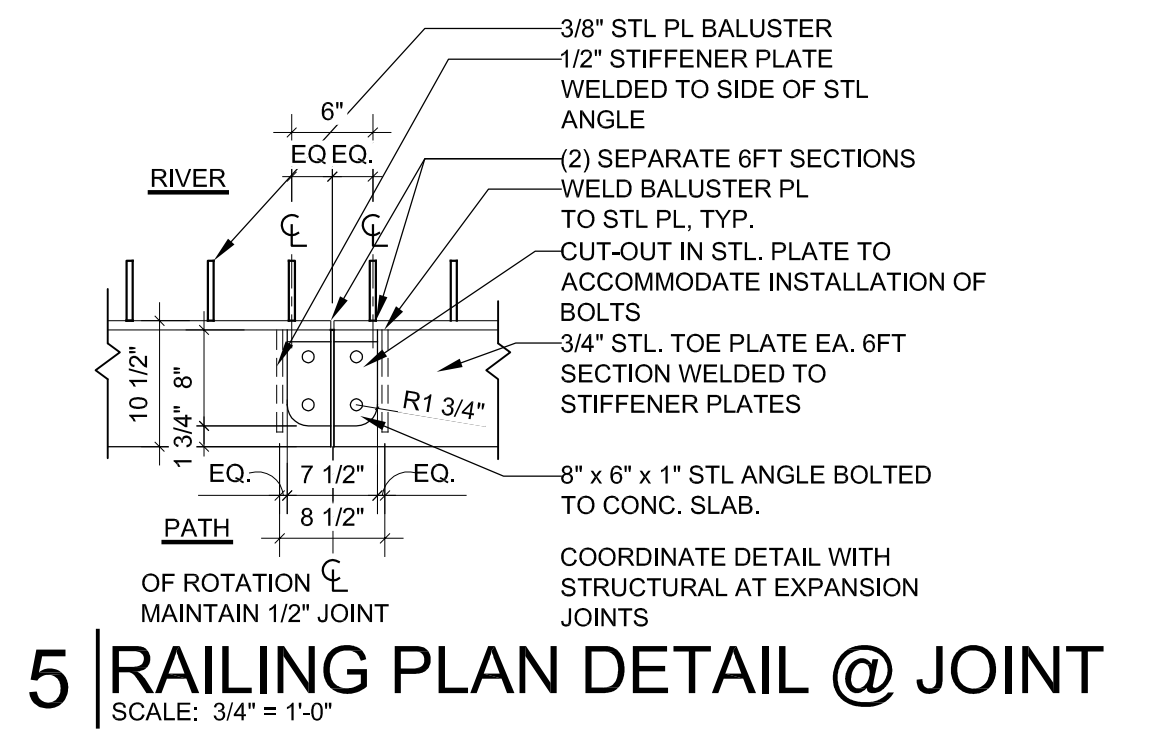


**7 | POLYCARBONATE ELEVATION**  
SCALE: 3/4" = 1'-0"



NOTE: PROVIDE ELASTOMERIC MATERIAL BETWEEN ALL ALUMINUM AND STEEL CONNECTIONS.

NOTE: ALL BALUSTER EDGES TO BE "EASED EDGES", GROUND SMOOTH TO ELIMINATE SHARP EDGES.



BALUSTER SECTION NOTE: FOR PATH RADIUS EQUAL TO OR LESS THAN 180' - FABRICATE ALL STL. RODS, PIPES, AND CONTINUOUS PLATES CURVED TO MATCH RADIUS OF THE CONCRETE PATHWAY. PLEASE NOTE INNER AND OUTER RADII VARY.

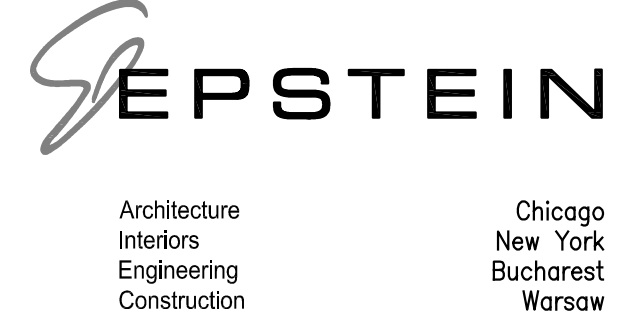
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DRAWN BY:	TO
CHECKED BY:	AM
APPROVED BY:	AM
DATE:	10/7/14
SCALE:	AS NOTED

NO.	DATE	REVISIONS/ISSUANCES
	3/27/15	ISSUED FOR FINAL
	10/7/14	ISSUED FOR 90%

CITY OF CHICAGO  
DEPARTMENT OF TRANSPORTATION  
30 N LaSalle St. Suite 1100  
Chicago, IL 60602  
312.744.3600



CONSULTANT  
EPSTEIN  
600 W. Fulton Street  
Chicago, IL 60661-1259  
312.454.9100  
www.epsteinglobal.com



ADDISON UNDERBRIDGE TRAIL CONNECTION FROM CLARK PARK TO CALIFORNIA PARK  
12-E9121-00-BT  
BICYCLE RAILING, SPECIAL DETAILS

SHEET NO.	A-1	REVISION
SHEET 133	OF 154	





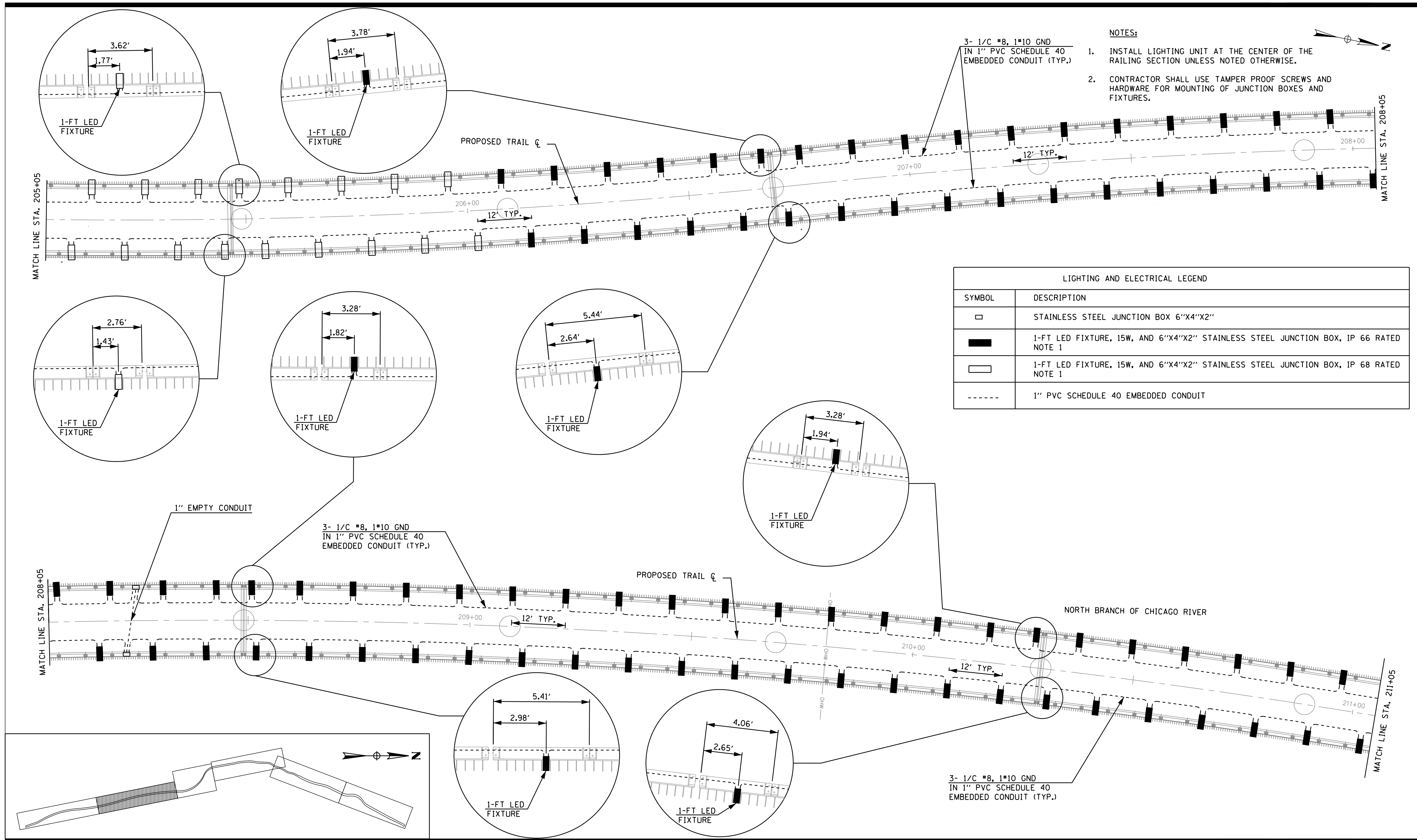












- NOTES:**
1. INSTALL LIGHTING UNIT AT THE CENTER OF THE RAILING SECTION UNLESS NOTED OTHERWISE.
  2. CONTRACTOR SHALL USE TAMPER PROOF SCREWS AND HARDWARE FOR MOUNTING OF JUNCTION BOXES AND FIXTURES.

LIGHTING AND ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	STAINLESS STEEL JUNCTION BOX 6"X4"X2"
	1-FT LED FIXTURE, 15W, AND 6"X4"X2" STAINLESS STEEL JUNCTION BOX, IP 66 RATED NOTE 1
	1-FT LED FIXTURE, 15W, AND 6"X4"X2" STAINLESS STEEL JUNCTION BOX, IP 68 RATED NOTE 1
	1" PVC SCHEDULE 40 EMBEDDED CONDUIT

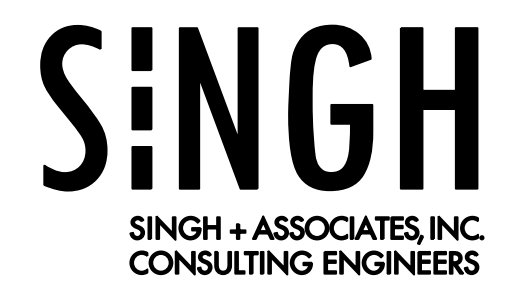
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 DRAWN BY: MG  
 CHECKED BY: KGP  
 APPROVED BY:  
 DATE: 9/24/2014  
 SCALE: N.T.S.

NO.	DATE	REVISIONS/ISSUANCES
	5/27/16	FINAL SUBMITTAL

**CITY OF CHICAGO**  
 DEPARTMENT OF TRANSPORTATION  
 30 N LaSalle St. Suite 1100  
 Chicago, IL 60602  
 312.744.3600



**CONSULTANT**  
 SINGH & ASSOCIATES, INC.  
 230 West Monroe Street, Suite 1400  
 Chicago, IL 60606  
 312.629.0240  
 www.singhinc.com

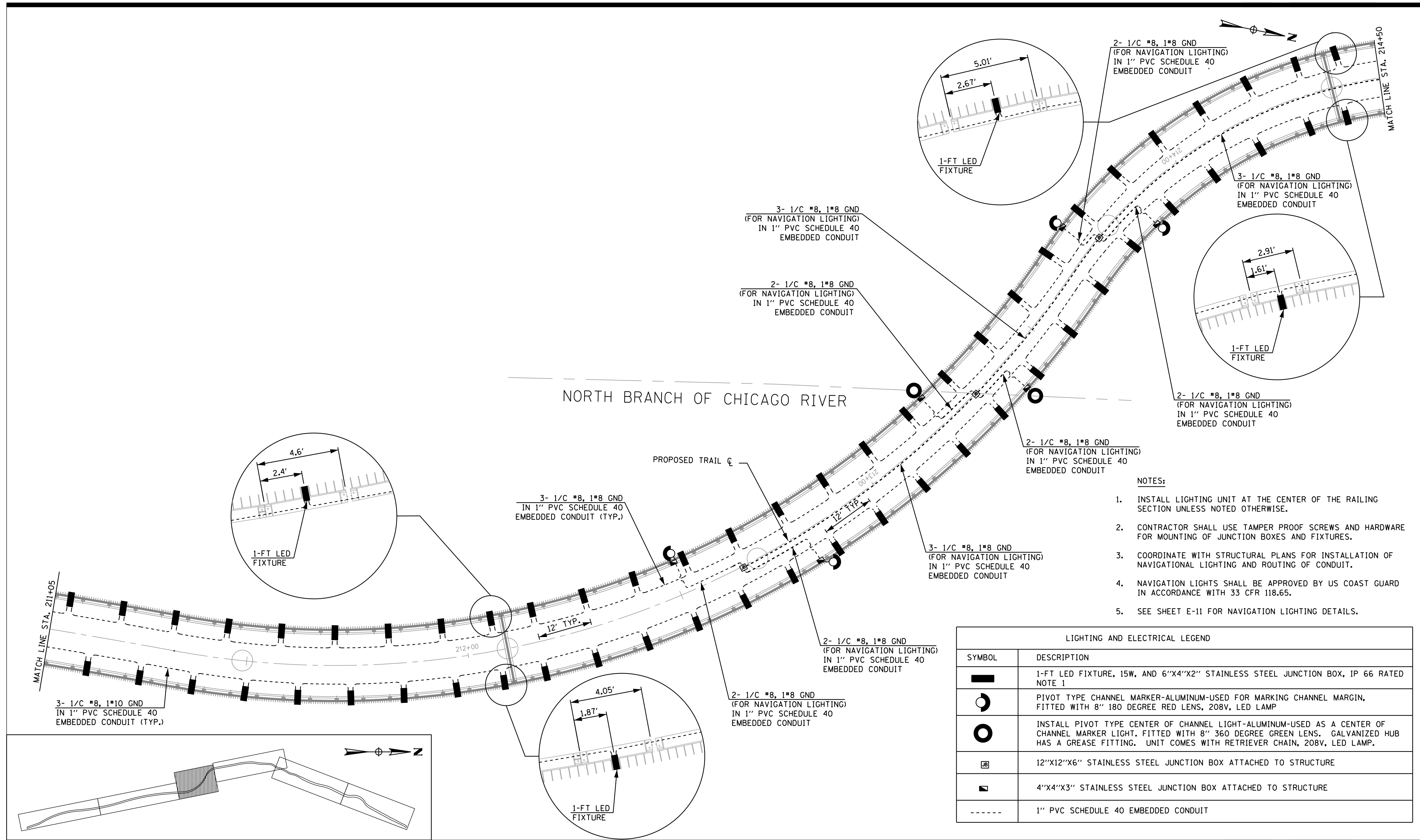


**ADDISON UNDERBRIDGE TRAIL CONNECTION  
 FROM CLARK PARK TO CALIFORNIA PARK**  
 LIGHTING PLAN

SHEET NO. **E-03**  
 SHEET 141 OF 158  
 REVISION

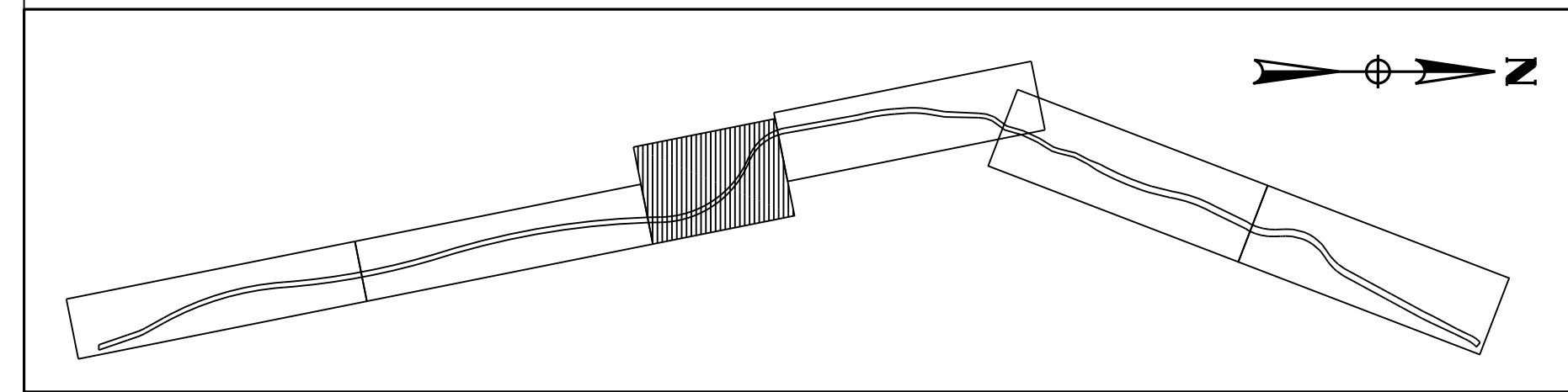
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- NOTES:**
1. INSTALL LIGHTING UNIT AT THE CENTER OF THE RAILING SECTION UNLESS NOTED OTHERWISE.
  2. CONTRACTOR SHALL USE TAMPER PROOF SCREWS AND HARDWARE FOR MOUNTING OF JUNCTION BOXES AND FIXTURES.
  3. COORDINATE WITH STRUCTURAL PLANS FOR INSTALLATION OF NAVIGATIONAL LIGHTING AND ROUTING OF CONDUIT.
  4. NAVIGATION LIGHTS SHALL BE APPROVED BY US COAST GUARD IN ACCORDANCE WITH 33 CFR 118.65.
  5. SEE SHEET E-11 FOR NAVIGATION LIGHTING DETAILS.

LIGHTING AND ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	1-FT LED FIXTURE, 15W, AND 6"X4"X2" STAINLESS STEEL JUNCTION BOX, IP 66 RATED NOTE 1
	PIVOT TYPE CHANNEL MARKER-ALUMINUM-USED FOR MARKING CHANNEL MARGIN, FITTED WITH 8" 180 DEGREE RED LENS, 208V, LED LAMP
	INSTALL PIVOT TYPE CENTER OF CHANNEL LIGHT-ALUMINUM-USED AS A CENTER OF CHANNEL MARKER LIGHT. FITTED WITH 8" 360 DEGREE GREEN LENS. GALVANIZED HUB HAS A GREASE FITTING. UNIT COMES WITH RETRIEVER CHAIN, 208V, LED LAMP.
	12"X12"X6" STAINLESS STEEL JUNCTION BOX ATTACHED TO STRUCTURE
	4"X4"X3" STAINLESS STEEL JUNCTION BOX ATTACHED TO STRUCTURE
	1" PVC SCHEDULE 40 EMBEDDED CONDUIT



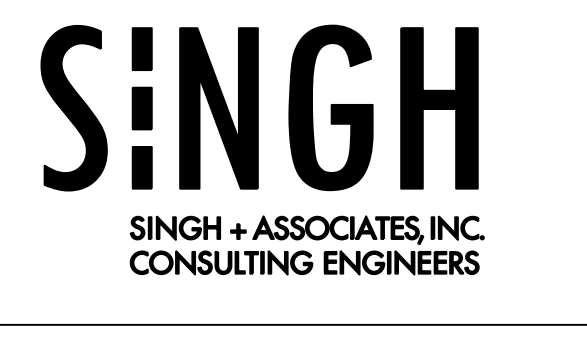
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 CHECKED BY: KGP  
 APPROVED BY:  
 DATE: 9/24/2014  
 SCALE: N.T.S.

NO.	DATE	REVISIONS/ISSUANCES
	5/27/16	FINAL SUBMITTAL

**CITY OF CHICAGO**  
 DEPARTMENT OF TRANSPORTATION  
 30 N LaSalle St. Suite 1100  
 Chicago, IL 60602  
 312.744.3600



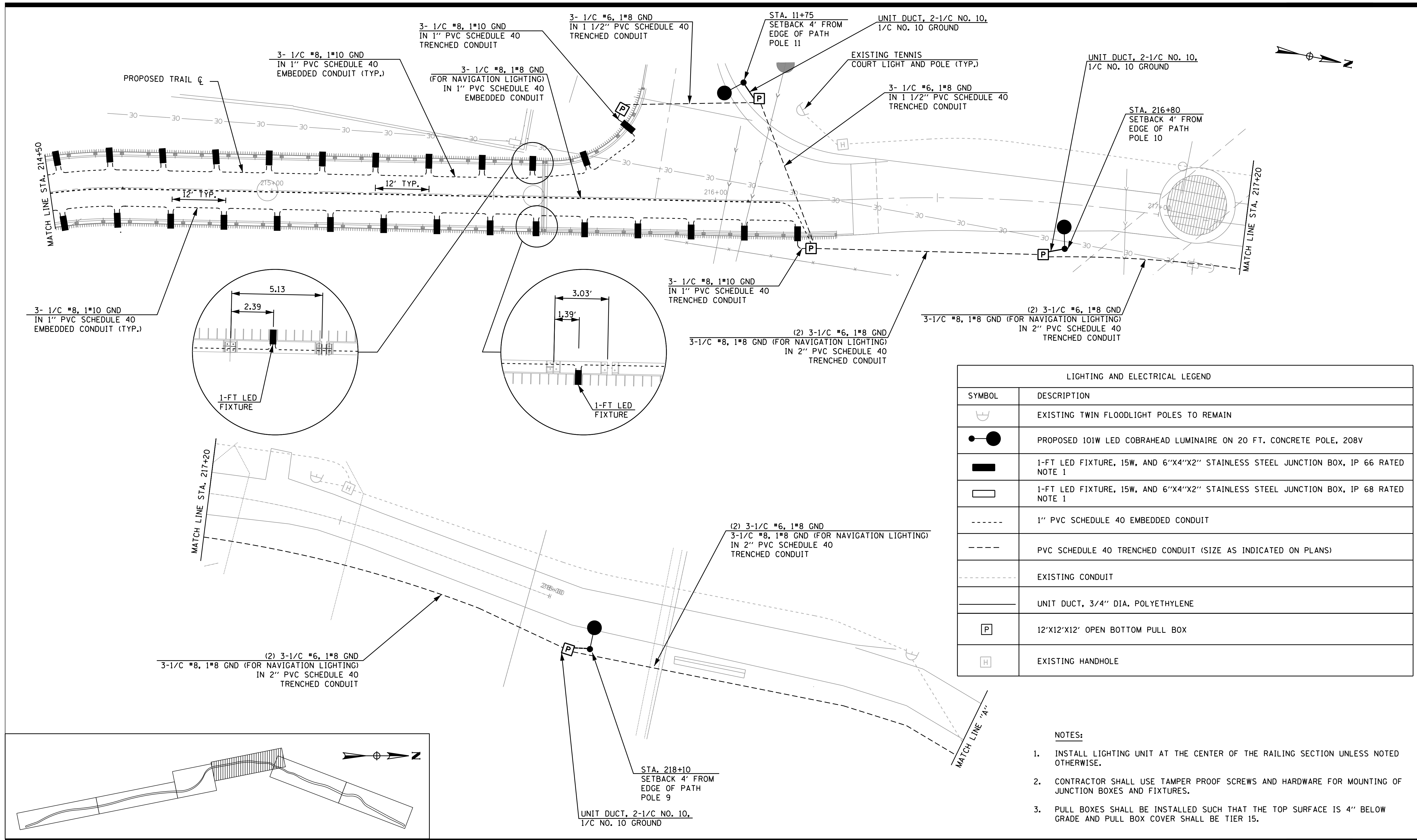
**CONSULTANT**  
 SINGH & ASSOCIATES, INC.  
 230 West Monroe Street, Suite 1400  
 Chicago, IL 60606  
 312.629.0240  
 www.singhinc.com



**ADDISON UNDERBRIDGE TRAIL CONNECTION**  
 FROM CLARK PARK TO CALIFORNIA PARK  
 LIGHTING PLAN

SHEET NO. **E-04**  
 SHEET 142 OF 158  
 REVISION





LIGHTING AND ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	EXISTING TWIN FLOODLIGHT POLES TO REMAIN
	PROPOSED 101W LED COBRAHEAD LUMINAIRE ON 20 FT. CONCRETE POLE, 208V
	1-FT LED FIXTURE, 15W, AND 6"X4"X2" STAINLESS STEEL JUNCTION BOX, IP 66 RATED NOTE 1
	1-FT LED FIXTURE, 15W, AND 6"X4"X2" STAINLESS STEEL JUNCTION BOX, IP 68 RATED NOTE 1
	1" PVC SCHEDULE 40 EMBEDDED CONDUIT
	PVC SCHEDULE 40 TRENCHED CONDUIT (SIZE AS INDICATED ON PLANS)
	EXISTING CONDUIT
	UNIT DUCT, 3/4" DIA. POLYETHYLENE
	12'X12'X12' OPEN BOTTOM PULL BOX
	EXISTING HANDHOLE

- NOTES:**
- INSTALL LIGHTING UNIT AT THE CENTER OF THE RAILING SECTION UNLESS NOTED OTHERWISE.
  - CONTRACTOR SHALL USE TAMPER PROOF SCREWS AND HARDWARE FOR MOUNTING OF JUNCTION BOXES AND FIXTURES.
  - PULL BOXES SHALL BE INSTALLED SUCH THAT THE TOP SURFACE IS 4" BELOW GRADE AND PULL BOX COVER SHALL BE TIER 15.

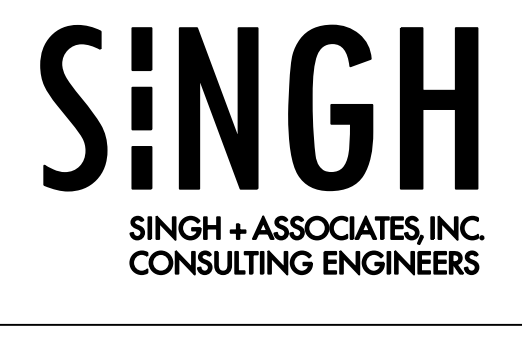
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 CHECKED BY: KGP  
 APPROVED BY:  
 DATE: 9/24/2014  
 SCALE: N.T.S.

NO.	DATE	REVISIONS/ISSUANCES
5/27/16		FINAL SUBMITTAL

CITY OF CHICAGO  
 DEPARTMENT OF TRANSPORTATION  
 30 N LaSalle St. Suite 1100  
 Chicago, IL 60602  
 312.744.3600



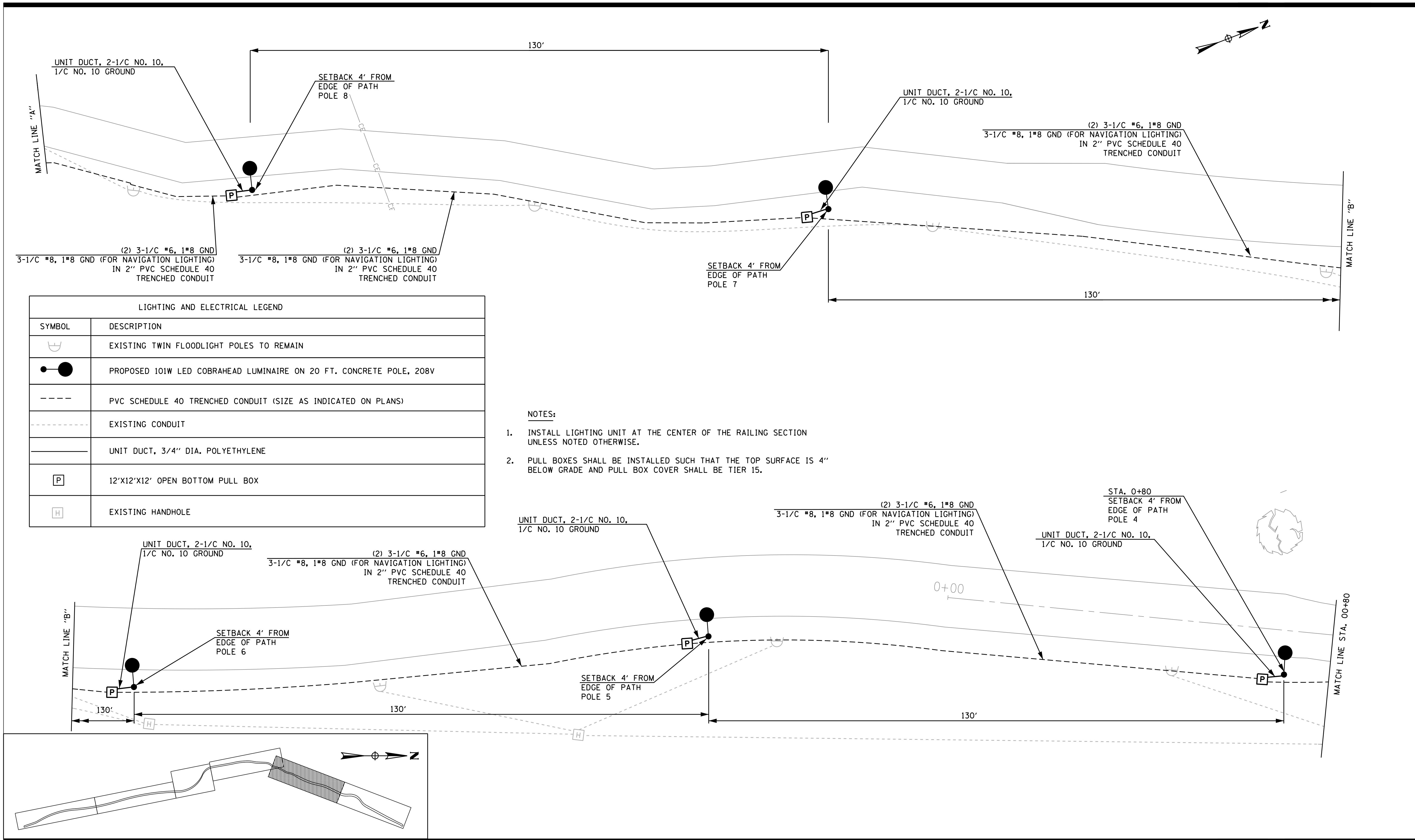
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ADDISON UNDERBRIDGE TRAIL CONNECTION  
 FROM CLARK PARK TO CALIFORNIA PARK  
 LIGHTING PLAN

SHEET NO. E-05  
 SHEET 143 OF 158  
 REVISION





LIGHTING AND ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	EXISTING TWIN FLOODLIGHT POLES TO REMAIN
	PROPOSED 101W LED COBRAHEAD LUMINAIRE ON 20 FT. CONCRETE POLE, 208V
	PVC SCHEDULE 40 TRENCHED CONDUIT (SIZE AS INDICATED ON PLANS)
	EXISTING CONDUIT
	UNIT DUCT, 3/4" DIA. POLYETHYLENE
	12'X12'X12' OPEN BOTTOM PULL BOX
	EXISTING HANDHOLE

- NOTES:**
- INSTALL LIGHTING UNIT AT THE CENTER OF THE RAILING SECTION UNLESS NOTED OTHERWISE.
  - PULL BOXES SHALL BE INSTALLED SUCH THAT THE TOP SURFACE IS 4" BELOW GRADE AND PULL BOX COVER SHALL BE TIER 15.

SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: MG  
 CHECKED BY: KGP  
 APPROVED BY:  
 DATE: 9/24/2014  
 SCALE: N.T.S.

NO.	DATE	REVISIONS/ISSUANCES
5/27/16		FINAL SUBMITTAL

CITY OF CHICAGO  
 DEPARTMENT OF TRANSPORTATION  
 30 N LaSalle St. Suite 1100  
 Chicago, IL 60602  
 312.744.3600



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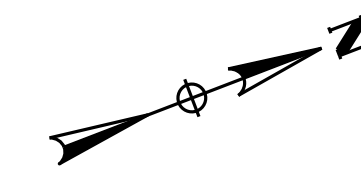
ADDISON UNDERBRIDGE TRAIL CONNECTION  
 FROM CLARK PARK TO CALIFORNIA PARK

LIGHTING PLAN

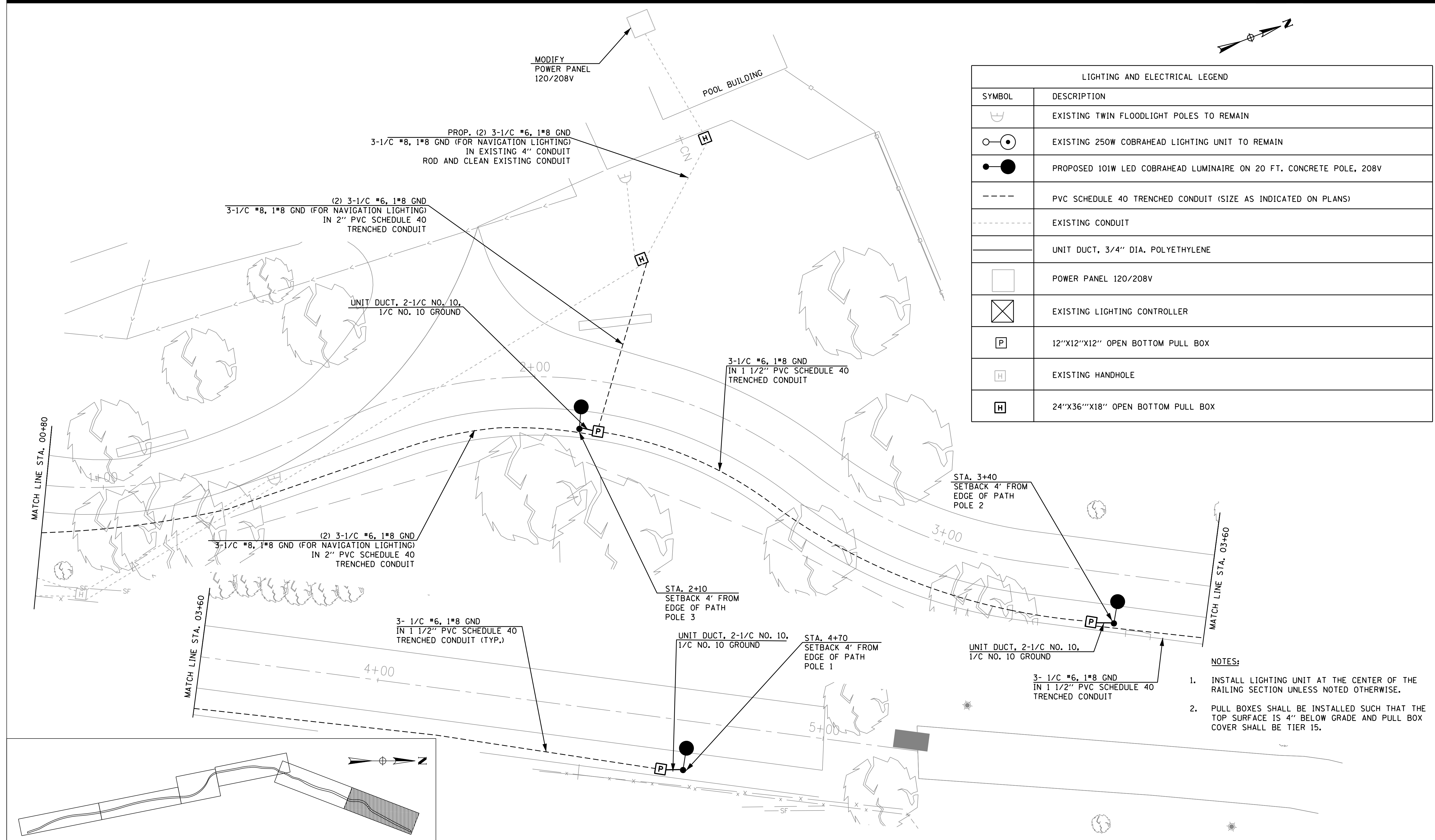
SHEET NO. E-06  
 SHEET 144 OF 158

REVISION





LIGHTING AND ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	EXISTING TWIN FLOODLIGHT POLES TO REMAIN
	EXISTING 250W COBRAHEAD LIGHTING UNIT TO REMAIN
	PROPOSED 101W LED COBRAHEAD LUMINAIRE ON 20 FT. CONCRETE POLE, 208V
	PVC SCHEDULE 40 TRENCHED CONDUIT (SIZE AS INDICATED ON PLANS)
	EXISTING CONDUIT
	UNIT DUCT, 3/4" DIA. POLYETHYLENE
	POWER PANEL 120/208V
	EXISTING LIGHTING CONTROLLER
	12"X12"X12" OPEN BOTTOM PULL BOX
	EXISTING HANDHOLE
	24"X36"X18" OPEN BOTTOM PULL BOX



- NOTES:**
1. INSTALL LIGHTING UNIT AT THE CENTER OF THE RAILING SECTION UNLESS NOTED OTHERWISE.
  2. PULL BOXES SHALL BE INSTALLED SUCH THAT THE TOP SURFACE IS 4" BELOW GRADE AND PULL BOX COVER SHALL BE TIER 15.

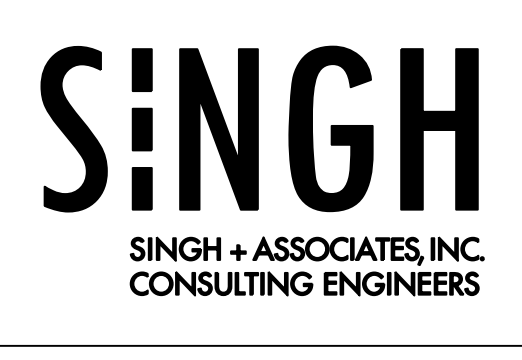
SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: MG  
 CHECKED BY: KGP  
 APPROVED BY:  
 DATE: 9/24/2014  
 SCALE: N.T.S.

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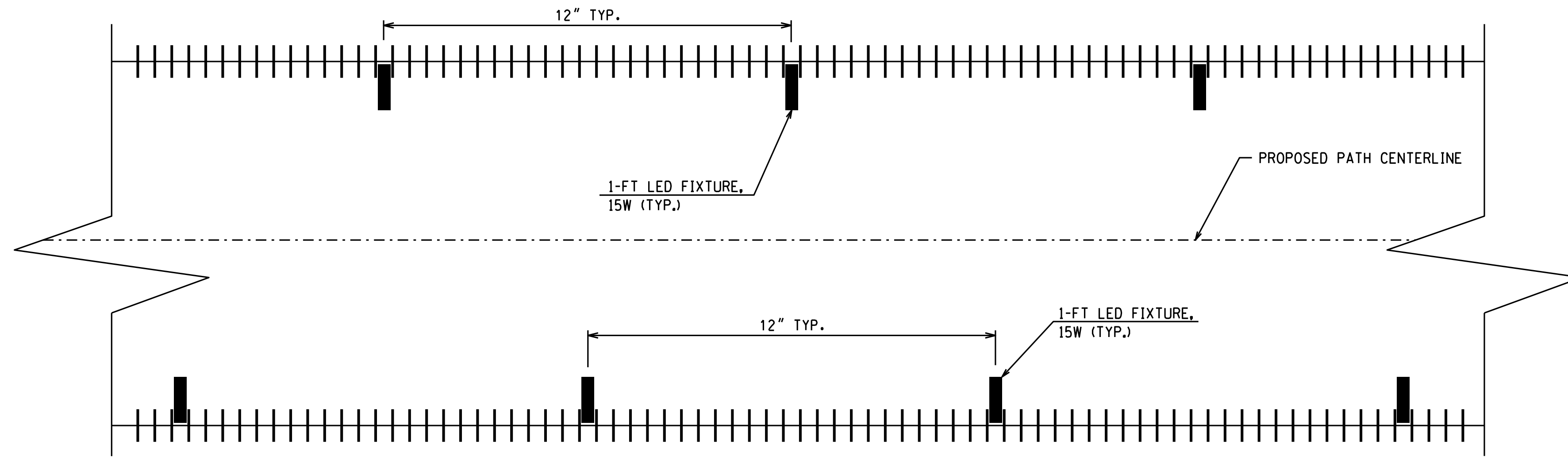
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**ADDISON UNDERBRIDGE TRAIL CONNECTION**  
 FROM CLARK PARK TO CALIFORNIA PARK  
 LIGHTING PLAN

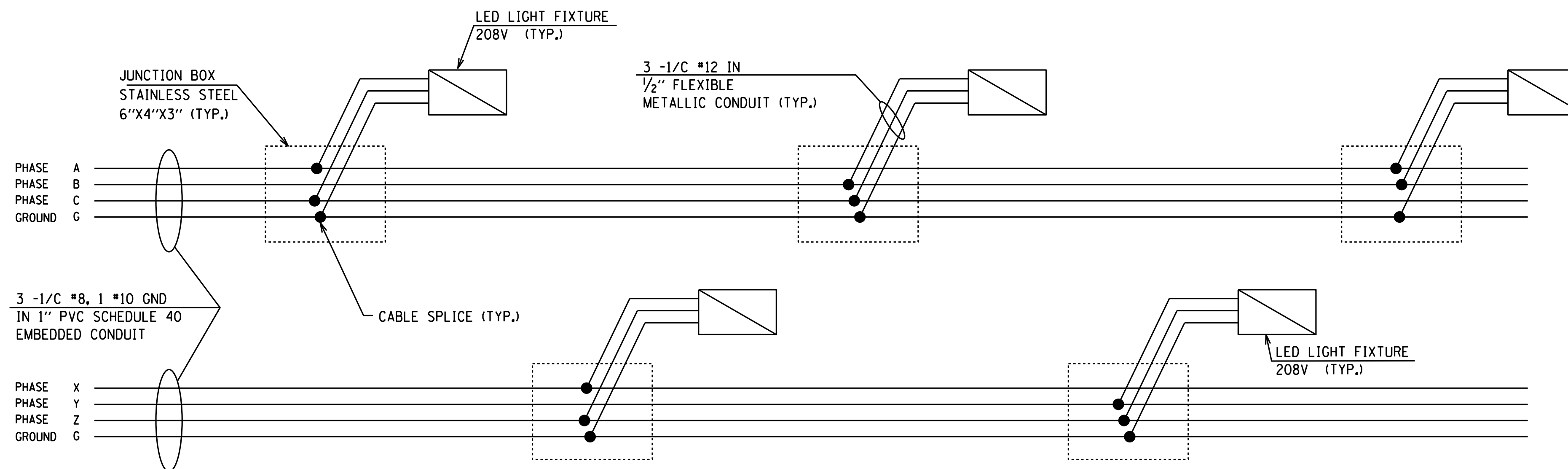
SHEET NO. **E-07**  
 SHEET 145 OF 158  
 REVISION





TYPICAL LIGHTING LAYOUT ALONG PATH RAILING (UNLESS NOTED OTHERWISE)

N.T.S.



WIRING DIAGRAM

N.T.S.

SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: MG  
 CHECKED BY: KGP  
 APPROVED BY:  
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ADDISON UNDERBRIDGE TRAIL CONNECTION  
 FROM CLARK PARK TO CALIFORNIA PARK

TYPICAL LIGHTING LAYOUT AND WIRING DIAGRAM

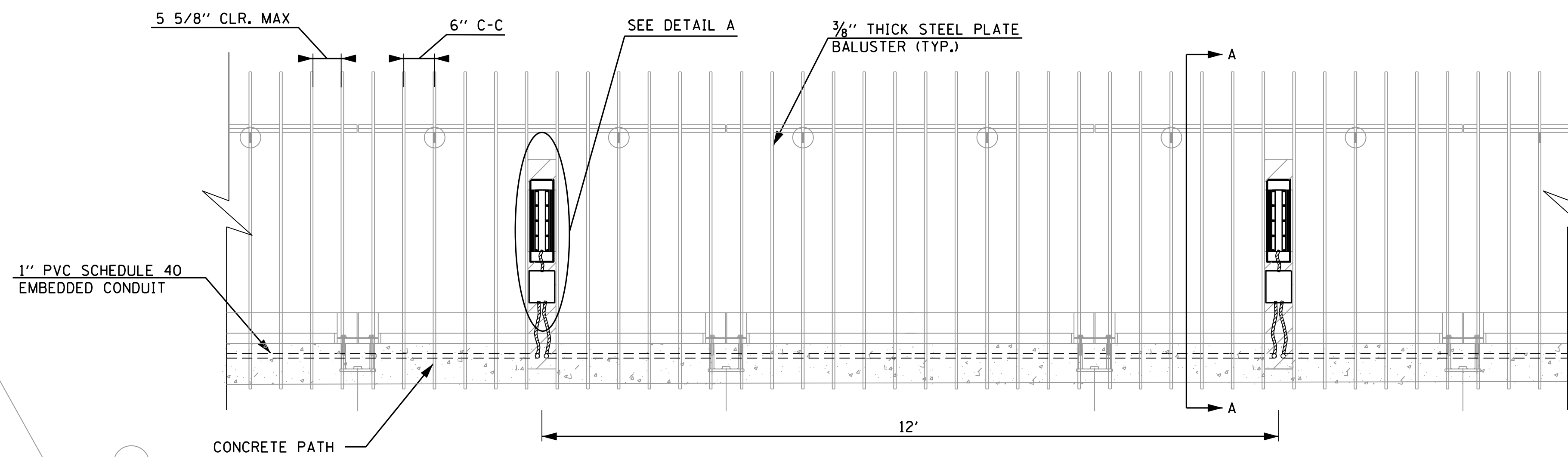
SHEET NO.

E-08

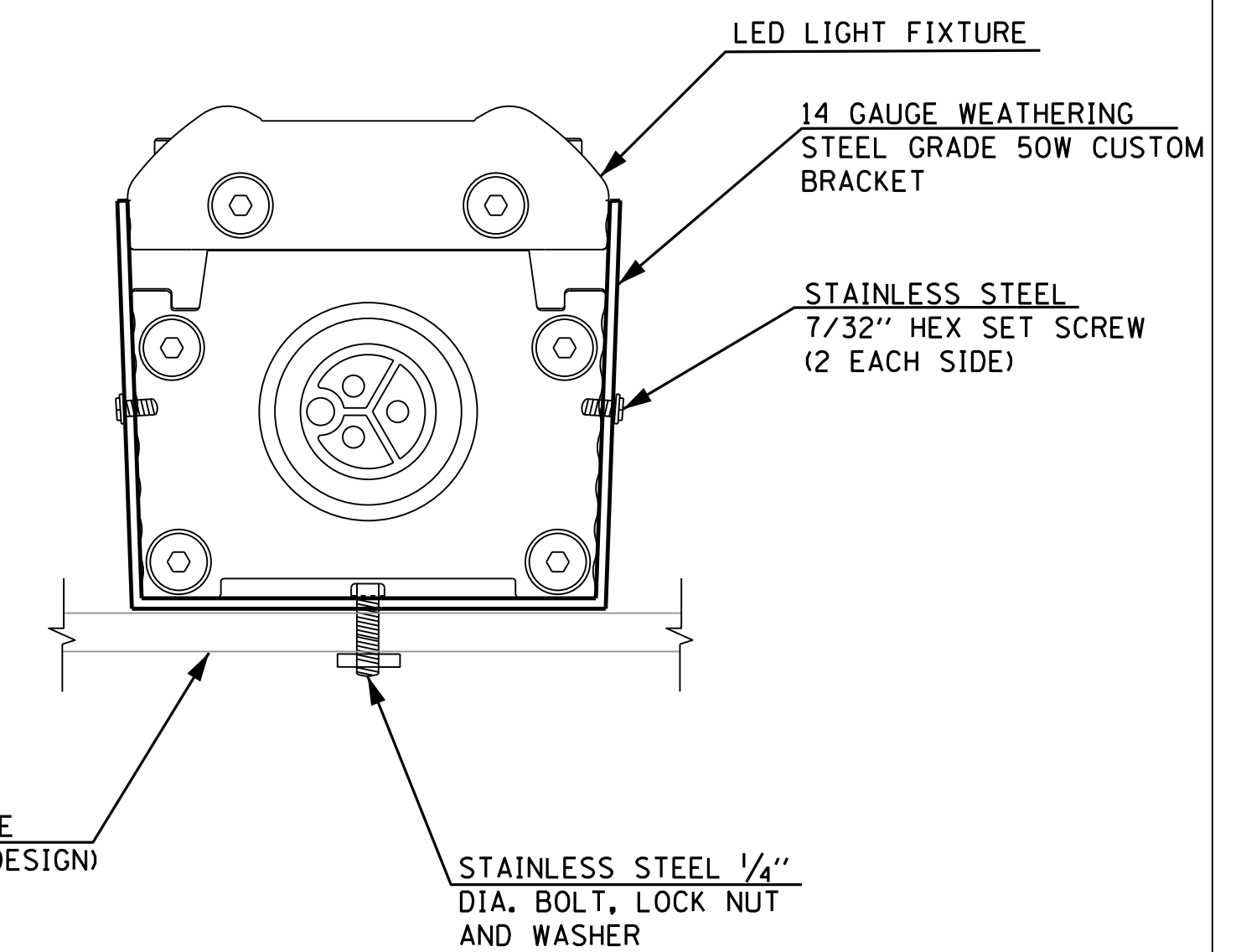
SHEET 146 OF 158

REVISION

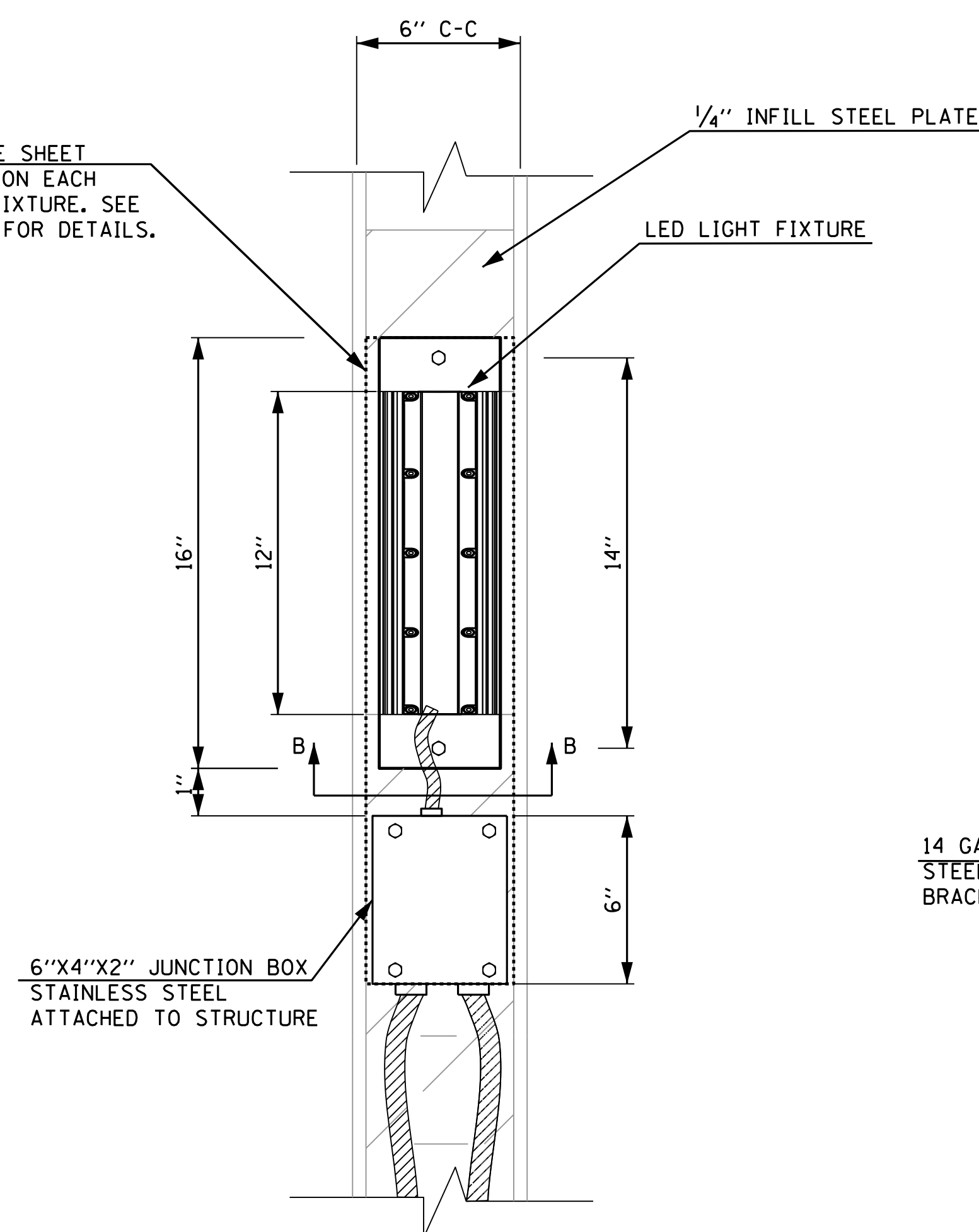




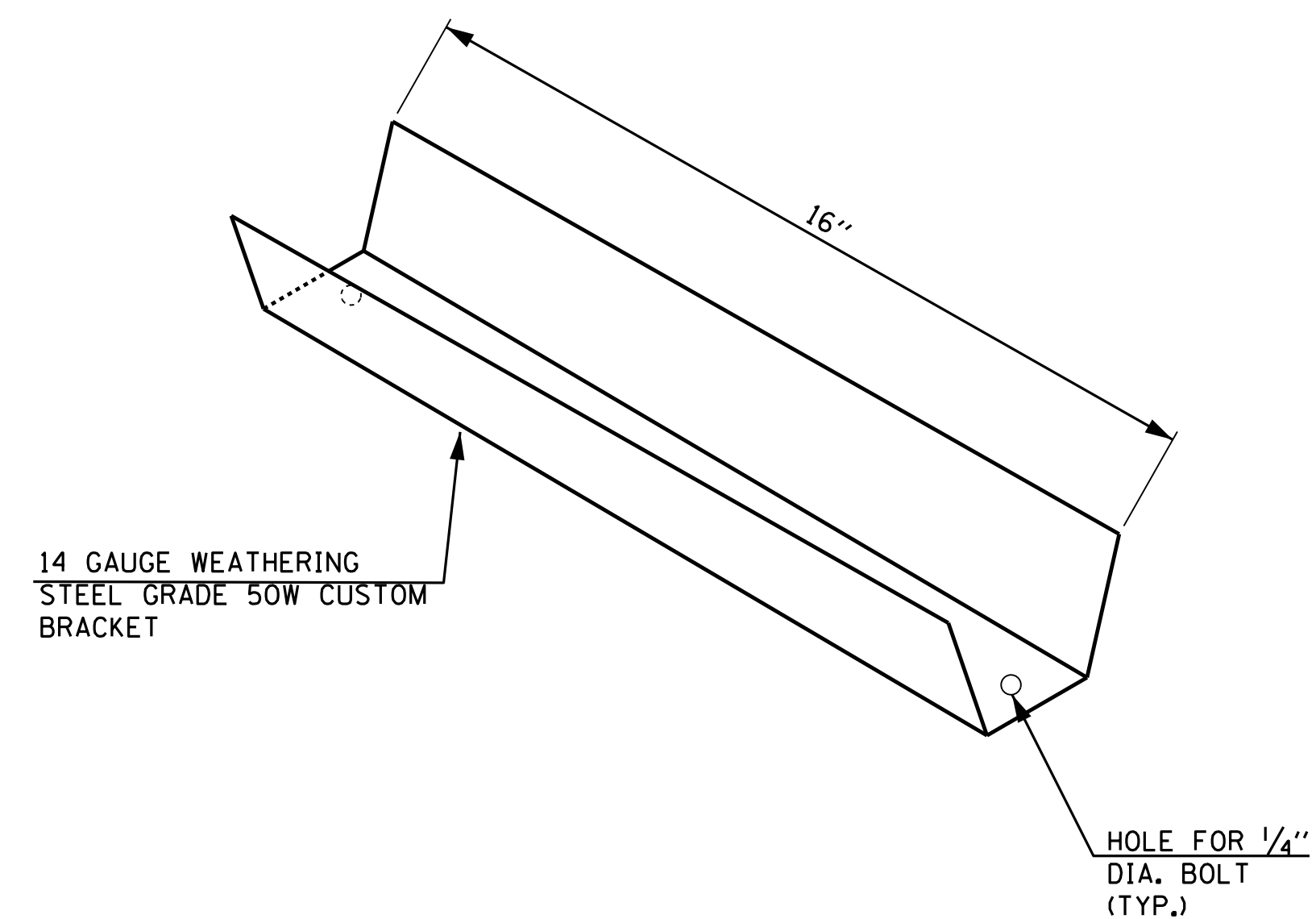
**ELEVATION VIEW LOOKING AT THE RAILING**  
N.T.S.



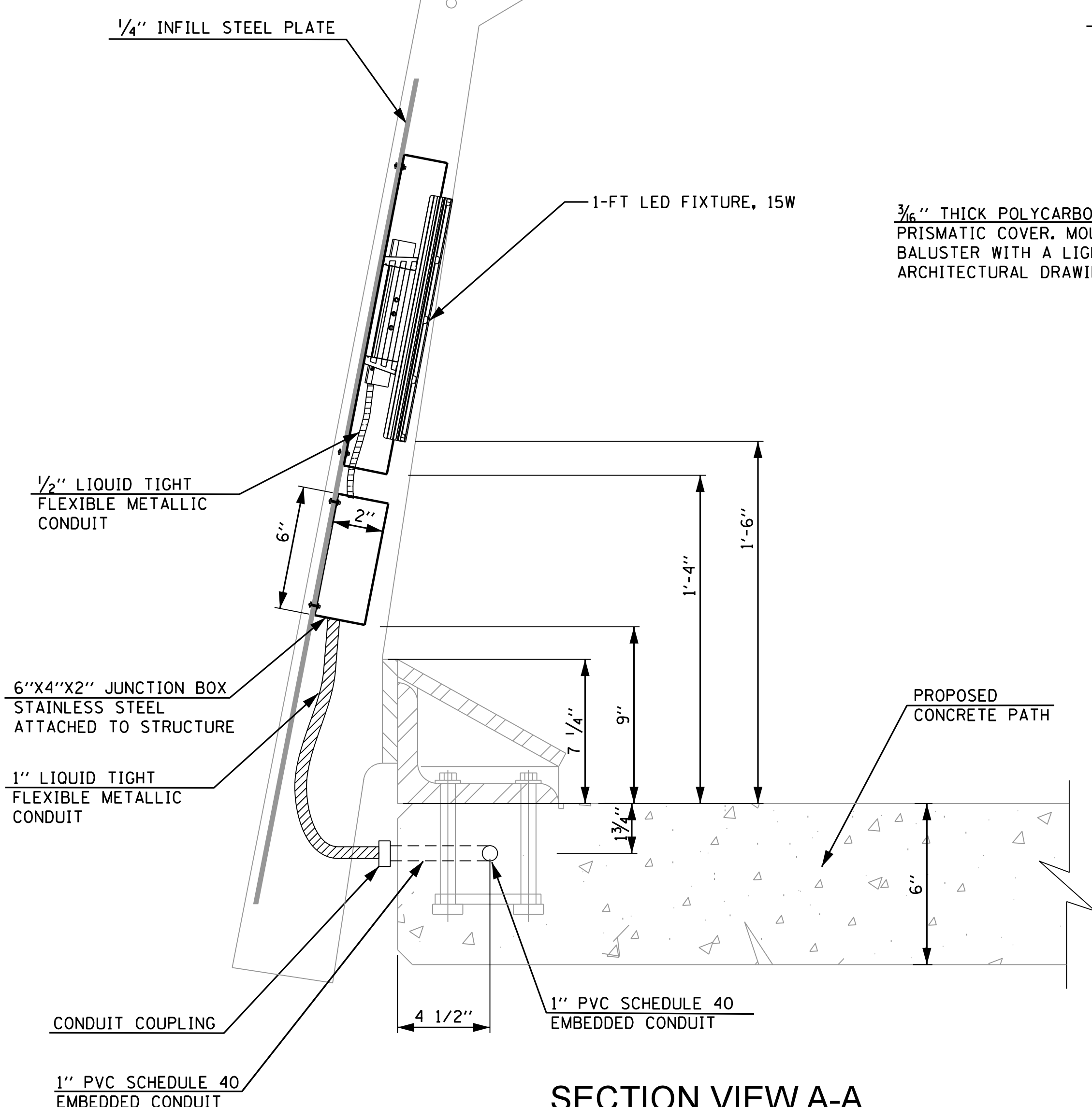
**SECTION VIEW B-B**  
N.T.S.



**DETAIL A**  
N.T.S.



**BRACKET DETAIL**  
N.T.S.



**SECTION VIEW A-A**  
N.T.S.

SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: MG  
 CHECKED BY: KGP  
 APPROVED BY:  
 DATE: 9/24/2014  
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ADDISON UNDERBRIDGE TRAIL CONNECTION  
 FROM CLARK PARK TO CALIFORNIA PARK

LIGHTING DETAILS

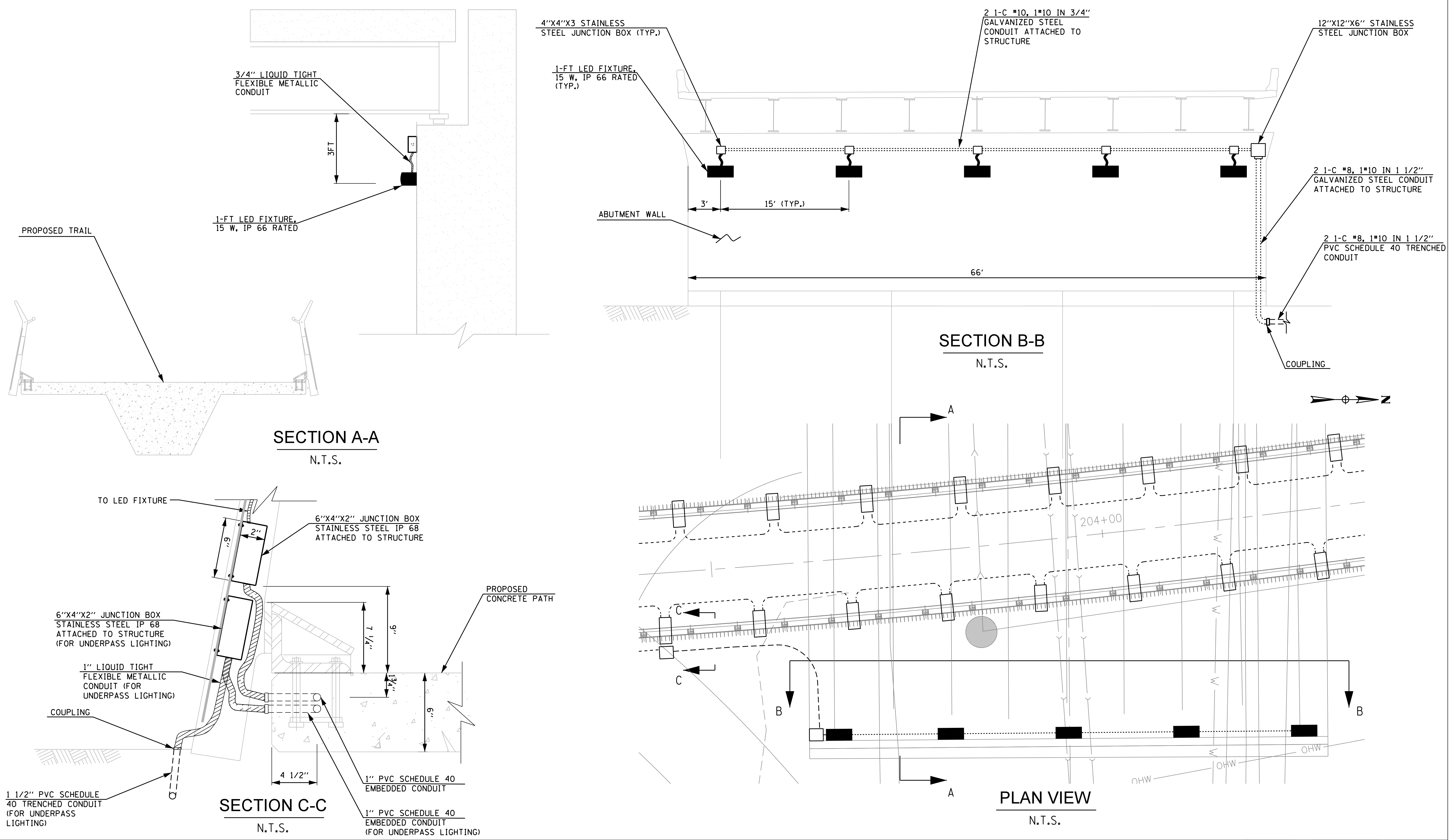
SHEET NO.

**E-09**

SHEET 147 OF 158

REVISION





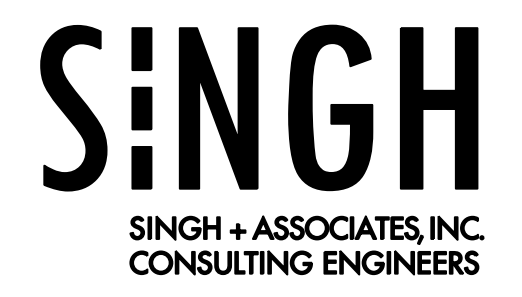
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 DRAWN BY: MG  
 CHECKED BY: KGP  
 APPROVED BY:  
 DATE: 9/24/2014  
 SCALE: N.T.S.

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ADDISON UNDERBRIDGE TRAIL CONNECTION  
 FROM CLARK PARK TO CALIFORNIA PARK  
 UNDERPASS LIGHTING DETAILS

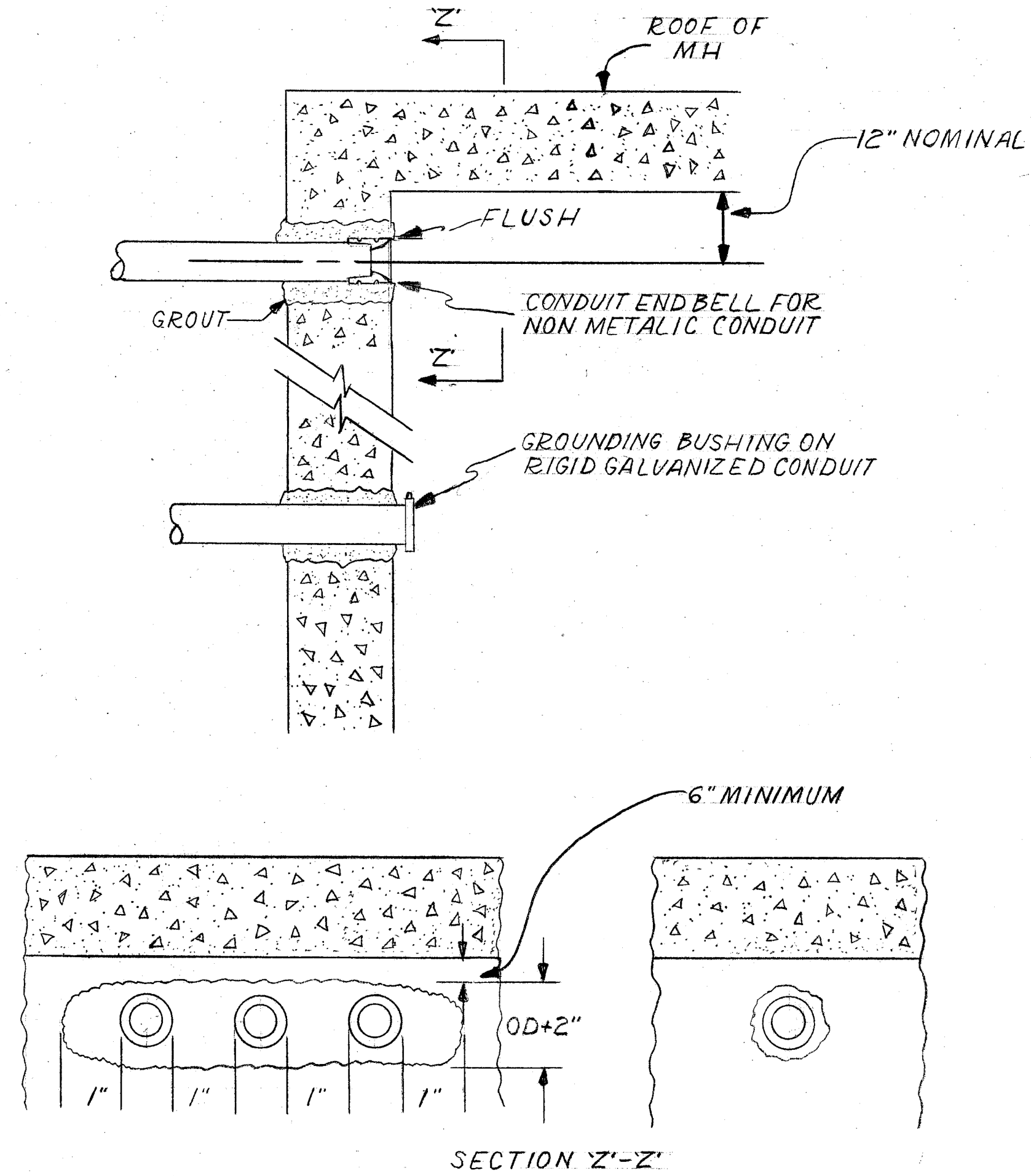
SHEET NO. E-10  
 SHEET 148 OF 158





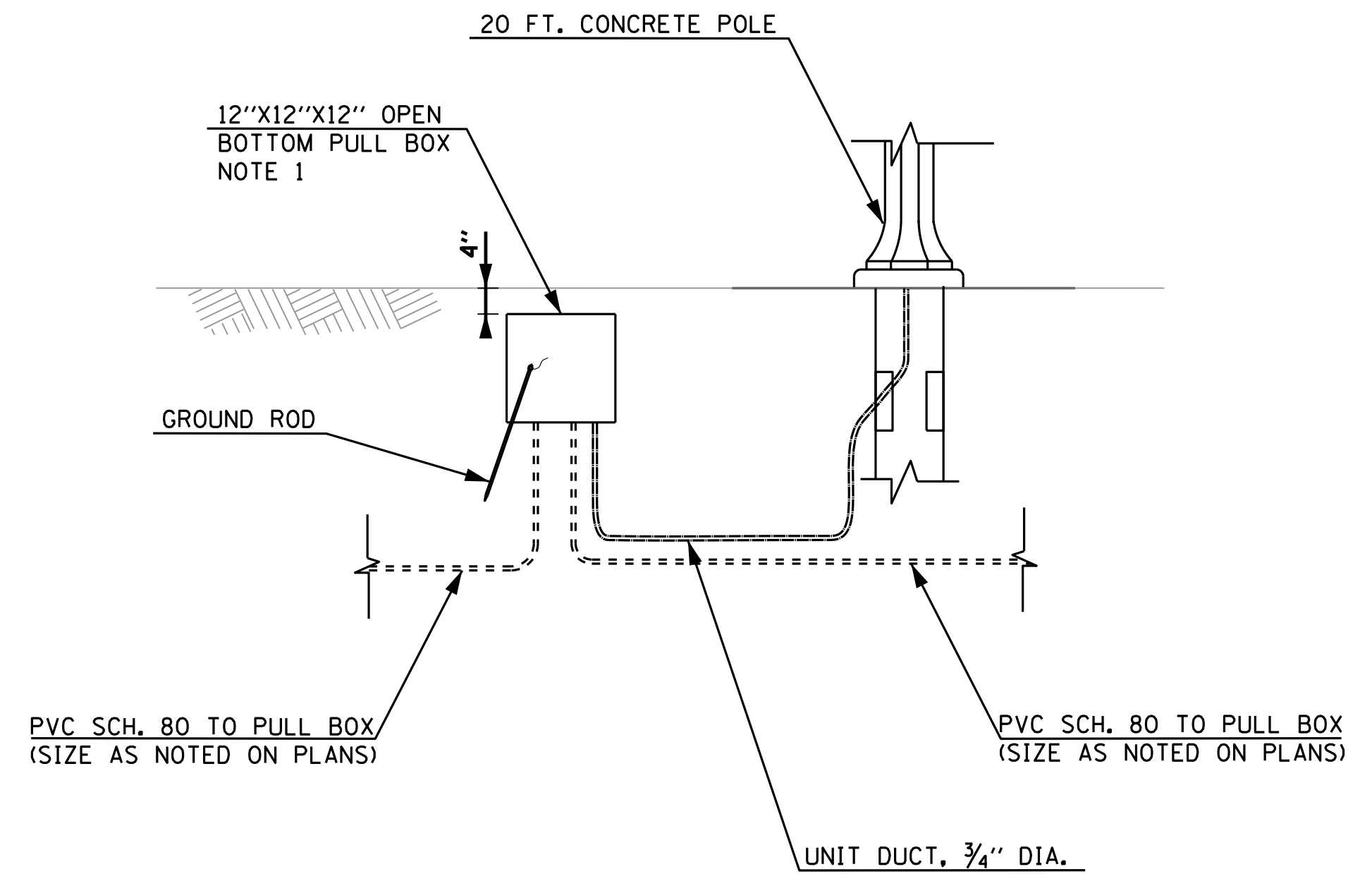


CONDUIT INSTALLATION THROUGH EXISTING  
MANHOLE OR HANDHOLE WALL



OPENING THROUGH WALL TO BE KEPT TO MINIMUM SIZE TO ADMIT CONDUIT AND SUFFICIENT GROUT TO ASSURE SEALING WALL.

INSTALLATION METHOD OF INSTALLING CONDUIT THRU MANHOLE WALL		
CITY OF CHICAGO DEPT. OF STREETS AND SANITATION BUREAU OF ELECTRICITY DIVISION OF ELECTRICAL ENGINEERING		
DRAWN A.M. JOHANSON	CHECKED R. SYCKOWSKI	ENGINEER R.L. MARTIN
 THOMAS HILOBUFF ENGINEER OF ELECTRICITY		DRG. NO. 814
 CHARLES E. BUMPLEY DEPUTY CHIEF		DATE 3-13-81
SIZE 8 1/2" X 14"	SCALE N.T.S.	



CONDUIT TRANSITION DETAIL

N.T.S.

NOTE:

- PULL BOXES SHALL BE INSTALLED SUCH THAT THE TOP SURFACE IS 4" BELOW GRADE AND PULL BOX COVER SHALL BE TIER 15.

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NO. DATE REVISIONS/ISSUANCES  
5/27/16 FINAL SUBMITTAL

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ADDISON UNDERBRIDGE TRAIL CONNECTION  
FROM CLARK PARK TO CALIFORNIA PARK

CDOT ELECTRICAL STANDARD DETAILS  
AND LIGHTING DETAILS

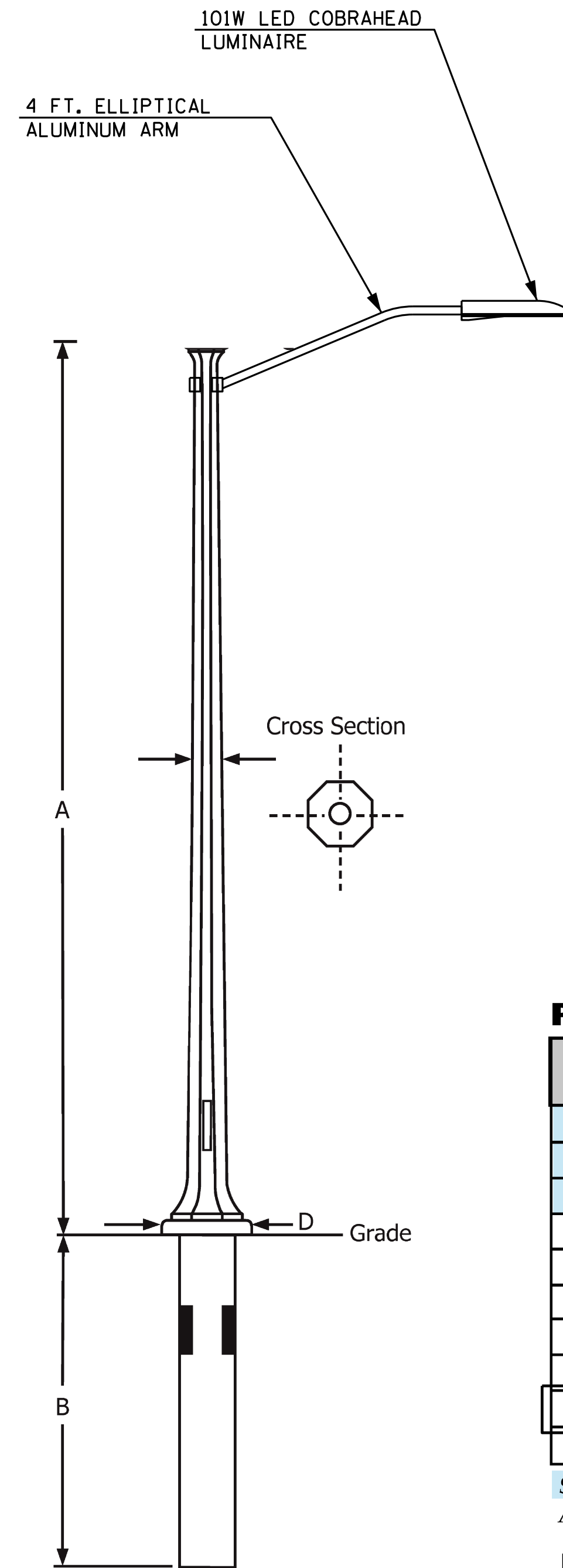
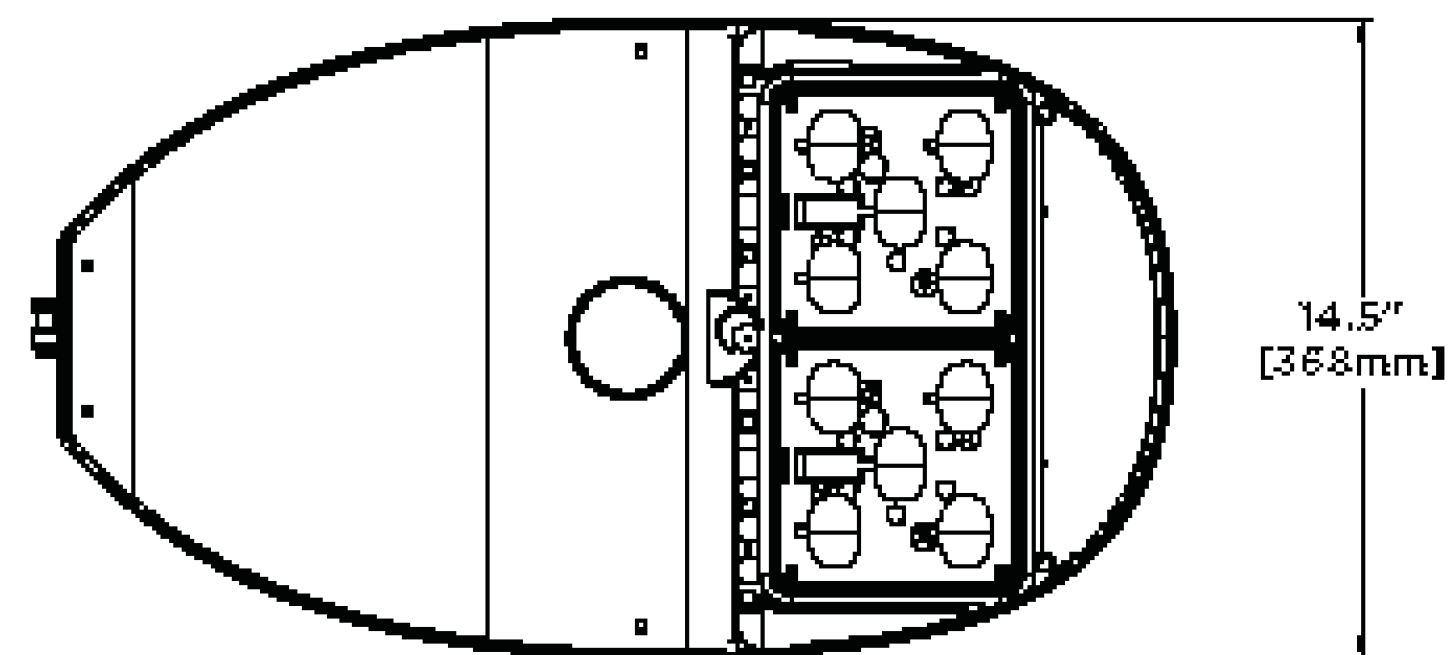
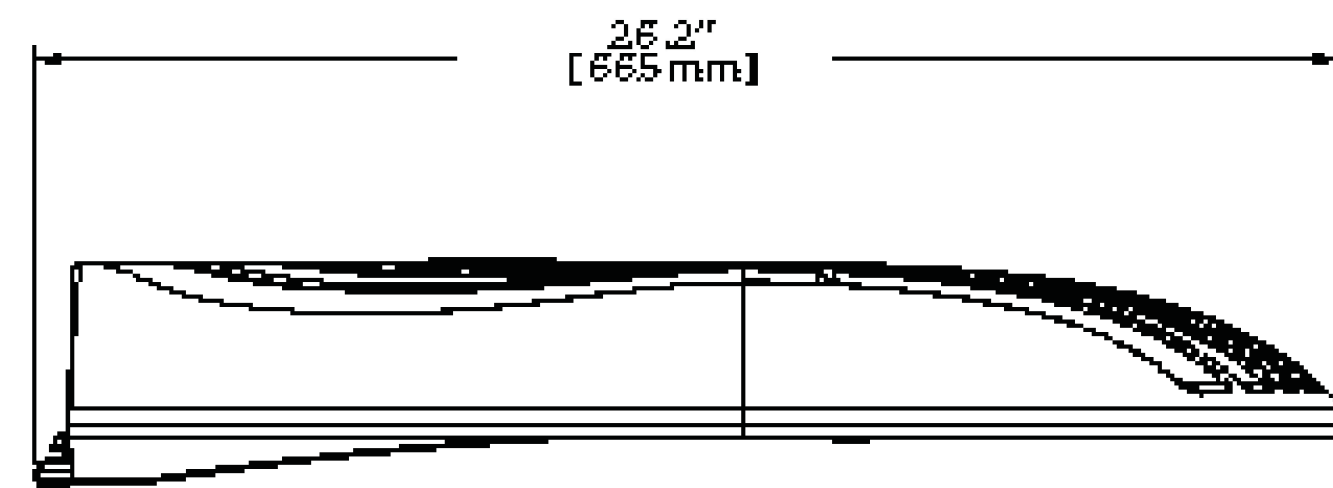
SHEET NO.

E-12

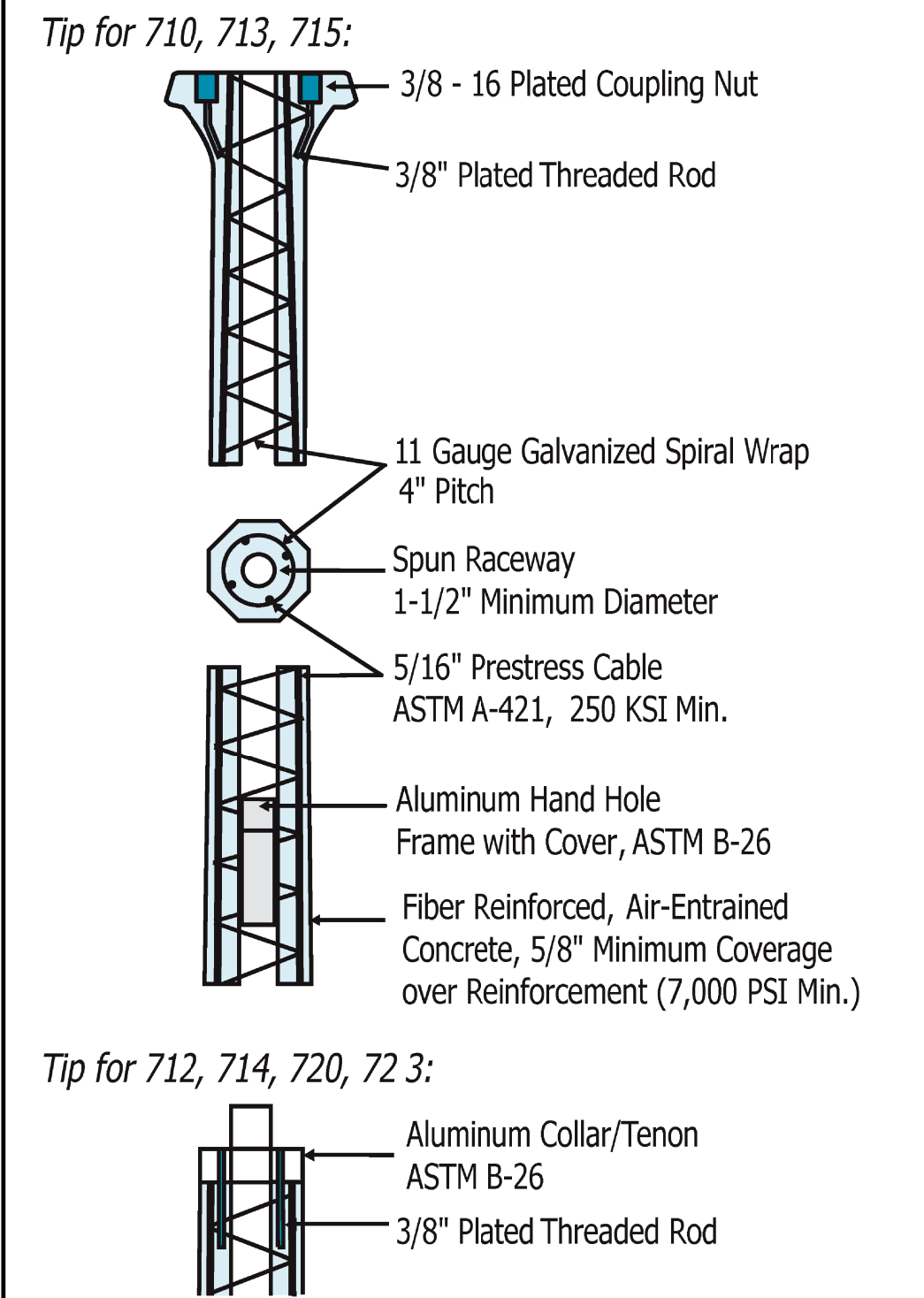
SHEET 150 OF 158

REVISION





**Typical Structural Detail**



**Pole Dimensions**

Pole No.	Above Ground Height (A)	Burial Depth (B)	Tip Diameter (C)	Base Diameter (D)	Est. Pole Weight (lbs.)
*A701	20"	----	2"	5-1/2"	10
D703	42"	42"	4-3/4"	10"	175
*D706	6'	3'	6"	10"	175
*D710	10'	4' 6"	8-1/2"	18"	850
D712	12'	4'	5-1/2"	18"	875
*D713	13'	4'	8-1/2"	18"	900
D714	14'	4' 6"	5-1/2"	18"	925
*D715	15'	4' 6"	8-1/2"	18"	950
D720	20'	5'	6"	18"	1,400
D723	23'	5'	5-1/2"	18"	1,500

Static, cast-in-place. \* Pole has decorative flared top.  
Anchor Base units available upon request. Standard bolt circle is 15".

**Pole Code**

Standard Code: D720-AW-EA-CG

Mounting Type	Series + Height Above Ground	Color	Finish	Sealer	Options
(D) Direct Burial	701	(SG) Sky Gray	(E) Etched	(A) Acrylic	(B) Banner Arm
(A) Anchor Base	703	(MS) Midnight Sky Black	(M) Mold	(W) Waterseal	(C) Clamp-on Arm
	706	(CB) Charcoal Black		(G) Anti-Graffiti	(G) Ground Lug
	710	(SP) Salt & Pepper			(I) Threaded Insert
	712	(AW) Alpine White			(O) Outlet
	713	(TC) Terra Cotta			(T) Tenon
	714	(RG) Red Granite			
	715	(RR) Rustic Red			
	720	(SR) Sedona Red			
	723	(ER) Earhtone Red			
		(AR) Antique Red			
		(KG) Kelly Green			

SECTION NO.: 12-E9121-00-BT  
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ADDISON UNDERBRIDGE TRAIL CONNECTION  
 FROM CLARK PARK TO CALIFORNIA PARK

LIGHTING DETAILS

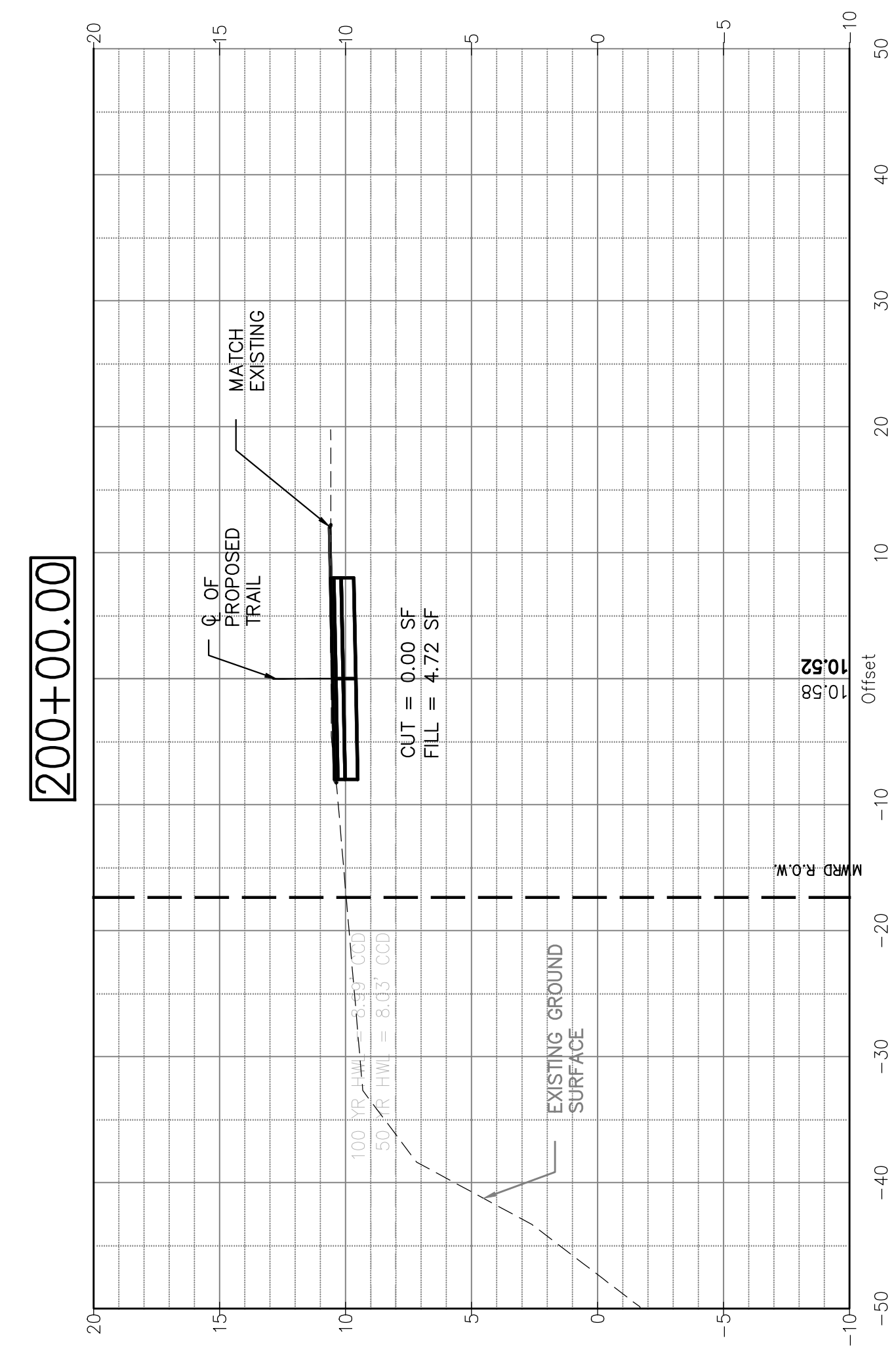
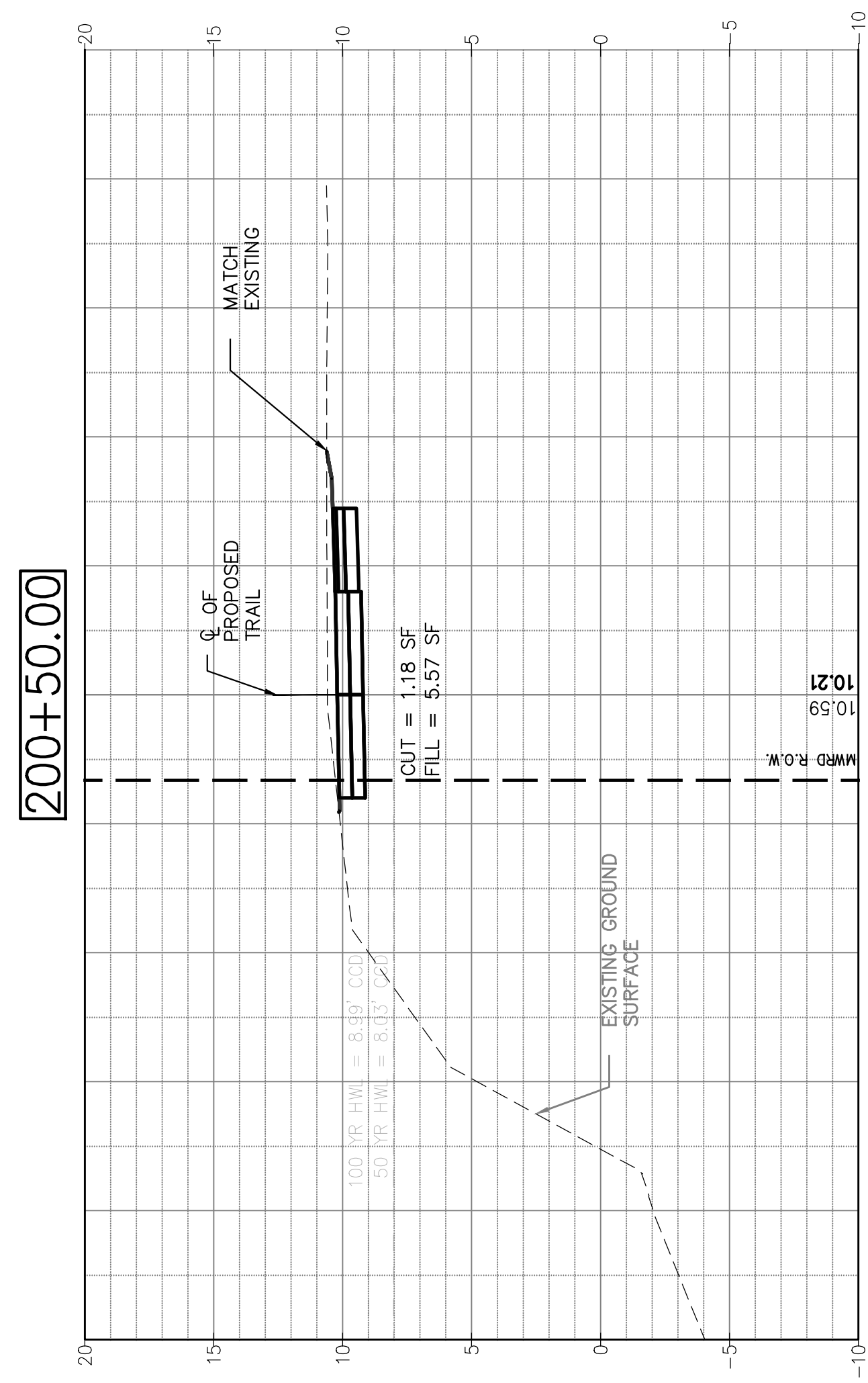
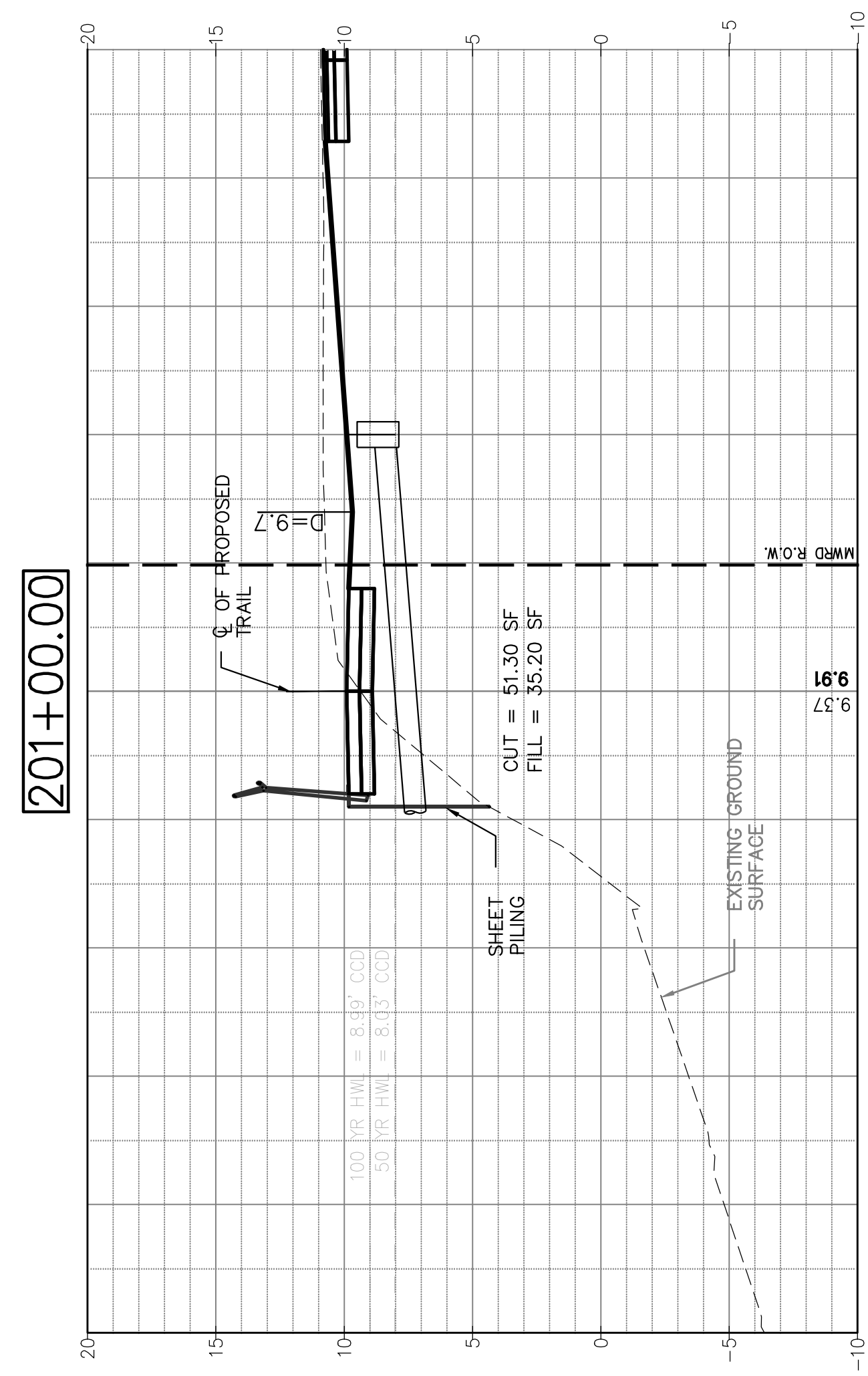
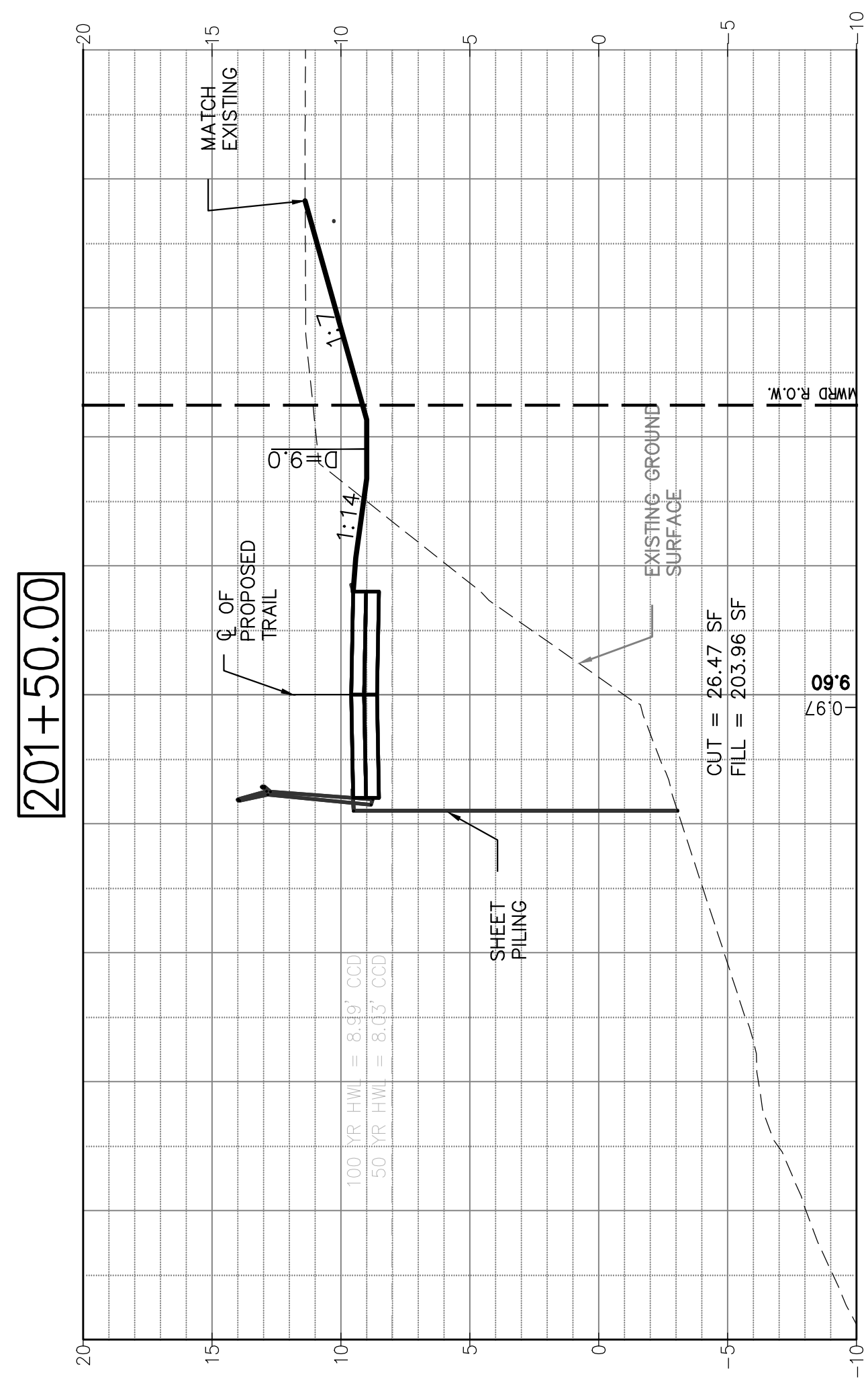
SHEET NO.

E-13

SHEET 151 OF 158

REVISION





SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: ORD  
 CHECKED BY: JRK  
 APPROVED BY: GAO  
 DATE: 8/12/2016  
 SCALE: ###

NO.	DATE	REVISIONS/ISSUANCES
1	8/12/16	ISSUED FOR FINAL
2	5/6/16	ISSUED FOR FINAL
3	6/05/15	ISSUED FOR FINAL REVIEW

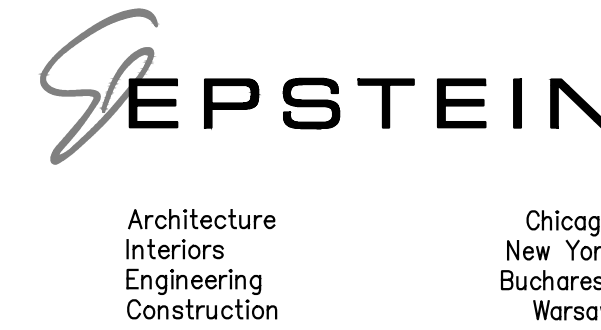
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 Chicago, IL 60661-1259  
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 www.epsteinglobal.com



ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
 CLARK PARK TO CALIFORNIA PARK  
 VALUE

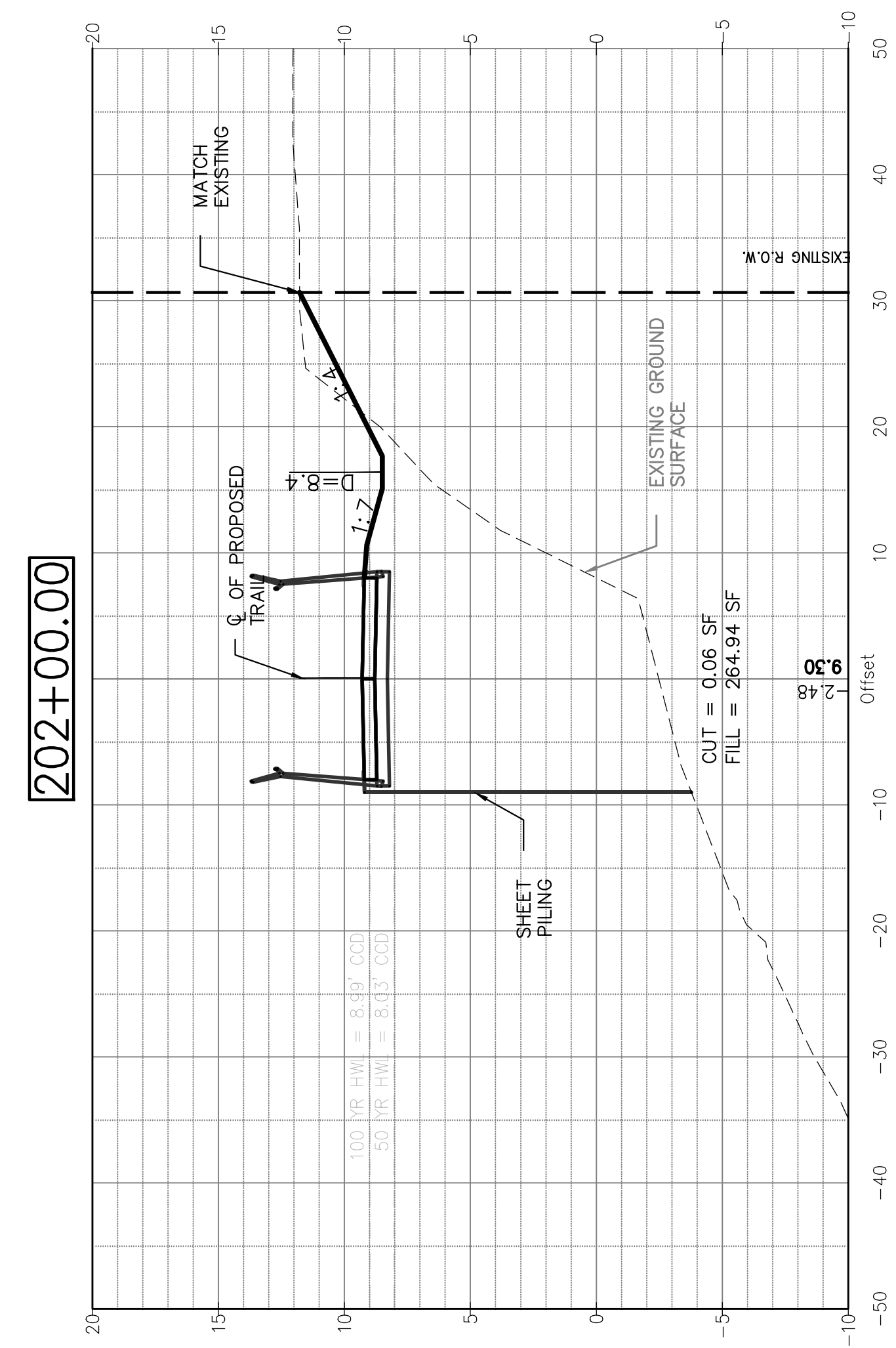
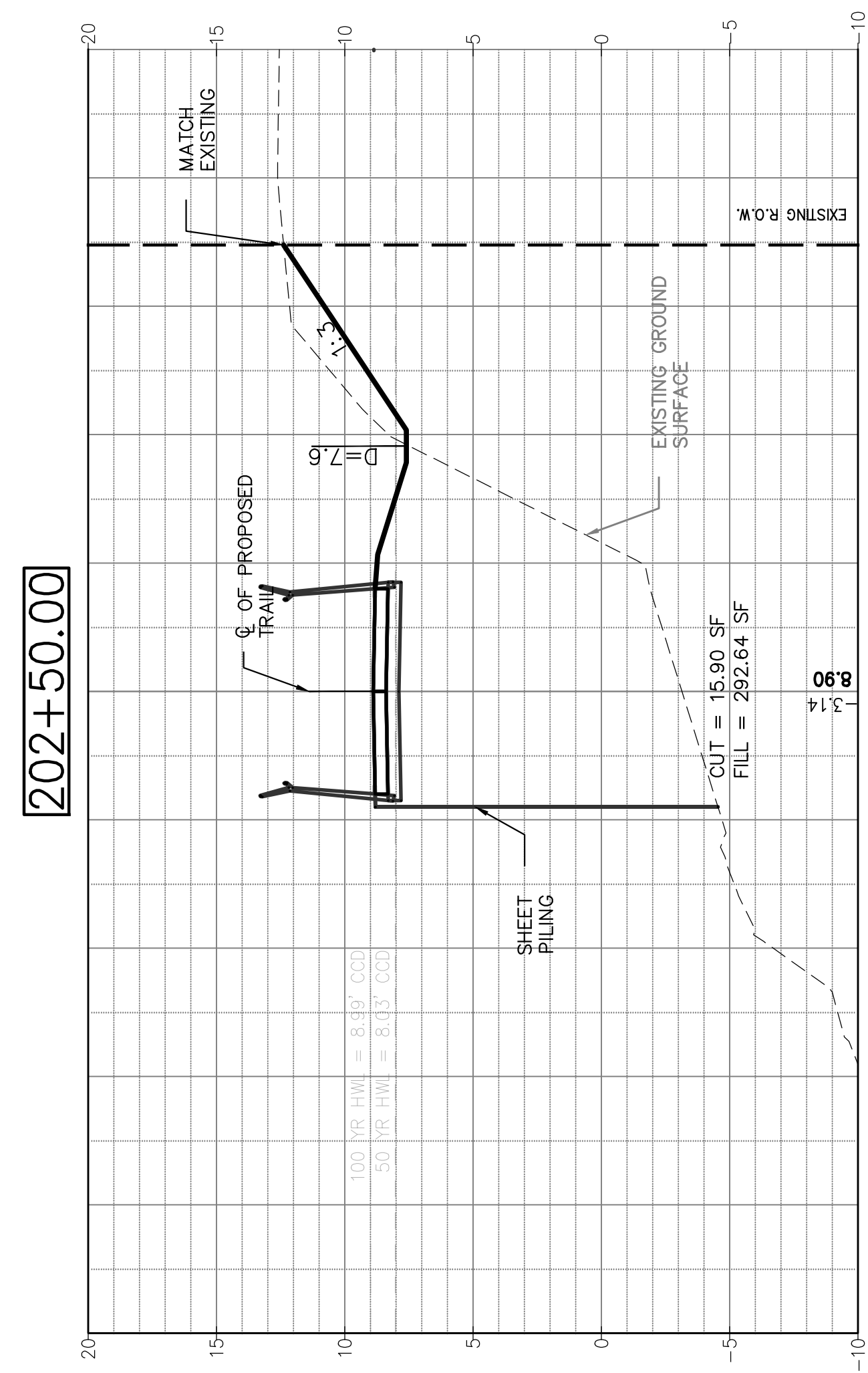
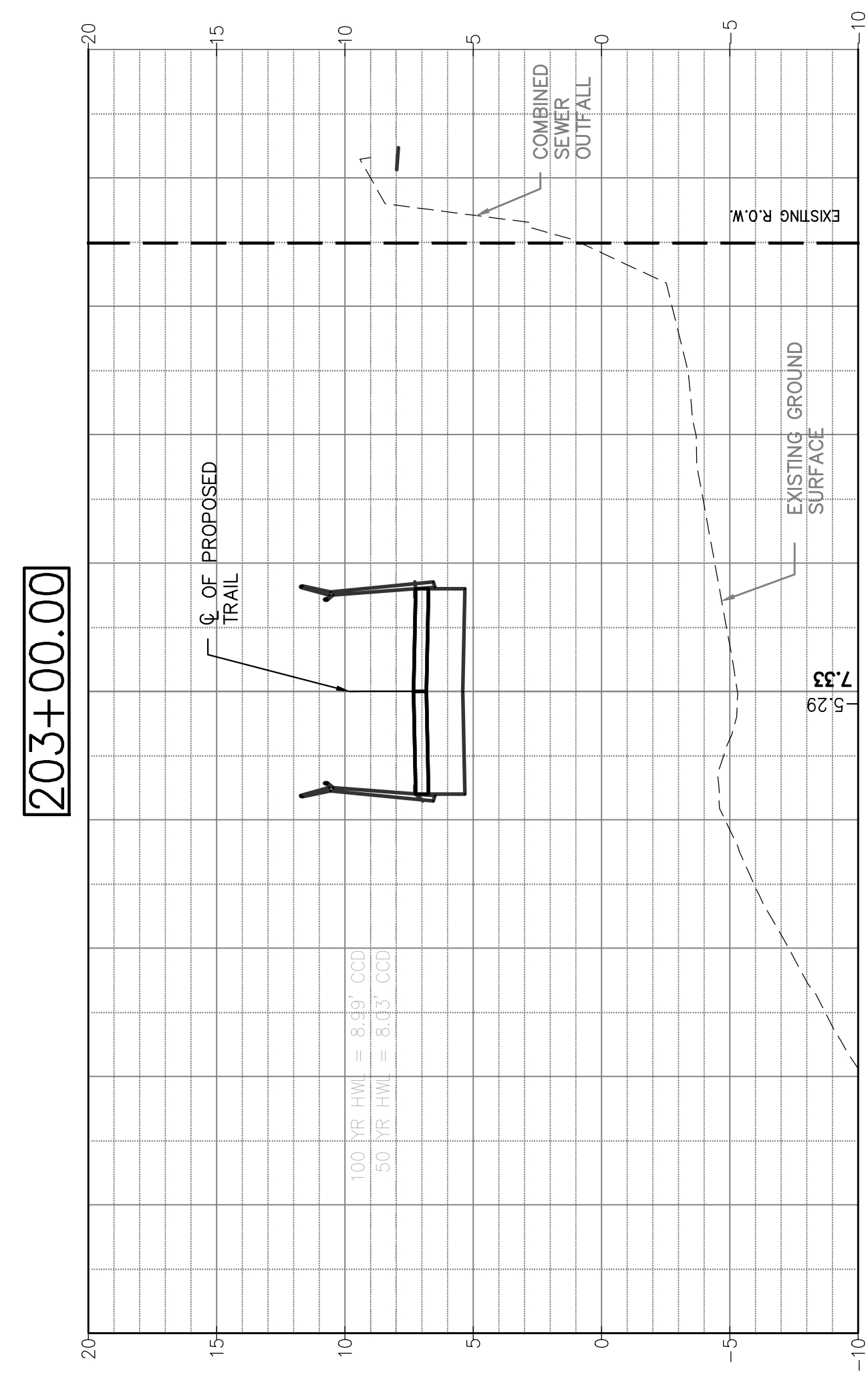
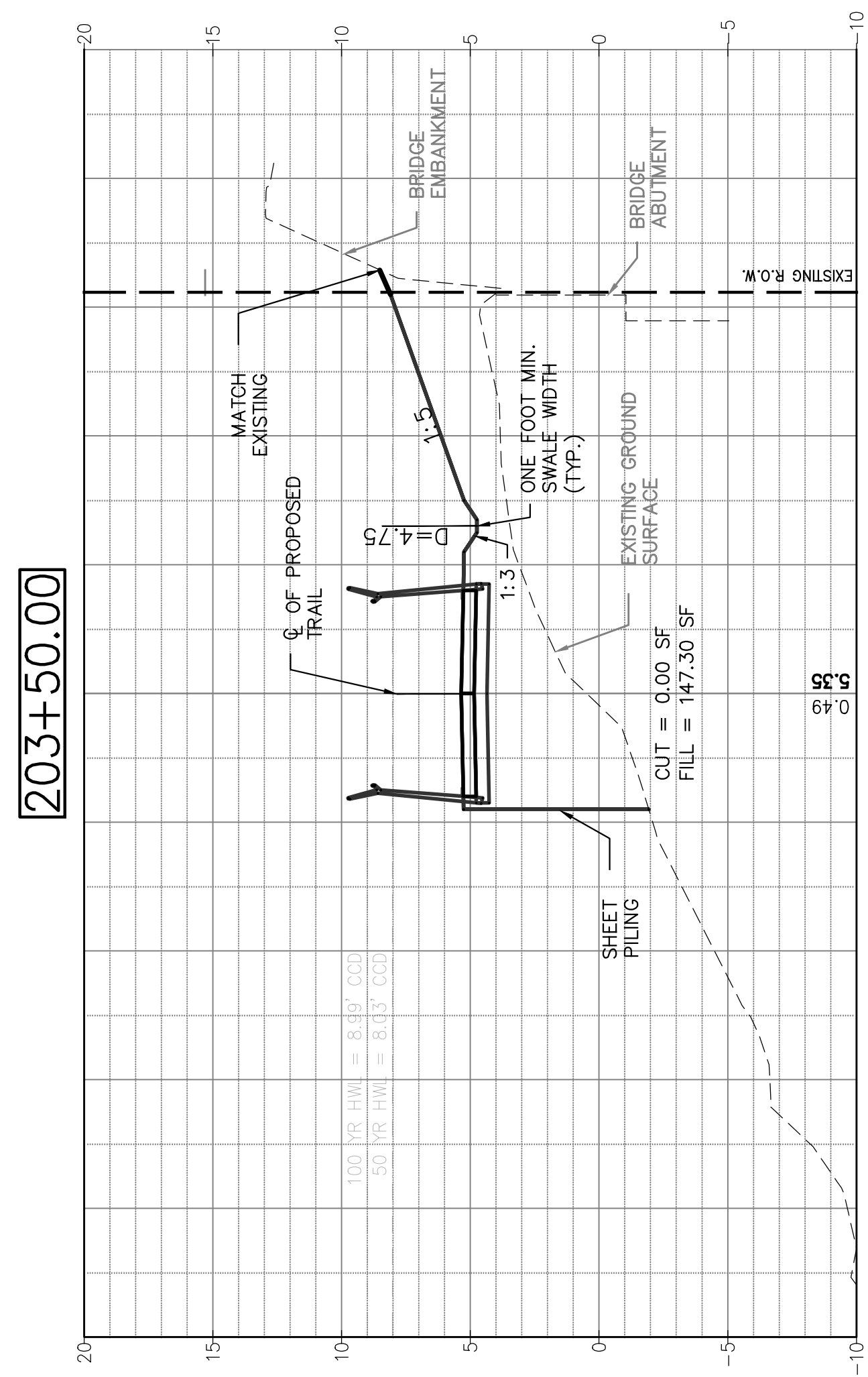
CROSS SECTIONS - ADDISON - STA 200+00 TO STA 201+50

SHEET NO.  
 XS-1

SHEET 152 OF 158

REVISION





SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: ORD  
 CHECKED BY: JRK  
 APPROVED BY: GAO  
 DATE: 8/12/2016  
 SCALE: ###

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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM CLARK PARK TO CALIFORNIA PARK VALUE

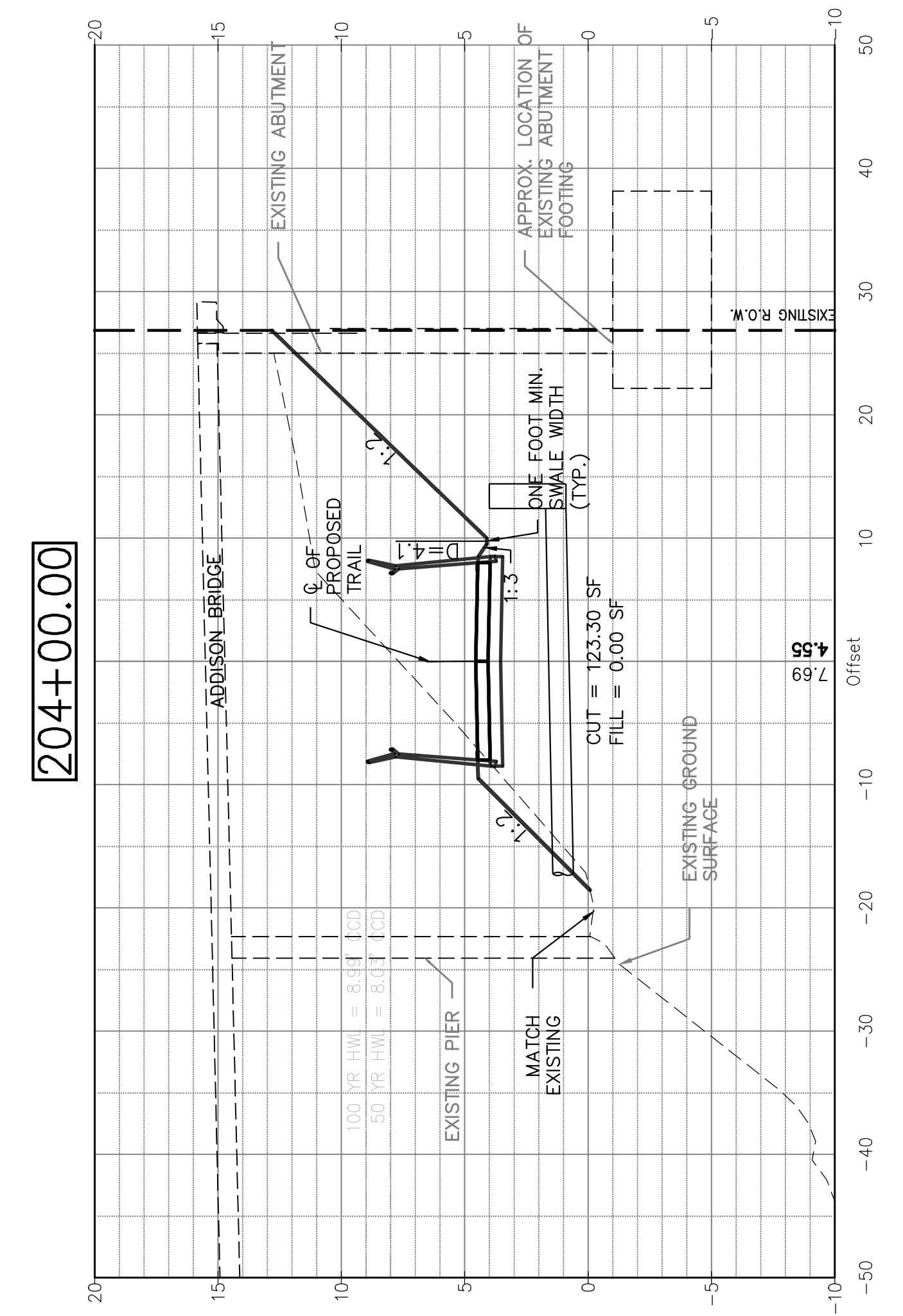
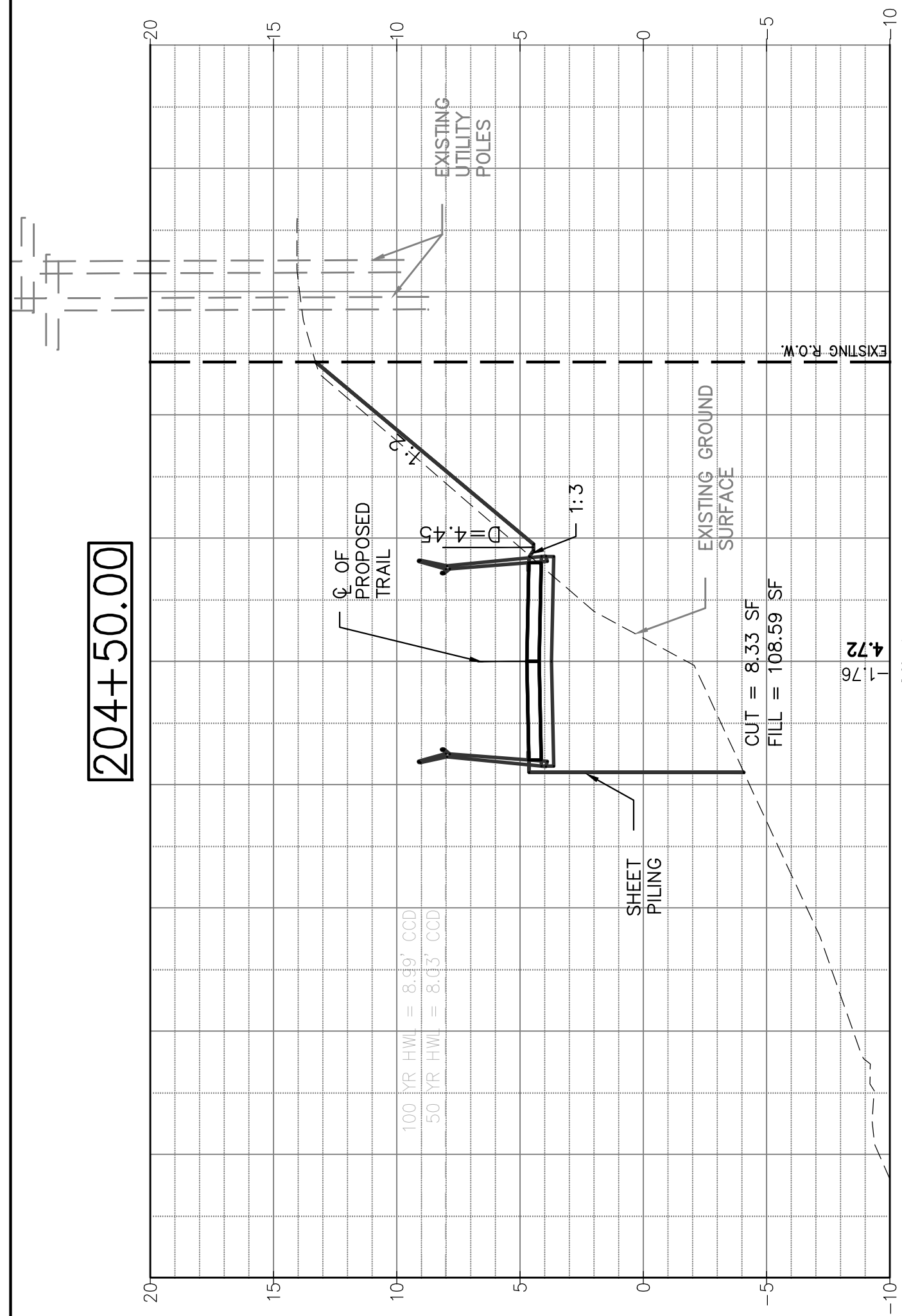
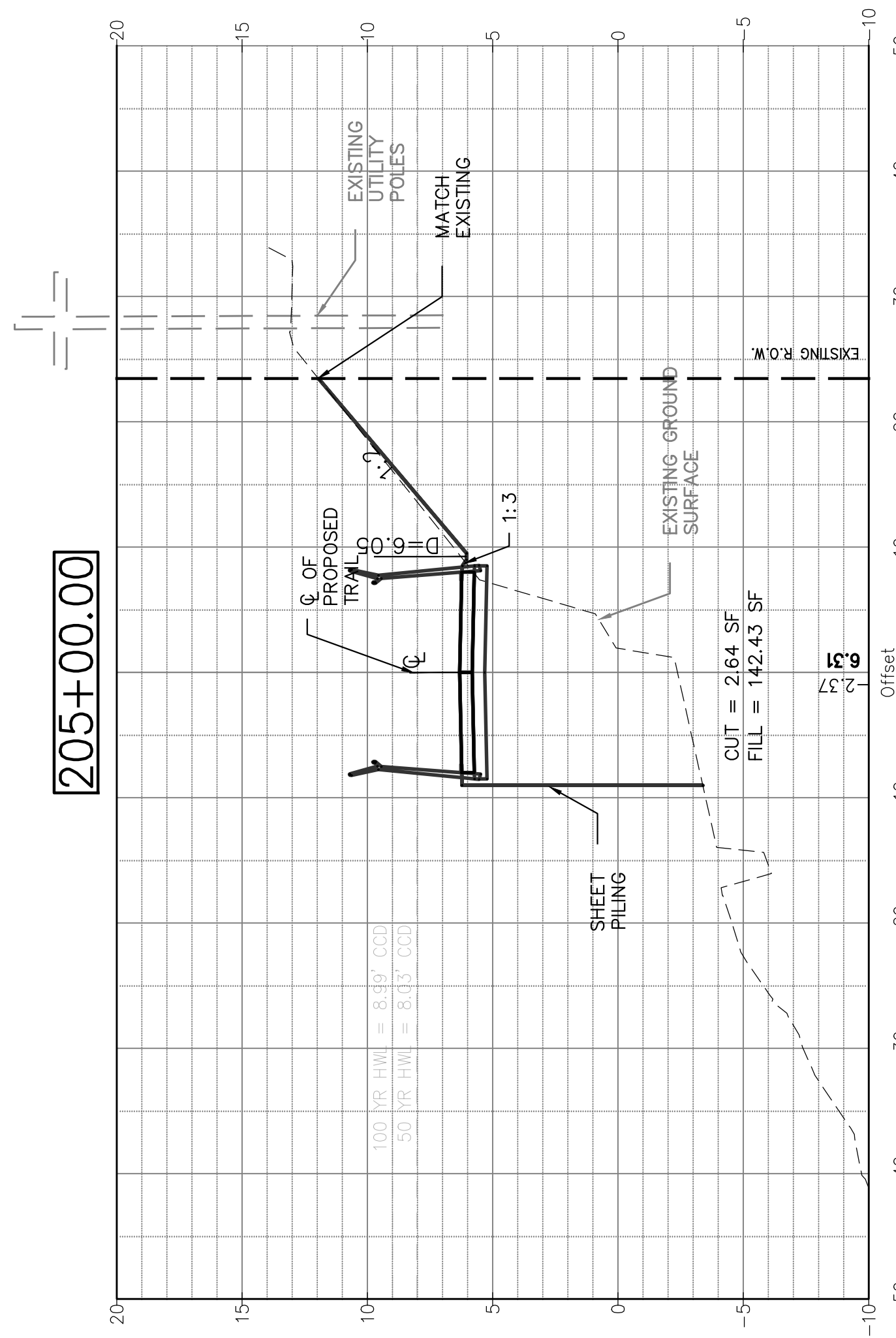
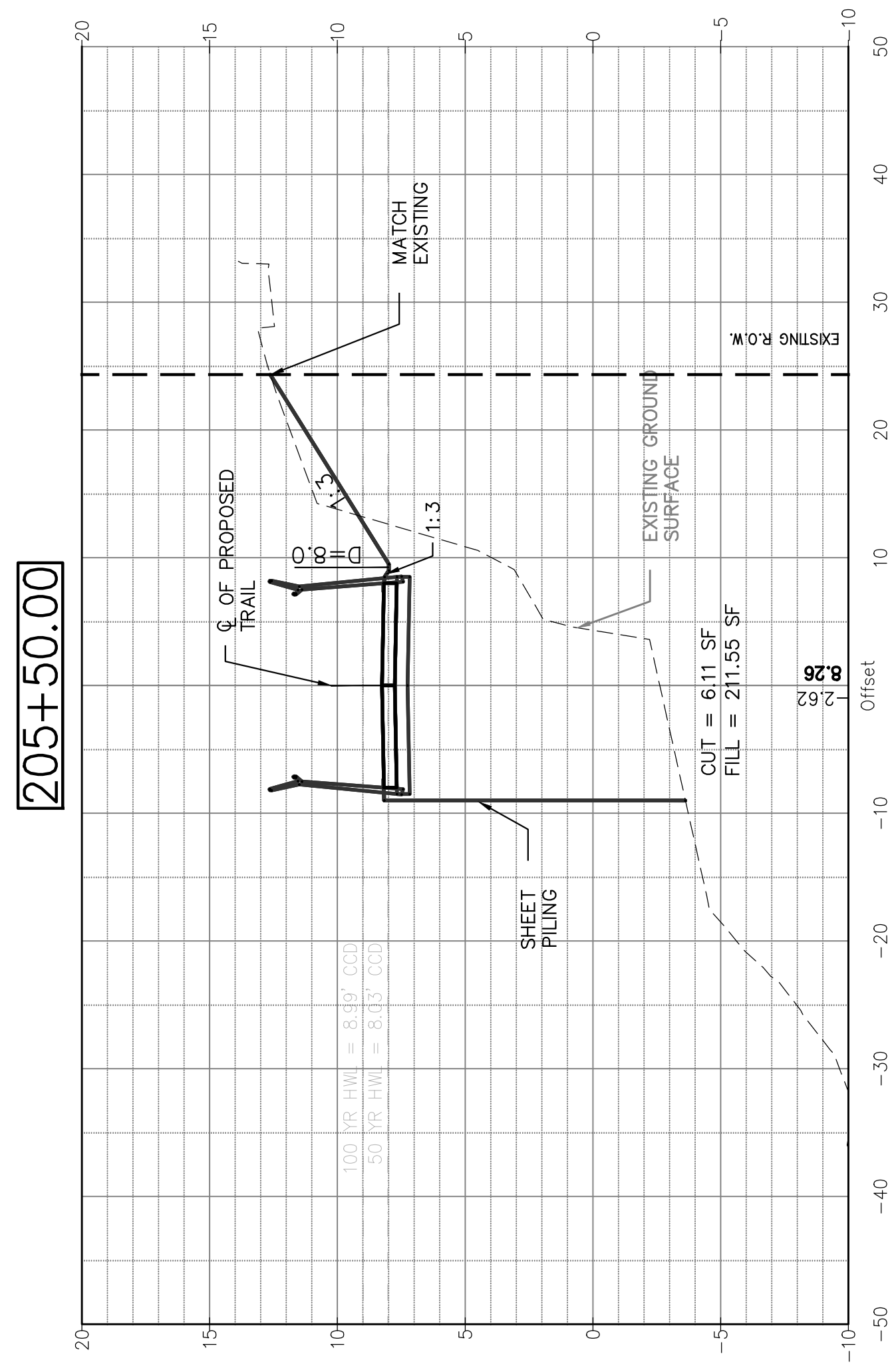
CROSS SECTIONS - ADDISION - STA 202+00 TO STA 203+50

SHEET NO. XS-2

SHEET 153 OF 158

REVISION





SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: ORD  
 CHECKED BY: JRK  
 APPROVED BY: GAO  
 DATE: 8/12/2016  
 SCALE: ###

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1	8/12/16	ISSUED FOR FINAL
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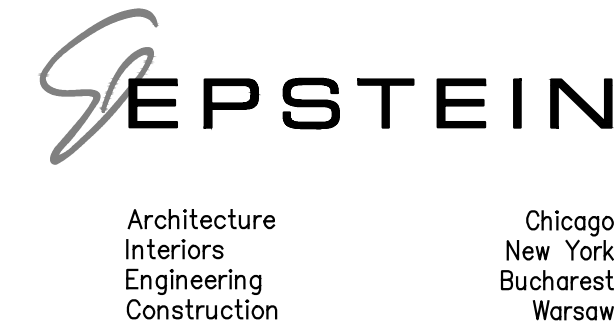
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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM CLARK PARK TO CALIFORNIA PARK VALUE

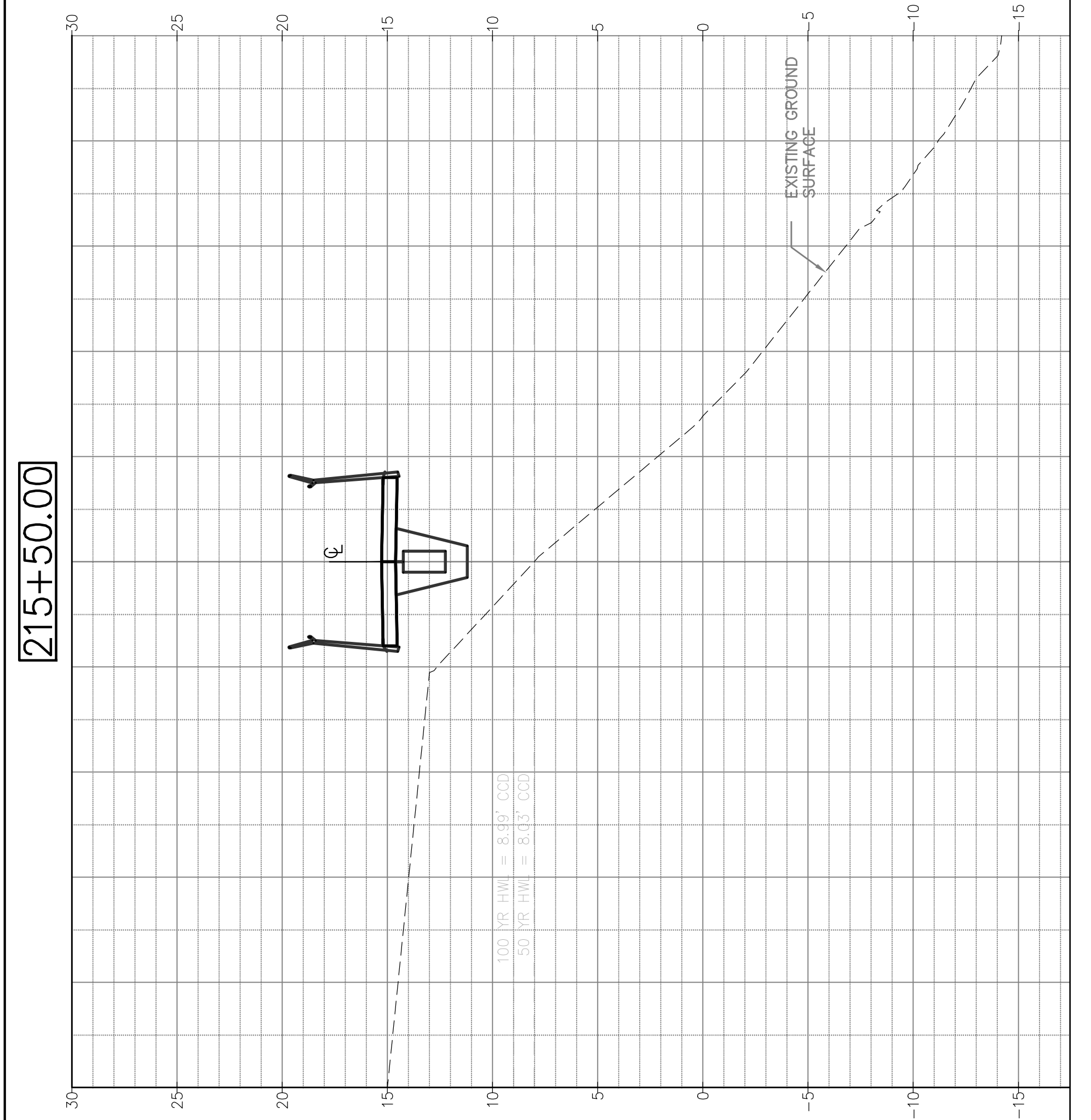
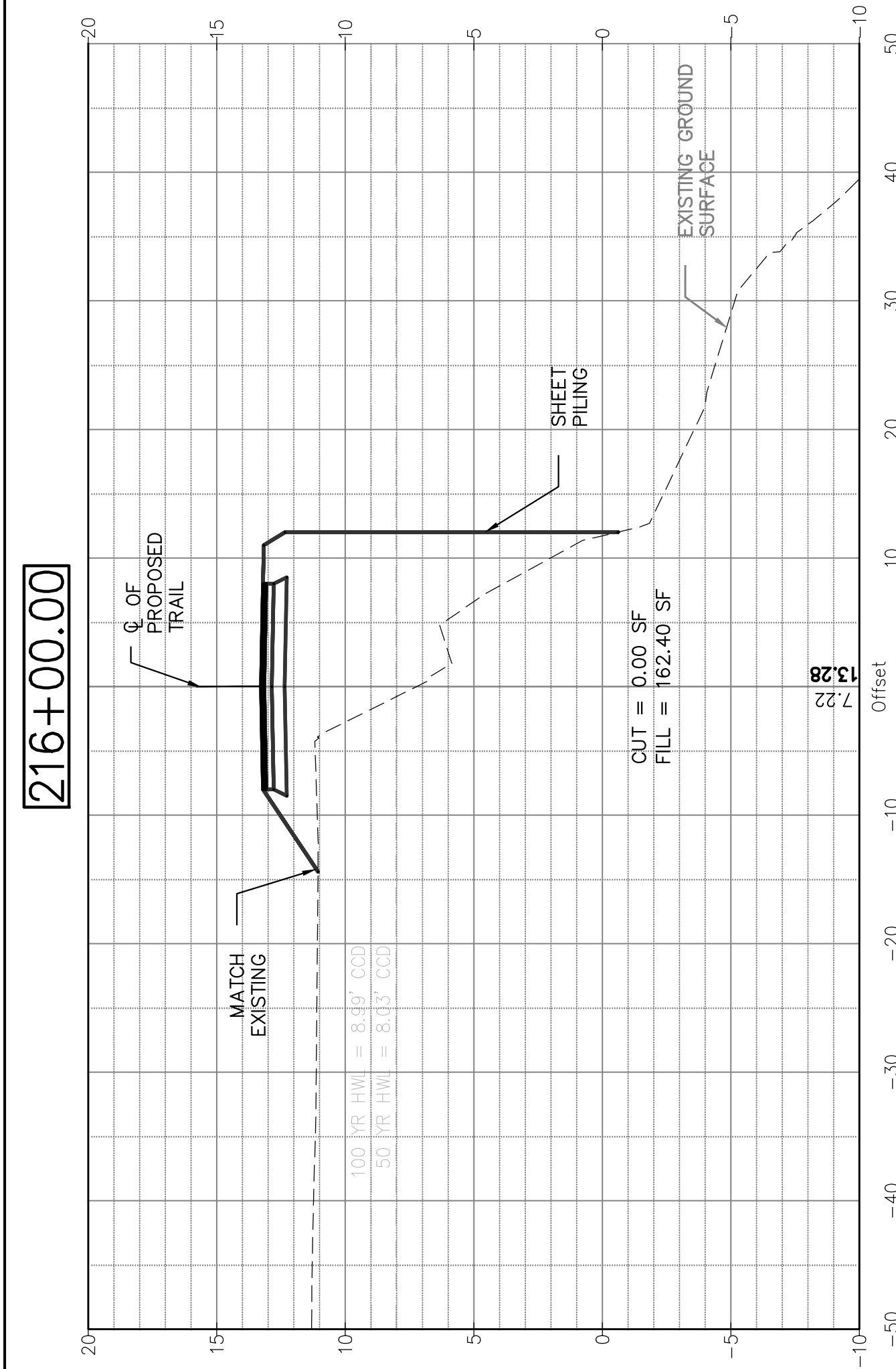
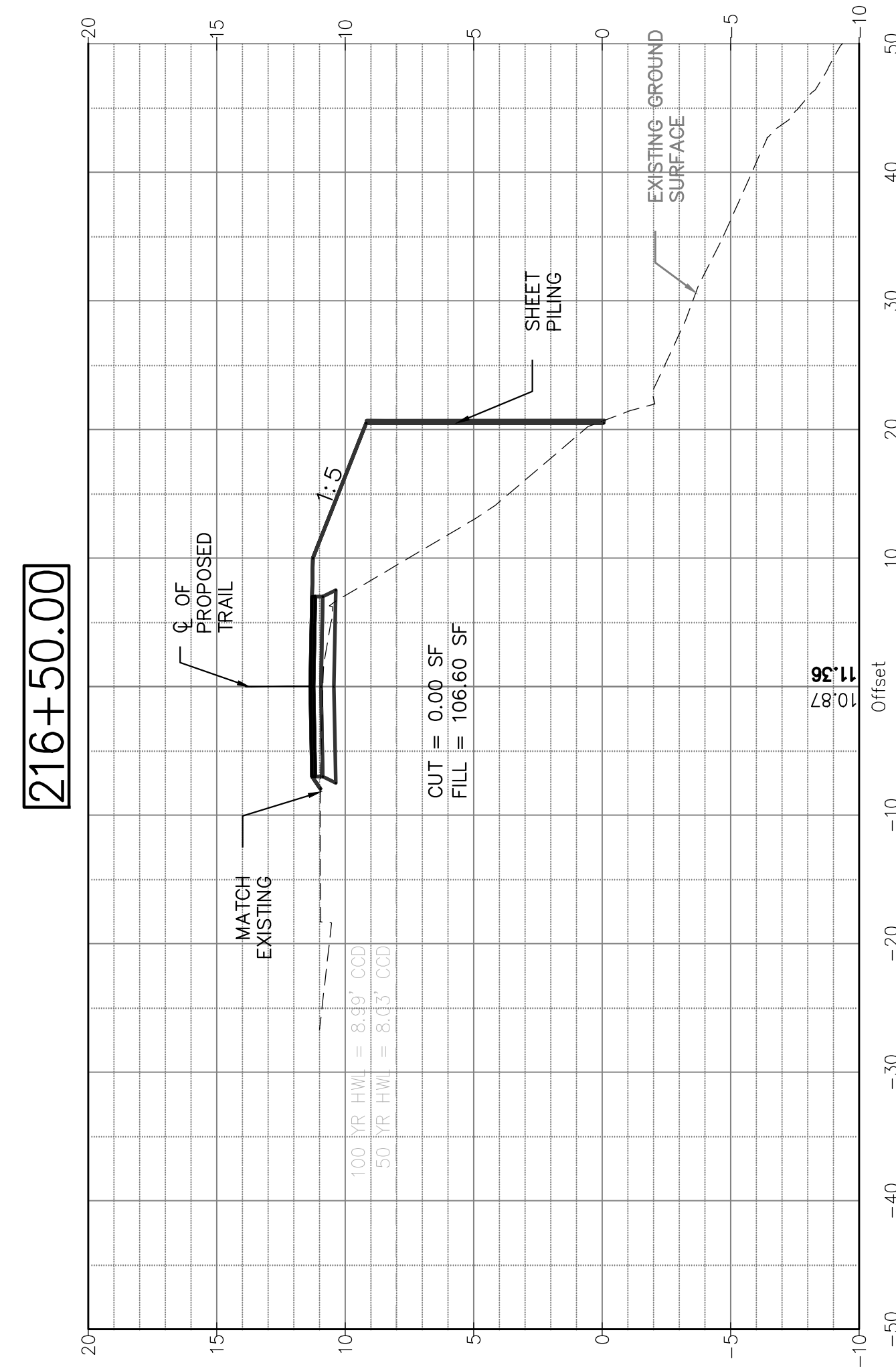
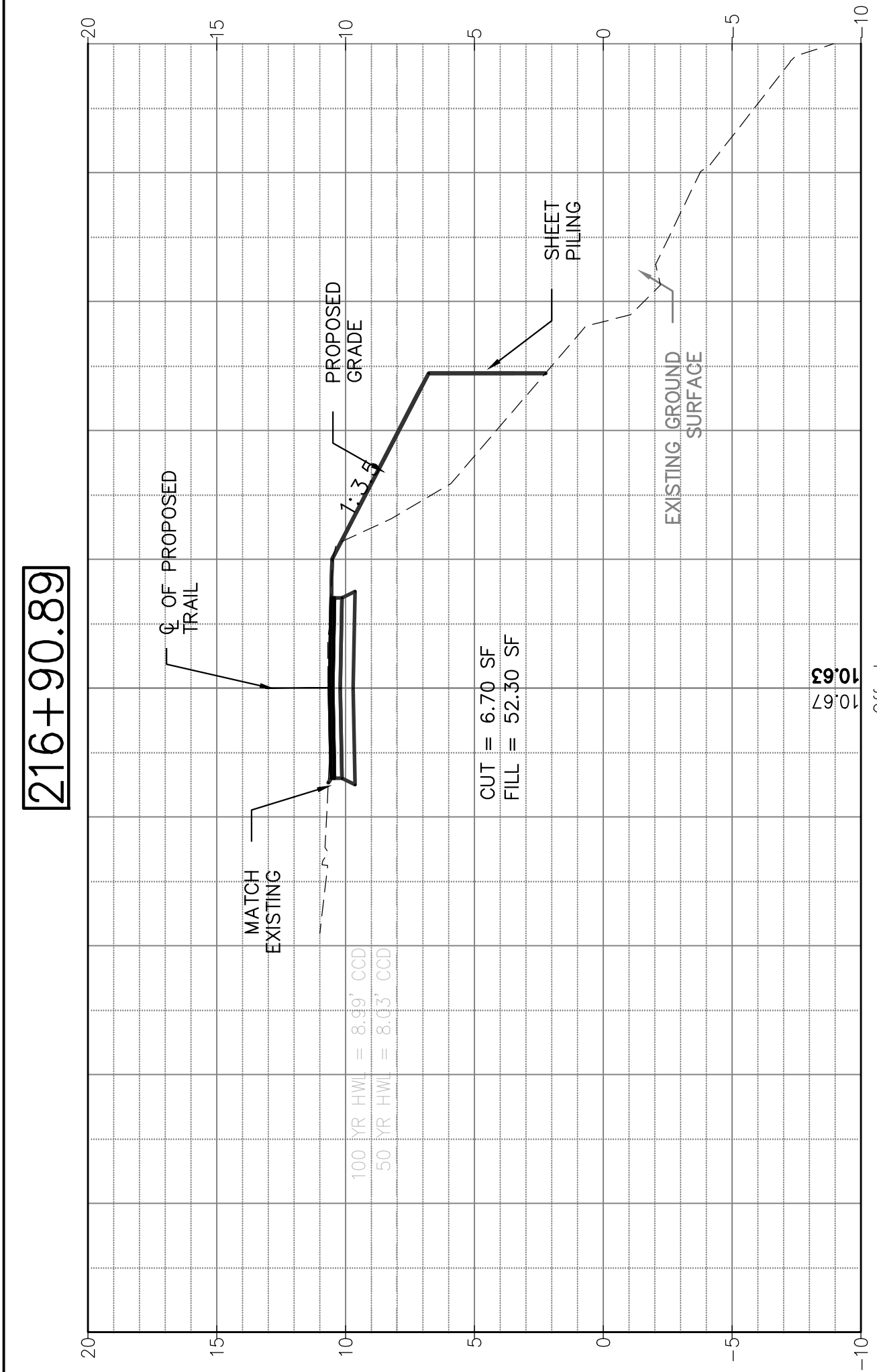
CROSS SECTIONS - ADDISON - STA 204+00 TO STA 205+50

SHEET NO. XS-3

SHEET 154 OF 158

REVISION





SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: ORD  
 CHECKED BY: JRK  
 APPROVED BY: GAO  
 DATE: 8/12/2016  
 SCALE: ###

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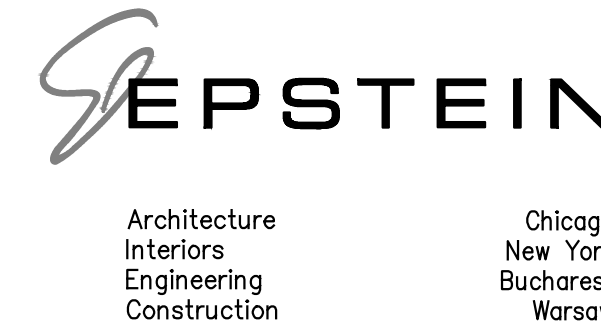
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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
 CLARK PARK TO CALIFORNIA PARK  
 VALUE

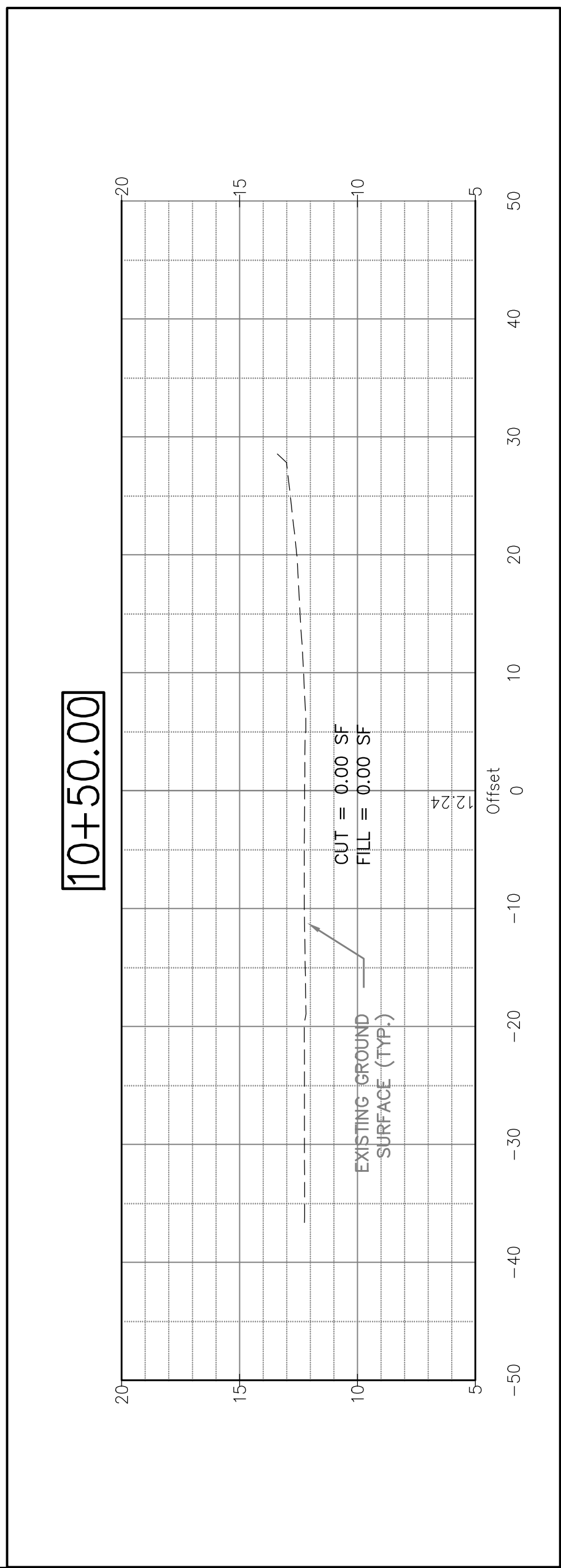
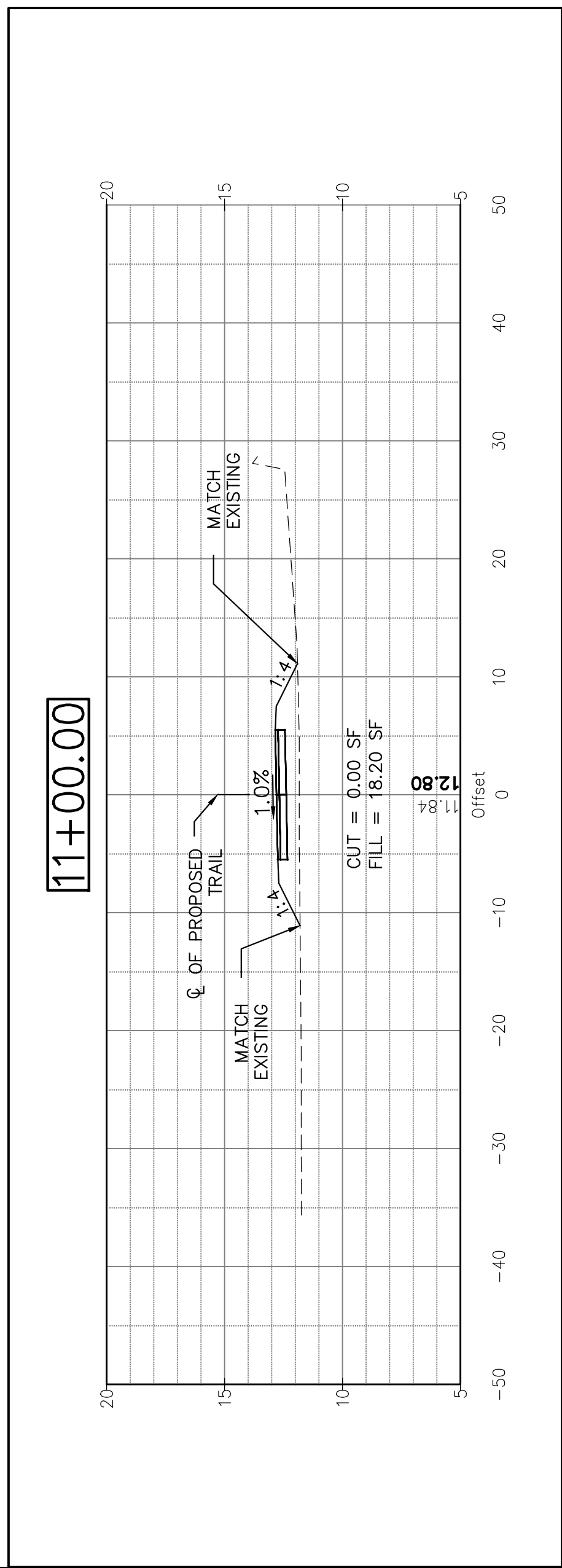
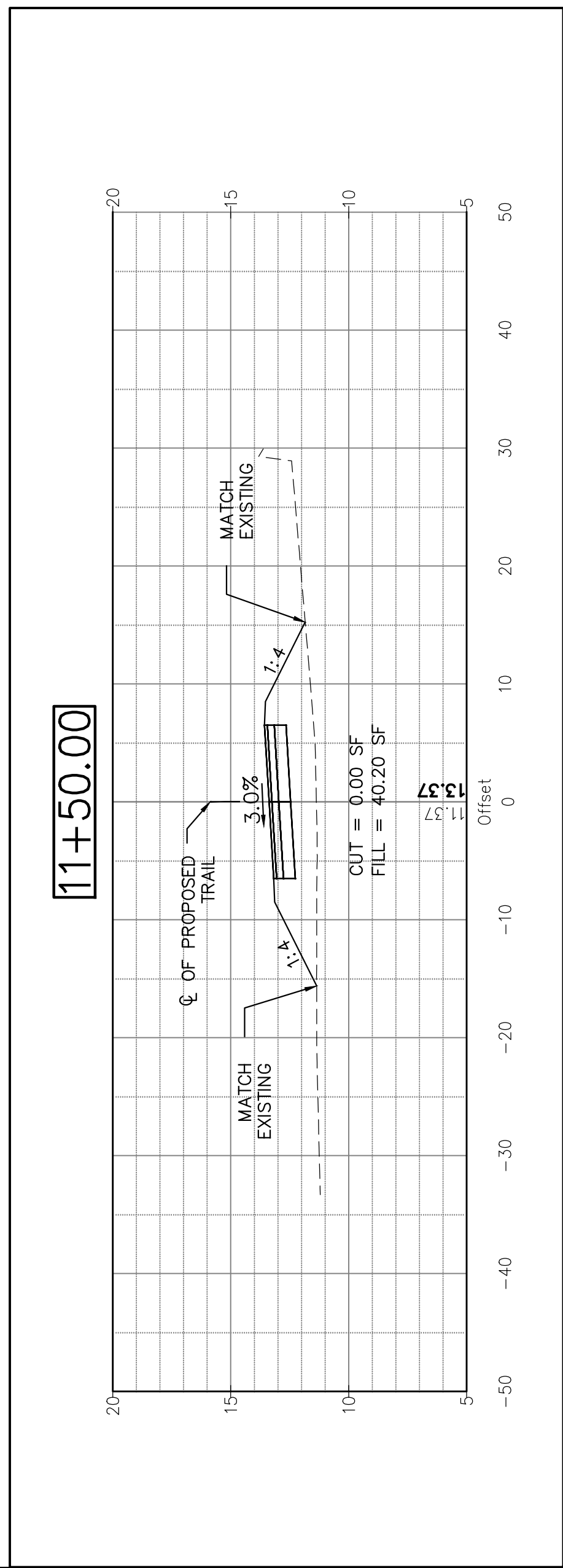
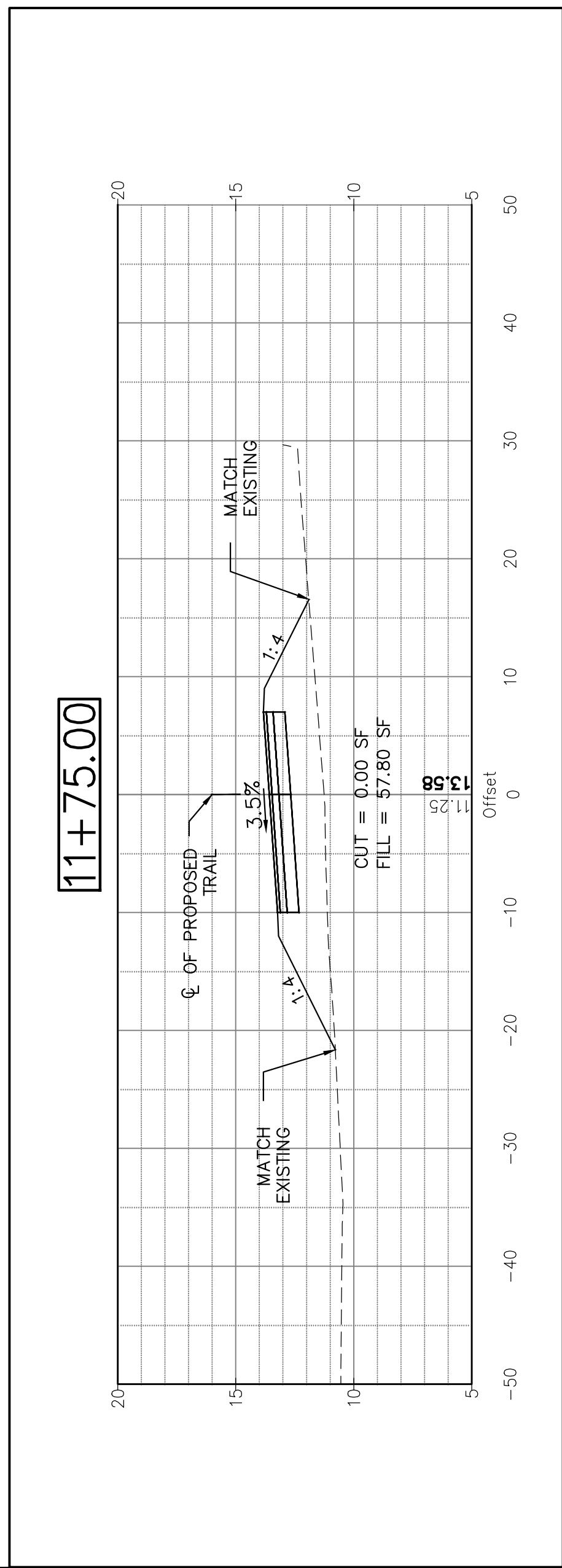
CROSS SECTIONS - ADDISON - STA 215+50 TO STA 216+96.06

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 XS-4

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REVISION





SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: ORD  
 CHECKED BY: JRK  
 APPROVED BY: GAO  
 DATE: 8/12/2016  
 SCALE: ###

NO.	DATE	REVISIONS/ISSUANCES
1	8/12/16	ISSUED FOR FINAL
2	5/6/16	ISSUED FOR FINAL
3	6/05/15	ISSUED FOR FINAL REVIEW

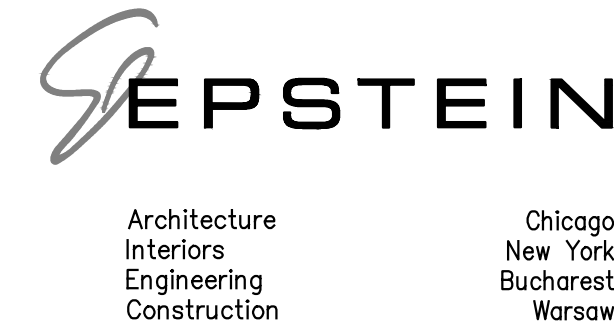
CITY OF CHICAGO

DEPARTMENT OF TRANSPORTATION  
 30 N LaSalle St. Suite 1100  
 Chicago, IL 60602  
 312.744.3600



CONSULTANT

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 600 W. Fulton Street  
 Chicago, IL 60661-1259  
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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM CLARK PARK TO CALIFORNIA PARK

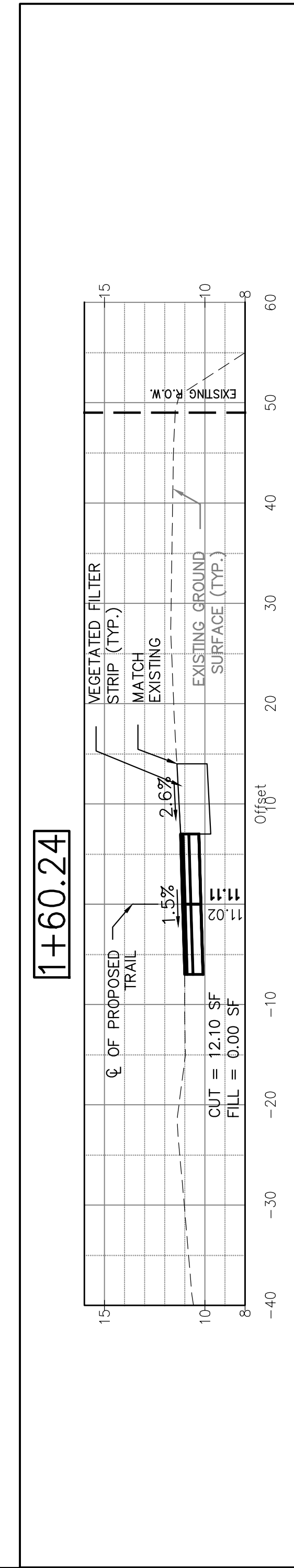
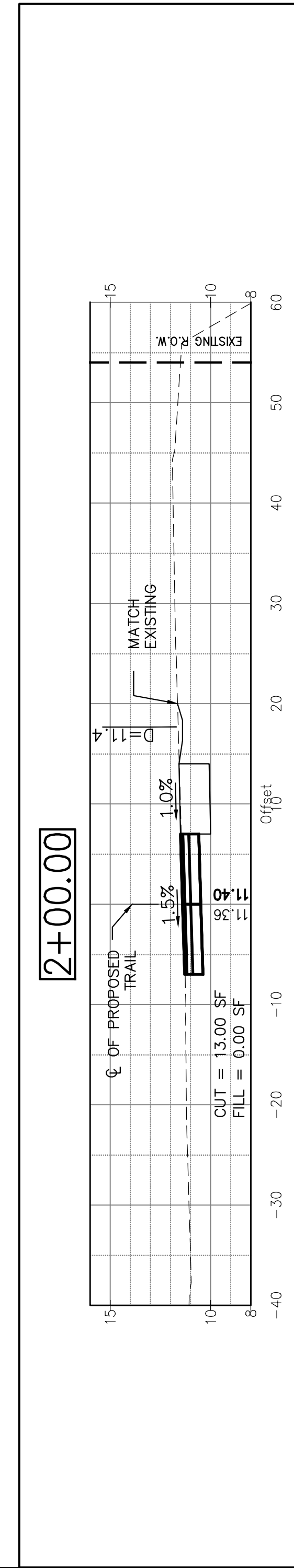
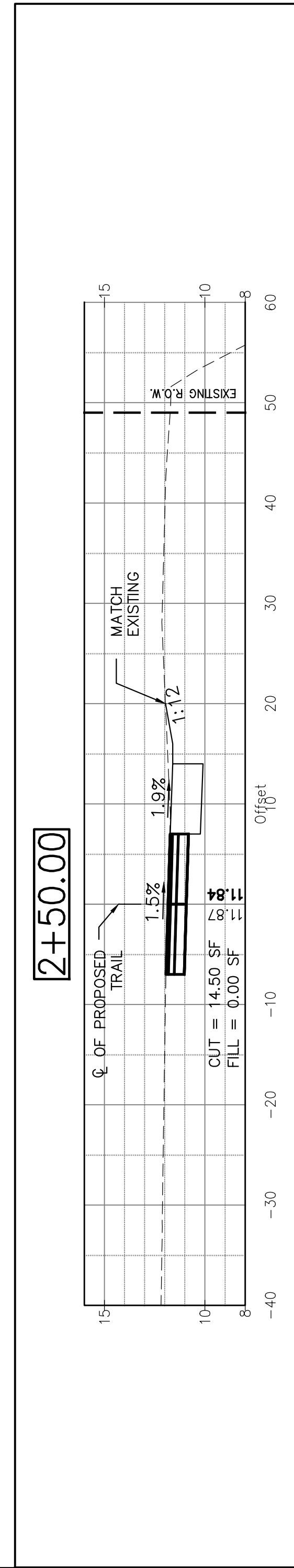
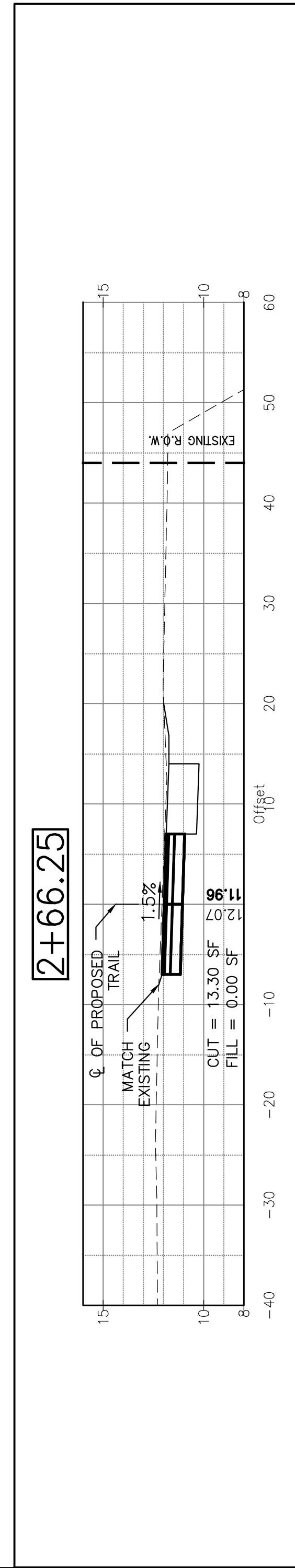
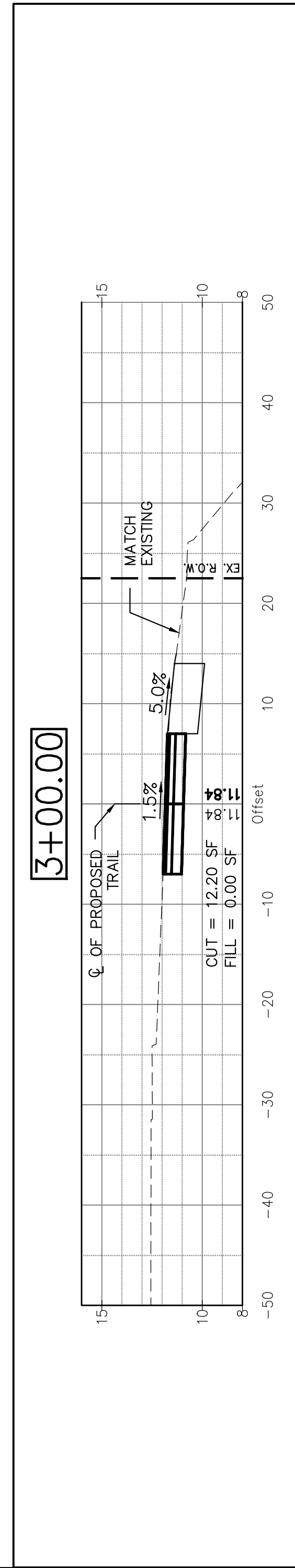
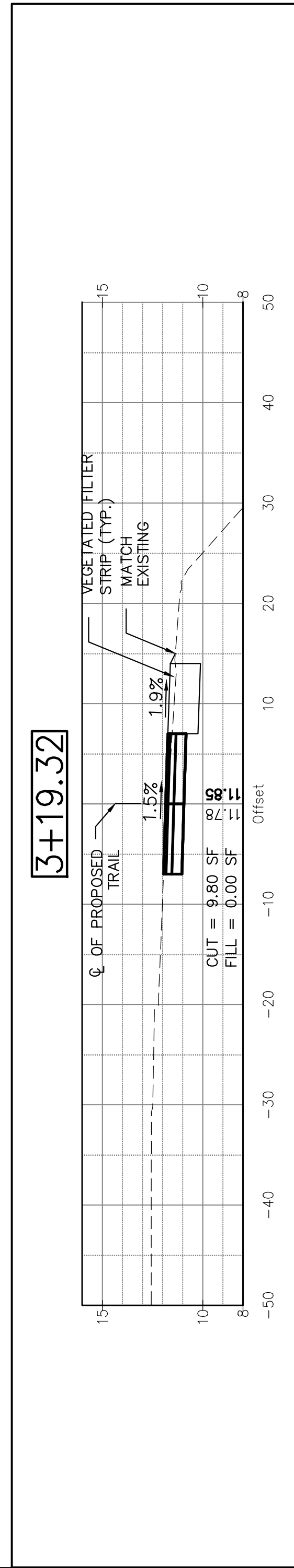
CROSS SECTIONS - CALIFORNIA - STA 10+50 TO STA 11+75

SHEET NO. XS-5

SHEET 156 OF 158

REVISION





SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: ORD  
 CHECKED BY: JRK  
 APPROVED BY: GAO  
 DATE: 8/12/2016  
 SCALE: ###

NO.	DATE	REVISIONS/ISSUANCES
1	8/12/16	ISSUED FOR FINAL
2	5/6/16	ISSUED FOR FINAL
3	6/05/15	ISSUED FOR FINAL REVIEW

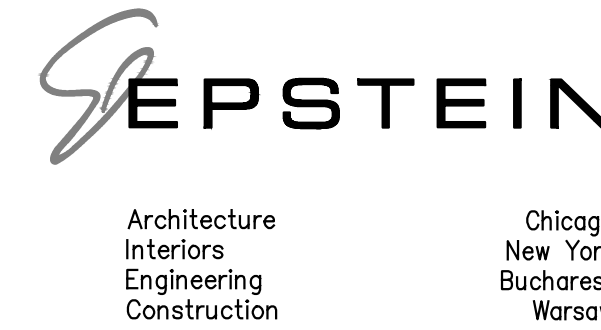
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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM  
 CLARK PARK TO CALIFORNIA PARK  
 VALUE

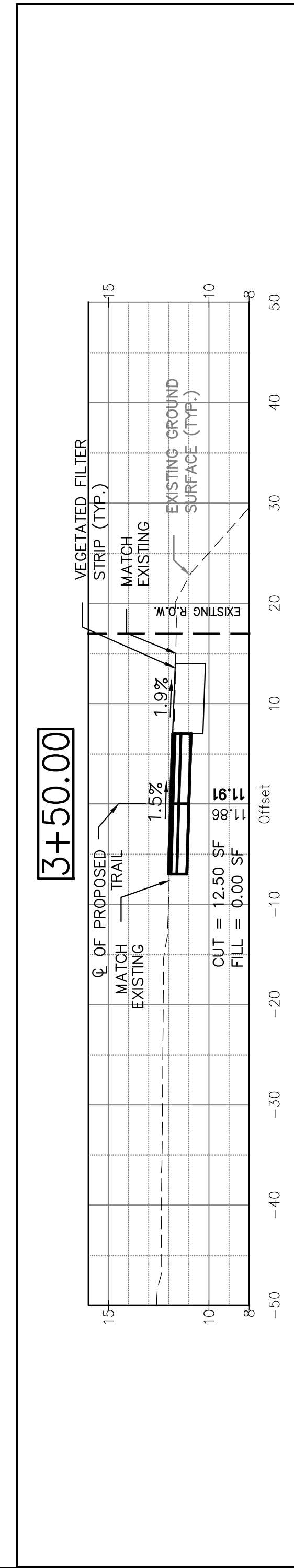
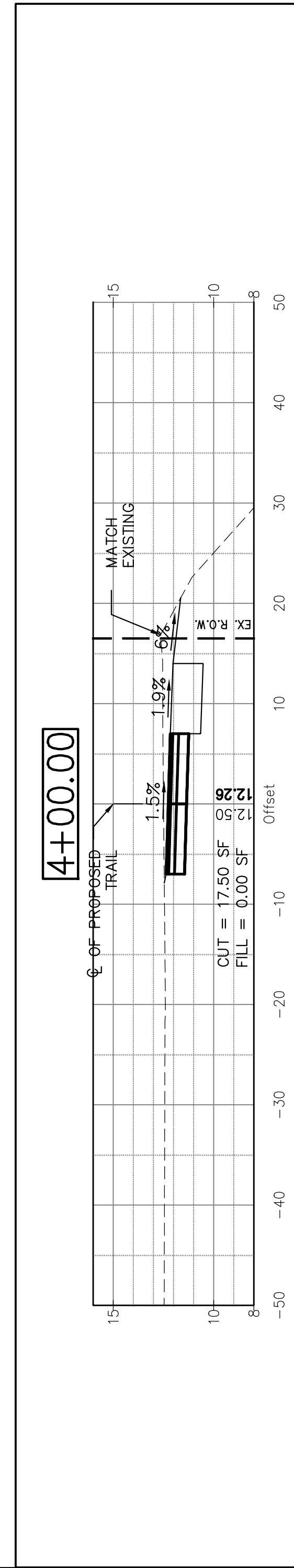
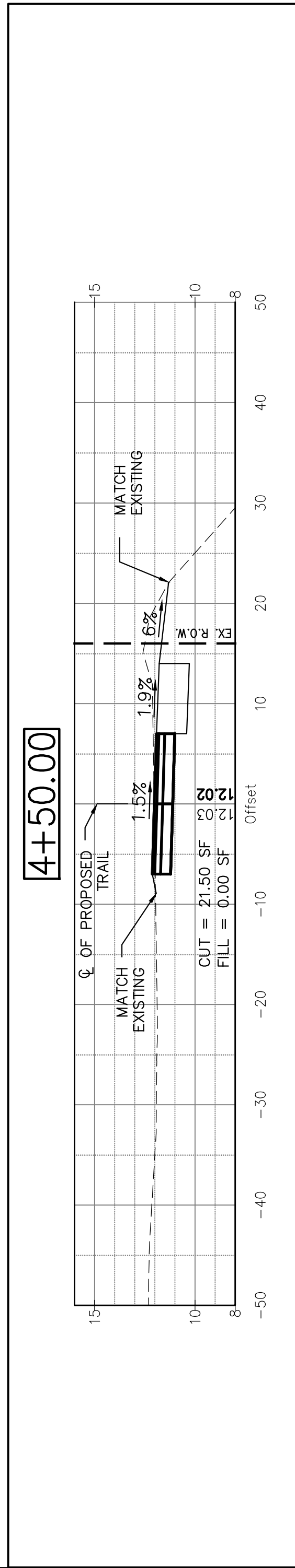
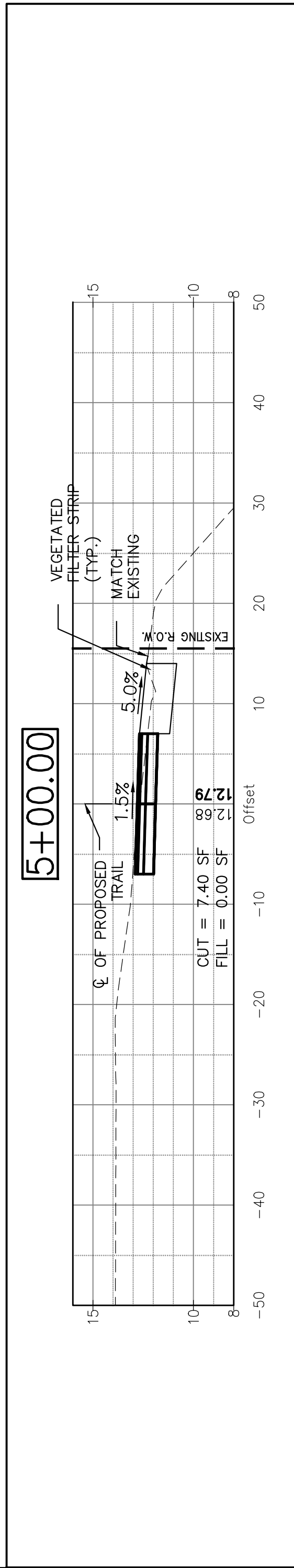
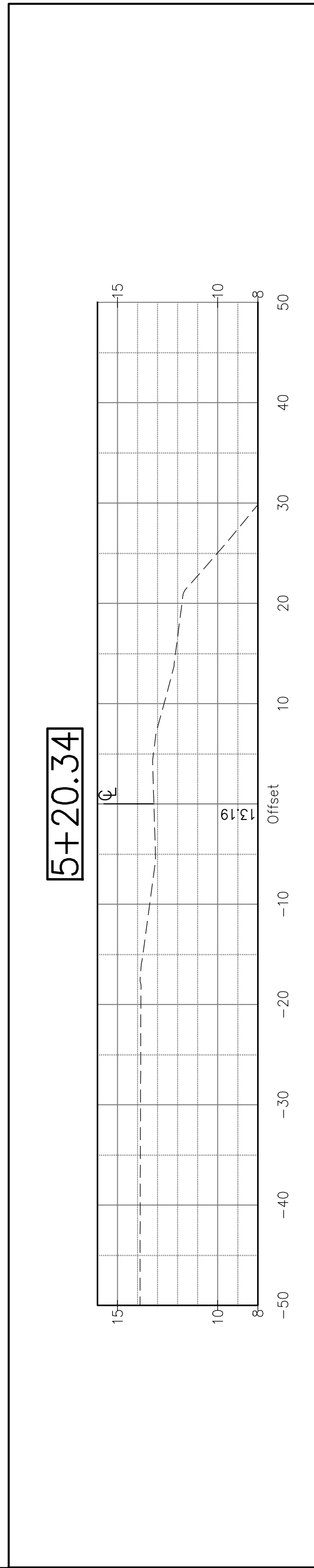
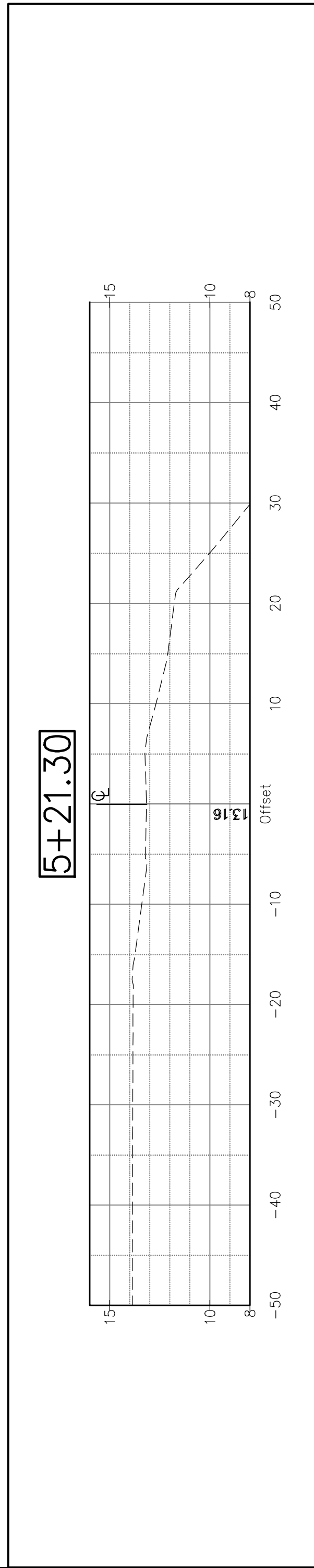
CROSS SECTIONS - IRVING PARK - STA 1+60.24 TO STA 3+19.32

SHEET NO.  
**XS-6**

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REVISION





SECTION NO.: 12-E9121-00-BT  
 DRAWN BY: ORD  
 CHECKED BY: JRK  
 APPROVED BY: GAO  
 DATE: 8/12/2016  
 SCALE: ###

NO.	DATE	REVISIONS/ISSUANCES
1	8/12/16	ISSUED FOR FINAL
2	5/6/16	ISSUED FOR FINAL
3	6/05/15	ISSUED FOR FINAL REVIEW

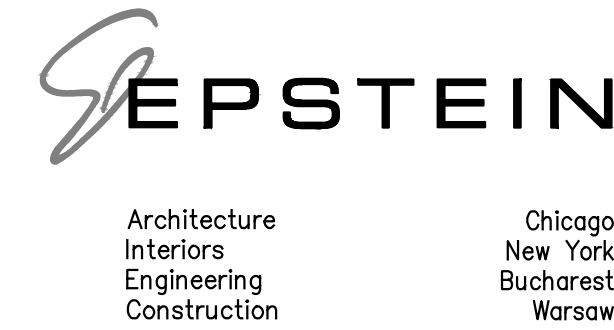
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ADDISON UNDERBRIDGE TRAIL CONNECTION FROM CLARK PARK TO CALIFORNIA PARK  
 CROSS SECTIONS - IRVING PARK - STA 3+50 TO STA 5+21.30

SHEET NO. XS-7

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REVISION