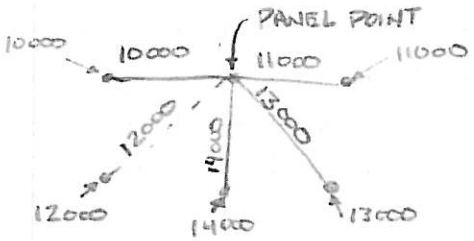
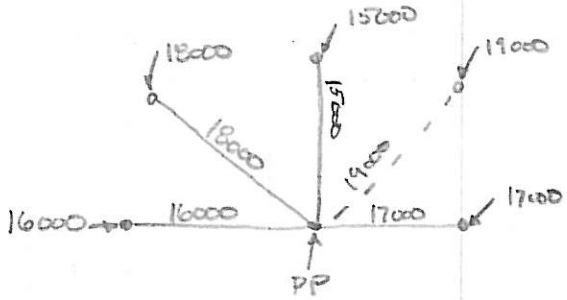
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COLUMBIA PARKWAY - GENERAL MODELING INFO

STIFFENED MEMBER ENDS





	NORTH TRUSS	CENTER TRUSS	SOUTH TRUSS
STRUT 1	10,000 TO 17000	40000 TO 47000	70,000 TO 77000
2	20000 TO 27000	50000 TO 57000	80000 TO 87000
3	30000 TO 37000	60000 TO 67000	90000 TO 97000

PANEL POINT NODE #'S

	N. TRUSS	C. TRUSS	S. TRUSS
UPPER CHORD	200 - 300	1200-1300	2200-2300
LOWER CHORD	100 - 199	1100-1199	2100-2199

TRUSS MEMBERS

	N. TRUSS	C. TRUSS	S. TRUSS
UC	200-299	1200-1299	2200-2299
L.C	100 - 199	1100-1199	2100 - 2199
DIAG	300 - 399	1300 - 1399	2300 - 2399
VERT	400 - 500	1400 - 1500	2400 - 2500

Calculations for 1/4 US Grid

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COLUMBIA PARKWAY - GENERAL MODELING INFO

IF GRADE IS IGNORED THE THREE STRUCTURES EXHIBIT ROTATIONAL SYMMETRY* HOWEVER SUPPORT CONDITIONS AT PIERS 8/9 DO NOT MATCH SYMMETRY.

* CANTILEVERS ARE OF DIFF. LENGTHS ON THE N/S TRUSS, WHICH VIOLATES ROT. SYM.

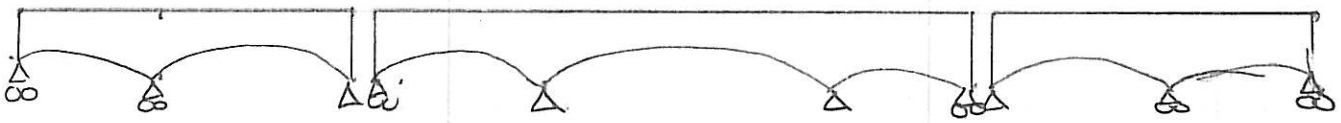
INITIAL MODEL RUNS WITH UNIFORM GRAVITY AND/OR UNIFORM SUPERIMPOSED LOAD WITH AS-BUILT BEARING/CANTILEVER CONDITIONS (SEE FIG A) PROVIDED TRUSS DEFLECTIONS THAT DID NOT QUITE FOLLOW ROTATIONAL SYMMETRY.

WHEN CANTILEVER LENGTH WAS CHANGED TO MATCH N/S TRUSSES & SUPPORT CONDITIONS WERE MODIFIED TO SYMMETRIC CONDITIONS. DEFLECTIONS MATCHED ROTATIONAL SYMMETRY, AND TRUSS REACTIONS WERE WITHIN 1-2% OF SYM. POSITION.

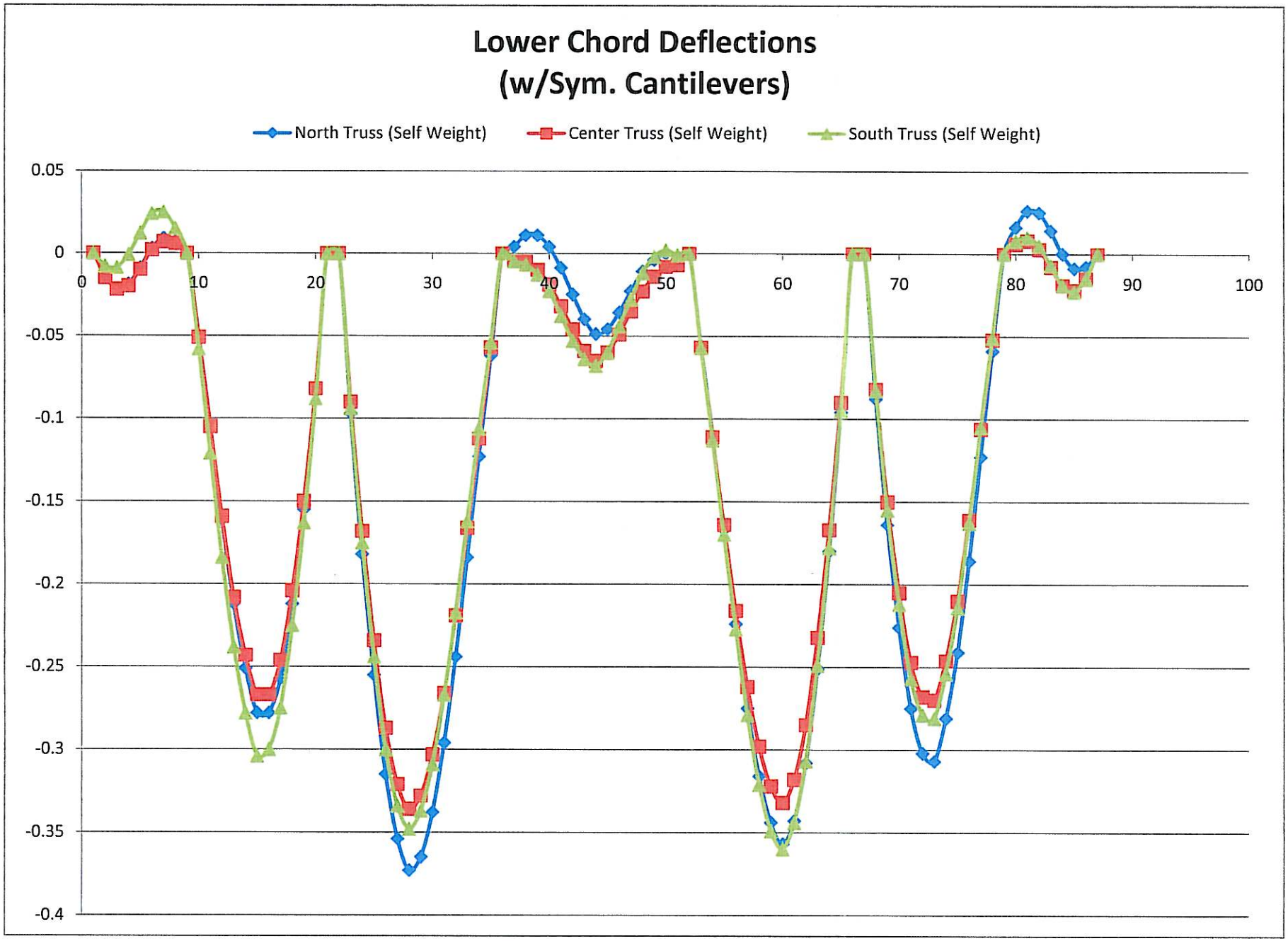
NON-SYMMETRIC SUPPORTS (AS-BUILT)

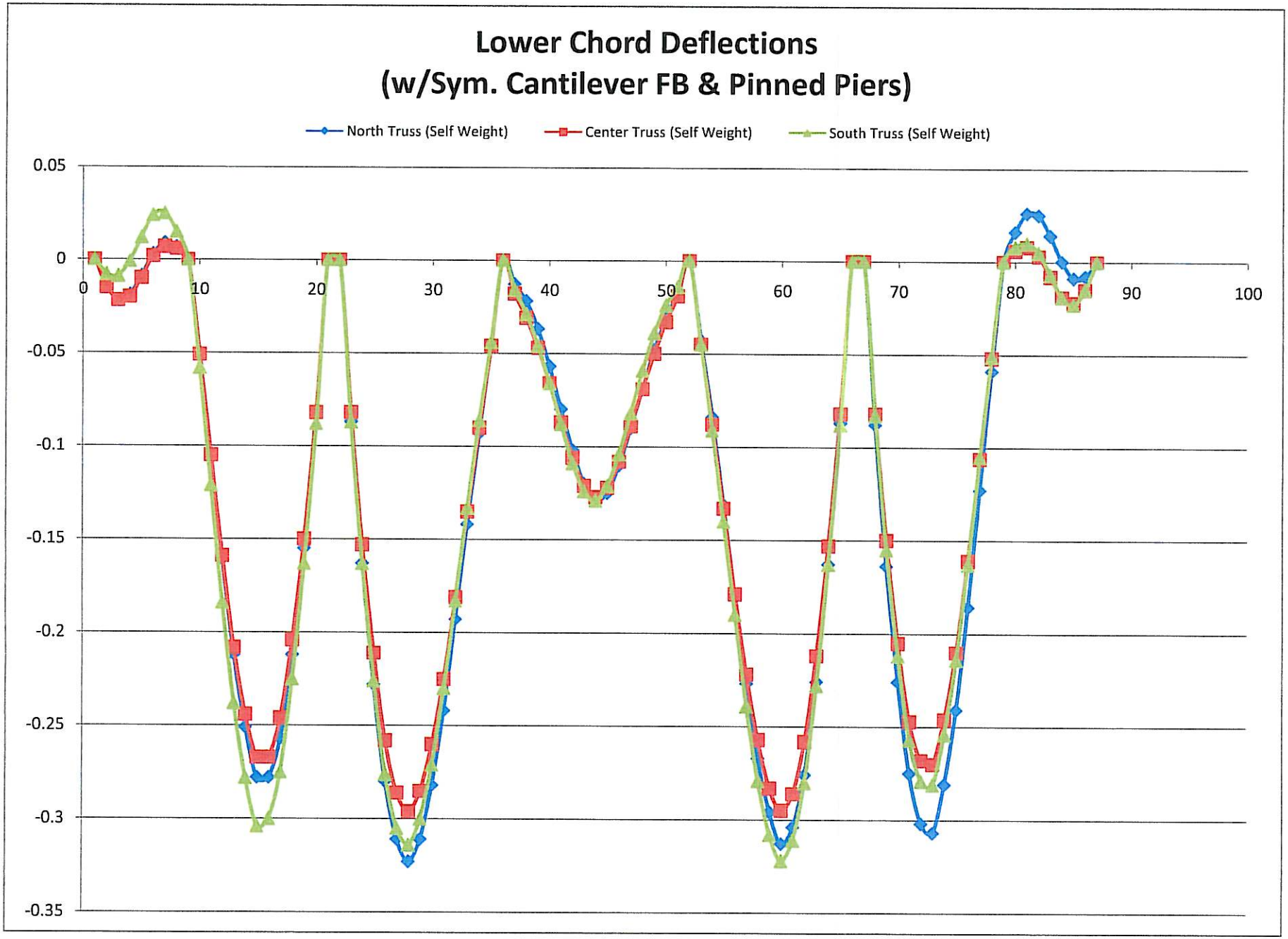


SYMMETRIC SUPPORTS (IDEAL)



Calculations for 1/4 US Grid


Lower Chord Deflections
(w/Sym. Cantilevers)
North Truss (Self Weight)
Center Truss (Self Weight)
South Truss (Self Weight)
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
-0.3
-0.35
-0.4
0
10
20
30
40
50
60
70
80
90
100


Lower Chord Deflections
(w/Sym. Cantilever FB & Pinned Piers)
North Truss (Self Weight)
Center Truss (Self Weight)
South Truss (Self Weight)
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
-0.3
-0.35
0
10
20
30
40
50
60
70
80
90
100