II. DESCRIPTION OF THE PROPOSED PROJECT

B. Line Design and Operational Features

1. Detail the number of circuits and their design voltage, initial operational voltage, any anticipated voltage upgrade, and transfer capabilities.

Response:

The Rebuild Project will affect two circuits, Chesterfield-Lakeside Line #217 and Chesterfield-Chickahominy Line #287.

Line #217 will be rebuilt for a design and operational voltage of 230 kV with a summer transfer capability of 1047 MVA.

A section of Line #287 will be rebuilt as part of the Rebuild Project, as set forth in Section I.F. This section of Line #287 will be rebuilt for a design and operational voltage of 230 kV with a summer transfer capability of 1047 MVA. But the operational transfer capability of Line #287 will not change as part of the Rebuild Project because it will be limited by the transfer capability of the conductor in the sections of the line not included in the Rebuild Project.

II. DESCRIPTION OF THE PROPOSED PROJECT

B. Line Design and Operational Features

2. Detail the number, size(s), type(s), coating and typical configurations of conductors. Provide the rationale for the type(s) of conductor(s) to be used.

Response:

Chesterfield-Lakeside 230 kV Line #217 will have predominantly 3-phase twinbundled 636 ACSR conductors arranged horizontally, except at Structures #111 to #112 and #188 to #189 where the conductors will be arranged vertically. The twinbundled 636 ACSR conductors are the Company's standard for new 230kV construction.

Approximately 0.7 miles of Line #217 will be rebuilt with 3-phase 1233.6 ACSS/TW (HS-285) single conductor, arranged horizontally, from the existing backbone structure (Structure #1A) in Chesterfield Substation to the proposed 3-pole structure (Structure #7) located approximately 1,400 feet north of the James River. The 1233.6 ACSS/TW (HS-285) conductor is a Company standard for ampacity uprates on existing structures or in situations for new construction where the twin-bundled 636 ACSR is not feasible due to sag and tension requirements.

Chesterfield-Chickahominy 230 kV Line #287 will have approximately 0.7 miles rebuilt with 3-phase 1233.6 ACSS/TW (HS-285) single conductor, arranged horizontally, from the existing backbone structure (Structure #1C) in Chesterfield Substation to the proposed 3-pole structure (Structure #6) located approximately 1,400 feet north of the James River. The 3-phase 1233.6 ACSS/TW (HS-285) conductor is a Company standard for ampacity uprates on existing structures or in situations for new construction where the twin-bundled 636 ACSR is not feasible due to sag and tension requirements

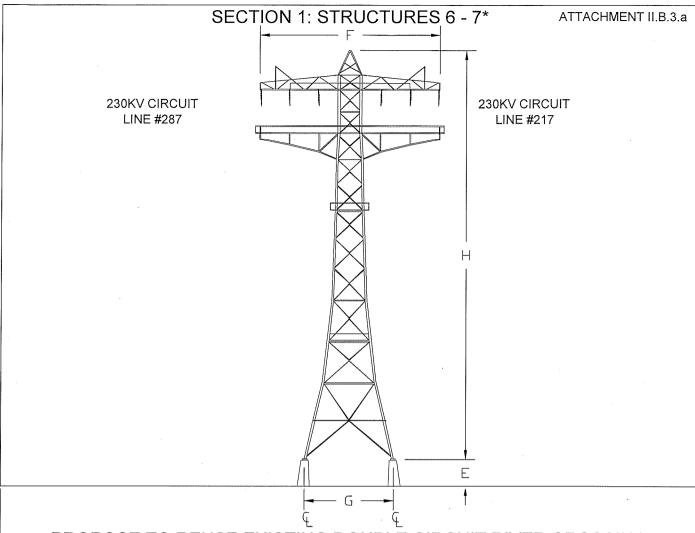
II. DESCRIPTION OF THE PROPOSED PROJECT

- B. Line Design and Operational Features
 - 3. With regard to the proposed supporting structures over each portion of the ROW for the preferred route, provide diagrams (including foundation reveal) and descriptions of all the structure types, to include:
 - a. mapping that identifies each portion of the preferred route;
 - b. the rationale for the selection of the structure type;
 - c. the number of each type of structure and the length of each portion of the ROW;
 - d. the structure material and rationale for the selection of such material;
 - e. the foundation material;
 - f. the average width at cross arms;
 - g. the average width at the base;
 - h. the maximum, minimum and average structure heights;
 - i. the average span length; and
 - j. the minimum conductor-to-ground clearances under maximum operating conditions.

Response:

Attachment II.A.2 provides mapping that identifies each portion of the proposed route.

Attachments II.B.3.a through tt provide the data requested for each proposed structure type over each portion of the right-of-way for the Rebuild Project.



PROPOSE TO REUSE EXISTING DOUBLE CIRCUIT RIVER CROSSING SUSPENSION STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE:

N/A - EXISTING

C. LENGTH OF R/W (STRUCTURE QUANTITY): 0.40 MILES (1)

D. STRUCTURE MATERIAL:

PAINTED GALVANIZED STEEL

RATIONALE FOR STRUCTURE MATERIAL:

N/A - EXISTING

E. FOUNDATION MATERIAL:

CONCRETE / STEEL

AVERAGE FOUNDATION REVEAL:

19' (NOTE 1) 96'

F. AVERAGE WIDTH AT CROSSARM:

46'

G. AVERAGE WIDTH AT BASE: H. MINIMUM STRUCTURE HEIGHT:

212'

MAXIMUM STRUCTURE HEIGHT:

212'

AVERAGE STRUCTURE HEIGHT:

212'

I. AVERAGE SPAN LENGTH:

1053' (1015' - 1090')

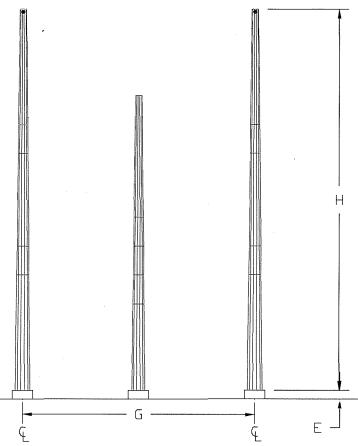
J. MINIMUM CONDUCTOR -TO- MHW:

166' (BY PERMIT AT MAX OPERATING TEMPERATURE)

1. EXISTING FOUNDATION REVEAL MAY VARY AT EACH LEG LOCATION DUE TO TERRAIN. NOTE:

* THE SAME STRUCTURE TYPES ARE UTILIZED FOR STRUCTURES 5 & 6 ON LINE 287

SECTION 1: STRUCTURES 6 - 7*



PROPOSED SINGLE CIRCUIT HEAVY ANGLE 3-POLE DEAD END STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 0.40 MILES (1)

D STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL

(H-FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

N/A

G. AVERAGE WIDTH AT BASE:

40'

H. MINIMUM STRUCTURE HEIGHT:

MAXIMUM STRUCTURE HEIGHT:

95'

AVERAGE STRUCTURE HEIGHT:

I. AVERAGE SPAN LENGTH:

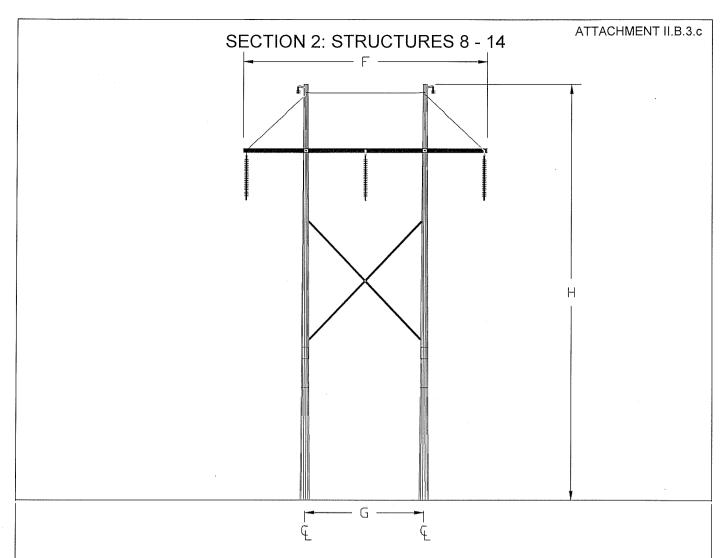
95' 1053' (1015' - 1090')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.

^{*} THE SAME STRUCTURE TYPES ARE UTILIZED FOR STRUCTURES 5 & 6 ON LINE 287



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 0.86 MILES (5)

D. STRUCTURE MATERIAL:

WEATHERING STEEL POLES & GALVANIZED STEEL CROSS

ARM & CROSS BRACING

RATIONALE FOR STRUCTURE MATERIAL:

THE COMPANY'S STANDARD FOR DIRECT EMBED H-FRAME CONSTRUCTION IS WEATHERING STEEL.

E. FOUNDATION MATERIAL:

N/A - DIRECT EMBED (SEE NOTE 4)

AVERAGE FOUNDATION REVEAL:

N/A - DIRECT EMBED

F. AVERAGE WIDTH AT CROSSARM:

G. AVERAGE WIDTH AT BASE:

21'

H. MINIMUM STRUCTURE HEIGHT:

75'

MAXIMUM STRUCTURE HEIGHT:

84'

AVERAGE STRUCTURE HEIGHT:

78'

I. AVERAGE SPAN LENGTH:

646' (501' - 853')

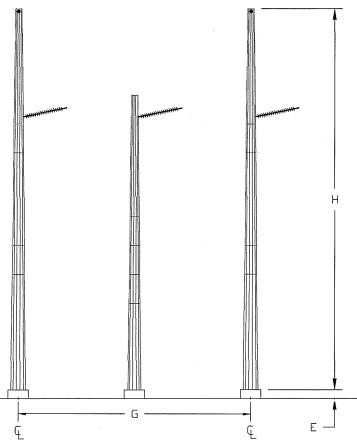
J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS ABOVE GRADE MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.
- 4. IN WETLAND OR SWAMP AREAS DIRECT EMBED INTO STEEL PIPE PILES

ATTACHMENT II.B.3.d

SECTION 2: STRUCTURES 8 - 14



PROPOSED SINGLE CIRCUIT ANGLE (20 - 60 DEG) 3-POLE DOUBLE DEAD END STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY):

0.86 MILES (1)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

N/A

G. AVERAGE WIDTH AT BASE:

40'

H. MINIMUM STRUCTURE HEIGHT:

75'

MAXIMUM STRUCTURE HEIGHT:

75'

AVERAGE STRUCTURE HEIGHT:

75'

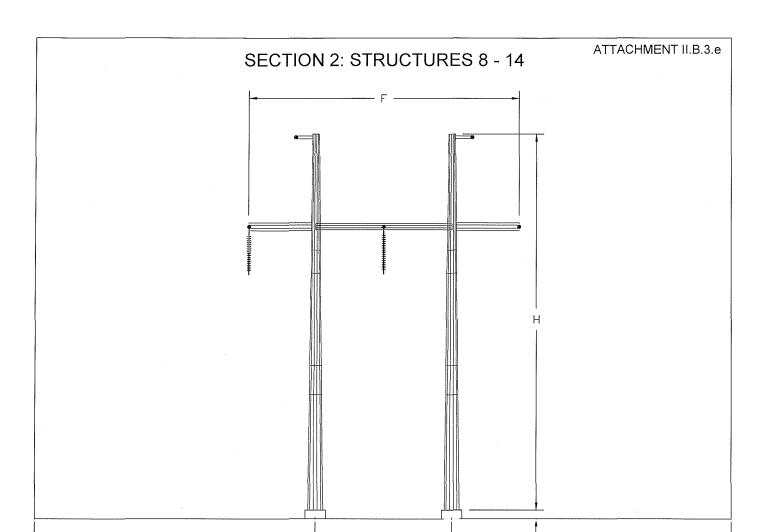
I. AVERAGE SPAN LENGTH:

646' (501' - 853')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



G ·

B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 0.86 MILES (1)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

E -

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

47'

G. AVERAGE WIDTH AT BASE:

24'

H. MINIMUM STRUCTURE HEIGHT:

90'

MAXIMUM STRUCTURE HEIGHT:

90'

AVERAGE STRUCTURE HEIGHT:

90'

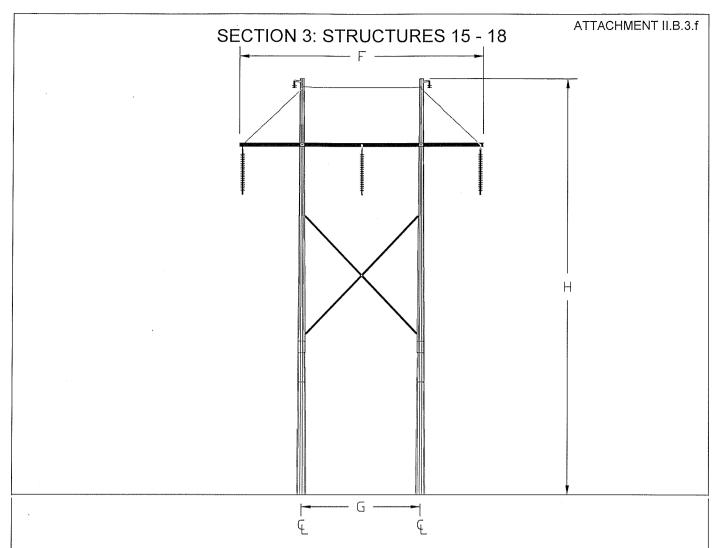
I. AVERAGE SPAN LENGTH:

646' (501' - 853')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 0.36 MILES (2)

D. STRUCTURE MATERIAL:

WEATHERING STEEL POLES & GALVANIZED STEEL CROSS

ARM & CROSS BRACING

RATIONALE FOR STRUCTURE MATERIAL:

THE COMPANY'S STANDARD FOR DIRECT EMBED

H-FRAME CONSTRUCTION IS WEATHERING STEEL. N/A - DIRECT EMBED (SEE NOTE 4)

E. FOUNDATION MATERIAL:

AVERAGE FOUNDATION REVEAL:

N/A - DIRECT EMBED

F. AVERAGE WIDTH AT CROSSARM:

G. AVERAGE WIDTH AT BASE:

21'

H. MINIMUM STRUCTURE HEIGHT:

61'

MAXIMUM STRUCTURE HEIGHT:

66'

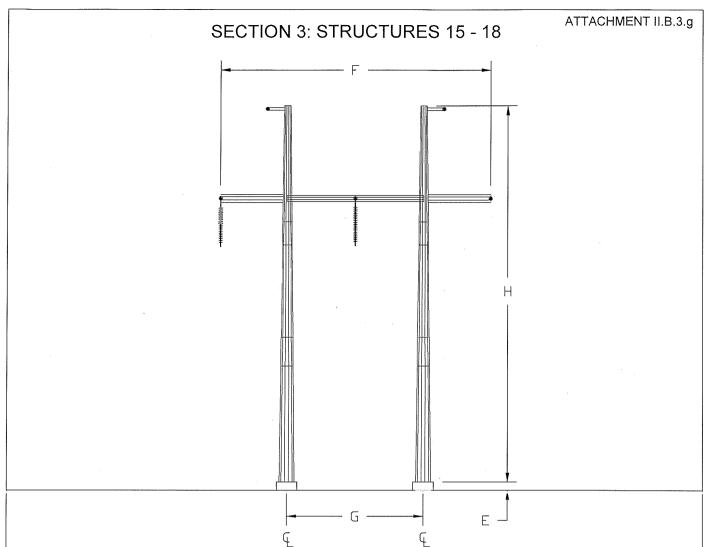
AVERAGE STRUCTURE HEIGHT: I. AVERAGE SPAN LENGTH:

476' (406' - 500')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS ABOVE GRADE MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.
- 4. IN WETLAND OR SWAMP AREAS DIRECT EMBED INTO STEEL PIPE PILES



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY):

0.36 MILES (2)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

47'

G. AVERAGE WIDTH AT BASE:

24'

H. MINIMUM STRUCTURE HEIGHT:

60'

MAXIMUM STRUCTURE HEIGHT:

70' 65'

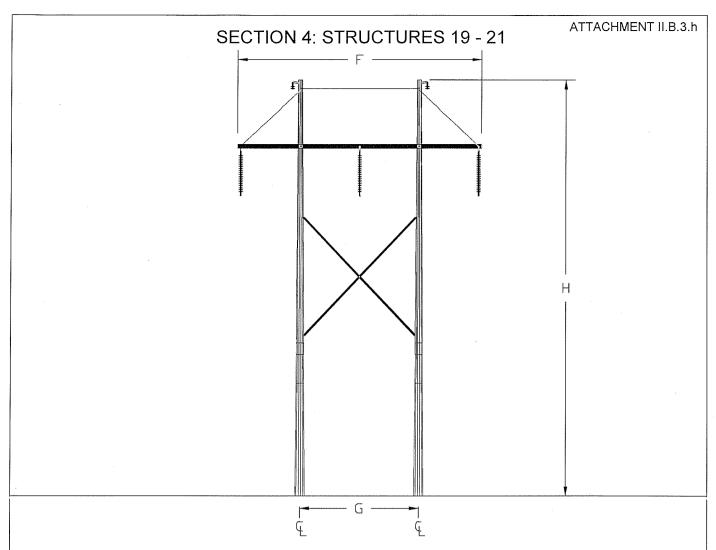
AVERAGE STRUCTURE HEIGHT:

476' (406' - 500')

I. AVERAGE SPAN LENGTH:J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 0.27 MILES (1)

D. STRUCTURE MATERIAL:

WEATHERING STEEL POLES & GALVANIZED STEEL CROSS

ARM & CROSS BRACING

RATIONALE FOR STRUCTURE MATERIAL:

THE COMPANY'S STANDARD FOR DIRECT EMBED H-FRAME CONSTRUCTION IS WEATHERING STEEL.

E. FOUNDATION MATERIAL:

N/A - DIRECT EMBED (SEE NOTE 4)

AVERAGE FOUNDATION REVEAL:

N/A - DIRECT EMBED

F. AVERAGE WIDTH AT CROSSARM:

G. AVERAGE WIDTH AT BASE:

21'

H. MINIMUM STRUCTURE HEIGHT:

70'

MAXIMUM STRUCTURE HEIGHT:

70'

AVERAGE STRUCTURE HEIGHT: I. AVERAGE SPAN LENGTH:

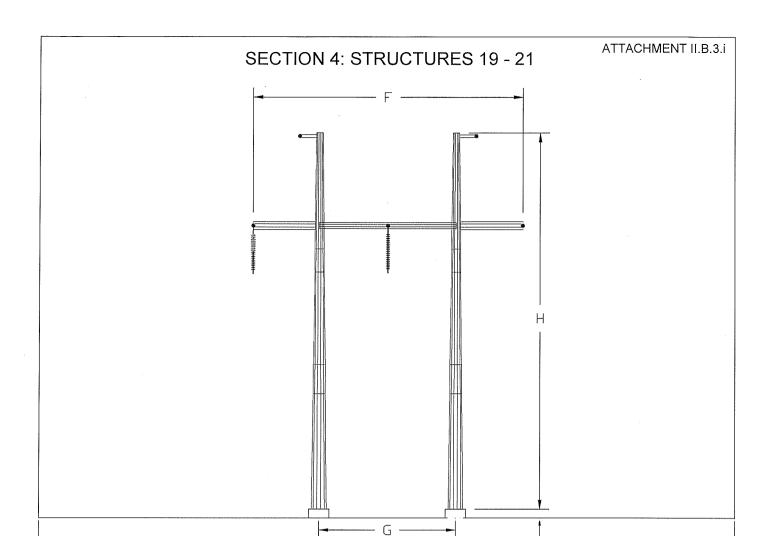
70'

479' (438' - 505')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS ABOVE GRADE MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.
- 4. IN WETLAND OR SWAMP AREAS DIRECT EMBED INTO STEEL PIPE PILES



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 0.27 MILES (2)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

47'

G. AVERAGE WIDTH AT BASE:

24'

H. MINIMUM STRUCTURE HEIGHT:

60'

MAXIMUM STRUCTURE HEIGHT:

60'

AVERAGE STRUCTURE HEIGHT:

60'

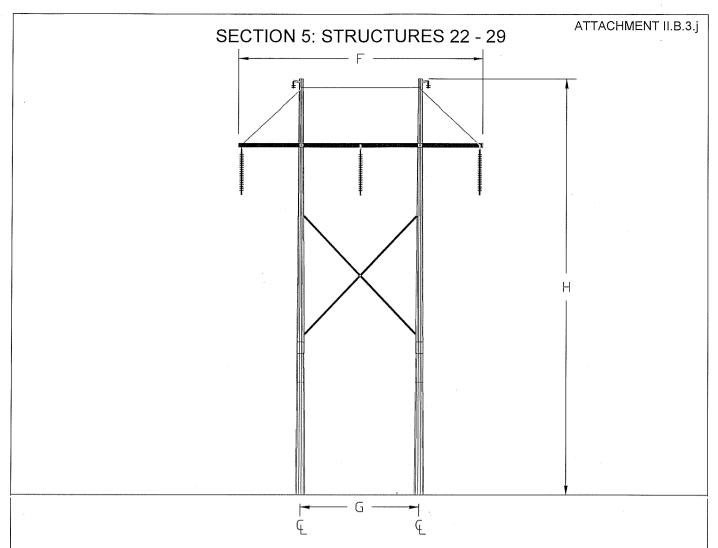
I. AVERAGE SPAN LENGTH:

479' (438' - 505')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 0.85 MILES (5)

7.00 MILES (3)

D. STRUCTURE MATERIAL:

WEATHERING STEEL POLES & GALVANIZED STEEL CROSS

ARM & CROSS BRACING

RATIONALE FOR STRUCTURE MATERIAL:

THE COMPANY'S STANDARD FOR DIRECT EMBED H-FRAME CONSTRUCTION IS WEATHERING STEEL.

E. FOUNDATION MATERIAL:

N/A - DIRECT EMBED (SEE NOTE 4)

AVERAGE FOUNDATION REVEAL:

N/A - DIRECT EMBED

F. AVERAGE WIDTH AT CROSSARM:

42'

G. AVERAGE WIDTH AT BASE:

21'

H. MINIMUM STRUCTURE HEIGHT:

61'

MAXIMUM STRUCTURE HEIGHT: AVERAGE STRUCTURE HEIGHT:

70'

I. AVERAGE SPAN LENGTH:

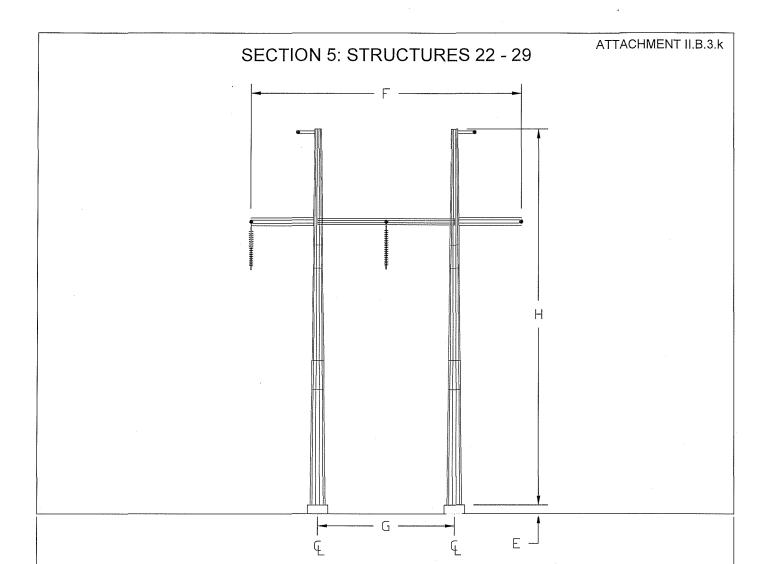
67'

J. MINIMUM CONDUCTOR -TO- GROUND:

563' (463' - 674')

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS ABOVE GRADE MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.
- 4. IN WETLAND OR SWAMP AREAS DIRECT EMBED INTO STEEL PIPE PILES



B RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY):

0.85 MILES (3)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

47'

G. AVERAGE WIDTH AT BASE:

24'

H. MINIMUM STRUCTURE HEIGHT:

60'

MAXIMUM STRUCTURE HEIGHT:

70'

AVERAGE STRUCTURE HEIGHT:

63'

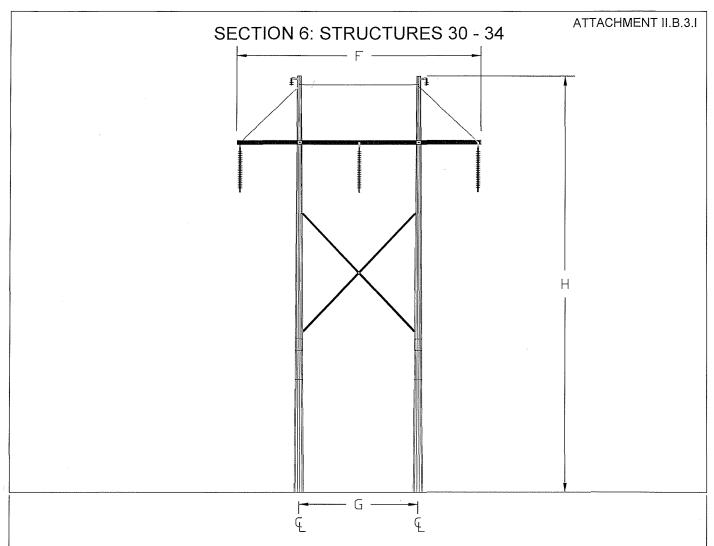
I. AVERAGE SPAN LENGTH:

563' (463' - 674')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 0.58 MILES (4)

WEATHERING STEEL POLES & GALVANIZED STEEL CROSS

ARM & CROSS BRACING

RATIONALE FOR STRUCTURE MATERIAL:

THE COMPANY'S STANDARD FOR DIRECT EMBED

H-FRAME CONSTRUCTION IS WEATHERING STEEL.

E. FOUNDATION MATERIAL:

D. STRUCTURE MATERIAL:

N/A - DIRECT EMBED (SEE NOTE 4)

AVERAGE FOUNDATION REVEAL:

N/A - DIRECT EMBED

F. AVERAGE WIDTH AT CROSSARM:

42

G. AVERAGE WIDTH AT BASE:

21'

H. MINIMUM STRUCTURE HEIGHT:

61'

MAXIMUM STRUCTURE HEIGHT:

75' 67'

AVERAGE STRUCTURE HEIGHT:

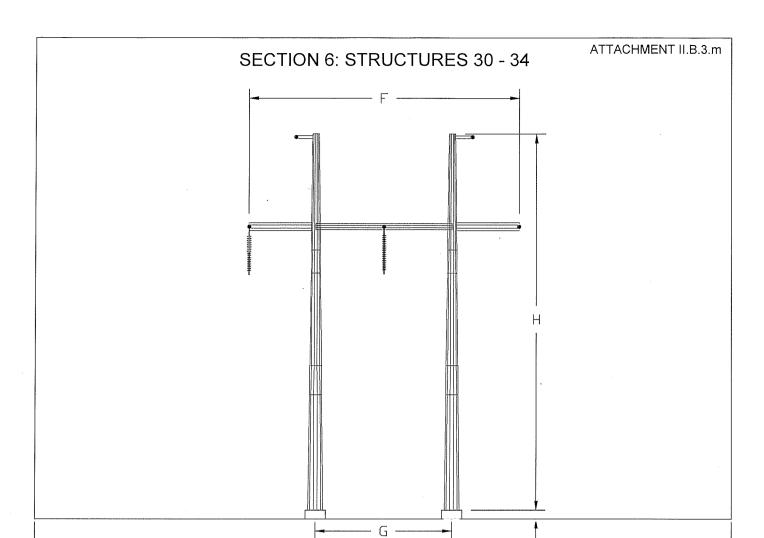
I. AVERAGE SPAN LENGTH:

611' (513' - 815')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS ABOVE GRADE MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.
- 4. IN WETLAND OR SWAMP AREAS DIRECT EMBED INTO STEEL PIPE PILES



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY):

0.58 MILES (1)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

47'

G. AVERAGE WIDTH AT BASE:

24'

H. MINIMUM STRUCTURE HEIGHT:

60'

MAXIMUM STRUCTURE HEIGHT:

60'

AVERAGE STRUCTURE HEIGHT:

60'

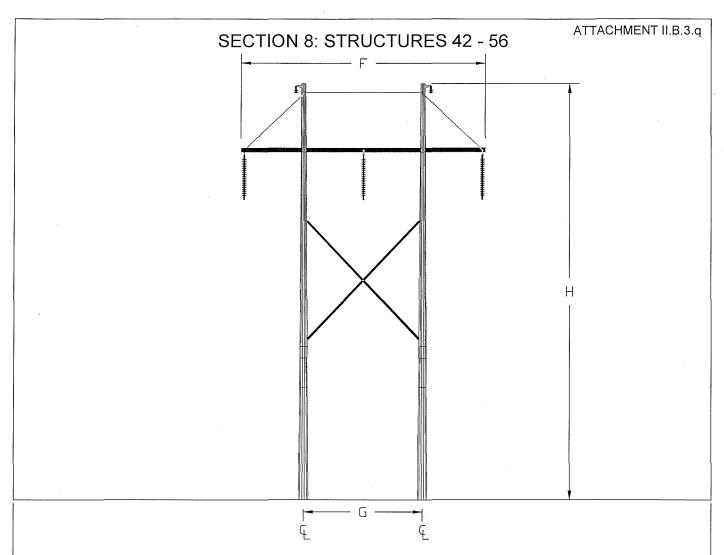
I. AVERAGE SPAN LENGTH:

611' (513' - 815')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



B. RATIONALE FOR STRUCTURE TYPE: RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 1.57 MILES (10)

D. STRUCTURE MATERIAL: WEATHERING STEEL POLES & GALVANIZED STEEL CROSS

ARM & CROSS BRACING

RATIONALE FOR STRUCTURE MATERIAL: THE COMPANY'S STANDARD FOR DIRECT EMBED

H-FRAME CONSTRUCTION IS WEATHERING STEEL.

E. FOUNDATION MATERIAL: N/A - DIRECT EMBED (SEE NOTE 4)

AVERAGE FOUNDATION REVEAL: N/A - DIRECT EMBED

F. AVERAGE WIDTH AT CROSSARM: 42'

G. AVERAGE WIDTH AT BASE: 21'

H. MINIMUM STRUCTURE HEIGHT: 66'

MAXIMUM STRUCTURE HEIGHT: 79'
AVERAGE STRUCTURE HEIGHT: 72'

I. AVERAGE SPAN LENGTH: 552' (240' - 797')

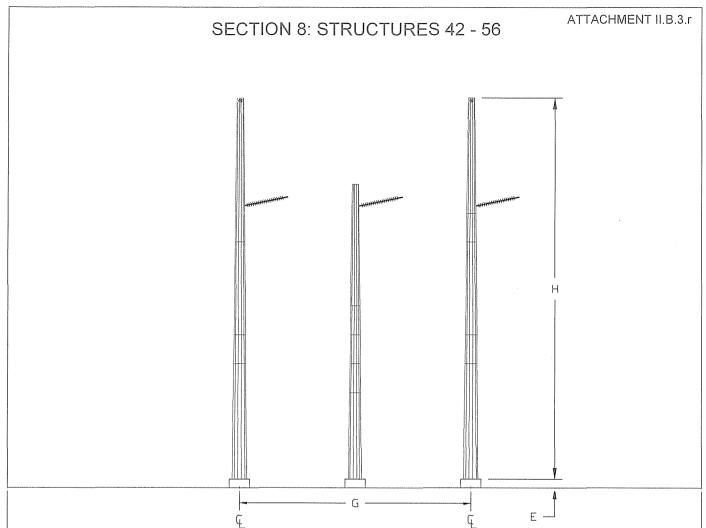
J. MINIMUM CONDUCTOR -TO- GROUND: 22.5' (AT MAX OPERATING TEMPERATURE)

NOTE: 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.

2. INDIVIDUAL POLE HEIGHTS ABOVE GRADE MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.

3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.

4. IN WETLAND OR SWAMP AREAS - DIRECT EMBED INTO STEEL PIPE PILES



PROPOSED SINGLE CIRCUIT ANGLE (20 - 60 DEG) 3-POLE DOUBLE DEAD END STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE: RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 1.57 MILES (2)

D. STRUCTURE MATERIAL: WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL: TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL: CONCRETE

AVERAGE FOUNDATION REVEAL: SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM: N/A

G. AVERAGE WIDTH AT BASE: 40'

H. MINIMUM STRUCTURE HEIGHT: 65'

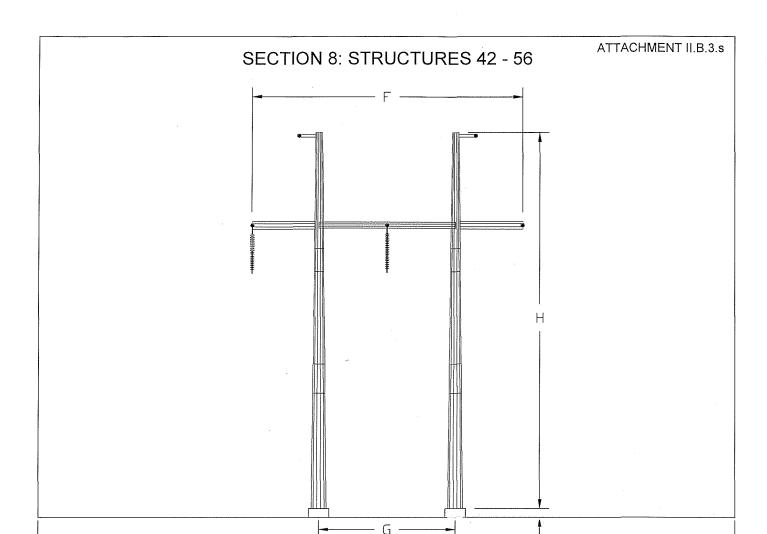
MAXIMUM STRUCTURE HEIGHT: 65'

AVERAGE STRUCTURE HEIGHT: 65'

I. AVERAGE SPAN LENGTH: 552' (240' - 797')

J. MINIMUM CONDUCTOR -TO- GROUND: 22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 1.57 MILES (3)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

47'

G. AVERAGE WIDTH AT BASE:

24'

H. MINIMUM STRUCTURE HEIGHT:

60'

MAXIMUM STRUCTURE HEIGHT:

70'

AVERAGE STRUCTURE HEIGHT:

65'

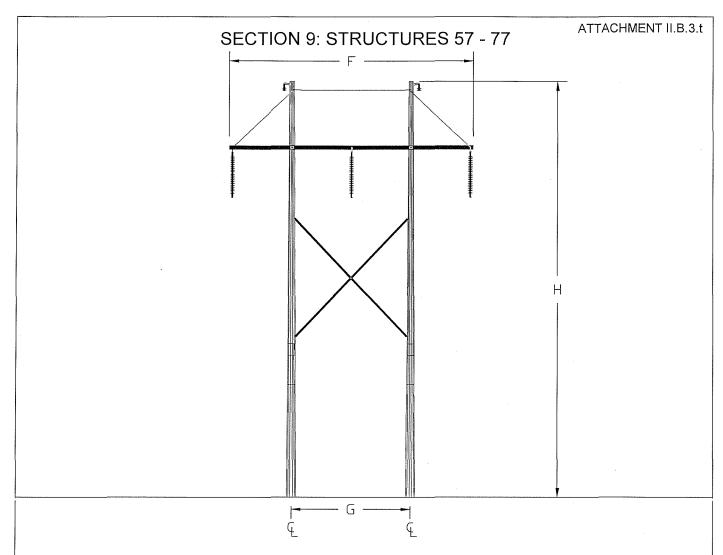
I. AVERAGE SPAN LENGTH:

552' (240' - 797')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 2.47 MILES (18)

WEATHERING STEEL POLES & GALVANIZED STEEL CROSS

ARM & CROSS BRACING

RATIONALE FOR STRUCTURE MATERIAL:

THE COMPANY'S STANDARD FOR DIRECT EMBED

H-FRAME CONSTRUCTION IS WEATHERING STEEL.

E. FOUNDATION MATERIAL:

D. STRUCTURE MATERIAL:

N/A - DIRECT EMBED (SEE NOTE 4)

AVERAGE FOUNDATION REVEAL:

N/A - DIRECT EMBED

F. AVERAGE WIDTH AT CROSSARM:

42'

G. AVERAGE WIDTH AT BASE:

21'

H. MINIMUM STRUCTURE HEIGHT:

66'

MAXIMUM STRUCTURE HEIGHT:

88'

AVERAGE STRUCTURE HEIGHT:

75'

I. AVERAGE SPAN LENGTH:

621' (377' - 1023')

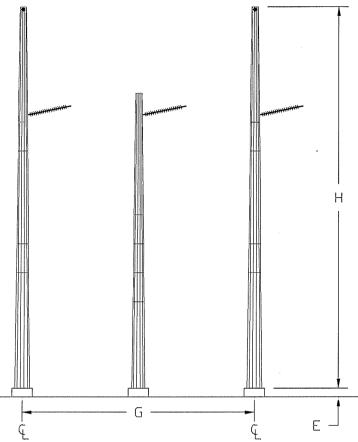
J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS ABOVE GRADE MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE
- 4. IN WETLAND OR SWAMP AREAS DIRECT EMBED INTO STEEL PIPE PILES.

ATTACHMENT II.B.3.u

SECTION 9: STRUCTURES 57 - 77



PROPOSED SINGLE CIRCUIT ANGLE (20 - 60 DEG) 3-POLE DOUBLE DEAD END STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY):

2.47 MILES (1)

n STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

N/A

G. AVERAGE WIDTH AT BASE:

40'

H. MINIMUM STRUCTURE HEIGHT:

65'

MAXIMUM STRUCTURE HEIGHT:

65'

AVERAGE STRUCTURE HEIGHT:

CEL

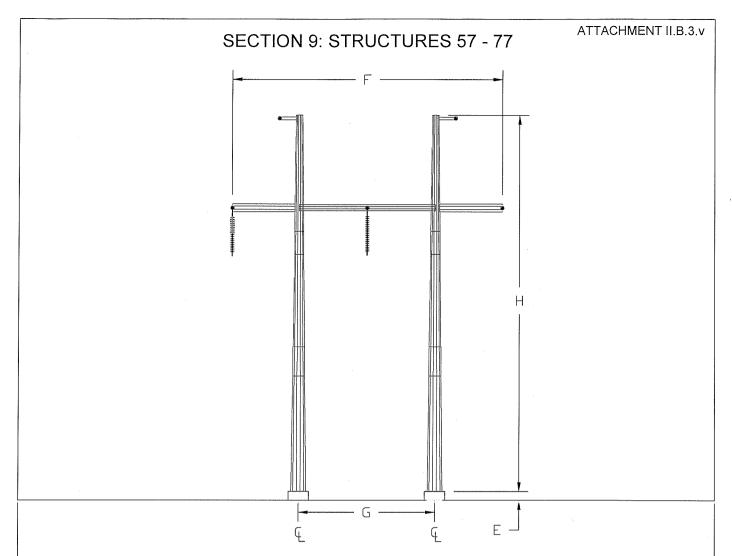
I. AVERAGE SPAN LENGTH:

621' (377' - 1023')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY):

2.47 MILES (2)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

47'

G. AVERAGE WIDTH AT BASE:

24'

H. MINIMUM STRUCTURE HEIGHT:

60'

MAXIMUM STRUCTURE HEIGHT:

60'

AVERAGE STRUCTURE HEIGHT:

60'

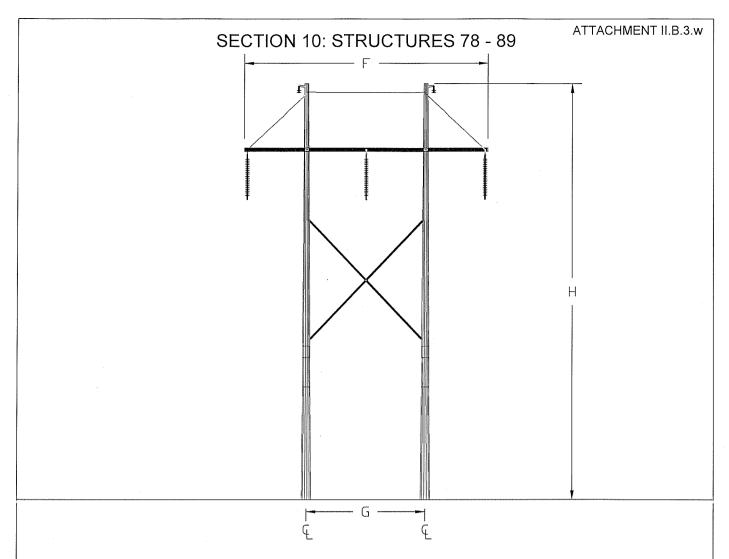
I. AVERAGE SPAN LENGTH:

621' (377' - 1023')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 1.38 MILES (11)

D. STRUCTURE MATERIAL:

WEATHERING STEEL POLES & GALVANIZED STEEL CROSS

ARM & CROSS BRACING

RATIONALE FOR STRUCTURE MATERIAL:

THE COMPANY'S STANDARD FOR DIRECT EMBED

H-FRAME CONSTRUCTION IS WEATHERING STEEL.

E. FOUNDATION MATERIAL:

N/A - DIRECT EMBED (SEE NOTE 4)

AVERAGE FOUNDATION REVEAL:

N/A - DIRECT EMBED

F. AVERAGE WIDTH AT CROSSARM:

G. AVERAGE WIDTH AT BASE:

21'

H. MINIMUM STRUCTURE HEIGHT:

66'

MAXIMUM STRUCTURE HEIGHT: AVERAGE STRUCTURE HEIGHT: 84'

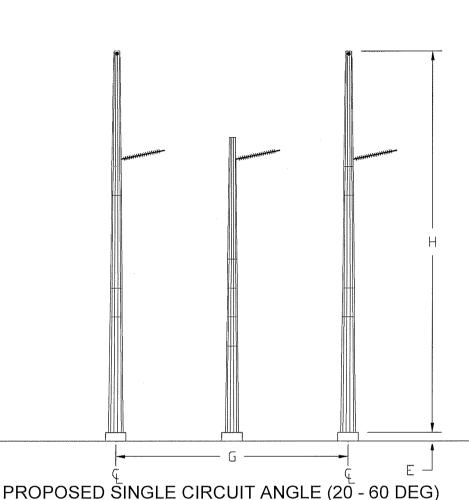
I. AVERAGE SPAN LENGTH:

73' 606' (389' - 878')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS ABOVE GRADE MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.
- 4. IN WETLAND OR SWAMP AREAS DIRECT EMBED INTO STEEL PIPE PILES



3-POLE DOUBLE DEAD END STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY):

1.38 MILES (1)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

N/A

G. AVERAGE WIDTH AT BASE:

40'

H. MINIMUM STRUCTURE HEIGHT:

60'

MAXIMUM STRUCTURE HEIGHT:

60'

AVERAGE STRUCTURE HEIGHT:

00

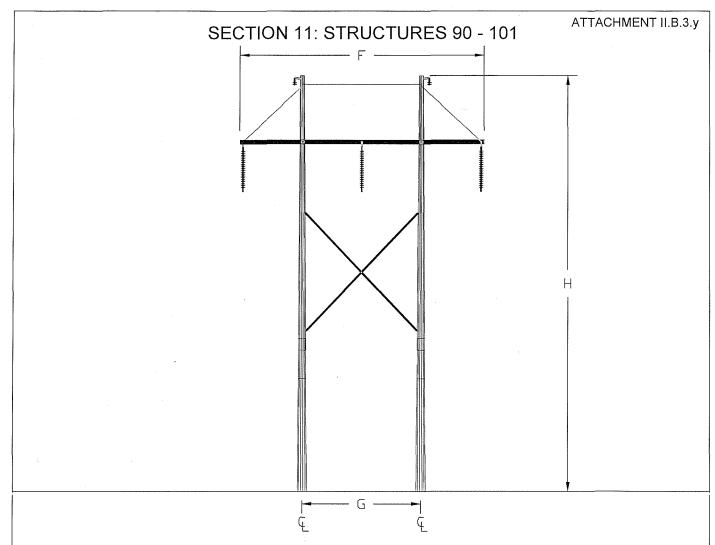
I. AVERAGE SPAN LENGTH:

606' (389' - 878')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



B. RATIONALE FOR STRUCTURE TYPE: RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 1.16 MILES (11)

D. STRUCTURE MATERIAL: WEATHERING STEEL POLES & GALVANIZED STEEL CROSS

ARM & CROSS BRACING

RATIONALE FOR STRUCTURE MATERIAL: THE COMPANY'S STANDARD FOR DIRECT EMBED

H-FRAME CONSTRUCTION IS WEATHERING STEEL.

E. FOUNDATION MATERIAL: N/A - DIRECT EMBED (SEE NOTE 4)

AVERAGE FOUNDATION REVEAL: N/A - DIRECT EMBED

F. AVERAGE WIDTH AT CROSSARM: 42'

G. AVERAGE WIDTH AT BASE: 21'

H. MINIMUM STRUCTURE HEIGHT: 61'

MAXIMUM STRUCTURE HEIGHT: 70'

AVERAGE STRUCTURE HEIGHT: 67'

I. AVERAGE SPAN LENGTH: 508' (275' - 768')

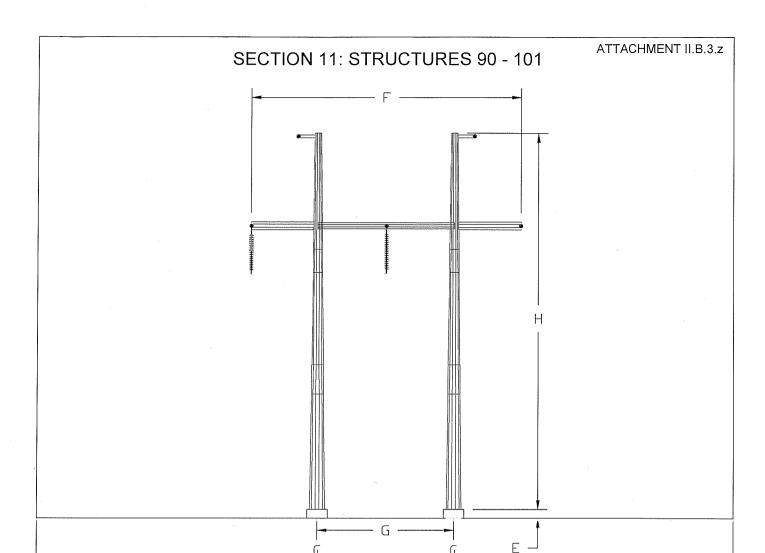
J. MINIMUM CONDUCTOR -TO- GROUND: 22.5' (AT MAX OPERATING TEMPERATURE)

NOTE: 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.

2. INDIVIDUAL POLE HEIGHTS ABOVE GRADE MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.

3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.

4. IN WETLAND OR SWAMP AREAS - DIRECT EMBED INTO STEEL PIPE PILES



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY):

1.16 MILES (1)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

47'

G. AVERAGE WIDTH AT BASE:

24'

H. MINIMUM STRUCTURE HEIGHT:

75'

MAXIMUM STRUCTURE HEIGHT:

75'

AVERAGE STRUCTURE HEIGHT:

75'

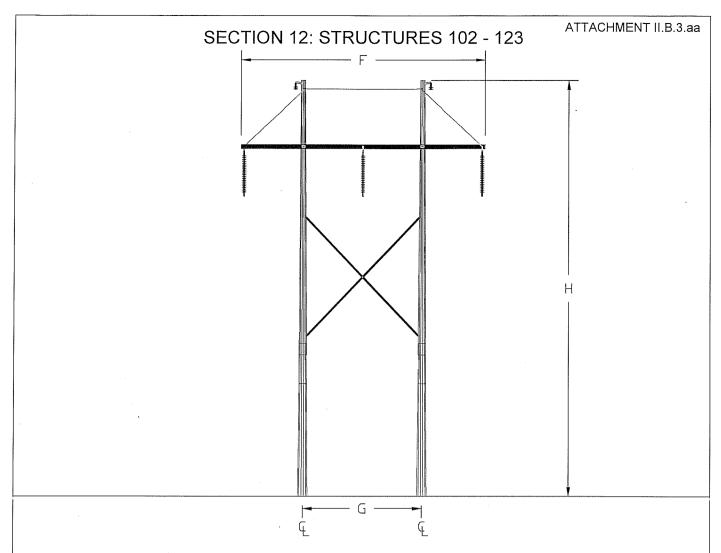
I. AVERAGE SPAN LENGTH:

508' (275' - 768')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 2.30 MILES (15)

D. STRUCTURE MATERIAL:

WEATHERING STEEL POLES & GALVANIZED STEEL CROSS

ARM & CROSS BRACING

RATIONALE FOR STRUCTURE MATERIAL:

THE COMPANY'S STANDARD FOR DIRECT EMBED H-FRAME CONSTRUCTION IS WEATHERING STEEL.

E. FOUNDATION MATERIAL:

N/A - DIRECT EMBED (SEE NOTE 4)

AVERAGE FOUNDATION REVEAL:

N/A - DIRECT EMBED

F. AVERAGE WIDTH AT CROSSARM:

42'

G. AVERAGE WIDTH AT BASE:

21'

H. MINIMUM STRUCTURE HEIGHT:

61'

MAXIMUM STRUCTURE HEIGHT:

881

AVERAGE STRUCTURE HEIGHT:

74'

I. AVERAGE SPAN LENGTH:

552' (257' - 876')

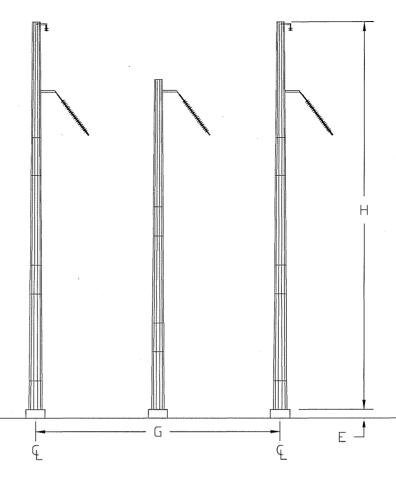
J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS ABOVE GRADE MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.
- 4. IN WETLAND OR SWAMP AREAS DIRECT EMBED INTO STEEL PIPE PILES



SECTION 12: STRUCTURES 102 - 123



PROPOSED SINGLE CIRCUIT 3-POLE RUNNING ANGLE STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 2.30 MILES (1)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

N/A

G. AVERAGE WIDTH AT BASE:

H. MINIMUM STRUCTURE HEIGHT:

75'

MAXIMUM STRUCTURE HEIGHT:

AVERAGE STRUCTURE HEIGHT:

75' 75'

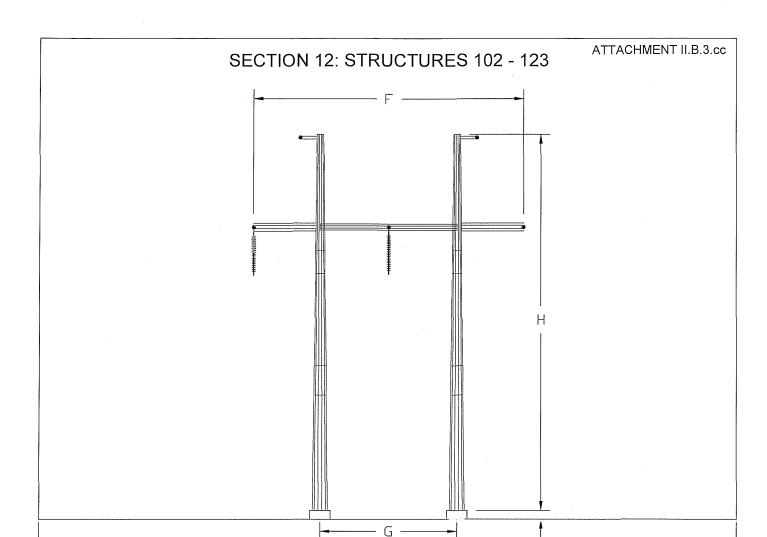
I. AVERAGE SPAN LENGTH:

552' (257' - 876')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 2.30 MILES (4)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

47'

G. AVERAGE WIDTH AT BASE:

24'

H. MINIMUM STRUCTURE HEIGHT:

70'

MAXIMUM STRUCTURE HEIGHT:

75'

AVERAGE STRUCTURE HEIGHT:

71'

I. AVERAGE SPAN LENGTH:

552' (257' - 876')

J. MINIMUM CONDUCTOR -TO- GROUND:

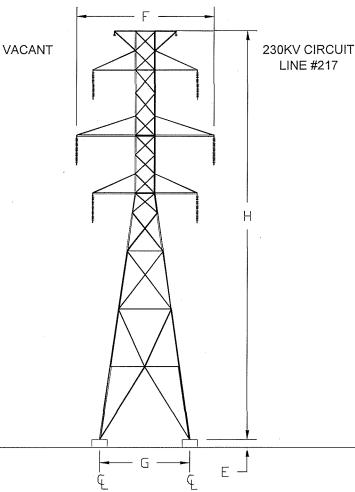
22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.

ATTACHMENT II.B.3.dd

LINE #217

SECTION 12: STRUCTURES 102 - 123



PROPOSE TO REUSE EXISTING DOUBLE CIRCUIT LATTICE SUSPENSION STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE:

N/A - EXISTING

C. LENGTH OF R/W (STRUCTURE QUANTITY): 2.30 MILES (2)

D. STRUCTURE MATERIAL:

GALVANIZED STEEL

RATIONALE FOR STRUCTURE MATERIAL:

N/A - EXISTING

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 2

F. AVERAGE WIDTH AT CROSSARM:

36'

G. AVERAGE WIDTH AT BASE:

24'

H. MINIMUM STRUCTURE HEIGHT:

106'

MAXIMUM STRUCTURE HEIGHT:

106'

AVERAGE STRUCTURE HEIGHT:

I. AVERAGE SPAN LENGTH:

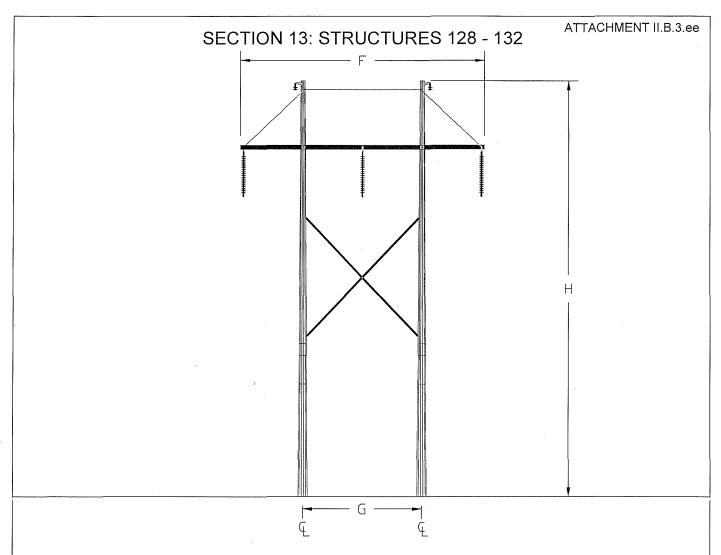
552' (257' - 876')

J. MINIMUM CONDUCTOR -TO- GROUND: 22.5' (AT MAX OPERATING TEMPERATURE)

NOTE:

1. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.

2. EXISTING FOUNDATION REVEAL MAY VARY AT EACH LEG LOCATION DUE TO TERRAIN.



B. RATIONALE FOR STRUCTURE TYPE: RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 0.52 MILES (3)

D. STRUCTURE MATERIAL: WEATHERING STEEL POLES & GALVANIZED STEEL CROSS

ARM & CROSS BRACING

RATIONALE FOR STRUCTURE MATERIAL: THE COMPANY'S STANDARD FOR DIRECT EMBED

H-FRAME CONSTRUCTION IS WEATHERING STEEL.

E. FOUNDATION MATERIAL: N/A - DIRECT EMBED (SEE NOTE 4)

AVERAGE FOUNDATION REVEAL: N/A - DIRECT EMBED

F. AVERAGE WIDTH AT CROSSARM: 42'

G. AVERAGE WIDTH AT BASE: 21'

H. MINIMUM STRUCTURE HEIGHT: 75'

MAXIMUM STRUCTURE HEIGHT: 75'

AVERAGE STRUCTURE HEIGHT: 75'

I. AVERAGE SPAN LENGTH: 554' (342' - 707')

J. MINIMUM CONDUCTOR -TO- GROUND: 22.5' (AT MAX OPERATING TEMPERATURE)

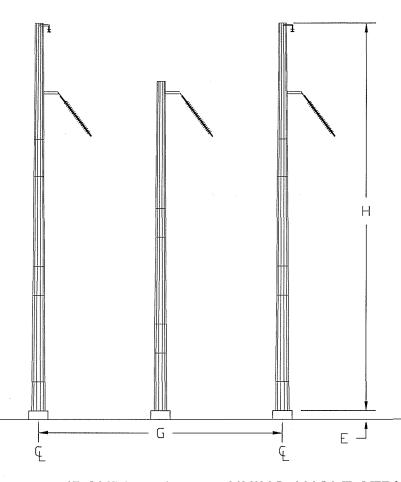
NOTE: 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.

2. INDIVIDUAL POLE HEIGHTS ABOVE GRADE MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.

3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.

4. IN WETLAND OR SWAMP AREAS - DIRECT EMBED INTO STEEL PIPE PILES





PROPOSED SINGLE CIRCUIT 3-POLE RUNNING ANGLE STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY):

0.52 MILES (1)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

N/A

G. AVERAGE WIDTH AT BASE:

42'

H. MINIMUM STRUCTURE HEIGHT:

70'

MAXIMUM STRUCTURE HEIGHT:

70'

AVERAGE STRUCTURE HEIGHT:

70'

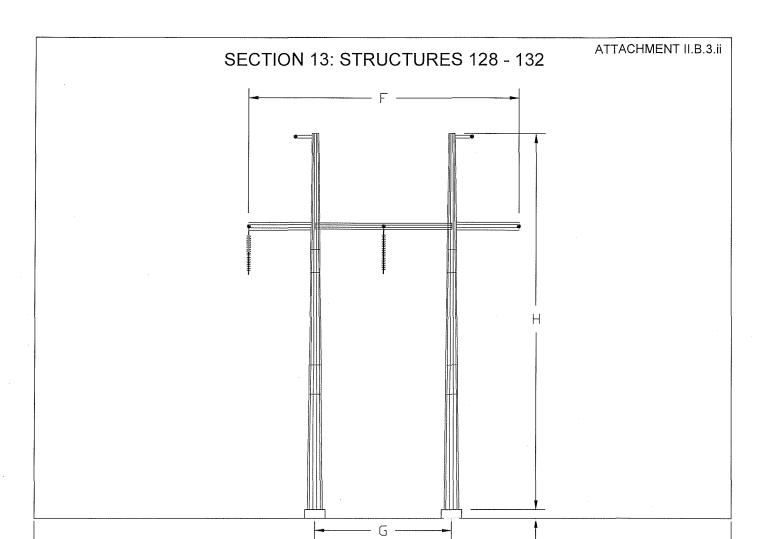
J. AVERAGE SPAN LENGTH:

554' (342' - 707')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL-LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY):

0.52 MILES (1)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

E -

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

47'

G. AVERAGE WIDTH AT BASE:

24'

H. MINIMUM STRUCTURE HEIGHT:

65'

MAXIMUM STRUCTURE HEIGHT:

65'

AVERAGE STRUCTURE HEIGHT:

65'

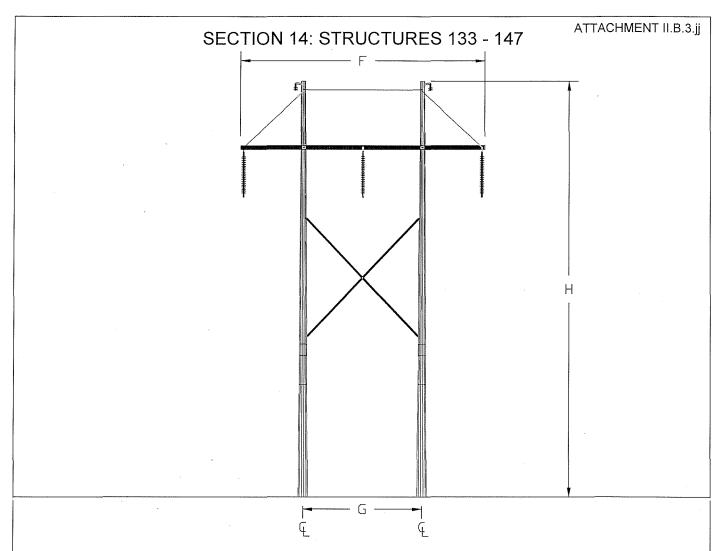
AVERAGE SPAN LENGTH:

554' (342' - 707')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



B. RATIONALE FOR STRUCTURE TYPE: RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 1.53 MILES (11)

D. STRUCTURE MATERIAL: WEATHERING STEEL POLES & GALVANIZED STEEL CROSS

ARM & CROSS BRACING

RATIONALE FOR STRUCTURE MATERIAL: THE COMPANY'S STANDARD FOR DIRECT EMBED

H-FRAME CONSTRUCTION IS WEATHERING STEEL.

E. FOUNDATION MATERIAL: N/A - DIRECT EMBED (SEE NOTE 4)

AVERAGE FOUNDATION REVEAL: N/A - DIRECT EMBED

F. AVERAGE WIDTH AT CROSSARM: 42'

G. AVERAGE WIDTH AT BASE: 21'

H. MINIMUM STRUCTURE HEIGHT: 57'

MAXIMUM STRUCTURE HEIGHT: 79'

AVERAGE STRUCTURE HEIGHT: 69'

I. AVERAGE SPAN LENGTH: 540' (315' - 1001')

J. MINIMUM CONDUCTOR -TO- GROUND: 22.5' (AT MAX OPERATING TEMPERATURE)

NOTE: 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.

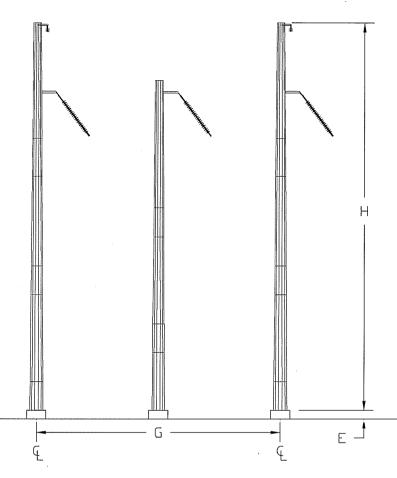
2. INDIVIDUAL POLE HEIGHTS ABOVE GRADE MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.

3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.

4. IN WETLAND OR SWAMP AREAS - DIRECT EMBED INTO STEEL PIPE PILES

ATTACHMENT II.B.3.kk





PROPOSED SINGLE CIRCUIT 3-POLE RUNNING ANGLE STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY):

1.53 MILES (1)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

N/A

G. AVERAGE WIDTH AT BASE:

42'

H. MINIMUM STRUCTURE HEIGHT:

65'

MAXIMUM STRUCTURE HEIGHT:

65'

AVERAGE STRUCTURE HEIGHT:

65'

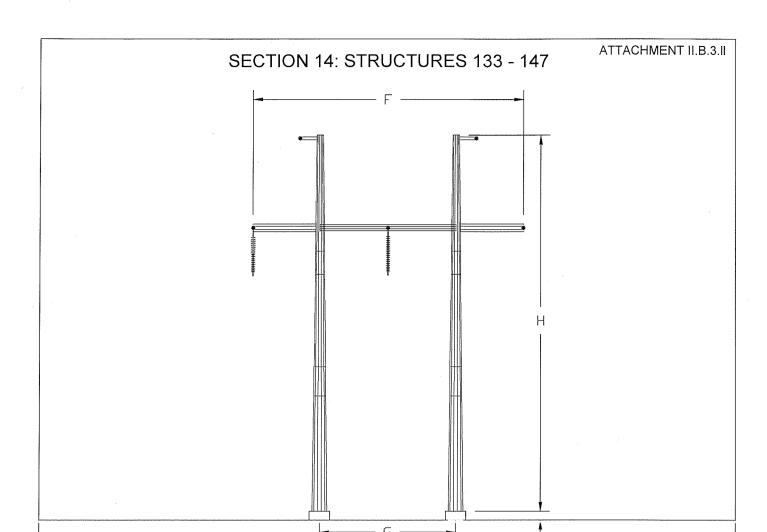
I. AVERAGE SPAN LENGTH:

540' (315' - 1001')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 1.53 MILES (3)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

47'

G. AVERAGE WIDTH AT BASE:

24'

H. MINIMUM STRUCTURE HEIGHT:

55'

MAXIMUM STRUCTURE HEIGHT:

70'

AVERAGE STRUCTURE HEIGHT:

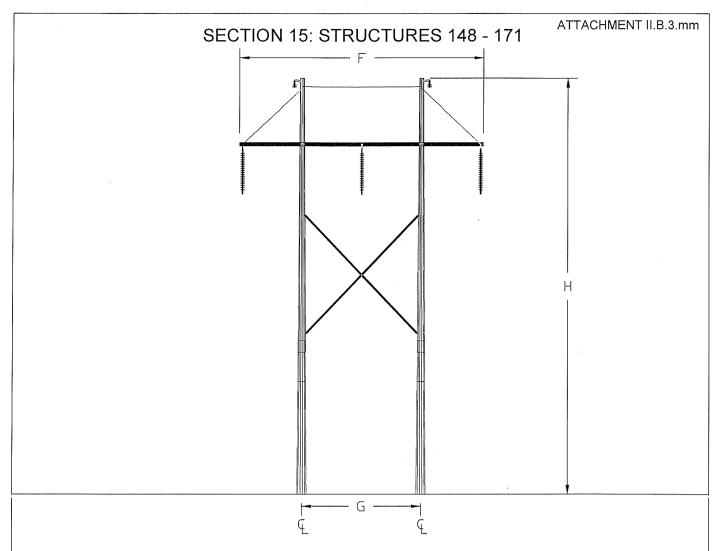
I. AVERAGE SPAN LENGTH:

540' (315' - 1001')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



PROPOSED SINGLE CIRCUIT H-FRAME SUSPENSION STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES.

C. LENGTH OF R/W (STRUCTURE QUANTITY): 3.02 MILES (22)

D STRUCTURE MATERIAL:

WEATHERING STEEL POLES & GALVANIZED STEEL CROSS

ARM & CROSS BRACING

RATIONALE FOR STRUCTURE MATERIAL:

THE COMPANY'S STANDARD FOR DIRECT EMBED H-FRAME CONSTRUCTION IS WEATHERING STEEL.

E. FOUNDATION MATERIAL:

N/A - DIRECT EMBED (SEE NOTE 4)

AVERAGE FOUNDATION REVEAL:

N/A - DIRECT EMBED

F. AVERAGE WIDTH AT CROSSARM:

42'

G. AVERAGE WIDTH AT BASE:

H. MINIMUM STRUCTURE HEIGHT:

70'

MAXIMUM STRUCTURE HEIGHT: AVERAGE STRUCTURE HEIGHT: 79' 74'

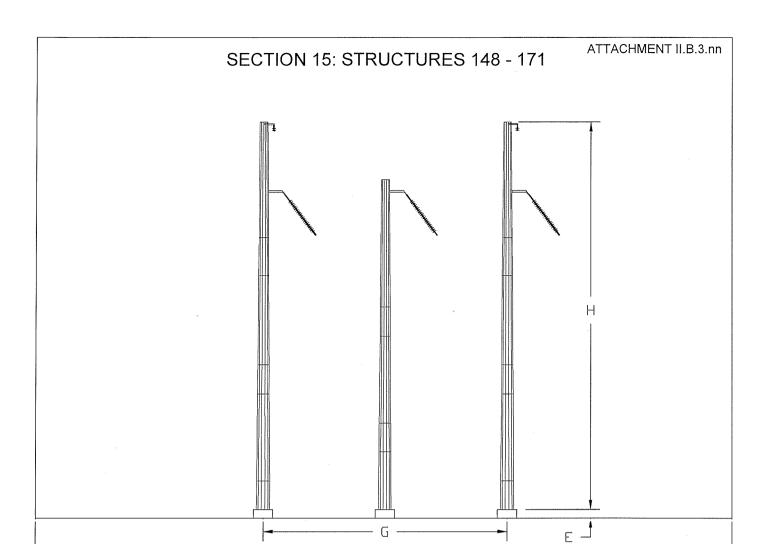
I. AVERAGE SPAN LENGTH:

663' (509' - 772')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS ABOVE GRADE MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.
- 4. IN WETLAND OR SWAMP AREAS DIRECT EMBED INTO STEEL PIPE PILES



PROPOSED SINGLE CIRCUIT 3-POLE RUNNING ANGLE STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE: RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 3.02 MILES (1)

D. STRUCTURE MATERIAL: WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL: TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL: CONCRETE

AVERAGE FOUNDATION REVEAL: SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM: N/A

G. AVERAGE WIDTH AT BASE: 42'

H. MINIMUM STRUCTURE HEIGHT: 60'

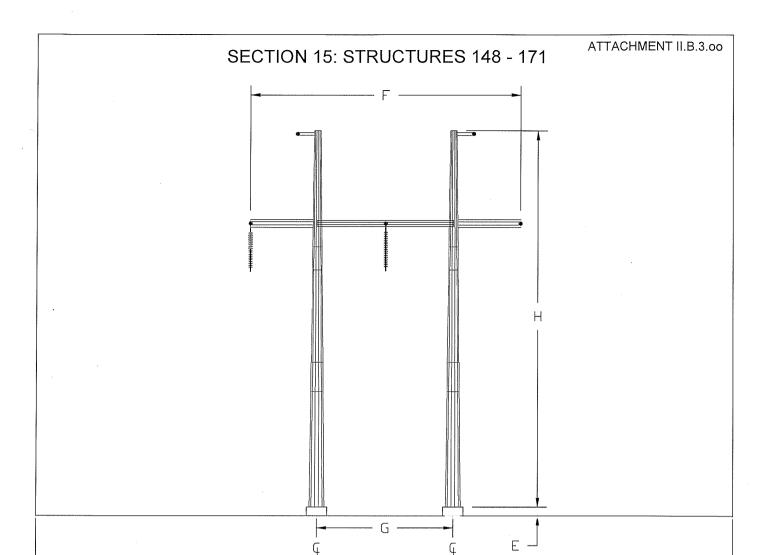
MAXIMUM STRUCTURE HEIGHT: 60'

AVERAGE STRUCTURE HEIGHT: 60'

I. AVERAGE SPAN LENGTH: 663' (509' - 772')

J. MINIMUM CONDUCTOR -TO- GROUND: 22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



PROPOSED SINGLE CIRCUIT H-FRAME DOUBLE DEAD END STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY):

3.02 MILES (1)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

47'

G. AVERAGE WIDTH AT BASE:

24'

H. MINIMUM STRUCTURE HEIGHT:

65'

MAXIMUM STRUCTURE HEIGHT:

65' 65'

AVERAGE STRUCTURE HEIGHT:

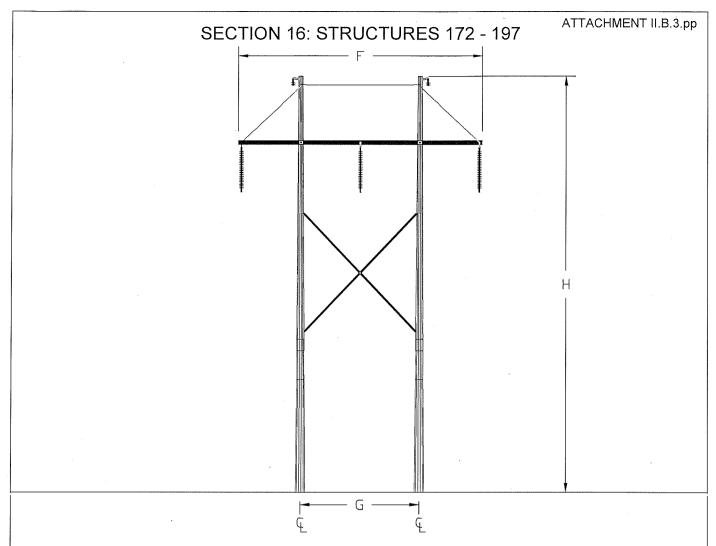
1. AVERAGE SPAN LENGTH:

663' (509' - 772')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



PROPOSED SINGLE CIRCUIT H-FRAME SUSPENSION STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE: RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 2.70 MILES (18)

D. STRUCTURE MATERIAL: WEATHERING STEEL POLES & GALVANIZED STEEL CROSS

ARM & CROSS BRACING

RATIONALE FOR STRUCTURE MATERIAL: THE COMPANY'S STANDARD FOR DIRECT EMBED

H-FRAME CONSTRUCTION IS WEATHERING STEEL.

E. FOUNDATION MATERIAL: N/A - DIRECT EMBED (SEE NOTE 4)

AVERAGE FOUNDATION REVEAL: N/A - DIRECT EMBED

F. AVERAGE WIDTH AT CROSSARM: 42'

G. AVERAGE WIDTH AT BASE: 21'

H. MINIMUM STRUCTURE HEIGHT: 61'

MAXIMUM STRUCTURE HEIGHT: 79'

AVERAGE STRUCTURE HEIGHT: 71'

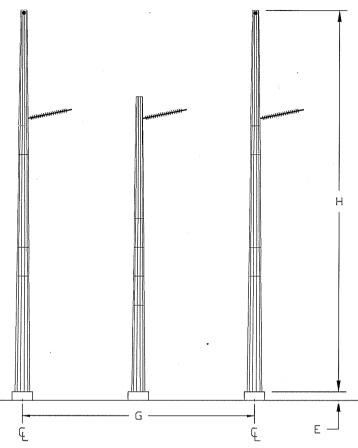
I. AVERAGE SPAN LENGTH: 541' (341' - 852')

J. MINIMUM CONDUCTOR -TO- GROUND: 22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS ABOVE GRADE MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.
- 4. IN WETLAND OR SWAMP AREAS DIRECT EMBED INTO STEEL PIPE PILES

ATTACHMENT II.B.3.qq

SECTION 16: STRUCTURES 172 - 197



PROPOSED SINGLE CIRCUIT ANGLE (20 - 60 DEG) 3-POLE DOUBLE DEAD END STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY):

2.70 MILES (1)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

N/A

G. AVERAGE WIDTH AT BASE:

40'

H. MINIMUM STRUCTURE HEIGHT:

75'

MAXIMUM STRUCTURE HEIGHT:

75'

AVERAGE STRUCTURE HEIGHT:

75'

I. AVERAGE SPAN LENGTH:

541' (341' - 852')

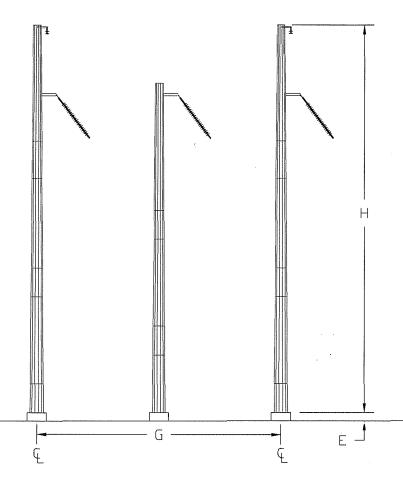
J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.







PROPOSED SINGLE CIRCUIT 3-POLE RUNNING ANGLE STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY):

2.70 MILES (1)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

N/A

G. AVERAGE WIDTH AT BASE:

42'

H. MINIMUM STRUCTURE HEIGHT:

65'

MAXIMUM STRUCTURE HEIGHT:

65'

AVERAGE STRUCTURE HEIGHT:

65'

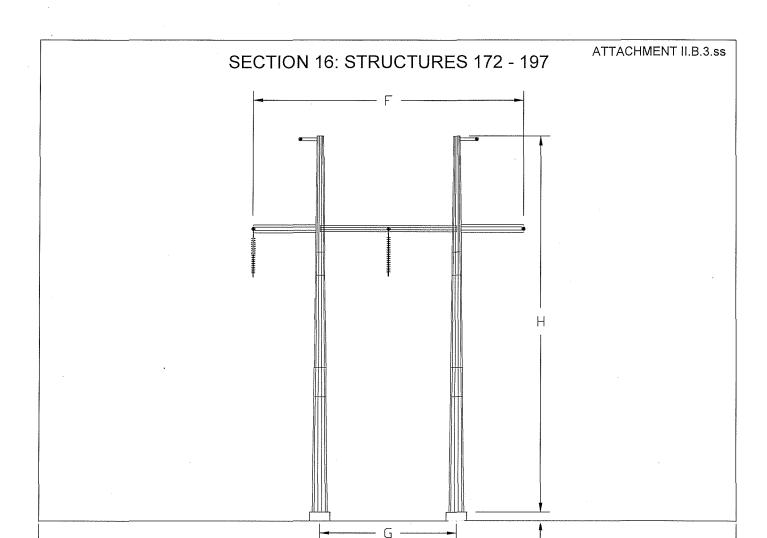
I. AVERAGE SPAN LENGTH:

541' (341' - 852')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



PROPOSED SINGLE CIRCUIT H-FRAME DOUBLE DEAD END STRUCTURE

B RATIONALE FOR STRUCTURE TYPE:

RESEMBLES GEOMETRY OF EXISTING FACILITIES

C. LENGTH OF R/W (STRUCTURE QUANTITY): 2.70 MILES (4)

D. STRUCTURE MATERIAL:

WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL:

TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL (H-

FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 3.

F. AVERAGE WIDTH AT CROSSARM:

47'

G. AVERAGE WIDTH AT BASE:

24'

H. MINIMUM STRUCTURE HEIGHT:

55'

MAXIMUM STRUCTURE HEIGHT:

80'

AVERAGE STRUCTURE HEIGHT:

66'

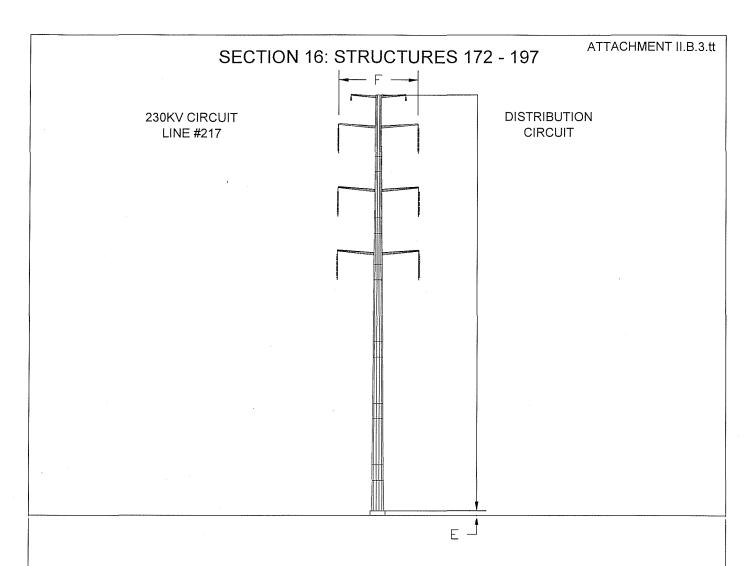
I. AVERAGE SPAN LENGTH:

541' (341' - 852')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. INDIVIDUAL POLE HEIGHTS MAY VARY, SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL POLE LOCATION.
- 3. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAXIMUM REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN AT INDIVIDUAL FOUNDATION LOCATION.
- 4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE.



PROPOSED DOUBLE CIRCUIT 1-POLE SUSPENSION STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE: MAINTAINS VERTICAL CONDUCTOR CONFIGURATION

C. LENGTH OF R/W (STRUCTURE QUANTITY): 2.70 MILES (2)

D. STRUCTURE MATERIAL: WEATHERING STEEL

RATIONALE FOR STRUCTURE MATERIAL: TO MATCH THE MATERIAL SELECTED FOR THE TYPICAL

(H-FRAME) STRUCTURE

E. FOUNDATION MATERIAL:

CONCRETE

AVERAGE FOUNDATION REVEAL:

SEE NOTE 2

F. AVERAGE WIDTH AT CROSSARM:

26'

G. AVERAGE WIDTH AT BASE:

6' DIAMETER FOUNDATION (SEE NOTE 3)

H. MINIMUM STRUCTURE HEIGHT:

135'

MAXIMUM STRUCTURE HEIGHT:

145'

AVERAGE STRUCTURE HEIGHT:

140'

I. AVERAGE SPAN LENGTH:

541' (341' - 852')

J. MINIMUM CONDUCTOR -TO- GROUND:

22.5' (AT MAX OPERATING TEMPERATURE)

- 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL ENGINEERING.
- 2. MINIMUM FOUNDATION REVEAL SHALL BE 1.5'.
- 3. MAXIMUM FOUNDATION DIAMETER SHALL BE BASED UPON FINAL LOCATION AND STRUCTURE LOADING.

II. DESCRIPTION OF THE PROPOSED PROJECT

- B. Line Design and Operational Features
 - 4. With regard to the proposed supporting structures for all feasible alternate routes, provide the maximum, minimum and average structure heights with respect to the whole route.

Response: Not applicable.

II. DESCRIPTION OF THE PROPOSED PROJECT

B. Line Design and Operational Features

5. For lines being rebuilt, provide mapping showing existing and proposed structure heights for each individual structure within the ROW, as proposed in the application.

Response:

See <u>Attachment II.A.2</u> for mapping showing the location of existing and proposed structures. See <u>Attachments II.B.5.a</u> and <u>b</u> for the existing and proposed structure heights for each structure on Line #217 and Line #287, respectively. Information on proposed structure heights is preliminary in nature and subject to change during final engineering.

					EXISTING		PROPOSED			
Row#	Structure #	Location Identifier	Approximate Line Miles	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material	
1	217/1			65	BACKBONE	GALVANIZED STL	65	BACKBONE	GALVANIZED STL	
2	217/1A	CHESTERFIELD		96	H-FRAME	CONCRETE	96	H-FRAME	CONCRETE	
3	217/2*	POWER STATION	0.32	95	H-FRAME	GALVANIZED STL	-	-	e e e e e e e e e e e e e e e e e e e	
4	217/3	PROPERTY	0.52	45	H-FRAME	WOOD	95	3 POLE DDE	WEATHERING STL	
5	217/4	PROFERIT		71	TOWER	GALVANIZED STL	95	3 POLE DDE	WEATHERING STL	
6	217/5			212	TOWER	PAINTED	212	TOWER	PAINTED	
7	217/6	CECTION 4	0.40	212	TOWER	PAINTED	212	TOWER	PAINTED	
8	217/7	SECTION 1	0.40	96	TOWER	GALVANIZED STL	. 95	3 POLE DDE	WEATHERING STL	
9	217/8			62	H-FRAME	WOOD	90	H-FRAME	WEATHERING STL	
10	217/9			61	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL	
11	217/10			60	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL	
12	217/11	SECTION 2	0.86	57	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL	
13	217/12			61	H-FRAME	WOOD	84	H-FRAME	WEATHERING STL	
14	217/13			60	H-FRAME	WOOD	84	H-FRAME	WEATHERING STL	
15	217/14			84	3 POLE	WEATHERING STL	75	3 POLE DDE	WEATHERING STL	
16	217/15			65	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL	
17	217/16	656510313	0.36	53	H-FRAME	WOOD	61	H-FRAME	WEATHERING STL	
18	217/17	SECTION 3		60	H-FRAME	WOOD	60	H-FRAME	WEATHERING STL	
19	217/18			65	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL	
20	217/19			62	H-FRAME	WOOD	60	H-FRAME	WEATHERING STL	
21	217/20	SECTION 4	0.27	56	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL	
22	217/21			61	H-FRAME	WOOD	60	H-FRAME	WEATHERING STL	
23	217/22			56	H-FRAME	WOOD	61	H-FRAME	WEATHERING STL	
24	217/23			61	H-FRAME	WOOD	60	H-FRAME	WEATHERING STL	
25	217/24			61	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL	
26	217/25	SECTION 5	0.05	56	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL	
27	217/26		0.85	66	H-FRAME	WEATHERING STL	70	H-FRAME	WEATHERING STL	
28	217/27			61	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL	
29	217/28			56	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL	
30	217/29			63	H-FRAME	WOOD	60	H-FRAME	WEATHERING STL	

			Annavinasta		EXISTING			PROPOSED	
Row #	Structure #	Location Identifier	Approximate Line Miles	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material
31	217/30			65	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL
32	217/31	SECTION 6		57	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL
33	217/32		0.58	56	H-FRAME	WOOD	61	H-FRAME	WEATHERING STL
34	217/33			56	H-FRAME	WOOD	60	H-FRAME	WEATHERING STL
35	217/34			62	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL
36	217/35			61	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
37	217/36			61	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL
38	217/37			61	H-FRAME	WOOD	60	H-FRAME	WEATHERING STL
39	217/38	SECTION 7	0.68	56	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
40	217/39			56	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL
41	217/40			52	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL
42	217/41			56	3 POLE	WOOD	65	3 POLE DDE	WEATHERING STL
43	217/42			61	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
44	217/43			75	H-FRAME	WEATHERING STL	79	H-FRAME	WEATHERING STL
45	217/44			75	H-FRAME	WEATHERING STL	79	H-FRAME	WEATHERING STL
46	217/45			69	H-FRAME	WOOD	79	H-FRAME	WEATHERING STL
47	217/46			57	H-FRAME	WOOD	65	H-FRAME	WEATHERING STL
48	217/47			65	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
49	217/48			66	H-FRAME	WEATHERING STL	70	H-FRAME	WEATHERING STL
50	217/49	SECTION 8	1.57	56	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
51	217/50			65	3 POLE	WOOD	65	3 POLE DDE	WEATHERING STL
52	217/51			75	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
53	217/52			56	H-FRAME	MOOD	66	H-FRAME	WEATHERING STL
54	217/53			56	H-FRAME	MOOD	66	H-FRAME	WEATHERING STL
55	217/54			51	H-FRAME	MOOD	70	H-FRAME	WEATHERING STL
56	217/55			71	H-FRAME	MOOD	60	H-FRAME	WEATHERING STL
57	217/56			51	3 POLE	WOOD	65	3 POLE DDE	WEATHERING STL

			Approximate		EXISTING			PROPOSED	
Row#	Structure #	Location Identifier	Line Miles	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material
58	217/57			66	H-FRAME	WOOD	79	H-FRAME	WEATHERING STL
59	217/58			62	H-FRAME	WOOD	79	H-FRAME	WEATHERING STL
60	217/59			66	H-FRAME	WEATHERING STL	70	H-FRAME	WEATHERING STL
61	217/60			56	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL
62	217/61			57	H-FRAME	WOOD	60	H-FRAME	WEATHERING STL
63	217/62			56	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL
64	217/63			62	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
65	217/64			58	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
66	217/65			61	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
67	217/66			61	H-FRAME	WEATHERING STL	70	H-FRAME	WEATHERING STL
68	217/67	SECTION 9	2.47	63	H-FRAME	WOOD	60	H-FRAME	WEATHERING STL
69	217/68			62	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
70	217/69			63	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL
71	217/70			66	H-FRAME	WEATHERING STL	79	H-FRAME	WEATHERING STL
72	217/71			80	H-FRAME	WOOD	79	H-FRAME	WEATHERING STL
73	217/72			70	H-FRAME	MOOD	84	H-FRAME	WEATHERING STL
74	217/73			70	H-FRAME	WEATHERING STL	84	H-FRAME	WEATHERING STL
75	217/74			71	H-FRAME	WOOD	88	H-FRAME	WEATHERING STL
76	217/75			62	H-FRAME	WOOD	79	H-FRAME	WEATHERING STL
77	217/76			65	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL
78	217/77			59	3 POLE	WOOD	65	3 POLE DDE	WEATHERING STL

Attachment II.B.5.a Page 3 of 8

		-	Approximate		EXISTING			PROPOSED	
Row#	Structure #	Location Identifier	Line Miles	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material
79	217/78			52	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL
80	217/79			61	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL
81	217/80			66	H-FRAME	WOOD	84	H-FRAME	WEATHERING STL
82	217/81			75	H-FRAME	WEATHERING STL	84	H-FRAME	WEATHERING STL
83	217/82			62	H-FRAME	doow	75	H-FRAME	WEATHERING STL
84	217/83	SECTION 10	1.38	61	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
85	217/84	SECTION 10	1,38	62	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL
86	217/85	•		62	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL
87	217/86			62	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL
88	217/87			66	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
89	217/88			57	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL
90	217/89			55	H-FRAME	WOOD	60	3 POLE DDE	WEATHERING STL
91	217/90			55	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL
92	217/91			62	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
93	217/92			60	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL
94	217/93			64	H-FRAME	MOOD	75	H-FRAME	WEATHERING STL
95	217/94			63	H-FRAME	WOOD	61	H-FRAME	WEATHERING STL
96	217/95			56	H-FRAME	WOOD	61	H-FRAME	WEATHERING STL
97	217/96	SECTION 11	1.16	56	H-FRAME	MOOD	61	H-FRAME	WEATHERING STL
98	217/97			57	H-FRAME	WEATHERING STL	61	H-FRAME	WEATHERING STL
99	217/98			66	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
100	217/99			66	H-FRAME	WEATHERING STL	70	H-FRAME	WEATHERING STL
101	217/100			57	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL
102	217/100A			-	-	-	39	SWITCH	GALVANIZED STL
103	217/101			61	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL

* - Existing structure not replaced

Bold Font - Existing structure reused Gray Cell - Company Owned Property

LINE #217

			Approximate		EXISTING	***************************************		PROPOSED	
Row#	Structure #	Location Identifier	Approximate Line Miles	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material
104	217/101A	CHARLES CITY RD SUBSTATION	0.05	60	BACKBONE	CONCRETE	60	BACKBONE	CONCRETE
		PROPERTY							
105	217/102			56	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
106	217/102A			-	-	-	39	SWITCH	GALVANIZED STL
107	217/103			61	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
108	217/104			75	H-FRAME	WEATHERING STL	79	H-FRAME	WEATHERING STL
109	217/105			66	H-FRAME	WEATHERING STL	79	H-FRAME	WEATHERING STL
110	217/106			62	H-FRAME	MOOD	79	H-FRAME	WEATHERING STL
111	217/107			62	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL
112	217/108			56	H-FRAME	MOOD	66	H-FRAME	WEATHERING STL
113	217/109			52	H-FRAME	WOOD	61	H-FRAME	WEATHERING STL
114	217/110			75	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
115	217/111			106	TOWER	GALVANIZED STL	106	TOWER	GALVANIZED STL
116	217/112	SECTION 12	2.30	106	TOWER	GALVANIZED STL	106	TOWER	GALVANIZED STL
117	217/113			66	H-FRAME	WEATHERING STL	70	H-FRAME	WEATHERING STL
118	217/114			69	H-FRAME	WOOD	88	H-FRAME	WEATHERING STL
119	217/115			59	3 POLE	WOOD	75	3 POLE RA	WEATHERING STL
120	217/116			64	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL
121	217/117			69	H-FRAME	WOOD	79	H-FRAME	WEATHERING STL
122	217/118			66	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
123	217/119			67	H-FRAME	WEATHERING STL	88	H-FRAME	WEATHERING STL
124	217/120			66	H-FRAME	WEATHERING STL	84	H-FRAME	WEATHERING STL
125	217/121			51	H-FRAME	WEATHERING STL	70	H-FRAME	WEATHERING STL
126	217/122			64	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL
127	217/123			66	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL

Attachment II.B.5.a Page 5 of 8

	, , , , , , , , , , , , , , , , , , ,		Approximate		EXISTING		T	PROPOSED	
Row#	Structure #	Location Identifier	Line Miles	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material
128	217/124	NORTHEAST		60	3 POLE	WEATHERING STL	60	3 POLE DDE	WEATHERING STL
129	217/125	SUBSTATION	0.31	95	BACKBONE	GALVANIZED STL	95	BACKBONE	GALVANIZED STL
130	217/126	PROPERTY	0.51	53	3 POLE	WEATHERING STL	60	3 POLE DDE	WEATHERING STL
131	217/127	101		67	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL
132	217/128			70	3 POLE	WOOD	70	3 POLE RA	WEATHERING STL
133	217/129		0.52	62	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL
134	217/130	SECTION 13		70	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
135	217/131			61	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL
136	217/132			61	H-FRAME	WOOD	65	H-FRAME	WEATHERING STL
137	217/133			56	H-FRAME	WOOD	60	H-FRAME	WEATHERING STL
138	217/134			62	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL
139	217/135			70	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
140	217/136			66	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
141	217/137			55	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL
142	217/138			56	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL
143	217/139			51	H-FRAME	DOOM	55	H-FRAME	WEATHERING STL
144	217/140	SECTION 14	1.53	52	H-FRAME	WOOD	61	H-FRAME	WEATHERING STL
145	217/141			65	H-FRAME	MOOD	70	H-FRAME	WEATHERING STL
146	217/142			56	H-FRAME	WOOD	57	H-FRAME	WEATHERING STL
147	217/143			62	H-FRAME	MOOD	66	H-FRAME	WEATHERING STL
148	217/144			66	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL
149	217/145			70	H-FRAME	WOOD	79	H-FRAME	WEATHERING STL
150	217/146			64	H-FRAME	WEATHERING STL	79	H-FRAME	WEATHERING STL
151	217/147			56	3 POLE	WEATHERING STL	65	3 POLE RA	WEATHERING STL

		-	Approximate		EXISTING			PROPOSED	
Row #	Structure #	Location Identifier	Line Miles	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material
152 ⁻	217/148			62	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
153	217/149			61	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
154	217/150			61	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
155	217/151			61	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
156	217/152			66	H-FRAME	WEATHERING STL	79	H-FRAME	WEATHERING STL
157	217/153			66	H-FRAME	WEATHERING STL	79	H-FRAME	WEATHERING STL
158	217/154			62	H-FRAME	WEATHERING STL	79	H-FRAME	WEATHERING STL
159	217/155			68	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
160	217/156			61	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
161	217/157			60	H-FRAME	WEATHERING STL	70	H-FRAME	WEATHERING STL
162	217/158		3.02	62	H-FRAME	WEATHERING STL	70	H-FRAME	WEATHERING STL
163	217/159	SECTION 15		60	H-FRAME	WEATHERING STL	70	H-FRAME	WEATHERING STL
164	217/160	SECTION 15		61	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
165	217/161			55	3 POLE	WEATHERING STL	60	3 POLE RA	WEATHERING STL
166	217/162			60	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
167	217/163			61	H-FRAME	WEATHERING STL	70	H-FRAME	WEATHERING STL
168	217/164			64	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
169	217/165			70	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
170	217/166			61	H-FRAME	WEATHERING STL	70	H-FRAME	WEATHERING STL
171	217/167			60	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
172	217/168			66	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
173	217/169			66	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
174	217/170			61	H-FRAME	WEATHERING STL	75	H-FRAME	WEATHERING STL
175	217/171			66	H-FRAME	WEATHERING STL	65	H-FRAME	WEATHERING STL

Subject to change during Final engineering

			Approximate		EXISTING			PROPOSED	PROPOSED			
Row#	Structure #	Location Identifier	Line Miles	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material			
176	217/172			57	H-FRAME	WOOD	55	H-FRAME	WEATHERING STL			
177	217/173			54	3 POLE	MOOD	65	3 POLE RA	WEATHERING STL			
178	217/174			60	H-FRAME	WOOD	79	H-FRAME	WEATHERING STL			
179	217/175			66	H-FRAME	WEATHERING STL	70	H-FRAME	WEATHERING STL			
180	217/176			57	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL			
181	217/177			70	H-FRAME	WEATHERING STL	70	H-FRAME	WEATHERING STL			
182	217/178			66	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL			
183	217/179			52	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL			
184	217/180			56	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL			
185	217/181			56	H-FRAME	WOOD	. 66	H-FRAME	WEATHERING STL			
186	217/182			56	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL			
187	217/183			66	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL			
188	217/184	SECTION 16	2.70	61	H-FRAME	WOOD	75	H-FRAME	WEATHERING STL			
189	217/185	SECTION 19	2.70	61	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL			
190	217/186			56	H-FRAME	WOOD	66	H-FRAME	WEATHERING STL			
191	217/187			65	H-FRAME	WOOD	65	H-FRAME	WEATHERING STL			
192	217/188			135	TOWER	GALVANIZED STL	135	DC 1-POLE	WEATHERING STL			
193	217/189			145	TOWER	GALVANIZED STL	145	DC 1-POLE	WEATHERING STL			
194	217/190			67	H-FRAME	WOOD	65	H-FRAME	WEATHERING STL			
195	217/191			65	H-FRAME	WOOD	61	H-FRAME	WEATHERING STL			
196	217/192			62	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL			
197	217/193			66	H-FRAME	WOOD	70	H-FRAME	WEATHERING STL			
198	217/194			65	H-FRAME	WOOD	79	H-FRAME	WEATHERING STL			
199	217/195			75	H-FRAME	WOOD	80	H-FRAME	WEATHERING STL			
200	217/196			-	-	-	75	3 POLE DDE	WEATHERING STL			
201	217/197			79	3 POLE	WOOD	79	H-FRAME	WEATHERING STL			
202	217/197A	LAKESIDE	The state of the s	35	BACKBONE	GALVANIZED STL	35	BACKBONE	GALVANIZED STL			
203		SUBSTATION PROPERTY		75	STATIC POLE	GALVANIZED STL	75	STATIC POLE	GALVANIZED STL			

		,	Approximate		EXISTING			PROPOSED	
Row#	ow # Structure # Locati	Location Identifier	Line Miles	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material	Approximate Structure Height Above Foundation (ft)	Structure Type	Pole Material
1	1C			65	BACKBONE	GALVANIZED STEEL	65	BACKBONE	GALVANIZED STEEL
2	1B			80	H-FRAME	WOOD	93	H-FRAME	WEATHERING STEEL
3	1*	CHESTERFIELD		90	3 POLE	CONCRETE	-		
4	2A*	POWER STATION	0.34	61	3 POLE	WOOD	-		<u>-</u>
5	2	PROPERTY		50	H-FRAME	WOOD	85	3 POLE	WEATHERING STEEL
6	3			71	TOWER	GALVANIZED STEEL	95	3 POLE	WEATHERING STEEL
7	4			212	TOWER	PAINTED	212	TOWER	PAINTED
8	5	SECTION 1	0.40	212	TOWER	PAINTED	212	TOWER	PAINTED
9	6		0.40	96	TOWER	GALVANIZED STEEL	95	3 POLE	WEATHERING STEEL