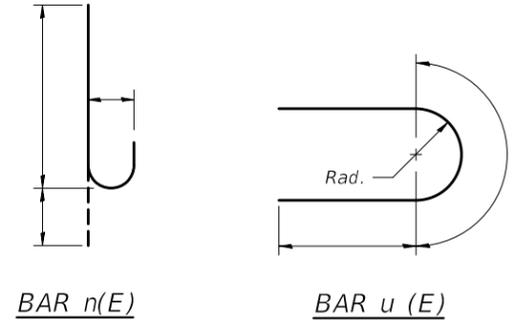
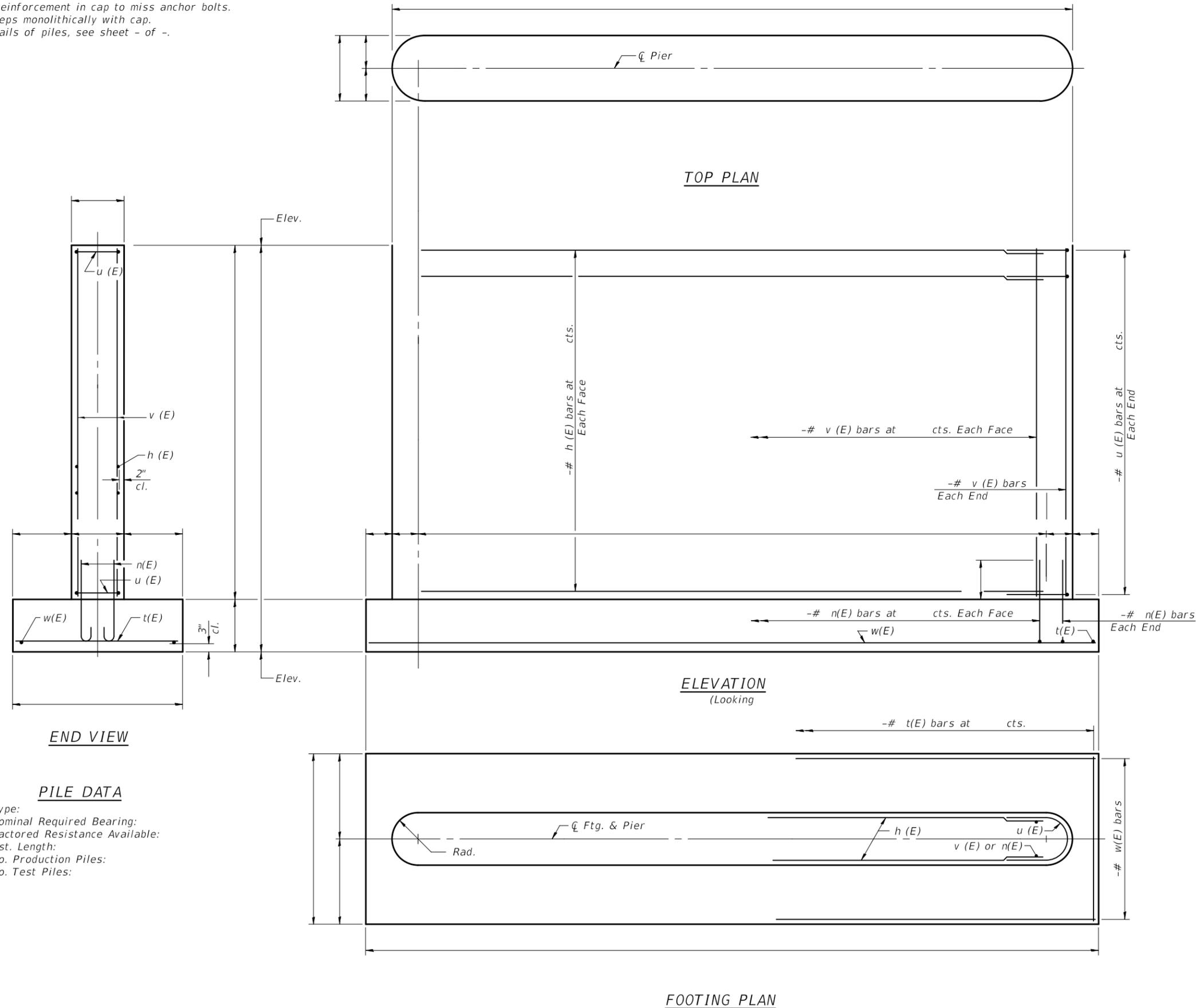


CELL / MODEL NAME	DESCRIPTION	DATE
P-1	Solid straight stem pier	2/17/2017
P-10	Single hammerhead pier (modified)	2/17/2017
P-11	Two column trapezoidal pier	2/17/2017
P-12	Three column trapezoidal pier	2/17/2017
P-13	Four column trapezoidal pier	2/17/2017
P-14	Five column trapezoidal pier	2/17/2017
P-2	Single hammerhead pier	2/17/2017
P-24	Four column pier (over railroad)	2/17/2017
P-26	Six column pier (over railroad)	2/17/2017
P-3	Double hammerhead pier	2/17/2017
P-4	Double hammerhead pier (alternate)	2/17/2017
P-5	Three column pier	2/17/2017
P-6	Multiple column pier	2/17/2017
P-7	Trapezoidal pier	2/17/2017
P-DS	Drilled shaft pier	2/17/2017
P-DSCW	Drilled shaft pier with crashwall	2/17/2017
P-DSSW	Drilled shaft pier (solid)	2/17/2017
P-DSTB	Drilled shaft pier with transfer beam	2/17/2017
P-DSWW	Drilled shaft pier with webwall	2/17/2017
PB-1	Solid battered stem pier	2/17/2017
PC-1	Solid straight stem pier with cap	2/17/2017

Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet - of -.



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)	#			—
n(E)	#			U
t (E)	#			—
u (E)	#			U
v (E)	#			—
w (E)	#			—
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

PILE DATA

Type:
 Nominal Required Bearing:
 Factored Resistance Available:
 Est. Length:
 No. Production Piles:
 No. Test Piles:

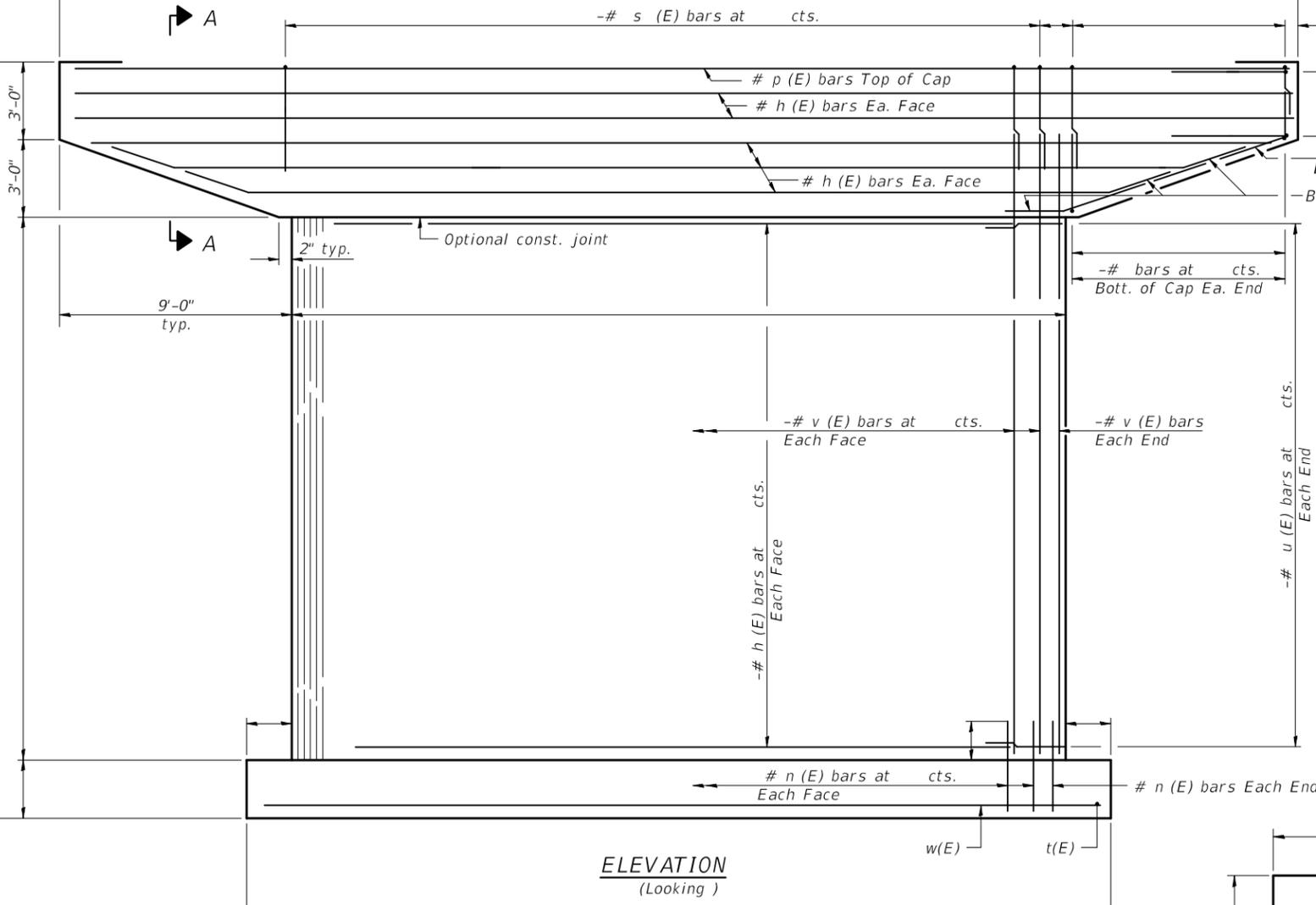
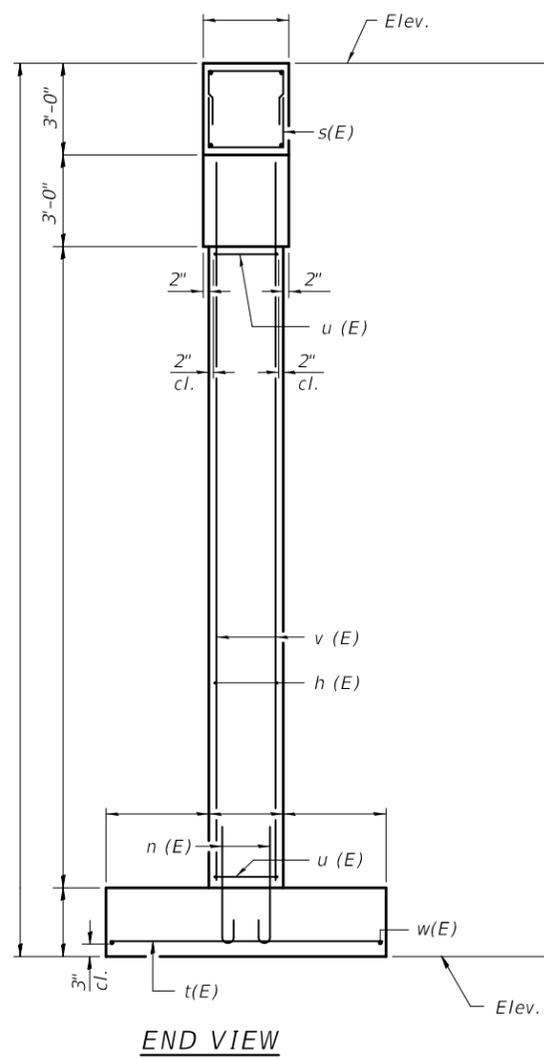
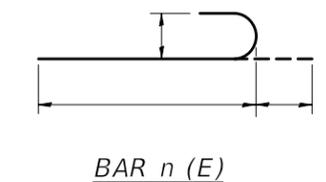
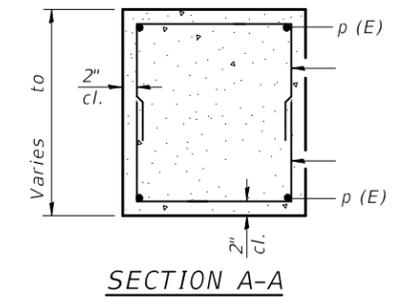
P-1 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISOR -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER STRUCTURE NO.	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED -	REVISOR -								
		DRAWN -	REVISOR -			CONTRACT NO.					
		CHECKED -	REVISOR -			ILLINOIS FED. AID PROJECT					

Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet - of -.

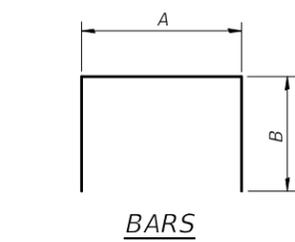
PILE DATA

Type:
 Nominal Required Bearing:
 Factored Resistance Available:
 Est. Length:
 No. Production Piles:
 No. Test Piles:



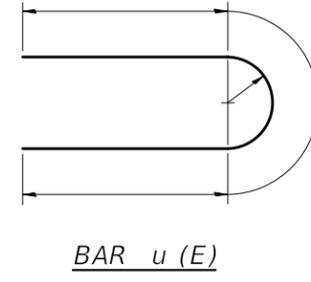
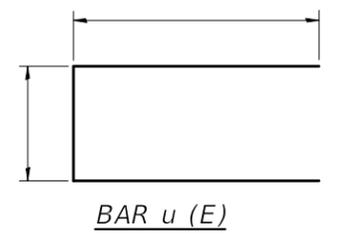
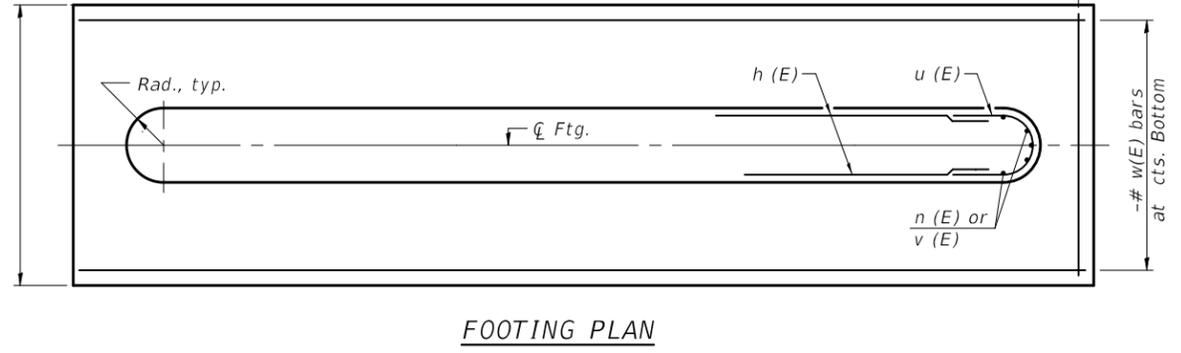
PIER BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h(E)$		#		—
$h(E)$		#		—
$n(E)$		#		U
$p(E)$		#		—
$p(E)$		#		—
$s(E)$		#		□
$s(E)$		#		□
$s(E)$		#		□
$t(E)$		#		—
$u(E)$		#		—
$u(E)$		#		—
$v(E)$		#		—
$w(E)$		#		—
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	



A & B DIMENSIONS

Bar	A	B



P-10 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
		DRAWN -	REVISED -
		CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

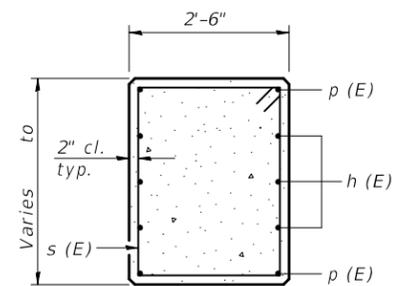
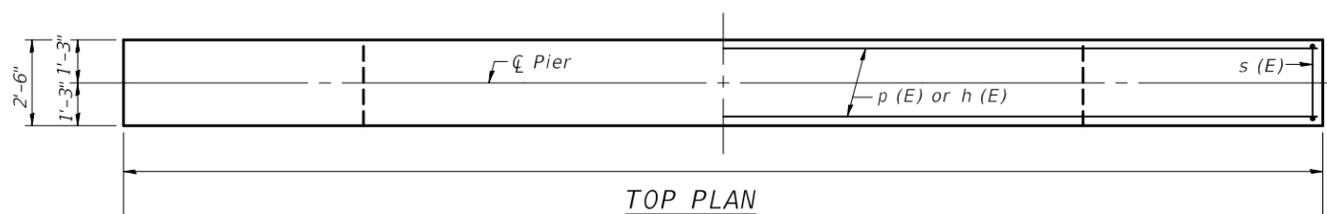
PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

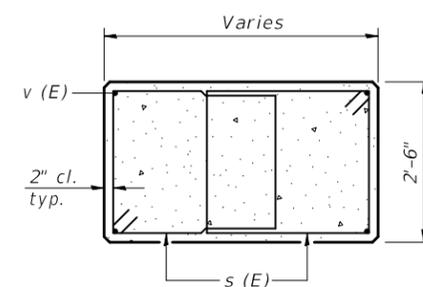
Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet - of -.

PILE DATA

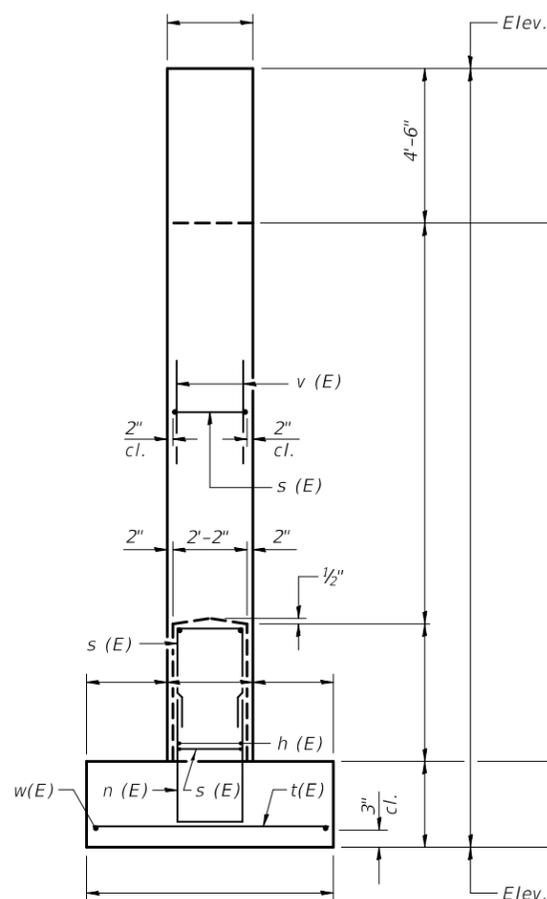
Type:
 Nominal Required Bearing:
 Factored Resistance Available:
 Est. Length:
 No. Production Piles:
 No. Test Piles:



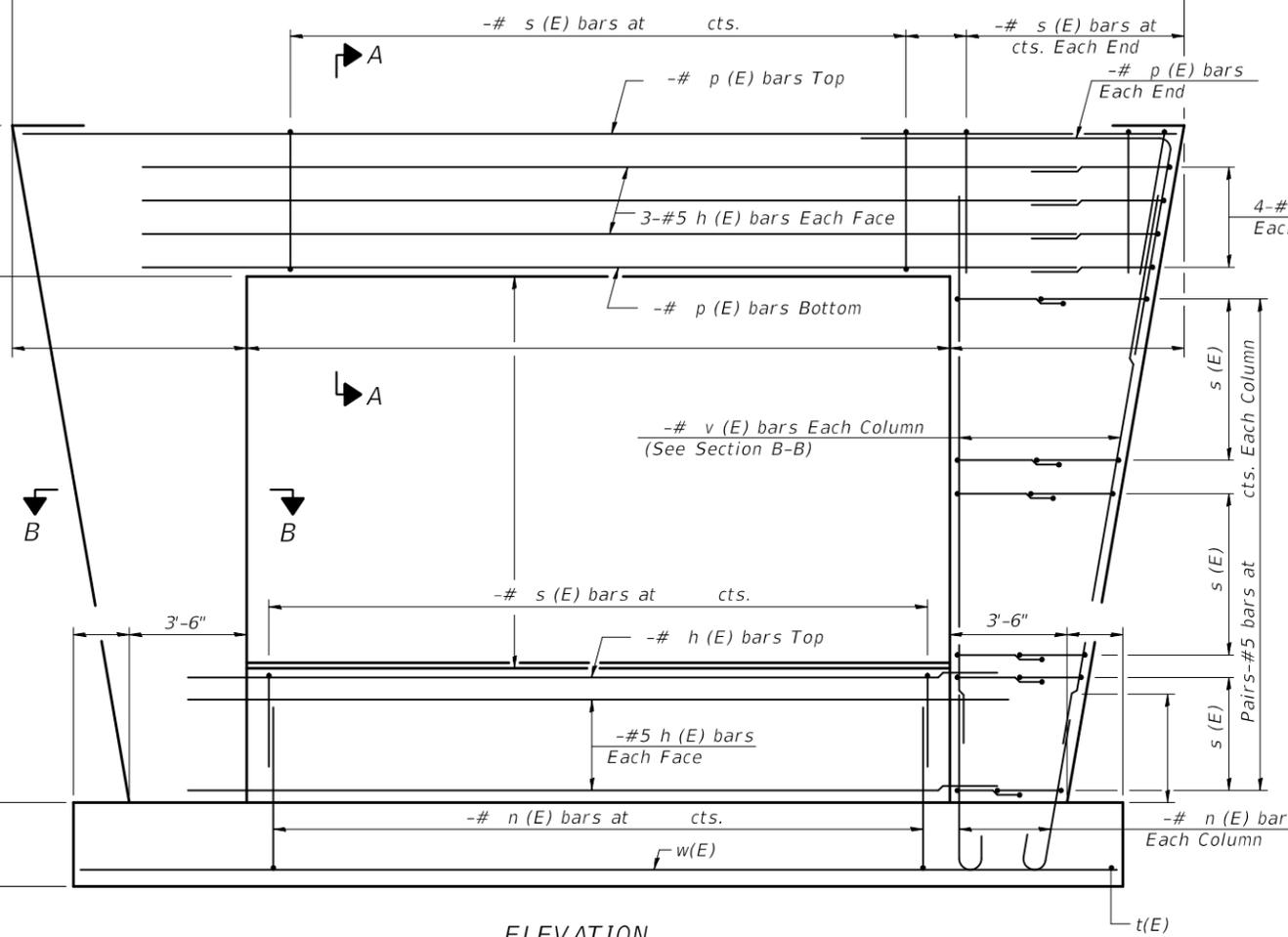
SECTION A-A



SECTION B-B

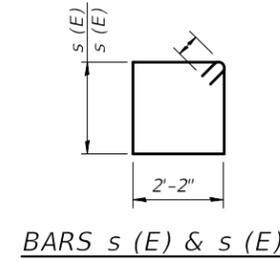


ELEVATION
(Looking)



BAR n (E)

BAR p (E)

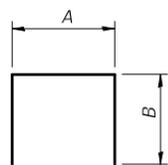


BARS s (E) & s (E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)	#	#		—
h (E)	#	#		—
n(E)	#	#		U
n (E)	#	#		U
p (E)	#	#		—
p (E)	#	#		—
p (E)	#	#		7
s (E)	#	#		□
s (E)	#	#		□
s (E)	#	#		□
s (E)	#	#		□
t (E)	#	#		—
v (E)	#	#		—
w (E)	#	#		—
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

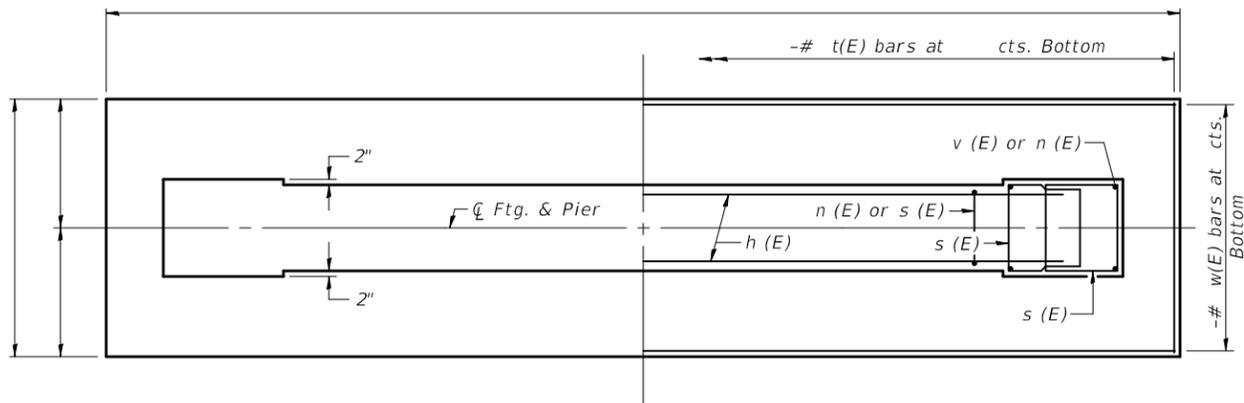
END VIEW



BARS

A & B DIMENSIONS

Bar	A	B



FOOTING PLAN

P-11 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISD -
		CHECKED -	REVISD -
		DRAWN -	REVISD -
		CHECKED -	REVISD -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

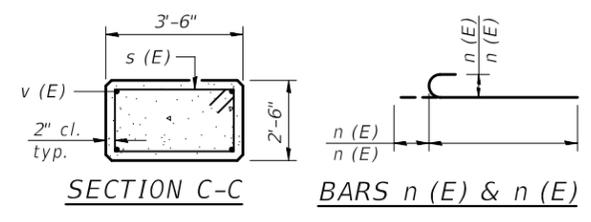
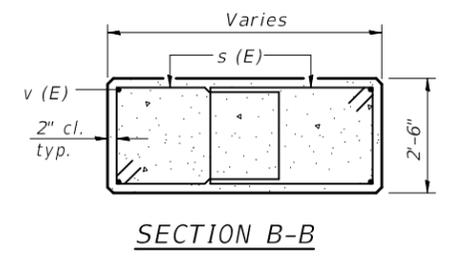
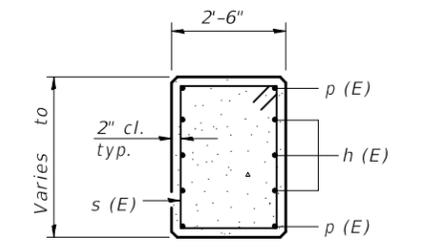
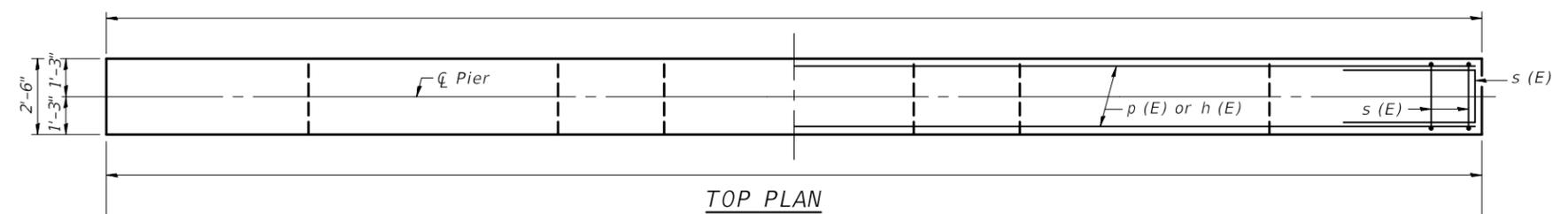
PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

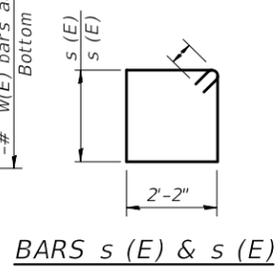
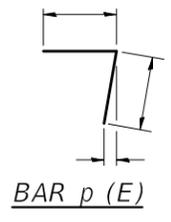
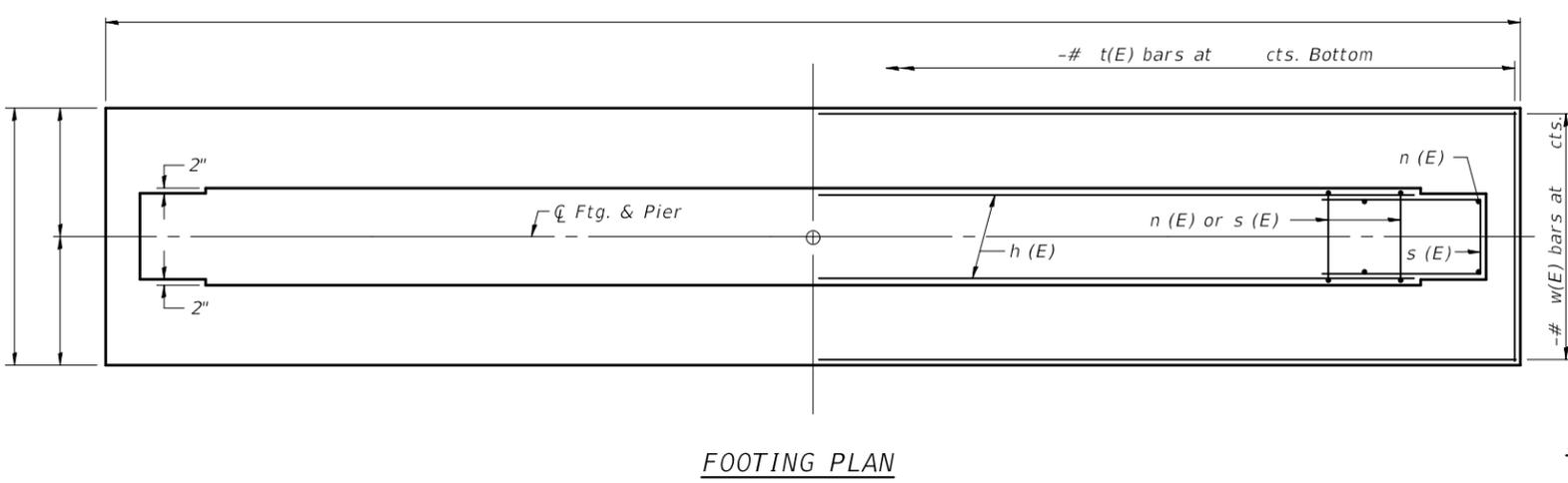
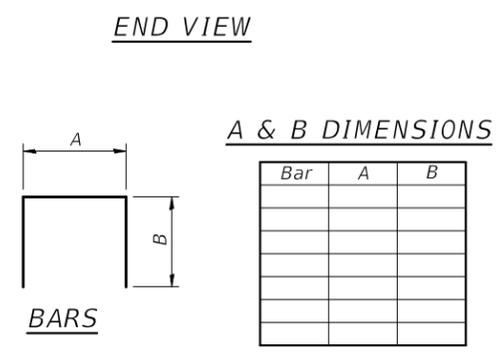
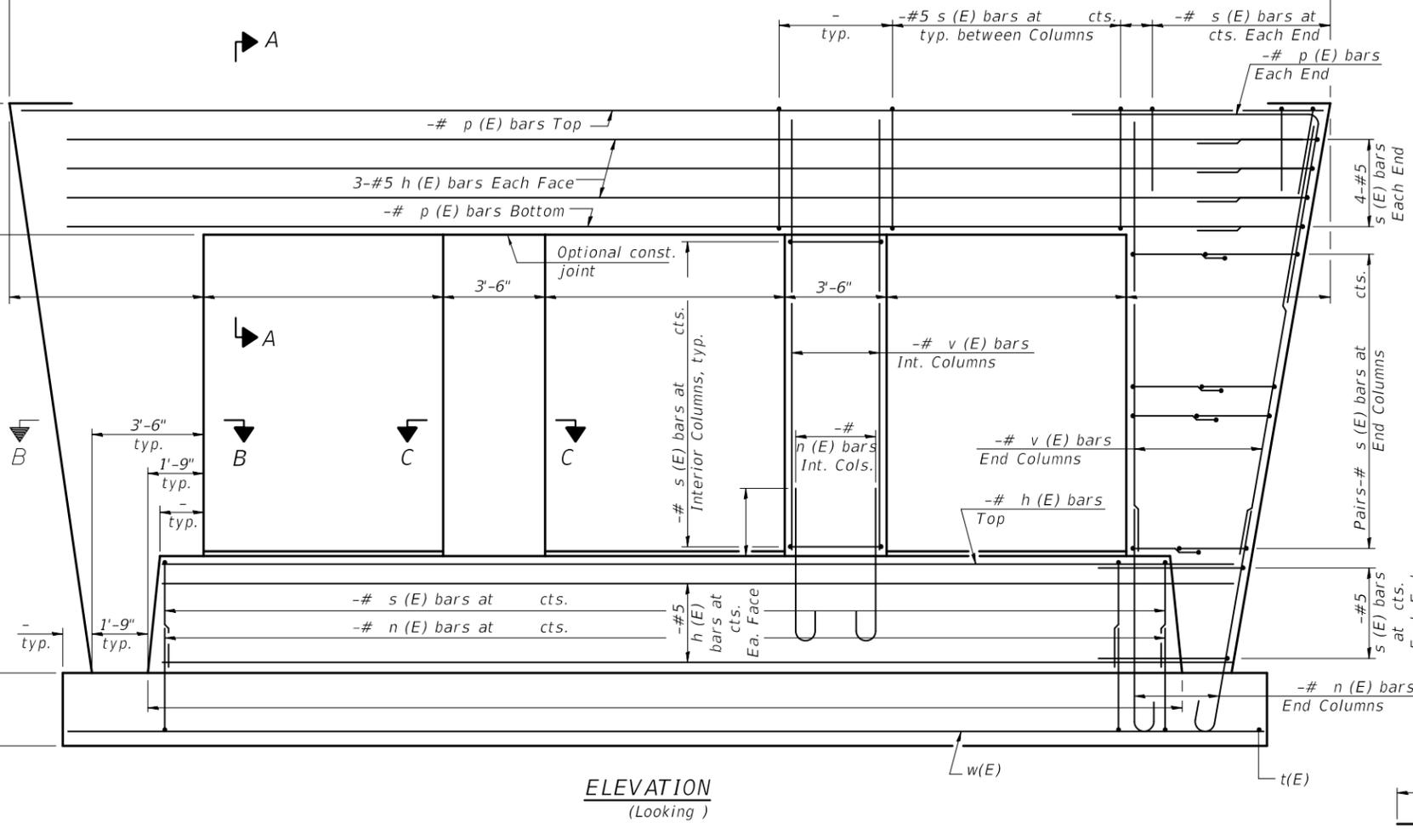
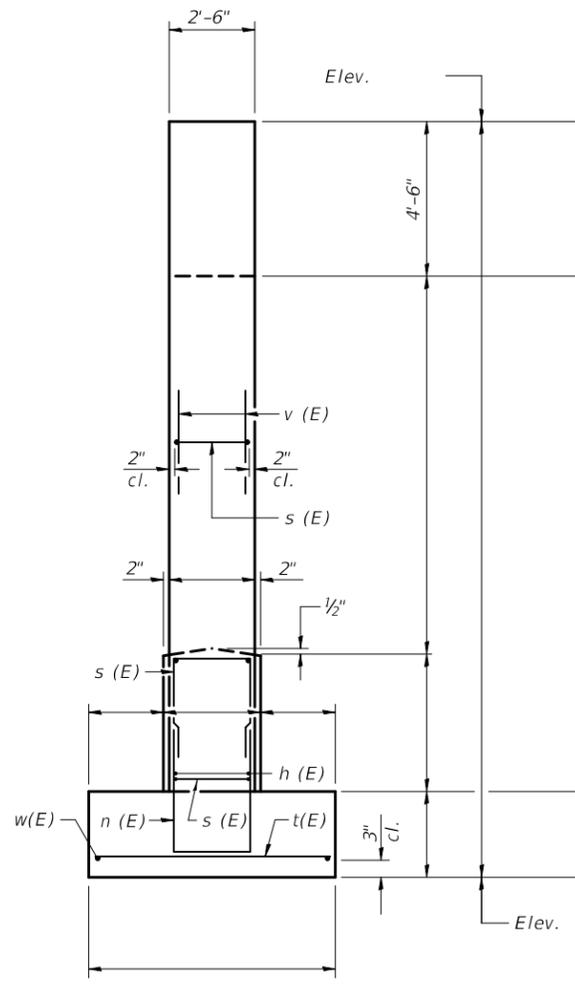
Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet - of -.

PILE DATA

Type:
 Nominal Required Bearing:
 Factored Resistance Available:
 Est. Length:
 No. Production Piles:
 No. Test Piles:



BARS n (E) & n (E)



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)	#	#		
h (E)	#	#		
n (E)	#	#		U
n (E)	#	#		U
n (E)	#	#		U
p (E)	#	#		
p (E)	#	#		
p (E)	#	#		
s (E)	#	#		□
s (E)	#	#		□
s (E)	#	#		□
s (E)	#	#		□
s (E)	#	#		□
t (E)	#	#		
v (E)	#	#		
w (E)	#	#		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

P-13 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISD -
		CHECKED -	REVISD -
		DRAWN -	REVISD -
		CHECKED -	REVISD -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

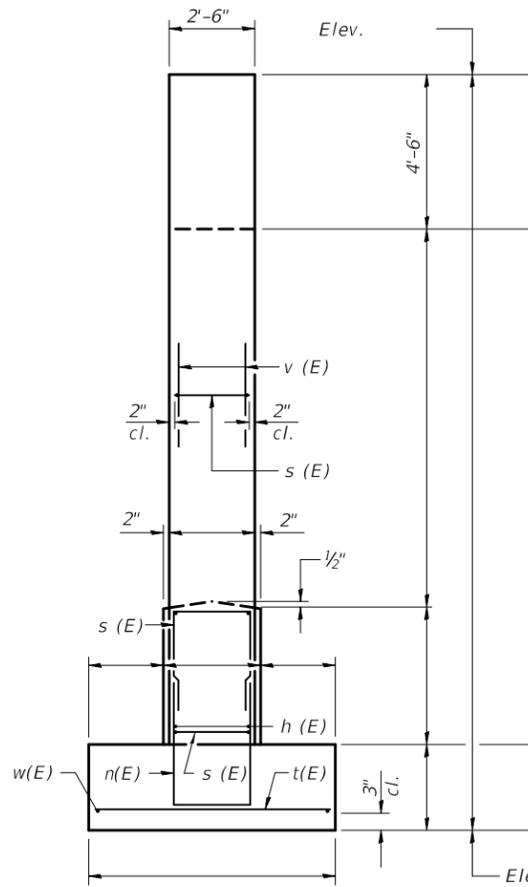
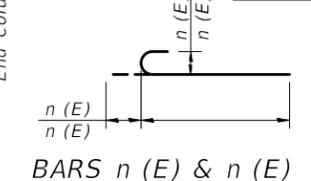
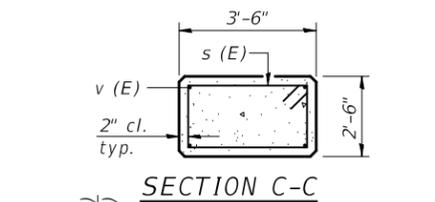
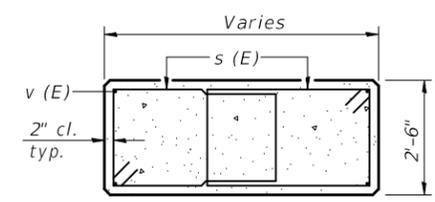
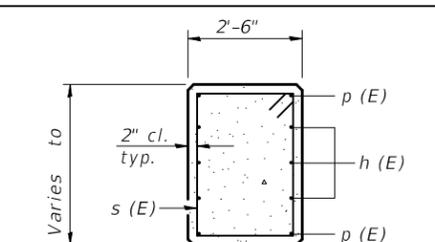
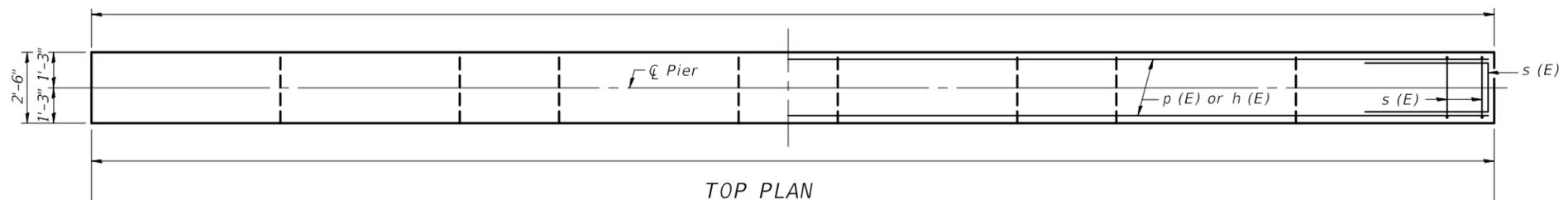
PIER
 STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet - of -.

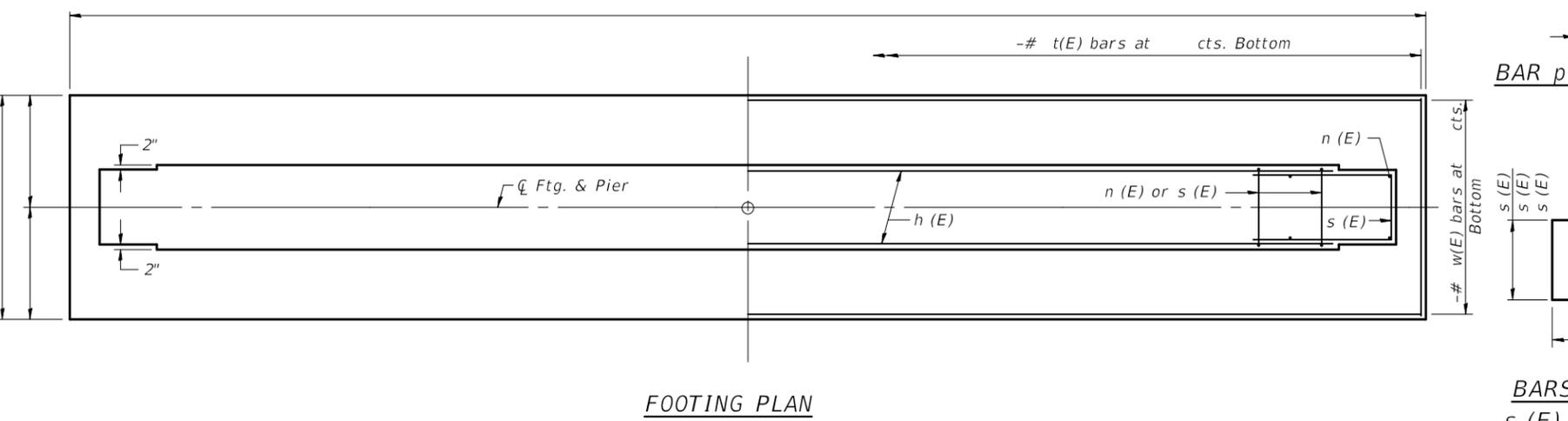
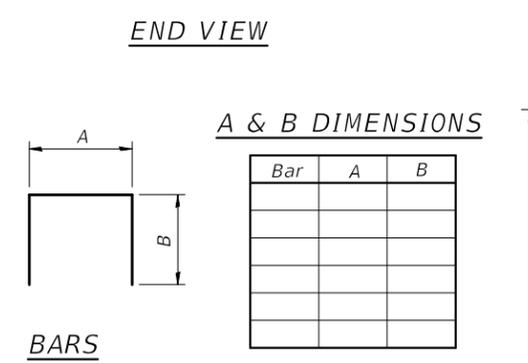
PILE DATA

Type:
 Nominal Required Bearing:
 Factored Resistance Available:
 Est. Length:
 No. Production Piles:
 No. Test Piles:



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)	#			
h (E)	#			
n (E)	#			
n (E)	#			
n (E)	#			
p (E)	#			
p (E)	#			
p (E)	#			
s (E)	#			
s (E)	#			
s (E)	#			
s (E)	#			
s (E)	#			
t(E)	#			
v (E)	#			
w(E)	#			
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	



P-14 2-17-2017

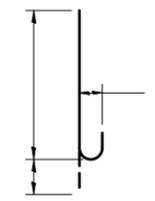
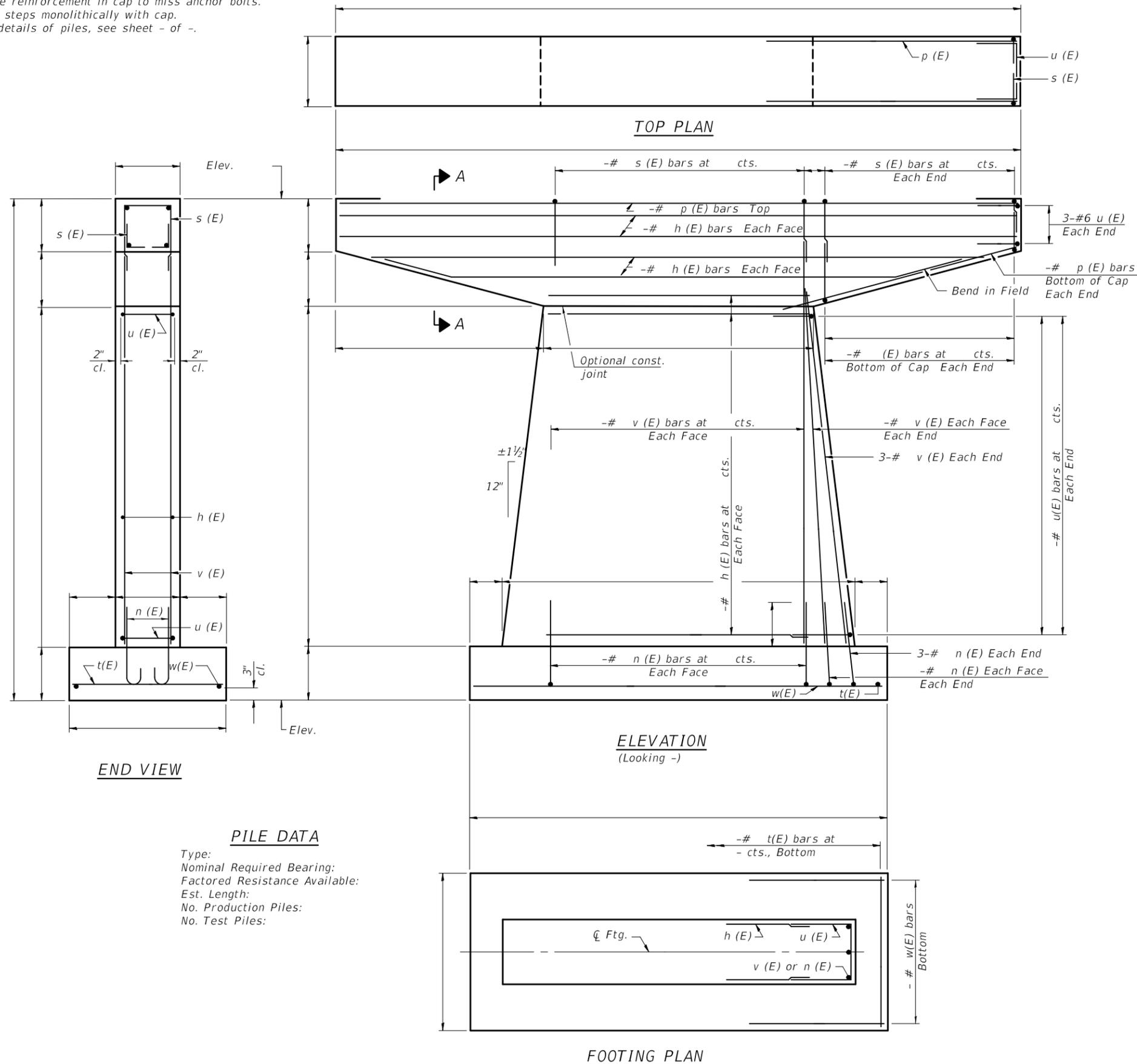
FILE NAME =	USER NAME =	DESIGNED -	REVISD -
		CHECKED -	REVISD -
		PLOT SCALE =	REVISD -
		PLOT DATE =	REVISD -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

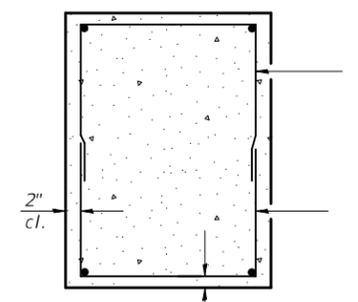
PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

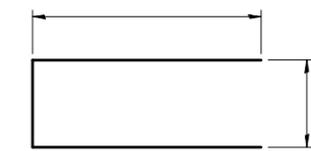
Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet - of -.



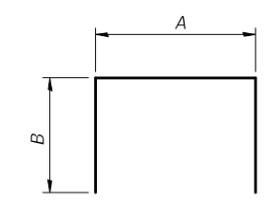
BAR n (E)
& n (E)



SECTION A-A



BAR u (E)



BARS

A & B DIMENSIONS

Bar	A	B

BARS

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)				—
h (E)				—
n (E)				U
p (E)				—
p (E)				—
s (E)				□
s (E)				□
s (E)				□
t (E)				—
u (E)				□
v (E)				—
w (E)				—
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

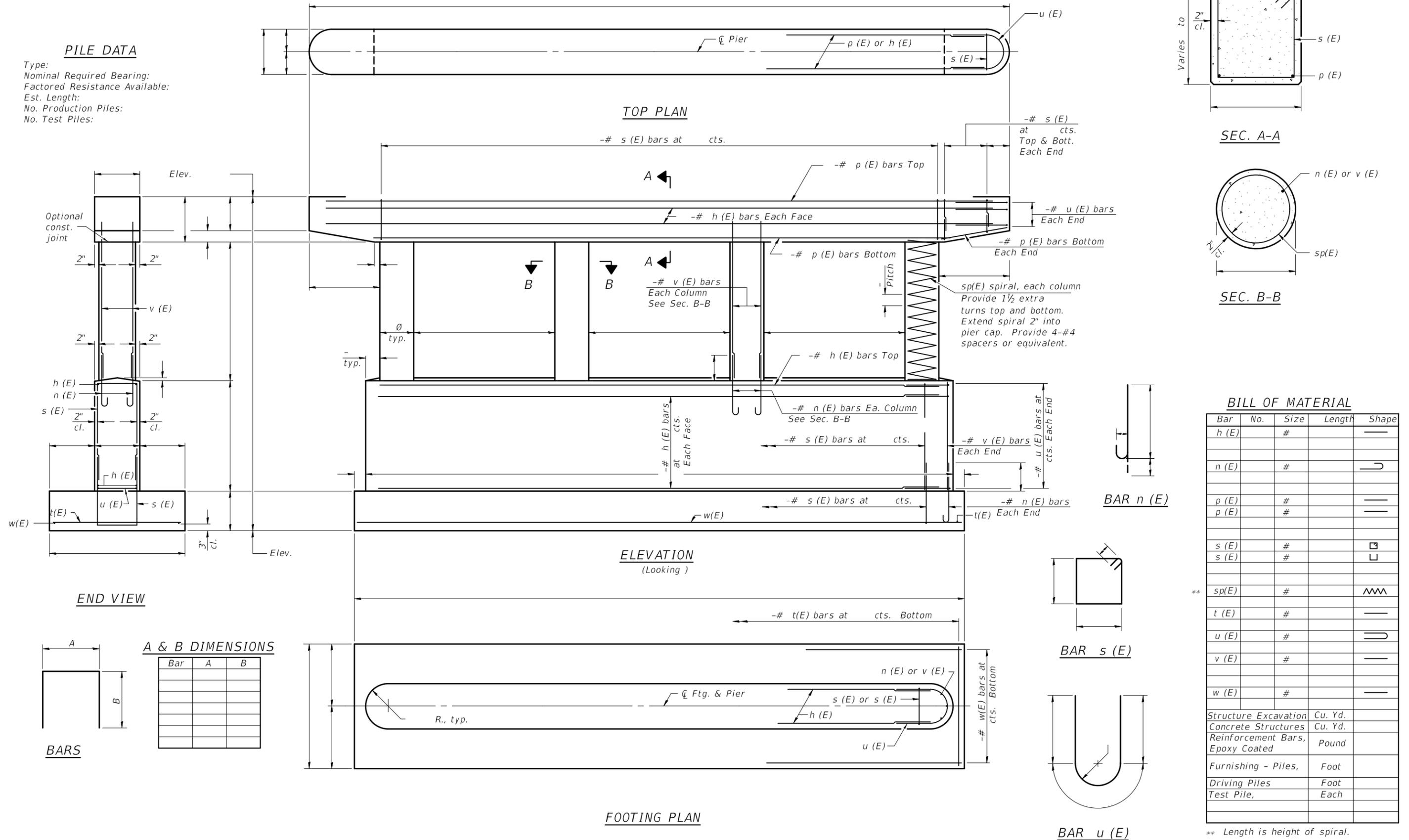
PILE DATA
 Type:
 Nominal Required Bearing:
 Factored Resistance Available:
 Est. Length:
 No. Production Piles:
 No. Test Piles:

P-2 2-17-2017

Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet - of -.

PILE DATA

Type:
 Nominal Required Bearing:
 Factored Resistance Available:
 Est. Length:
 No. Production Piles:
 No. Test Piles:



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h(E)$		#		—
$n(E)$		#		U
$p(E)$		#		—
$p(E)$		#		—
$s(E)$		#		□
$s(E)$		#		□
** $sp(E)$		#		W
$t(E)$		#		—
$u(E)$		#		U
$v(E)$		#		—
$w(E)$		#		—
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

** Length is height of spiral.

P-24 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISD -
		CHECKED -	REVISD -
		DRAWN -	REVISD -
		CHECKED -	REVISD -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

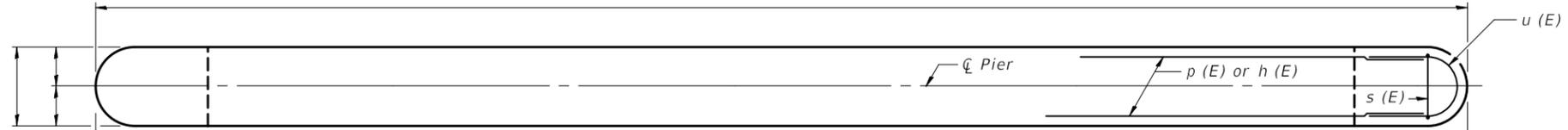
PIER
 STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

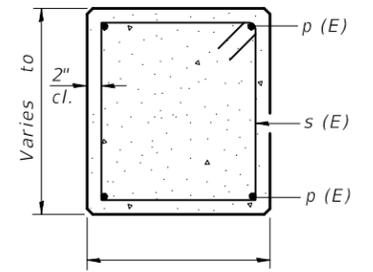
Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet - of -.

PILE DATA

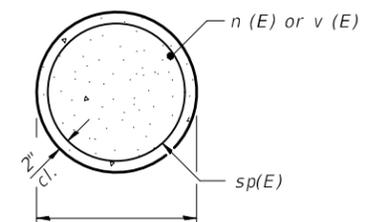
Type:
 Nominal Required Bearing:
 Factored Resistance Available:
 Est. Length:
 No. Production Piles:
 No. Test Piles:



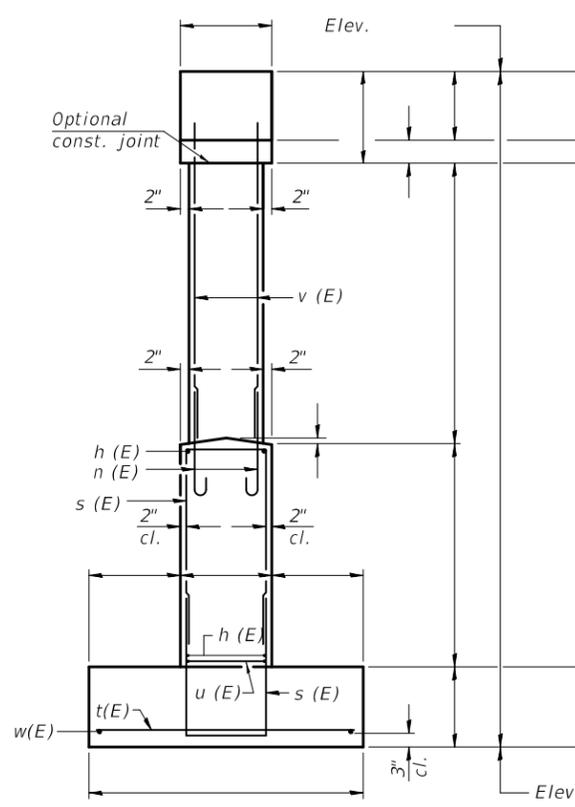
TOP PLAN



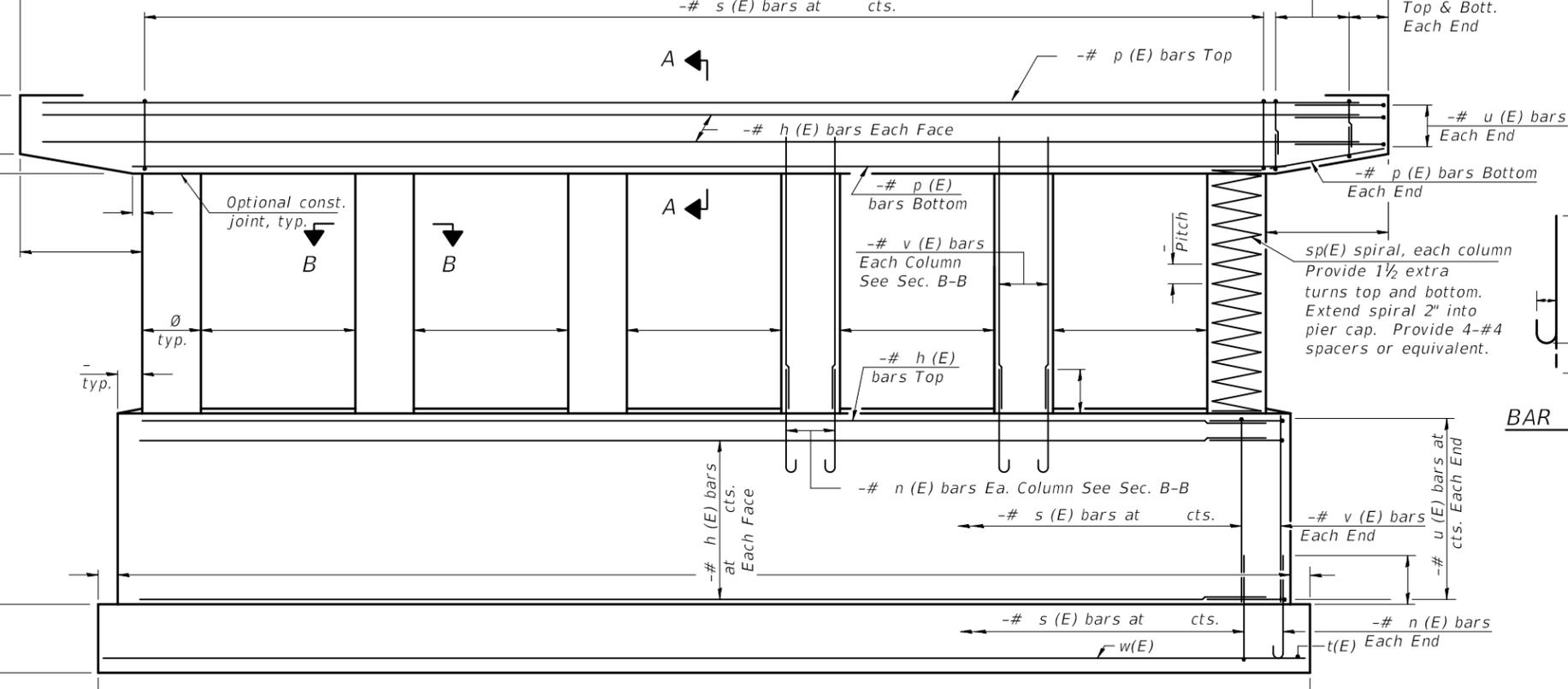
SEC. A-A



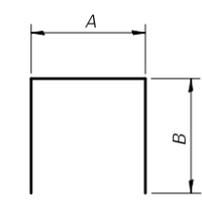
SEC. B-B



END VIEW



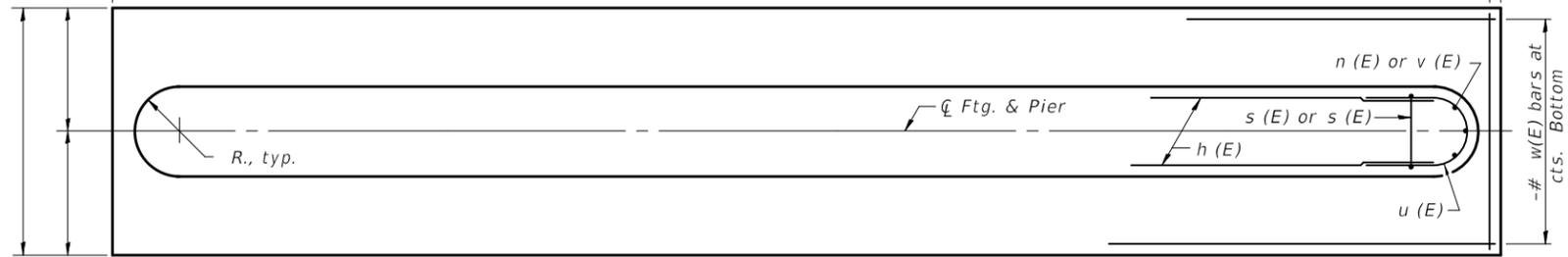
**ELEVATION
(Looking)**



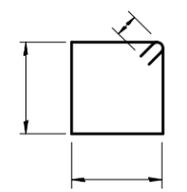
BARS

A & B DIMENSIONS

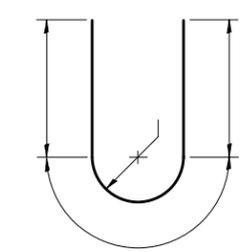
Bar	A	B



FOOTING PLAN



BAR s(E)



BAR u(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	#			—
n(E)	#			U
p(E)	#			—
p(E)	#			—
s(E)	#			U
s(E)	#			U
sp(E)	#			W
t(E)	#			—
u(E)	#			U
v(E)	#			—
w(E)	#			—
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles, Driving Piles			Foot	
Test Pile,			Each	

** Length is height of spiral.

P-26 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISOR -
		CHECKED -	REVISOR -
		DRAWN -	REVISOR -
		CHECKED -	REVISOR -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

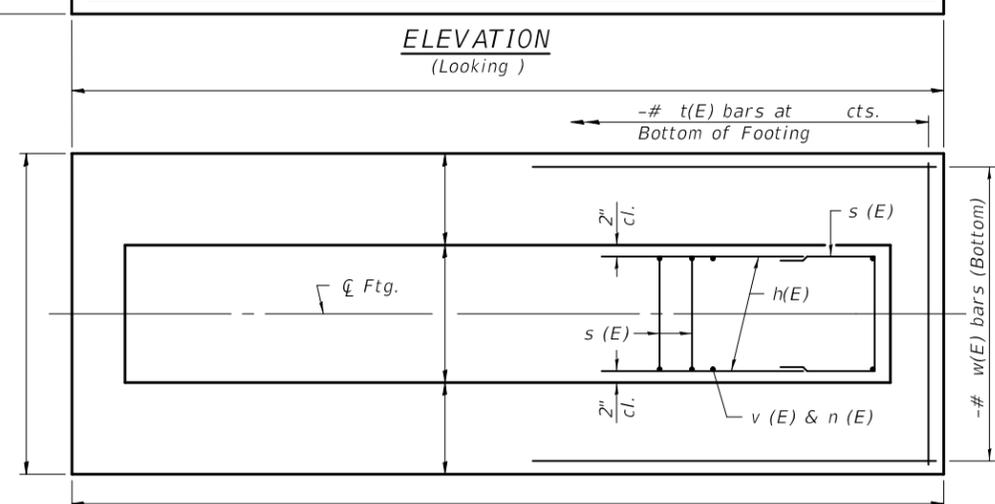
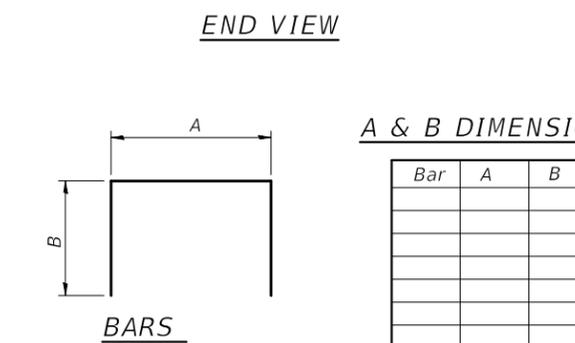
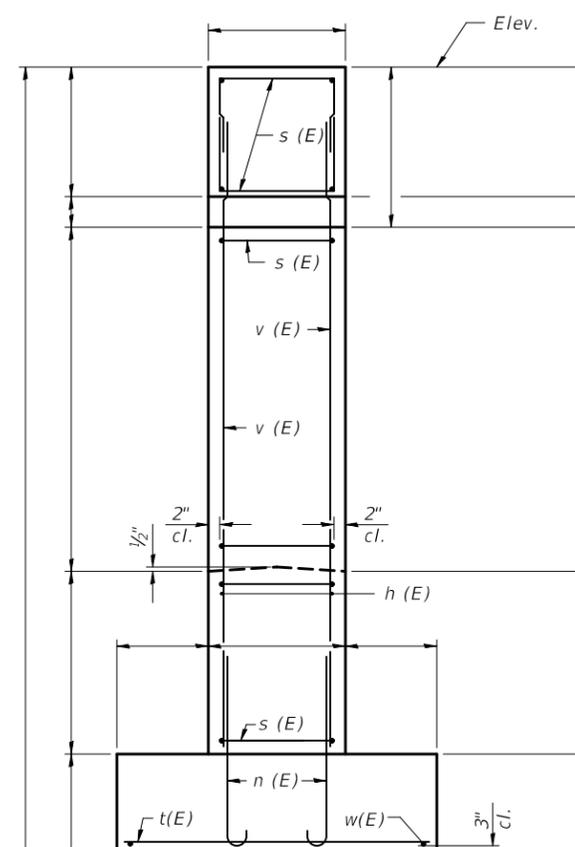
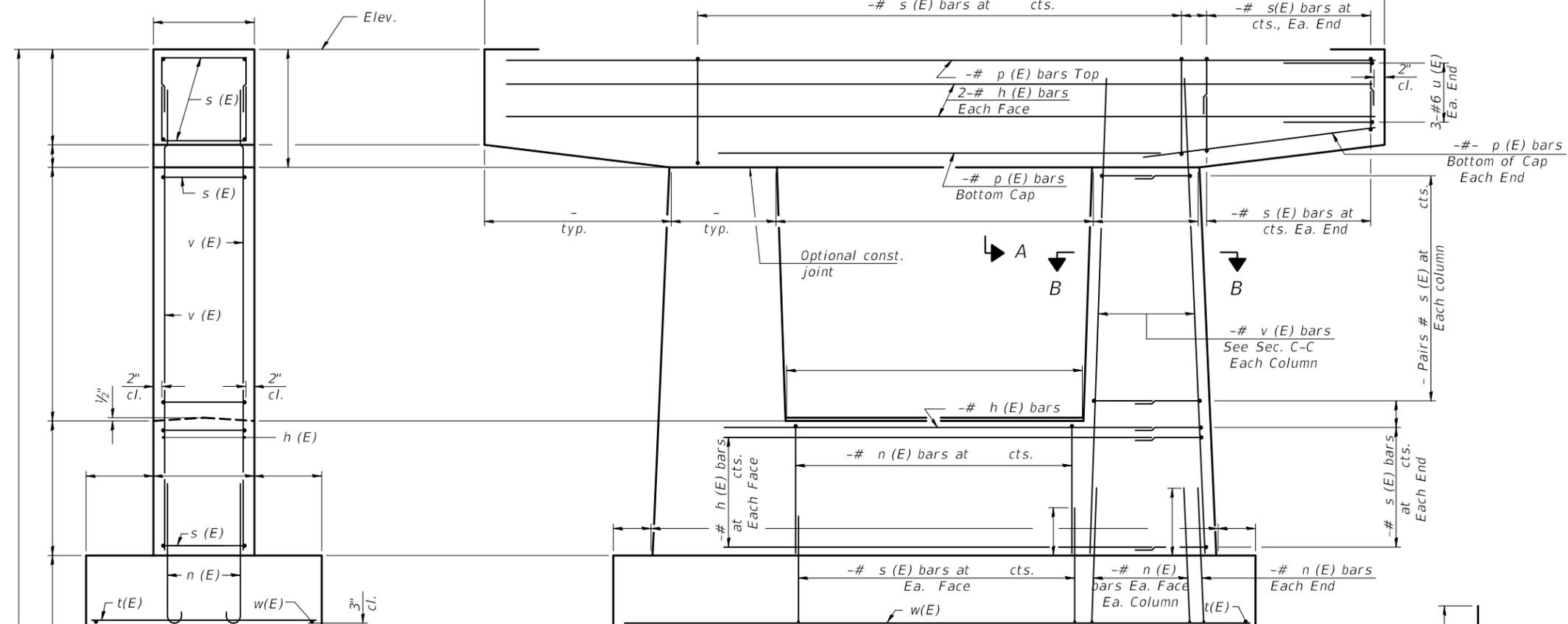
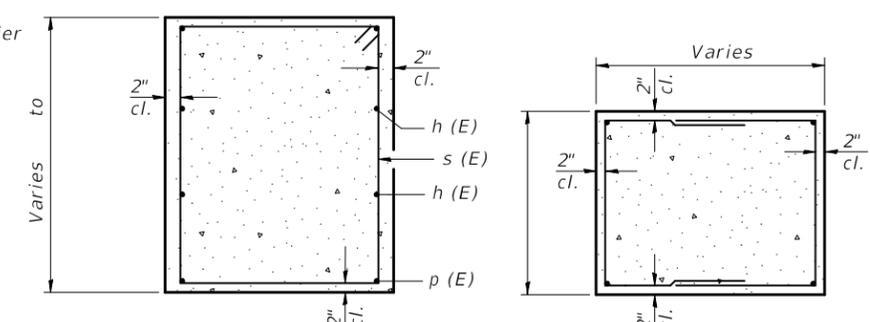
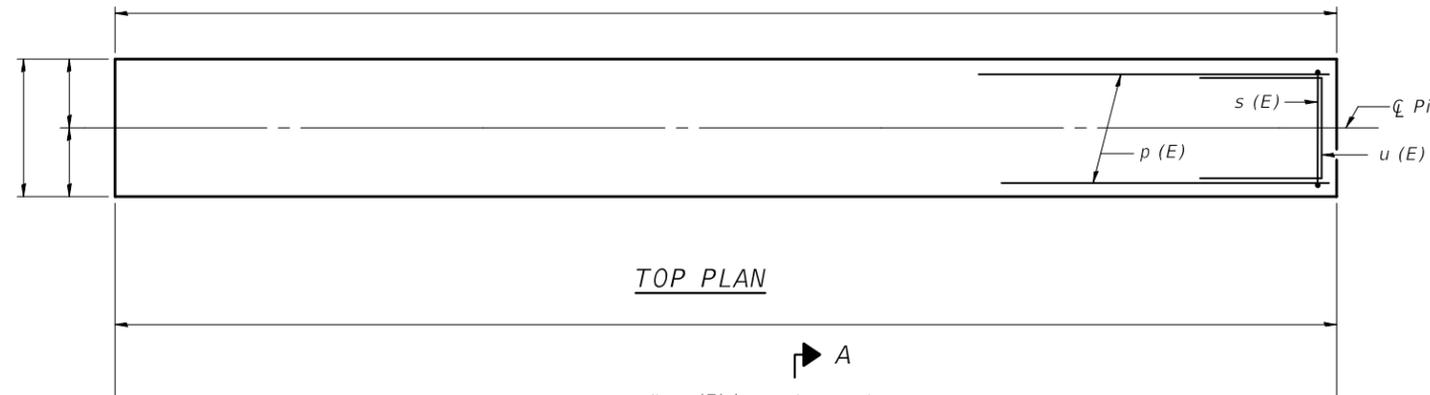
**PIER
STRUCTURE NO.**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet - of -.

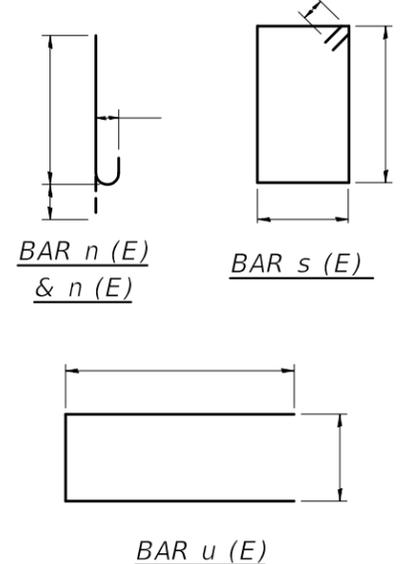
PILE DATA

Type:
 Nominal Required Bearing:
 Factored Resistance Available:
 Est. Length:
 No. Production Piles:
 No. Test Piles:



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)				
h (E)				
n(E)				U
n (E)				U
p (E)				
p (E)				
p (E)				
s (E)				□
s (E)				□
s (E)				□
t (E)				
u (E)				
v (E)				
w (E)				
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	



P-3 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISD -
		CHECKED -	REVISD -
		DRAWN -	REVISD -
		CHECKED -	REVISD -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

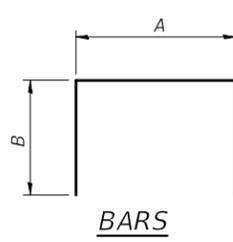
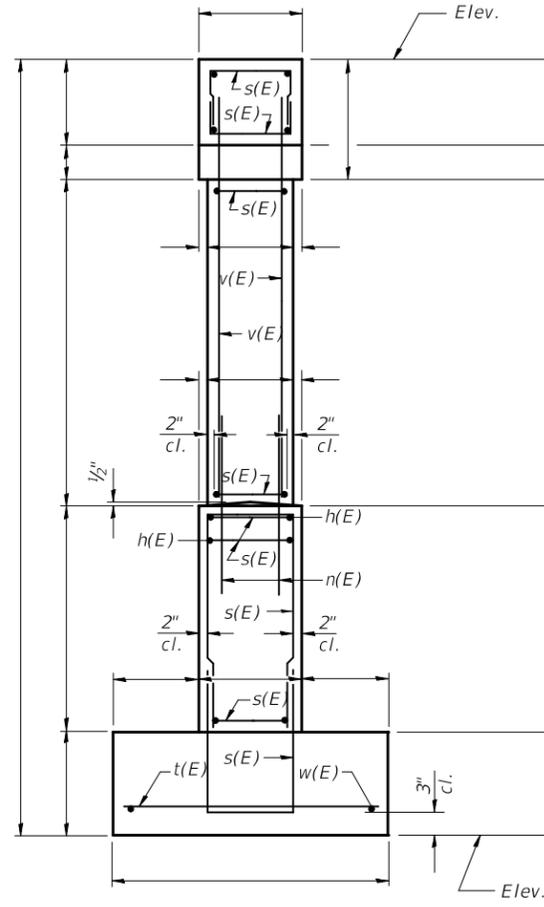
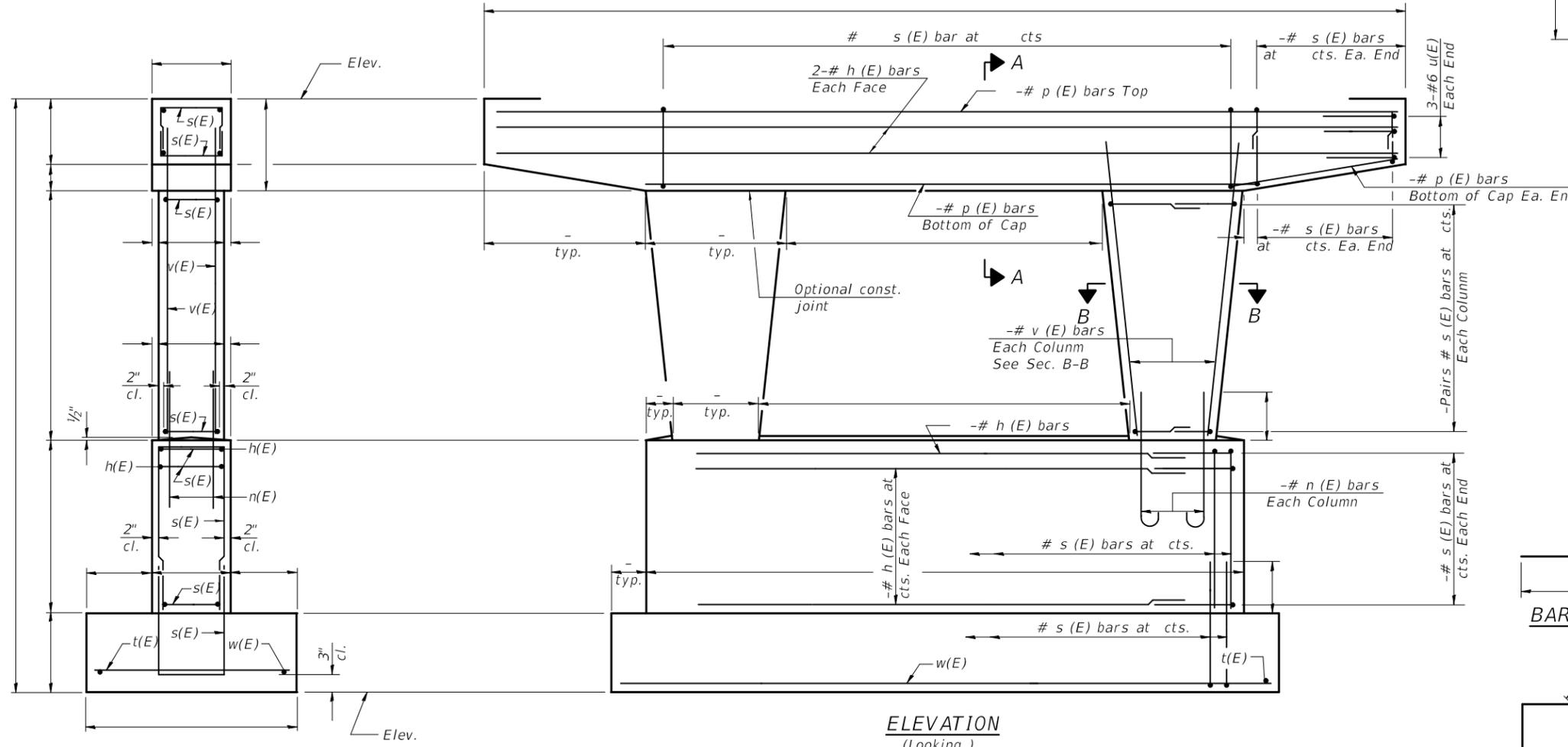
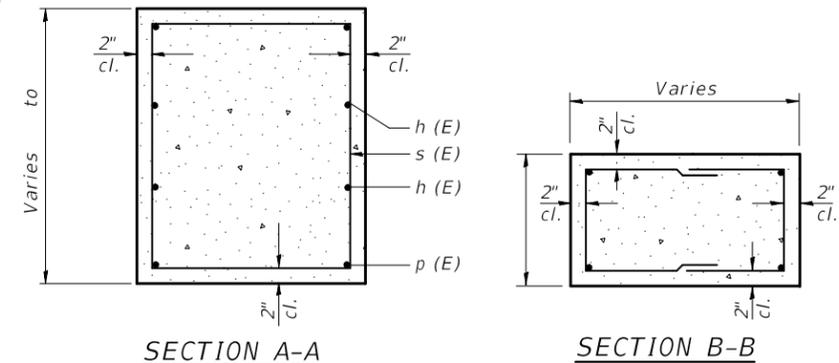
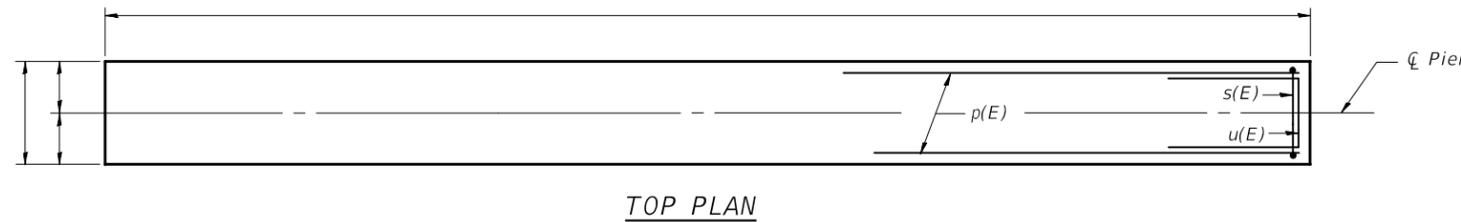
PIER
 STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				

Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet - of -.

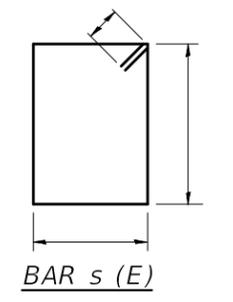
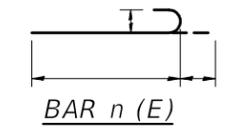
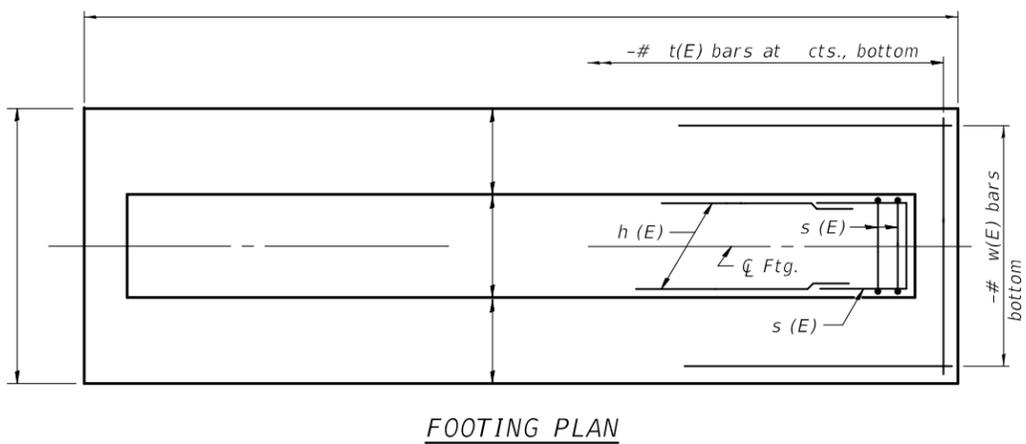
PILE DATA

Type:
 Nominal Required Bearing:
 Factored Resistance Available:
 Est. Length:
 No. Production Piles:
 No. Test Piles:



A & B DIMENSIONS

Bar	A	B



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)				=====
h (E)				=====
n (E)				U
p (E)				=====
p (E)				=====
p (E)				=====
s (E)				=====
s (E)				=====
s (E)				=====
s (E)				=====
s (E)				=====
t (E)				=====
u (E)				=====
v (E)				=====
w (E)				=====
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

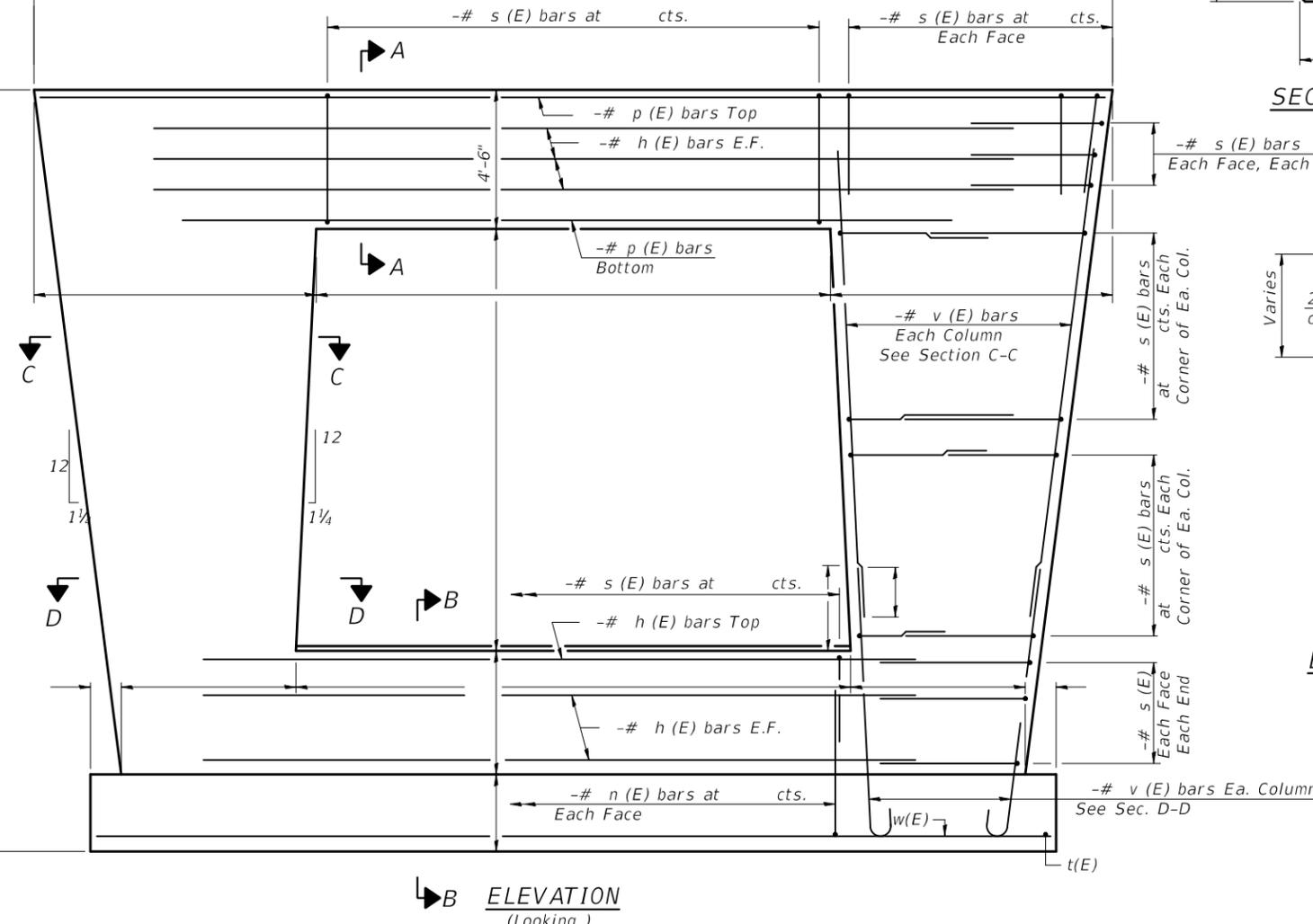
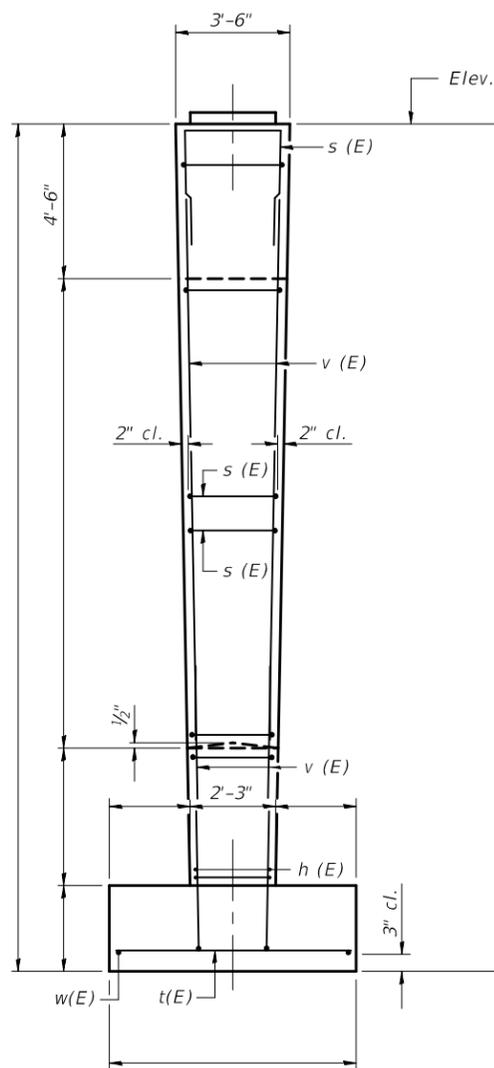
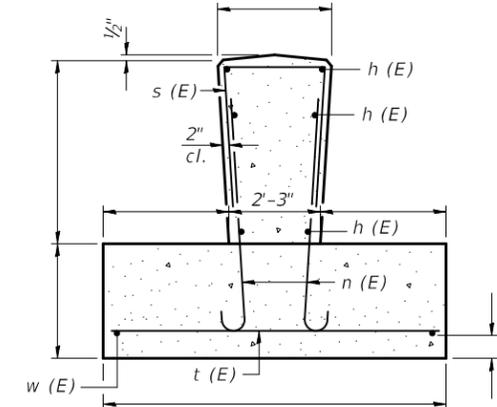
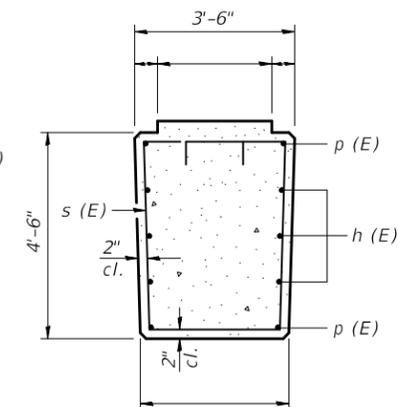
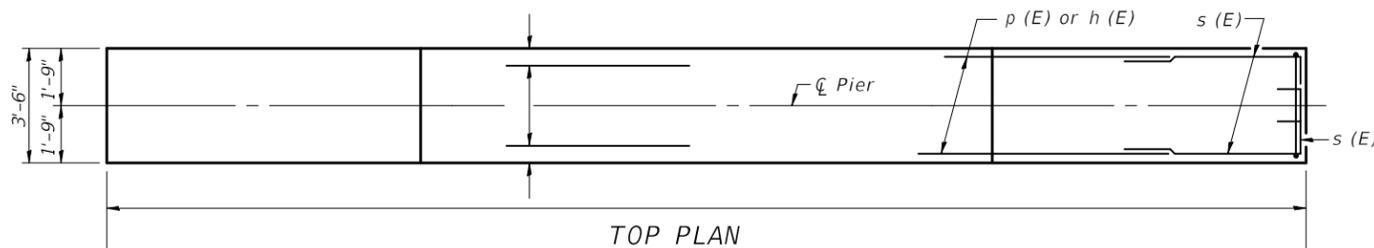
P-4 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISD -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER STRUCTURE NO.	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED -	REVISD -			CONTRACT NO.					
		DRAWN -	REVISD -			ILLINOIS FED. AID PROJECT					
		CHECKED -	REVISD -								

Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet - of -.

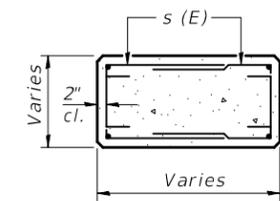
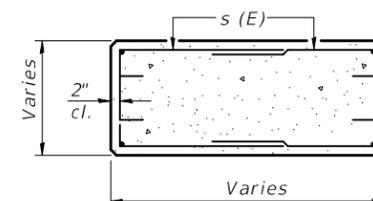
PILE DATA

Type:
 Nominal Required Bearing:
 Factored Resistance Available:
 Est. Length:
 No. Production Piles:
 No. Test Piles:



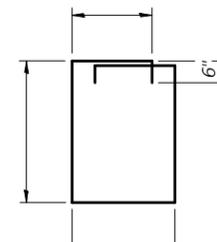
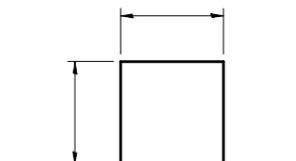
SECTION A-A

SECTION B-B

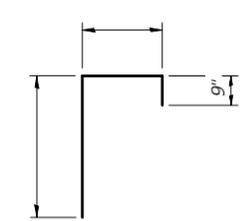


SECTION C-C

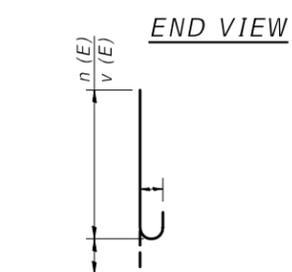
SECTION D-D



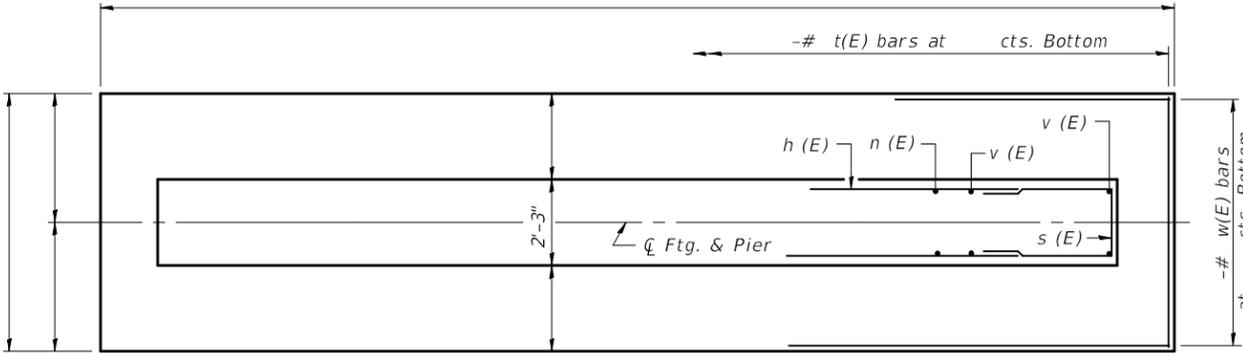
BAR s(E)



BARS s(E) & s(E)



BARS n(E) & v(E)



FOOTING PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	#			
h(E)	#			
n(E)	#			U
p(E)	#			
p(E)	#			
s(E)	#			
t(E)	#			
v(E)	#			
v(E)	#			
w(E)	#			
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

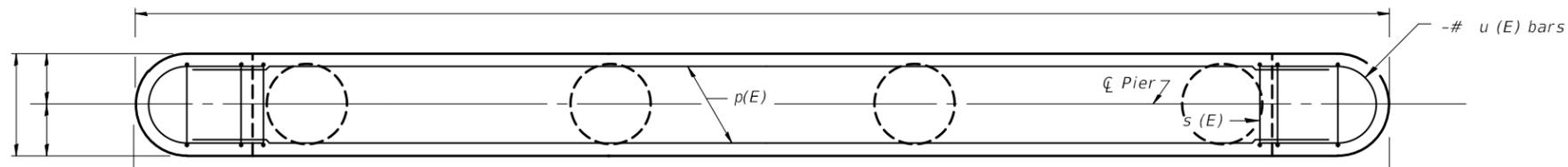
P-7 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISD -
		CHECKED -	REVISD -
		PLOT SCALE =	REVISD -
		PLOT DATE =	REVISD -

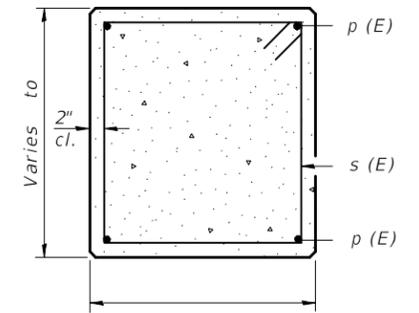
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PIER
 STRUCTURE NO.**

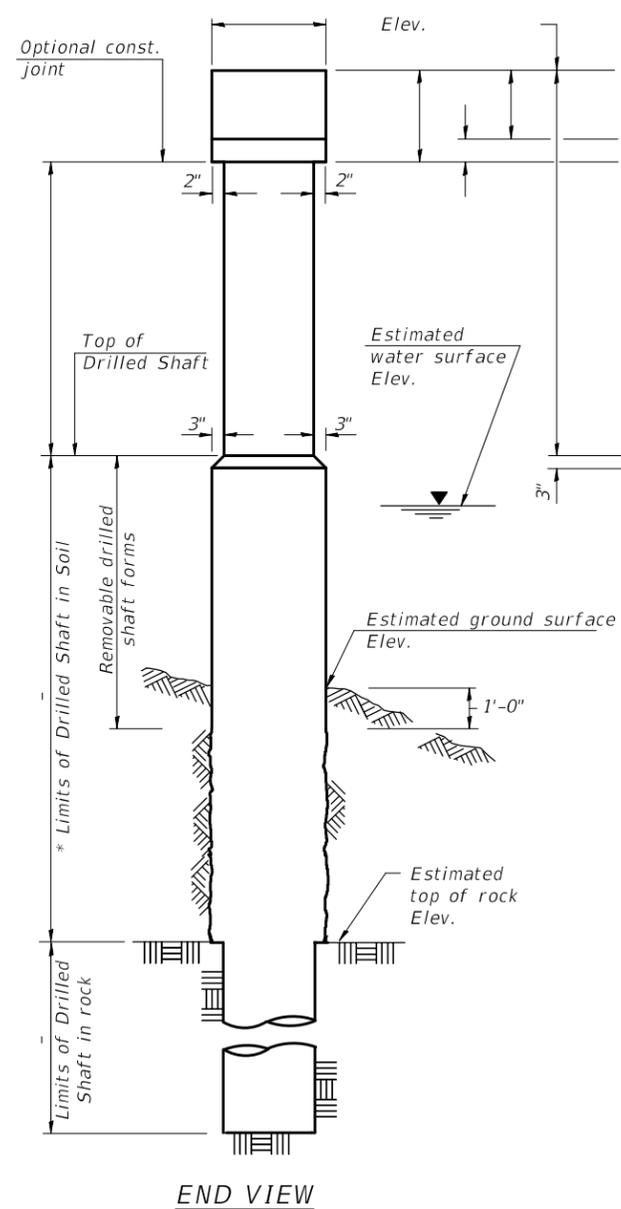
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



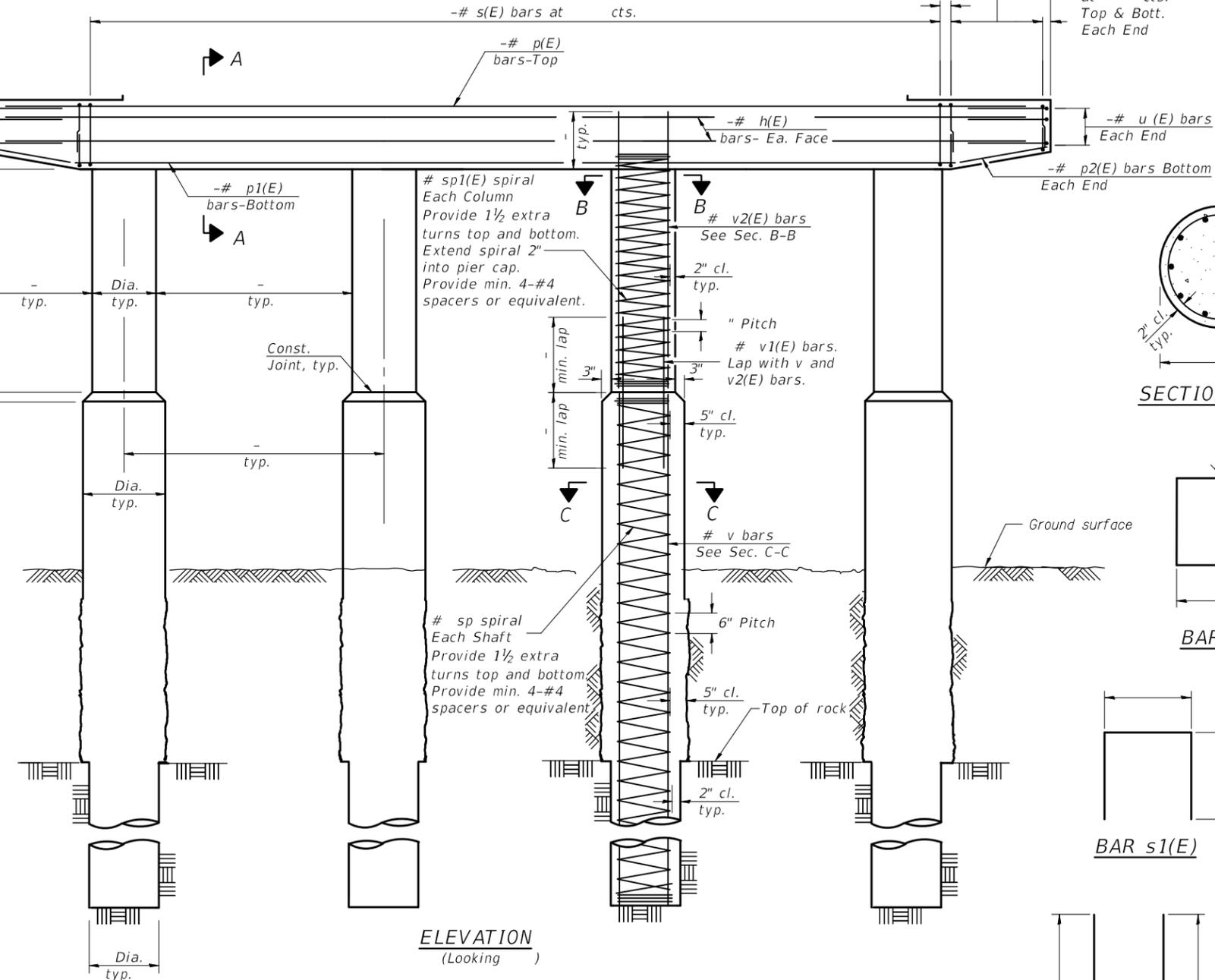
TOP PLAN



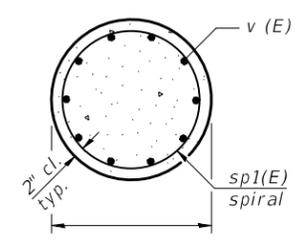
SECTION A-A



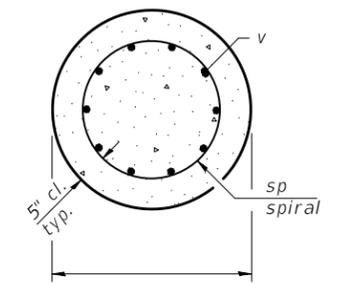
END VIEW



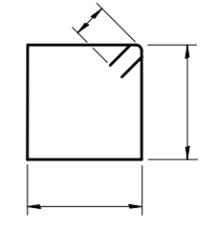
ELEVATION
(Looking)



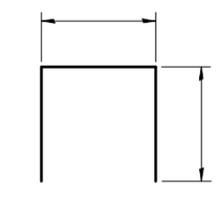
SECTION B-B



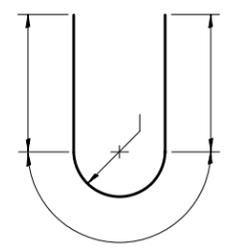
SECTION C-C



BAR s(E)



BAR s1(E)



BAR u(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		—
p(E)		#		—
p1(E)		#		—
p2(E)		#		—
s(E)		#		□
s1(E)		#		U
sp		#		~
sp1(E)		#		~
u(E)		#		U
v		#		—
v1(E)		#		—
v2(E)		#		—
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Reinforcement Bars			Pounds	
Drilled Shaft in Soil			Cu. Yd.	
Drilled Shaft in Rock			Cu. Yd.	

Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.
Minimum lap for spirals =
** Length is height of spiral.

* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

P-DS 2-17-2017

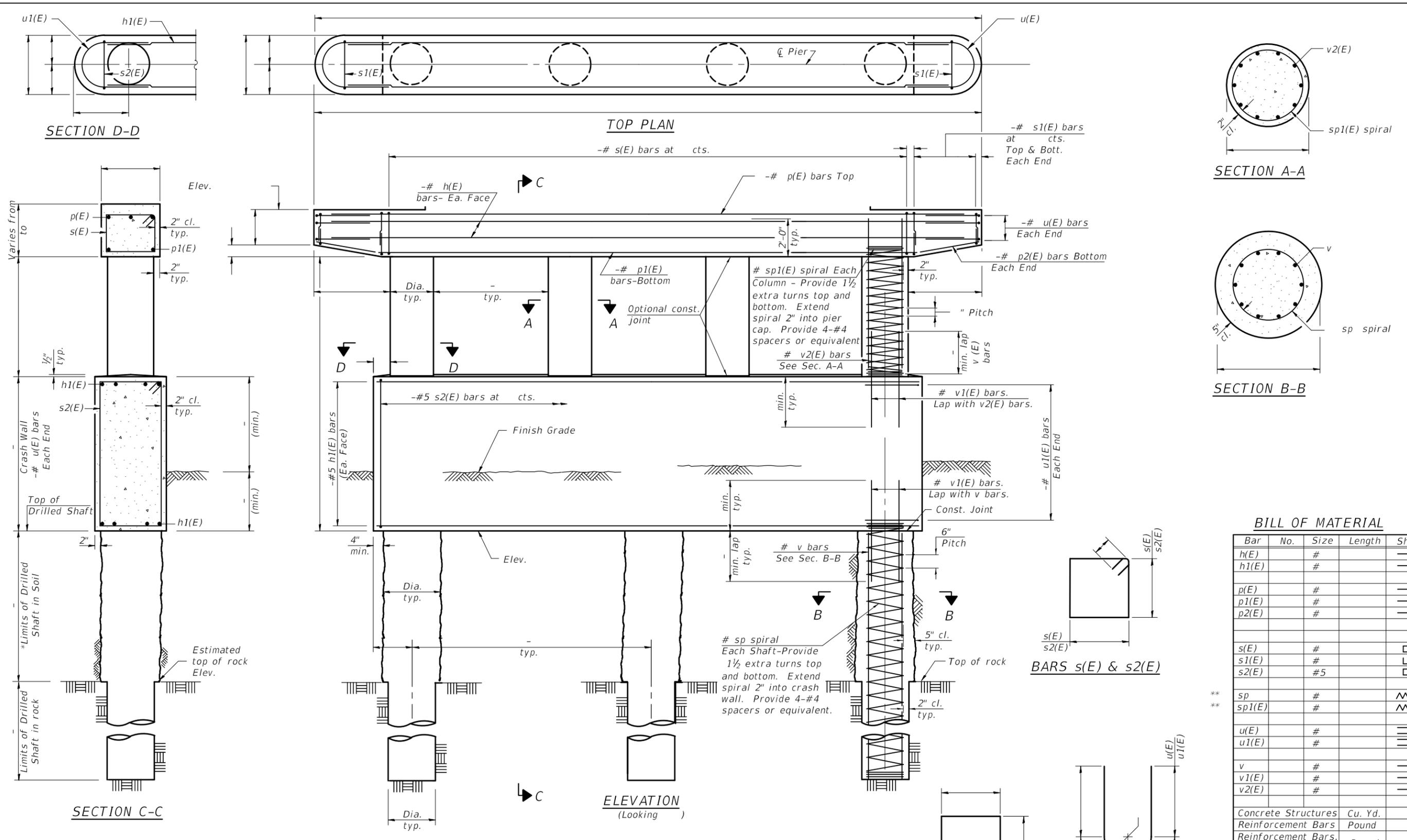
FILE NAME =	USER NAME =	DESIGNED -	REVISD -
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		DRAWN -	REVISD -
		CHECKED -	REVISD -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				

ILLINOIS FED. AID PROJECT



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	#			—
h1(E)	#			—
p(E)	#			—
p1(E)	#			—
p2(E)	#			—
s(E)	#			□
s1(E)	#			□
s2(E)	#5			□
sp	#			⋈
sp1(E)	#			⋈
u(E)	#			U
u1(E)	#			U
v	#			—
v1(E)	#			—
v2(E)	#			—
Concrete Structures			Cu. Yd.	
Reinforcement Bars			Pound	
Reinforcement Bars, Epoxy Coated			Pound	
Drilled Shaft in Soil			Cu. Yd.	
Drilled Shaft in Rock			Cu. Yd.	

* The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation.

BAR s1(E) BARS u(E) and u1(E)

P-DSCW 2-17-2017

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		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

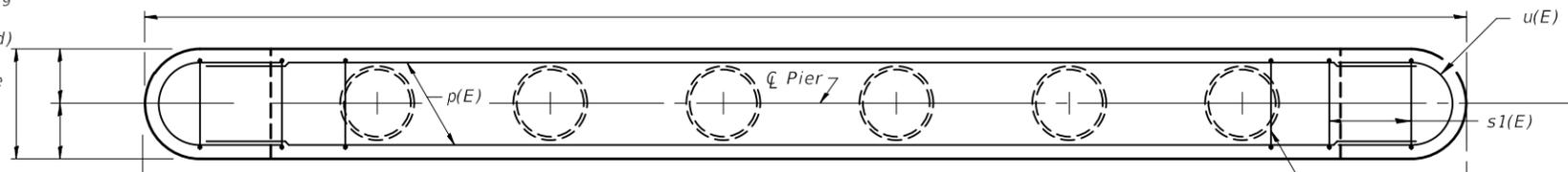
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER
STRUCTURE NO.**

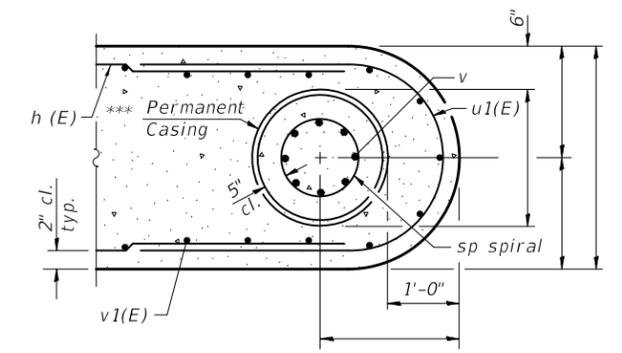
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

Cast steps monolithically with cap. Space cap reinforcement to miss anchor bolts. Minimum lap for spirals = ** Length is height of spiral.

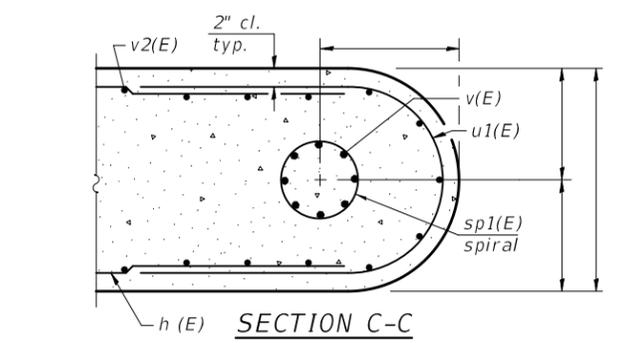
*** Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications.
 Pay limits for the Permanent Casing are based on the minimum length shown.



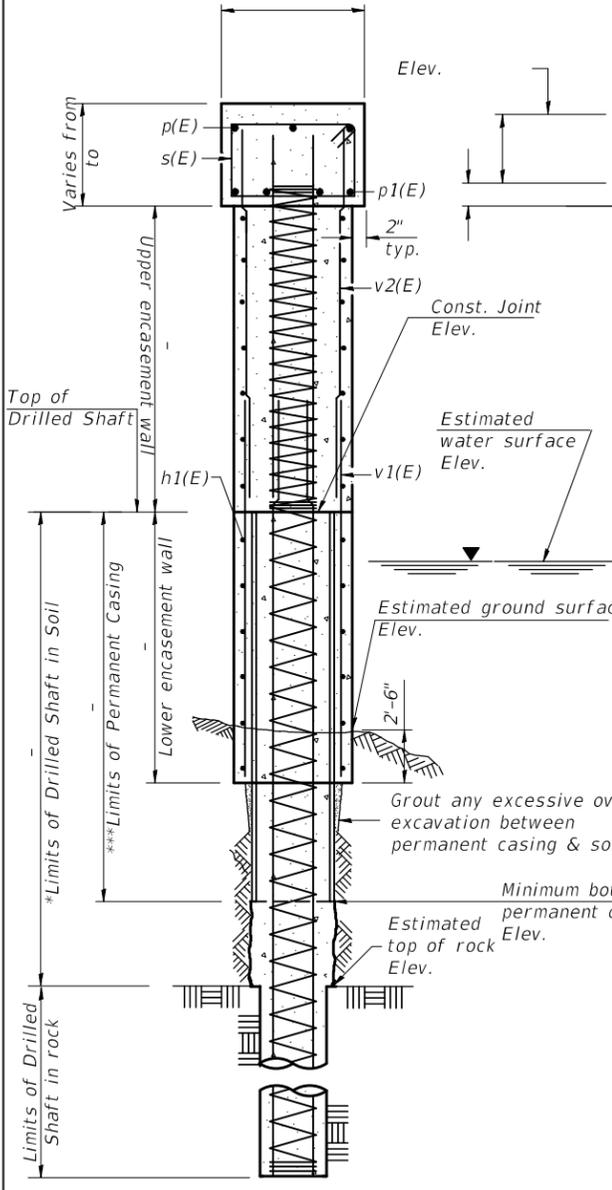
TOP PLAN



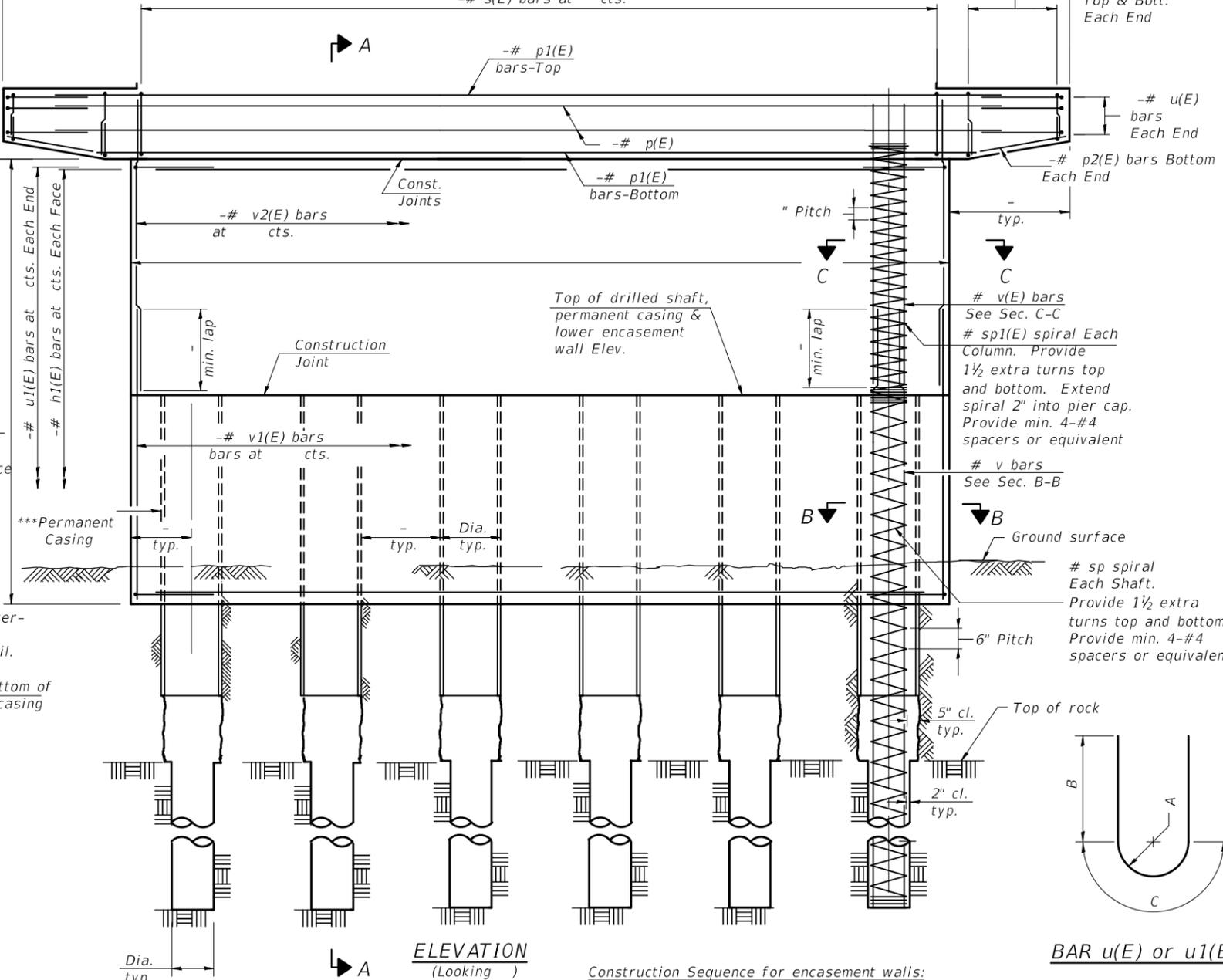
SECTION B-B



SECTION C-C



SECTION A-A



ELEVATION (Looking A)

A, B & C DIMENSIONS

Bar	A	B	C
u(E)			
u1(E)			

BAR s(E)

BARS s1(E)

BAR u(E) or u1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	#			—
h1(E)	#			—
p(E)	#			—
p1(E)	#			—
p2(E)	#			—
s(E)	#			□
s1(E)	#			□
sp	#			⋈
sp1(E)	#			⋈
u(E)	#			U
u1(E)	#			U
v	#			—
v(E)	#			—
v1(E)	#			—
v2(E)	#			—
Concrete Structures				
Reinforcement Bars	Cu. Yd.			
Reinforcement Bars, Epoxy Coated	Pound			
Underwater Structure Excavation Protection, Location	Each			
Drilled Shaft in Soil	Cu. Yd.			
Drilled Shaft in Rock	Cu. Yd.			
Permanent Casing	Foot			

- Construction Sequence for encasement walls:
- Excavate through water, between and outside of shafts, to base of lower encasement wall.
 - Set lower encasement wall forms into place through water and secure at top and bottom as required to maintain proper clearance from shaft.
 - Place the lower encasement wall reinforcement cage into forms using spacers to maintain proper clearances from shaft and forms.
 - If the forms can be sealed against the streambed to allow dewatering, the reinforcement and the concrete placement may be completed in the dry. Alternatively, the rebar cage can be lowered into position through water and the concrete discharged at the base of the excavation through a tremie pipe or pump hose, displacing water, sediment, and tainted concrete out the top of the forms.
 - Prepare construction joint at top of drilled shafts and lower encasement wall.
 - Splice upper encasement wall reinforcement and cage length to lower encasement and shaft reinforcement, form and pour upper encasement wall.

* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

Cast steps monolithically with cap.
 Space cap reinforcement to miss anchor bolts.
 Minimum lap for spirals =
 ** Length is height of spiral.

P-DSSW

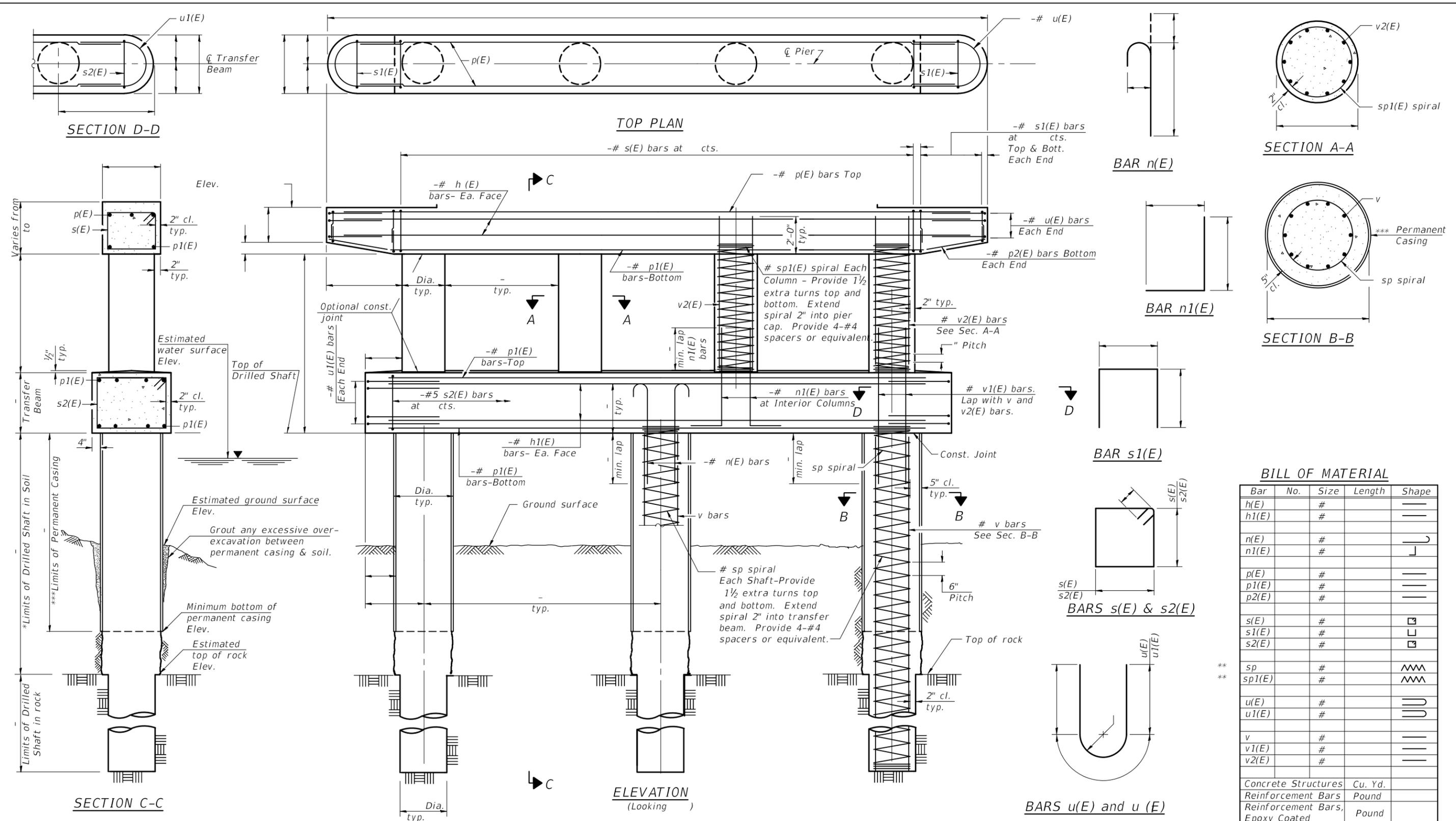
2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISD -
		CHECKED -	REVISD -
		DRAWN -	REVISD -
		CHECKED -	REVISD -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER
 STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	#			—
h1(E)	#			—
n(E)	#			⌋
n1(E)	#			⌋
p(E)	#			—
p1(E)	#			—
p2(E)	#			—
s(E)	#			⊠
s1(E)	#			⊠
s2(E)	#			⊠
sp	#			⌚
sp1(E)	#			⌚
u(E)	#			U
u1(E)	#			U
v	#			—
v1(E)	#			—
v2(E)	#			—
Concrete Structures			Cu. Yd.	
Reinforcement Bars			Pound	
Reinforcement Bars, Epoxy Coated			Pound	
Drilled Shaft in Soil			Cu. Yd.	
Drilled Shaft in Rock			Cu. Yd.	
Permanent Casing			Foot	

* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

*** Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.

Cast steps monolithically with cap. Space cap reinforcement to miss anchor bolts. Minimum lap for spirals = ** Length is height of spiral.

P-DSTB

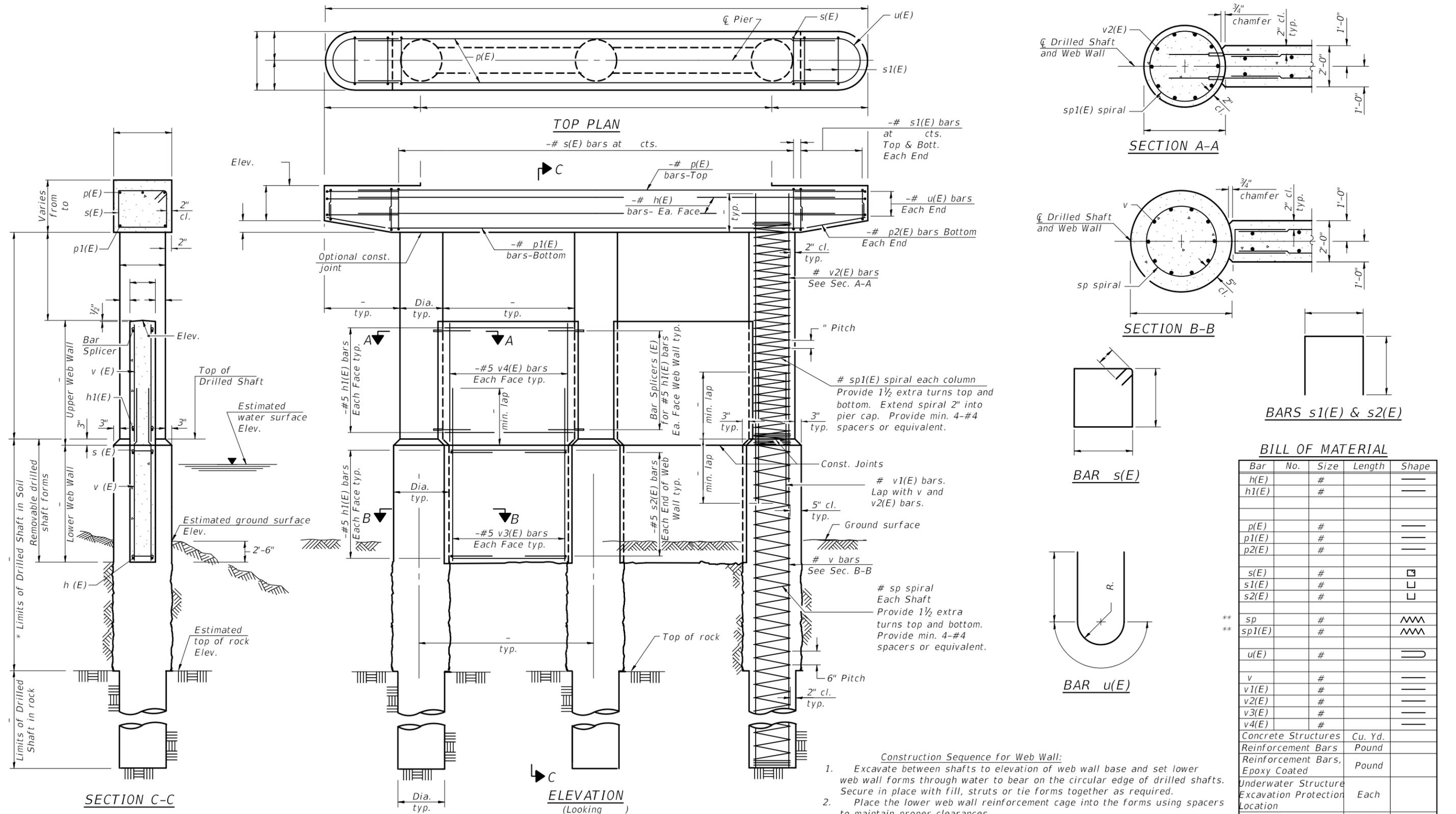
2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISD -
		CHECKED -	REVISD -
		DRAWN -	REVISD -
		CHECKED -	REVISD -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER
STRUCTURE NO.**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



BARS s1(E) & s2(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	#			—
h1(E)	#			—
p(E)	#			—
p1(E)	#			—
p2(E)	#			—
s(E)	#			□
s1(E)	#			┌
s2(E)	#			└
sp	#			⋈
sp1(E)	#			⋈
u(E)	#			U
v	#			—
v1(E)	#			—
v2(E)	#			—
v3(E)	#			—
v4(E)	#			—
Concrete Structures			Cu. Yd.	
Reinforcement Bars			Pound	
Reinforcement Bars, Epoxy Coated			Pound	
Underwater Structure Excavation Protection			Each Location	
Bar Splicers			Each	
Drilled Shaft in Soil			Cu. Yd.	
Drilled Shaft in Rock			Cu. Yd.	

Cast steps monolithically with cap. Space cap reinforcement to miss anchor bolts. Minimum lap for spirals = Length is height of spiral.

- Construction Sequence for Web Wall:**
- Excavate between shafts to elevation of web wall base and set lower web wall forms through water to bear on the circular edge of drilled shafts. Secure in place with fill, struts or tie forms together as required.
 - Place the lower web wall reinforcement cage into the forms using spacers to maintain proper clearances.
 - If the forms can be sealed against the shafts and streambed to allow dewatering, the reinforcement and the concrete placement may be completed in the dry. Alternatively, the rebar cage can be lowered into position through water and the concrete discharged at the base of the excavation through a tremie pipe or pump hose, displacing water, sediment, and tainted concrete out the top of the forms.
 - Construct Columns.
 - Construct upper web walls.

* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

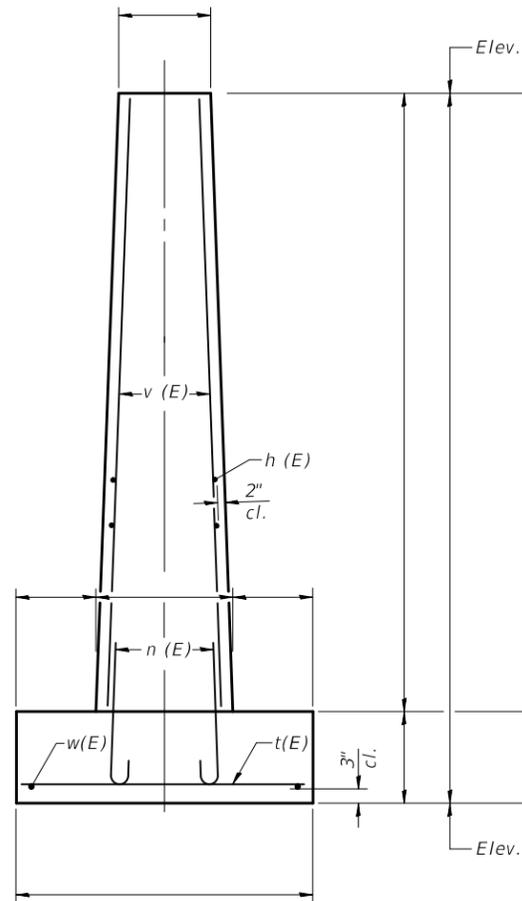
P-DSWW 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISD -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER STRUCTURE NO.	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	PLOT SCALE =	CHECKED -	REVISD -			CONTRACT NO.					
	PLOT DATE =	DRAWN -	REVISD -			ILLINOIS FED. AID PROJECT					
		CHECKED -	REVISD -								

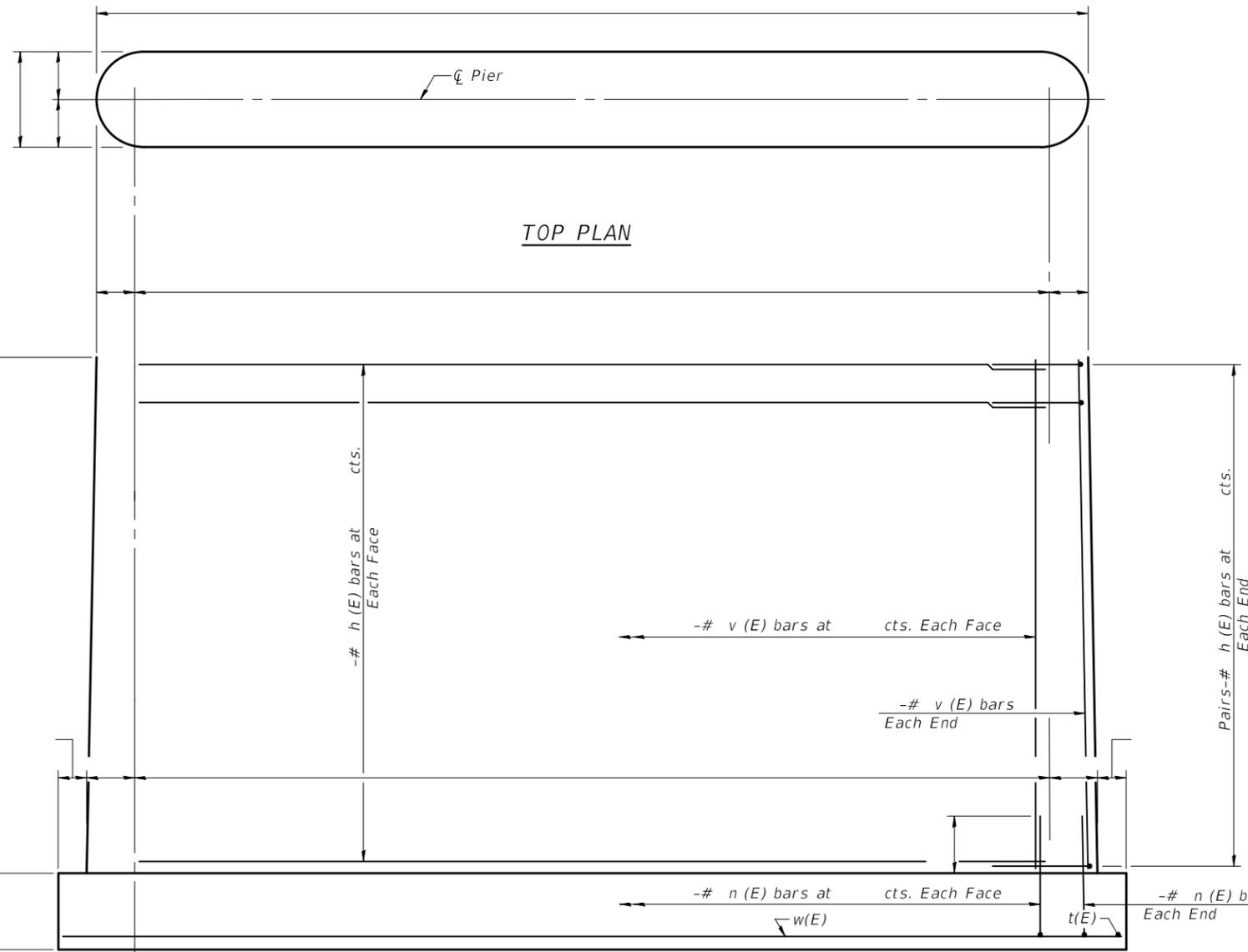
Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet - of -.

PILE DATA

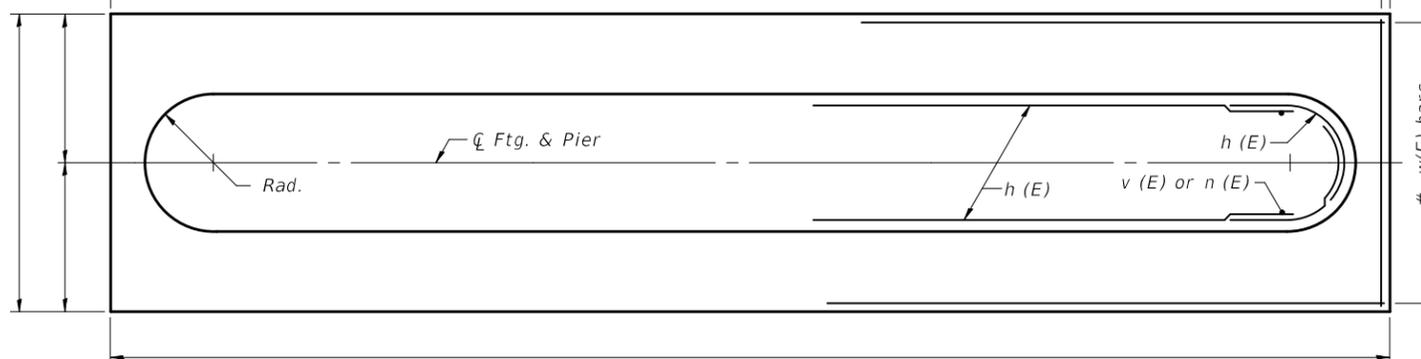
Type:
 Nominal Required Bearing:
 Factored Resistance Available:
 Est. Length:
 No. Production Piles:
 No. Test Piles:



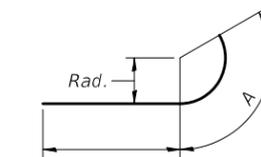
END VIEW



ELEVATION
(Looking)

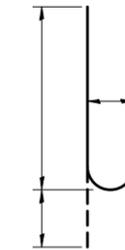


FOOTING PLAN



Bar	Rad.	A
h (E)		
h (E)		

DETAIL OF BARS
h (E)



BAR n (E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)	#			—
h (E)	#			U
n (E)	#			U
t (E)	#			—
v (E)	#			—
w (E)	#			—
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

PB-1

2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISD -
		CHECKED -	REVISD -
		DRAWN -	REVISD -
		CHECKED -	REVISD -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

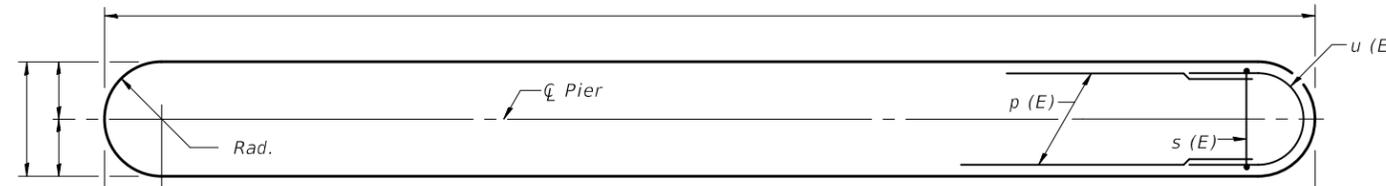
PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

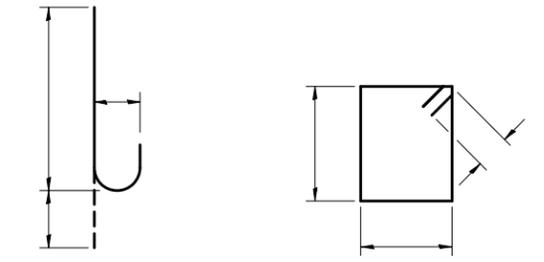
Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet - of -.

PILE DATA

Type:
 Nominal Required Bearing:
 Factored Resistance Available:
 Est. Length:
 No. Production Piles:
 No. Test Piles:

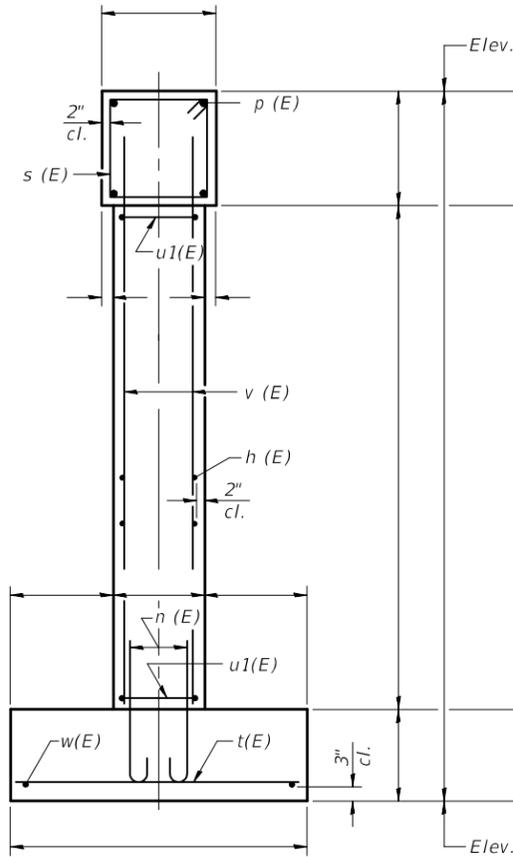


TOP PLAN

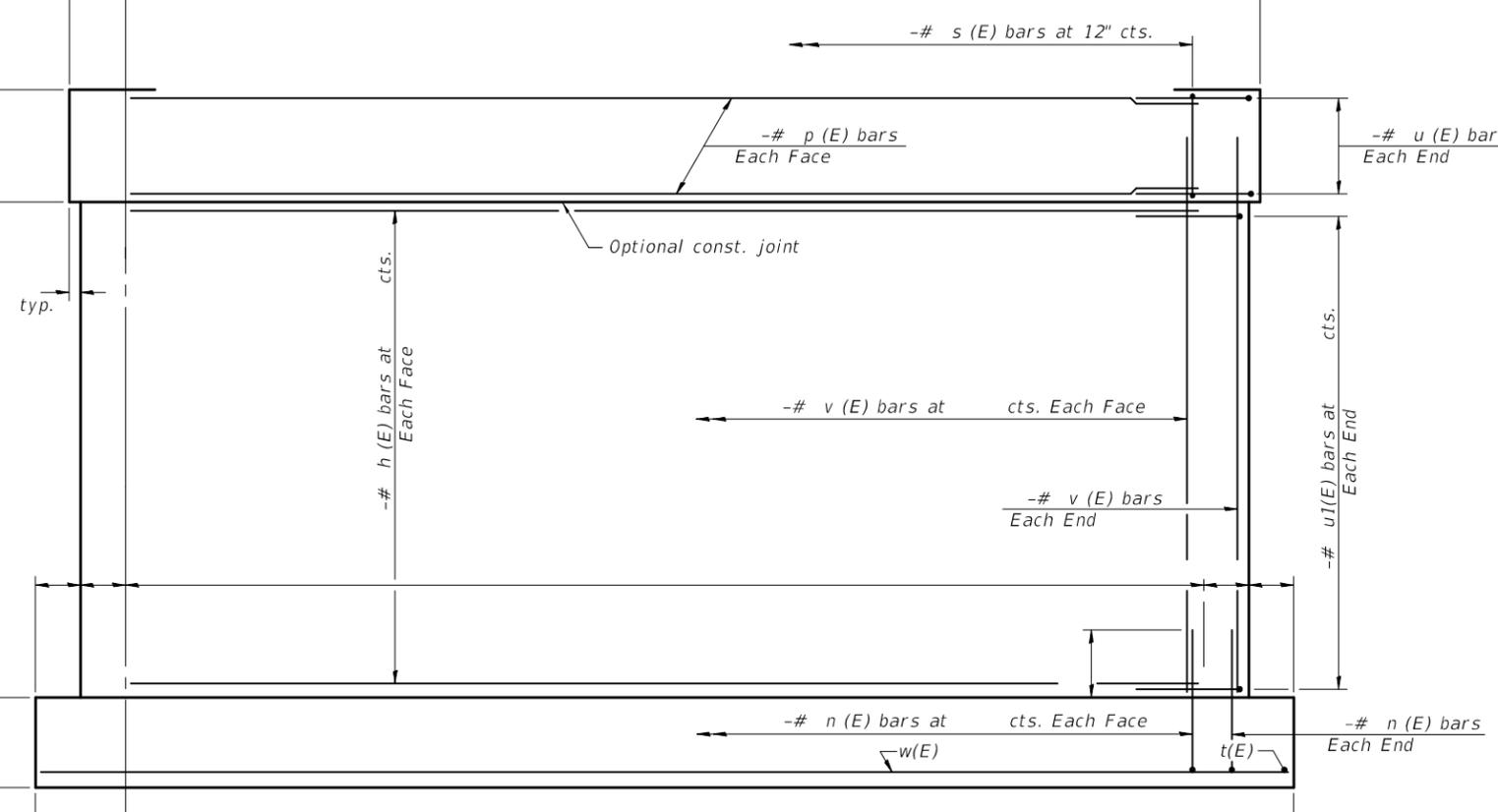


BAR n(E)

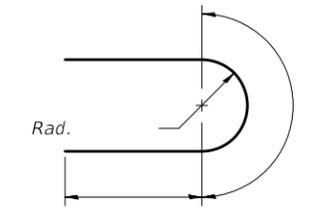
BAR s(E)



END VIEW



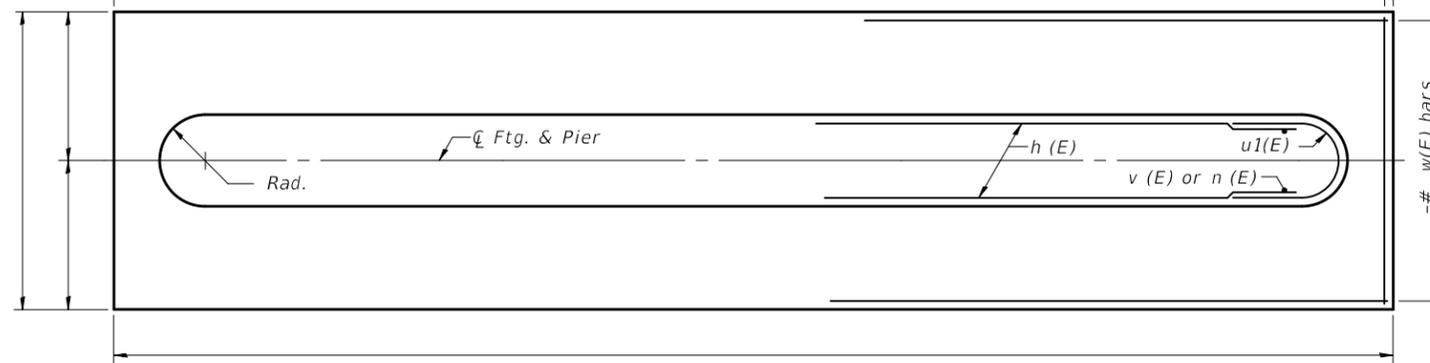
ELEVATION
(Looking)



BARS u(E) & u1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		—
n(E)		#		U
p(E)		#		—
s(E)		#		□
t(E)		#		—
u(E)		#		U
u1(E)		#		U
v(E)		#		—
w(E)		#		—
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	



FOOTING PLAN

PC-1 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISD -
		CHECKED -	REVISD -
	PLOT SCALE =	DRAWN -	REVISD -
	PLOT DATE =	CHECKED -	REVISD -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				