

STATE	FED.AID	PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MASS.			09	33	51
PROJECT FILE NO.				601312	

DETAILS — 7

SOIL TYPE: ALLUVIAL

(SEE GENERAL NOTES)

MOMENT AT EXISTING GROUND (FT-KIPS)	DIA. (B) = 3'-0"		DIA. (B) = 3'-6"		DIA. (B) = 4'-0"	
	DEPTH (D)	VERTICAL BARS	DEPTH (D)	VERTICAL BARS	DEPTH (D)	VERTICAL BARS
50 OR LESS	12'-6"	10 # 6	11'-6"	8 # 8	10'-9"	12 # 7
100	19'-0"	10 # 6	17'-3"	8 # 8	16'-0"	12 # 7
150	24'-9"	10 # 8	22'-3"	8 # 8	20'-6"	12 # 7
200	29'-9"	16 # 8	27'-0"	12 # 8	24'-9"	12 # 7
250			31'-0"	12 # 8	28'-6"	14 # 8
300			35'-3"	16 # 8	32'-3"	14 # 8
350					35'-9"	12 # 10
400					39'-3"	12 # 10
450						
500						
550						

FOUNDATION DESIGN CHART I

SOIL TYPE: WET SANDY

(SEE GENERAL NOTES)

MOMENT AT EXISTING GROUND (FT-KIPS)	DIA. (B) = 3'-0"		DIA. (B) = 3'-6"		DIA. (B) = 4'-0"	
	DEPTH (D)	VERTICAL BARS	DEPTH (D)	VERTICAL BARS	DEPTH (D)	VERTICAL BARS
50 OR LESS	6'-0"	10 # 6	5'-9"	8 # 8	5'-3"	12 # 7
100	9'-0"	10 # 6	8'-3"	8 # 8	7'-6"	12 # 7
150	11'-3"	10 # 8	10'-3"	8 # 8	9'-6"	12 # 7
200	13'-3"	16 # 8	12'-0"	12 # 8	11'-3"	12 # 7
250	15'-3"	16 # 8	13'-9"	12 # 8	12'-9"	14 # 8
300	17'-0"	16 # 10	15'-6"	16 # 8	14'-3"	14 # 8
350	18'-6"	16 # 10	17'-0"	16 # 8	15'-6"	12 # 10
400	20'-3"	16 # 10	18'-3"	18 # 9	17'-0"	12 # 10
450	21'-9"	18 # 11	19'-9"	18 # 9	18'-3"	12 # 10
500	23'-3"	18 # 11	21'-0"	16 # 11	19'-3"	14 # 11
550	24'-9"	24 # 11	22'-3"	16 # 11	20'-6"	14 # 11

FOUNDATION DESIGN CHART III

SOIL TYPE: CLAYEY (MEDIUM STIFF)

(SEE GENERAL NOTES)

MOMENT AT EXISTING GROUND (FT-KIPS)	DIA. (B) = 3'-0"		DIA. (B) = 3'-6"		DIA. (B) = 4'-0"	
	DEPTH (D)	VERTICAL BARS	DEPTH (D)	VERTICAL BARS	DEPTH (D)	VERTICAL BARS
50 OR LESS	8'-9"	10 # 6	8'-0"	8 # 8	7'-6"	12 # 7
100	13'-0"	10 # 6	12'-0"	8 # 8	11'-0"	12 # 7
150	16'-9"	10 # 8	15'-3"	8 # 8	14'-0"	12 # 7
200	20'-0"	16 # 8	18'-0"	12 # 8	16'-9"	12 # 7
250	22'-9"	16 # 8	20'-9"	12 # 8	19'-0"	14 # 8
300	25'-9"	16 # 10	23'-3"	16 # 8	21'-6"	14 # 8
350	28'-6"	16 # 10	25'-9"	16 # 8	23'-6"	12 # 10
400	31'-0"	16 # 10	28'-0"	18 # 9	25'-9"	12 # 10
450			30'-3"	18 # 9	27'-9"	12 # 10
500			32'-6"	16 # 11	29'-9"	14 # 11
550			34'-9"	16 # 11	31'-9"	14 # 11

FOUNDATION DESIGN CHART II

SOIL TYPE: DRY SANDY

(SEE GENERAL NOTES)

MOMENT AT EXISTING GROUND (FT-KIPS)	DIA. (B) = 3'-0"		DIA. (B) = 3'-6"		DIA. (B) = 4'-0"	
	DEPTH (D)	VERTICAL BARS	DEPTH (D)	VERTICAL BARS	DEPTH (D)	VERTICAL BARS
50 OR LESS	5'-3"	10 # 6	5'-0"	8 # 8	5'-0"	12 # 7
100	7'-6"	10 # 6	7'-0"	8 # 8	6'-6"	12 # 7
150	9'-6"	10 # 8	8'-9"	8 # 8	8'-0"	12 # 7
200	11'-0"	16 # 8	10'-3"	12 # 8	9'-6"	12 # 7
250	12'-6"	16 # 8	11'-6"	12 # 8	10'-9"	14 # 8
300	14'-0"	16 # 8	12'-9"	16 # 8	11'-9"	14 # 8
350	15'-6"	16 # 10	14'-0"	16 # 8	13'-0"	12 # 10
400	16'-9"	16 # 10	15'-3"	18 # 9	14'-0"	12 # 10
450	18'-0"	18 # 11	16'-3"	18 # 9	15'-0"	12 # 10
500	19'-0"	18 # 11	17'-3"	18 # 11	16'-0"	14 # 11
550	20'-3"	24 # 11	18'-6"	16 # 11	17'-0"	14 # 11

FOUNDATION DESIGN CHART IV

GENERAL NOTES:

1. DETERMINATION OF EXISTING SOIL CONDITIONS SHALL BE MADE BY THE ENGINEER.
2. THE SMALLEST DIAMETER FOUNDATION SHALL BE USED THAT WILL MEET THE MOMENT REQUIREMENT AND BE AT LEAST 16" GREATER IN DIAMETER THAN THE BOLT CIRCLE DIAMETER.
3. IF A POOR SOIL OR LEDGE IS ENCOUNTERED, (I.E. ONE WHICH DOES NOT APPLY TO THE DESIGN CHARTS SHOWN ON THIS SHEET), AN ALTERNATIVE DESIGN SHALL BE DEVELOPED BY THE DESIGN ENGINEER. DECISIONS MADE IN NOTES #1 & #3, SHALL BE SUBMITTED TO THE M.D.P.W. FOR APPROVAL. IF UTILITIES OR OTHER UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED IN THE PROPOSED FOUNDATION AREA DURING EXCAVATION, THE CONTRACTOR SHALL BACKFILL THE AREA TO ITS ORIGINAL CONDITION UNTIL AN ALTERNATE DESIGN HAS BEEN PROVIDED BY THE DESIGN ENGINEER.
4. FOR MOMENT DETERMINATION SEE "DESIGN STANDARDS FOR TRAFFIC SIGNAL SUPPORTS—SPAN WIRE ASSEMBLIES".
5. FOR DETAILS OF FOUNDATIONS SEE SHEET 3—"SPAN WIRE ASSEMBLY—FOUNDATION DETAILS".
6. ALL HOLES SHALL BE FREE OF ANY WATER BEFORE ANY CONCRETE IS PLACED.

COMMONWEALTH OF MASSACHUSETTS
HIGHWAY DEPARTMENT

STANDARD DRAWINGS

SPAN WIRE ASSEMBLY
FOUNDATION DESIGN CHARTS

REVISED DATE

TRAFFIC ENGINEER

DIRECTOR BTP & D

BRIDGE ENGINEER

CHIEF ENGINEER