

GENERAL WATER MAIN NOTES

WATER MAIN TO BE PRESSURE CLASS 350 DIP. HYDRANTS TO BE TYPE (SEE MATERIAL SPECIFICATIONS) AS APPROVED BY AQUA OHIO, INC.

BUILDINGS 3 AND 4 TO HAVE 2" DIAMETER SERVICES. ALL OTHER SERVICES TO BE 1-1/2" DIAMETER.

CONTRACTOR SHALL STERILIZE WATER MAIN BY PLACING A QUANTITY OF H.T.H. (70% AVAILABLE CHLORINE) IN THE PIPE. THE AMOUNT OF H.T.H. POWDER REQUIRED FOR EACH LENGTH OF PIPE (18 FEET) IS 1/2 OUNCE FOR AN 8" PIPE OR 1/4 OUNCE FOR A 4" PIPE. AQUA OHIO, INC. SHALL BE RESPONSIBLE FOR FINAL FLUSHING OF WATER LINE AND TESTING QUALITY.

APPLICATION OF DISINFECTION TO BE MADE IN ACCORDANCE WITH AWWA STANDARD C651.

PRESSURE TEST SHALL CONFORM WITH AWWA STANDARD C-600.

CONTRACTOR IS RESPONSIBLE TO MAINTAIN A MINIMUM SEPARATION FROM EXISTING OR PROPOSED SANITARY SEWERS OF 10 FEET HORIZONTAL AND 18 INCHES VERTICAL.

CONTRACTOR IS RESPONSIBLE TO MAINTAIN A MINIMUM SEPARATION FROM EXISTING OR PROPOSED STORM SEWERS OF 4 FEET HORIZONTAL AND 12 INCHES VERTICAL.

A MINIMUM HORIZONTAL SEPARATION OF 10 FEET BETWEEN THE FIRE HYDRANT WELPHOLE AND ANY EXISTING OR PROPOSED SANITARY SEWERS IS TO BE MAINTAINED.

INSTALLATION OF WATER MAINS AND APPURTENANCES SHALL CONFORM TO AQUA OHIO, INC. SERVICE PLANS AND SPECIFICATIONS IN EFFECT AT THE TIME OF CONSTRUCTION.

WATER LINE MATERIAL SPECIFICATIONS

1. DUCTILE IRON PIPE. TYPE REQUIRED: PUSH-ON JOINTS, CEMENT LINED, PRESSURE CLASS 350 FOR 4 INCH THROUGH INCH THROUGH 12 INCH, PRESSURE CLASS 300 FOR 16 INCH, MANUFACTURING STANDARDS AWWA C150 AND C151. POLYETHYLENE ENCASEMENT SHALL BE INSTALLED ON ALL DUCTILE PIPE AND FITTINGS.

2. DUCTILE IRON FITTINGS. (TEES, CROSSES, BENDS, REDUCERS, SLEEVES, COUPLINGS AND PLUGS.) TYPE REQUIRED: MECHANICAL JOINT, TEES, CROSSES, BENDS AND REDUCERS ARE TO BE CEMENT LINED, WORKING PRESSURE RATING 250 PSI, MANUFACTURING STANDARDS ANSI A21.53, ANSI A21.4 AND ANSI A21.10. COMPACT STYLE IS ACCEPTABLE. RETAINER GLANDS SHALL BE INSTALLED WHEREVER THERE IS A POSSIBILITY OF JOINT SEPARATION.

3. FIRE HYDRANTS. TYPE REQUIRED: POST TYPE, BREAKABLE FLANGE DESIGN FOR TRAFFIC COLLISIONS, 5 1/4" DIAMETER MAIN VALVE, ONE 4 1/2" PUMPER AND TWO 2 1/4" HOSE NOZZLES, 6" NJ INLET, MAIN VALVE TO OPEN LEFT, DIRECTION OF OPENING TO BE INDICATED WITH ARROW CAST ON HYDRANT, TO BE DESIGNED FOR 5 FOOT TRENCH, NATIONAL STANDARD THREADS ON NOZZLES, O-RING PACKING PREFERRED, TYPE 304 STAINLESS STEEL BOLTS AND NUTS, OPERATING NUT AND NUT ON CAPS, 1 1/2" PENTAGON, COLOR YELLOW PAINT ON BODY TRIMMED WITH RED PAINT ON BONNET CAPS, AWWA STANDARD C502, MUELLER CENTURION A423, US PIPE M-94, GLOW MEDALLION OR AMERICAN DARLING B-84-B.

4. TAPPING VALVES. TYPE REQUIRED: RESILIENT SEAT, IRON BODY, STAINLESS STEEL BONNET BOLTS AND NUTS, MECHANICAL JOINT ACCESSORIES, NON-RISEING STEM, FOR UNDERGROUND SERVICE, O-RING PACKING PREFERRED, OPEN RIGHT (CLOCKWISE) 2 INCH SQUARE OPERATING NUT, MANUFACTURING STANDARDS AND PRESSURE RATINGS AWWA SPECIFICATION C500.

5. 4" THROUGH 12" GATE VALVES. TYPE REQUIRED: RESILIENT SEAT, IRON BODY, STAINLESS STEEL BONNET BOLTS AND NUTS, MECHANICAL JOINT ACCESSORIES, NON-RISEING STEM, FOR UNDERGROUND SERVICE, O-RING PACKING PREFERRED, OPEN RIGHT (CLOCKWISE), 2 INCH SQUARE OPERATING NUT, MANUFACTURING STANDARDS AND PRESSURE RATINGS AWWA C509, MUELLER A-2360 OR EQUAL.

6. VALVE BOXES. TYPE REQUIRED: TWO PIECE, CAST IRON, SCREW TYPE FOR ADJUSTABLE HEIGHT, HEIGHT RANGE TO BE APPROXIMATELY 36 TO 60 INCHES. THEY ARE TO INCLUDE A WELL FITTING CAST IRON LID, THE WORD "WATER" TO BE CAST ON LID.

7. 2" WATER MAIN. 2" WATER MAIN SHALL BE SOFT DRAWN TYPE "K" COPPER TUBING OR HIGH DENSITY POLYETHYLENE PLASTIC (HDPE), COPPER TUBE SIZE, AS CALLED OUT ON THE PLAN. IF HDPE IS USED, IT SHALL BE 200 PSI, SDR 9 WITH MARKING TAPE AND A 12 GAGE COPPER TRACER WIRE LAID IN THE TRENCH. BRASS COMPRESSION FITTINGS SHALL BE USED. STAINLESS STEEL STIFFENERS ARE NECESSARY AT EACH JOINT.

8. POLYETHYLENE ENCASEMENT. TYPE REQUIRED: EIGHT MIL THICK POLYETHYLENE TUBE MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA C105/A21.5. POLYETHYLENE ADHESIVE TAPE, 1 1/2" WIDE, IS TO SEAL JOINTS.

9. BLOW OFF ASSEMBLIES. TYPE REQUIRED: KUPFERLE FOUNDRY TF500 OR APPROVED EQUAL. INSTALL IN VALVE BOX. INSTALL 2" CURB STOP WITH CURB BOX AHEAD OF EACH BLOW OFF.

GENERAL NOTES:

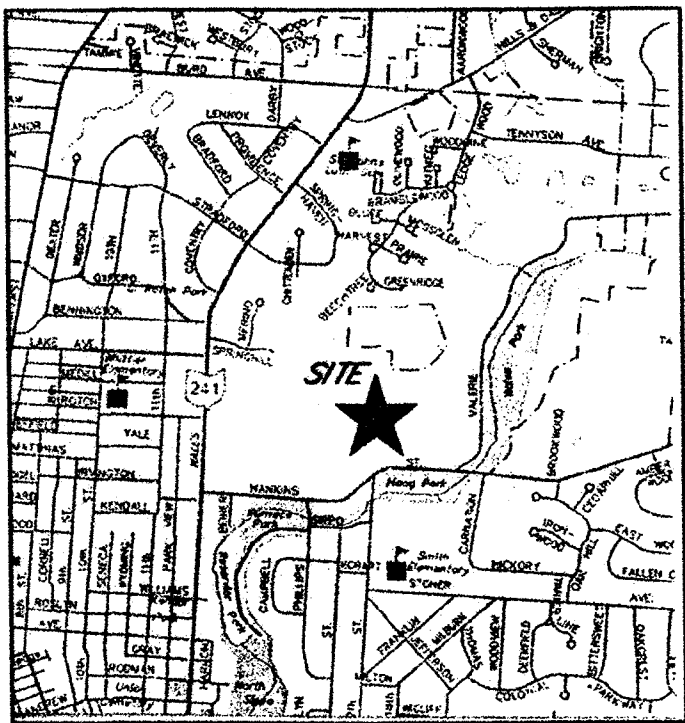
1. ALL SUBGRADE COMPACTION SHALL BE INSPECTED AND APPROVED AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO PLACEMENT OF ANY JOI BITUMINOUS BASE.
2. ALL TRENCHES BENEATH THE PROPOSED PAVEMENT OR EXISTING PAVEMENT SHALL BE COMPACTED IN LIFTS, IN A MANNER AND WITH MATERIAL SPECIFIED BY ANY APPLICABLE O.D.O.T. SPECIFICATIONS.
3. ALL STORM SEWER TO BE HIGH DENSITY POLYETHYLENE CORRUGATED PIPE WITH AN INTEGRALLY FORMED SMOOTH INTERIOR INSTALLED IN ACCORDANCE WITH ASTM RECOMMENDED PRACTICE D-2321 UNLESS OTHERWISE SPECIFIED IN THE PLANS.
4. THE DEVELOPER/CONTRACTOR SHALL TAKE THE NECESSARY STEPS TO PREVENT SOIL EROSION AND DOWNWASH OF GRITS AND SEDIMENTS. SEE SHEET SWP3 FOR DETAILS.

APPROVED BY THE CITY OF MASSILLON ENGINEER
THIS 8th DAY OF NOVEMBER, 2006

CITY OF MASSILLON ENGINEER

WATER LINE IS APPROVED BY AQUA OHIO, INC. THIS
DAY OF _____, 20__.

AQUA OHIO, INC.



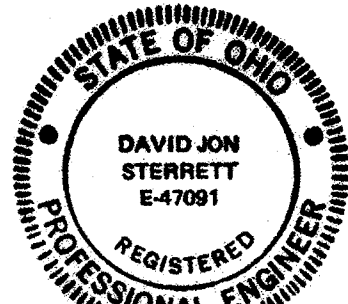
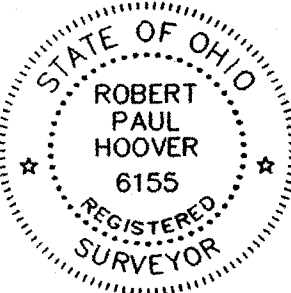
VICINITY MAP
(NO SCALE)

PLANS PREPARED BY:

HOOVER AND ASSOCIATES, INC.

ROBERT P. HOOVER - REG. SURVEYOR NO. S-6155

DAVID J. STERRETT - REG. ENGINEER NO. E-47081



R-3

PHILIP A. ROBERSON
OUT LOT 435

PT. OUT LOT 556
MASSILLON MUSEUM FOUNDATION

R-3

PT. OUT LOT 855
MASSILLON MUSEUM FOUNDATION, INC.

R-CRD

PEBBLE CHASE BUILDERS, LLC.
OUT LOT 1030

RMJ

ABBY GLEN CONDOMINIUMS
PT. OUT LOT 857

PLAN APPROVALS

SANITARY SEWER PERMIT-TO-INSTALL HAS BEEN RECEIVED FROM THE OHIO E.P.A.
THIS 18th DAY OF OCTOBER, 2005. SANITARY SEWERS
COMPLETED JUNE 2006.

WATER LINE PERMIT-TO-INSTALL HAS BEEN RECEIVED FROM THE OHIO E.P.A. THIS
DAY OF _____, 20__.

CONCORD VILLAGE

PARTS OF OUT LOTS 855, 856, 556 AND 933

IN THE CITY OF MASSILLON

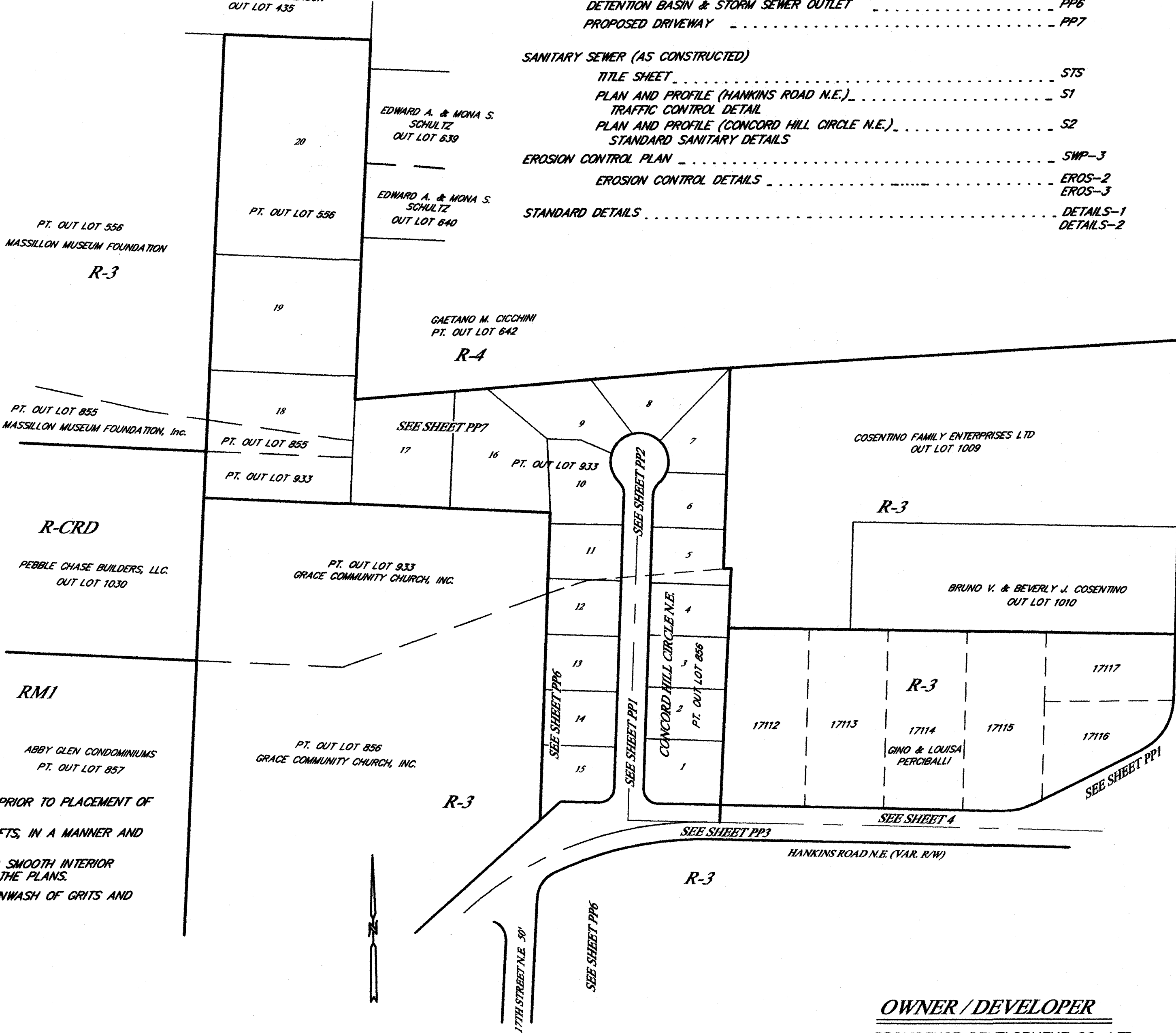
STARK COUNTY, OHIO

INDEX

DESCRIPTION	SHEET
TITLE SHEET	TS
RECORD PLAT	RP1 & RP2
GRADING PLAN	GP
ESTIMATED QUANTITIES ARE ON SHEET GP	
PLAN AND PROFILES:	
CONCORD HILL CIRCLE N.E.	
STA. 0+00 TO 3+00	PP1
STA. 3+00 TO 7+50	PP2
HANKINS ROAD N.E.	
STA. 17+50 TO 22+00	PP3
STA. 22+00 TO 27+50	PP4
VALERIE AVENUE N.E.	
STA. 27+50 TO 33+00	PP5
DETENTION BASIN & STORM SEWER OUTLET	PP6
PROPOSED DRIVEWAY	PP7

SANITARY SEWER (AS CONSTRUCTED)

TITLE SHEET	STS
PLAN AND PROFILE (HANKINS ROAD N.E.)	S1
TRAFFIC CONTROL DETAIL	
PLAN AND PROFILE (CONCORD HILL CIRCLE N.E.)	S2
STANDARD SANITARY DETAILS	
EROSION CONTROL PLAN	SWP-3
EROSION CONTROL DETAILS	EROS-2 EROS-3
STANDARD DETAILS	DETAILS-1 DETAILS-2



OWNER / DEVELOPER

PROVIDENCE DEVELOPMENT CO. LTD.

5126 BIRKDALE STREET N.W.

CANTON, OHIO 44708

phone: (330) 479-8000

CONTACT PERSON: ROBIN WARSTLER

UNDERGROUND UTILITIES
2 WORKING DAYS BEFORE YOU DIG Call: 800-362-5764 (Toll Free) OHIO UTILITIES PROTECTION SERVICE NON-MEMBERS MUST BE CALLED DIRECT

CITY OF MASSILLON GENERAL NOTES

1. CONTRACTOR SHALL CHECK DETAIL DRAWINGS FOR MINIMUM GRADE AND BACKFILL REQUIREMENTS.
2. ALL COMBINATION CONCRETE CURB AND GUTTER TO BE MASSILLON STANDARD EXCEPT WHERE VARIATIONS ARE SHOWN ON THE PLANS.
3. EXCAVATION FOR CONCRETE CURB AND GUTTER SHALL BE INCLUDED IN THE COST PER LINEAL FEET OF SAID CURB AND GUTTER.
4. ALL CATCH BASINS AND MANHOLES TO BE ADJUSTED TO GRADE WHERE NECESSARY.
5. ALL CONCRETE TO BE 1 : 2 : 4 - 6 BAG MIX. 28 DAY - 3000 PSI COMPRESSIVE STRENGTH. MAX. SLUMP TO BE 4".
6. ALL MATERIALS USED WILL BE NEW - NO SALVAGED MATERIAL WILL BE ACCEPTED.
7. IF CONTRACTOR EXCAVATES DEEPER THAN NECESSARY FOR CURB AND GUTTER, CONTRACTOR WILL FURNISH O.D.O.T. 304 AGGREGATE AND TAMP BEFORE CURB AND GUTTER IS CONSTRUCTED.
8. IF SUBGRADE IS UNSUITABLE, CONTRACTOR WILL EXCAVATE AND REPLACE SUCH MATERIAL WITH CRUSHER RUN GRAVEL, AT THE DISCRETION OF THE INSPECTOR OR CITY ENGINEER. THIS FILL TO BE PLACED IN 6" LAYERS OR LESS. SAID FILL TO BE COMPACTED TO 95% LABORATORY DRY WEIGHT BEFORE ADDITIONAL LAYERS ARE ADDED. THIS COMPACTION TO BE DONE BEFORE FORMS ARE PLACED.
9. CONTRACTOR TO BACKFILL CURB IMMEDIATELY AFTER CURB HAS BEEN IN PLACE FOR 48 HOURS.
10. ALL STORM SEWER SHALL BE SMOOTH LINED CORRUGATED POLYETHYLENE O.D.O.T. 707.33 OR REINFORCED CONCRETE PIPE. O.D.O.T. 706.02 AND SHALL BE TYPE "C" CONDUIT IN ACCORDANCE WITH O.D.O.T. 603 WITH CLASS "C" BEDDING AND SUITABLE BACKFILL.
11. DOWNSPOUT HEADERS SHALL BE 6" PVC (SDR 21 PIPE UNLESS OTHERWISE NOTED ON THE PLANS) AND SHALL BE DIRECTLY CONNECTED TO THE STORM SEWER WITH APPROVED TEE OR SADDLE CONNECTIONS. HEADERS SHALL EXTEND 15' INTO THE LOTS OR BEYOND FURTHEST UTILITY, WHICHEVER IS GREATER.
12. MANHOLES AND CATCH BASINS SHALL BE CONSTRUCTED IN CONFORMANCE WITH MASSILLON CITY STANDARDS.
13. CONTRACTOR SHALL CONTACT THE CITY OF MASSILLON ENGINEERING DEPARTMENT (GREG MCCUE AT 330-830-1722) AT LEAST 2 DAYS PRIOR TO THE INITIATION OF CONSTRUCTION TO SCHEDULE A PRE-CONSTRUCTION MEETING.
14. STREET LIGHTING IS REQUIRED. DEVELOPER SHALL COORDINATE WITH ELECTRIC UTILITY COMPANY FOR POLE LOCATION AND TYPE. THE DEVELOPER SHALL INSTALL, AT HIS COST, STREET SIGNS REPRESENTING THE NAMES OF ALL STREETS AT ALL INTERSECTIONS. DEVELOPER ALSO RESPONSIBLE FOR STOP SIGNS AND DIRECTIONAL SIGNS AS NECESSARY. ALL SIGNS SHALL CONFORM WITH CITY OF MASSILLON REGULATIONS.
- 15-A. BEFORE ACCEPTANCE OF THE ROAD PAVEMENT SUBGRADES BY THE CITY OF MASSILLON ENGINEER, SUBGRADES SHALL BE TESTED IN ACCORDANCE WITH O.D.O.T. ITEM 203.13. IN LIEU OF SUBGRADE TESTING PER ITEM 203.13, PROOF ROLLING IN ACCORDANCE WITH O.D.O.T. ITEM 203.14 MAY BE SUBSTITUTED.
- 15-B. WHEREVER UNSTABLE SOIL SUBGRADE CONDITIONS ARE ENCOUNTERED THAT ARE UNSUITABLE PER O.D.O.T. 203 SPECIFICATIONS AND/OR DETERMINED BY THE CITY OF MASSILLON ENGINEERING DEPARTMENT, ADDITIONAL EXCAVATION AND SUBSEQUENT BACKFILLING SHALL BE DONE BY THE CONTRACTOR UNTIL SUCH CONDITIONS ARE CORRECTED AND APPROVED BY THE CITY OF MASSILLON ENGINEER. COST SHALL BE INCLUDED IN THE CONTRACT PRICE.
- 15-C. SUBGRADE TESTING OR PROOF ROLLING MUST BE WITNESSED AND APPROVED BY THE CITY OF MASSILLON ENGINEERING DEPARTMENT PRIOR TO THE PLACEMENT OF THE PAVEMENT SUBBASE MATERIAL. CONTRACTOR SHALL CONTACT THE CITY ENGINEERING DEPARTMENT AT 330-830-1722 TO SCHEDULE.
16. AS-BUILT DRAWINGS ARE REQUIRED AND SHALL BE SUBMITTED TO THE CITY ENGINEER UPON COMPLETION OF THE PROJECT.
17. ALL ROAD SURFACES, EASEMENTS OR RIGHT-OF-WAY DISTURBED BY CONSTRUCTION OF ANY PART OF THIS IMPROVEMENT ARE TO BE RESTORED COMPLETELY TO THE BEFORE CONSTRUCTION CONDITION OR BETTER WHEN ORDERED BY THE CITY ENGINEER.
18. PRICES BID PER FOOT FOR ALL PIPE IN PLACE REGARDLESS OF SOIL OR ROCK CONDITION.
19. THE LOCATIONS OF ALL GAS LINE, TELEPHONE LINES, ETC. TO BE DETERMINED BY THE CONTRACTOR. EXISTING APPURTENANCES SUCH AS UTILITY POLES, VALVE BOXES, ETC. ARE TO BE HELD BY THE CONTRACTOR DURING CONSTRUCTION.
20. THE CONSTRUCTION OF THIS PROJECT SHALL BE GOVERNED BY THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION (O.D.O.T.) CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION SUPPLEMENTED WHERE APPLICABLE BY THE CITY OF MASSILLON ENGINEER).
21. FERTILIZING, SEEDING, AND MULCHING FOR RESTORATION OF DISTURBED AREAS BETWEEN THE PAVEMENT EDGE AND THE RIGHT-OF-WAY LINE SHALL CONFORM TO SECTIONS 659.04, 659.12, AND 659.13 AS SPECIFIED IN THE O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST VERSION).
22. ALL DISTURBED AND/OR DAMAGED STORM SEWER PIPES, STORM SEWER APPURTENANCES, PAVEMENTS, BERMS, AND DITCHES SHALL BE REPAIRED AND/OR REPLACED AS DIRECTED BY THE CITY ENGINEER.
23. CALL THE OHIO UTILITIES PROTECTION SERVICE AT LEAST 48 HOURS BEFORE DIGGING (1-800-362-2764).
24. TEMPORARY WATER POLLUTION, SOIL EROSION AND SILTATION CONTROL SHALL BE REQUIRED IN ACCORDANCE WITH ITEM 207 OF THE O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION AS DIRECTED BY THE CITY ENGINEER AND THE STARK S.W.C.D.).
25. THE OWNER/DEVELOPER IS REQUIRED TO HAVE ALL UTILITY CROSSING CONDUITS (ELECTRIC, TELEPHONE, CABLE TV) INSTALLED PRIOR TO THE INSTALLATION OF PAVEMENT.
26. ALL POINTS OF CONNECTION OF PROPOSED IMPROVEMENTS TO EXISTING IMPROVEMENTS SHALL BE UNCOVERED AND ELEVATIONS VERIFIED BY FIELD CHECK BEFORE ANY CONSTRUCTION BEGINS.
27. WHERE THE PLANS PROVIDE FOR THE PROPOSED SEWER TO BE CONNECTED TO OR CROSS EITHER OVER OR UNDER AN EXISTING UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING UTILITY, BOTH LINE AND GRADE, BEFORE HE STARTS TO LAY THE PROPOSED CONDUIT. THERE WILL BE NO EXTRA PAYMENT FOR THE ABOVE WORK.
28. EXCAVATION AND EMBANKMENT SHALL BE IN ACCORDANCE WITH O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION ITEM 203).
29. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR ENCOUNTERS UTILITIES OTHER THAN THOSE LOCATIONS SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE THE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF THE SERVICE.
30. PRICES BID SHALL INCLUDE ANY SHEETING OR DEWATERING THAT MAY BE REQUIRED.

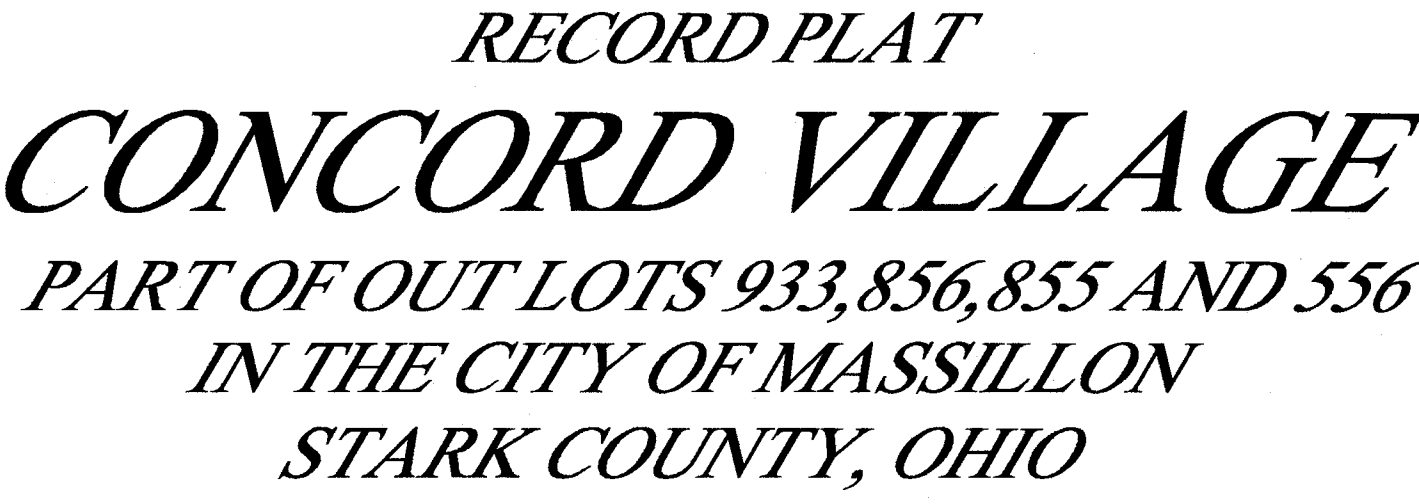
Total sanitary sewer 8" and larger.....2230 L.F.
Total storm sewer 8" and larger.....1659 L.F.
Total roadway.....671 L.F.
Total waterline 8" and larger.....1692 L.F.

HOOVER & ASSOCIATES, Inc.
Professional Surveying Services
5722 Hochberg Street N.W.
North Canton, Ohio 44720
phone (330) 464-0744

CONCORD VILLAGE
PARTS OF OUT LOTS 855, 856, 556 AND 933
IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

TITLE SHEET

TS



DETENTION BASIN NOTE

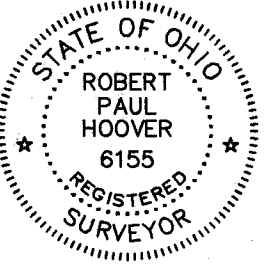
BY MEANS OF THIS PLAT - PROVIDENCE DEVELOPMENT, LLC,
THE OWNER OF THE PROPERTY WHICH ENCOMPASSES
THE DETENTION BASIN AREA, GRANTS AND ASSIGNS
TO THE OWNERS OF LOTS 1 THRU 20 THE FOLLOWING
RIGHTS, RESPONSIBILITIES AND RESTRICTIONS:

- MAINTENANCE AND REPAIR OF THE SIDE EMBANKMENTS
WITHIN SAID DETENTION BASIN AREA INCLUDING
(BUT NOT LIMITED TO) MOWING, REPAIR/FILLING WITH
TOPSOIL OF RILLS & EROSION, SEEDING, REMOVAL OF
DEBRIS/SEDIMENT/BLOCKAGES AS NECESSARY TO
MAINTAIN THE OPERATION, CAPACITY AND GEOMETRY
OF THE BASIN PER THE DESIGN FILED WITH THE CITY
OF MASSILLON ENGINEER.
- ALL COSTS ASSOCIATED WITH MAINTENANCE AND REPAIR
SHALL BE BORNE EQUALLY BY THE INDIVIDUAL LOT OWNERS.
- NO SWING SETS OR OTHER PLAY/WORK EQUIPMENT,
MULCHED LANDSCAPE BEDS OR STRUCTURES OF ANY KIND
WILL BE PERMITTED WITHIN THE DEFINED DETENTION BASIN
AREA.
- ALL PIPE INLETS/OUTLETS SHALL BE KEPT FREE OF
DEBRIS/BLOCKAGE AS NECESSARY TO FUNCTION PROPERLY.

<i>CURVE NO.</i>	<i>RADIUS</i>	<i>ARC LENGTH</i>	<i>CHORD LENGTH</i>	<i>TANGENT</i>	<i>BEARING</i>	<i>DELTA</i>
<i>CURVE 1</i>	<i>25.00'</i>	<i>39.60'</i>	<i>35.59'</i>	<i>25.34'</i>	<i>N 43°08'36" W</i>	<i>90°45'45"</i>
<i>CURVE 2</i>	<i>25.00'</i>	<i>21.03'</i>	<i>20.41'</i>	<i>11.18'</i>	<i>N 26°19'58" E</i>	<i>48°11'23"</i>
<i>CURVE 3</i>	<i>50.00'</i>	<i>24.91'</i>	<i>24.55'</i>	<i>12.67'</i>	<i>S 36°12'42" W</i>	<i>28°25'44"</i>
<i>CURVE 4</i>	<i>50.00'</i>	<i>59.25'</i>	<i>53.84'</i>	<i>33.66'</i>	<i>S 1°56'42" E</i>	<i>67°53'25"</i>
<i>CURVE 5</i>	<i>50.00'</i>	<i>50.00'</i>	<i>47.94'</i>	<i>27.32'</i>	<i>S 74°32'22" E</i>	<i>57°17'46"</i>
<i>CURVE 6</i>	<i>50.00'</i>	<i>52.00'</i>	<i>49.69'</i>	<i>28.63'</i>	<i>N 47°01'08" E</i>	<i>59°35'15"</i>
<i>CURVE 7</i>	<i>50.00'</i>	<i>55.13'</i>	<i>52.38'</i>	<i>30.75'</i>	<i>N 14°21'48" W</i>	<i>63°10'37"</i>
<i>CURVE 8</i>	<i>25.00'</i>	<i>21.03'</i>	<i>20.41'</i>	<i>11.18'</i>	<i>S 21°51'26" E</i>	<i>48°11'23"</i>
<i>CURVE 9</i>	<i>25.00'</i>	<i>38.94'</i>	<i>35.12'</i>	<i>24.67'</i>	<i>S 46°51'24" W</i>	<i>89°14'15"</i>

ACKNOWLEDGEMENTS

I HEREBY CERTIFY THAT THIS IS A CORRECT PLAT OF A SURVEY MADE BY ME
THIS _____ DAY OF _____, 20____ AND THAT THE SURVEY BALANCES
AND CLOSES AND THE MONUMENTS SHOWN HEREON ARE SET AS SHOWN OR SHALL
BE SET AS SHOWN AND THAT ALL DIMENSIONAL AND GEODETIC DETAILS ARE CORRECT.



ROBERT P. HOOVER
OHIO REG. No. 6155

KNOW ALL MEN BY THESE PRESENTS, THAT PROVIDENCE DEVELOPMENT CO., LTD., THE OWNER OF THE LAND SHOWN ON THIS PLAN, REPRESENTED BY ROBIN WARSTLER, DOES HEREBY ACKNOWLEDGE THE MAKING AND SIGNING OF THIS PLAN TO BE HIS FREE ACT AND DEED AND DOES HEREBY DEDICATE THE STREETS AND EASEMENTS AS SHOWN HEREON TO PUBLIC USE FOREVER.

IN TESTIMONY THEREOF, I HEREBY SET MY HAND THIS _____ DAY OF _____ 20__.

WITNESSES: OWNER: PROVIDENCE DEVELOPMENT CO., LTD.

ROBIN WARSTLER, MEMBER

STATE OF OHIO } S.S.
COUNTY OF STARK }

BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID COUNTY, PERSONALLY APPEARED THE ABOVE MENTIONED MEMBER OF PROVIDENCE DEVELOPMENT CO., LTD. WHO ACKNOWLEDGED THAT HE DID SIGN THE FOREGOING INSTRUMENT AND THAT IT WAS HIS FREE ACT AND DEED ACCORDING TO LAW, SWORN TO AND SUBSCRIBED BEFORE ME THIS _____ DAY OF _____, 20____.

MY COMMISSION EXPIRES: _____ NOTARY PUBLIC

APPROVED BY THE MASSILLON CITY PLANNING COMMISSION AT A MEETING HELD THIS _____ DAY
OF _____, 20____.

CHAIRMAN SECRETARY

APPROVED BY THE MASSILLON CITY ENGINEER THIS _____ DAY OF _____, 20____,
AND LOT NUMBERS ASSIGNED.

MASSILLON CITY ENGINEER

I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE THAT NO ENCUMBRANCES EXIST ON THE LANDS
HEREIN OFFERED FOR PUBLIC USE, THIS _____ DAY OF _____, 20____.

MASSILLON CITY LAW DIRECTOR

ACCEPTED BY THE COUNCIL OF THE CITY OF MASSILLON BY ORDINANCE No. _____ PASSED THIS
____ DAY OF _____, 20____.

PRESIDENT _____ CLERK OF COUNCIL _____

ENTERED FOR TRANSFER BY THE STARK COUNTY AUDITOR THIS _____ DAY OF _____, 20____

STARK COUNTY AUDITOR

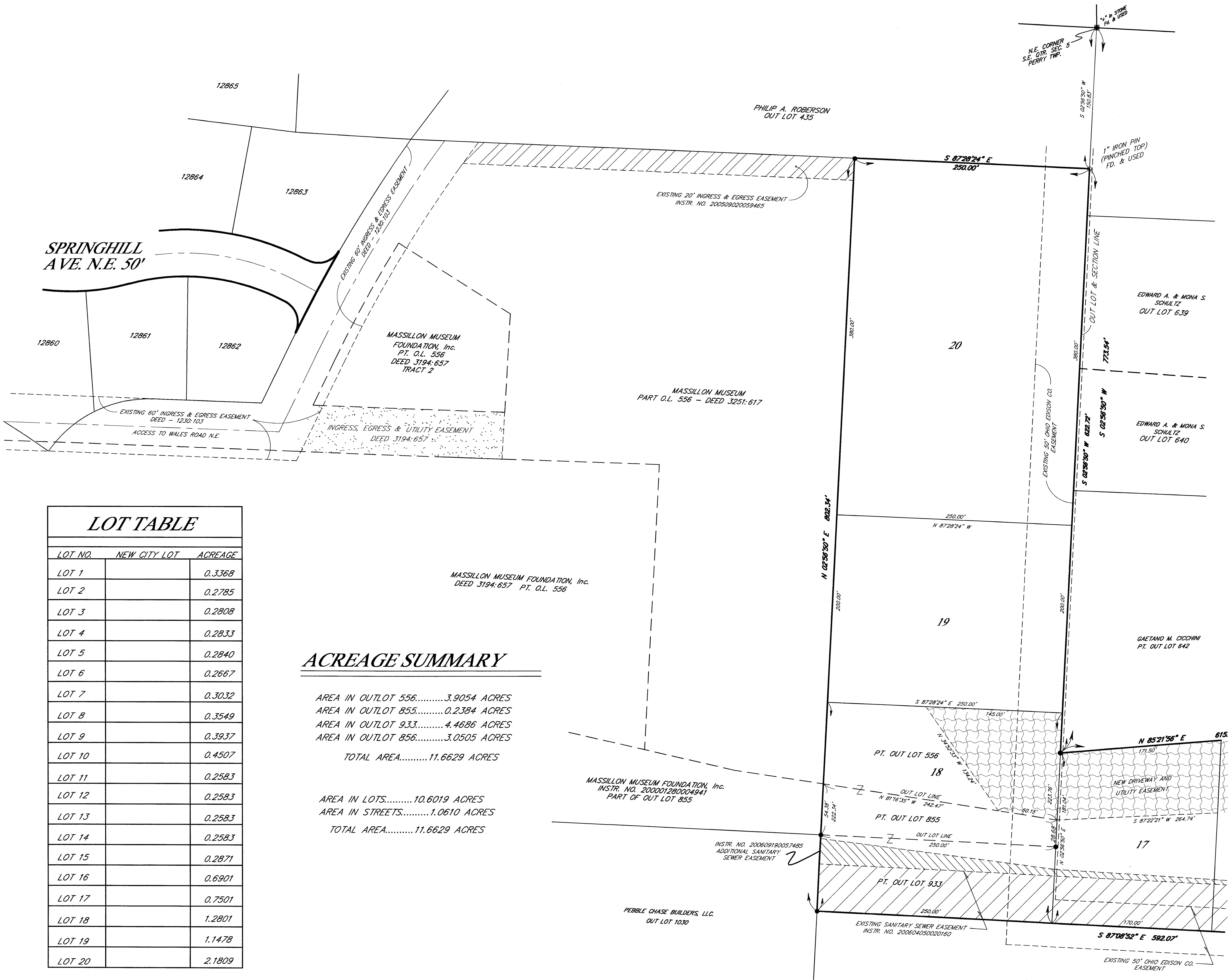
RECEIVED FOR RECORD BY THE STARK COUNTY RECORDER THIS ____ DAY OF _____, 20____
AS INSTRUMENT No. _____.

STARK COUNTY RECORDER

EASEMENTS AND RESTRICTIONS

AN EASEMENT, TWELVE FEET WIDE ON THE FRONT AND FIVE FEET WIDE ON THE SIDES AND BACK OF ALL LOTS, AND TEN FEET ON THE EXTERIOR BOUNDARY OF THIS ALLOTMENT IS GRANTED TO THE CITY OF MASSILLON, CONSUMERS COAL WATER CO., EAST OHIO GAS COMPANY, OHIO EDISON COMPANY, OHIO BELL TELEPHONE COMPANY, MASSILLON CABLE COMPANY, AND ANY P.U.C. REGULATED UTILITY FOR THE PURPOSE OF CONSTRUCTION, ERECTION, AND/OR MAINTENANCE OF ANY TRANSMISSION OF POWER, ELECTRIC COMMUNICATIONS, STORAGE, REMOVAL, SANITARY SEWER, GAS, WATER, OR OTHER UTILITY. THE CITY OF MASSILLON, CONSUMERS COAL WATER COMPANY, EAST OHIO GAS COMPANY, OHIO EDISON COMPANY, OHIO BELL TELEPHONE COMPANY, MASSILLON CABLE COMPANY, AND ANY P.U.C. REGULATED UTILITY GRANTS ALL OF THE UTILITIES THE RIGHT TO REMOVE TREES AND LANDSCAPING WITHOUT LIABILITY AS REQUIRED TO MAINTAIN, OPERATE, OR CONSTRUCT THE FACILITIES.

	HOOVER & ASSOCIATES, Inc. Professional Surveying Services		5782 Huckleberry Street N.W. North Canton, Ohio 44720 phone (330) 494-6744
	RECORD PLAT	CONCORD VILLAGE PARTS OF LOTS 855, 856, 556 AND 933 IN THE CITY OF MASSILLON STARK COUNTY, OHIO	SCALE: 1" = 50' AUGUST 2006
RPI			



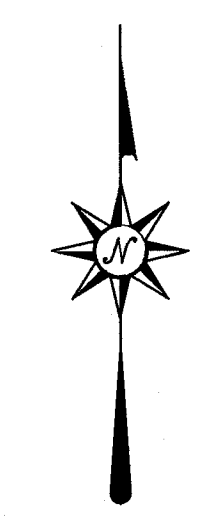
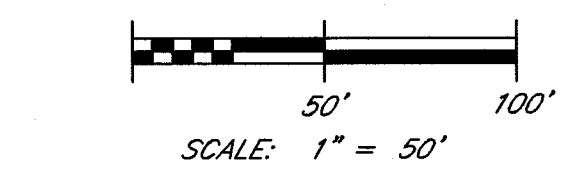
LOT TABLE

LOT NO.	NEW CITY LOT	ACREAGE
LOT 1		0.3368
LOT 2		0.2785
LOT 3		0.2808
LOT 4		0.2833
LOT 5		0.2840
LOT 6		0.2667
LOT 7		0.3032
LOT 8		0.3549
LOT 9		0.3937
LOT 10		0.4507
LOT 11		0.2583
LOT 12		0.2583
LOT 13		0.2583
LOT 14		0.2583
LOT 15		0.2871
LOT 16		0.6901
LOT 17		0.7501
LOT 18		1.2801
LOT 19		1.1478
LOT 20		2.1809

ACREAGE SUMMARY

AREA IN OUTLOT 556.....3.9054 ACRES
AREA IN OUTLOT 855.....0.2384 ACRES
AREA IN OUTLOT 933.....4.4686 ACRES
AREA IN OUTLOT 856.....3.0505 ACRES
TOTAL AREA.....11.6629 ACRES

AREA IN LOTS.....10.6019 ACRES
AREA IN STREETS.....1.0610 ACRES
TOTAL AREA.....11.6629 ACRES

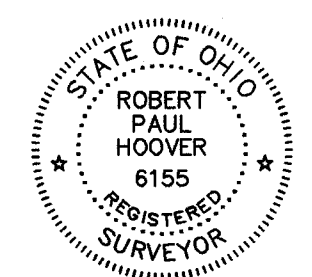


LEGEND

- -DENOTES MONUMENT FOUND & USED
- -DENOTES 5/8" IRON BAR SET
- ▲ -DENOTES P.K. NAIL SET
- -DENOTES MONUMENT BOX TO BE SET
- [Pattern] -DENOTES DETENTION BASIN AREA
- [Pattern] - DENOTES EXISTING SANITARY SEWER EASEMENT INSTR. NO. 200604050020160
- [Pattern] -DENOTES NEW DRIVEWAY & UTILITY EASEMENT
- [Pattern] -DENOTES EXISTING 20' INGRESS & EGRESS EASEMENT INSTR. NO. 200509020059465
- [Pattern] -DENOTES INGRESS, EGRESS & DEED 3194:657
- [Pattern] -DENOTES ADDITIONAL SANITARY SEWER EASEMENT INSTR. NO. 200602190057485

ZONING

R-3 ONE FAMILY RESIDENTIAL DISTRICT



REVISION DESCRIPTION

DATE

DRAWN BY

CHECKED BY

HOOVER & ASSOCIATES, Inc.

Professional Surveying Services

RECORD PLAT

CONCORD VILLAGE

PARTS OF OUT LOTS 855, 856, 556 AND 933

IN THE CITY OF MASSILLON

STARK COUNTY, OHIO

5782 Hickelberry Street N.W.

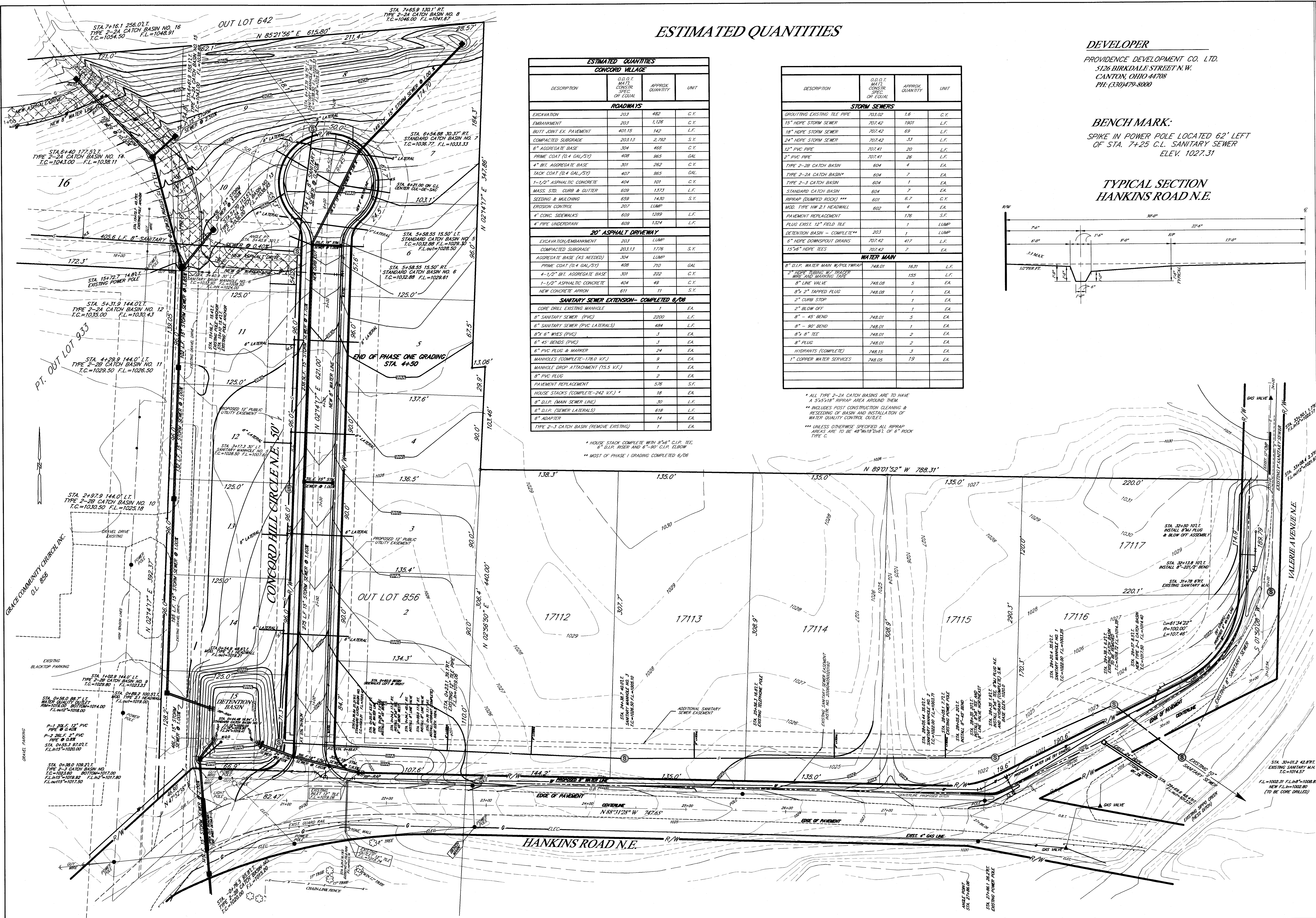
North Canton, Ohio 44720

Phone (330) 494-6744

SCALE: 1" = 50'

AUGUST 2006

RP2



ESTIMATED QUANTITIES

ESTIMATED QUANTITIES			
CONCORD VILLAGE			
DESCRIPTION	Q.D.Q.T. MAT'L. CONSTR. SPEC. OR EQUAL	APPROX. QUANTITY	UNIT
ROADWAYS			
EXCAVATION	203	482	C.Y.
EMBANKMENT	203	1,126	C.Y.
BUILT JOINT EX. PAVEMENT	401.15	142	L.F.
COMPACTED SUBGRADE	203.13	2,792	S.Y.
6" AGGREGATE BASE	304	465	C.Y.
PRIME COAT (0.4 GAL/SY)	408	965	GAL
4" BIT AGGREGATE BASE	301	262	C.Y.
TACK COAT (0.4 GAL/SY)	407	965	GAL
1-1/2" ASPHALTIC CONCRETE	404	101	C.Y.
MASS. STD. CURB & GUTTER	609	1,373	L.F.
SEEDING & MULCHING	659	14,30	S.Y.
EROSION CONTROL	207	LUMP	
4" CONC. SIDEWALKS	609	1,289	L.F.
4" PIPE UNDERDRAIN	609	1,324	L.F.
20' ASPHALT DRIVEWAY			
EXCAVATION/EMBANKMENT	203	LUMP	
COMPACTED SUBGRADE	203.13	1776	S.Y.
AGGREGATE BASE (AS NEEDED)	304	LUMP	
PRIME COAT (0.4 GAL/SY)	408	710	GAL
4-1/2" BIT AGGREGATE BASE	301	222	C.Y.
1-1/2" ASPHALTIC CONCRETE	404	49	C.Y.
NEW CONCRETE APRON	611	11	S.Y.
SANITARY SEWER EXTENSION - COMPLETED 6/06			
CORE DRILL EXISTING MANHOLE	1	EA.	
8" SANITARY SEWER (PVC)	2200	L.F.	
6" SANITARY SEWER (PVC LATERALS)	494	L.F.	
8"x 6" WYES (PVC)	3	EA.	
6" 45° BENDS (PVC)	3	EA.	
6" PVC PLUG & MAINER	24	EA.	
MANHOLES (COMPLETE-178.0 V.F.)	9	EA.	
MANHOLE DROP ATTACHMENT (15.5 V.F.)	1	EA.	
8" PVC PLUG	2	EA.	
PAVEMENT REPLACEMENT	576	S.F.	
HOUSE STACKS (COMPLETE-242 V.F.) *	18	EA.	
8" D.I.P. (MAIN SEWER LINE)	30	L.F.	
8" D.I.P. (SEWER LATERALS)	618	L.F.	
6" ADAPTER	14	EA.	
TYPE 2-3 CATCH BASIN (REMOVE EXISTING)	1	EA.	

* HOUSE STACK COMPLETE WITH 8"x6" C.I.P. TEE, 8" D.I.P. RISER AND 8"-90° C.I.P. ELBOW
** MOST OF PHASE I GRADING COMPLETED 6/06

DESCRIPTION	Q.D.Q.T. MAT'L. CONSTR. SPEC. OR EQUAL	APPROX. QUANTITY	UNIT
STORM SEWERS			
GROUTING EXISTING TILE PIPE	703.02	1.6	C.Y.
15" HDPE STORM SEWER	707.42	1501	L.F.
18" HDPE STORM SEWER	707.42	69	L.F.
24" HDPE STORM SEWER	707.42	33	L.F.
12" PVC PIPE	707.41	20	L.F.
2" PVC PIPE	707.41	26	L.F.
TYPE 2-28 CATCH BASIN	604	4	EA.
TYPE 2-2A CATCH BASIN*	604	7	EA.
TYPE 2-3 CATCH BASIN	604	1	EA.
STANDARD CATCH BASIN	604	7	EA.
RRPAP (DUMPED ROCK) ***	601	6.7	C.Y.
MOD. TYPE HW 21 HEADWALL	602	4	EA.
PAVEMENT REPLACEMENT		176	S.F.
PLUG EXIST. 12" FIELD TILE		1	LUMP
DETENTION BASIN - COMPLETE**	203	1	LUMP
6" HDPE DOWNSPOUT DRAINS	707.42	417	L.F.
15"x6" HDPE TEES	707.42	7	EA.
WATER MAIN			
8" D.I.P. WATER MAIN W/PROLYNAP	748.01	1631	L.F.
2" HDPE TUBING W/ TRACER WIRE AND MARKING TAPE		155	L.F.
8" LINE VALVE	748.08	5	EA.
8"x 2" TAPPED PLUG	748.08	1	EA.
2" CURB STOP		1	EA.
2" BLOW OFF		1	EA.
8" - 45° BEND	748.01	5	EA.
8" - 90° BEND	748.01	1	EA.
8"x 8" TEE	748.01	2	EA.
8" PLUG	748.01	2	EA.
HYDRANTS (COMPLETE)	748.15	3	EA.
1" COPPER WATER SERVICES	748.05	19	EA.

* ALL TYPE 2-2A CATCH BASINS ARE TO HAVE A 15"x15" RRPAP AREA AROUND THEM.
** INCLUDES POST CONSTRUCTION CLEANING & RESEEDING OF BASIN AND INSTALLATION OF WATER QUALITY CONTROL OUTLET.
*** UNLESS OTHERWISE SPECIFIED ALL RRPAP AREAS ARE TO BE 48"X18"X24" OF 6" ROCK TYPE C.

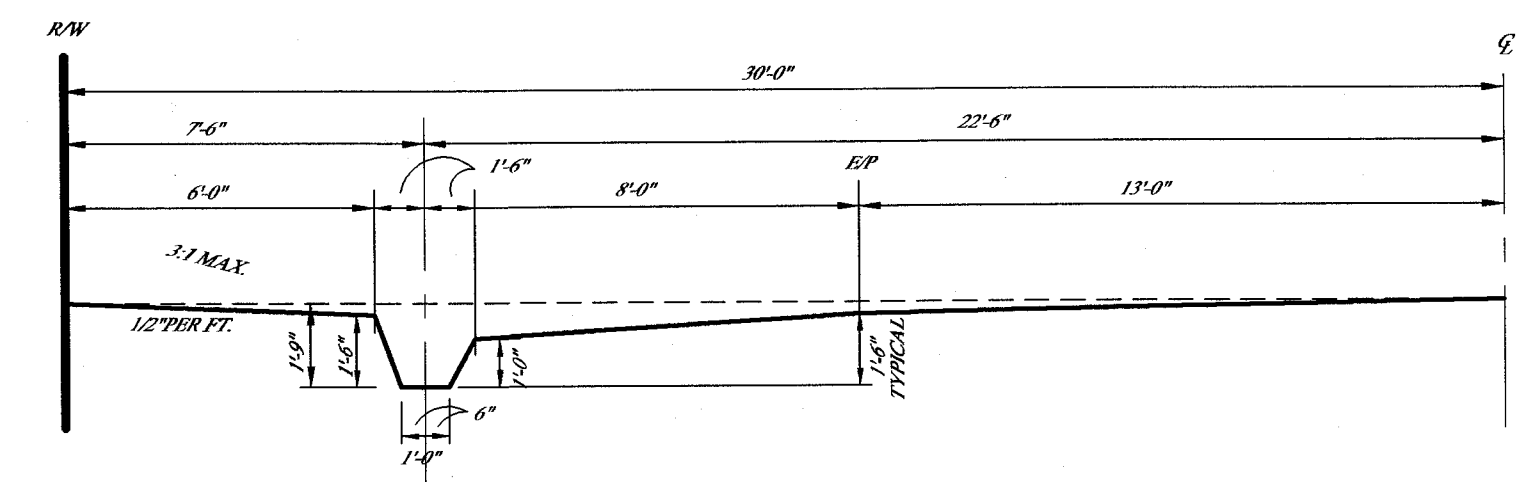
DEVELOPER

PROVIDENCE DEVELOPMENT CO. LTD.
5126 BIRKDALE STREET N.W.
CANTON, OHIO 44708
PH: (330)479-8000

BENCH MARK:

SPIKE IN POWER POLE LOCATED 62' LEFT OF STA. 7+25 C.L. SANITARY SEWER
ELEV. 1027.31

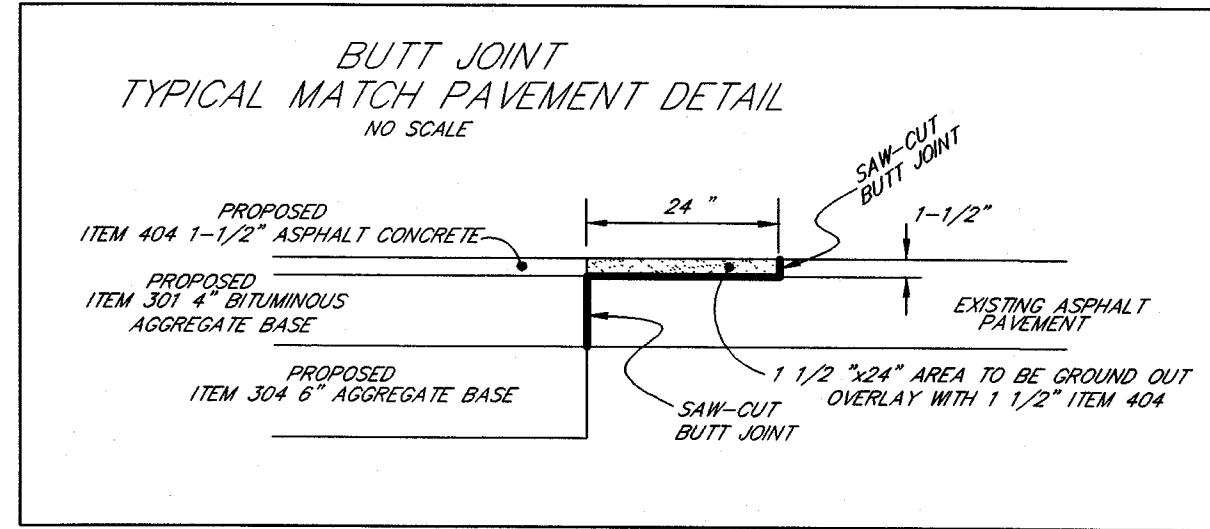
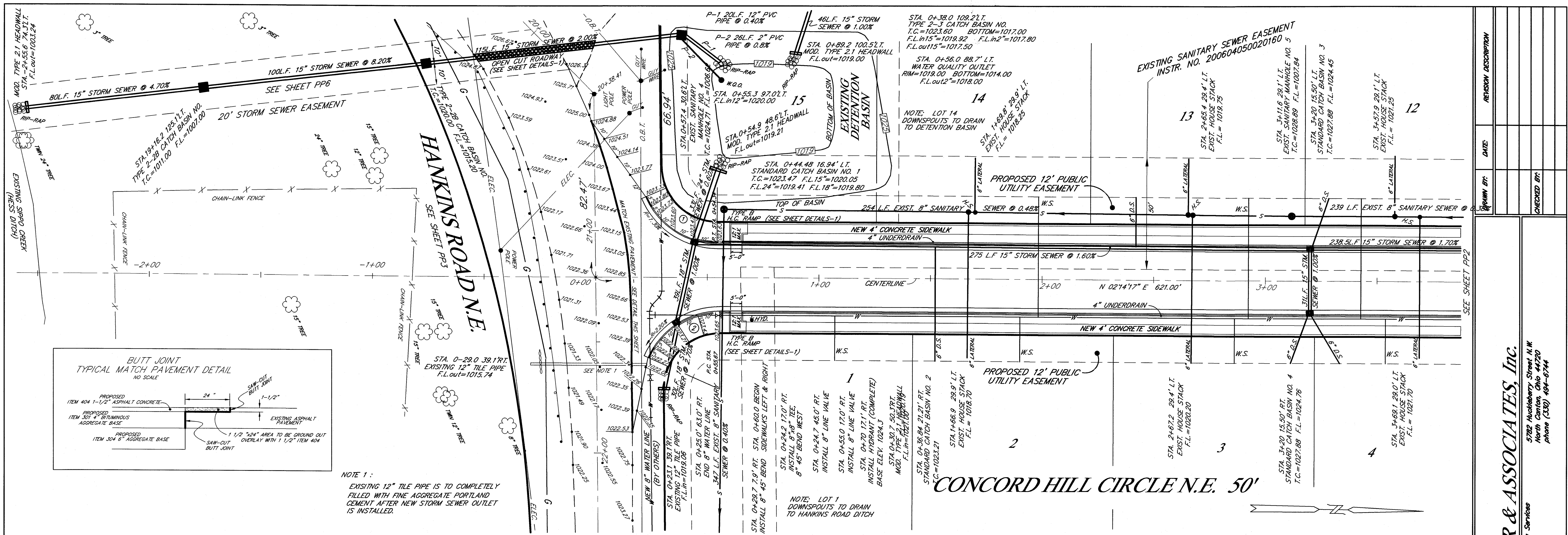
TYPICAL SECTION HANKINS ROAD N.E.



HOOPER & ASSOCIATES, Inc.
5782 Huckleberry Street N.W.
North Canton, Ohio 44720
Phone (330) 494-6744
Professional Surveying Services

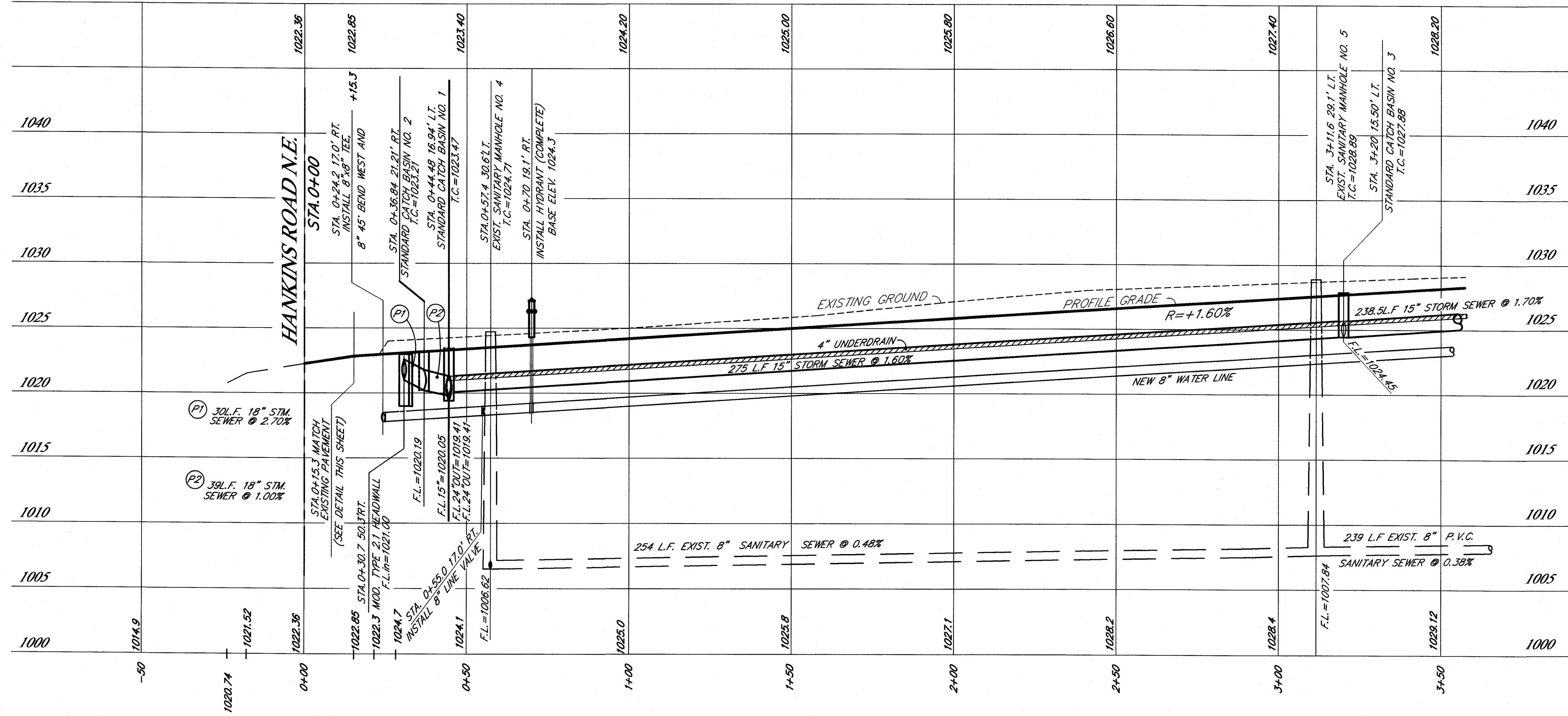
GRADING PLAN - ESTIMATED QUANTITIES
CONCORD VILLAGE
PARTS OF OUT LOTS 855, 856, 556 AND 933
IN THE CITY OF MASSILLON
STARK COUNTY, OHIO
JANUARY 2006
SCALE: 1" = 40'

GP



NOTE 1:
EXISTING 12" TILE PIPE IS TO COMPLETELY
FILLED WITH FINE AGGREGATE PORTLAND
CEMENT AFTER NEW STORM SEWER OUTLET
IS INSTALLED.

BACK OF CURB DATA
① Δ=66°25'48"
R=34.50'
L=40.00'
② Δ=66°25'48"
R=34.50'
L=40.00'



BENCH MARK:
SPIKE IN POWER POLE LOCATED 62' LEFT
OF STA. 7+25 C.L. SANITARY SEWER
ELEV. 1027.31

NOTE:
ALL RIPRAP AREAS ARE TO BE
48"Wx18"Dx6'L OF 6" ROCK TYPE C

PP1

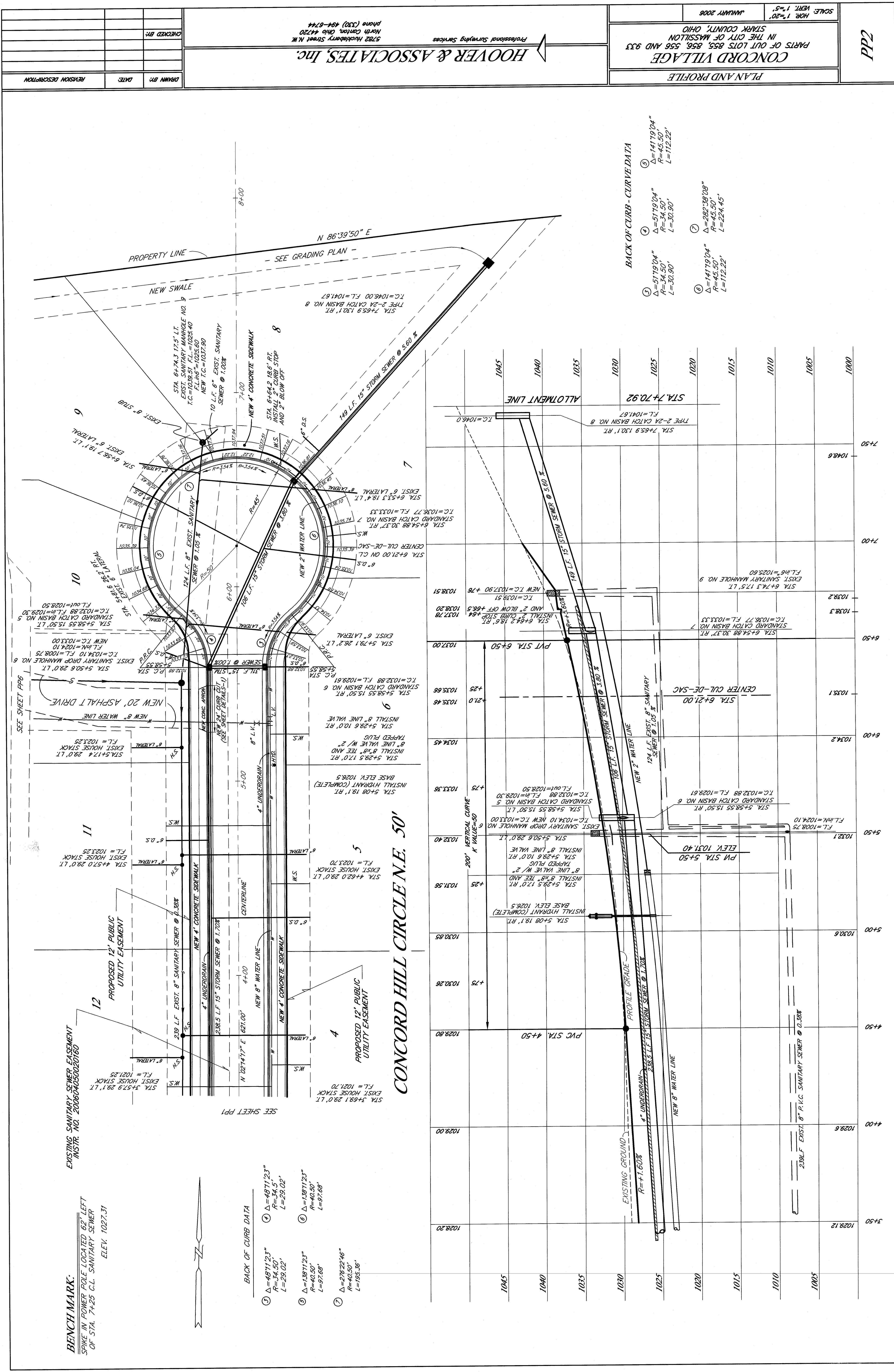
CONCORD VILLAGE
PARTS OF OUT LOTS 855, 856, 556 AND 933
IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

PLAN AND PROFILE

HOOVER & ASSOCIATES, Inc.
Professional Surveying Services
5782 Hickelberry Street, N.W.
North Canton, Ohio 44720
phone (330) 494-6744

REVISION DESCRIPTION
DATE
DRAWN BY
CHECKED BY

SCALE: HOR. 1"=20'
VERT. 1"=5'
JANUARY 2008



PP2

CONCORD VILLAGE
PARTS OF OUT LOTS 855, 856, 556 AND 933
IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

SCALE: HORIZ. 1"=20'
VERT. 1"=5'

JANUARY 2008

5782 Hickbush Street N.W.
North Canton, Ohio 44720
phone (330) 494-6744

Professional Surveying Services

HOOVER & ASSOCIATES, Inc.

REVISION DESCRIPTION

DATE

DRAWN BY

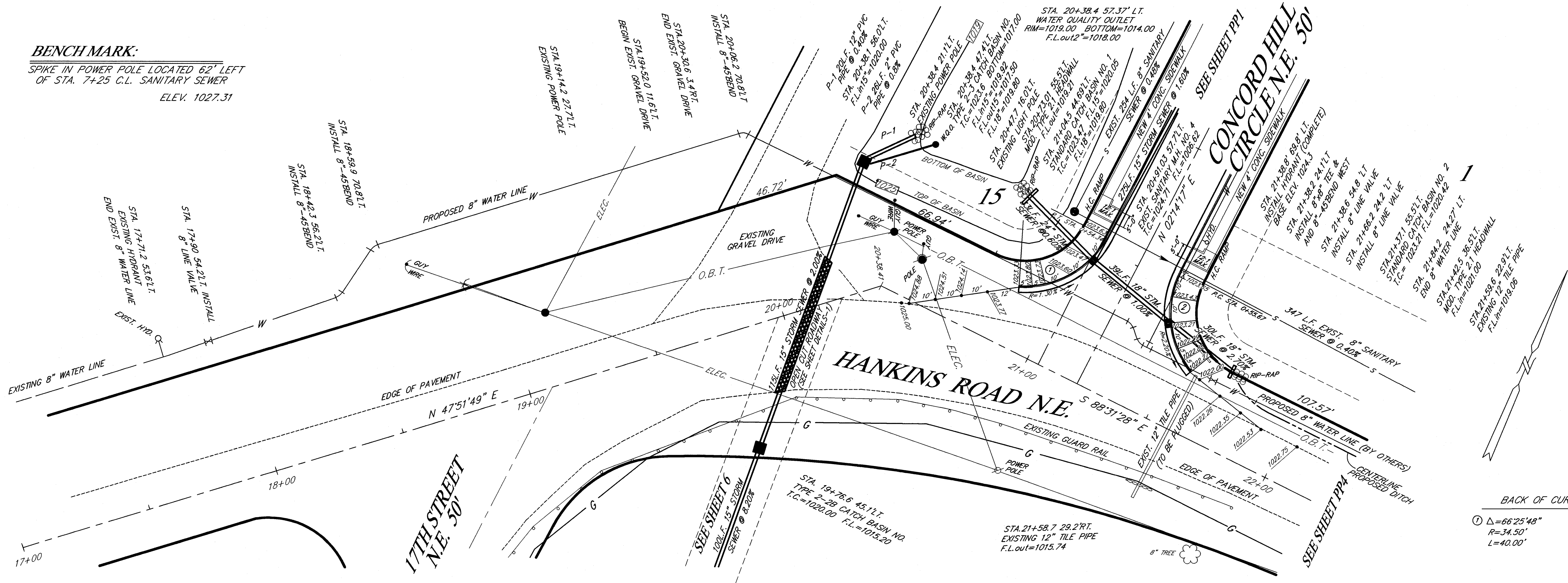
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BENCH MARK:
SPIKE IN POWER POLE LOCATED 62' LEFT
OF STA. 7+25 C.L. SANITARY SEWER
ELEV. 1027.31

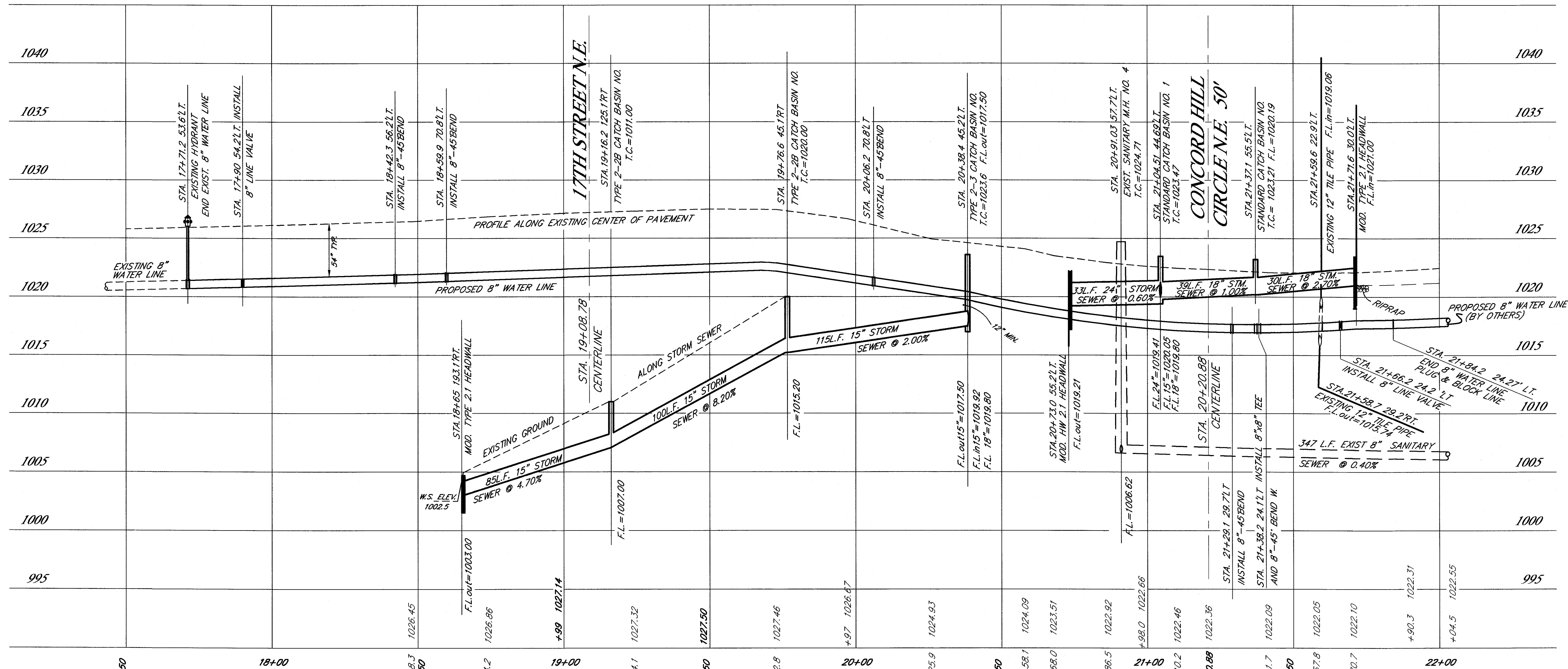
BACK OF CURB DATA

①	$\Delta=48'11'23''$ $R=34.5'$ $L=29.02'$
②	$\Delta=138'11'23''$ $R=40.50'$ $L=97.68'$
③	$\Delta=276'22'46''$ $R=40.50'$ $L=195.36'$
④	$\Delta=48'11'23''$ $R=34.5'$ $L=29.02'$
⑤	$\Delta=138'11'23''$ $R=40.50'$ $L=97.68'$
⑥	$\Delta=276'22'46''$ $R=40.50'$ $L=195.36'$

BENCH MARK:
SPIKE IN POWER POLE LOCATED 62' LEFT
OF STA. 7+25 C.L. SANITARY SEWER
ELEV. 1027.31



BACK OF CURB DATA
① $\Delta=66'25.48''$
 $R=34.50'$
 $L=40.00'$
② $\Delta=66'25.48''$
 $R=34.50'$
 $L=40.00'$



REVISION DESCRIPTION	
DATE	

DRAWN BY:	
DATE	

CHECKED BY:	
DATE	

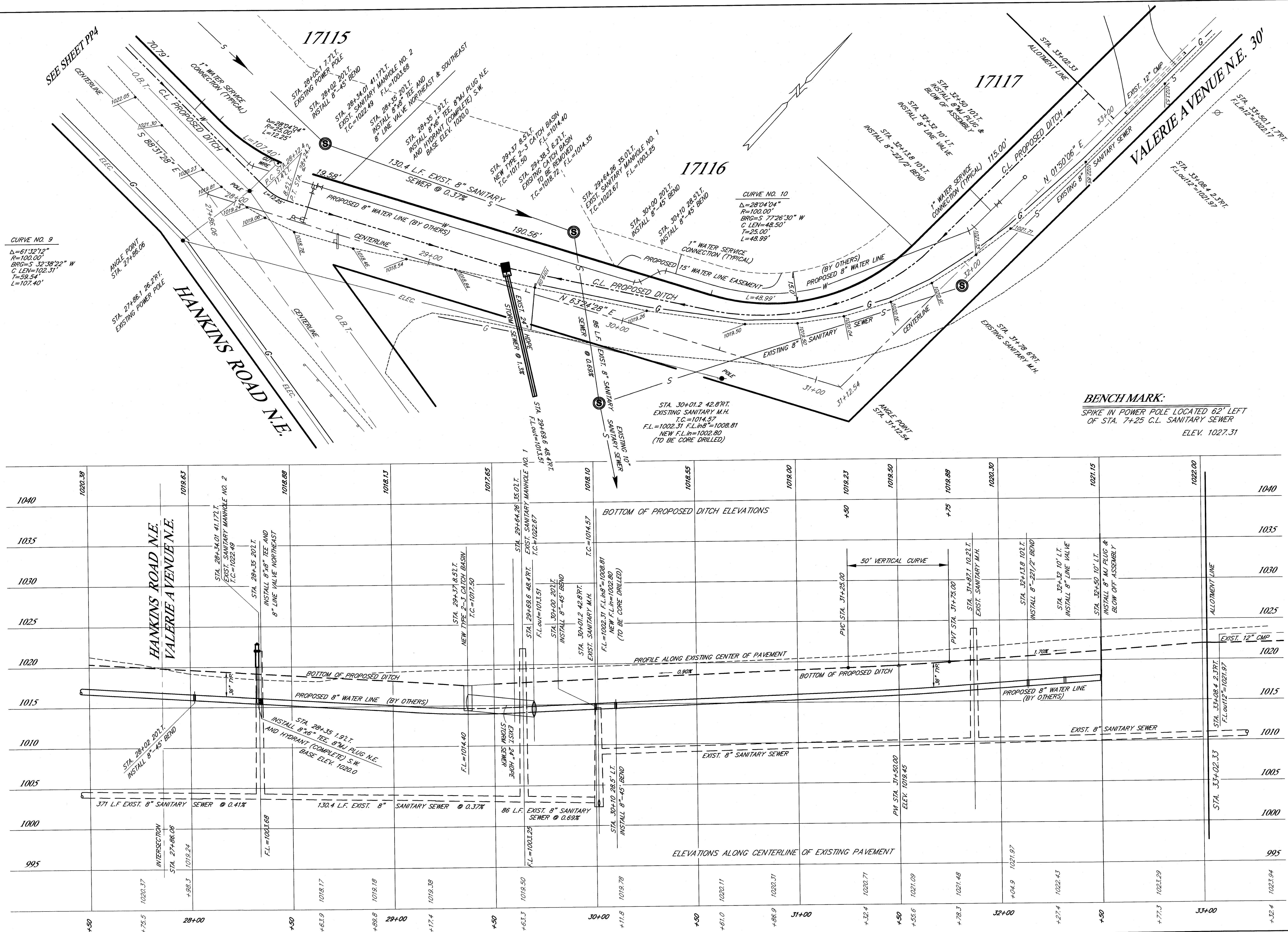
HOOVER & ASSOCIATES, Inc.
Professional Surveying Services
5782 Hickberry Street N.W.
North Canton, Ohio 44720
phone (330) 494-6744

PLAN AND PROFILE
CONCORD VILLAGE
PARTS OF OUT LOTS 855, 856, 556 AND 933
IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

HDR. 1"=20'
VERT. 1"=5'
SCALE: VERT. 1"=5'

JANUARY 2006

PP3



PP5

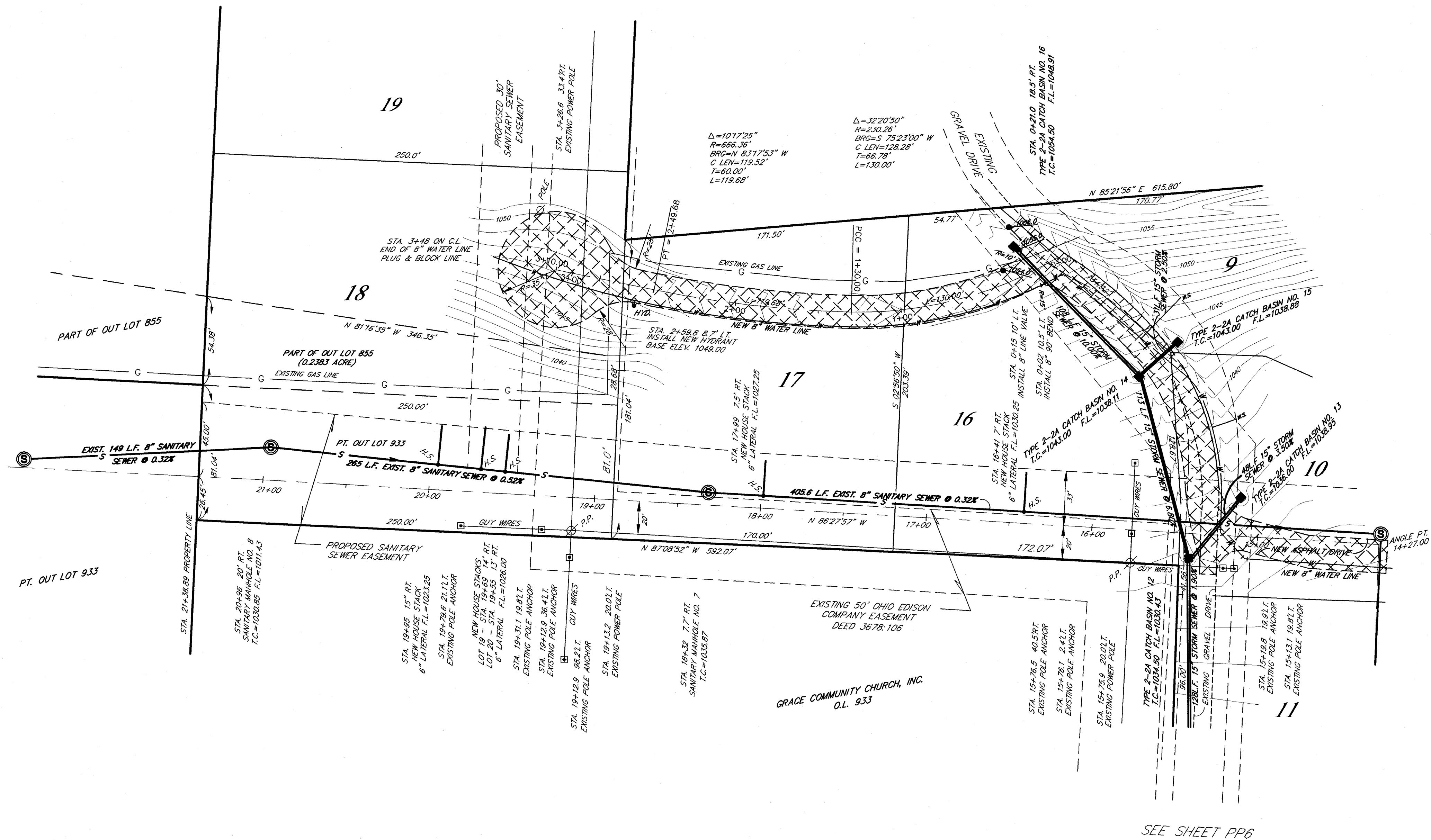
CONCORD VILLAGE
PARTS OF OUT LOTS 855, 856, 556 AND 933
IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

PLAN AND PROFILE

HOOVER & ASSOCIATES, Inc.
Professional Surveying Services
5729 Hickokbury Street N.W.
North Canton, Ohio 44720
phone (330) 494-6744

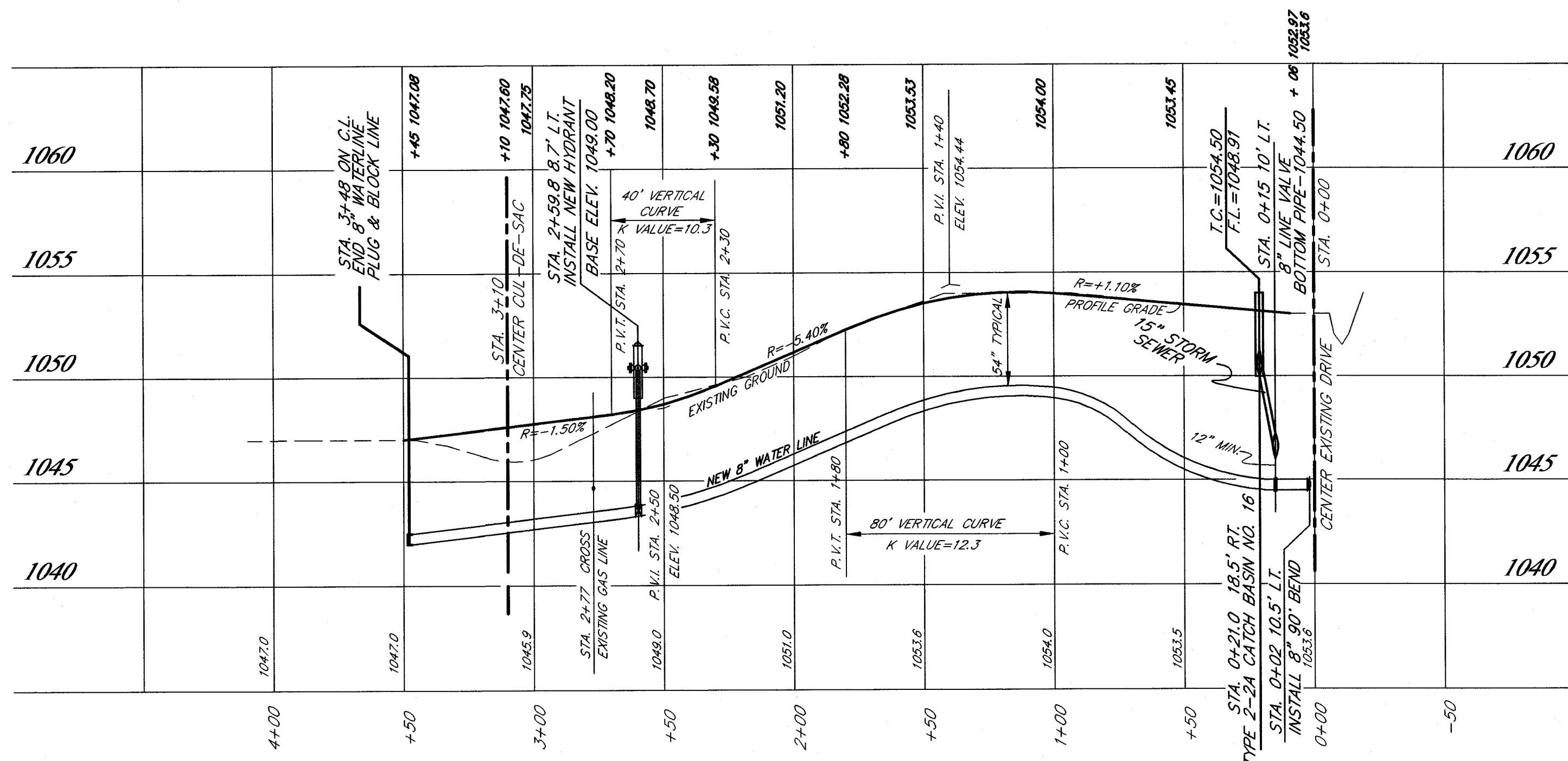
REVISION DESCRIPTION
DATE
DRAWN BY
CHECKED BY

HOR. 1"=20'
VERT. 1"=5'
SCALE
JANUARY 2008



BENCH MARK:

SPIKE IN POWER POLE LOCATED 62' LEFT
OF STA. 7+25 C.L. SANITARY SEWER
ELEV. 1027.31



PLAN & PROFILE - WEST DRIVE

CONCORD VILLAGE
PARTS OF OUT LOTS 855, 856, 556
AND 933 IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

SCALE: 1" = 40' JULY 2006

PP7

HOOVER & ASSOCIATES, Inc.
Professional Surveying Services

5782 Hickelberg Street, N.W.
North Canton, Ohio 44720
phone (330) 494-6744

DESCRIPTION

DATE

CHECKED BY:

SANITARY SEWER EXTENSION
PROVIDENCE DEVELOPMENT
PART OF OUT LOT 933
IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

PLAN APPROVED BY THE OHIO EPA BY LETTER
DATED OCTOBER 18, 2005.

PLAN APPROVED BY THE MASSILLON CITY ENGINEER
THIS 11th DAY OF August, 2005.

MASSILLON CITY ENGINEER

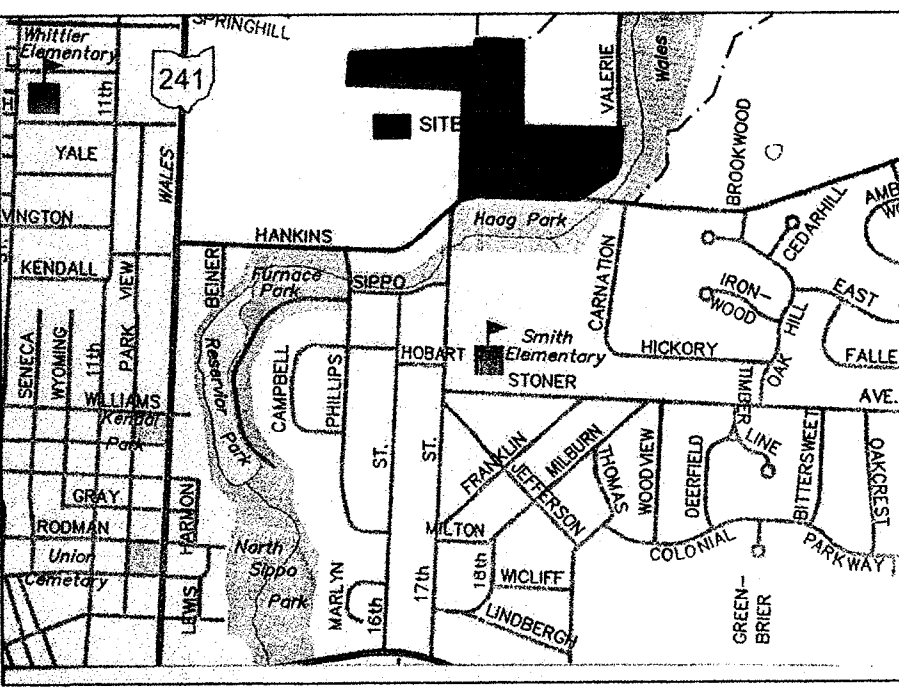
CONTACT PERSON

ROBIN WARSTLER
5126 BIRKDALE STREET N.W.
CANTON, OHIO 44708
phone: (330) 479-8000

OWNER

PROVIDENCE DEVELOPMENT CO. LTD.
5126 BIRKDALE STREET N.W.
CANTON, OHIO 44708

UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
Call: 800-362-2784 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECT



VICINITY MAP
(NO SCALE)

INDEX

SIGNATURES, ESTIMATED QUANTITIES AND GENERAL NOTES TS
PLAN AND PROFILE STA. 0+00 - STA. 12+00SHEET 1 OF 2
PLAN AND PROFILE STA. 12+00 - STA. 22+00SHEET 2 OF 2
OPEN CUT DETAIL AND TRAFFIC CONTROL DETAILSSHEET 1 OF 2
HOUSE STACK DETAIL AND DROP MANHOLE DETAILSHEET 2 OF 2

PLANS PREPARED BY:
HOOVER AND ASSOCIATES, INC.

7/26/05 DATE
Robert P. Hoover OHIO REG. No. 6155

7-26-05 DATE
DAVID J. STERRETT - REG. ENGINEER No. E-47091



STANDARD SANITARY SEWER NOTES

- Sanitary sewers and appurtenances shall be constructed according to City of Massillon Engineering Department specifications, Ohio E.P.A. standards and the "Ten States Standards" in effect at time of construction.
- Roof drains, foundation drains and other clean water connections to the sanitary sewer are prohibited.
- Prior to start of construction, the contractor shall schedule a pre-construction meeting with the engineer of the City of Massillon Engineering Department (330/830-1722). A minimum of 72 hours notice is required to schedule this meeting.
- The contractor shall notify all property owners along the route of the sanitary sewer at least three (3) days prior to start of construction.
- The contractor shall alert the Ohio Utilities Protection Service at least 48 hours prior to start of construction.
- Approval by the City of Massillon Engineering Department constitutes neither expressed nor implied warranties as to fitness, accuracy, or sufficiency of plans, designs or specifications.
- The contractor shall be responsible for properly maintaining existing sanitary flow during the construction and testing of the proposed improvements. The contractor's methods for maintaining flow must be approved by the City of Massillon Engineering Department at the pre-construction meeting.
- All rough grading to within six (6) inches of finished grade shall be completed within the rights-of-way and easements prior to sanitary sewer construction.
- Bulkheads shall be erected in existing manholes where taps for new mainline sewers are made and shall remain in place until the new sewers are complete, tested and approved. In cases where a bulkhead would interrupt the flow from existing service connections, the bulkhead shall be placed in the first new manhole upstream of the existing manhole.
- Minimum vertical clearance between sanitary sewer and waterline shall be 18 inches. Minimum horizontal separation shall be 10 ft.
- Sanitary sewer service laterals shall be 6-inch diameter and be laid at no less than 1.0 % grade.
- No changes to sanitary sewer service lateral locations shall be made without the approval of the City of Massillon Engineer.
- For new subdivision construction, sewer service laterals shall extend 10 ft. into each lot when the main sewer is in a street right-of-way, and shall terminate at the easement line when the main sewer is in an easement. For other sewer extensions, sewer service laterals shall terminate at the right-of-way line or the easement line, whichever is applicable.
- Service stacks shall be ductile iron pipe regardless of main sewer material. A cast iron tee shall be installed in the main sewer. Concrete encasement will not be required.
- Minimum cover over sanitary sewer shall be 4 ft.
- Acceptable sanitary sewer pipe materials are as follows:

Pipe	Joints	Installation	
PVC Smooth Exterior:	ASTM D-3034	ASTM D-3212	ASTM D-2321
PVC:	ASTM F-794	ASTM D-3212	ASTM D-2321
Closed Profile (Dual Wall)			
Corrugated (Dual Wall)			
Ribbed (Open Profile)			
PVC Corrugated Exterior:	ASTM F-949	ASTM D-3212	ASTM D-2321
VCP Extra Strength:	ASTM C-700	ASTM C-425	ASTM C-12
DCIP (Class 52):	AWWA C-151	AWWA C-110/C-III	AWWA C-151
ABS Composite:	ASTM D-2680	ASTM D-2235	ASTM D-2680
PVC Composite:	ASTM D-2680	ASTM D-2564	ASTM D-2680
- All sanitary sewers, 8-inch diameter and larger, must pass an internal television inspection. The contractor shall provide complete internal inspection videotape to the City of Massillon Engineering Department. The videotaping procedure shall be in accordance with City of Massillon Engineering Department specifications.
- A deflection test shall be required for all flexible pipe of 8-inch diameter and larger. The test shall be conducted at least 30 days after completion of backfill and shall be in accordance with City of Massillon Engineering Department specifications. The allowable deflection rate shall not exceed five (5%) percent.
- All sanitary sewers must pass a low pressure air test, which shall be conducted in accordance with City of Massillon Engineering Department specifications. The maximum allowable test leakage shall be 100 gal./inch of diameter/mile/day.
- Manhole construction shall meet the requirements of ASTM C-478 and C-443. All manholes shall be air/vacuum tested in accordance with and meet all the requirements of ASTM C1244.
- Connections to existing manholes shall be core drilled, with benches and channels formed and repaired as necessary.
- Any manhole drop attachments shall be "outside" type.
- Manhole top of casting elevations may require adjustment during site grading. Manhole covers may not be buried. Upon completion of construction and restoration, all manholes, proposed and existing, shall be in conformance in all respects with City of Massillon Engineering Department specifications and details.
- All sanitary sewer trenches beneath proposed or existing pavement shall be compacted in lifts, in a manner, and with material as specified by the City of Massillon Engineering Department and all applicable O.D.O.T. specifications.
- "As Built" will be required by City of Massillon Engineering Department prior to final acceptance of the proposed sanitary sewer.

ESTIMATED QUANTITIES (PRIVATE) SANITARY SEWER EXTENSION		
DESCRIPTION	APPROX. QUANTITY	UNIT
CORE DRILL EXISTING MANHOLE	1	EA.
8" SANITARY SEWER (PVC)	2200	L.F.
6" SANITARY SEWER (PVC LATERALS)		L.F.
8"X 6" WYES (PVC)	3	EA.
6" 45° BENDS (PVC)	3	EA.
6" PVC PLUG & MARKER		EA.
MANHOLES (COMPLETE-188.3 V.F.)	9	EA.
MANHOLE DROP ATTACHMENT (15.5 V.F.)	1	EA.
8" PVC PLUG	2	EA.
PAVEMENT REPLACEMENT	576	S.F.
HOUSE STACKS (COMPLETE-253 V.F.) *		EA.
8" D.I.P. (MAIN SEWER LINE)	30	L.F.
6" D.I.P. (SEWER LATERALS)		L.F.
6" ADAPTER		EA.

* HOUSE STACK COMPLETE WITH 8"x6" C.I.P. TEE,
6" D.I.P. RISER AND 6"-90° C.I.P. ELBOW

REVISION DESCRIPTION
DATE
DRAWN BY
CHECKED BY

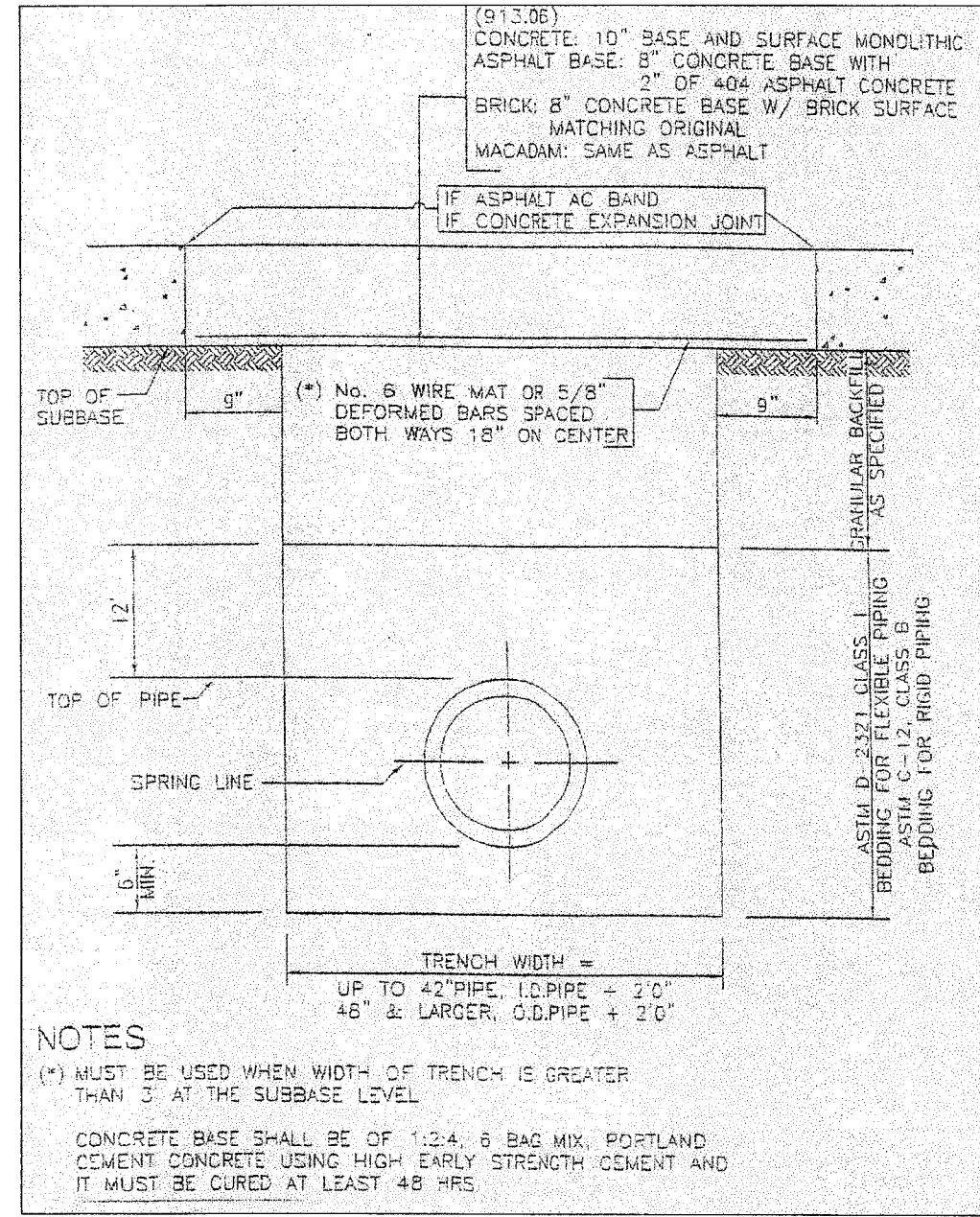
HOOVER & ASSOCIATES, Inc.
Professional Surveying Services
5782 Huckleberry Street, N.W.
North Canton, Ohio 44720
Phone (330) 494-6744

SANITARY SEWER EXTENSION
PROVIDENCE DEVELOPMENT
PART OF OUT LOT 933
IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

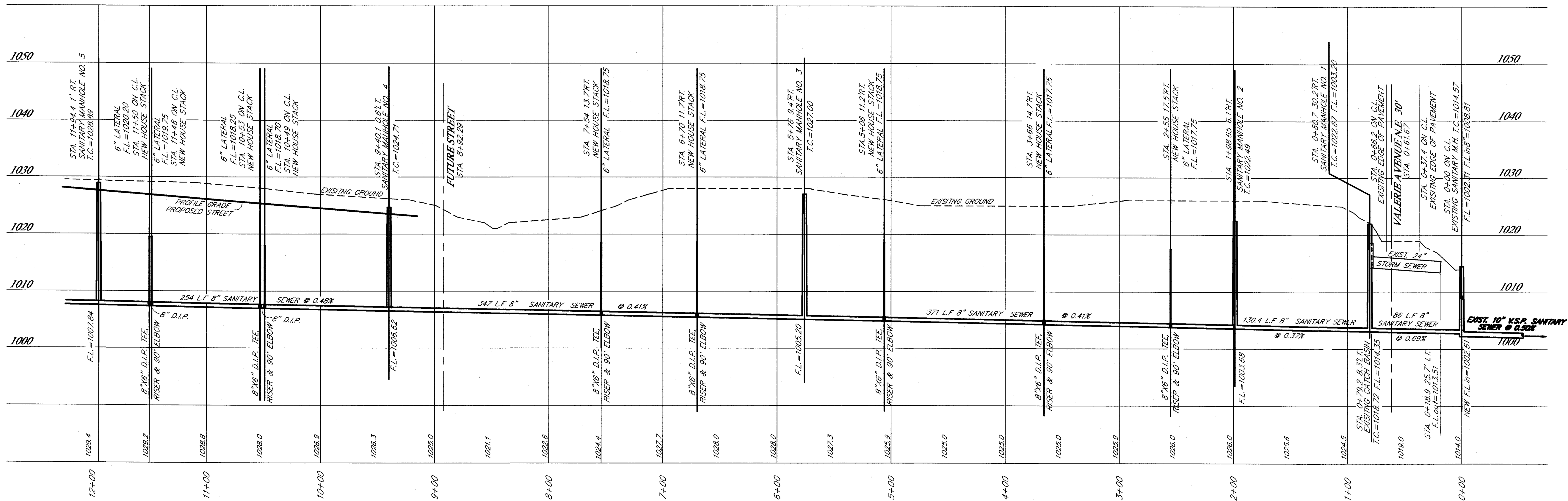
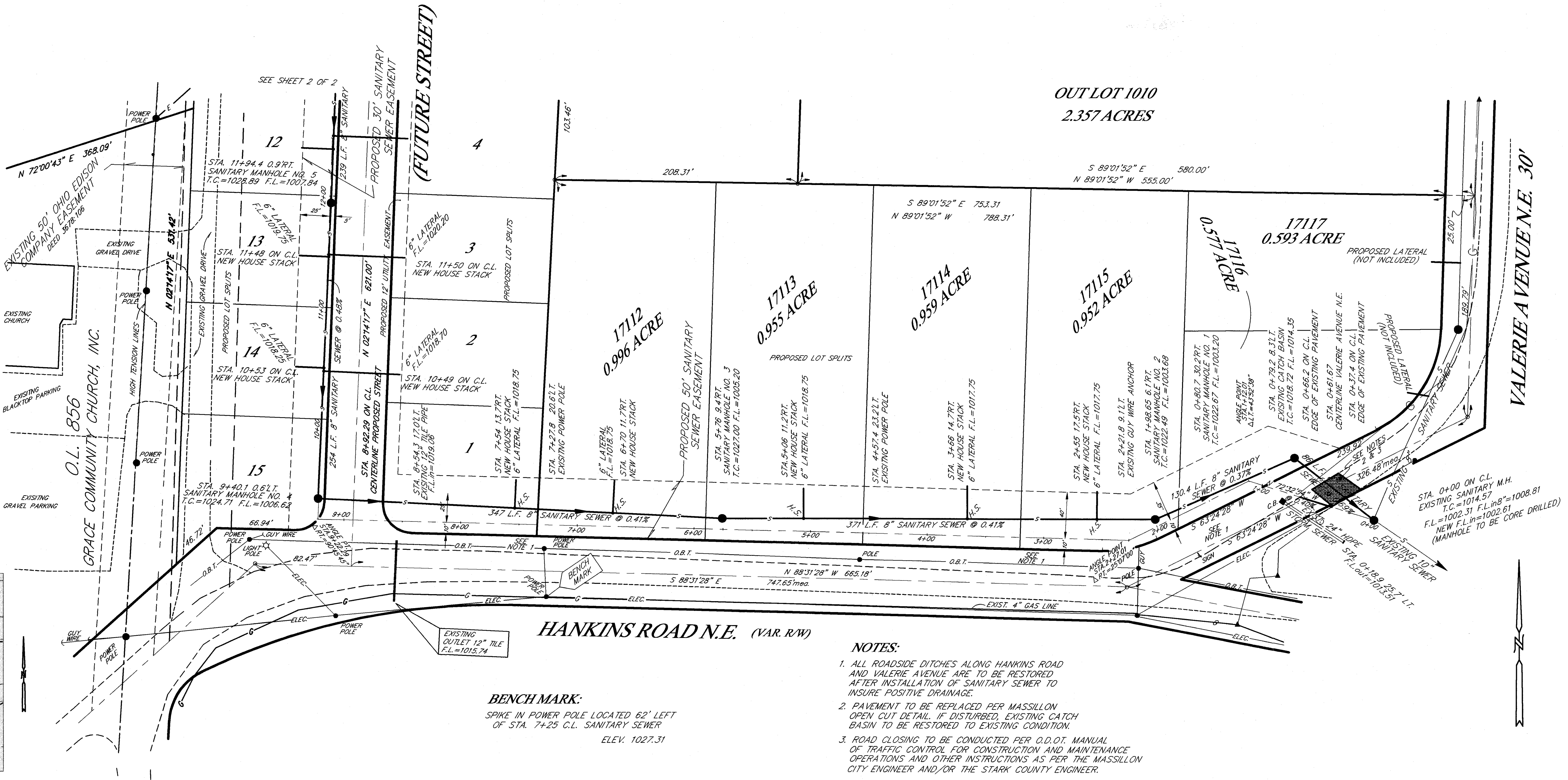
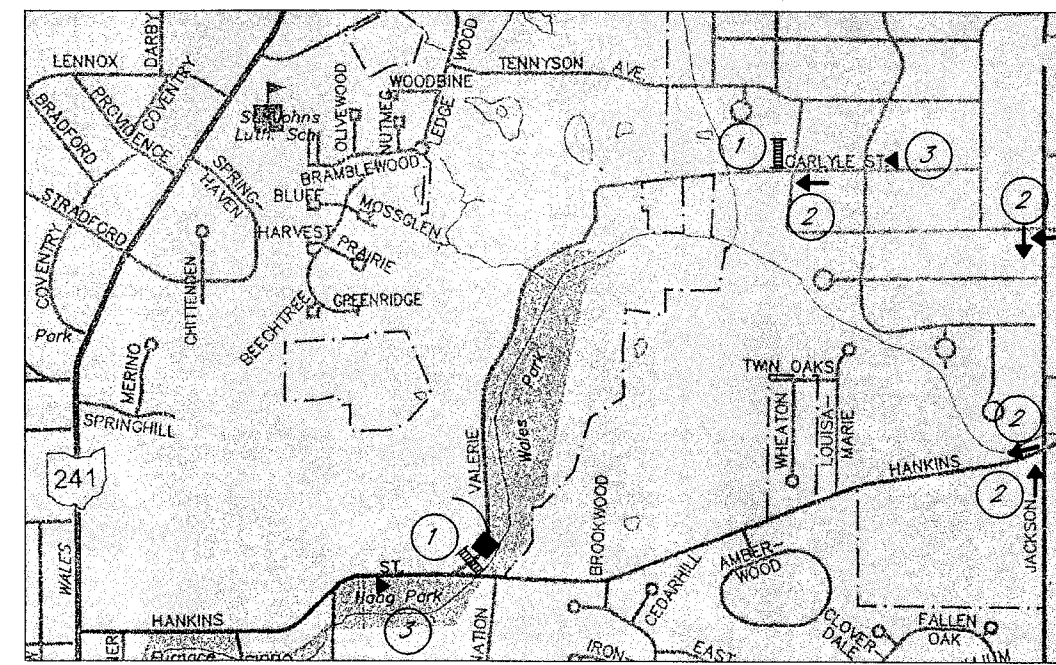
7-26-05
MAY 2005
SHEET 15

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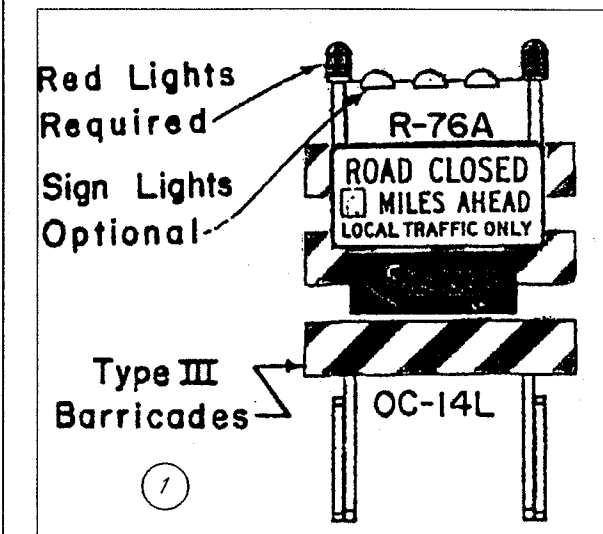
CITY OF MASSILLON
OPEN CUT DETAIL



ROAD CLOSURE/DETOUR MAP



O.D.T. MANUAL FOR TRAFFIC CONTROL



REVISION DESCRIPTION
DATE
DRAWN BY
CHECKED BY

8-9-05
1/06
6/14/06

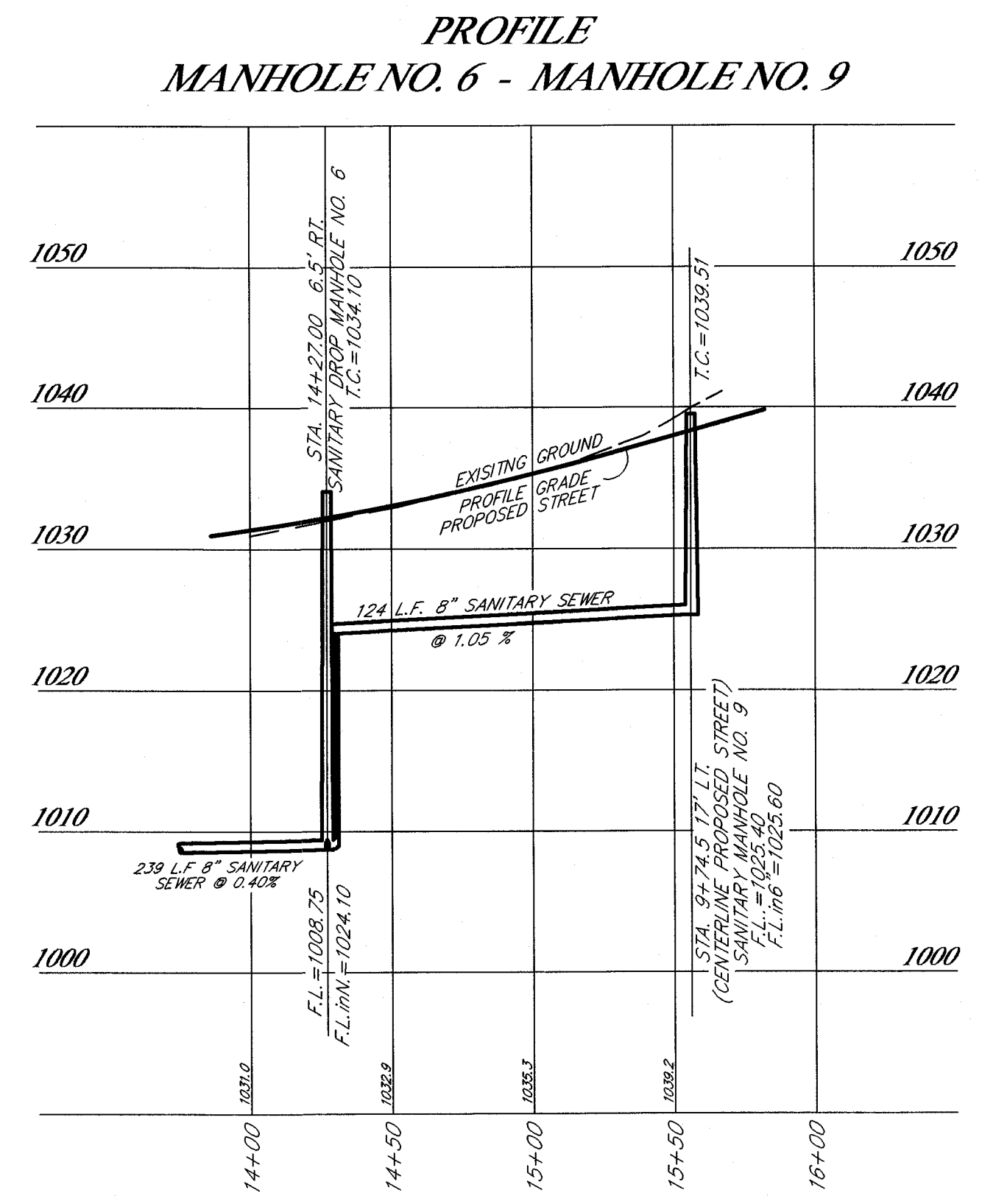
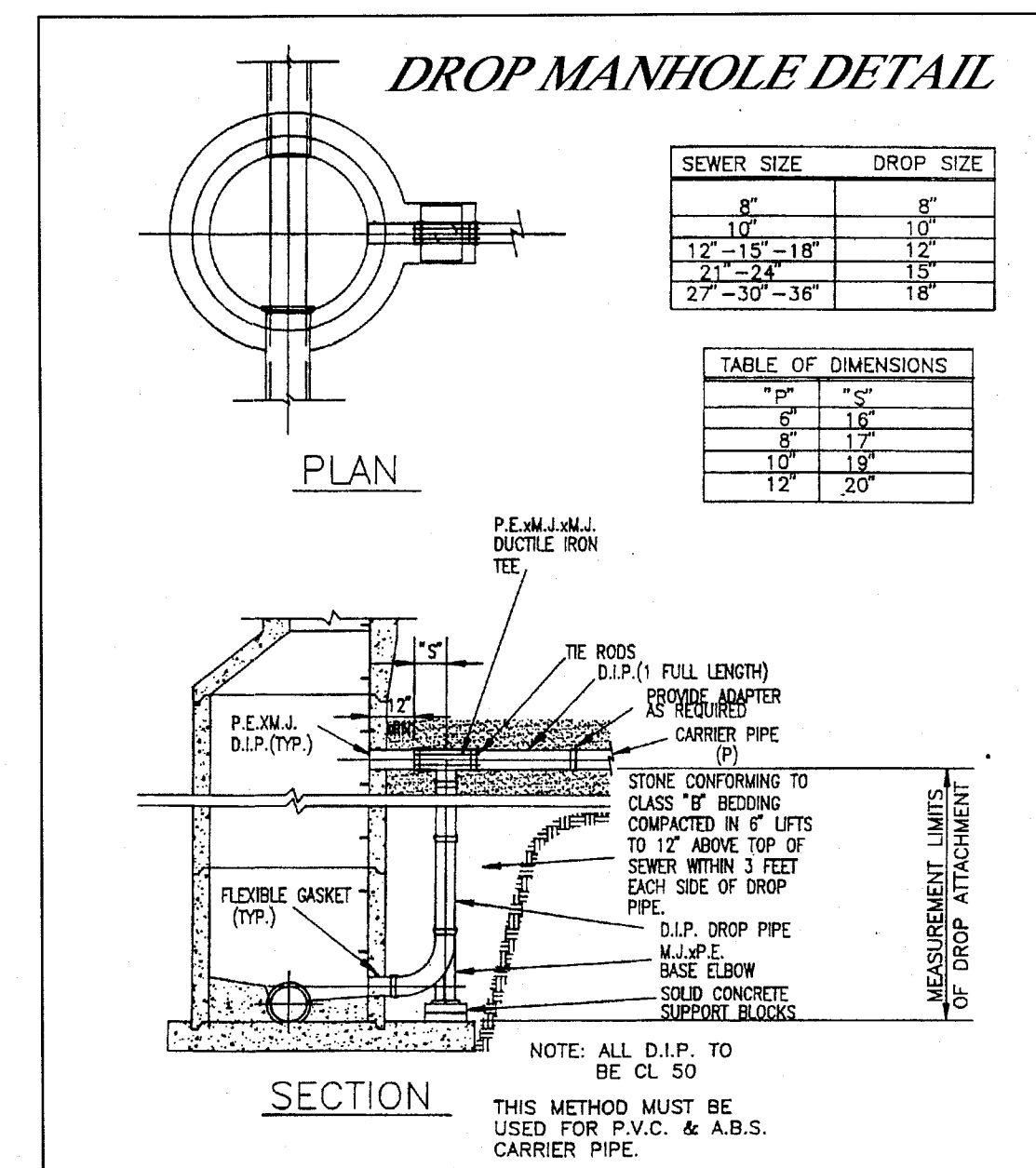
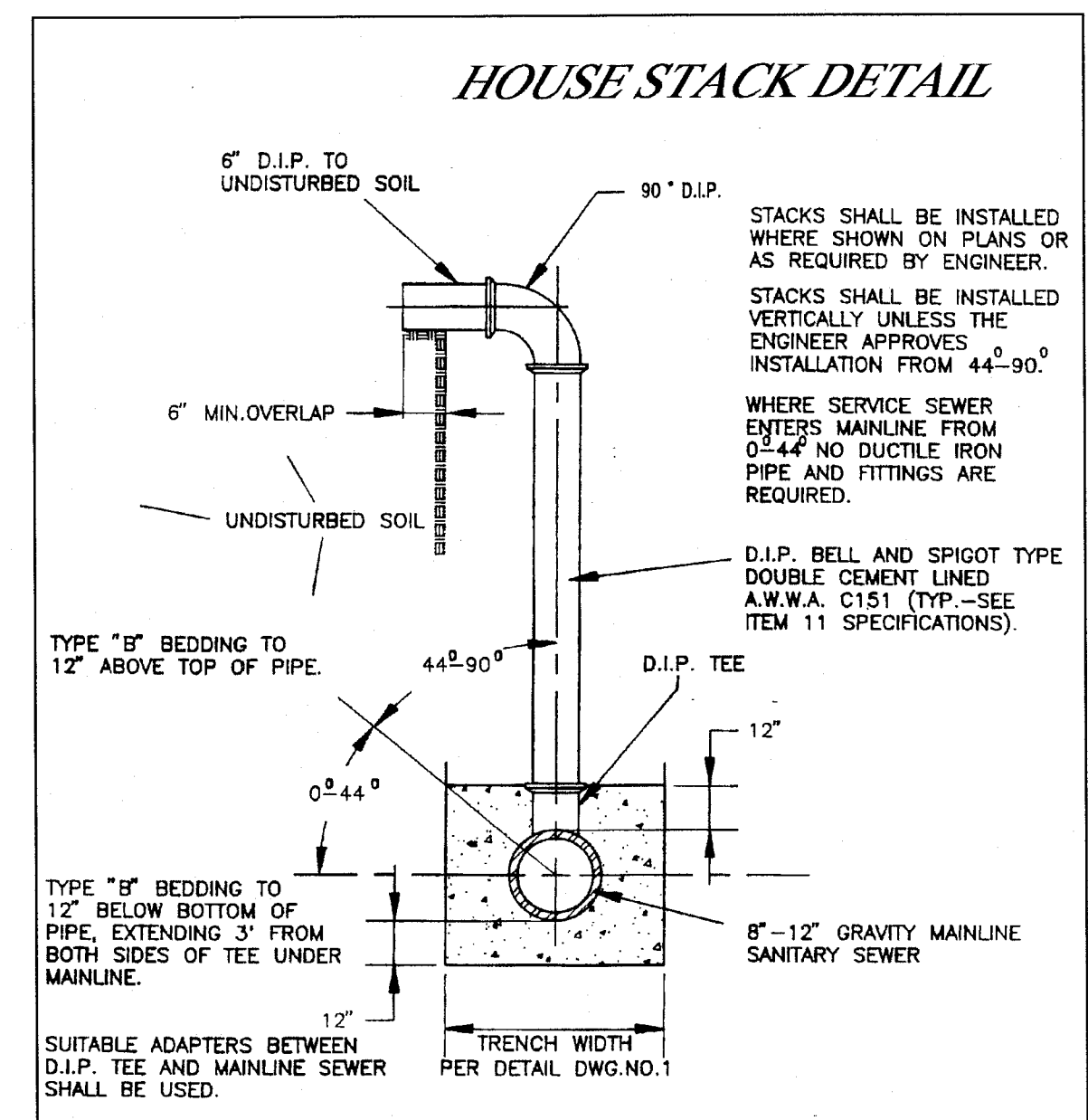
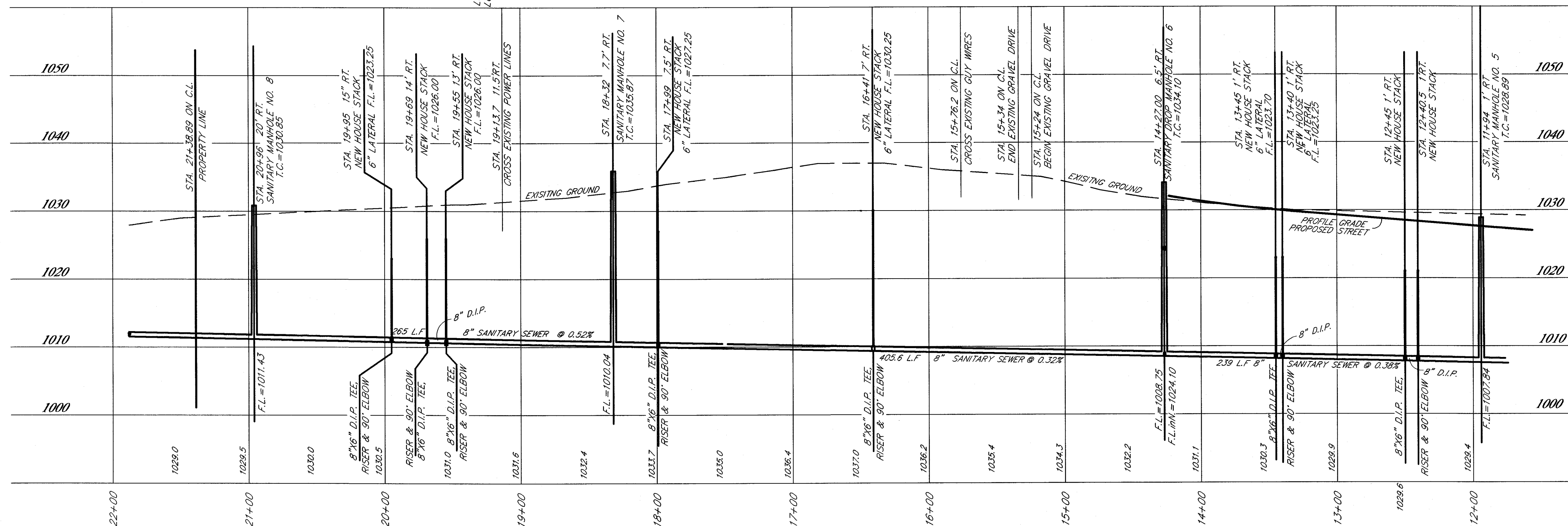
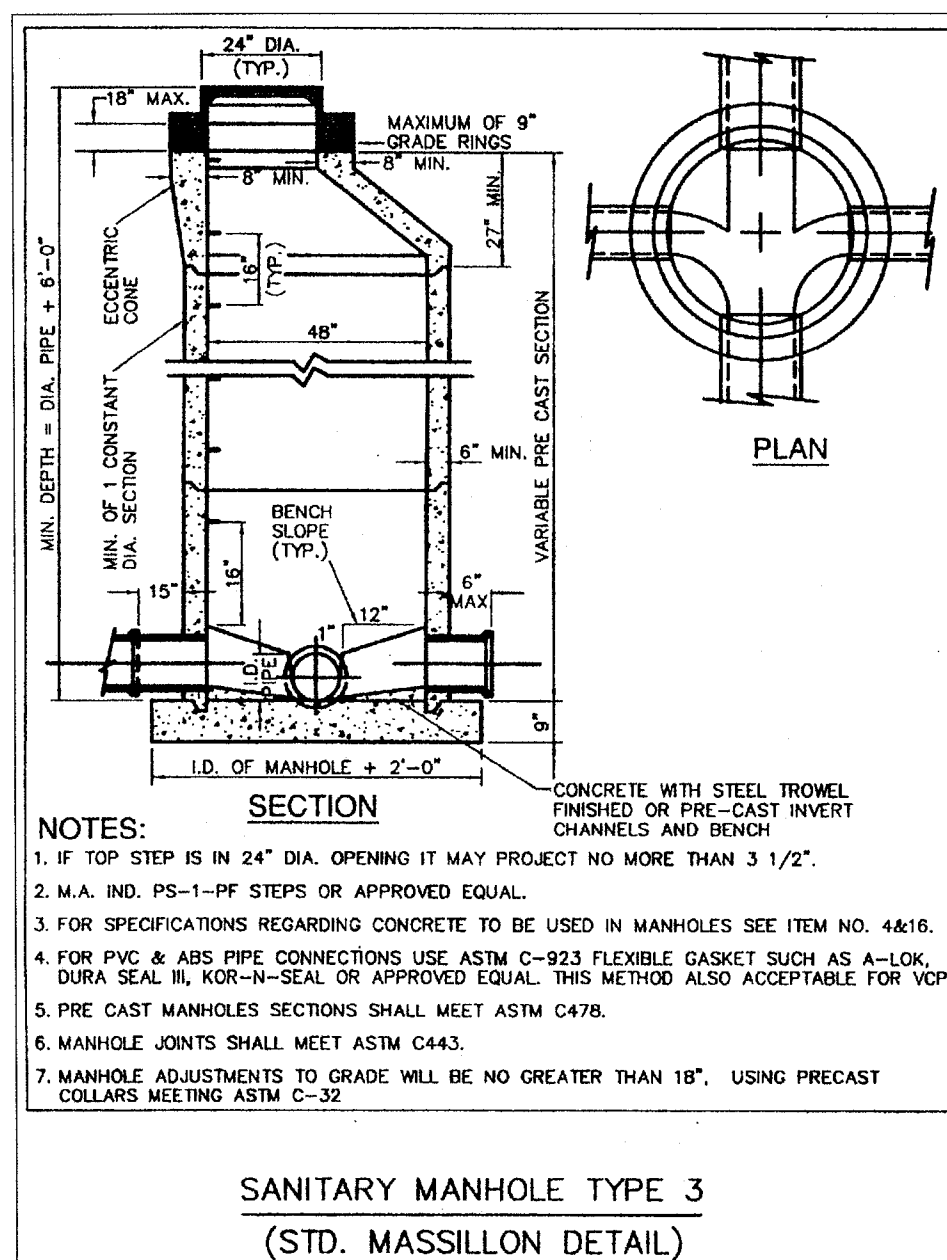
REVISED SEWER PLAN
REMOVE HOUSE STAKE - LOT 15
CHANGES "AS BUILT"

PLAN AND PROFILE
CONCORD VILLAGE
PART OF OUT LOT 9.33 IN THE
CITY OF MASSILLON
STARK COUNTY, OHIO

SHEET 1 OF 2
MAY 2005
SCALE: HORIZ. 1"=80'
VERT. 1"=10'

HOOVER & ASSOCIATES, Inc.
Professional Surveying Services
5782 Huckleberry Street N.W.
North Canton, Ohio 44720
phone (330) 494-6744

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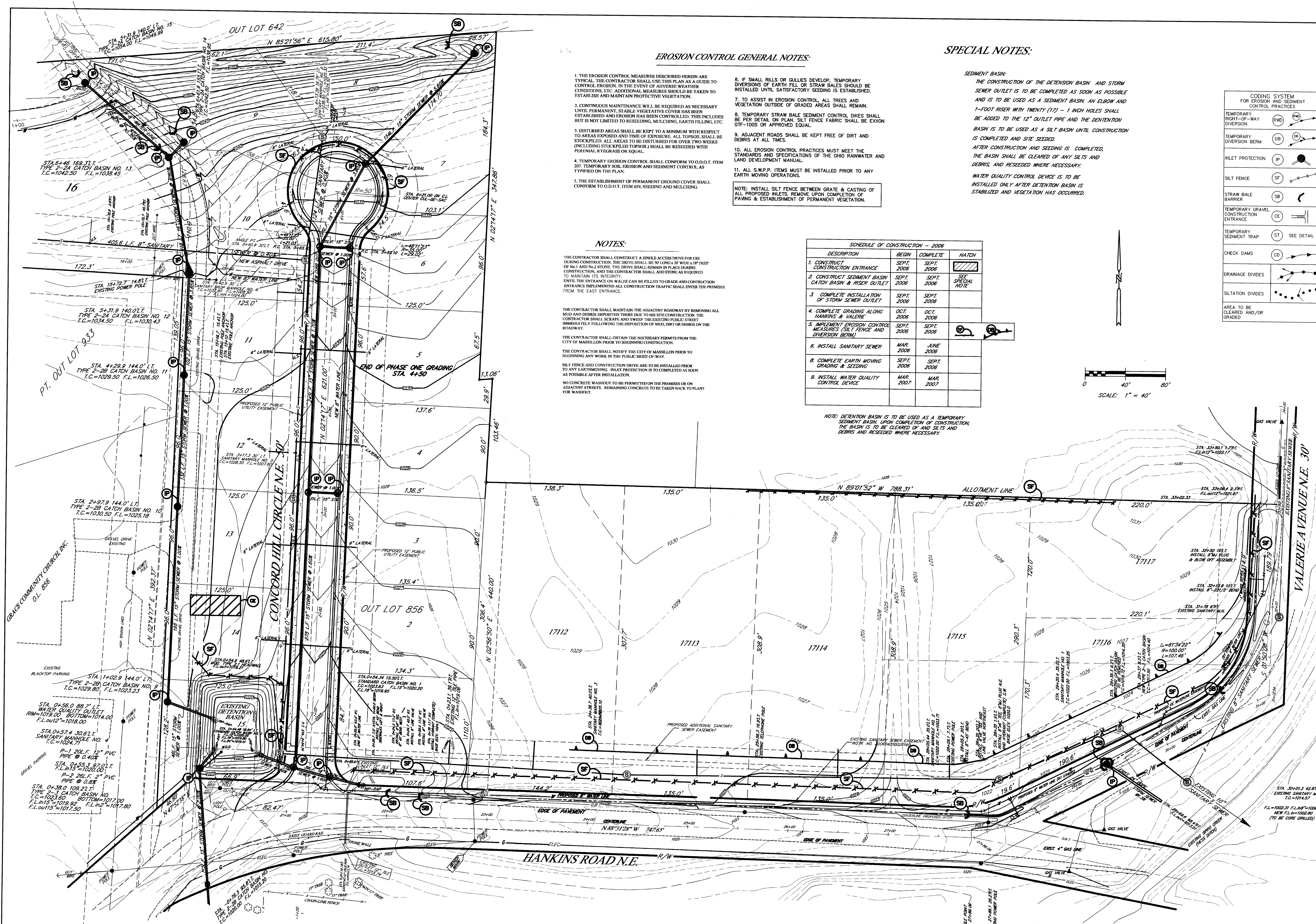


PLAN & PROFILE AS CONSTRUCTED

DRAWN BY:	DATE:	REVISION DESCRIPTION
	8/19/05	MOVE SANITARY SEWER
	9/23/05	CHANGES AS PER OHIO EPA
	6/14/06	CHANGES "AS BUILT"
CHECKED BY:		

HOOVER & ASSOCIATES, Inc.
Professional Surveying Services
5782 Huckleberry, Street N.W.
North Canton, Ohio 44720
phone (530) 494-6744

<i>PLAN AND PROFILE</i>	
CONCORD VILLAGE PART OF OUT LOT 933 IN THE CITY OF MASSILLON STARK COUNTY, OHIO	
SCALE: HORIZ. 1"=80' VERT. 1"=10'	MAY, 2005
SHEET 2 OF 2	



EROSION CONTROL GENERAL NOTES:

- 1. THE EROSION CONTROL MEASURES DESCRIBED HEREIN ARE TYPICAL. THE CONTRACTOR SHALL USE THIS PLAN AS A GUIDE TO CONTROL EROSION. IN THE EVENT OF ADVERSE WEATHER CONDITIONS, ETC. ADDITIONAL MEASURES SHOULD BE TAKEN TO ESTABLISH AND MAINTAIN PROTECTIVE VEGETATION.
- 2. CONTINUOUS MAINTENANCE WILL BE REQUIRED AS NECESSARY UNTIL PERMANENT, STABLE VEGETATIVE COVER HAS BEEN ESTABLISHED AND EROSION HAS BEEN CONTROLLED. THIS INCLUDES BUT IS NOT LIMITED TO RESEEDING, MULCHING, EARTH FILLING, ETC.
- 3. DISTURBED AREAS SHALL BE KEPT TO A MINIMUM WITH RESPECT TO AREAS EXPOSED AND TIME OF EXPOSURE. ALL TOPSOIL SHALL BE STOCKPILED. ALL AREAS TO BE DISTURBED FOR OVER TWO WEEKS (INCLUDING STOCKPILED TOPSOIL) SHALL BE RESEED WITH PERENNIAL RYEGRASS OR EQUAL.
- 4. TEMPORARY EROSION CONTROL SHALL CONFORM TO O.D.O.T. ITEM 207. TEMPORARY SOIL EROSION AND SEDIMENT CONTROL AS TYPIFIED ON THE PLAN.
- 5. THE ESTABLISHMENT OF PERMANENT GROUND COVER SHALL CONFORM TO O.D.O.T. ITEM 659, SEEDING AND MULCHING.
- 6. IF SMALL RILLS OR GULLIES DEVELOP, TEMPORARY DIVERSIONS OF EARTH FILL OR STRAW BALES SHOULD BE INSTALLED UNTIL SATISFACTORY SEEDING IS ESTABLISHED.
- 7. TO ASSIST IN EROSION CONTROL, ALL TREES AND VEGETATION OUTSIDE OF GRADED AREAS SHALL REMAIN.
- 8. TEMPORARY STRAW BALE SEDIMENT CONTROL DIKES SHALL BE PER DETAIL ON PLAN. SILT FENCE FABRIC SHALL BE EXON GTF-100S OR APPROVED EQUAL.
- 9. ADJACENT ROADS SHALL BE KEPT FREE OF DIRT AND DEBRIS AT ALL TIMES.
- 10. ALL EROSION CONTROL PRACTICES MUST MEET THE STANDARDS AND SPECIFICATIONS OF THE OHIO RAINWATER AND LAND DEVELOPMENT MANUAL.
- 11. ALL S.W.P.P. ITEMS MUST BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS.

NOTES:

THE CONTRACTOR SHALL CONSTRUCT A SINGLE ACCESS DRIVE FOR USE DURING CONSTRUCTION. THE DRIVE SHALL BE 30' LONG x 20' WIDE x 18" DEEP OF NO. 1 AND NO. 2 STONE. THE DRIVE SHALL REMAIN IN PLACE DURING CONSTRUCTION, AND THE CONTRACTOR SHALL ADD STONE AS REQUIRED TO MAINTAIN ITS INTEGRITY.

UNTIL THE ENTRANCE OR WALES CAN BE FILLED TO GRADE AND CONSTRUCTION ENTRANCE IMPLEMENTED ALL CONSTRUCTION TRAFFIC SHALL ENTER THE PREMISES FROM THE EAST ENTRANCE.

THE CONTRACTOR SHALL MAINTAIN THE ADJACENT ROADWAY BY REMOVING ALL MUD AND DEBRIS DEPOSITED THERE DUE TO HIS SITE CONSTRUCTION. THE CONTRACTOR SHALL SCRAPE AND SWEEP THE EXISTING PUBLIC STREET IMMEDIATELY FOLLOWING THE DEPOSITION OF MUD, DIRT OR DEBRIS ON THE ROADWAY.

THE CONTRACTOR SHALL OBTAIN THE NECESSARY PERMITS FROM THE CITY OF MASSILLON PRIOR TO BEGINNING CONSTRUCTION.

THE CONTRACTOR SHALL NOTIFY THE CITY OF MASSILLON PRIOR TO BEGINNING ANY WORK IN THE PUBLIC RIGHT-OF-WAY.

SILT FENCE AND CONSTRUCTION DRIVE ARE TO BE INSTALLED PRIOR TO ANY EARTHMOVING. INLET PROTECTION IS TO BE COMPLETED AS SOON AS POSSIBLE AFTER INSTALLATION.

NO CONCRETE WASHOUT TO BE PERMITTED ON THE PREMISES OR ON ADJACENT STREETS. REMAINING CONCRETE TO BE TAKEN BACK TO PLANT FOR WASHOUT.

SPECIAL NOTES:

SEDIMENT BASIN:
THE CONSTRUCTION OF THE DETENTION BASIN AND STORM SEWER OUTLET IS TO BE COMPLETED AS SOON AS POSSIBLE AND IS TO BE USED AS A SEDIMENT BASIN, AN ELBOW AND 1-FOOT RISER WITH TWENTY (17) - 1 INCH HOLES SHALL BE ADDED TO THE 12" OUTLET PIPE AND THE DETENTION BASIN IS TO BE USED AS A SILT BASIN UNTIL CONSTRUCTION IS COMPLETED AND SITE SEEDING.

AFTER CONSTRUCTION AND SEEDING IS COMPLETED, THE BASIN SHALL BE CLEARED OF ANY SILTS AND DEBRIS, AND RESEEDED WHERE NECESSARY.

WATER QUALITY CONTROL DEVICE IS TO BE INSTALLED ONLY AFTER DETENTION BASIN IS STABILIZED AND VEGETATION HAS OCCURRED.

SCHEDULE OF CONSTRUCTION - 2006			
DESCRIPTION	BEGIN	COMPLETE	HATCH
1. CONSTRUCT CONSTRUCTION ENTRANCE	SEPT. 2006	SEPT. 2006	
2. CONSTRUCT SEDIMENT BASIN CATCH BASIN & RISER OUTLET	SEPT. 2006	SEPT. 2006	SEE SPECIAL NOTE
3. COMPLETE INSTALLATION OF STORM SEWER OUTLET	SEPT. 2006	SEPT. 2006	
4. COMPLETE GRADING ALONG HANKINS & VALERIE	OCT. 2006	OCT. 2006	
5. IMPLEMENT EROSION CONTROL MEASURES (SILT FENCE AND DIVERSION BERM)	SEPT. 2006	SEPT. 2006	
6. INSTALL SANITARY SEWER	MAR. 2006	JUNE 2006	
8. COMPLETE EARTH MOVING GRADING & SEEDING	SEPT. 2006	SEPT. 2006	
9. INSTALL WATER QUALITY CONTROL DEVICE	MAR. 2007	MAR. 2007	

NOTE: DETENTION BASIN IS TO BE USED AS A TEMPORARY SEDIMENT BASIN. UPON COMPLETION OF CONSTRUCTION, THE BASIN IS TO BE CLEARED OF ANY SILTS AND DEBRIS AND RESEEDED WHERE NECESSARY.

CODING SYSTEM FOR EROSION AND SEDIMENT CONTROL PRACTICES	
TEMPORARY RIGHT-OF-WAY DIVERSION	
TEMPORARY DIVERSION BERM	
INLET PROTECTION	
SILT FENCE	
STRAW BALE BARRIER	
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE	
TEMPORARY SEDIMENT TRAP	
CHECK DAMS	
DRAINAGE DIVIDES	
SILTATION DIVIDES	
AREA TO BE CLEARED AND/OR GRADED	

EROSION CONTROL PLAN

CONCORD VILLAGE

PARTS OF OUT LOTS 856, 858, 859 AND 933

IN THE CITY OF MASSILLON

STARK COUNTY, OHIO

SCALE: 1" = 40'

AUGUST 2006

SWP3

HOOVER & ASSOCIATES, Inc.

Professional Surveying Services

5782 Hockley Street N.W.

North Canton, Ohio 44720

Phone (330) 434-6744

REVISION DESCRIPTION

DATE	ADD ESTIMATED QUANTITIES
1/06	

DRAWN BY: _____

CHECKED BY: _____

SPECIFICATIONS FOR PERMANENT SEEDING

SITE PREPARATION

1. A subsoiler, plow or other implement shall be used to reduce soil compaction and allow maximum infiltration. (Maximizing infiltration will help control both runoff rate and water quality.) Subsoiling should be done when the soil moisture is low enough to allow the soil to crack or fracture. Subsoiling shall not be done on slip-prone areas where soil preparation should be limited to what is necessary for establishing vegetation.

2. The site shall be graded as needed to permit the use of conventional equipment for seedbed preparation and seeding.

3. Resoil shall be applied where needed to establish vegetation.

SEEDBED PREPARATION

1. Lime—Agricultural ground limestone shall be applied to acid soil as recommended by a soil test. In lieu of a soil test, lime shall be applied at the rate of 100 lb./1,000 sq. ft. or 2 tons/ac.

2. Fertilizer—Fertilizer shall be applied as recommended by a soil test. In lieu of a soil test, fertilizer shall be applied at a rate of 12 lb./1,000 sq. ft. or 500 lb./ac. of 10-10-10 or 12-12-12 analysis.

3. The lime and fertilizer shall be worked into the soil with a disk harrow, spring-tooth harrow, or other suitable field implement to a depth of 3 in. On sloping land the soil shall be worked on the contour.

SEEDING DATES AND SOIL CONDITIONS

Seeding should be done March 1 to May 31 or Aug 1 to September 30. These seeding dates are ideal but, with the use of additional mulch and irrigation, seedings may be made any time throughout the growing season. Tillage/seedbed preparation should be done when the soil is dry enough to crumble and not form ribbons when compressed by hand. For winter seeding, see the following section on dormant seeding.

DORMANT SEEDINGS.

1 Seedings shall not be planted from October 1 through November 20. During this period the seeds are likely to germinate but probably will not be able to survive the winter.

2. The following methods may be used for "Dormant Seeding": . . . From October 1 through November 20, prepare the seedbed, add the required amounts of lime and fertilizer, then mulch and anchor. After November 20, and before March 15, broadcast the selected seed mixture. Increase the seeding rates by 50% for this type of seeding. From November 20 through March 15, when soil conditions permit, prepare the seedbed, lime and fertilize, apply the selected seed mixture, mulch and anchor. Increase the seeding rates by 50% for this type of seeding. Apply seed uniformly with a cyclone seeder, drill, cultipacker seeder, or hydro-seeder (slurry may include seed and fertilizer) on a firm, moist seedbed. Where feasible, except when a cultipacker type seeder is used, the seedbed should be firmed following seeding operations with a cultipacker, roller, or light drag. On sloping land, seeding operations should be on the contour where feasible.

Specifications for

Maintenance of Permanent Seeding

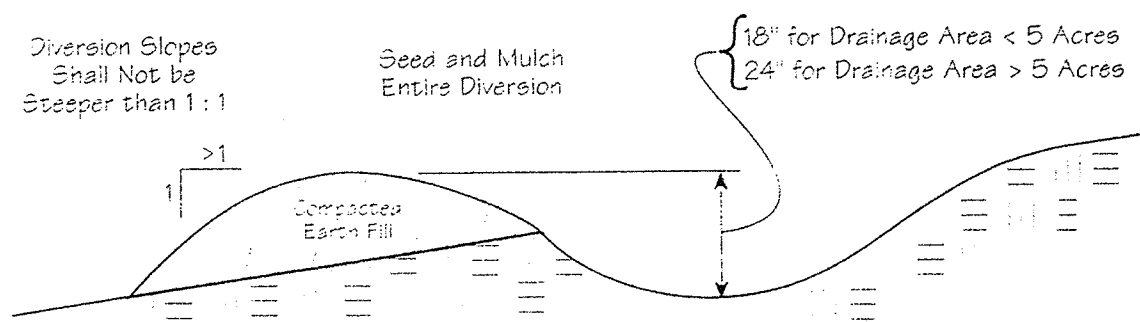
- Permanent seeding shall not be considered established for at least 1 full yr. from the time of planting. Seeded areas shall be inspected for failure and vegetation reestablished as needed. Depending on-site conditions, it may be necessary to irrigate, fertilize, overseed, or reestablish plantings in order to provide permanent vegetation for adequate erosion control.
- Maintenance fertilization rates shall be established by soil test recommendations or by using the rates shown in the following table.

Maintenance for Permanent Seedings Fertilization and Mowing					
Mixture	Formula	lb./ac.	lb./1,000 ft. ²	Time	Mowing
Creeping Red Fescue Ryegrass Kentucky Bluegrass	10-10-10	500	12	Fall, yearly or as needed.	Not closer than 3"
Tall Fescue	10-10-10	500	12		Not closer than 4"
Dwarf Fescue	10-10-10	500	12		Not closer than 2"
Crown Vetch Fescue	0-20-20	400	10	Spring, yearly following establishment and every 4-7 yr. thereafter	Do not mow
Flat Pea Fescue	0-20-20	400	10		Do not mow

Note: Following soil test recommendations is preferred to fertilizer rates shown above.

Specifications for

Temporary Diversion



SECTION

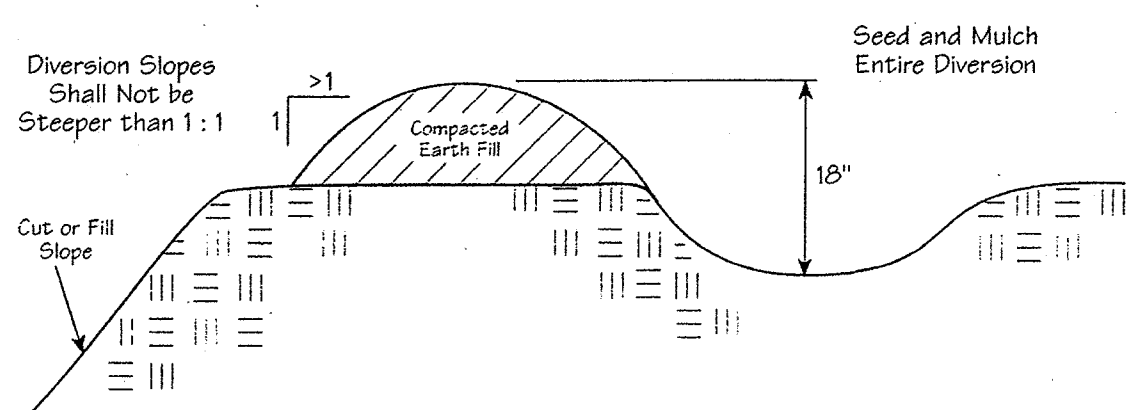
- Diversion shall be compacted by traversing with tracked earth-moving equipment.
- Diversions shall not be breached or lowered to allow construction traffic to cross; instead the top width may be made wider and side slopes made flatter than specified above.
- Diversions shall be stabilized with vegetation and check dams or the following treatments:

Temporary Diversion Stabilization Treatment			
Diversion Slope	< 2 ac.	2 - 5 ac.	5 - 10 ac.
0 - 3%	Seed and Straw	Seed and Straw	Seed and Straw
3 - 5%	Seed and Straw	Seed and Straw	Matting
5 - 8%	Seed and Straw	Matting	Matting
8 - 20%	Seed and Straw	Matting	Engineered

Note: Diversions with steeper slopes or greater drainage areas are beyond the scope of this standard and must be designed for stability. Seed, straw and matting used shall meet the Specifications for Temporary Seeding, Mulching and Matting.

Specifications for

Temporary Diversion Above Steep Slopes



SECTION

Diversions for the temporary protection of cut or fill slopes shall be installed in accordance with the following criteria for drainage areas of 5 acres or less. Larger areas require a diversion design.

- Diverted runoff shall outlet onto a stabilized undisturbed area, settling pond, or into a drop structure.
- Diversions shall be compacted by traversing with tracked earth-moving equipment and stabilized with seed and mulch.

SPECIFICATIONS FOR MATTING

1. Material—Excelsior matting shall be 48 in. wide and weigh an average of 0.75 lb./sq. yd. or greater. Jute matting shall be 48 in. wide and weigh an average of 1.2 lb./yd or greater. Matting made of other material and providing equal or greater stabilization than the above may be substituted.

2. Site Preparation—After the site has been shaped and graded, a seedbed shall be prepared that is relatively free of foreign material, clods or rocks that are greater than 1.5 in. in diameter. The site shall be prepared to ensure that the matting has good soil contact and the matting will not "bridge" or "tent" over obstructions.

3. Matting shall be held in place as recommended by the manufacturer as adequate for the site conditions or with sod staples. Sod staples are U-shaped wire staples used for fastening sod, jute or excelsior matting and other erosion-control materials to the soil surface. Sod staples shall be No. 11 gauge or heavier and be 6-10 in. in length. In loose or sandy soils longer staples shall be used.

4. Planting—Lime and fertilizer shall be used according to the recommendation of a soil test or the seeding plan. Seed according to the matting manufacturer's recommendations; or, for excelsior matting, seed area to be protected before installation; or, when using jute matting, apply half the seed before and half the seed after installation.

5. Matting shall be installed as specified by the manufacturer as appropriate for the site conditions or the following procedure may be used:

After the site is prepared and erosion stops are installed, start laying the mat from the top of the slope or channel and unroll the matting allowing 4-in. overlaps at the edges.

Secure the matting by burying the top ends in a trench 6 in. deep and staple the folded ends to the bottom of the trench. Backfill and tamp firmly to the established grade.

SPECIFICATIONS FOR MULCHING

1. Mulch and/or other appropriate vegetative practices shall be applied to disturbed areas within 7 days of grading if the area is to remain dormant (undisturbed) for more than 45 days or on areas and portions of the site which can be brought to final grade.

2. Mulch shall consist of one of the following:

Straw—Straw shall be unrotted small grain straw applied at the rate of 2 tons/ac. or 90 lb./1,000 sq. ft. (two to three bales). The straw mulch shall be spread uniformly by hand or mechanically so the soil surface is covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000-sq.-ft. sections and place two 45-lb. bales of straw in each section.

Hydroseeders—Wood cellulose fiber should be used at 2,000 lb./ac. or 46 lb./1,000 sq. ft.

Other—Other acceptable mulches include mulch mattings applied according to manufacturer's recommendations or wood chips applied at 6 tons/ac.

3. Mulch Anchoring—Mulch shall be anchored immediately to minimize loss by wind or runoff. The following are acceptable methods for anchoring mulch.

Mechanical—Use a disk, crimper, or similar type tool set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but be left generally longer than 6 in.

Mulch Nettings—Use according to the manufacturer's recommendations, following all placement and anchoring suggestions. Use in areas of water concentration and steep slopes to hold mulch in place.

Asphalt Emulsion—For straw mulch, apply at the rate of 160 gal./ac. (0.1 gal./sq) into the mulch as it is being applied or as recommended by the manufacture.

Synthetic Binders—For straw mulch, synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petrosel, Terra Tack or equal may be used at rates recommended by the manufacturer.

Wood Cellulose Fiber—Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 lb./acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lb./100 gal. of wood cellulose fiber.

Staple matting every 12 in. across the width beginning at the edges and every 2 ft. rows the entire length of the matting. Every other row of staples running the length of the matting should be staggered.

To join two rolls together, cut a trench to anchor the end of the new roll and secure it the same as the top roll. Overlap the end of the previous roll 18 in. over the new roll. Continue to staple as described above.

When using excelsior matting, the plastic netting shall be on top of the wood fiber.

6. Erosion stops shall be used where recommended by the matting manufacturer and on areas specified where high-erosion potential may cause undermining and gullies to form beneath the matting.

Erosion stops shall be made of strips of matting placed in narrow trenches 6-12 in. deep that cover the full cross section of the channel. They shall be spaced according to the manufacturer's recommendations or by the following: --3 ft. down the channel from each point of entry of concentrated flow, --at points where change in gradient or direction of channel occurs, and --on long slopes at spacing from 20-100 ft. depending upon the erodibility of the soil, velocity and volume of flow.

Erosion stops shall extend beyond the channel liner to the full design width of the channel, this will check any rills that might form outside or along the edge of the channel lining.

Erosion stops shall be constructed with 6 in. deep trench, stapled to the bottom of the trench, backfilled and tamped firmly to conform with the cross section of the channel.

If seeding has been done prior to installation of erosion stops, reseed disturbed areas prior to placement of channel liner.

MULCHING

1. Mulch material shall be applied immediately after seeding. Seedlings made during optimum seeding dates and with favorable soil conditions and on very flat areas may not need mulch to achieve adequate stabilization. Dormant seeding shall be mulched.

2. Materials

Straw—If straw is used it shall be unrotted small-grain straw applied at the rate of 2 tons/ac. or 90 lb./1,000 sq. ft. (two to three bales). The mulch shall be spread uniformly by hand or mechanically so the soil surface is covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000-sq.-ft. sections and spread two 45-lb. bales of straw in each section.

Hydroseeders—If wood cellulose fiber is used, it shall be used at 2,000 lb./ac. or 46 lb./1,000 sq. ft.

Other—Other acceptable mulches include mulch mattings applied according to manufacturer's recommendations or wood chips applied at 6 tons/ac.

3. Straw Mulch Anchoring Methods

Straw mulch shall be anchored immediately to minimize loss by wind or water.

Mechanical—A disk, crimper, or similar type tool shall be set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but, generally, be left longer than 6 in.

Mulch Nettings—Nettings shall be used according to the manufacturer's recommendations. Netting may be necessary to hold mulch in place in areas of concentrated runoff and on critical slopes.

Asphalt Emulsion—Asphalt shall be applied as recommended by the manufacturer or at the rate of 160 gal./ac.

Synthetic Binders—Synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petrosel, Terra Tack or equal may be used at rates recommended by the manufacturer.

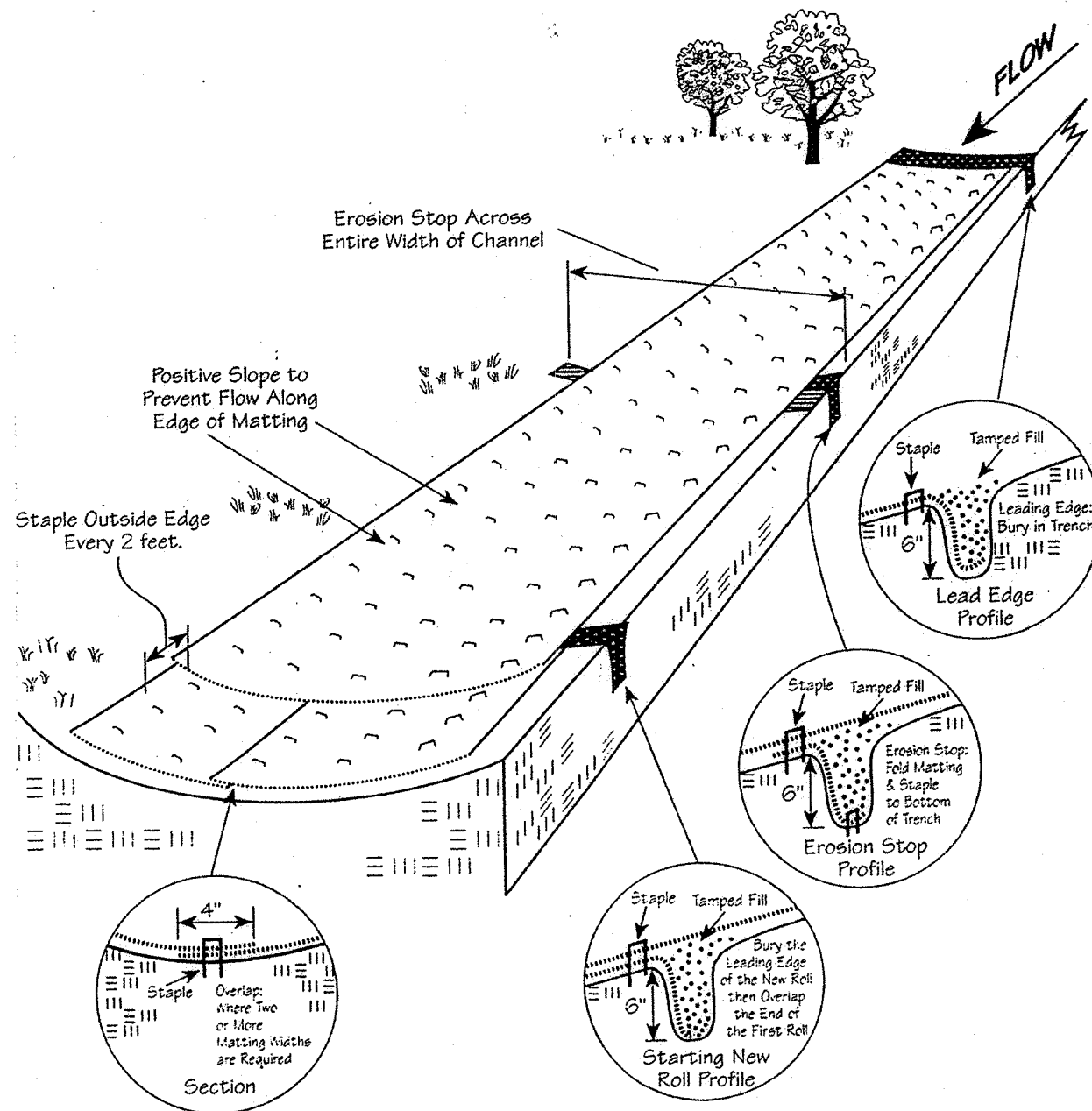
Wood Cellulose Fiber—Wood cellulose fiber binder shall be applied at a net dry weight of 750 lb./ac. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lb./100 gal. of wood cellulose fiber.

IRRIGATION

1. Permanent seeding shall include irrigation to establish vegetation during dry or hot weather or on adverse site conditions as needed for adequate moisture for seed germination and plant growth.

2. Excessive irrigation rates shall be avoided and irrigation monitored to prevent erosion and damage from runoff.

Specifications for Matting



MULCHING TEMPORARY SEEDING

1. Applications of temporary seeding shall include mulch which shall be applied during or immediately after seeding. Seedlings made during optimum seeding dates and with favorable soil conditions and on very flat areas may not need mulch to achieve adequate stabilization.

2. Materials

Straw—If straw is used, it shall be unrotted small-grain straw applied at the rate of 2 tons/ac. or 90 lb./1,000 sq. ft. (two to three bales). The mulch shall be spread uniformly by hand or mechanically so the soil surface is covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000-sq.-ft. sections and spread two 45-lb. bales of straw in each section.

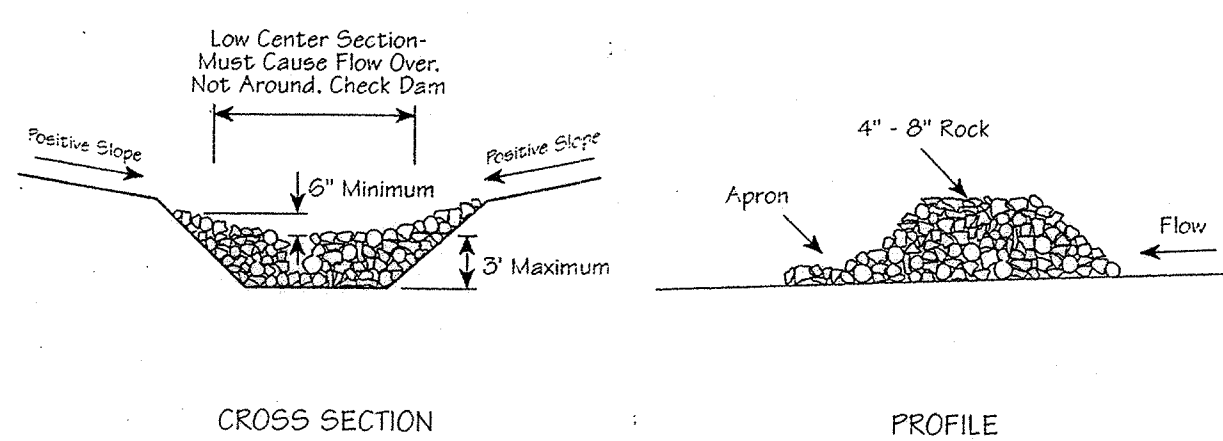
Hydroseeders—If wood cellulose fiber is used, it shall be used at 2,000 lb./ac. or 46 lb./1,000 sq. ft.

Other—Other acceptable mulches include mulch mattings applied according to manufacturer's recommendations or wood chips applied at 6 tons/ac.

3. Straw mulch shall be anchored immediately to minimize loss by wind or water.

Specifications for

Check Dam



CROSS SECTION

PROFILE

- The check dam shall be constructed of 4-8 in.-diameter stone, placed so that it completely covers the width of the channel.
- The top of the check dam shall be constructed so that the center is approximately 6 in. lower than the outer edges, so water will flow across the center and not around the ends.
- The maximum height of the check dam at the center of the weir shall not exceed 3 ft.
- Spacing between dams shall be as shown in the plans or by the following table:

Check Dam Spacing				
Dam Height (ft.)	Channel Slope			
	< 5%	5 - 10%	10 - 15%	15 - 20%
1	65 ft.	30 ft.	20 ft.	15 ft.
2	130 ft.	65 ft.	40 ft.	30 ft.
3	200 ft.	100 ft.	65 ft.	50 ft.

EROSION CONTROL

STANDARD DETAIL SHEET

EROS-2

HOOVER & ASSOCIATES, Inc.

Professional Surveying Services

5782 Hickberry Street, N.W.
North Canton, Ohio 44720
phone (330) 494-6744

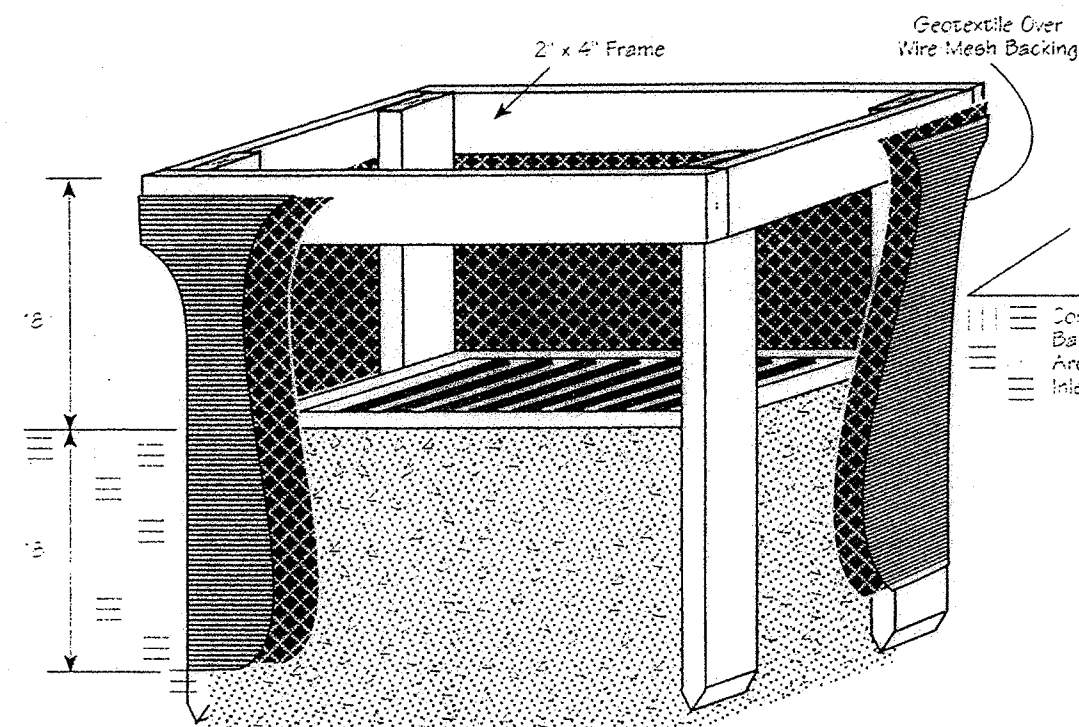
REVISION DESCRIPTION

DATE

DRAWN BY

CHECKED BY

Specifications
for
Inlet Protection in Swales, Ditch Lines or Yard Inlets



1. Inlet protection shall be constructed either before upslope land disturbance begins or before the storm drain becomes operational.
2. The earth around the inlet shall be excavated completely to a depth at least 18 in.
3. The wooden frame shall be constructed of 2-by-4-in. construction-grade lumber. The 2-by-4-in. posts shall be driven 1 ft. into the ground at four corners of the inlet and the top portion of 2-by-4-in. frame assembled using the overlap joint shown. The top of the frame shall be at least 6 in. below adjacent roads if ponded water would pose a safety hazard to traffic.
4. Wire mesh shall be of sufficient strength to support fabric with water fully impounded against it. It shall be stretched tightly around the frame and fastened securely to the frame.
5. Geotextile shall have an equivalent opening size of 20-40 sieve and be resistant to sunlight. It shall be stretched tightly around the frame and fastened securely. It shall extend from the top of the frame to 18 in. below the inlet notch elevation. The geotextile shall overlap across one side of the inlet so the ends of the cloth are not fastened to the same post.
6. Backfill shall be placed around the inlet in compacted 6-in. layers until the earth is even with notch elevation on ends and top elevation on sides.
7. A compacted earth dike or a check dam shall be constructed in the ditch line below the inlet if the inlet is not in a depression and if runoff bypassing the inlet will not flow to a settling pond. The top of earth dikes shall be at least 6 in. higher than the top of the frame.

SPECIFICATIONS
FOR SILT FENCE

Silt fence shall be constructed before up slope land disturbance begins.

2. All silt fence shall be placed as close to the contour as possible so that water will not concentrate at low points in the fence and so that small swales or depressions which may carry small concentrated flows to the silt fence are dissipated along its length.

3. To prevent water ponded by the silt fence from flowing around the ends, each end shall be constructed up slope so that the ends are at a higher elevation.

4. Where possible, silt fence shall be placed on the flattest area available.

5. Where possible, vegetation shall be preserved for 5 ft. (or as much as possible) up slope from the silt fence. If vegetation is removed, it shall be reestablished within 7 days from the installation of the silt fence.

6. The height of the silt fence shall be a minimum of 16 in. above the original ground surface.

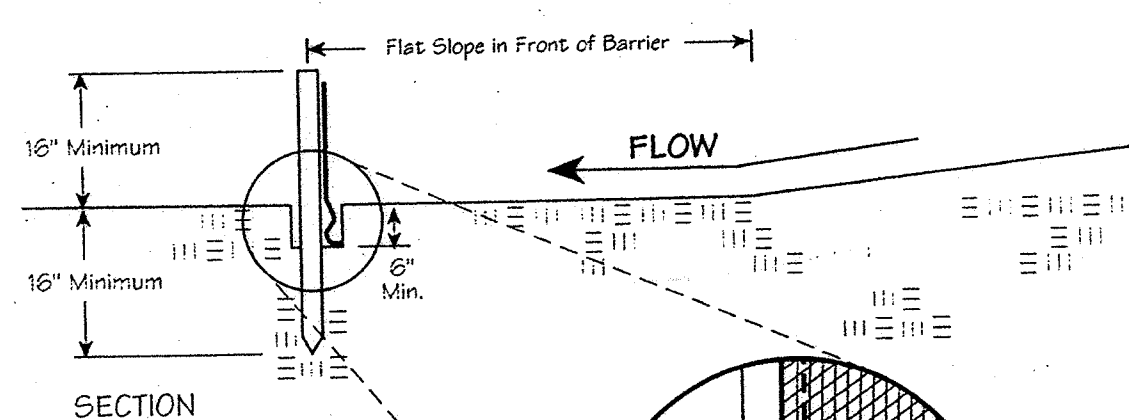
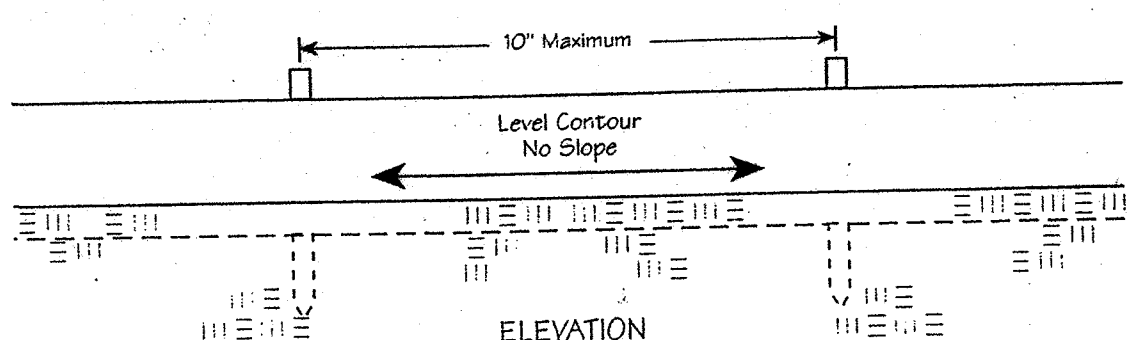
7. The silt fence shall be placed in a trench cut a minimum of 6 in. deep. The trench shall be cut with a trencher, cable laying machine, or other suitable device which will ensure an adequately uniform trench depth.

Criteria for Silt Fence Materials

1. Fence Posts— The length shall be a minimum of 32 in. long. Wood posts will be 2-by-2-in. hardwood of sound quality. The maximum spacing between posts shall be 10 ft.
2. Silt Fence Fabric shall be ODOT Type C Geotextile Fabric or as described by the chart below:

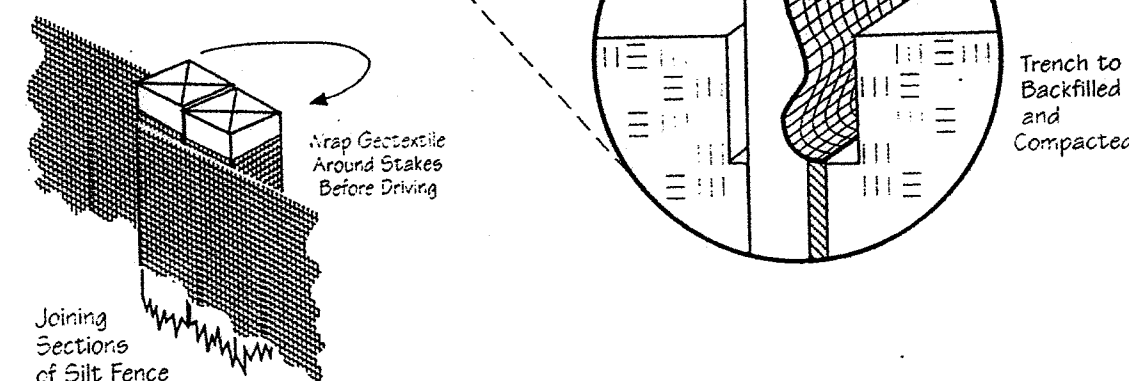
Fabric Properties	
Minimum Tensile Strength	120 lbs.
Maximum Elongation at 60 lbs.	50%
Minimum Puncture Strength	60 lbs.
Minimum Tear Strength	40 lbs.
Minimum Burst Strength	200 psi
Apparent Opening Size	≤ 0.84mm
Minimum Permittivity	1X10 ⁻² sec. ⁻¹
Ultraviolet Exposure Strength Retention	70%

Specifications
for
Silt Fence

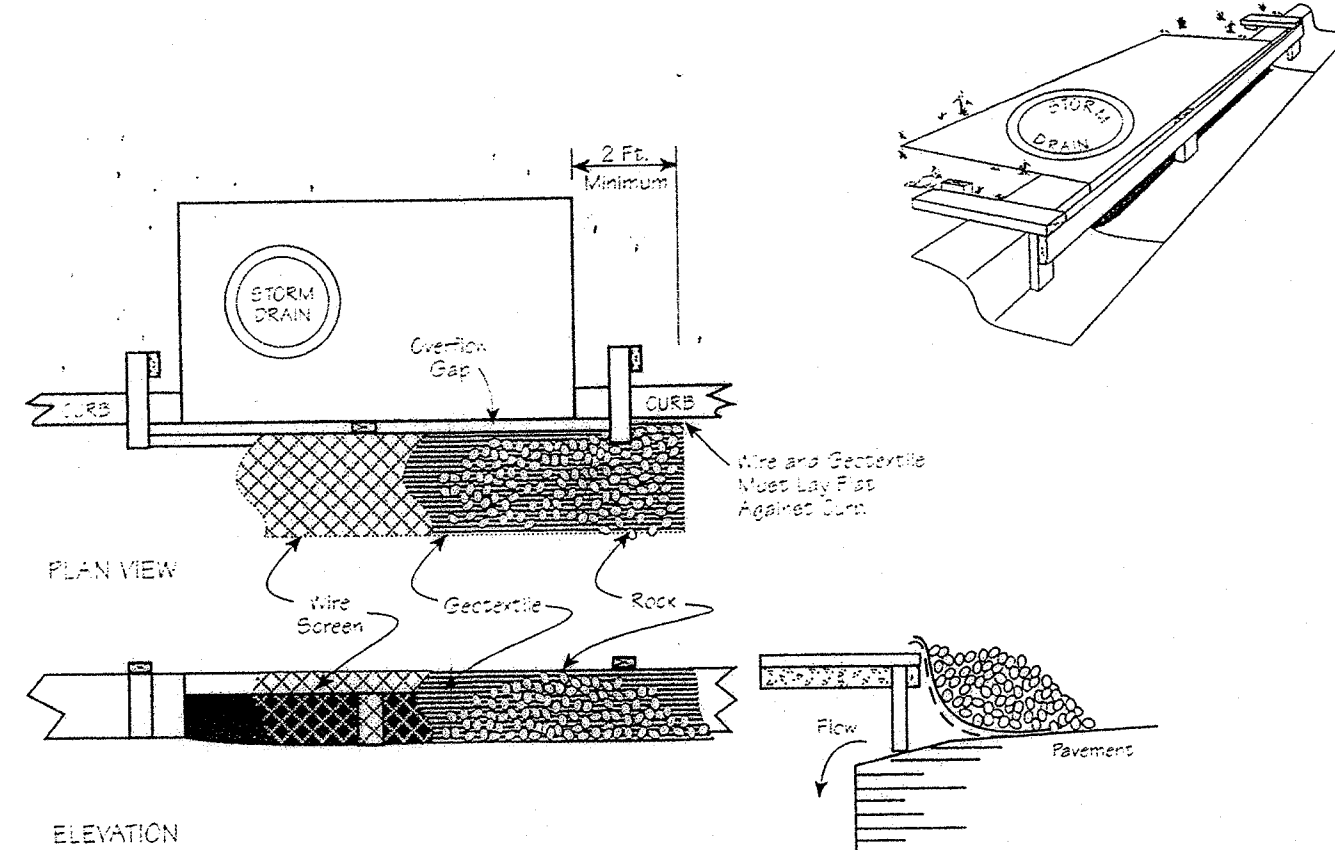


9. Seams between section of silt fence shall be overlapped with the end stakes of each section wrapped together before driving into the ground.

10. Maintenance—Silt fence shall allow runoff to pass only as diffuse flow through the geotextile. If runoff overtops the silt fence, flows under or around the ends, or in any other way becomes a concentrated flow, one of the following shall be performed, as appropriate: 1) The layout of the silt fence shall be changed, 2) Accumulated sediment shall be removed, or 3) Other practices shall be installed.

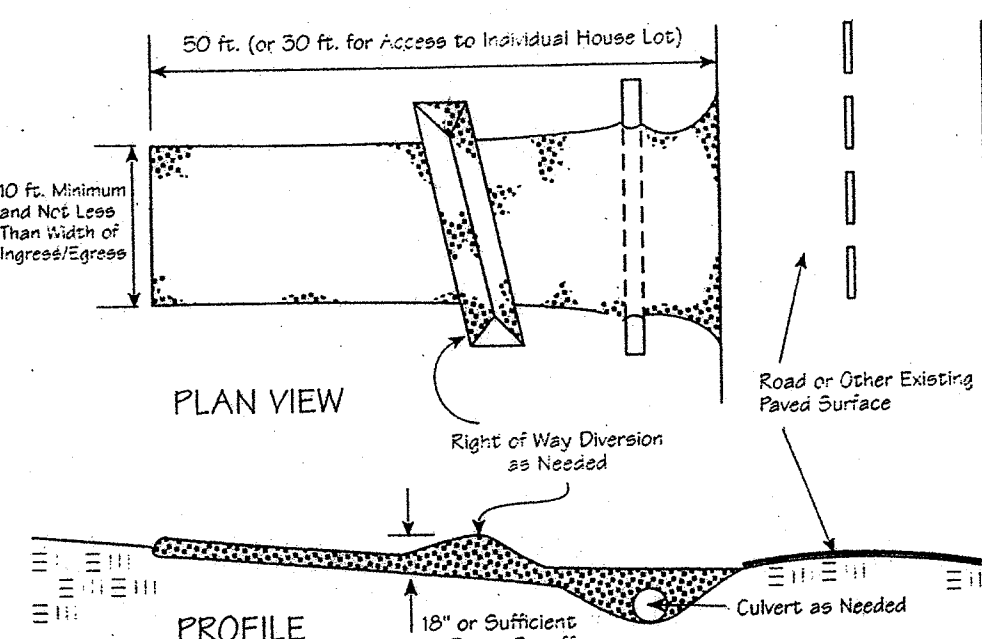


Specifications
for
Curb Inlet Protection



1. Inlet protection shall be constructed either before upslope land disturbance begins or before the storm drain becomes operational.
2. The wooden frame is to be constructed of 2-by-4-in. construction-grade lumber. The end spacers shall be a minimum of 1 ft. beyond both ends of the throat opening. The anchors shall be nailed to 2-by-4-in. stakes driven on the opposite side of the curb.
3. The wire mesh shall be of sufficient strength to support fabric and stone. It shall be a continuous piece with a minimum width of 30 in. and 4 ft. longer than the throat length of the inlet, 2 ft. on each side.
4. Geotextile cloth shall have an equivalent opening size (EOS) of 20-40 sieve and be resistant to sunlight. It shall be at least the same size as the wire mesh.
5. The wire mesh and geotextile cloth shall be formed to the concrete gutter and against the face of the curb on both sides of the inlet and securely fastened to the 2-by-4-in. frame.
6. Two-inch stone shall be placed over the wire mesh and geotextile in such a manner as to prevent water from entering the inlet under or around the geotextile cloth.

Specifications
for
Construction Entrance

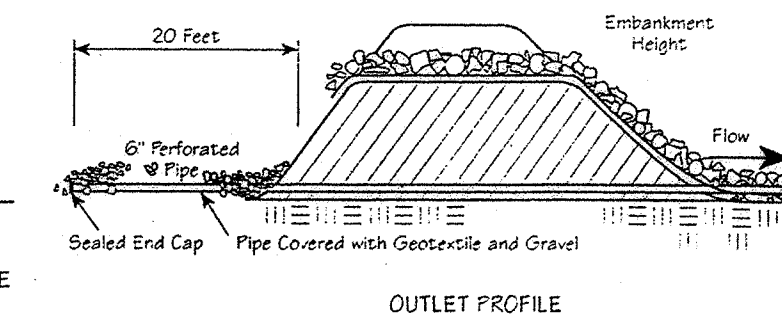
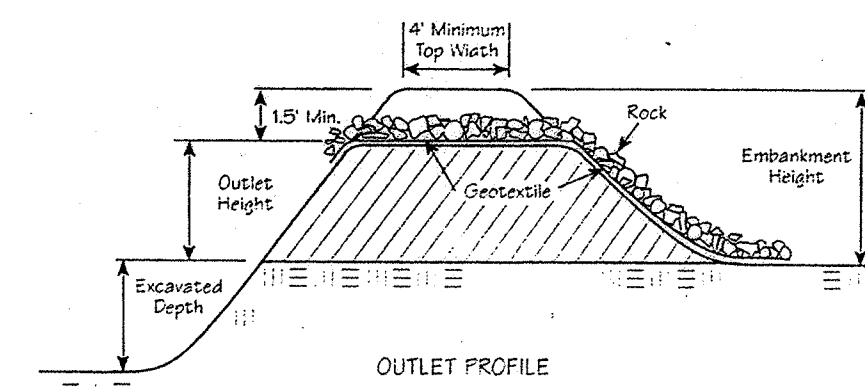
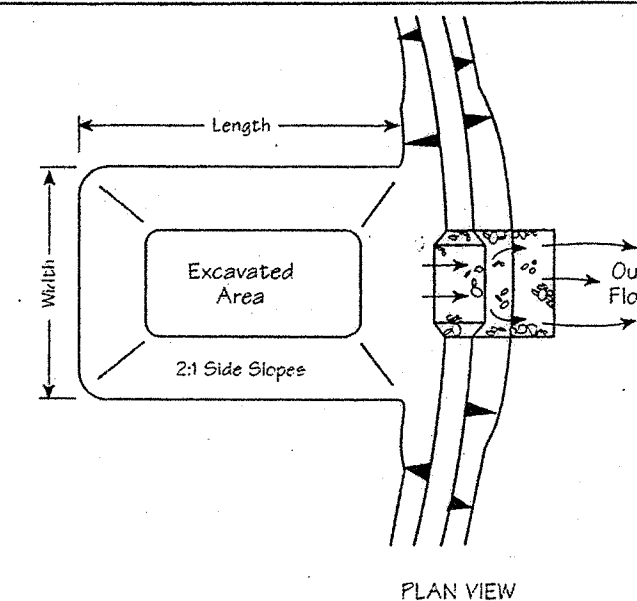


1. Stone Size—Two-inch stone shall be used, or recycled concrete equivalent.
2. Length—The construction entrance shall be as long as required to stabilize high traffic areas but not less than 50 ft. (except on single residence lot where a 30-ft. minimum length applies).
3. Thickness—The stone layer shall be at least 6 in. thick.
4. Width—The entrance shall be at least 10 ft. wide, but not less than the full width at points where ingress or egress occurs.
5. Bedding—A geotextile shall be placed over the entire area prior to placing stone. It shall have a Grab Tensile Strength of at least 200 lb. and a Mullen Burst Strength of at least 190 lb.
6. Culvert—A pipe or culvert shall be constructed under the entrance if needed to prevent surface water flowing across the entrance from being directed out onto paved surfaces.
7. Water Bar—A water bar shall be constructed as part of the construction entrance if needed to prevent surface runoff from flowing the length of the construction entrance and out onto paved surfaces.
8. Maintenance—Top dressing of additional stone shall be applied as conditions demand. Mud spilled, dropped, washed or tracked onto public roads, or any surface where runoff is not checked by sediment controls, shall be removed immediately. Removal shall be accomplished by scraping or sweeping.
9. Construction entrances shall not be relied upon to remove mud from vehicles and prevent off-site tracking. Vehicles that enter and leave the construction-site shall be restricted from muddy areas.

SPECIFICATIONS FOR
SEDIMENT TRAPS

1. Sediment traps shall be constructed and operational before up slope land disturbance begins.
2. The area under the embankment shall be cleared, grubbed, and stripped of any vegetation and root mat. The pool area shall be cleared as needed to facilitate sediment cleanout.
3. Fill material used for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. Maximum height of the embankment shall be 5 ft. as measured from the surrounding ground.
4. Cut-and-fill slopes shall be 2: 1 or flatter.
5. Dikes directing water to the trap shall be higher than the height of the embankment.
6. Temporary seeding shall be established on all nonsubmerged areas of the sediment trap.
7. The storage volume shall be achieved to the dimensions shown in the plans to achieve 67 cy of storage volume below the crest of the outlet for every acre of contributing drainage area.
8. The outlet spillway shall be constructed to the dimensions shown in the plans.
9. Geotextile shall be placed over the bottom and slopes of the outlet spillway. Geotextile shall continue downstream of the embankment to form an apron on the surrounding ground. To prevent runoff from flowing under the geotextile, the sections placed nearest the front shall overlap following sections. Sections of geotextile shall overlap at least 2 ft.
10. Rock used in the outlet spillway shall be placed 1 ft. thick on the geotextile. The rock shall be between Type C and Type D rock where D50 is about 8 in.
11. Sediment shall be removed and the sediment trap restored to its original dimensions when the sediment has filled one-half the pond's original depth. Removed sediment shall be spread in a suitable area and stabilized so it will not erode.
12. The structure and accumulated sediment shall be permanently stabilized when the drainage area has been stabilized.

Specifications
for
Sediment Traps



CONDITIONS WHERE PRACTICE APPLIES AND PLANNING CONSIDERATIONS

This practice is not generally recommended as a primary means of sediment control. It should only be used if it is not possible to temporarily divert the storm drain outfall into a sediment trap or sediment basin or if it is to be used only for a short period of time during the construction process.

Inlet protection in effect blocks storm drain inlets. The result that blocking storm drain inlets will have on the site's drainage must be considered. Long sloping streets or ditches designed with several inlets along their length may have a significant amount of surface flow accumulate if inlet protection is used. In low areas, a pond will form around inlets. Ponding is necessary for removing sediment from runoff and should be encouraged in conjunction with inlet protection.

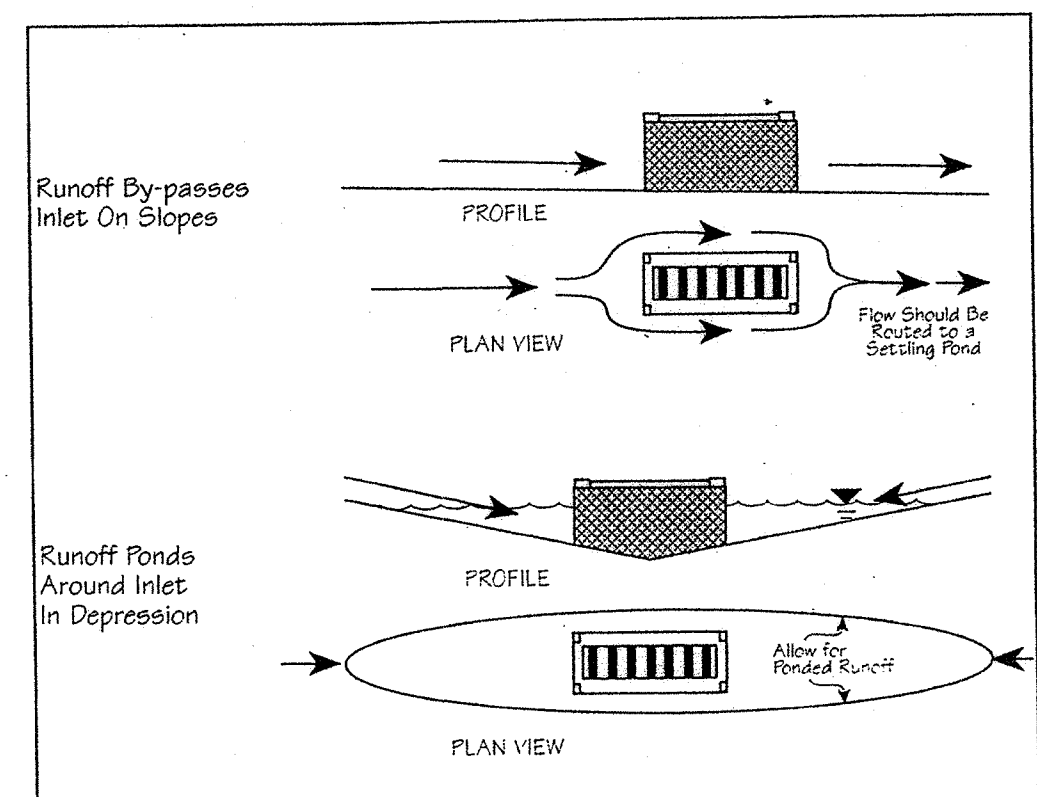


Figure 4-7 Effect of inlet protection on slopes and in depressions

CURB RAMP TYPE A

Back edge
Landing 5'-0" max.
4x8 (100) max.
10' (276)
16'-1" (518)
4'-0" min.
gutter counter slope
Curb Height
A

Typical 4" wide brick pavers with truncated domes
See detail B

CURB RAMP TYPE B

Typical 4" wide brick pavers with truncated domes
See detail B

6'-0" min.
5'-0" typ.
6'-0" min.

CURB RAMP TYPE C

4x8 (100) max.
12:1 (0.083)
12:1 (0.083)
Side walk
A
6' min.
4'-0" min.
6' min.
Curb Height

Typical 4" wide brick pavers with truncated domes
See detail B

DETAIL A

Pavement Surface
Existing Curb
Detectable Warning Paver
1/2" (13) Latex Modified Cement Mortar
Expansion Material
Gutter counter slope
Meet Existing
1'-4"

LEGEND

- The engineer may permit no less than 3'-0" in existing sidewalks if the landing is unconstrained along the back edge.
- Where landing width has been reduced to 3'-0" the flared sides shall have a maximum slope of 12:1 (0.083) as related to the horizontal, but, relative to the existing or proposed walk slope.
- The max. slope of the ramp toward the curb is 12:1 (0.083) as related to the horizontal, but, relative to the existing or proposed walk slope.

The Engineer may allow the following in Historical Areas

- 10:1 (0.10) for a max. rise of 6"
- 8:1 (0.125) for a max. rise of 3"
- 6:1 (0.167) over a max. run of 2'-0" for historic areas where a flatter slope is not feasible.

The minimum length of a Type A or B ramp is 6' from the back of a 6" curb and may be increased where feasible to obtain a flatter ramp slope or to better blend with the walk configuration.

- Gutter counter slopes at the foot of perpendicular curb ramps should not exceed 20:1 (0.05) over a distance of 2'-0" from the curb.

DETAIL B

PAVERS TO MEET ASTM C 902 CLASS SX OR APPROVED EQUAL

4'-0" min. or opening width

NOTES

SURFACE TEXTURE: Texture of concrete surfaces shall be obtained by coarse brooming transverse to the ramp slopes and shall be rougher than the adjacent walk.

TRUNCATED DOMES: Install detectable warnings (truncated domes) for a distance of 24" from the back of curb for the entire width of the ramp opening.

Pavers will meet ASTM C 902 Class SX, Type 1, or C 936, or C 1272 Type R.

ACCEPTABLE MANUFACTURERS AND PRODUCTS ARE AS FOLLOWS:

- Whitmore-Cress Fireproofing Company
1400 South Mayfield Ave.
Alliance, OH 44601
1-800-WP PAVED
ADA Paver, 4"x8"x2-1/4" Clear Red, Rustic, #30
- Hanover Architectural Products
240 Bender Road
Hanover, PA 17331
(717) 637-0500
Detectable Warning Paver, 12"x12"x2" or 24"x24"x2", Red or Quarry Red
- Endicott Clay Products
P.O. Box 17
Fairbury, NE 68352
(402) 729-5804
Handmade Detectable Warning Paver, 4"x8"x2-1/4", Red Blend

Pavers will be laid on top of a 4" unreinforced concrete base. Setting bed and joints to be mortared in accordance with manufacturer's instruction, or with a maximum 1/2" thick bed of latex modified cement mortar. Mortar joints to a width not greater than 1/32" and not less than 1/16". Pavers shall not be directly touching each other unless they have spacing bars.

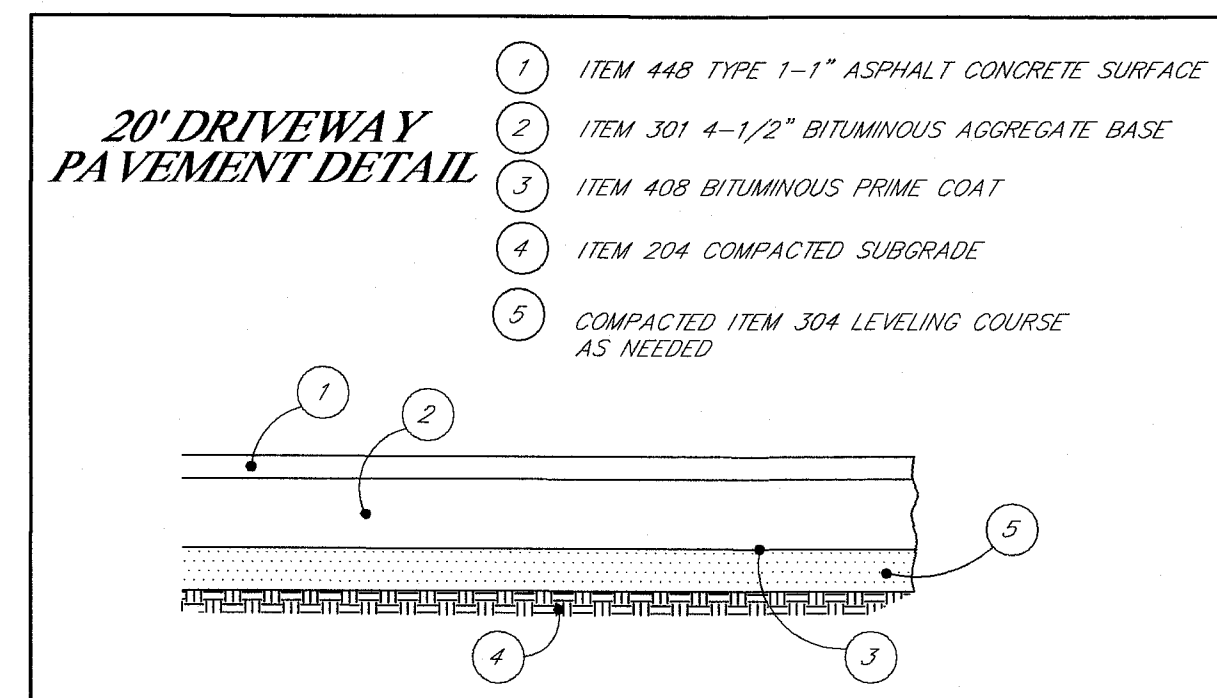
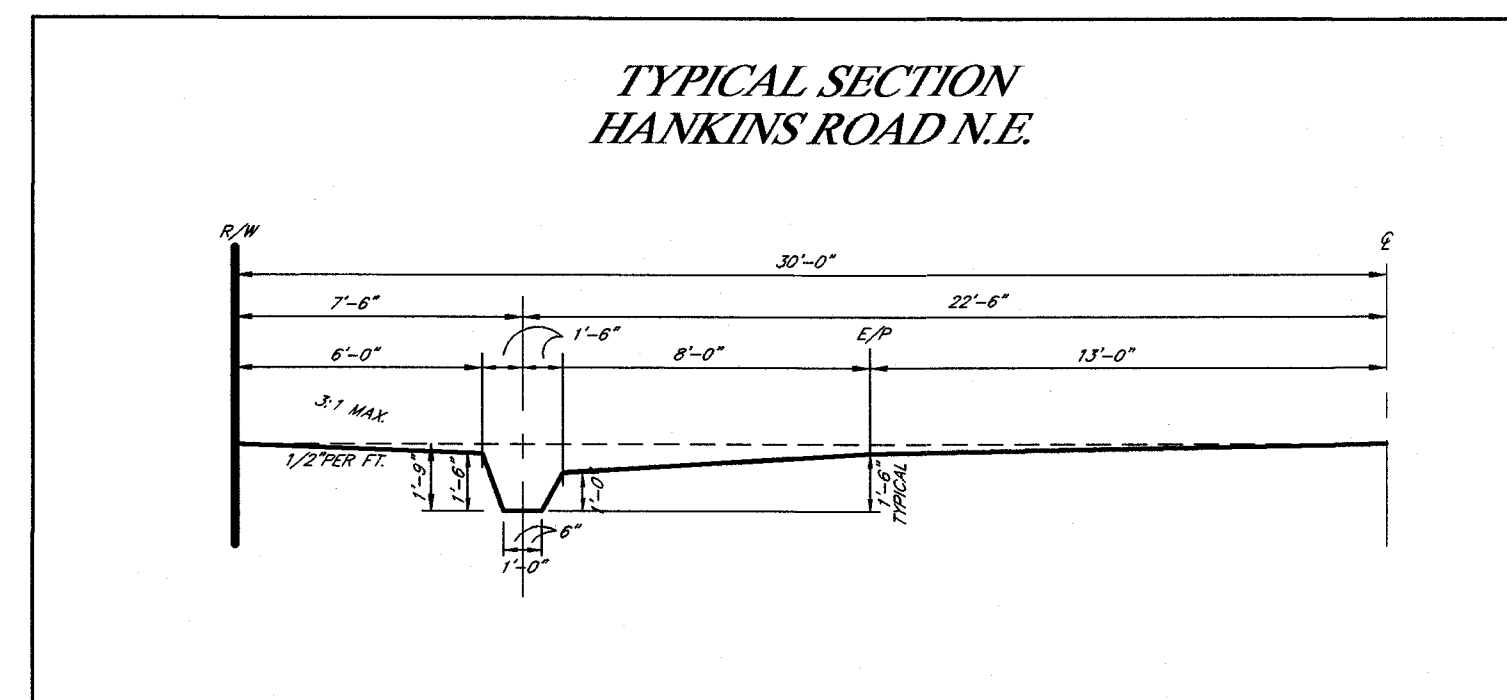
Mortared joints are to be flush with top surface and struck so as to give a smooth surface. Pavers shall be laid such that joints are level with adjoining joints so as to provide a smooth transition from brick to brick and brick to concrete surface.

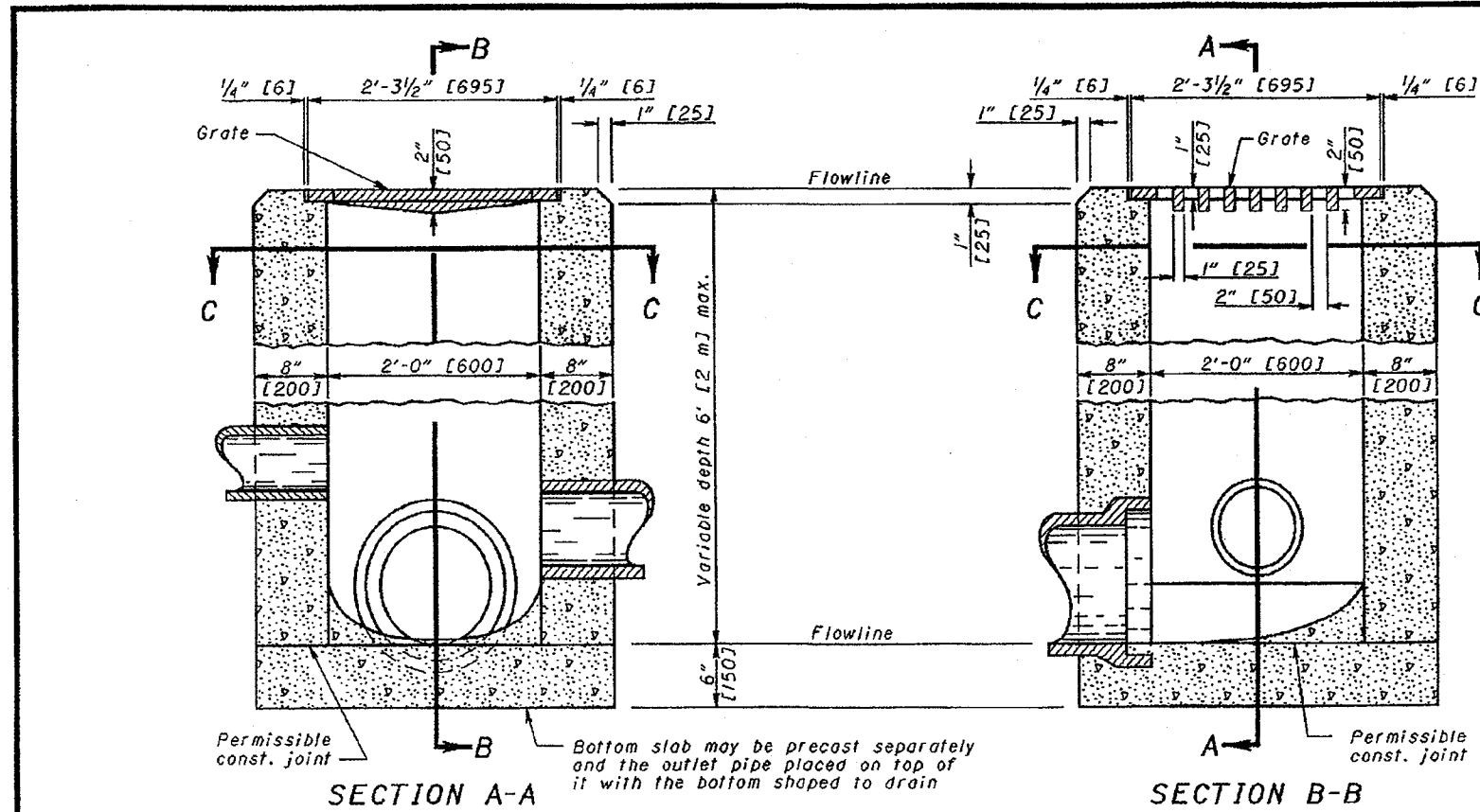
The surface of any two adjacent units should not differ by more than 1/8" in height. Bricks shall be placed in a running bond pattern. Face of all brick shall be clean of cement and protected so as to avoid chipping during construction.

EXPANSION JOINTS: shall be provided in the curb ramp as extensions of walk joints and consistent with item 608.03 requirements for a new concrete walk. A 1/2" item 705.03 expansion joint filler shall be provided around the edge of ramps built in existing concrete walk. Lines shown on this drawing indicate the ramp edge and slope changes and are not necessarily joint lines.

REINFORCING: must be provided at all points of continuous slope changes in Curb Type A and Type C.

PAYMENT: Item 608, CURB RAMP, EACH, shall include the cost of furnishing and installing all materials (including truncated domes), grading, forming and finishing of the curb and walk of the curb ramp and removal of any existing material to perform such work.





NOTES

CATCH BASINS 2-2A & B: This sheet depicts Catch Basin 2-2B. See Sheet 1 of 2 for Catch Basin 2-2A.

GRATE AND FRAME: The design shall be essentially the same and equally as strong as the one shown or meets AASHTO M 306.

If necessary, bicycle safe grates shall be specified in the plans. Bicycle safe grates shall be Harsco No. R-4859-C or East Jordan No. 5110 Type M2 or approved equals.

WALLS: Brick or cast-in-place walls have a nominal thickness of 8" (200). Precast walls shall have a minimum thickness of 6" (150) and be reinforced sufficiently to permit shipping and handling without damage.

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706J3 with a minimum of 4% entrained air in the hardened concrete and be marked with the catch basin number.

PRECAST BASE: If a precast base is used, it shall be set deep enough so that the top can be placed on the base to provide the grate elevation specified in the plans. Layers of brick shall not be used to adjust the top elevation.

LOCATION AND ELEVATION: When given on the plans, location and elevation are at the top center of the grate. When side openings are provided, the elevation shall be at the flow line of the side inlet.

MINIMUM DEPTH: The minimum depth for CB No. 2-2B shall be the O.D. of the outlet pipe plus 4" (100).

2-2B GRATE ELEVATION: Grate elevation is to be placed 4" to 6" (100 to 150) below normal ditch returning to normal 10' to 15' (3 m to 5 m) each side of inlet.

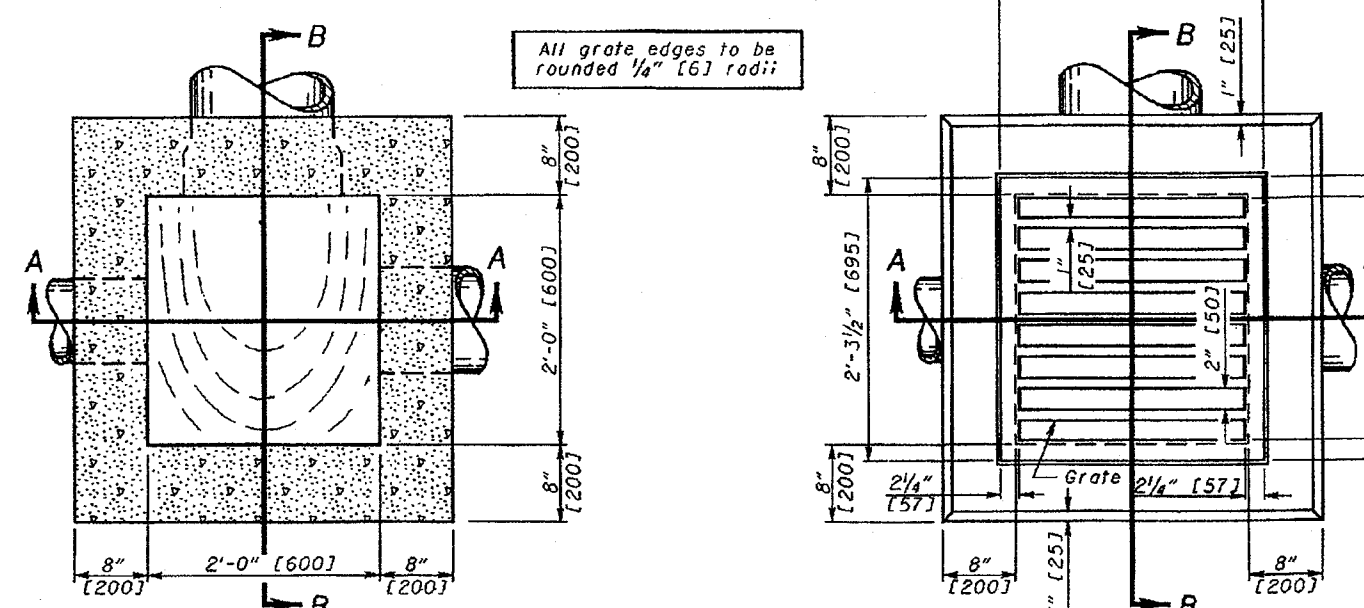
OPENINGS: Pipe openings shall be the O.D. of the pipe being supplied plus 2" (50) when fabricated or field cut. The interstitial space shall be filled with grout per CMS 601.

PAYMENT: All materials and labor, including excavation and backfilling, shall be paid for under Item 604 - Catch Basin, No. 2-2B.

CONSTRUCTION INFORMATION

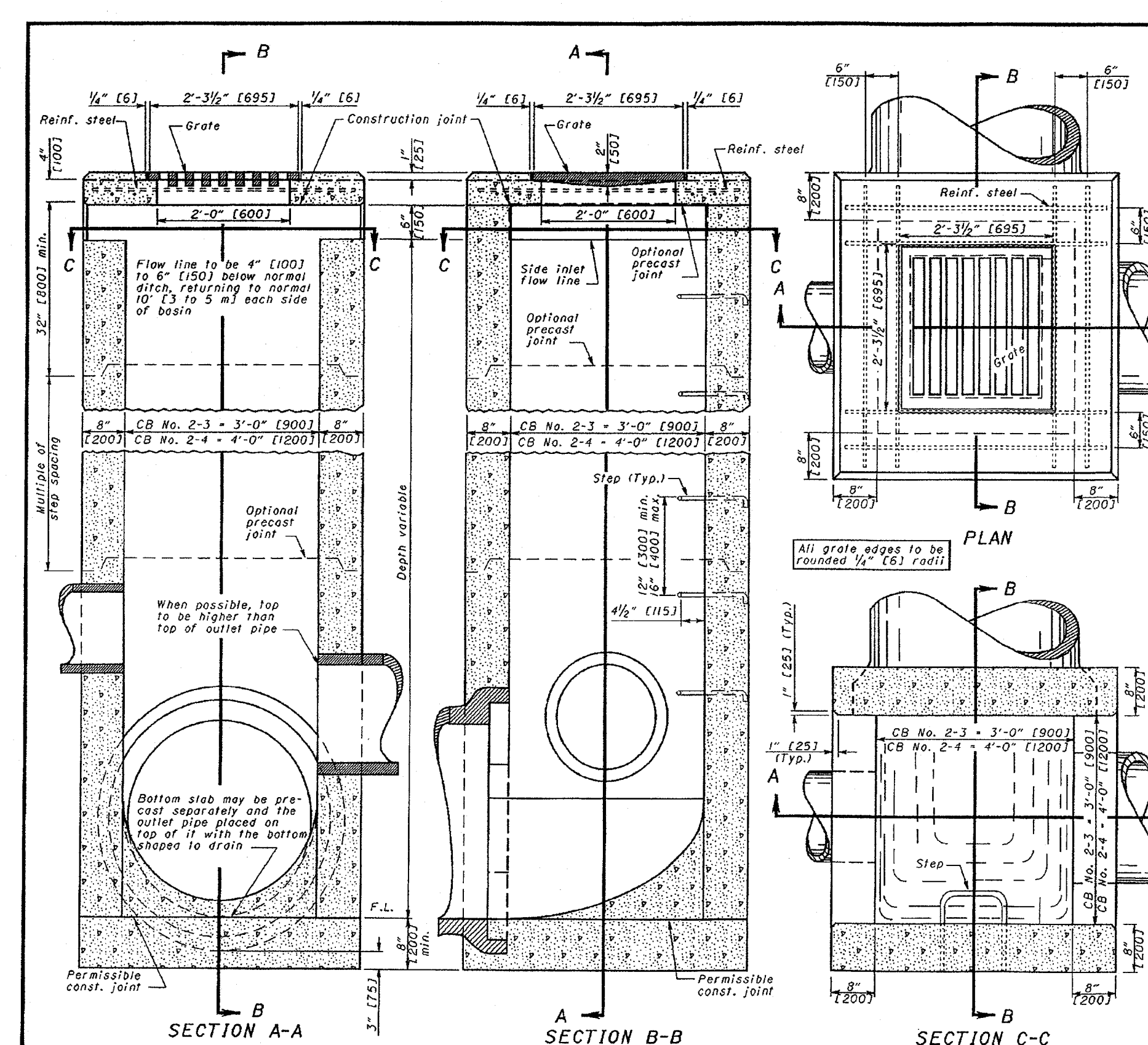
Minimum weight (mass) of grate, 120 lbs. (54 kg)

Minimum weight (mass) of frame, 40 lbs. (18 kg)



CATCH BASIN No. 2-2B

THIS DRAWING REPLACES CB-114 DATED 7-18-95.
STANDARD ROADWAY CONSTRUCTION DRAWING
CATCH BASIN No. 2-2A & B
CB-11
1/1



NOTES

GRATE: See details on SCD CB-11. Minimum weight (mass) of grate 120 lbs. (54 kg), or meets AASHTO M 306.

If necessary, bicycle safe grates shall be specified in the plans. Bicycle safe grates shall be Harsco No. R-4859-C or East Jordan No. 5110 Type M2 or approved equals.

WALLS: Brick or cast-in-place walls shall have a nominal thickness of 8" (200). Precast walls shall have a minimum thickness of 6" (150) and be reinforced sufficiently to permit shipping and handling without damage.

STEPS: Steps shall be provided where the depth exceeds 6' (1.8 m) and shall meet the requirements of SCD MH-11.

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706J3 with a minimum of 4% entrained air in the hardened concrete and be marked with the catch basin number.

REINFORCEMENT: Reinforcing in the top is to be #4 (#19) bars spaced at 6" (150) center to center. For Catch Basin No. 2-3 use eight bars and for Catch Basin No. 2-4 use twelve bars.

INLETS OVER 12 FEET (3.5 m) IN DEPTH: shall be precast or cast-in-place concrete, reinforced with #4 (#19) bars on 12" (300) centers both vertically and horizontally, with 2" (50) clearance from inside wall face.

PRECAST BASE: If a precast base is used, it shall be set deep enough so that the top can be placed on the base to provide the grate elevation specified in the plans. Layers of brick shall not be used to adjust the top elevation.

LOCATION AND ELEVATION: When given on the plans, the location and the elevation are at the top center of the grate. When side openings are provided, the elevation shall be at the flow line of the side inlet.

MINIMUM DEPTH: The minimum depth of CB No. 2-3 and CB No. 2-4 shall be the outside diameter (O.D.) of the outlet pipe plus 7" (175).

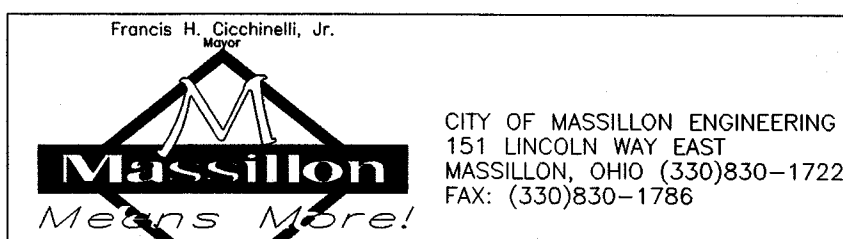
OPENINGS: Pipe openings shall be the O.D. of the pipe being supplied plus 2" (50) when fabricated or field cut. The interstitial space shall be filled with grout per CMS 601.

SIDE INLETS: Shall be provided only when specified on the plans.

PAYMENT: All materials and labor, including excavation and backfill, shall be paid for under Item 604 - Catch Basin, No. 2-3 or Item 604 - Catch Basin No. 2-4.

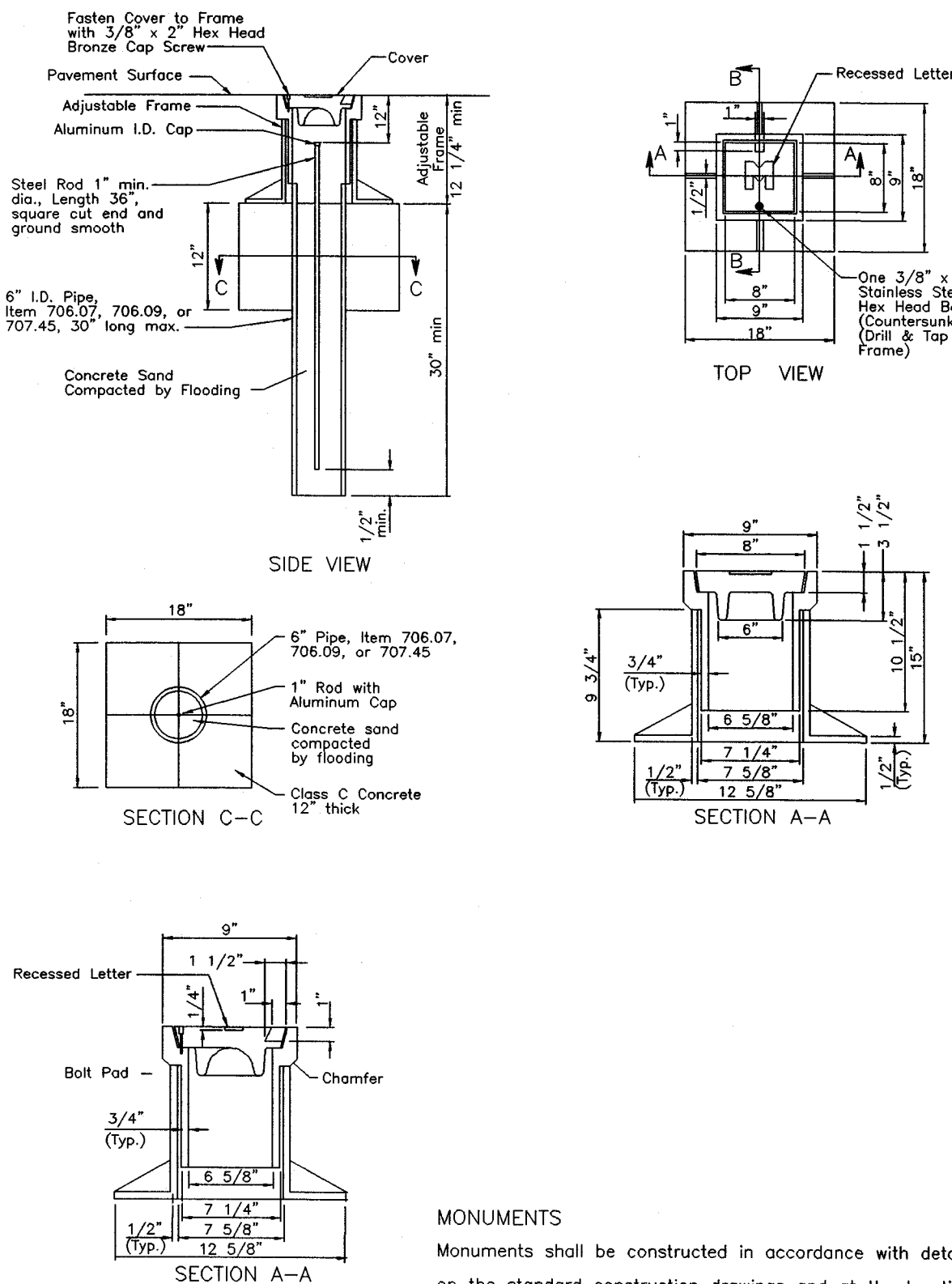
CATCH BASIN	OUTLET PIPE SIZE
2-3	12" to 36" (300 to 900)
2-4	36" to 48" (900 to 1200)

THIS DRAWING REPLACES CB-114 DATED 7-18-95.
STANDARD ROADWAY CONSTRUCTION DRAWING
CATCH BASIN No. 2-3 & 2-4
CB-12
1/1

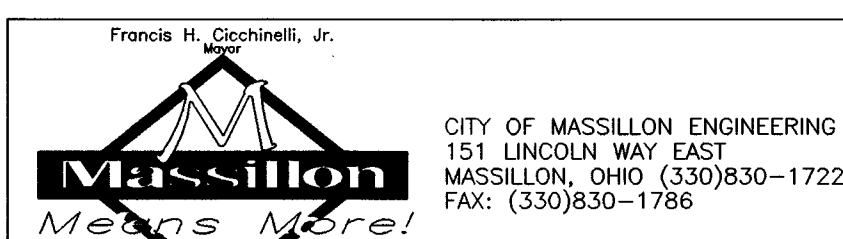


CITY OF MASSILLON ENGINEERING
151 LINCOLN WAY EAST
MASSILLON, OHIO (330)830-1722
FAX: (330)830-1786

CENTERLINE MONUMENT DETAILS

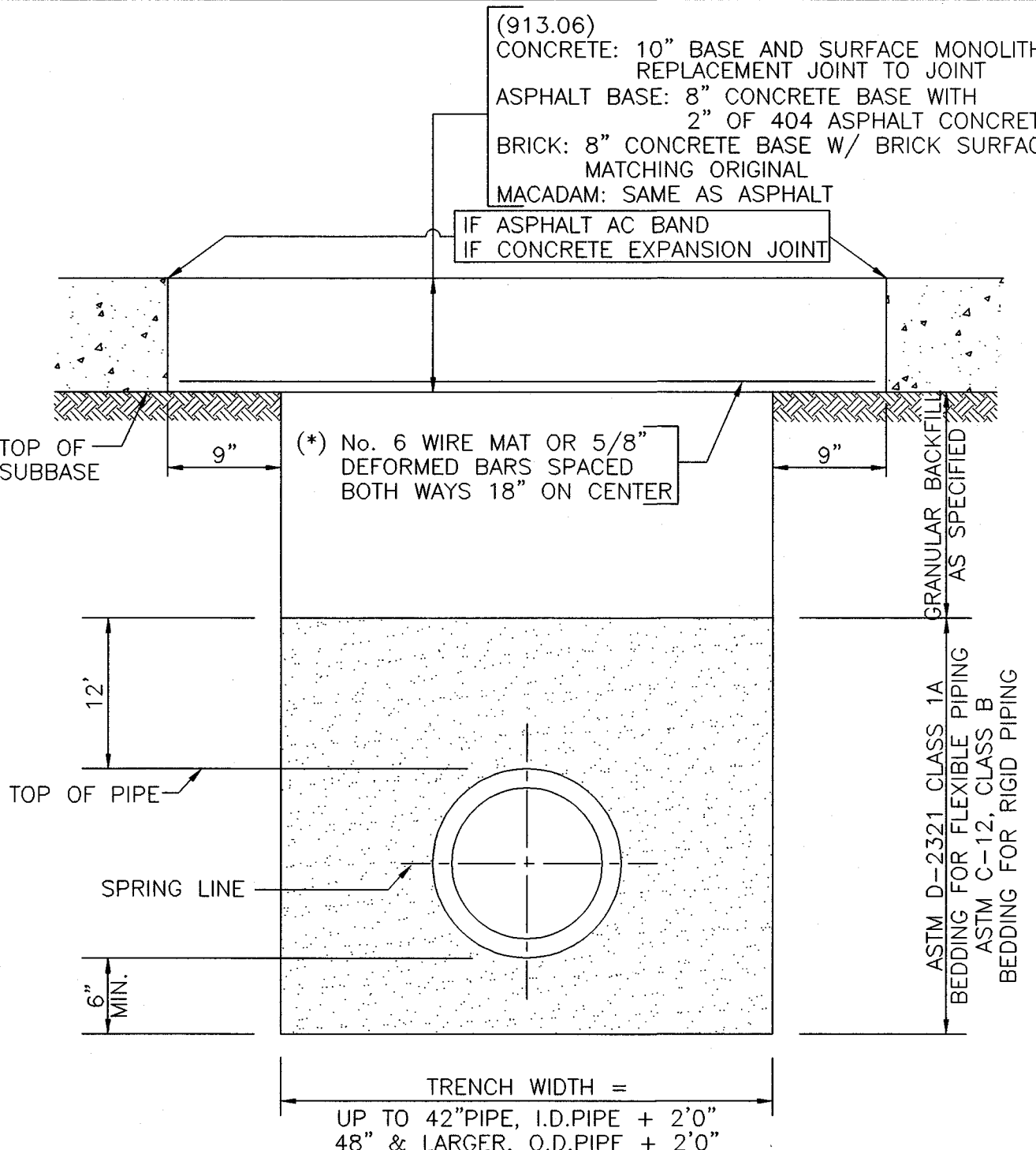


MONUMENTS
Monuments shall be constructed in accordance with detail as shown on the standard construction drawings and at the locations on previous sheets.



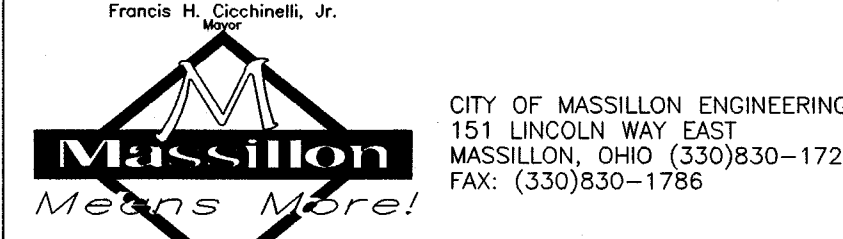
CITY OF MASSILLON ENGINEERING
151 LINCOLN WAY EAST
MASSILLON, OHIO (330)830-1722
FAX: (330)830-1786

OPEN CUT DETAIL CITY RIGHT-OF-WAY



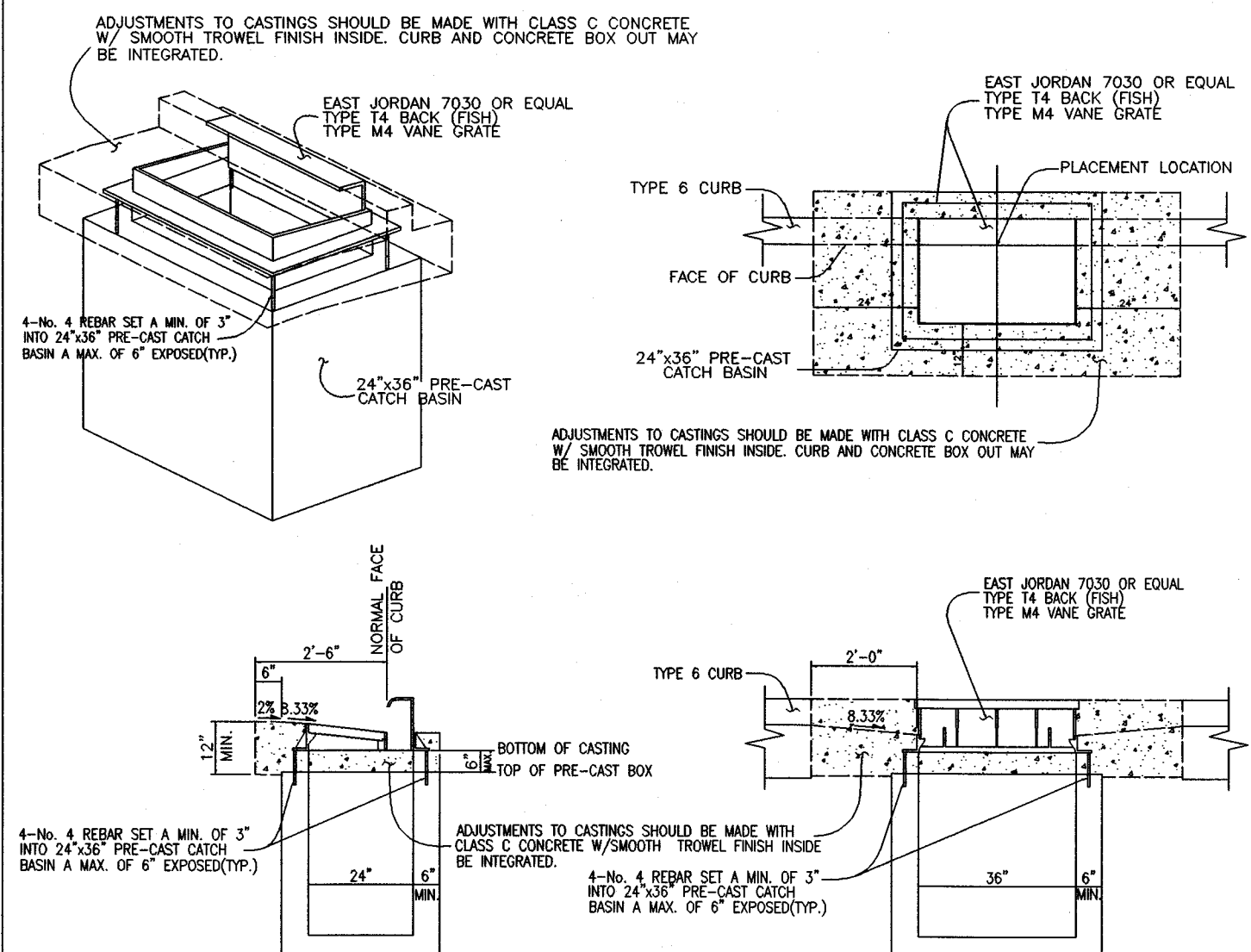
NOTES
(*) MUST BE USED WHEN WIDTH OF TRENCH IS GREATER THAN 3' AT THE SUBBASE LEVEL.

CONCRETE BASE SHALL BE OF 1:2:4, 6 BAG MIX, PORTLAND CEMENT CONCRETE USING HIGH EARLY STRENGTH CEMENT AND IT MUST BE CURED AT LEAST 48 HRS.



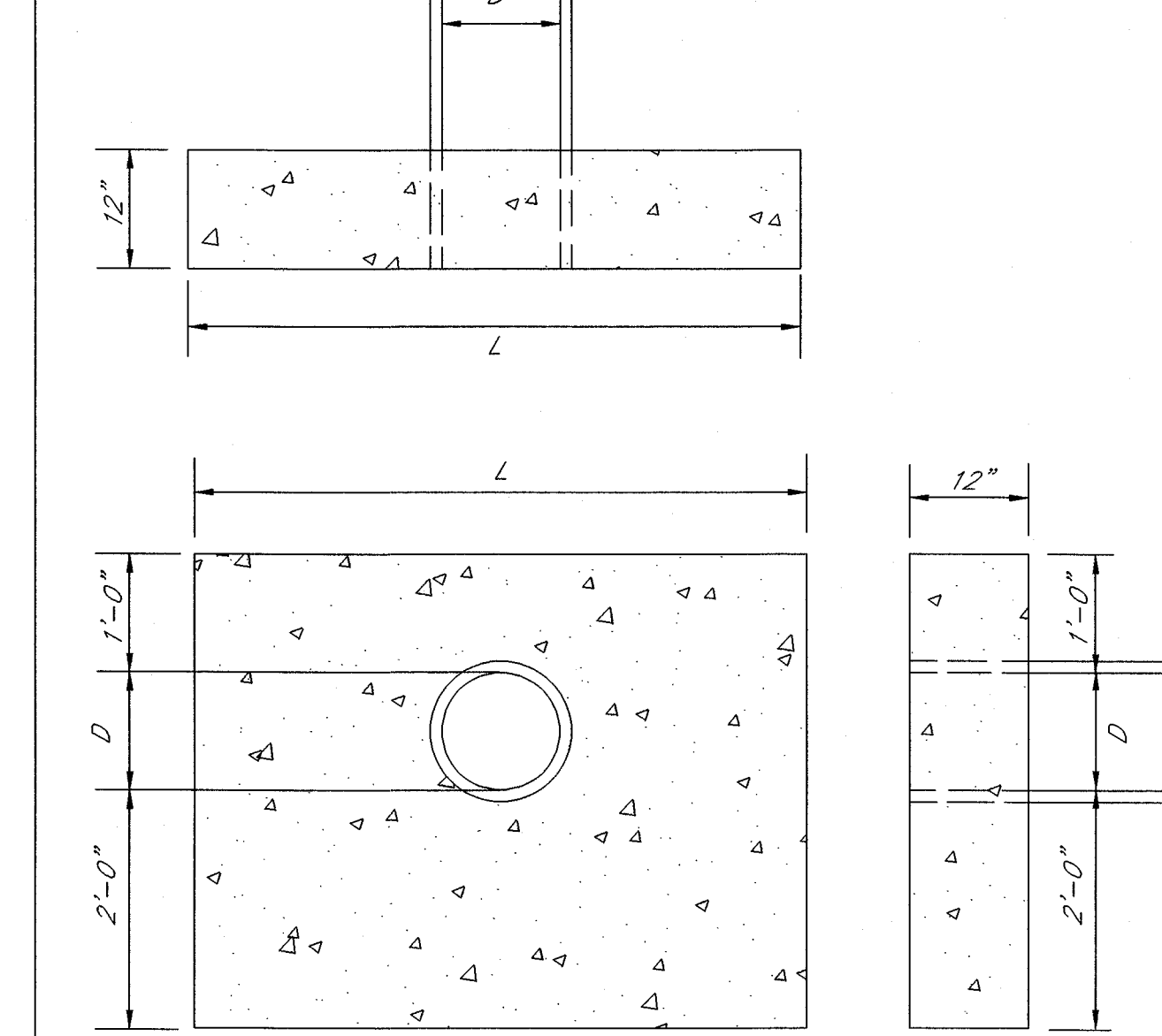
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FAX: (330)830-1786

CATCH BASIN DETAIL



Massillon Curb Inlet (MASS CI-1)

MODIFIED HW 2.1 HEADWALL DETAIL



PIPE DIAMETER (D)	LENGTH OF HEADWALL (L)
12"	4' - 0"
15"	5' - 0"
18"	5' - 0"
24"	7' - 6"
30"	9' - 3"
36"	11' - 0"

STANDARD DETAIL SHEET
CONCORD VILLAGE
PARTS OF OUT LOTS 855, 856, 936, AND 933
IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

HOOVER & ASSOCIATES, Inc.
Professional Surveying Services
5782 Hickelberry Street, N.W.
North Canton, Ohio 44720
phone (330) 494-6744

JANUARY 2006

DETAILS-2