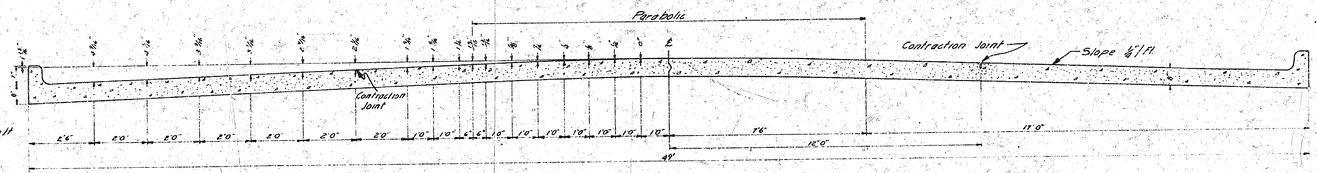
HILLSIDE - C.L. ST. LOUIS & SAN FRANCISCO R.R. R/W TO N.L. 17TH. STREET

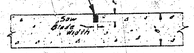
8" CONCRETE - 48' & CURB

PROJECT NO. C10 - 33



TYPICAL SECTION

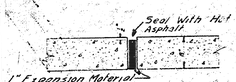
No Scale



CONTRACTION JOINT

No Scale

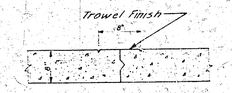
To Be Used At 30' Intervals Except Where An Expansion Joint Is Used



EXPANSION JOINT

No Scale

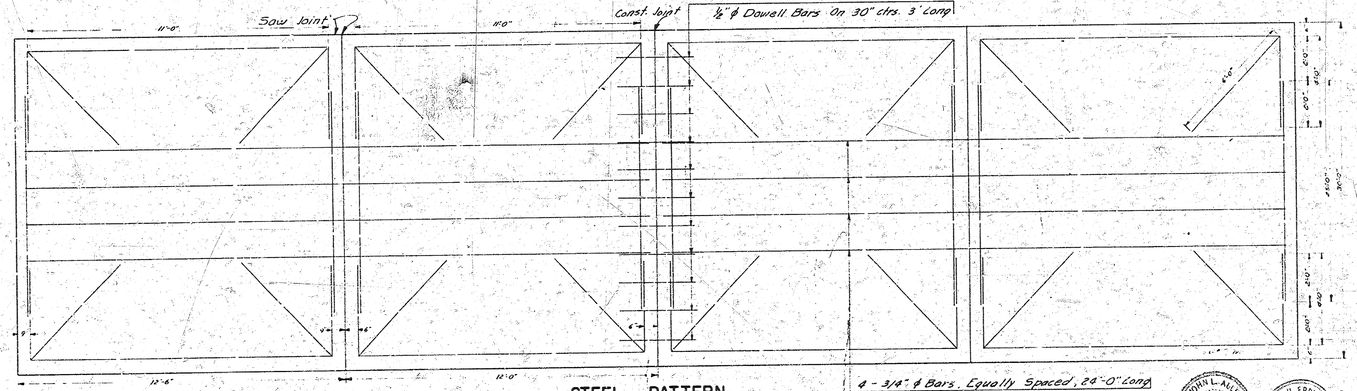
To Be Used At 120' Intervals



℄ MARKER DETAIL

No Scale

Place Full Length of Job


Saw Joint
Const. Joint
½" ϕ Dowell Bars On 30" ctrs. 3' Long
11'-0"
11'-0"
4'-0"
4'-0"
4

Thickness of Existing Pavement Sta. 1+00
10' W. of E. Curb. Asph. 3" Rock Base 6" Total = 9"
15' W. of E. Curb. " 3" " " 6" " 9"
17' to 23' " " " 3" " " 6" & Conc. 5" Total = 18"

P.C. 0+38.88
P.V.I. 38.96'VC. El. 149.82 0+30
P.V.I. 51.06'VC. El. 154.07 -0+25
P.R.C. -0+50.53
P.R.C. & P.V.C. 0+00.53
P.V.T. & P.R.C. 0+99.47
P.V.I. 249.64'VC. El. 144.77 2+25
P.T. & P.C. 3+05.51
P.V.T. 3+50

N

HIGHLAND CEMETERY

FRISCO

-2+00 -1+50 -1+00 -0+75 1+25 1+50 1+75 2+00 2+25 2+50 2+75 3+00 3+25 3+50 3+75 4+00 4+25

-0.200% -5.533% -2.355% +3.811%

Save Retaining Wall, Re-Const. Steps

3 Large Bill Board Signs

STREET

See R.R. Crossing Header Detail Sheet No. 12

Culvert Contractor to Remove Existing 125'x45'x118' R.C.B. & Const. 2-8.0' x 5.0' x 114' R.C.B. See Culvert Plans for Intersection Drainage Details.

Remove Exist. Inlets & Plug all Lead's Pipes with Conc.

Const. Full Walk

HILLSIDE

AVENUE

-0.200%

-0+55 P.V.C.

-0+25 El. 154.70 P.V.I. 60' V.C.

0+05 P.V.T.

0+43.72 P.V.C.

0+70 El. 149.31 P.V.I. 52.56' V.C.

0+96.28 P.V.T. & P.V.C.

Vickers Service Station

-5.674%

-3.042%

+3.841%

RAIL-ROAD

S.P. & N.W. R.R.

Open Storm Water Drain (Conc. & Brick)

26' C.I.P. Under R.R. Track

El. 139.05 El. 139.51

2+85 El. 144.75 P.V.I. 287.26' V.C.

MAPLE GROVE CEMETERY

NOTE: Construct 24' Int Drive to Maple Grove Cemetery with 150' Radii. Begin South Radius at any point North of Sta. 2+75 as directed by owner.

Iron in Thimble E. Hillside & 9th Street.
22.24' S.S.E. to nail in bottle cap E. side P. Pole
33.54' S.E. to X cut in bk. 40' walk E. of E. end conc. ck.
48.08' N.E. to X cut tap N. cb. 9th St. approx.
10' E. of E. end of radius.

Base Line for Curve Data is 80' offset, face West Curb.

Station	Point	Alignment	Delt. Angle	Cord	Arc
3+05.51	P.T.		4°16'	55.1'	55.1'
3+00		Δ = 8°32'	4°05'11"	25'	25'
2+75		R = 1387.60'	3°36'12"	25'	25'
2+50		T = 103.57'	3°07'13"	25.01	25.01'
2+34.53		L = 206.63'	2°48'03"	9.53	9.53'
2+25			2°36'16"	25'	25'
2+00			2°05'17"	25'	25'
1+75			1°38'13"	18.30	18.30'
1+55.90			1°18'06"	13.81	13.80'
1+50			1°03'20"	25'	25'
1+25			0°32'21"	25'	25'
1+00			0°01'23"	1.12	1.12
0+38.88	P.C.				

Survey
Plan
Etc.
Checked

E/25

B.M. 162.49 S.E. Cor. conc. foundation 7o conc. block bldg. Lt. Sta. 7+83.5

N

HIGHLAND CEMETERY

P.T. 5+02.61

P.V.I. 200' V.C. El. 160.04

P.V.T. & P.V.C. 7+25

P.V.I. 250' V.C. El. 163.68 8+50

4+00 +25 4+50 +75 5+00 P.V.C. +25 5+50 6+00 P.V.I. +25 6+50 7+00 P.V.T. +25 7+50 8+00 8+50 9+00 9+50 P.V.T. +75 10+00 10+50

+3.811 % +1.618 % −2.107 %

Const. Block Bldg.

Const. Pull Walk 55'

Const. Ramp Type Drive Ways.

HILLSIDE AVENUE

Base Line for Curve Data is 30' offset; face West Curb.

Station	Point	Alignment	Defl. Angle	Curve	Arc
5+02.61	P.T.		4° 16"	2.61	2.61
5+00		Δ = 8°38'	4° 12' 35"	25.00	25.00
4+75		R = 1323.40	3° 40' 07"		
4+50		T = 34.72'	3° 07' 39"		
4+25		L = 137.10'	2° 35' 11"		
4+00			2° 02' 43"		
3+75			1° 30' 15"		
3+50			0° 57' 47"	25.00	25.00
3+25			0° 25' 19"	13.29	13.49
3+03.51	P.C.				

+3.841 % +1.720 % −2.207 %

5+25 P.V.C.

6+25 El. 160.31 P.V.I. 200' V.C.

7+25 P.V.T. & P.V.C.

8+50 El. 164.18 P.V.I. 250' V.C.

9+75 P.V.T.

MAPLE GROVE CEMETERY

P.O.T. Iron in Thimble ℄ Hillside Sta. 7+26.67
43.45' N.W. to "X" cut E. end bottom conc. step to round shelter house
34.43' N.E. to "X" cut in ft. conc. walk E. on E. ℄
50.69' S.W. to "X" cut on E. end top conc. step to round conc. block building

Excavation	Compacted Fill
4,800 Cu. Yds.	4,400 Cu. Yds.

3/25

Thickness of Existing Pavement Sta. 14+00
5' W. of E. Curb — Brick & Sand 5½", Conc. 6" Total = 11½"
5' Lt. to 5' Rt. ℄ — Brick & Sand 5½", Conc. 12½" Total = 18"

B.M. 154.16 R/R spk. E.S. Large Hedge Tree, 2ft. Tree So. of 11th Street on W.S. Hillside

Iron in thlm. 29.93' Lt. & Hillside @ Sta. (M) 15+24.97 (A) 15+23.03

10+50 | 11+00 | 11+50 | P.V.C. 12+00 | 12+50 | P.V.I. 200' V.C. El. 154.20 13+00 | 13+50 | P.V.T. 14+00 | 14+50 | Sta. 14+94.97 | 15+00 | 15+50 | Sta. 15+39.37 | P.V.C. +12 | 16+00 | 16+50 | 17+00

-2.107%

-0.675%

+0.164%

N

STREET

HILLSIDE

AVENUE

Const. Ramp-Type Drives

Sta. 15+47.5 Exist M.H. Fl. 147.93

Const. 5.5' Walk

Plant Pull Walk

Sta. 15+56 Const. 2'x6' Inlet Fl. El. 149.18 Install 48"-15" R.C.P. to Existing Manhole.

Remove Existing Inlets & Connect 24" R.C.P.

-2.207%

-0.750%

+0.519%

12+00 P.V.C. | 12+75 El. 154.80 P.V.I. 150' V.C. | 13+50 P.V.T. | 15+00 P.V.C. | 15+55 El. 152.70 P.V.I. 110' V.C. | 16+10 P.V.T. | 17+00 P.V.C.

4/29

B.M. 170.64 N.E. Cor. first conc. step, House # 1301 N. Hillside

Nail in brick on ℄ Hillside ∯ 12th Street E.
28.00' W. to "X" cut ctr. conc. walk at 90° off ℄ Hillside
42.43' N.E. to "X" cut in bk. walk E. on E. Rd.
42.00' S.E. to "X" cut in bk. walk E. on E. Rd.

Iron in thim. 30.0' Lt. ℄ Hillside at Sta. (M) 21+89.91 (P) 21+85.03

P.V.I. 300' V.C. El. 153.09 +62

P.K.T. +12

P.V.I. 73' V.C. El. 167.49 +36.5

P.K.C. 21+00

P.V.T. +73

P.V.C. +25

17+00 | 17+50 | 18+00 | 18+50 | 19+00 | 19+50 | 20+00 | 20+50 | 21+00 | 21+50 | 22+00 | 22+50 | +72.67 | 23+00 | 23+50

+0.164% | +3.845% | +2.375%

N

HILLSIDE

12th STREET

19th AVENUE

Const. Ramp-Type Drives

Const. Full Walk

Maple Grove Cemetery

18" R.C.P.

Storm Water Sewer Flo. El. 151.50

+0.513% | +3.934% | +3.259% | +1.936%

17+00 P.V.C.

17+90 El. 153.92 P.V.I. 180' V.C.

18+80 P.V.T.

20+50 P.V.C.

21+00 El. 166.30 P.V.I. 100' V.C.

21+50 P.K.T. & P.K.C.

+59.91

+21.21 P.V.I. 162.42' V.C. El. 170.25

22+42.67

+92.92 P.V.I.

23+02.67

Begin 18" R.C.P.

20+70

Const. Gravity Type Retaining Wall (h = 2'-0" Max.)

5/25

Ties to Iron in Thimble @ Hillside & 13th
51.00' "X" cut Top N.End Conc. Parking curb on
S.E. Cor. Hillside & 13th St.
44.38' "X" cut on N.W. Cor. Conc. Base to Texaco
Sign on N.E. Cor. Hillside & 13th St.
46.32' "X" cut on N.E. Cor. Conc. Parking to Std.
Service Sta. on S.W. Cor. Hillside & 13th St.

B.M. 171.35 C&G Std. at S.E.
corner Hillside & 13th Street.

Iron in thim. @ Hillside & 13th Street
Sta. (H) 28+45.38 (P) 29+45.03

N

P.V.I. 100' V.C.
El. 173.15
23+50 +75 24+00 +25 24+50 +75 25+00 +25 25+50 +75 26+00 +25 26+50 +75 27+00 +25 27+50
+2.375% +1.633% -0.387% -2.712%
P.V.I. 100' V.C.
El. 175.30
P.V.T.
P.K.C.
P.V.I. 100' V.C.
El. 174.72
P.V.T.

P.V.C. 28+00 +33.4 +57.4 P.V.T. 29+00 +25 29+50 30+00
P.V.I. 60' V.C.
El. 170.10
28+45.38
+0.395%
STREET

Brick Bldg. with Stone Front
Brick Garage
Conc. Block Building Standard Service Station
Brick Building
Cafe (Metal Bldg.)
Conc. Parking
Conc. Drive
Gas Pump Islands
Const. (65') Full Walk
Asphalt Pkt.
Ramp Island
Texaco Station
Brick Bldg.
HILLSIDE
FULL CROWN → VARIABLE CROWN
AVENUE
Const. (35') Full Walk.
Drive Way Not Used
Conc. Parking for Safeway Store
No House

+1.236% -0.200% -2.400% -1.410% +0.281%

24+50 P.V.C.
Remove Exist. Ret. Wall & Const. Gravity Type Wall (h = 3'-0" Max.)
25+00 P.V.I. 100' V.C. El. 175.65
25+50 P.V.T.
Save Existing Ret. Wall if possible. If not, Const. Gravity Type Wall (h = 3.0' Max.)
26+15 P.V.C.
26+65 P.V.I. 100' V.C. El. 175.32
27+15 P.V.T.
28+00 P.V.I. 50' V.C. El. 172.08
28+25.2 P.V.C.
28+39.7 P.V.T.
+43.9 P.K.C.
+69.5 El. 171.10 P.V.I. 48.2' V.C.
+93.6 P.V.T.

6/25

B.M. 178.26 "a" cut on back walk W. of N.Side 14th St. on N.W. Cor. Hillside & 14th St.

Iron in Thimble Sta. 35+16.8
66.58' S.W. to X cut top S. curb on 14th St. Approx. 20' W. of W.L. Hillside.
43.02' N.W. to X cut ctr. 5.0' walk W, 10' W. of W.L. Hillside, N. side 14th St.
49.88' N.E. to X cut ctr. 3.0' walk E, 10' E. of E.L. Hillside, N. side 14th St.

N

P.V.I. 150'V.C. El. 171.60 32+25
P.V.C. 31+50
P.V.T. 33+00
P.V.C. +36
P.V.I. 150'V.C. El. 178.90 35+11
P.V.T. +86
Z +33.6
Z +15.6
60'
30+00
30+50
31+00
32+00
32+50
33+50
34+00
34+50
35+00
35+50
36+00
36+50
+0.395%
+2.554%
-2.052%
+0.281%
+2.605%
-2.230%
HILLSIDE
STREET
AVENUE
VARIABLE CROWN
FULL CROWN
Const (5.5') Full Walk
Const (6.5') Full Walk
Brick 4-Plex
Brick Duplex
Frame House
Gen. Parking
Z SAW
Z +20.7
Z +32.05
Z +46.8
P.V.C.
P.V.T.
P.V.I.
31+50 P.V.C.
32+25 P.V.I. 150'V.C. El. 172.10
33+00 P.V.T.
32+84
33+84
34+22.7
35+16.8 P.V.I. 60'V.C. El. 179.70
36+47
Const Gravity Type Ret. Wall (h=2'-0" Max)
Const Gravity Type Ret. Wall (h=2'-0" max)
NOTE: No Payment for Removal of 8" Stone Wall
Remove Existing Retaining Wall & Const. Gravity Type Wall (h=2'-0" max)
7/25

Iron in Thimble Sta. 41+67.95
37.39' S.E. to 'X' cut Top N. end Conc. Ret. Wall on S.E. Cor. 15th & Hillside;
62.69' N.W. to nail in bottle cap S.E. side 12" tree on N.W. Cor. 15th & Hillside.
48.63' S.W. to 'X' cut Ctr. 40' walk W, on S. side 15th, 10' W. of W.L. Hillside.

Iron in Thimble Sta. 41+76.42
43.01' S.E. to 'X' cut top N. end Conc. Ret. Wall on S.E. Cor. 15th & Hillside.
38.43' N.W. to nail in bottle cap S.E. side 12" tree on N.W. Cor. 15th & Hillside.
53.94' S.W. to 'X' cut Ctr. 40' walk W, on S. side 15th, 10' W. of W.L. Hillside.

P.V.I. 43.46' V.C.
El. 172.30
41+80.8

N

B.M. 176.22 "a" cut S.E. Cor. top Conc. Step on approach walk at W.L. Hillside to Ho. #1601 N. Hillside

+37.8 | +84 | +93.5 | 37+37.5

Remove Exist. Conc. Block Ret. Wall

Const. Gravity Type Ret. Wall (h = 2'-3" max.)

Const. Gravity Type Ret. Wall (h = 1'-9" max.)

P.V.C. 36+75

P.V.I. 150' V.C. El. 174.00 37+50

P.V.T. +25

36+50 | 37+00 | 38+00 | 38+50 | 39+00 | 39+50 | 40+00 | 40+50 | 41+00 | 41+50 | 42+00 | +25 | 42+50 | 43+00

-2.052 | -0.348% | +4.589%

41+39.7 P.V.C.2

+42.57

STREET ±72.6

+0.063

P.V.T.2

1/2 CROWN

Const. (6.5) Full Walk

275' ℄ R/W 50' ℄

Drive not used.

-2.230% | -0.328% | +4.580%

-15%

℄ +106.42

Sta. 41+67.35(M) Iron in Thimble

Sta. 41+76.42(M) Iron in Thimble

60'

Remove Exist. Wall if necessary & Const. new wall.

41+82 P.V.I. 136' V.C. El. 173.08

42+50 P.V.T.

Const. T ℄ L-Type Retaining Walls (h = 2'-0" Max.)

Const. Gravity Type Ret. Wall (h = 2'-0" Max.)

Exist. Stone Ret. Wall

Const. Gravity Type Ret. Wall (h = 2'-0" Max.)

36+56 | 37+16.2 | 37+48.8 | 37+85 | 39+75 | 40+17.2

NOTE: Stations shown for Retaining Walls are approximate.

HILLSIDE

AVENUE

VARIABLE CROWN — FULL CROWN — VARIABLE CROWN — FULL CR.

Frame House | Frame House | Frame House | Frame House | Brick Duplex

#1602 | #1604

8/25

Sta. 48+33.38(N) Iron in Thimble & Hillside ℄ 16th St. Street
25.61' N.E. to nail in bottle cap S. side 6" tree
10' E. of ℄ Hillside on N. side 16th St.
63.39' S.E. to ℄ cut on N.W. Cor. bottom conc. step, nr. 18" tree in Hillside.
43.57' N.W. to nail in bottle cap N.E. side 10" tree on N. side 16th St. 10' W. of W.L. Hillside

B.M. 177.82 "a" Cut top Conc. Ret. Wall 1.0' W. of W. Line Hillside on N.W. Cor. 16th St.

N

43+00 43+50 P.V.C. +75 44+00 44+50 P.V.I. 200' V.C. El. 186.00 +75 45+00 45+50 P.V.T. +75 46+00 P.V.C. 46+50 P.V.I. 100' V.C. El. 179.00 47+00 P.V.T. 47+50 48+00 P.V.C. 48+36 P.V.I. 28' V.C. El. 177.30 48+50 P.V.T. 48+64 49+00 49+50

+4.589% -3.111% -1.133% +1.075%

60'

STREET

HILLSIDE AVENUE

VARIABLE CROWN FULL CROWN VARIABLE CROWN

16TH

Const. (5.5) Full Walk.

Const. T-Type Ret. Wall (h = 2'-0" max.)

Const. L-Type Retaining Wall (h = 3'-0" max.)

Const. L-Type Retaining Wall (h = 4'-6" max.)

Const. L-Type Wall (h = 3'-6" max.)

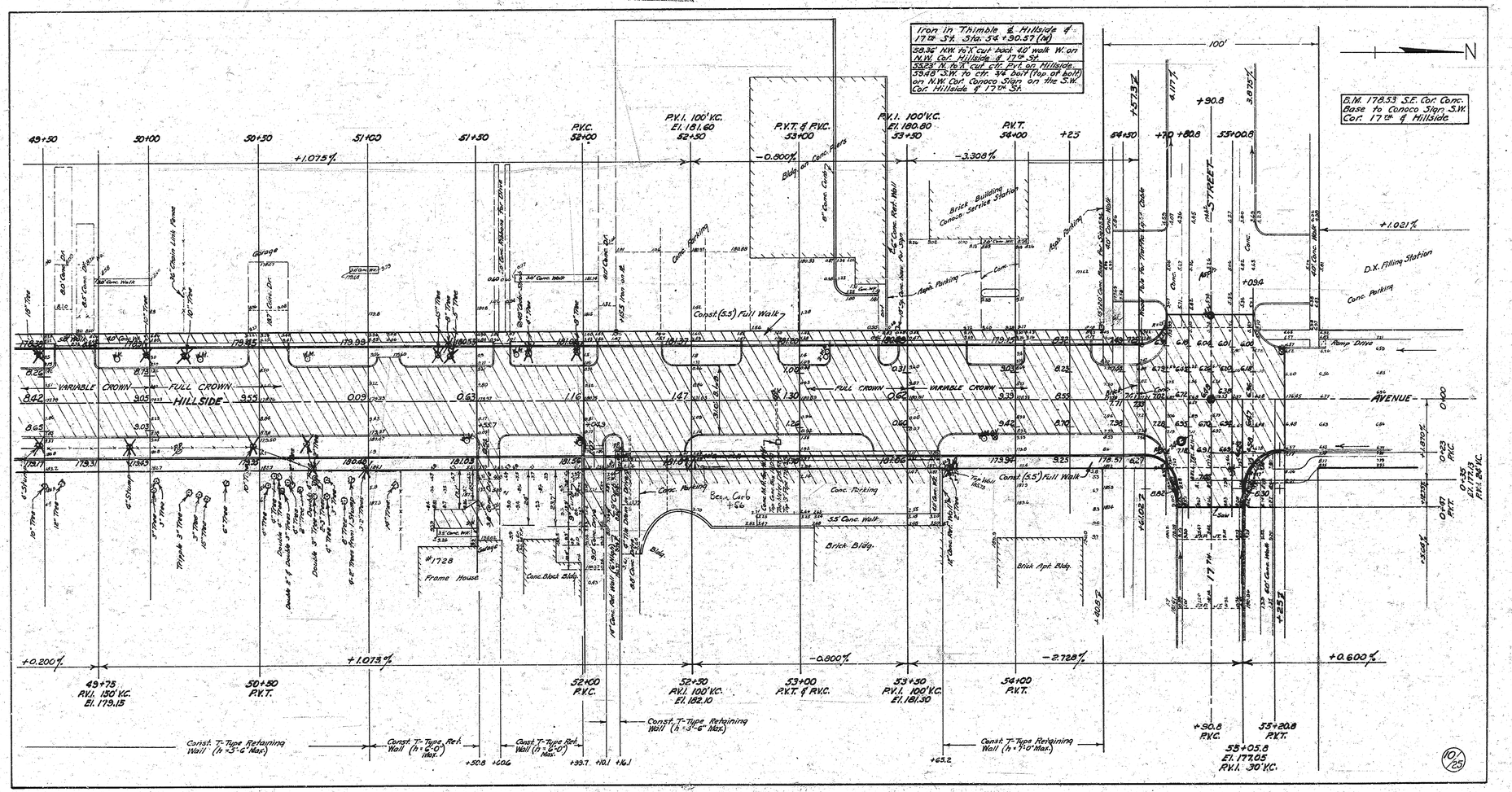
Const. L-Type Wall (h = 4'-6" max.)

Const. T-Type Ret. Wall (h = 3'-6" max.)

NOTE: Stations shown for retaining walls are approximate.

43+75 P.V.C. 44+75 P.V.I. 200' V.C. El. 186.50 45+75 P.V.T. 46+50 P.V.C. 47+00 P.V.I. 100' V.C. El. 179.50 47+00 P.V.T. 48+50 P.V.I. 100' V.C. El. 178.90 49+00 P.V.T. & P.V.C.

9/20


Iron in Thimble ℄ Hillside ℄ 17th St. Sta. 54 +90.57 (M)
58.36' N.W. to X' cut back 40' walk W. on N.W. Cor. Hillside ℄ 17th St.
53.52' N. to X' Cut on P.I. on Hillside
53.48' S.W. to Cor. ¾ bolt (Top of bolt) on N.W. Cor. Conoco Sign on the S.W. Cor. Hillside ℄ 17th St.
B.M. 178.53 S.E. Cor. Conc. Base to Conoco Sign S.W. Cor. 17th ℄ Hillside
N
100'
49+50
50+00
50+50
51+00
51+50
P.V.C. 52+00
P.V.I. 100'V.C. El. 181.60 52+50
P.V.T. ℄ P.V.C. 53+00
P.V.I. 100'V.C. El. 180.80 53+50
P.V.T. 54+00
+25
54+50
+70
+80.8
55+00.8
+1.075%
-0.800%
-3.308%
+1.021%
HILLSIDE AVENUE
17th STREET
VARIABLE CROWN
FULL CROWN
Const. (5.5') Full Walk
Brick Building Conoco Service Station
D.X. Filling Station
Conc. Parking
Garage
#1728 Frame House
Conc. Block Bldg.
Brick Bldg.
Brick Apt. Bldg.
Ramp Drive
+0.200%
+1.075%
-0.800%
-2.728%
+0.600%
49+75 P.V.I. 150'V.C. El. 179.15
50+50 P.V.T.
52+00 P.V.C.
52+50 P.V.I. 100'V.C. El. 182.10
53+00 P.V.T. ℄ P.V.C.
53+50 P.V.I. 100'V.C. El. 181.30
54+00 P.V.T.
+90.8 P.V.C.
55+20.8 P.V.T.
55+05.8 El. 177.05 P.V.I. 30'V.C.
Const. T-Type Retaining Wall (h = 5'-6" Max.)
Const. T-Type Ret. Wall (h = 6'-0" Max.)
Const. T-Type Ret. Wall (h = 4'-0" Max.)
Const. T-Type Retaining Wall (h = 3'-6" Max.)
Const. T-Type Retaining Wall (h = 4'-0" Max.)
10/25

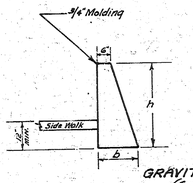
Construct Tar Paper & Keyed Construction Joints @ 20' Intervals. Discontinue Reinf. Steel in L & T-Type Walls

PLAN

Expansion Joints @ 100' Maximum Spacing, 1" Premolded Expan. Jt. Material. Discontinue Reinf. Steel

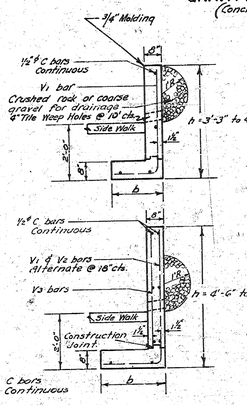
PLAN

GRAVITY TYPE (Concrete)



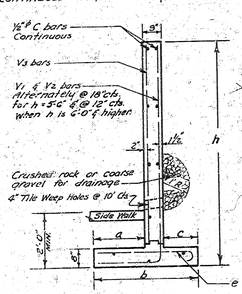
DIMENSIONS h	b	Conc. / Ft. Cu. Yds.
1'-9"	11"	.046
2'-0"	13"	.059
2'-3"	15"	.073
2'-6"	17"	.089
2'-9"	18½"	.104
3'-0"	20"	.120

L-TYPE WALLS (Reinf. Concrete)



DIMENSIONS h	b	PER LIN. FT. OF WALL #Reinf. Steel	Cu.Ft. Concrete
3'-3"	1'-6"	4.45	101
3'-6"	2'-0"	4.78	120
3'-9"	2'-0"	4.90	126
4'-0"	2'-0"	5.00	132
4'-6"	2'-6"	5.00	157
4'-9"	2'-6"	5.17	163
5'-0"	2'-6"	5.35	169

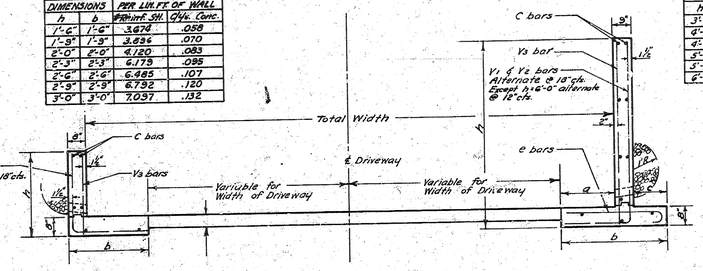
T-TYPE WALL (Reinf. Concrete)



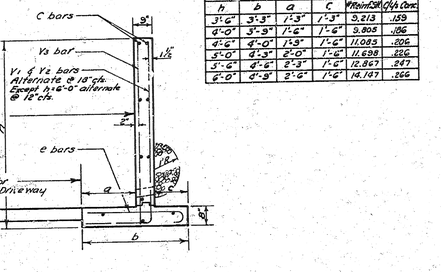
DIMENSIONS h	b	a	c	PER LIN. FT. WALL #Reinf. Steel	Cu.Ft. Conc.
5'-6"	2'-3"	1'-0"	1'-0"	11.630	202
6'-0"	2'-3"	1'-3"	1'-3"	13.995	229
6'-6"	2'-3"	1'-3"	1'-3"	14.135	243
7'-0"	2'-0"	2'-0"	1'-3"	18.286	275
7'-6"	2'-0"	2'-0"	1'-3"	25.757	289
8'-0"	2'-0"	2'-0"	1'-3"	26.200	303
8'-6"	2'-0"	2'-0"	1'-3"	27.380	317

L1-TYPE RETAINING WALL FOR DRIVEWAYS

DIMENSIONS h	b	PER LIN. FT. OF WALL #Reinf. Stl.	Cu.Yds. Conc.
1'-6"	1'-6"	3.670	.058
1'-9"	1'-9"	3.856	.070
2'-0"	2'-0"	4.120	.083
2'-3"	2'-3"	6.173	.095
2'-6"	2'-6"	6.485	.107
2'-9"	2'-9"	6.792	.120
3'-0"	3'-0"	7.097	.132



T1-TYPE RETAINING WALL FOR DRIVEWAYS



DIMENSIONS h	b	a	c	PER LIN. FT. WALL #Reinf. Stl.	Cu.Ft. Conc.
3'-6"	3'-3"	1'-3"	1'-3"	9.213	.159
4'-0"	3'-9"	1'-6"	1'-6"	9.805	.186
4'-6"	4'-0"	1'-9"	1'-6"	11.085	.206
5'-0"	4'-3"	2'-0"	1'-6"	11.638	.226
5'-6"	4'-6"	2'-3"	1'-6"	12.867	.247
6'-0"	4'-9"	2'-6"	1'-6"	14.197	.266

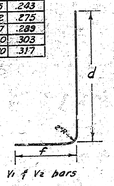
REINF. STEEL SCHEDULE — L-TYPE RET. WALLS

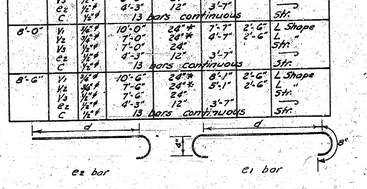
h	bar	size	Cutting Length	Spacing	d	f	Remarks
3'-3"	V1	½" ℄	4'-0"	18"	2'-11"	1'-2"	L Shape Straight
	C	½" ℄	4 Horiz. bars continuous				
3'-6"	V1	½" ℄	4'-3"	18"	3'-2"	1'-3"	L Shape Straight
	C	½" ℄	4 Horiz. bars continuous				
3'-9"	V1	½" ℄	3'-0"	18"	3'-5"	1'-5"	L Shape Str.
	C	½" ℄	4 bars continuous				
4'-0"	V1	½" ℄	3'-3"	18"	3'-5"	1'-8"	L Shape Str.
	C	½" ℄	4 bars continuous				
4'-6"	V1	½" ℄	6'-3"	36"*	4'-2"	2'-2"	L Shape
	V2	½" ℄	5'-0"	36"*	2'-11"	2'-2"	L " Str.
	V3	½" ℄	3'-6"	24"			" Str.
	C	½" ℄	8 bars continuous				
4'-9"	V1	½" ℄	6'-6"	36"*	4'-5"	2'-2"	L Shape
	V2	½" ℄	5'-0"	36"*	2'-11"	2'-2"	L " Str.
	V3	½" ℄	3'-9"	24"			" Str.
	C	½" ℄	8 bars continuous				
5'-0"	V1	½" ℄	6'-9"	36"*	4'-8"	2'-2"	L Shape
	V2	½" ℄	5'-3"	36"*	3'-2"	2'-2"	L " Str.
	V3	½" ℄	4'-0"	24"			" Str.
	C	½" ℄	8 bars continuous				

*Alternate V1 & V2 @ 18" cts.

T-TYPE RETAINING WALL

5'-6"	V1	½" ℄	6'-3"	36"*	3'-4"	1'-6"	L Shape
	V2	½" ℄	4'-3"	36"*	3'-0"	1'-6"	L " Str.
	V3	½" ℄	4'-6"	24"			" Str.
	C1 C2	½" ℄	3'-0"	18"	2'-2"		
	C	½" ℄	9 bars continuous				
6'-0"	V1	½" ℄	7'-3"	24"*	5'-8"	1'-6"	L Shape
	V2	½" ℄	5'-0"	24"*	3'-3"	1'-6"	L " Str.
	V3	½" ℄	4'-0"	24"			" Str.
	C1 C2	½" ℄	3'-6"	18"	2'-10"		
	C	½" ℄	10 bars continuous				
6'-6"	V1	½" ℄	7'-9"	24"*	6'-2"	1'-8"	L Shape
	V2	½" ℄	5'-0"	24"*	3'-3"	1'-8"	L " Str.
	V3	½" ℄	4'-6"	24"			" Str.
	C1 C2	½" ℄	3'-6"	18"	2'-10"		
	C	½" ℄	10 bars continuous				
7'-0"	V1	½" ℄	8'-0"	24"*	6'-7"	2'-2"	L Shape
	V2	½" ℄	6'-0"	24"*	3'-7"	2'-2"	L " Str.
	V3	½" ℄	6'-0"	24"			" Str.
	C1 C2	½" ℄	4'-3"	12"	3'-7"		
	C	½" ℄	10 bars continuous				
7'-6"	V1	½" ℄	9'-6"	24"*	7'-1"	2'-6"	L Shape
	V2	½" ℄	6'-6"	24"*	4'-1"	2'-6"	L " Str.
	V3	½" ℄	6'-6"	24"			" Str.
	C1 C2	½" ℄	4'-3"	12"	3'-7"		
	C	½" ℄	13 bars continuous				
8'-0"	V1	½" ℄	10'-0"	24"*	7'-7"	2'-6"	L Shape
	V2	½" ℄	7'-0"	24"*	4'-7"	2'-6"	L " Str.
	V3	½" ℄	7'-0"	24"			" Str.
	C1 C2	½" ℄	4'-3"	12"	3'-7"		
	C	½" ℄	13 bars continuous				
8'-6"	V1	½" ℄	10'-6"	24"*	8'-1"	2'-6"	L Shape
	V2	½" ℄	7'-6"	24"*	5'-1"	2'-6"	L " Str.
	V3	½" ℄	7'-6"	24"			" Str.
	C1 C2	½" ℄	4'-3"	12"	3'-7"		
	C	½" ℄	13 bars continuous				





REINF. STEEL SCHEDULE — L1-TYPE RETAINING WALL FOR DRIVEWAYS

h	bar	size	Cutting Length	Spacing	d	f	Remarks
1'-6"	V1	½" ℄	2'-3"	18"	1'-1"	1'-3"	L Shape
	C	½" ℄	4 Horiz. bars continuous				Straight
1'-9"	V1	½" ℄	2'-5"	18"	1'-4"	1'-6"	L Shape
	C	½" ℄	4 Horiz. bars continuous				Str.
2'-0"	V1	½" ℄	3'-3"	18"	1'-7"	1'-9"	L Shape
	C	½" ℄	4 bars continuous				Str.
2'-3"	V1	½" ℄	3'-5"	36"*	1'-10"	2'-0"	L Shape
Weep Holes	V2	½" ℄	3'-0"	36"*	1'-1"	2'-0"	L " Str.
	V3	½" ℄	2'-0"	24"			" Str.
	C	½" ℄	6 Horiz. bars continuous				
2'-6"	V1	½" ℄	4'-3"	36"*	2'-1"	2'-3"	L Shape
	V2	½" ℄	3'-6"	36"*	1'-4"	2'-3"	L " Str.
	V3	½" ℄	2'-3"	24"			" Str.
	C	½" ℄	6 bars continuous				
2'-9"	V1	½" ℄	4'-3"	36"*	2'-4"	2'-6"	L Shape
	V2	½" ℄	4'-0"	36"*	1'-7"	2'-6"	L " Str.
	V3	½" ℄	2'-6"	24"			" Str.
	C	½" ℄	6 bars continuous				
3'-0"	V1	½" ℄	5'-3"	36"*	2'-7"	2'-9"	L Shape
	V2	½" ℄	4'-6"	36"*	1'-10"	2'-9"	L " Str.
	V3	½" ℄	2'-9"	24"			" Str.
	C	½" ℄	6 bars continuous				

*Alternate V1 & V2 @ 18" cts.

T1-TYPE RETAINING WALL FOR DRIVEWAYS

3'-6"	V1	½" ℄	5'-0"	36"*	3'-3"	1'-6"	L Shape
	V2	½" ℄	3'-6"	36"*	1'-11"	1'-8"	L " Str.
	V3	½" ℄	3'-3"	24"			" Str.
	C1 C2	½" ℄	3'-6"	18"	2'-10"		
	C	½" ℄	7 bars continuous				
4'-0"	V1	½" ℄	5'-6"	36"*	3'-5"	1'-11"	L Shape
	V2	½" ℄	4'-3"	36"*	2'-5"	1'-11"	L " Str.
	V3	½" ℄	3'-9"	24"			" Str.
	C1 C2	½" ℄	3'-10"	18"	3'-2"		
	C	½" ℄	7 bars continuous				
4'-6"	V1	½" ℄	6'-3"	36"*	4'-2"	2'-2"	L Shape
	V2	½" ℄	5'-0"	36"*	2'-11"	2'-2"	L " Str.
	V3	½" ℄	4'-3"	24"			" Str.
	C1 C2	½" ℄	4'-1"	18"	3'-5"		
	C	½" ℄	8 bars continuous				
5'-0"	V1	½" ℄	7'-0"	36"*	4'-5"	2'-5"	L Shape
	V2	½" ℄	5'-3"	36"*	3'-3"	2'-5"	L " Str.
	V3	½" ℄	4'-9"	24"			" Str.
	C1 C2	½" ℄	4'-9"	18"	3'-8"		
	C	½" ℄	8 bars continuous				
5'-6"	V1	½" ℄	7'-8"	36"*	5'-2"	2'-8"	L Shape
	V2	½" ℄	6'-0"	36"*	3'-3"	2'-8"	L " Str.
	V3	½" ℄	5'-3"	24"			" Str.
	C1 C2	½" ℄	5'-7"	18"	3'-11"		
	C	½" ℄	9 bars continuous				
6'-0"	V1	½" ℄	8'-6"	24"*	5'-8"	2'-11"	L Shape
	V2	½" ℄	6'-3"	24"*	3'-11"	2'-11"	L " Str.
	V3	½" ℄	5'-3"	24"			" Str.
	C1 C2	½" ℄	4'-10"	18"	4'-2"		
	C	½" ℄	10 bars continuous				

*Alternate V1 & V2 bars.

NOTE: All excavation for retaining walls shall be included in the bid price per lin. ft. of retaining wall. The 4" Tile weep holes & crushed rock or coarse gravel for drainage, shall be included in the bid price per lin. ft. of retaining wall.

SCHEDULE OF MEASUREMENT FOR RETAINING WALLS

Gravity-Type h From	To	Average Height
1'-6"	2'-0"	1'-9"
2'-0"	2'-6"	2'-3"
2'-6"	3'-0"	2'-9"

L-Type h From	To	Average Height
3'-0"	3'-6"	3'-3"
3'-6"	4'-0"	3'-9"
4'-0"	4'-6"	4'-3"
4'-6"	5'-0"	4'-9"

T-Type h From	To	Average Height
5'-0"	5'-6"	5'-3"
5'-6"	6'-0"	5'-9"
6'-0"	6'-6"	6'-3"
6'-6"	7'-0"	6'-9"
7'-0"	7'-6"	7'-3"
7'-6"	8'-0"	7'-9"

L1-Type h From	To	Average Height
1'-6"	2'-0"	1'-9"
2'-0"	2'-6"	2'-3"
2'-6"	3'-0"	2'-9"

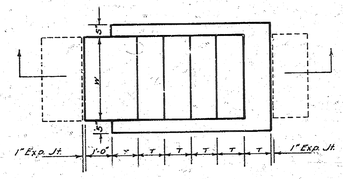
T1-Type h From	To	Average Height
3'-6"	4'-0"	3'-9"
4'-0"	4'-6"	4'-3"
4'-6"	5'-0"	4'-9"
5'-0"	5'-6"	5'-3"
5'-6"	6'-0"	5'-9"

NOTE: The Field Engineer shall final measure retaining walls prior to back fill operations.

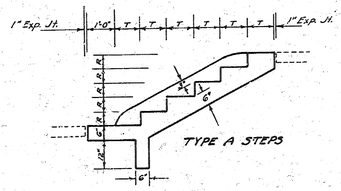
RETAINING WALL DETAILS

HILLSIDE - 6" TILE WEEP PIPE IN WALL WITH 3 FT. OF FREE FILL AT BACK

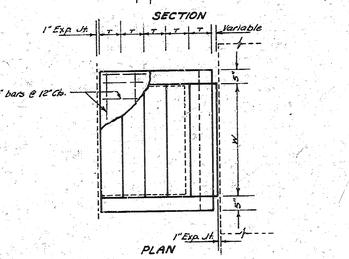
11/55



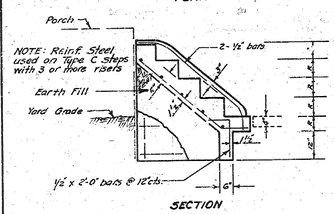
PLAN



TYPE A STEPS

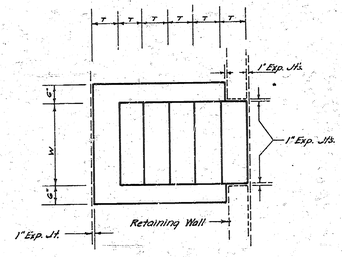


PLAN

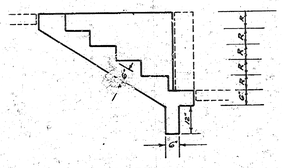


SECTION

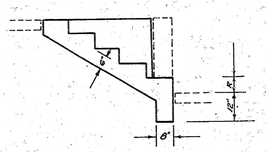
TYPE C STEPS



PLAN B1 & B2 STEPS



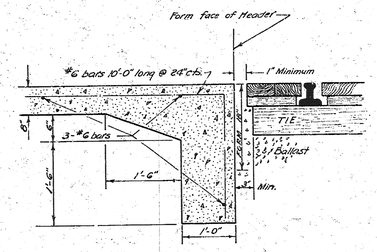
SECTION TYPE B1



SECTION TYPE B2

TABLE OF PROPORTIONAL RISERS & TREAD	
Riser	Tread
4"	19"
4 1/16	18 15/16
4 1/8	17 7/8
4 3/16	17"
4 1/4	16 15/16
4 5/16	16 1/8
4 3/8	15 7/8
4 7/16	15 3/16
5"	15"
5 1/16	14 1/16
5 1/8	14 1/8
5 3/16	14"
5 1/4	13 7/8
5 5/16	13 7/16
5 3/8	13 1/8
5 7/16	12 7/16
6"	12 5/16
6 1/16	12 3/16
6 1/8	12 1/16
6 3/16	11 7/8
6 1/4	11 5/8
6 5/16	11 1/2
6 3/8	11 3/8
6 7/16	11"
7"	10 3/8
7 1/16	10 5/16
7 1/8	10 3/16
7 3/16	10 1/4
7 1/4	10"
7 5/16	9 7/8
7 3/8	9 3/16
7 7/16	9 1/2
8"	9 1/4
8 1/16	9 1/8
8 1/8	9"
8 3/16	8 3/4

NOTE: Field Engineer to select type of steps to construct for each location and determine the number of risers required to match new and existing sidewalk grades or existing steps. See proportional table above.



REINF. CONC. HEADER DETAIL FOR R/R CROSSING APPROACH

No Scale

Guide = 0.08796 / Ln. ft

CONCRETE STEP DETAILS

HILLSIDE - ℄ FRISCO R.R. R/W TO N.L. 17TH STREET

PROJECT NO. C.10-33

(12/25)