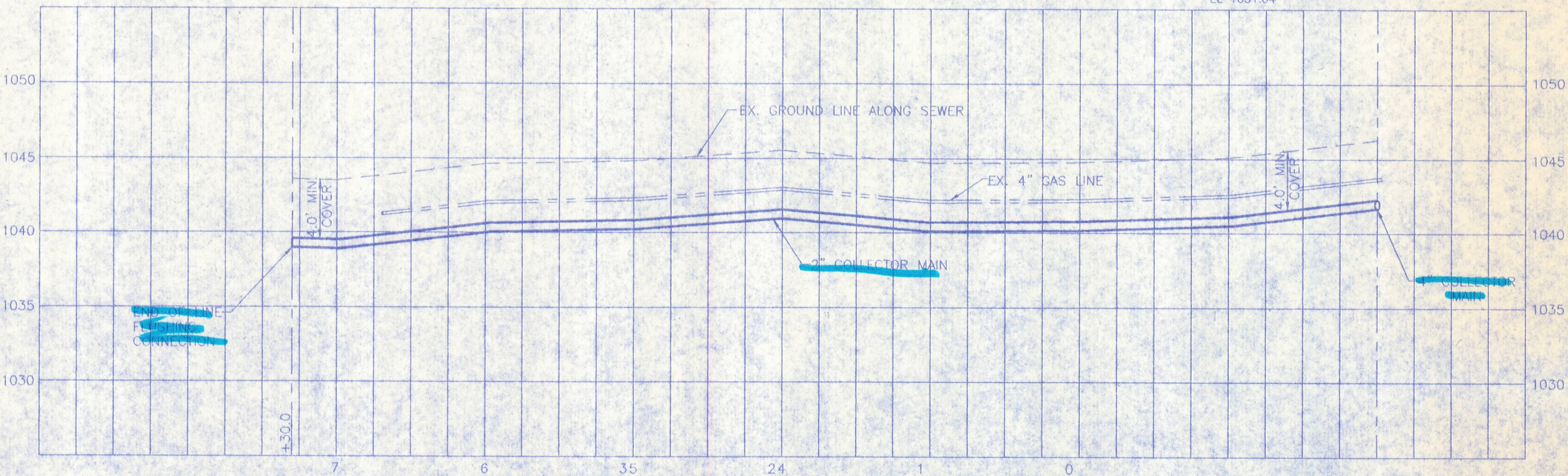


PAVEMENT REPLACEMENT  
 ASPHALT ALLEY  
 2 1/2" ASPH. CONC. ON  
 9" AGG. BASE  
 AGGREGATE ALLEY  
 9" AGG. BASE  
 ASPHALT STREET  
 2 1/2" ASPH. CONC. ON  
 9" AGG. BASE

B.M. #53  
 R.R. SPIKE E. SIDE OF  
 POWER POLE #196542  
 W. SIDE OF ALLEY  
 EL. 1047.32

B.M. #52  
 R.R. SPIKE S. SIDE OF  
 POWER POLE #070DW15-70  
 NW COR. OF ALLEY INT.  
 EL. 1051.04



Rev. No.	DESCRIPTION	BY	DATE

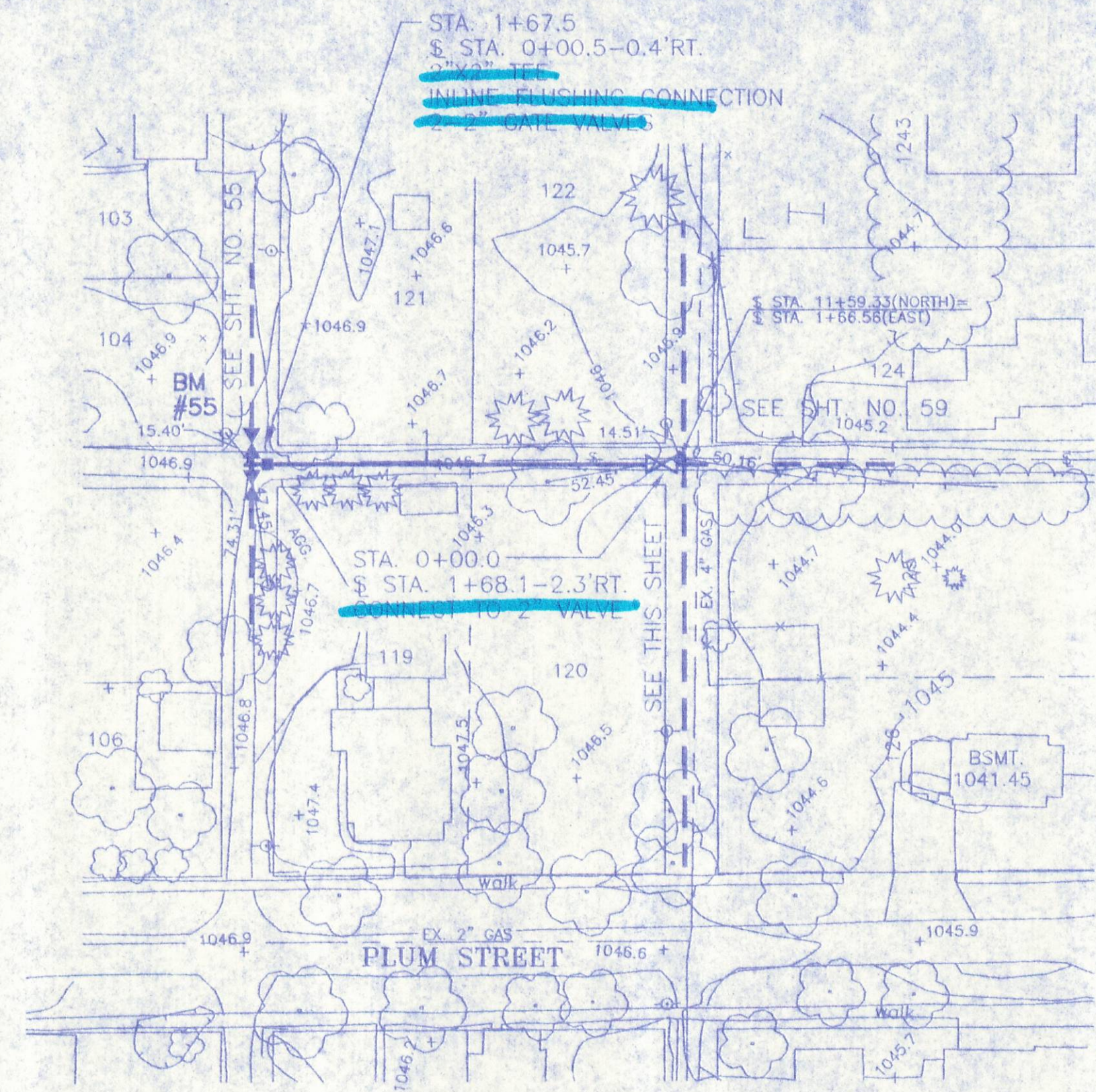
  

WILBUR SMITH ASSOCIATES CONSULTING ENGINEERS COLUMBUS, OHIO	
VILLAGE OF BELLE CENTER, OHIO SANITARY SEWERAGE IMPROVEMENTS ALLEY BETWEEN ELIZABETH & CENTER STREETS	
DATE: MAY, 1999 SCALE: 1" = 50'H, 1/4" = 5'V	SHEET NO. 53 OF 72

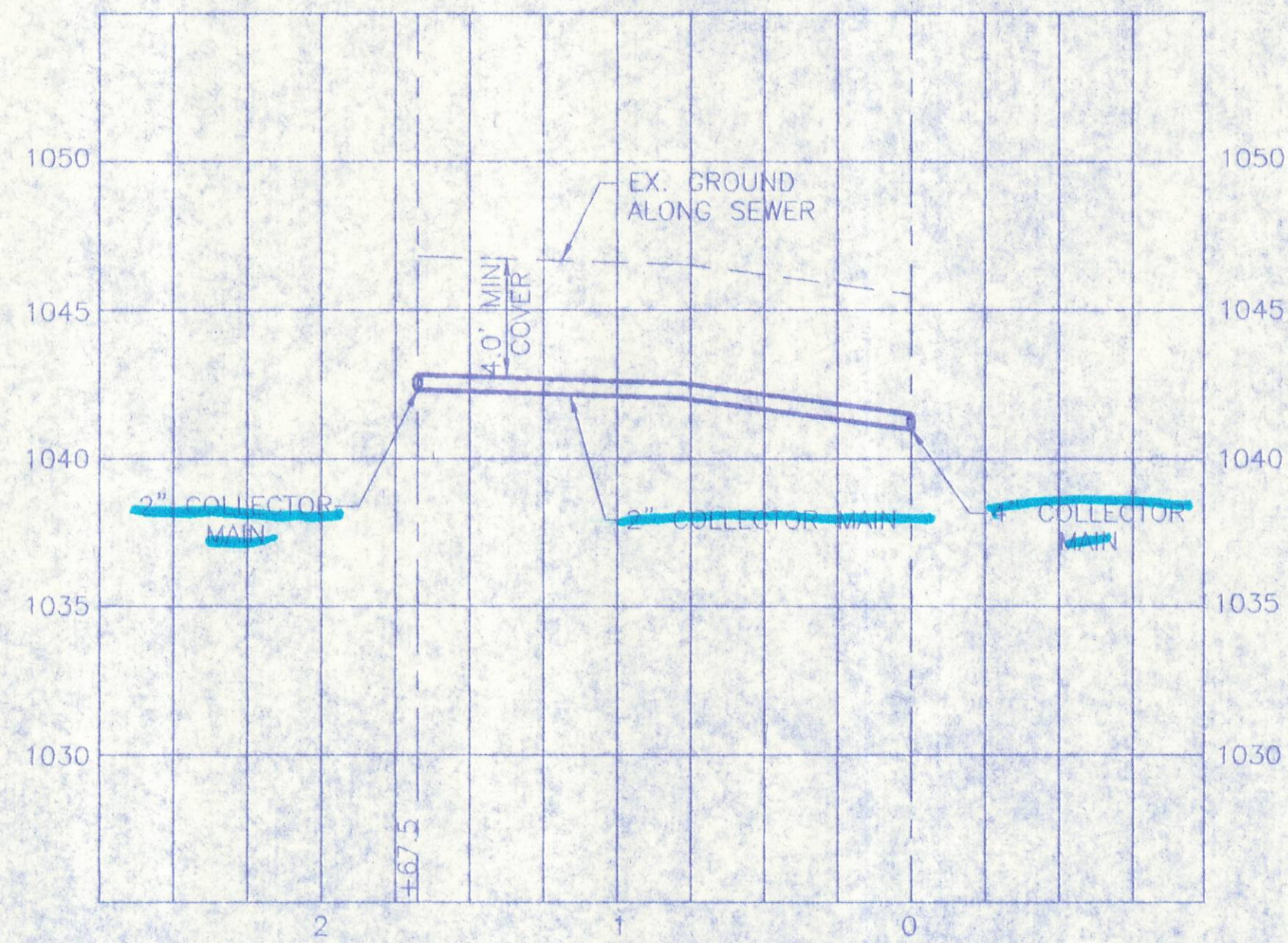
S:\PROJECTS\Belle Center\ALLEY16.dwg Tue Sep 14 14:42:47 1999 JDM



ALLEY 16'  
ASPHALT CONCRETE SURFACE

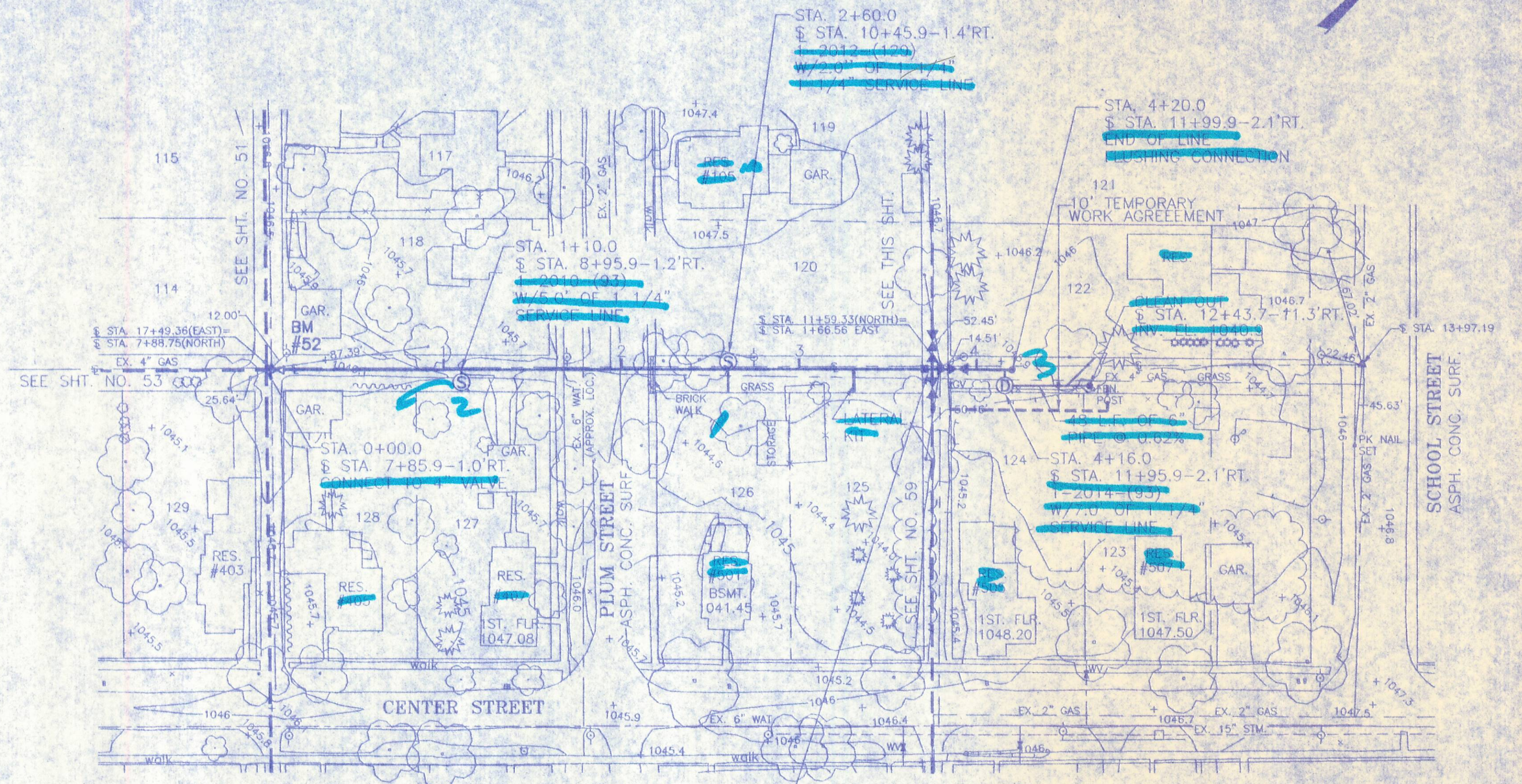


B.M.#55  
R.R. SPK. E. SIDE OF POWER POLE  
ALLEY INT.  
EL. 1048.39

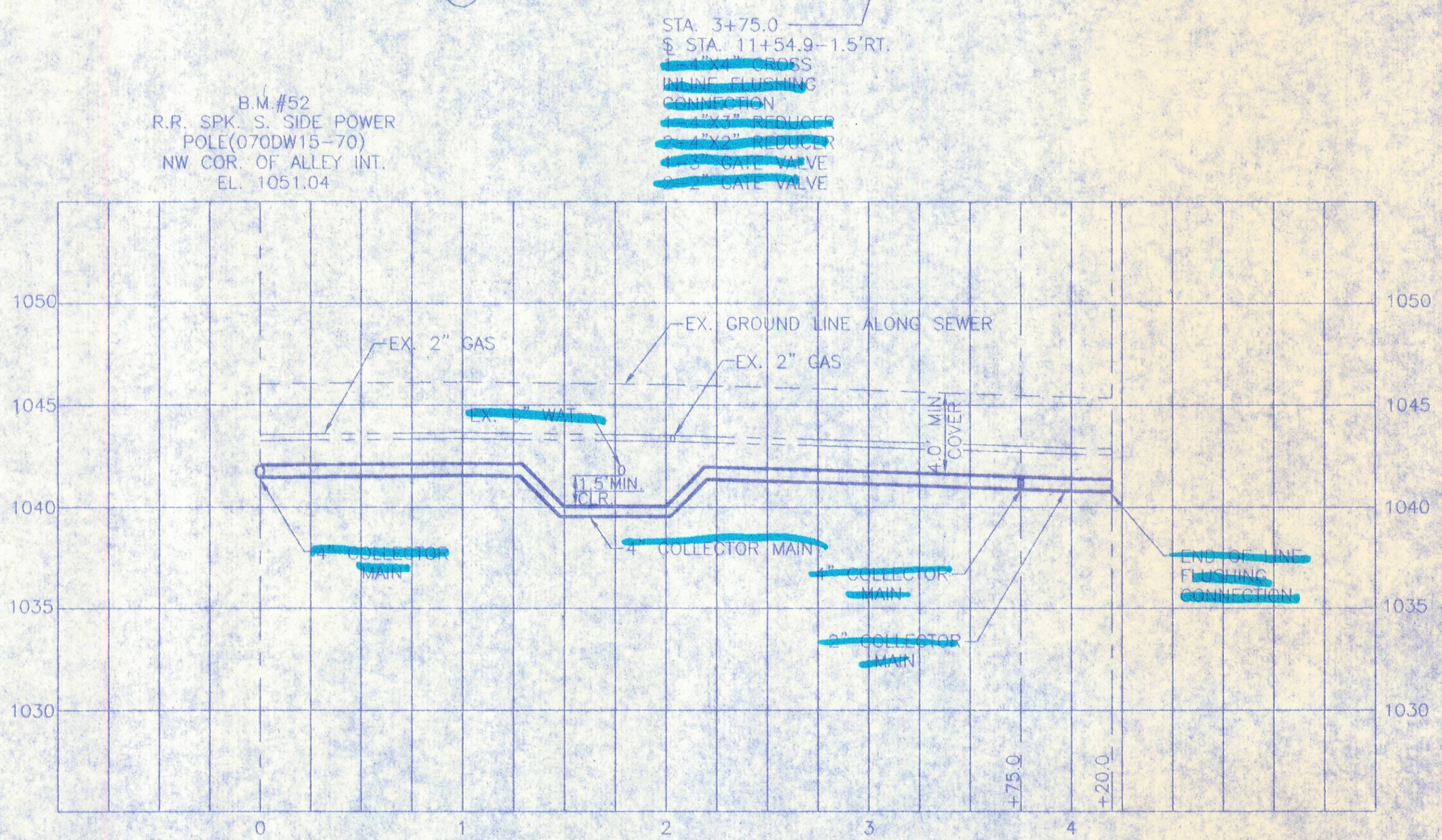


PAVEMENT REPLACEMENT  
ASPHALT ALLEY  
2 1/2" ASPH. CONC. ON  
9" AGG. BASE  
AGGREGATE ALLEY  
9" AGG. BASE  
ASPHALT STREET  
2 1/2" ASPH. CONC. ON  
9" AGG. BASE

ALLEY 16'  
ASPHALT CONCRETE SURFACE



B.M.#52  
R.R. SPK. S. SIDE POWER  
POLE(70DW15-70)  
NW COR. OF ALLEY INT.  
EL. 1051.04



Rev. No.	DESCRIPTION	BY	DATE

WILBUR SMITH ASSOCIATES  
CONSULTING ENGINEERS  
COLUMBUS, OHIO

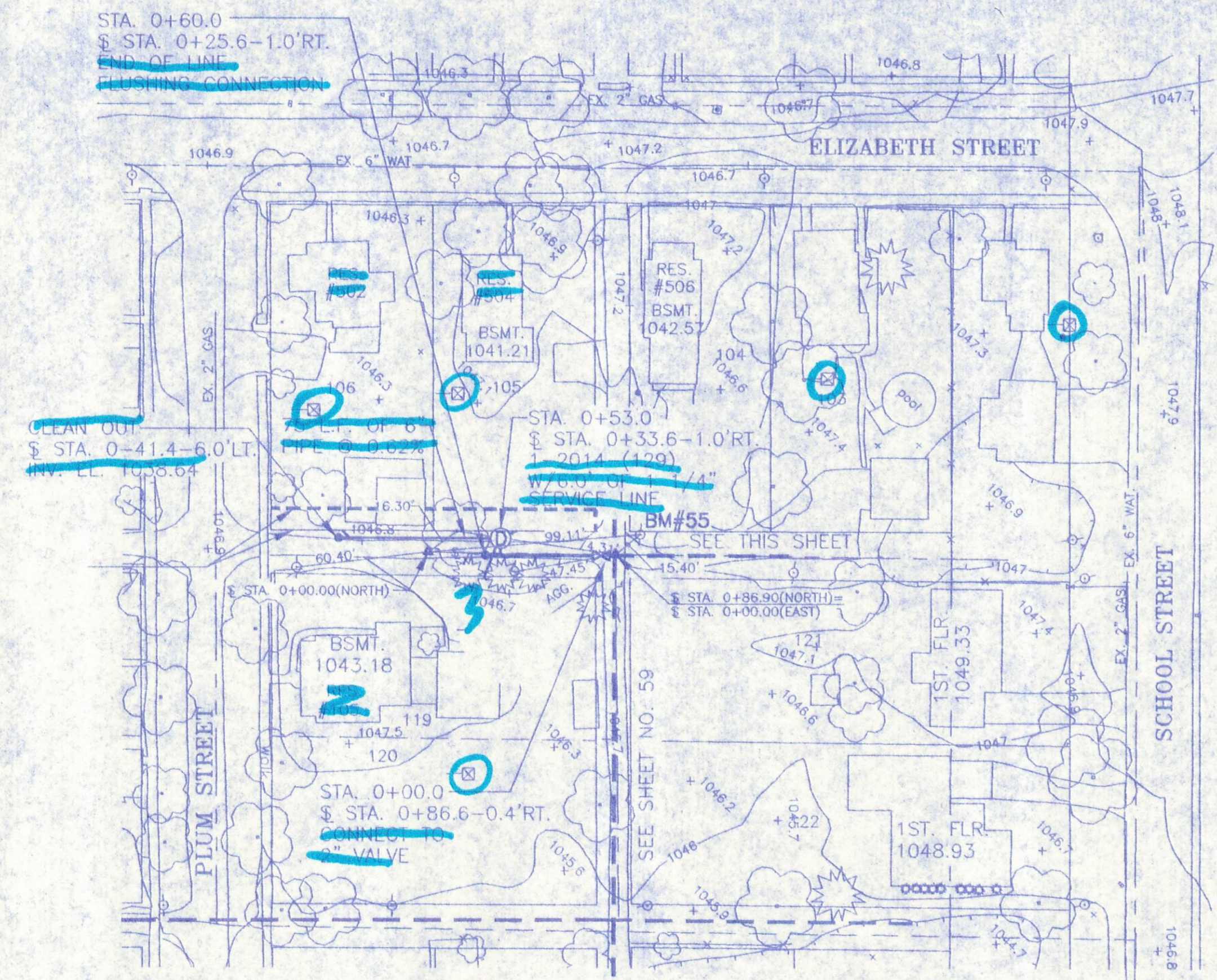
VILLAGE OF BELLE CENTER, OHIO  
SANITARY SEWERAGE IMPROVEMENTS  
ALLEY BETWEEN ELIZABETH AND CENTER STREETS  
AND BETWEEN SCHOOL & PLUM STREETS

DATE: AUGUST, 1999  
SCALE: 1" = 50'H, 1/16" = 5'V.

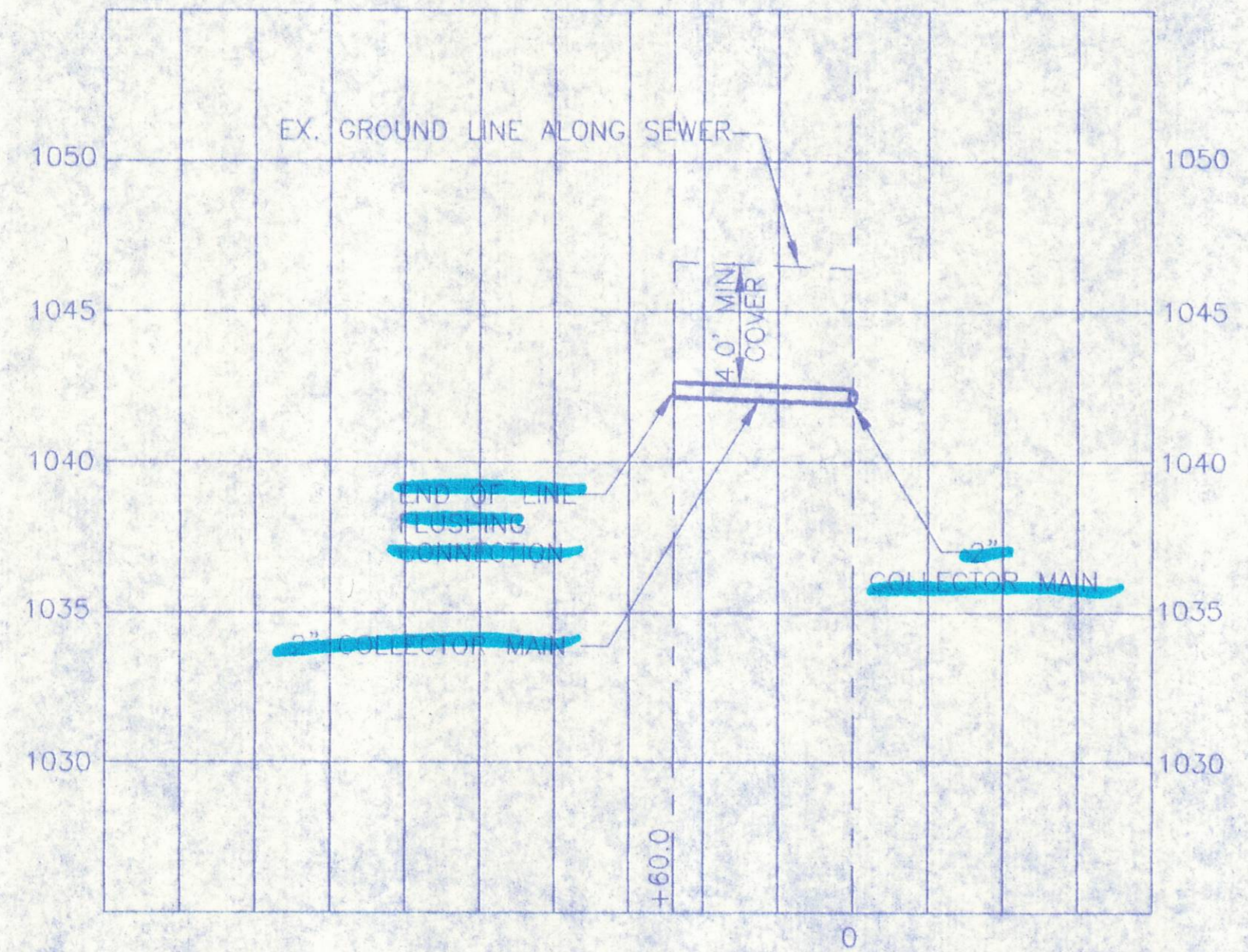
SHEET NO.  
54 OF 72



ALLEY 16  
ASPHALT CONCRETE SURFACE

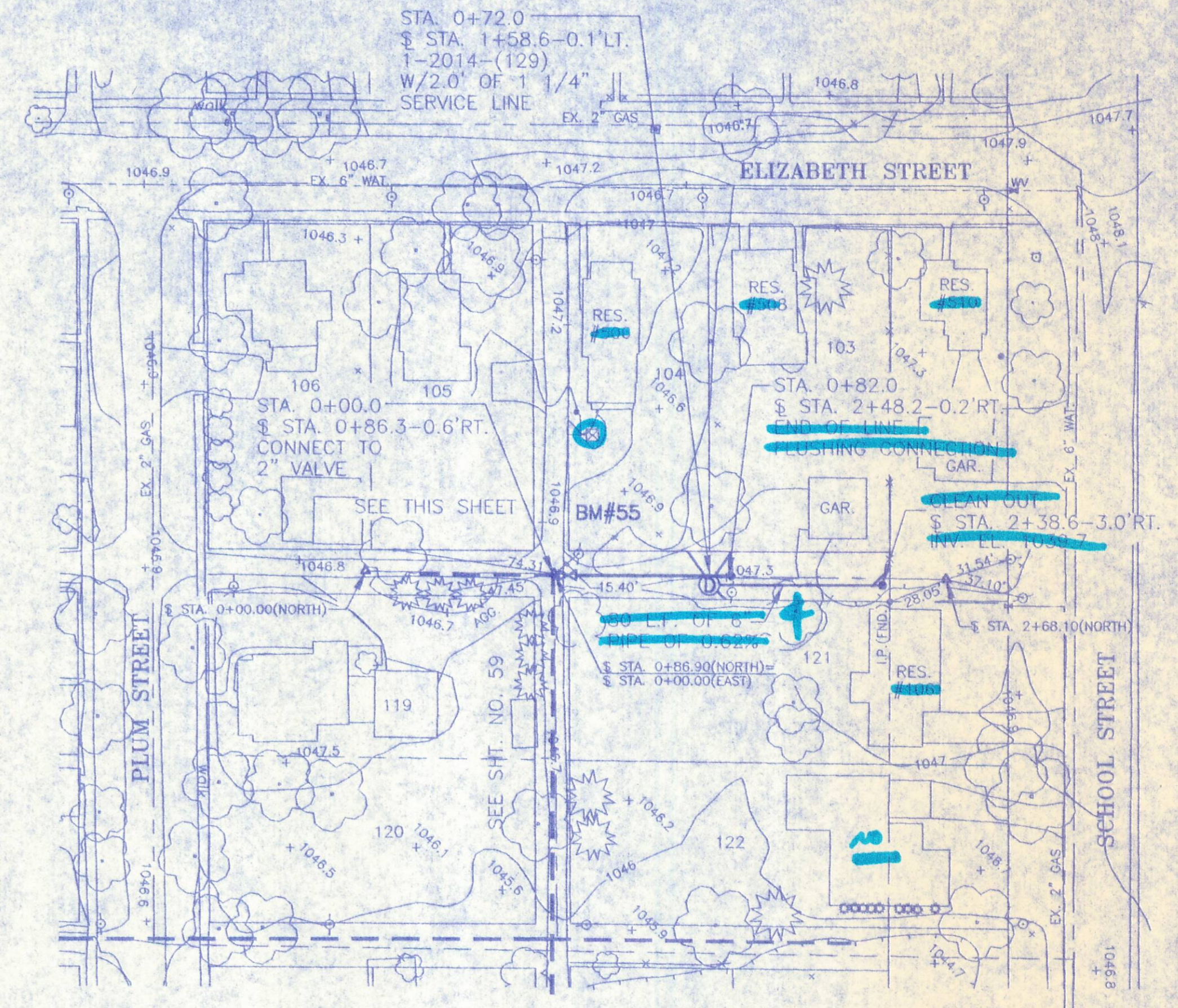


B.M.#55  
R.R. SPK. E. SIDE OF POWER POLE  
@ ALLEY UNIT  
EL. 1048.39

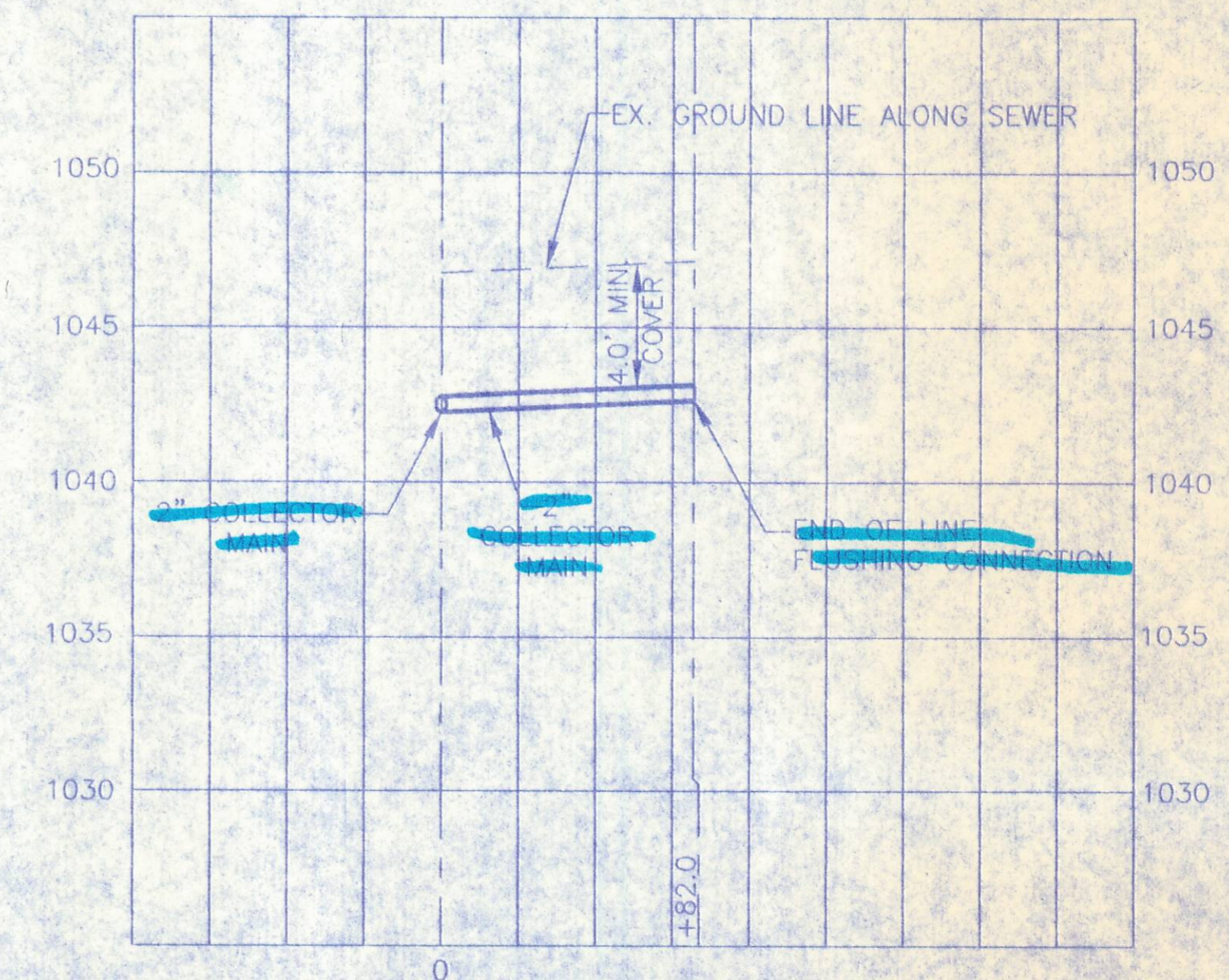


PAVEMENT REPLACEMENT  
ASPHALT ALLEY  
2 1/2" ASPH. CONC. ON  
9" AGG. BASE  
AGGREGATE ALLEY  
9" AGG. BASE  
ASPHALT STREET  
2 1/2" ASPH. CONC. ON  
9" AGG. BASE

ALLEY 16  
ASPHALT CONCRETE SURFACE



B.M.#55  
R.R. SPK. E. SIDE OF POWER POLE  
@ ALLEY UNIT  
EL. 1048.39



Rev. No.	DESCRIPTION	DATE

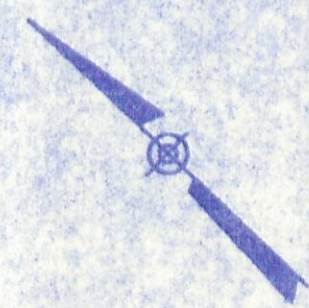
WILBUR SMITH ASSOCIATES  
CONSULTING ENGINEERS  
COLUMBUS, OHIO

VILLAGE OF BELLE CENTER, OHIO  
SANITARY SEWERAGE IMPROVEMENTS  
ALLEY BETWEEN SCHOOL & PLUM STREETS

DATE: AUGUST, 1999  
SCALE: 1" = 50' H/1" = 5V.

SHEET NO.  
55 OF 72

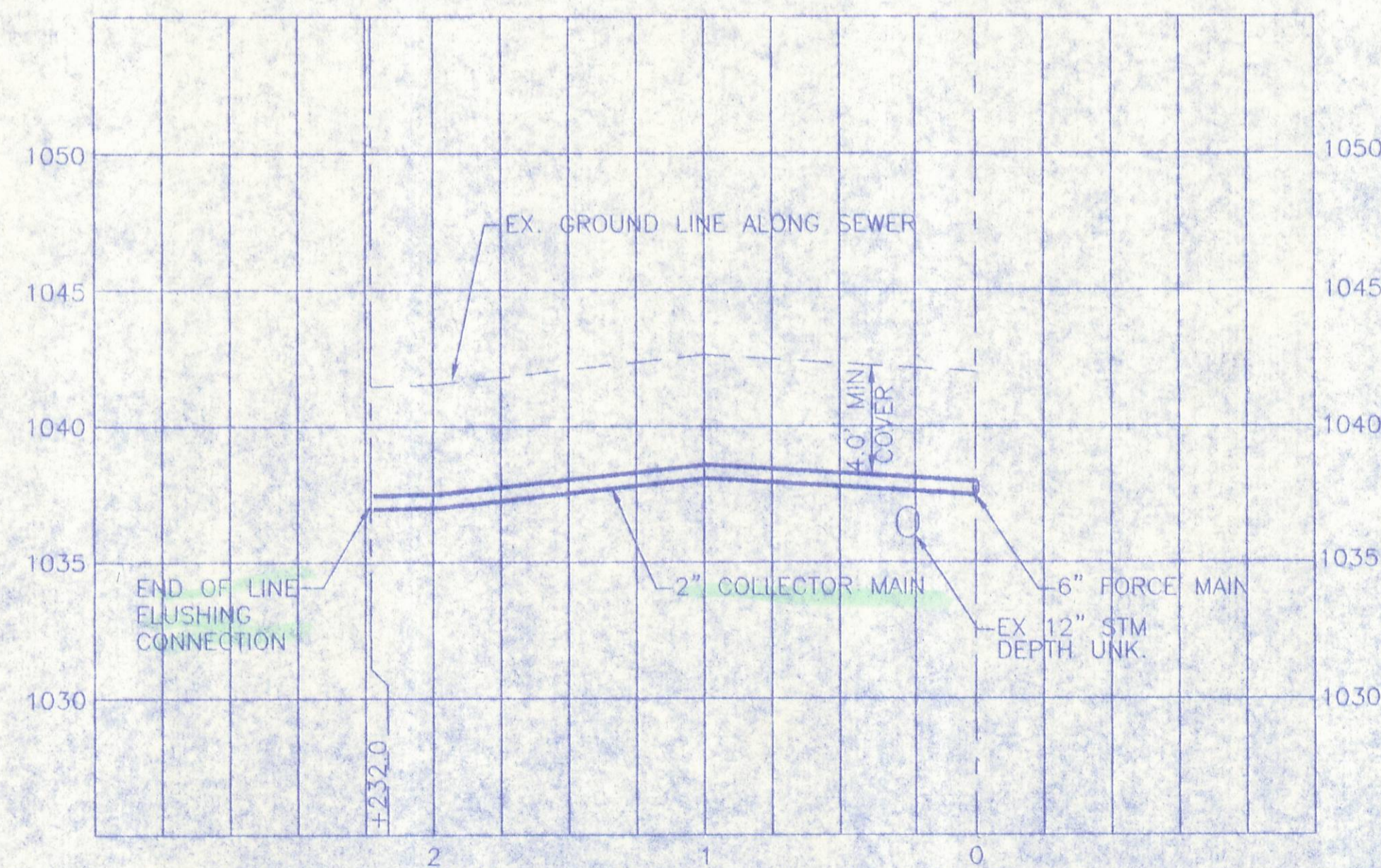
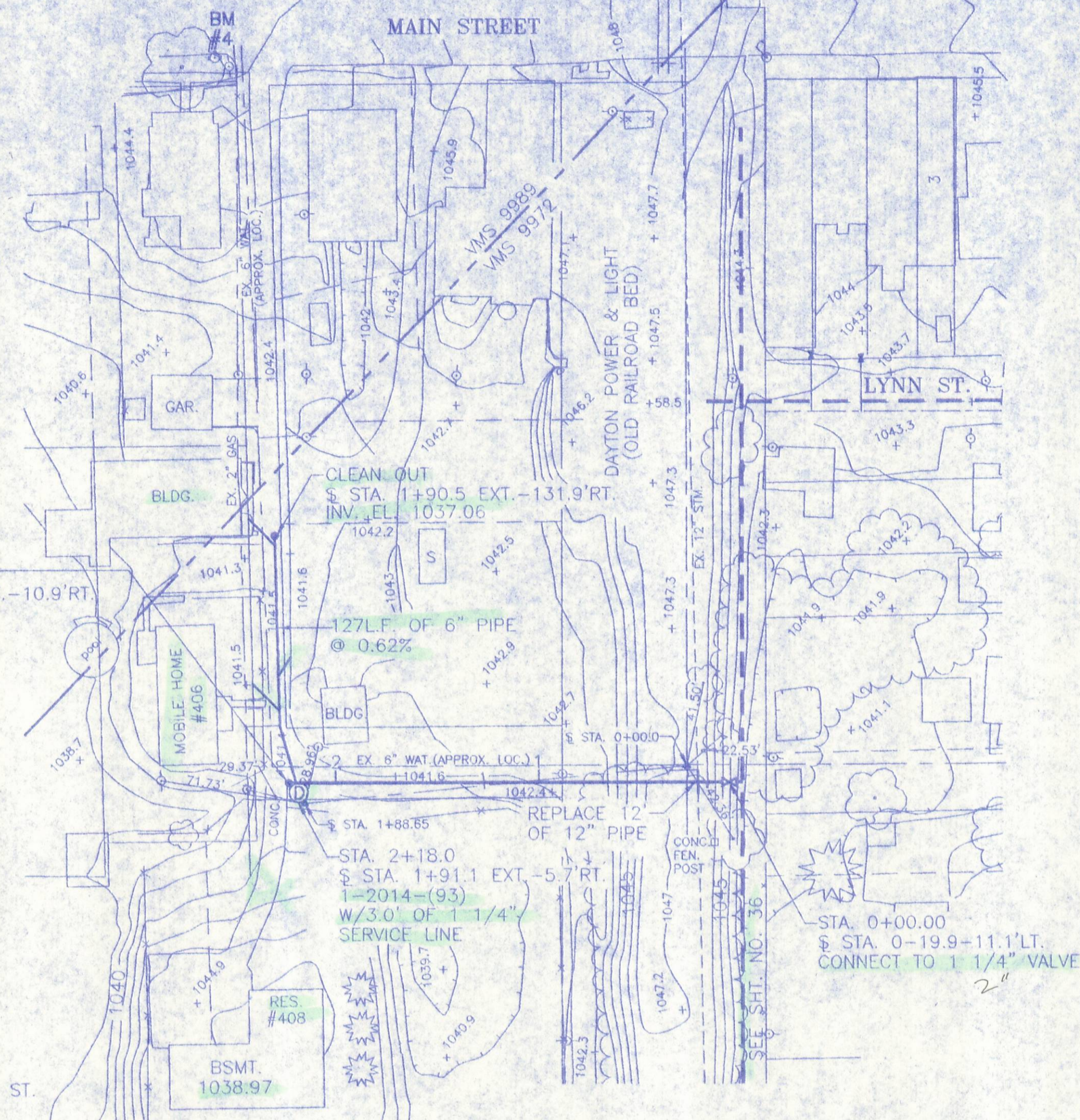




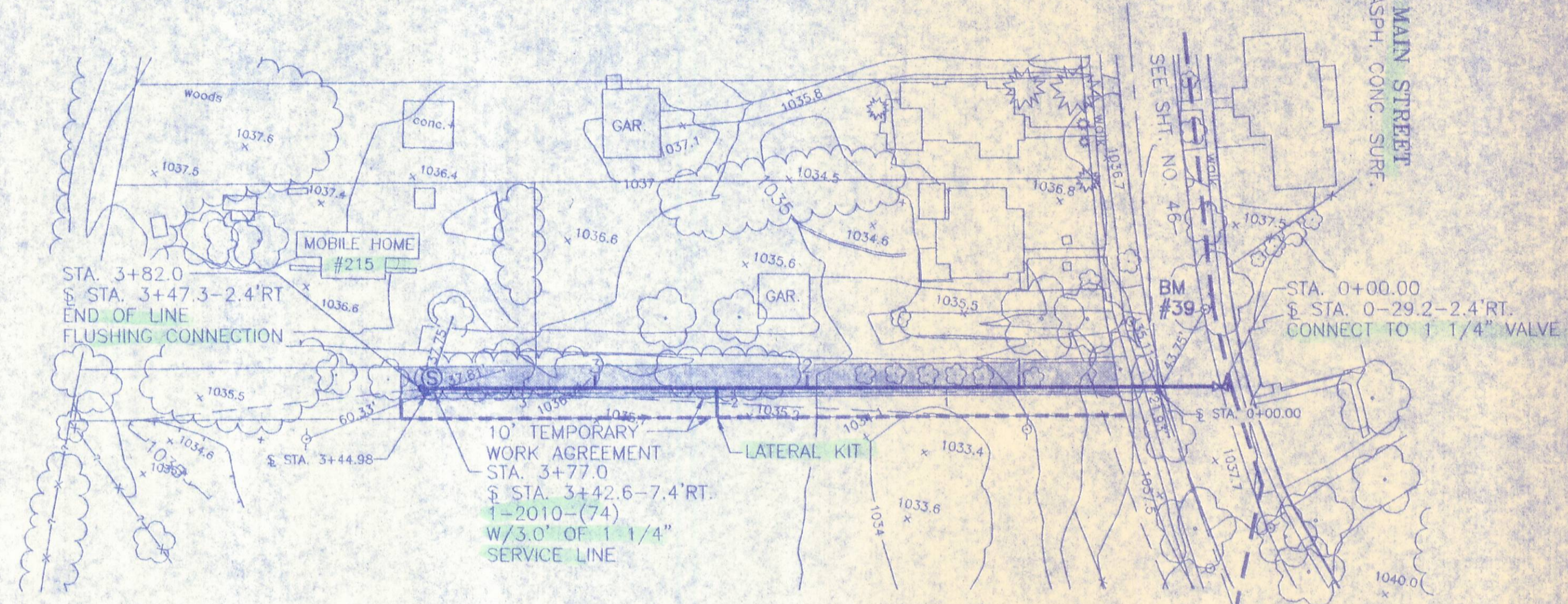
VINE STREET  
ASPHALT CONCRETE SURFACE

STA. 2+23.0  
§ STA. 1+95.6 EXT. -10.9' RT.  
END OF LINE  
FLUSHING  
CONNECTION

B.M. #4  
N. BOLT OF F. HYD.  
© SW COR. OF MAIN ST. & VINE ST.  
EL. 1046.39

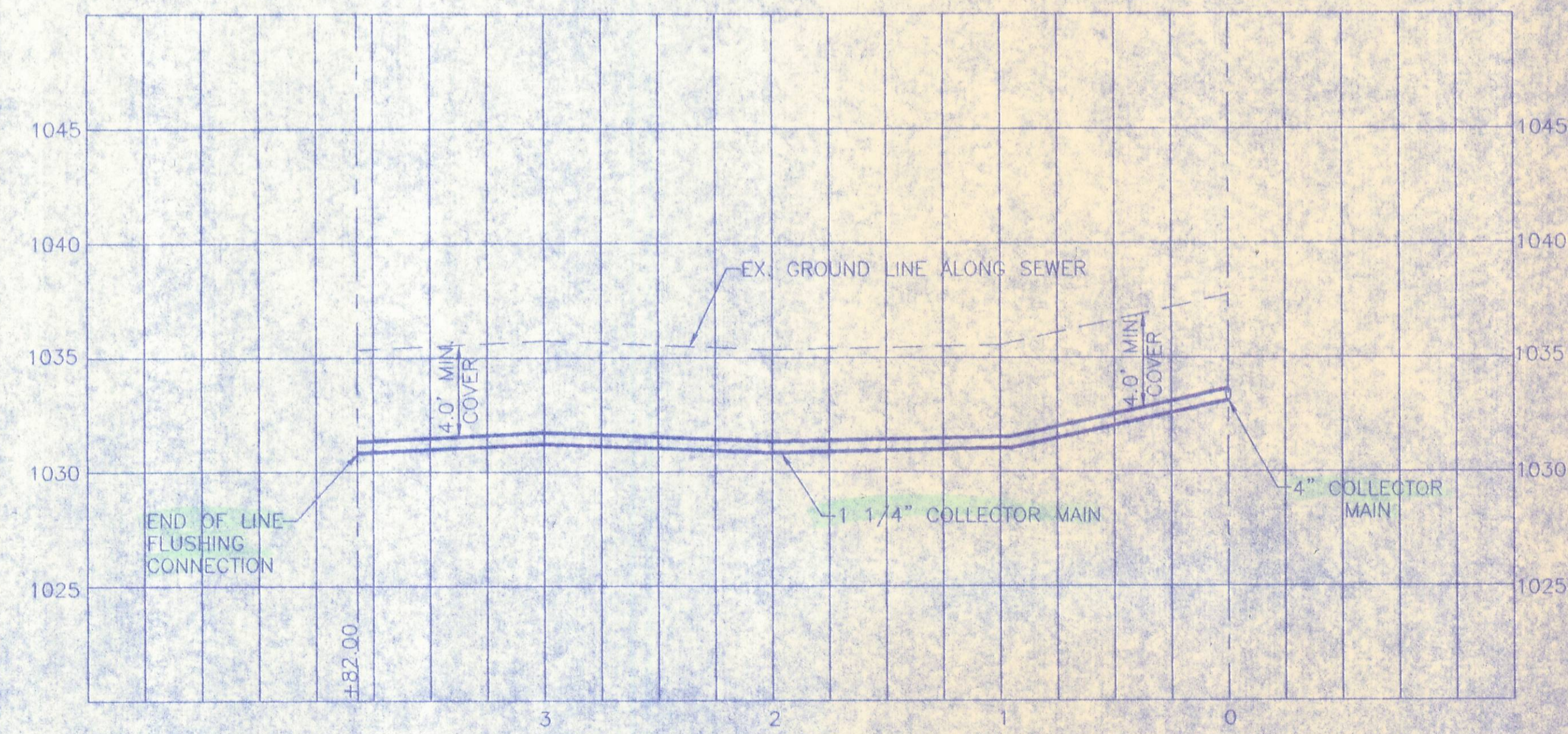


MAIN STREET  
ASPH. CONC. SURF.



PAVEMENT REPLACEMENT  
ASPHALT ALLEY  
2 1/2" ASPH. CONC. ON  
9" AGG. BASE  
AGGREGATE ALLEY  
9" AGG. BASE  
ASPHALT STREET  
2 1/2" ASPH. CONC. ON  
9" AGG. BASE

B.M. #39  
R.R. SPK W. SIDE OF POWER POLE  
E. SIDE OF MAIN ST. @ RES. #218  
EL. 1038.02



Rev. No.	DESCRIPTION	BY	DATE

WILBUR SMITH ASSOCIATES  
CONSULTING ENGINEERS  
COLUMBUS, OHIO

VILLAGE OF BELLE CENTER, OHIO  
SANITARY SEWERAGE IMPROVEMENTS  
ALLEY SOUTH OF MAIN STREET  
PROPERTY SOUTH OF MAIN STREET

DESIGN: *RJM* DRAWN: *Jam* CHECKED: *UJH* APPROVED: *Gmk*

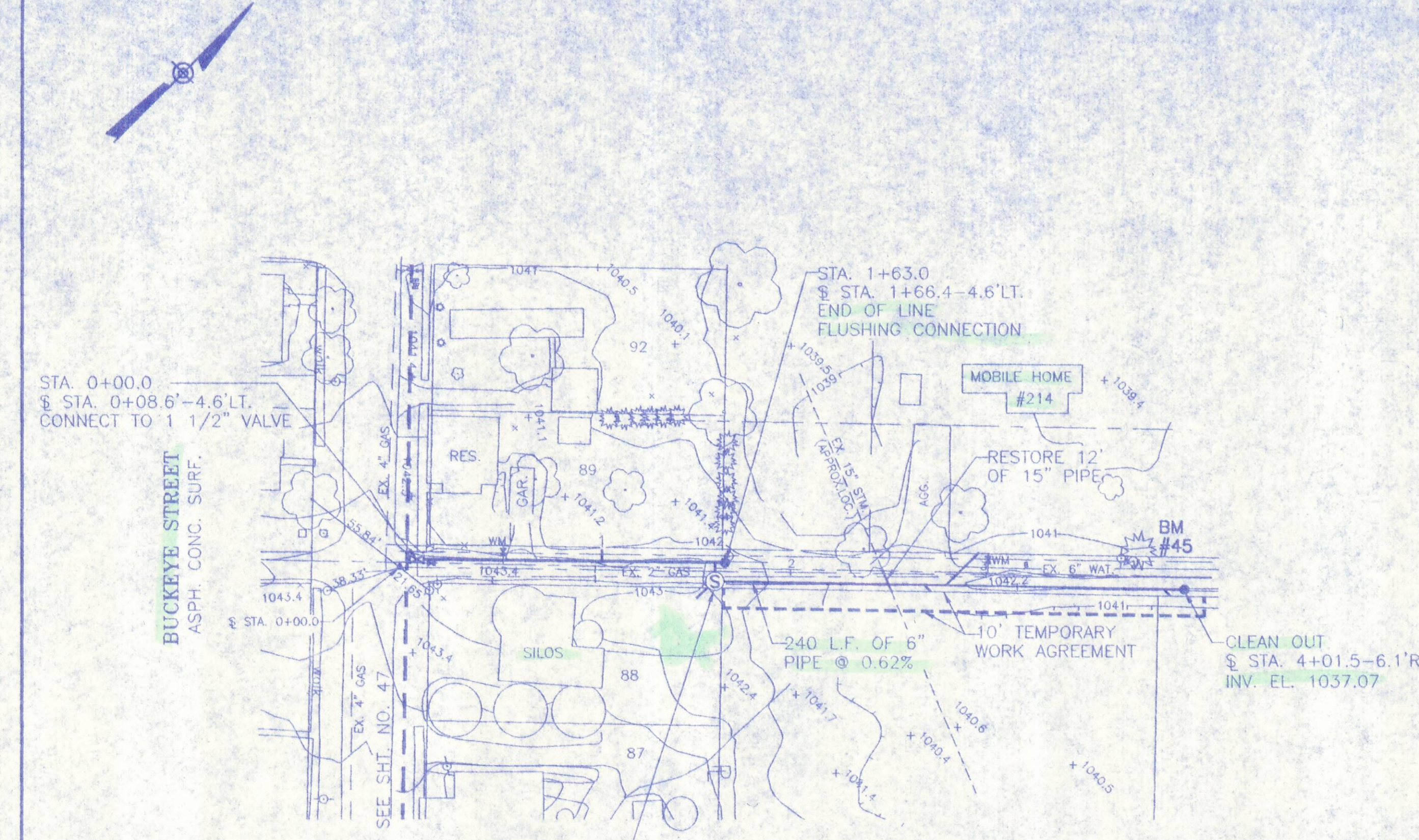
DATE: AUGUST, 1999  
SCALE: 1" = 50'H/1" = 5'V

SHEET NO.

56 OF 72



VINE STREET 16  
ASPHALT CONCRETE SURFACE

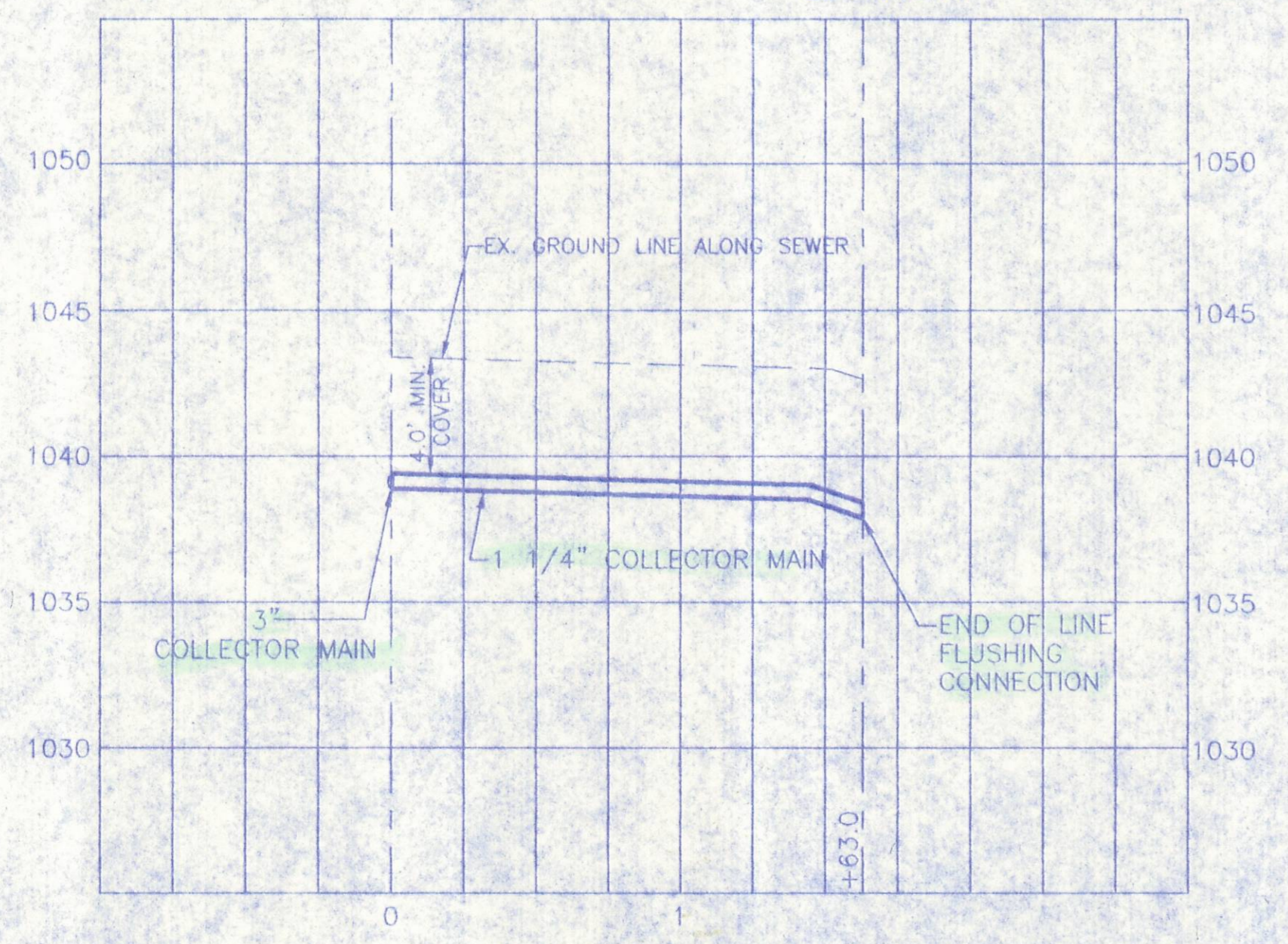


STA. 1+58.0  
± STA. 1+61.4 - 5' RT.  
1-2012-(129)  
W/7.65' OF 1 1/4" SERVICE LINE

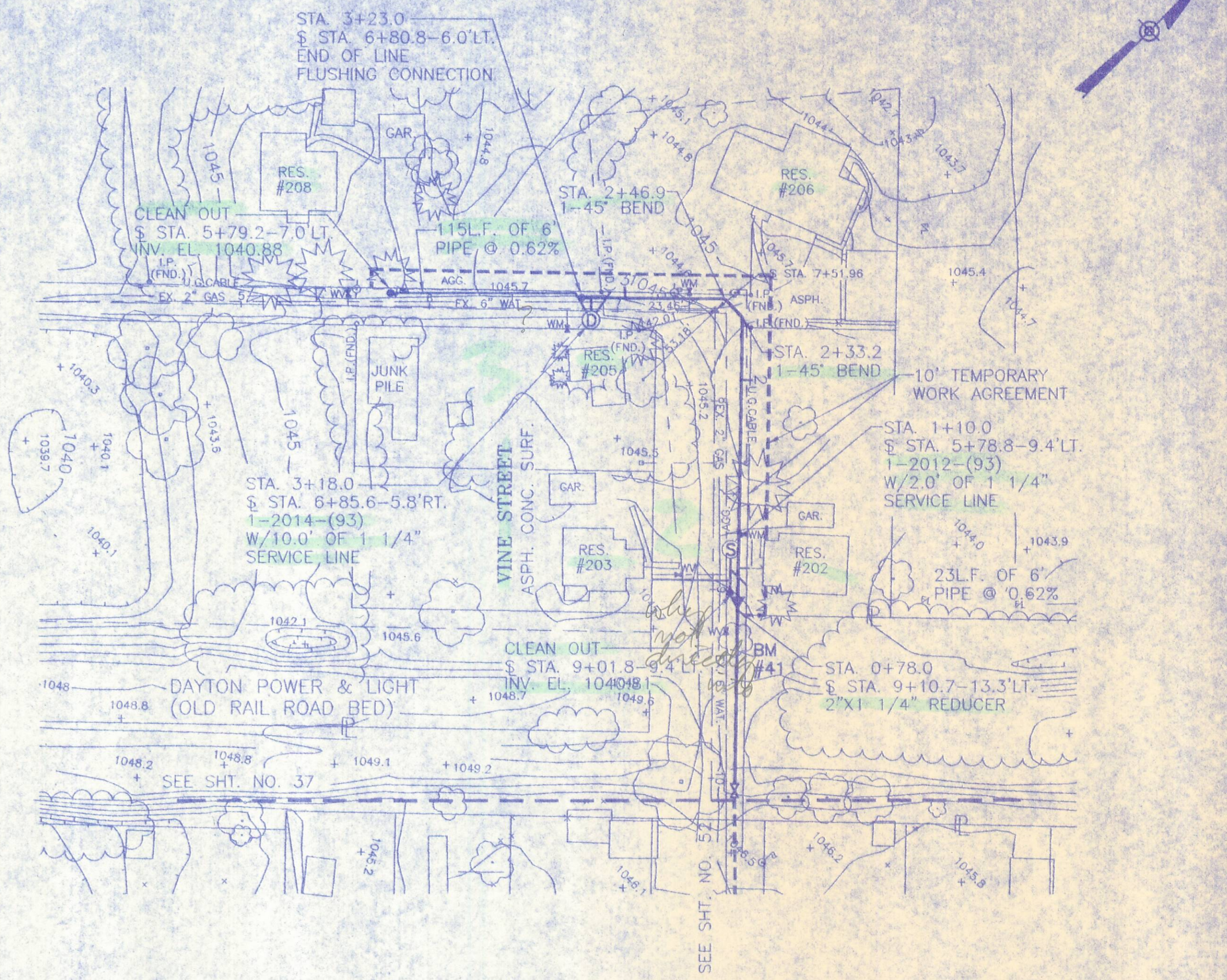
*duplet for the supplier*

B.M.#45  
S. BOLT OF F. HYD  
N. SIDE OF VINE ST.  
EL. 1044.14

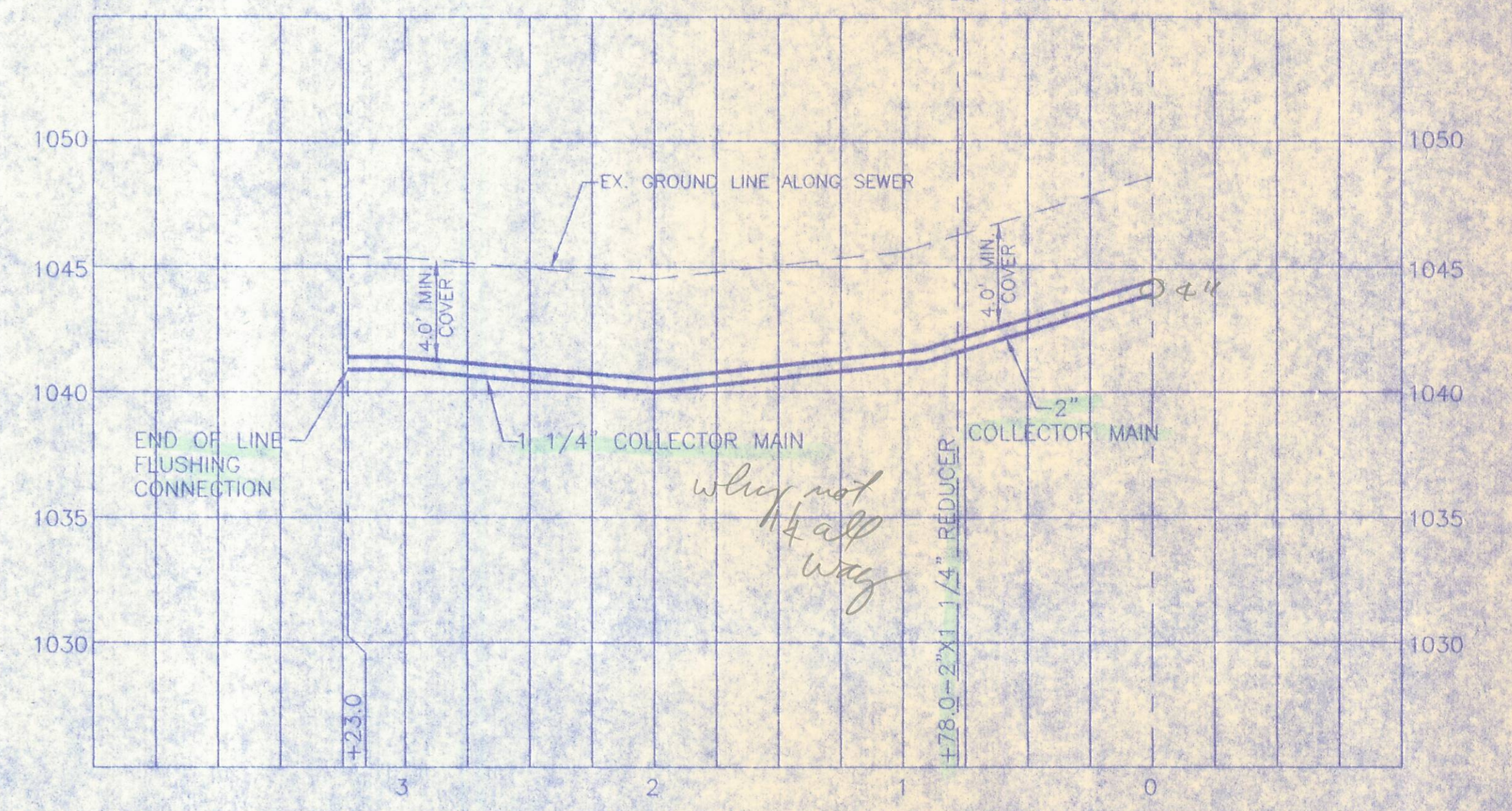
- PAVEMENT REPLACEMENT  
ASPHALT ALLEY  
2 1/2" ASPH. CONC. ON  
9" AGG. BASE  
AGGREGATE ALLEY  
9" AGG. BASE  
ASPHALT STREET  
2 1/2" ASPH. CONC. ON  
9" AGG. BASE



VINE STREET 16  
ASPHALT CONCRETE SURFACE



B.M.#41  
R.R. SPIKE S. SIDE OF 36" TREE  
NORTH SIDE OF VINE STREET  
EL. 1048.26



Rev. No.	DESCRIPTION	BY	DATE

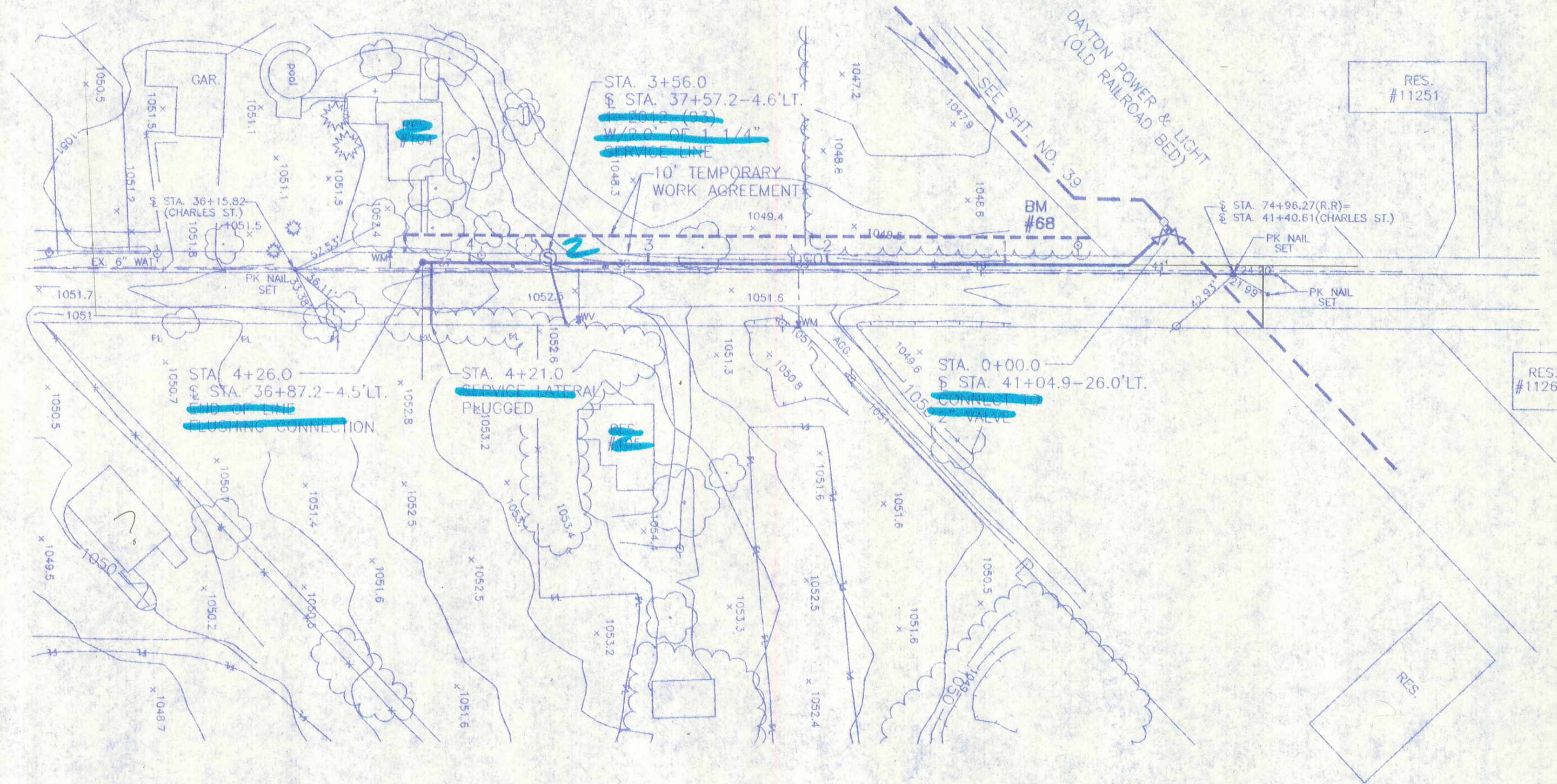
WILBUR SMITH ASSOCIATES CONSULTING ENGINEERS COLUMBUS, OHIO	
VILLAGE OF BELLE CENTER, OHIO SANITARY SEWERAGE IMPROVEMENTS VINE STREET	
DATE: AUGUST 1999	SHEET NO.
SCALE: 1" = 50' H, 1" = 5' V	57 OF 72

S:\PROJECTS\0911e center\VINESTREET.dwg Tue Sep 14 15:48:53 1999 JDN



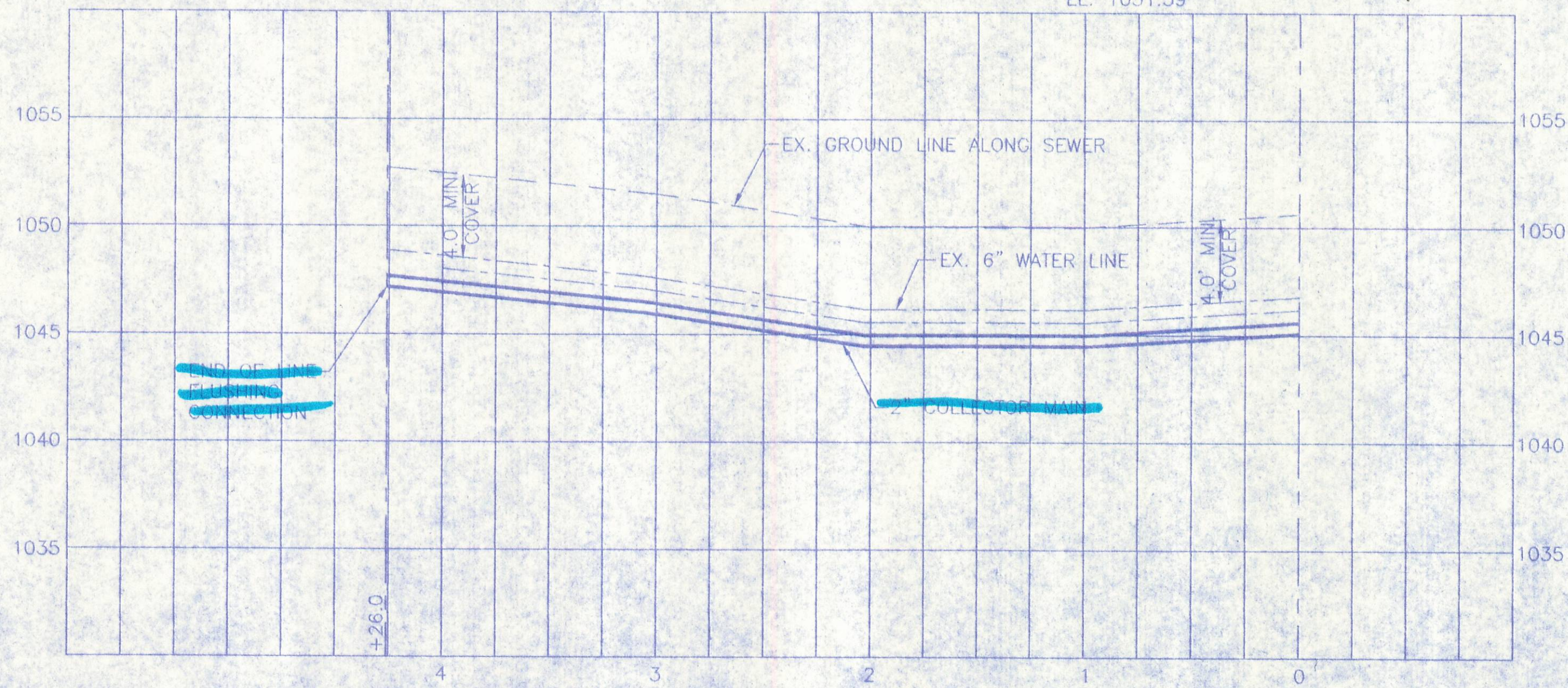
C H A R L E S S T R E E T 4 0

ASPHALT CONCRETE SURFACE



B.M. #68  
R.R. SPK. E. SIDE OF POWER  
POLE, W. SIDE OF CHARLES ST.  
75± N. OF CORP. LINE  
EL. 1051.59

PAVEMENT REPLACEMENT  
ASPHALT ALLEY  
2 1/2" ASPH. CONC. ON  
9" AGG. BASE  
AGGREGATE ALLEY  
9" AGG. BASE  
ASPHALT STREET  
2 1/2" ASPH. CONC. ON  
9" AGG. BASE



Rev. No.	DESCRIPTION	BY	DATE

WILBUR SMITH ASSOCIATES  
CONSULTING ENGINEERS  
COLUMBUS, OHIO

VILLAGE OF BELLE CENTER, OHIO  
SANITARY SEWERAGE IMPROVEMENTS  
ALLEY BETWEEN CENTER & STATE STREETS

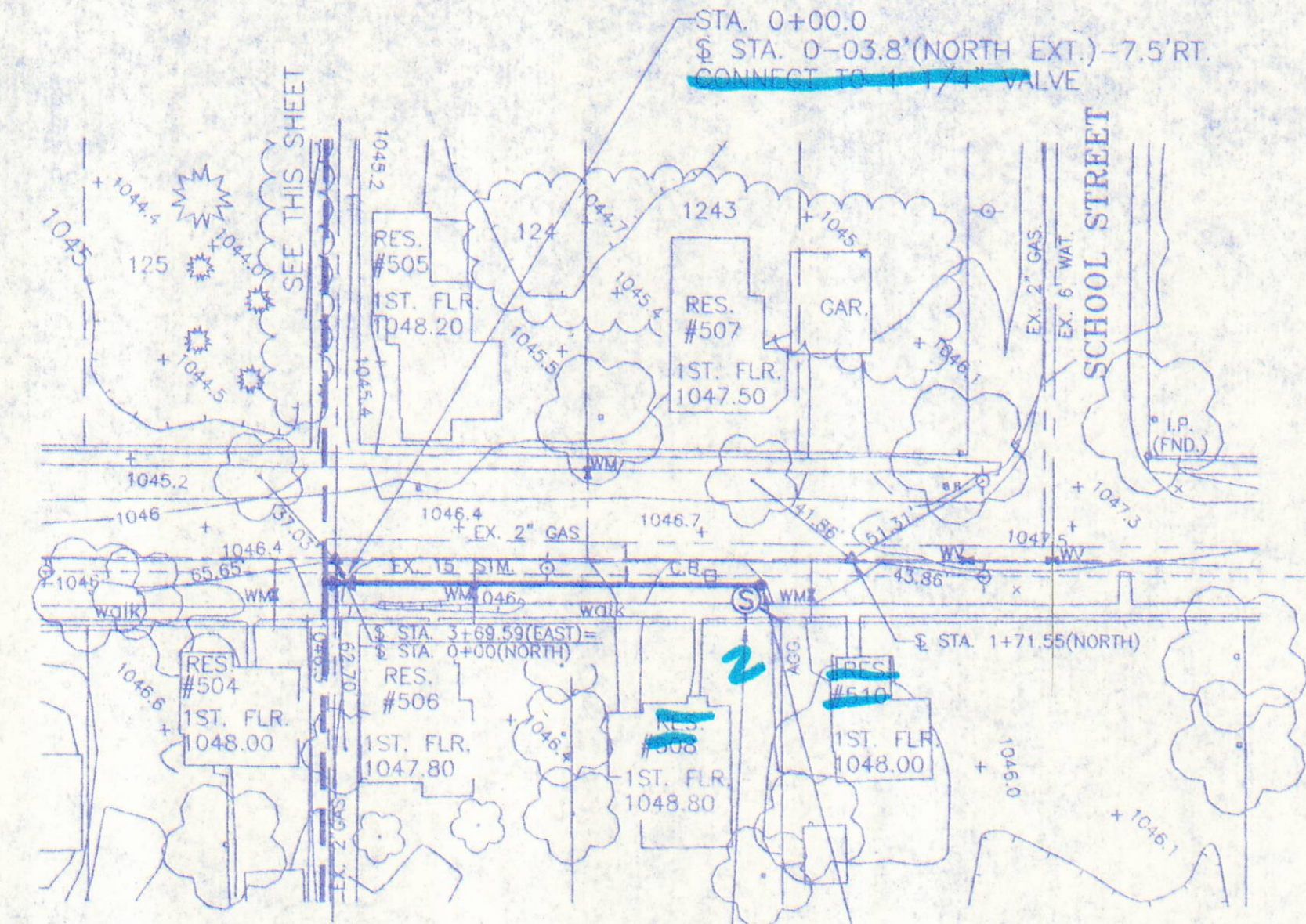
DATE: AUGUST, 1999  
SCALE: 1" = 50'H, 1" = 5'V

SHEET NO.  
58 OF 72

DESIGN: *DEM* DRAWN: *Jam* CHECKED: *G.H.* APPROVED: *G.H.*



CENTER STREET 50  
ASPHALT CONCRETE SURFACE



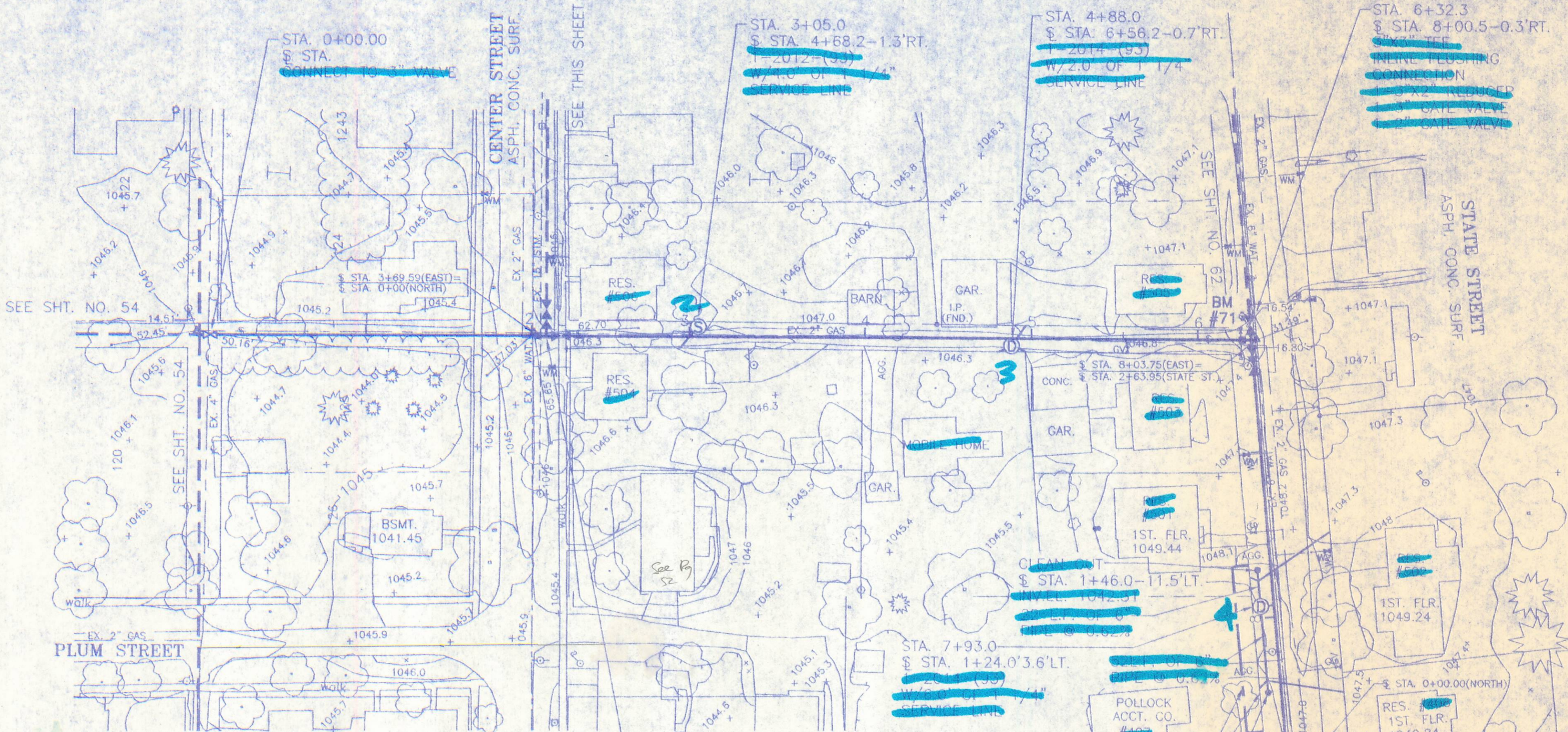
STA. 1+40.0  
§ STA. 1+36.1-8.5'RT.  
1.5" WATER MAIN  
W/2" GAS

STA. 1+45.0  
§ STA. 1+41.2-8.5'RT.  
1.5" WATER MAIN  
1.5" GAS CONNECTION

B.M.#70  
N. BOLT ON F.HYD  
@ INT. OF SCHOOL ST. & CENTER ST.  
© RES.#606  
EL. 1049.33

PAVEMENT REPLACEMENT  
ASPHALT ALLEY  
1 1/2" ASPH. CONC. ON  
6" AGG. BASE  
AGGREGATE ALLEY  
9" AGG. BASE  
ASPHALT STREET  
2 1/2" ASPH. CONC. ON  
9" AGG. BASE

B.M.#71  
N. BOLT OF F.HYD.  
N. SIDE OF N. STATE ST. @ RES.#505  
EL. 1049.48

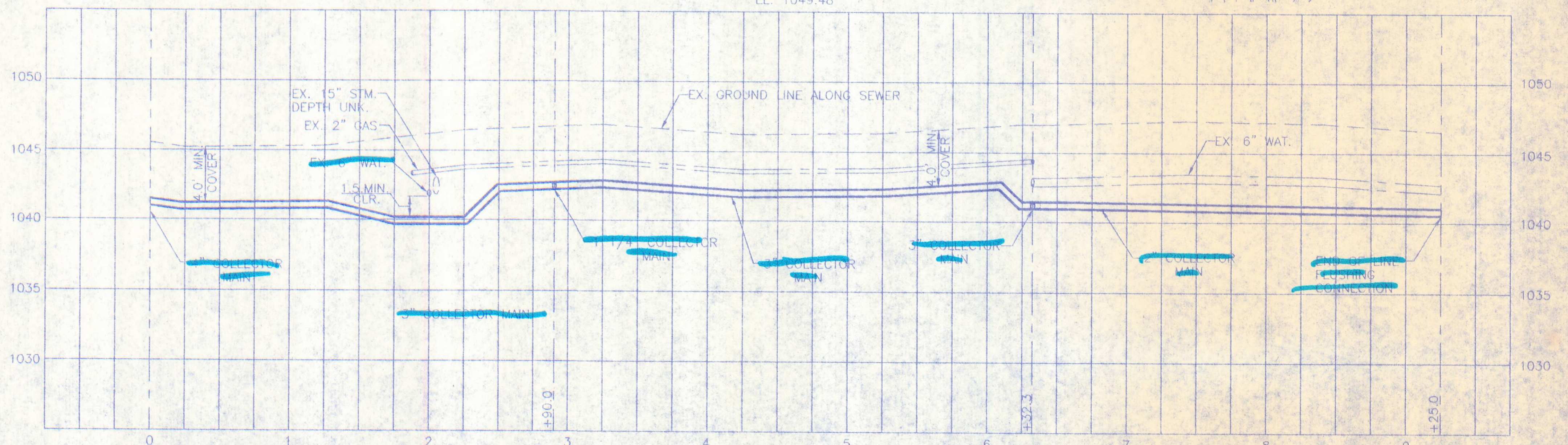
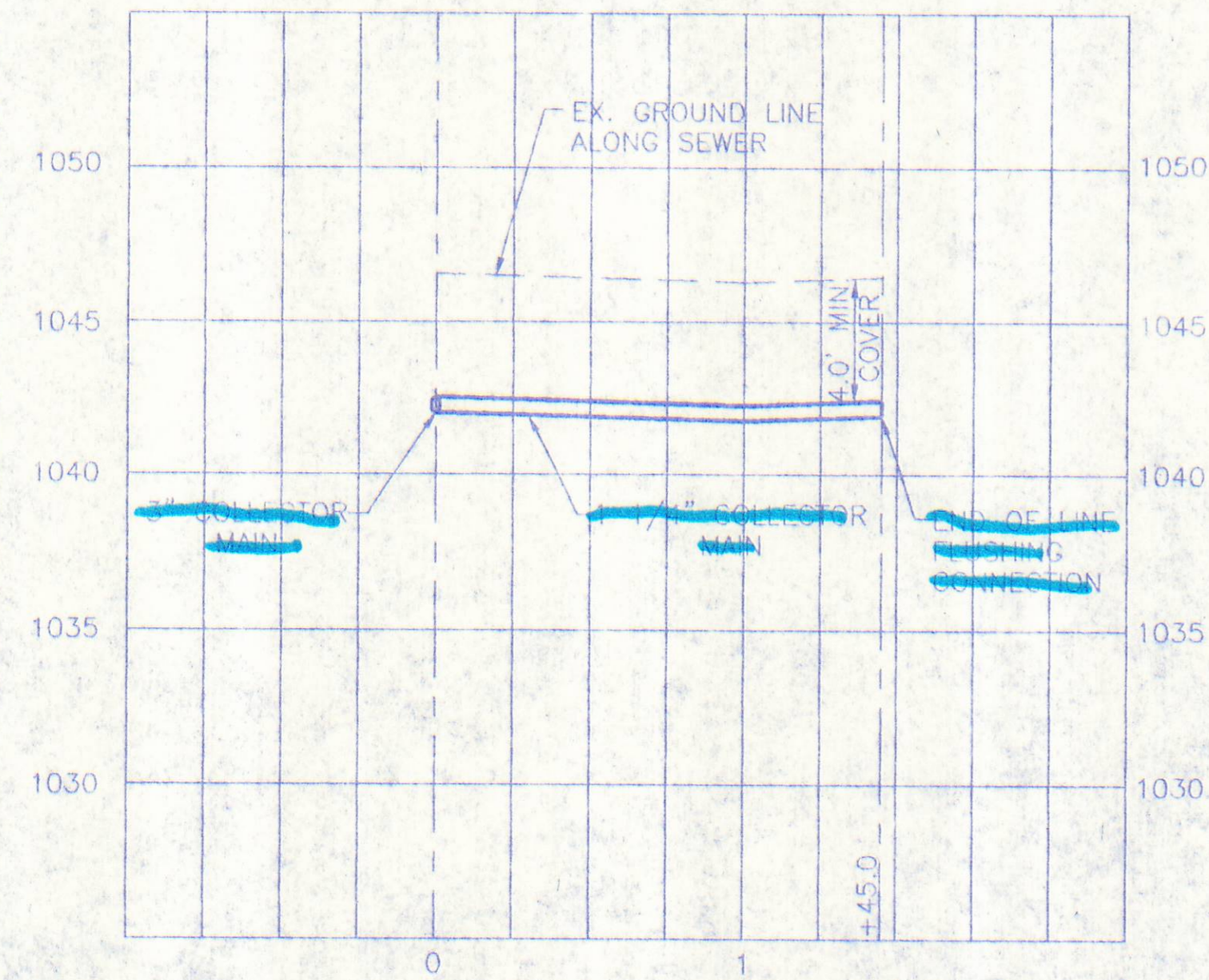


STA. 2+90.0  
§ STA. 3+77.2-1.5'RT.  
1.5" WATER MAIN  
1.5" GAS CONNECTION  
1.5" GAS VALVE

10' TEMPORARY  
WORK AGREEMENT  
CLEAN OUT  
§ STA. 0+72.0-11.5'LT  
INVERT 1042.49

STA. 9+25.0  
§ STA. 0-27.8(EXT.)-3.8'LT.  
1.5" WATER MAIN  
1.5" GAS CONNECTION

STA. 9+17.0  
§ STA. 0-19.8(EXT.)-3.8'LT.  
1.5" WATER MAIN  
1.5" GAS CONNECTION



REV. NO.	DESCRIPTION	BY	DATE

DESIGNER R. J. BENT	DRAWN J. M. JAM	CHECKED G. J. JAM	APPROVED G. J. JAM
------------------------	--------------------	----------------------	-----------------------

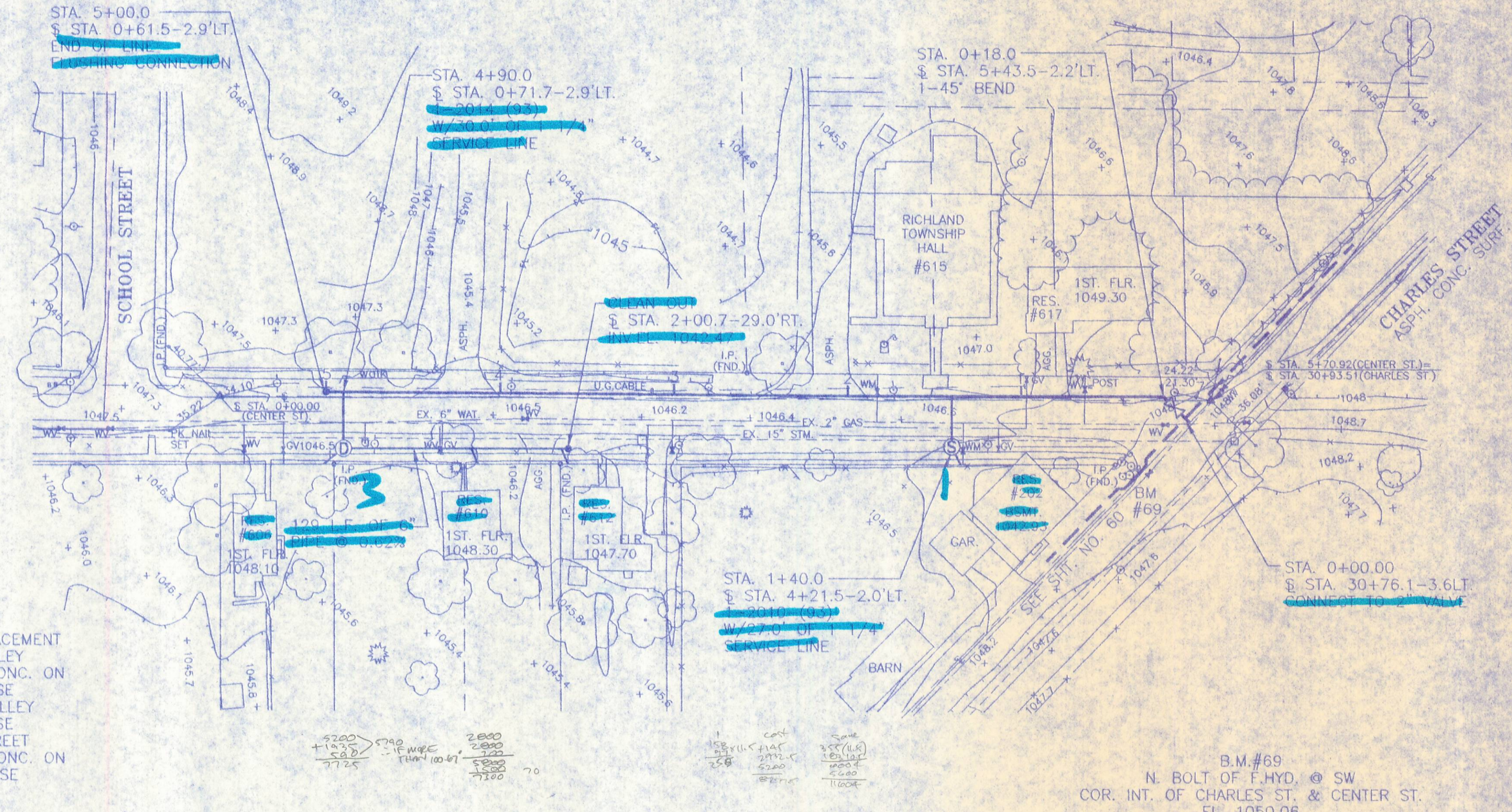
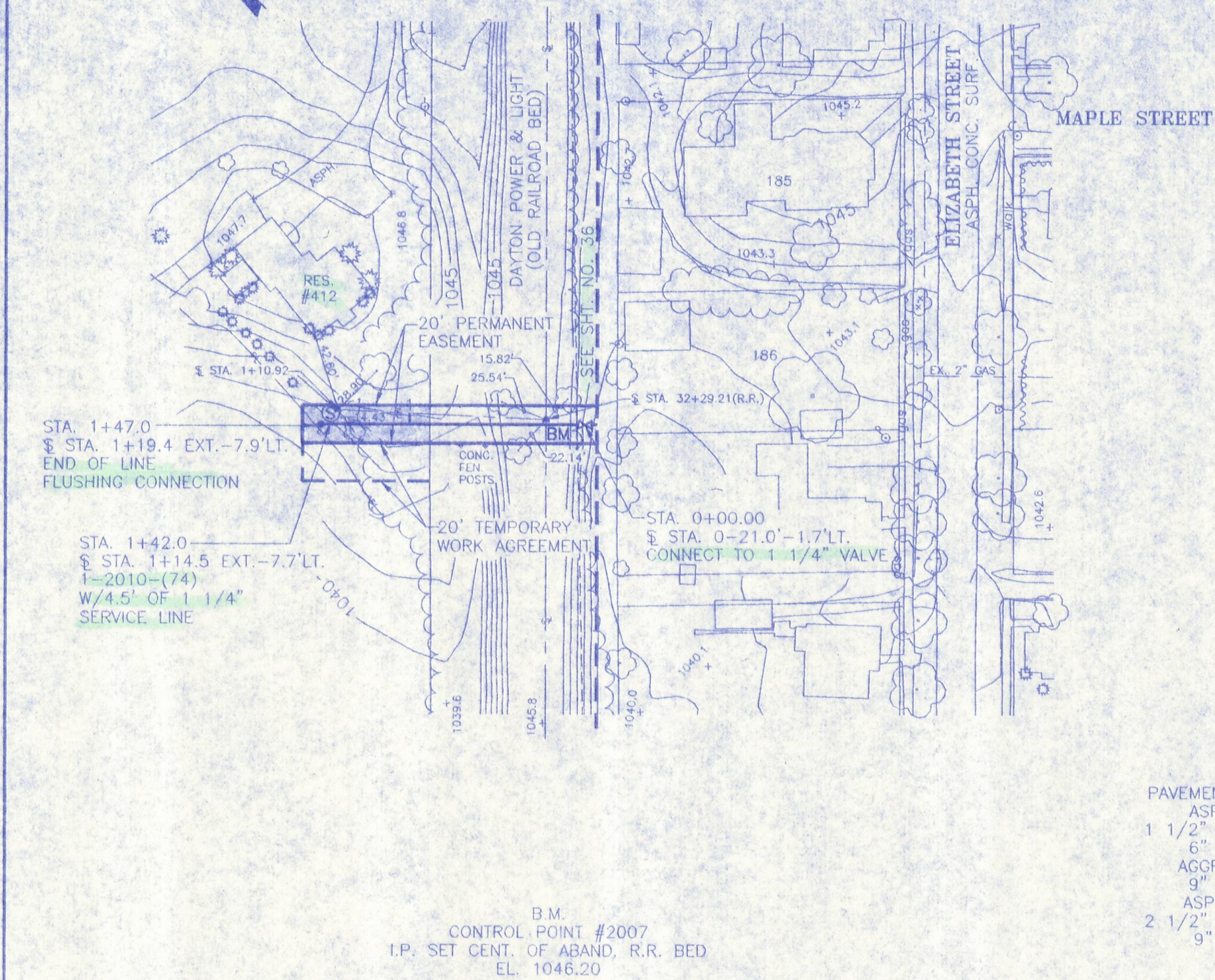
WILBUR SMITH ASSOCIATES CONSULTING ENGINEERS COLUMBUS, OHIO	
VILLAGE OF BELLE CENTER, OHIO SANITARY SEWERAGE IMPROVEMENTS ALLEY BETWEEN SCHOOL & PLUM STREETS CENTER STREET	
DATE: AUGUST, 1999 SCALE: 1" = 50'H/1" = 5V.	SHEET NO. 59 OF 72







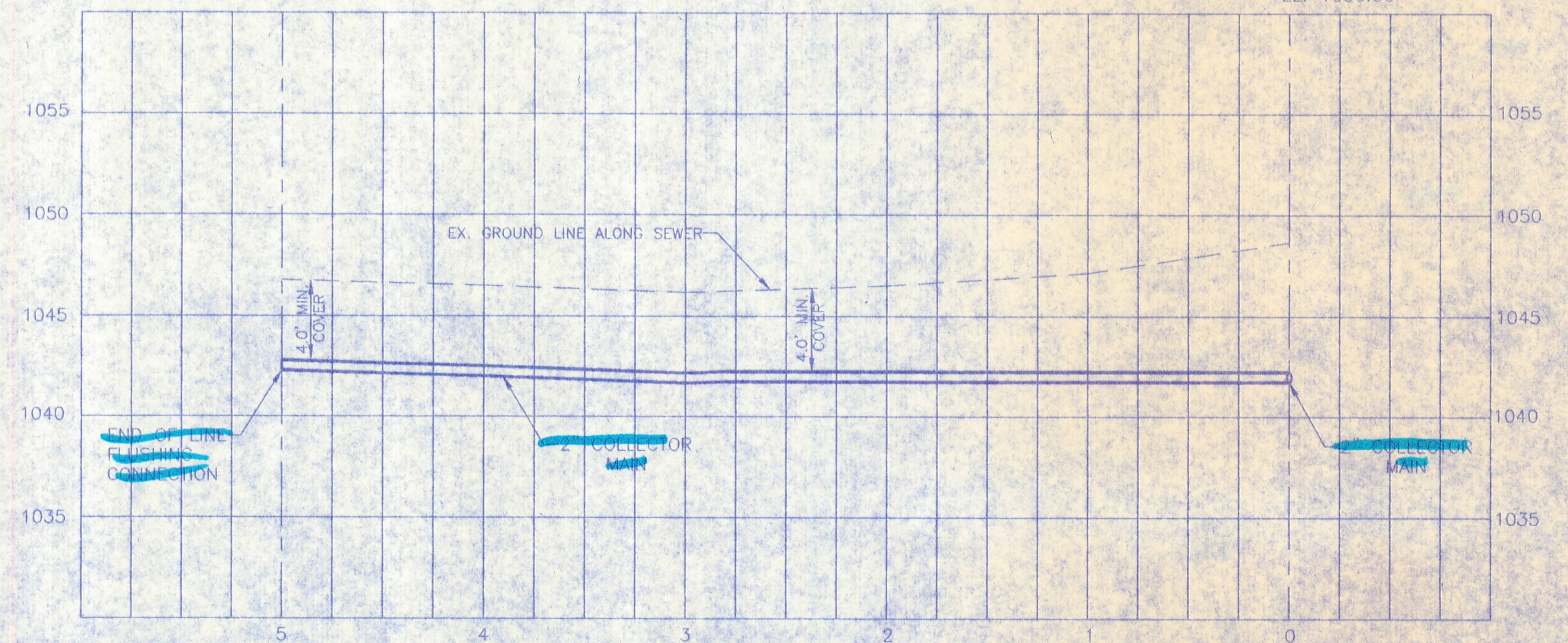
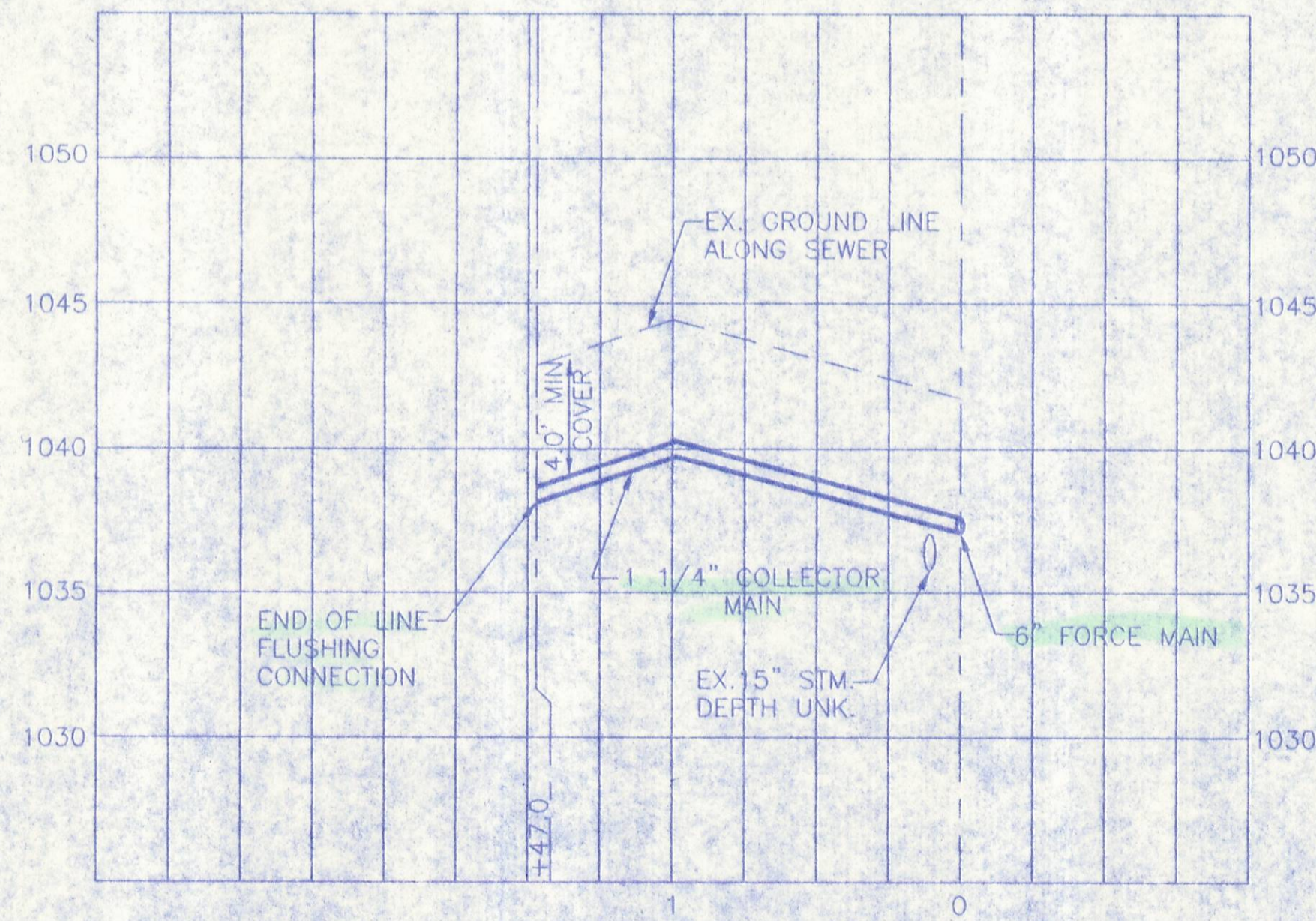
CENTER STREET 50'  
ASPHALT CONCRETE SURFACE



PAVEMENT REPLACEMENT  
ASPHALT ALLEY  
1 1/2" ASPH. CONC. ON  
6" AGG. BASE  
AGGREGATE ALLEY  
9" AGG. BASE  
ASPHALT STREET  
2 1/2" ASPH. CONC. ON  
9" AGG. BASE

B.M.  
CONTROL POINT #2007  
I.P. SET CENT. OF ABAND. R.R. BED  
EL. 1046.20

B.M.#69  
N. BOLT OF F.HYD. @ SW  
COR. INT. OF CHARLES ST. & CENTER ST.  
EL. 1050.06



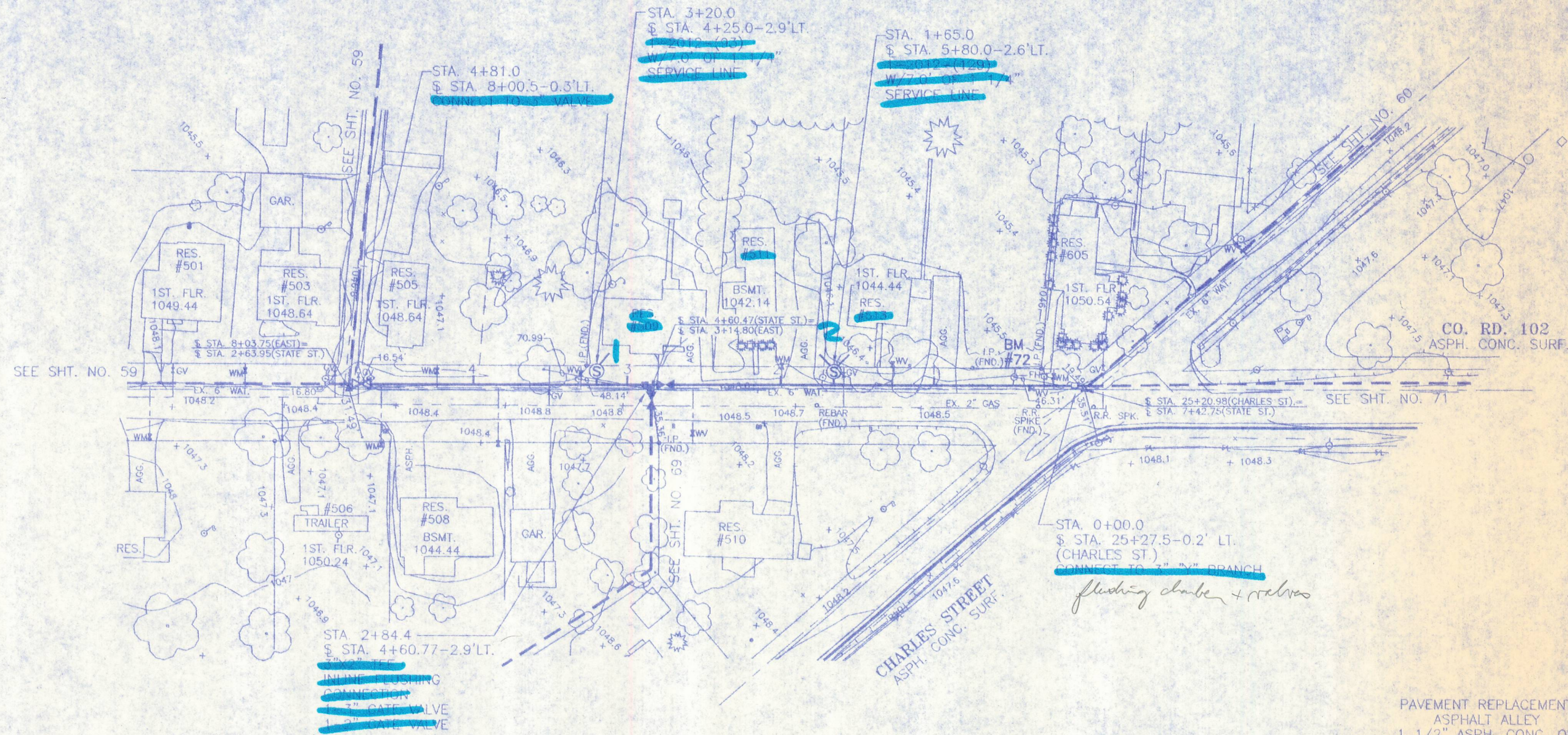
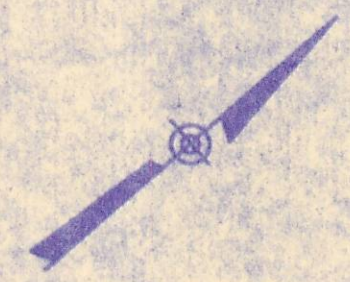
Rev. No.	DESCRIPTION	BY	DATE

WILBUR SMITH ASSOCIATES CONSULTING ENGINEERS COLUMBUS, OHIO	
VILLAGE OF BELLE CENTER, OHIO SANITARY SEWERAGE IMPROVEMENTS CENTER STREET PROPERTY WEST OF ELIZABETH STREET	
DATE: AUGUST, 1999	SHEET NO.
SCALE: 1" = 50'H/1" = 5V	610F72

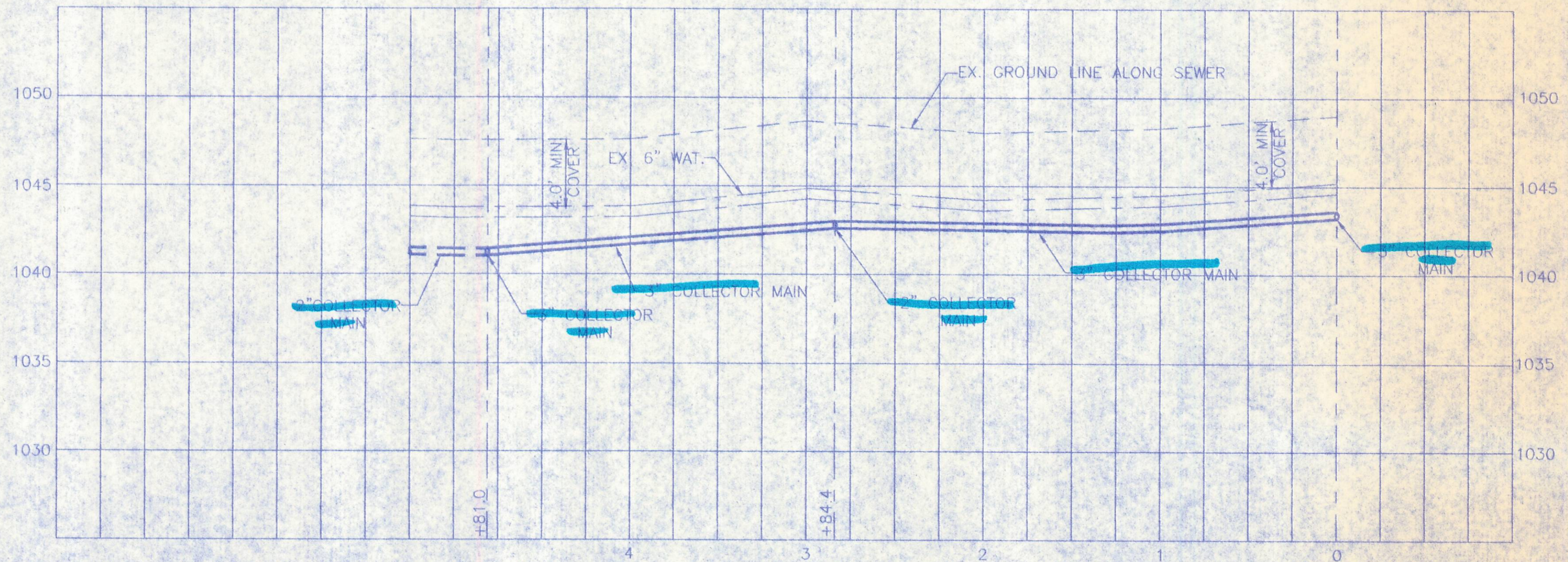


STATE STREET 50  
ASPHALT CONCRETE SURFACE



- PAVEMENT REPLACEMENT  
ASPHALT ALLEY  
1 1/2" ASPH. CONC. ON  
6" AGG. BASE  
AGGREGATE ALLEY  
9" AGG. BASE  
ASPHALT STREET  
2 1/2" ASPH. CONC. ON  
9" AGG. BASE

B.M.#72  
E. BOLT ON F.HYD. @ NW  
COR. INT. OF CHARLES ST. &  
STATE ST. @ RES.#605  
EL. 1050.42



Rev. No.	DESCRIPTION	BY	DATE

WILBUR SMITH ASSOCIATES  
CONSULTING ENGINEERS  
COLUMBUS, OHIO

VILLAGE OF BELLE CENTER, OHIO  
SANITARY SEWERAGE IMPROVEMENTS  
STATE STREET

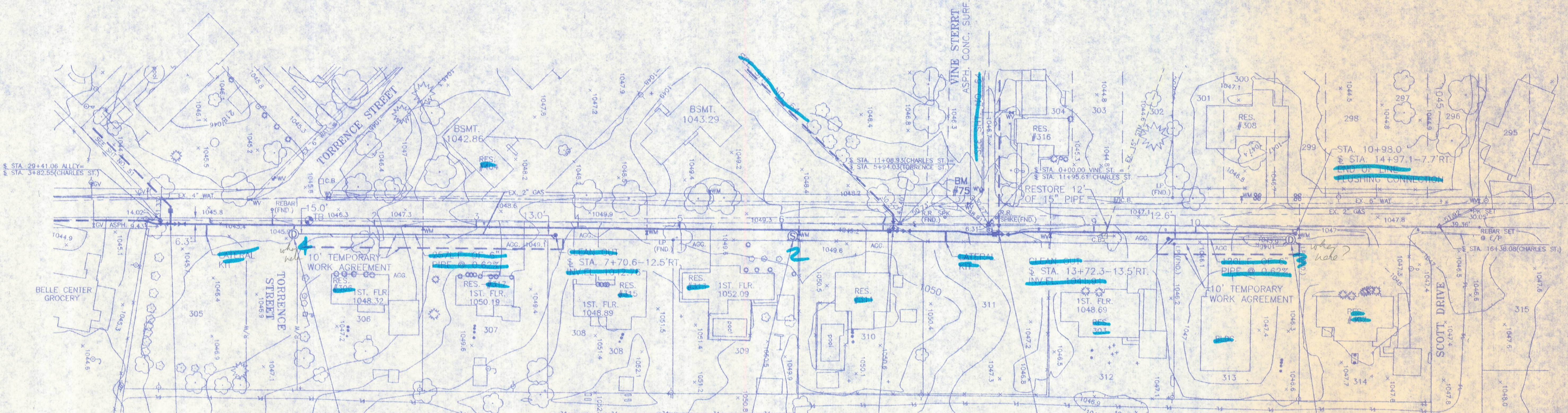
DATE: AUGUST, 1999  
SCALE: 1" = 50'H, 1" = 5'V

SHEET NO.  
62 OF 72

S:\PROJECTS\BelleCenter\Station\STATE1.dwg, Tue Sep 14 15:05:02 1999, JMW



CHARLES STREET 45' & 50'  
ASPHALT CONCRETE SURF.



STA. 0+00.0  
 & STA. 3+92.6-3.7'RT.  
 MAIN FLUSHING CONNECTION  
 15\"/>

STA. 1+21.0  
 & STA. 5+13.6-4.2'RT.  
 MAIN FLUSHING CONNECTION  
 15\"/>

PAVEMENT REPLACEMENT  
 ASPHALT ALLEY  
 1 1/2\"/>

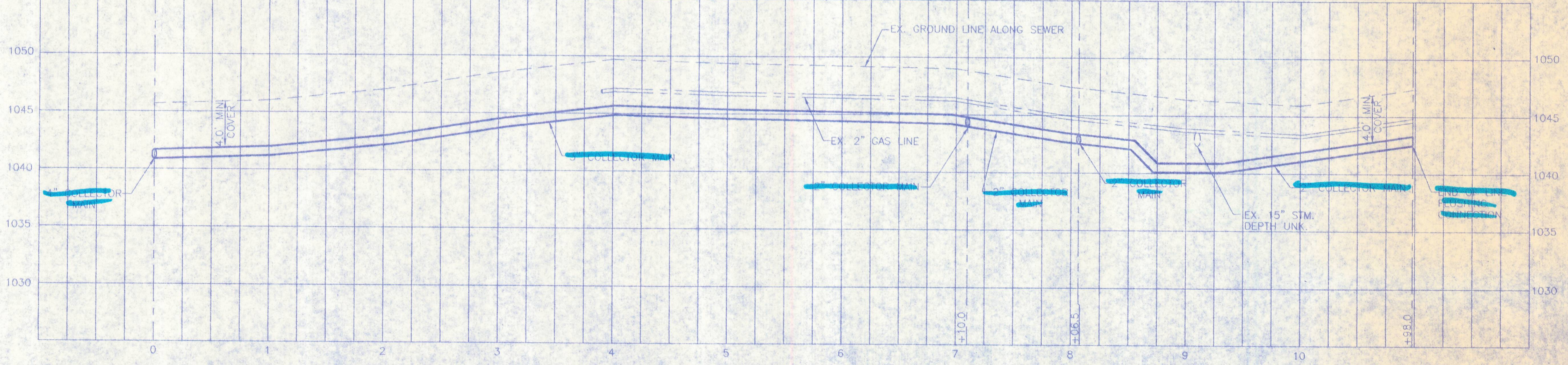
STA. 6+11.0  
 & STA. 10+03.6-6.5'RT.  
 MAIN FLUSHING CONNECTION  
 15\"/>

STA. 7+10.0  
 & STA. 11+02.6-7.0'RT.  
 MAIN FLUSHING CONNECTION  
 15\"/>

STA. 8+06.5  
 & STA. 12+05.9-10.0'RT.  
 MAIN FLUSHING CONNECTION  
 15\"/>

STA. 10+93.0  
 & STA. 14+92.3-7.6'RT.  
 MAIN FLUSHING CONNECTION  
 15\"/>

B.M. #75  
 N. BOLT OF F.HYD. @ INT.  
 OF VINE ST. & CHARLES ST.  
 EL. 1049.67

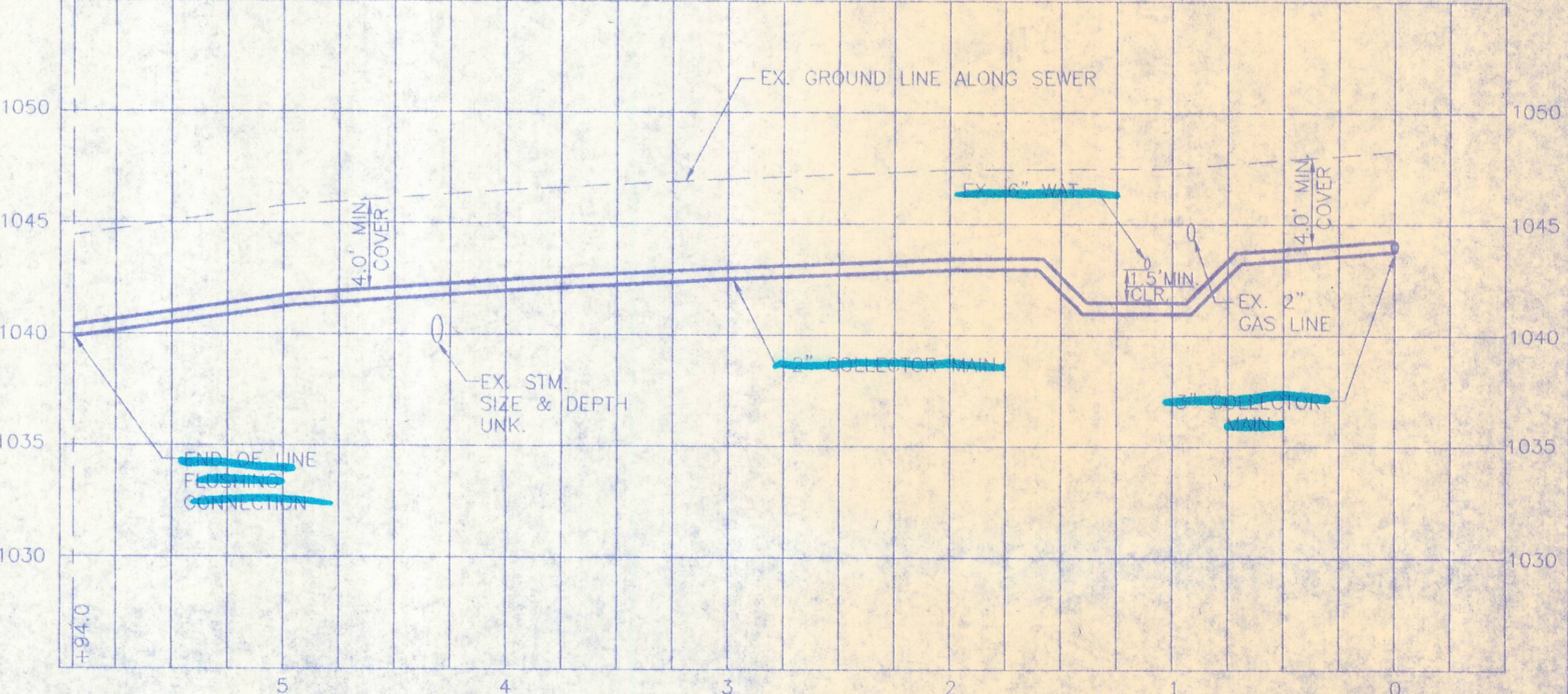
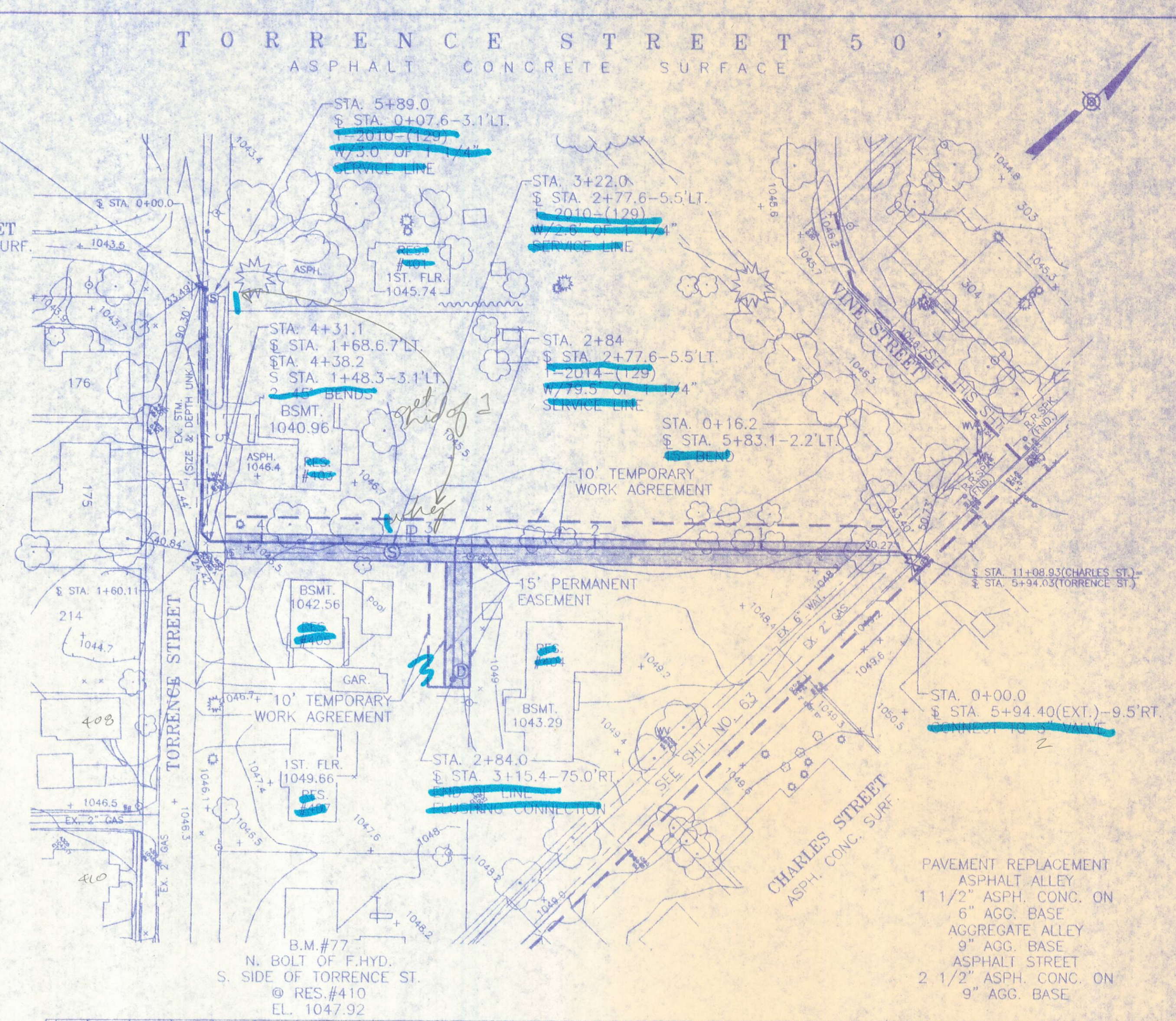
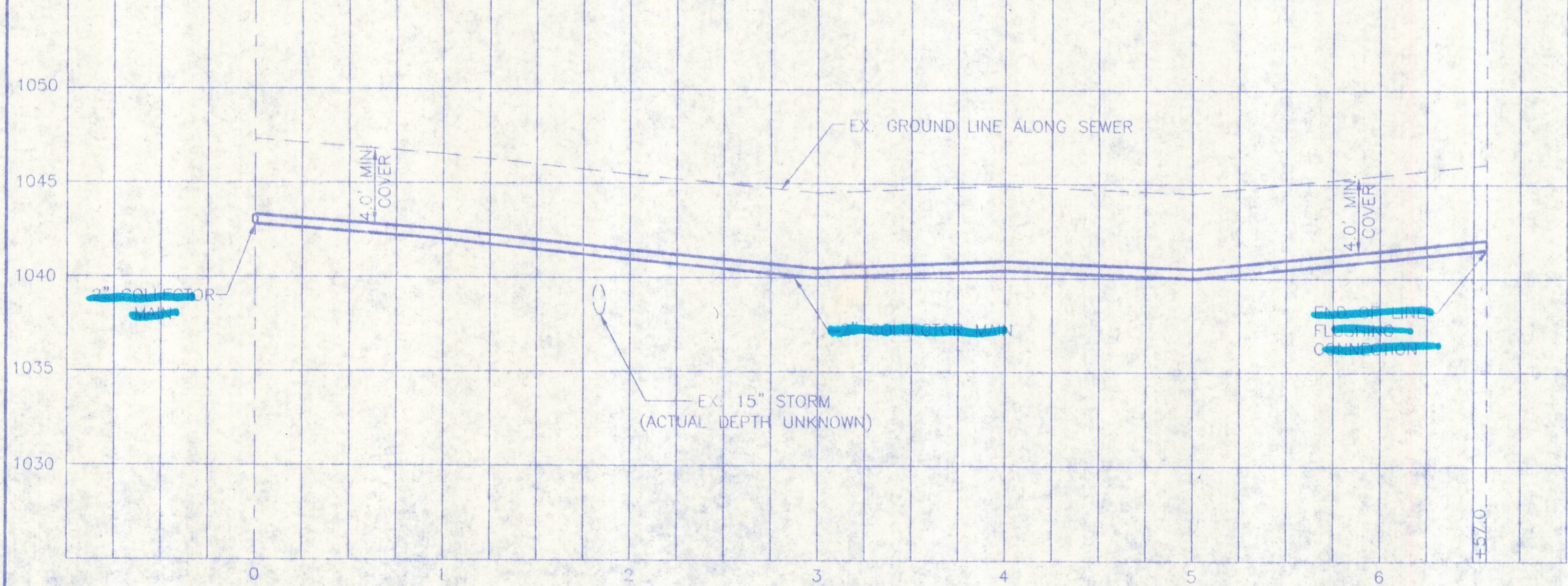
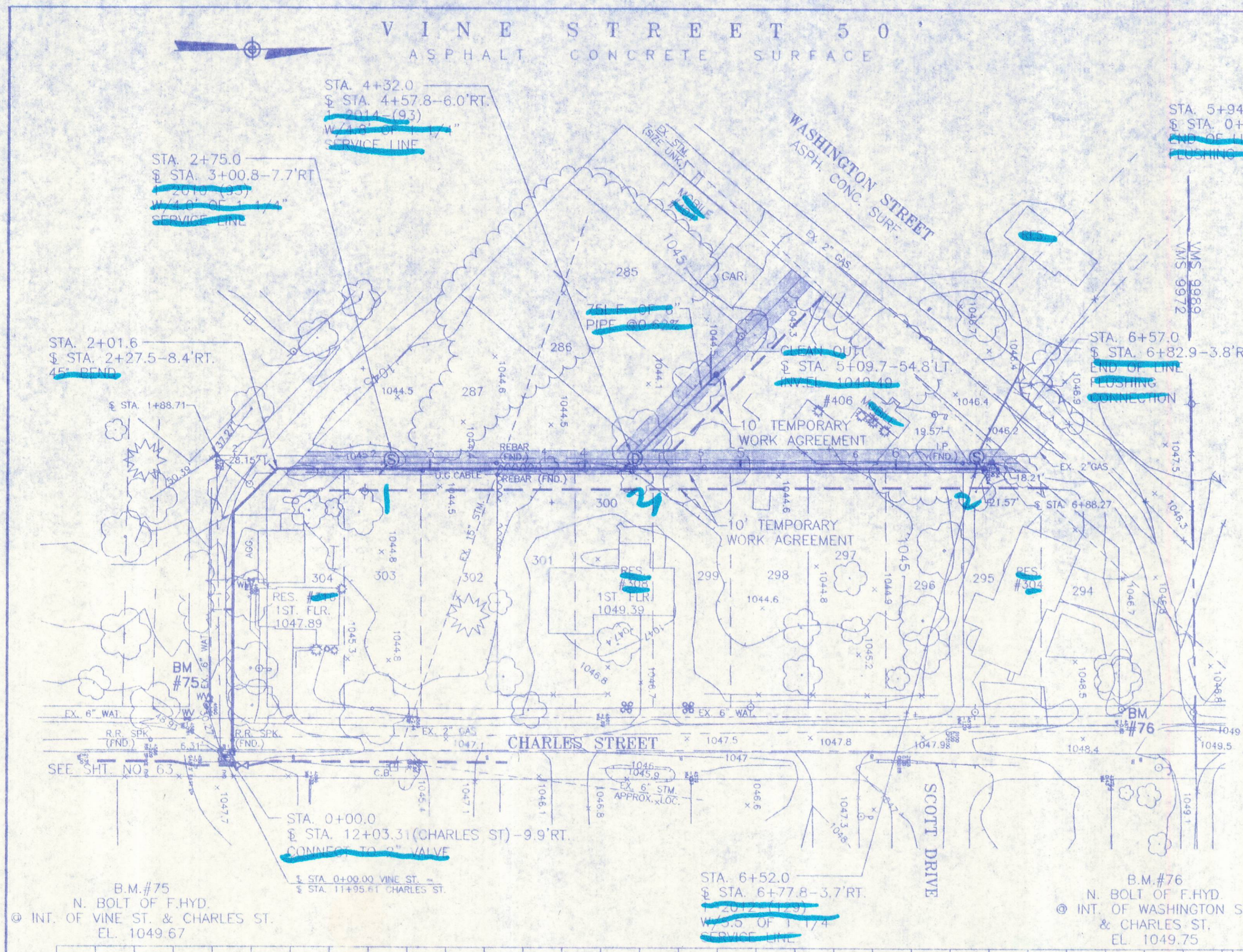


Rev. No.	DESCRIPTION	BY	DATE

WILBUR SMITH ASSOCIATES CONSULTING ENGINEERS COLUMBUS, OHIO			
VILLAGE OF BELLE CENTER, OHIO SANITARY SEWERAGE IMPROVEMENTS CHARLES STREET STA. 0+00.00 TO STA. 10+93.00			
DESIGN: <i>DEM</i>	DRAWN: <i>jam</i>	CHECKED: <i>grj</i>	APPROVED: <i>gdm</i>
DATE: AUGUST, 1999 SCALE: 1" = 50'H / 1" = 5'V			SHEET NO. 63 OF 72





Rev. No.	DESCRIPTION	BY	DATE

WILBUR SMITH ASSOCIATES  
 CONSULTING ENGINEERS  
 COLUMBUS, OHIO

VILLAGE OF BELLE CENTER, OHIO  
 SANITARY SEWERAGE IMPROVEMENTS  
 VINE STREET  
 TORRENCE STREET

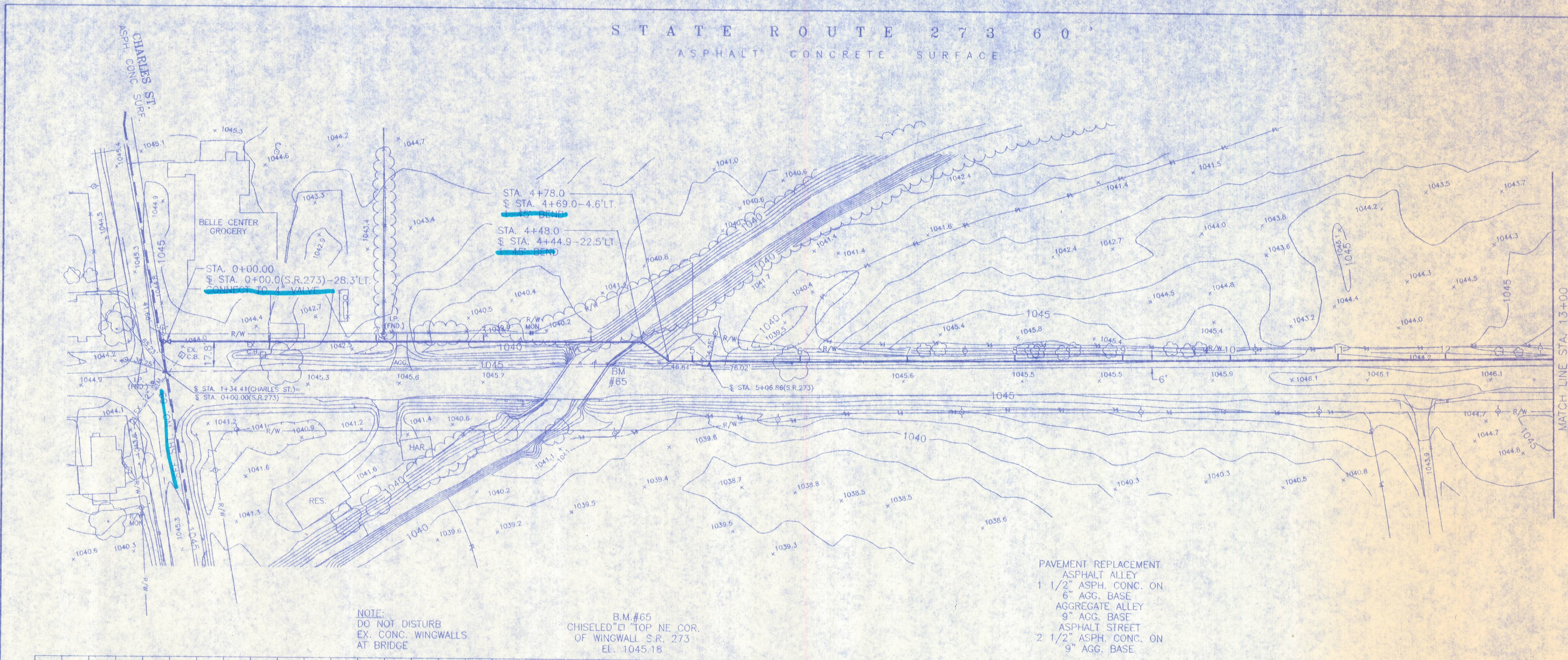
DATE: AUGUST, 1999  
 SCALE: 1" = 50'H/1" = 5'V

SHEET NO.  
 64 OF 72

S:\PROJECTS\2014\2014-08-26\2014-08-26-1999-0000.DWG



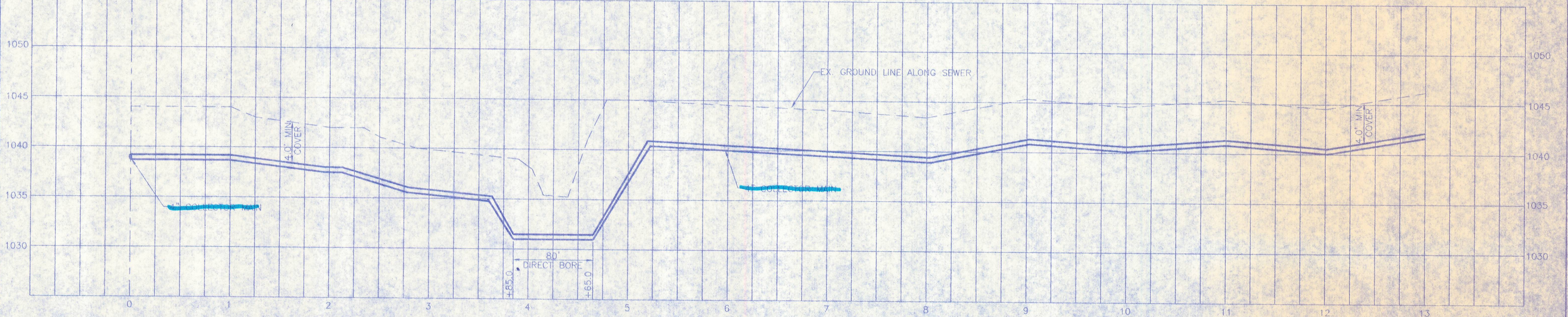
STATE ROUTE 273 60  
ASPHALT CONCRETE SURFACE



NOTE:  
DO NOT DISTURB  
EX. CONC. WINGWALLS  
AT BRIDGE

B.M. #65  
CHISELED "C" TOP NE COR.  
OF WINGWALL S.R. 273  
EL. 1045.18

PAVEMENT REPLACEMENT  
ASPHALT ALLEY  
1 1/2" ASPH. CONC. ON  
6" AGG. BASE  
AGGREGATE ALLEY  
9" AGG. BASE  
ASPHALT STREET  
2 1/2" ASPH. CONC. ON  
9" AGG. BASE



Rev. No.	DESCRIPTION	BY	DATE

WILBUR SMITH ASSOCIATES  
CONSULTING ENGINEERS  
COLUMBUS, OHIO

VILLAGE OF BELLE CENTER, OHIO  
SANITARY SEWERAGE IMPROVEMENTS  
STATE ROUTE 273  
STA. 0+00.00 TO STA. 13+00.00

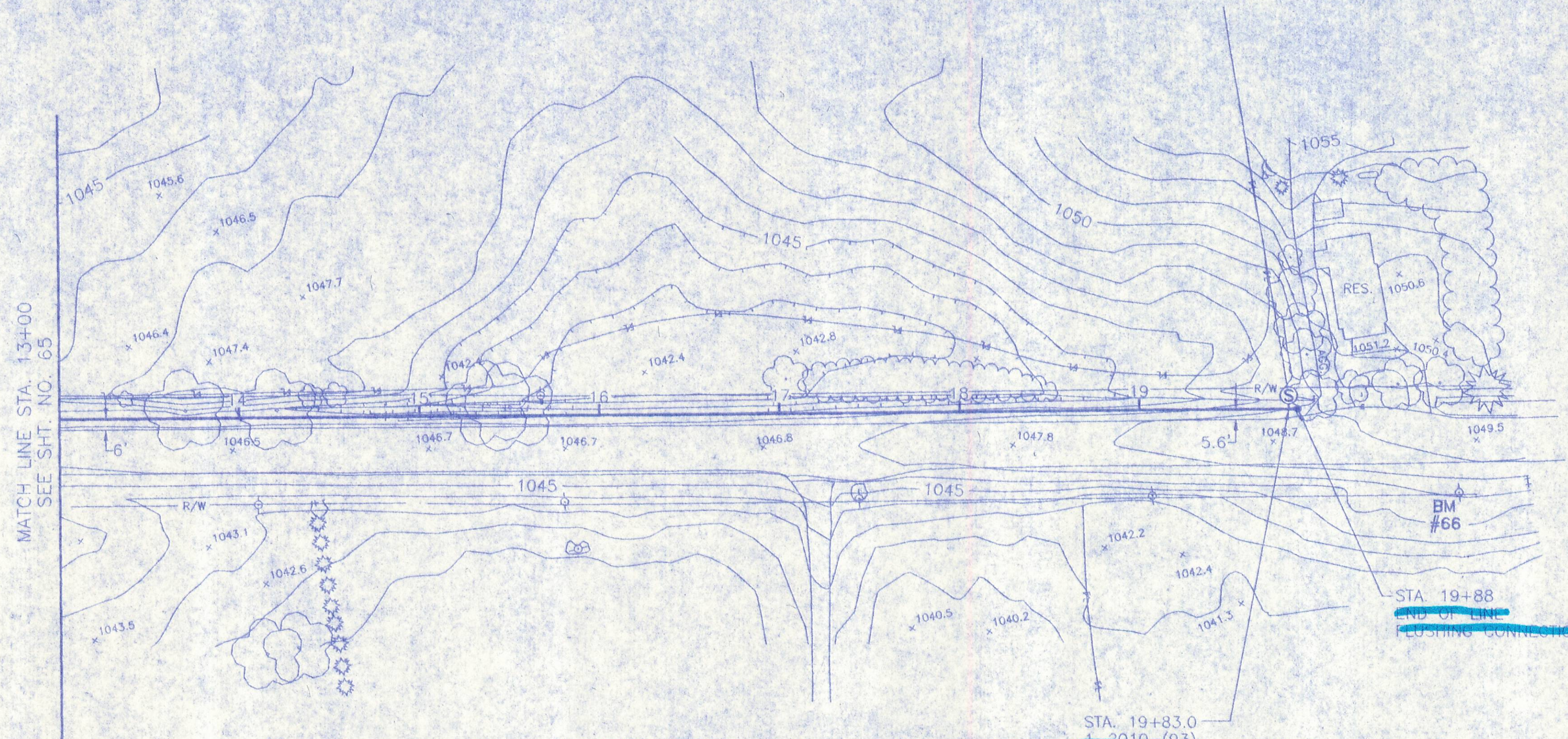
DATE: AUGUST 1999  
SCALE: 1" = 60'H./1" = 5'V.

SHEET NO.  
65 OF 72

S:\Village\15\15-16\15-16.dwg Tue Sep 14 15:02:41 1999 .dgn



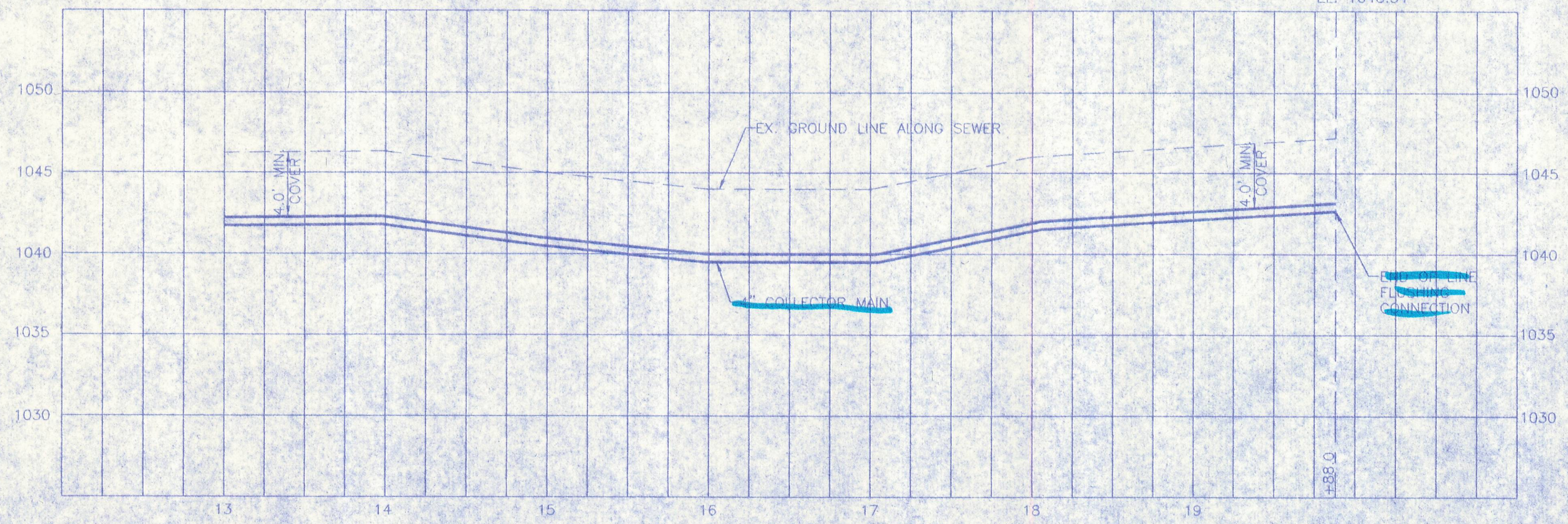
STATE ROUTE 273 60'  
ASPHALT CONCRETE SURFACE



PAVEMENT REPLACEMENT  
 ASPHALT ALLEY  
 1 1/2" ASPH. CONC. ON  
 6" AGG. BASE  
 AGGREGATE ALLEY  
 9" AGG. BASE  
 ASPHALT STREET  
 2 1/2" ASPH. CONC. ON  
 9" AGG. BASE

STA. 19+83.0  
 2010 (9.3)  
 W/5.5' OF 1 1/4"  
 SERVICE LINE

B.M. #66  
 R.R. SPK. N. SIDE OF POWER  
 POLE (071DY300-13) S. SIDE OF  
 S.R. 273, ACROSS FROM RES. #545  
 EL. 1048.54



Rev. No.	DESCRIPTION	BY	DATE

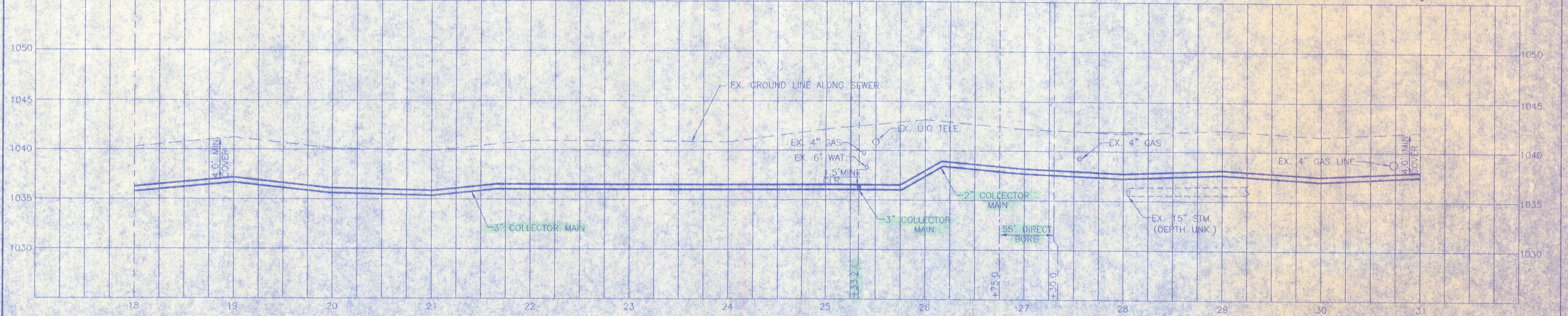
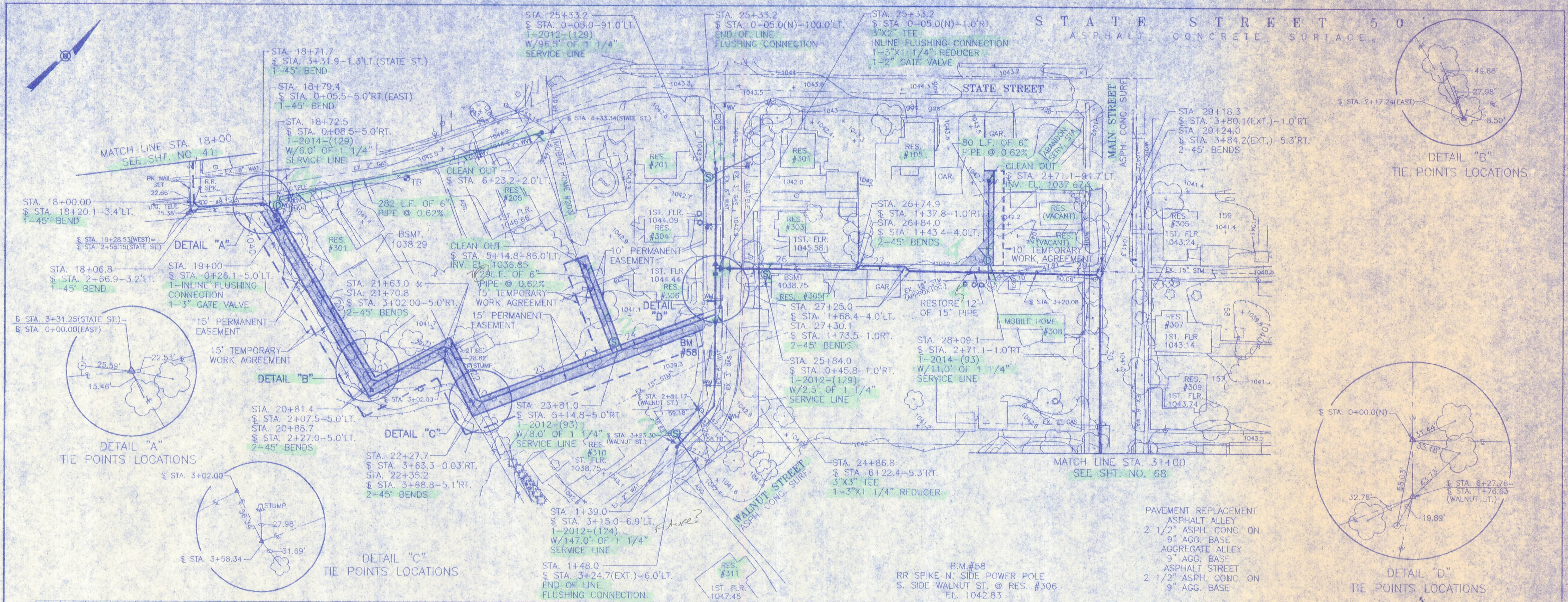
  

WILBUR SMITH ASSOCIATES CONSULTING ENGINEERS COLUMBUS, OHIO			
VILLAGE OF BELLE CENTER, OHIO SANITARY SEWERAGE IMPROVEMENTS STATE ROUTE 273 STA. 13+00.00 TO STA. 19+88.00			
DESIGN	DRAWN	CHECKED	APPROVED
<i>Dem</i>	<i>Jan</i>	<i>UJ</i>	<i>Jan</i>
DATE: AUGUST 1989			SHEET NO.
SCALE: 1" = 50'H / 1" = 6V			66 OF 72

S:\PROJECTS\Belle Center\SR273A.dwg Tue Sep 14 15:03:59 1989 JDM

SR273A-50





Rev. No.	DESCRIPTION	BY	DATE

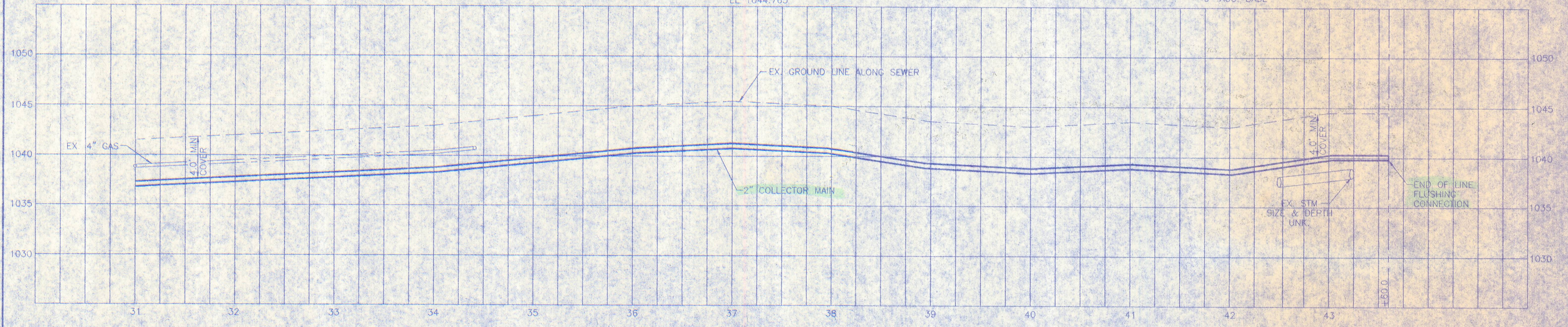
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WILBUR SMITH ASSOCIATES CONSULTING ENGINEERS COLUMBUS, OHIO	SHEET NO. 67 OF 72
VILLAGE OF BELLE CENTER, OHIO SANITARY SEWERAGE IMPROVEMENTS STATE STREET STA. 18+00.00 TO STA. 31+00.00	DATE: AUGUST, 1999 SCALE: 1" = 50'H/1" = 5'V.

10/10/2000 10:10:00 AM 10/10/2000 10:10:00 AM 10/10/2000 10:10:00 AM 10/10/2000 10:10:00 AM 10/10/2000 10:10:00 AM





Rev. No.	DESCRIPTION	BY	DATE

WILBUR SMITH ASSOCIATES  
 CONSULTING ENGINEERS  
 COLUMBUS, OHIO

VILLAGE OF BELLE CENTER, OHIO  
 SANITARY SEWERAGE IMPROVEMENTS  
 STATE STREET  
 STA. 31+00.00 TO STA. 43+60.00

DATE: AUGUST, 1999  
 SCALE: 1" = 60'H/1" = 5V.

SHEET NO.  
 68 OF 72

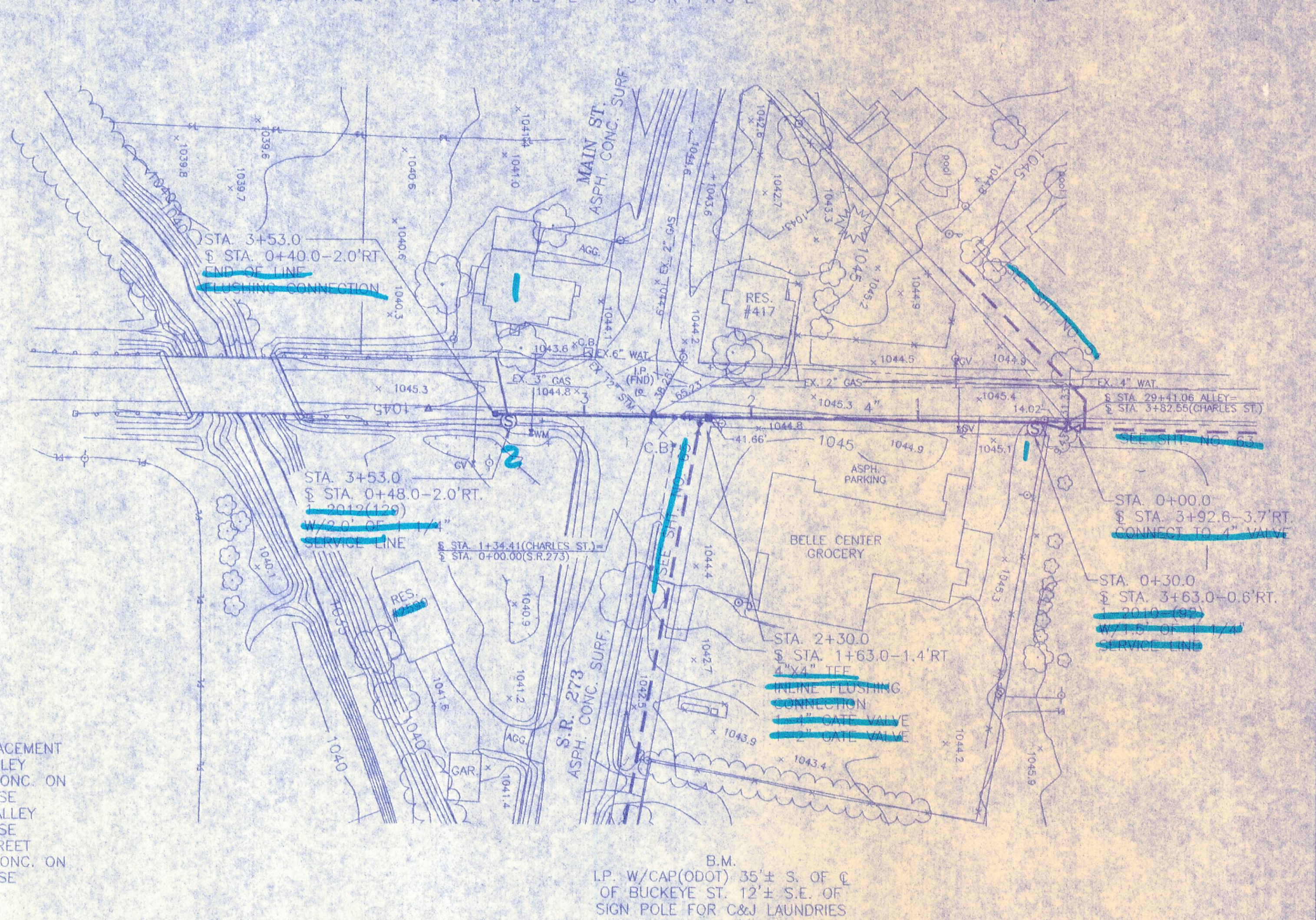
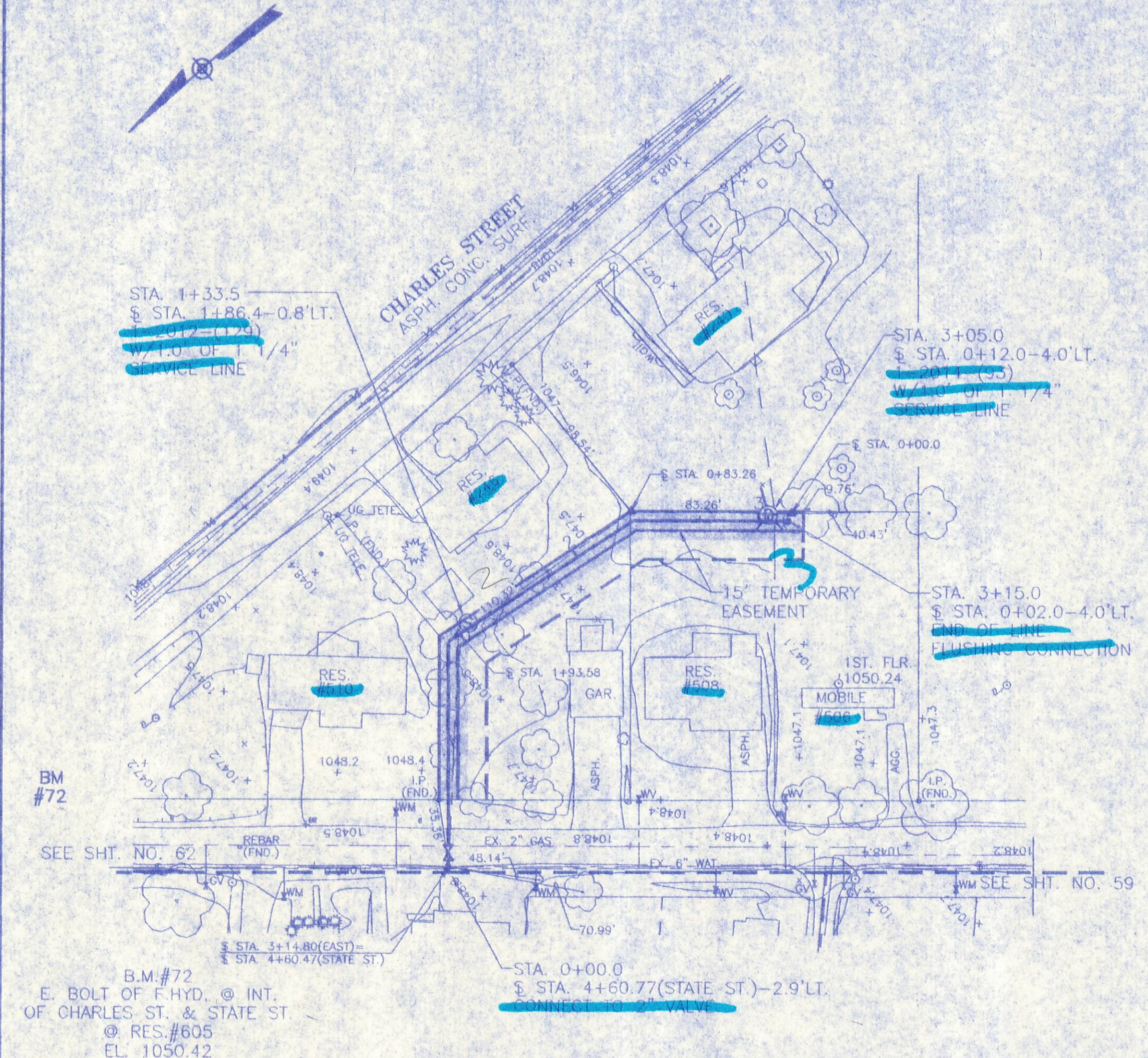
DESIGN: JEM  
 DRAWN: jam  
 CHECKED: [Signature]  
 APPROVED: [Signature]

G:\PROJECTS\Belle Center\STATE3.dwg TUE Sep 14 15:37:05 1999 JEM



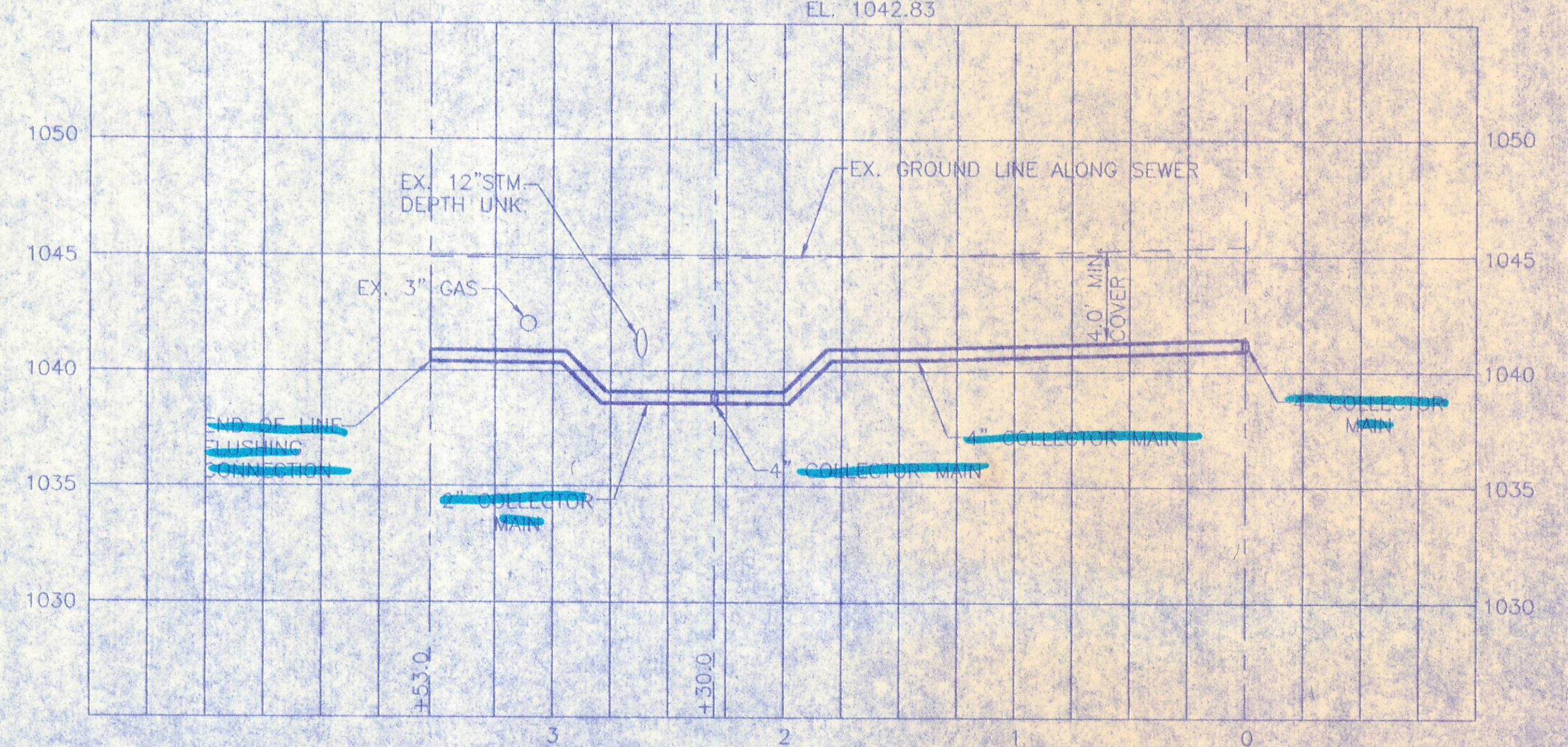
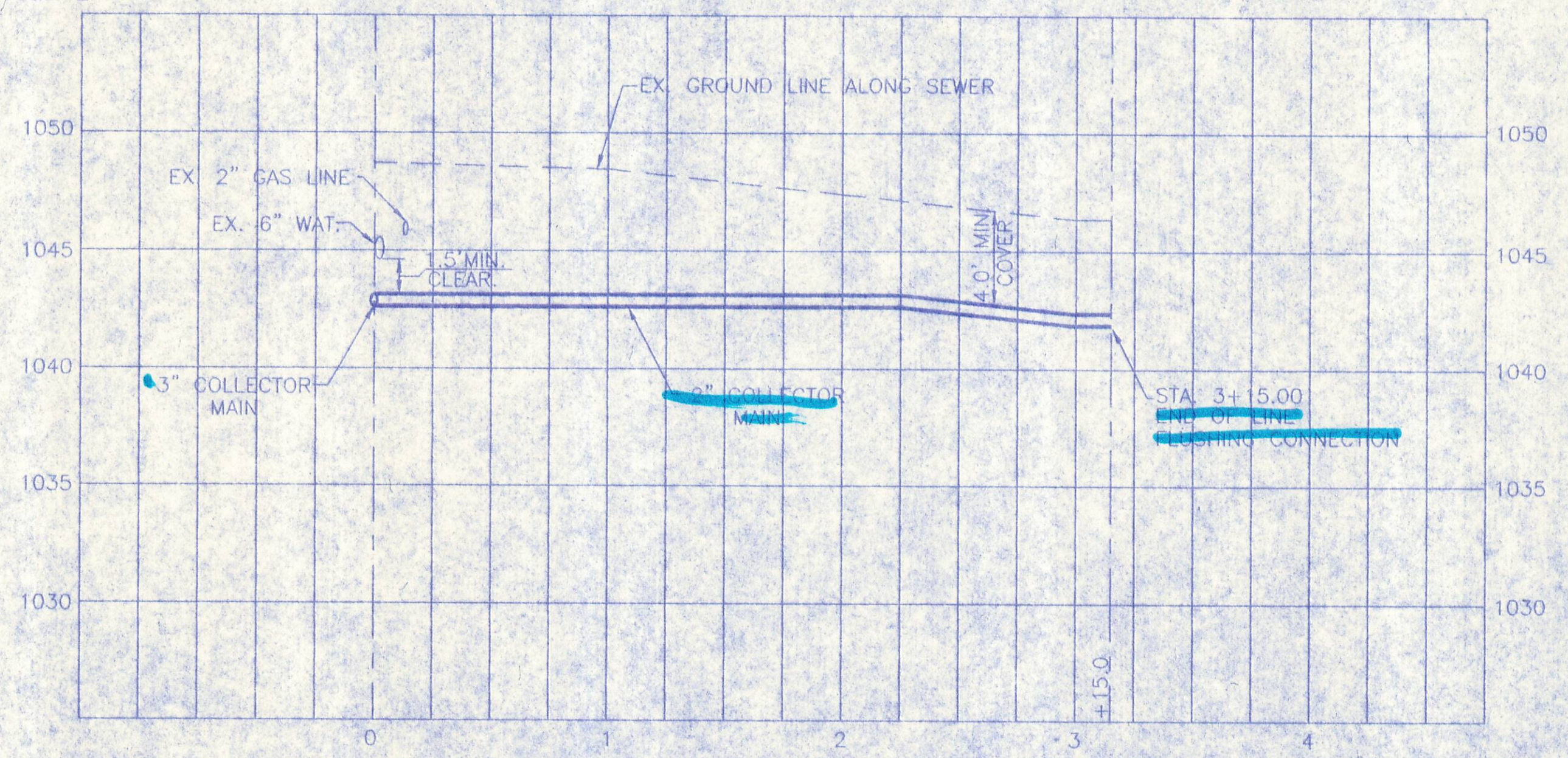
STATE STREET 50  
ASPHALT CONCRETE SURFACE

CHARLES STREET  
ASPHALT CONCRETE SURFACE



PAVEMENT REPLACEMENT  
ASPHALT ALLEY  
2 1/2" ASPH. CONC. ON  
9" AGG. BASE  
AGGREGATE ALLEY  
9" AGG. BASE  
ASPHALT STREET  
2 1/2" ASPH. CONC. ON  
9" AGG. BASE

B.M.  
L.P. W/CAP (ODOT) 35' ± S. OF C.  
OF BUCKEYE ST. 12' ± S.E. OF  
SIGN POLE FOR C&I LAUNDRIES  
EL. 1042.83



REV. NO.	DESCRIPTION	BY	DATE

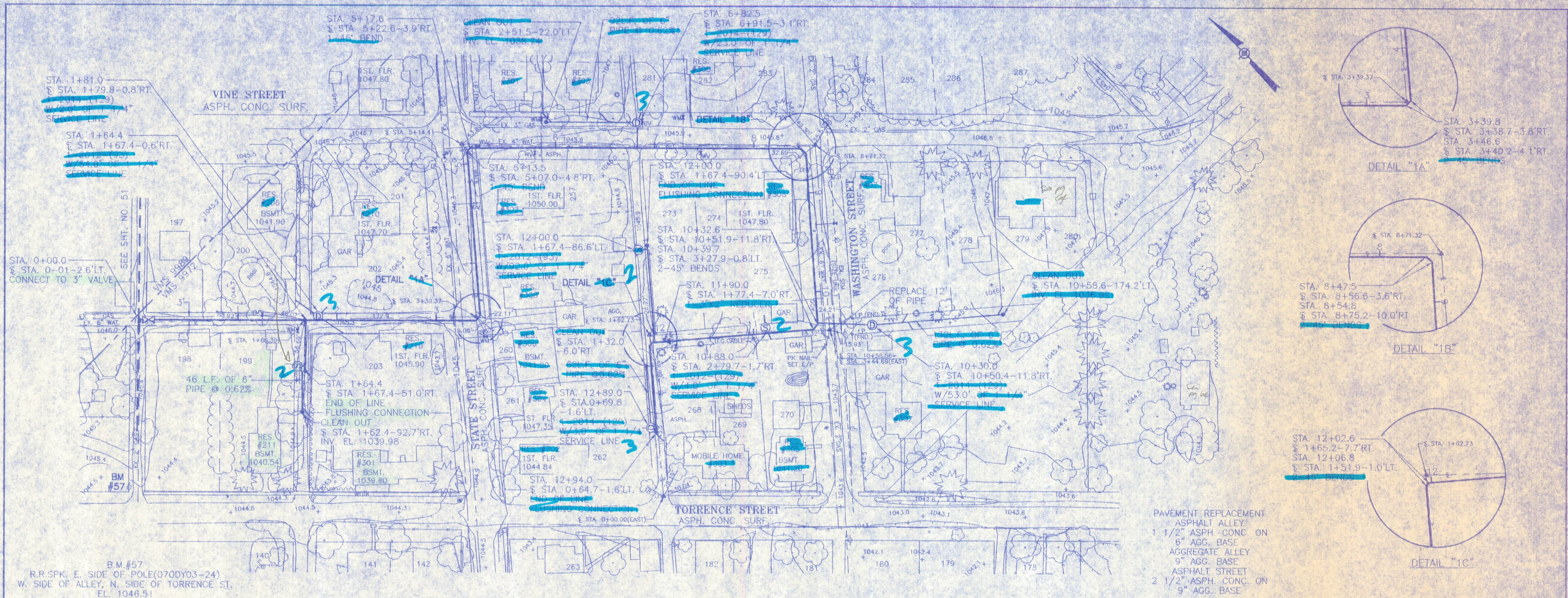
DESIGN: <i>2/5/11</i>		DRAWN: <i>jam</i>		CHECKED: <i>(initials)</i>		APPROVED: <i>(signature)</i>	
DATE: AUGUST 1999							SHEET NO.
SCALE: 1" = 50'H/11" = 5V							69 OF 72

WILBUR SMITH ASSOCIATES  
CONSULTING ENGINEERS  
COLUMBUS, OHIO

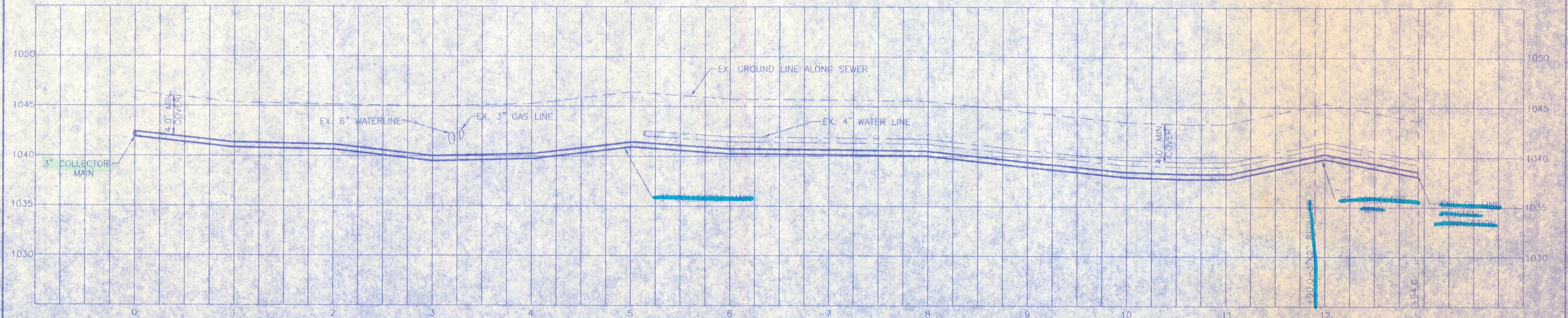
VILLAGE OF BELLE CENTER, OHIO  
SANITARY SEWERAGE IMPROVEMENTS  
STATE STREET  
CHARLES STREET (SOUTH)

S:\PROJECTS\state street\STATE2.dwg - Aug Sep 14 10:06:38 1999 sddan





PAVEMENT REPLACEMENT  
 ASPHALT ALLEY  
 1 1/2" ASPH. CONC. ON  
 6" AGG. BASE  
 AGGREGATE ALLEY  
 9" AGG. BASE  
 ASPHALT STREET  
 2 1/2" ASPH. CONC. ON  
 9" AGG. BASE



Rev. No.	DESCRIPTION	BY	DATE

WILBUR SMITH ASSOCIATES  
 CONSULTING ENGINEERS  
 COLUMBUS, OHIO

VILLAGE OF BELLE CENTER, OHIO  
 SANITARY SEWERAGE IMPROVEMENTS  
 ALLEY BETWEEN VINE & TORRENCE STREETS

DATE: AUGUST, 1999  
 SCALE: 1" = 50' H. / 1" = 5' V.

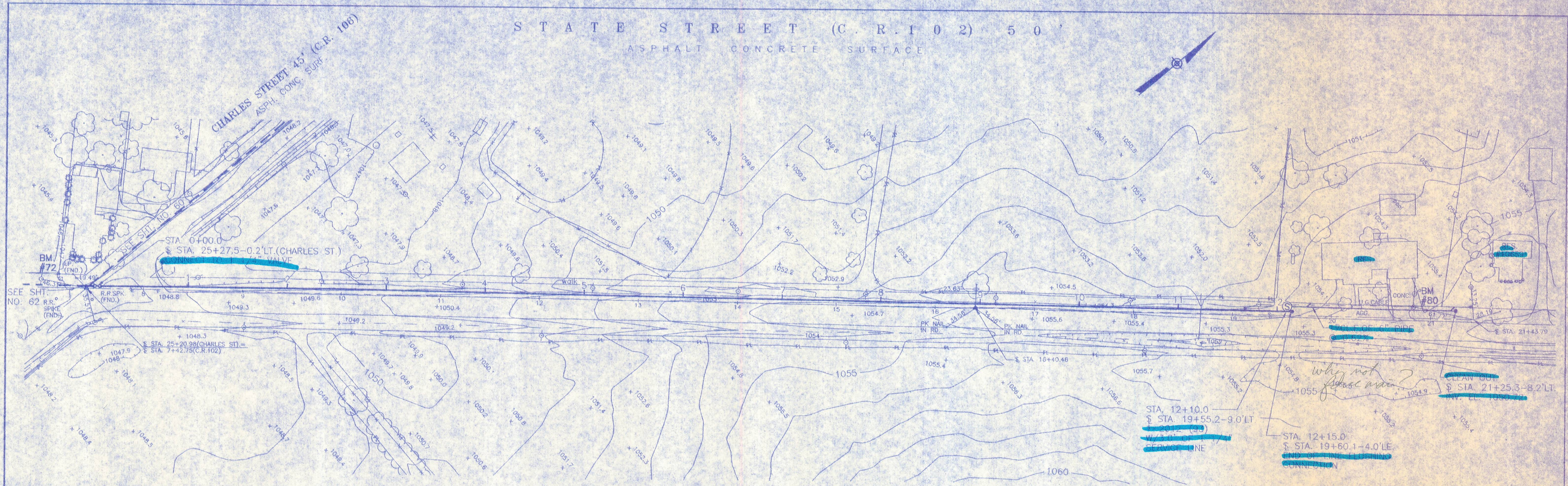
SHEET NO.  
 70 OF 72

DESIGN: JEM  
 DRAWING: JEM  
 CHECKED: JEM  
 APPROVED: JEM

I:\PROJECTS\1999\BelleCenter\ALLEY12.dwg Thu Sep 24 14:03:55 1999 JOHN



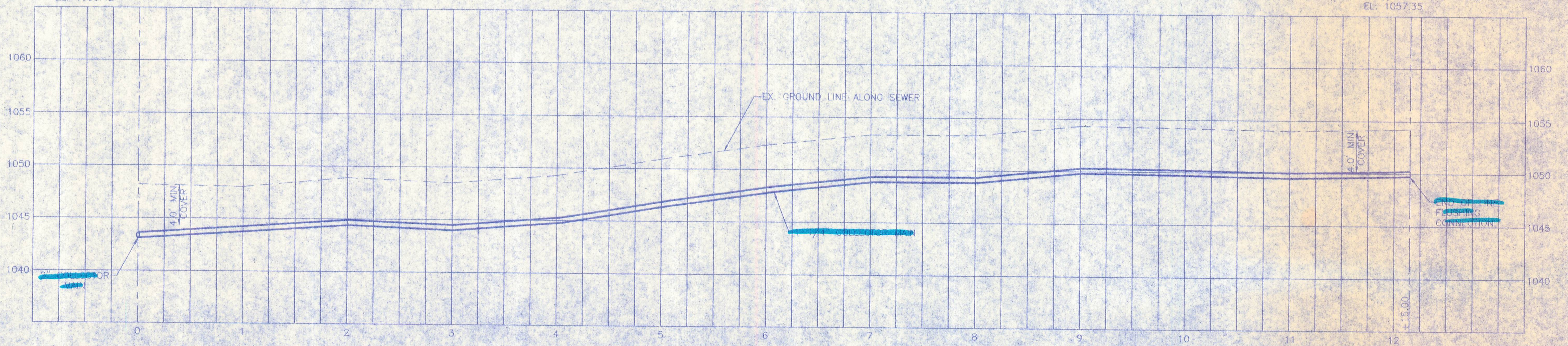
STATE STREET (C.R. 102) 50'  
 ASPHALT CONCRETE SURFACE



B.M.#72  
 E. BOLT ON F.HYD. @ NW  
 COR. OF INT. OF CHARLES ST.  
 & STATE ST. @ RES.#605  
 EL. 1050.42

PAVEMENT REPLACEMENT  
 ASPHALT ALLEY  
 2 1/2" ASPH. CONC. ON  
 9" AGG. BASE  
 AGGREGATE ALLEY  
 9" AGG. BASE  
 ASPHALT STREET  
 2 1/2" ASPH. CONC. ON  
 9" AGG. BASE

B.M.#80  
 R.R. SPK S. SIDE OF POWER  
 POLE(071DW09-1) N. SIDE C.R. 102  
 EL. 1057.35



Rev. No.	DESCRIPTION	BY	DATE

WILBUR SMITH ASSOCIATES  
 CONSULTING ENGINEERS  
 COLUMBUS, OHIO

VILLAGE OF BELLE CENTER, OHIO  
 SANITARY SEWERAGE IMPROVEMENTS  
 STATE STREET (C.R. 102)  
 STA. 0+00.00 TO STA. 12+15.00

DATE: AUGUST 1999  
 SCALE: 1" = 50'H/1" = 5V'

SHEET NO.  
 71 OF 72

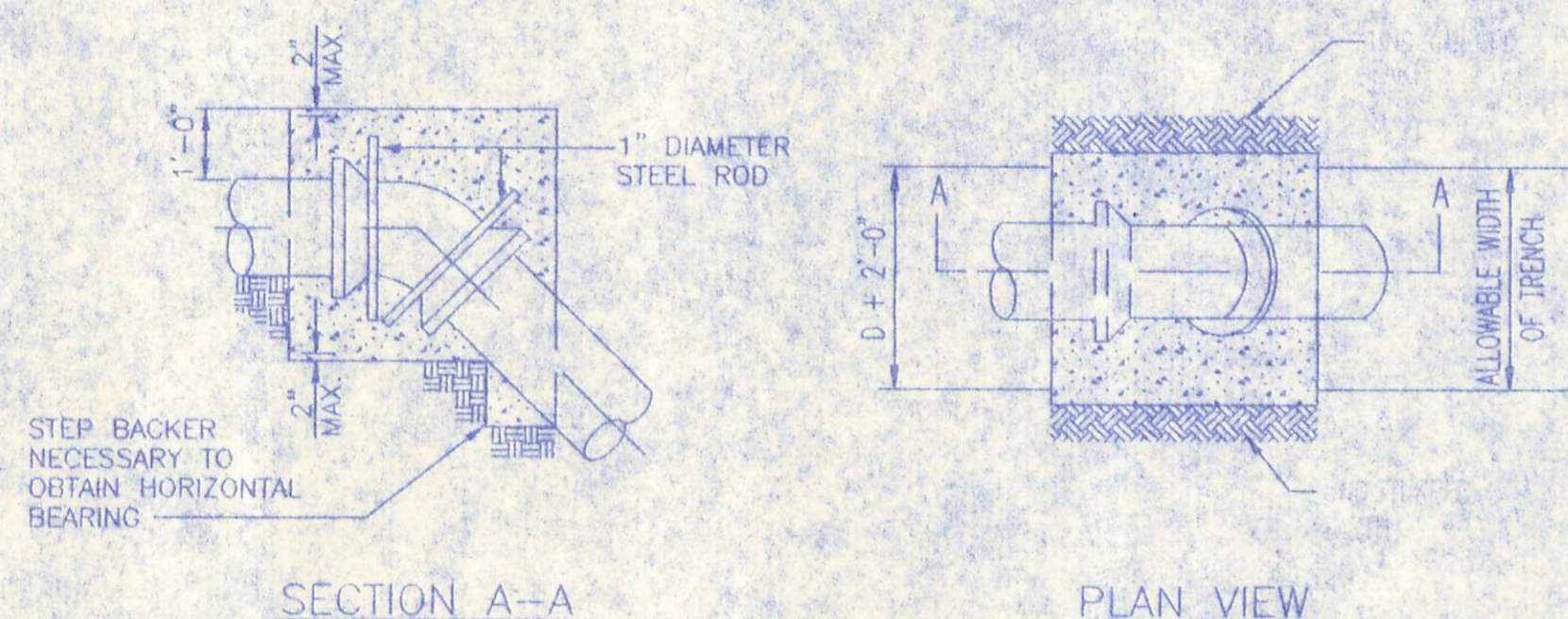
S:\PROJECTS\State12\camb\CR102.dwg, Tue Sep 14 11:56:11 1999, jdm



GRAVITY THRUST BLOCKING  
VERTICAL BENDS

BEND SIZE	90 DEGREE	45 DEGREE	22 1/2 DEGREE	11 1/4 DEGREE
4"	.53 C.Y.	.36 C.Y.	.20 C.Y.	.10 C.Y.
6"	1.20	.85	.46	.23
8"	2.13	1.50	.81	.42
10"	3.32	2.35	1.27	.65
12"	4.79	3.39	1.83	.93
14"	6.52	4.61	2.49	1.27
16"	8.51	6.02	3.26	1.66
18"	10.77	7.62	4.18	2.10
20"	13.30	9.40	5.09	2.59
24"	19.15	13.54	7.33	3.74
30"	29.92	21.16	11.45	5.84
36"	43.08	30.47	16.49	8.41
42"	58.64	41.47	22.44	11.44
48"	76.60	54.16	29.31	14.94

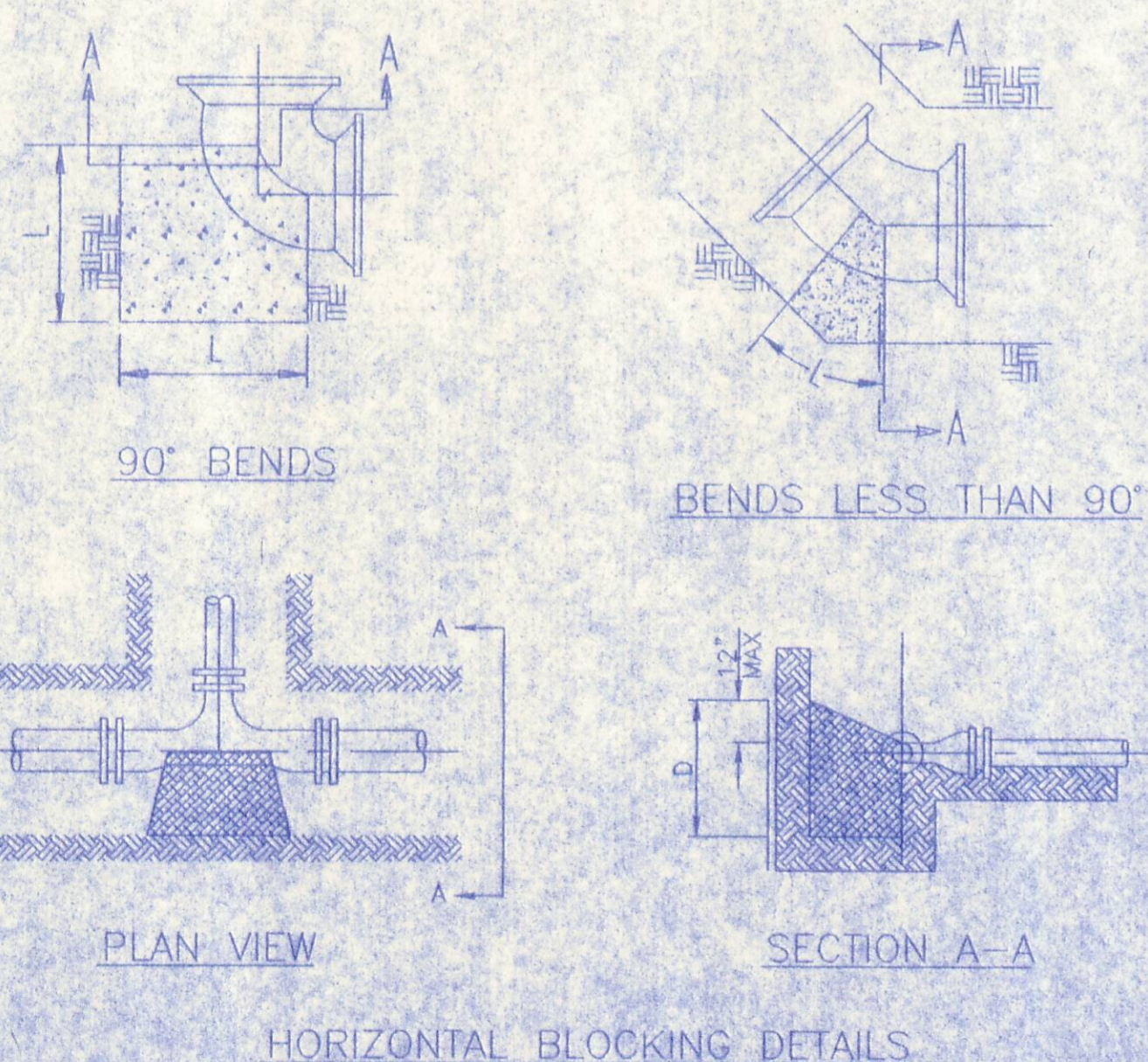
NOTE: 1. BACKER TO BE CENTERED HORIZONTALLY ON BEND.  
2. STEEL WILL BE USED AS REQUIRED BY THE ENGINEER.



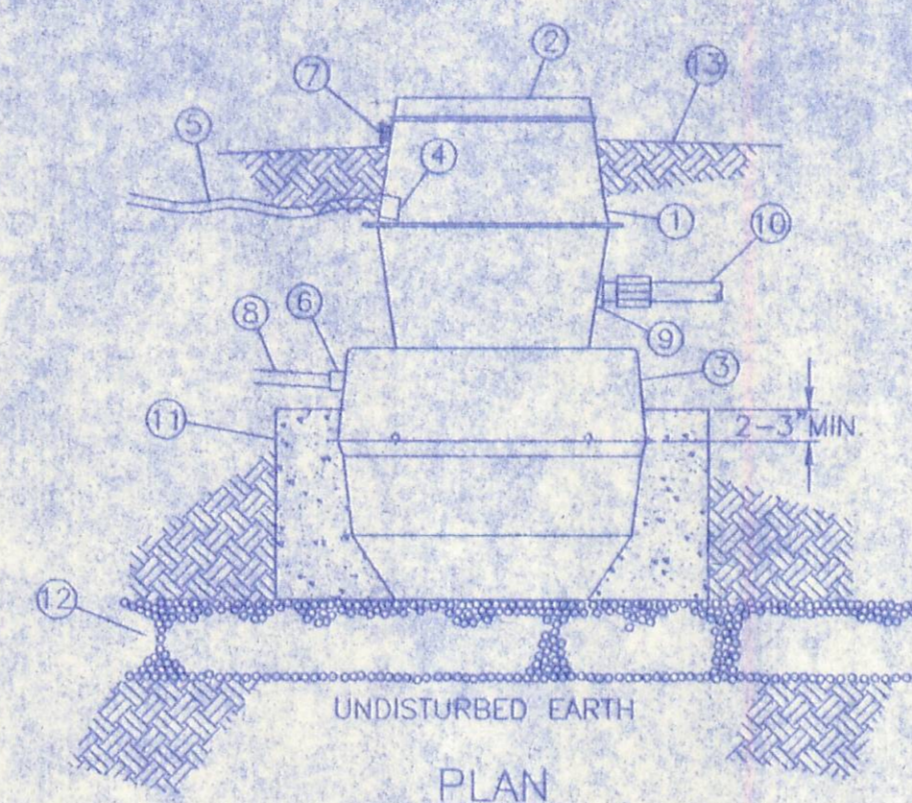
HORIZONTAL BENDS

SIZE OF PIPE	DEGREE OF BEND												TEES & BULKHEADS					
	11 1/4			22 1/2			45			90			L"		D"	V.c.f.		
3"	4	3	0.1	6	4	0.2	10	4	0.3	10	4	0.3	10	4	0.3	10	4	0.3
4"	5	4	0.2	9	5	0.4	14	5	0.6	14	5	0.6	14	5	0.6	14	5	0.6
6"	8	6	0.5	12	7	0.7	20	8	1.4	18	9	1.7	22	9	1.8	22	9	1.8
8"	9	8	0.7	16	9	1.4	24	12	2.7	25	11	4.0	34	11	3.5	34	11	3.5
10"	12	10	1.3	19	12	2.3	29	15	4.6	27	15	7.4	38	15	5.6	38	15	5.6
12"	14	12	1.8	24	14	3.6	36	18	6.8	32	18	10.7	47	18	8.8	47	18	8.8
14"	16	14	2.6	28	16	5.2	36	25	10.3	36	22	17.9	48	27	13.8	48	27	13.8
16"	18	16	3.4	32	18	6.7	36	32	13.4	41	26	25.4	50	30	16.5	50	30	16.5
18"	21	18	4.9	31	24	9.1	42	34	16.9	45	29	36.0	56	34	22.8	56	34	22.8
20"	25	20	6.4	30	30	11.5	49	36	20.5	50	32	46.5	61	38	29.6	61	38	29.6
24"	27	24	9.0	39	34	18.4	60	42	35.0	58	40	77.7	73	48	48.7	73	48	48.7

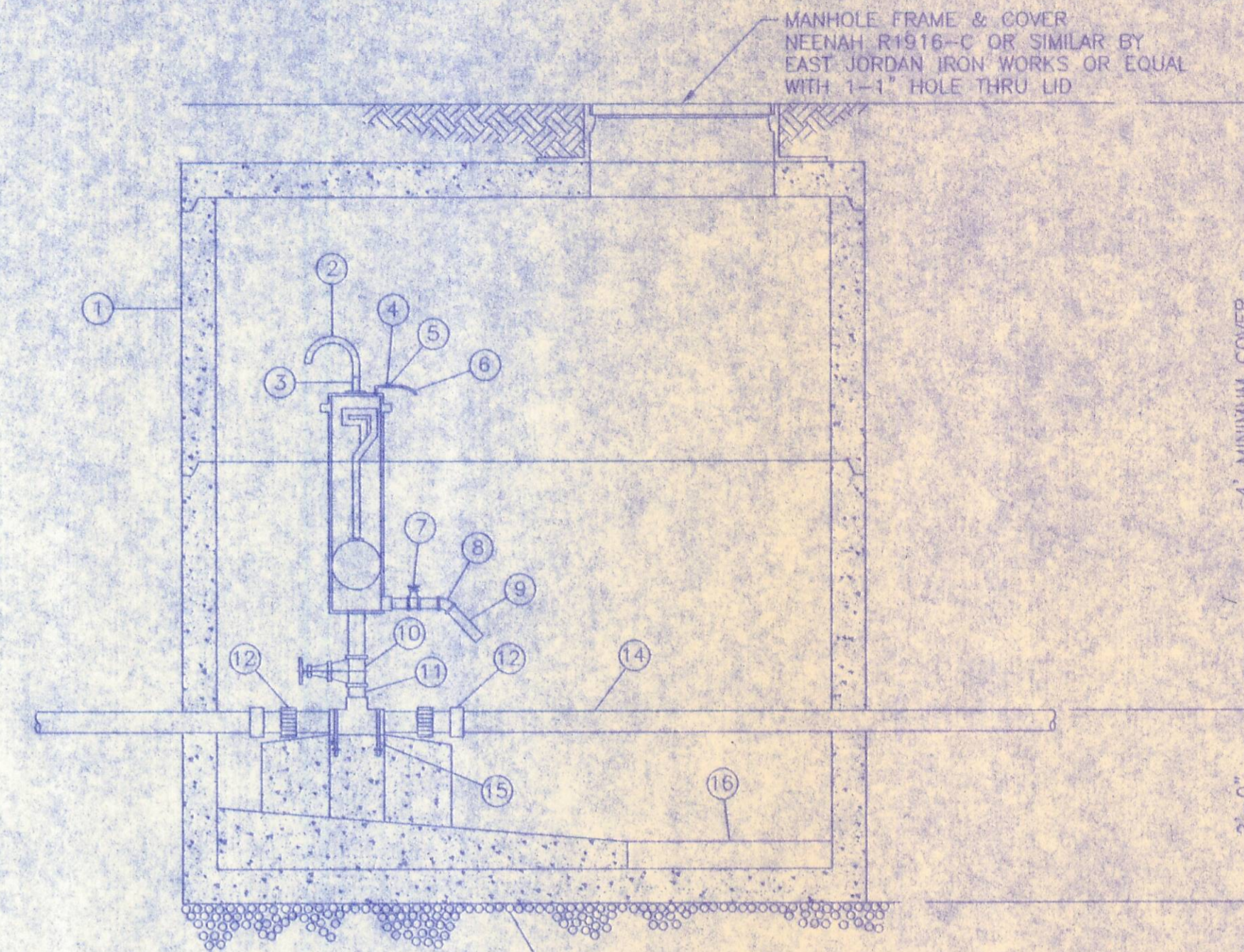
150 PSI INTERNAL PRESSURE



NOTE:  
1. BACKER DESIGNED FOR 3000 PSF SOIL BEARING.  
2. CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH.  
3. PROVIDE CLEARANCE FOR REMOVAL OF BOLTS.  
4. PIPE SIZE FOR TEE IN TABLE IS SIZE OF BRANCH.

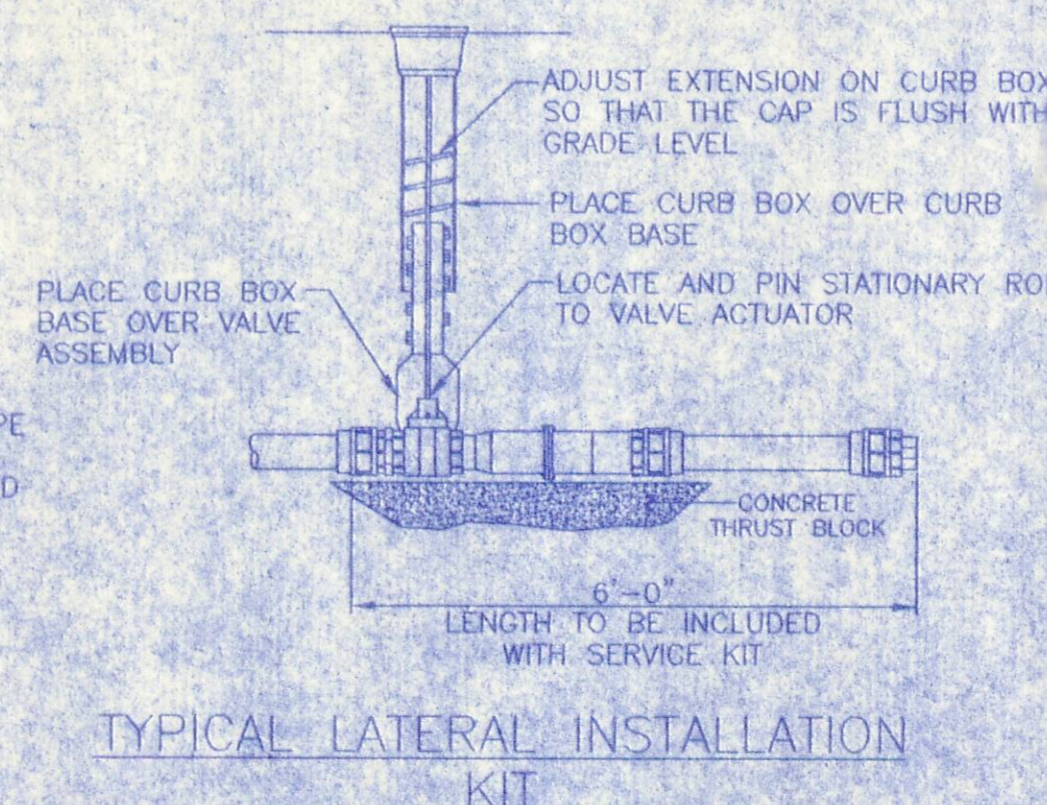
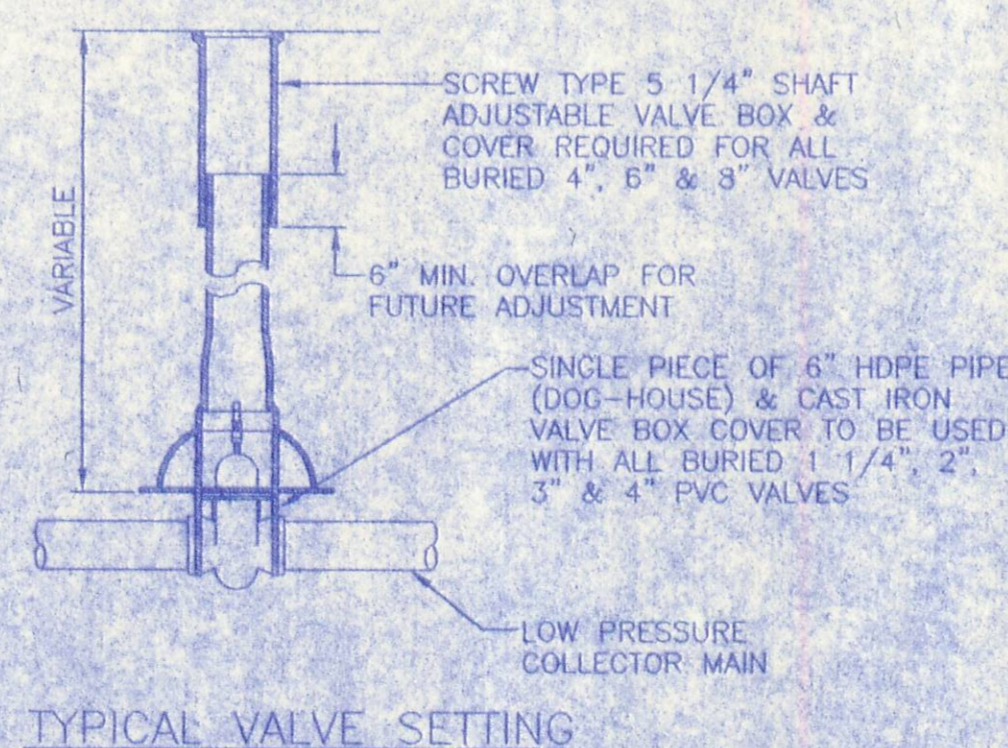
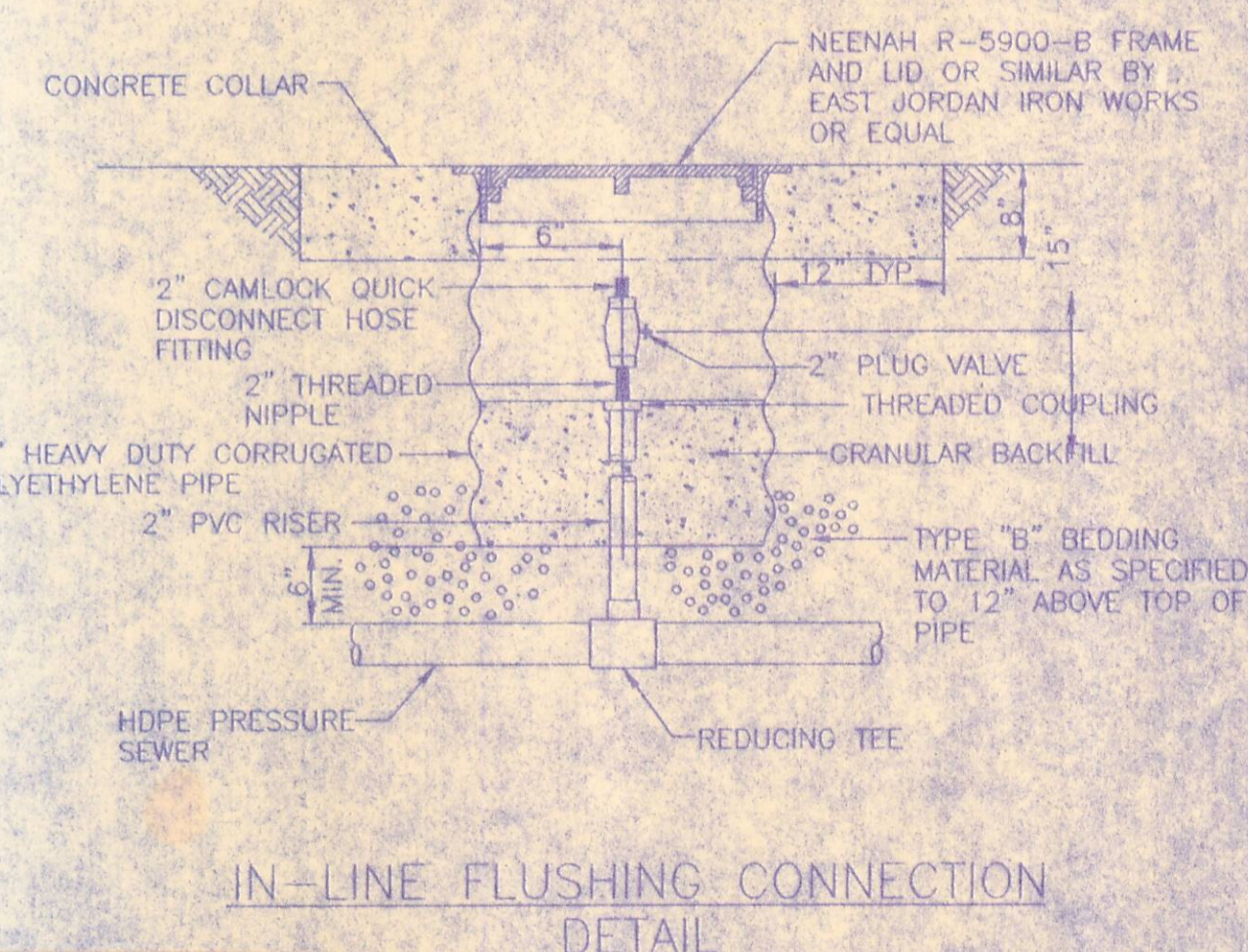
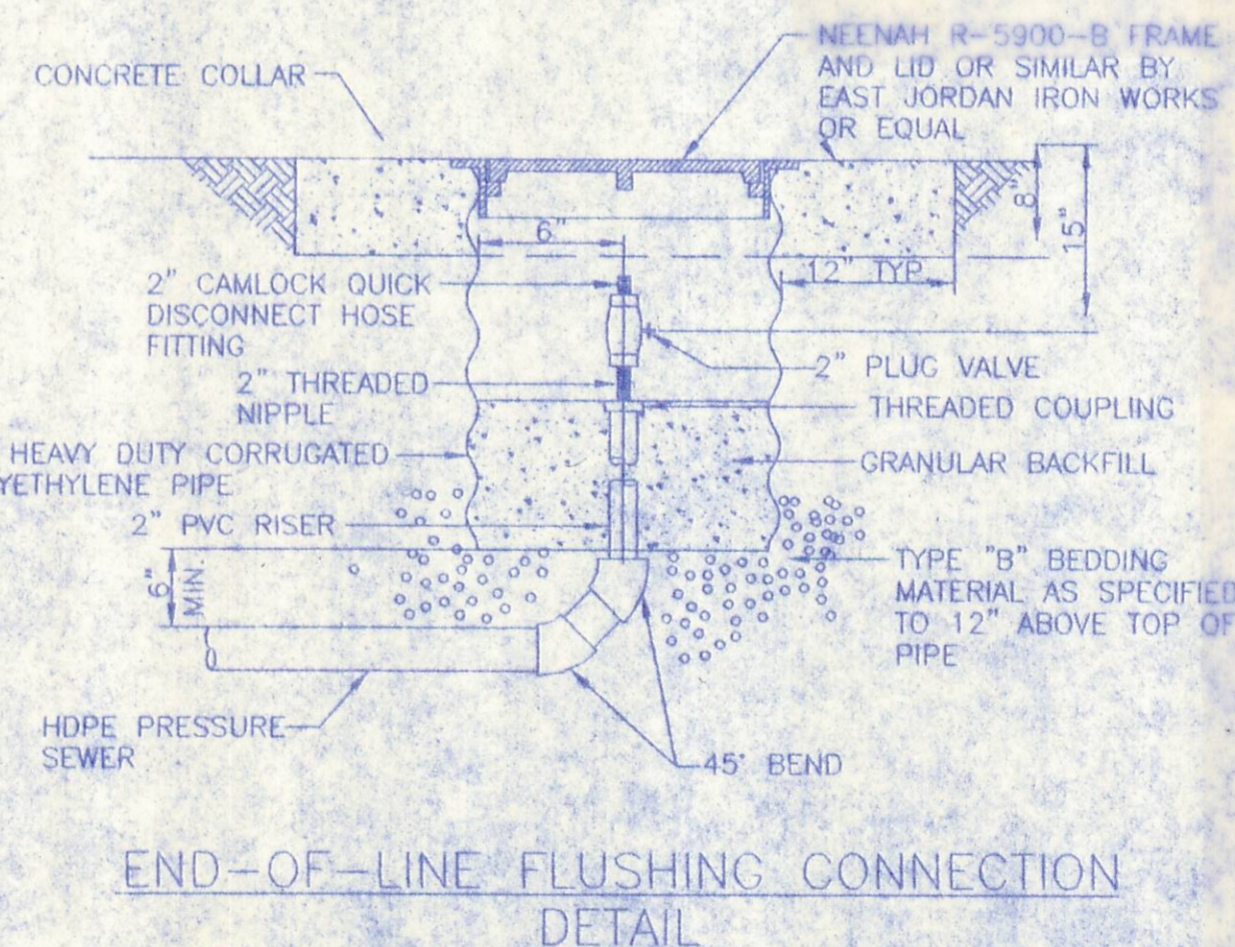


- GRINDER PUMP TANK & ACCESSWAY - FIBERGLASS REINFORCED POLYESTER (FRP)
- ACCESSWAY COVER - FRP
- LIFTING EYES - FOR LIFTING COMPLETE GRINDER PUMP. DO NOT USE WHEN BALLAST IS ATTACHED.
- ELECTRICAL JUNCTION BOX - LEADS FROM GRINDER PUMP TERMINATE HERE.
- GRINDER PUMP POWER AND ALARM LEADS - CIRCUIT TO BE RUN IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES.
- TANK INLET - 6" PVC SOCKET FOR PVC PIPE (C-900)
- TANK VENT
- GRAVITY SERVICE LINE - 6" PVC PIPE
- DISCHARGE OUTLET - 1 1/4" MALE PIPE THREAD
- GRINDER PUMP DISCHARGE LINE - 1 1/4" NOMINAL PIPE SIZE (HDPE)
- CONCRETE ANCHOR-1800 (1212 CU.FT.) LBS PLUS 300 (2 CU.FT.) LBS. PER FOOT OF ACCESSWAY. SLEEVE OVER INLET LINE IS REQUIRED IF ANCHOR IS POURED TO A LEVEL ABOVE THE INLET.
- BEDDING MATERIAL - 6" MINIMUM, ROUNDED AGGREGATE (PEA GRAVEL).
- FINISHED GRADE - GRADE LINE TO BE 6" BELOW TOP OF ACCESSWAY AND SLOPE AWAY FROM ACCESSWAY OPENING.



- MANHOLE - TYPICAL 4'-0" DIAMETER PRECAST
- AIR RELEASE VALVE - VAL-MATIC VM-48 OR EQUAL
- BRASS COUPLING - COPPER TO I.P.T.
- VALVE - 1/2" SHUT OFF
- COUPLING - QUICK DISCONNECT
- HOSE - BACK FLUSHING
- VALVE - 1" BLOWOFF
- 45° FITTING
- 1" I.P. - 6" LONG
- VALVE - 2" SHUTOFF
- NIPPLE - 2" LONG MINIMUM
- UNION
- ADAPTER - PVC TO BRASS
- HDPE PRESSURE SEWER
- TEE WITH THREADED BRANCH
- SUMP BASIN - 15" MINIMUM DIAMETER
- BEDDING MATERIAL - #6 CRUSHED LIMESTONE, 12" MINIMUM

TYPICAL AIR RELEASE VALVE



Rev. No.	DESCRIPTION	BY	DATE

DESIGN: *[Signature]* DRAWN: *[Signature]* CHECKED: *[Signature]* APPROVED: *[Signature]*

WILBUR SMITH ASSOCIATES  
CONSULTING ENGINEERS  
COLUMBUS, OHIO

LOGAN COUNTY WATER POLLUTION CONTROL  
INDIAN LAKE DISTRICT AND  
VILLAGE OF BELLE CENTER, OHIO  
SANITARY SEWERAGE IMPROVEMENTS  
GRINDER PUMP DETAILS

DATE: AUGUST, 1994  
SCALE: 1" = 50'H/1" = 5'V.

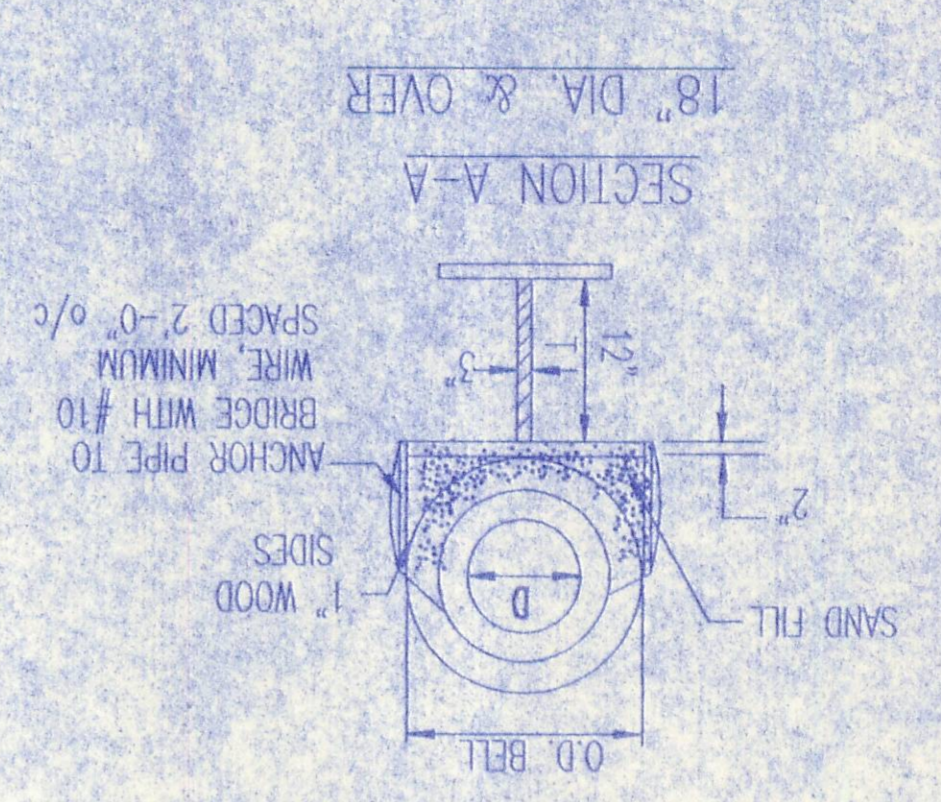
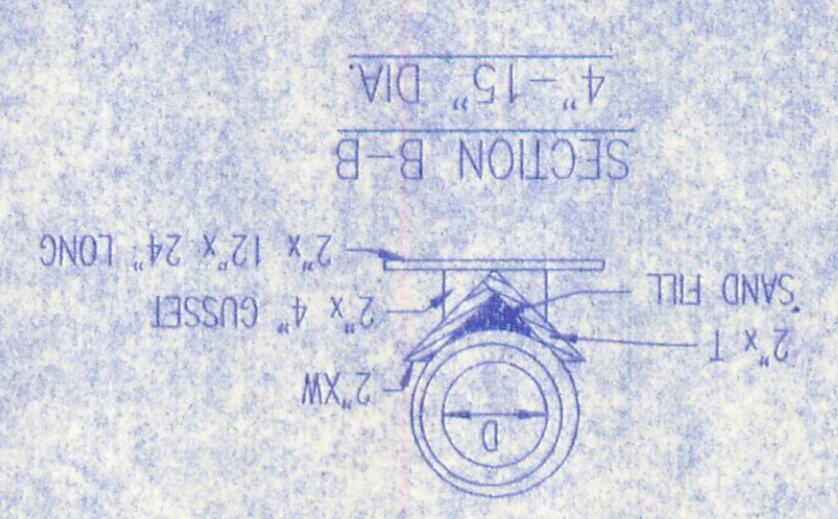
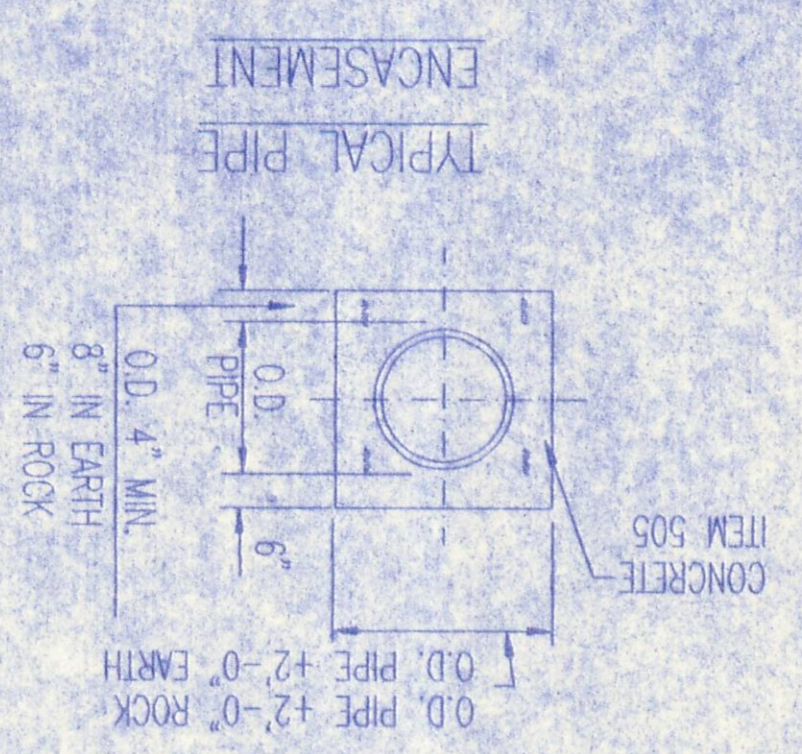
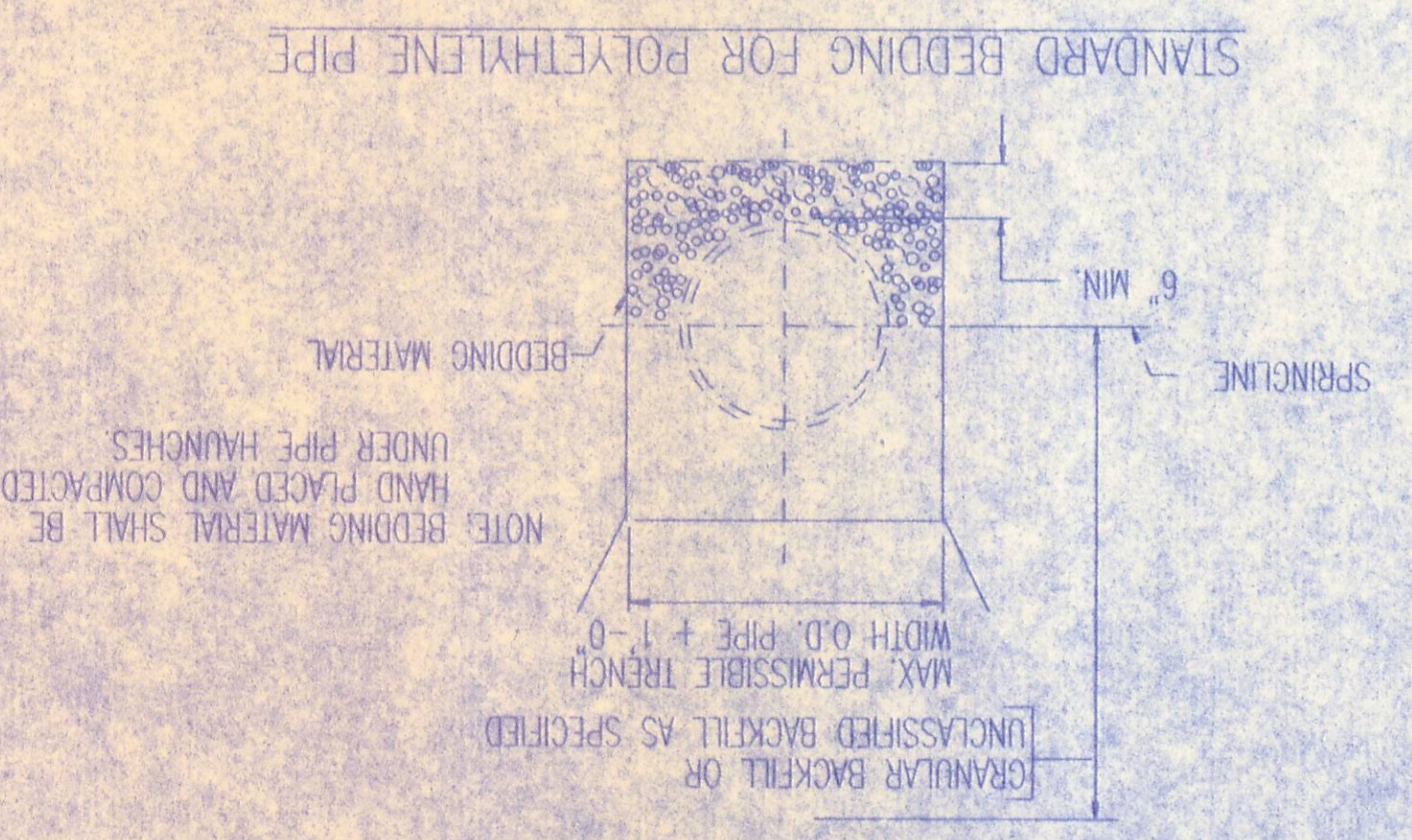
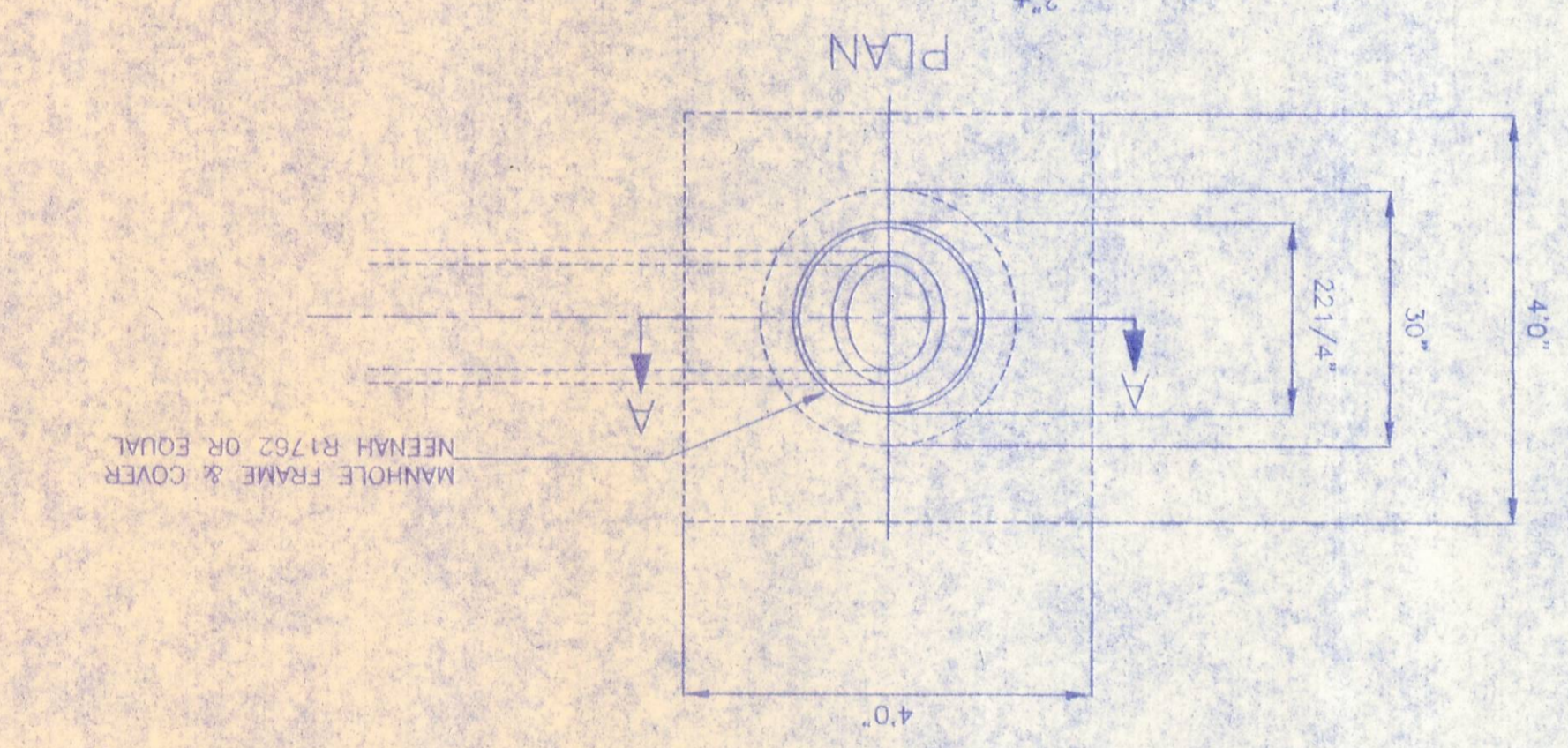
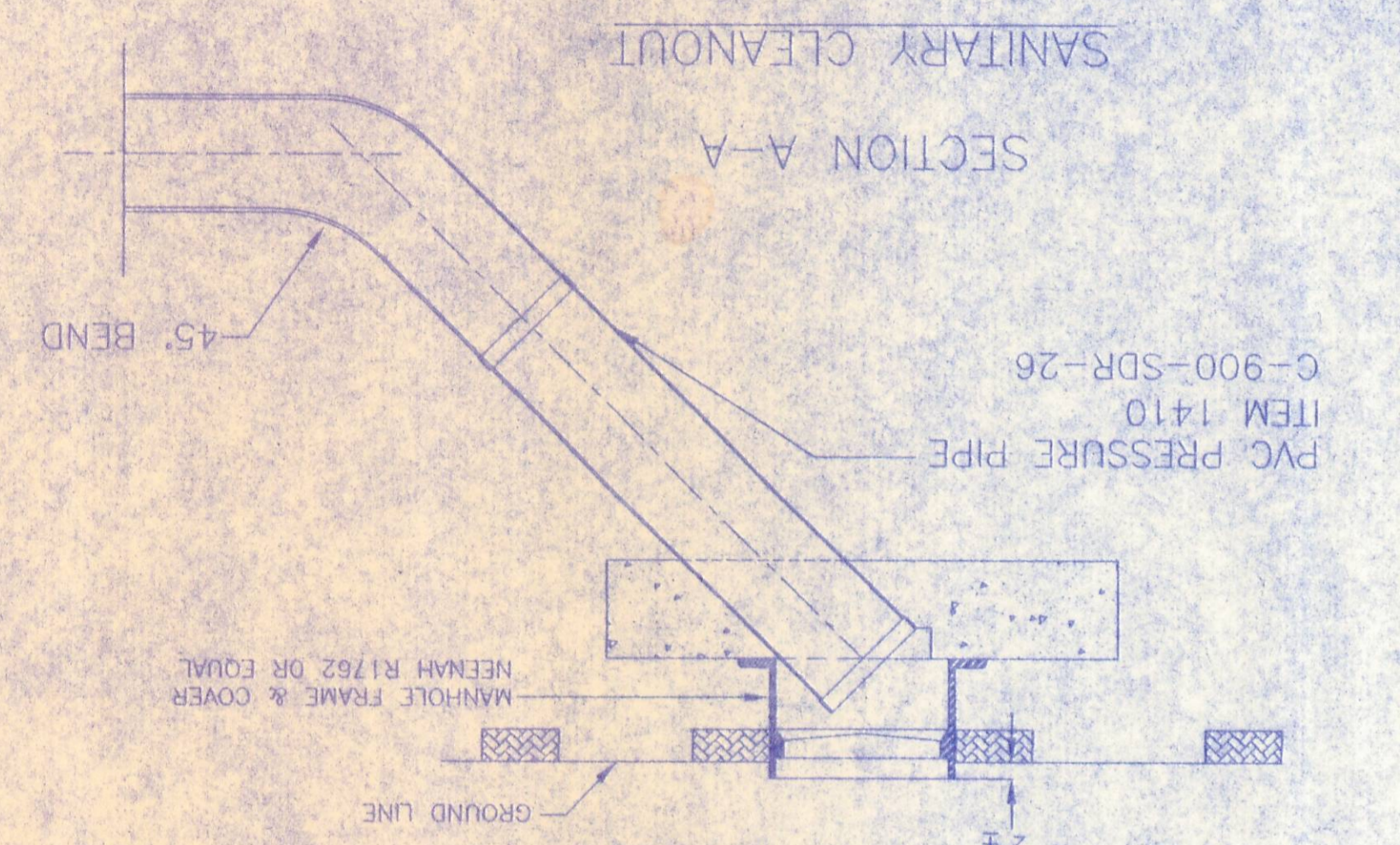
SHEET NO.  
72 OF 72

S:\PROJECTS\Belle Center\Belle Center.dwg Thu Sep 14 16:20:22 1994 JDM



VILLAGE OF BELLE CENTER

DESIGNER	DATE	APPROVED	CHECKED	DATE
WILBUR SMITH ASSOCIATES	AUGUST 1999			
CONSULTING ENGINEERS				
COLUMBUS, OHIO				
VILLAGE OF BELLE CENTER, OHIO				
STANDARD DETAILS				
SANITARY SEWERAGE IMPROVEMENTS				
SHEET NO.				
72A OF 72				



RESTORE EXISTING SEWER PIPE LINES

D	4"	6"	8"	10"	12"	15"
T	6"	8"	10"	12"	15"	
W	4"	6"	8"	10"	12"	

