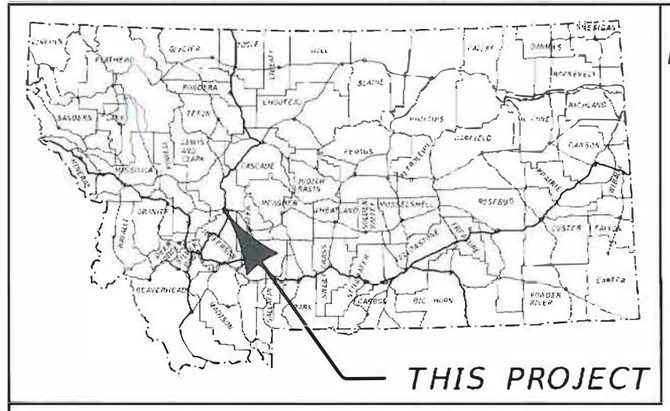
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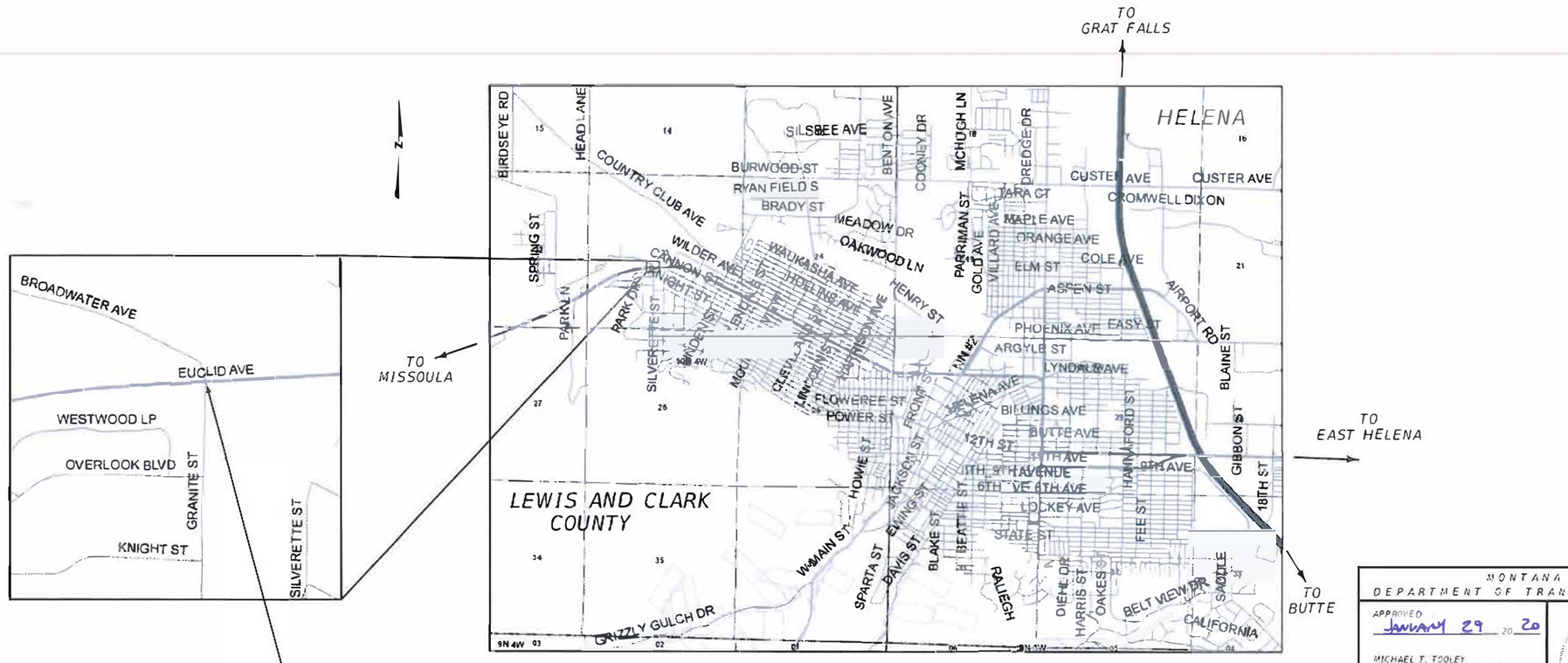


MONTANA DEPARTMENT OF TRANSPORTATION

FEDERAL AID PROJECT HSIP 8-2(118)41
PEDESTRIAN & BICYCLE SAFETY
SF 179 EUCLID AVE PED IMPRV
LEWIS AND CLARK COUNTY

CSF = 0.999230-15

LENGTH NA MILES



ASSOCIATED PROJECT AGREEMENT NUMBERS	
R / W	
I.C.	
P. E.	HSIP-G 8-2(117)41

MONTANA DEPARTMENT OF TRANSPORTATION

APPROVED January 29 20 20

MICHAEL T. TOOLEY
DIRECTOR OF TRANSPORTATION

BY _____
TRAFFIC AND SAFETY ENGINEER

MONTANA
GABE B. PRIEBE
13957PE
LICENSED PROFESSIONAL ENGINEER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____
DIVISION ADMINISTRATOR — DATE

3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\9648000sat1001.dgn	DESIGNED BY	DANIEL BIRUT	6/18/2019
2		~~1/28/2020~~	REVIEWED BY	MICHAEL GROVER	6/18/2019
		2:19:32 PM CPS - V2160	CHECKED BY		
					UPN 9648000

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NOTES

BASIS OF PLAN QUANTITIES

(QUANTITIES FOR ESTIMATING PURPOSES ONLY)

COMP. AGGREGATE WEIGHT	= 3700 LBS. PER CUBIC YARD
COMP. WEIGHT OF PL. MIX BIT. SURF.	= 3855 LBS. PER CUBIC YARD
ASPHALT CEMENT - GRADE S - 3/4" AGG.	= 5.4% OF PL.MIX BIT.SURF.
ASPHALT CEMENT - GRADE S - 1/2" AGG.	= 5.8% OF PL.MIX BIT.SURF.
HYDRATED LIME	= 1.4% OF PL.MIX BIT.SURF.
BITUMINOUS MATERIAL	= 8.5 LBS. PER GAL.
EMULSIFIED ASPHALT - TACK (CONCRETE SURFACES)	= 0.10 GAL. PER SQ.YARD (UNDILUTED)
EMULSIFIED ASPHALT - FOG SEAL (S & C)	= 0.075 GAL. PER SQ.YARD (UNDILUTED)
SEAL	= 0.42 GAL. PER SQ.YARD
COVER	= 25 LBS. PER SQ.YARD
CURING SEAL	= 0.2 GAL. PER SQ.YARD
CTB	= 3620 LBS. PER CUBIC YARD
BLOTTER	= 15 LBS. PER SQ.YARD
PORTLAND CEMENT	= 4% OF CTB DRY WT.

UTILITIES

CALL THE UTILITIES UNDERGROUND LOCATION CENTER (811) OR OTHER NOTIFICATION SYSTEM FOR THE MARKING AND LOCATION OF ALL LINES AND SERVICES BEFORE EXCAVATING. ALL CLEARANCES OR DEPTHS PROVIDED FOR UTILITIES ARE FROM EXISTING GROUND LINE.

WETLANDS

WETLANDS MAY EXIST ADJACENT TO THE ROADWAY AND BEYOND THE PROJECT LIMITS. A WETLAND DELINEATION HAS NOT BEEN COMPLETED FOR THIS PROJECT. IMPACTS TO WETLAND AREAS ARE NOT ANTICIPATED IN ASSOCIATION WITH THE PROPOSED WORK. NO PERMITS HAVE BEEN OBTAINED. ANY ACTION IMPACTING WETLAND AREAS WITHOUT THE APPROPRIATE PERMITTING IS THE RESPONSIBILITY OF THE CONTRACTOR.

REVEGETATION

SALVAGE AND/OR FURNISH SUFFICIENT QUANTITIES OF TOPSOIL MEETING STD SPEC 713.05 TO PLACE 3 INCHES OVER ALL DISTURBED AREAS.
IMMEDIATELY FOLLOWING ALL GRADING ACTIVITIES, BROADCAST SEED WITH THE FOLLOWING SEED MIX AND EQUIVALENT RATES. FOLLOWING BROADCAST SEEDING, SCARIFY THE AREAS TO INCORPORATE THE SEED INTO THE UPPER ½INCH OF SOIL.

CRITANA THICKSPIKE WHEATGRASS 20.0 LBS PLS PER ACRE

ABSORB THE COSTS INTO OTHER WORK ITEMS.

LEVEL DATA

BEARING SOURCE

GRID -- MONTANA COORDINATE SYSTEM NAD 83- 2011

LEVEL DATUM SOURCE

NAVD88- ELEVATIONS ARE DERIVED FROM DIFFERENTIAL LEVELS HOLDING THE GNSS DERIVED ELEVATION AT C9648.

SUMMARY

SIDEWALK

RM	square yards				linear feet	REMARKS
	CONCRETE SIDEWALK 4"		DETECTABLE WARNING DEVICES TYPE 1		WIDTH	
	LEFT	RIGHT	LEFT	RIGHT		
41.26	7.5		1.2		5.0	EUCLID AVE. AND BROADWATER AVE. NW CORNER
SUBTOTAL	7.5	~	1.2	~	~	
TOTAL	7.5		1.2		~	

CURB

RM	linear feet				REMARKS
	CONCRETE CURB AND GUTTER		# REMOVE CURB AND GUTTER		
	LEFT	RIGHT	LEFT	RIGHT	
41.26	15.9		15.9		EUCLID AVE. AND BROADWATER AVE. NW CORNER
SUBTOTAL	15.9	~	15.9	~	
TOTAL	15.9		~		

FOR INFORMATION ONLY - INCLUDE IN THE COST OF CONCRETE CURB AND GUTTER

CONTROL DIAGAM

A9648

B9648

C9648

PROJECT NUMBER: HSIP-G 8-2(117)41
PROJECT NAME: SF 179 EUCLID AVE PED IMPRV
UPN: 9648000

CSF: 0.99923045
GEOID12A

MARK	NORTHING	EASTING	ELEV. *
A9648	870102.586	1321752.000	3959.35
B9648	870034.696	1321142.278	3961.10
C9648	870042.854	1322428.287	3962.07

NOTES: HORIZONTAL STATE PLANE COORDINATES ARE INTERNATIONAL FEET (NAD83-2011)
ELEVATIONS ARE US SURVEY FEET (NAVD88)

* ELEVATIONS ARE DERIVED FROM DIFFERENTIAL LEVELS HOLDING THE GNSS DERIVED ELEVATION AT C9648.

PROJECT NUMBER: HSIP-G 8-2(117)41
PROJECT NAME: SF 179 EUCLID AVE PED IMPRV
UPN: 9648000

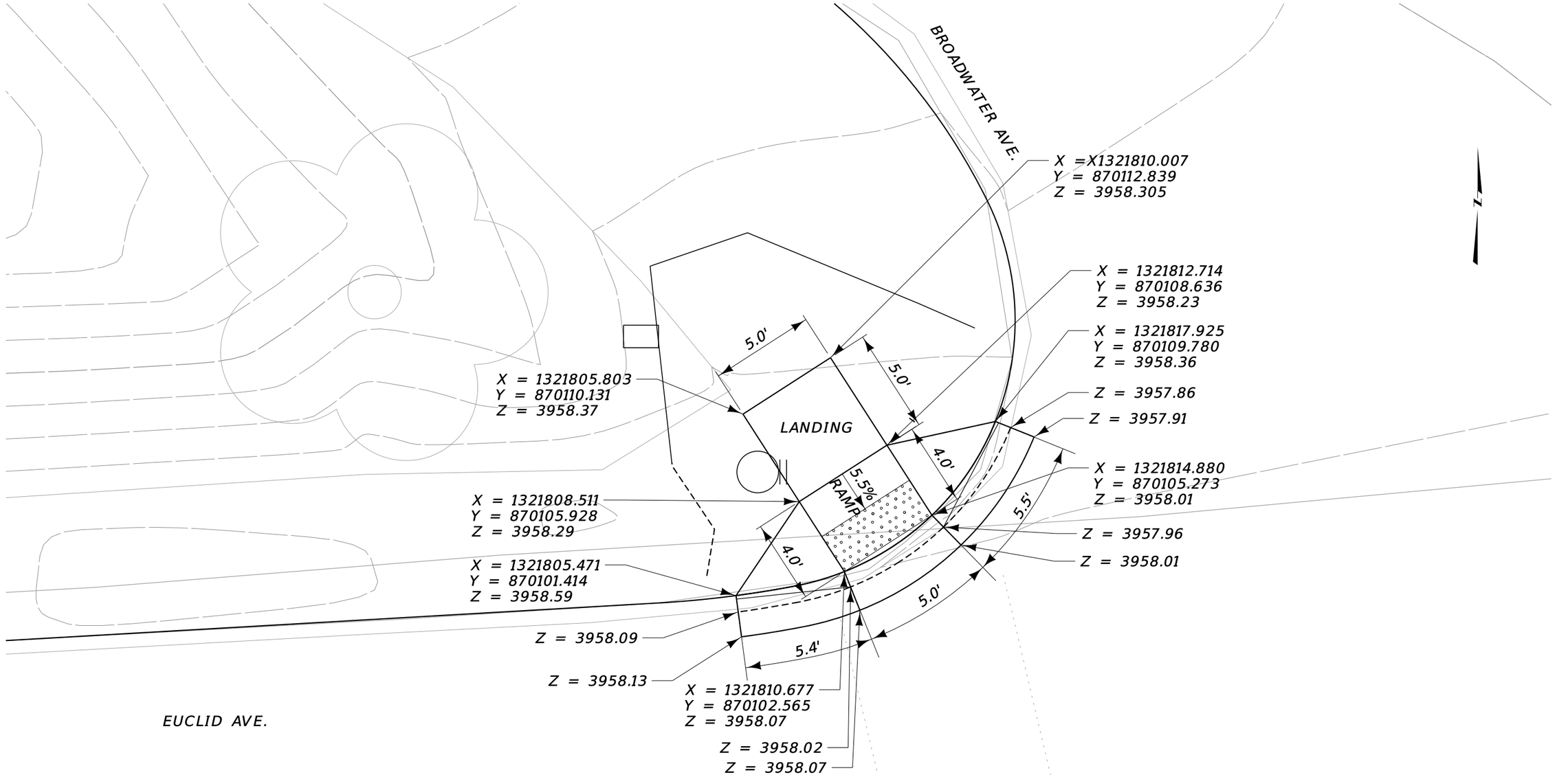
MARK DESCRIPTION

A9648 SET MDT 2" CONTROL CAP ON 5/8" X 30" REBAR STAMPED "A9648" FLUSH WITH THE GROUND. THE CAP IS AT THE NORTHWEST QUADRANT OF THE INTERSECTION OF BROADWATER AVE AND EUCLID AVE, 102' WEST OF OF THE CENTERLINE OF BROADWATER AVE, 4.3' NORTH OF WESTBOUND EUCLID BACK OF CURB, 41.5' NORTH OF THE NORTH SIDE OF CENTER MEDIAN CURB, AND 3' SOUTH OF A WITNESS POST. THE CAP IS AT M.P. 41.2 ALONG EUCLID AVE.

B9648 SET MDT 2" CONTROL CAP ON 5/8" X 30" REBAR STAMPED "B9648" FLUSH WITH THE GROUND. THE CAP IS ON THE NORTH SIDE OF EUCLID AVENUE AT M.P. 41.12, 3' NORTH OF WESTBOUND EUCLID BACK OF CURB, 29' WEST OF A LUMINAIRE, 40' NORTH OF THE NORTH SIDE OF CENTER MEDIAN CURB, AND 3' SOUTH OF A WITNESS POST.

C9648 SET MDT 2" CONTROL CAP ON 5/8" X 30" REBAR STAMPED "C9648" FLUSH WITH THE GROUND. THE CAP IS ON THE SOUTH SIDE OF EUCLID AVENUE AT M.P. 41.35, 2.5' SOUTH OF EASTBOUND EUCLID BACK OF CURB, 32' WEST OF MEDIAN CURB BULL NOSE, 133' WEST OF LUMINAIRE, AND 3' NORTH OF A WITNESS POST.

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3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\9648000sapln001.dgn	DESIGNED BY	DANIEL BIRLUT	6/18/2019		SF 179 EUCLID AVE PED IMPRV	HSIP 8-2(118)41
2		11/26/2019	REVIEWED BY	MICHAEL GROVER	6/18/2019			UPN 9648000	3
		8:13:29 AM CPS - U511	CHECKED BY			LEWIS AND CLARK COUNTY		

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SUMMARY
SIGNING & DELINEATION QUANTITIES

MATERIAL	TOTAL	UNIT
SIGNS-SHEET ALUMINUM-REFLECTIVE SHEETING(IV)		SQ. FOOT
SIGNS-SHEET ALUMINUM-REFLECTIVE SHEETING(XI)	135.8	SQ. FOOT
SIGNS-ALUMINUM SHEET INCREMENT SHEETING (IV)		SQ. FOOT
SIGNS-ALUMINUM SHEET INCREMENT SHEETING (XI)		SQ. FOOT
OVERLAY-SHEET ALUMINUM		SQ. FOOT
POSTS-STEEL "U"		POUNDS
POLES-TREATED WOOD-4" DIA.		LINEAR FT.
POLES-TREATED WOOD-5" DIA.		LINEAR FT.
POLES-TREATED TIMBER-CLASS 4		LINEAR FT.
POLES-TREATED TIMBER-CLASS 3		LINEAR FT.
POSTS-TUBULAR STEEL (ROUND)		POUNDS
POSTS-TUBULAR STEEL (SQUARE PERFORATED)	59	POUNDS
POSTS-STRUCTURAL STEEL		POUNDS
OVERHEAD STRUCTURE-METAL-CANTILEVER		EACH
OVERHEAD STRUCTURE-METAL-BRIDGE		EACH
HIGHWAY TRAFFIC STRIPING-WHITE		GAL.(S)
HIGHWAY TRAFFIC STRIPING-YELLOW		GAL.(S)
WORDS & SYMBOLS WHITE EPOXY	6	GAL.(S)
REMOVE PAVEMENT MARKINGS	1280	LINEAR FT.
DELINEATOR-DESIGN A		EACH
DELINEATOR-DESIGN B		EACH
DELINEATOR-DESIGN C		EACH
DELINEATOR-DESIGN D		EACH
DELINEATOR-DESIGN E		EACH
DELINEATOR-DESIGN F		EACH
DELINEATOR-DESIGN G		EACH
DELINEATOR-DESIGN H		EACH
REMOVE SIGNS	4	EACH
REMOVE SIGNS-GUIDE		EACH
RESET SIGNS		EACH
RESET SIGNS-GUIDE		EACH
FRANGIBLE SIGN POST BREAKAWAY DEVICE-		EACH
FRANGIBLE SIGN POST BREAKAWAY DEVICE-		EACH
SQUARE TUBULAR SLIPBASE BREAKAWAY DEVICE-3"		EACH

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SIGN LOCATION AND SPECIFICATIONS

		SIGN NO.	PANEL SIZE	REFL SHTG TYPE: BACKGROUND	REFL SHTG TYPE: LEGEND	FEET: CLEARANCE	FEET: SIGN SUPPORT SPACING	TYPE OF SUPPORT	FEET: CANTILEVER	FEET: SUPPORT LENGTH (ESTIMATED)	FEET: SUPPORT LENGTH (INSTALLED)	FEET: MOUNTING HEIGHT	FEET: FOUNDATION DEPTH	SIGN PANEL (SQ. FT.): SHEET ALUMINUM	SIGN PANEL (SQ. FT.): ALUMINUM SHEET INCREMENT	SIGN PANEL (SQ. FT.): ALUMINUM SHEET OVERLAY	TIMBER POLE (LINEAR FT.): 4" TOP DIA.	TIMBER POLE (LINEAR FT.): 5" TOP DIA.	STEEL POST(LBS.): ROUND TUBULAR	STEEL POST(LBS.): SQUARE TUBULAR	STEEL POST(LBS.): STRUCTURAL STEEL	STEEL POST(LBS.): "U" POST	BREAKAWAY	SIGNS REMOVE	SIGNS RESET	GUIDE REMOVE	GUIDE RESET	REMARKS
		WESTBOUND																										
(1)	RT	S1-1 W16-2aP	36 x 36 30 x 18	XI XI										6.8(XI) 3.8(XI)								1				FYG	RSFO 800 FT
(2)	RT	S1-1 W16-7PL	36 x 36 30 x 18	XI XI		MOUNT ON SIGNAL POLE						7-0		6.8(XI) 3.8(XI)												FYG	NEW
(2)	RT	S1-1 W16-7PR	36 x 36 30 x 18	XI XI		MOUNT ON BACKSIDE OF SIGNAL POLE						7-0		6.8(XI) 3.8(XI)												FYG	NEW
(3)	RT	S1-1 W16-7PL	48 x 48 30 x 18	XI XI		MOUNT ON MAST ARM								12.0(XI) 3.8(XI)								1				FYG	* RSFO
(3)	RT	S1-1 W16-7PR	48 x 48 30 x 18	XI XI		MOUNT ON BACKSIDE OF MAST ARM								12.0(XI) 3.8(XI)												FYG	* NEW
		EASTBOUND																										
(4)	LT	S1-1 W16-7PR	48 x 48 30 x 18	XI XI		MOUNT ON BACKSIDE OF MAST ARM								12.0(XI) 3.8(XI)												FYG	* NEW
(4)	LT	S1-1 W16-7PL	48 x 48 30 x 18	XI XI		MOUNT ON MAST ARM								12.0(XI) 3.8(XI)								1				FYG	* RSFO
(5)	LT	S1-1 W16-7PR	36 x 36 30 x 18	XI XI		MOUNT ON BACKSIDE OF SIGNAL POLE						7-0		6.8(XI) 3.8(XI)												FYG	NEW
(5)	LT	S1-1 W16-7PL	36 x 36 30 x 18	XI XI		MOUNT ON SIGNAL POLE						7-0		6.8(XI) 3.8(XI)												FYG	NEW
(6)	LT	R1-5	36x36	XI	XI	5-0		2.5" TUBE		11-6		7-0	3-0	9.0(XI)						59				▲			NEW
(7)	LT	S1-1 W16-2aP	36 x 36 30 x 18	XI XI										6.8(XI) 3.8(XI)								1				FYG	RSFO 800 FT
TOTALS														135.8(XI)						59		4					

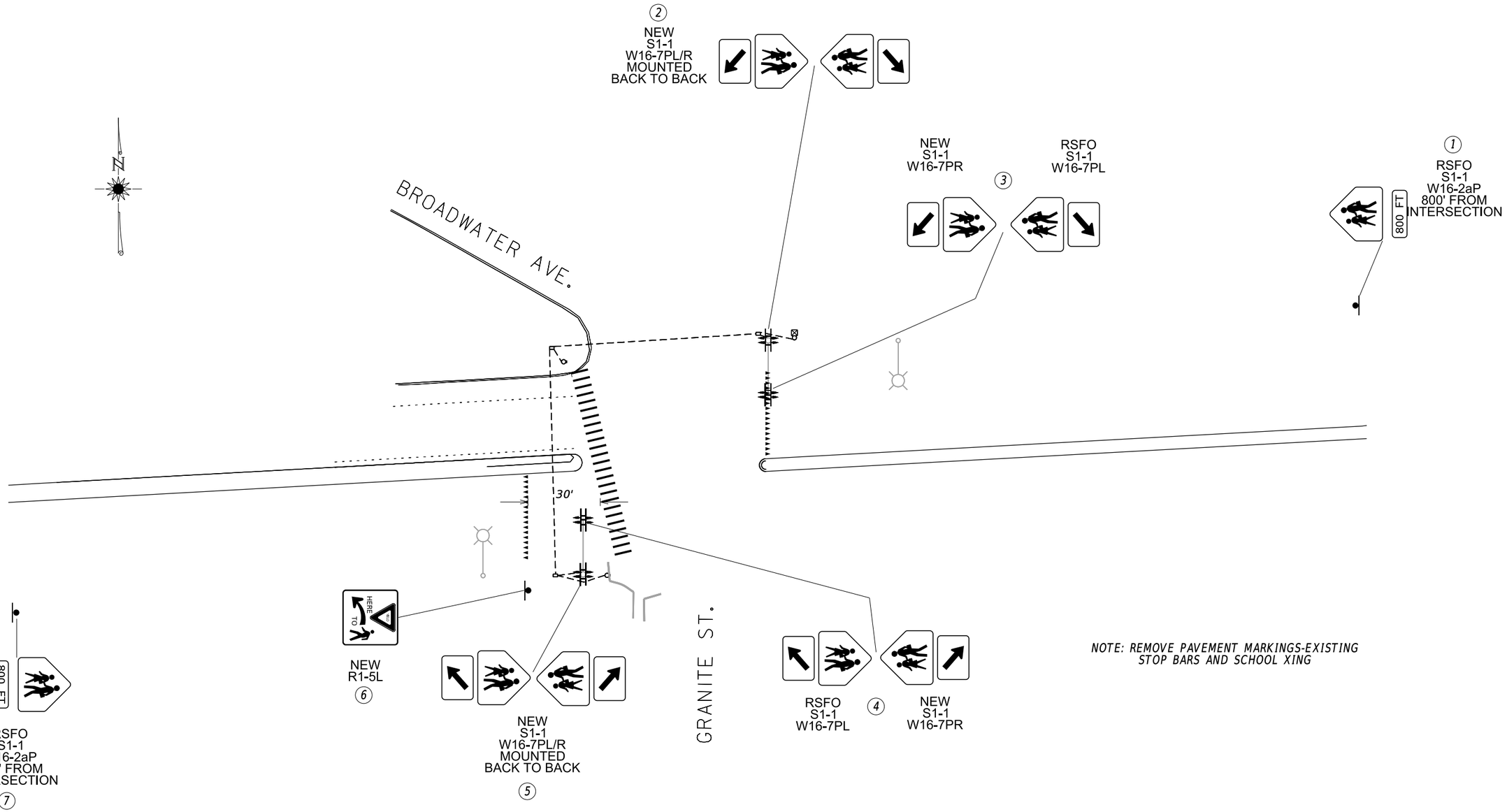
TYPE XI
FYG = FLUORESCENT YELLOW-GREEN SHEETING REQUIRED.

RSFO = REPLACE SIGN FACE ONLY

* = MOUNTING BACKBRACING REQUIRED

3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\9648000sisum001.dgn		SIGNING PLANS		SF 179 EUCLID AVE PED IMPRV / UPN 9648000	HSIP 8-2(118)41
2		11/26/2019					S2
1		8:13:39 AM CPS - U511		LEWIS & CLARK COUNTY			

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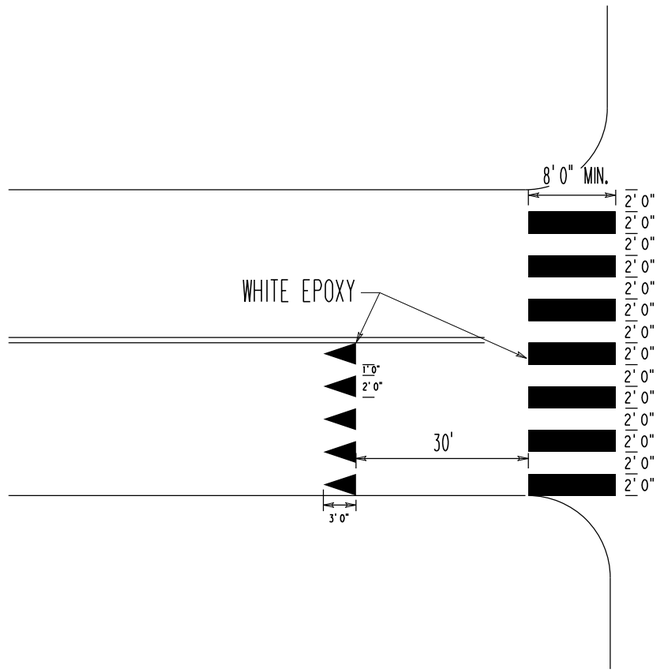


NOTE: REMOVE PAVEMENT MARKINGS-EXISTING STOP BARS AND SCHOOL XING

3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\9648000sisum001.dgn				SIGNING PLANS		SF 179 EUCLID AVE PED IMPRV	HSIP 8-2(118)41
2		11/26/2019				LEWIS & CLARK COUNTY		UPN 9648000	S3
1		8:13:42 AM CPS - U511							

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DETAILS



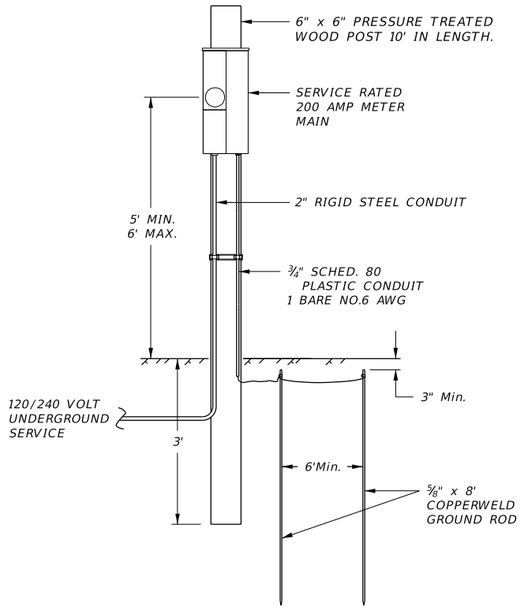
SCHOOL CROSSING

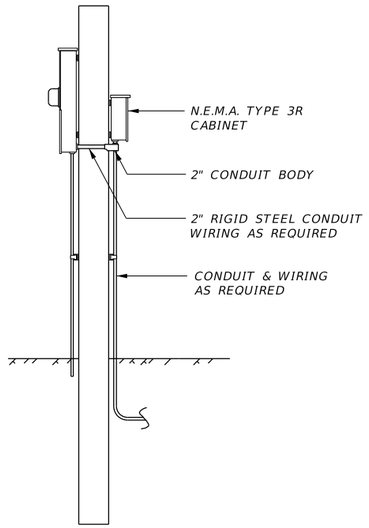
PAVEMENT MARKINGS

ELECTRICAL QUANTITY SUMMARY

	MATERIAL	TOTAL	UNIT
617 000 000	FOUNDATION - CONCRETE	1	CUBIC YARD
616 343 920	CONDUIT - PLASTIC 2 IN	30	LNFT
616 343 924	CONDUIT - PLASTIC 2 1/2 IN	50	LNFT
616 343 930	CONDUIT - PLASTIC 3 IN	220	LNFT
616 783 007	PULL BOX - COMPOSITE TYPE 2	3	EACH
617 033 114	CABLE-COPPER 2AWG14-600V	350	LNFT
617 033 214	CABLE-COPPER 3AWG14-600V	300	LNFT
617 123 106	CONDUCTOR-COPPER AWG6-600V	150	LNFT
617 123 110	CONDUCTOR-COPPER AWG10-600V	350	LNFT
617 333 130	SERV ASSEMB-30 AMP	1	EACH
617 573 070	RECTANGULAR RAPID FLASHING BEACON	2	EACH
617 673 080	SIG STANDARD TYPE 1-80	2	EACH
617 903 250	PUSH BUTTON PEDESTRIAN	2	EACH
617 909 110	SERVICE CONNECT	1	EACH

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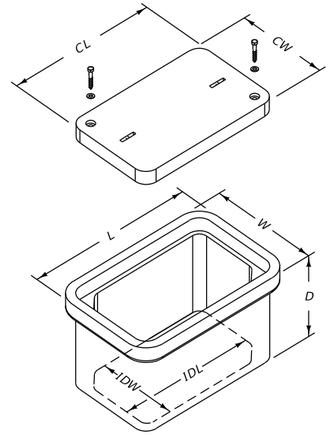




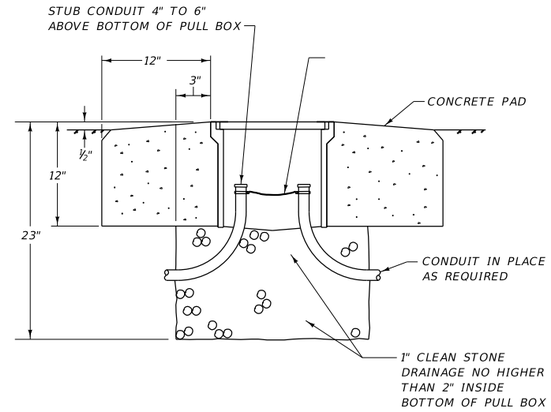
FRONT SIDE

UNDERGROUND SERVICE ASSEMBLY DETAIL

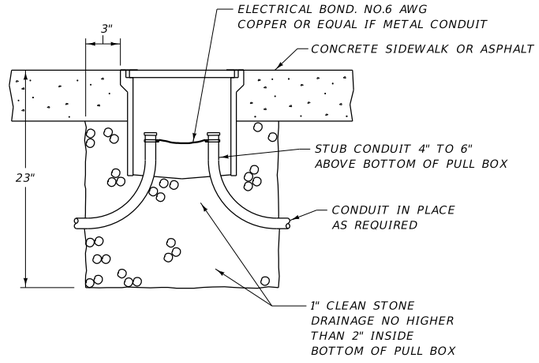
UNDERGROUND SERVICE
ASSEMBLY DETAIL
NO SCALE



PULL BOX - COMPOSITE MINIMUM DIMENSIONS								
TYPE 1			TYPE 2			TYPE 3		
L	=	20"	L	=	25"	L	=	32"
W	=	13"	W	=	15"	W	=	19"
D	=	12"	D	=	12"	D	=	12"
I D L	=	17"	I D L	=	21"	I D L	=	28"
I D W	=	10"	I D W	=	11"	I D W	=	15"
C L	=	18"	C L	=	23"	C L	=	30"
C W	=	11"	C W	=	13"	C W	=	17"



PULL BOX INSTALLED IN DIRT



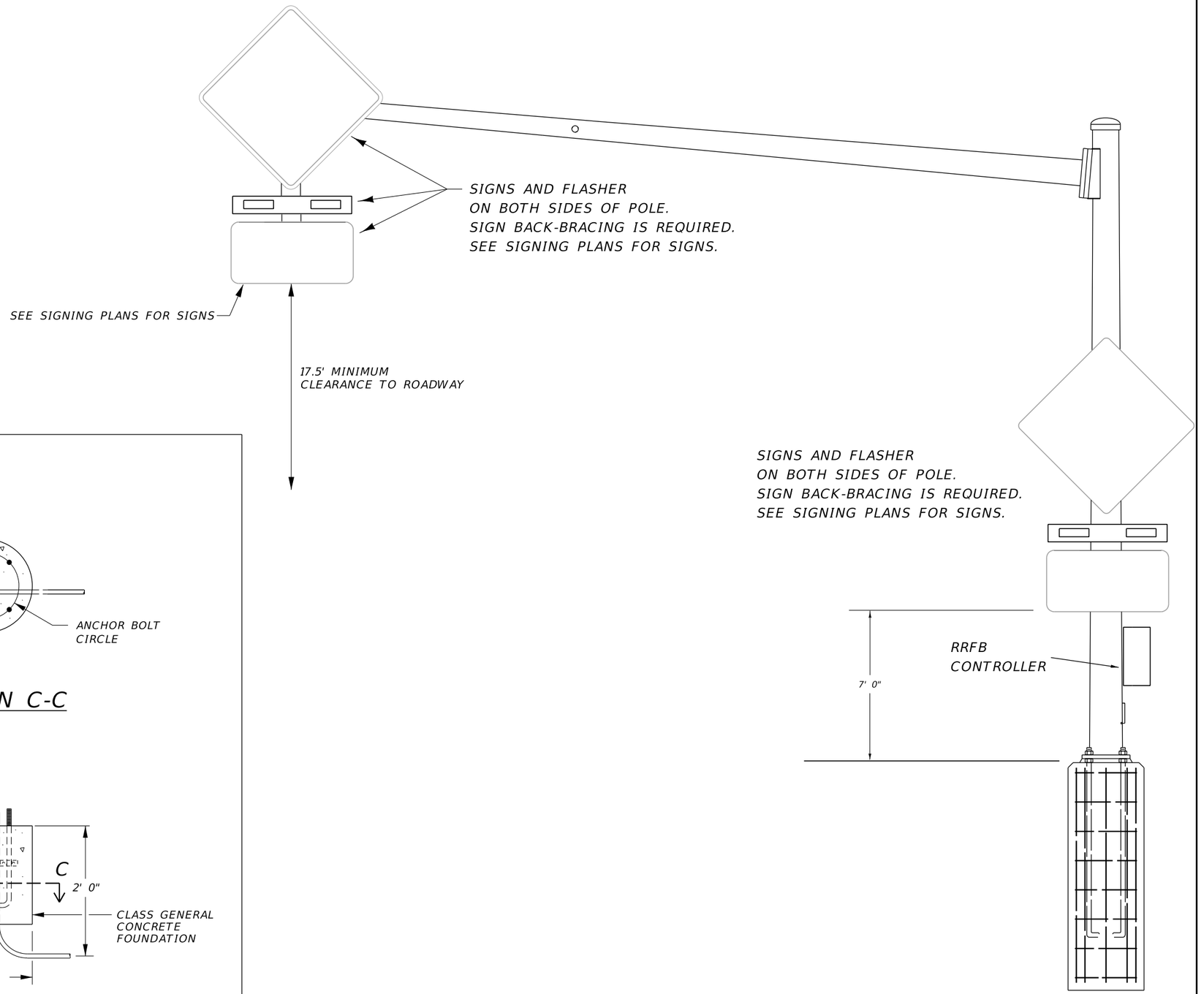
PULL BOX INSTALLED IN A SIDEWALK OR ASPHALT

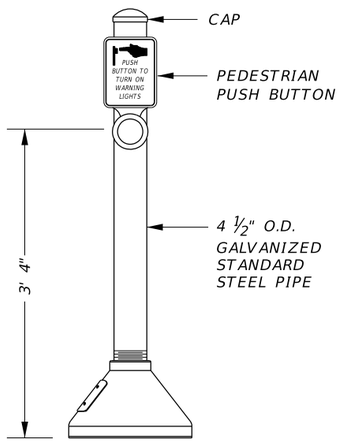
PULL BOX-COMPOSITE
TYPE 1,2 & 3
NO SCALE

PB2

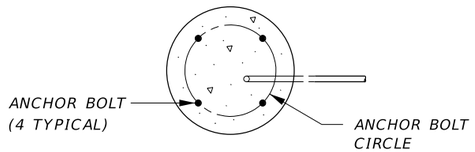
2	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\9648000elpln001.dgn	DESIGNED BY	dan cunningham	6/2019	ELECTRICAL PLANS	SF 179 EUCLID AVE PED IMPRV	HSIP 8-2(118)41
1		11/26/2019	REVIEWED BY					
		8:14:04 AM CPS - U511	CHECKED BY			LEWIS & CLARK COUNTY	UPN 9648000	E2

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TYPE I-80

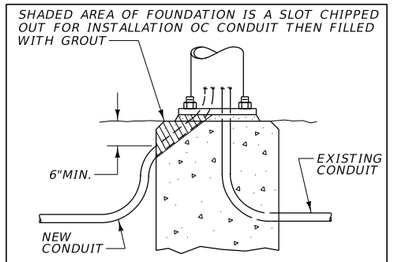


SECTION C-C

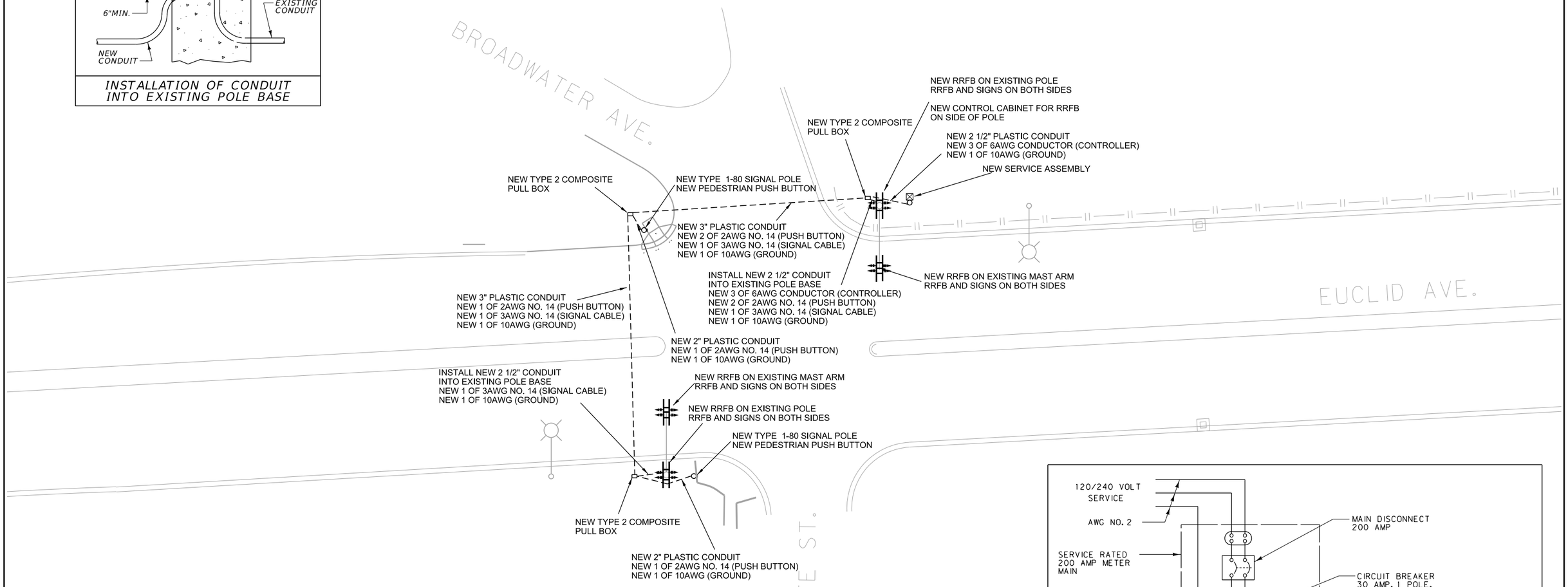
TYPE I-80

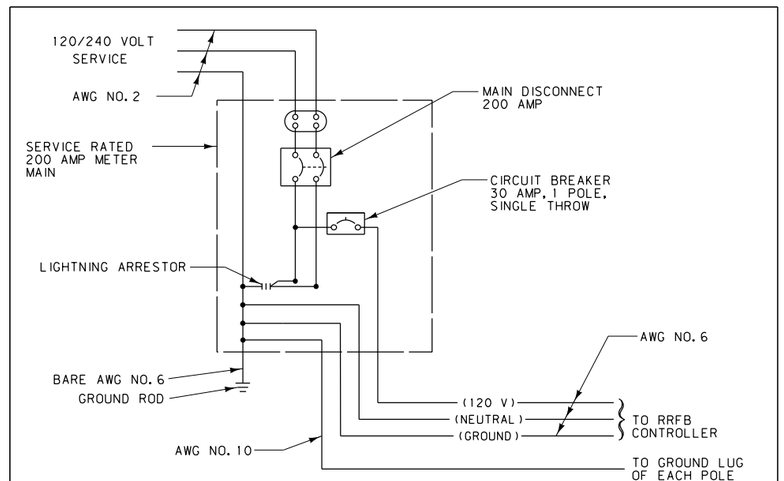
3 / 1	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\9648000elpln001.dgn 11/26/2019 8:14:07 AM CPS - U511	DESIGNED BY REVIEWED BY CHECKED BY	dan cunningham	6/2019	ELECTRICAL PLANS LEWIS & CLARK COUNTY	SF 179 EUCLID AVE PED IMPRV UPN 9648000	HSIP 8-2(118)41 E3

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INSTALLATION OF CONDUIT INTO EXISTING POLE BASE





SERVICE WIRING DIAGRAM

3 2	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\9648000elpln001.dgn 11/26/2019 8:14:11 AM CPS - U511	DESIGNED BY REVIEWED BY CHECKED BY	dan cunningham	6/2019	ELECTRICAL PLANS LEWIS & CLARK COUNTY	SF 179 EUCLID AVE PED IMPRV UPN 9648000	HSIP 8-2(118)41 E4