

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



South Portland - Portland

CUMBERLAND COUNTY

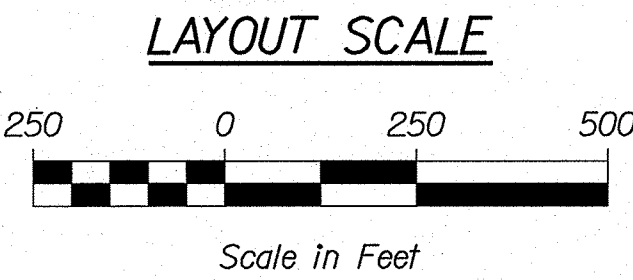
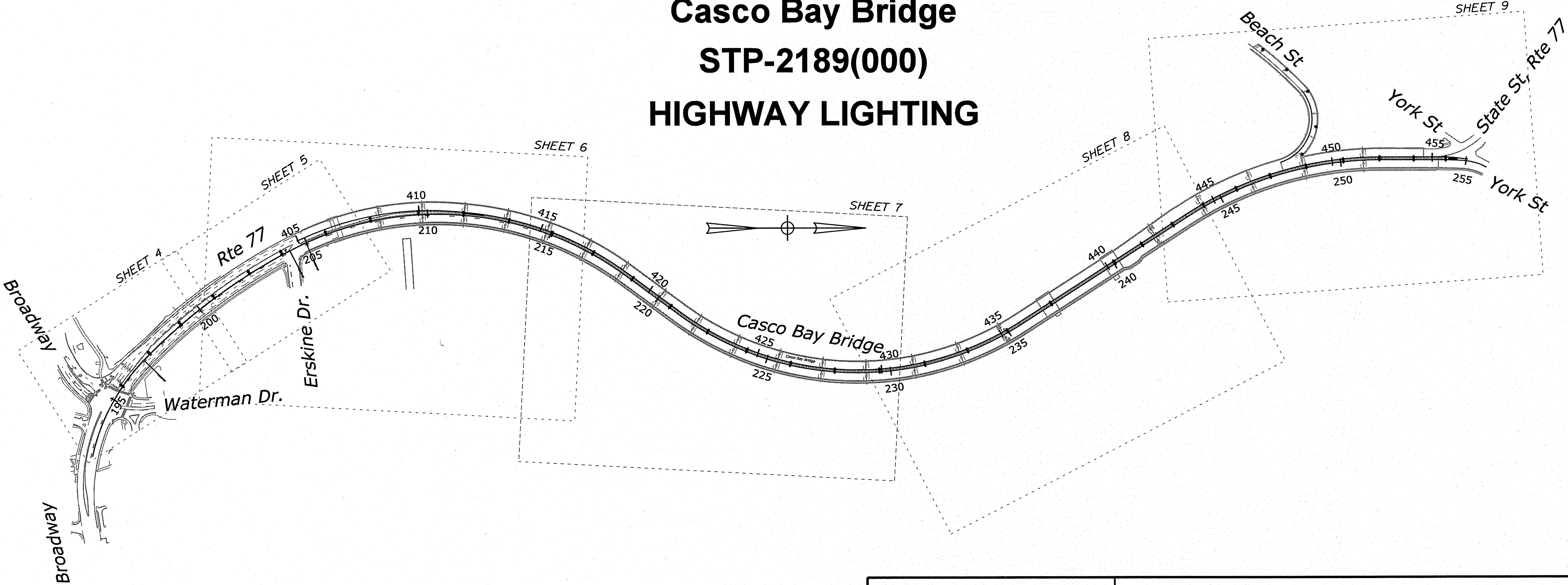
Casco Bay Bridge

STP-2189(000)

HIGHWAY LIGHTING

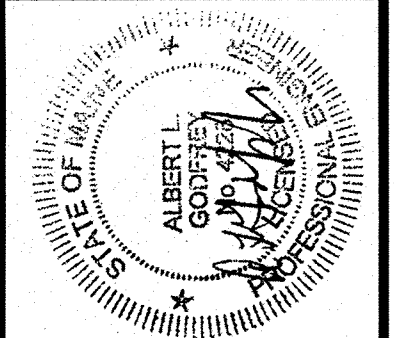
INDEX OF SHEETS

Description	Sheet No.
Title Sheet	1
Estimated Quantities and Details	2
Notes	3
Lighting Plans	4-9
Landscaping and Enhancement Plans	1A-6A



PROJECT LOCATION:	South Portland - Portland, Casco Bay Bridge
PROGRAM AREA:	Bridge Program
SCOPE OF WORK:	Highway and Bridge Lighting - Poles, LED Luminaires,Wiring and Incidentals

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
	COMMISSIONER: <i>[Signature]</i>	2/14/19
	CHIEF ENGINEER: <i>[Signature]</i>	3-6-19



SIGNATURE	4226	P.E. NUMBER	2/14/19	DATE
J. STILWELL	A. GODFREY	TERRA MAGNA SERVICES, INC.		

PROJECT INFORMATION		BRIDGE
PROGRAM	PROJECT MANAGER	DESIGNER
BRIDGE	J. STILWELL	A. GODFREY
CONSULTANT	PROJECT RESIDENT	CONTRACTOR
TERRA MAGNA SERVICES, INC.		
PROJECT RESIDENT	CONTRACTOR	PROJECT COMPLETION DATE

SOUTH PORTLAND-PORTLAND RTE 77, CASCO BAY BRIDGE		TITLE SHEET
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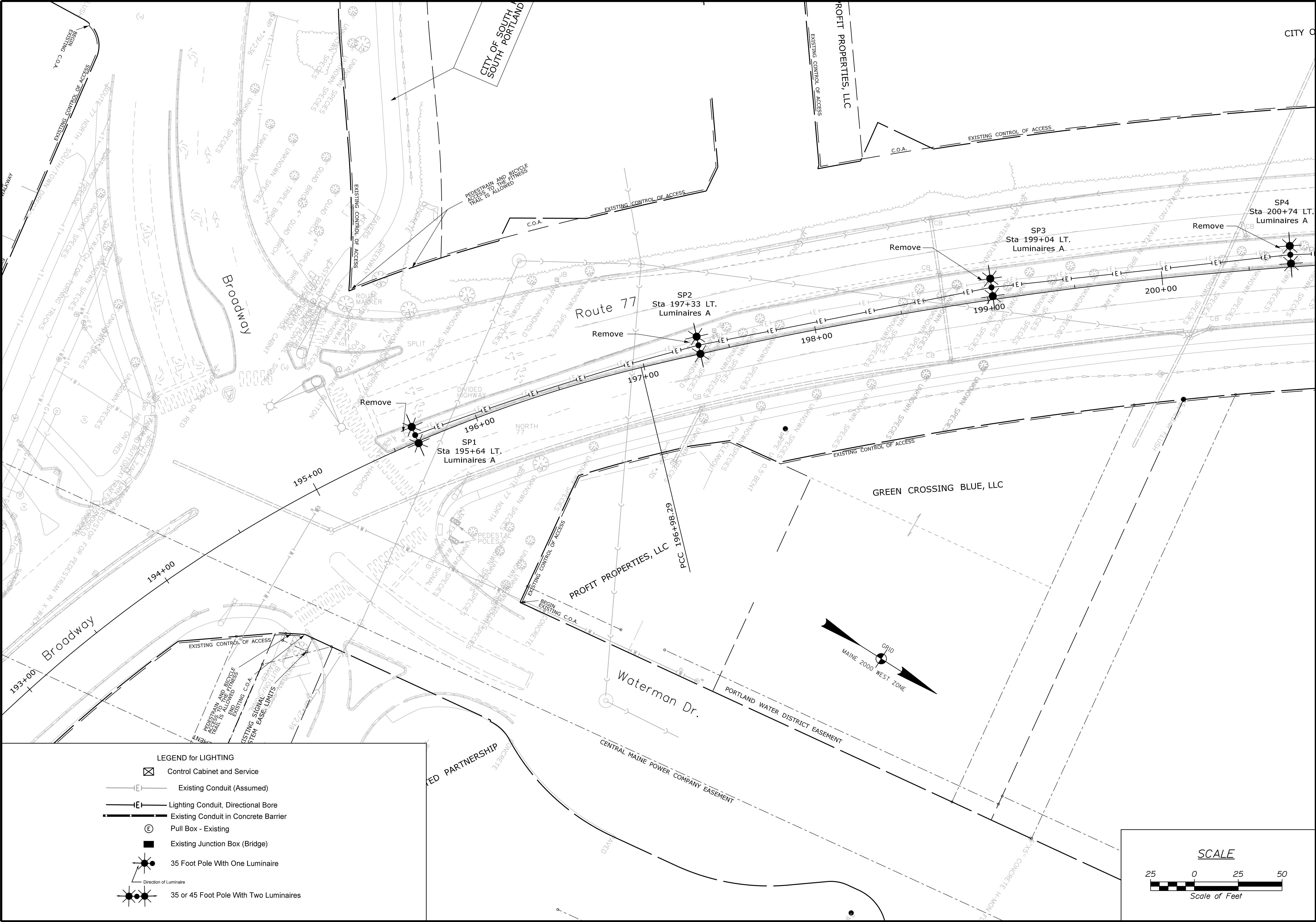
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OF 15	

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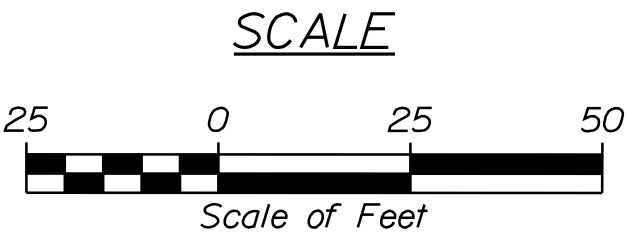
Division: HIGHWAY

Username: common

Date:2/14/2019



- LEGEND for LIGHTING**
- Control Cabinet and Service
 - Existing Conduit (Assumed)
 - Lighting Conduit, Directional Bore
 - Existing Conduit in Concrete Barrier
 - Pull Box - Existing
 - Existing Junction Box (Bridge)
 - 35 Foot Pole With One Luminaire
 - 35 or 45 Foot Pole With Two Luminaires



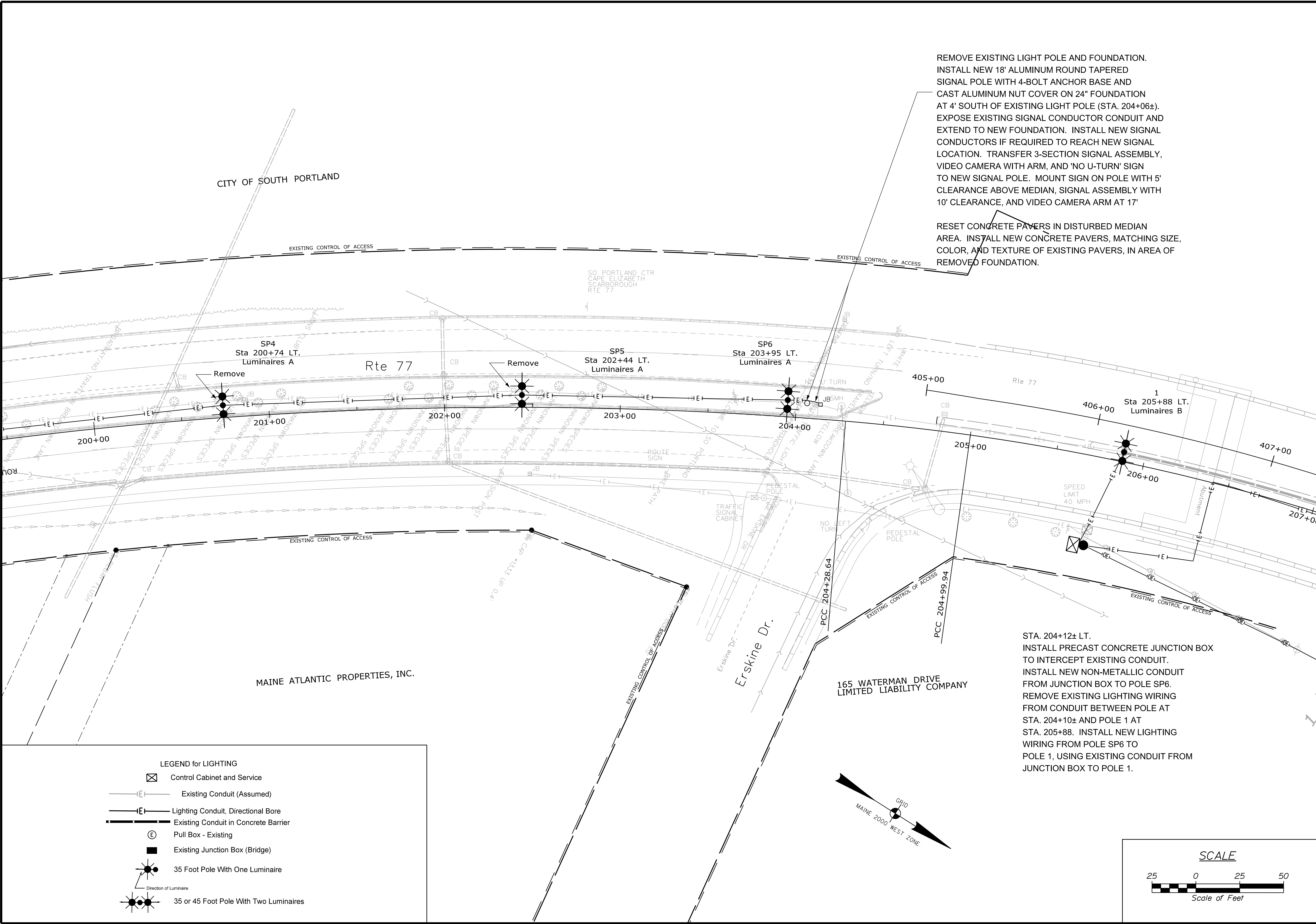
STATE OF MAINE DEPARTMENT OF TRANSPORTATION		STP-2189(000)		WIN 21890.00		BRIDGE PLANS	
PORTLAND-SOUTH PORTLAND CASCO BAY BRIDGE		SIGNATURE 4226		P.E. NUMBER 2/14/19		DATE	
PROJECT MANAGER J. STILWELL		BY RAL		DATE 1-19		FIELD CHANGES	
DESIGN-DETAILED A.L.C.		CHECKED-REVIEWED A.L.C.		DESIGN-DETAILED A.L.C.		REVISIONS 1	
DESIGN-DETAILED A.L.C.		CHECKED-REVIEWED A.L.C.		DESIGN-DETAILED A.L.C.		REVISIONS 2	
DESIGN-DETAILED A.L.C.		CHECKED-REVIEWED A.L.C.		DESIGN-DETAILED A.L.C.		REVISIONS 3	
DESIGN-DETAILED A.L.C.		CHECKED-REVIEWED A.L.C.		DESIGN-DETAILED A.L.C.		REVISIONS 4	
SHEET NUMBER 4		OF 15		LIGHTING PLANS			

Date:2/14/2019

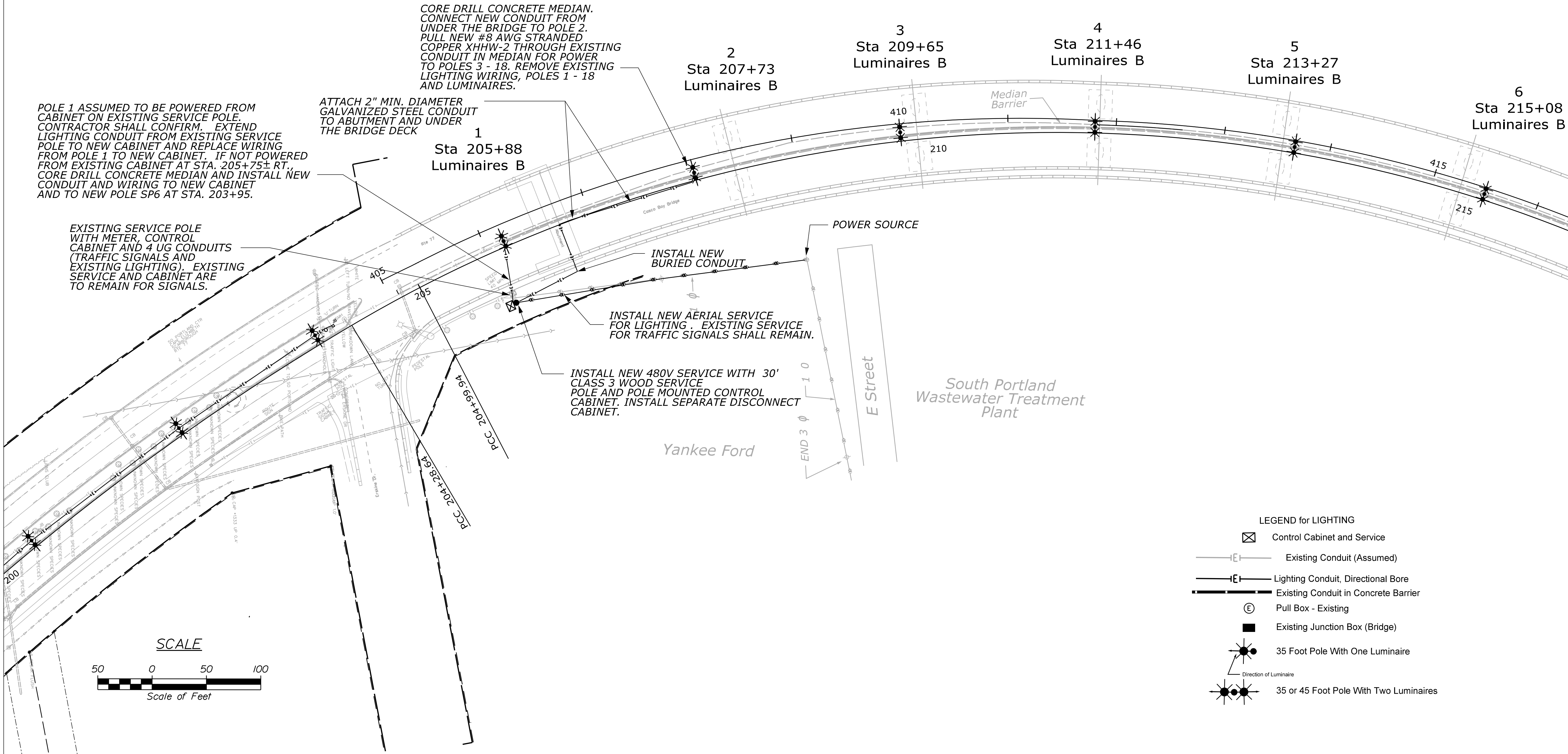
Username: common

Division: HIGHWAY

Filename: ... \005_Lighting Plan Sht_02.dgn



PORTLAND-SOUTH PORTLAND CASCO BAY BRIDGE		PROJECT MANAGER J. STILLWELL		BY		DATE				STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
		DESIGN-DETAILED ALC		RAL		1-19					
		CHECKED-REVIEWED ALC		ALC		1-19				SIGNATURE 4226	
		DESIGN2-DETAILED2								P.E. NUMBER 2/14/19	
		DESIGN3-DETAILED3								DATE	
		REVISIONS 1									
		REVISIONS 2									
		REVISIONS 3									
		REVISIONS 4									
		FIELD CHANGES									
LIGHTING PLANS										WIN 21890.00	
										BRIDGE PLANS	



POLE 1 ASSUMED TO BE POWERED FROM CABINET ON EXISTING SERVICE POLE. CONTRACTOR SHALL CONFIRM. EXTEND LIGHTING CONDUIT FROM EXISTING SERVICE POLE TO NEW CABINET AND REPLACE WIRING FROM POLE 1 TO NEW CABINET. IF NOT POWERED FROM EXISTING CABINET AT STA. 205+75± RT, CORE DRILL CONCRETE MEDIAN AND INSTALL NEW CONDUIT AND WIRING TO NEW CABINET AND TO NEW POLE SP6 AT STA. 203+95.

EXISTING SERVICE POLE WITH METER, CONTROL CABINET AND 4 UG CONDUITS (TRAFFIC SIGNALS AND EXISTING LIGHTING). EXISTING SERVICE AND CABINET ARE TO REMAIN FOR SIGNALS.

ATTACH 2" MIN. DIAMETER GALVANIZED STEEL CONDUIT TO ABUTMENT AND UNDER THE BRIDGE DECK

CORE DRILL CONCRETE MEDIAN. CONNECT NEW CONDUIT FROM UNDER THE BRIDGE TO POLE 2. PULL NEW #8 AWG STRANDED COPPER XHHW-2 THROUGH EXISTING CONDUIT IN MEDIAN FOR POWER TO POLES 3 - 18. REMOVE EXISTING LIGHTING WIRING, POLES 1 - 18 AND LUMINAIRES.

INSTALL NEW 480V SERVICE WITH 30' CLASS 3 WOOD SERVICE POLE AND POLE MOUNTED CONTROL CABINET. INSTALL SEPARATE DISCONNECT CABINET.

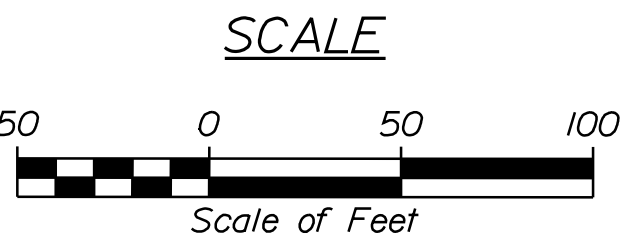
INSTALL NEW AERIAL SERVICE FOR LIGHTING. EXISTING SERVICE FOR TRAFFIC SIGNALS SHALL REMAIN.

POWER SOURCE

Yankee Ford

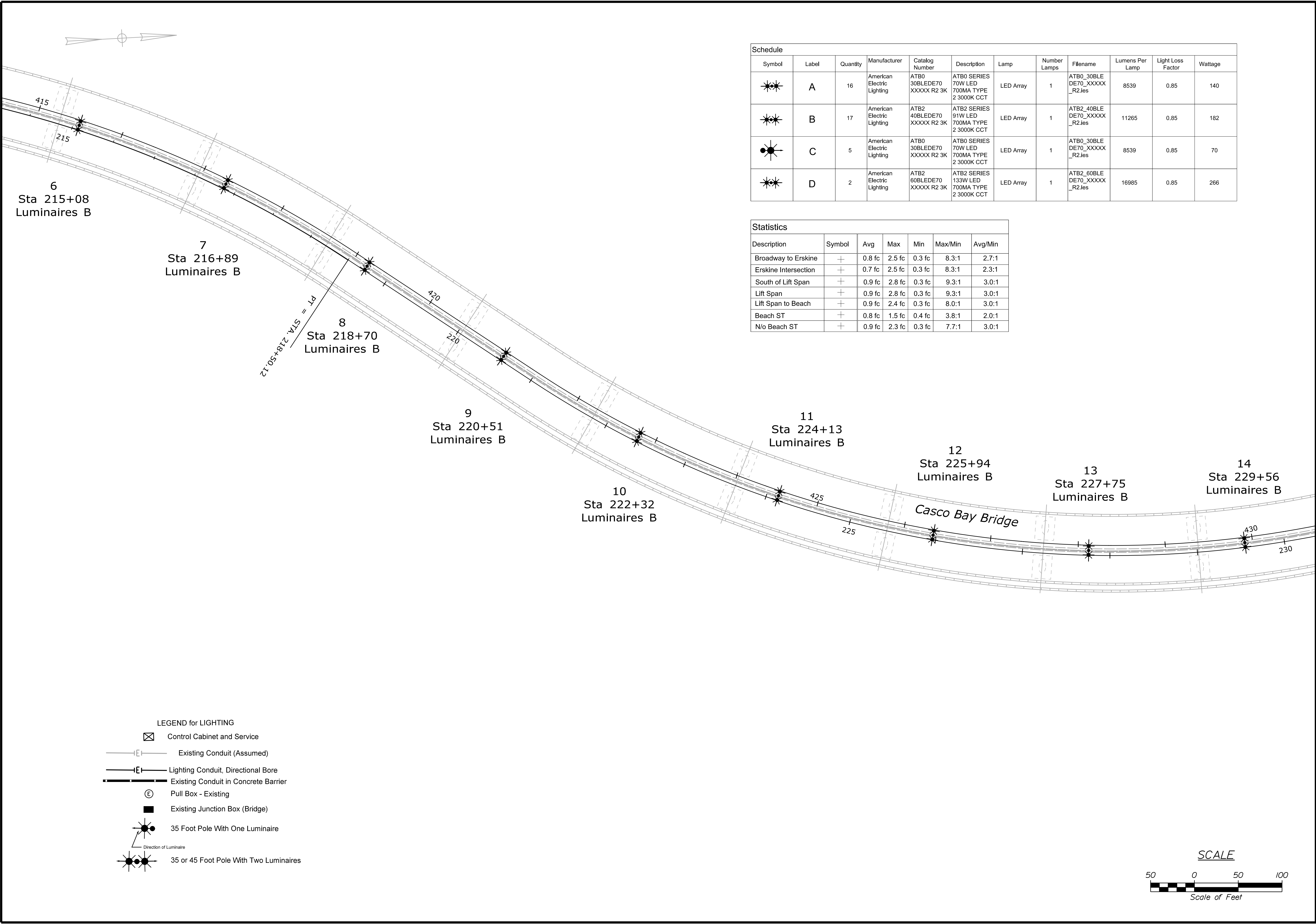
South Portland Wastewater Treatment Plant

E Street



- LEGEND for LIGHTING
- Control Cabinet and Service
 - Existing Conduit (Assumed)
 - Lighting Conduit, Directional Bore
 - Existing Conduit in Concrete Barrier
 - Pull Box - Existing
 - Existing Junction Box (Bridge)
 - 35 Foot Pole With One Luminaire
 - Direction of Luminaire
 - 35 or 45 Foot Pole With Two Luminaires

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		STP-2189(000)		WIN 21890.00 BRIDGE PLANS	
PORTLAND-SOUTH PORTLAND CASCO BAY BRIDGE		LIGHTING PLANS			
SHEET NUMBER 6 OF 15		DATE 2/14/19			
SIGNATURE 4/226		P.E. NUMBER 4226			
DATE 1-19		DATE 1-19			
BY J. STILWELL		BY J. STILWELL			
J. STILWELL		J. STILWELL			
DESIGN-DETAILED		DESIGN-DETAILED			
CHECKED-REVIEWED		CHECKED-REVIEWED			
DESIGN-DETAILED		DESIGN-DETAILED			
REVISIONS 1		REVISIONS 1			
REVISIONS 2		REVISIONS 2			
REVISIONS 3		REVISIONS 3			
REVISIONS 4		REVISIONS 4			
FIELD CHANGES		FIELD CHANGES			



Schedule											
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	A	16	American Electric Lighting	ATB0 30BLEDE70 XXXXX R2 3K	ATB0 SERIES 70W LED 700MA TYPE 2 3000K CCT	LED Array	1	ATB0_30BLEDE70_XXXXX_R2.ies	8539	0.85	140
	B	17	American Electric Lighting	ATB2 40BLEDE70 XXXXX R2 3K	ATB2 SERIES 91W LED 700MA TYPE 2 3000K CCT	LED Array	1	ATB2_40BLEDE70_XXXXX_R2.ies	11265	0.85	182
	C	5	American Electric Lighting	ATB0 30BLEDE70 XXXXX R2 3K	ATB0 SERIES 70W LED 700MA TYPE 2 3000K CCT	LED Array	1	ATB0_30BLEDE70_XXXXX_R2.ies	8539	0.85	70
	D	2	American Electric Lighting	ATB2 60BLEDE70 XXXXX R2 3K	ATB2 SERIES 133W LED 700MA TYPE 2 3000K CCT	LED Array	1	ATB2_60BLEDE70_XXXXX_R2.ies	16985	0.85	266

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Broadway to Erskine	+	0.8 fc	2.5 fc	0.3 fc	8.3:1	2.7:1
Erskine Intersection	+	0.7 fc	2.5 fc	0.3 fc	8.3:1	2.3:1
South of Lift Span	+	0.9 fc	2.8 fc	0.3 fc	9.3:1	3.0:1
Lift Span	+	0.9 fc	2.8 fc	0.3 fc	9.3:1	3.0:1
Lift Span to Beach	+	0.9 fc	2.4 fc	0.3 fc	8.0:1	3.0:1
Beach ST	+	0.8 fc	1.5 fc	0.4 fc	3.8:1	2.0:1
N/o Beach ST	+	0.9 fc	2.3 fc	0.3 fc	7.7:1	3.0:1

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-2189(000)

WIN
21890.00

BRIDGE PLANS

SIGNATURE
4226

P.E. NUMBER
2/14/19

DATE

PROJ. MANAGER
J. STILWELL

BY
RAL

DATE
1-19

DESIGN-DETAILED
A/LC

CHECKED-REVIEWED
A/LC

DESIGNS-DETAILED
A/LC

REVISIONS
1

REVISIONS
2

REVISIONS
3

REVISIONS
4

FIELD CHANGES

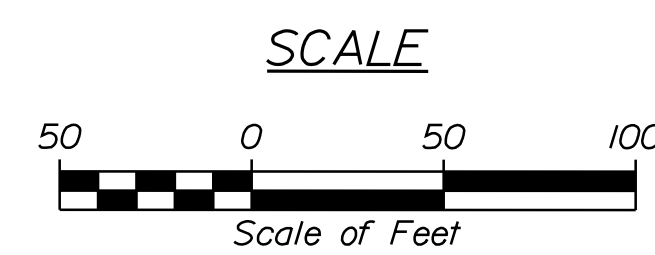
PORTLAND-SOUTH PORTLAND
CASCO BAY BRIDGE

LIGHTING PLANS

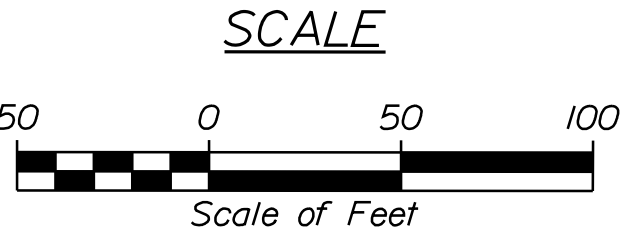
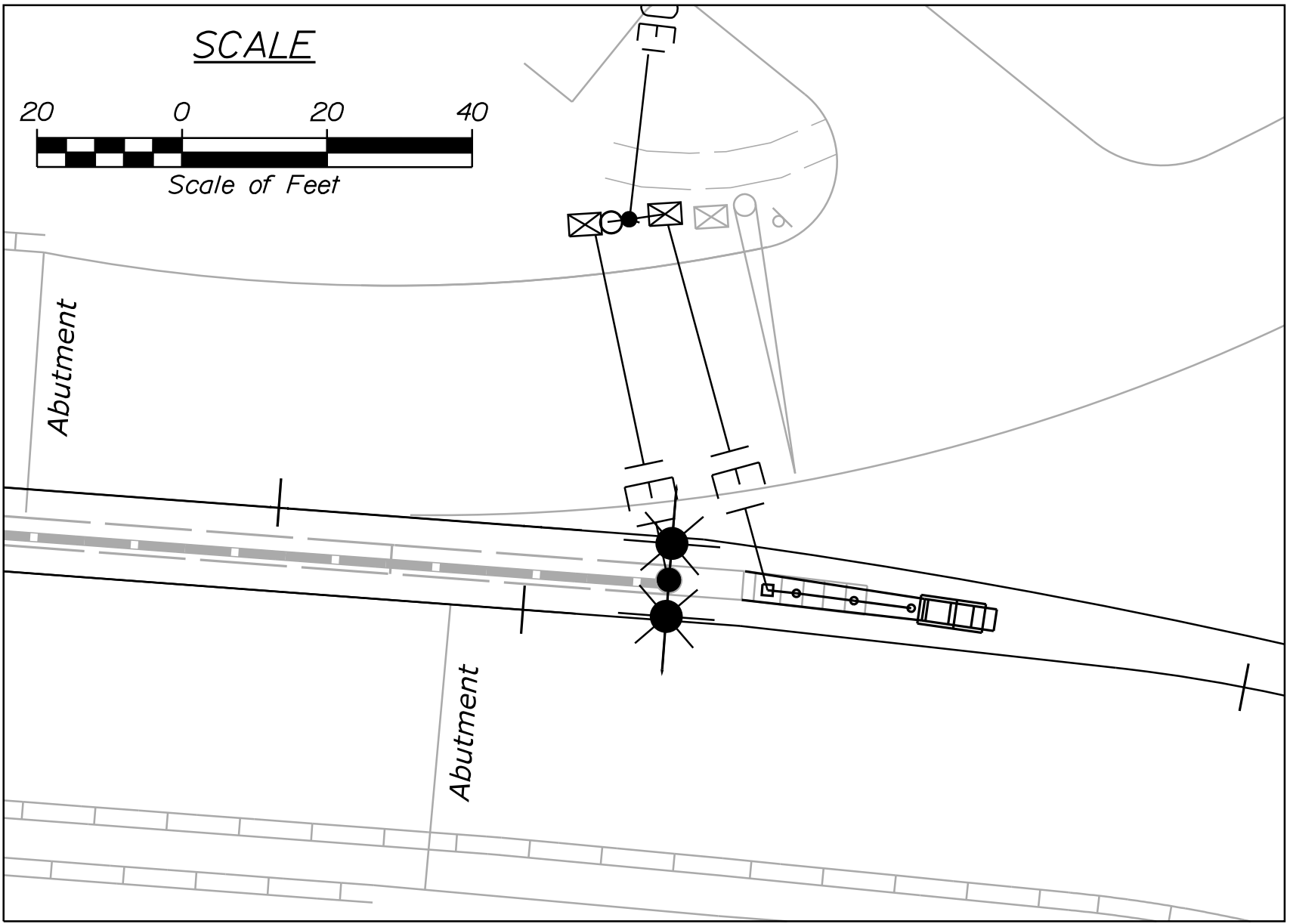
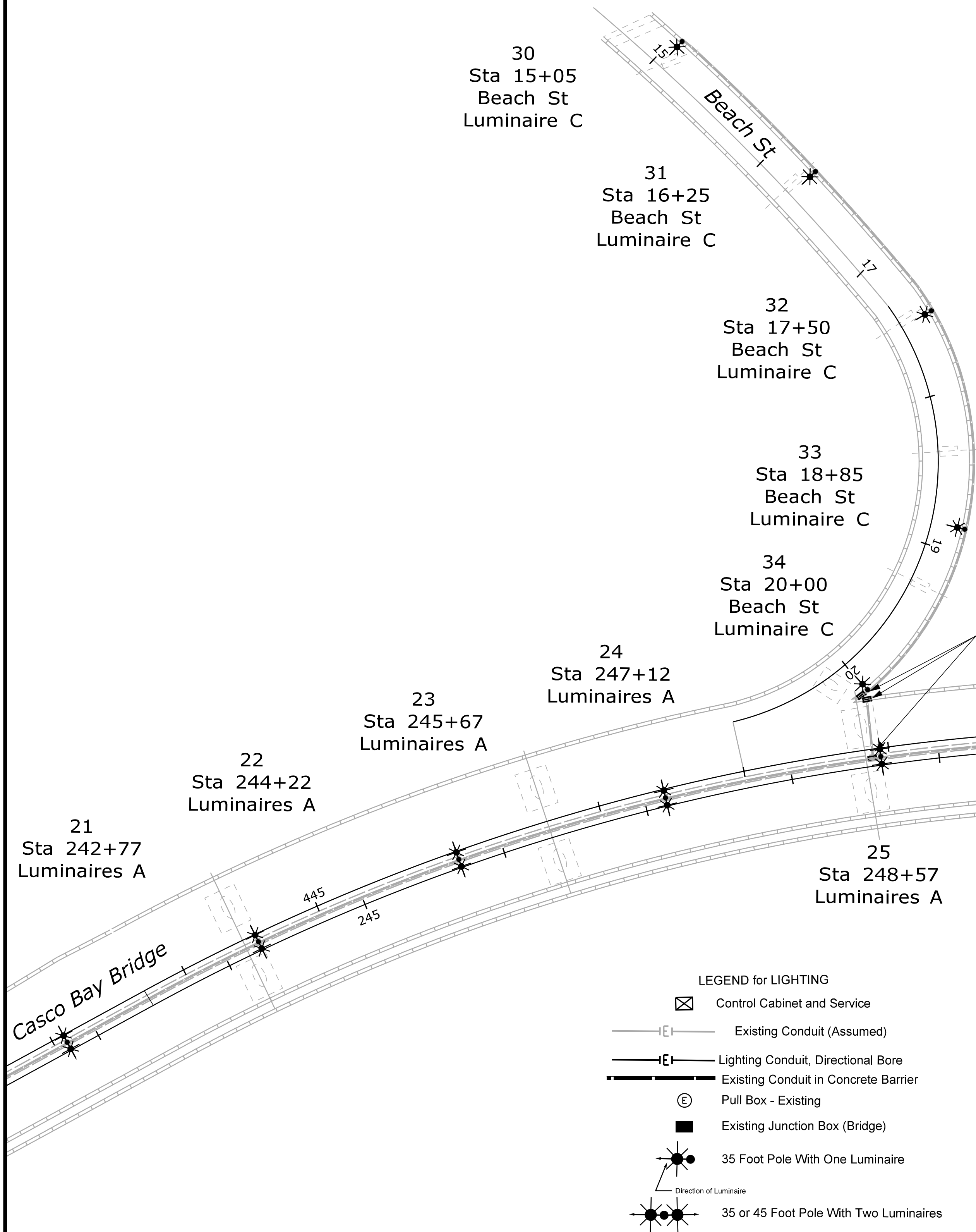
SHEET NUMBER

7

OF 15



PORTLAND-SOUTH PORTLAND CASCO BAY BRIDGE	PROJ. MANAGER		J. STILLWELL	BY	DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION STP-2189(000)
	DESIGN-Detailed		A.G.	RAL	1-19	
	CHECKED-REVIEWED		A.G.	A.G.	1-19	
	DESIGN2-Detailed		SIGNATURE 4226			
	DESIGN3-Detailed		P.E. NUMBER			
	REVISED		DATE			
LIGHTING PLANS	REVISED 1					WIN 21890.00 BRIDGE PLANS
	REVISED 2					
	REVISED 3					
	REVISED 4					
	FIELD CHANGES					



INSTALL 35' CLASS 4 WOOD SERVICE POLE WITH 120/240V SERVICE FOR LIGHT WANDS.

INSTALL METER POST, 480V SERVICE AND DISCONNECT ENCLOSURE FOR BRIDGE LIGHTING

INSTALL PEDESTAL MOUNTED CONTROL CABINET FOR BRIDGE LIGHTING

POWER SOURCE CMP #23

INSTALL CONTROL CABINET WITH SEPARATE NEMA 3R DISCONNECT ENCLOSURE FOR LIGHT WANDS

EXISTING TRAFFIC SIGNAL CABINET

INSTALL 3 LIGHT WANDS ON 18" FOUNDATIONS AT 8' SPACING. SEE SHEET 5A FOR DETAILS. INSTALL 2" DIAM. SCHEDULE 80 CONDUIT TO CONNECT LIGHT WANDS TO JUNCTION BOX AND ACROSS ROAD TO CABINET.

INSTALL QUADGUARD II MODEL QG27030 2-BAY CRASH BARRIER

CONSTRUCT 8" THICK UNREINFORCED CONCRETE PAD FOR CRASH BARRIER. CONSTRUCT PAD TO 36" DEPTH FOR 4' LENGTH AT APPROACH END. CONCRETE PAD SURFACE DIMENSIONS 4'x9'. USE 4000 PSI CONCRETE. SAWCUT AND REMOVE PAVEMENT FOR PLACEMENT OF CONCRETE. CONSTRUCT PAD AND INSTALL CRASH BARRIER IN ACCORDANCE WITH CRASH BARRIER MANUFACTURER DIRECTIONS.

INSTALL 25 L.F. THRIE BEAM GUARDRAIL WITH DOUBLED BEAM AND TERMINAL CONNECTOR (EACH DIRECTION). SEE STD. DETAIL 606(21) FOR POST SPACING. EXTRA POSTS INCIDENTAL. NO TRANSITION SECTION REQUIRED. PAYMENT WILL BE MADE AS 50 LF OF ITEM 606.64.

REMOVE EXISTING CRASH BARRIER AND CONCRETE PAD. PLACE 5.5" HMA ITEM 403.210 OR MATCH EXISTING PAVEMENT THICKNESS, WHICHEVER IS GREATER. ANY AGGREGATE SHIM REQUIRED SHALL MEET REQUIREMENTS OF SECTION 703.06(a) FOR TYPE B AGGREGATE AND WILL BE INCIDENTAL TO PAYMENT FOR HMA ITEMS.

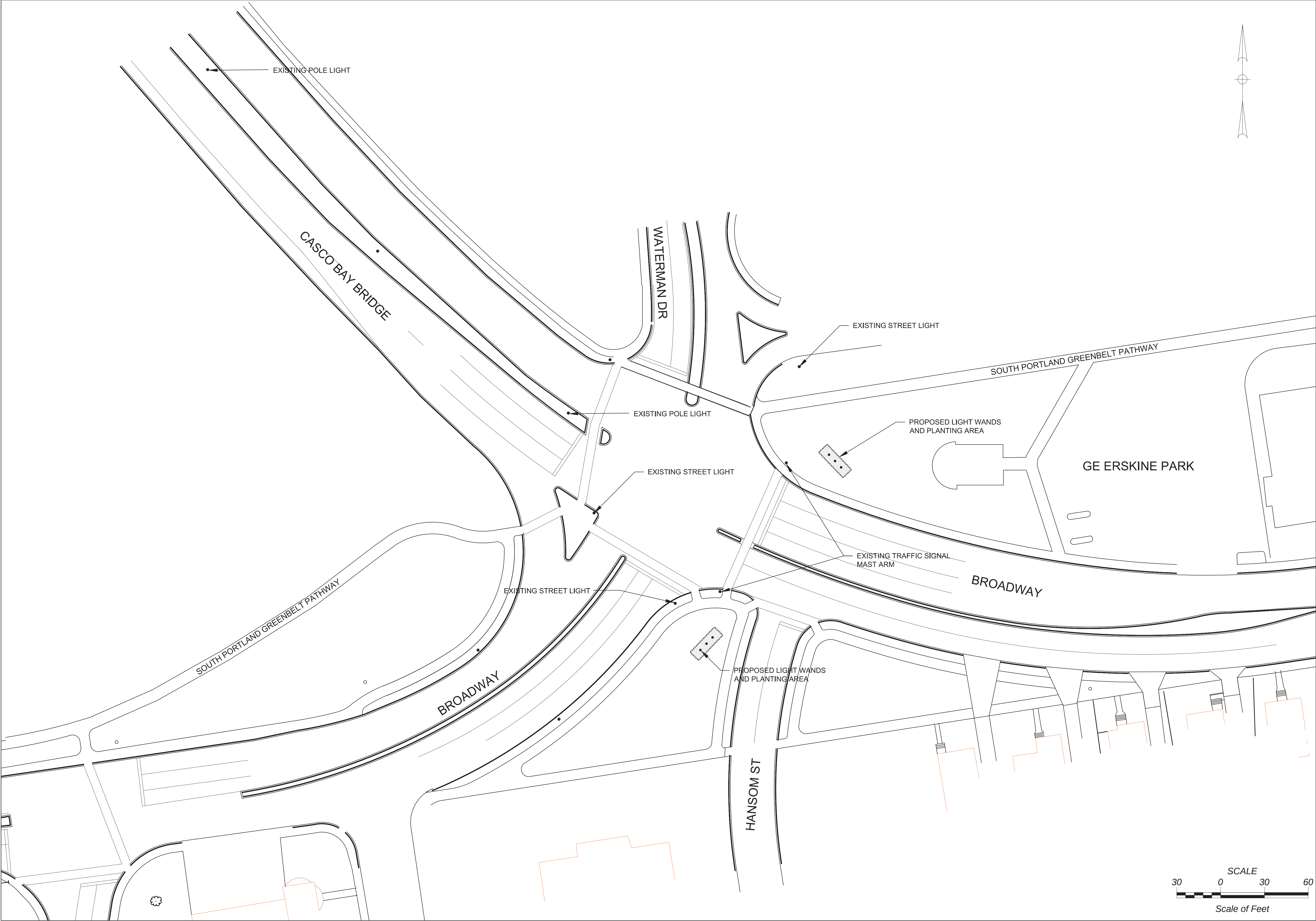
INSTALL PRECAST CONCRETE JUNCTION BOX

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		STP-2189(000)		WIN 21890.00		BRIDGE PLANS	
PORTLAND-SOUTH PORTLAND CASCO BAY BRIDGE		LIGHTING PLANS					
SHEET NUMBER 9		OF 15					

PROJ. MANAGER	J. STILLWELL	BY	ALC	DATE	1-19
DESIGN-DETAILED	ALC	CHECKED-REVIEWED	ALC	SIGNATURE	4/22/6
DESIGN-DETAILED		DESIGN-DETAILED		P.E. NUMBER	2/14/19
REVISIONS 1		REVISIONS 2		DATE	
REVISIONS 3		REVISIONS 4			
				FIELD CHANGES	

Date:02/13/2019

Division: BRIDGE



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-2189 (000)

WIN
21890.00

BRIDGE PLANS

PROJ. MANAGER

DESIGN-DETAILED

CHECKED-REVIEWED

DESIGN-DETAILED2

REVISIONS 1

REVISIONS 2

REVISIONS 3

FIELD CHANGES

J. STILLWELL

HARRMAN

HARRMAN

DATE

Feb./2019

Feb./2019

SIGNATURE

P.E. NUMBER

DATE

4368

February, 2019

STATE OF MAINE
LICENSED PROFESSIONAL ENGINEER
Howard A. Snyder
No. 4368

STATE OF MAINE
LICENSED PROFESSIONAL ENGINEER

PORTLAND-SOUTH PORTLAND
CASCO BAY BRIDGE

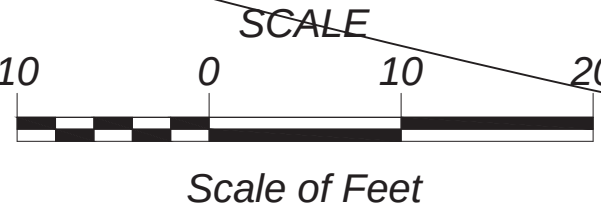
LANDSCAPE PLANS
LOCATION PLAN

SHEET NUMBER

1A

1 OF 6

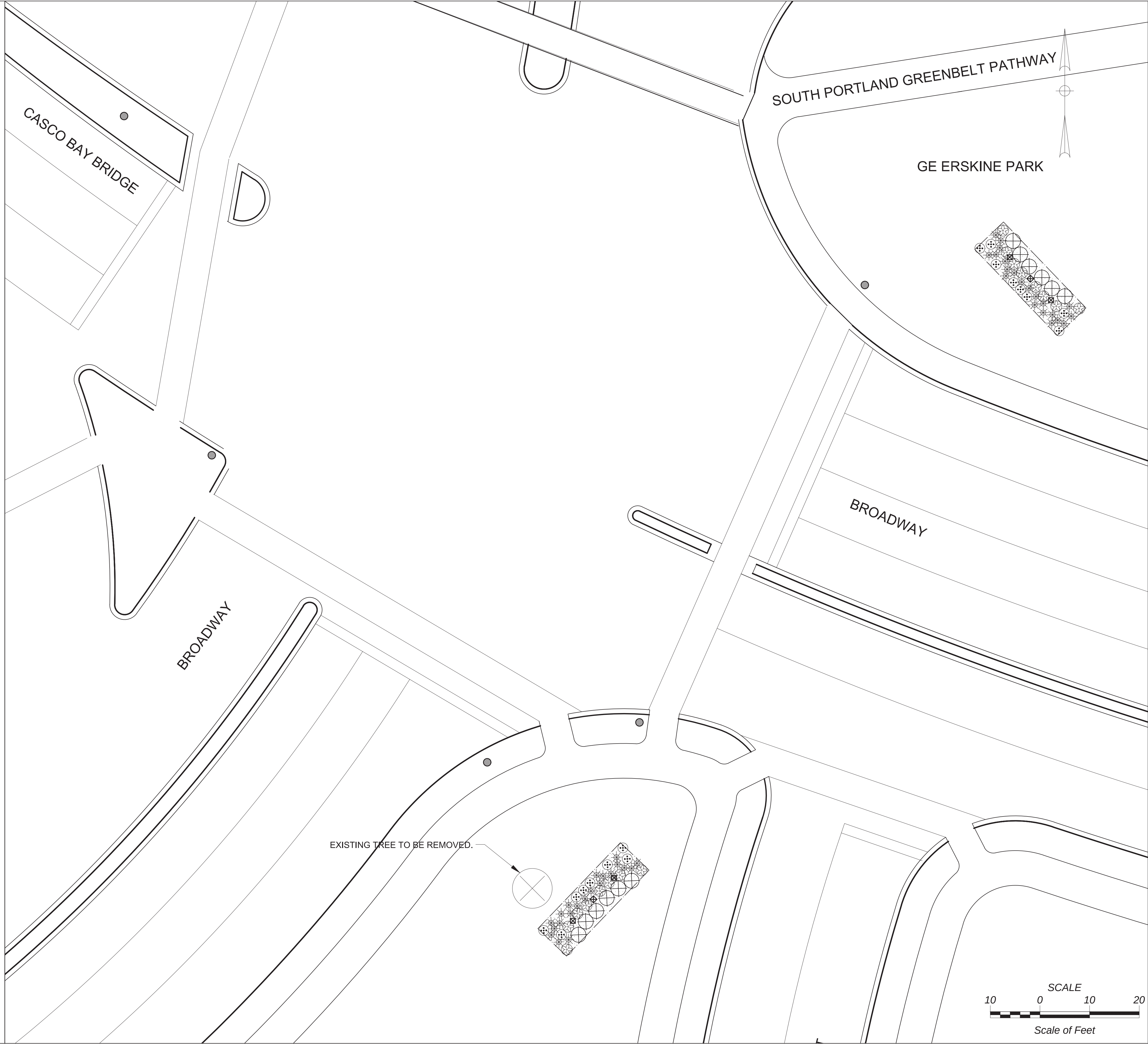
Division: BRIDGE

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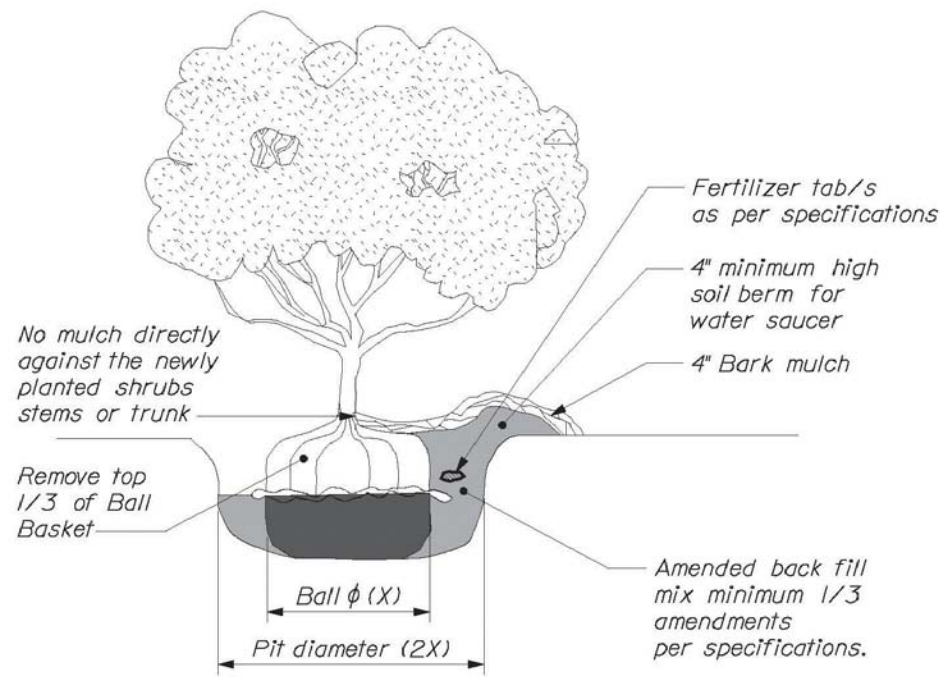
DECIDUOUS SHRUBS	SIZE	NOTES	QTY
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	Deutzia gracilis Slender deutzia	#SP2	Zone: 4	12
GROUNDCOVERS				
	Coreopsis lanceleaf Tickseed	#SP2	Zone: 4	16
PERENNIALS				
	Lavandula angustifolia 'Hidcote' English Lavender	#SP1	Zone: 5	16
	Nepeta x faassenii Catmint	#SP1	Zone: 4	42
LANDSCAPE MATERIALS				QTY
	Planting area border			128 LN. FT.
	Refer Special Provisions 621.98 Metal Landscape Edging			
	Organic shredded bark mulch 3" depth entire planting area			384 S.F.

1. Final plant material selection and quantities dependent on conformance to, and approval by, local and state regulations and agencies.
2. Plant material specified shall conform to ANLA American Standard for Nursery Stock, ANSI Z60.1 current edition.

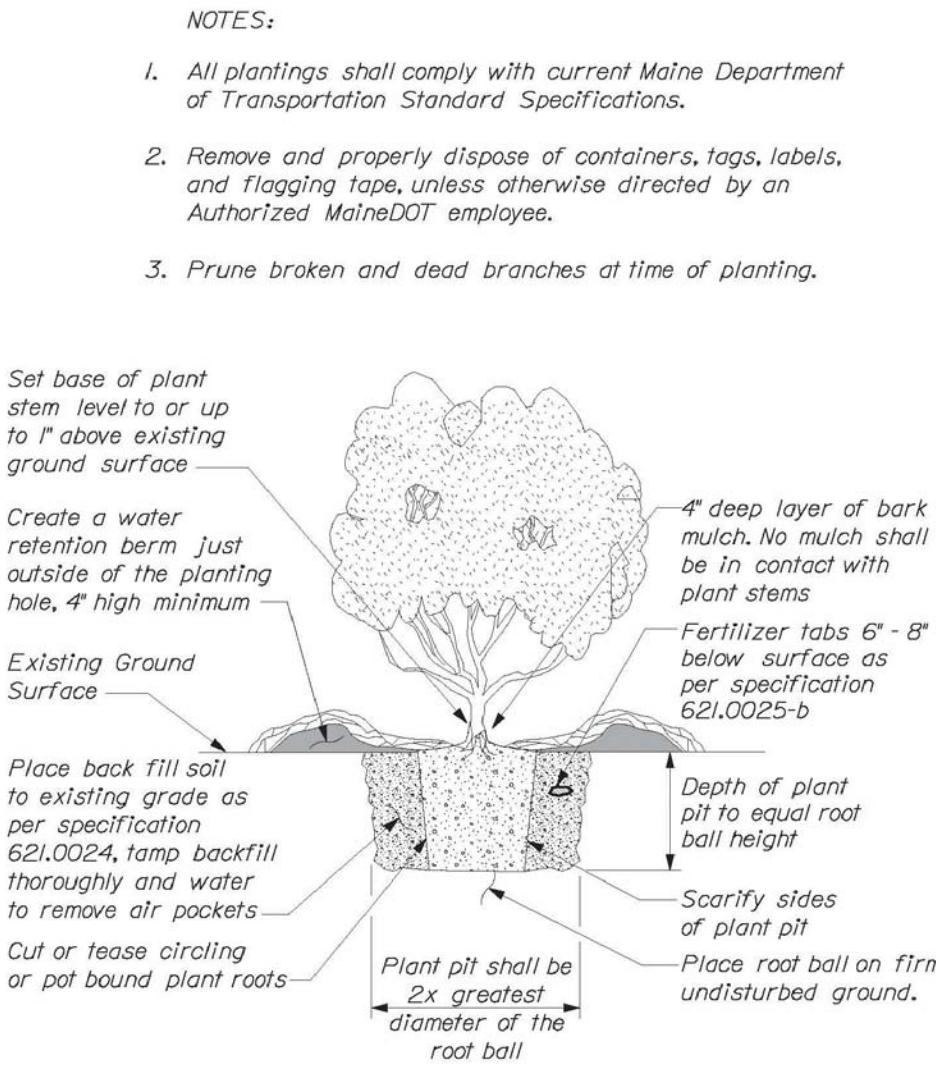


PORTLAND-SOUTH PORTLAND CASCO BAY BRIDGE		J. STILLWELL		BY		DATE	
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CHECKED-REVIEWED		HARRIMAN		HAS		Feb./2019	
DESIGN2-DETAILED2							
DESIGN3-DETAILED3							
REVISIONS 1							
REVISIONS 2							
REVISIONS 3							
REVISIONS 4							
FIELD CHANGES							
LANDSCAPE PLANS							
PLANTING PLAN							
SHEET NUMBER		3A		3 OF 6			



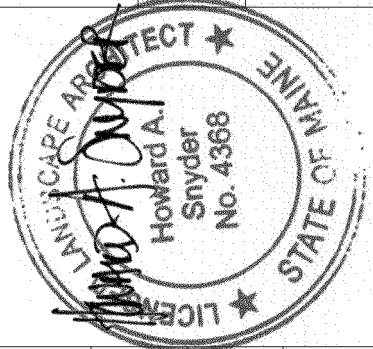
BALL AND BURLAP SHRUB PLANTING DETAIL
NOT TO SCALE
MAINEDOT STANDARD DETAIL 621(02)

A1



CONTAINER TREE/SHRUB PLANTING DETAIL
NOT TO SCALE
MAINEDOT STANDARD DETAIL 621(03)

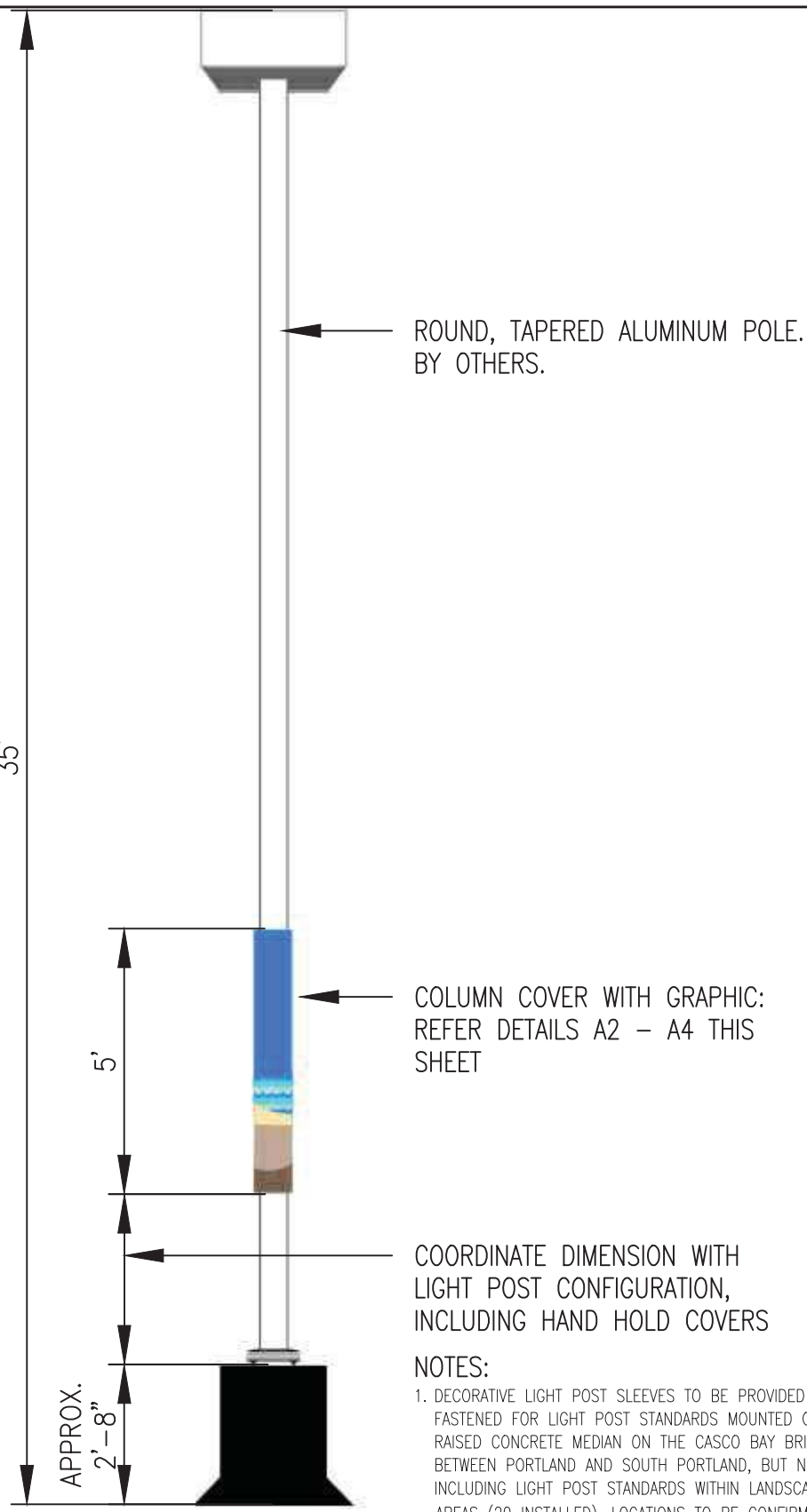
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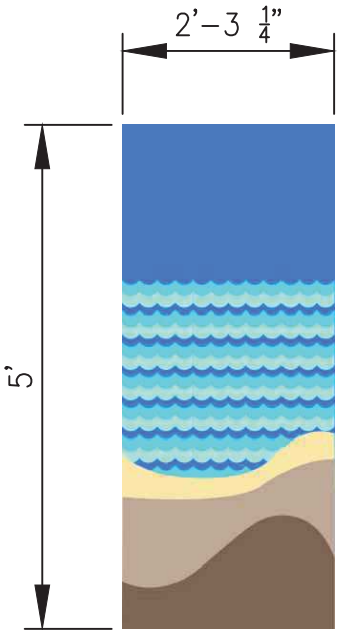
SIGNATURE
P.E. NUMBER
DATE

PROJ. MANAGER	J. STILLWELL	BY	DATE
DESIGN-DETAILED	HARRIMAN	HAS	Feb./2019
CHECKED-REVIEWED	HARRIMAN	HAS	Feb./2019
DESIGN-DETAILED2			
DESIGN-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

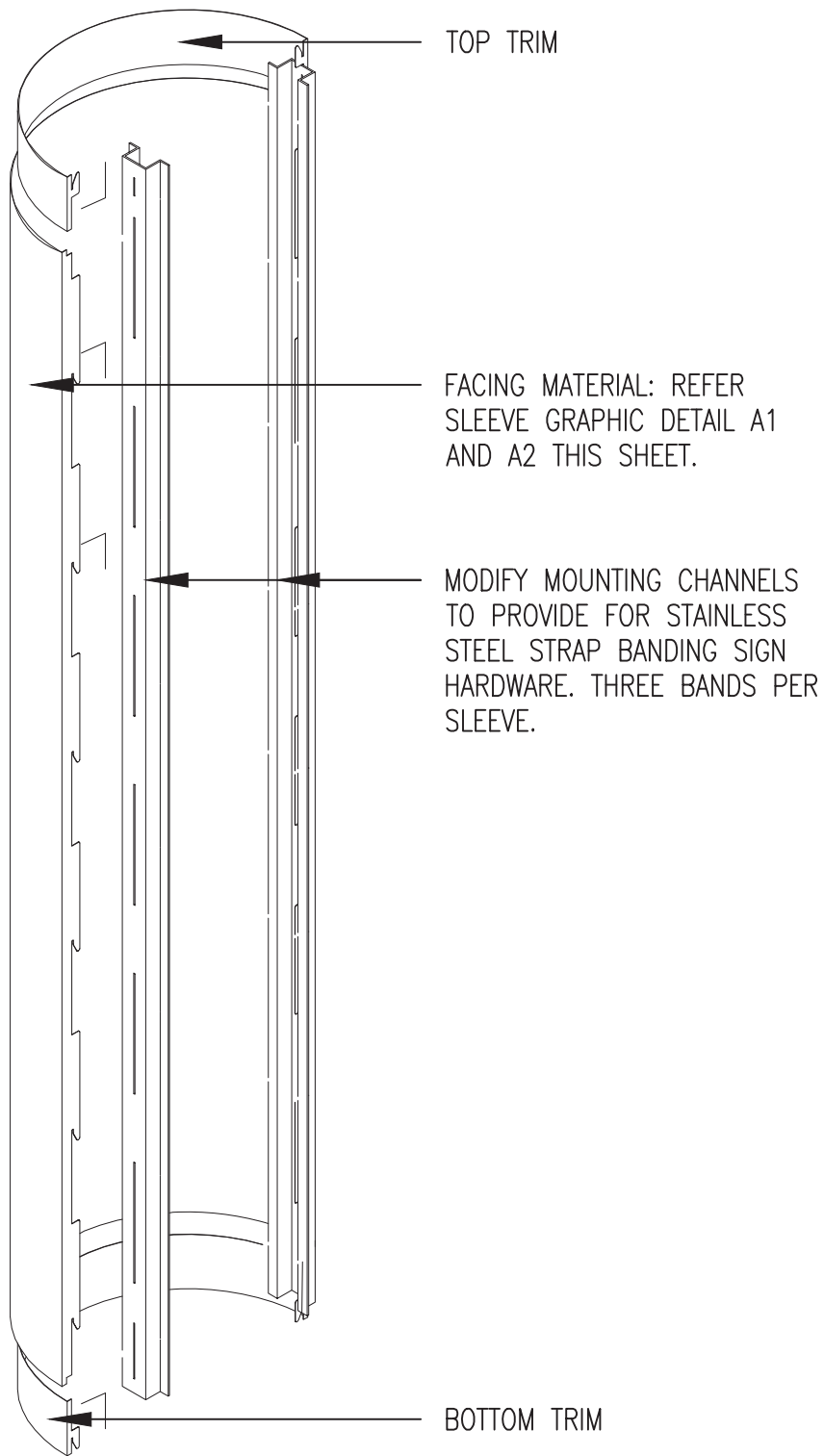
SHEET NUMBER



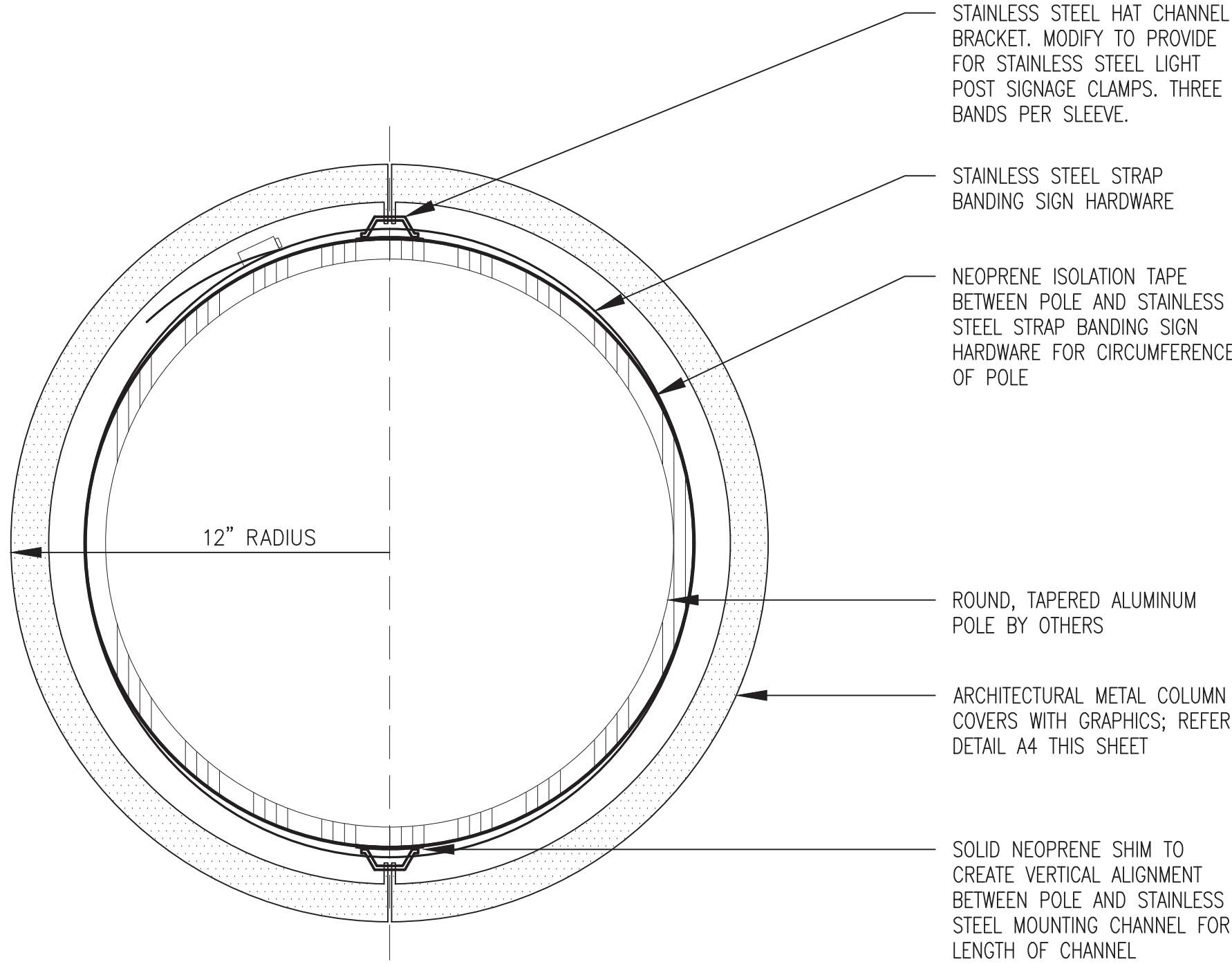
- NOTES:
1. DECORATIVE LIGHT POST SLEEVES TO BE PROVIDED AND FASTENED FOR LIGHT POST STANDARDS MOUNTED ON THE RAISED CONCRETE MEDIAN ON THE CASCO BAY BRIDGE BETWEEN PORTLAND AND SOUTH PORTLAND, BUT NOT INCLUDING LIGHT POST STANDARDS WITHIN LANDSCAPE AREAS (20 INSTALLED). LOCATIONS TO BE CONFIRMED BY CONTRACTOR AND APPROVED BY MAINE DOT.
 2. REFER TO SPECIAL PROVISIONS SECTION 634 FOR ADDITIONAL INFORMATION.
 3. GRAPHIC SHOWN IS REPRESENTATIVE. FINAL GRAPHIC TO BE PROVIDED IN ELECTRONIC FORMAT BY THE DESIGNER TO THE GENERAL CONTRACTOR.



- NOTES:
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- NOTE:
- ALL NEOPRENE ISOLATION TAPE AND SHIMS MUST BE INSTALLED IN A MANNER THAT ELIMINATES ALL CONTACT BETWEEN DISSIMILAR MATERIALS



LIGHT POST SLEEVE: MOUNTING LOCATION

A1

SLEEVE GRAPHIC: PROJECTED ELEVATION

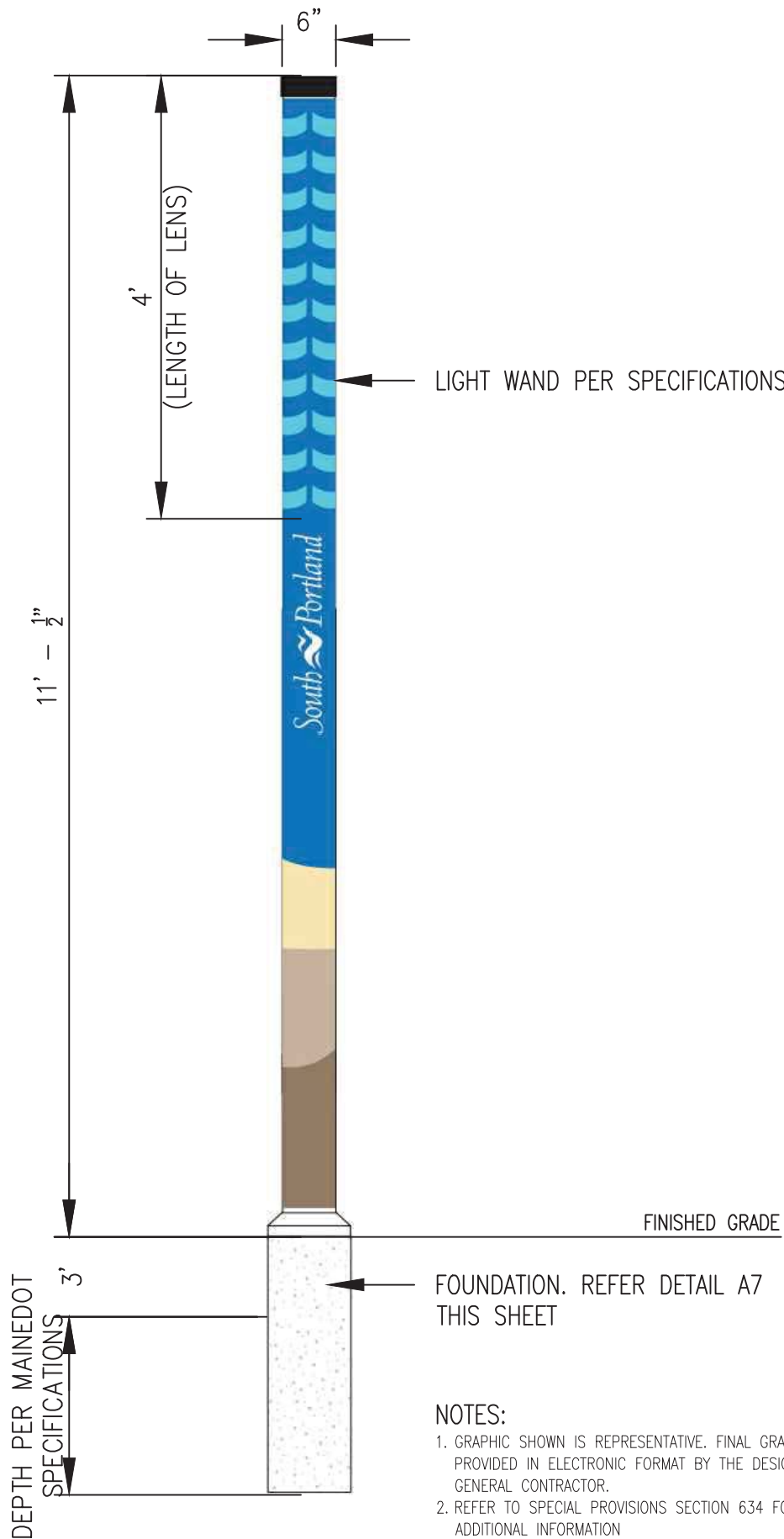
A2

ARCHITECTURAL METAL COLUMN COVER

A3

ARCHITECTURAL METAL COLUMN COVER: SECTION

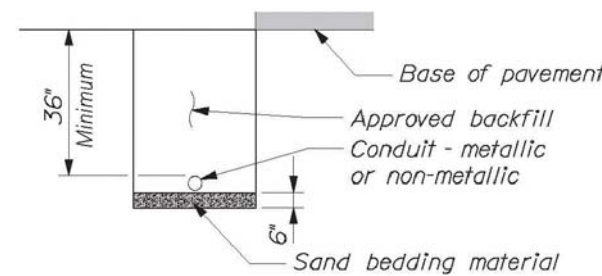
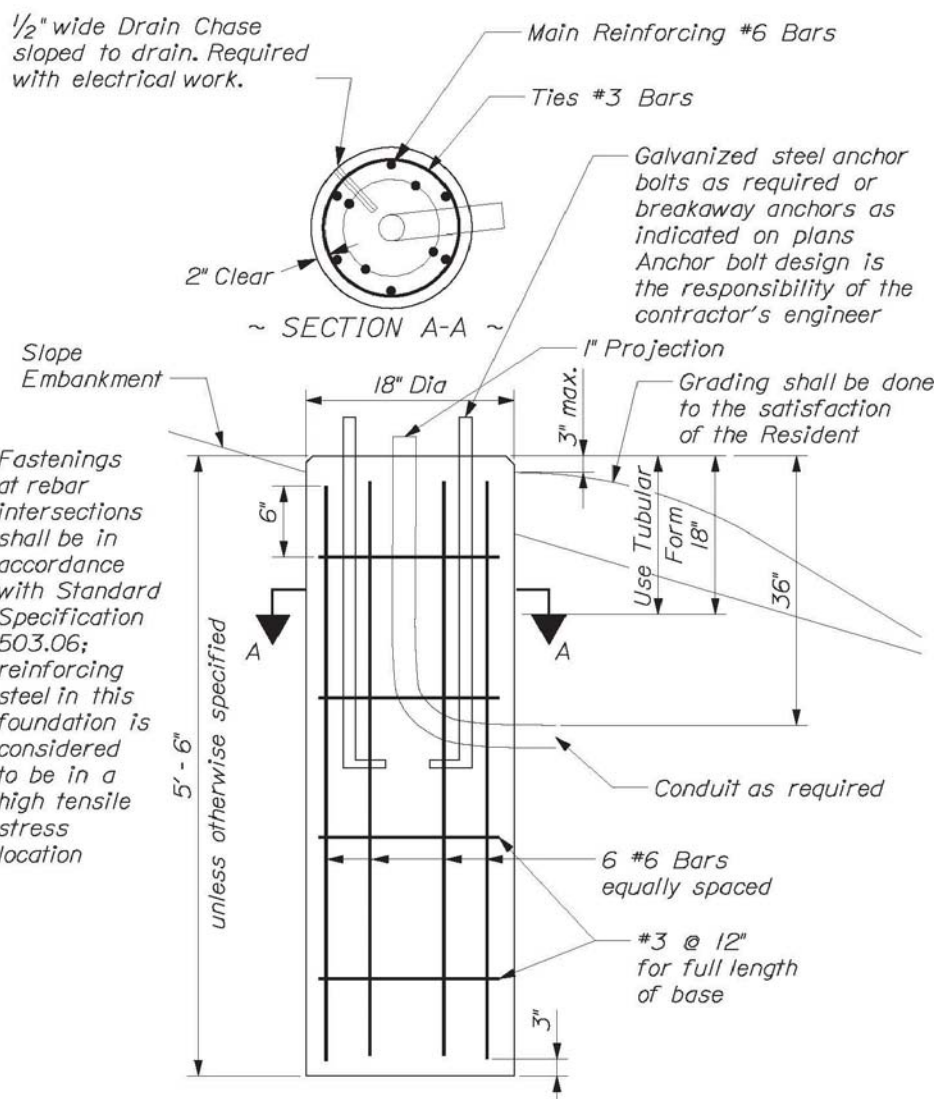
A4



- NOTES:
1. GRAPHIC SHOWN IS REPRESENTATIVE. FINAL GRAPHIC TO BE PROVIDED IN ELECTRONIC FORMAT BY THE DESIGNER TO THE GENERAL CONTRACTOR.
 2. REFER TO SPECIAL PROVISIONS SECTION 634 FOR ADDITIONAL INFORMATION.



- NOTES:
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 2. REFER TO SPECIAL PROVISIONS SECTION 634 FOR ADDITIONAL INFORMATION.



LIGHT WAND AND GRAPHIC

A5

LIGHT WAND GRAPHIC: PROJECTED ELEVATION

A6

LIGHT WAND FOUNDATION

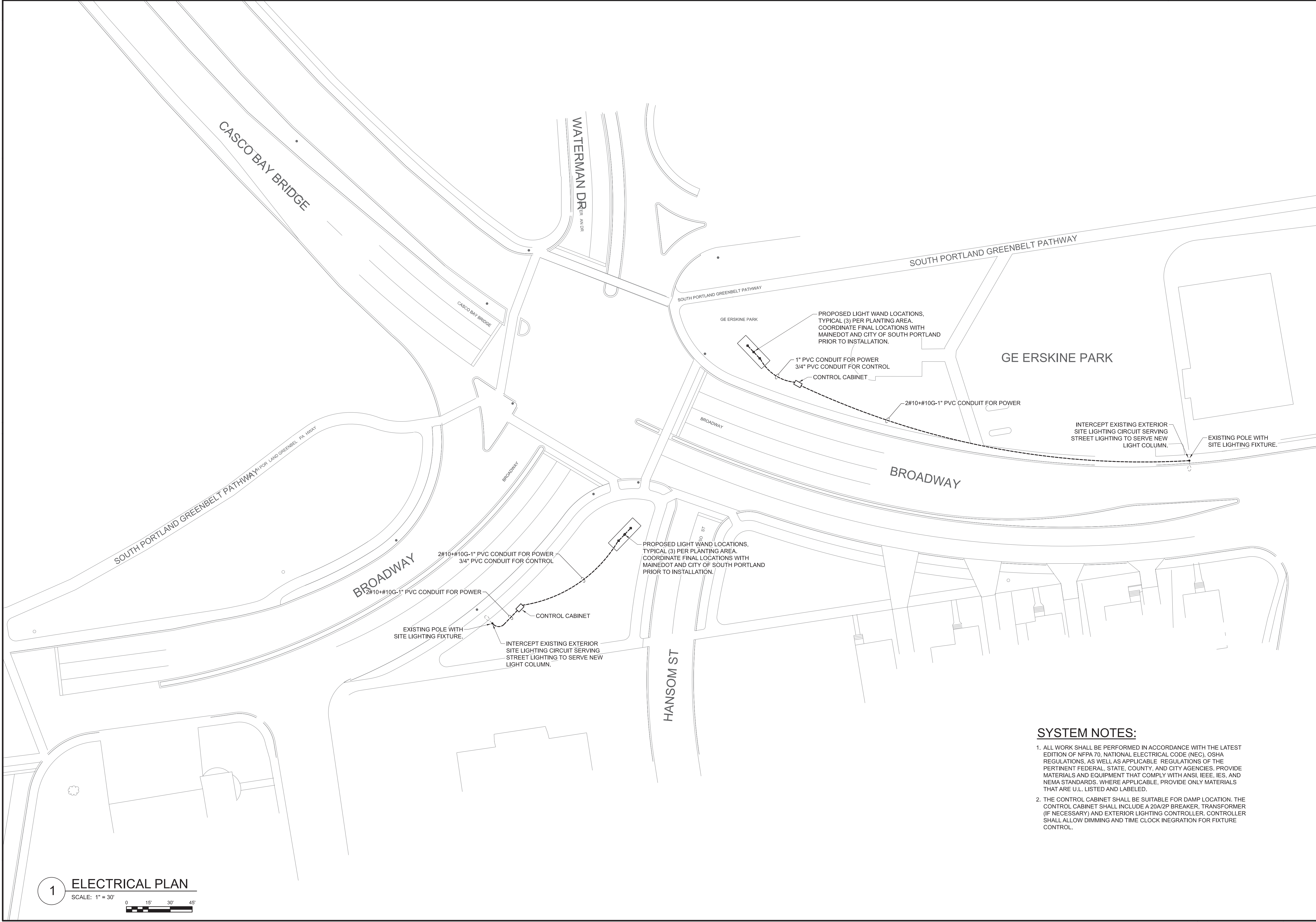
A7

CONDUIT TRENCH

A8

Date:02/13/2019

Division: BRIDGE



1

ELECTRICAL PLAN

SCALE: 1" = 30'

0

15'

30'

45'

SYSTEM NOTES:

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF NFPA 70, NATIONAL ELECTRICAL CODE (NEC), OSHA REGULATIONS, AS WELL AS APPLICABLE REGULATIONS OF THE PERTINENT FEDERAL, STATE, COUNTY, AND CITY AGENCIES. PROVIDE MATERIALS AND EQUIPMENT THAT COMPLY WITH ANSI, IEEE, IES, AND NEMA STANDARDS. WHERE APPLICABLE, PROVIDE ONLY MATERIALS THAT ARE U.L. LISTED AND LABELED.
2. THE CONTROL CABINET SHALL BE SUITABLE FOR DAMP LOCATION. THE CONTROL CABINET SHALL INCLUDE A 20A/2P BREAKER, TRANSFORMER (IF NECESSARY) AND EXTERIOR LIGHTING CONTROLLER. CONTROLLER SHALL ALLOW DIMMING AND TIME CLOCK INEGRATION FOR FIXTURE CONTROL.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-2189 (000)

WIN
21890.00

BRIDGE PLANS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
Professional Seal
No. 7700
Professional Engineer
February 13, 2019

SIGNATURE
[Signature]
P.E. NUMBER
7700
DATE
February, 2019

PROJ. MANAGER	J. STILLWELL	BY	DATE
DESIGN-DETAILED	BSO	FEB./2019	
CHECKED-REVIEWED	HARRMAN	JWT	FEB./2019
DESIGN2-DETAILED			
REVISIONS	1		
REVISIONS	2		
REVISIONS	3		
REVISIONS	4		
FIELD CHANGES			

PORTLAND-SOUTH PORTLAND
CASCO BAY BRIDGE

ELECTRICAL PLAN

SHEET NUMBER

6A

6 OF 6