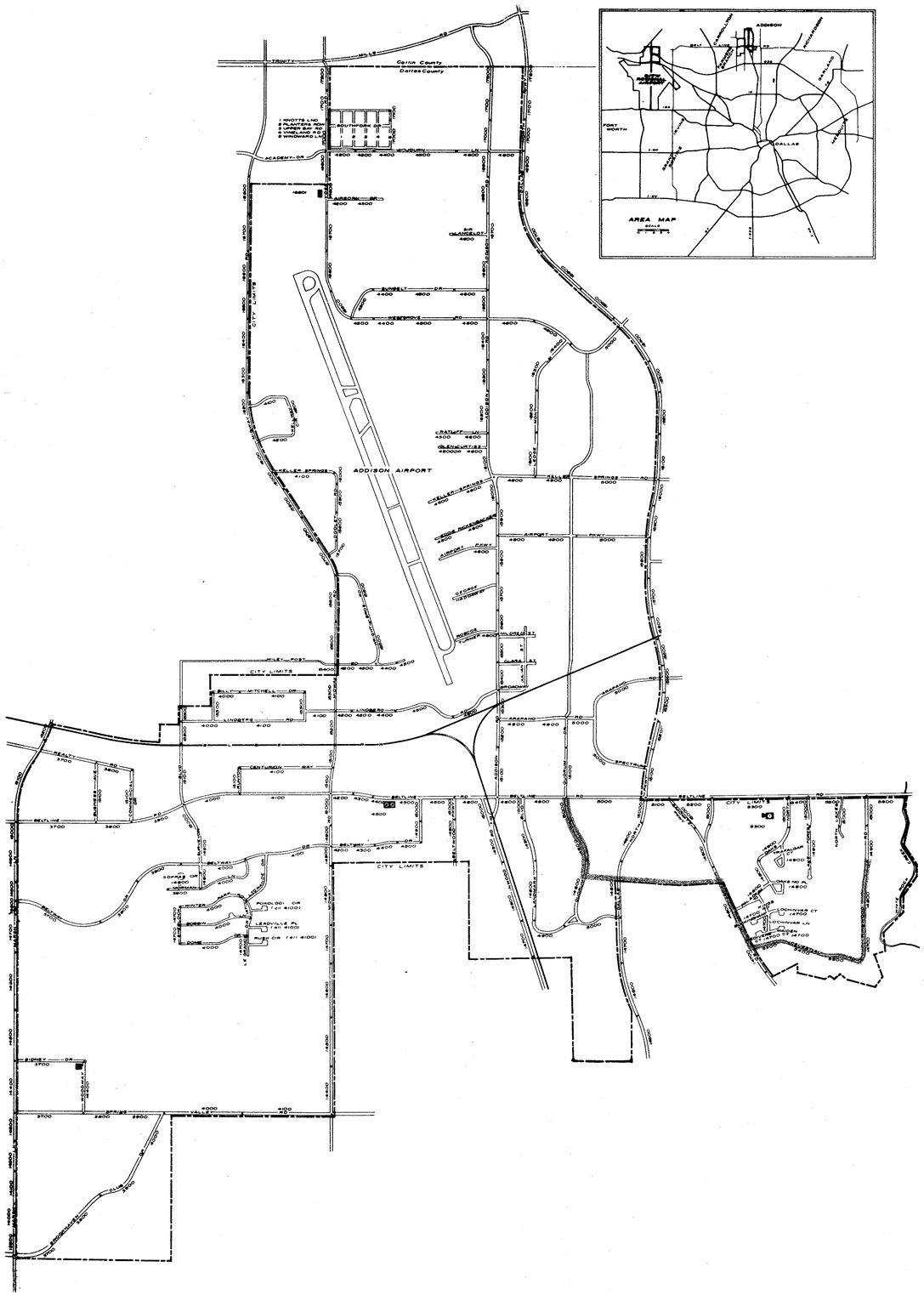
B2-7

CROSSTOWN WA



TOWN OF
ADDISON
DALLAS COUNTY, TEXAS

CONSTRUCTION PLANS FOR

CROSSTOWN WATER LINE

Approved By:

Mayor, Town Of Addison Date

GINN, INC.
Consulting Engineers Dallas, Texas

November, 1984

CONSTRUCTION NOTES:
(STA. 0+00 to 1+89 See Typ. Detail Sht.)

The following notes correspond by station number with the appropriate typical detail drawing.

1. Saw And Remove Existing Concrete Required To Construct The Water Line With Appurtenances, As Shown With Typical Detail Drawing. Pay Item No. 100.1
2. Replace With 8" Thick, 3000 psi. Concrete Slab, As Shown With Typical Detail Drawing. Pay Item No. 101.1
3. Special Care Shall Be Taken Not To Disturb The Loop Detectors. If Damaged During Construction, Repair Shall Be Made By The Contractor At No Additional Compensation. All Conduit Damaged Shall Be Repaired Or Replaced To The Engineers Satisfaction.

NOTE:

1. Contractor Shall Determine The Exact Location And Depth Of The Underground Utilities Shown Prior To Construction By Contacting The Utility Companies. The Utility Elevations Shown Are Only Approximate.
2. Contractor Shall Be Responsible For Any Utility Damages Resulting From Construction.
3. Contractor Shall Repair Or Replace Any Damaged Utility Equal To Or Better Than The Original Condition At No Additional Compensation.

BLDG.
BLDG.
QUORUM DRIVE
BELT LINE ROAD
100' R.O.W.
70' R.O.W.
Exist. 24" Water
Exist. 10" Water
Exist. 8" Water
Exist. 54" Water
Exist. 16" Water
Exist. 30" Water
Exist. 12" Water
Exist. 2-2"PVC
Exist. 4" M.W. Gas
Exist. 8" Water
Exist. UGT
Exist. 1½"PVC
Exist. 2"PVC
Exist. 3"PVC
Exist. 4"Gas
Exist. 1¼"PVC
Exist. 3"Gas
Exist. Underground Power
Exist. Underground Telephone
(2) Traffic Signal Boxes
Traffic Signal Box
Stop Light
Street Light
Quorum Sign
Exist SS M.H.
Exist 8" SS
G.V.
W/M's
F/H
UGP
UGT
645
647.4
646.3
647.3
646.2
652.2
649.7
651.8
649.6
650.7
650

BEGIN CONSTRUCTION STA. 0+00 Verify Location Of Exist. End Of Water Line.

Remove Concrete Thrust Block. Not Separate Pay Item

Pay Item No. 100.1
PROPOSED 36" RCCP WATER

Centerline Of Pavement

STA. 0+00 Connect To Existing 30" Water Line And Install: 1-30"x36" Conc. Reducer Complete In Place Pay Item No. 106.3

R.O.W. Width Varies

P.C. = 0-03.89

MATCH SHEET STA. 1+89

Water Line Curve Data

Δ = 37°23'58"
R = 619.38'
L = 404.30'
T = 209.65'

B.M. "□" Cut On Top Of Curb In The Parking Lot East Of Quorum Dr. And ±105' South Belt Line Rd. Elev. 646.182

0+00 1+00 1+89

650 645 640 635 630

E=633.91 (Verify)

0.00%

± 189 LF 36" RCCP Class 150

No	Revision	By	Date
⚠	Delete Air Release Valve	GF/GAP	1-31-85

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

STA. 0+00 to 1+89

GINN, INC.
Consulting Engineers Dallas, Texas

Designed - MP	Drawn - GAP	Date - NOVEMBER, 1984	Job No. - 216
Approved - HWG	Checked - GF	Scale - 1"=20'H/1"=5'V	Sheet 1 Of 20

CONSTRUCTION NOTES:
(STA. 7+87 to 13+40 See Typ. Detail Sht.)

The following notes correspond by station number with the appropriate typical detail drawing.

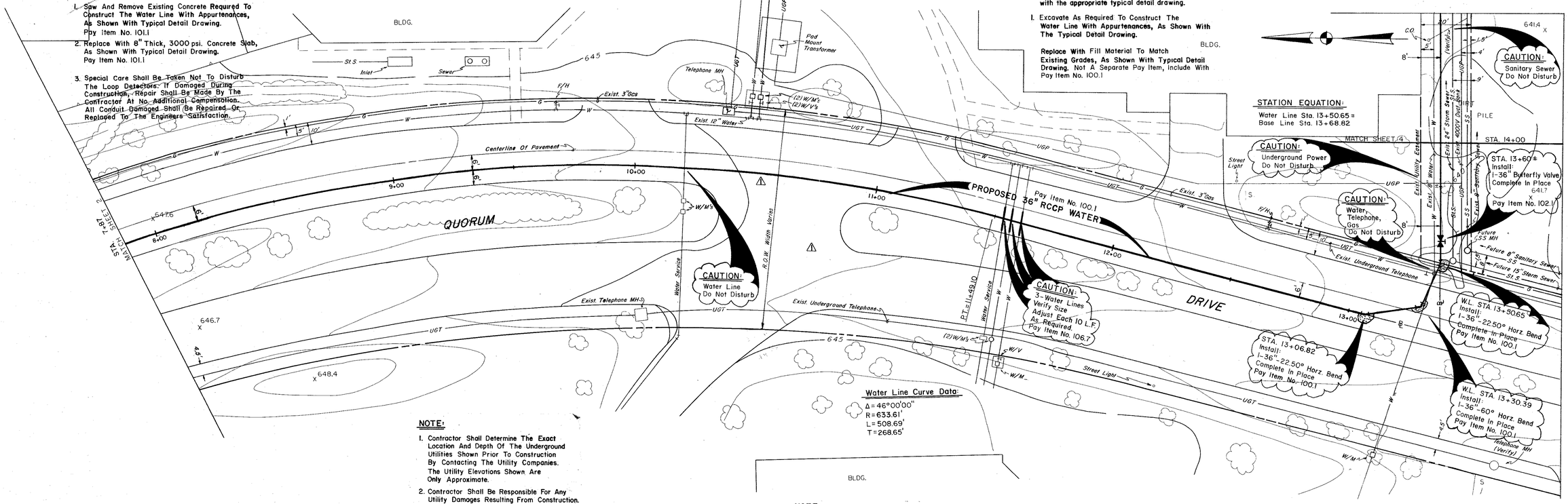
1. Saw And Remove Existing Concrete Required To Construct The Water Line With Appurtenances, As Shown With Typical Detail Drawing. Pay Item No. 101.1
2. Replace With 8" Thick, 3000 psi. Concrete Slab, As Shown With Typical Detail Drawing. Pay Item No. 101.1
3. Special Care Shall Be Taken Not To Disturb The Loop Detectors. If Damaged During Construction, Repair Shall Be Made By The Contractor At No Additional Compensation. All Conduit Damaged Shall Be Repaired Or Replaced To The Engineers Satisfaction.

CONSTRUCTION NOTES:
(STA. 13+40 to 14+00 See Typ. Detail Sht.)

The following notes correspond by station number with the appropriate typical detail drawing.

1. Excavate As Required To Construct The Water Line With Appurtenances, As Shown With The Typical Detail Drawing.

Replace With Fill Material To Match Existing Grades, As Shown With Typical Detail Drawing. Not A Separate Pay Item, Include With Pay Item No. 100.1



CAUTION: Water Line Do Not Disturb

CAUTION: Underground Power Do Not Disturb

CAUTION: Water, Telephone, Gas Do Not Disturb

CAUTION: Sanitary Sewer Do Not Disturb

CAUTION: 3-Water Lines Verify Size Adjust Each 10 L.F. As Required Pay Item No. 106.7

STATION EQUATION:
Water Line Sta. 13+50.65 = Base Line Sta. 13+68.82

STA. 13+60± Install: 1-36" Butterfly Valve Complete In Place Pay Item No. 102.1

W.L. STA. 13+50.65 Install: 1-36"-22.50° Horz. Bend Complete In Place Pay Item No. 100.1

STA. 13+06.82 Install: 1-36"-22.50° Horz. Bend Complete In Place Pay Item No. 100.1

W.L. STA. 13+30.39 Install: 1-36"-60° Horz. Bend Complete In Place Pay Item No. 100.1

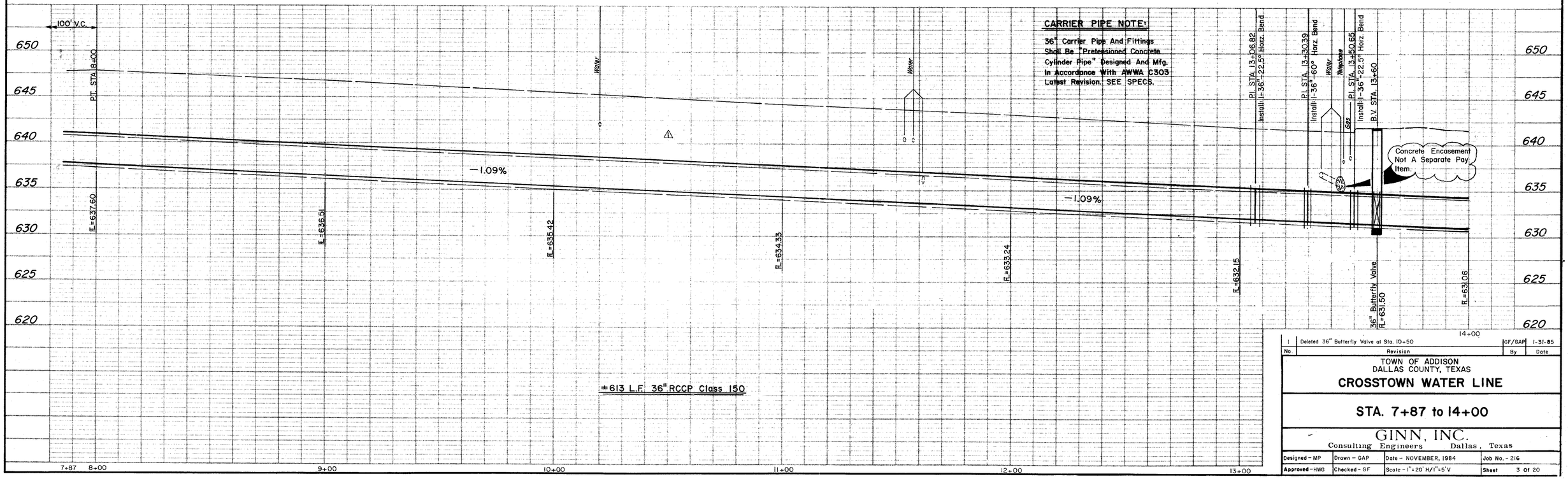
Water Line Curve Data:
Δ = 46°00'00"
R = 633.61'
L = 508.69'
T = 268.65'

NOTE:
1. Contractor Shall Determine The Exact Location And Depth Of The Underground Utilities Shown Prior To Construction By Contacting The Utility Companies. The Utility Elevations Shown Are Only Approximate.
2. Contractor Shall Be Responsible For Any Utility Damages Resulting From Construction.
3. Contractor Shall Repair Or Replace Any Damaged Utility Equal To Or Better Than The Original Condition At No Additional Compensation.

NOTE:
Block All Bends, Tees And Plugs As Required By Appurtenances. See Typical Detail Sheet.

B.M. "□" Cut On Top Of Curb In The Parking Lot East Of Quorum Dr. And ±105' South Belt Line Rd. Elev. 646.182

CARRIER PIPE NOTE:
36" Carrier Pipe And Fittings Shall Be "Prestressioned Concrete Cylinder Pipe" Designed And Mfg. In Accordance With AWWA C303 Latest Revision. SEE SPECS.



±613 L.F. 36" RCCP Class 150

No.	Revision	By	Date
1	Deleted 36" Butterfly Valve at Sta. 10+50	GF/GAP	1-31-85

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

STA. 7+87 to 14+00

GINN, INC.
Consulting Engineers Dallas, Texas

Designed – MP	Drawn – GAP	Date – NOVEMBER, 1984	Job No. – 216
Approved – HWG	Checked – GF	Scale – 1"=20' H/1"=5' V	Sheet 3 Of 20

NOTE:

1. Contractor Shall Determine The Exact Location And Depth Of The Underground Utilities Shown Prior To Construction By Contacting The Utility Companies. The Utility Elevations Shown Are Only Approximate.
2. Contractor Shall Be Responsible For Any Utility Damages Resulting From Construction.
3. Contractor Shall Repair Or Replace Any Damaged Utility Equal To Or Better Than The Original Condition At No Additional Compensation.

CONSTRUCTION NOTES:
(STA. 14+00 to 18+20 See Typ. Detail Sht.)

The following notes correspond by station number with the appropriate typical detail drawing.

1. Excavate As Required To Construct The Water Line With Appurtenances, As Shown With The Typical Detail Drawing.
2. Replace With Fill Material To Match Existing Grades, As Shown With Typical Detail Drawing. Not A Separate Pay Item, Include With Pay Item No. 100.1
3. The Size Of The Bore Pits Shall Be Kept As Minimal As Required To Complete Construction.

Refer To Sheet No. 3 For Notes At This Section.

STA. 14+00

Pay Item No. 100.1
PROPOSED 36" RCCP WATER

Exist. Utility Easement
Exist. 8" Water
Exist. 24" Storm Sewer
Exist. 4000V Duct Bank
Exist. 8" Sanitary Sewer
Exist. 20' Utility Easement
Exist. 8" Watermain
Exist. 24" Storm Sewer
Exist. 4000V Duct Bank
Exist. 8" Sanitary Sewer
Future Transformer

STA. 18+10 to STA. 19+02
Install:
1-54"x92' Steel Pipe
Complete In Place
Pay Item No. 105.1

P.I. STA. 18+00
Δ = 45°00'00"
Install:
1-36"-45° Horz. Bend
Complete In Place
Pay Item No. 100.1

P.I. STA. 17+85.20
Δ = 45°00'00"
Install:
1-36"-45° Horz. Bend
Complete In Place
Pay Item No. 100.1

CAUTION:
Water Line, Storm Sewer Do Not Disturb

CAUTION:
Sanitary Sewer, Underground Power, Telephone Do Not Disturb.

250 L.F. Steel Encasement
See Profile Cut Details

Future 12" W/V

Future Underground Power
Exist. 8" Watermain
Future R.O.W.
Future Curb
Future Retaining Wall
Exist. 21" St. Sewer
Exist. 12" Sanitary Sewer
Future Underground Telephone
Future 33" RCP
Future Gas Line
Exist. 24" Storm Sewer
Exist. Curb
Exist. Transformer Pad
Grate Inlet

S.B. DALLAS PKWY.
S.B. TOLLWAY

MATCH SHEET 4
MATCH SHEET 5 STA. 19+02

DIRT PILE
UNDER CONST.

NOTE:
Block All Bends, Tees And Plugs As Required By Appurtenances. See Typical Detail Sheet.

B.M. "□" Cut On Top Of West Median Curb On Dallas Pkwy. Elev. 646.317

GENERAL NOTES:

Plug Upper End Of Casing W/ 6" Min., 2000 psi. Concrete. Plug Lower End W/ 6" Min. Clay.

Voids Between Earth Or Rock And Encasement Pipe Shall Be Filled With 1:7 Grout Including 5% to 40% Air Entrained By Pressure Injection.

Carrier Pipe Shall Be Supported On A Continuous 6" Thick, 2000 psi. Concrete Cradle, In CMP Encasement Pipe Only. There Shall Be A Minimum Of Two Hold Down Jacks Per Joint.

-1.09%

Fl.=631.06
Fl.=629.97
Fl.=628.88
Fl.=627.79
Fl.=627.79

CASING PIPE NOTES: (Minimum Requirements)

1. Smooth Steel Shall Be 54" I.D. 0.500 Inch Thick, Minimum; (H-20 Live Load), Minimum Yield Strength 35,000 psi., Coated With 1 mil. Bituminous Coating, Inside And Out.
2. OPTIONAL: Casing Pipe Shall Be 54" I.D. ASTM C-76, Class IV, Reinforced Concrete Pipe, Or Corrugated Metal Pipe, 54" I.D., 3"x1" Corr., 12ga. (0.109").

±502 L.F. 36" RCCP Class 150

P.I. STA. 17+74
Install:1-45° Vert. Bend
Install:1-45° Vert. Bend
Future Power
Water
Future Telephone
Future Storm Sewer
21"
12"
Exist. San. Sewer
Power
Future Ret. Wall
Telephone
Exist. Pvmt.

NOTE:
Verify Locations Of All Utilities, Horizontally & Vertically Prior To Beginning Construction.

P.I. STA. 17+80

-1.09%

250 L.F. STEEL ENCASEMENT (Total) BY THAN OTHER OPEN CUT (Pay Item 105.1)
Min. 54" I.D. CASING PIPE

-0.20%

MATCH SHEET 5 STA. 19+02

Fl.=626.98
Fl.=621.00
Fl.=620.96
STA. 18+10
Fl.=620.94
Fl.=620.76

36" Pipe Shall Be Prestressed Lined Cylinder Pipe C-303 FROM STA. 17+74 to STA. 21+10

CARRIER PIPE NOTE:

36" Carrier Pipe And Fittings Shall Be "Pretensioned Concrete Cylinder Pipe" Designed And Mfg In Accordance With AWWA C303 Latest Revision. SEE SPECS.

P.I. STA. 17+85.20
Install:1-36"-45° Horz. Bend.
P.I. STA. 18+00
Install:1-36"-45° Horz. Bend.

14+00 15+00 16+00 17+00 18+00 19+02

No	Revision	By	Date

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

STA. 14+00 to 19+02

GINN, INC.
Consulting Engineers Dallas, Texas

Designed - MP	Drawn - GAP	Date - NOVEMBER, 1984	Job No. - 216
Approved - HWG	Checked - GF	Scale - 1"=20' H/ 1"=5' V	Sheet 4 Of 20

CONSTRUCTION NOTES:
(STA. 20+60 to 25+40 See Typ. Detail Sht.)
The following notes correspond by station number with the appropriate typical detail drawing.
1. Saw And Remove Existing Concrete Required To Construct The Water Line With Appurtenances, As Shown With Typical Detail Drawing.
2. Replace With 8" Thick, 3000 psi. Concrete Slab, As Shown With Typical Detail Drawing. Pay Item No. 101.1
3. The Size Of The Bore Pits Shall Be Kept As Minimal As Required To Complete Construction.
NOTE:
1. Contractor Shall Determine The Exact Location And Depth Of The Underground Utilities Shown Prior To Construction By Contacting The Utility Companies. The Utility Elevations Shown Are Only Approximate.
2. Contractor Shall Be Responsible For Any Utility Damages Resulting From Construction.
3. Contractor Shall Repair Or Replace Any Damaged Utility Equal To Or Better Than The Original Condition At No Additional Compensation.
SAKOWITZ VILLAGE
STA. 19+02 to STA. 20+60 Install: 1-54"x158' Steel Pipe Complete In Place Pay Item No. 105.1
STA. 21+60 Install: 1-60" M.H. W/ Pitot Outlet 1-36" Butterfly Valve Complete In Place Pay Item No. 102.1, 103.1
CAUTION: Water Line Do Not Disturb
P.I. STA. 20+64.27 Δ= 45°00'00" Install: 1-36"-45° Horz. Bend Complete In Place Pay Item No. 100.1
P.I. STA. 20+83.82 Δ= 45°00'00" Install: 1-36"-45° Horz. Bend Complete In Place Pay Item No. 100.1
CAUTION: Storm Sewer, Power, Telephone, Water Line Do Not Disturb
Pay Item No. 106.5 F.H. Relocation See Detail Sht. 19
CAUTION: Water Line, Sanitary Sewer Do Not Disturb
PROPOSED 36" RCCP WATER Pay Item No. 100.1
ADDISON CITY LIMITS
DALLAS CITY LIMITS
Existing Utility Easement
Exist. 8" Watermain
Exist. Overhead Power
Exist. Underground Telephone
Exist. 8" Sanitary Sewer
Concrete Pavement
N.B. TOLLWAY
N.B. DALLAS PKWY.
EXIT RAMP
N.B. DALLAS PKWY.
VERDE VALLEY APTS.
BLDG.
MATCH SHEET 4 STA. 19+02
MATCH SHEET 6 STA. 25+40
250 L.F. Steel Encasement
10' Watermain Easement
6" Plug
NOTE: Block All Bends, Tees And Plugs As Required By Appurtenances. See Typical Detail Sheet.
CARRIER PIPE NOTE: 36" Carrier Pipe And Fittings Shall Be "Pretensioned Concrete Cylinder Pipe" Designed And Mfg. In Accordance With AWWA C303 Latest Revision. SEE SPECS.
B.M. "□" Cut On Top Of West Median Curb On Dallas Pkwy. Elev. 646.317
FROM STA. 17+74 TO STA. 21+10 - 36" PIPE SHALL BE PRESTRESSED LINED CYLINDER PIPE C-303
NOTE: Verify Locations Of All Utilities, Horizontally & Vertically Prior To Beginning Construction.
250'-BY OTHER THAN OPEN CUT
Min. 54" I.D. CASING PIPE
-0.20%
+16.55%
-0.90%
-2.35%
40' V.C.
STA. 20+90 Vert. Bend
STA. 21+10 Vert. Bend
M.H. STA. 21+60 Top El. = 633.40±
60" Dia. Manhole FL=623.05
STA. 21+70 36" B.V.
P.C. STA. 24+80
P.T. STA. 25+20
P.I.=620.00
FL=620.76 STA. 19+02
FL=620.46
STA. 20+60 FL=620.44
P.I. STA. 20+64.27 Install: 1-36"-45° Horz. Bend
P.I. STA. 20+83.82 Install: 1-36"-45° Horz. Bend
FL=620.38
FL=623.51
FL=622.70
FL=621.80
FL=620.90
FL=620.18
FL=619.93
FL=619.53
FL=619.06
P.I.=623.60
250 L.F. STEEL ENCASEMENT (TOTAL)
CASING PIPE NOTES: (Minimum Requirements)
1. Smooth Steel Shall Be 54" I.D. 0.500 Inch Thick, Minimum; (H-20 Live Load), Minimum Yield Strength 35,000 psi., Coated With) mil. Bituminous Coating, Inside And Out.
2. OPTIONAL: Casing Pipe Shall Be 54" I.D. ASTM C-76, Class IV, Reinforced Concrete Pipe, Or Corrugated Metal Pipe, 54" I.D., 3"x1" Corr., 12 ga. (0.109").
±638 L.F. 36" RCCP Class 150
640 635 630 625 620 615 610
19+02 20+00 21+00 22+00 23+00 24+00 25+00 25+40

GENERAL NOTES:

Plug Upper End Of Casing W/ 6" Min., 2000 psi. Concrete. Plug Lower End W/ 6" Min. Clay.

Voids Between Earth Or Rock And Encasement Pipe Shall Be Filled With 1:7 Grout Including 5% to 40% Air Entrained By Pressure Injection.

Carrier Pipe Shall Be Supported On A Continuous 6" Thick, 2000 psi. Concrete Cradle, In CMP Encasement Pipe Only. There Shall Be A Minimum Of Two Hold Down Jacks Per Joint.

No.	Revision	By	Date

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

STA. 19+02 to 25+40

GINN, INC.
Consulting Engineers Dallas, Texas

Designed - MP	Drawn - GAP	Date - NOVEMBER, 1984	Job No. - 216
Approved - HWG	Checked - GF	Scale - 1"=20' H / 1"=5' V	Sheet 5 of 20

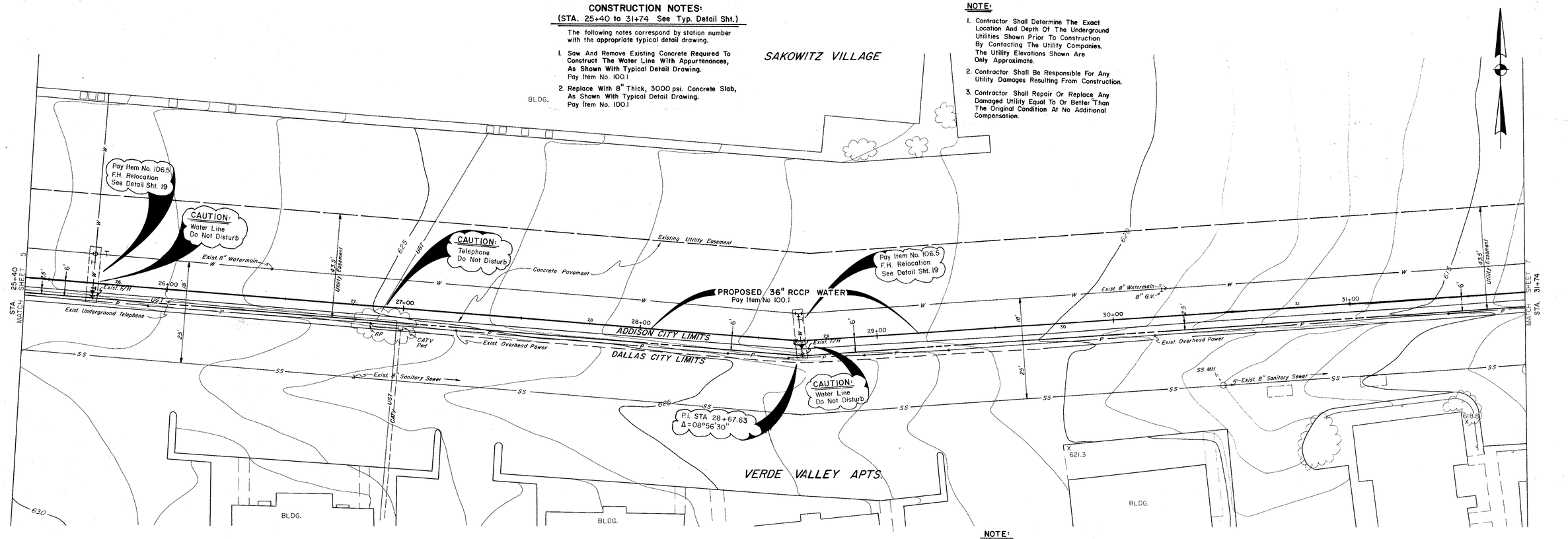
CONSTRUCTION NOTES:
(STA. 25+40 to 31+74 See Typ. Detail Sht.)

The following notes correspond by station number with the appropriate typical detail drawing.

1. Saw And Remove Existing Concrete Required To Construct The Water Line With Appurtenances, As Shown With Typical Detail Drawing. Pay Item No. 100.1
2. Replace With 8" Thick, 3000 psi. Concrete Slab, As Shown With Typical Detail Drawing. Pay Item No. 100.1

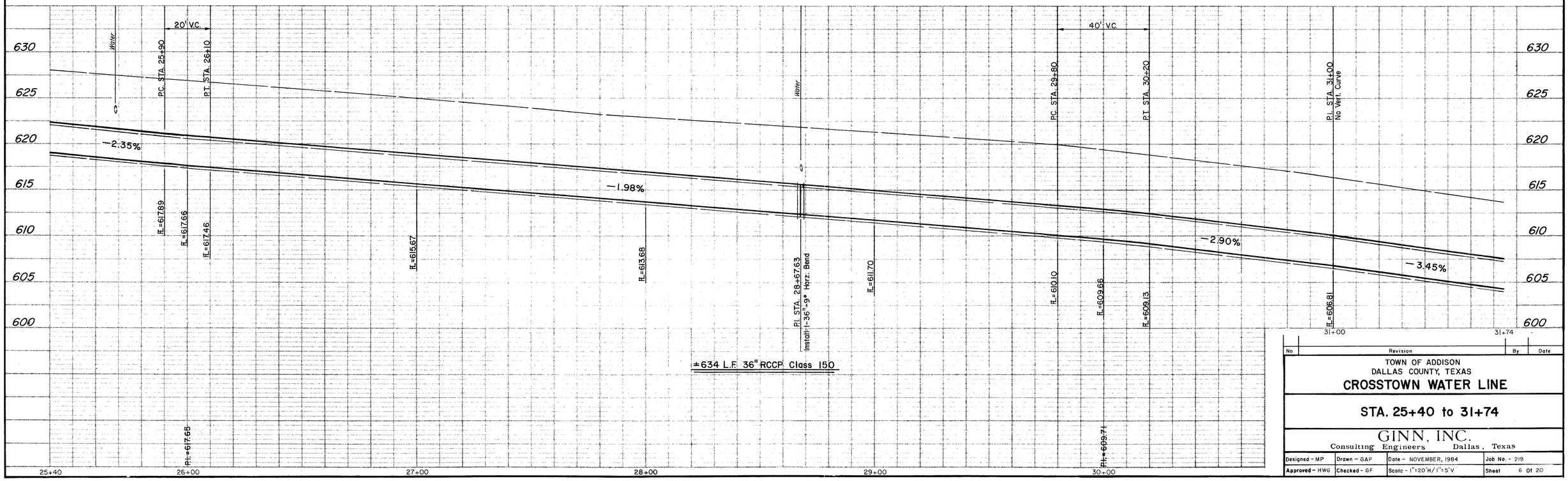
NOTE:

1. Contractor Shall Determine The Exact Location And Depth Of The Underground Utilities Shown Prior To Construction By Contacting The Utility Companies. The Utility Elevations Shown Are Only Approximate.
2. Contractor Shall Be Responsible For Any Utility Damages Resulting From Construction.
3. Contractor Shall Repair Or Replace Any Damaged Utility Equal To Or Better Than The Original Condition At No Additional Compensation.



NOTE:
Block All Bends, Tees And Plugs As Required By Appurtenances. See Typical Detail Sheet.

B.M. "□" Cut On Sidewalk ±78' Lt. Of Sta. 27+82± At Sakowitz Village. Elev. 624.381



±634 L.F. 36" RCCP Class 150

No	Revision	By	Date

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

STA. 25+40 to 31+74

GINN, INC.
Consulting Engineers Dallas, Texas

Designed – MP	Drawn – GAP	Date – NOVEMBER, 1984	Job No. – 219
Approved – HWG	Checked – GF	Scale – 1"=20'H/1"=5'V	Sheet 6 Of 20

CONSTRUCTION NOTES:
(STA. 31+74 to 37+02 See Typ. Detail Sht.)

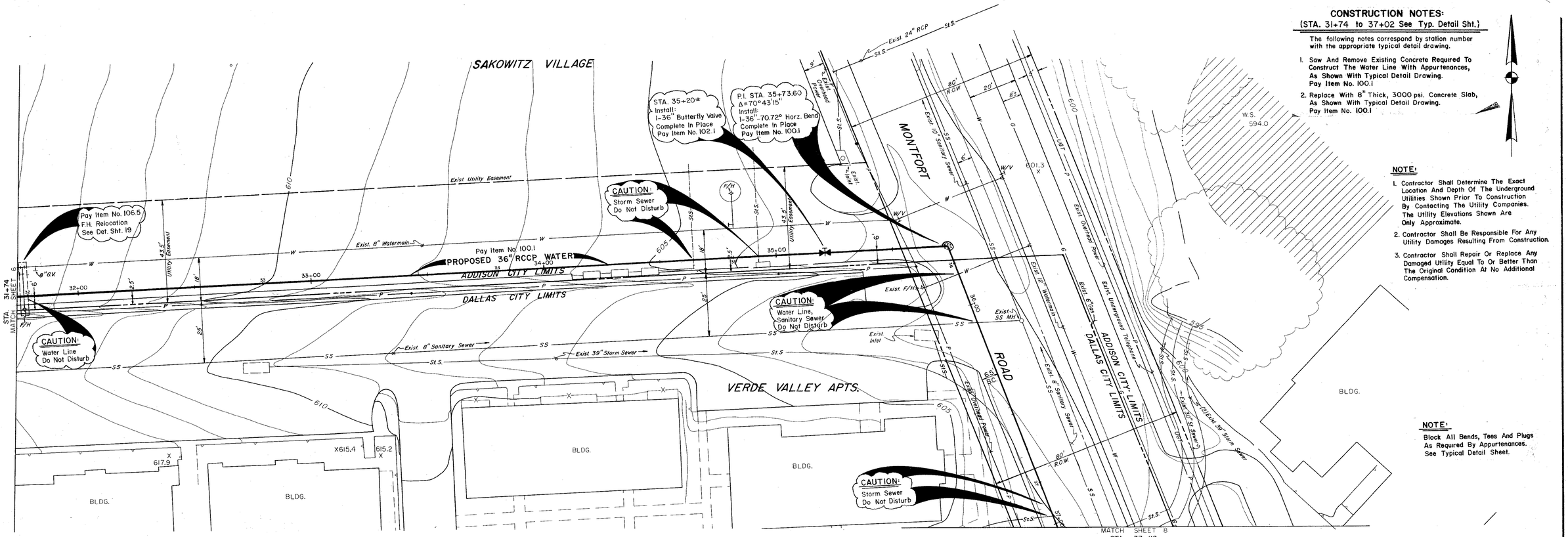
The following notes correspond by station number with the appropriate typical detail drawing.

1. Saw And Remove Existing Concrete Required To Construct The Water Line With Appurtenances, As Shown With Typical Detail Drawing. Pay Item No. 100.1
2. Replace With 8" Thick, 3000 psi. Concrete Slab, As Shown With Typical Detail Drawing. Pay Item No. 100.1

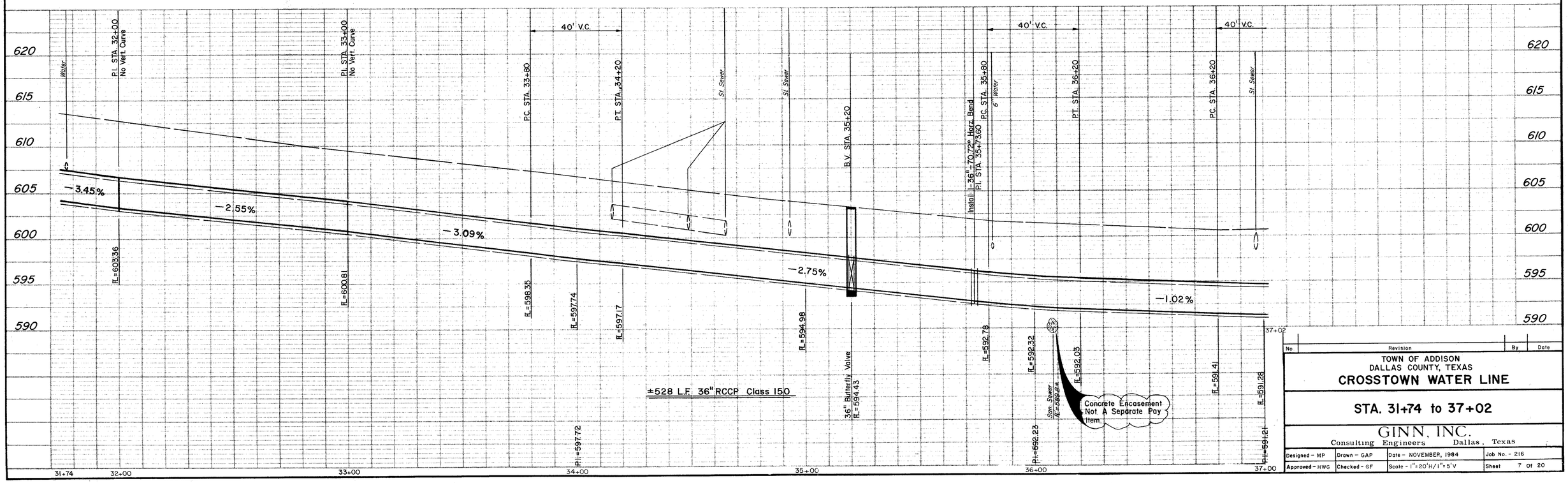
NOTE:

1. Contractor Shall Determine The Exact Location And Depth Of The Underground Utilities Shown Prior To Construction By Contacting The Utility Companies. The Utility Elevations Shown Are Only Approximate.
2. Contractor Shall Be Responsible For Any Utility Damages Resulting From Construction.
3. Contractor Shall Repair Or Replace Any Damaged Utility Equal To Or Better Than The Original Condition At No Additional Compensation.

NOTE:
Block All Bends, Tees And Plugs As Required By Appurtenances. See Typical Detail Sheet.



B.M. "□" Cut On Inlet Top Of Curb At Sta. 35+29±, 42' Lt. Of ℄ In Sakowitz Village. Elev. 603.741



No	Revision	By	Date

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

STA. 31+74 to 37+02

GINN, INC.
Consulting Engineers Dallas, Texas

Designed – MP	Drawn – GAP	Date – NOVEMBER, 1984	Job No. – 216
Approved – HWG	Checked – GF	Scale – 1"=20'H/1"=5'V	Sheet 7 Of 20

CONSTRUCTION NOTES:
(STA. 37+02 to 40+22 See Typ. Detail Sht.)

The following notes correspond by station number with the appropriate typical detail drawing.

1. Saw And Remove Existing Concrete Required To Construct The Water Line With Appurtenances, As Shown With Typical Detail Drawing. Pay Item No. 100.1
2. Replace With 8" Thick, 3000 psi. Concrete Slab, As Shown With Typical Detail Drawing. Pay Item No. 100.1
3. The Size Of The Bore Pits Shall Be Kept As Minimal As Required To Complete Construction.

614.2
X

CONSTRUCTION NOTES:
(STA. 40+64 to 43+95 See Typ. Detail Sht.)

The following notes correspond by station number with the appropriate typical detail drawing.

1. Excavate As Required To Construct The Water Line With Appurtenances, As Shown With The Typical Detail Drawing.
2. Replace With Fill Material To Match Existing Grades, As Shown With Typical Detail Drawing. Not A Separate Pay Item, Include With Pay Item No. 100.1
3. The Size Of The Bore Pits Shall Be Kept As Minimal As Required To Complete Construction.

MATCH STA. 37+02 SHEET 7

MONTFORT

BLDG.

Exist. Inlet

Exist. Overhead Power

Exist. Underground Power - UGP

Exist. T/H

Exist. 6" Gas

Exist. 12" Water

Exist. 8" Sanitary Sewer

Exist. 39" St.S.

Exist. 30" Storm Sewer

Exist. 21" St.S.

Exist. 39" Storm Sewer

Exist. 30" Storm Sewer

Exist. 24" Storm Sewer

Exist. 2' RCP

Exist. 4" Gas

Exist. 8" Watermain

PALADIUM DRIVE

Exist. Underground Power - 10" P

ADDISON CITY LIMITS

DALLAS CITY LIMITS

CONCRETE

ASPHALT

ROAD

Future ℄

Future Median

Future Curb

Exist. Asphalt

Exist. 12" Water

Exist. 6" Gas

Future 18" Storm Sewer

Future Inlet

Future R.

Exist. R.

Exist. 18" St.S.

Exist. Inlet

Exist. W/M

Exist. T/H

Tel. Ped.

UGT

Steel Encasement

Other Than Open Cut

Clear.

38+00

39+00

40+00

41+00

42+00

605

610

615

620

P.I. STA. 40+06.83
Δ=45°00'00"
Install:
1-36"-45° Horz. Bend
Complete In Place
Pay Item No. 100.1

P.I. STA. 40+21.77
Δ=43°43'54"
Install:
1-36"-43.73° Horz. Bend
Complete In Place
Pay Item No. 100.1

STA. 40+21.77 to STA. 40+65.77
Install:
1-54"x42' Steel Pipe
Complete In Place
Pay Item No. 105.1

42 L.F. Steel Encasement By Other Than Open Cut

P.I. STA. 42+87.06
Δ=88°30'34"
Install:
1-36"-90° Horz. Bend
Complete In Place
Pay Item No. 100.1

STA. 43+50 & 43+60
Install:
1-60" M.H. W/ Pitot Outlet
Complete In Place
Pay Item No. 103.1

P.I. STA. 42+14.04
Δ=90°00'00"
Install:
1-36"-90° Horz. Bend
Complete In Place
Pay Item No. 100.1

STA. 42+18 to STA. 42+78
Install:
1-54"x60' Steel Pipe
Complete In Place
Pay Item No. 105.1

PROPOSED 36" RCCP WATER
Pay Item No. 100.1

VERDE VALLEY LANE

Exist. 8" Watermain

Exist. 30" Storm Sewer

Exist. 6" Gas

Ex 21" St.S.

Exist. Inlet

CAUTION:
Storm Sewer Do Not Disturb

CAUTION:
Water Line, Storm Sewers, Gas Do Not Disturb

CAUTION:
18" RCP, Water Line Do Not Disturb

CAUTION:
Gas Line Do Not Disturb

NOTE:
1. Contractor Shall Determine The Exact Location And Depth Of The Underground Utilities Shown Prior To Construction By Contacting The Utility Companies. The Utility Elevations Shown Are Only Approximate.
2. Contractor Shall Be Responsible For Any Utility Damages Resulting From Construction.
3. Contractor Shall Repair Or Replace Any Damaged Utility Equal To Or Better Than The Original Condition At No Additional Compensation.

NOTE:
Block All Bends, Tees And Plugs As Required By Appurtenances. See Typical Detail Sheet.

STATION EQUATION:
Water Line Sta. 42+87.06=
Base Line Sta. 43+07.15

B.M. "□" Cut On Top Of Curb Sta. 38+82± On Montfort Rd. Elev. 604.714

MATCH SHEET 9 STA. 43+95

GENERAL NOTES:

Plug Upper End Of Casing W/ 6" Min., 2000 psi. Concrete. Plug Lower End W/ 6" Min. Clay.

Voids Between Earth Or Rock And Encasement Pipe Shall Be Filled With 1:1 Grout Including 5% to 40% Air Entrained By Pressure Injection.

Carrier Pipe Shall Be Supported On A Continuous 6" Thick, 2000 psi. Concrete Cradle, In CMP Encasement Pipe Only. There Shall Be A Minimum Of Two Hold Down Jacks Per Joint.

CASING PIPE NOTES: (Minimum Requirements)

1. Smooth Steel Shall Be 54" I.D. 0.500 Inch Thick, Minimum, (H-20 Live Load), Minimum Yield Strength 35,000 psi., Coated With 1 mil. Bituminous Coating, Inside And Out.
2. OPTIONAL: Casing Pipe Shall Be 54" I.D. ASTM C-76, Class IV, Reinforced Concrete Pipe, Or Corrugated Metal Pipe, 54" I.D., 3"x1" Corr., 12 ga. (0.109").

FROM STA. 39+50 to STA. 43+20
36" Pipe Shall Be Prestressed Lined Cylinder Pipe (AWWA C-301).

±693 L.F. 36" RCCP Class 150

42' BY OTHER THAN OPEN CUT

CARRIER PIPE NOTE:
36" Carrier Pipe And Fittings Shall Be "Pretensioned Concrete Cylinder Pipe" Designed And Mfg. In Accordance With AWWA C303 Latest Revision. SEE SPECS. Unless Otherwise Noted.

See Detail At Left

NOTE:
Verify Locations Of All Utilities, Horizontally & Vertically Prior To Beginning Construction.

NOTE:
Verify Locations Of All Utilities, Horiz. & Vertically Prior To Construction.

BEGIN STA. 42+18 — END STA. 42+78

MATCH LINE A STA. 42+14.04 — MATCH LINE B STA. 42+87.06

8" St. Sewer — Gas — 18" RCP — Water

F.=596.88 — F.=596.90 — F.=597.16 — F.=597.20

Min. 54" I.D. CASING PIPE

60 L.F. STEEL ENCASEMENT BY OTHER THAN OPEN CUT

+0.44%

40' V.C.

8" St. Sewer — P.T. STA. 37+20

P.C. STA. 37+80 — P.I.=591.67 — P.T. STA. 38+20

+0.46%

+2.70%

P.C. STA. 39+30 — P.I.=595.72 — P.T. STA. 39+70

END STA. 40+06.83 — Install 1-36"-45° Horz. Bend

P.I. STA. 40+21.77 — Install 1-36"-45.22° Horz. Bend

END STA. 40+63.77

8" Water — St. Sewer — 30" St. Sewer — 36" St. Sewer — 6" Gas — 18" Future St. Sewer

Min. 54" I.D. CASING PIPE

42 L.F. STEEL ENCASEMENT

F.=596.04 — F.=596.22 — F.=596.38

F.=595.24 — F.=595.61 — F.=595.81 — F.=596.18 — F.=594.37 — F.=592.21 — F.=591.58 — F.=591.78 — F.=591.30

P.I. STA. 42+14.04 — Install 1-36"-90° Horz. Bend

P.I. STA. 42+87.06 — Install 1-36"-90° Horz. Bend

F.=596.88 — F.=596.82

P.I. STA. 43+10 — Install 1-36"-45° Vert. Bend

P.I. STA. 43+20 — Install 1-36"-45° Vert. Bend

P.C. STA. 43+50 Top El. 621.00±

100' V.C.

+5.96%

F.=597.30 — F.=607.30

+0.44%

F.=597.20

60" Dia. M.H. w/Pitot Outlet F.=609.09

37+02 — 38+00 — 39+00 — 40+00 — 41+00 — 42+00 — 43+00 — 43+95

No	Revision	By	Date
1	Delete 36" Butterfly Valves	GF/GAP	1-31-85

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

STA. 37+02 to 43+95

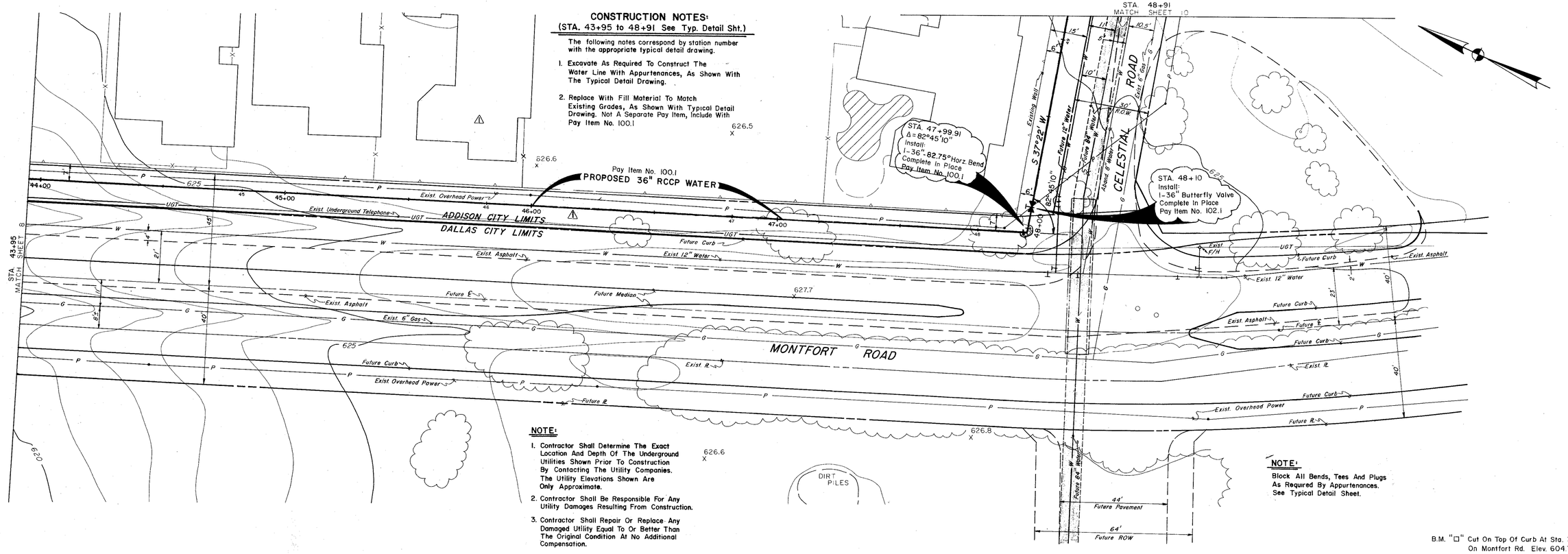
GINN, INC.
Consulting Engineers Dallas, Texas

Designed - MP	Drawn - GAP	Date - NOVEMBER, 1984	Job No. - 216
Approved - HWG	Checked - GF	Scale - 1"=20'H/1"=5'V	Sheet 8 Of 20

CONSTRUCTION NOTES:
(STA. 43+95 to 48+91 See Typ. Detail Sht.)

The following notes correspond by station number with the appropriate typical detail drawing.

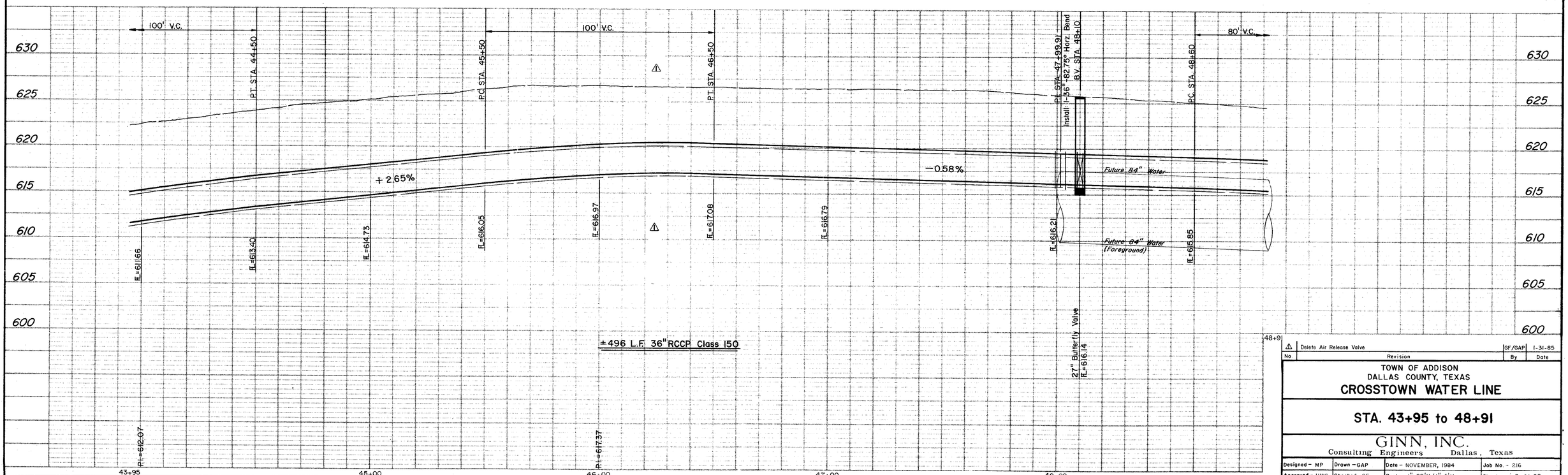
1. Excavate As Required To Construct The Water Line With Appurtenances, As Shown With The Typical Detail Drawing.
2. Replace With Fill Material To Match Existing Grades, As Shown With Typical Detail Drawing. Not A Separate Pay Item, Include With Pay Item No. 100.1



NOTE:
1. Contractor Shall Determine The Exact Location And Depth Of The Underground Utilities Shown Prior To Construction By Contacting The Utility Companies. The Utility Elevations Shown Are Only Approximate.
2. Contractor Shall Be Responsible For Any Utility Damages Resulting From Construction.
3. Contractor Shall Repair Or Replace Any Damaged Utility Equal To Or Better Than The Original Condition At No Additional Compensation.

NOTE:
Block All Bends, Tees And Plugs As Required By Appurtenances. See Typical Detail Sheet.

B.M. "□" Cut On Top Of Curb At Sta. 38+82± On Montfort Rd. Elev. 604.714



± 496 L.F. 36" RCCP Class 150

No	Revision	By	Date
⚠	Delete Air Release Valve	GF/GAP	1-31-85

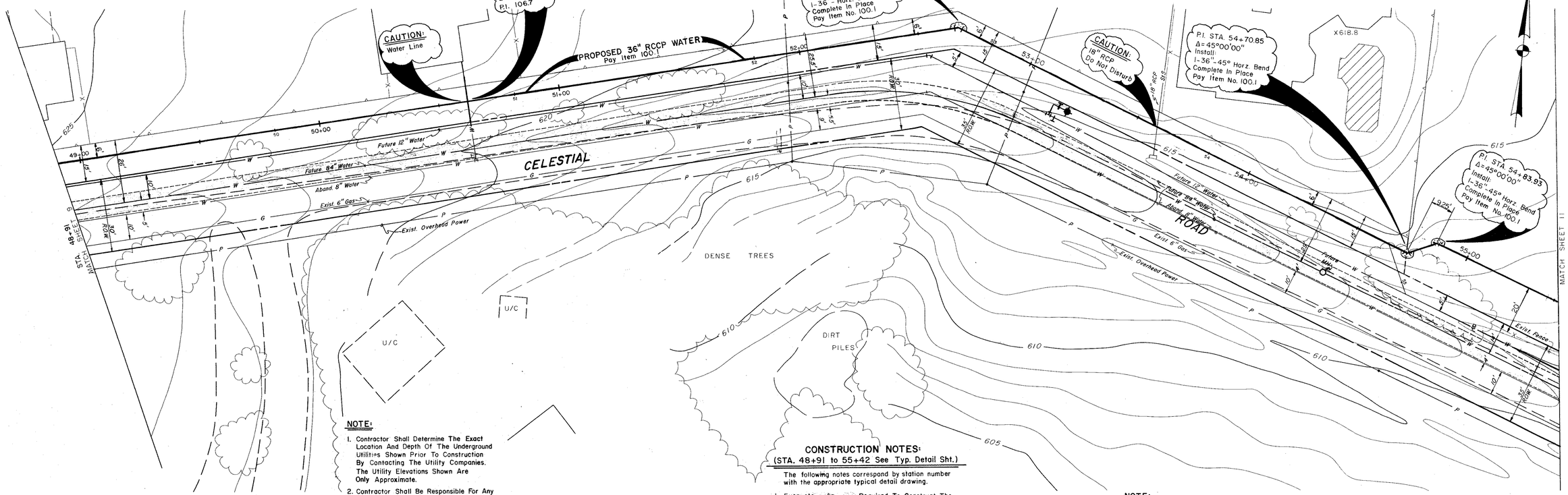
TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

STA. 43+95 to 48+91

GINN, INC.
Consulting Engineers Dallas, Texas

Designed – MP	Drawn – GAP	Date – NOVEMBER, 1984	Job No. - 216
Approved – HWG	Checked – GF	Scale – 1"=20'H/1"=5'V	Sheet 9 Of 20



NOTE:

1. Contractor Shall Determine The Exact Location And Depth Of The Underground Utilities Shown Prior To Construction By Contacting The Utility Companies. The Utility Elevations Shown Are Only Approximate.
2. Contractor Shall Be Responsible For Any Utility Damages Resulting From Construction.
3. Contractor Shall Repair Or Replace Any Damaged Utility Equal To Or Better Than The Original Condition At No Additional Compensation.

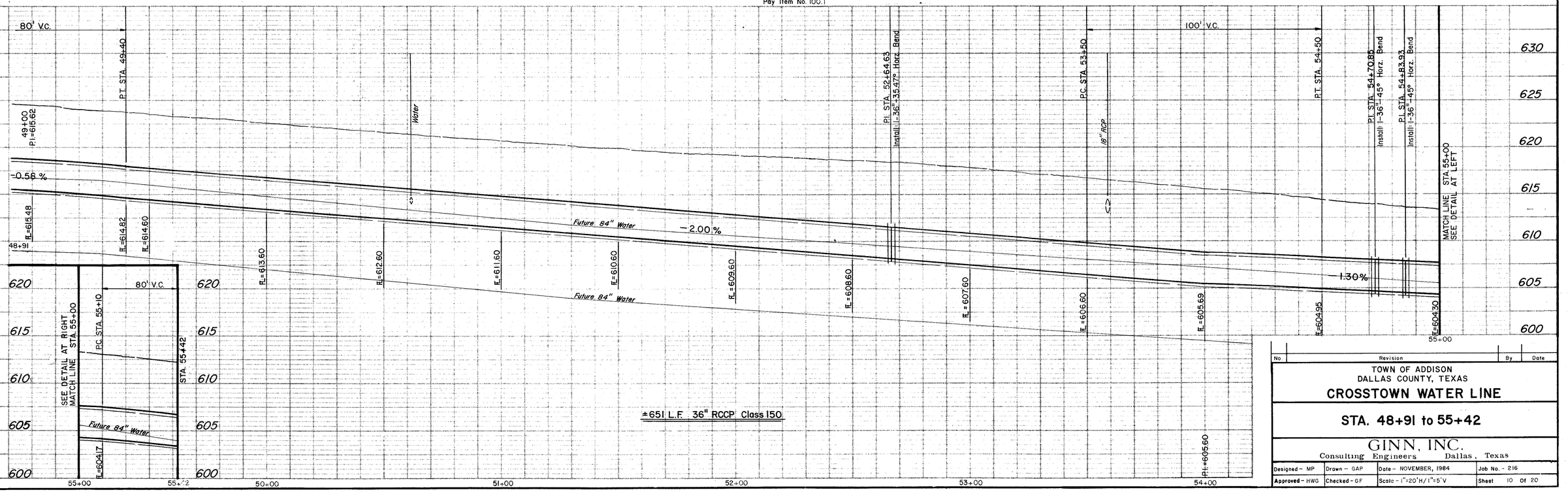
CONSTRUCTION NOTES:
(STA. 48+91 to 55+42 See Typ. Detail Sht.)

The following notes correspond by station number with the appropriate typical detail drawing.

1. Excavate As Required To Construct The Water Line With Appurtenances, As Shown With The Typical Detail Drawing.
2. Replace With Fill Material To Match Existing Grades, As Shown With Typical Detail Drawing, Not A Separate Pay Item, Include in Pay Item No. 100.1

NOTE:
Block All Bends, Tees And Plugs As Required By Appurtenances. See Typical Detail Sheet.

B.M. "□" Plus Mark #19 At Sta. 55+28± On Celestial Rd. Elev. 614.37



No	Revision	By	Date

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

STA. 48+91 to 55+42

GINN, INC.
Consulting Engineers Dallas, Texas

Designed - MP	Drawn - GAP	Date - NOVEMBER, 1984	Job No. - 216
Approved - HWG	Checked - GF	Scale - 1"=20'H/1"=5'V	Sheet 10 Of 20

NOTE:

1. Contractor Shall Determine The Exact Location And Depth Of The Underground Utilities Shown Prior To Construction By Contacting The Utility Companies. The Utility Elevations Shown Are Only Approximate.
2. Contractor Shall Be Responsible For Any Utility Damages Resulting From Construction.
3. Contractor Shall Repair Or Replace Any Damaged Utility Equal To Or Better Than The Original Condition At No Additional Compensation.

CONSTRUCTION NOTES:
(STA. 55+42 to 61+51 See Typ. Detail Sht.)

The following notes correspond by station number with the appropriate typical detail drawing.

1. Excavate As Required To Construct The Water Line With Appurtenances, As Shown With The Typical Detail Drawing.
2. Replace With Fill Material To Match Existing Grades, As Shown With Typical Detail Drawing, Not A Separate Pay Item Include In Pay Item No. 101.2

STATION EQUATION:
Water Line Sta. 60+37.63 = Base Line Sta. 60+53.12

MATCH SHEET 10 STA. 55+42

STA. 56+83 ⚠ Install: 1-8'x12' Conc. Box Vault 1-36"x36" Tee 2-36" Butterfly Valves 1-36" Plug, 1-36"x24" Reducer 1-24" Butterfly Valve See Detail Sheet 20 Pay Item No. 102.1, 104.2

PROPOSED 24" RCCP WATER ⚠ Pay Item No. 100.2

STA. 58+70 SEE ADDEMDUM NO. 2 Drawing Attached For Limits Of Construction. ⚠

P.I. STA. 59+45.42 Δ = 45°00'00" ⚠ Install: 1-24"-45° Horz. Bend Complete In Place

STA. 59+20 ± ⚠ Install: 1-8'x16' Conc. Box Vault 3-24" Butterfly Valves 1-24"x24" Tee 4-24"-45° Bends See Detail Sheet 20

STA. 59+35 ± ⚠ Install: 1-24"x12" Tee 1-12" Gate Valve w/ Box Tie To Proposed 12" Water w/ 12" Ductile Iron Pipe

CAUTION: 18" RCP Do Not Disturb

See Detail Below

See Detail Below Similar ⚠

To Be Connected To Pump Station By Others.

Plug

Plug

36"x24" Reducer ⚠

Future 36" To R.O.F. And Ground Storage Tank By Others

Install: 1-36" Butterfly Valve Complete In Place Pay Item No. 102.1 ⚠

Install: 1-36"-45° Horz. Bend

Install: 1-36"-45° Wye

P.I. STA. 59+73.70 Δ = 46°24'00" ⚠ Install: 1-24"-46.40° Horz. Bend Complete In Place Welded Joints

Proposed 84"x36" Flanged Tee, By Others Connect To Exist. 84" AT This Point

STA. 60+48 to STA. 60+75
1. Saw And Remove Exist. 5" Asphalt See Detail Sheet
2. Replace With 5" Thick Asphalt See Detail Sheet Pay Item No. 101.2

P.I. STA. 60+67.63 Δ = 17°30'00" ⚠ Install: 1-24"-17.5° Horz. Bend Complete In Place Welded Joints

MATCH SHEET 12 STA. 61+51

B.M. "□" Plus Mark #20 At Sta. 56+79± On Celestial Rd. Elev. 607.32

NOTE:
Block All Bends, Tees And Plugs As Required By Appurtenances. See Typical Detail Sheet.

CELESTIAL ROAD

Private Drive

Parking

Exist. 6" Gas

Exist. Overhead Power

Aband. 8" Water

Future 12" Water

Future 84" Water

Aband. 8" Water

Future 12" Water

Future 8" Water

18" RCP

60' R.O.W.

110'

35' R.O.W.

Conc. Vault

84"

3' Min. Cover

36"/24"

Typical 84" Water Line Crossing

FL = 595.0 ± (59+20)
FL = 598.9 ± (56+83)

FL = 592.5 ± (59+20)
FL = 597.5 ± (56+83)

45° Bends, Typical

FL = 583.0 (59+20)
FL = 587.5 (56+83)

STA. 55+42
P.I. = 603.65
FL = 603.43

P.T. STA. 55+90
FL = 602.23

STA. 56+83
Top El. = 608.46
8'x12' Vault
FL = 601.88
FL = 600.10
3' Min. Cl.
FL = 598.64
FL = 587.60
8'x12' Vault
FL = 596.93

3.55 %

Future 84" Water

1.70%

Future 84" Water

FL = 596.94

FL = 595.24

STA. 59+20
Top El. = 604.0 ±
8'x16' Vault
3' Min. Cl.
FL = 583.00

36" Tee Flanged At 84" Water (Foreground)

P.I. STA. 59+45.42
Install: 1-24"-45° Horz. Bend

P.I. STA. 59+73.70
Install: 1-24"-46.40° Horz. Bend

P.C. STA. 59+90
FL = 593.73
FL = 593.51
P.I. = 593.55

20' V.C.

P.T. STA. 60+10
FL = 593.20

18" RCP

Future 84" Water

3.50%

Future 84" Water

FL = 590.05
FL = 589.70
FL = 588.16

P.I. STA. 60+67.63
Install: 1-24"-17.50° Horz. Bend

P.C. STA. 61+10
P.I. = 588.30

80' V.C.

±141 L.F. 36" RCCP Class 150 ⚠

±237 L.F. 24" RCCP Class 150 ⚠

±231 L.F. 24" RCCP Class 150 ⚠

55+42 56+00 57+00 58+00 59+00 60+00 61+00 61+51

620 615 610 605 600 595 590 585 580 610 605 600 595 590 585 580

No.	Revision	By	Date
⚠	Changed Pipe Sizes From 36" to 24"; 27" to 24"; Added 12" Tie-in, Changed Misc. Appurtenances	GF/GAP	1-31-85

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

STA. 55+42 to 61+51

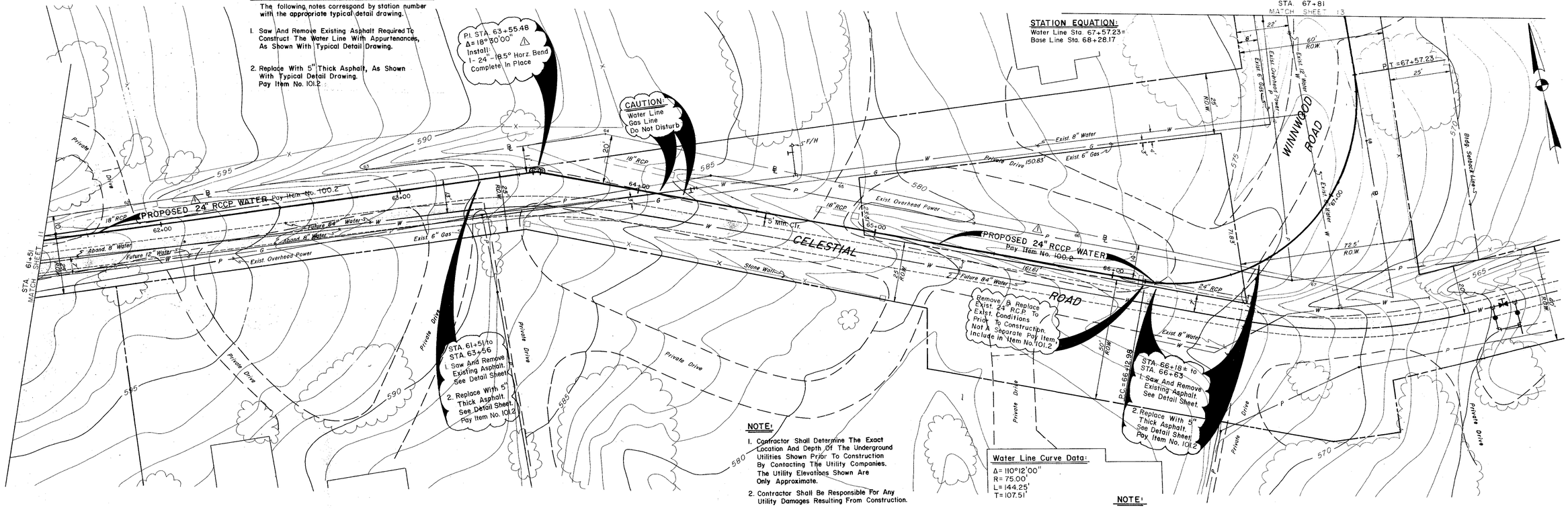
GINN, INC.
Consulting Engineers Dallas, Texas

Designed - MP	Drawn - GAP	Date - NOVEMBER, 1984	Job No. - 216
Approved - HWG	Checked - GF	Scale - 1"=20'H/1"=5'V	Sheet 11 Of 20

CONSTRUCTION NOTES:
(STA. 61+51 to 67+81 See Typ. Detail Sht.)

The following notes correspond by station number with the appropriate typical detail drawing.

1. Saw And Remove Existing Asphalt Required To Construct The Water Line With Appurtenances, As Shown With Typical Detail Drawing.
2. Replace With 5" Thick Asphalt, As Shown With Typical Detail Drawing. Pay Item No. 101.2

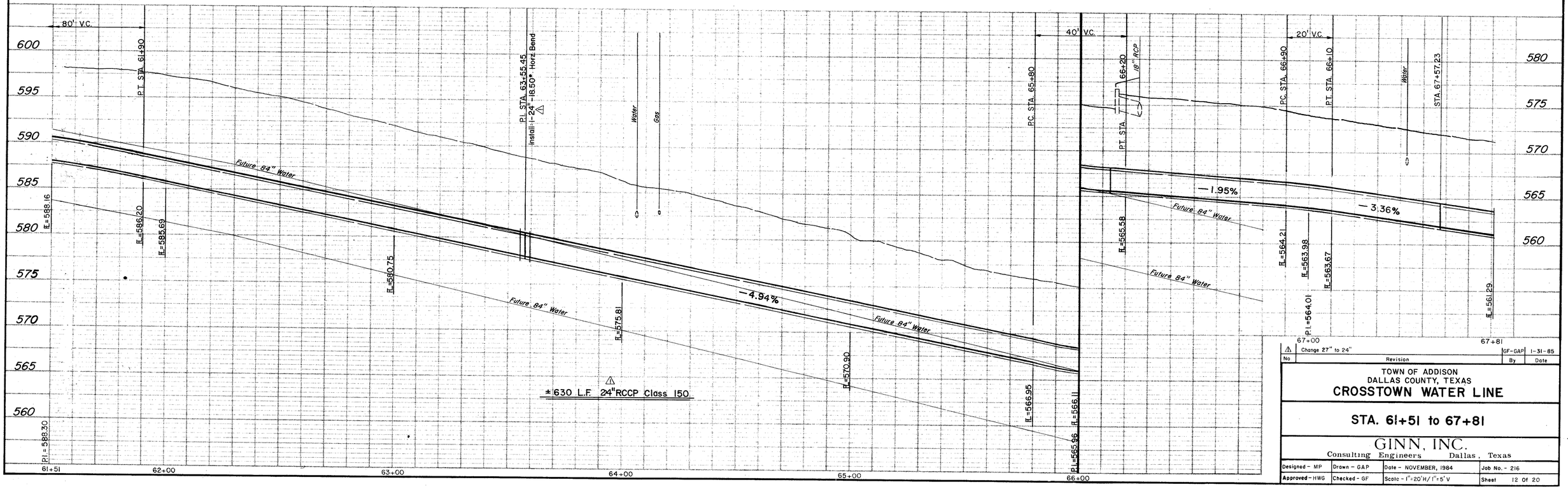


NOTE:
1. Contractor Shall Determine The Exact Location And Depth Of The Underground Utilities Shown Prior To Construction By Contacting The Utility Companies. The Utility Elevations Shown Are Only Approximate.
2. Contractor Shall Be Responsible For Any Utility Damages Resulting From Construction.
3. Contractor Shall Repair Or Replace Any Damaged Utility Equal To Or Better Than The Original Condition At No Additional Compensation.

Water Line Curve Data:
Δ= 110°12'00"
R= 75.00'
L= 144.25'
T= 107.51'

NOTE:
Block All Bends, Tees And Plugs As Required By Appurtenances. See Typical Detail Sheet.

B.M. "□" Plus Mark # 22 At Sta. 61+95± On Celestial Rd. Elev. 596.59



No	Revision	By	Date
⚠	Change 27" to 24"	GF-GAP	1-31-85

TOWN OF ADDISON
DALLAS COUNTY, TEXAS
CROSSTOWN WATER LINE

STA. 61+51 to 67+81

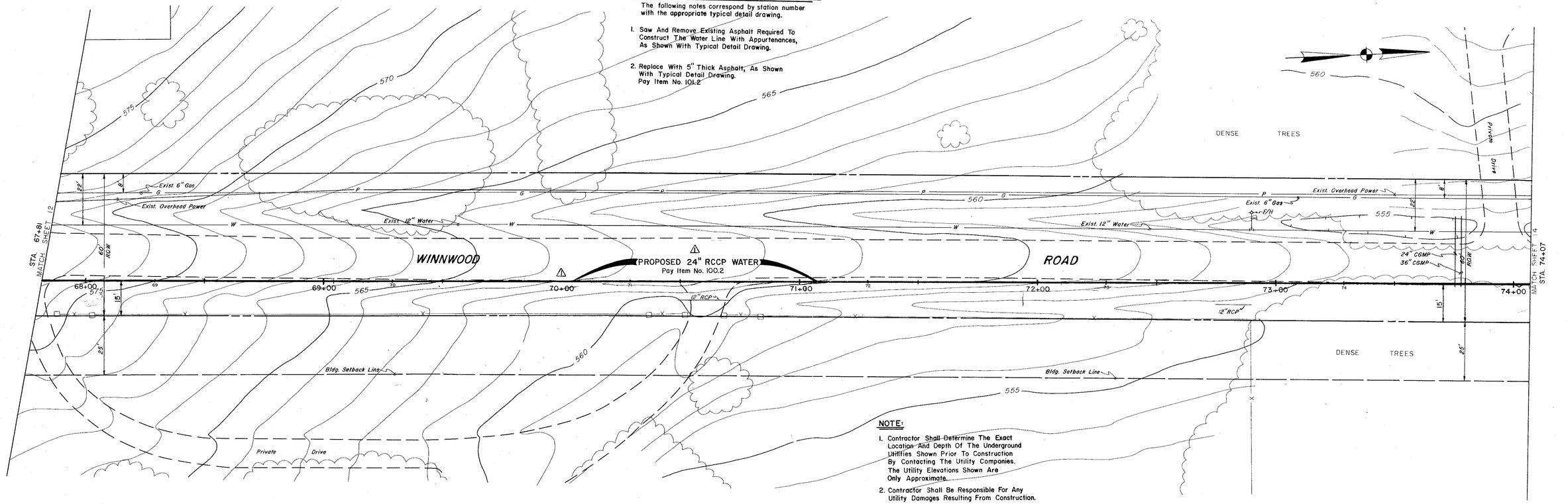
GINN, INC.
Consulting Engineers Dallas, Texas

Designed - MP	Drawn - GAP	Date - NOVEMBER, 1984	Job No. - 216
Approved - HWG	Checked - GF	Scale - 1"=20'H/ 1"=5'V	Sheet 12 Of 20

CONSTRUCTION NOTES:
(STA. 67+81 to 74+07 See Typ. Detail Sht.)

The following notes correspond by station number with the appropriate typical detail drawing.

1. Saw And Remove Existing Asphalt Required To Construct The Water Line With Appurtenances, As Shown With Typical Detail Drawing.
2. Replace With 5" Thick Asphalt, As Shown With Typical Detail Drawing. Pay Item No. 101.2



NOTE:

1. Contractor Shall Determine The Exact Location And Depth Of The Underground Utilities Shown Prior To Construction By Contacting The Utility Companies. The Utility Elevations Shown Are Only Approximate.
2. Contractor Shall Be Responsible For Any Utility Damages Resulting From Construction.
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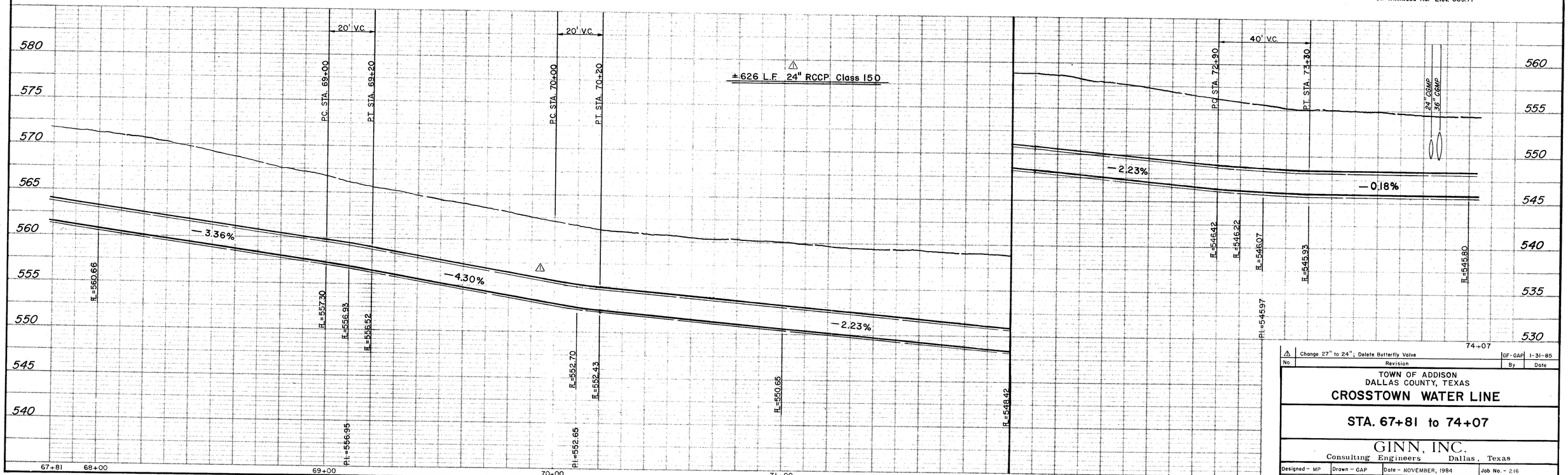
B.M. "□" Plus Mark #26 At Sta. 71+00± On Winnwood Rd. Elev. 559.71



No.	Revision	By	Date
⚠	Change 27" to 24", Delete Butterfly Valve	GF-GAP	1-31-85

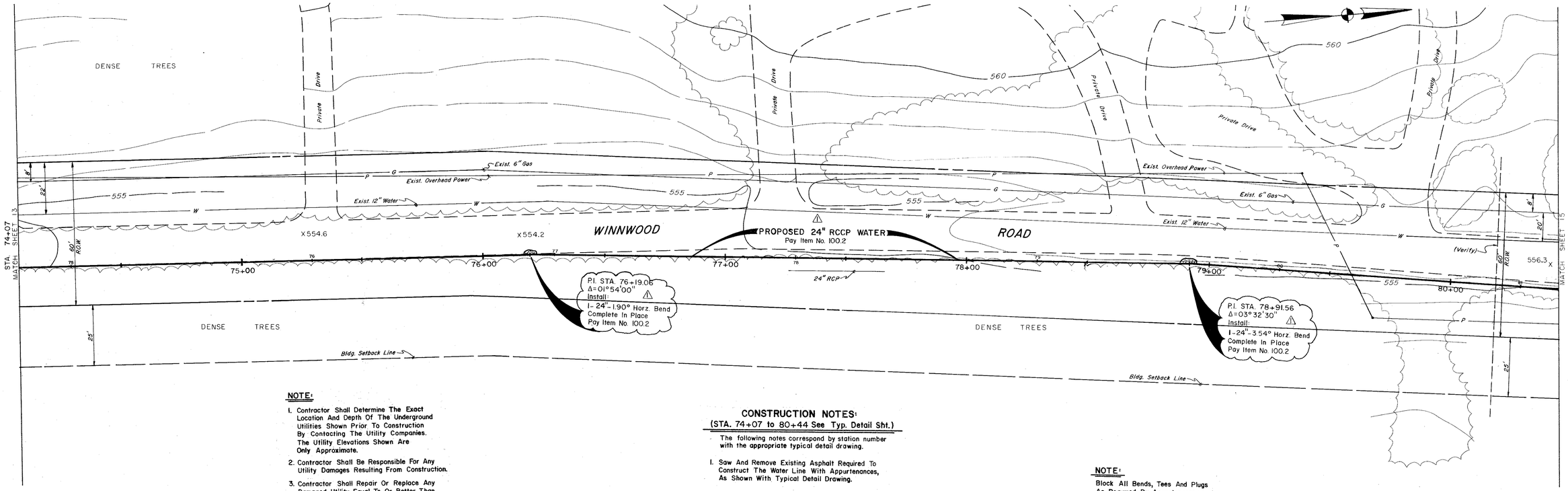
TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

STA. 67+81 to 74+07

GINN, INC.
Consulting Engineers Dallas, Texas

Designed - MP	Drawn - GAP	Date - NOVEMBER, 1984	Job No. - 216
Approved - HWG	Checked - GF	Scale - 1"=20'H/1"=5'V	Sheet 13 Of 20



NOTE:

1. Contractor Shall Determine The Exact Location And Depth Of The Underground Utilities Shown Prior To Construction By Contacting The Utility Companies. The Utility Elevations Shown Are Only Approximate.
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3. Contractor Shall Repair Or Replace Any Damaged Utility Equal To Or Better Than The Original Condition At No Additional Compensation.

CONSTRUCTION NOTES:
(STA. 74+07 to 80+44 See Typ. Detail Sht.)

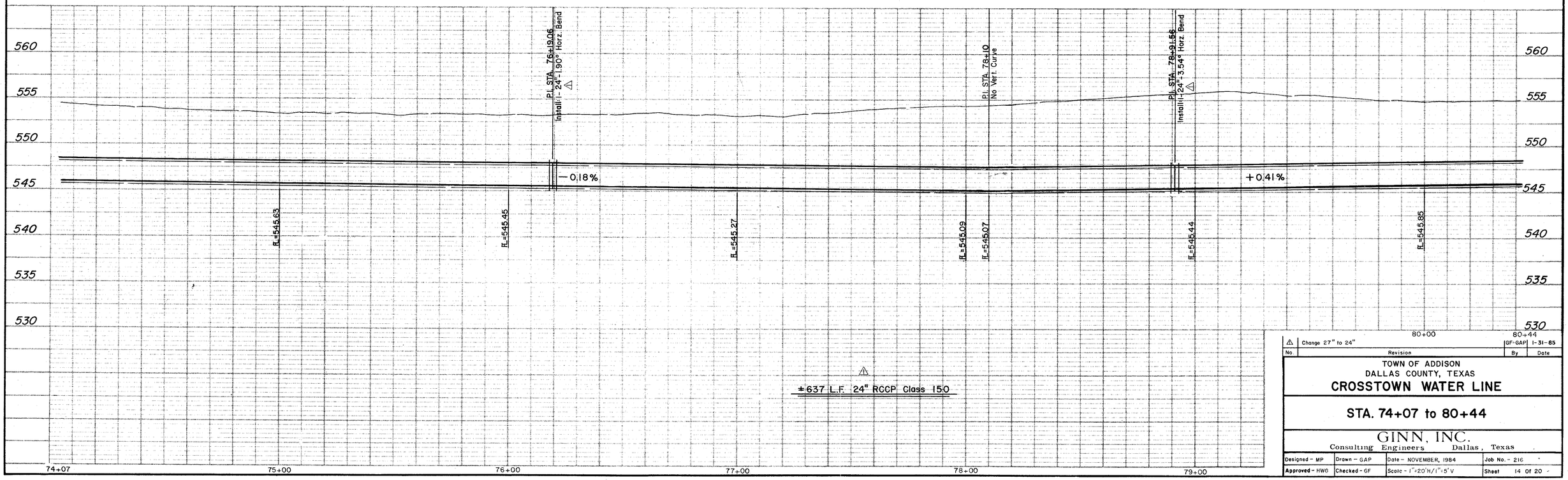
The following notes correspond by station number with the appropriate typical detail drawing.

1. Saw And Remove Existing Asphalt Required To Construct The Water Line With Appurtenances, As Shown With Typical Detail Drawing.
2. Replace With 5" Thick Asphalt, As Shown With Typical Detail Drawing. Pay Item No. 101.2

NOTE:

Block All Bends, Tees And Plugs As Required By Appurtenances. See Typical Detail Sheet.

B.M. "□" Plus Mark #26 At Sta. 71+00± On Winnwood Rd. Elev. 559.71



⚠ ±637 L.F. 24" RCCP Class 150

No.	Revision	By	Date
⚠	Change 27" to 24"	GF-GAP	1-31-85

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

STA. 74+07 to 80+44

GINN, INC.
Consulting Engineers Dallas, Texas

Designed - MP	Drawn - GAP	Date - NOVEMBER, 1984	Job No. - 216
Approved - HWG	Checked - GF	Scale - 1"=20'H/1"=5'V	Sheet 14 Of 20

NOTE:

1. Contractor Shall Determine The Exact Location And Depth Of The Underground Utilities Shown Prior To Construction By Contacting The Utility Companies. The Utility Elevations Shown Are Only Approximate.
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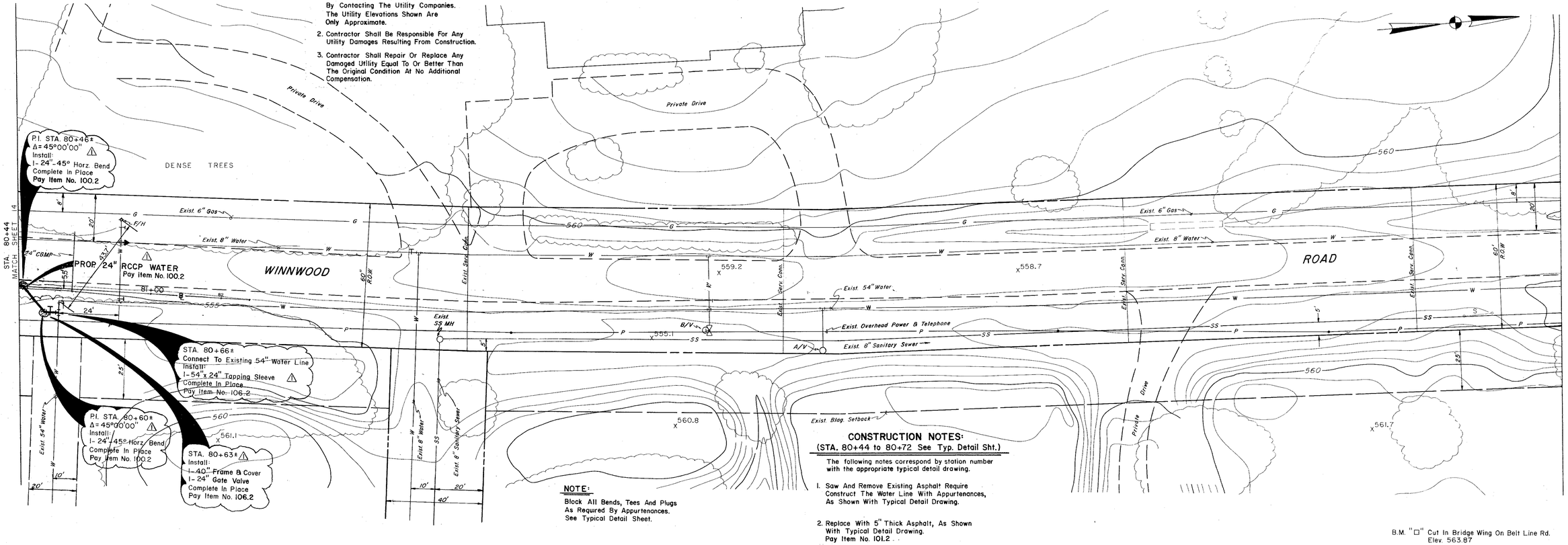
3. Contractor Shall Repair Or Replace Any Damaged Utility Equal To Or Better Than The Original Condition At No Additional Compensation.



NOTE:

Block All Bends, Tees And Plugs As Required By Appurtenances. See Typical Detail Sheet.

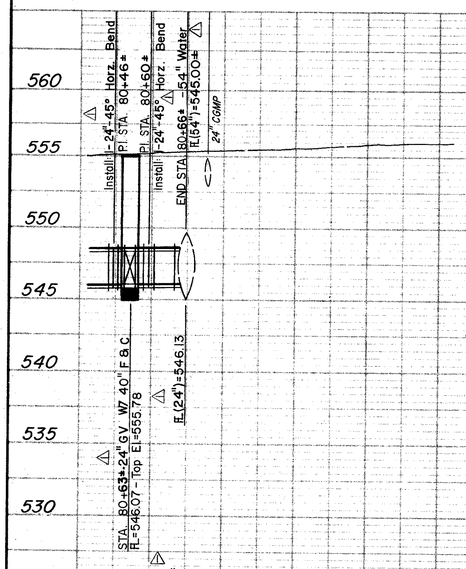
CONSTRUCTION NOTES:

(STA. 80+44 to 80+72 See Typ. Detail Sht.)

The following notes correspond by station number with the appropriate typical detail drawing.

1. Saw And Remove Existing Asphalt Require Construct The Water Line With Appurtenances, As Shown With Typical Detail Drawing.
2. Replace With 5" Thick Asphalt, As Shown With Typical Detail Drawing. Pay Item No. 101.2 . .

B.M. "□" Cut In Bridge Wing On Belt Line Rd. Elev. 563.87



No.	Revision	By	Date
1	Change 27" to 24" – Used 45° Bends in place of 90° Bends	GF-GAP	1-31-85

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

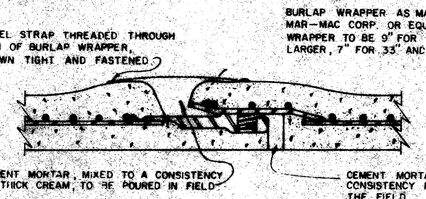
STA. 80+44 to 80+72

GINN, INC.
Consulting Engineers Dallas, Texas

Designed – MP	Drawn – GAP	Date – NOVEMBER, 1984	Job No. – 216
Approved – HWG	Checked – GF	Scale – 1"=20'H/1"=5'V	Sheet 15 Of 20

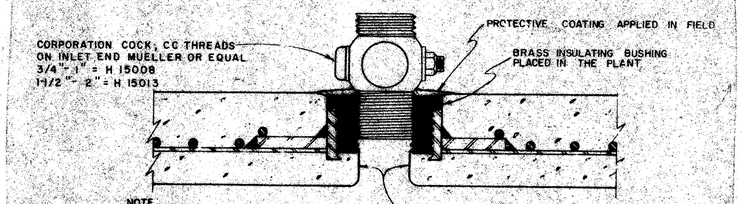
NOTE

PROVIDE 1" MINIMUM THICKNESS CONCRETE OR CEMENT MORTAR COATING IN THE FIELD FOR THE PROTECTION OF ALL EXPOSED STEEL SUCH AS FLANGES, CAULKED-JOINTS, THREADED OUTLETS, CLOSURES, ETC. THE CEMENT MORTAR USED SHALL CONSIST OF ONE PART PORTLAND CEMENT TO TWO AND ONE-HALF PARTS OF FINE, SHARP (PLASTER) SAND. WHERE SHOWN, COATING IS TO BE REINFORCED WITH WIRE MESH.

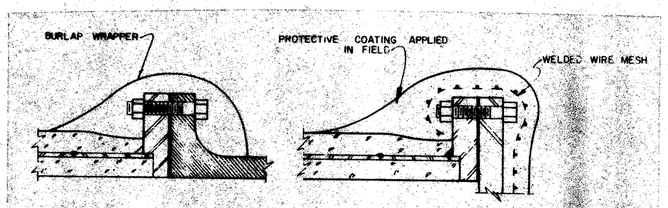


STANDARD RUBBER GASKET JOINT

NOTE: ALL CLOSURE SECTIONS SHALL BE FABRICATED WITH HAND HOLES TO ALLOW WIPING INSIDE OF JOINTS AFTER CLOSURE IS IN PLACE.



THREADED CONNECTION



FLANGED CONNECTIONS

REINFORCED CONCRETE CYLINDER PIPE DETAILS

Pay Item No. 101.1 Saw, Remove And Replace Concrete

Contractor shall saw and remove existing 8" reinforced concrete pavement 10.5 feet from existing expansion joint to 1.5 feet from back of curb as required to construct the waterlines as shown on detail drawing Fig. 1.

Saw and remove existing 8" concrete pavement as required to construct the waterlines as shown on detail drawing Fig 2, Fig 3.

After proper backfill is completed, a 6" minimum lime-treated base shall be constructed and 8" minimum reinforced concrete shall be placed as shown on top of the base and shall match existing grade as shown on detail drawing.
See Figures 1, 2 & 3.

NOTE: All Concrete Shall Be 3000 psi At 28 Days W/ Reinforcement To Be # 3 At 24" O.C., Each Way.

Pay Item No. 101.2 Saw, Remove And Replace Asphalt

1 - Contractor shall saw and remove existing asphalt pavement as required to construct the waterline as shown on detail drawing.

2 - After proper backfill is completed, minimum 6" of flex base shall be placed in the excavation on top of the backfill and 4" minimum asphalt shall be placed on top of the flexural base as shown on the detail drawing.
See Figures 4 & 5.

QUORUM DRIVE

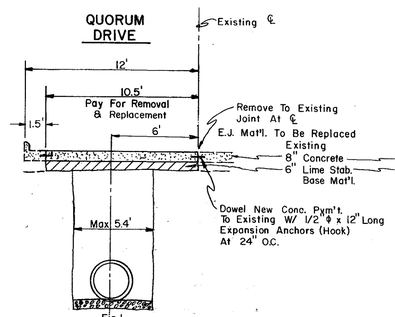


Fig. 1
(STA. 0+00 - STA. 13+40)

SAKOWITZ VILLAGE

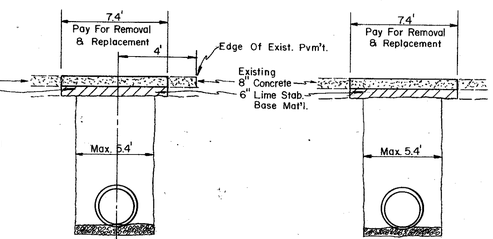


Fig. 2
(STA. 18+20 - STA. 18+42),
(STA. 19+99 - STA. 35+74)

MONTFORT ROAD

Fig. 3
(STA. 35+74 - STA. 40+22)

CELESTIAL And WINNWOOD ROADS

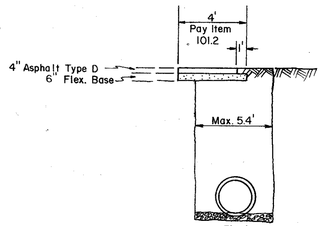


Fig. 4
(STA. 63+56 - STA. 66+18),
(STA. 66+63 - STA. 80+52)

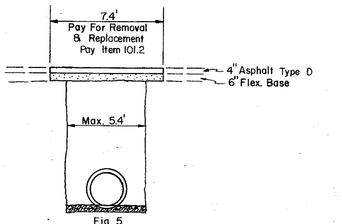


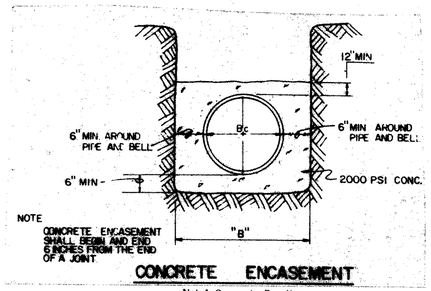
Fig. 5
(STA. 60+48 - STA. 60+75),
(STA. 61+51 - STA. 63+56),
(STA. 66+18 - STA. 66+63)

CONCRETE CRADLE

CLASS "I" EMB.

EMBEDMENT DETAILS

(Shall Be As Per Mfg. Recommendations)
Not A Separate Pay Item, Include In Pay Item No. 100.1 Or 100.2.



CONCRETE ENCASEMENT

Not A Separate Pay Item

For Contractors Use In Estimating Only, Not A Separate Pay Item

TABLE OF QUANTITIES OF MATERIALS IN CUBIC YARDS PER 100 LINEAR FEET

INSIDE DIAMETER OF PIPE	APPROX. OUTSIDE DIAMETER OF PIPE	"X" IS A MINIMUM DEPTH	"B" TRENCH WIDTH FOR COMPUTATION OF QUANTITIES	CONCRETE FOR EMBEDMENT	CONCRETE FOR ENCASEMENT	CRUSHED STONE FOR CL."I" EMBEDMENT
REINFORCED CONCRETE CYLINDER PIPE						
14"	17.25"	2.53"	34"	6.91	16.07	5.16
16"	19.38"	2.84"	36"	7.50	17.76	5.64
18"	21.78"	3.19"	38"	8.11	19.52	6.16
24"	27.75"	4.06"	44"	9.97	24.90	9.28
27"	28.69"	Varies	52.69"	10.90	27.59	11.00
36"	38.75"	Varies	64.56"	13.69	35.66	17.10

No	Revision	By	Date

TOWN OF ADDISON
DALLAS COUNTY, TEXAS
CROSSTOWN WATER LINE

EMBEDMENT DETAILS

GINN, INC.
Consulting Engineers Dallas, Texas

Designed - MP	Drawn - GAP	Date - NOVEMBER, 1984	Job No. - 216
Approved - HWG	Checked - GF	Scale -	Sheet 16 Of 20

STATE HIGHWAY CROSSINGS

All State Highway crossings shall conform to The Texas State Department of Highways and Public Transportation Utility Accommodation Policy Manual Special Specifications', and the following requirements:

All excavations within the Right-of-Way and not under surfacing shall be Backfilled by Tamping in 6 in. (15.2 cm.) horizontal layers. All surplus material shall be removed from the Right-of-Way and the excavation finish shall be flush with the surrounding natural ground.

Where sodding is disturbed by excavation or backfilling operations, such areas shall be replaced by Mulch Sodding on all slopes of 2% or less. All slopes over 2% shall be replaced by Block sodding.

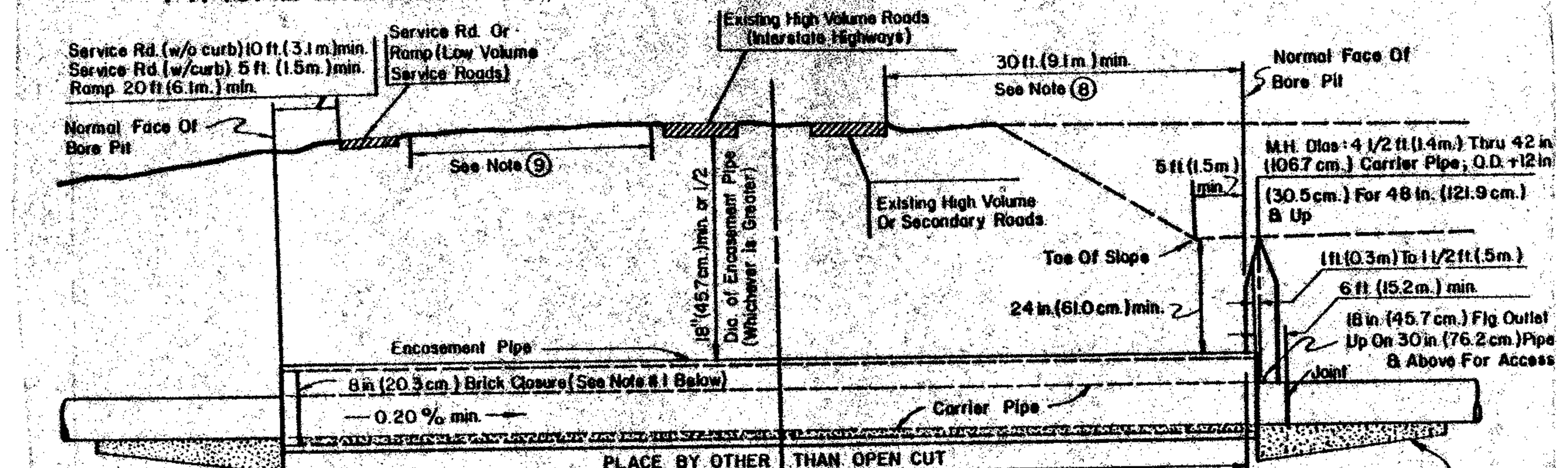
Highway crossings of water and sewer lines under surfaced roads or under surfaced crossroads within the Right-of-Way may be placed by Boring or Tunneling. Jacking may be used only when approved by the State Highway Department.

Highway crossings for all sewer lines and water lines 12 in. (50.5 cm.) and under will require an encasement pipe at least 2 in. (5.1 cm.) greater than the largest outside diameter of the carrier pipe. The diameter of the encasement pipe for water lines over 12 in. (30.5 cm.) will be determined by the Design Engineer. Encasement pipes will be of Corrugated Metal Pipe, Sectional Liner Pipe, or Reinforced Concrete to suit conditions of crossing. The encasement pipe will be on a minimum of 0.20% slope. Encasements for water lines over 12 in. (30.5 cm.) shall be plugged with concrete, with a manhole for entrance. Encasement pipes for water lines 12 in. (30.5 cm.) and under will be plugged with a clay core to prevent the entrance of excessive ground water, but which will allow water to leak out in case of a pressure leak in the carrier pipe. Where conditions are favorable, a drain will lead out of the encasement pipe to a free outfall. For all sewer lines, voids between encasement and carrier pipe will be filled with 1:7 Grout with 5% to 40% Air Entrainment. Regardless of the method used in installing the encasement pipe, it will be installed with even bearing throughout its length, and all voids between the pipe and the earth or rock shall be filled with Grout. Timber supports shall not be used. Trench excavation and Boring Pits shall not be carried closer than 30 ft. (9.1 m.) from the edge of the nearest through traffic lane of High Volume Roadways and Frontage Roads, open trenching and boring pits shall not be closer than 10 ft. (3.0 m.) from the edge of pavement or 5 ft. (1.5 m.) from the face of curb. The carrier pipe will be the kind and class designed to carry the water or sewage. No explosives shall be used within Limits of Highway without written permission of the Texas Highway Department.

ENC. PIPE I.D.	2 FLNG. LINER H-20-L.L.		4 FLNG. LINER H-20-L.L.		CORRUGATED METAL		COUPLING BAND		R.C. CULVERT PIPE				
	Gauge	Max Cov.	Gauge	Max Cov.	Gauge	Max Cov.	Min.Width	Gauge	Class	Wall	For Open-Cut Maximum Cover Ft (M) Embedment		
in.(cm)	Ga.(mm)	Ft.(M)	Ga.(mm)	Ft.(M)	Ga.(mm)	Ft.(M)	in.(cm)	Ga.(mm)			Class "C"	Class "B"	Class "A"
12" (30.5)	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	16 (1.5)	ALL FILL HEIGHTS	7" (17.8)	16 (1.5)	III	B	11' (3.4)	18' (5.5)	ALL FILL HEIGHTS
15" (38.1)	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	16 (1.5)	ALL FILL HEIGHTS	7" (17.8)	16 (1.5)	III	B	11' (3.4)	18' (5.5)	ALL FILL HEIGHTS
18" (45.7)	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	16 (1.5)	ALL FILL HEIGHTS	7" (17.8)	16 (1.5)	III	B	12' (3.7)	19' (5.8)	ALL FILL HEIGHTS
21" (53.3)	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	16 (1.5)	ALL FILL HEIGHTS	7" (17.8)	16 (1.5)	III	B	12' (3.7)	19' (5.8)	ALL FILL HEIGHTS
24" (61.0)	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	16 (1.5)	ALL FILL HEIGHTS	7" (17.8)	16 (1.5)	III	B	13' (4.0)	20' (6.1)	ALL FILL HEIGHTS
27" (68.6)	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	16 (1.5)	ALL FILL HEIGHTS	7" (17.8)	16 (1.5)	III	B	13' (4.0)	20' (6.1)	ALL FILL HEIGHTS
30" (76.2)	12 2.7	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	16 (1.5)	ALL FILL HEIGHTS	7" (17.8)	16 (1.5)	III	B	14' (4.3)	21' (6.4)	ALL FILL HEIGHTS
36" (91.4)	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	16 (1.5)	ALL FILL HEIGHTS	12" (30.5)	14 (1.9)	III	B	11' (3.4)	15' (4.6)	31' (9.5)
42" (106.7)	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	16 (1.5)	ALL FILL HEIGHTS	12" (30.5)	14 (1.9)	III	B	12' (3.7)	16' (4.9)	31' (9.5)
48" (121.9)	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	16 (1.5)	ALL FILL HEIGHTS	12" (30.5)	14 (1.9)	III	B	12' (3.7)	17' (5.2)	31' (9.5)
54" (137.2)	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	16 (1.5)	ALL FILL HEIGHTS	24" (61.0)	12 (2.7)	III	B	12' (3.7)	17' (5.2)	31' (9.5)
60" (152.4)	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	16 (1.5)	ALL FILL HEIGHTS	24" (61.0)	12 (2.7)	III	B	12' (3.7)	17' (5.2)	31' (9.5)
66" (167.6)	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	16 (1.5)	ALL FILL HEIGHTS	24" (61.0)	12 (2.7)	III	B	13' (4.0)	17' (5.2)	31' (9.5)
72" (182.9)	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	14 (2.0)	ALL FILL HEIGHTS	24" (61.0)	12 (2.7)	III	B	13' (4.0)	17' (5.2)	30' (9.1)
78" (198.1)	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	24" (61.0)	12 (2.7)	III	B	13' (4.0)	17' (5.2)	30' (9.1)
84" (213.4)	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	12 (2.7)	ALL FILL HEIGHTS	24" (61.0)	12 (2.7)	III	B	13' (4.0)	18' (5.5)	30' (9.1)
90" (228.6)	10 (3.4)	ALL FILL HEIGHTS	10 (3.4)	ALL FILL HEIGHTS					III	B	13' (4.0)	18' (5.5)	30' (9.1)
96" (243.8)	10 (3.4)	ALL FILL HEIGHTS	10 (3.4)	ALL FILL HEIGHTS					III	B	13' (4.0)	18' (5.5)	30' (9.1)
102" (259.1)	10 (3.4)	ALL FILL HEIGHTS	10 (3.4)	ALL FILL HEIGHTS					III	B	13' (4.0)	18' (5.5)	30' (9.1)
108" (274.3)	10 (3.4)	ALL FILL HEIGHTS	10 (3.4)	ALL FILL HEIGHTS					III	B	13' (4.0)	18' (5.5)	30' (9.1)
114" (289.6)	8 (4.2)	ALL FILL HEIGHTS	8 (4.2)	ALL FILL HEIGHTS									
120" (304.8)	8 (4.2)	ALL FILL HEIGHTS	8 (4.2)	ALL FILL HEIGHTS									
126" (320.0)	8 (4.2)	ALL FILL HEIGHTS	8 (4.2)	ALL FILL HEIGHTS									
132" (335.3)	8 (4.2)	ALL FILL HEIGHTS	8 (4.2)	ALL FILL HEIGHTS									
138" (350.5)	8 (4.2) 7 (4.6)	15' (4.6) 70' (21.3)	5 (5.3) 3 (6.1)	15' (4.6) 40' (12.2)									
	ALT. "B"				ALT. "C"				ALT. "A"				

Corrugated metal: 2 2/3" (6.8 cm.) x 1/2" (1.3 cm.) Corr. (12" through 42"); 3" (7.6 cm.) x 1" (2.5 cm.) Corr. (48" through 84")

TYPICAL HIGHWAY CROSSING FOR WATER MAINS OVER 12in. (30.5 cm.)



ENCASEMENT PIPE SPECIFICATIONS (See 414H-4)

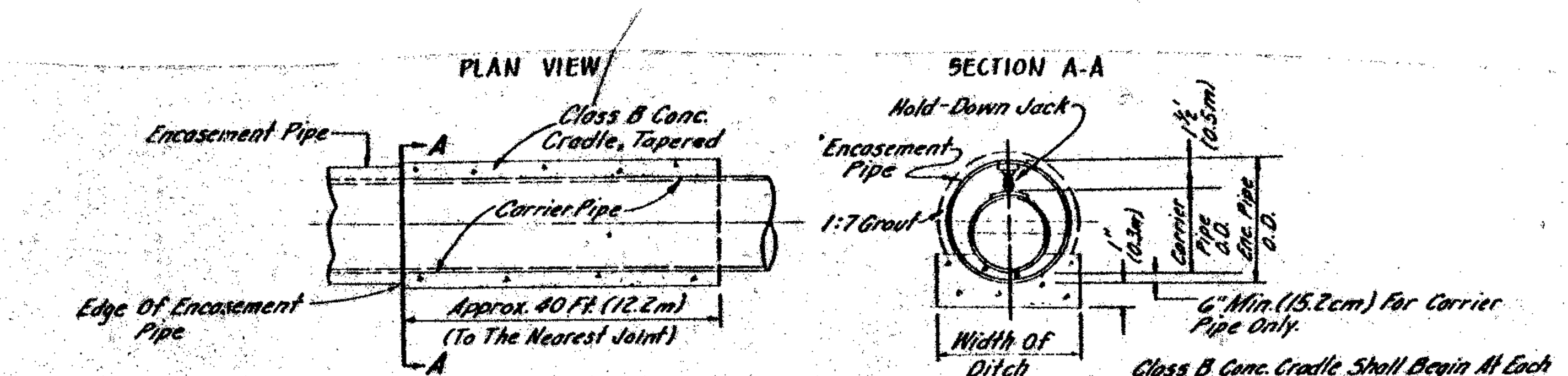
Alt. 'A' - __" R.C. Culv. Pipe, Class __, Wall __, A.S.T.M., C-76

Alt. 'B' - __" 2-Flange Circular Liner Plate, __ Gauge, Galv., or 4-Flange Circular Liner Plate, __ Gauge, Galv., With Bituminous Coating Per Item 2.12.19

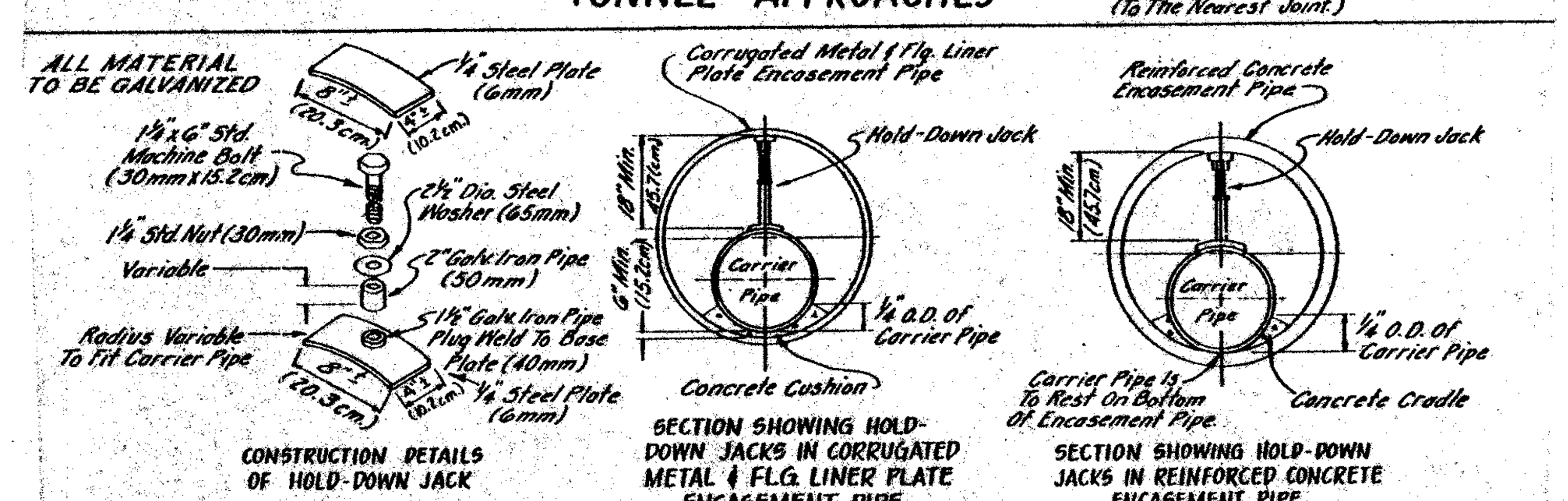
Alt. 'C' - __" Corrugated Metal Pipe, __ Gauge, Galv., With Bituminous Coating Per Item 2.12.19

GENERAL NOTES

1. Const. an 8 in. (20.3 cm.) thick brick closure with 1 1/2 in. (3.8 cm.) thick coat of mortar on the outside, at the end of Enc. pipe opposite the manhole. (When manhole is not required, low end of Enc. pipe shall be plugged with clay.)
2. In tunnel sections, voids between earth or rock & Enc. pipe shall be filled with 1:7 grout including 5% to 40% air entrainment by pressure injection.
3. Carrier pipe shall be supported on a continous 6 in. (15.2 cm.) thick 2,000 p.s.i. (13,789.5 kpa) conc. cradle, in corrugated Enc. pipe only.
4. There shall be a minimum of two hold-down jacks per joint. See detail on 414W-32.
5. On R.C. Enc. pipe placed by open cut see 414H-4 for type of embedment.
6. Construct tapered concrete tunnel approach at each end of Enc. pipe. See detail on 414W-32.
7. When standard pipe is made up inside large Enc. pipe, the carrier pipe shall be laid to grade on a class 'B' concrete embedment which shall extend to the 1/4 point of the diameter of the carrier pipe. When mechanical joint pipe is used as a carrier pipe in large encasement pipe, precast concrete blocks may be placed back of each bell. Each block will have minimum dimensions of 9 in. (22.9 cm.) in length by 0.866 D in breadth (where D is the external diameter of the carrier pipe) with a sufficient thickness to clear the bells from the Enc. pipe and to bring the carrier pipe to grade.
8. Where circumstances necessite the excavation of a bore pit or trench closer to the edge of payment than set forth on this sheet, guard fence or other approved protective devices will be installed for the protection of the traveling public.
9. If separation is wider than required safety distances and if side slopes will allow, inspection of bore pits may be allowed (with SDHPT approval) with access to pits by means other than main traffic lanes.



TUNNEL APPROACHES



HOLD-DOWN JACKS

No	Revision	By	Date

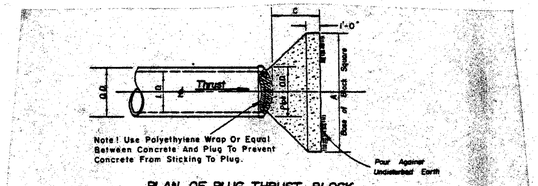
TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

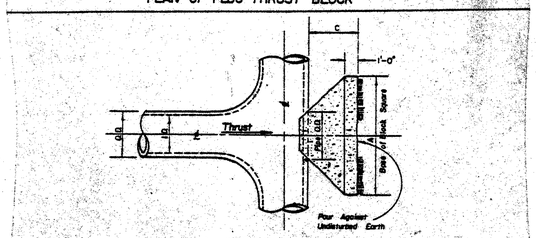
ENCASEMENT DETAILS

GINN, INC.
Consulting Engineers Dallas, Texas

Designed - MP	Drawn - GAP	Date - NOVEMBER, 1984	Job No. - 216
Approved - HWG	Checked - GF	Scale -	Sheet 17 Of 20



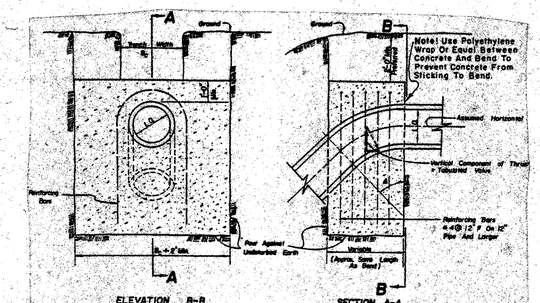
PLAN OF PLUG THRUST BLOCK



PLAN OF TEE THRUST BLOCK

I.D. (IN.)	THRUST TONS	C. FT.	EARTH A FT.	EARTH VOL. C.Y.	ROCK A FT.	ROCK VOL. C.Y.
4,6,8	5.1	1.5	2.5	0.3	2.0	0.2
10,12	11.3	1.5	3.5	0.6	2.5	0.3
16,18	25.5	2.0	5.5	1.6	4.0	0.9
20	31.5	2.0	6.0	1.9	4.0	0.9
24	45.2	2.5	7.0	3.1	5.0	1.7
30	53.0	3.0	7.5	4.1	5.5	2.4
36	76.3	3.5	9.0	7.3	6.5	4.2
42	104.0	4.5	10.5	11.0	7.5	6.2
48	136.0	5.0	12.0	15.6	8.5	8.7
54	172.0	5.5	13.5	21.4	9.5	11.9
60	212.0	6.0	15.0	28.4	10.5	15.7
66	257.0	6.5	16.5	36.8	11.5	20.5
72	305.0	7.5	17.5	47.2	12.5	27.2
78	358.0	8.0	19.0	58.9	13.5	33.7
84	416.0	8.5	20.5	72.3	14.5	41.2
90	477.0	9.0	22.0	87.7	15.5	49.7
96	543.0	9.5	23.5	104.8	16.5	61.0

PLUG & TEE THRUST BLOCK



ELEVATION B-B SECTION A-A

Δ→ / I.D. (IN.)	11.25° THRUST TONS	11.25° VOL. C.Y.	22.50° THRUST TONS	22.50° VOL. C.Y.	30° THRUST TONS	30° VOL. C.Y.	45° THRUST TONS	45° VOL. C.Y.	67.50° THRUST TONS	67.50° VOL. C.Y.	90° THRUST TONS	90° VOL. C.Y.	←Δ I.D. (IN.)
4,6,8	1.0	0.5	2.0	1.0	2.5	1.3	3.8	1.8	4.6	2.3	5.0	2.5	4,6,8
10,12	2.2	1.1	4.3	2.2	5.7	2.8	8.0	4.0	10.5	5.2	11.3	5.7	10,12
16,18	5.0	2.5	9.7	4.9	12.7	6.4	18.0	9.0	23.5	11.8	25.5	12.7	16,18
20	6.1	3.1	12.0	6.0	15.7	7.9	22.2	11.1	29.2	14.5	31.4	15.7	20
24	8.2	4.4	17.3	8.7	22.6	11.3	32.0	16.0	41.8	20.9	45.2	22.6	24
30	10.5	5.2	20.3	10.1	26.5	13.3	37.5	18.8	49.0	24.5	53.1	26.6	30
36	14.9	7.5	29.2	14.6	38.2	19.1	54.0	27.0	70.5	35.3	76.4	38.2	36
42	20.3	10.1	39.8	19.9	52.0	26.0	73.5	36.7	96.0	48.0	104.0	52.0	42
48	26.5	13.2	51.9	26.0	67.9	33.9	96.0	48.0	126.0	62.7	136.0	67.9	48
54	33.5	16.8	65.7	32.9	85.9	42.9	122.0	60.7	159.0	79.4	172.0	85.9	54
60	41.4	20.7	81.2	40.6	106.0	53.0	150.0	75.0	196.0	98.0	212.0	106.0	60
66	50.1	25.0	98.2	49.1	128.0	64.2	182.0	90.7	237.0	119.0	257.0	128.0	66
72	59.6	29.8	117.0	58.4	153.0	76.5	216.0	108.0	282.0	141.0	305.0	153.0	72
78	69.9	35.0	137.0	68.6	179.0	90.0	254.0	127.0	331.0	166.0	358.0	179.0	78
84	81.1	40.5	159.0	79.5	208.0	104.0	294.0	147.0	384.0	192.0	416.0	208.0	84
90	93.1	46.5	183.0	91.3	239.0	119.0	337.0	169.0	441.0	221.0	477.0	239.0	90
96	106.0	53.0	208.0	104.0	272.0	136.0	384.0	192.0	502.0	251.0	543.0	272.0	96

GENERAL NOTES FOR ALL THRUST BLOCKS

1. All Calculations Are Based On Internal Pressure Of 200 P.S.I. For 24" I.D. Pipe And Smaller And 150 P.S.I. On 30" I.D. And Larger.
2. Volumes Of Vertical Bend Thrust Blocks Are Net Volumes Of Concrete To Be Furnished. The Corresponding Weight Of The Concrete (Class F) Is Equal To Or Greater Than The Vertical Component Of Thrust On The Vertical Bend.
3. Wall Thickness (T) Assumed Here For Estimating Purposes Only.
4. Concrete For Blocking Shall Be Class B Concrete.
5. Dimensions May Be Varied As Required By Field Conditions Where And As Directed By The Engineer. The Volume Of Concrete Blocking Shall Not Be Less Than Shown Here.

VERTICAL THRUST BLOCK

I.D. (IN.)	T IN.	C 11.25° FT.	C 22.50°+ FT.	E FT.
4,6,8	0.4	1.5	1.5	0.9
10,12	0.5	1.5	1.5	1.2
16,18	0.6	1.5	1.5	1.6
20	0.7	1.5	1.5	1.8
24	0.9	1.5	1.5	2.1
30	2.9	1.5	1.9	2.6
36	4.5	1.5	2.3	3.3
42	5.0	1.8	2.6	3.8
48	5.5	2.0	3.0	4.3
54	6.0	2.3	3.4	4.8
60	6.5	2.5	3.8	5.3
66	6.8	2.8	4.1	5.7
72	7.5	3.0	4.5	6.3
78	7.5	3.3	4.9	6.7
84	8.0	3.5	5.3	7.2
90	8.5	3.8	5.6	7.7
96	9.0	4.0	6.0	8.2

I.D. (IN.)	G FT.	THRUST TONS	Δ = 11.25° EARTH A FT.	EARTH B FT.	EARTH VOL. C.Y.	ROCK A FT.	ROCK B FT.	ROCK VOL. C.Y.
4,6,8	0.4	1.0	1.0	1.5	0.1	1.0	1.0	0.1
10,12	0.6	2.2	1.5	1.5	0.1	1.0	1.5	0.1
16,18	0.8	5.0	2.0	2.5	0.3	1.5	2.0	0.2
20	0.9	6.2	2.0	3.5	0.4	1.5	3.0	0.3
24	1.1	8.9	3.0	3.0	0.5	1.5	3.0	0.3
30	1.4	10.4	3.0	3.5	0.6	2.0	3.5	0.4
36	1.7	15.0	3.5	4.5	0.9	2.0	4.0	0.5
42	1.9	20.4	4.5	5.0	1.5	2.5	5.0	0.8
48	2.2	26.6	4.5	6.0	2.0	2.5	6.0	1.1
54	2.5	33.7	6.0	6.0	3.0	3.0	6.0	1.4
60	2.7	41.6	6.0	7.0	3.8	3.0	7.0	1.8
66	3.0	50.3	6.5	8.0	5.1	3.5	8.0	2.7
72	3.3	59.9	7.5	8.0	6.3	4.0	8.0	3.3
78	3.6	70.2	8.0	9.0	8.1	4.0	9.0	3.9
84	3.8	81.5	8.5	10.0	10.3	4.5	10.0	5.3
90	4.1	93.5	9.5	10.0	12.2	5.0	10.0	6.3
96	4.4	106.4	10.0	11.0	15.0	5.0	11.0	7.4

I.D. (IN.)	G FT.	THRUST TONS	Δ = 22.50° EARTH A FT.	EARTH B FT.	EARTH VOL. C.Y.	ROCK A FT.	ROCK B FT.	ROCK VOL. C.Y.
4,6,8	0.8	2.0	1.5	1.5	0.1	1.0	1.0	0.1
10,12	1.1	4.4	2.0	2.5	0.3	1.5	1.5	0.1
16,18	1.6	9.9	3.0	3.5	0.6	2.0	2.5	0.3
20	1.8	12.3	3.5	3.5	0.7	2.0	3.5	0.4
24	2.2	17.7	4.0	4.5	1.0	3.0	3.0	0.5
30	2.7	20.7	5.0	4.5	1.5	3.0	4.0	0.8
36	3.3	29.8	5.5	5.5	2.3	4.0	4.0	1.3
42	3.8	40.5	7.0	6.0	3.9	4.5	5.0	2.1
48	4.4	52.9	8.0	7.0	5.7	4.5	6.0	2.8
54	4.9	67.0	9.0	8.0	8.0	6.0	6.0	4.1
60	5.5	82.7	9.5	9.0	10.6	6.0	7.0	5.3
66	6.0	100.1	10.5	10.0	14.1	6.5	8.0	7.2
72	6.6	119.1	11.0	11.0	17.6	7.5	8.0	9.1
78	7.1	139.8	12.0	12.0	22.5	8.0	9.0	11.7
84	7.6	162.1	13.0	12.5	27.2	8.5	10.0	14.8
90	8.2	186.1	14.0	13.5	33.7	9.5	10.0	17.7
96	8.7	211.7	15.0	14.5	41.2	10.0	11.0	21.8

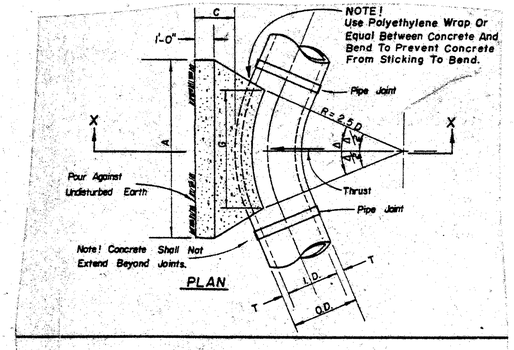
I.D. (IN.)	G FT.	THRUST TONS	Δ = 30° EARTH A FT.	EARTH B FT.	EARTH VOL. C.Y.	ROCK A FT.	ROCK B FT.	ROCK VOL. C.Y.
4,6,8	1.0	2.6	2.0	1.5	0.2	1.0	1.5	0.1
10,12	1.5	5.9	2.5	2.5	0.3	2.0	1.5	0.2
16,18	2.2	13.2	3.5	4.0	0.8	2.5	3.0	0.8
20	2.4	16.3	4.5	4.0	1.0	3.0	3.0	0.5
24	2.9	23.4	6.0	4.0	1.4	3.5	3.5	0.7
30	3.6	27.5	5.5	5.0	1.9	3.5	4.0	0.9
36	4.4	39.5	7.0	6.0	3.4	4.5	4.5	1.6
42	5.1	53.8	8.0	7.0	5.1	5.5	5.0	2.5
48	5.8	70.3	9.0	8.0	7.4	6.0	6.0	3.7
54	6.5	89.0	10.0	9.0	10.3	7.0	6.5	5.3
60	7.3	110.0	11.0	10.0	13.9	7.5	7.5	7.3
66	8.0	132.9	12.5	11.0	18.9	8.5	8.0	9.6
72	8.7	158.2	13.5	12.0	24.0	9.0	9.0	12.3
78	9.4	185.6	14.5	13.0	30.0	10.0	9.5	15.6
84	10.1	215.3	15.5	14.0	37.1	10.5	10.5	19.5
90	10.9	247.1	16.5	15.0	45.0	11.5	11.0	23.9
96	11.6	281.2	18.0	16.0	55.5	12.5	11.5	28.9

I.D. (IN.)	G FT.	THRUST TONS	Δ = 45° EARTH A FT.	EARTH B FT.	EARTH VOL. C.Y.	ROCK A FT.	ROCK B FT.	ROCK VOL. C.Y.
4,6,8	1.5	3.9	2.0	2.0	0.2	1.5	1.5	0.1
10,12	2.2	8.7	3.5	2.5	0.5	2.0	2.5	0.3
16,18	3.2	19.5	4.5	4.5	1.2	3.0	3.5	0.6
20	3.6	24.1	5.5	4.5	1.5	3.5	3.5	0.7
24	4.3	34.6	8.0	4.5	2.3	4.5	4.0	1.1
30	5.4	40.6	8.5	5.0	3.2	5.5	4.0	1.6
36	6.5	58.5	10.0	6.0	5.3	6.5	4.5	2.6
42	7.5	79.6	11.5	7.0	8.1	8.0	5.0	4.2
48	8.6	104.0	13.0	8.0	11.9	9.0	6.0	6.3
54	9.7	131.5	15.0	9.0	17.1	10.5	6.5	8.9
60	10.7	162.4	16.5	10.0	23.1	11.0	7.5	12.0
66	11.8	196.5	18.0	11.0	30.1	12.0	8.5	16.2
72	12.9	233.9	19.5	12.0	38.6	14.0	8.5	20.7
78	13.9	274.5	21.5	13.0	49.8	14.5	9.5	25.9
84	15.0	318.4	23.0	14.0	61.2	15.5	10.5	32.6
90	16.1	365.5	24.5	15.0	74.5	17.5	10.5	39.6
96	17.1	415.6	26.0	16.0	89.5	18.5	11.5	48.5

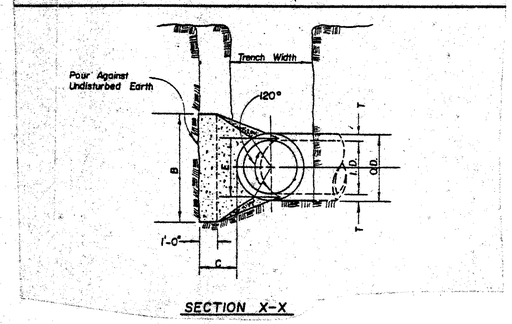
I.D. (IN.)	G FT.	THRUST TONS	Δ = 67.50° EARTH A FT.	EARTH B FT.	EARTH VOL. C.Y.	ROCK A FT.	ROCK B FT.	ROCK VOL. C.Y.
4,6,8	2.1	5.6	3.0	2.0	0.3	2.0	1.5	0.2
10,12	3.1	12.6	5.5	2.5	0.8	3.5	2.0	0.4
16,18	4.7	28.3	7.5	4.0	1.9	5.0	3.0	0.9
20	5.2	34.9	9.0	4.0	2.3	5.5	3.5	1.2
24	6.2	50.3	11.5	4.5	3.5	6.5	4.0	1.6
30	7.8	58.9	12.0	5.0	4.8	7.5	4.0	2.2
36	9.4	84.9	14.5	6.0	8.2	9.5	4.5	3.8
42	10.9	115.5	17.0	7.0	12.8	11.0	5.5	6.3
48	12.5	150.9	19.0	8.0	18.4	13.0	6.0	9.2
54	14.0	191.0	21.5	9.0	26.0	15.0	6.5	12.9
60	15.6	235.8	24.0	10.0	35.6	16.0	7.5	17.6
66	17.1	285.3	26.0	11.0	46.0	18.0	8.0	23.0
72	18.7	339.5	28.5	12.0	57.8	19.0	9.0	28.4
78	20.2	398.5	31.0	13.0	73.7	21.0	9.5	37.4
84	21.8	462.1	33.5	14.0	94.7	22.0	10.5	46.6
90	23.3	530.5	35.5	15.0	114.4	24.5	11.0	58.2
96	24.9	603.6	38.0	16.0	138.9	25.5	12.0	70.0

I.D. (IN.)	G FT.	THRUST TONS	Δ = 90° EARTH A FT.	EARTH B FT.	EARTH VOL. C.Y.	ROCK A FT.	ROCK B FT.	ROCK VOL. C.Y.
4,6,8	2.7	7.1	5.0	1.5	0.4	2.0	2.0	0.2
10,12	4.0	16.0	6.5	2.5	1.0	3.5	2.5	0.5
16,18	6.0	36.0	9.0	4.0	2.4	4.5	4.0	1.0
20	6.6	44.4	10.0	4.5	3.1	6.0	4.0	1.5
24	7.9	64.0	14.5	4.5	5.0	8.0	4.0	2.1
30	9.9	75.0	15.0	5.0	6.7	10.0	4.0	3.3
36	11.9	108.0	18.0	6.0	11.4	12.0	4.5	5.3
42	13.9	147.0	21.0	7.0	17.8	14.0	5.5	8.7
48	15.9	192.0	24.0	8.0	26.2	16.0	6.0	12.4
54	17.9	243.0	27.0	9.0	36.9	18.0	7.0	18.1
60	19.9	299.8	30.0	10.0	50.3	20.0	7.5	24.0
66	21.8	362.8	33.0	11.0	66.2	22.0	8.5	32.5
72	23.8	431.8	36.0	12.0	85.6	24.0	9.0	41.0
78	25.7	506.7	39.0	13.0	108.2	26.0	10.0	53.2
84	27.7	587.7	42.0	14.0	134.4	28.0	10.5	64.8
90	29.0	674.6	45.0	15.0	164.9	30.0	11.5	81.2
96	31.6	767.5	48.0	16.0	199.0	32.0	12.0	95.1

HORIZONTAL THRUST BLOCK SPECIFICATIONS



PLAN



SECTION X-X

HORIZONTAL THRUST BLOCK

No.	Revision	By	Date

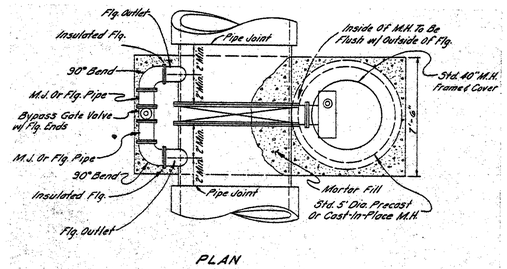
TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

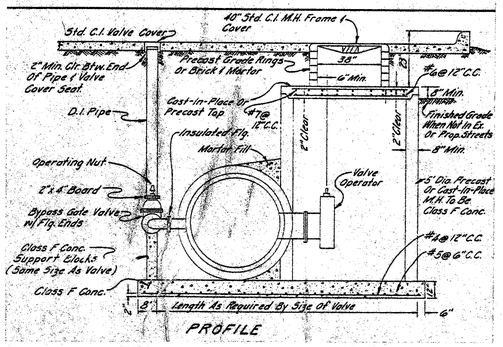
THRUST BLOCK DETAILS

GINN, INC.
Consulting Engineers Dallas, Texas

Designed - MP	Drawn - GAP	Date - NOVEMBER, 1984	Job No. - 216
Approved - HWG	Checked - GF	Scale -	Sheet 18 Of 20



PLAN



PROFILE

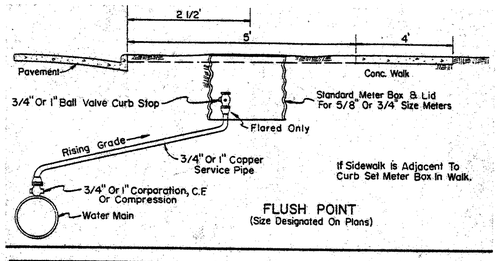
SIZE REQUIREMENTS FOR BYPASS VALVES	
Valve Diameter	Bypass Diameter
16"-20"	3"
24"-30"	4"
36"-42"	6"
48"	8"
Above 48" Will Be Stated On Plan.	

General Notes

1. In open country, a concrete pad shall extend a minimum of 2' around the M.H. and bypass stack and shall be a minimum of 4" thick.
2. Reinforcing steel may be omitted for valves 24" and smaller.
3. Precast grade rings or brick and mortar riser shall be eliminated and top of M.H. placed at 8" minimum above existing grade when not in existing or proposed street (open country). Standard 40" M.H. frame and cover shall be set in M.H. top (for this case only).

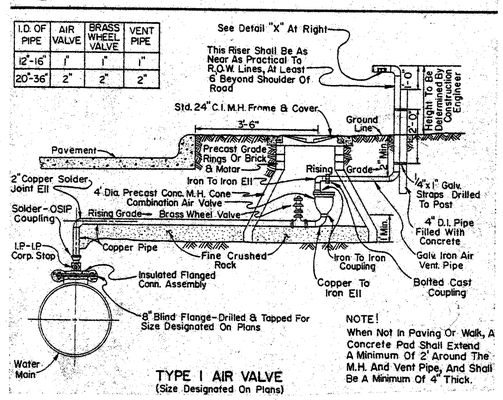
HORIZONTAL BUTTERFLY VALVE INSTALLATION

All Items Shown Herein Are Complete-In-Place And Shall Not Be Separate Pay Items, Include In Pay Item No. 102.1 or 102.2.



FLUSH POINT
(Size Designated On Plans)

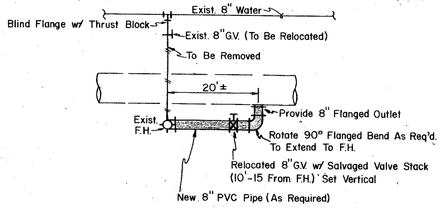
I.D. OF PIPE	AIR VALVE	BRASS WHEEL VALVE	VENT PIPE
12"-16"	1"	1"	1"
20"-36"	2"	2"	2"



NOTE!
When Not In Paving Or Walk, A Concrete Pad Shall Extend A Minimum Of 2' Around The M.H. And Vent Pipe, And Shall Be A Minimum Of 4" Thick.

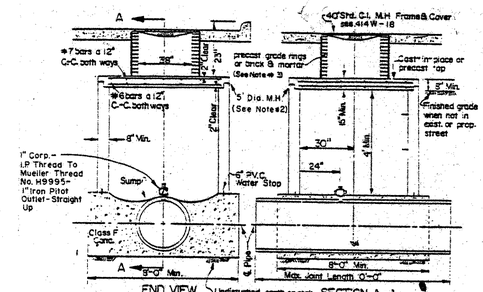
TYPE I AIR VALVE
(Size Designated On Plans)

TYPE I AIR VALVE INSTALLATION & FLUSH POINT INSTALLATION

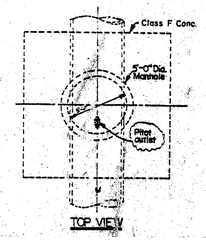


TYP. FIRE HYDRANT RELOCATION DETAIL

Pay Item No. 106.5
Shall Include All Items Shown Above In Detail Including Pavement Removal And Replacement Not Paid For Under Item 101.1



END VIEW SECTION A-A

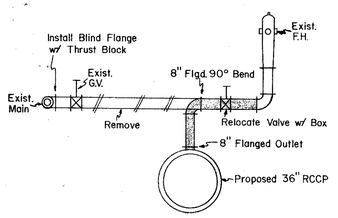


TOP VIEW

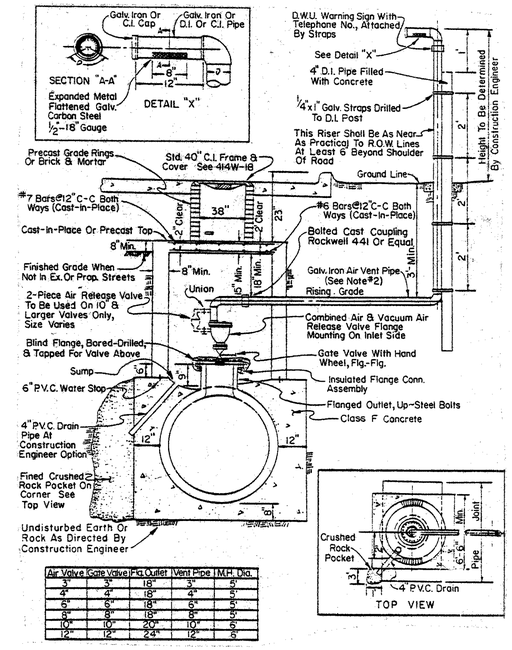
NOTES

1. Locate pitot outlets at least 20 pipe diameters from any bends, tees, reducers or other obstructions.
2. Manhole may be precast or cast-in-place (Manhole to be Class F Conc.).
3. Precast grade rings or brick and mortar riser shall be eliminated when not in existing or proposed street (Open Country). 40" standard C.I. M.H. frame and cover shall be set in M.H. top in this case.

PITOT OUTLET



OPTIONAL FIRE HYDRANT RELOCATION DETAIL

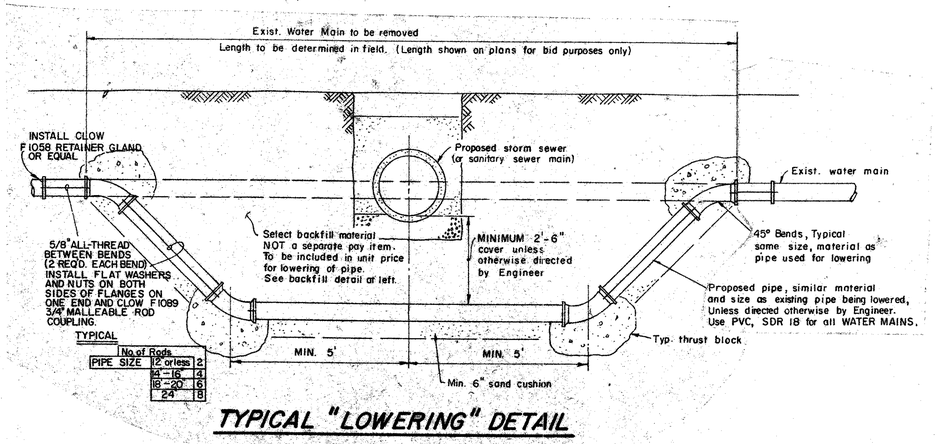


Air Valve	Gate Valve	Flg. Outlet	Vent Pipe	M.H. Dia.
3"	3"	16"	3"	4'
4"	4"	18"	4"	5'
6"	6"	18"	6"	5'
8"	8"	18"	8"	5'
10"	10"	20"	10"	5'
12"	12"	24"	12"	5'

General Notes

1. On 10" and larger two piece combination air valve, the outlet piping of the small valve shall be vented into the side of the larger vent pipe that goes above ground. Tapping saddle to be used, if required by construction engineer.
2. Air vent pipe 6" and larger shall be D.I. pipe with flange fittings ordered special with Inertol Rustinhibitive Primer 621 or equal in lieu of coal tar. Pipe shall be painted with Rustamier 500 (aluminum color) per manufacturer's instructions prior to installation.
3. Manhole may be Precast or Cast-in-Place (M.H. to be Class F concrete).
4. Precast grade rings or brick and mortar riser shall be eliminated and top of M.H. placed at 8" minimum above existing grade when not in existing or proposed street (open country). Standard 40" M.H. frame and cover shall be set in M.H. top (for this case only).
5. In open country, a concrete pad shall extend a minimum of 2' around the M.H. and vent pipe and shall be a minimum of 4" tick.

TYPE 2 AIR VALVE INSTALLATION



TYPICAL

PIPE SIZE	No. of Rods
12 or less	2
14 - 16	4
18 - 20	6
24	8

TYPICAL "LOWERING" DETAIL

No.	Revision	By	Date

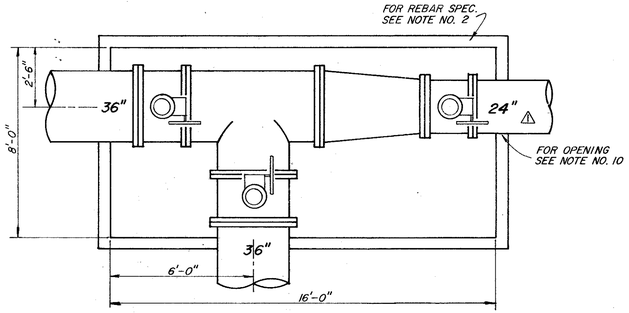
TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

VALVE DETAILS

GINN, INC.
Consulting Engineers Dallas, Texas

Designed - MP	Drawn - GAP	Date - NOVEMBER, 1984	Job No. - 216
Approved - HWG	Checked - GF	Scale -	Sheet 19 Of 20



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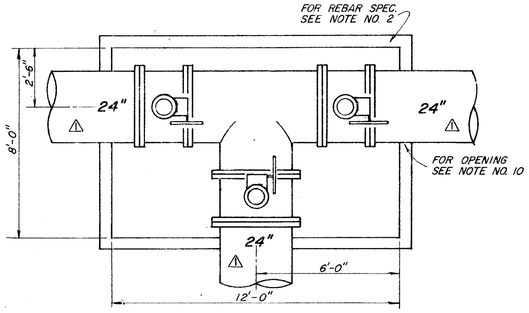

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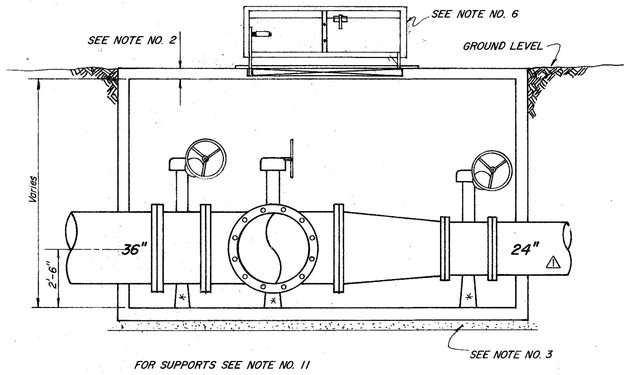
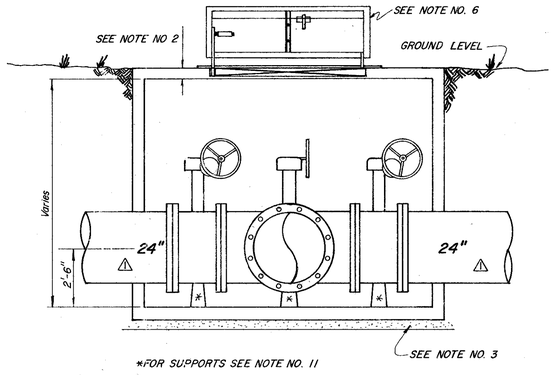


ELEVATION



ELEVATION

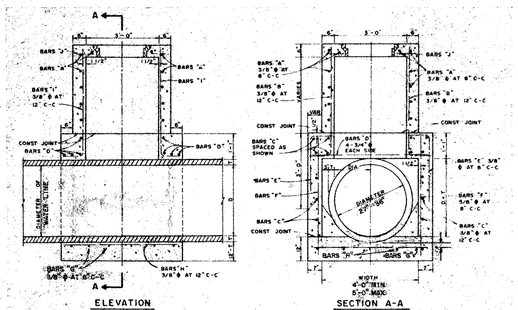
VAULTS

1. Notify the Utility Maintenance Department prior to construction of vault or by-pass assembly.
2. The vault can be either poured in place or prefabricated. Concrete shall be 6" thick and be 3,000 P.S.I. reinforced with #4 steel bars on 12" centers each way if the vault is poured in place. Prefabricated vaults shall be 4" thick and be 4,500 P.S.I. concrete with #4 steel bars on 8" center. These are minimum specifications.
3. The bottom of the vault shall be 6" thick concrete with #4 steel bars on 12" centers both way. A sump 4" deep and 12" in diameter shall be installed to one side in the center of the bottom slab. A 4" fill sand cushion shall be installed under the slab. If a precast vault is to be used, a layer of Ram-Nek shall be installed between the walls and bottom.
4. Contractor shall provide shop drawings prior to beginning construction.
5. The vault lid shall be a Bilco Lid. Type Q-4 single leaf design. Angle frame is 1/4" steel with strap anchors bolted to the exterior. The leaf is 1/4" steel diamond pattern plate, pivoting on torsion bars for easy operation. The minimum live load capacity is 150 lbs. per square foot. The size of the lid is 3' by 3'.
6. The lid shall be painted with 43-38 Tnemec diffused aluminum paint or approved.
7. All piping inside the vault shall be RCCP with flanged fittings.
8. The butterfly valve shall be Keystone and shall have an Underwriter's Laboratory Listing.
9. All piping inside the vault and the vault itself shall have to be approved by the Town of Addison, Utility Maintenance Department.
10. The contractor shall have the vault wall cored before installation of vault and piping. A link-seal model no. L8-400-C must be used to seal the annular space between the pipe and wall opening. Breaking of the wall with a jackhammer is not permitted.

*11. There will be a concrete support under each valve.

12. Depth of vault shall be a minimum of 9' - 0".

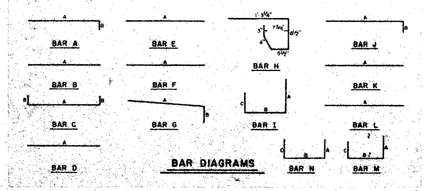
VAULT DETAILS



ELEVATION SECTION A-A

TYPICAL MANHOLE

(FOR RCCP WATER PIPE 27" TO 36" IN DIAMETER)



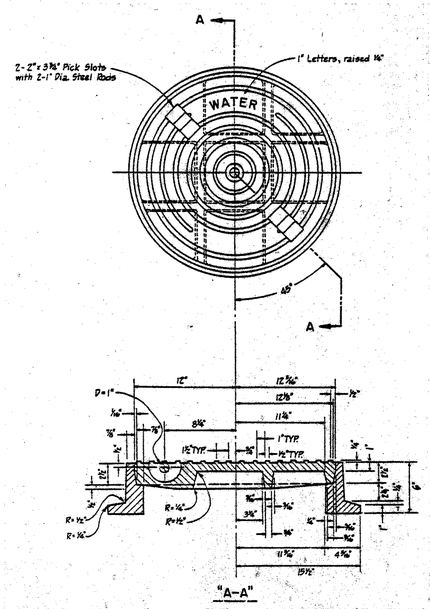
BAR DIAGRAMS

REINFORCING STEEL SCHEDULE

DIMENSIONS SHOWN ARE FOR MAXIMUM 5'-0" INLETS

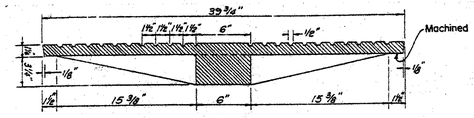
INLET LENGTH	BAR TYPE	SIZE (US BS)	NO. REQD	BAR DIMENSIONS A	B	C
4	A	3	6	3'-8"	0'-3"	-
	B	3	1	7'-10"		-
	C	4	15	5'-8"	0'-5"	-
	D	4	5	5'-8"		-
	E	3	5	3'-8"	1'-3"	-
	G	3	3	7'-0"		-
	J	3	3	5'-0"		-
6	K	3	3	5'-0"	0'-3"	5'-8"
	A	3	9	3'-8"		-
	B	3	1	9'-10"		-
	C	4	15	5'-8"	0'-6"	-
	D	4	5	5'-8"		-
	E	3	5	3'-8"	1'-5"	-
	G	3	5	7'-0"		-
	J	3	3	5'-0"		-
	K	3	3	5'-0"	0'-3"	5'-8"
8	A	3	12	3'-8"	0'-3"	-
	B	3	1	11'-10"		-
	C	4	15	5'-8"	0'-8"	-
	D	4	5	5'-8"		-
	E	3	5	3'-8"	1'-7"	-
	G	3	5	9'-0"		-
	J	3	3	5'-0"		-
	K	3	3	5'-0"	0'-3"	5'-8"
10	A	3	15	3'-8"	0'-3"	-
	B	3	1	13'-10"		-
	C	4	16	5'-8"	0'-8"	-
	D	4	6	5'-8"		-
	E	3	6	3'-8"	1'-9"	-
	G	3	6	11'-0"		-
	J	3	3	5'-0"		-
	K	3	3	5'-0"	0'-3"	5'-8"
	L	4	5	4'-3"		-
12	A	3	17	3'-8"	0'-3"	-
	B	3	2	15'-10"		-
	C	4	16	5'-8"	0'-8"	-
	D	4	4	5'-8"		-
	E	3	5	3'-8"		-
	G	3	5	13'-0"	1'-3"	-
	H	3	18	3'-8"		-
	J	4	10	5'-8"	0'-3"	5'-8"
	K	3	5	5'-0"	1'-3"	-
	L	4	5	5'-3"		-
	M	5	5	4'-3"	0'-3"	5'-8"
14	A	3	19	3'-8"	0'-3"	-
	B	3	2	17'-10"		-
	C	4	16	5'-8"	0'-8"	-
	D	4	4	5'-8"		-
	E	3	6	3'-8"		-
	G	3	6	15'-0"	1'-3"	-
	H	3	21	3'-8"		-
	J	4	10	5'-8"	0'-3"	5'-8"
	K	3	9	5'-0"	1'-3"	-
	L	4	5	5'-3"		-
	M	5	5	4'-3"	0'-3"	5'-8"

* SEE DIAGRAM FOR DIMENSIONS

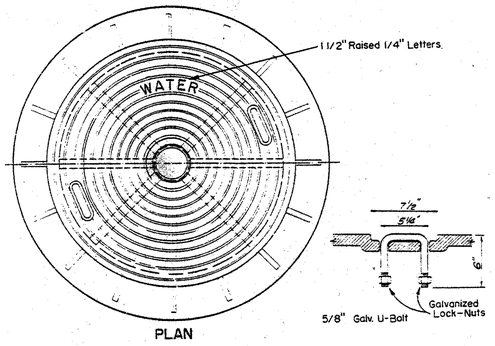


"A-A"

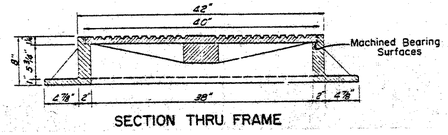
STANDARD 24" C.I. M.H. FRAME & COVER



SECTION THRU COVER

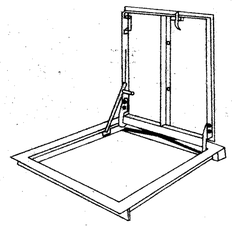


PLAN



SECTION THRU FRAME

STANDARD 40" MANHOLE FRAME & COVER



BILCO LID

No	Revision	By	Date
⚠	Revised Vault Details	GF-GAP	1-31-85

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

VAULT AND MANHOLE DETAILS

GINN, INC.
Consulting Engineers Dallas, Texas

Designed - MP	Drawn - TEC	Date - NOVEMBER, 1984	Job No. - 216
Approved - HWG	Checked - GF	Scale - NONE	Sheet 20 Of 20

SUMMARY OF ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	36" WATER LINE SHEETS 1	2	3	4	5	6	7	8	9	10	11	12	27" WATER LINE SHEETS 12	13	14	15	MISC.	TOTAL
100.1	36" R.C.C.P. Class 150, Complete-In-Place	L.F.																		6100
100.2	27" R.C.C.P. Class 150, Complete-In-Place	L.F.																		2150
101.1	Saw, Remove & Replace Existing Concrete Pavement	S.Y.																		3300
101.2	Saw, Remove & Replace Existing Asphalt Pavement	S.Y.																		1000
102.1	36" Butterfly Valve, Complete-In-Place	Ea.																		14
102.2	27" Butterfly Valve, Complete-In-Place	Ea.																		2
102.3	8" Air Release Valve, Complete-In-Place	Ea.																		2
103.1	60" Dia. Manhole, Complete-In-Place	Ea.																		2
103.2	48" Dia. Manhole, Complete-In-Place	Ea.																		1
104.1	8' x 16' Vault, Complete-In-Place	Ea.																		1
104.2	8' x 12' Vault, Complete-In-Place	Ea.																		1
105.1	54" Boring Encasement (By Other Than Open Cut)	L.F.																		250
105.2	54" Encasement (By Open Cut)	L.F.																		102
106.1	Connect To Existing 84" Water Line	Ea.																		1
106.2	Connect To Existing 54" Water Line	Ea.																		1
106.3	Connect To Existing 30" Water Line	Ea.																		1
106.4	Connect To Existing 12" Water Line	Ea.																		1
107.1	10" Turo-Meter, Complete-In-Place	Ea.																		1

INDEX TO DRAWINGS

No	Revision	By	Date

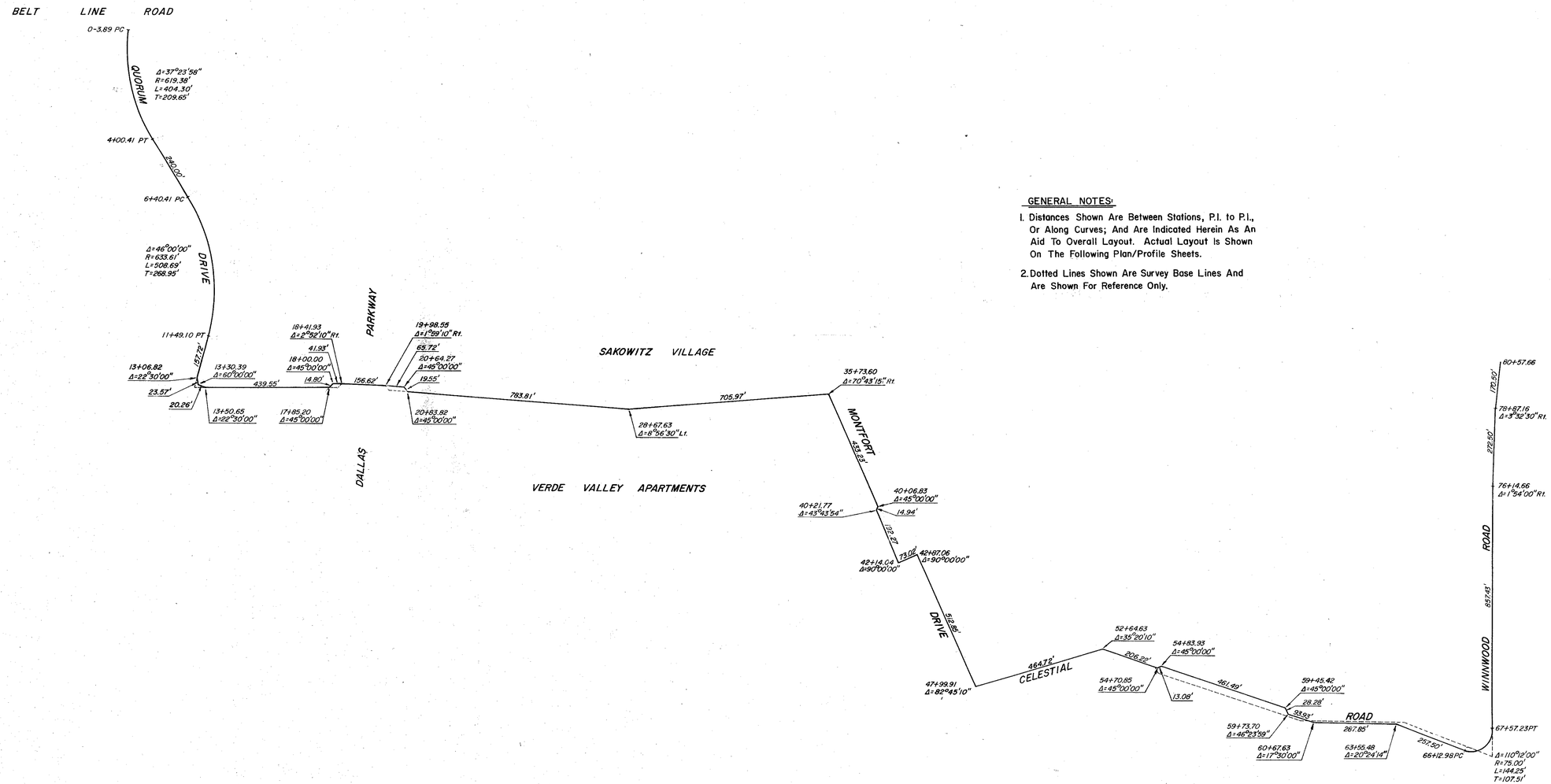
CITY OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

SHEET INDEX & SUMMARY OF QUANTITIES

GINN, INC.
Consulting Engineers Dallas, Texas

Designed - MP	Drawn - GAP	Date - NOVEMBER, 1984	Job No. - 216
Approved - HWG	Checked - GF	Scale -	Sheet A Of



GENERAL NOTES:

1. Distances Shown Are Between Stations, P.I. to P.I., Or Along Curves; And Are Indicated Herein As An Aid To Overall Layout. Actual Layout Is Shown On The Following Plan/Profile Sheets.
2. Dotted Lines Shown Are Survey Base Lines And Are Shown For Reference Only.

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

CROSSTOWN WATER LINE

CENTERLINE ALIGNMENT LAYOUT PLAN

GINN, INC.
Consulting Engineers Dallas, Texas

Designed- MP	Drawn- TEC	Date- NOVEMBER, 1984	Job No.- 216
Approved- HWG	Checked- GF	Scale- 1"= 200'	Sheet 8 Of