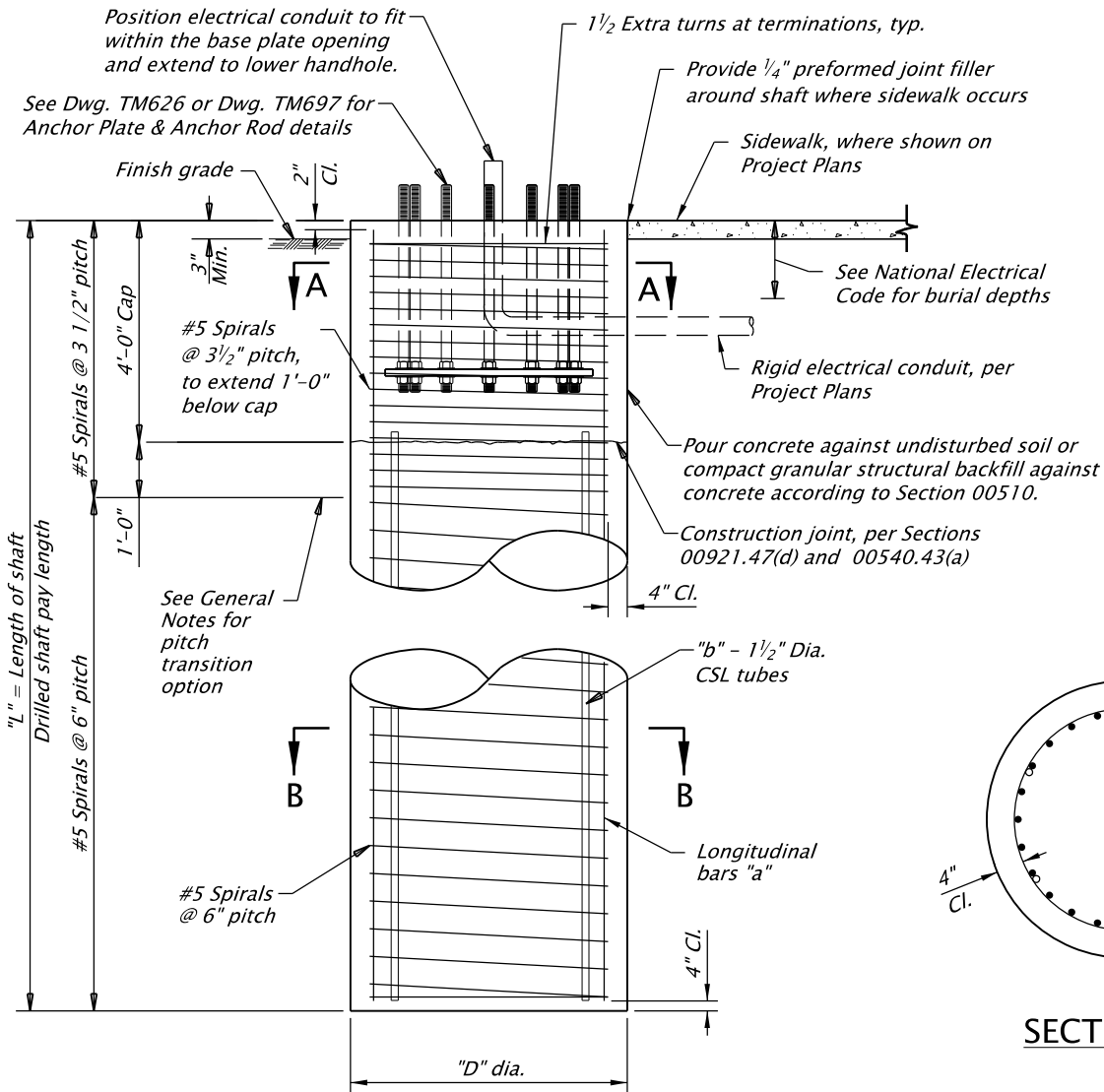
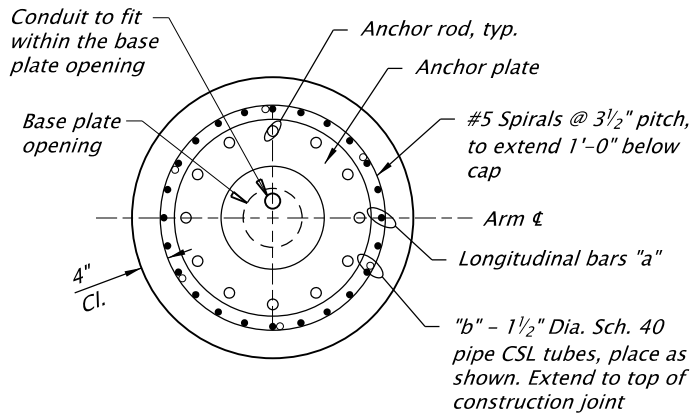


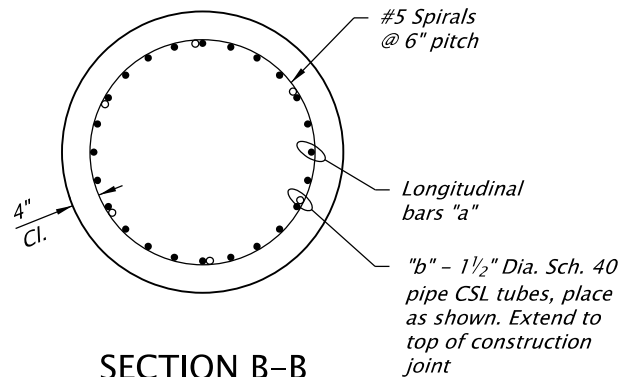


ELEVATION

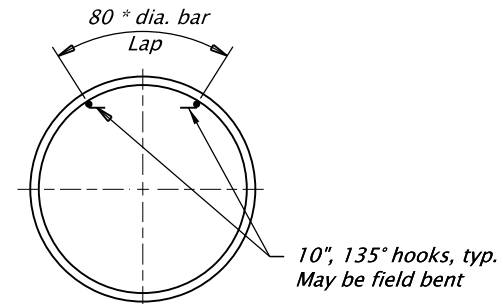
DRILLED SHAFT DETAILS
No Scale



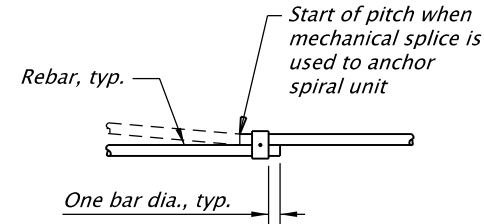
SECTION A-A



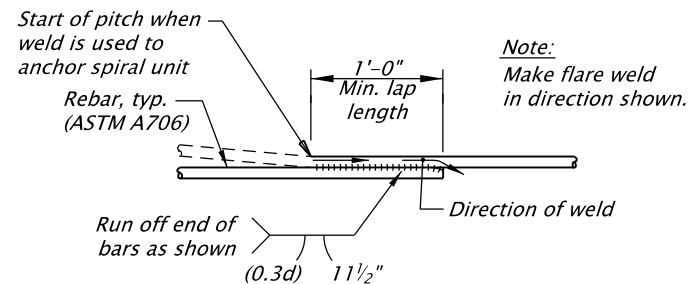
SECTION B-B



LAPPED SPLICE



MECHANICAL SPLICE
(Not allowed for ASTM A82 spirals)



WELDED SPLICE

SPIRAL SPLICE DETAIL
No Scale

GENERAL NOTES:

Use ASTM A706 for all welded splices, except ASTM A615 Grade 60, ASTM A82 or ASTM A496 may be used if copies of the chemical composition analysis are submitted and approved as weldable by the Engineer.

Anchor spirals at each end or discontinuity with one extra turn and a splice to itself as shown. Where permitted on plans, provide closed hoops conforming to the requirements of this detail.

Securely tie CSL tubes to reinforcement.

Use temporary casing as required. Permanent casing not permitted.

Cap concrete shall be Class 4000 - 3/4" structural concrete. Remainder of shaft shall be Class 4000 - 3/8" structural drilled shaft concrete without air entrainment and with 8 1/2" ± 1 1/2" slump.

Contractor shall field verify elevations prior to installation.

The transition between the 3 1/2" to 6" pitches may use two separate spiral cages with 1 1/2" horizontal turns at the start and end of each cage and the lapped splice details between the cages.

Note:

The base plate reactions shown in the table are worst case Extreme I and Service I loads. Engineer of Record to specify shaft depth and confirm shaft design for local soil conditions based on a site specific geotechnical study and loads shown in table. If shaft size or reinforcement shown in table are not adequate for local soil conditions, Engineer of Record must adjust the shaft design accordingly.

The shafts designs shown in table were based on an analysis to encompass worst case soil conditions by applying Extreme I loads to the top of shaft and analyzing below ground shaft forces using Brom's method for two different soil types. The assumed cohesive soil minimum undrained shear strength, c , is 600 psf. The assumed non-cohesive soil friction angle is 25 degrees and bulk weight is 100 pcf.

Accompanied by dwgs. TM621, TM622, TM623, TM624, TM625, TM626, TM627

Monotube Cantilever Design No.	Monotube VMS/Sign Bridge Design No.	Reinf. Steel	Shaft Dia.	No. of CSL Tubes	Reaction At Base Plate (Factored)				Reaction At Base Plate (Service)			
		"a"	"D"	"b"	Axial (lb)	Shear (lb)	Moment (ft-lb)	Torsion (ft-lb)	Axial (lb)	Shear (lb)	Moment (ft-lb)	Torsion (ft-lb)
1	-	30 - #9	5'-0"	6	22,600	26,200	839,000	672,000	20,500	10,100	384,000	259,000
2	-	30 - #9	5'-0"	6	28,100	20,000	784,200	707,000	25,500	8,500	501,200	279,000
3	-	30 - #9	5'-0"	6	18,400	19,600	622,000	517,000	16,700	7,700	293,000	204,000
4	-	30 - #9	5'-0"	6	21,800	13,200	500,800	430,000	19,800	5,200	339,200	169,000
5	-	30 - #9	5'-0"	6	16,900	13,400	431,600	357,000	15,300	5,300	222,000	140,000
6	-	24 - #9	4'-6"	5	12,800	12,300	381,000	240,000	11,600	4,900	171,000	94,000
7	-	24 - #9	4'-6"	5	13,000	7,200	268,000	222,000	11,800	2,800	181,000	87,000
8	-	20 - #9	4'-0"	5	7,800	5,600	170,000	110,000	7,100	2,200	86,000	44,000
9	-	30 - #9	5'-0"	6	26,900	26,500	884,000	745,000	24,400	10,500	498,000	294,000
-	1	30 - #9	5'-0"	6	36,800	40,700	952,600	396,000	33,400	27,000	449,600	156,000
-	2	30 - #9	5'-0"	6	28,500	30,300	754,700	252,000	25,900	17,900	343,500	99,500
-	3	30 - #9	5'-0"	6	23,200	22,900	592,300	128,700	21,100	12,100	261,700	51,000

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

STD. MONOTUBE SIGN/VMS
SUPPORT DRILLED SHAFT DETAILS

2024

DATE	REVISION	DESCRIPTION
01-2021	CHANGED CONDUIT NOTE	
01-2022	SLUMP WAS 8" +/- 1/2"	
07-2022	ADDED SPIRAL TIE NOTES AND CONDUIT BASE PLATE NOTE	
01-2025	CAP CONCRETE WAS CLASS 3600 - 3/4" CLASSIFIED AS A STRUCTURAL ITEM AND ADDED *STRUCTURAL DRILLED SHAFT CONCRETE*	
CALC. BOOK NO.	6921-6930, 6969-6972, 6974	SDR DATE- 10-JAN-2025

TM628

Effective Date: June 1, 2026 – November 30, 2026