






May 5, 2016

TO:  Marco Foster, MS47354  
THRU:  T. Madden / K. Klingman, NB82-230  
FROM:  P. Fuller / S. Beadle, NB 82-66  
SUBJECT: C8549  
SR99, AWV Replacement North Access Connection  
F.A. Project No: STPF-0099(122)  
**CHANGE ORDER 133**  
**Ductbank Changes EN1, EN3, EN4 & EP5**

Attached for your review, approval and further processing is HQ executed *Change Order #133* "Ductbank Changes EN1, EN3, EN4 & EP5", for the subject project. Change Order Checklist is attached (*Attachment A*).

**Description of the Change**

The change order compensates the Contractor for added work and extended overhead associated with new work. This change order revises ductbanks EN1 & EN4, EN3 and adds new ductbank EP5.

1. EN1 and EN4 Ductbanks:  
Revises the horizontal and vertical alignment of ductbank EN1 as shown on UPAL1, UP1 and UPR7. This work will:
  - Raise EN1 vertical alignment to be above new ductbank EP5 and above EN2 and EN4 as shown on UPD33 and UPD33A.
  - Revise the horizontal alignment of EN1 to run along the Substation Yard retaining wall foundation.
  - Compensate the Contractor for the added effort and complexity for working along the SCL Substation retaining wall as shown on UPD33 and UPD33A.
  - Demolish and replace 10 ft. of existing EN1 duct bank to tie into the new alignment. This change order compensates the Contractor for demolishing and constructing 10 ft. of ductbank.
  - Compensate the Contractor for re-trenching, re-shoring and backfilling a second time for EN1. It also covers additional costs for vactoring and supporting live communication power and other utilities.

- Add new reinforcement cage to EN4 per SCL Guideline U2-11.2 as shown on UPR10.

2. EN3 Ductbank:

Revises the horizontal and vertical alignments of ductbank EN3 as shown on UPAL1, UP1, UP8, UPR8, UPR9, UPD11 and UPD33.

This change order compensates the Contractor for re-trenching, re-shoring and backfilling a second time at EN3. The change order also covers additional costs for factoring and supporting in place existing utilities.

This change order makes ductbank adjustments to avoid future King County ductbank as shown on UPR9.

3. EP5 Ductbank:

Adds new ductbank EP5 feeders from Station EP5 350+00.00 to 350+10.86 to the SCL Substation yard as shown on UPAL1, UP1, UPR7-UPR9, UPR10, UPD20, UPD33. New ductbank EP5 shall be positioned in between ductbanks EN1 and EN3 and ductbanks EN4 and EN2.

**Development of the Change**

The Development of Change will follow the numbering system as above.

1. Constructability issues with the planned alignment of the EN1 ductbank which was in conflict with the substation wall footing were brought to the attention of the PE in RFI#380. The original plan shows that the bottom of the footing is below EN1. The work was stopped and SCL began to redesign the alignment for EN1. The redesign captured the protection and support of the substation retaining wall. The updated plan clearly shows that the bottom of the duct bank is near the bottom of the footing for the wall. The new design also included approximately ten feet of new ductbank to replace previously installed EN1 duct bank that needed to be removed so that it can be installed above the added duct bank EP5. Since the work had stopped and Contractor could not continue work until SCL provided new plans, approximately half of 80 feet of EN1 was backfilled. The Contractor had to re-excavate the trench and re-shore it. The design also captured profile changes per RFI#413 where EN1 alignment was in conflict with a King County vault at the SW corner of 6<sup>th</sup> Ave and Harrison St. The new alignment will reroute EN1 to avoid the vault. Other profile changes include vertical changes in profile from 300 foot sweeping radii to four vertical profile changes with two 50 foot radii and two 30 foot radii. There were also minor changes that SCL wanted to address at EN4 ductbank where it crosses ED1. The plans did not show a reinforcement cage which is standard practice when ductbanks cross over each other. This reinforcement cage was added in the revised plans.

2. While excavating for EN2 ductbank, the Contractor noticed that the planned EN3 ductbank could not be installed due to a conflict with an existing SCL vault at the SW corner of 6<sup>th</sup> Ave and Harrison St. as referenced in RFI#398. The planned configuration for EN1, EN4, EN2 and EN3 is shown as being constructed side by side in order listed. During the redesign, the new King County ductbank which runs parallel to Harrison St. was discovered to be in conflict with the new alignment of EN3. The result, EN3 was designed to have a splayed ductbank to avoid the top of new King County Ductbank. EN3 also includes costs to re-trench and re-shore a portion of the alignment from M30 vault to M9 vault. This ductbank trench was backfilled when the conflict with the SCL vault was encountered.
  
3. In RFI#371, the Contractor discovered an unknown ductbank crossing the EN4 alignment which runs north-south across Harrison at approximately at Station H-Line 96+15. After investigating, the unknown ductbank was found to be empty and was removed. In further discussions, SCL wanted to make this reconnection as EP5 into Vault M9 which the original plans did not include. Without this connection, SCL could not power up the new EP1 ductbank. The new design of EP5 was placed on top of EN2, EN4 ductbanks and in the bottom of new designed elevations of EN1, EN3 ductbanks.

We received plans from SCL on December 23, 2015. These plans were forwarded to the Contractor the same day. Upgrades required by SCL to meet current standards and future demands contributed to the cost increase. Work stopped for EN1 and EN3 until agreement was reached on the negotiated pricing. The plans also included the new work for EP5. This added work is being paid for by SCL.

#### Schedule Analysis

This change order is adding 28 working days to the contract due to the added work described above. There are overhead costs associated with these added working days. We performed an independent schedule analysis and agree to the number of added working days. See *Attachment E*. We compared the baseline work activities with the revised January 2016 schedule provided by the Contractor. The schedule shows a 35 day difference for a composite of changes involving EP5, EP1, EP2, EP3, EP4, EN3, and EN4. The analysis included all of EP1, EP2, EP3 and EP4 because the Contractor had combined all these ductbanks together in the baseline. We performed a combined schedule analysis with both CO133 and CO147 due to the difficulty in separating the activities. We agreed with the increase of 28 working days for CO133. The Contractor also incurred 7 additional working days on CO147 which totals 35 working days and this agrees with our independent analysis. The work included in this change order is on the critical path of the approved schedule.

#### **Approvals**

- PE Approval—Patrick Fuller gave approval on 4/29/2016 (*Attachment B*).
- Region Approval—Tom Madden gave approval on 5/3/2016 (*Attachment B*).
- HQ Approval—Marco Foster gave approval on 5/2/2016 (*Attachment B*).
- FHWA Approval—Anthony Sarhan gave approval on 5/2/2016 (*Attachment B*).

Marco Foster  
C8549 CO133  
May 5, 2016  
Page 4 of 4

- Program Management—Mario Mathisen gave approval on 5/3/2016 (*Attachment B*).
- Engineer of Record—Monica Moravec signed plan sheets 12/22/2015 (*See change order plans*).
- City Funding Approval—Jon Gray approved direct costs on 3/4/2016 and approved extended overhead costs on 3/17/2016. (*See Attachment B*).

**Entitlement & Price**

The Contractor will be reimbursed for the added work as stated in the change order. The costs include both direct and indirect cost, including extended overhead for this added work. The Contractor will be compensated for the described added work that affected the critical path. The increased costs included retrenching costs for EN1 and EN3, the difficulty to shore and excavate along the substation for EN1, to rebuild a portion of the EN1 ductbank to tie in to the new alignment, and to build new ductbank EP5. The Contractor will be compensated for the described added work that affected the critical path. This change order is a negotiated amount of \$511,217.11, which includes added direct and extended overhead costs associated with an added 28 working days to the contract. (*See Estimate – Attachment C*).

**Contract Time**

This change order adds 28 working days to the contract. There are no changes to contract interim completion dates as a result of this change order.

PF: jp  
Attachments  
cc: File 8549 3(133)


**WASHINGTON STATE  
DEPARTMENT OF TRANSPORTATION  
CHANGE ORDER**

DATE: 05/06/16  
Page 1 of 15

CONTRACT NO: 008549 FEDERAL AID NO: STPF-0099(122)  
 CONTRACT TITLE: SR 99, ALASKAN WAY VIADUCT - REPLACEMENT NORTH ACC  
 CHANGE ORDER NO: 133 R1 EN1, EN3, EN4, EP5 DUCTRANK CHGS.

PRIME CONTRACTOR: [REDACTED] GUY F. ATKINSON CONSTRUCTION, LLC.  
 707 SOUTH GRADY WAY STE 500  
 RENTON WA 98057-3224


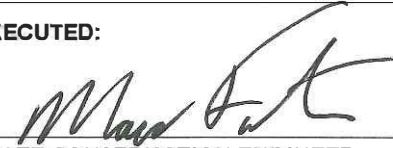
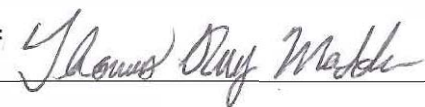
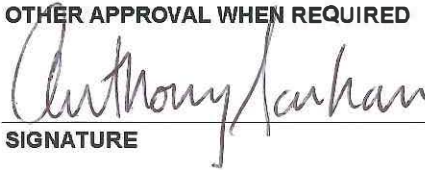
- Ordered by Engineer under the terms of Section 1-04.4 of the Standard Specifications  
 Change proposed by Contractor

ENDORSED BY:  _____ CONTRACTOR 5/10/16 _____ DATE	SURETY CONSENT: _____ ATTORNEY IN FACT _____ DATE
--	---

ORIGINAL CONTRACT AMOUNT: 41,640,622.60  
 CURRENT CONTRACT AMOUNT: 47,557,143.79  
 ESTIMATED NET CHANGE THIS ORDER: 511,217.11  
 ESTIMATED CONTRACT TOTAL AFTER CHANGE: 48,068,360.90

Approval Required:  Region  Olympia Service Center  Local Agency

CAPS ✓  
CC15 ✓  
MB 5/12/16

<input checked="" type="checkbox"/> APPROVAL RECOMMENDED <input type="checkbox"/> EXECUTED  _____ PROJECT ENGINEER 5/11/16 _____ DATE	EXECUTED:  _____ STATE CONSTRUCTION ENGINEER 5/11/16 _____ DATE
<input checked="" type="checkbox"/> APPROVAL RECOMMENDED <input type="checkbox"/> EXECUTED REGIONAL ADMIN:  _____ BY: 5-11-2016 _____ DATE	OTHER APPROVAL WHEN REQUIRED  _____ SIGNATURE <span style="float:right">5/12/16</span> _____ REPRESENTING <span style="float:right">DATE</span> FHWA

**WASHINGTON STATE  
DEPARTMENT OF TRANSPORTATION  
CHANGE ORDER**

DATE: 05/06/16  
Page 2 of 15

CONTRACT NO: 008549

CHANGE ORDER NO: 133 R1

All work, materials, and measurements to be in accordance with the provisions of the Standard Specifications and Special Provisions for the type of construction involved.

This contract is revised as follows:

**DESCRIPTION**

The change order compensates the Contractor for added work and extended overhead associated with new work. This change order revises ductbanks EN1 & EN4, EN3 and adds new ductbank EP5.

**EN1 and EN4 Ductbanks:**

Revises the horizontal and vertical alignment of ductbank EN1 as shown on UPAL1, UP1 and UPR7. Raises EN1 vertical alignment to be above new ductbank EP5 and above EN2 and EN4 as shown on UPD33 and UPD33A. Revises horizontal alignment to run along the Substation Yard retaining wall foundation. This change order compensates the Contractor for the added effort and complexity for working along the SCL Substation retaining wall as shown on UPD33 and UPD33A.

Demolishes and replaces 10 ft. of installed EN1 duct bank to tie into the new alignment. This change order compensates the Contractor for demolishing and constructing 10 ft. of new ductbank.

This change order compensates the Contractor for re-trenching, re-shoring and backfilling a second time for EN1. It also covers additional costs for vactoring and supporting live communication power and other utilities.

Adds new reinforcement cage to EN4 per SCL Guideline U2-11.2 as shown on UPR10.

**EN3 Ductbank:**

Revises the horizontal and vertical alignments of ductbank EN3 as shown on UPAL1, UP1, UP8, UPR8, UPR9, UPD11 and UPD33.

This change order compensates the Contractor for re-trenching, re-shoring and backfilling a second time at EN3. The change order also covers additional costs for vactoring and supporting in place existing utilities.

This change order makes ductbank adjustments to avoid future King County ductbank as shown on UPR9.

**EP5 Ductbank:**

Adds new ductbank EP5 feeders from Station EP5 350+00.00 to 350+10.86 to the SCL Substation yard as shown on UPAL1, UP1, UPR7-UPR9, UPR10, UPD20, UPD33. New ductbank EP5 shall be positioned in between ductbanks EN1 and EN3 above and ductbanks EN4 and EN2 below.

This change order revises the following plan sheets UPAL1, UP1, UP8,

---

**WASHINGTON STATE  
DEPARTMENT OF TRANSPORTATION  
CHANGE ORDER**

DATE: 05/06/16  
Page 3 of 15

**CONTRACT NO:** 008549

**CHANGE ORDER NO:** 133 R1

UPR7-UPR10, UPD11, UPD20, UPD33, and adds the following new plan sheet UPD33A.

**MATERIALS**

All materials incorporated into the project shall meet the requirements of all the Contract Documents.

**MEASUREMENT**

Measurement of the new lump sum item, "CO133 EN1, EN3, EN4, EP5 Ductbank Changes", shall be in accordance with Standard Specification 1-09.1, Measurement of Quantities of Lump Sum Items.

**PAYMENT**

This change order creates a new lump sum item, "CO133 EN1, EN3, EN4, EP5 Ductbank Changes" in the amount of \$511,217.11. This amount shall be full payment for all labor, equipment and materials to perform the work as described above, including but not limited to engineering, planning, scheduling, excavation and shoring, procuring ductbank materials and installing them, placing high strength FTB, forming materials, setting forms and stripping, placing low strength FTB, dirt export and disposal, vactoring, dewatering the excavation area, supporting existing utilities and existing foundations, mobilization and demobilization of equipment, survey, cleanup and overhead for the added work per Section 1-09.1 of the Standard Specifications.

**CONTRACT TIME**

There are 28 working days added to the contract time as a result of this change order. No changes to contract interim milestones are made as a result of this change order.

**WASHINGTON STATE  
DEPARTMENT OF TRANSPORTATION  
CHANGE ORDER**

DATE: 05/06/16  
Page 4 of 5

CONTRACT NO: 008549

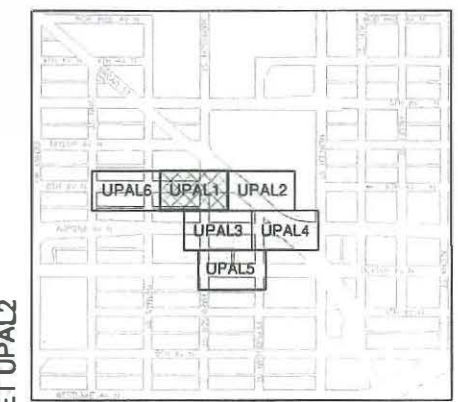
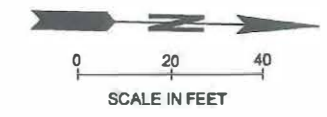
CHANGE ORDER NO: 133 R1

ITEM NO	GROUP NO	STD ITEM	ITEM DESCRIPTION	UNIT MEASURE	UNIT PRICE	EST QTY CHANGE	EST AMT CHANGE
---------	----------	----------	------------------	--------------	------------	----------------	----------------

467 <del>1169</del>	08		C●133 EN1, EN3, EN4, EP5 DUCTBANK CHANGES	L.S.	0.00	●.00	511,217.11
------------------------	----	--	---	------	------	------	------------

-----  
511,217.11  
=====



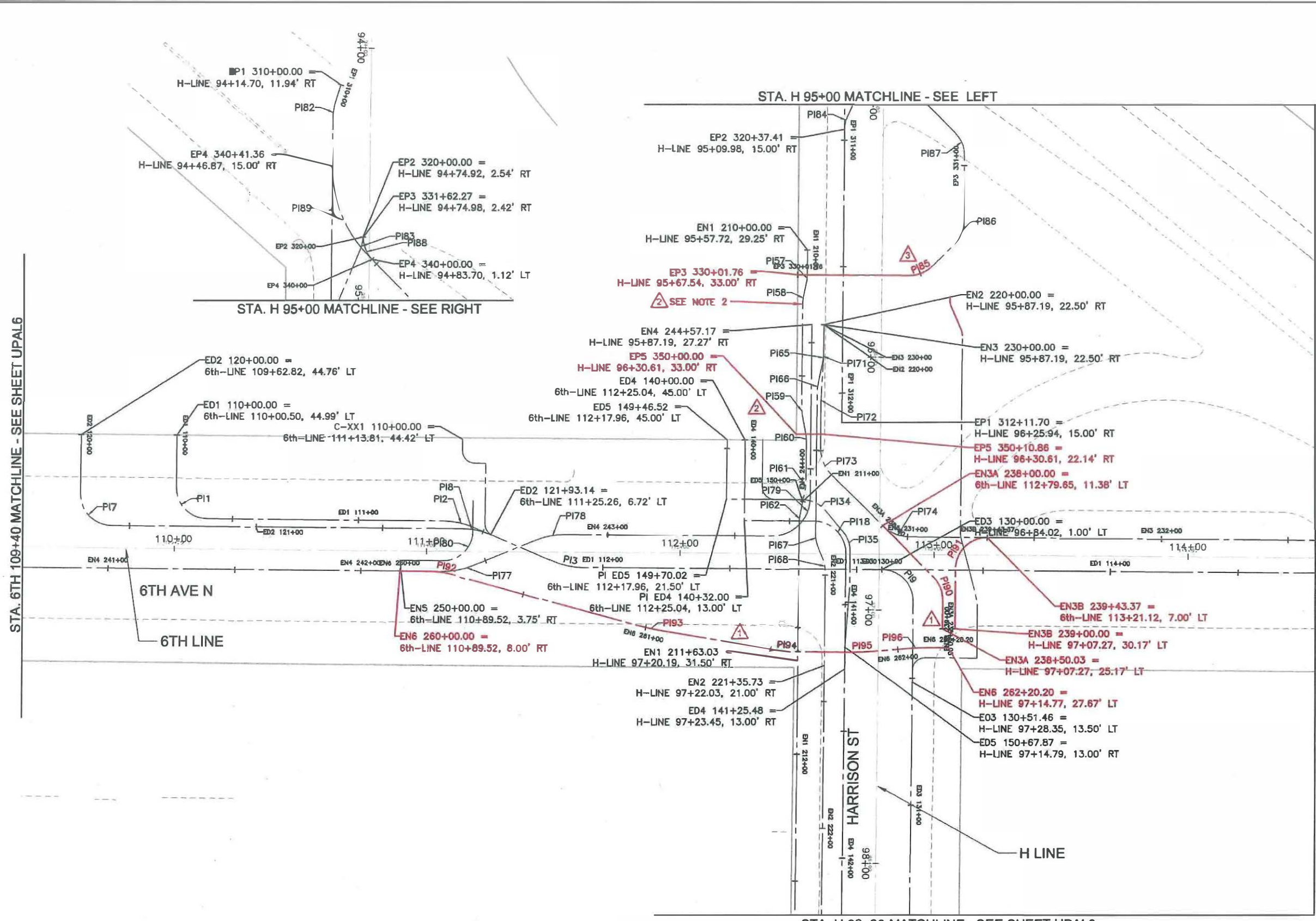


SHEET KEY

**GENERAL NOTES:**

1. REFER TO SHEETS UPT1 - UPT3 FOR POWER ALIGNMENT TABLES.
2. THE CONTRACTOR SHALL FIELD ADJUST THE EN1 DUCT BANK, AS NEEDED, TO FIT BETWEEN THE SUBSTATION WALL FOOTING AND VAULT 0578M030.

SHEET 5 OF 15  
 CHANGE ORDER NO. 133 R1  
 CONTRACT 8549



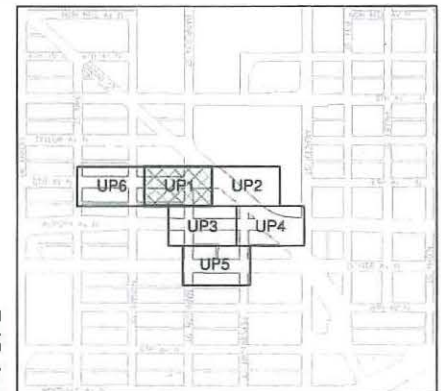
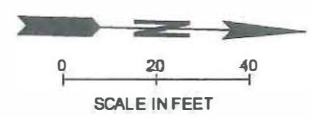
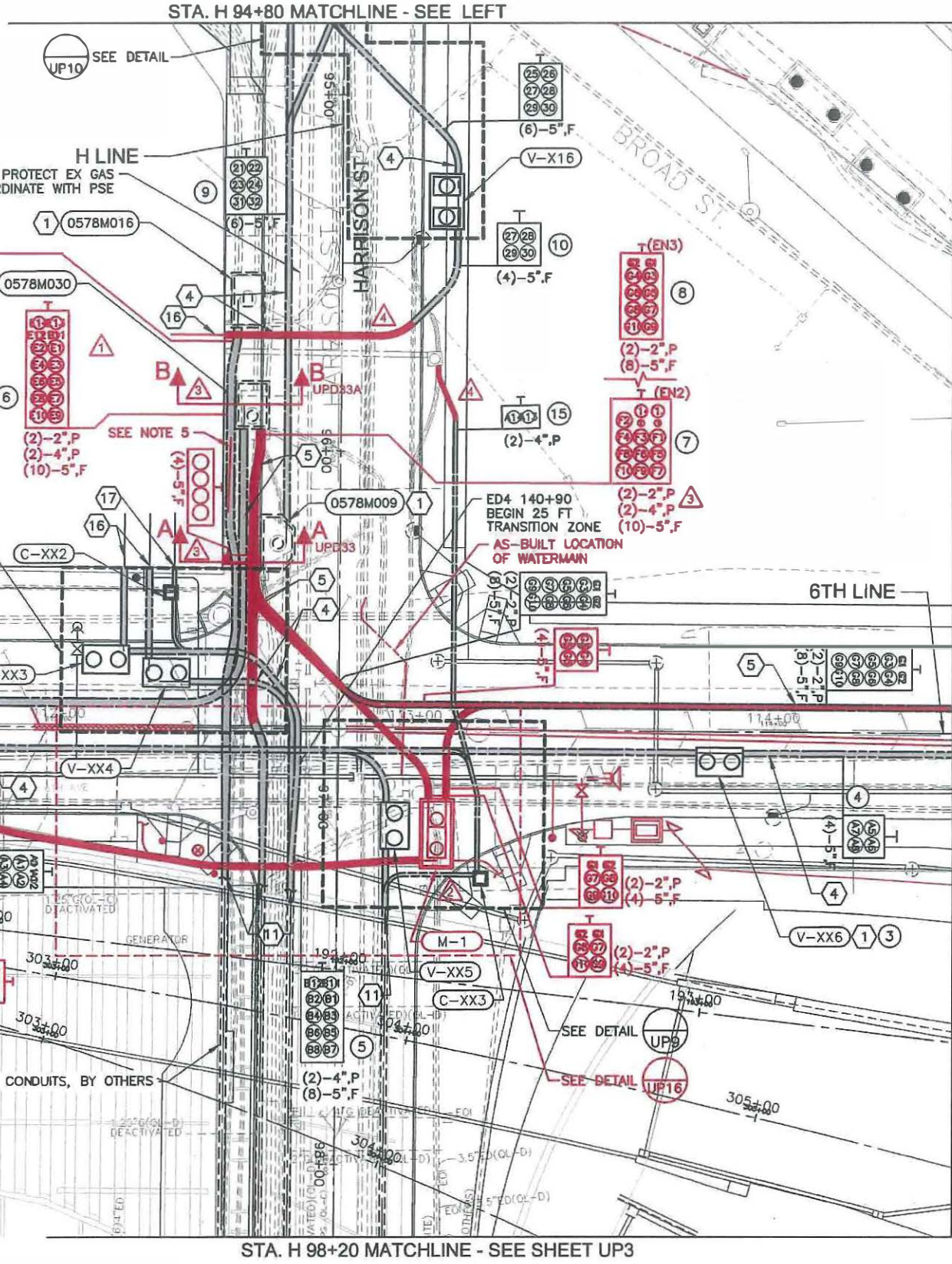
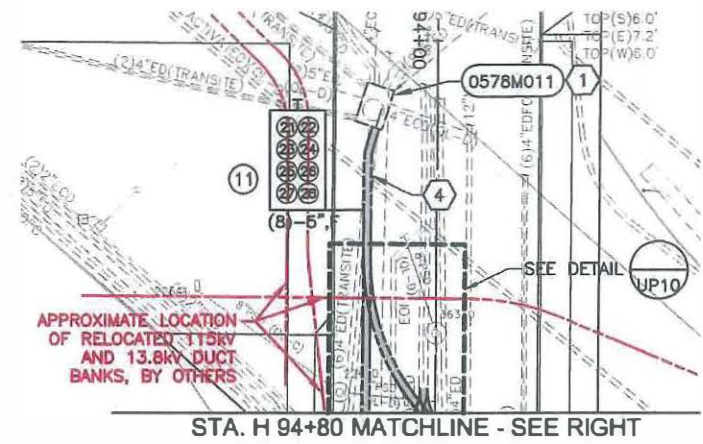
STA. 6TH 109+40 MATCHLINE - SEE SHEET UPAL6

STA. 6TH 114+50 MATCHLINE - SEE SHEET UPAL2

STA. H 95+00 MATCHLINE - SEE LEFT

STA. H 98+20 MATCHLINE - SEE SHEET UPAL3

FILE NAME X:\110000-110250\110159 (Alaskan Way Viaduct North Access)\CADD\Design\003-MWNA-CPA-1.dwg		REGION NO. STATE		FED.AID PROJ.NO.			 1601 Fifth Avenue, Suite 1600 Seattle, Washington 98101-3665 (206) 622-5822 Fax (206) 622-8130		SR 99 ALASKAN WAY VIADUCT-REPLACEMENT NORTH ACCESS CONNECTION POWER ALIGNMENT PLAN	PLAN REF. NO. UPAL1 SHEET 195 OF 770 SHEETS
TIME 4:35am	DATE Dec-21-15	10	WASH							
PLOTTED BY J.LINEHAN	DESIGNED BY C.PARK	ENTERED BY J.LINEHAN	CHECKED BY S.BARTLETT	PROJ. ENGR. S. BEADLE	REGIONAL ADM. T. TREPANIER	JOB NUMBER <b>13A003</b> CONTRACT NO.	LOCATION NO. <b>XL-3687</b>			
		CO-147: EP3 RELOCATION CO-133: EN3 RELOCATION CO-125: NEW VAULT M-1	12/17/2015 12/17/2015 12/17/2015	CDP CDP CDP	REVISION DATE BY					



SHEET KEY

GENERAL NOTES:

1. ADVANCED NOTIFICATION IS NEEDED BEFORE ANY CONSTRUCTION OCCURS. CALL BEFORE YOU DIG 1-800-424-5555.
2. FOR SEATTLE CITY LIGHT UNDERGROUNDING NOTES, LEGEND, AND STRUCTURE NOTES, REFER TO DRAWINGS UPN1-UPN2.
3. FOR DUCT BANK ALIGNMENT INFORMATION, REFER TO DRAWINGS UPAL1-UPAL6 AND UPT1-UPT3.
4. FOR DUCT BANK PROFILES, REFER TO THE FOLLOWING DRAWINGS:
  - ALIGNMENT ED1 - DRAWING UPR1
  - ALIGNMENT ED2 - DRAWING UPR2
  - ALIGNMENT ED3 - DRAWING UPR2
  - ALIGNMENT ED4 - DRAWING UPR3
  - ALIGNMENT ED5 - DRAWING UPR4
  - ALIGNMENT EN1 - DRAWING UPR7
  - ALIGNMENT EN2 - DRAWING UPR8
  - ALIGNMENT EN3 - DRAWING UPR9
  - ALIGNMENT EN4 - DRAWING UPR10
  - ALIGNMENT EN5 - DRAWING UPR10
  - ALIGNMENT EP1 - DRAWING UPR11
  - ALIGNMENT EP2 - DRAWING UPR11
  - ALIGNMENT EP3 - DRAWING UPR11
  - ALIGNMENT EP4 - DRAWING UPR11

△ 5. APPROXIMATE LOCATION OF WALL FOOTING AS ENCOUNTERED IN THE FIELD, PER SURVEY RECEIVED ON 11/16/15.

⊗ CONSTRUCTION NOTE REFER TO DRAWING UPN1

SHEET 6 OF 15

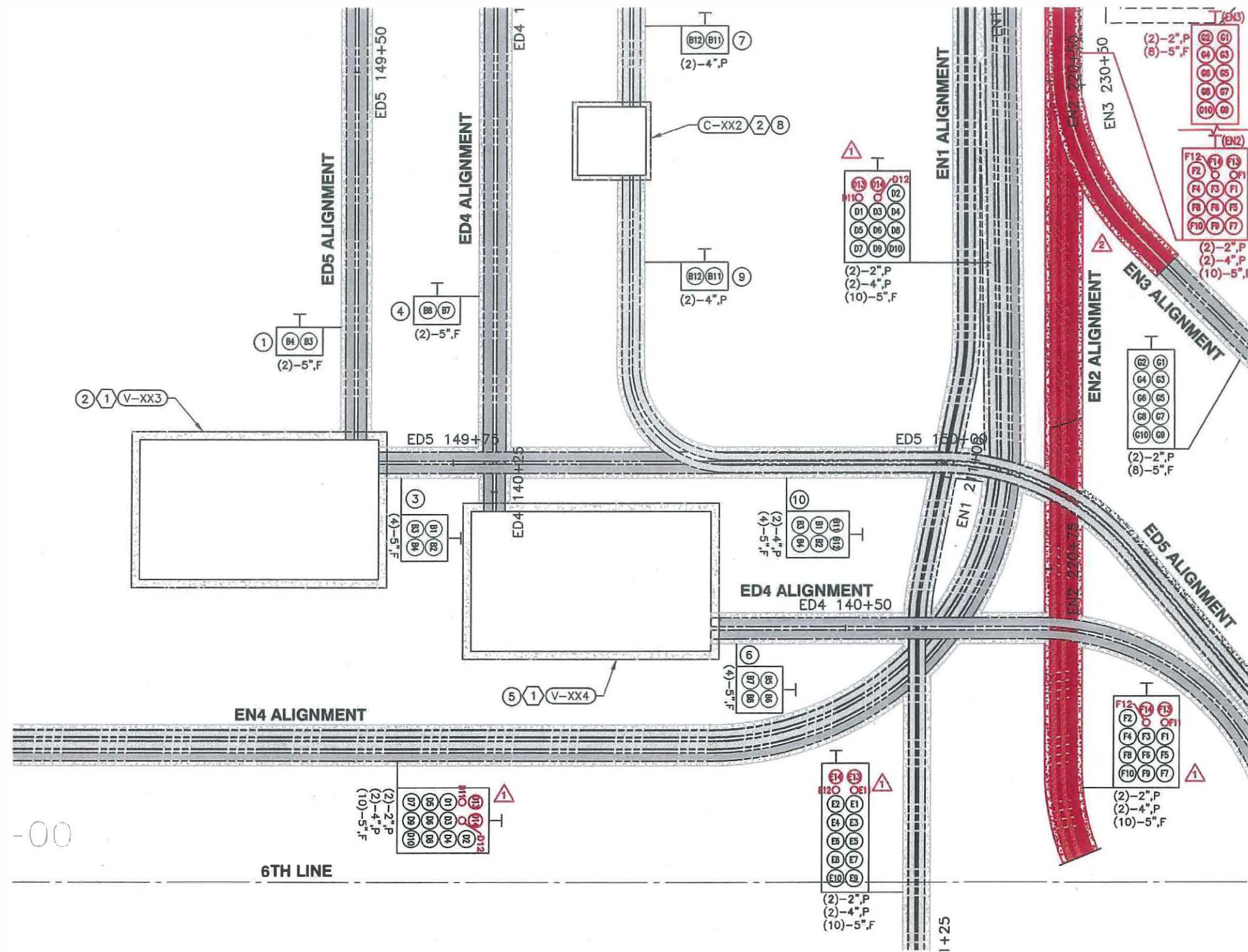
CHANGE ORDER NO. 133 R1

CONTRACT 8549

STA. 6TH 109+40 MATCHLINE - SEE SHEET UP6

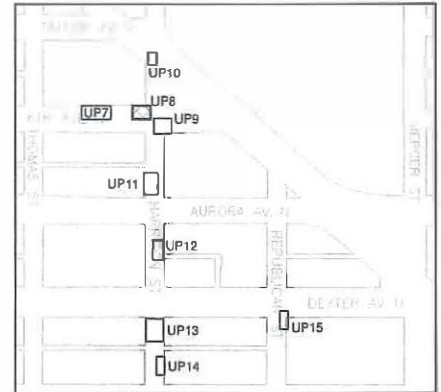
STA. 6TH 114+50 MATCHLINE - SEE SHEET UP2

FILE NAME X:\110000-110250\110159 (Alaskan Way Viaduct North Access)\CADD\Design\04-MWNA CP01.dwg			REGION NO.	STATE	FED.AID PROJ.NO.				SR 99 ALASKAN WAY VIADUCT-REPLACEMENT NORTH ACCESS CONNECTION POWER PLAN	PLAN REF. NO.
TIME	DATE		10	WASH						UP1
PLOTTED BY	J.LINEHAN	△ CO-147: EP3 RELOCATION	12/17/2015	CDP			1601 Fifth Avenue, Suite 1600 Seattle, Washington 98101-3665 (206) 622-5822 Fax (206) 622-8130	204 OF 770 SHEETS		
DESIGNED BY	C.PARK	△ CO-133: EN3 RELOCATION	12/17/2015	CDP						
ENTERED BY	J.LINEHAN	△ CO-125: NEW VAULT M-1	12/17/2015	CDP	13A003					
CHECKED BY	S.BARTLETT	△ RFI 64 (BASED ON RFI 37 RESPONSE)								
PROJ. ENGR.	S. BEADLE	AD1- REPLACEMENT SHEET - BACKGROUND UTILITIES DARKENED	10/25/2013	JDC						
REGIONAL ADM.	T. TREPANIER	REVISION	DATE	BY						



-00

6TH LINE



SHEET KEY

**CONSTRUCTION NOTES:**

(X) CONSTRUCTION NOTE REFER TO DRAWING UPN1

**GENERAL NOTES:**

1. ADVANCED NOTIFICATION IS NEEDED BEFORE ANY CONSTRUCTION OCCURS. CALL BEFORE YOU DIG 1-800-424-5555.
2. FOR SEATTLE CITY LIGHT UNDERGROUNDING NOTES, LEGEND, AND STRUCTURE NOTES, REFER TO DRAWINGS UPN1-UPN2.
3. FOR DUCT BANK ALIGNMENT INFORMATION, REFER TO DRAWINGS UPAL1-UPAL6 AND UPT1-UPT3.

**LEGEND**

- COMMUNICATION CONDUIT
- FLUIDIZED THERMAL BACKFILL, PER SECTIONS
- DISTRIBUTION CONDUIT

SHEET 7 OF 15  
 CHANGE ORDER NO. 133 R1  
 CONTRACT 8549

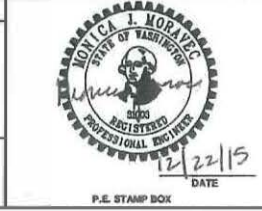


FILE NAME X:\110000-110250\110159 (Alaskan Way Viaduct North Access)\CADD\Design\004-MWNA-CP02.dwg

TIME	4:37am
DATE	Dec-21-15
PLOTTED BY	J.LINEHAN
DESIGNED BY	S.ZURFLUH
ENTERED BY	J.LINEHAN
CHECKED BY	C.PARK
PROJ. ENGR.	S. BEADLE
REGIONAL ADM.	T. TREPANIER

REVISION	DATE	BY
CO-133: EN3 RELOCATION	12/17/2015	CDP
RFI 64 (BASED ON RFI 37 RESPONSE)		

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER	CONTRACT NO.	LOCATION NO.
13A003		XL-3687

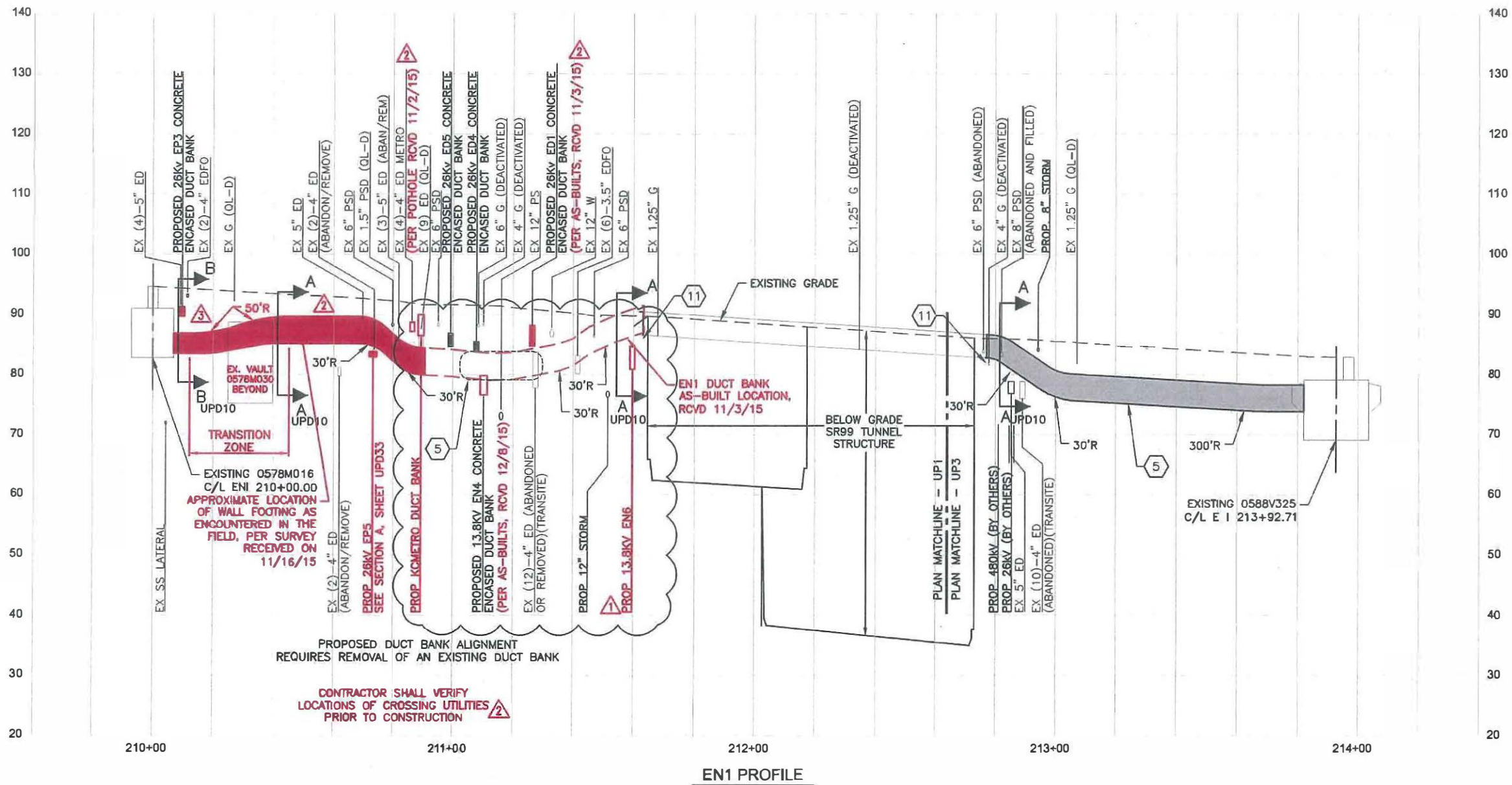


**kpff** Consulting Engineers  
 1601 Fifth Avenue, Suite 1600  
 Seattle, Washington 98101-3665  
 (206) 622-5822 Fax (206) 622-8130



SR 99  
 ALASKAN WAY VIADUCT-REPLACEMENT  
 NORTH ACCESS CONNECTION  
 ENLARGED POWER PLAN

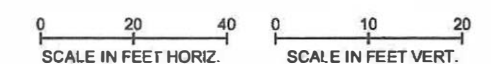
PLAN REF. NO.	UP8
SHEET	211
OF	770
SHEETS	



**GENERAL NOTES:**

1. ADVANCED NOTIFICATION IS NEEDED BEFORE ANY CONSTRUCTION OCCURS. CALL BEFORE YOU DIG 1-800-424-5555.
  2. FOR SEATTLE CITY LIGHT UNDERGROUNDING NOTES, LEGEND, AND STRUCTURE NOTES, REFER TO DRAWINGS UPN1-UPN2.
  3. FOR DUCT BANK ALIGNMENT INFORMATION, REFER TO DRAWINGS UPAL1-UPAL6 AND UPT1-UPT3.
  4. WHERE DUCT BANKS CROSS ABOVE PS AND PSD MAINS, INSTALL REINFORCING WITHIN THE DUCT BANK (PER SCL CONSTRUCTION GUIDELINE U2-11.2) A MINIMUM OF 10' BEYOND THE CROSSING
- (X) CONSTRUCTION NOTE REFER TO DRAWING UPN1

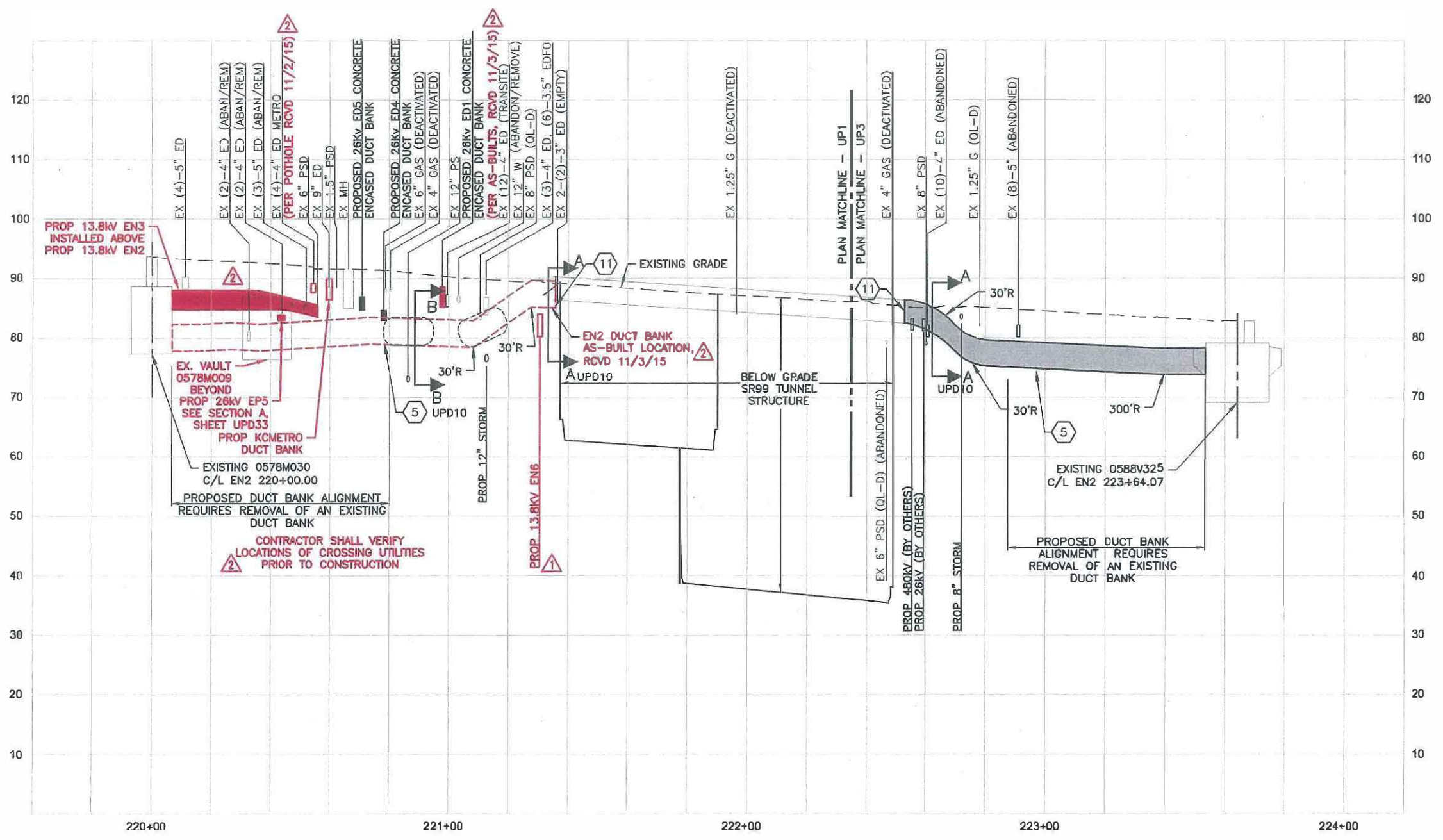
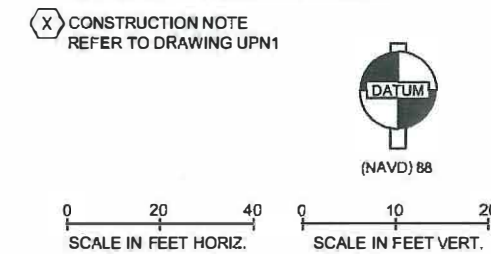
SHEET 8 OF 15  
 CHANGE ORDER NO. 133R1  
 CONTRACT 8549



FILE NAME X:\110000-110250\110159 (Alaskan Way Viaduct North Access)\CADD\Design\005-MWNA-CPR1.dwg		REGION NO. 10		STATE WASH	FED.AID PROJ. NO.		 1601 Fifth Avenue, Suite 1600 Seattle, Washington 98101-3665 (206) 622-5822 Fax (206) 622-8130		SR 99 ALASKAN WAY VIADUCT-REPLACEMENT NORTH ACCESS CONNECTION	PLAN REF. NO. UPR7
TIME 4:40am	DATE Dec-21-15	DESIGNED BY C.PARK	12/17/2015	CDP	13A003					CONTRACT NO. XL-3687
ENTERED BY J.LINEHAN	CO-147: EP3 RELOCATION	12/17/2015	CDP							
CHECKED BY S.BARTLETT	CO-125: NEW VAULT M-1	12/17/2015	CDP							
PROJ. ENGR. S. BEADLE	AD1. EN1 PROFILE UPDATE	11/04/2013	CDP							
REGIONAL ADM. T. TREPANIER	REVISION	DATE	BY							

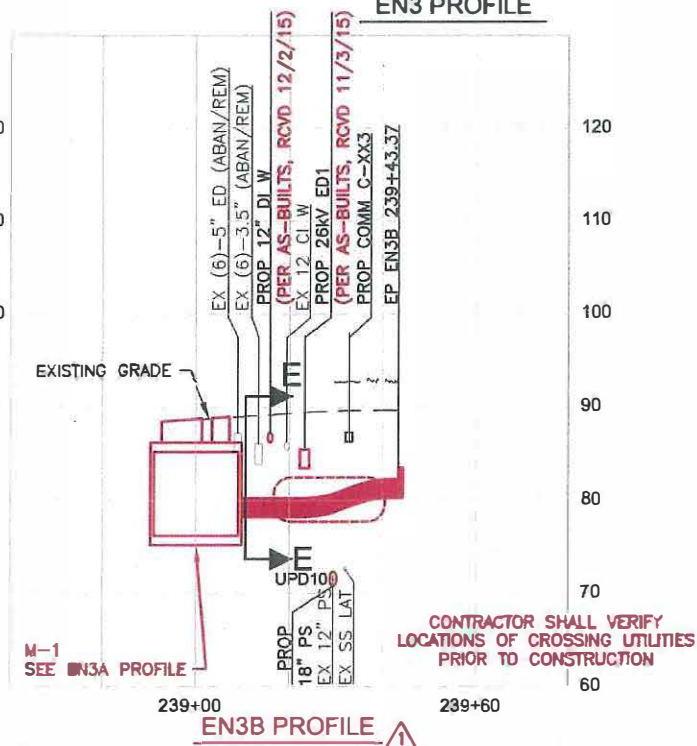
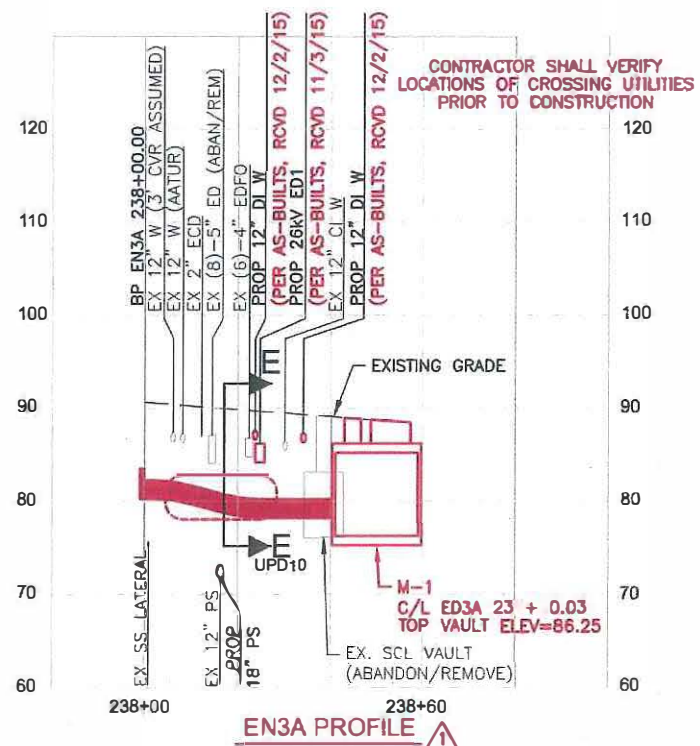
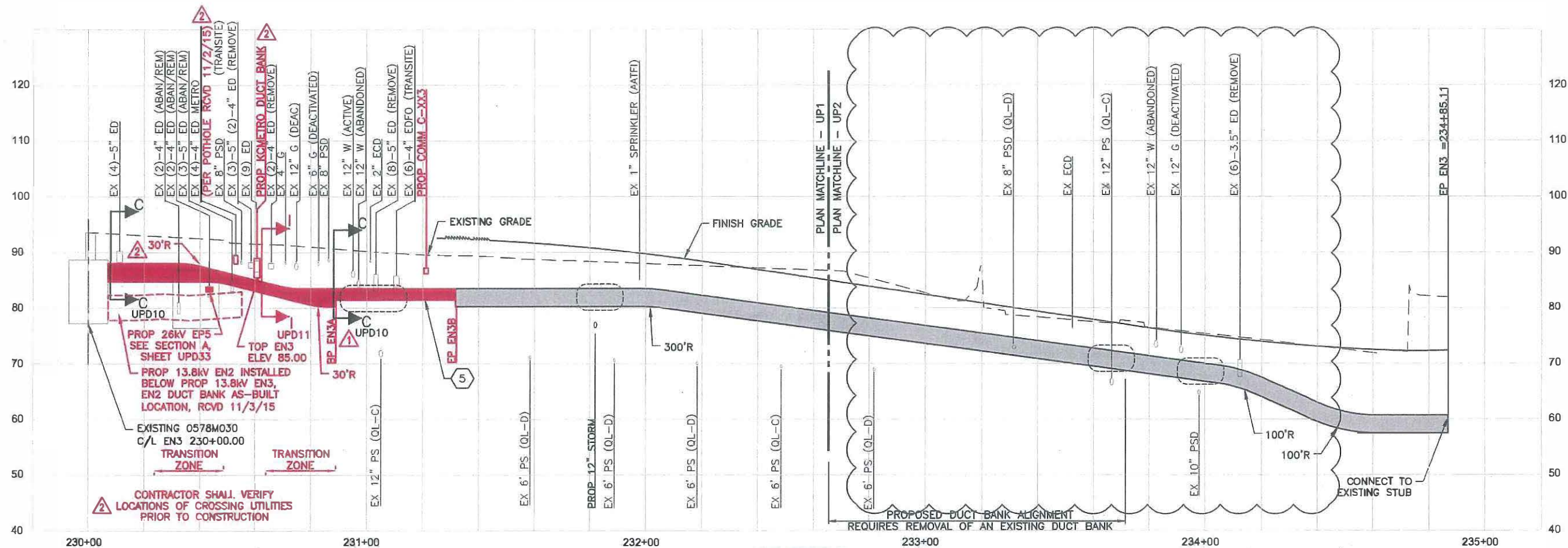
SHEET 9 OF 15  
 CHANGE ORDER NO. 133R1  
 CONTRACT 8549

- GENERAL NOTES:**
1. ADVANCED NOTIFICATION IS NEEDED BEFORE ANY CONSTRUCTION OCCURS. CALL BEFORE YOU DIG 1-800-424-5555.
  2. FOR SEATTLE CITY LIGHT UNDERGROUNDING NOTES, LEGEND, AND STRUCTURE NOTES, REFER TO DRAWINGS UPN1-UPN2.
  3. FOR DUCT BANK ALIGNMENT INFORMATION, REFER TO DRAWINGS UPAL1-UPAL6 AND UPT1-UPT3.
  4. WHERE DUCT BANKS CROSS ABOVE PS AND PSD MAINS, INSTALL REINFORCING WITHIN THE DUCT BANK (PER SCL CONSTRUCTION GUIDELINE U2-11.2) A MINIMUM OF 10' BEYOND THE CROSSING



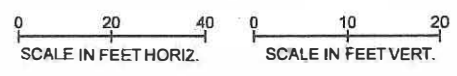
EN2 PROFILE

FILE NAME X:\110000-110250\110159 (Alaskan Way Viaduct North Access)\CAD\Design\005-MWNA-CPR1.dwg		REGION NO. 10	STATE WASH	FED.AID PROJ.NO.		<p>1501 Fifth Avenue, Suite 1600          Seattle, Washington 98101-3665          (206) 622-5822 Fax (206) 622-8130</p>		SR 99 <b>ALASKAN WAY VIADUCT-REPLACEMENT</b> <b>NORTH ACCESS CONNECTION</b>	PLAN REF. NO. UPR8
TIME 4:40am	DATE Dec-21-15	JOB NUMBER 13A003	LOCATION NO. XL-3687	SHEET 226 OF 770 SHEETS					
PLOTTED BY J.LINEHAN	DESIGNED BY C.PARK	CONTRACT NO.							
ENTERED BY J.LINEHAN	CHECKED BY S.BARTLETT	DATE 12/17/2015	BY CDP						
PROJ. ENGR. S. BEADLE	REVISION	DATE	BY						
REGIONAL ADM. T. TREPANIER	CO-133: EN3 RELOCATION	12/17/2015	CDP						
	CO-125: NEW VAULT M-1	12/17/2015	CDP						



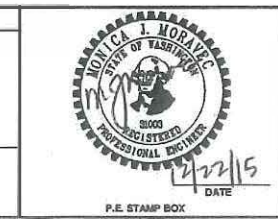
SHEET 10 OF 15  
 CHANGE ORDER NO. 133 R1  
 CONTRACT 8549

- GENERAL NOTES:**
- ADVANCED NOTIFICATION IS NEEDED BEFORE ANY CONSTRUCTION OCCURS. CALL BEFORE YOU DIG 1-800-424-5555.
  - FOR SEATTLE CITY LIGHT UNDERGROUNDING NOTES, LEGEND, AND STRUCTURE NOTES, REFER TO DRAWINGS UPN1-JPN2.
  - FOR DUCT BANK ALIGNMENT INFORMATION, REFER TO DRAWINGS UPAL1-UPAL6 AND UPT1-UPT3.
  - WHERE DUCT BANKS CROSS ABOVE PS AND PSD MAINS, INSTALL REINFORCING WITHIN THE DUCT BANK (PER SCL CONSTRUCTION GUIDELINE U2-11.2) A MINIMUM OF 10' BEYOND THE CROSSING
- (X) CONSTRUCTION NOTE REFER TO DRAWING UPN1



FILE NAME	X:\110000-110250\110159 (Alaskan Way Viaduct North Access)\CADD\Design\005-MWNA-CPR1.dwg		
TIME	4:40am		
DATE	Dec-21-15		
PLOTTED BY	J.LINEHAN		
DESIGNED BY	C.PARK		
ENTERED BY	J.LINEHAN	CO-133: EN3 RELOCATION	12/17/2015 CDP
CHECKED BY	S.BARTLETT	CO-125: NEW VAULT M-1	12/17/2015 CDP
PROJ.ENGR.	S.BEADLE	AD1: EN3 PROFILE UPDATE	11/04/2013 CDP
REGIONAL ADM.	T.TREPANIER	REVISION	DATE BY

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER	CONTRACT NO.	LOCATION NO.
13A003		XL-3687

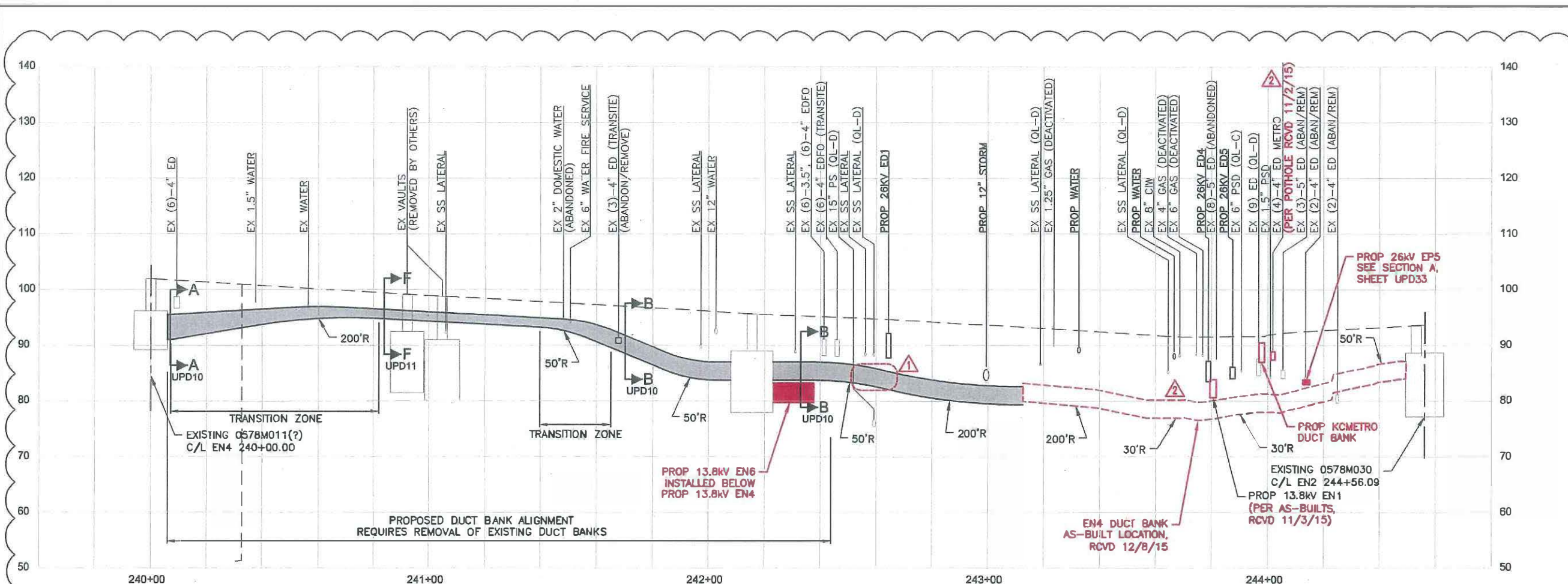


**kpff** Consulting Engineers  
 1601 Fifth Avenue, Suite 1600  
 Seattle, Washington 98101-3665  
 (206) 622-5822 Fax (206) 622-8130

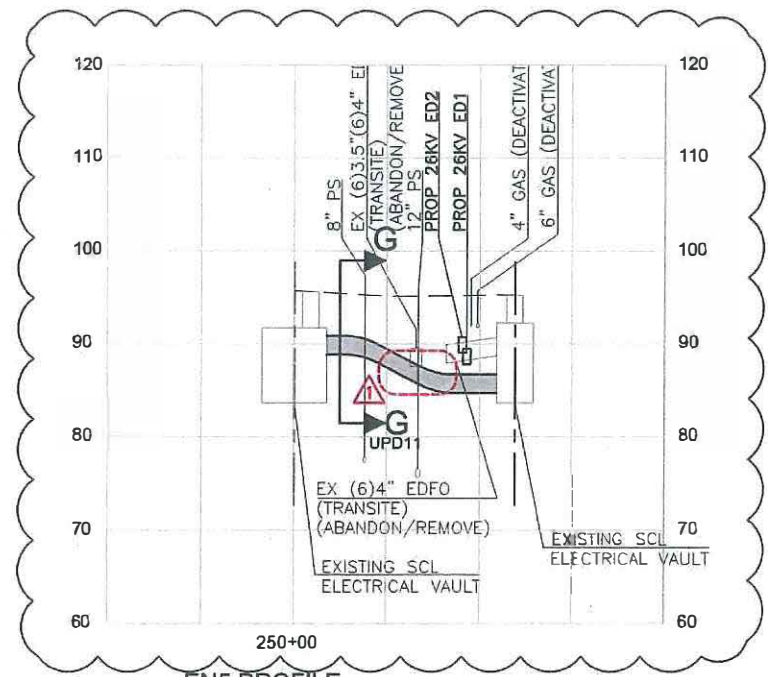


**SR 99**  
**ALASKAN WAY VIADUCT-REPLACEMENT**  
**NORTH ACCESS CONNECTION**  
**POWER PROFILE**

PLAN REF. NO.  
**UPR9**  
 SHEET  
**227**  
 OF  
**770**  
 SHEETS



EN4 PROFILE

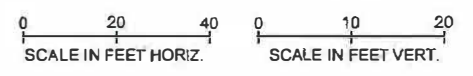


EN5 PROFILE

GENERAL NOTES:

1. ADVANCED NOTIFICATION IS NEEDED BEFORE ANY CONSTRUCTION OCCURS. CALL BEFORE YOU DIG 1-800-424-5555.
  2. FOR SEATTLE CITY LIGHT UNDERGROUNDING NOTES, LEGEND, AND STRUCTURE NOTES, REFER TO DRAWINGS UPN1-UPN2.
  3. FOR DUCT BANK ALIGNMENT INFORMATION, REFER TO DRAWINGS UPAL1-UPAL6 AND UPT1-UPT3.
  4. WHERE DUCT BANKS CROSS ABOVE PS AND PSD MAINS, INSTALL REINFORCING WITHIN THE DUCT BANK (PER SCL CONSTRUCTION GUIDELINE U2-11.2) A MINIMUM OF 10' BEYOND THE CROSSING
- (X) CONSTRUCTION NOTE REFER TO DRAWING UPN1

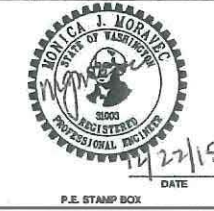
SHEET 11 OF 15  
 CHANGE ORDER NO. 133R1  
 CONTRACT 8549



FILE NAME X:\110000-110250\110159 (Alaskan Way Viaduct North Access)\CADD\Design\005-MWNA-CPR1.dwg

TIME	4:40am				
DATE	Dec-21-15				
PLOTTED BY	J.LINEHAN				
DESIGNED BY	C.PARK				
ENTERED BY	J.LINEHAN	CO-133: EN3 RELOCATION	12/17/2015	CDP	
CHECKED BY	S.BARTLETT	CO-125: NEW VAULT M-1	12/17/2015	CDP	
PROJ. ENGR.	S. BEADLE	AD1. EN4 PROFILE ADDED, EN5 PROFILE UPDATE	11/04/2013	CDP	
REGIONAL ADM.	T. TREPANIER	REVISION	DATE	BY	

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER	CONTRACT NO.	LOCATION NO.
13A003		XL-3687

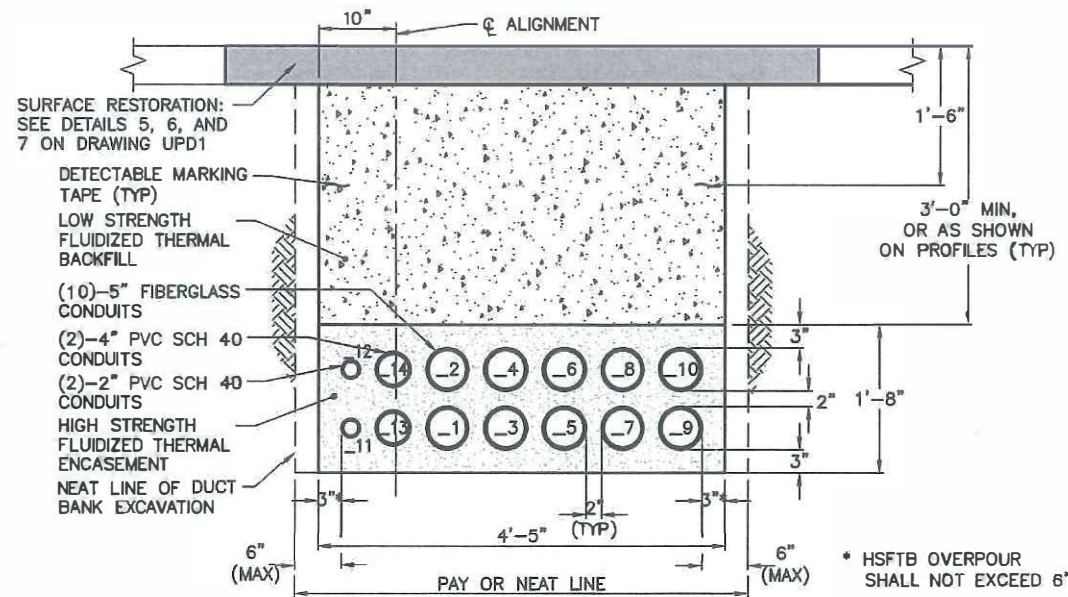


**kptf** Consulting Engineers  
 1601 Fifth Avenue, Suite 1600  
 Seattle, Washington 98101-3665  
 (206) 622-5822 Fax (206) 622-8130

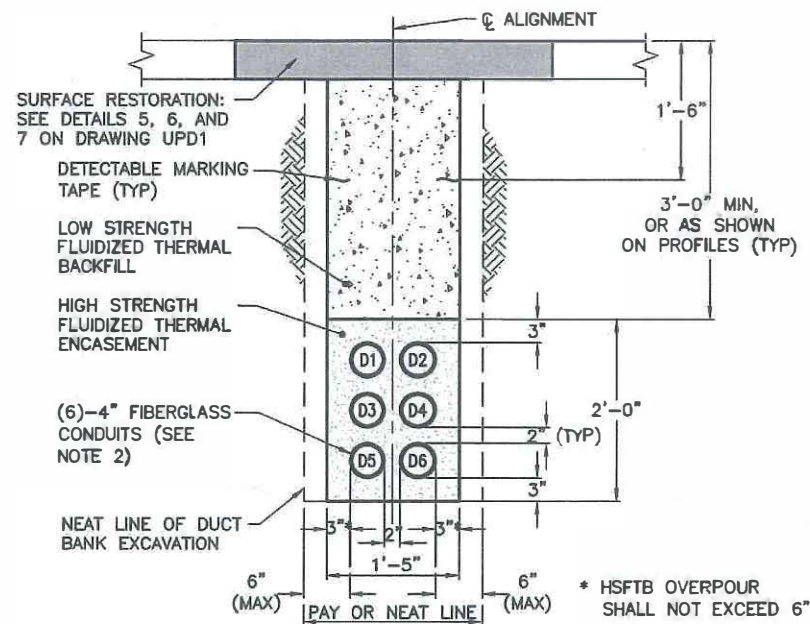


SR 99  
**ALASKAN WAY VIADUCT-REPLACEMENT  
 NORTH ACCESS CONNECTION**  
 POWER PROFILE

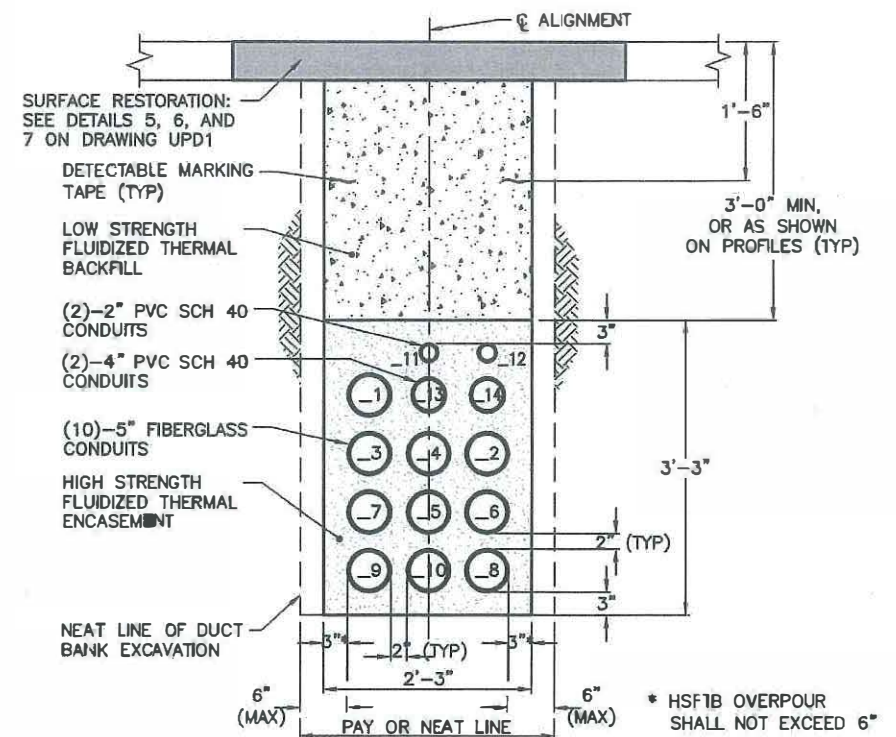
PLAN REF. NO.  
**UPR10**  
 SHEET  
 228  
 OF  
 770  
 SHEETS



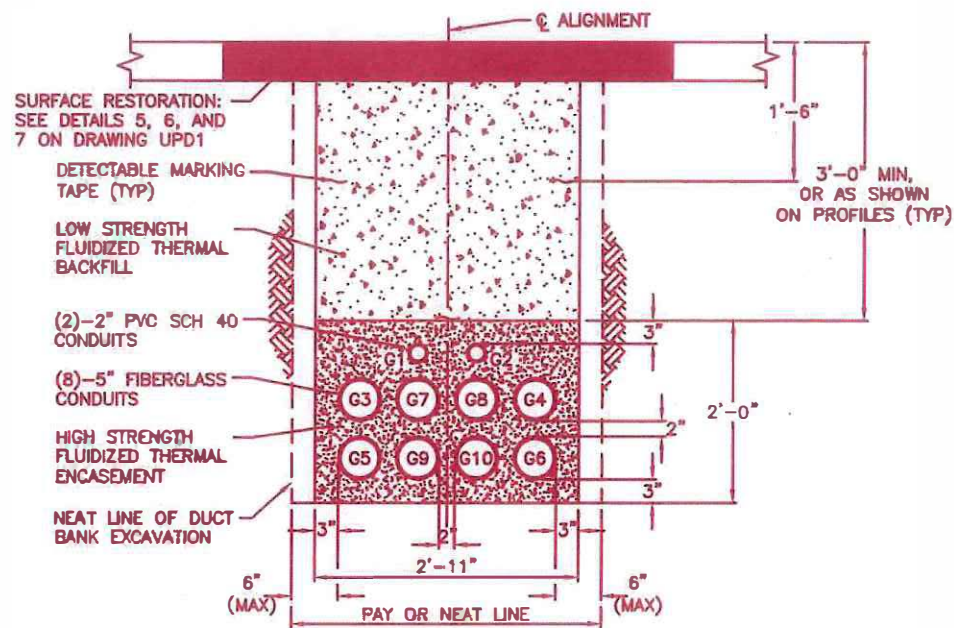
13.8kV DISTRIBUTION DUCT BANK SECTION **F**  
SCALE: 1"=1'  
UPR10



13.8kV DISTRIBUTION DUCT BANK SECTION **G**  
SCALE: 1"=1'  
UPR10



13.8kV DISTRIBUTION DUCT BANK SECTION **H**  
SCALE: 1"=1'  
UPR9



13.8kV DISTRIBUTION DUCT BANK SECTION **I**  
SCALE: 1"=1'  
UPR10

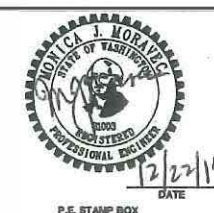
**DISTRIBUTION DUCT BANK SECTION NOTES**

1. DIMENSIONAL ROUNDING: FOR DUCT BANK WIDTHS/HEIGHTS, DIMENSIONS HAVE BEEN ROUNDED UP TO THE NEAREST INCH. CONTRACTOR IS RESPONSIBLE FOR ENSURING THE BOTTOM, SIDE AND TOP MINIMUM ENCASEMENT DIMENSIONS ARE OBTAINED. ENCASEMENT OVERPOUR SHALL NOT EXCEED 6", UNLESS SPECIFICALLY NOTED.
2. ANCHOR SPACERS WITH #4 STEEL REINFORCEMENT AND STEEL WIRE TIES.

SHEET 12 OF 15  
CHANGE ORDER NO. 133R1  
CONTRACT 8549

FILE NAME	X:\110000-110250\110159 (Alaskan Way Viaduct North Access)\CADD\Design\03-MWNA-CPD2.dwg		
TIME	4:42am		
DATE	Dec-21-15		
PLOTTED BY	J.LINEHAN		
DESIGNED BY	C.PARK		
ENTERED BY	J.LINEHAN		
CHECKED BY	S.BARTLETT		
PROJ. ENGR.	S. BEADLE	CO-133: EN3 RELOCATI ON	12/17/2015
REGIONAL ADM.	T. TREPANIER	REVISION	DATE BY

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER	13A003	
CONTRACT NO.	LOCATION NO.	
	XL-3687	



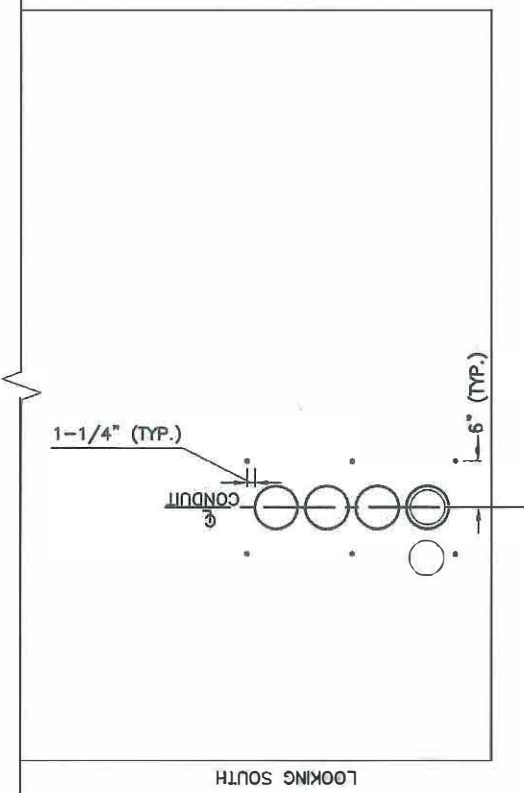
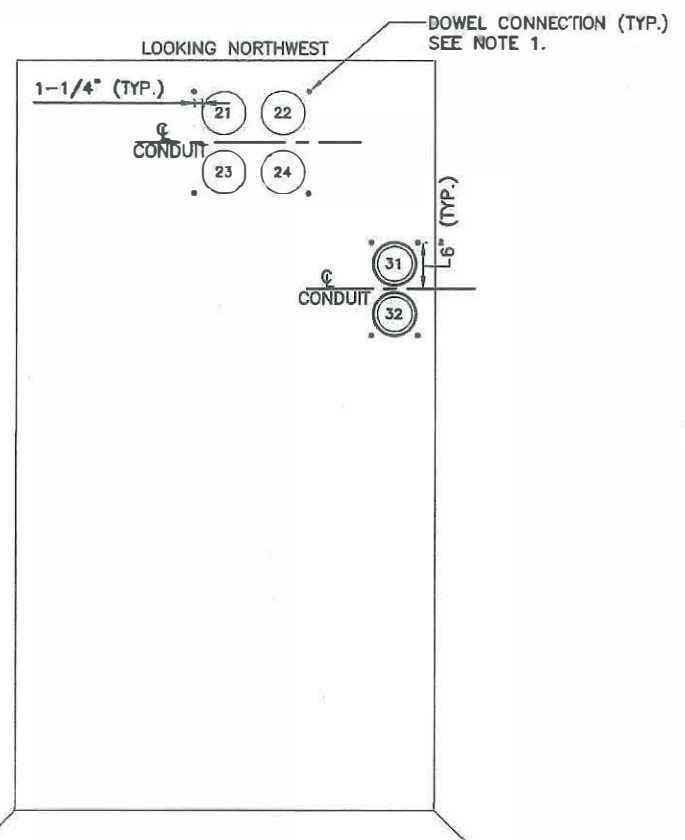
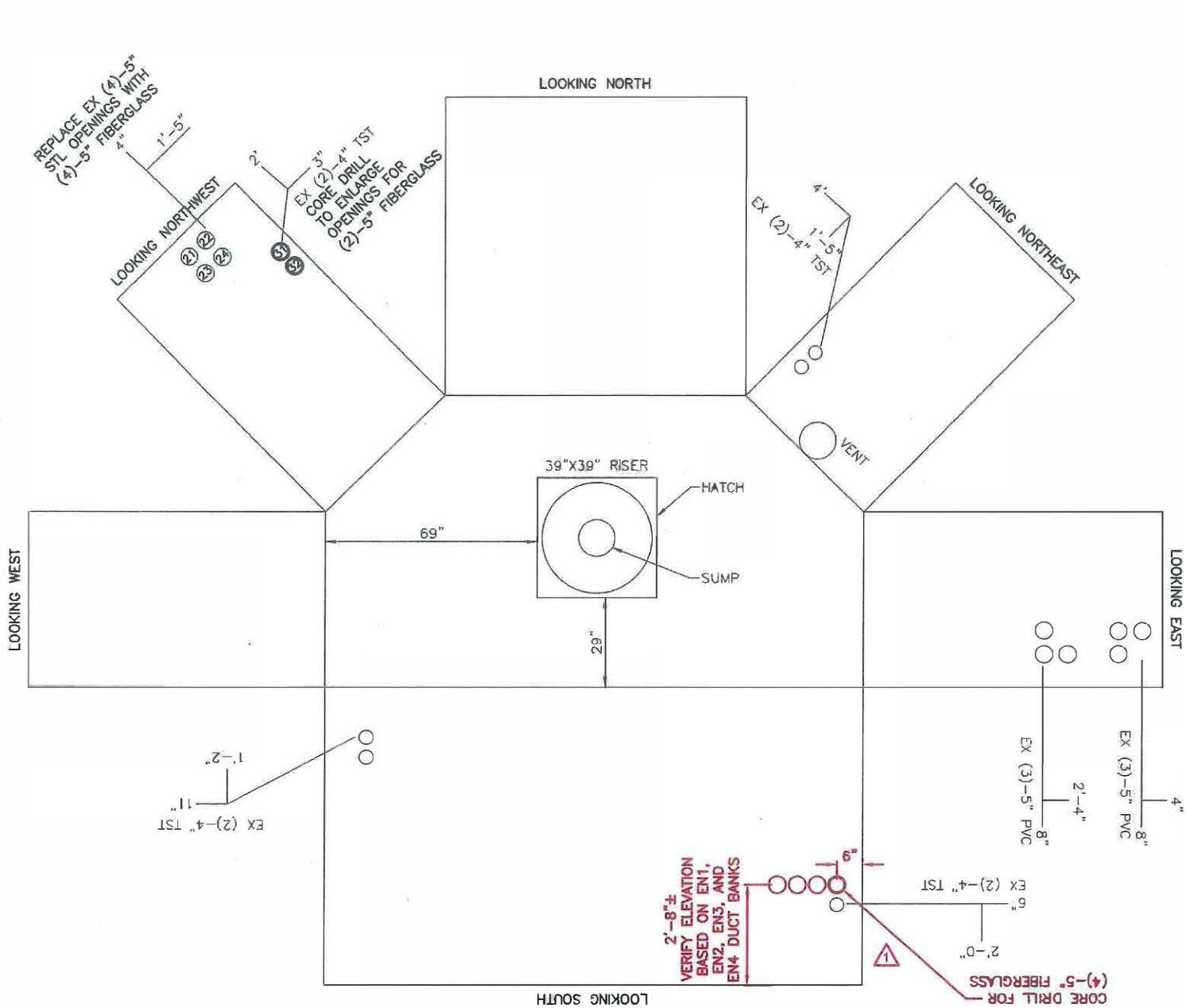
**kpff** Consulting Engineers  
1601 Fifth Avenue, Suite 1600  
Seattle, Washington 98101-3665  
(206) 622-5822 Fax (206) 622-8130



SR 99  
ALASKAN WAY VIADUCT-REPLACEMENT  
NORTH ACCESS CONNECTION  
POWER DETAILS

PLAN REF. NO.	UPD11
SHEET	241
OF	770
SHEETS	





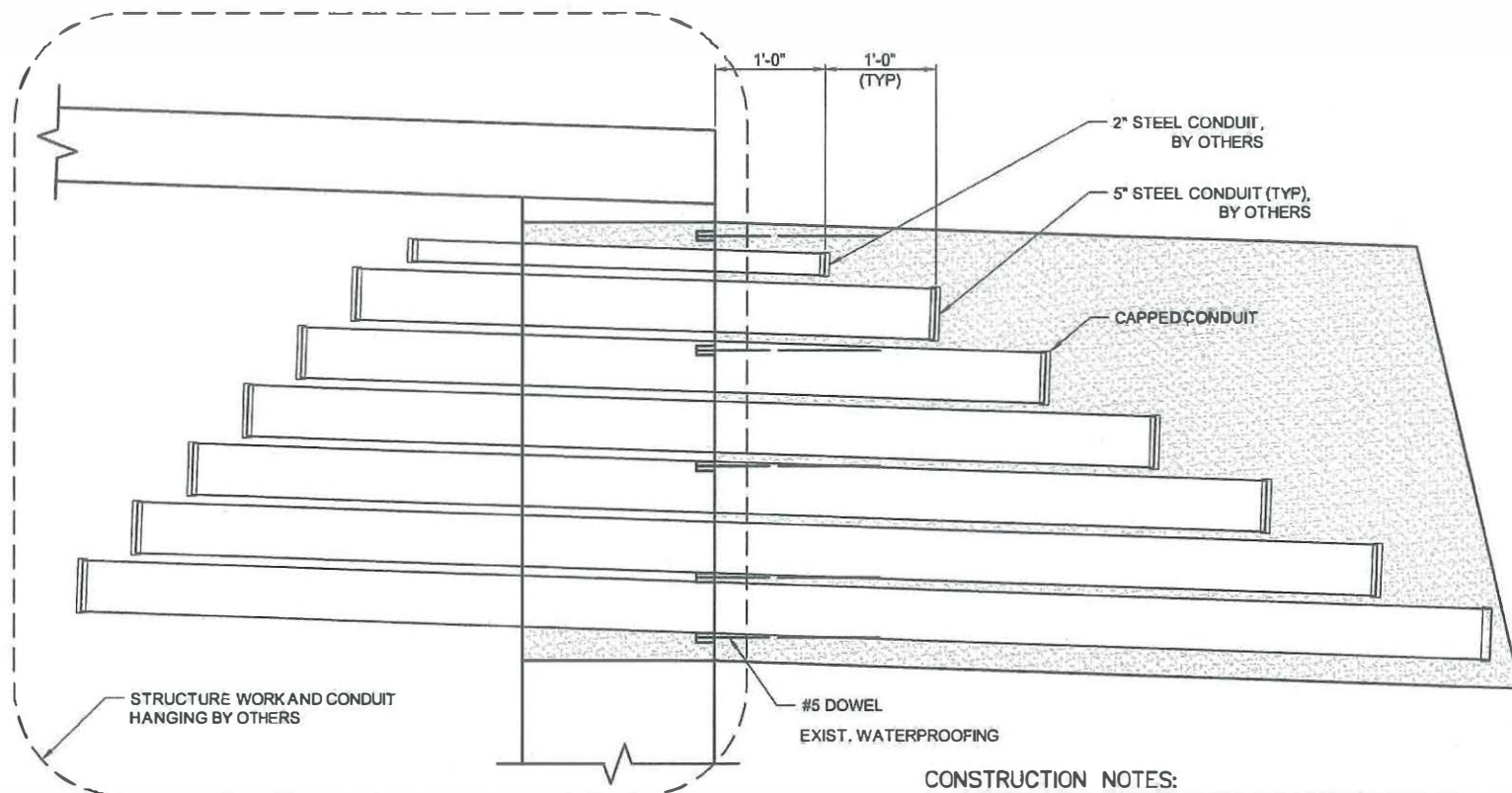
SHEET 13 OF 15  
 CHANGE ORDER NO. 133R1  
 CONTRACT 8549

**NOTES**  
 1. DOWEL NEW DUCT BANK INTO EXISTING VAULT WALL TO PROVIDE SHEAR CONNECTION. DOWEL #4x16 STEEL REBAR INTO THE VAULT WALL WITH EPOXY (4\"/>

DUCT BANK DOWEL DETAIL **20A**  
 SCALE: 1"=1'  
**UPD20**

0578M009 (EXISTING VAULT) **20**  
 SCALE: 1"=2'  
**UP1**

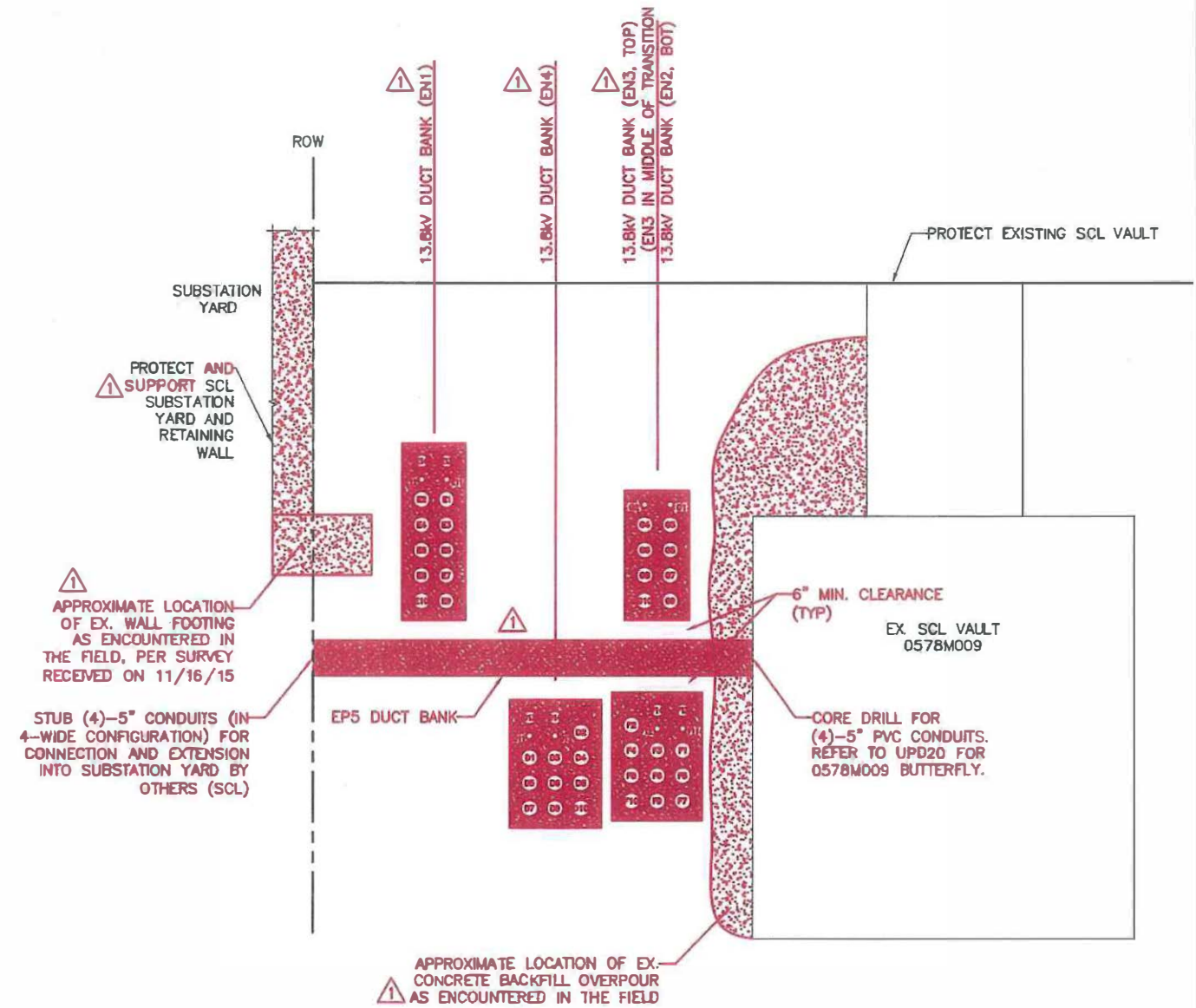
FILE NAME X:\110000-110250\110159 (Alaskan Way Viaduct North Access)\CADD\Design\003-MWNA-CPD2.dwg		REGION NO. 10	STATE WASH	FED.AID PROJ.NO.				SR 99 ALASKAN WAY VIADUCT-REPLACEMENT NORTH ACCESS CONNECTION	PLAN REF. NO. UPD20
TIME 4:42am	DATE Dec-21-15	JOB NUMBER 13A003	CONTRACT NO.	LOCATION NO. XL-3687					SHEET 250 OF 770 SHEETS
PLOTTED BY J.LINEHAN	DESIGNED BY C.PARK	ENTERED BY J.LINEHAN	CHECKED BY S.BARTLETT	PROJ. ENGR. S. BEADLE	REGIONAL ADM. T. TREPANIER	REVISION	DATE 12/17/2015	BY CDP	POWER DETAILS



**CONSTRUCTION NOTES:**

1. THIS DETAIL REFLECTS THE CONDUIT TERMINATION CONDITION DEPICTED WITHIN THE SR99 TUNNEL PROJECT DESIGN. THE CONTRACTOR SHALL CONNECT TO THE CAPPED CONDUITS IN THE LOCATIONS NOTED ON THE PLANS.
2. SAND BACKFILL SHALL BE REMOVED VIA VACTOR TRUCK. CARE SHALL BE TAKEN TO AVOID DAMAGING THE EXISTING CONDUITS AND WATERPROOFING.
3. DUCT BANK ENCASMENT SHALL ENCOMPASS EXISTING DOWEL BARS TO CONNECT DUCT BANK TO TUNNEL STRUCTURE.
4. WHERE DUCT BANK HAS LESS THAN 3' COVER, A STEEL PLATE SHALL BE INSTALLED IMMEDIATELY ABOVE THE HSFTB ENCASMENT.

CONDUIT END DETAIL (1)  
SCALE: 1"=1'

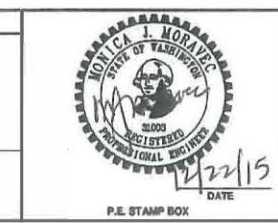


EP5 DUCT BANK SECTION (A)  
SCALE: 1"=2'

SHEET 14 OF 15  
CHANGE ORDER NO. 133 R1  
CONTRACT 8549

FILE NAME	X:\110000-110250\110159 (Alaskan Way Viaduct North Access)\CADD\Design\003-MWNA-CPD3.dwg		
TIME	4:43am		
DATE	Dec-21-15		
PLOTTED BY	J.LINEHAN		
DESIGNED BY	C.PARK		
ENTERED BY	J.LINEHAN		
CHECKED BY	S.BARTLETT		
PROJ. ENGR.	S. BEADLE	CO-133: EN3 RELOCATION	12/17/2015
REGIONAL ADM.	T. TREPANIER	REVISION	DATE BY

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER	13A003	
CONTRACT NO.	LOCATION NO.	
	XL-3687	



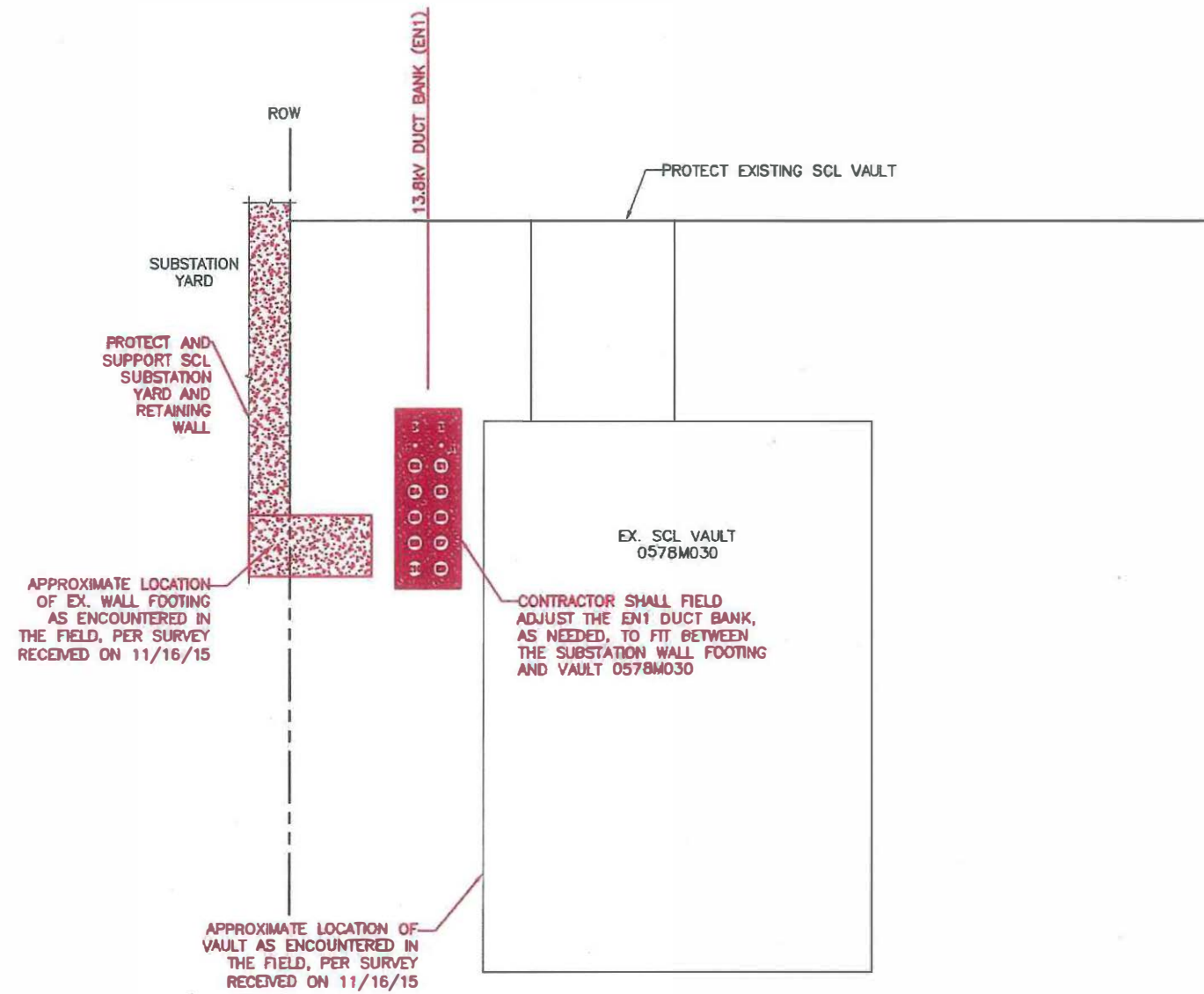
**kptf** Consulting Engineers  
1601 Fifth Avenue, Suite 1600  
Seattle, Washington 98101-3665  
(206) 622-5822 Fax (206) 622-8130



SR 99  
ALASKAN WAY VIADUCT-REPLACEMENT  
NORTH ACCESS CONNECTION  
POWER DETAILS

PLAN REF. NO.	UPD33
SHEET	263
OF	770
SHEETS	

SHEET 15 OF 15  
 CHANGE ORDER NO. 133 R1  
 CONTRACT 8549



EN1 DUCT BANK SECTION **B**  
 SCALE: 1"=2' **UP1** ▲

▲ NEW SHEET

FILE NAME X:\110000-110250\110159 (Alaskan Way Viaduct North Access)\CADD\Design\003-MWNA-CPD3.dwg				REGION NO. STATE		FED.AID PROJ.NO.			 1501 Fifth Avenue, Suite 1600 Seattle, Washington 98101-3665 (206) 622-5822 Fax (206) 622-8130	 Washington State Department of Transportation	SR 99		PLAN REF. NO. UPD33A  SHEET 263A OF 770 SHEETS
TIME	4.43am			10	WASH		ALASKAN WAY VIADUCT-REPLACEMENT						
DATE	Dec-21-15			JOB NUMBER			NORTH ACCESS CONNECTION						
PLOTTED BY	K.BOSTON			13A003			POWER DETAILS						
DESIGNED BY	C.PARK			CONTRACT NO.									
ENTERED BY	K.BOSTON			LOCATION NO.									
CHECKED BY	S.BARTLETT			XL-3687									
PROJ. ENGR.	S. BEADLE	▲ CO-133: EN3 RELOCATION	12/17/2015	CDP									
REGIONAL ADM.	T. TREPANIER	REVISION	DATE	BY									