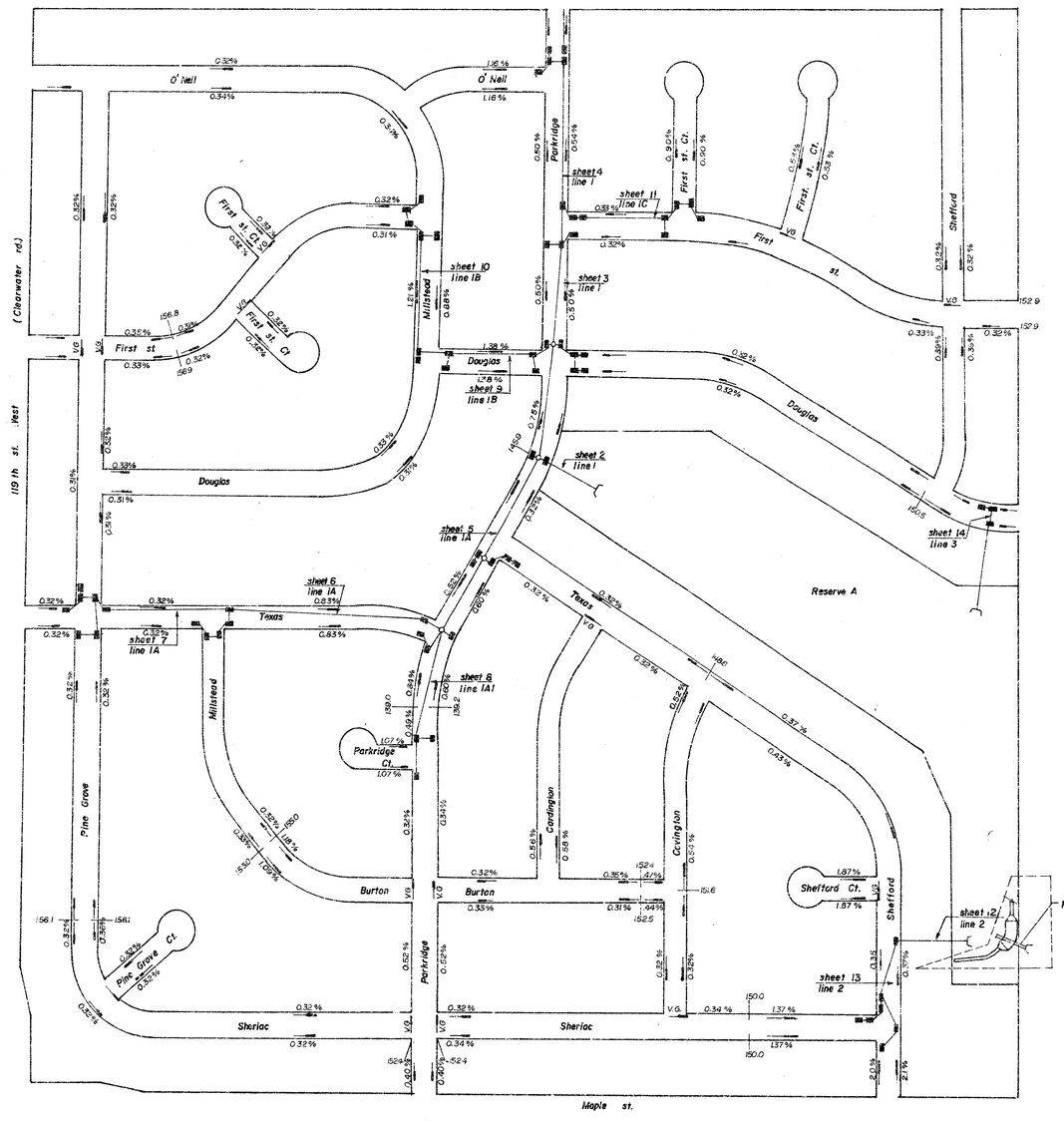
STORM WATER SEWER NO. 147, PHASE I

City of Wichita, Kansas

Dean Sellers Acting City Engineer

N

No Scale



GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE WORK WITH PAVING AND SANITARY SEWER CONTRACTORS; AND CONTACT RELEVANT UTILITY COMPANIES AND OTHER AGENCIES INVOLVED WITH THE FINE ARTS OF THIS PROJECT SITE DEVELOPMENTS.
2. FIELD ENGINEER SHALL TAKE TIE' ON ALL IRONS AND THIMBLES IN THE PROJECT AREA PRIOR TO CONSTRUCTION. FIELD ENGINEER SHALL REPLACE ALL SUCH IRONS AND THIMBLES DISTURBED DURING CONSTRUCTION.
3. THE CURB INLET LOCATIONS AS NOTED ON THE PLANS MAY VARY FROM PROPOSED PAVING PLANS. THE FIELD ENGINEER SHALL LOCATE CURB INLETS WITH REFERENCE TO PROPOSED PAVING PLANS OF THE PERTINENT STREETS.
4. CORRUGATED METAL PIPES FOR SIZES 21" AND LESS DIAMETER SHALL HAVE HELICAL CORRUGATIONS, AND ALL SUCH PIPES FOR SIZES 24" AND LARGER DIAMETER SHALL HAVE FULLY PAVED (FP) SMOOTH FLOW INTERIORS.
5. ALL CONCRETE SHALL BE "6-SACK CONCRETE" UNLESS OTHERWISE NOTED.
6. EARTHWORK DOWNSTREAM FROM HEADWALLS AND FOR RIP-RAP SHALL BE PAID FOR IN ITEMS BID FOR HEADWALLS, PIPES AND/OR RIP-RAP.
7. HEADWALLS AT PIPE OUTFALL SHALL BE CONSTRUCTED TO ALIGN WITH THE SLOPE OF BANKS IN ORDER THAT WALL PROTRUSION IS MINIMUM. WHERE SUCH PROTRUSION CANNOT BE AVOIDED, FILL AROUND THE WALLS AT APPROXIMATELY 5:1 SIDE SLOPE SO HEADWALL APPEARS ENTIRELY RECESSED.
8. CONTRACTOR HAS THE OPTION TO INSTALL PRE-CAST TYPE I-A CURB INLET IN LIEU OF THE BRICK TYPE CONSTRUCTION; SEE STANDARD DETAIL PRE-CAST TYPE I-A INLET DATED AUGUST, 1979.

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1/19

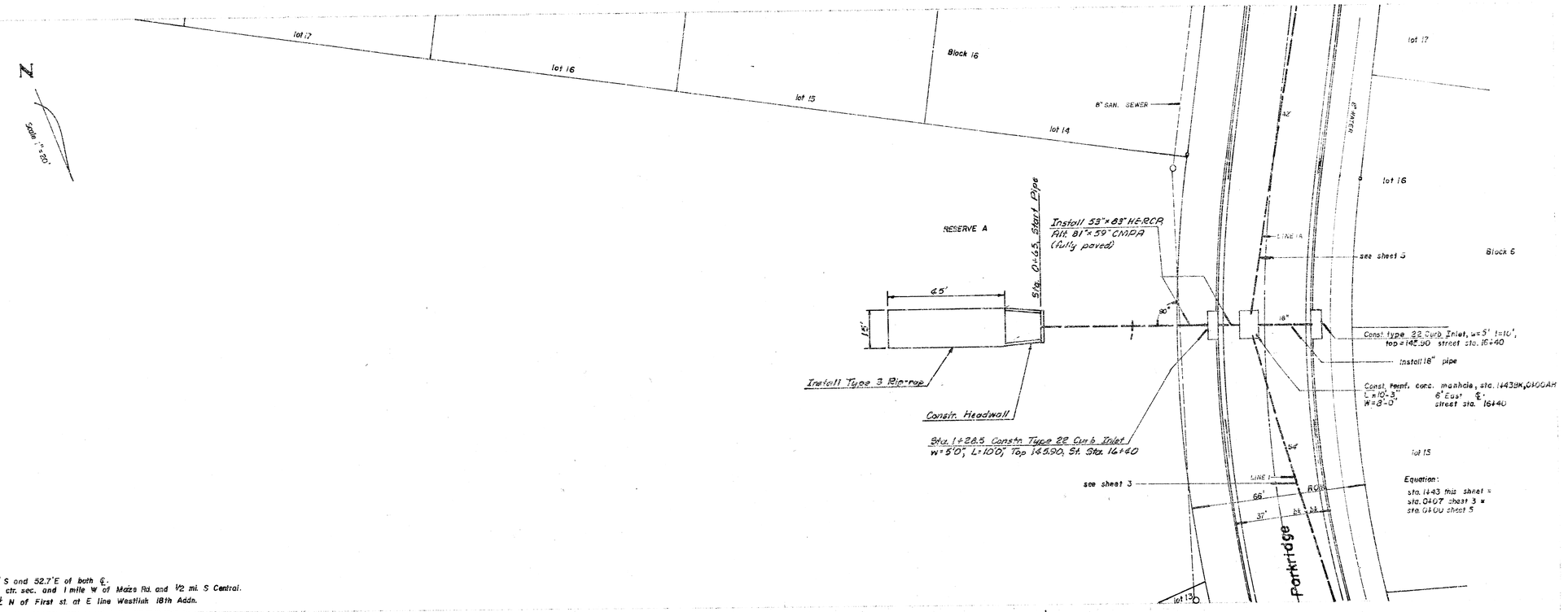
Westlink Village 18th Addition

City of Wichita, Kansas

D. Sellers Acting City Engineer

Date ———

Proj. no. 468-76-245-80643-000-000-001



BM 133.195 Maize Rd and Maple, City Std. 43.5' S and 52.7'E of both ℄.
BM 152.40 RR spike S face hedge tree 10' W of ctr. sec. and 1 mile W of Maize Rd. and ½ mi. S Central.
BM 151.86 RR spike S face 14" hackberry 29'± N of First st. at E line Westlink 18th Addn.

SWS 147 Line I, Sheet 1
Westlink Village 18th Addn.

Note: for bench mark, see pg 2

N

Scale: 1" = 20'

See Sheet 5

See Sheet 2

Lot 14

42"

18"

Const. reinf. conc. manhole sta. 0+07

See Sheet 2

See Sheet 9

Install 54" Pipe

Install 39' of 15" pipe, USFL=144.06 DSFL=143.67

Equation

sta. 0+07 this sheet = sta 14+43 sheet 2 = sta 0+00 sheet 5

Lot 13

Block 16

Street Sta. 0+68.85

Const. type I A Curb Inlet, w=4'-2" top 147.60

Install 4' of 15" pipe, USFL= 144.20 DSFL=144.10

Const. type I A Curb Inlet, w=4'-2" top 147.60

Street Sta. 0+16.85

8" SAN SEWER

58' R/W

29' bk to bk

30"

15"

PROP 8" WATER

Ave

LINE 18

30"

1.65%

Const. type IA Curb Inlet, w=4-2" top 147.60

Street Sta. 19+17.94, See Sheet 9

PROP 8" WATER

PROP 12" WATER

30"

Const. reinf. conc. manhole, sta. 21+83, 6' Right ℄, w=5'-9 L=7'6"

Street Sta. 19+17.94

Parkridge

R/W

66'

bk to bk

37'

6"

see sheet 4

Install 42" pipe,

Install 14' of 21" Pipe, USFL 142.90, DSFL 142.27

Const type I A Curb Inlet, w=4'-2" top 147.60, Street Sta 19+23.94

Install 27' of 18" pipe, USFL = 143.42 DSFL = 143.15

Const. type IA Curb Inlet, w=4'-2" top 147.60, Street Sta 0+08.85

Install 4' of 15" pipe, USFL= 144.20 DSFL=144.10

Const. type I A Curb Inlets, w=4'-2" top 147.60, Street Sta 0+16.85

Douglas

35' bk to bk

64' R/W

Equation

sta. 21+83 this sheet = sta 0+96.6 sheet 9

Curb Inlet See Sheet 4

First St.

PROP 12" WATER

Line 1

Sta. 0+07 Const. Reinf. Conc. Manhole Top 145.63 See Sheet 2

Sta. 2+63 Const. Reinf. Conc. Manhole Top 141.35

Sta. 5+96 Const. Curb Inlet See Sheet 4 Top 148.90

existing ground at ℄ R/W

proposed street grade

150

145

140

138.78

139.52

140.42

142.58

276' of 54" RCP @ +0.27%

Alt. 276' of 54" CMP (fully paved) @ +0.27%

251' of 42" RCP @ +0.82%

Alt. 251' of 42" CMP (fully paved) @ +0.82%

0 1 2 3 4 5

139.03 139.30 140.66 141.48 142.30

SWS 147 Line 1, Sheet 2

Westlink Village 18th Addn.

Note: for bench mark, see pg 2

N

Scale 1"=20'

PROP 12" WATER

58' R/W

29' bk to bk

O'Nail

Const. type I A Curb Inlet, w=4'-2", top 151.00

Install 35' of 15" pipe, USFL=147.79 DSFL=147.44

Const type I A Curb Inlet, w=4'-2", top 150.90

Install 4' of 15" pipe, USFL=147.54 DSFL=147.44

Const. type I A Curb Inlet, w=4'-2", top 150.90

DRAINAGE EASEMENT

15'

Hedge

27+26.43

PROP 8" WATER

Const. type I A Curb Inlet, w=4'-2", top 148.90

Install 41' of 15" pipe, USFL=145.40 DSFL=144.83

PROP 12" WATER

Install 41 of 18" pipe USFL=147.19 DSFL=146.78

PROP 8" WATER

6"

18"

4.85'

R/W

bk to bk

66'

37'

Parkridge

Install 42" pipe

Install 36" pipe

Install 30" pipe

Install 30" pipe

27+26.98

Const. type I A Curb Inlet, w=6'-0" top 148.90

42"

42"

6

5

7

8

9

10

30"

36"

LINE I

PLUG PIPE with 2" WOODEN BULKHEAD COST INCIDENTAL TO PROJECT

27+27.54

Install 28' of 15" pipe

USFL=146.60 DSFL=146.30

13"

8.85'

Const. type I A Curb Inlet, w=4'-2" top 149.10

Const. type I A Curb Inlet, w=5'-0" top 150.90

Const. type I A Curb Inlet, w=6'-0" top 150.90

Const. type I A Curb Inlet, w=6'-0" top 149.10

Line 1C, sheet 11

8.85'

24"

8"

First St.

PROP 12" WATER

37' bk to bk

66' R/W

LINE 1C

Line 1

const. curb inlet, sta. 5+34 top 146.90

Const. Curb Inlet, sta. 6+19 top 149.10

sta. 9+64 const. curb inlet top 150.90

sta. 9+72 const. curb inlet top 150.90

sta. 10+94 Nl. Westlink 18th.

existing ground at R/W

proposed street grade

water line

6" @ 1.5%

150

145

140

142.58 142.58

142.86 143.36

146.74 146.24 145.77 145.27

142.79

85' of 42" RCP at 0.33%

343' of 36" RCP at 0.40 %

8' of 30" RCP at 0.40 %

122' of 30" RCP at 0.40 %

Alt. 85' of 42" CMP (fully paved) at 0.33%

343' of 36" CMP (fully paved) at 0.40%

8' of 30" CMP (fully paved) at 0.40%

122' of 30" CMP (fully paved) at 0.40%

142.81 6

143.62 7

144.18 8

146.48 9

146.38 10

4/16

SWS 147 Line 1, Sheet 3

Westlink Village 18th Addn.

Note: for bench mark, see pg. 2

Scale 1" = 20'

Blk 16

lot 14

64' R/W

35' bk to bk

8" SEWER

8" WATER

Texas

Const. type I A Curb Inlet, w=4'-2" top 146.70, Street Sta. 13+07.39
Install 4' of 15" pipe, USFL=143.39 DSFL=143.29
Const. type I A Curb Inlet, w=4'-2" top 146.70, Street Sta. 13+15.39
Install 27' of 15" pipe, USFL=143.19 DSFL=142.92
Const. type I A Curb Inlet, w=4'-2" top 146.70, Street Sta. 13+77.64
Install 25' of 18" pipe, USFL=142.86 DSFL=142.61

Const reinf. conc. manhole, sta. 4+77, 6' right ℄ w=5'-6" l=6.0 street sta. 11+63.49

Const. type I A Curb Inlet, w=4'-2" top 147.99 street sta. 11+63.49

Install 25' of 15" pipe, USFL=144.36 DSFL=143.60

Install 36" pipe

const type B manhole, sta. 2+64, 6' right ℄ Street Sta. 13+77.64

Parkridge

Install 52' of 15" pipe, USFL=144.66 DSFL=143.60

see sheet 3

see sheet 2

Const. reinf. conc. manhole sta. 0+00, see sheet 2

Install 42" pipe

R/W

Bk to Bk

66'

37'

LINE I

LINE IA

8" WATER

8" SEWER

Install 13' of 15" pipe, USFL=143.26 DSFL=142.86
Const. type I A Curb Inlet, w=4'-2" top=146.78, Street Sta. 13+90.64
Install 4' of 15" pipe, USFL=143.36 DSFL=143.26
Const. type I A Curb Inlet, w=4'-2" top=146.75, Street Sta. 13+77.64

Install 30" pipe

Street Sta. 11+13.06

Const. type I A Curb Inlet, w=4'-2" top 148.10
Install 27' of 15" pipe, USFL=145.03 DSFL=144.76
Const. type I A Curb Inlet, w=4'-2" top 148.30

8.46'

8.85'

Texas

58' R/W

29' bk to bk

Equation

sta. 0+00 this sheet =
sta. 16+43 sheet 2 =
sta. 04+07 sheet 3

Line IA

sta. 0+00 const. reinf. conc. manhole see sheet 2

sta. 2+64 const. type B 5' diam. manhole top 146.30

sta. 4+77 const reinf. conc. manhole top 147.49

existing ground at R/W ℄

proposed street grade

150
145
140

WATER FL=136.5
8" SAN. SEWER FL=136.41

135.63

140.61
141.11

141.65
143.35

264' of 42" RCP at 0.35%

264' of 42" CMP (fully paved) at 0.35%

213' of 36" RCP at 0.35%

213' of 36" CMP (fully paved) at 0.35%

0+33.62
1+40.04
2+49.32
3+141.24
4+141.58
4+191.65

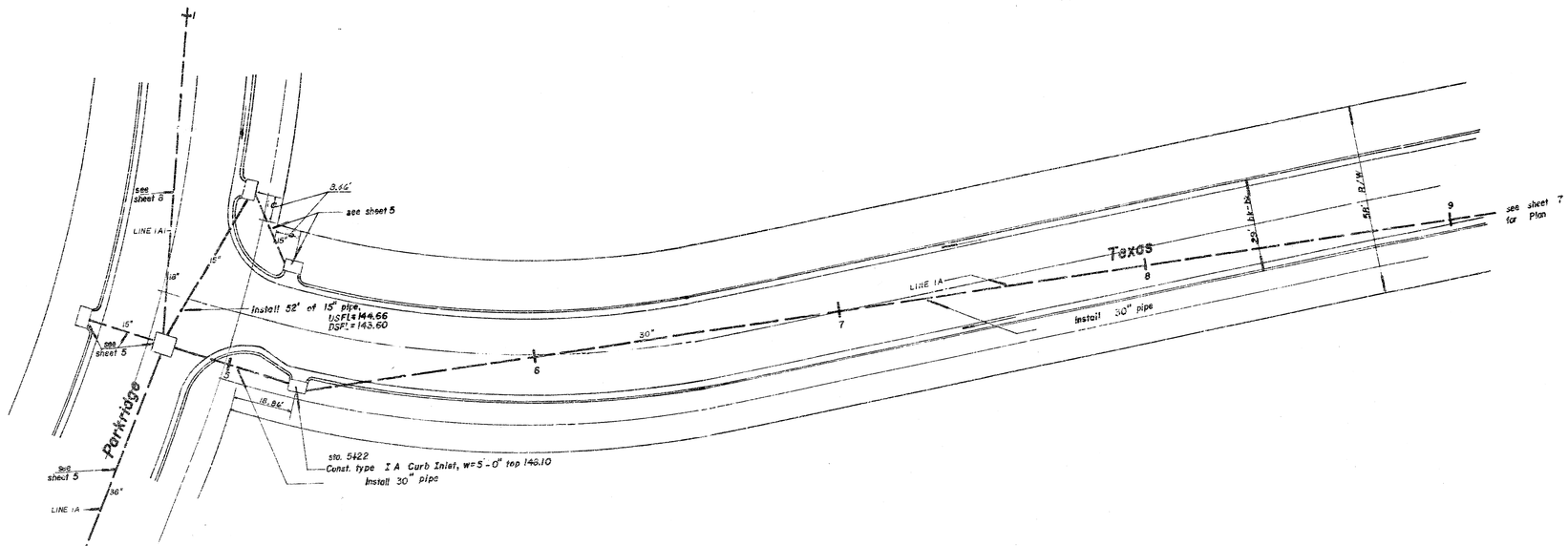
SWS 147, Line IA Sheet 1

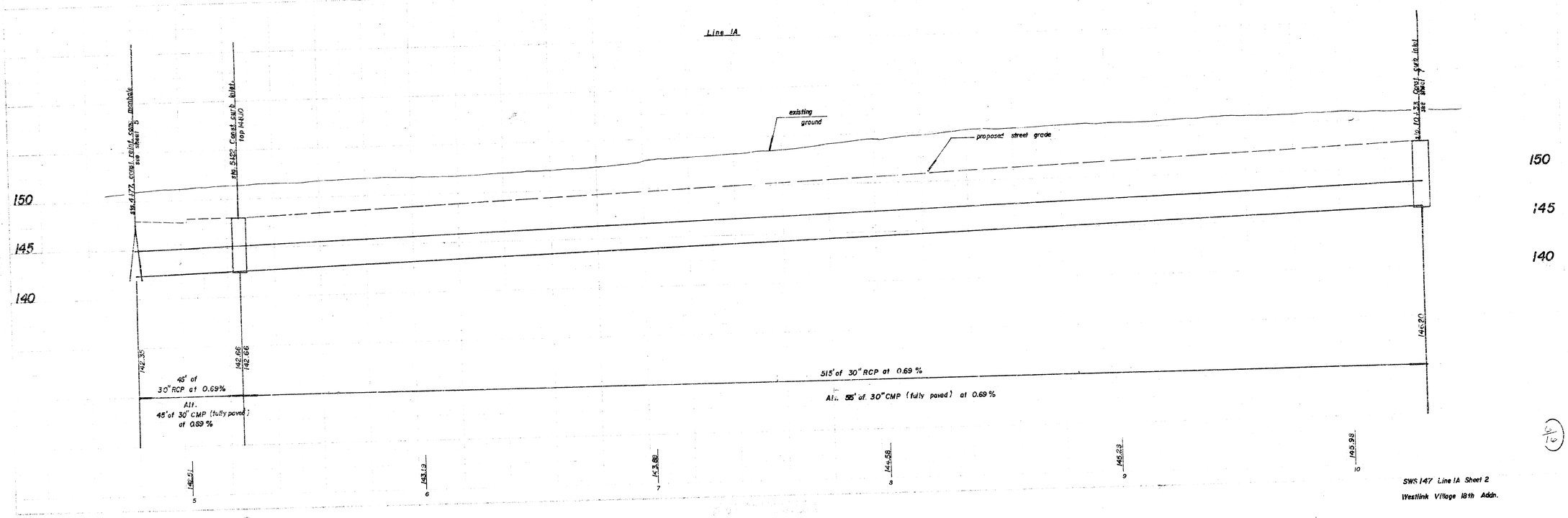
Westlink Village 16th Add.

Dk. 359

P.U.E.

Note: for bench mark, see pg 2

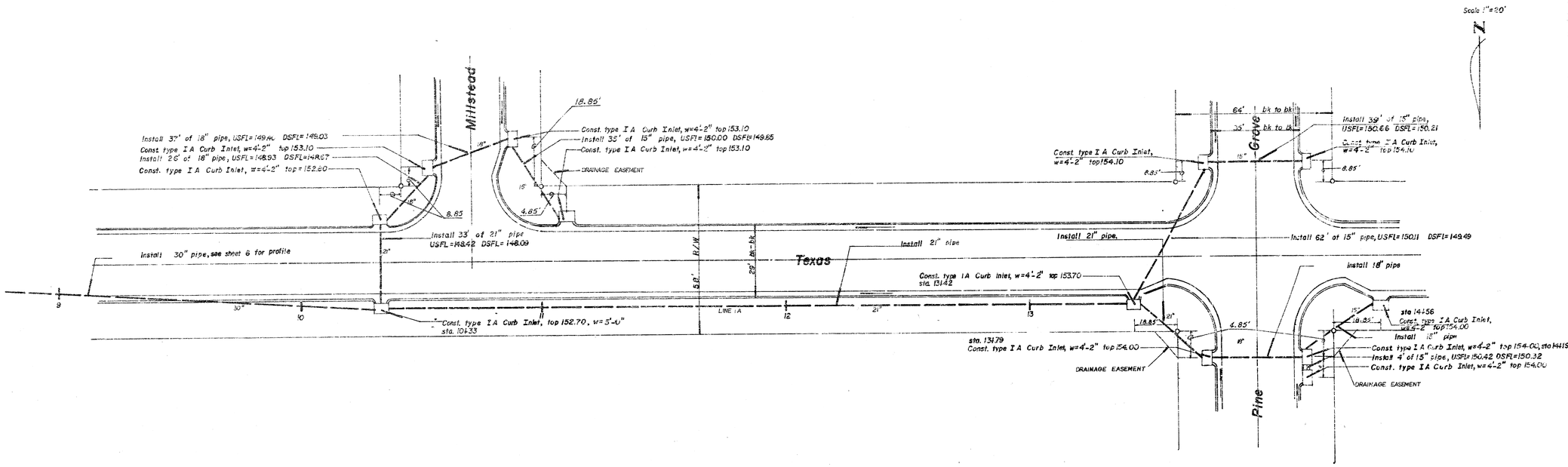


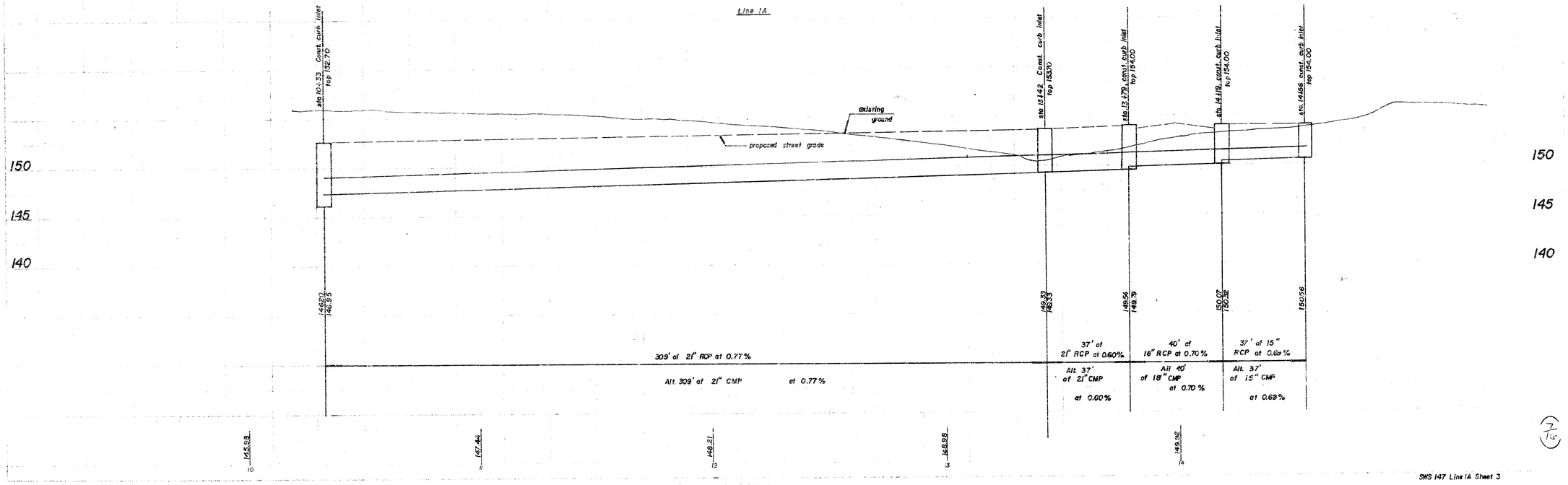


SWS 147 Line 1A Sheet 2
Westlink Village 18th Addn.

Note: for bench mark, see pg 2

Scale 1"=20'



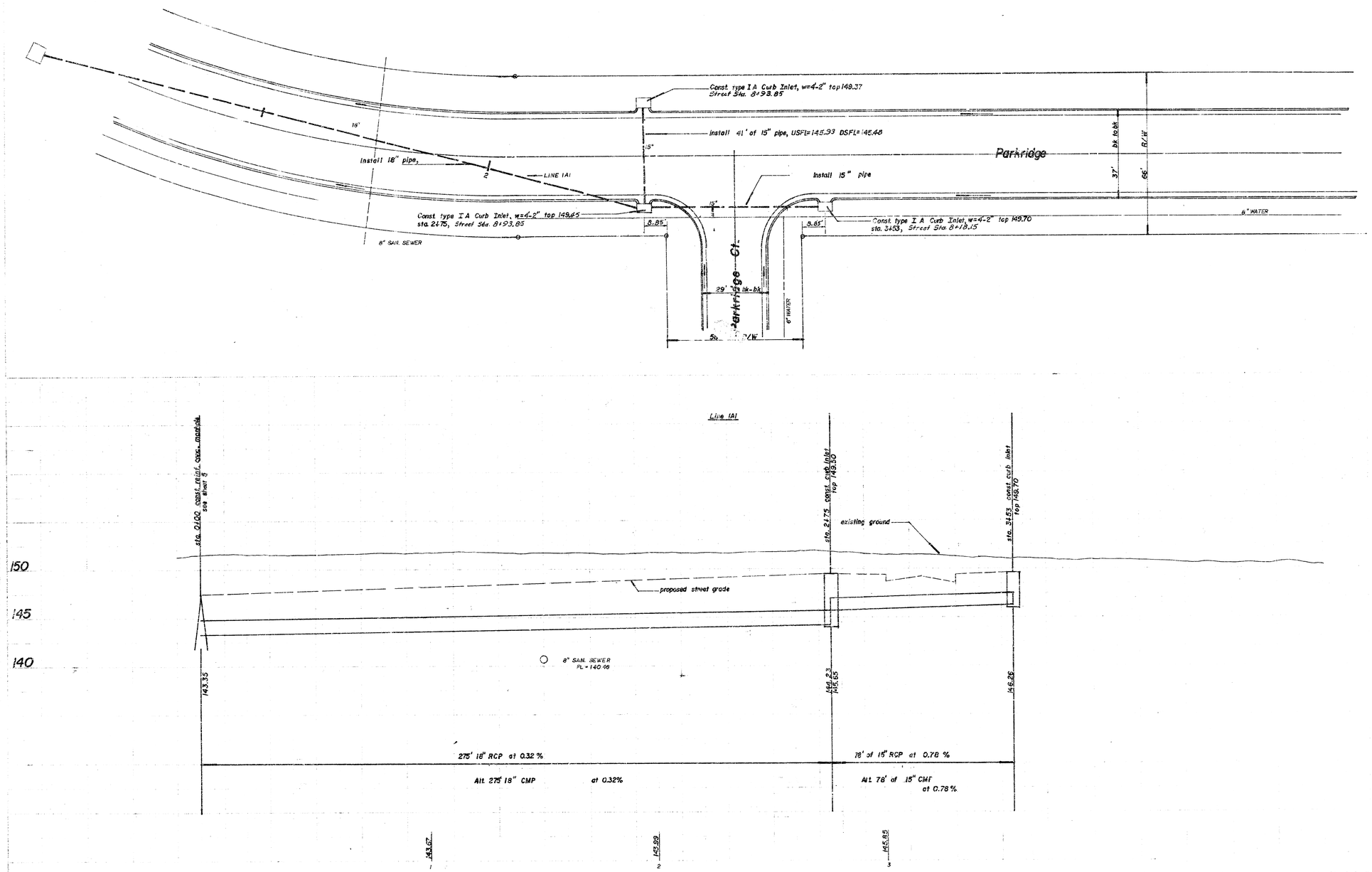


SWS 147 Line 1A Sheet 3
Westlink Village 19th Addn.

Note: for bench mark, see pg2

N

Scale: 1" = 20'



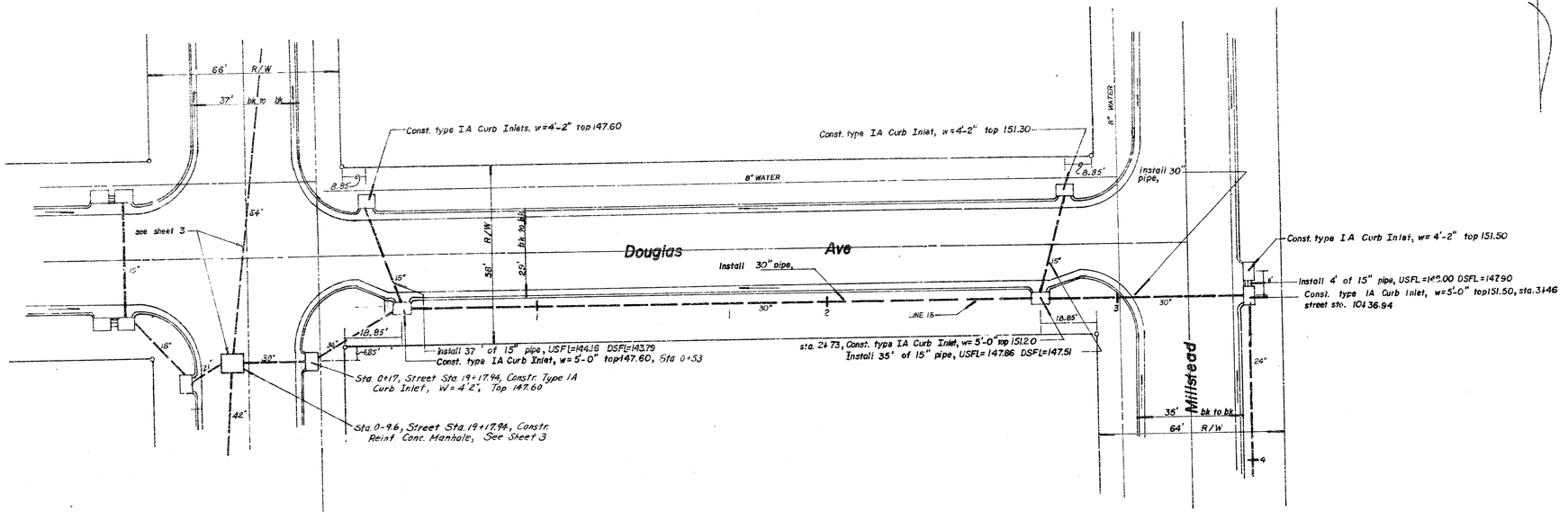
DLK 358

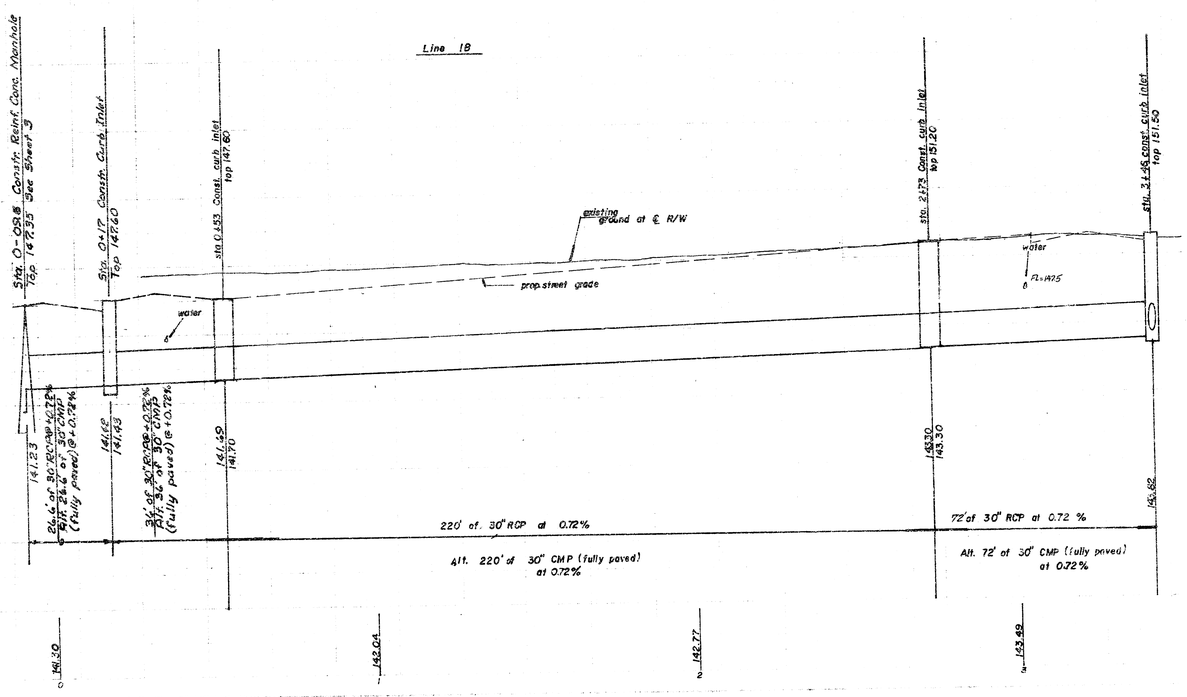
SWS 147 Line 1A1 Sheet 1
Westlink Village 18th Addn.

8/16

Note: for bench mark, see pg 2

Scale 1"=20'





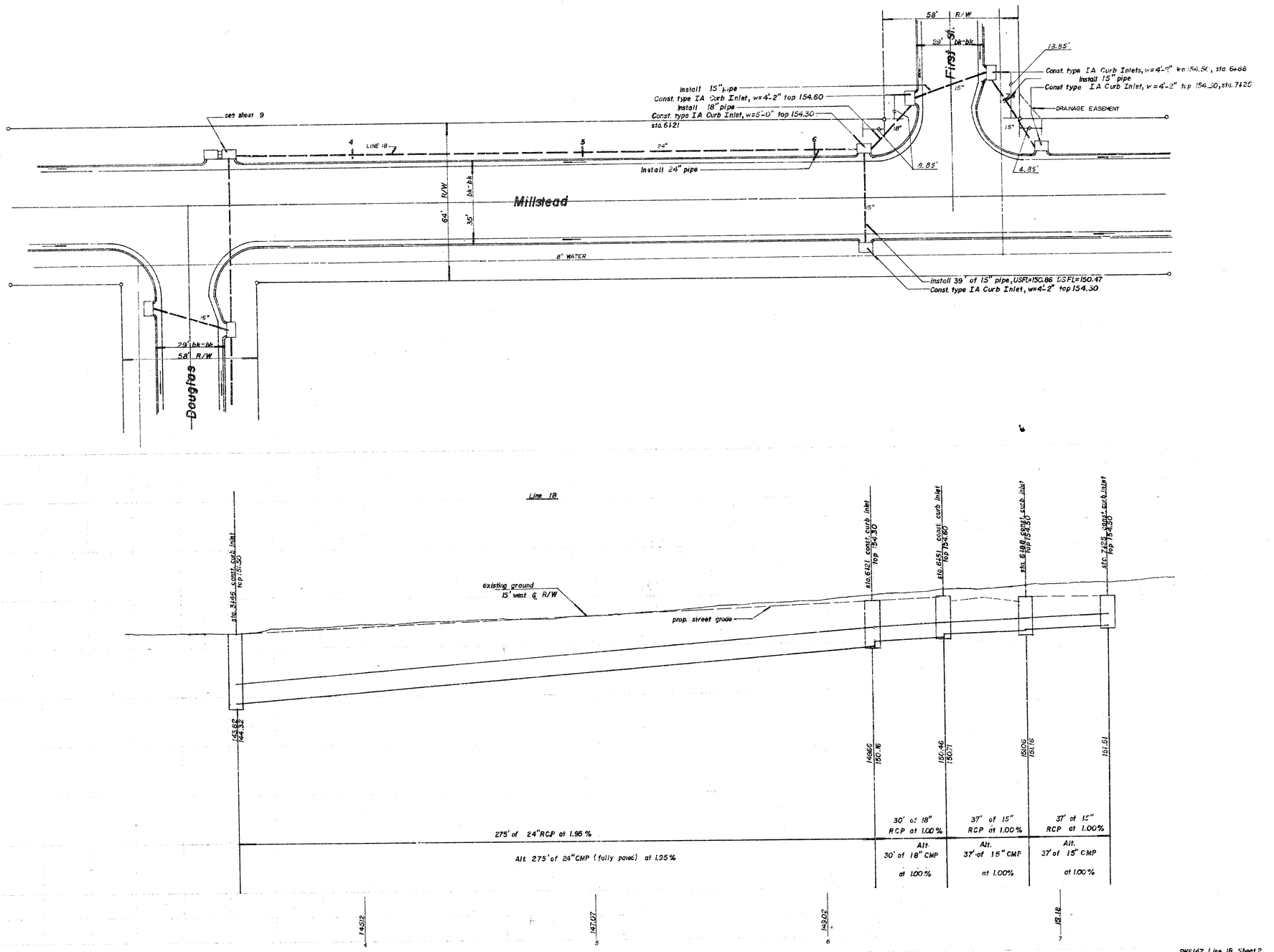
SWS 147 Line 1B Sheet 1

Westlink Village 18th Addn.

Note: for bench mark, see pg 2

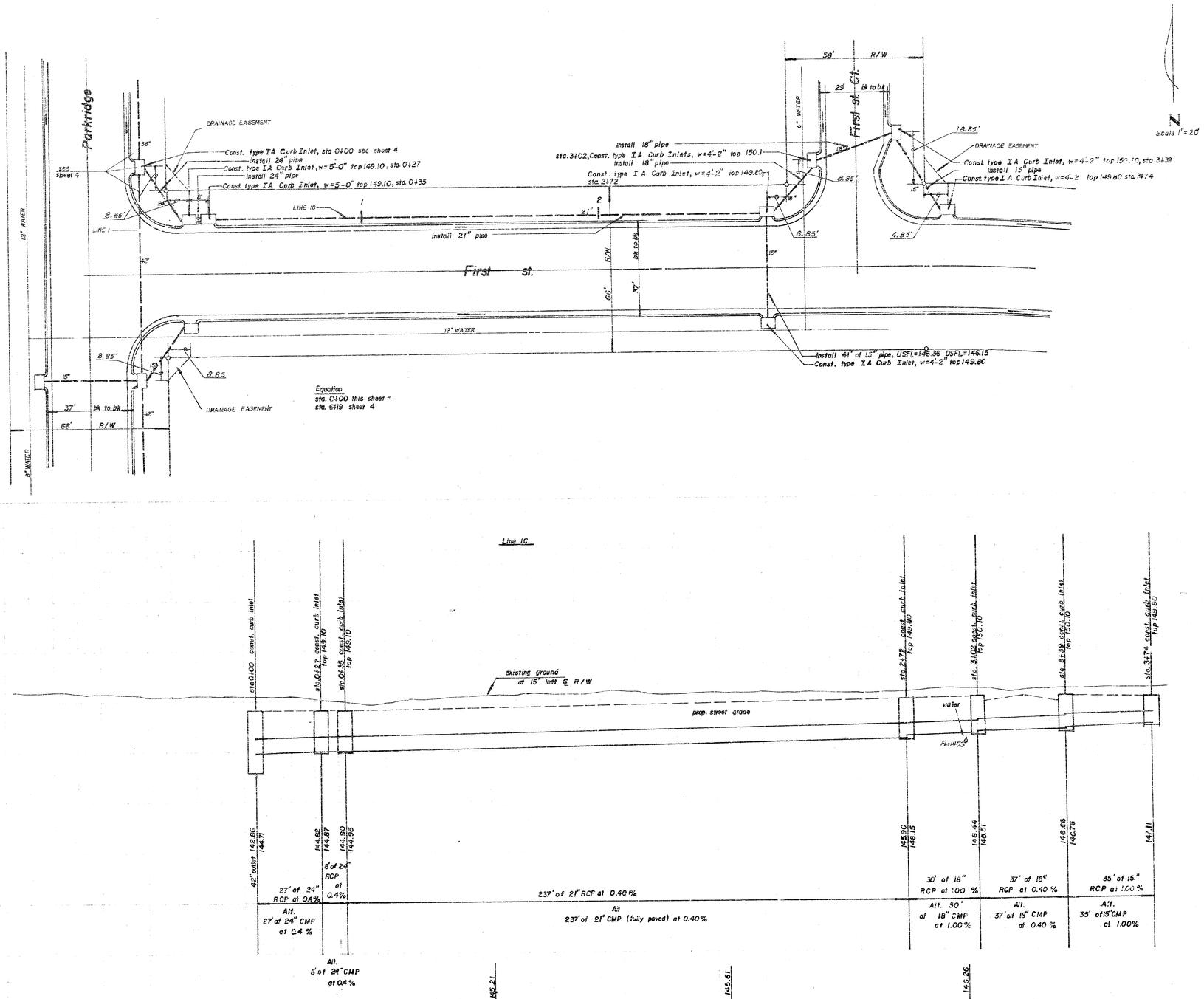
N

Scale 1"=20'



SWS147 Line 1B Sheet 2
Westlick Village 18th Addn.

Note: for bench mark, see pg 2



SWS 147 Line 1C Sheet 1
Westlink Village 18th Addn.

Note: for bench mark, see pg 2

N

Scale 1" = 20'

lot 31

6.4' R/W

35' bk-bk

24'

lot 12

8" SANIT. SEWER

lot 30

SANIT. SEWER MH

Block 15

RESERVE A

Sta 1+14 Start Pipe

Install 24" pipe

20' DRAINAGE EASEMENT

see sheet 13

21'

10'

2

24"

10'

10'

EL. Westlink Village 18th Addn

LINE 2

SL lot 29

Sherford

lot 11

Install type 3 Rip Rap

Constr. Headwall

Block 16

lot 29

8" WATER

Line 2

EL Westlink Village 18th Addn

Sta 1+14 Start Pipe

Ground Line by Others prior to SWS Constr.

Existing Ground (11-15-19)

EL lots 29 and 30

WL lot 29 and 30

sta. 3+03.5 temp. curb inlet see sheet 13

Top of dike 148.60

Max. water surface elev. 143.60

Emergency spillway flow line elev. 143.10

Normal water surface 140.60

Bottom 135.60

Type 3 Rip-Rap

Headwall

137.07

139.63

8" San. Sewer

189' of 24" RCP at 0.93 %

Alt. 189' of 24" CMP (fully paved) at 0.93 %

137.87

2

136.80

4

150

145

140

150

145

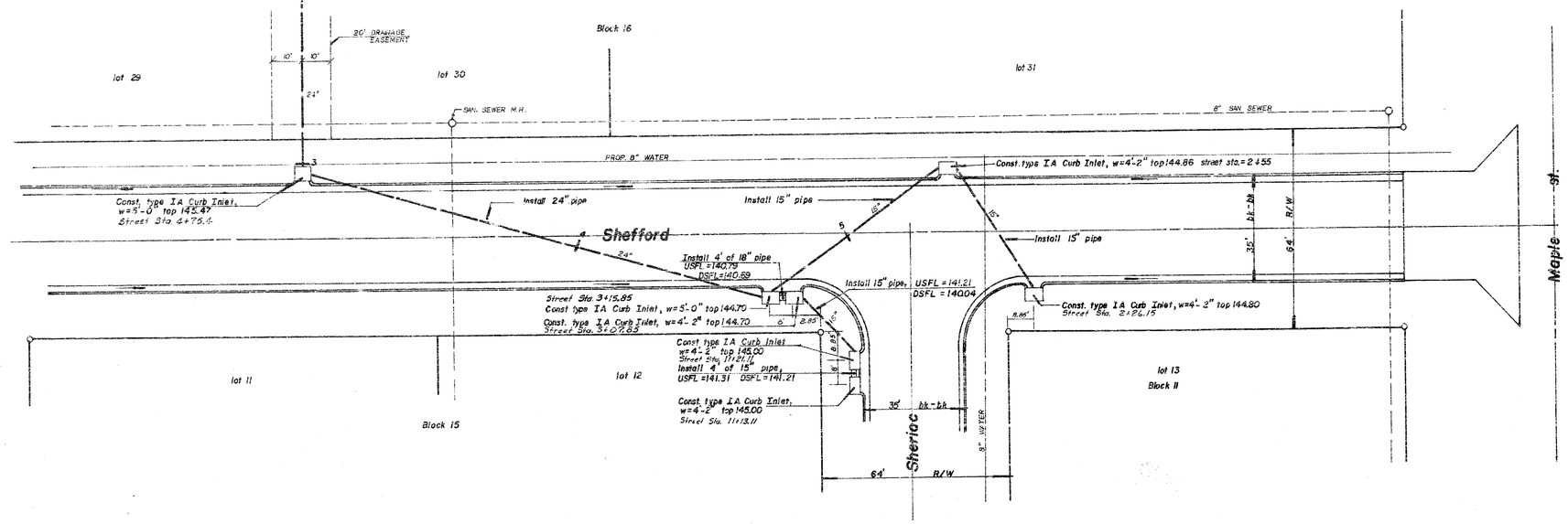
140

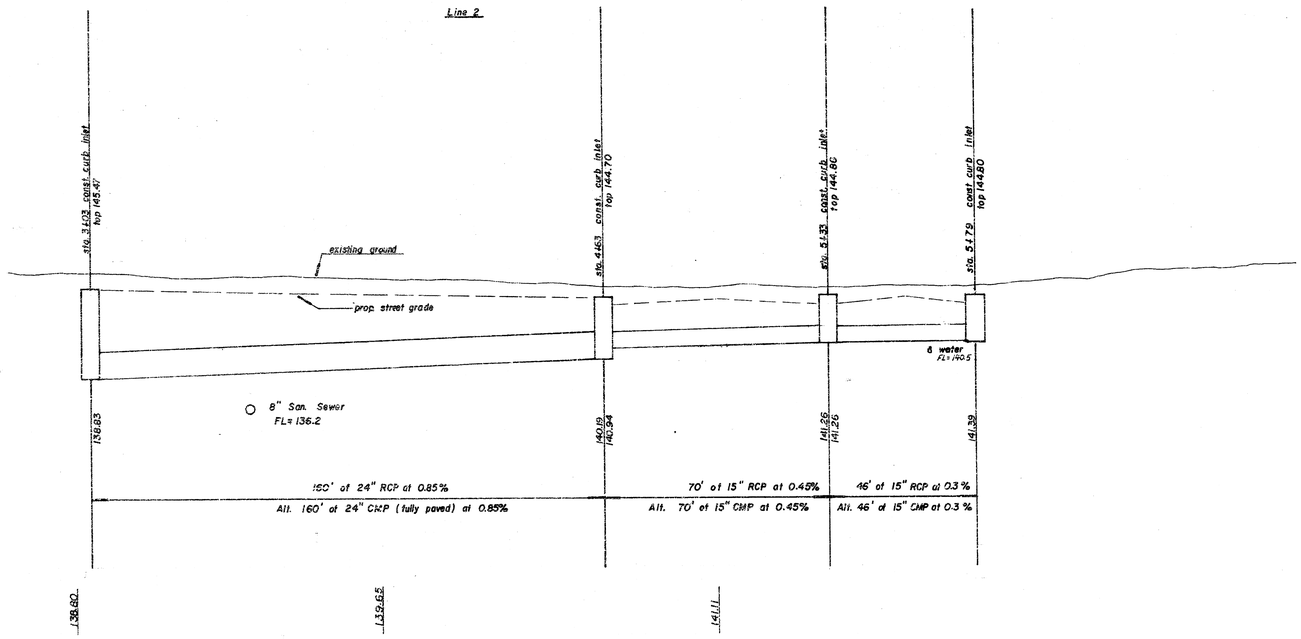
SWS 147 Line 2 Sheet 1

Westlink Village 18th Addn.

Note: for bench mark, see pg. 2

Scale 1"=20'





DLK 357

SWS 147 Line 2 Sheet 2
Westlink Village 18th Addn.

Note: for bench mark, see pg 2

Scale 1"=20'

RESERVE A

lot 3

Block 16

lot 2

Block 17

lot 5

lot 1

Shefford

8" WATER

6" WATER

Douglas

64' R/W

35' bk-bk

55'

16'

Sta. 1+50 Storm Pipe

Install 18" pipe

2

10'

10'

18"

3

Street Sta. 11+62.55
sta.3428 Const. type I A Curb Inlets, w=4-2"
top 148.31

20' DRAINAGE EASEMENT

BL LOT 1

15"

LINE 3

Const. type IA Curb Inlet, w=4-2" top 148.40, Street Sta. 11+54.55

Install 4' of 15" pipe, USFL = 144.85 DSFL = 144.75

Const. type I A Curb Inlet, w=4-2" top 148.33, sta.3+69.17, Street Sta. 11+62.55

Install 15" pipe

Install Type 3 Rip-Rap

Constr. Headwall

8" SANIT. SEWER

Line 3

Existing Ground (11-15-79)

Ground Line by Others prior to SWS Constr.

Top of dike 148.60

Design water Surface 143.60

Normal water Surface 140.60

Bottom 135.60

5:1

Sta. 1+50 Storm Pipe

S. Pl. for lot 1

sta.3+16.58 N. Pl. lot 1

sta.3+28 const. curb inlet top 148.31

sta.3+69.17 const. curb inlet top 148.33

8" SAN. SEWER FL=140.93

water FL=143.1

142.85

144.15 144.40

144.75

178' of 18" RCP at 0.73 %

Alt. 178' of 18" CMP at 0.73 %

42' of 15" RCP at 0.86 %

Alt. 42' of 15" CMP at 0.86 %

Type 3 Rip-Rap

Headwall

143.22

143.95

2

3

150

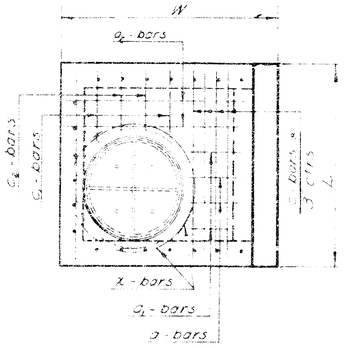
145

140

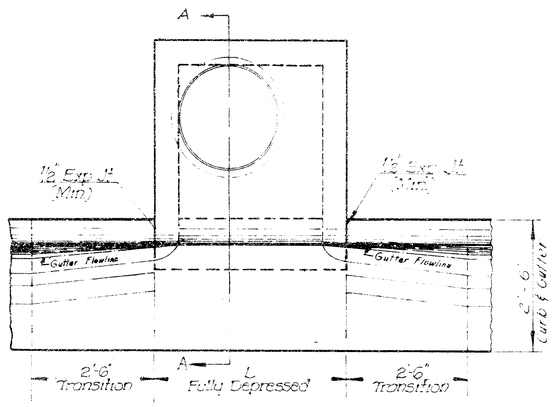
DLK 372

SWS 147 Line 3 Sheet 1
Westlink Village 18th Addn.

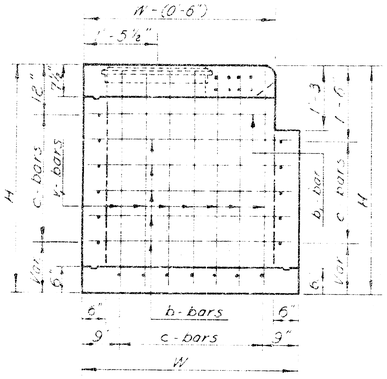
FHWA NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS		19?		



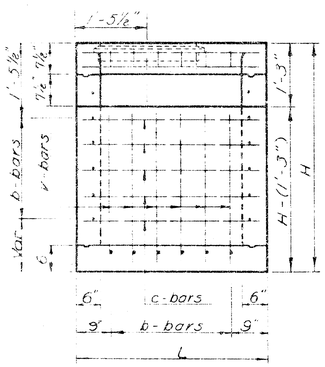
TOP VIEW



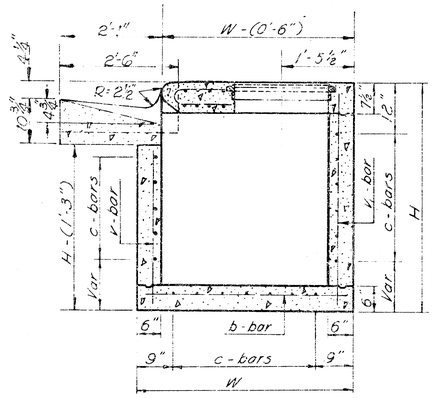
PLAN



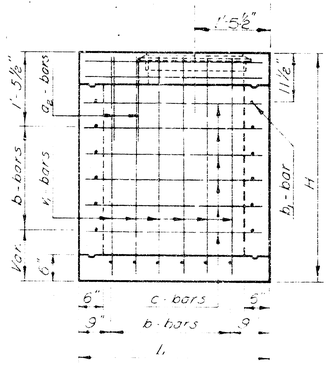
SIDE VIEW



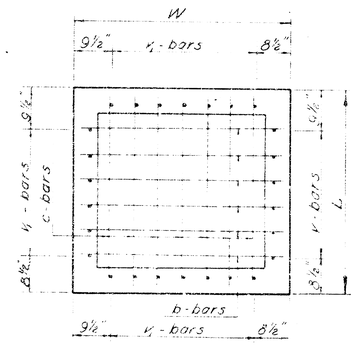
FRONT VIEW



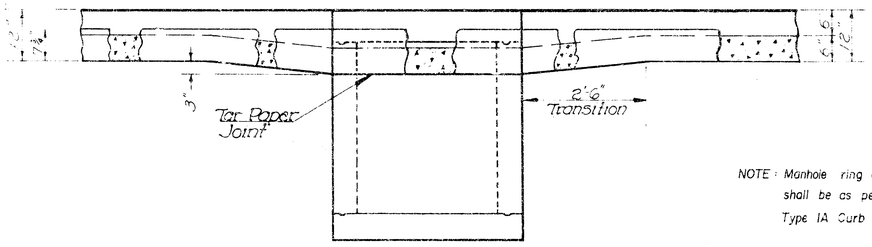
SECTION A-A



REAR VIEW



BOTTOM VIEW



NOTE : Manhole ring and cover to inlet tops shall be as per City of Wichita Standard Type IA Curb Inlet Precast Top.

GENERAL NOTE

CONCRETE

Storm Sewer Inlets shall be constructed of either Class A Concrete or Class A Concrete (AE) at the Contractor's option ~~however payment shall be made for cubic yards of Class A concrete (Miscellaneous)~~

Bevel all exposed 90° concrete edges with a ¾" triangular bevel

CAST IRON

All exposed cast iron surfaces not subject to traffic shall receive one coat of a zinc dust paint applied either in the shop or in the field and two coats of aluminum paint applied in the field.

REINFORCING STEEL: All rebars to be #4.

All dimensions relative to reinforcing steel are to the center of bars unless otherwise noted on the plans.

Reinforcing steel shall be spaced at 6" centers and shall be 1-1/2" clear distance from slab surfaces unless otherwise shown on the plans.

All reinforcing steel shall be placed within ± 1-1/4" of plan dimension unless waived by the Engineer.

Reinforcing steel shall be bent around all pipes unless otherwise directed by the Engineer.

~~See plan sheet entitled "REINFORCING STEEL FOR INLETS AND JUNCTIONS" for reinforcing steel quantities and fabrication details.~~

MISCELLANEOUS

When directed by the Engineer the top of the inlet shall be sloped in order to match the longitudinal roadway grade ground line and or other conditions.

When directed by the Engineer small openings may be required in the back of the inlet in order to drain a low area. No deductions in concrete quantities will be made for these openings.

Expansion joint material shall be either poured joint sealing compound (hot or cold) or pre-molded joint filler (non-extruding Type B) unless otherwise noted on the plans.

Inlet floors shall be shaped as shown on the plan sheet entitled TYPICAL FLOOR SHAPING FOR INLETS AND JUNCTIONS. No concrete quantities shall be computed for this work.

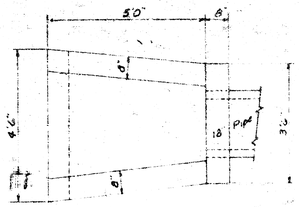
Gutter shaping shall be accomplished as shown and payment shall be subsidiary to the adjacent type of curb and gutter.

15/19

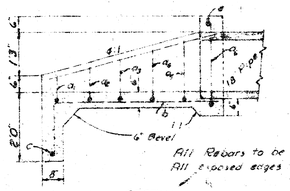
STATE HIGHWAY COMMISSION OF KANSAS

TYPE 22
CURB INLET

SHEET NO.	OF	SCALE	APPD.		
DESIGNED		DETAILED	QUANTITIES	SHEET	15/19
DESIGNER		DETAILER	CHECKED		



PLAN
Scale ½"=1'0"



All Rebars to be #4.
All exposed edges to have ½" bevel.

SECTION
Scale ½"=1'0"

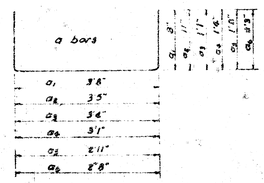
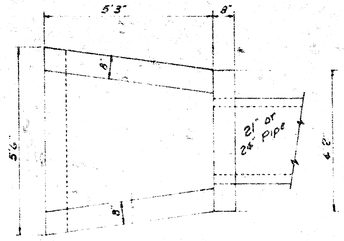
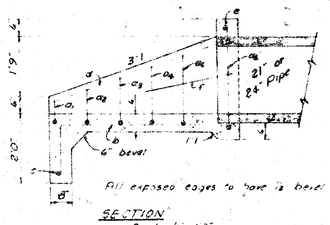


TABLE OF QUANTITIES				
BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a_1	1	5'0"		3.34
a_2	1	5'3"		3.51
a_3	1	5'6"		3.67
a_4	1	5'9"		3.98
a_5	1	6'3"		4.18
a_6	1	7'2"		4.79
b	5	4'9"		22.54
c	1	4'0"		2.47
d	2	5'3"		7.01
e	1	3'8"		2.18
Total Rebars, lbs.				53.57
Conc. C.Y.				1.08

HEADWALL FOR 18" PIPE



PLAN
Scale ½"=1'0"



All exposed edges to have ½" bevel.

SECTION
Scale ½"=1'0"

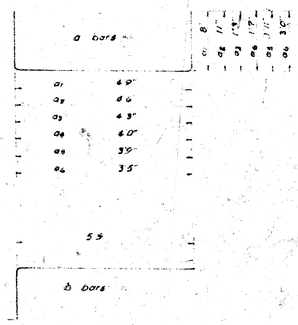
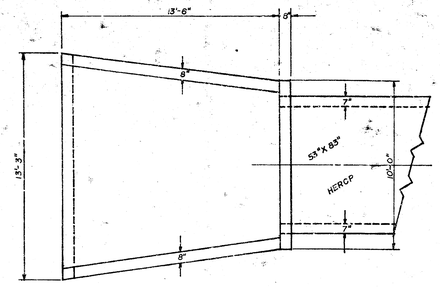


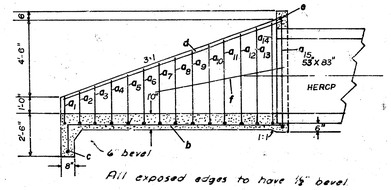
TABLE OF QUANTITIES				
BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a_1	1	6'7"		4.06
a_2	1	6'4"		4.23
a_3	1	6'9"		4.51
a_4	1	7'2"		4.75
a_5	1	7'7"		5.07
a_6	1	9'5"		6.29
b	6	6'11"		27.78
c	1	5'0"		3.37
d	2	5'10"		7.79
e	1	3'10"		2.56
f	2	2'9"		3.67
Total Rebar, lbs.				76.03
Concrete, CY				1.40

All Rebars to be #4

HEADWALL FOR 21" OR 24" PIPE

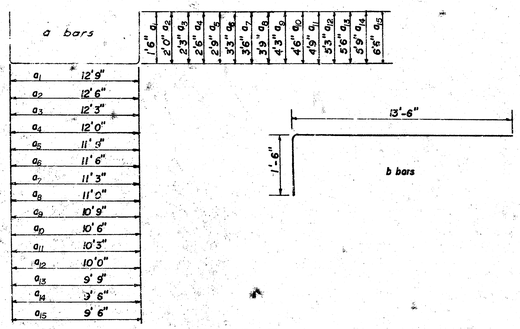


PLAN
Scale ¼"=1'0"



All exposed edges to have ½" bevel.

SECTION
Scale ¼"=1'0"



a bars	
a_1	12'9"
a_2	12'6"
a_3	12'3"
a_4	12'0"
a_5	11'5"
a_6	11'6"
a_7	11'3"
a_8	11'0"
a_9	10'9"
a_{10}	10'6"
a_{11}	10'3"
a_{12}	10'0"
a_{13}	9'9"
a_{14}	9'6"
a_{15}	9'6"

TABLE of QUANTITIES				
Bars	Number	Length	Shape	Weight
a_1	1	15'9"		10.52
a_2	1	16'6"		11.02
a_3	1	16'9"		11.19
a_4	1	17'0"		11.36
a_5	1	17'3"		11.52
a_6	1	18'0"		12.02
a_7	1	18'3"		12.19
a_8	1	18'6"		12.36
a_9	1	19'3"		12.86
a_{10}	1	19'6"		13.03
a_{11}	1	19'9"		13.19
a_{12}	1	20'6"		13.69
a_{13}	1	20'9"		13.86
a_{14}	1	21'0"		14.03
a_{15}	1	22'6"		15.03
b	13	15'0"		10.02
c	1	12'9"		8.52
d	2	14'6"		9.69
e	1	9'6"		6.35
f	2	8'0"		5.34
Total Rebars, lbs.				228.79
Concrete, cy				9.19

All Rebars to be no 4

Headwall for 53"x83" HERCP

HEADWALL DETAILS

16/16