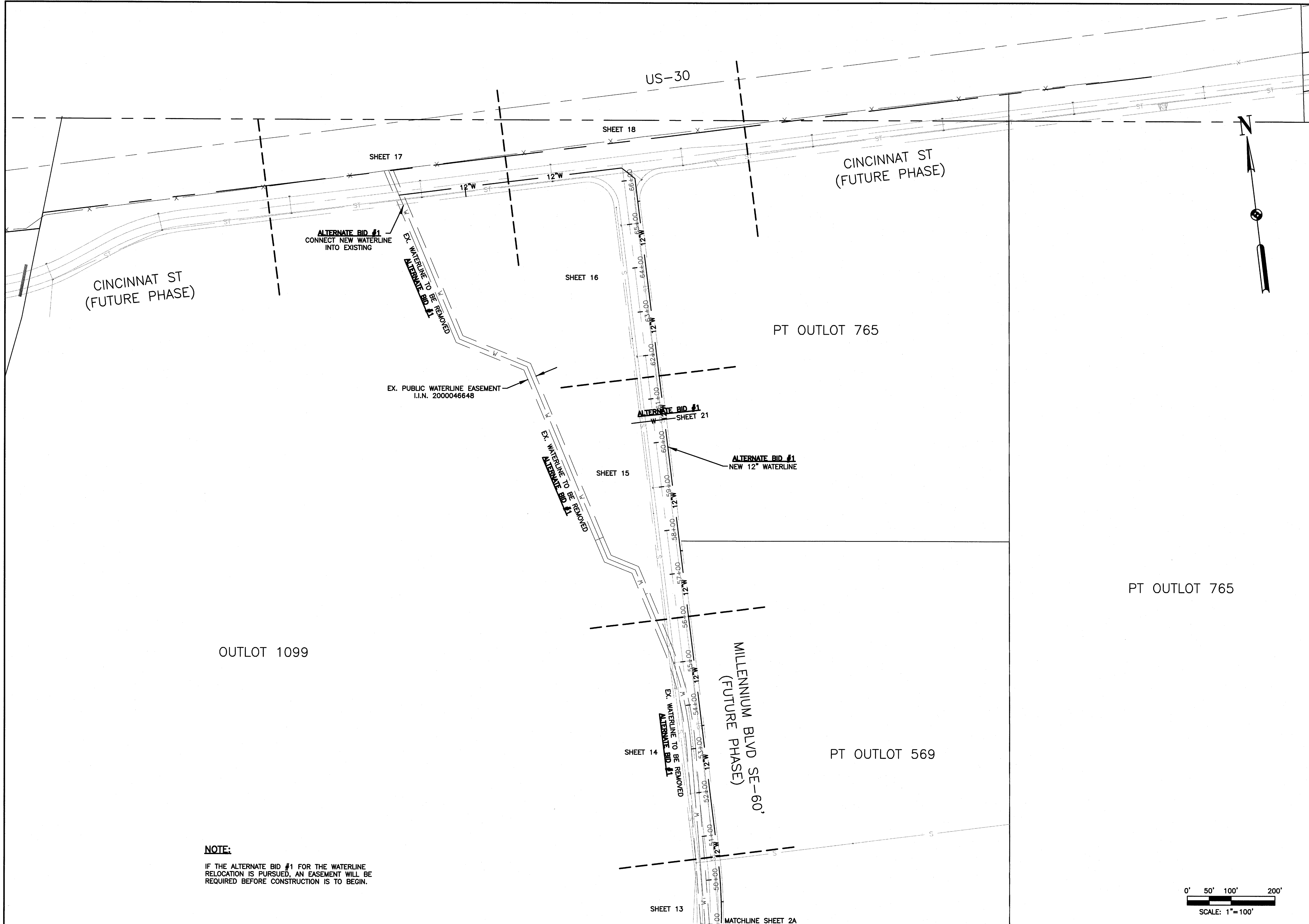




NOTE:
IF THE ALTERNATE BID #1 FOR THE WATERLINE
RELOCATION IS PURSUED, AN EASEMENT WILL BE
REQUIRED BEFORE CONSTRUCTION IS TO BEGIN.

 HAMMONTREE & ASSOCIATES, LTD. ENGINEERS, PLANNERS, SURVEYORS CANTON- AKRON- PITTSBURGH 5233 STONEHAM ROAD NORTH CANTON, OHIO 44720 CANTON: (330)499-8817 AKRON: (330)653-7274 TOLL FREE: 1-800-394-8817 FAX: (330)499-0149 www.hammontree-engineers.com	REV. BY: _____ DATE: _____ DESC.: _____	
	REV. BY: _____ DATE: _____ DESC.: _____	
	REV. BY: <u>BAB</u> DATE: <u>01-21-13</u> DESC.: <u>PER DEV. COMMENTS</u>	
	REV. BY: <u>BAB</u> DATE: <u>12-10-12</u> DESC.: <u>PER CITY COMMENTS #2</u>	
DESIGN BY: <u>BAB</u>	FLD. BK: <u>XXX</u>	DESC.: _____
DRWN BY: <u>BAB</u>	BK PG: <u>XXX</u>	DESC.: _____
CHKD BY: <u>BHB</u>	CRW CHF: <u>XXX</u>	DESC.: _____
RYWD BY: <u>BHB</u>	CPYRSH: 2012	DESC.: _____
DATE: 02/16/12	TAB: SITE	DESC.: _____
SCALES HORIZ.: 1"=100' VERT.: _____ CONTOUR INT: _____		
SITE PLAN NEOCOM 1 INDUSTRIAL PARK NO. 7 FOR: MASSILLON DEVELOPMENT FOUNDATION LOCATED IN THE CITY OF MASSILLON STARK COUNTY, OHIO		
2B 30		

Diagram illustrating a cross-section of a road with a 4:1 fill on the left and a 4:1 cut on the right. The road has a 2.080% grade. The diagram shows various dimensions and elevations, including a 12.00' R/W, 30.00' C/L, and 12.00' ESM'T. The road is labeled with 'P.G.' and 'C/L'. The diagram is numbered 1 through 10.

[illegible]

1	ITEM 448	1-1/2" ASPHALT CONCRETE, SURFACE COURSE, PG 64-22
2	ITEM 448	1-1/2" ASPHALT CONCRETE, INTERMEDIATE COURSE, PG 64-22
3	ITEM 301	9" BITUMINOUS AGGREGATE BASE (2 LIFTS)
4	ITEM 304	6" AGGREGATE BASE
5	ITEM 204	COMPACTED SUBGRADE & PROOF ROLL
6	ITEM 407	TACK COAT (0.08 GAL./SQ. YD.)
7	ITEM 408	PRIME COAT (0.40 GAL./SQ. YD.)
8	ITEM 609	CONCRETE CURB AND GUTTER, TYPE 2
9	ITEM 659	SEEDING AND MULCHING
10	ITEM 605	4" PERFORATED UNDERDRAIN

TEMP TURNAROUND ESM'T

60.00'

PAVEMENT 0.00' TO 45.00'

2.080%

C/L

P.G.

PAVEMENT 0.00' TO 45.00'

2.080%

4:1 CUT

4:1 FILL

4 3 2 1 5 6 7

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REV.	BY:	DATE:	DESC:
REV. BY:	DATE:	DESC:	
REV. BY:	BAB	DATE: 01-21-13	DESC: PER DEV. COMMENTS
REV. BY:	BAB	DATE: 12-10-12	DESC: PER CITY COMMENTS #2
REV. BY:	BAB	DATE: 10-15-12	DESC: PER CITY OF MASSILLON COMMENTS

DESN BY: BAB FLD BK: XXX
 DRWN BY: BAB BK PG: XXX
 CHKD BY: BHB CRW CHF: XXX
 RWD BY: BHB CPYRGHT: 2012
 DATE: 01/30/12 TAB: TYPICAL

SCALES
HORIZ:
VERT:
CONTOUR INT:

TYPICAL SECTIONS

NEOCOM 1 INDUSTRIAL PARK NO. 7

FOR: MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

DEMOLITION NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND DISPOSAL (IN A LOCATION APPROVED BY THE GOVERNING AUTHORITIES) OF ALL STRUCTURES; SO THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER THE SPECIFICATIONS OUTLINED IN THESE PLANS OR GEOTECHNICAL REPORT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS NEEDED FOR DEMOLITION AND DISPOSAL.
2. THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES. ALL EXISTING UTILITY CONNECTIONS ARE TO BE ABANDONED AS DIRECTED BY THE RESPECTIVE UTILITY OWNER.
3. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY'S FORCES AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.
4. IF ANY PAVEMENT IS DAMAGED OUTSIDE THE SAW-CUT LIMITS, THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND REPAIR OF THAT PAVEMENT.
5. THE CONTRACTOR SHALL MAINTAIN A WELL-DRAINED SITE, FREE OF STANDING WATER, DURING ALL PHASES OF CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE FOR PLACING AND MAINTAINING CONSTRUCTION FENCE, SIGNS, ETC. TO WARN & KEEP PEOPLE OFF SITE FOR THE DURATION OF THE PROJECT.
7. THE CONTRACTOR SHALL COORDINATE TRAFFIC CONTROL WITH THE CITY BUILDING DEPARTMENT AND POLICE DEPARTMENT. ALL MEASURES AND DEVICES SHALL CONFORM TO THE OHIO MANUAL OF TRAFFIC CONTROL DEVICES.
8. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY DEMOLITION OR CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATIONS OF ALL UTILITIES.

UTILITY NOTES:

1. UTILITIES SHOWN WERE TAKEN FROM RECORDS OF RESPECTIVE UTILITY COMPANIES AND FROM A TOPOGRAPHIC SURVEY AND DO NOT NECESSARILY REPRESENT ALL UNDERGROUND OR OVERHEAD UTILITIES ADJACENT TO OR UPON THE PREMISES SHOWN ON THE PLAN. CALL OUTS PRIOR TO EXCAVATION.
2. ANY UTILITIES FOUND DURING EXCAVATION, NOT SHOWN ON THESE PLANS, SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.
3. EXISTING UTILITIES TO REMAIN, WHICH ARE CRUSHED OR DAMAGED DURING CONSTRUCTION, SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.
4. EACH SUBCONTRACTOR SHALL OBTAIN HIS OWN PERMITS AND CONTACT THE UTILITY COMPANY FOR VERIFICATION AND LOCATION OF HOOK-UP PRIOR TO ANY WORK BEING DONE.
5. STORM: ALL STORM SEWERS SHALL CONFORM TO ODOT ITEM 707.33 OR ITEM 706.02. ALL CATCH BASINS SHALL BE CONSTRUCTED AS SHOWN ON THESE DRAWINGS AND DETAILED PER THE ODOT STANDARD DRAWINGS AND CURRENT CONSTRUCTION AND MATERIAL SPECIFICATIONS.
6. ROOF DRAINS, FOUNDATION DRAINS AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.
7. CLEAN-OUTS TO BE INSTALLED AT ALL PIPE BENDS AND ANGLES, UNLESS A MANHOLE IS INDICATED.
8. THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION, INVERT ELEVATION, AND CONDITION OF ALL EXISTING UTILITIES AT THE POINT OF CONNECTIONS PRIOR TO ANY INSTALLATION. THE CONTRACTOR IS TO ENSURE EXISTING UTILITIES ARE IN GOOD WORKING ORDER. IF ELEVATIONS DIFFER FROM WHAT IS SHOWN ON THIS DRAWING, THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY PRIOR TO ANY CONSTRUCTION.

GENERAL NOTES:

1. PRIOR TO THE COMMENCEMENT OF ANY PROJECT, A PRE- CONSTRUCTION MEETING WILL BE HELD AT THE CITY ENGINEER'S OFFICE. AT THIS TIME, THE PROJECT WILL BE DISCUSSED IN REGARD TO PROCEDURE, MATERIALS, INSPECTION, ETC...
2. REFER TO SOILS REPORT, IF AVAILABLE, FOR ALL SITE REQUIREMENTS ON COMPACTION, FILLING, FOUNDATION AND PAVEMENT SECTION REQUIREMENTS.
3. TOPSOIL TO BE REMOVED AND STOCKPILE BEFORE EARTHWORK IS TO BEGIN. ALL SUBGRADE SHALL BE COMPACTED.
4. THE GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES INVOLVED ON THE SITE NO MORE THAN TEN DAYS AND NO LESS THAN 48 HOURS IN ADVANCE OF EXCAVATION (ORC 3781.28).
5. TRAFFIC SHALL BE MAINTAINED ON ALL ADJOINING STREETS AT ALL TIMES. TRAFFIC CONTROL SHALL BE MAINTAINED IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) AND ODOT SPECIFICATION 614.
6. ALL TRENCHES BENEATH THE PAVEMENT SHALL BE COMPACTED IN LIFTS AND WITH MATERIAL SPECIFIED BY O.D.O.T. SPECIFICATIONS 603.10, 603.11, AND 703.11.
7. PAVEMENT MARKINGS SHALL COMPLY WITH THE REQUIREMENTS OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIAL SPECIFICATIONS, JANUARY 1, 2010, ITEMS 641, 642 AND 740. USE TYPE 1 OR TYPE 1A PAINT AS APPLICABLE.

AQUA OHIO—WATER LINE NOTES

1. WATERLINES AND APPURTENANCES SHALL BE CONSTRUCTED ACCORDING TO AQUA OHIO SPECIFICATIONS AND DETAILS. IN EFFECT AT TIME OF CONSTRUCTION. ANY SITUATION REQUIRING A MODIFICATION TO SAID STANDARDS & SPECIFICATIONS MUST FIRST BE APPROVED BY AQUA OHIO SERVICE CENTER ENGINEERING DEPARTMENT.
2. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH AQUA OHIO.
3. THE CONTRACTOR SHALL ALERT THE UTILITIES PROTECTION SERVICE AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION.
4. APPROVAL BY AQUA OHIO CONSTITUTES NEITHER EXPRESSED NOR IMPLIED WARRANTIES AS TO FITNESS, ACCURACY, OR SUFFICIENCY OF PLANS, DESIGNS OR SPECIFICATIONS.
5. ALL ROUGH GRADING TO WITHIN SIX (6) INCHES OF FINISHED GRADE SHALL BE COMPLETED WITHIN EASEMENTS AND RIGHTS-OF-WAY PRIOR TO WATERLINE CONSTRUCTION.
6. MINIMUM VERTICAL CLEARANCE BETWEEN WATERLINE AND SANITARY SEWER SHALL BE 18 INCHES. MINIMUM HORIZONTAL SEPARATION SHALL BE 10 FT. MINIMUM VERTICAL CLEARANCE BETWEEN WATERLINE AND STORM SEWER SHALL BE 12 INCHES. MINIMUM HORIZONTAL SEPARATION SHALL BE 4 FT.
7. WATER SERVICE LINES SHALL TERMINATE 5 FT. FROM THE BUILDING FOUNDATION.
8. DCIP WATER MAIN PIPE SHALL CONFORM TO AWWA C-151, AWWA C-111 FOR JOINTS.
9. WATER MAIN PRESSURE TESTING SHALL CONFORM TO AWWA C-600.
10. WATER MAIN DISINFECTION SHALL CONFORM TO AWWA C-651.
11. MINIMUM COVER OVER WATERLINES SHALL BE FOUR (4) FT.
12. HYDRANTS SHALL BE MUELLER A-423 CENTURION, US PIPE M-94, CLOW MEDALLION OR AMERICAN DARLING B-84-B 3-WAY, WITH ONE 4 1/2" PUMPER NOZZLE CONNECTION FOR FIRE HOSE AND TWO 2 1/2" HOSE NOZZLES.
13. TYPE "II" HYDRANT REFERS TO 90 DEGREE TEE ASSEMBLY OFF OF MAIN LINE, COMPLETE WITH ALL VALVES AND APPURTENANCES. THE CONTRACTOR SHALL REFER TO AQUA OHIO SPECIFICATIONS AND DETAILS.
14. FIRE HYDRANTS SHALL BE FIELD PAINTED RED & YELLOW (2 COATS).
15. HYDRANTS, HYDRANT VALVES, MAINLINE VALVE BOXES AND CURB BOXES SHALL NOT BE LOCATED WITHIN SIDEWALKS, DRIVEWAYS, OR DRIVEWAY APRONS.
16. BLOW-OFF HYDRANTS SHALL HAVE 2" INLET, 2" OUTLET AND RISER PIPE, AND SHALL BE ECLIPSE NO. TF500, OR APPROVED EQUAL.
17. BACKFILLING BELOW OR WITHIN 3 FT OF EXISTING OR PROPOSED ROADWAY, DRIVEWAY, SIDEWALK OR WALL SHALL BE TYPE 1 OR TYPE 2 STRUCTURAL BACKFILL IN ACCORDANCE WITH THE BACKFILL REQUIRED FOR STORM SEWER, ODOT ITEM 703.11.
18. ALL PIPE JOINTS WITHIN 40 LF OF ANY DEAD END SHALL BE RESTRAINED BY USING FIELD LOCK GASKETS, OR MEGA LUGS ON MECHANICAL JOINTS. ALL PIPE JOINTS WITHIN 40 LF OF ANY BEND, FITTING, VALVE OR TEE SHALL ALSO BE RESTRAINED BY USING FIELD LOCK GASKETS OR MEGA LUGS. IN ADDITION, POURED-IN-PLACE CONCRETE THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES AND PLUGS TO PREVENT MOVEMENT OF THE WATER LINE. BACKFILLING SHALL BE CAREFULLY PLACED TO ENSURE IT IS POSITIONED PROPERLY TO WITHSTAND THE RESULTANT FORCES AT EACH BEND, FITTING, ETC. AND SHALL BEAR ON STABLE UNDISTURBED GROUND CAPABLE OF WITHSTANDING THE POTENTIAL LOAD.
19. A PRESSURE REDUCING VALVE WILL BE NEEDED AFTER EACH METER.

AQUA OHIO - MATERIAL SPECIFICATIONS

DUCTILE IRON PIPE:

TYPE REQUIRED: PUSH-ON JOINTS, CEMENT LINED, PRESSURE CLASS 350 FOR 4 INCH THROUGH 12 INCH, THICKNESS CLASS 52 FOR 16 INCH, MANUFACTURING STANDARDS AWWA C150 AND C151. POLYETHYLENE ENCASUREMENT SHALL BE INSTALLED ON ALL DUCTILE PIPE AND FITTINGS.

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.

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 1/2" HOSE NOZZLES, 6" MJ 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 AND CAPS, AWWA STANDARD C502, MUELLER CENTURION A423, US PIPE M-94, CLOW MEDALLION OR AMERICAN DARLING B-84-B.

TAPPING VALVES:

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

4" THROUGH 12" GATE VALVES:

TYPE REQUIRED: RESILIENT SEAT, IRON BODY, STAINLESS STEEL BONNET BOLTS AND NUTS, MECHANICAL JOINT ACCESSORIES, NON-RISING 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.

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, B SIZE.

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 GAUGE COPPER TRACER WIRE LAID IN THE TRENCH. BRASS COMPRESSION FITTINGS SHALL BE USED. STAINLESS STEEL STIFFENERS ARE NECESSARY AT EACH JOINT.

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.

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.

4

NEOCOM | INDUSTRIAL PARK NO. 7

FOR: MASSILLON DEVELOPMENT FOUNDATION

LOCATED IN THE CITY OF MASSILLON

STARK COUNTY, OHIO

SITE NOTES & DETAILS

DESIGN BY: **BAB** FLD BK: **XXX** DATE: _____ DESC.: _____

DRWN BY: **BAB** BK PG: **XXX** REV. BY: _____ DESC.: _____

CHKD BY: **BHB** CRW CHF: **BHB** REV. BY: _____ DESC.: _____

RWID BY: **BHB** C/PYRIGHT: 2012 REV. BY: **BAB** DATE: 12-10-12 DESC.: PER CITY COMMENTS #2

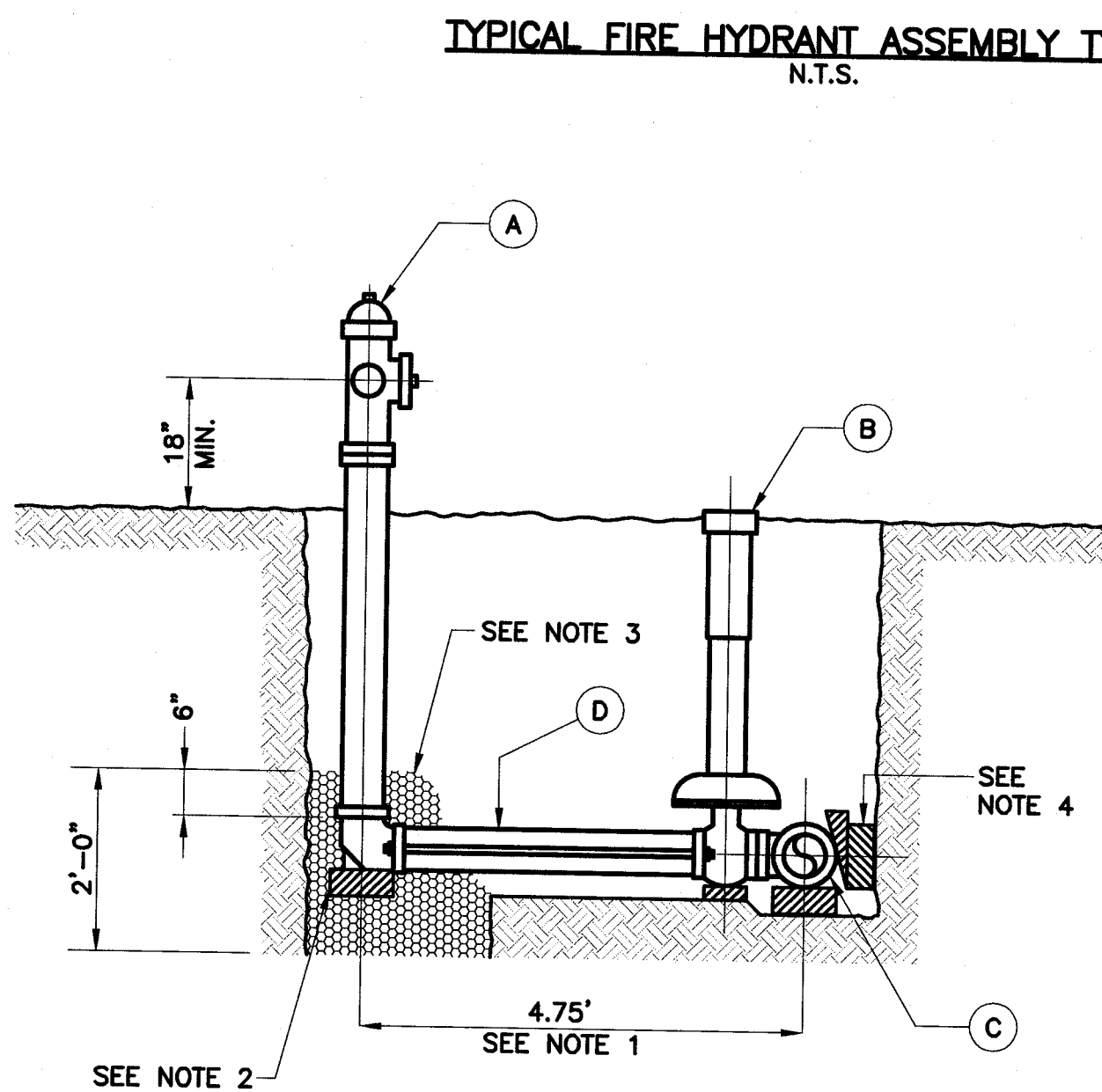
DATE: 01/30/12 TAB: NOTES-1 REV. BY: **BAB** DATE: 10-15-12 DESC.: PER CITY OF MASSILLON COMMENTS

SCALES: _____

HORIZ: _____

VERT: _____

CONTOUR INT: _____



NOTES

THE DISTANCE FROM THE CENTERLINE OF MAIN TO THE CENTERLINE OF HYDRANT WILL BE 4.75' EXCEPT WHEN INDIVIDUAL CIRCUMSTANCES PROVE IT TO BE INFEASIBLE. WHEN SUCH CIRCUMSTANCES OCCUR, THE LENGTH OF THE LEAD WILL BE NOTED ON THE DRAWINGS WITH THE STATIONING.

SOLID CONCRETE BLOCK TO BE USED UNDER ALL TEES, VALVES AND HYDRANT ELBOW.

CRUSHED STONE FILL AROUND HYDRANT DRAIN AND TO A DEPTH OF 2'-0".

SOLID CONCRETE BLOCK WITH OAK WEDGES. (BRACED AGAINST UNDISTURBED SOIL)

ITEM	DESCRIPTION
A	MUELLER HYDRANT, 3-WAY "CENTURION" MODEL
B	6" M.J. GATE VALVE, 3 PIECE VALVE BOX
C	ANCHOR TEE (CLOW F-1217)
D	6" DUCTILE PIPE (2-DUC-LUG AND RODS OR RETAINER GLANDS AS ANCHORS)

BASE BID ESTIMATED QUANTITIES

DEMOLITION			
ITEM	QUANTITY	UNIT	DESCRIPTION
201(SPEC)	1	LUMP	CLEARING & GRUBBING
202	444	SQ YD	ASPHALT PAVEMENT REMOVED
202	208	LIN FT	CURB & GUTTER REMOVED
202	1	EACH	MANHOLE REMOVED
202	100	LIN FT	PIPE REMOVED
409	50	LIN FT	SAWING & SEALING ASPHALT CONCRETE PAVEMENT JOINTS
202	2,314	LIN FT	12" WATERLINE REMOVED (ALT. BID #1)
202	3	EACH	HYDRANT REMOVED (ALT. BID #1)

EARTHWORK			
ITEM	QUANTITY	UNIT	DESCRIPTION
203	7,500±	CU YD	EXCAVATION - CUT
203	4,500±	CU YD	EMBANKMENT - FILL
651	2,200±	CU YD	TOPSOIL STOCKPILED (ASSUME 6" OF TOPSOIL)
651	1,200±	CU YD	PLACING 6" STOCKPILED TOPSOIL
659	3,416	SQ YD	PERMANENT SEEDING & MULCHING
209	0.17	MI	LINEAR GRADING (DITCH CLEANOUT)

PAVEMENT			
ITEM	QUANTITY	UNIT	DESCRIPTION
204	3,988	SQ YD	SUBGRADE COMPACTION
204	1.04	HOURL	PROOF ROLL
448	149	CU YD	1-1/2" ASPHALT CONCRETE, SURFACE COURSE, PG 64-22
448	149	CU YD	1-1/2" ASPHALT CONCRETE, INTERMEDIATE COURSE, PG 64-22
301	898	CU YD	9" BITUMINOUS AGGREGATE BASE
304	665	CU YD	6" AGGREGATE BASE
407	319	GAL	TACK COAT (0.08 GAL/SY)
408	1,595	GAL	PRIME COAT (0.40 GAL/SY)
609	1,420	LIN FT	CONCRETE CURB AND GUTTER, TYPE 2
452	18.11	SQ YD	9" PLAIN CONCRETE (DRIVE APRON)

SANITARY			
ITEM	QUANTITY	UNIT	DESCRIPTION
603	777	LIN FT	18" P.V.C. GRAVITY SEWER PIPE, ASTM D-3034
603	75	LIN FT	6" P.V.C. GRAVITY SEWER PIPE, ASTM D-3034
603	4	EACH	MANHOLE COMPLETE

WATER			
ITEM	QUANTITY	UNIT	DESCRIPTION
638	200	LIN FT	12" DUCTILE IRON WATERLINE (ALT. BID #1)
638	2	EACH	12" GATE VALVE (ALT. BID #1)
638	1	EACH	12"x12" TAPPING SLEEVE (ALT. BID #1)
638	1	EACH	12"x12" TEE (ALT. BID #1)
638	2	EACH	12" PLUG (ALT. BID #1)
638	2,691	LIN FT	12" DUCTILE IRON WATERLINE (ALT. BID #1)
638	7	EACH	FIRE HYDRANT (ALT. BID #1)
638	3	EACH	12"-45° BEND (ALT. BID #1)
638	1	EACH	12"-22.5° BEND (ALT. BID #1)
638	2	EACH	12" GATE VALVE (ALT. BID #1)

STORM			
ITEM	QUANTITY	UNIT	DESCRIPTION
603	530	LIN FT	12" TYPE "B" CONDUIT (706.02)(707.33) OR APPROVED EQUAL
603	123	LIN FT	15" TYPE "B" CONDUIT (706.02)(707.33) OR APPROVED EQUAL
603	201	LIN FT	42" TYPE "B" CONDUIT (706.02)(707.33) OR APPROVED EQUAL
604	1	EACH	CATCH BASIN NO. 2-2B
604	4	EACH	CATCH BASIN (MASSILLON CB 7030)
604	2	EACH	MANHOLE NO. 3 (MASSILLON)
602	15.40	CU YD	CONCRETE MASONRY (HEADWALLS)
605	1,420	LIN FT	4" UNDERDRAIN
601	12.61	CU YD	R.C.P. TYPE "C" W/ FILTER

EROSION & SEDIMENT CONTROL			
ITEM	QUANTITY	UNIT	DESCRIPTION
207	1	EACH	ROCK CONSTRUCTION ENTRANCE
207	1,118	LIN FT	PERIMETER FILTER FABRIC FENCE OR FILTER SOCK
207	4	EACH	INLET PROTECTION
207	23,223	SQ YD	TEMPORARY SEEDING & MULCHING (AS NEEDED)
	1	EACH	CONCRETE WASHOUT PIT

MISCELLANEOUS			
ITEM	QUANTITY	UNIT	DESCRIPTION
603	762	LIN FT	4" TYPE "B" CONDUIT
	3	EACH	MONUMENT ASSEMBLY
	2	EACH	LIGHT POLE

ITEM NUMBERS FOR EARTHWORK, ROADS, DRAINAGE, & EROSION CONTROL REFER TO STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION & MATERIAL SPECIFICATIONS, JANUARY 1, 2010.

CONTRACTOR RESPONSIBLE FOR VERIFYING QUANTITIES.

HAMMONTREE & ASSOCIATES, LTD.
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CANTON - AKRON - PITTSBURGH
5233 STONEHAM ROAD NORTH CANTON, OHIO 44720
CANTON: (330)499-8817 AKRON: (330)633-7274
TOLL FREE: 1-800-394-8817 FAX: (330)499-0149
www.hammontree-engineers.com

DESIGN BY: BAB FLD BK: XXX REV. BY: XXX DATE: 01-21-13 DESC.: PER DEV. COMMENTS
CHKD BY: BHB BK PG: XXX REV. BY: BAB DATE: 12-10-12 DESC.: PER CITY COMMENTS #2
RWD BY: BHB CRW CH: XXX REV. BY: BAB DATE: 10-15-12 DESC.: PER CITY OF MASSILLON COMMENTS
DATE: 01/30/12 TAB: NOTES-2

SCALES
HORIZ: 1"=40'
VERT: 1"=4'
CONTOUR INT: 2'

ESTIMATED QUANTITIES
NEOCOM 1 INDUSTRIAL PARK NO. 7
FOR: MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

CONSTRUCTION SPECIFICATIONS & STANDARDS

ALL CONSTRUCTION TO BE CITY OF MASSILLON SPECIFICATIONS AND STANDARDS, THE LATEST EDITION OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS AND FOLLOW ALL OSHA AND ADA REGULATIONS AND REQUIREMENTS, SEDIMENT EROSION STANDARDS.

CONTRACTOR AVAILABILITY

THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH A 24 HOUR PHONE NUMBER WHERE THE CONTRACTOR SHALL BE AVAILABLE FOR EMERGENCIES.

QUANTITIES

QUANTITIES ARE INDICATED FOR COMPARISON OF BIDS ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY QUANTITIES BEFORE ORDERING MATERIALS. VARIATIONS FROM THE PLAN QUANTITIES SHALL BE APPROVED BY THE ENGINEER OR OWNER BEFORE MATERIALS ORDERS ARE PLACED. MATERIALS REJECTED DUE TO INCOMPATIBILITY BETWEEN ORDERED QUANTITIES AND FIELD CONDITIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

UTILITIES

LISTED BELOW ARE ALL KNOWN UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

SBC	50 W.BOWERY, 6TH FLOOR AKRON, OH 44308 800-384-8057
AQUA WATER	P.O. BOX 584 MASSILLON, OH 44648 (330) 833-4156
OHIO EDISON STARK DIVISION	2600 S. ERIE ST. MASSILLON, OH 44545 (330) 833-3141
MASSILLON CABLE TV P.O. BOX	814 MASSILLON, OH 44648 (330) 833-4134
CITY OF MASSILLON SANITARY SEWER	151 LINCOLN WAY EAST MASSILLON, OH 44646 (330) 830-1722
DOMINION EAST OHIO GAS COMPANY	4725 SOUTHWAY ST. S.W. CANTON, OH 44706 (330) 478-3142
ENERVEST OPERATING LLC	125 STATE ROUTE 43, SUITE 100 HARTVILLE, OH 44632 (330) 587-1208

THE CONTRACTOR SHALL NOTIFY ALL UTILITIES 48 HOURS PRIOR TO WORK. THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE SHOWN AT APPROXIMATE LOCATIONS AND WHERE OBTAINED AS REQUIRED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C. OUPS - 1-800-362-2764 OGUPUPS - 1-800-925-0988

NOTIFICATION OF SAFETY FORCES AND BUS GARAGES

THE CONTRACTOR SHALL NOTIFY ALL APPLICABLE AGENCIES LISTED BELOW AT LEAST 48 HOURS IN ADVANCE OF ANY STREET CLOSING OR TRAFFIC CHANGE.

MASSILLON SAFETY SERVICE 330-830-1702;	MASSILLON FIRE DEPARTMENT 330-833-1053;	PERRY TOWNSHIP HALL 330-833-2141;
NORTH LAWRANCE FIRE DEPT. 330-832-6347;	TUSCARAWAS TOWNSHIP HALL 330-832-4337;	JACKSON FIRE DEPARTMENT 330-834-3950;
MASSILLON POLICE DEPARTMENT 330-830-1735;	MASSILLON SCHOOL BUS GARAGE 330-830-1849;	JACKSON TOWNSHIP HALL 330-832-7416;
PERRY FIRE DEPARTMENT 330-833-3865;	JACKSON POLICE DEPARTMENT 330-4834-360;	JACKSON SCHOOL BUS GARAGE 330-830-8042;
PERRY POLICE DEPARTMENT 330-478-5121;	PERRY SCHOOL BUS GARAGE 330-477-1300;	STARK COUNTY SHERIFF 330-430-3800;
TUSC. SCHOOL BUS GARAGE 330-837-7805;	SARTA 330-454-5333	

EXISTING DATA

EACH CONTRACTOR SHALL VISIT THE SITE PERSONALLY TO ASCERTAIN THE NATURE OF THE WORK AND BECOME THOROUGHLY FAMILARIZED WITH THE SITE PRIOR TO BID SUBMISSION. EXISTING STRUCTURES, GRADES, PIPING, ETC. ARE INDICATED IN APPROXIMATE LOCATION ON THE PLAN. INFORMATION SHOWN IS NOT GUARANTED TO BE CORRECT AND COMPLETE. THE DATA SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. THE EXISTENCE OF FACILITIES ABOVE OR BELOW GROUND, WHICH MAY NOT BE SHOWN, WILL NOT BE A BASIS FOR A CLAIM FOR EXTRA WORK. EXISTING UNDERGROUND UTILITIES SHOWN ARE RECORDS PROVIDED BY UTILITY COMPANIES AND ARE APPROXIMATE ONLY. SERVICE LATERALS ARE NOT SHOWN. IT IS THE RESPONSIBILITY OF CONTRACTOR TO NOTIFY THE DEVELOPER, PRIOR TO BID OPENING OF NON-CONNFORMING OR CONFLICTING INFORMATION.

PRESERVATION OF EXISTING UTILITY SERVICES

ANY EXISTING WATER LINE, SANITARY SEWER, STORM SEWER, GAS LINE OR OTHER UTILITY IN OR OUTSIDE OF THE CONSTRUCTION LIMITS, DAMAGED DURING CONSTRUCTION OF THE PROPOSED PROJECT, WILL BE REPLACED AT THAT CONTRACTORS EXPENSE.

PRESERVATION OF PROPERTY CORNERS, SURVEY MARKERS AND MONUMENTS

THE CONTRACTOR SHALL PRESERVE ALL CORNERSTONES, IRON PINS, CONCRETE MONUMENTS ANY TYPE OF LAND MONUMENT. HE SHALL HAVE ALL LAND MONUMENTS IN THE PROXIMITY OF THE WORK REFERENCED. HE SHALL REPLACE DESTROYED OR DAMAGED MONUMENTS AND SHALL FURNISH A CERTIFICATION BY AN OHIO REGISTERED SURVEYOR THAT THE MONUMENTS HAVE BEEN RESTORED.

PRESERVATION OF PRIVATE PROPERTY

THE CONTRACTOR SHALL PERFORM WORK AS TO NOT DISTURB, DAMAGE OR DESTROY ANY TELEPHONE OR POWER POLES, SIGNS, LANDSCAPING ITEMS, ETC.. ANY ITEM DAMAGED OR DESTROYED SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE ANY ITEM DISTURBED OR IN CONFLICT WITH THE WORK TO BE PERFORMED SHALL BE REMOVED AND RESET AT THE CONTRACTOR'S EXPENSE. PRIOR ENGINEER APPROVAL IS REQUIRED BEFORE ANY OF THE ABOVE ITEMS ARE PERFORMED.

ACCESSIBILITY TO PRIVATE PROPERTY

ACCESS TO ALL DRIVEWAYS AND PARKING AREAS WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES EXCEPT WHILE LAYING THE SANITARY SEWER ACROSS THE DRIVE. THE TRENCH SHALL BE BACKFILLED AT THE END OF EACH WORK DAY TO PROVIDE ACCESS. THE CONTRACTOR MUST NOTIFY EACH PROPERTY OWNER AT LEAST 24 HOURS IN ADVANCE OF CUTTING THIER DRIVEWAY.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE CONTRACTOR SHALL PROVIDE FOR THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CONDITIONS OF WORK

ALL WORK PERFORMED UNDER THIS CONTRACT SHALL COMPLY WITH THE U.S. DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ACT, STATE, COUNTY, AND CITY OF MASSILLON LAWS AND REGULATIONS. ALL WORK, AT ALL TIMES SHALL BE SUBJECT TO OBSERVATION BY THE OWNER AND/OR ENGINEER. ALL WORK SHALL COMPLY WITH THE CONDITIONS OF THE CONTRACT DOCUMENTS AND OHIO EPA, AND STANDARDS OF THE CITY OF MASSILLON ALL ELECTRICAL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE, AND APPLICABLE CITY, COUNTY, STATE AND FEDERAL CODES.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN SAFE AND SATISFACTORY ACCESS TO ALL ABUTTING PROPERTIES TO THE PROJECT SITE. ADJACENT ROADS SHALL BE MAINTAINED AND KEPT CLEAN OF MUD AND OTHER DEBRIS THAT MAY BE CAUSED BY TRAFFIC EXITING THE WORK SITE. THE CONTRACTOR SHALL COORDINATE AND PROVIDE FOR ALL NECESSARY TRAFFIC CONTROL. TRAFFIC CONTROL SHALL FOLLOW THE MORE STRINGENT GUIDELINES OF THE CITY OF MISSION OR ODOT.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AND MAINTAIN FACILITIES FOR A CONSTRUCTION OFFICE, EMPLOYEE PARKING, AND EMPLOYEE SANITARY FACILITIES. ON STREET PARKING WILL NOT BE PERMITTED. THE CONTRACTOR SHALL PROVIDE FOR THE LAWFUL OFF-SITE DISPOSAL OF DEMOLITION DEBRIS AND CONSTRUCTION WASTE.

MANHOLES, CATCH BASINS, INLETS AND PIPES REMOVED OR ABANDONED

ALL CASTING, PRE-CAST STRUCTURES AND PIPES SHALL BE CAREFULLY REMOVED AND STORED WITHIN THE RIGHT-OF-WAY FOR SALVAGE BY THE CITY. CONTACT THE CITY OF MASSILLON STREET SUPERINTENDENT - JOE BERNES AT 330-833-5746. ANY UNWANTED MATERIALS SHALL BE DISPOSED OF BY THE CONTRACTOR. PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 ITEM.

STATIONING

ALL STATIONING SHOWN IS REFERENCED TO THE CENTERLINE OF CONSTRUCTION AS SHOWN.

GRADING AND FILLING OPERATIONS

NO EXCAVATION, GRADING, OR FILLING OPERATIONS SHALL BE PERFORMED IN ANY WETLANDS OR STREAMS, UNLESS THE REQUIRED STATE AND OR FEDERAL PERMITS HAVE BEEN OBTAINED. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE EQUIPMENT AND/OR MATERIALS IN ANY WETLAND OR STREAMS.

EXCAVATED MATERIAL

ALL EXCAVATED MATERIAL AND ALL MATERIAL USED IN CONSTRUCTION OF THE WORK SHALL BE PILED AND STORED IN A MANNER THAT WILL NOT ENDANGER THE WORK AND THAT WILL LEAVE DRIVEWAYS OR OTHER CONTROLS UNOBSTRUCTED AND ACCESSIBLE WHILE THE WORK IS TO BE COMPLETED. SATISFACTORY PROVISIONS SHALL BE MADE FOR STREET DRAINAGE, AND NATURAL WATERCOURSES SHALL NOT BE OBSTRUCTED. DURING THE PROGRESS OF THE WORK, ALL MATERIAL PILES SHALL BE KEPT TRIMMED UP AND MAINTAINED IN A NEAT MANNER. ALL EXCAVATED WASTE MATERIAL SHALL BE REMOVED FROM THE PROJECT SITE, AS DIRECTED BY THE ENGINEER. THE WASTE SITE IS TO BE PROVIDED BY THE CONTRACTOR AT NO COST TO THE CITY, UNLESS OTHERWISE NOTED IN THE SPECIFICATIONS. ALONG WITH A LETTER FROM THE PROPOSED WASTE SITE OWNER PERMITTING SUCH AND HOLDING THE CITY HARMLESS.

ITEM 651, TOPSOIL STOCKPILED

THE MATERIAL FOR THIS ITEM SHALL BE OBTAINED FROM AREAS WITHIN THE PROPOSED RIGHT-OF-WAY. PROVISION OF THIS 651 ITEM SHALL NOT BE CONSTRUCTED AS A WAIVER OF THE PROVISIONS OF 201.4 SOD AND INCIDENTAL TOPSOIL REMOVED ELSEWHERE ON THIS PROJECT FOR SALVAGE, FOR USE AS DESCRIBED IN 203.04(g). SHALL BE INCLUDED IN THE CONTRACT PRICE FOR VARIOUS 203 ITEMS. ALL COSTS OF THE ABOVE SAID WORK SHALL BE INCLUDED IN ITEM 653 TOPSOIL FURNISHED AND PLACED

REMOVAL AND RELOCATION OF EXISTING UTILITIES

THE CONTRACTOR IS REQUIRED TO COOPERATE WITH EACH RESPECTIVE UTILITY OWNER FOR THE REMOVAL AND RELOCATION OF ANY AND ALL UTILITIES THAT CREATE A CONFLICT WITH CONSTRUCTION OF THE PROJECT.

SUBSURFACE CONDITIONS

IT IS THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO MAKES HIS OWN INVESTIGATION OF SUBSURFACE CONDITIONS PRIOR TO SUBMITTING BID. PROSPECTIVE BIDDERS ARE TO COORDINATE WITH THE OWNER FOR ACCESS TO THE SITE FOR INSPECTIONS AND EXPLORATORY EXCAVATION. THE BIDDER SHALL CONTACT THE OWNER AT LEAST 72 HOURS IN ADVANCE OF THE DESIRED INSPECT OR EXCAVATION. THE BIDDER SHALL CONTACT O.U.P.S. AND OBTAIN LOCATIONS OF OTHER UTILITIES.

CROSSING OR CONNECTING TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT. IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS. PAYMENT FOR THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

REVIEW OF SANITARY AND DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE CITY OF MASSILLON AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FEILD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BT THE CITY OF MASSILLON. ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BT THE CITY OF MASSILLON. ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

RESTORATION

FOR SANITARY SEWER INSTALLED, TESTED, AND ACCEPTED UP TO MAY 15TH OF ANY CALENDER YEAR, RESTORATION SHALL BE COMPLETE BY JUNE 30th OF THAT YEAR. FOR INSTALLATION OF SANITARY SEWER TESTED AND ACCEPTED FROM MAY 15th TO SEPTEMBER 30th OF ANY CALENDER YEAR, RESTORATION SHALL BE COMPLETE BY NOVEMBER 15th OF THAT CALENDER YEAR. FOR SANITARY SEWER INSTALLED, TESTED, AND ACCEPTED AFTER NOVEMBER 15TH OF ANY CALENDER YEAR, RESTORATION SHALL BE COMPLETE BY MAY 15th OF THE NEXT CALENDER YEAR. ALL SOIL AREAS DISTURBED BY THE CONTRACTOR SHALL BE TOPSOILED, SEEDED AND MULCHED. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR EACH ITEM OF AFFECTED WORK. TOPSOIL, SEEDING AND MULCHING SHALL NOT BE A SEPERATE PAY ITEM. THIS INCLUDES BACKFILLING, SEEDING AND MULCHING ALONG THE EDGE OF ALL PAVEMENT RESTORATION. PAVEMENT CROSSINGS WILL RECEIVE TYPE C PAVEMENT REPLACEMENT WITH FULL WIDTH PAVEMANT OVERLAY. CONTRACTOR TO REPLACE ALL PAVEMENT MARKINGS. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR PAVEMENT CONTRACTOR TO USE HOT APPLIED JOINT CRACK SEALER ON ASPHALT PAVEMENT AT ALL ENDS AND INTERSECTIONS. ALL TRENCHES IN ROAD RIGHT OF WAY WILL RECEIVE FULL DEPTH PREMIUM GRANULAR BACKFILL.

WORKING AREA

NO EXCAVATION WITH SIDE SLOPES STEEPER THAN 2:1 AND/OR DEEPER THAN 2', OPEN CASTINGS AND PIPES SHALL BE LEFT EXPOSED WHEN THE SITE IS UNATTENDED BY THE CONTRACTOR. THE CONTRACTOR SHALL SECURE ALL SUCH EXCAVATIONS, OPEN CASTINGS AND PIPES AGAINST UNAUTHORIZED ENTRY COVERING WITH STEEL PLATES, TEMPORARY BACKFILLING, FENCING AND SECURITY SERVICES SHALL BE INCLUDED IN THE PRICE BID FOR THE WORK.

ITEM 407, TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE CITY ENGINEER. QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.08 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

ITEM 408, BITUMINOUS PRIME COAT

THE RATE OF APPLICATION OF THE 408 PRIME COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE CITY ENGINEER. QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.40 GALLONS PER SQUARE YARD OF PRIME COAT FOR ESTIMATING PURPOSES ONLY.

ITEM 659, TOPSOIL, SEEDING AND MULCHING

ITEM 659 SHALL BE APPLIED TO ALL EXPOSED SOIL AREAS DISTURBED DURING CONSTRUCTION. SUCH AS SPECIFIED IN ITEM 659 AND IS NOT LIMITED TO JUST TOPSOIL, SEEDING AND MULCHING. THE CITY SHALL APPROVE SEED MIX PRIOR TO CONSTRUCTION TO BE USED THROUGH OUT CONSTRUCTION LIMITS. PROPOSED MIX SHALL BE SUBMITTED IN WRITING PRIOR TO ANY CONSTRUCTION. ALL ABOVE SAID WORK SHALL BE PAID FOR UNDER ITEM 659, SEEDING AND MULCHING LUMP SUM BID

CONSTRUCTION STAKING

CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION LAYOUT AND AS-BUILT DRAWINGS. REFER TO CONTROL STATIONS ON SHEETS 2a & 10. (COORDINATE SYSTEM ASSUMED)

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CITY OF MASSILLON GENERAL NOTES
NEOCOM 1 INDUSTRIAL PARK NO. 7
FOR: MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

SANITARY SEWER CONSTRUCTION PROPOSED FOR THIS PROJECT SHALL CONFORM TO THE LATEST CITY OF MASSILLON STANDARDS AND CONSTRUCTION AND MATERIALS SPECIFICATIONS, TEN STATE STANDARDS, AND THE LATEST EDITION OF THE ODOT CDS, OR MODIFIED BY THE CONTRACT DRAWINGS. IF A CONFLICT ARISES BETWEEN SAID STANDARDS IT SHALL BE AT THE DISCRETION OF THE CITY OF MASSILLON ENGINEER AS TO WHICH STANDARD SHALL GOVERN. THE PROJECT CONTRACT DRAWINGS SHALL GOVERN UNLESS NOTED OTHERWISE.

BACKFILL IN SEWER TRENCHES SHALL CONFORM TO ODOT ITEM 803.10 AND BE PLACED IN LAYERS SUFFICIENT TO MEET THE COMPACTION REQUIREMENT OF 100% OF MAXIMUM LABORATORY DRY DENSITY PER ASTM D-698 AND THOROUGHLY COMPACTED WITH MACHINE MOUNDED COMPACTION EQUIPMENT. THE PLACING OF BACKFILL MATERIAL SHALL BE CONTINUED UNTIL THE TRENCH IS ENTIRELY FILLED AND COMPACTED WITH THE APPROVED GRANULAR MATERIAL TO THE GRADE CALLED FOR ON THE CONTRACT DRAWINGS. EXCAVATED MATERIAL CONFORMING TO ODOT ITEM 304 SHALL BE USED FOR BACKFILLING EXISTING STRUCTURES (AFTER REMOVAL) ONLY. CRUSHED GRAVEL CONFORMING TO GRADATION REQUIREMENTS OF ODOT ITEM 304 OR APPROVED EQUAL AS SHOWN IN ODOT TABLE 703-1 SHALL BE USED FOR BACKFILLING ALL SEWER TRENCH AREAS SHOWN ON THE PLANS AND AS DIRECTED BY THE CITY OF MASSILLON ENGINEER. FLOODING, JETTING, OR PUDDLING OF BACKFILL MATERIAL WILL NOT BE PERMITTED UNLESS APPROVED BY THE CITY OF MASSILLON ENGINEER. COMPACTION TESTING OF THE BACKFILL BY A GEOTECHNICAL ENGINEER MAY BE REQUIRED BY THE OWNER AT THE EXPENSE OF THE CONTRACTOR.

PRIOR TO FINAL PAYMENT FOR AND ACCEPTANCE OF SANITARY SEWER INSTALLATION THE RESULTS OF THE AIR PRESSURE TESTS, TELEVISION TESTS AND MANDREL TESTS SHALL BE FORWARDED TO THE CITY OF MASSILLON ENGINEER.

MAXIMUM ALLOWABLE PIPE DEFLECTION (REDUCTION IN VERTICAL INSIDE DIAMETER) SHALL BE 6%. DEFLECTION TESTS OF PIPE SHALL BE PERFORMED NOT SOONER THAN 30 DAYS AFTER THE BACKFILL HAS BEEN PROPERLY PLACED AND BEFORE FINAL ACCEPTANCE. LOCATIONS WITH EXCESS DEFLECTION SHALL BE EXCAVATED AND REPAIRED BY RE-BEDDING OR REPLACEMENT OF THE PIPE AT THE CONTRACTOR'S EXPENSE. DEVICES FOR TESTING INCLUDE A DEFLECTOMETER METER, OR PROPERLY SIZED (NO, NO-GO) MANHOLE OR SEWER BALL. THE DEFLECTION TESTING MUST BE CONDUCTED WITHOUT MECHANICAL PULLING DEVICES. FOR THE PURPOSE OF DEFLECTION MEASUREMENTS, THE BASE INSIDE PIPE DIAMETERS WITHOUT DEFLECTION ARE PROVIDED IN TABLE A. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE APPLIED TO THE BASE INSIDE DIAMETER IN DETERMINING THE MINIMUM PERMISSIBLE DIAMETER. IT MUST BE EMPHASIZED THAT TO INSURE ACCURATE TESTING, THE LINES MUST BE THOROUGHLY CLEANED.

SIZE	SDR	AVG. O.D.	BASE I.D.	DEFLECTION MANDEL
6"	35	6.275	5.742	5.54
8"	35	8.400	7.685	7.28
10"	35	10.500	9.563	9.06
12"	35	12.500	11.361	10.79

ALL SANITARY SEWERS, 8-INCH DIAMETER AND LARGER, MUST PASS AN INTERNAL TELEVISION INSPECTION. THE CONTRACTOR SHALL PROVIDE A COMPLETE INTERNAL INSPECTION DVD TO THE CITY OF MASSILLON ENGINEERING DEPARTMENT. THE RECORDING PROCEDURE SHALL BE IN ACCORDANCE WITH CITY OF MASSILLON ENGINEERING DEPARTMENT STANDARDS.

LEAKAGE TESTS SHALL BE PERFORMED WHICH MAY INCLUDE APPROPRIATE WATER OR LOW PRESSURE AIR TESTING. THE TESTING METHODS SELECTED SHOULD TAKE INTO CONSIDERATION THE RANGE IN GROUNDWATER ELEVATIONS DURING THE TEST AND ANTICIPATED DURING THE DESIGN LIFE OF THE SEWER COMPLETED AND ACCEPTED.

THE LEAKAGE EXFILTRATION OR INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY (GL/MM OF PIPE DIAMETER KM D)) FOR ANY SECTION OF THE SYSTEM. AN EXFILTRATION OR INFILTRATION TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET (0.6 M).

PREPARATION OF THE MANHOLE:

- PROCEDURE:**

- A. THE TEST HEAD SHALL BE PLACED AT THE TOP OF THE MANHOLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- B. A VACUUM OF 10 IN. OF MERCURY SHALL BE DRAWN ON THE MANHOLE, THE VALVE ON THE VACUUM LINE OF THE TEST HEAD CLOSED, AND THE VACUUM PUMP SHUT OFF. THE TIME SHALL BE MEASURED FOR THE VACUUM TO DROP TO 9 IN. OF MERCURY.
- C. THE MANHOLE SHALL PASS IF THE TIME FOR THE VACUUM READING TO DROP FROM 10 IN. OF MERCURY TO 9 IN. OF MERCURY MEETS OR EXCEEDS THE VALUES INDICATED IN TABLE BELOW.

MINIMUM TEST TIMES FOR MANHOLES									
DEPTH (FT)	DIAMETER, IN.								
	30	33	36	42	48	54	60	66	72
	TIME, IN SECONDS								
8	11	12	14	17	20	23	26	29	33
10	14	15	18	21	25	28	33	36	41
12	17	21	21	25	30	35	39	43	49
14	20	18	23	29	35	41	46	51	57
16	22	24	30	34	40	46	52	58	67
18	25	27	32	38	45	52	59	65	73
20	28	30	35	42	50	53	65	72	81
22	31	33	39	46	55	64	72	79	89
24	33	36	42	51	59	64	78	87	97
26	36	39	46	55	64	75	85	94	105
28	39	42	49	59	69	81	91	101	113
30	42	45	53	63	74	87	98	108	121

AIR TESTING WILL BE CONDUCTED AS THE PROJECT IS BEING CONSTRUCTED. AT NO TIME WILL MORE THAN 900 FEET OF PIPE BE INSTALLED BEFORE AIR TESTING IS PERFORMED. SEWAGE WILL NOT BE DIVERTED TO ANY SECTION OF PIPE, REGARDLESS OF LENGTH, UNTIL ALL TESTING IS COMPLETED AND ACCEPTED.

EQUIPMENT USED SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS AND BE APPROVED BY THE CITY OF MASSILLON ENGINEER:

- ALL PNEUMATIC PLUGS SHALL BE SEAL TESTED BEFORE BEING USED IN THE ACTUAL TEST INSTALLATION. ONE LENGTH OF PIPE SHALL BE LAID ON THE GROUND AND SEALED AT BOTH ENDS WITH THE PNEUMATIC PLUGS TO BE CHECKED. THE SEALED PIPE SHALL BE PRESSURED TO 5 PSIG. THE PLUGS MUST HOLD AGAINST THIS PRESSURE WITHOUT HAVING TO BE BRACED.

AT LEAST TWO MINUTES SHALL BE ALLOWED FOR THE AIR PRESSURE TO STABILIZE. WHEN THE PRESSURE HAS STABILIZED AND IS AT OR ABOVE 3.5 PSIG, THE AIR HOSE FROM THE CONTROL PANEL TO THE AIR SUPPLY SHALL BE DISCONNECTED. THE PORTION OF THE LINE BEING TESTED SHALL BE TERMED "ACCEPTABLE" IF THE TIME REQUIRED IN MINUTES FOR THE PRESSURE TO DECREASE FROM 3.5 TO 2.5 PSIG (GREATER THEN THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY BE OVER THE PIPE) SHALL NOT BE LESS THAN THE TIME SHOWN FOR THE GIVEN DIAMETERS IN THE FOLLOWING TABLE:

PIPE DIAMETER IN.	MINIMUM TIME MINUTES	LENGTH FOR MINUTES TIME, FT.	TIME FOR LONGER LENGTH, S	SPECIFICATION TIME LENGTH (L) SHOWN, MINUTES								
				100 FT.	150 FT.	200 FT.	250 FT.	300 FT.	350 FT.	400 FT.	450 FT.	
4	3:48	587	0.380 L	3:48	3:48	3:48	3:48	3:48	3:48	3:48	3:48	
5	5:40	398	0.854 L	5:40	5:40	5:40	5:40	5:40	5:40	5:42	6:24	
8	7:34	288	1.620 L	7:34	7:34	7:34	7:38	7:38	8:52	10:08	11:24	
10	9:26	239	2.374 L	9:26	9:26	9:26	9:53	11:52	13:51	15:48	17:48	
12	11:20	198	3.416 L	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38	
15	14:10	159	6.342 L	14:10	14:10	17:48	22:15	28:42	31:09	35:36	40:04	
18	17:0	133	7.692 L	17:00	18:13	25:38	32:08	38:27	44:52	51:16	57:41	
21	19:50	114	10.470 L	19:50	26:10	36:54	43:37	52:21	58:58	68:48	78:31	
24	22:40	99	13.674 L	22:47	34:11	45:34	56:58	68:22	78:46	91:10	102:33	
27	25:30	88	17.306 L	28:54	43:16	57:41	72:07	86:32	100:57	115:22	129:48	
30	28:20	80	21.366 L	35:37	53:25	71:13	89:02	106:50	124:38	142:26	160:15	
33	31:10	72	25.852 L	48:05	64:38	80:10	107:43	124:16	150:43	172:21	193:53	
36	34:00	66	30.788 L	51:17	76:55	102:34	128:12	153:50	179:29	205:07	230:46	

IN AREAS WHERE GROUND WATER IS KNOWN TO EXIST, THE CONTRACTOR SHALL INSTALL A 1/2 INCH DIAMETER CAPPED PIPE NIPPLE APPROXIMATELY 10 INCHES LONG, THROUGH THE MAINHOLE WALL ON TOP OF ONE OF THE SANITARY SEWER LINES ENTERING THE MANHOLE. THIS SHALL BE DONE AT THE TIME THE SANITARY SEWER LINE IS INSTALLED. IMMEDIATELY PRIOR TO THE PERFORMANCE OF THE LEAK ACCEPTANCE TEST, THE GROUND WATER SHALL BE DETERMINED BY REMOVING THE PIPE CAP, BLOWING AIR THROUGH THE PIPE NIPPLE IN THE GROUND SO AS TO CLEAR IT, AND THEN CONNECTING A CLEAR PLASTIC TUBE TO THE PIPE NIPPLE. THE PLASTIC TUBE SHALL BE VERTICAL AND A MEASUREMENT OF THE HEIGHT, IN FEET OF WATER OVER THE INVERT OF THE PIPE, SHALL BE TAKEN AFTER THE WATER IN THE NIPPLE IS STOPPED. RISING TO THIS PLASTIC TUBE. THE HEIGHT, IN FEET OF WATER OVER THE INVERT OF THE PIPE, SHALL BE TAKEN AFTER THE WATER HAS STOPPED RISING IN THIS PLASTIC TUBE. THE TEST RESULTS ARE TO BE INCREASED BY 0.433 PSI FOR EACH FOOT THE GROUND WATER IS ABOVE THE INVERT OF THE SEWER LINE BEING TESTED. THE ALLOWABLE DROP OF ONE POUND AND THE TIMING OF THE TEST REMAIN THE SAME.

IF A LINE ACCEPTABILITY TEST IS BEING CONDUCTED ON MORE THAN ONE MANHOLE REACH OF PIPE, THE ENTIRE SECTION BEING TESTED SHALL MEET THE LINE ACCEPTABILITY REQUIREMENTS AS IF ONLY ONE (1) OF THE MANHOLE REACHES IN THE SECTION WERE BEING TESTED.

ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.

SEWERS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE.

SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER.

NO EXCAVATION WITH SIDE SLOPES STEEPER THAN 2:1 AND/OR DEEPER THAN 2'. OPEN CASTINGS AND PIPES SHALL BE LEFT EXPOSED WHEN THE SITE IS UNATTENDED BY THE CONTRACTOR. THE CONTRACTOR SHALL SECURE ALL SUCH EXCAVATIONS, OPEN CASTINGS AND PIPES AGAINST UNAUTHORIZED ENTRY COVERING WITH STEEL PLATES, TEMPORARY BACKFILLING, FENCING AND SECURITY SERVICES SHALL BE INCLUDED IN THE PRICE BID FOR THE WORK.

A VIDEO IN THE FORM OF DVD WILL BE MADE BY THE CONTRACTOR AND SUBMITTED TO THE CITY OF MASSILLON ENGINEER PRIOR TO THE PROJECT COMMENCING. AFTER THE FINAL INVOICE IS SUBMITTED THE SITE SHALL BE VIDEOED AGAIN BY THE CONTRACTOR. ANY DISCREPANCIES WILL BE RESOLVED PRIOR TO FINAL PAYMENT. AS BUILT DRAWINGS SHALL BE CREATED BY THE CONTRACTOR AND SUBMITTED TO THE CITY OF MASSILLON ENGINEER IN A CLEAR AND LEGENDABLE MANNER PRIOR TO FINAL INVOICE.

COST OF THIS WORK SHALL BE INCLUDED IN ITEM 623 CONSTRUCTION STAKING

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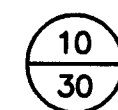
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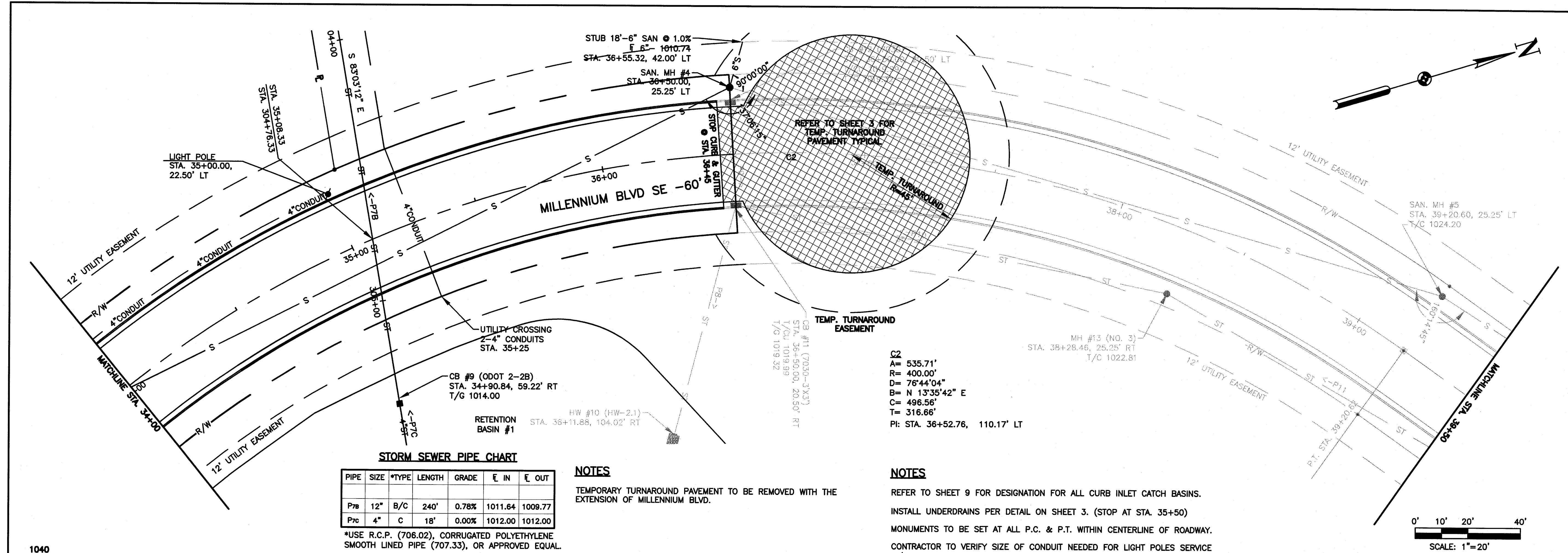
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REV. BY: <u>BAB</u>	DATE: <u>12-10-12</u>	DESC: <u>PER CITY COMMENTS #2</u>
REV. BY: <u>BAB</u>	DATE: <u>10-15-12</u>	DESC: <u>PER CITY OF MASSILLON COMMENTS</u>

DESN BY: <u>BAB</u>	FLD BK: <u>XXX</u>
DRWN BY: <u>BAB</u>	BK PG: <u>XXX</u>
CHKD BY: <u>BHB</u>	CRW CHF: <u>XXX</u>
RWMD BY: <u>BHB</u>	CPYRGHT: 2012
DATE: 01/30/12	TAB: NOTES-4

SCALES
HORIZ:
VERT:
CONTOUR INT:

CITY OF MASSILLON GENERAL NOTES
COM | INDUSTRIAL PARK NO. 7
MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO





STORM SEWER PIPE CHART						
PIPE	SIZE	*TYPE	LENGTH	GRADE	E IN	E OUT
P7B	12"	B/C	240'	0.78%	1011.64	1009.77
P7C	4"	C	18'	0.00%	1012.00	1012.00

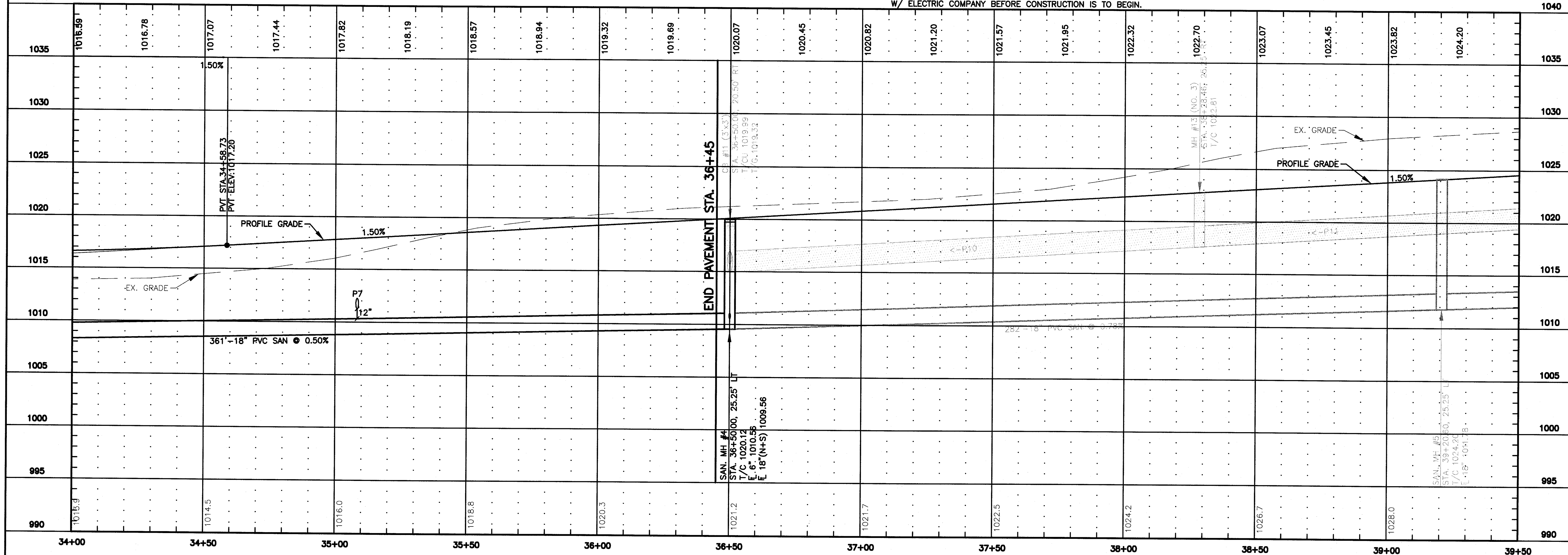
*USE R.C.P. (706.02), CORRUGATED POLYETHYLENE SMOOTH LINED PIPE (707.33), OR APPROVED EQUAL.

NOTES

TEMPORARY TURNAROUND PAVEMENT TO BE REMOVED WITH THE EXTENSION OF MILLENNIUM BLVD.

NOTES

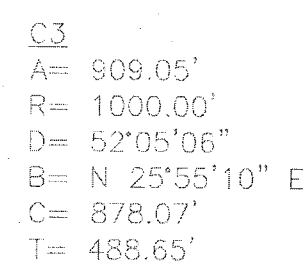
REFER TO SHEET 9 FOR DESIGNATION FOR ALL CURB INLET CATCH BASINS.
INSTALL UNDERDRAINS PER DETAIL ON SHEET 3. (STOP AT STA. 35+50)
MONUMENTS TO BE SET AT ALL P.C. & P.T. WITHIN CENTERLINE OF ROADWAY.
CONTRACTOR TO VERIFY SIZE OF CONDUIT NEEDED FOR LIGHT POLES SERVICE W/ ELECTRIC COMPANY BEFORE CONSTRUCTION IS TO BEGIN.



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REV.	BY:	DATE:	DESC.
01	21-13	01-21-13	DESC.: PER DEV. COMMENTS
02	10-12	12-10-12	DESC.: PER CITY COMMENTS #2
03	10-15-12	10-15-12	DESC.: PER CITY OF MASSILLON COMMENTS

MILLENNIUM BLVD (STA. 34+00 TO STA. 39+50)
NEOCOM 1 INDUSTRIAL PARK NO. 7
FOR: MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO



PIPE	SIZE	*TYPE	LENGTH	GRADE	ℓ IN	ℓ OUT
P15	18"	B	305'	2.46%	1032.68	1025.18
P16	15"	B	39'	1.00%	1033.32	1032.93
P17	15"	B	305'	1.97%	1038.93	1032.93

*USE R.C.P. (706.02), CORRUGATED POLYETHYLENE SMOOTH LINED PIPE (707.33), OR APPROVED EQUAL

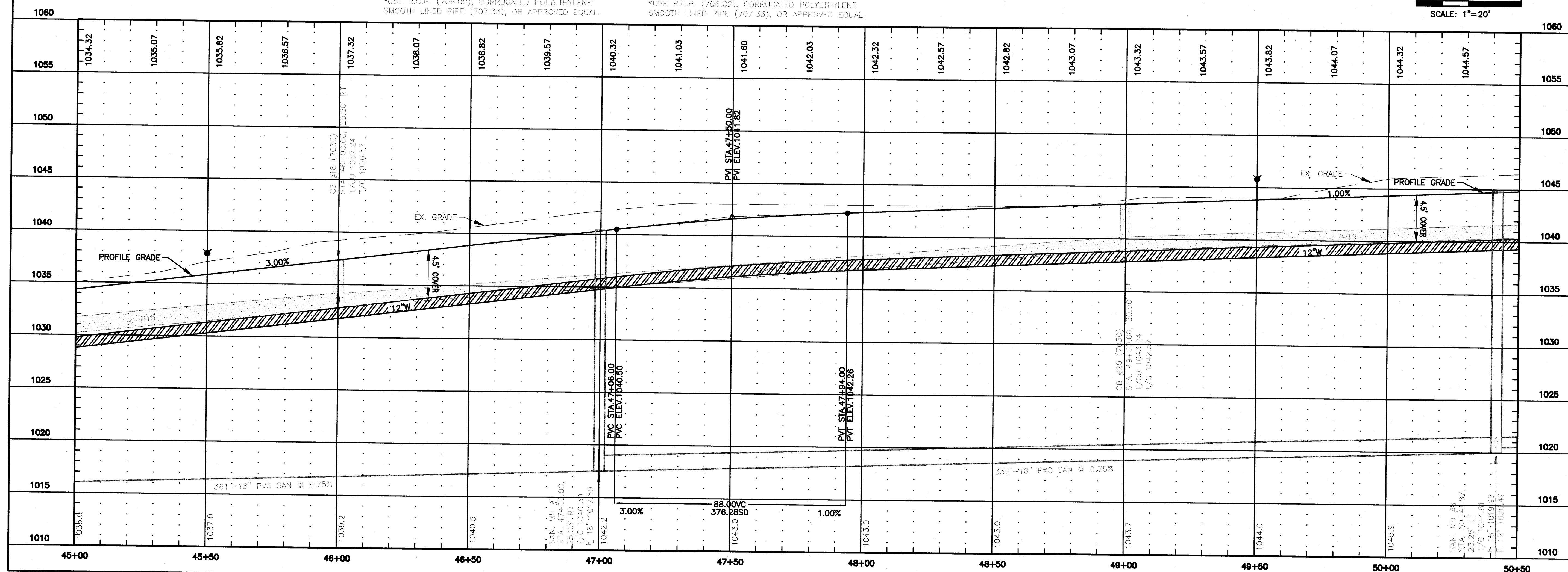
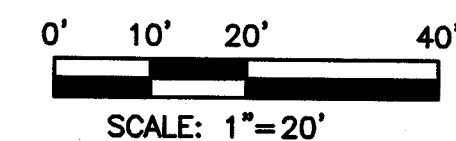
<u>STORM SEWER PIPE CHART</u>						
PIPE	SIZE	*TYPE	LENGTH	GRADE	ℓ IN	ℓ OUT
P18	15"	B	39'	1.00%	1039.32	1038.93
P19	15"	B	302'	0.99%	1041.93	1038.93

*USE R.C.P. (706.02), CORRUGATED POLYETHYLENE
SMOOTH LINED PIPE (707.33), OR APPROVED EQUIV.

NOTES

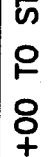
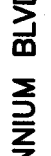
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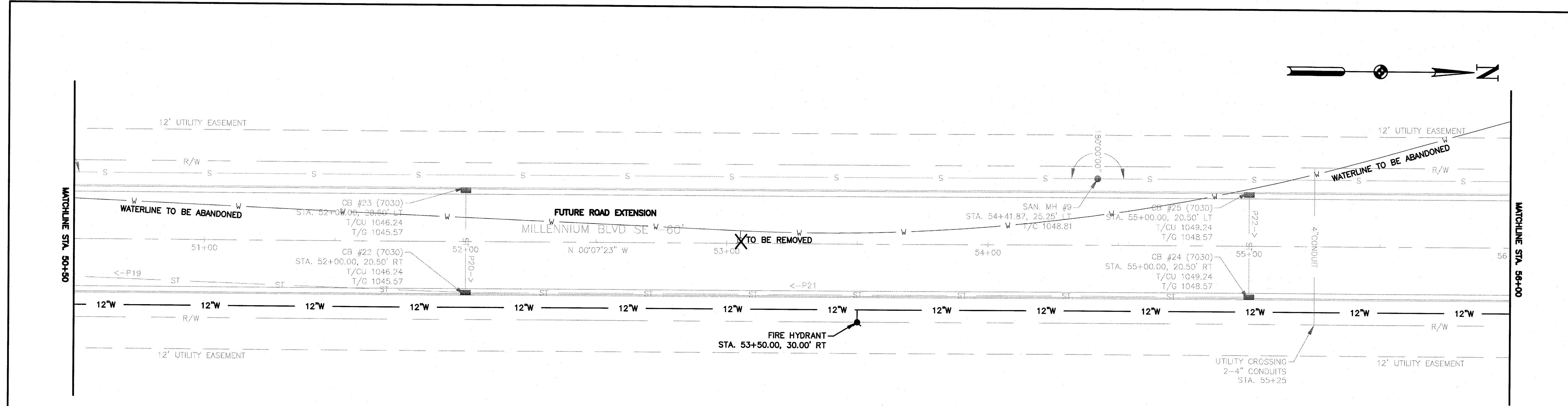
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STORM SEWER PIPE CHART

PIPE	SIZE	*TYPE	LENGTH	GRADE	ℓ IN	ℓ OUT
P19	15"	B	302'	1.00%	1041.93	1038.91
P20	15"	B	39'	1.00%	1042.32	1041.93
P21	15"	B	300'	1.00%	1044.93	1041.93

*USE R.C.P. (706.02), CORRUGATED POLYETHYLENE SMOOTH LINED PIPE (707.33), OR APPROVED EQUAL.

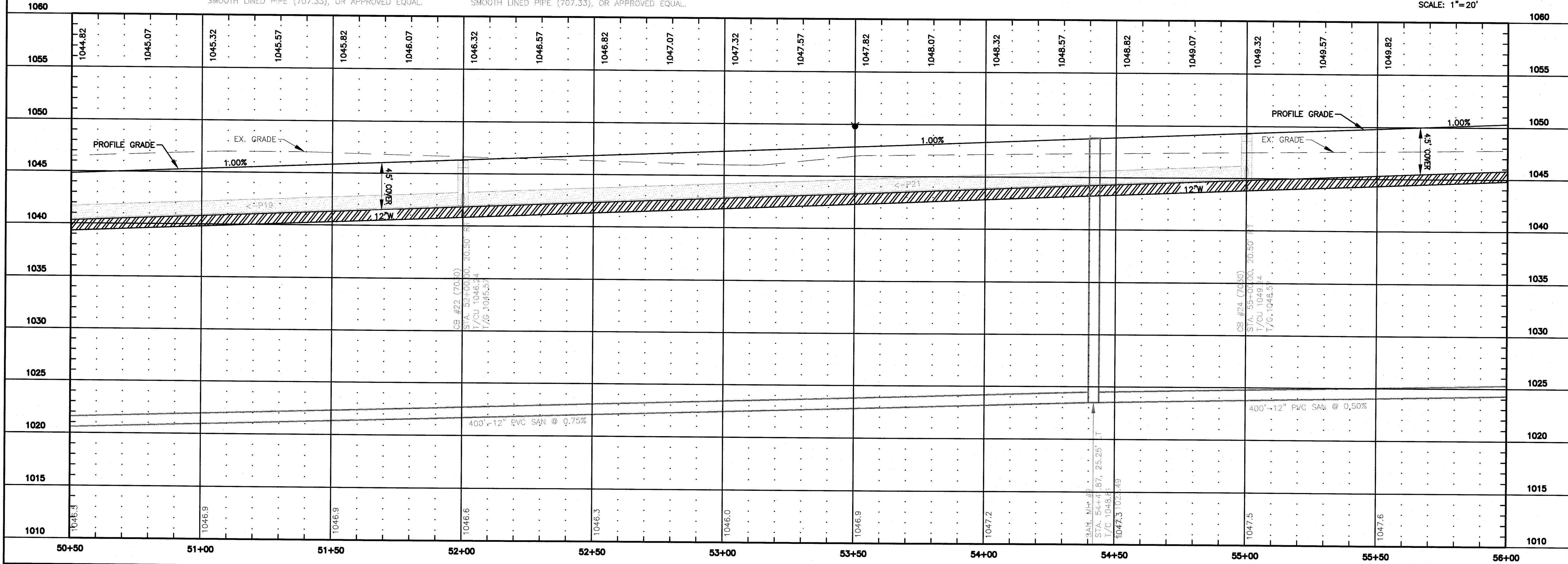
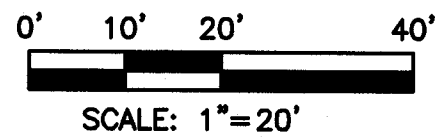
STORM SEWER PIPE CHART

PIPE	SIZE	*TYPE	LENGTH	GRADE	ℓ IN	ℓ OUT
P22	15"	B	39'	1.00%	1045.32	1044.93

*USE R.C.P. (706.02), CORRUGATED POLYETHYLENE SMOOTH LINED PIPE (707.33), OR APPROVED EQUAL.

NOTES

REFER TO SHEET 9 FOR DESIGNATION FOR ALL CURB INLET CATCH BASINS.
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REV. BY:	DATE:	DESC.:
REV. BY:	DATE:	DESC.:
REV. BY:	DATE:	DESC.:

PER DEV. COMMENTS
PER CITY COMMENTS #2
PER CITY OF MASSILLON COMMENTS

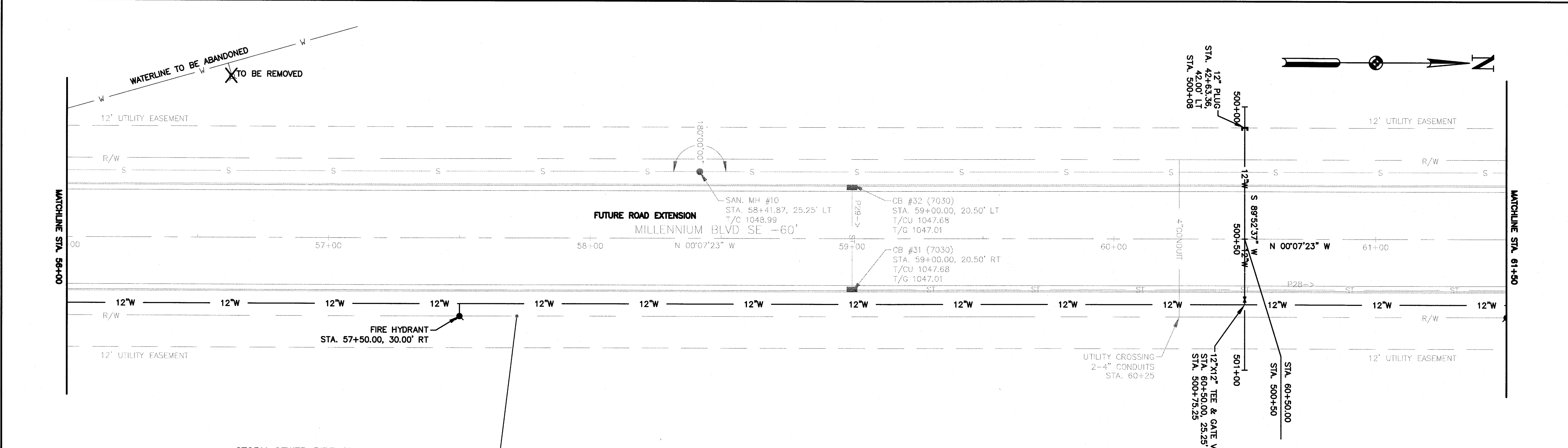
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DRWN BY:	BAB
CHKD BY:	BHB
RWD BY:	BHB
DATE:	02/16/12

SCALE:
HORIZ: 1"=20'
VERT: 1"=5'
CONTOUR INT: 5'

MILLENNIUM BLVD (STA. 50+50 TO STA. 56+00)
NEOCOM I INDUSTRIAL PARK NO. 7
FOR: MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

14

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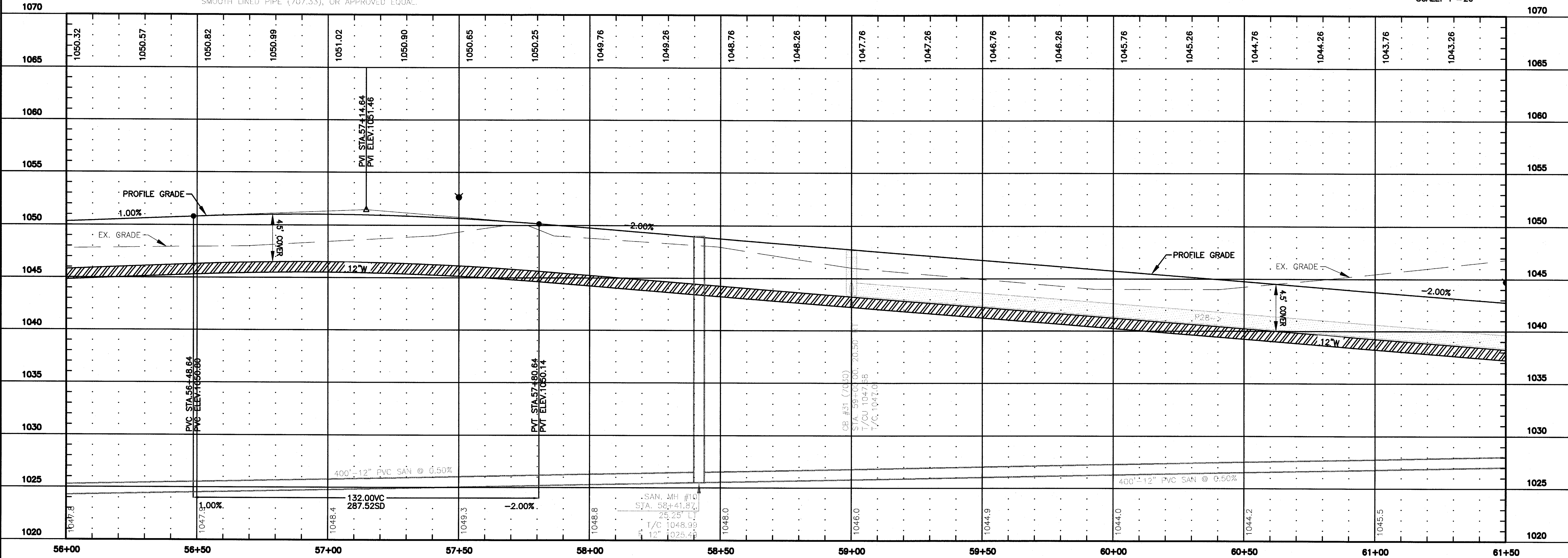
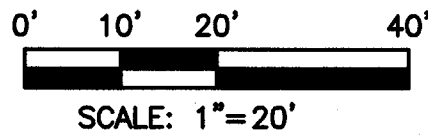
STORM SEWER PIPE CHART

PIPE	SIZE	*TYPE	LENGTH	GRADL	E IN	E OUT
P28	15"	B	300'	2.00%	1043.37	1037.37
P29	15"	B	33'	1.00%	1043.76	1043.37

*USE R.C.P. (706.02), CORRUGATED POLYETHYLENE SMOOTH LINED PIPE (707.33), OR APPROVED EQUAL.

NOTES

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MONUMENTS TO BE SET AT ALL P.C. & P.T. WITHIN CENTERLINE OF ROADWAY.

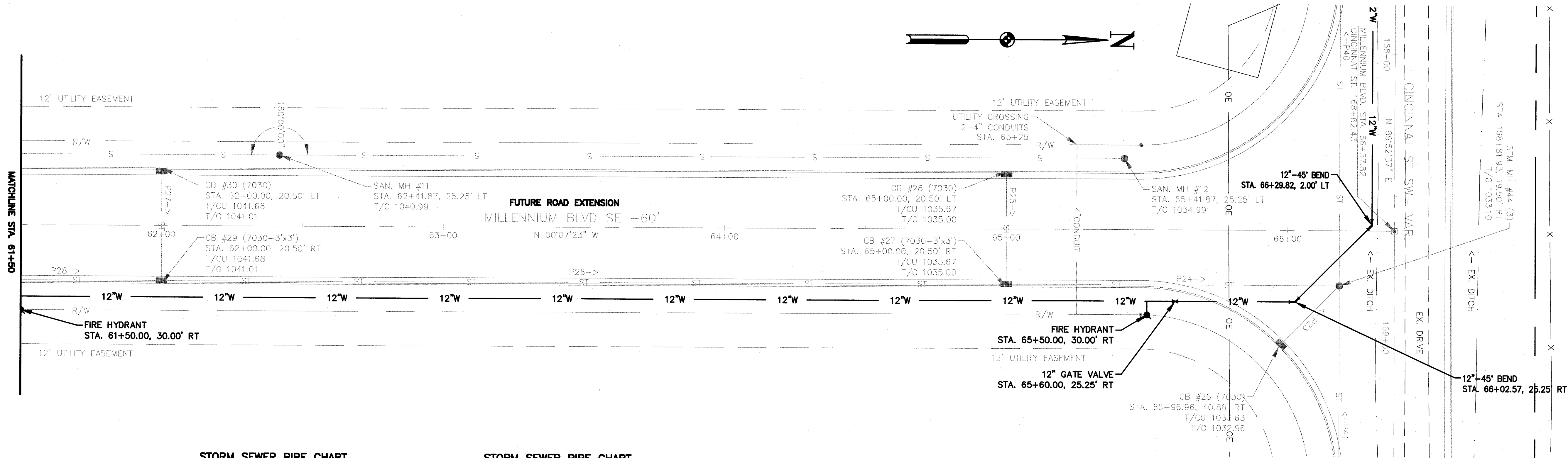


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DESC:	DESC:	DATE:	REV. BY:	TAB:	DATE:

15
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MILLENNIUM BLVD (STA. 56+00 TO STA. 61+50)
NEOCOM I INDUSTRIAL PARK NO. 7
FOR: MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO



STORM SEWER PIPE CHART

PIPE	SIZE	*TYPE	LENGTH	GRADE	E IN	E OUT
P23	15"	B	29'	8.93%	1029.71	1027.12
P24	24"	B	118'	3.59%	1030.61	1026.37
P25	15"	B	39'	1.00%	1031.75	1031.36

*USE R.C.P. (706.02), CORRUGATED POLYETHYLENE SMOOTH LINED PIPE (707.33), OR APPROVED EQUAL

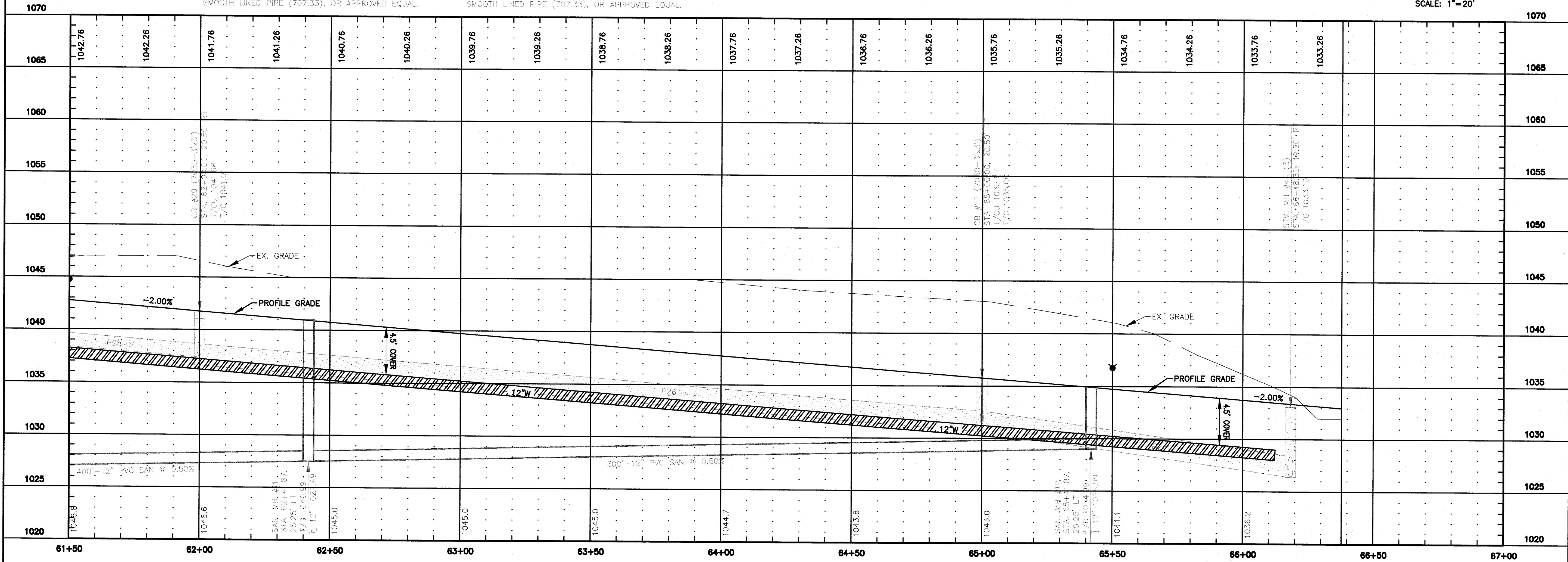
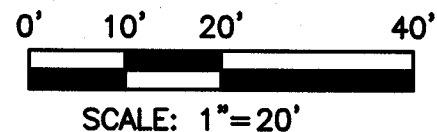
STORM SEWER PIPE CHART

PIPE	SIZE	*TYPE	LENGTH	GRADE	E IN	E OUT
P26	24"	B	300'	2.00%	1035.62	1030.61
P27	15"	B	39'	1.00%	1037.76	1037.37
P28	15"	B	300'	2.00%	1043.37	1037.37

*USE R.C.P. (706.02), CORRUGATED POLYETHYLENE SMOOTH LINED PIPE (707.33), OR APPROVED EQUAL

NOTES

REFER TO SHEET 9 FOR DESIGNATION FOR ALL CURB INLET CATCH BASINS.
MONUMENTS TO BE SET AT ALL P.C. & P.T. WITHIN CENTERLINE OF ROADWAY.



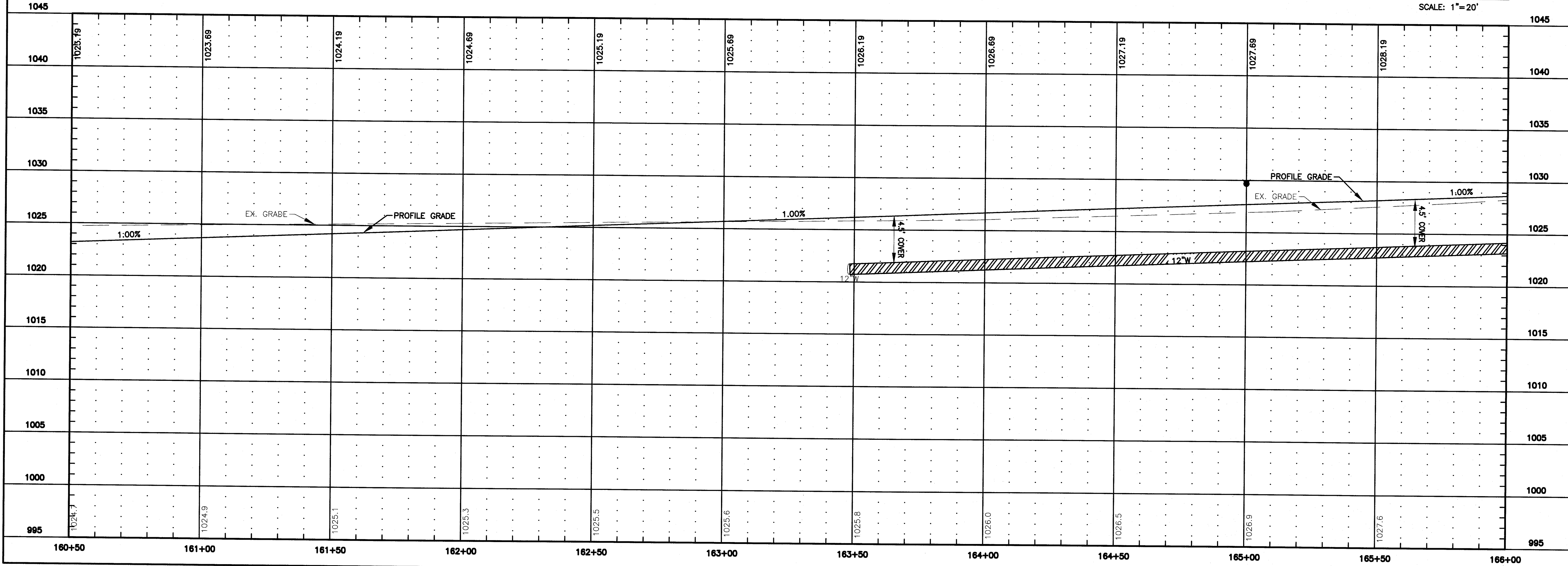
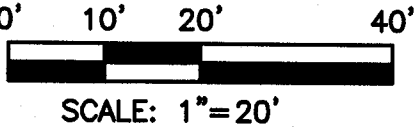
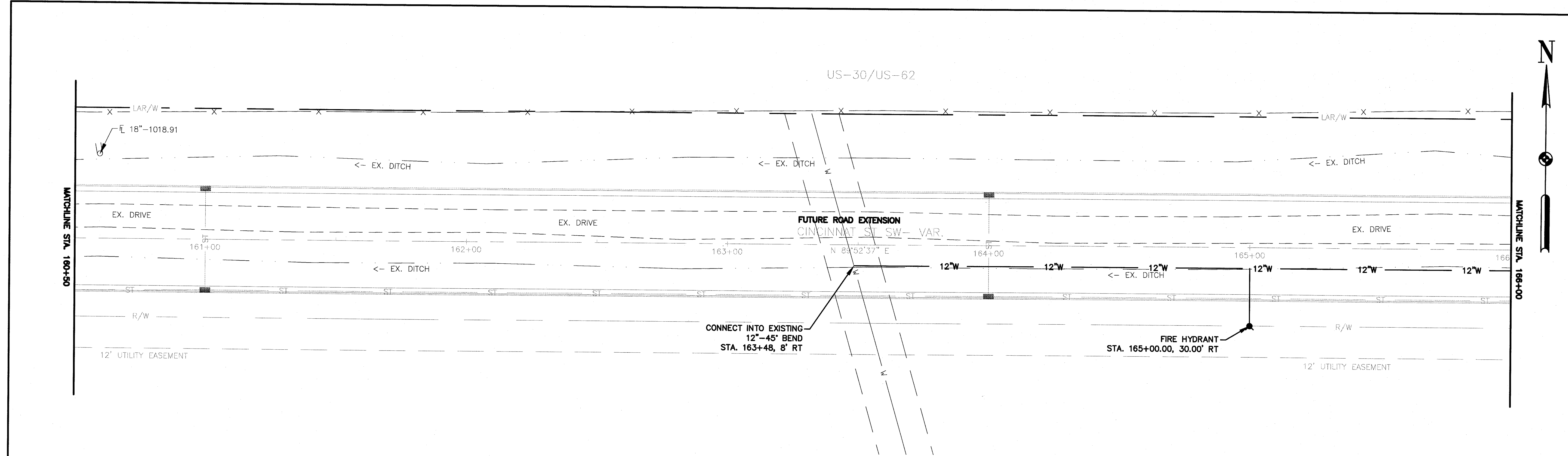
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DRWN BY: BAB	REV. BY: XXX	DATE: 01-21-13	DESC: PER DEV. COMMENTS
CHKD BY: BHB	REV. BY: XXX	DATE: 12-10-12	DESC: PER CITY COMMENTS #2
RWD BY: BHB	REV. BY: XXX	DATE: 10-15-12	DESC: PER CITY OF MASSILLON COMMENTS
DATE: 02/16/12	TAB: PP-7		

MILLENNIUM BLVD (STA. 61+50 TO STA. 67+00)
NEOCOM INDUSTRIAL PARK NO. 7
FOR: MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

18

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DESIGN BY: BAB
DRAWN BY: BAB
CHKD BY: BHB
RWD BY: BHB
DATE: 02/16/12

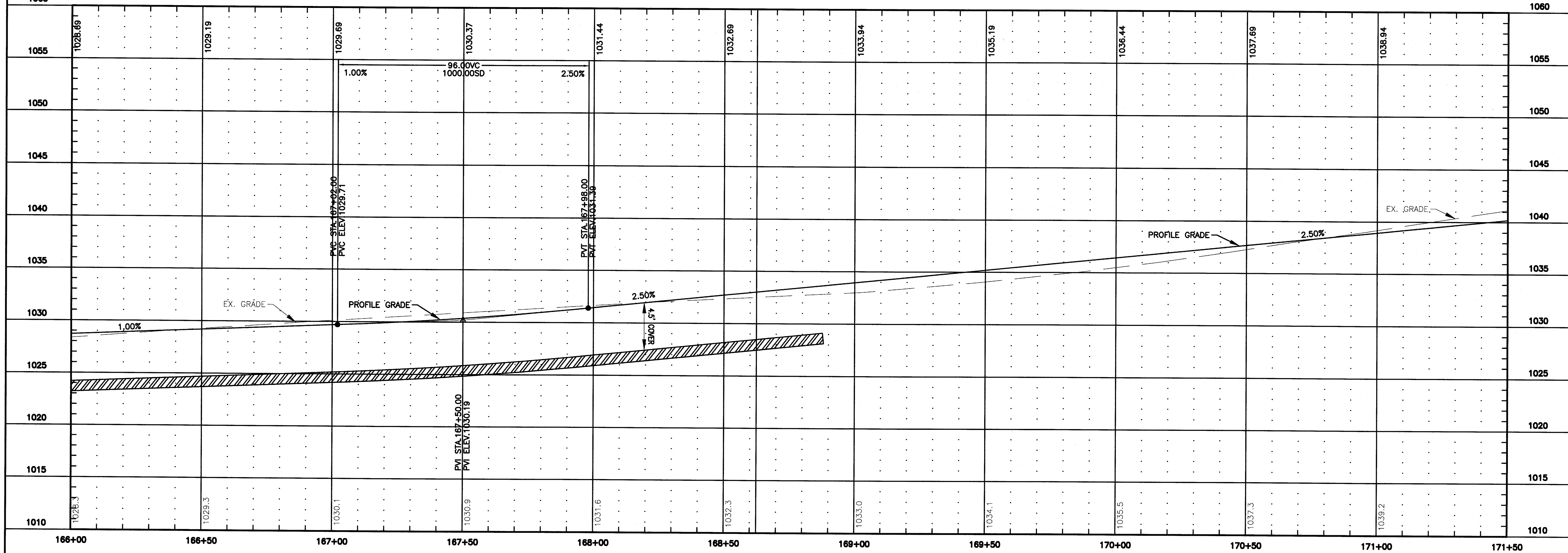
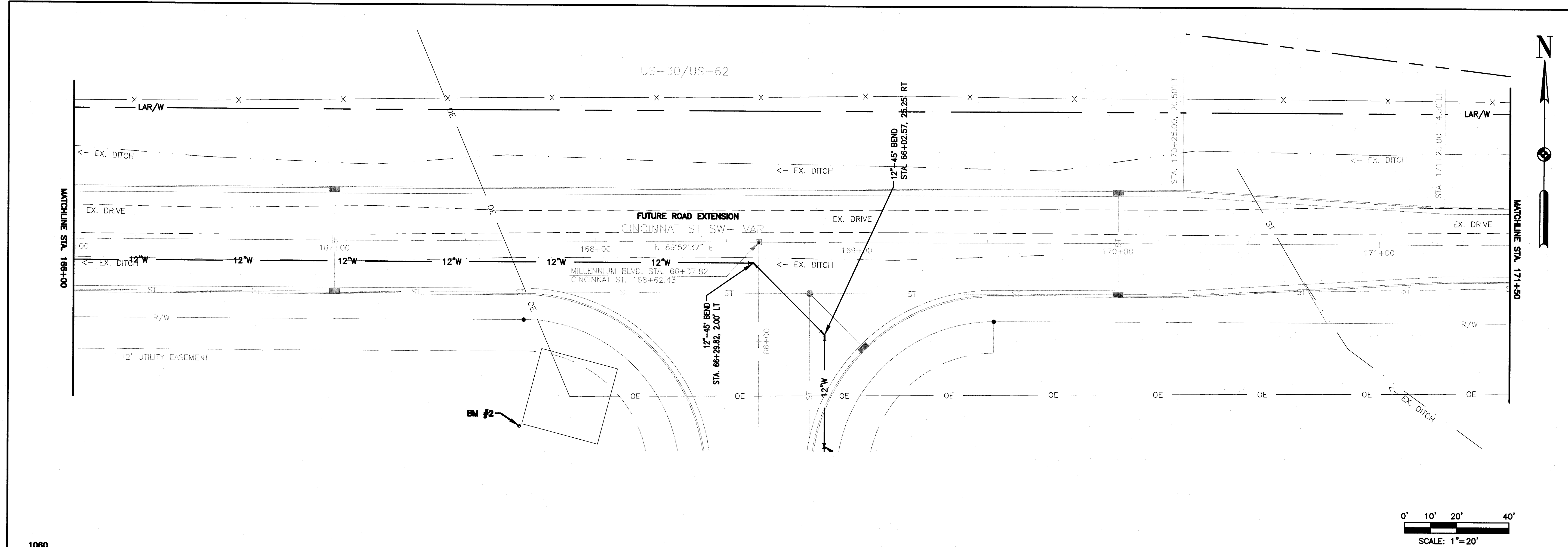
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FLD BK: XXX
BK PG: XXX
CRW CHF: XXX
CPRGHT:2012
TAB:PPP-10

DESC: PER DEV COMMENTS
DESC: PER CITY COMMENTS #2
DESC: PER CITY OF MASSILLON COMMENTS

CINCINNAT ST (STA. 160+50 TO STA. 166+00)
NEOCOM 1 INDUSTRIAL PARK NO. 7
FOR: MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

17
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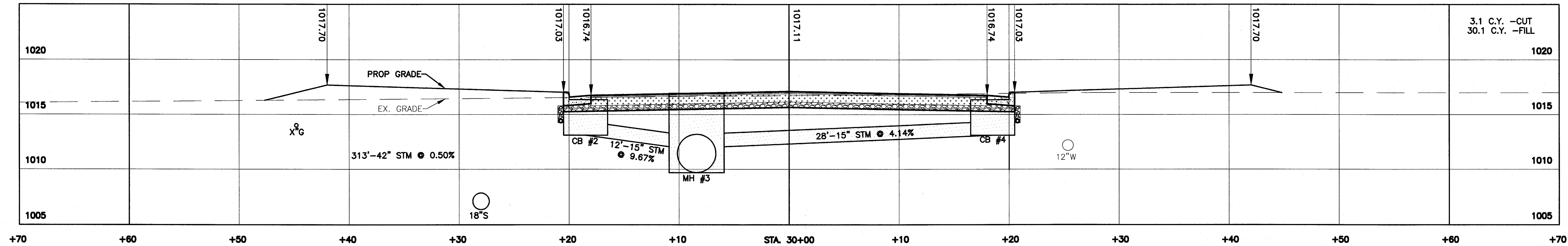
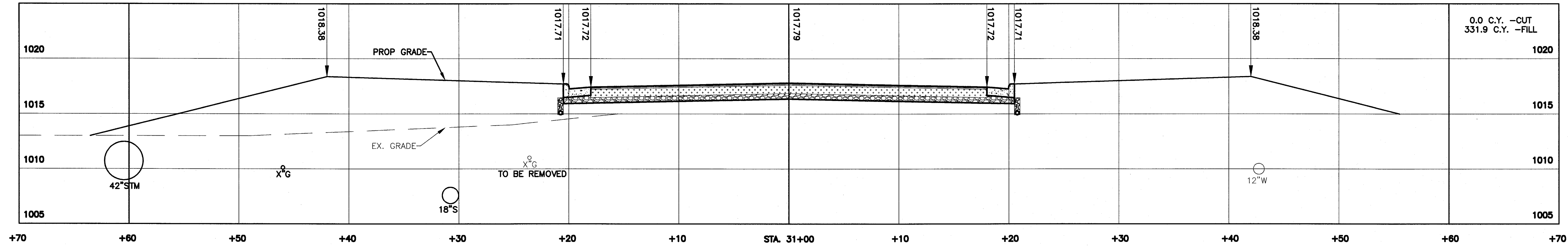
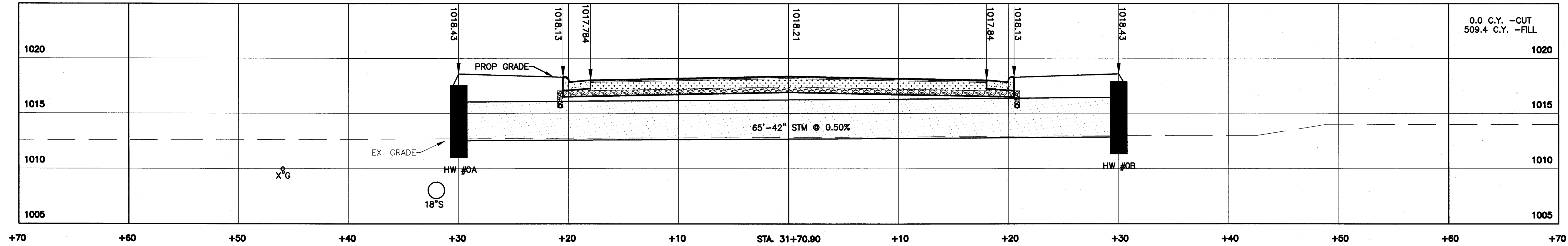
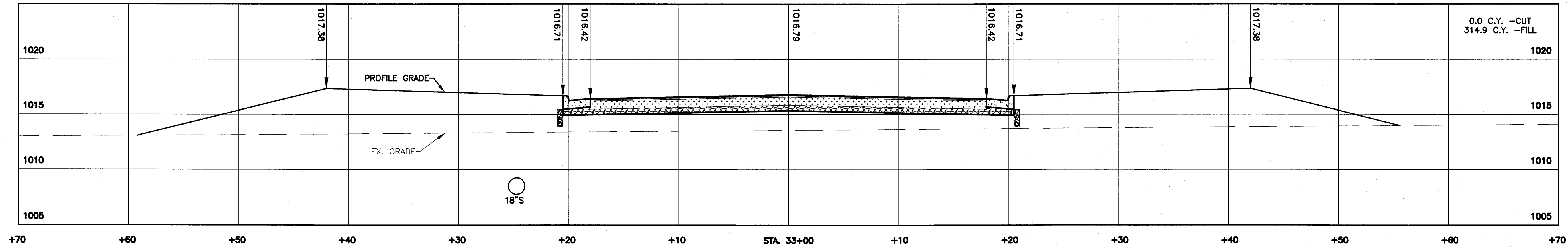
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CHECKED BY: BHB	CRW CHG: XXX	REV. BY: XXX	DATE: 10-15-12	DESC.: PER CITY OF MASSILLON COMMENTS
REVIEWED BY: BHB	CPYRIGHT: 2012	REV. BY: XXX	DATE: 02/16/12	
DATE: 02/16/12	TAB: P-11			

CINCINNAT ST (STA. 166+00 TO STA. 171+50)
NEOCOM 1 INDUSTRIAL PARK NO. 7
FOR: MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

18

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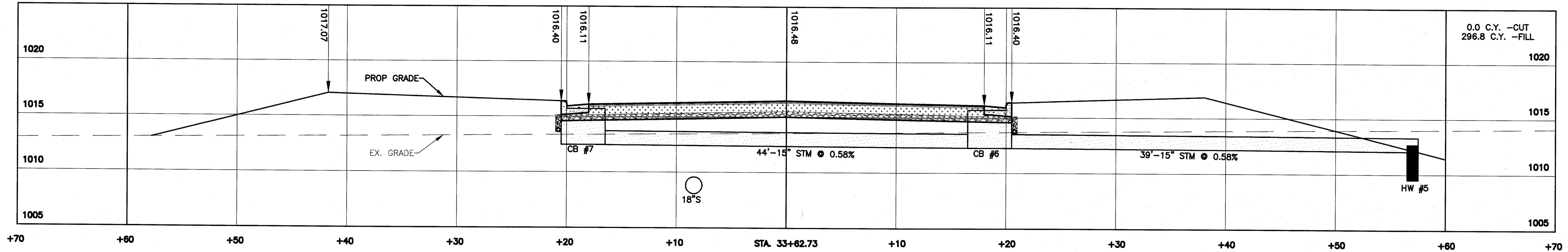
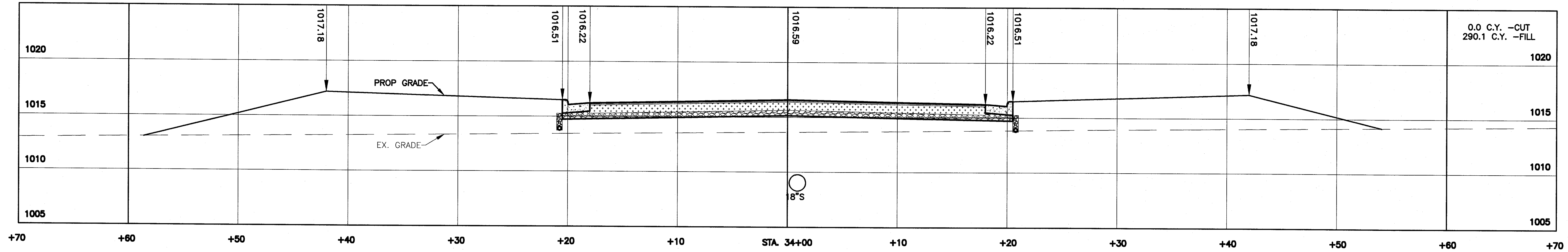
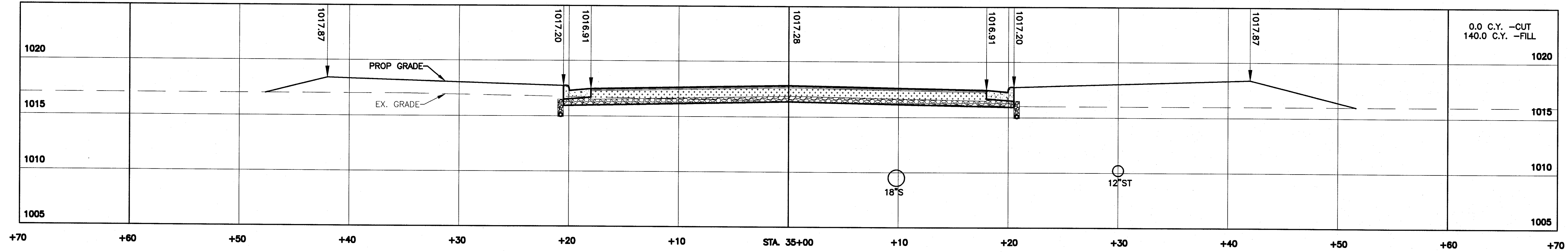
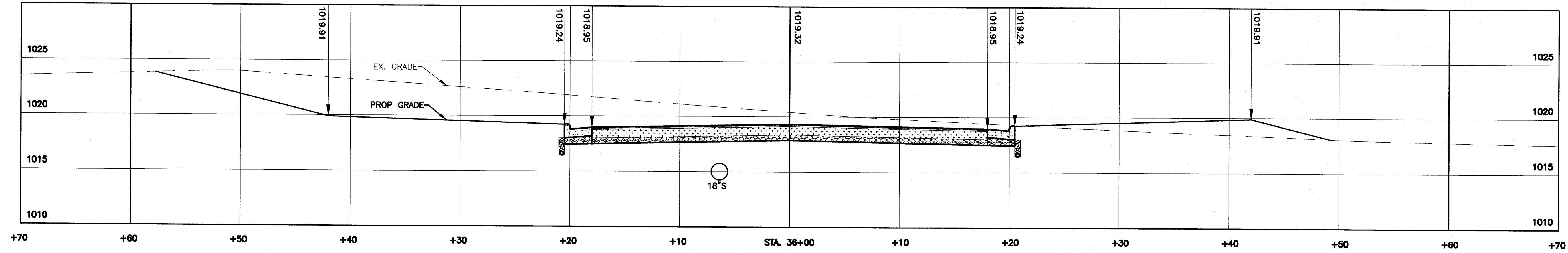
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DRAWN BY: BAB DATE: 01-21-13 DESC.: PER DEV. COMMENTS
CHKD BY: BHB DATE: 12-10-12 DESC.: PER CITY COMMENTS #2
RYMD BY: BHB DATE: 10-15-12 DESC.: PER CITY OF MASSILLON COMMENTS
DATE: 02/16/12 TAB: CS-1

FLD BK: XXX REV. BY: XXX
BK PG: XXX REV. BY: XXX
CRW CHF: XXX REV. BY: XXX
COPYRIGHT: 2012 REV. BY: XXX
DATE: 02/16/12 TAB: CS-1

SCALES
HORIZ: 1"=5'
VERT: 1"=5'
CONTOUR INT: 1'

CROSS SECTIONS (STA. 30+00 TO STA. 33+00)
NEOCOM 1 INDUSTRIAL PARK NO. 7
FOR: MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

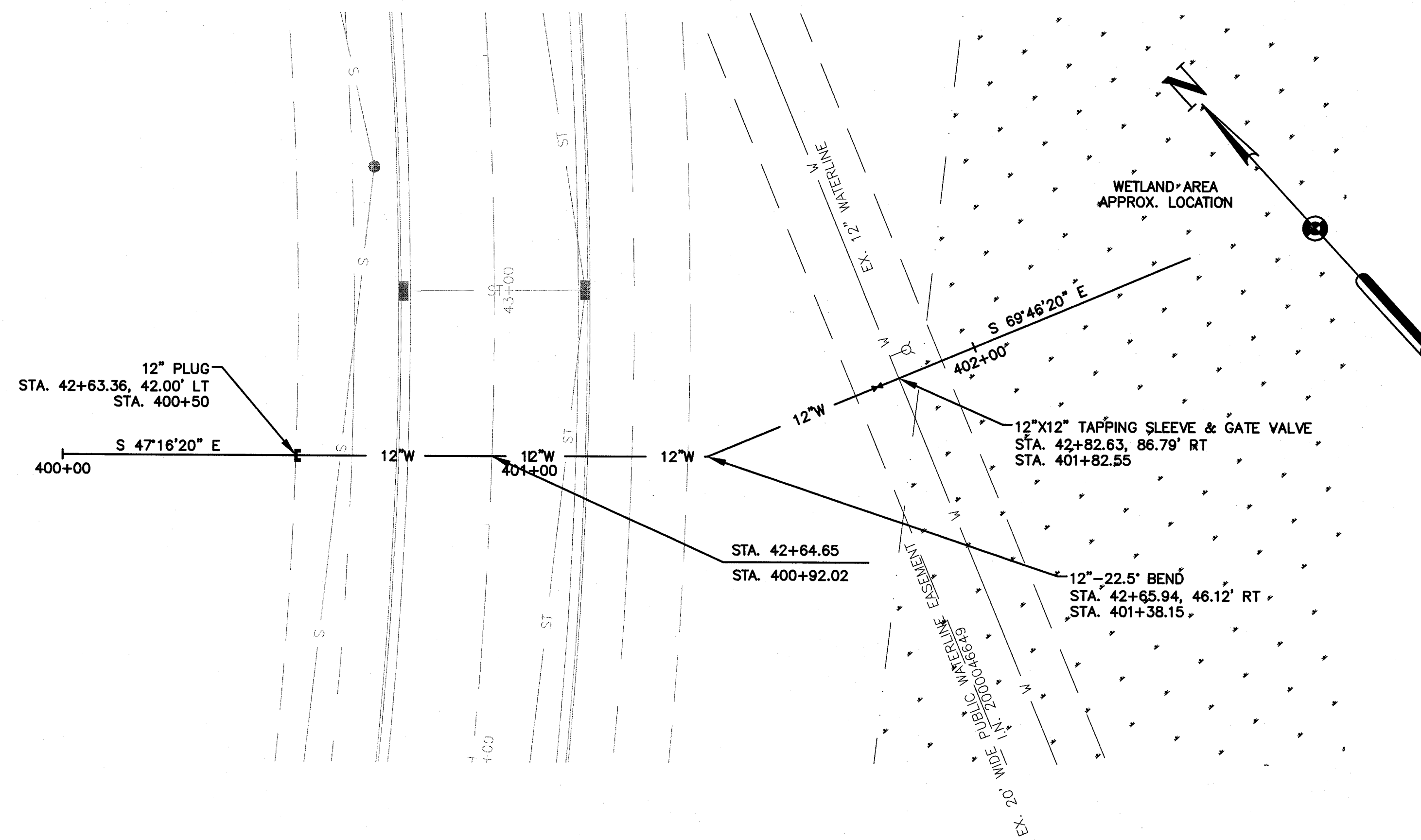


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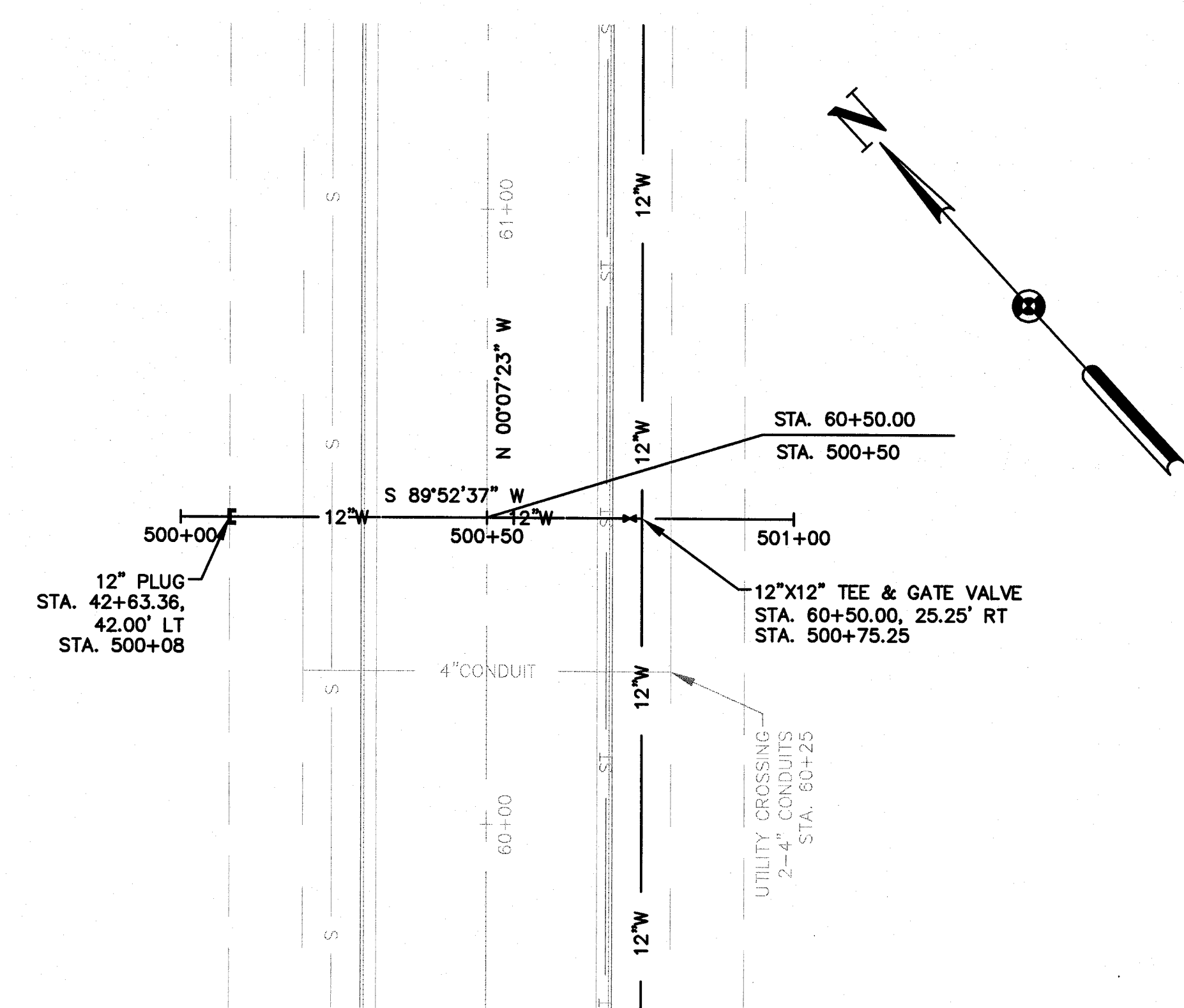
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DATE: 02/16/12
FIELD BK: XXX
BK PG: XXX
CRW CHG: XXX
COPYRIGHT: 2012
DATE: 02/16/12
REV. BY: BAB
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DESC.: PER DEV. COMMENTS
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DESC.: PER CITY COMMENTS

SCALE:
HORIZ: 1" = 50'
VERT: 1" = 5'
CONTOUR INT: 5'

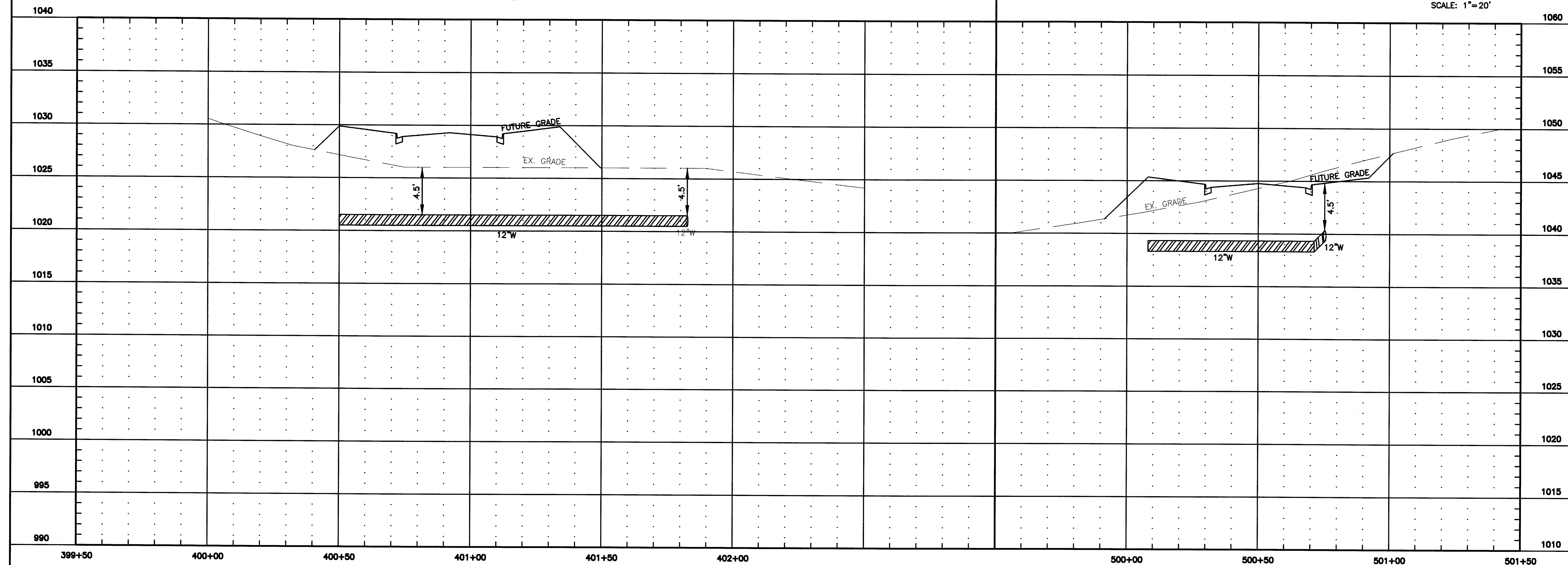
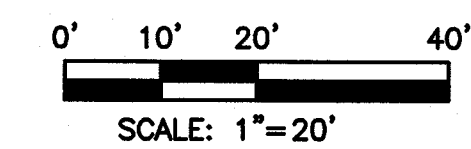
CROSS SECTIONS (STA. 33+82.73 TO STA. 36+00)
NEOCOM INDUSTRIAL PARK NO. 7
FOR: MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO



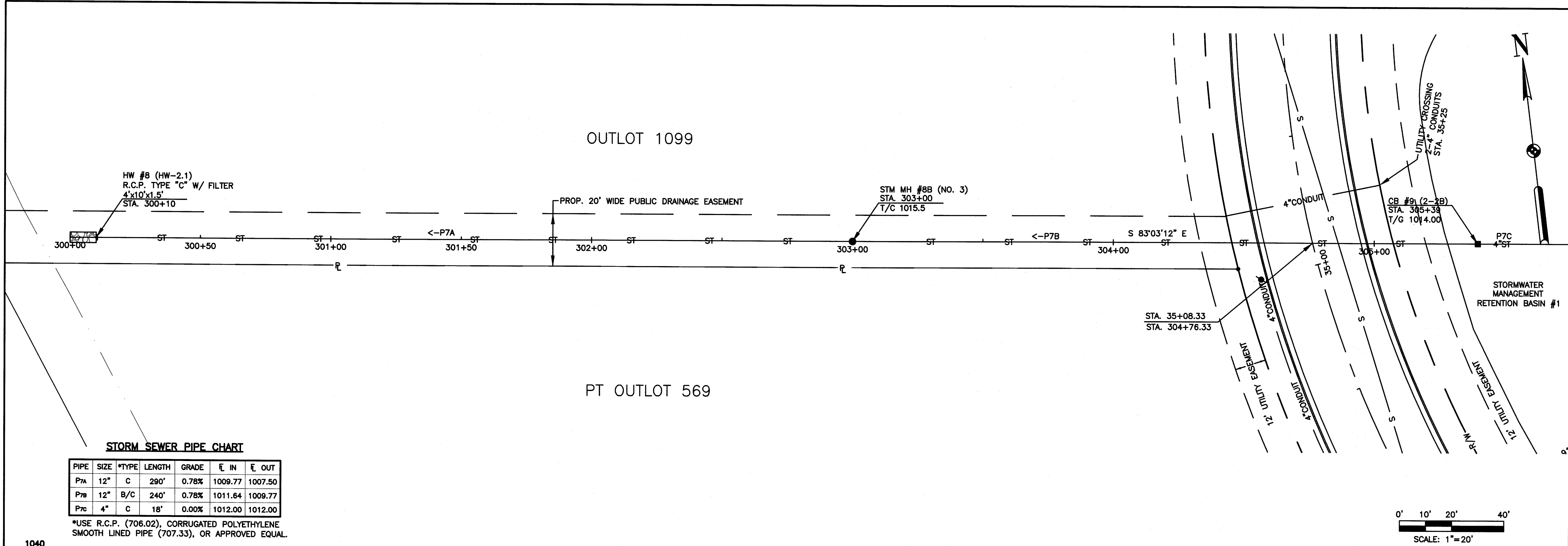
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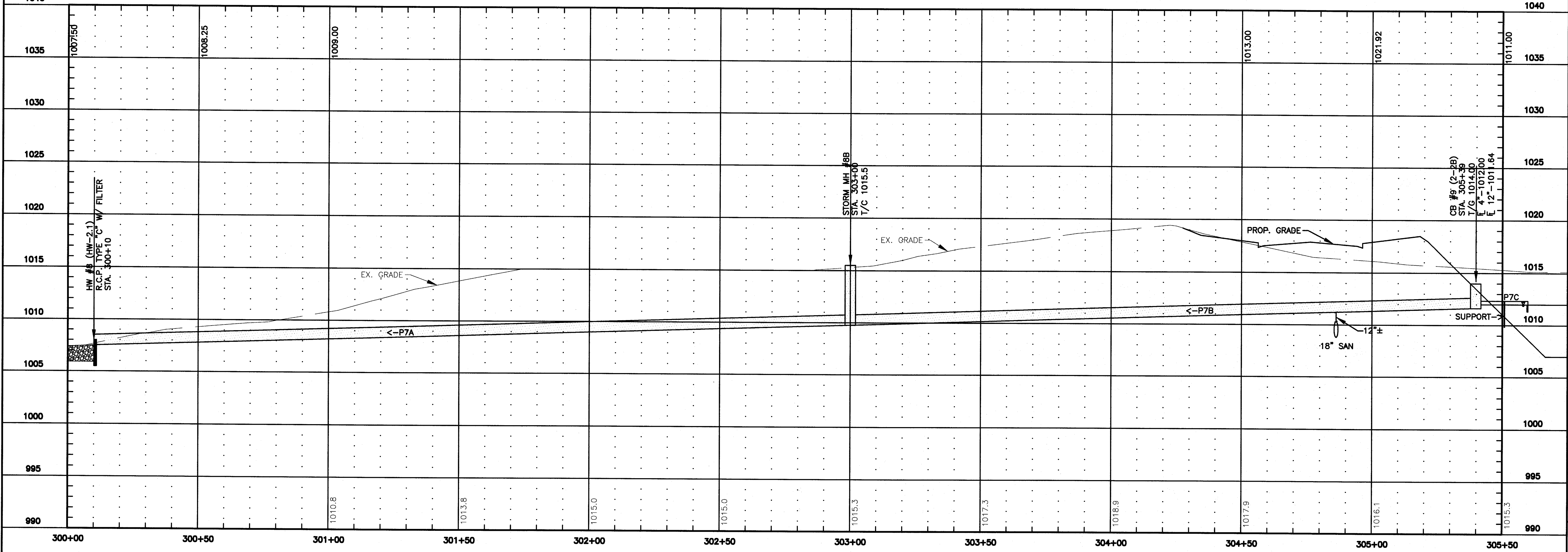
21 30	WATERLINE LATERAL PLAN & PROFILE NEOCOM I INDUSTRIAL PARK NO. 7 FOR: MASSILLON DEVELOPMENT FOUNDATION LOCATED IN THE CITY OF MASSILLON STARK COUNTY, OHIO	DESIGN BY: <u>BAB</u> DRWN BY: <u>BAB</u> CHKD BY: <u>BHB</u> RWD BY: <u>BHB</u> DATE: 02/16/12	SCALES HORIZ: 1" = 20' VERT: 1" = 5' CONTOUR INT:	REV. BY: <u>XXX</u> DATE: DESC: REV. BY: <u>XXX</u> DATE: DESC: REV. BY: <u>BAB</u> DATE: 01-21-13 DESC: PER DEV. COMMENTS REV. BY: <u>BAB</u> DATE: 12-10-12 DESC: PER CITY COMMENTS #2 REV. BY: <u>BAB</u> DATE: 10-15-12 DESC: PER CITY COMMENTS REV. BY: <u>BAB</u> DATE: 10-15-12 DESC: PER CITY COMMENTS	FLD BK: <u>XXX</u> DATE: DESC: BK PG: <u>XXX</u> DATE: DESC: CRW CHF: <u>XXX</u> DATE: DESC: CPRGHT: 2012 TAB: STORM-1	
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STORM SEWER PIPE CHART

PIPE	SIZE	*TYPE	LENGTH	GRADE	ℓ IN	ℓ OUT
P7A	12"	C	290'	0.78%	1009.77	1007.50
P7B	12"	B/C	240'	0.78%	1011.64	1009.77
P7C	4"	C	18'	0.00%	1012.00	1012.00

*USE R.C.P. (706.02), CORRUGATED POLYETHYLENE SMOOTH LINED PIPE (707.33), OR APPROVED EQUAL.



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DESIGN BY: BAB FLD BK: XXX REV. BY: XXX DATE: 01-21-13 DESC.: PER DEV. COMMENTS

DRWN BY: BAB BK PG: XXX REV. BY: BAB DATE: 12-10-12 DESC.: PER CITY COMMENTS #2

CHKD BY: BHB CRW CHF: XXX REV. BY: BHB DATE: 10-15-12 DESC.: PER CITY OF MASSILLON COMMENTS

RWD BY: BHB DATE: 02/16/12 TAB: STORM-1

DATE: 02/16/12

STORM SEWER "A" PLAN & PROFILE
NEOCOM 1 INDUSTRIAL PARK NO. 7
FOR: MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

22
30

1. ALL PROPERTIES ADJACENT TO THE SITE OF SOIL-DISTURBING ACTIVITY SHALL BE PROTECTED TO THE MAXIMUM EXTENT PRACTICABLE, INCLUDING, BUT NOT LIMITED TO PRIVATE PROPERTIES, NATURAL AND ARTIFICIAL WATERWAYS, WETLANDS, STORM SEWERS AND PUBLIC LANDS.
2. CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL PRACTICES USED TO SATISFY THIS REQUIREMENT SHALL CONFORM, AS A MINIMUM, TO STATE OF OHIO STANDARDS AS SET FORTH IN THE MOST-CURRENT EDITION OF THE RAINWATER AND LAND DEVELOPMENT MANUAL, DEFINED BY THE OHIO DEPARTMENT OF NATURAL RESOURCES DIVISION OF SOIL AND WATER CONSERVATION AND NATURAL RESOURCE CONSERVATION SERVICE AND SHALL CONFORM TO THE MOST CURRENT OHIO ENVIRONMENTAL PROTECTION AGENCY, OHIO REVISED CODE CHAPTER 6111 REQUIREMENTS.
3. EROSION AND SEDIMENT CONTROL PLAN APPROVALS ISSUED IN ACCORDANCE WITH THESE RULES DO NOT RELIEVE THE OWNER OF RESPONSIBILITY FOR OBTAINING ALL OTHER NECESSARY PERMITS AND OR APPROVALS FROM FEDERAL STATE, AND/OR COUNTY AGENCIES. IF REQUIREMENTS VARY, THE MOST STRINGENT REQUIREMENTS SHALL BE FOLLOWED.
4. EROSION AND SEDIMENT CONTROL PRACTICES AT THE SITE, AND AS IDENTIFIED IN THE ESC PLAN SHALL COMPLY WITH THE FOLLOWING:
 - A. AN APPROVED EROSION AND SEDIMENT CONTROL PLAN OR APPROVAL LETTER FROM THE LOCAL SWCD SHALL BE LOCATED ON SITE FOR REVIEW.
 - B. LIMITS TO CLEARING AND GRADING SHALL BE SHOWN ON ESC PLANS. LIMITS TO CLEARING AND GRADING SHALL BE CLEARLY MARKED ON SITE WITH SIGNAGE, FLAGGING, AND/OR FENCING ETC.
 - C. INSTALL EROSION AND SEDIMENT PERIMETER CONTROLS AS A FIRST ACTION OF CONSTRUCTION AS SPECIFIED BY CONSTRUCTION SEQUENCE. THIS SHALL INCLUDE AND IS NOT LIMITED TO PROTECTIVE BMP'S FOR STREAM CORRIDORS AND CROSSINGS, WETLANDS, SITE ENTRANCE, SEDIMENT TRAPS & BASINS, BARRIERS, AND DIVERSION DIKES.
 - D. CONCENTRATED STORM WATER RUNOFF SHALL PASS THROUGH A SEDIMENT CONTROL DEVICE BEFORE EXITING THE SITE BOUNDARIES. CONCENTRATED RUNOFF FROM BARE SOIL AREAS SHALL BE DIVERTED INTO A SETTLING POND OR SEDIMENT CONTROL STRUCTURE, OR OTHER APPROVED SEDIMENT BARRIER BEFORE LEAVING THE SITE.
 - E. EARTHEN STRUCTURES SUCH AS DAMS, BASINS, STREAM MODIFICATIONS AND WATER DIVERSIONS SHALL BE SEEDED AND MULCHED WITHIN SEVEN (7) DAYS OF THE COMPLETION OF INSTALLATION. DAMS SHALL CONFORM TO THE OHIO DAM LAWS (ORC 1521.06).
 - F. STABILIZATION OF CRITICAL AREAS WITHIN 50 FEET OF ANY STREAM OR WETLAND SHALL BE TEMPORARILY STABILIZED WITHIN TWO (2) DAYS OF DISTURBANCE IF AREA WILL REMAIN INACTIVE FOR SEVEN (7) DAYS OR LONGER. CONSTRUCTION VEHICLES SHALL AVOID STREAMS AND THE 50 FOOT BUFFER AREAS. IF AN ACTIVE DRAINAGE WAY MUST BE CROSSED BY CONSTRUCTION VEHICLES REPEATEDLY DURING CONSTRUCTION, A TEMPORARY STREAM CROSSING SHALL BE CONSTRUCTED ACCORDING TO THE SPECIFICATIONS IN THE RAINWATER & LAND DEVELOPMENT MANUAL. CONSTRUCTION OF BRIDGES, CULVERTS OR SEDIMENT CONTROL STRUCTURES SHALL NOT PLACE SOIL, DEBRIS AND OTHER FINE PARTICULATE MATERIAL INTO OR CLOSE TO THE WATER RESOURCE IN SUCH A MANNER THAT IT MAY SLOUGH, SLIP OR ERODE.
 - G. STORM SEWER INLETS SHALL BE PROTECTED SO THAT SEDIMENT-LADEN RUNOFF WILL NOT ENTER THE STORM SEWER SYSTEM WITHOUT FIRST BEING FILTERED AND/OR TREATED. SANITARY SEWER MANHOLES SHALL BE PROTECTED SO THAT NO STORM RUNOFF WILL ENTER THE SANITARY SEWER SYSTEM.
 - H. RE-VEGETATE SOIL. TEMPORARY SOIL STABILIZATION SHALL OCCUR WITHIN SEVEN (7) DAYS AFTER ROUGH GRADING IF THE AREA WILL REMAIN IDLE LONGER THAN TWENTY-ONE (21) DAYS. PERMANENT SOIL STABILIZATION SHALL BE INSTALLED WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. PERMANENT VEGETATION IS A GROUND COVER DENSE ENOUGH TO COVER 80% OF THE SOIL SURFACE AND MATURE ENOUGH TO SURVIVE WINTER WETTER CONDITION.
 - I. SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED TO PREVENT SOIL LOSS. STABILIZATION SHALL BE REQUIRED IF STOCKPILES ARE LOCATED WITHIN CRITICAL AREAS NEAR STREAMS OR WETLANDS, OR IF DETERMINED BY THE LOCAL SWCD THAT SEDIMENT FROM STOCKPILES WILL LEAVE THE SITE.
 - J. UNSTABLE SOILS PRONE TO SLIPPING OR SLOUGHING SHALL NOT BE CLEARED, GRADED, EXCAVATED, FILLED OR HAVE LOADS IMPOSED UPON THEM UNLESS THE WORK IS PLANNED BY A QUALIFIED PROFESSIONAL ENGINEER AND INSTALLED IN ACCORDANCE WITH THE ESC PLAN. CUT AND FILL SLOPES SHOULD BE DESIGNED TO MINIMIZE EROSION PROBLEMS. ADEQUATE SLOPE DESIGN INCLUDES USE OF ROUGH SOIL SURFACE ALONG THE FACE OF THE SLOPE; WATER DIVERSION ALONG THE TOP OF THE SLOPE AWAY FROM THE FACE; TERRACES TO REDUCE SLOPE LENGTH; DELIVERY OF CONCENTRATED STORM WATER FLOWS TO THE BASE OF THE SLOPE VIA ADEQUATE CHANNEL OR PIPE; AND DRAINAGE FOR WATER SEEPS IN THE SLOPE THAT ENDANGER SLOPE STABILITY.
 - K. SOIL SHALL BE REMOVED FROM PAVED SURFACES AND/OR PUBLIC ROADS AT THE END OF EACH DAY IN SUCH A MANNER THAT DOES NOT CREATE OFF-SITE SEDIMENTATION IN ORDER TO ENSURE SAFETY AND GATE OFF-SITE SOIL LOSS. COLLECTED SEDIMENTS SHALL BE PLACED IN A STABLE LOCATION ON SITE OR TAKEN OFF-SITE TO A STABLE LOCATION.
 - L. STABILIZE DISTURBED OR MODIFIED DRAINAGE WAYS. REDUCE EROSION EFFECTS OF STORM WATER BY USING AND/OR MAINTAINING GRASSED SWALES, INFILTRATION STRUCTURES, OR WATER DIVERSIONS.
 - M. SEDIMENT AND EROSION CONTROLS SHALL BE INSPECTED ONCE EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF A 0.5" OR GREATER RAINFALL EVENT. A WRITTEN LOG OF THESE INSPECTIONS AND IMPROVEMENTS TO CONTROLS SHALL BE KEPT ON SITE. THE INSPECTIONS SHALL INCLUDE THE DATE OF INSPECTION, NAME OF INSPECTOR, WEATHER CONDITIONS, OBSERVATIONS, ACTIONS TAKEN TO CORRECT ANY PROBLEMS AND THE DATE CORRECTIVE ACTIONS WERE TAKEN.
 - N. TRENCHES FOR UNDERGROUND UTILITY LINES AND PIPES SHALL BE TEMPORARILY STABILIZED WITHIN SEVEN (7) DAYS IF THEY ARE TO REMAIN INACTIVE FOR THIRTY (30) DAYS. TRENCH DEWATERING DEVICES SHALL DISCHARGE IN A MANNER THAT FILTERS SOIL-LADEN WATER BEFORE DISCHARGING IT TO A RECEIVING DRAINAGE DITCH OR POND. IF SEEDING, MULCHING, OR OTHER EROSION AND SEDIMENT CONTROL MEASURES WERE PREVIOUSLY INSTALLED, THESE PROTECTIVE MEASURES SHALL BE REINSTALLED.
 - O. DISTURBED AREAS WHICH WILL REMAIN UNWORKED FOR A PERIOD OF 21 DAYS OR MORE SHALL BE STABILIZED WITH SEEDING AND MULCHING OR OTHER APPROPRIATE MEANS WITHIN 7 DAYS.
 - P. SOLID, SANITARY AND TOXIC WASTE MUST BE DISPOSED OF IN A PROPER MANNER IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. IT IS PROHIBITED TO BURN, BURY OR POUR OUT ONTO THE GROUND OR INTO THE STORM SEWERS ANY SOLVENTS, PAINTS, STAINS, GASOLINE, DIESEL FUEL, USED MOTOR OIL, HYDRAULIC FLUID, ANTIFREEZE, CEMENT CURING COMPOUNDS AND OTHER SUCH TOXIC OR HAZARDOUS WASTES. STORAGE TANKS SHOULD BE LOCATED IN DIKED AREAS AWAY FROM ANY DRAINAGE CHANNELS. THE DIKED AREA SHOULD HOLD A VOLUME 110% OF THE LARGEST TANK.
 - Q. OFF-SITE VEHICLE TRACKING SEDIMENT SHALL BE MINIMIZED. CONSTRUCTION VEHICLES ARE LIMITED TO THE CONSTRUCTION ACCESS ROAD(S) NOTED ON THE PLAN. OFFSITE SEDIMENT TRACKING SHALL BE CONTROLLED BY REGULARLY SCHEDULED SWEEPING OF OFFSITE ACCESS ROADS AND MAINTENANCE OF ROCK CONSTRUCTION ENTRANCE.
 - R. ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST MEET THE STANDARDS AND SPECIFICATIONS OF THE OHIO RAINWATER AND LAND DEVELOPMENT HANDBOOK (2008).
 - S. OTHER EROSION AND SEDIMENT CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS.
 - T. WINTERIZATION - ANY DISTURBED AREA THAT IS NOT GOING TO BE WORKED FOR 21 DAYS OR MORE MUST BE SEEDED AND MULCHED BY NOVEMBER 1 OR MUST HAVE A DORMANT SEEDING OR MULCH COVER APPLIED BETWEEN NOVEMBER 1 AND MARCH 1.
 - U. CONCRETE CEMENT IS TO BE TAKEN BACK TO PLANT FOR WASHOUT AND RECYCLING OR DESIGNATED AREAS ON SITE FOR CONCRETE WASHOUT AND BE USED.

OWNER- Greg P. Bremer 12/4/12
DATE

1. INSTALL SILT FENCE AND CONSTRUCTION ENTRANCE AS SHOWN ON PLANS. (CONTRACTOR SHALL DESIGNATE THE AREA UTILIZED FOR CONSTRUCTION ENTRANCE.)
2. CLEAR TREES, BRUSH AND STUMPS AS NECESSARY.
3. ALL PERIMETER BARRIERS TO BE CONSTRUCTED WITHIN 7 DAYS OF FIRST GRUBBING.
4. INSTALL TEMPORARY SEEDING TO ALL STRUCTURAL EROSION INSTALLATIONS PRIOR TO MASS GRADING OF SITE.
5. STRIP/STOCKPILE TOPSOIL. STOCKPILES THAT ARE INACTIVE FOR 21 DAYS OR LONGER SHALL BE SEEDED/STABILIZED WITHIN 7 DAYS OF LAST ACTIVITY.
6. MASS GRADING
7. INSTALL UNDERGROUND UTILITIES.
8. INSTALL INLET PROTECTION.
9. BRING PAVEMENT AREAS TO SUB GRADE.
10. INSTALL PAVEMENT AND BACK FILL CURBS. AFTER INSTALLATION OF PAVEMENT REPLACE INLET PROTECTION.
11. FINISH GRADE, SEED AND MULCH ALL DISTRIBUTED AREAS AND MAINTAIN TEMPORARY EROSION CONTROLS AS REQUIRED.
12. UPON COMPLETION AND SITE STABILIZATION, REMOVE ACCUMULATED SEDIMENT AND DEBRIS FROM STORM SYSTEM AND REMOVE SOIL AND EROSION CONTROLS, EXCEPT FOR SILT FENCING. SILT FENCE TO BE REMOVED AFTER 80% OF SITE HAS BEEN STABILIZED.

1. INSTALLATION OF SILT FENCING SHALL NOT OCCUR PRIOR TO THE INITIAL CITY PRE-CONSTRUCTION MEETING.
2. CONTINUOUSLY SWEEP DRIVES AND STREET AND MAINTAIN CONSTRUCTION ENTRANCE.
3. ALL AREAS AT FINAL GRADE OR WHERE CONSTRUCTION ACTIVITY HAS CEASED FOR 21 DAYS OR LONGER SHALL BE STABILIZED WITHIN 7 DAYS OF LAST ACTIVITY.

1. CONSTRUCTION PERSONNEL, INCLUDING SUBCONTRACTORS WHO MAY USE OR HANDLE HAZARDOUS OR TOXIC MATERIALS, SHALL BE ADVISED OF THE FOLLOWING GENERAL GUIDELINES REGARDING DISPOSAL AND HANDLING OF HAZARDOUS AND CONSTRUCTION WASTES:
 - PREVENT SPILLS
 - FOLLOW LABEL DIRECTIONS FOR DISPOSAL
 - RECYCLE WASTES WHENEVER POSSIBLE
 - DON'T BURY CHEMICALS OR CONTAINERS
 - DON'T BURN CHEMICALS OR CONTAINERS
 - USE PRODUCTS UP
 - REMOVE LIDS FROM EMPTY BOTTLES AND CANS WHEN DISPOSING IN TRASH
 - DON'T POUR INTO WATERWAYS, STORM DRAINS OR ONTO THE GROUND
 - DON'T POUR DOWN THE SINK, FLOOR DRAIN OR SEPTIC TANKS
 - DON'T MIX CHEMICALS TOGETHER
2. CONTAINERS SHALL BE PROVIDED FOR THE PROPER COLLECTION OF ALL WASTE MATERIAL INCLUDING CONSTRUCTION DEBRIS, TRASH, PETROLEUM PRODUCTS AND ANY HAZARDOUS MATERIALS USED ON-SITE. CONTAINERS SHALL BE COVERED AND NOT LEAKING. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THAT MATERIAL. CONSTRUCTION DEMOLITION AND DEBRIS (CD&D) WASTE MUST BE DISPOSED OF AT AN OHIO EPA APPROVED CD&D LANDFILL.
3. NO CONSTRUCTION RELATED WASTE MATERIALS ARE TO BE BURIED ON-SITE. BY EXCEPTION, CLEAN FILL (BRICKS, HARDENED CONCRETE, SOIL) MAY BE UTILIZED IN A WAY WHICH DOES NOT ENCROUGH UPON NATURAL WETLANDS, STREAMS OR FLOODPLAINS OR RESULT IN THE CONTAMINATION OF WATERS OF THE STATE.
4. HANDLING CONSTRUCTION CHEMICALS, MIXING, PUMPING, TRANSFERRING OR OTHER HANDLING OF CONSTRUCTION CHEMICALS SUCH AS FERTILIZER, LIME, ASPHALT, CONCRETE DRYING COMPOUNDS, AND ALL OTHER POTENTIALLY HAZARDOUS MATERIALS SHALL BE PERFORMED IN AN AREA AWAY FROM ANY WATERCOURSE, DITCH OR STORM DRAIN.
5. EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC., SHALL BE PERFORMED AWAY FROM WATERCOURSES, DITCHES OR STORM DRAINS, IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA SHALL BE EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS. SECONDARY CONTAINMENT SHALL BE PROVIDED FOR ALL FUEL OIL STORAGE TANKS. THESE AREAS MUST BE INSPECTED EVERY SEVEN DAYS AND WITHIN 24 HRS. OF A 0.5 INCH OR GREATER RAIN EVENT TO ENSURE THERE ARE NO EXPOSED MATERIALS WHICH WOULD CONTAMINATE STORM WATER. SITE OPERATORS MUST BE AWARE THAT SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) REQUIREMENTS MAY APPLY. AN SPCC PLAN IS REQUIRED FOR SITES WITH ONE SINGLE ABOVE GROUND TANK OF 660 GALLONS OR MORE, ACCUMULATIVE ABOVE GROUND STORAGE OF 1330 GALLONS OR MORE, OR 42,000 GALLONS OF UNDERGROUND STORAGE. CONTAMINATED SOILS MUST BE DISPOSED OF IN ACCORDANCE WITH ITEM 8.
6. CONCRETE WASH WATER SHALL NOT BE ALLOWED TO FLOW TO STREAMS, DITCHES, STORM DRAINS, OR ANY OTHER WATER CONVEYANCE. A SUMP OR PIT WITH NO POTENTIAL FOR DISCHARGE SHALL BE CONSTRUCTED IF NEEDED TO CONTAIN CONCRETE WASH WATER. FIELD TILE OR OTHER SUBSURFACE DRAINAGE STRUCTURES WITHIN 10 FT. OF THE SUMP SHALL BE CUT AND PLUGGED. FOR SMALL PROJECTS, TRUCK CHUTES MAY BE RINSED AWAY FROM ANY WATER CONVEYANCES.
7. SPILL REPORTING REQUIREMENTS: SPILLS ON PAVEMENT SHALL BE ABSORBED WITH SANDWUST OR KITTY LITTER AND DISPOSED OF WITH THE TRASH AT A LICENSED SANITARY LANDFILL. HAZARDOUS OR INDUSTRIAL WASTES SUCH AS MOST SOLVENTS, GASOLINE, OIL-BASED PAINTS, AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING. SPILLS SHALL BE REPORTED TO OHIO EPA (1-800-282-9378), SPILLS OF 25 GALLONS OR MORE OF PETROLEUM PRODUCTS SHALL BE REPORTED TO OHIO EPA, THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MIN. OF THE DISCOVERY OF THE RELEASE. ALL SPILLS WHICH CONTACT WATERS OF THE STATE MUST BE REPORTED TO OHIO EPA.
8. CONTAMINATED SOILS: IF SUBSTANCES SUCH AS OIL, DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC. ARE SPILLED, LEAKED, OR RELEASED ONTO THE SOIL, THE SOIL SHOULD BE DUG UP AND DISPOSED OF AT LICENSED SANITARY LANDFILL OR OTHER APPROVED PETROLEUM CONTAMINATED SOIL REMEDIATION FACILITY. (NOT A CONSTRUCTION/ DEMOLITION DEBRIS LANDFILL). NOTE THAT STORM WATER RUN OFF ASSOCIATED WITH CONTAMINATED SOILS ARE NOT BE AUTHORIZED UNDER OHIO EPA'S GENERAL STORM WATER PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
9. OPEN BURNING. NO MATERIALS CONTAINING RUBBER, GREASE, ASPHALT, OR PETROLEUM PRODUCTS, SUCH AS TIRES, AUTOPARTS, PLASTICS OR PLASTIC COATED WIRE MAY BE BURNED (OAC 3745-19). OPEN BURNING IS NOT ALLOWED IN RESTRICTED AREAS, WHICH ARE DEFINED AS: 1) WITHIN CORPORATION LIMITS; 2) WITHIN 1000 FEET OUTSIDE A MUNICIPAL CORPORATION HAVING A POPULATION OF 1000 TO 10,000; AND 3) A ONE MILE ZONE OUTSIDE OF A CORPORATION OF 10,000 OR MORE. OUTSIDE OF RESTRICTED AREAS, NO OPEN BURNING IS ALLOWED WITHIN A 1000 FEET OF AN INHABITED BUILDING ON ANOTHER PROPERTY. OPEN BURNING IS PERMISSIBLE IN A RESTRICTED AREA FOR: HEATING TAR, WELDING, SMUDGE POTS AND SIMILAR OCCUPATIONAL NEEDS, AND HEATING FOR WARMTH OR OUTDOOR BARBECUES. OUTSIDE OF RESTRICTED AREAS, OPEN BURNING IS PERMISSIBLE FOR LANDSCAPE OR LAND-CLEARING WASTES (PLANT MATERIAL, WITH PRIOR WRITTEN PERMISSION FROM OHIO EPA), AND AGRICULTURAL WASTES, EXCLUDING BUILDINGS.
10. DUST CONTROL OR DUST SUPPRESSANTS SHALL BE USED TO PREVENT NUISANCE CONDITIONS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND IN A MANNER, WHICH PREVENT A DISCHARGE TO WATERS OF THE STATE. SUFFICIENT DISTANCE MUST BE PROVIDED BETWEEN APPLICATIONS AND NEARBY BRIDGES, CATCH BASINS, AND OTHER WATERWAYS. APPLICATION (EXCLUDING WATER) MAY NOT OCCUR WHEN RAIN IS IMMINENT AS NOTED IN THE SHORT TERM FORECAST. USED OIL MAY NOT BE APPLIED FOR DUST CONTROL.
11. OTHER AIR PERMITTING REQUIREMENTS: CERTAIN ACTIVITIES ASSOCIATED WITH CONSTRUCTION WILL REQUIRE AIR PERMITS INCLUDING BUT NOT LIMITED TO: MOBILE CONCRETE BATCH PLANTS, MOBILE ASPHALT PLANTS, CONCRETE CRUSHERS, LARGE GENERATORS, ETC. THESE ACTIVITIES WILL REQUIRE SPECIFIC OHIO EPA AIR PERMITS FOR INSTALLATION AND OPERATION. OPERATORS MUST SEEK AUTHORIZATION FROM THE CORRESPONDING DISTRICT OF OHIO EPA. FOR DEMOLITION OF ALLCOMMERCIAL SITES, A NOTIFICATION FOR RESTORATION AND DEMOLITION MUST BE SUBMITTED TO OHIO EPA TO DETERMINE IF ASBESTOS CORRECTIVE ACTIONS ARE REQUIRED.
12. PROCESS WASTE WATER/LEACHATE MANAGEMENT. OHIO EPA'S CONSTRUCTION GENERAL PERMIT ONLY ALLOWS THE DISCHARGE OF STORM WATER AND DOES NOT INCLUDE OTHER WASTE STREAMS/DISCHARGES SUCH AS VEHICLE AND/OR EQUIPMENT WASHING, ON-SITE SEPTIC LEACHATE CONCRETE WASH OUTS, WHICH ARE CONSIDERED PROCESS WASTEWATERS. ALL PROCESS WASTEWATERS MUST BE COLLECTED AND PROPERLY DISPOSED AT AN APPROVED DISPOSAL FACILITY. IN THE EVENT, LEACHATE OR SEPTAGE IS DISCHARGED; IT MUST BE ISOLATED FOR COLLECTION AND PROPER DISPOSAL AND CORRECTIVE ACTIONS TAKEN TO ELIMINATE THE SOURCE OF WASTE WATER.
13. A PERMIT TO INSTALL (PTI) IS REQUIRED PRIOR TO THE CONSTRUCTION OF ALL CENTRALIZED SANITARY SYSTEMS, INCLUDING SEWER EXTENSIONS, AND SEWERAGE SYSTEMS (EXCEPT THOSE SERVING ONE, TWO, AND THREE FAMILY DWELLINGS) AND POTABLE WATER LINES. PLANS MUST BE SUBMITTED AND APPROVED BY OHIO EPA. ISSUANCE OF AN OHIO EPA CONSTRUCTION GENERAL STORM WATER PERMIT DOES NOT AUTHORIZE THE INSTALLATION OF ANY SEWERAGE SYSTEM WHERE OHIO EPA HAS NOT APPROVED A PTI.

AUGUST 2012

HAMMONTREE & ASSOCIATES, LTD.
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www.hammontree.com

	REV.	BY:	DATE:	DESC.:
	REV.	BY:	DATE:	DESC.:
	REV.	BY:	01-21-13	PER DEV. COMMENTS
	REV.	BY:	01-21-13	PER CITY COMMENTS #2
	REV.	BY:	12-10-12	DESC.:
	REV.	BY:	10-15-12	DESC.:
	REV.	BY:	10-15-12	PER CITY OF MASSILLON COMMENTS

PROPERTY CITY MASSILLON 1075 WEST WILSON DRIVE - 91-31 JAMES ROAD MASSILLON, OHIO 44860

DESN BY: <u>BAB</u>	FLD BK: <u>XXX</u>
DRWN BY: <u>BAB</u>	BK PG: <u>XXX</u>
CHKD BY: <u>BHB</u>	CRW CHF: <u>XXX</u>
RWMD BY: <u>BHB</u>	CPYRGHT: 2012
DATE: 02/16/12	TAB: SWP3--N

SCALES
HORIZ:
VERT:
CONTOUR INT:

POLLUTION PREVENTION PLAN NOTES
INDUSTRIAL PARK NO. 7
MASSILLON DEVELOPMENT FOUNDATION
IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

F&S NOTES

SILT FENCE TO BE INSTALLED DOWNSTREAM OF ANY DISTURBED AREAS.
INLET PROTECTION TO BE INSTALLED AROUND ALL CATCH BASINS.
ALL DISTURBED AREAS TO BE SEEDDED.

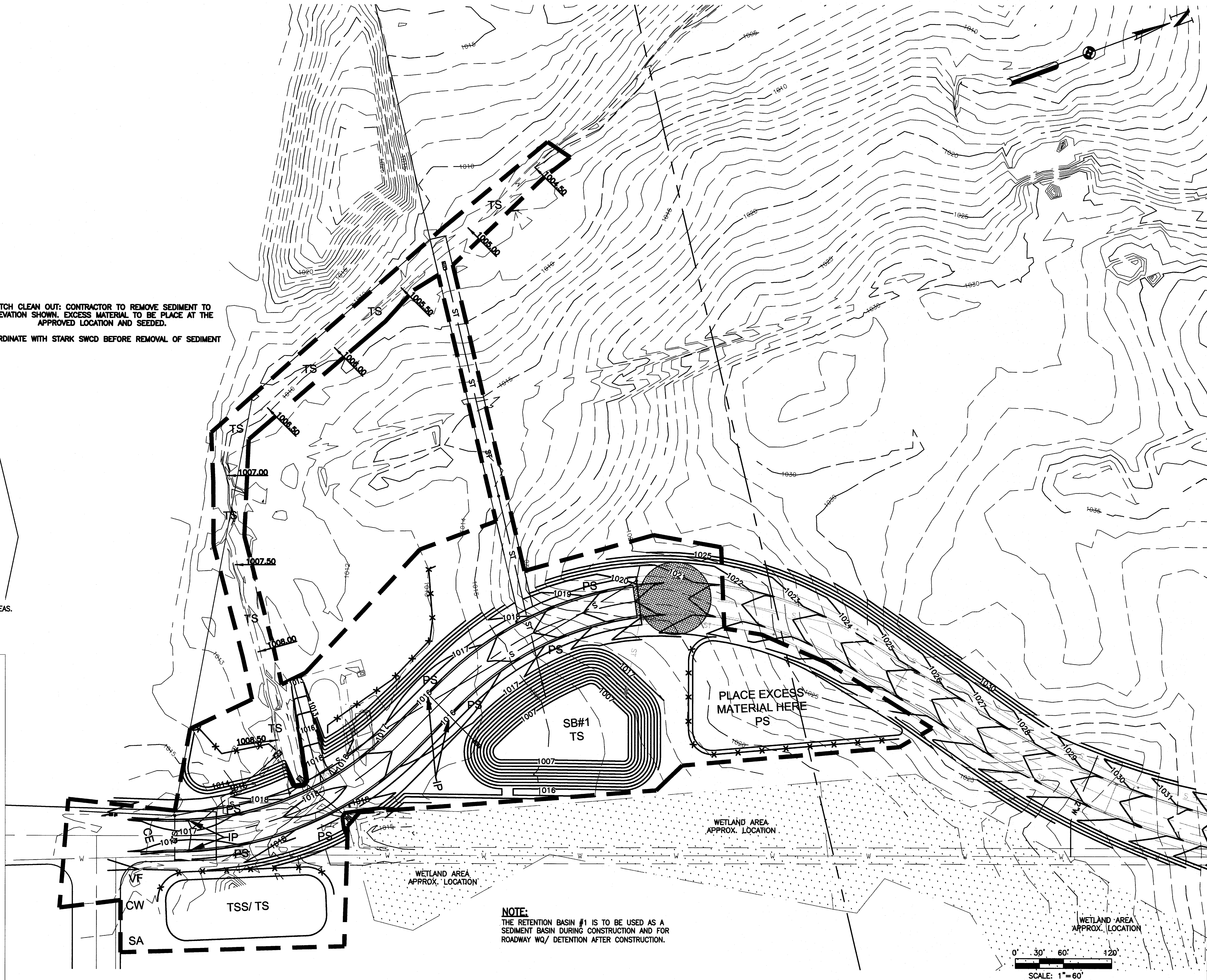
LEGEND

- CE CONSTRUCTION ENTRANCE
TD TEMPORARY DIVERSION CHANNEL
SB SEDIMENT BASIN
PS PERMANENT SEEDING
TS TEMPORARY SEEDING
TSS TOPSOIL STOCKPILE
IP INLET PROTECTION
CD CHECK DAM
VF VEHICLE FUELING AREA
SA STORAGE AREA (SOLID, SAN. WASTE.....
CW CONCRETE WASHOUT PITS

- *—*— SILT FENCE
- - - LIMITS OF CONSTRUCTION

NOTE:
CONTRACTOR TO USE TEMPORARY DIVERSION CHANNELS DURING MASS
EXCAVATION TO DIVERT RUNOFF TO SEDIMENT BASIN UNTIL STORM
SEWERS ARE INSTALLED AND FUNCTIONING. ALL DIVERSION CHANNELS
MUST BE STABILIZED AGAINST EROSION.

DITCH CLEAN OUT: CONTRACTOR TO REMOVE SEDIMENT TO
ELEVATION SHOWN. EXCESS MATERIAL TO BE PLACED AT THE
APPROVED LOCATION AND SEEDDED.
COORDINATE WITH STARK SWCD BEFORE REMOVAL OF SEDIMENT



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REV.	BY:	DATE:	DESC.:
DESIGN	BY: BAB	DATE: 02/16/12	DATE: 02/16/12
DRWN	BY: BAB	DATE: 02/16/12	DATE: 02/16/12
CHKD	BY: BHB	DATE: 02/16/12	DATE: 02/16/12
RWD	BY: BHB	DATE: 02/16/12	DATE: 02/16/12
DATE:	02/16/12	TAB:	SWP3-PA

SCALE	1"=60'
HORIZ:	1"=60'
VERT:	1"=60'
CONTOUR INT:	1'

STORMWATER POLLUTION PREVENTION PLAN
NEOCOM 1 INDUSTRIAL PARK NO. 7
FOR: MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

N.T.S.

- ### GEOTEXTILE SPECIFICATION FOR CONSTRUCTION ENTRANCE

6. TIMING: THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES

-
- 70 FT. (OR 30 FT FOR ACCESS TO INDV. HOUSE LOT)
- 14 FT MIN AND NOT LESS THAN WIDTH OF INGRESS OR EGRESS
- RIGHT OF WAY DIVERSION AS NEEDED
- ROAD OR OTHER PAVED SURFACE
- 18" OR SUFFICIENT TO DIVERT RUNOFF
- CULVERT AS NEEDED

N.T.S.

-

CROSS SECTION

- | TEMPORARY DIVERSION STABILIZATION TREATMENT | | | |
|---|--------------|--------------|--------------|
| SLOPE | < 2 AC. | 2 - 5 AC. | 5 - 10 AC. |
| 0 - 3% | SEED & STRAW | SEED & STRAW | SEED & STRAW |
| 3 - 5% | SEED & STRAW | SEED & STRAW | MATTING |
| 5 - 8% | SEED & STRAW | MATTING | MATTING |
| 8 - 20% | SEED & 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.

N.T.S



1. MATERIALS: COMPOST USED FOR FILTER BERMS SHALL BE WEED, PATHOGEN AND INSECT FREE AND FREE OF ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH. THEY SHALL BE DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER AND CONSIST OF A PARTICLES RANGING FROM 1/4" TO 3".
2. INSTALLATION: FILTER BERMS WILL BE PLACED ON A LEVEL LINE ACROSS SLOPES, GENERALLY PARALLEL TO THE BASE OF THE SLOPE OR OTHER AFFECTED AREA. ON SLOPES APPROACHING 2:1, ADDITIONAL BERMS SHALL BE PROVIDED AT THE TOP AND AS NEEDED MID-SLOPE.

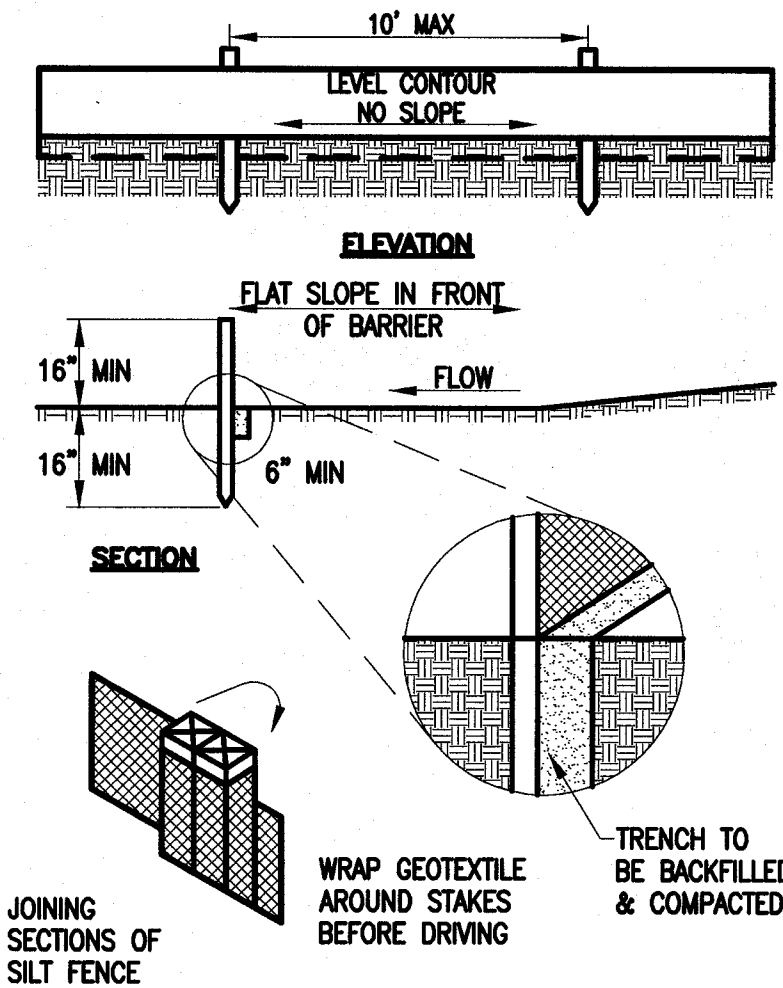
FILTER BERMS ARE NOT TO BE USED IN CONCENTRATED FLOW SITUATIONS OR IN RUNOFF CHANNELS.
3. MAINTENANCE: INSPECT FILTER BERMS AFTER EACH SIGNIFICANT RAIN, MAINTAINING THE BERMS IN A FUNCTIONAL CONDITION AT ALL TIMES. REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE FILTER BERMS WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OF THE PRACTICE. WHERE THE FILTER BERM DETERIORATES OR FAILS IT WILL BE, IT WILL BE REPAIRED OR REPLACED WITH A MORE EFFECTIVE ALTERNATIVE.
4. REMOVAL: FILTER BERMS NO LONGER NEEDED WILL BE DISPERSED ON SITE IN A MANNER THAT WILL FACILITATE SEEDING.

N.T.S.

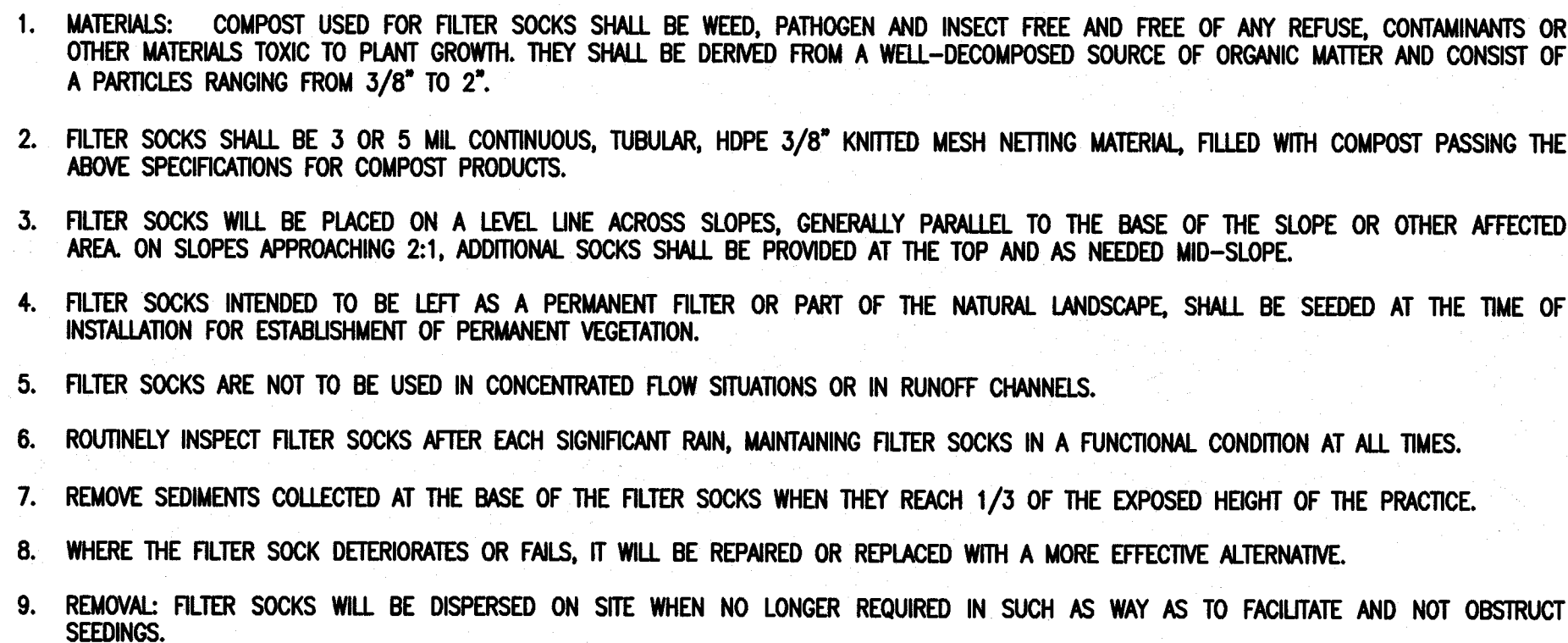
- SEDIMENT DEPOSITS SHALL BE ROUTINELY REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE-HALF OF THE HEIGHT OF THE SILT FENCE.

CRITERIA FOR SILT FENCE MATERIALS

- | FABRIC PROPERTIES | VALUES | TEST METHOD |
|---------------------------|--------------|-------------|
| MIN TENSILE STRENGTH | 120 LBS | ASTM D 4632 |
| MAX. ELONGATION AT 60 LBS | 50% | ASTM D 4632 |
| MIN. PUNCTURE STRENGTH | 50 LBS | ASTM D 4833 |
| MIN. TEAR STRENGTH | 450 LBS | ASTM D 4533 |
| APPARENT OPENING SIZE | 0.84 MM | ASTM D 4751 |
| MIN. PERMITIVITY | 1X10-2SEC.-1 | ASTM D 4491 |
| UV EXPOSURE STRENGTH | 70% | ASTM G 4355 |



N.T.S.



REV.	BY:	DATE:	DESC.:
REV.	BY:	DATE:	DESC.:
REV.	BY:	BAB	DATE: 01-21-13
REV.	BY:	BAB	DATE: 12-10-12
REV.	BY:	BAB	DATE: 10-15-12
REV.	BY:	BAB	DATE: 10-15-12

PER DEV. COMMENTS
PER CITY COMMENTS #2
PER CITY OF MASSILLON COMMENTS

IN:\PERS\CTY\MASSILLON\BUDGETS-RECORDS\2013-01-31_LIVE_RDRG_MASSILLON_7897.ZIP

DESN BY: BAB FLD BK: XXX
 DRWN BY: BAB BK PG: XXX
 CHKD BY: BHB CRW CHF: XXX
 RWD BY: BHB COPYRIGHT: 2012
 DATE: 02/16/12 TAB: SWP3-D1

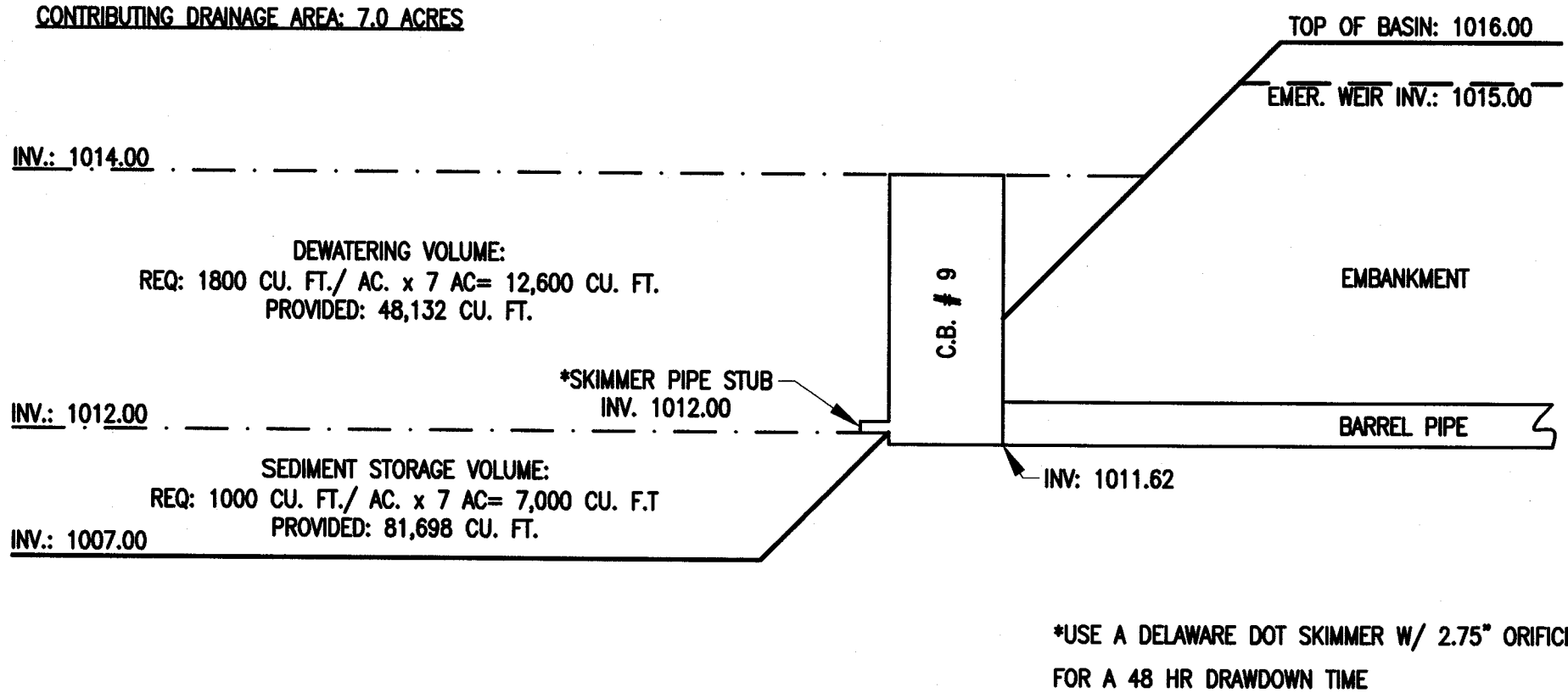
SCALES
HORIZ:
VERT:
CONTOUR INT:

STORMWATER POLLUTION PREVENTION PLAN DETAILS
NEOCOM I INDUSTRIAL PARK NO. 7
FOR: MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

SEDIMENT BASIN #1
N.T.S.

- SEDIMENT BASINS SHALL BE CONSTRUCTED AND OPERATIONAL BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
- SITE PREPARATION: 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. GULLIES AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1. THE SURFACE OF THE FOUNDATION AREA WILL BE THOROUGHLY SCARIFIED BEFORE PLACEMENT OF THE EMBANKMENT MATERIAL.
- CUT-OFF TRENCH: THE CUTOFF TRENCH SHALL BE EXCAVATED ALONG THE CENTERLINE OF THE EMBANKMENT. THE MINIMUM DEPTH SHALL BE 3 FT. UNLESS SPECIFIED DEEPER ON THE PLANS OR AS A RESULT OF SITE CONDITIONS. THE MINIMUM BOTTOM WIDTH SHALL BE 4 FT., BUT WIDE ENOUGH TO PERMIT OPERATION OF COMPACTION EQUIPMENT. THE TRENCH SHALL BE KEPT FREE OF STANDING WATER DURING BACKFILL OPERATIONS.
- EMBANKMENT: THE FILL MATERIAL SHALL BE FREE OF ALL SOD, ROOTS, FROZEN SOIL, STONES OVER 6 IN. IN DIAMETER, AND OTHER OBJECTIONABLE MATERIAL. THE PLACING AND SPREADING OF THE FILL MATERIAL SHALL BE STARTED AT THE LOWEST POINT OF THE FOUNDATION AND THE FILL SHALL BE BROUGHT UP IN APPROXIMATELY 6 IN. HORIZONTAL LAYERS OR OF SUCH THICKNESS THAT THE REQUIRED COMPACTION CAN BE OBTAINED WITH THE EQUIPMENT USED. CONSTRUCTION EQUIPMENT SHALL BE OPERATED OVER EACH LAYER IN A WAY THAT WILL RESULT IN THE REQUIRED COMPACTION. SPECIAL EQUIPMENT SHALL BE USED WHEN THE REQUIRED COMPACTION CANNOT BE OBTAINED WITHOUT IT. THE MOISTURE CONTENT OF FILL MATERIAL SHALL BE SUCH THAT THE REQUIRED DEGREE OF COMPACTION CAN BE OBTAINED WITH THE EQUIPMENT USED.
- PIPE SPILLWAY: THE PIPE CONDUIT BARREL SHALL BE PLACED ON A FIRM FOUNDATION TO THE LINES AND GRADES SHOWN ON THE PLANS. CONNECTIONS BETWEEN THE RISER AND BARREL, THE ANTI-SEEP COLLARS AND BARREL AND ALL PIPE JOINTS SHALL BE WATERTIGHT. SELECTED BACKFILL MATERIAL SHALL BE PLACED AROUND THE CONDUIT IN LAYERS AND EACH LAYER SHALL BE COMPACTED TO AT LEAST THE SAME DENSITY AS THE ADJACENT EMBANKMENT. ALL CONSTRUCTION WITHIN 2 FT. OF THE PIPE SPILLWAY WILL BE ACCOMPLISHED WITH HAND-OPERATED TAMPING EQUIPMENT.
- DURING CONSTRUCTION, CB #9 WILL SERVE AS THE OUTLET STRUCTURE FOR THE SEDIMENT BASIN. A SKIMMER WILL BE USED FOR DEWATERING THE BASIN (SEE DETAIL ON SHEET 20).
- TRASH RACKS: THE TOP OF THE C.B. SHALL BE FITTED WITH TRASH RACKS FIRMLY FASTENED.
- EMERGENCY SPILLWAY: THE EMERGENCY SPILLWAY SHALL BE CUT IN UNDISTURBED GROUND. ACCURATE CONSTRUCTION OF THE SPILLWAY ELEVATION AND WIDTH IS CRITICAL AND SHALL BE WITHIN A TOLERANCE OF 0.2 FT.
- SEED AND MULCH: THE SEDIMENT BASIN SHALL BE STABILIZED IMMEDIATELY FOLLOWING ITS CONSTRUCTION. IN NO CASE SHALL THE EMBANKMENT OR EMERGENCY SPILLWAY REMAIN BARE FOR MORE THAN 7 DAYS.
- SEDIMENT CLEANOUT: SEDIMENT SHALL BE REMOVED AND THE SEDIMENT BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS FILLED ONE-HALF THE POND'S ORIGINAL DEPTH OR AS INDICATED ON THE PLANS. SEDIMENT REMOVED FROM THE BASIN SHALL BE PLACED SO THAT IT WILL NOT ERODE.
- ONCE CONSTRUCTION IS COMPLETE AND 80% OF THE UPLAND VEGETATION IS ESTABLISHED, THE SKIMMER WILL BE REMOVED AND THE REVERSE FLOW PIPE (PER DETAIL ON SHEET 18) WILL BE INSTALLED. FINALLY THE SEDIMENT BASIN IS TO BE REGRADED TO THE FINAL RETENTION BASIN CONFIGURATION AND SEEDED.

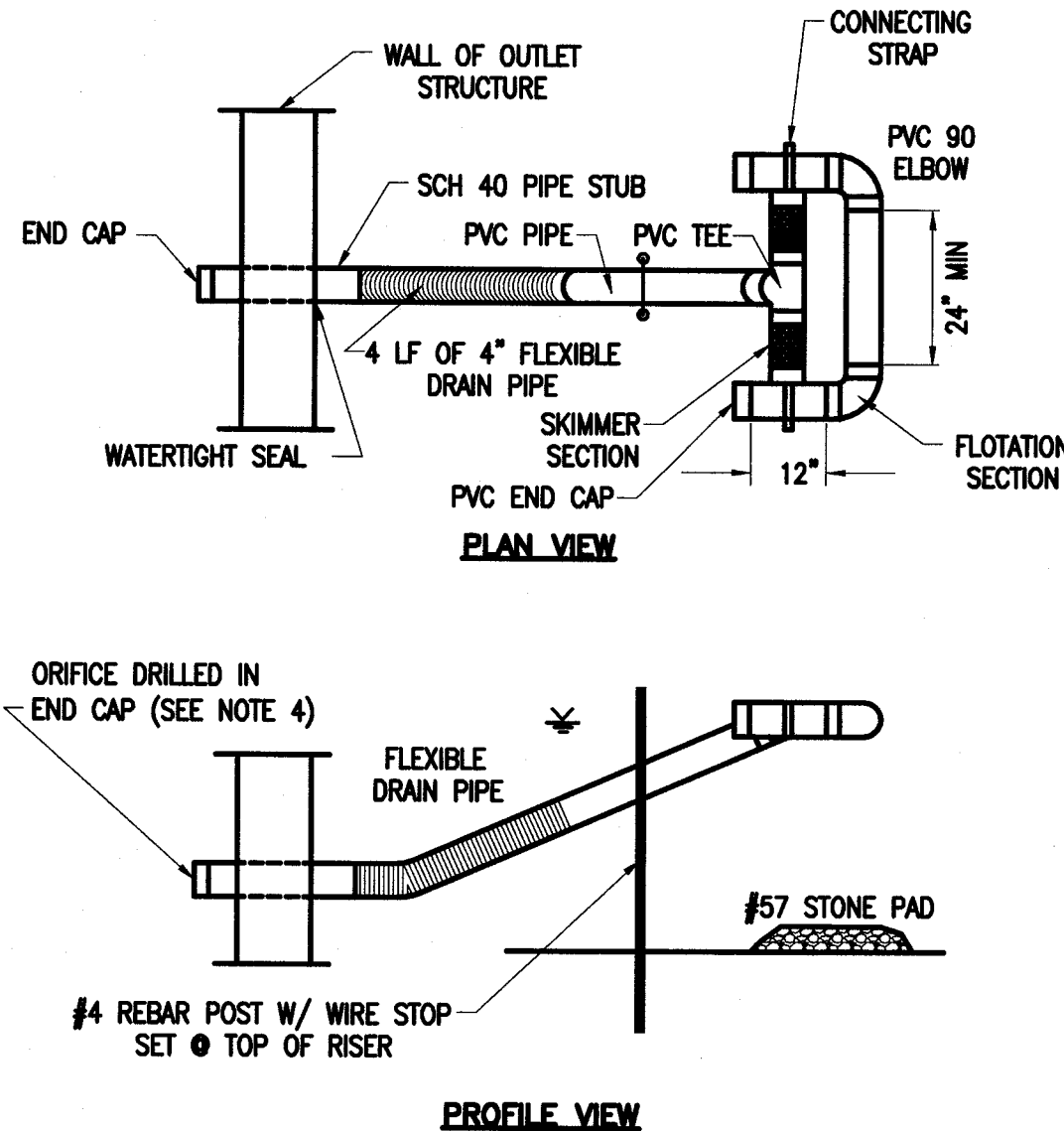
CONTRIBUTING DRAINAGE AREA: 7.0 ACRES



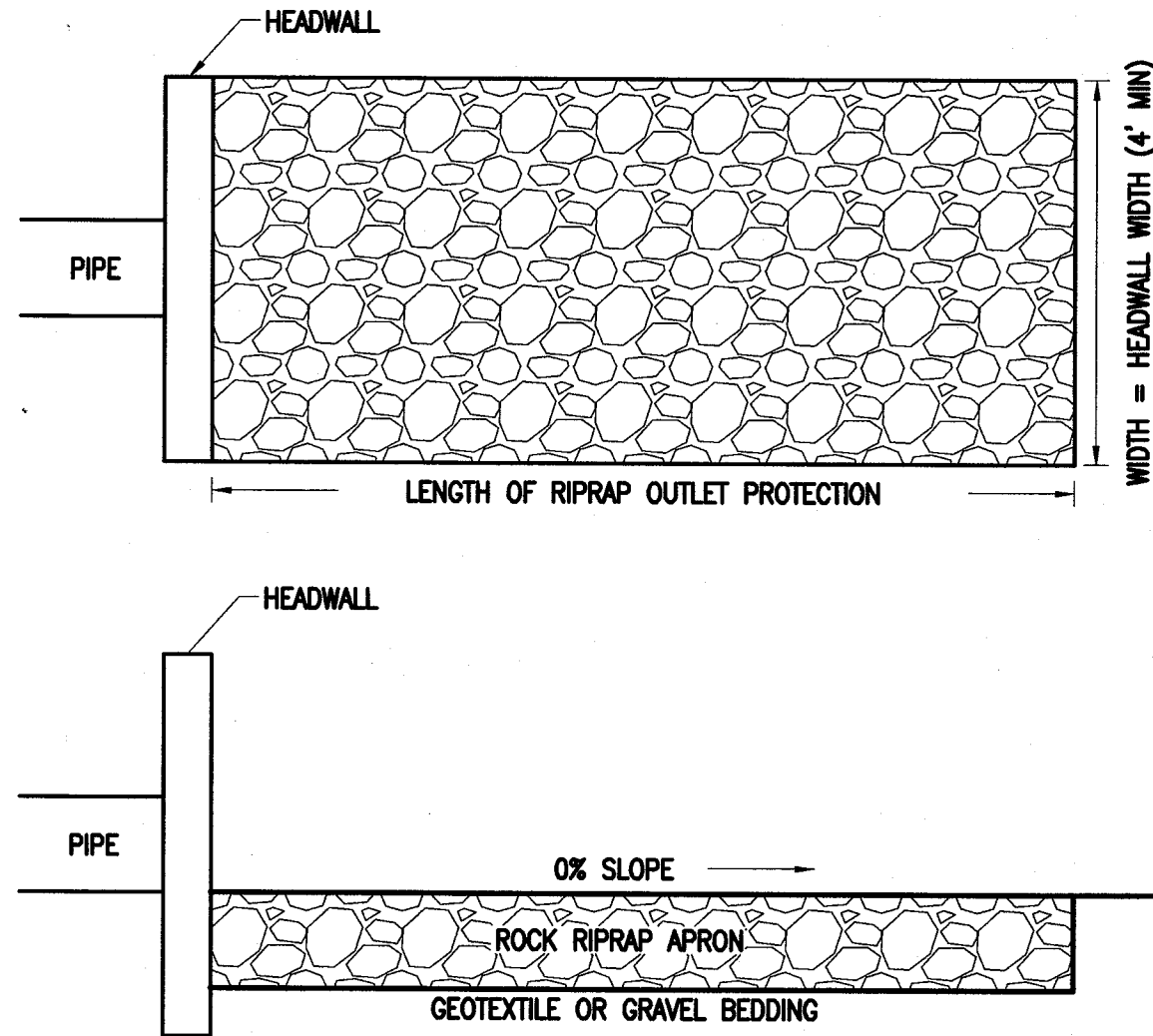
SKIMMER DEWATERING DEVICE
N.T.S.

NOTES:

- ALL JOINTS OF THE FLOATATION SECTION SHALL BE GLUED TOGETHER AND WATERTIGHT. JOINTS OF THE SKIMMER SECTION NEED NOT BE WATERTIGHT.
- TO INSTALL DEWATERING PIPE STUB:
FOR CORRUGATED METAL RISER, STUB SHALL BE SCH 40 STEEL PIPE TACK WELDED TO CREATE WATERTIGHT SEAL.
FOR CONCRETE RISER, STUB SHALL BE SCH 40 PVC PIPE GROUTED TO CREATE A WATERTIGHT SEAL.
- FLEXIBLE, NON PERFORATED HDPE DRAIN PIPE SHALL BE ATTACHED TO OUTLET STRUCTURE DEWATERING STUB WITH WATERTIGHT CONNECTIONS.
- USE A 2.75" ORIFICE DRILLED @ INV. 1012.00 FOR A MINIMUM 48-HOUR DEWATERING TIME.



ROCK OUTLET PROTECTION
N.T.S.



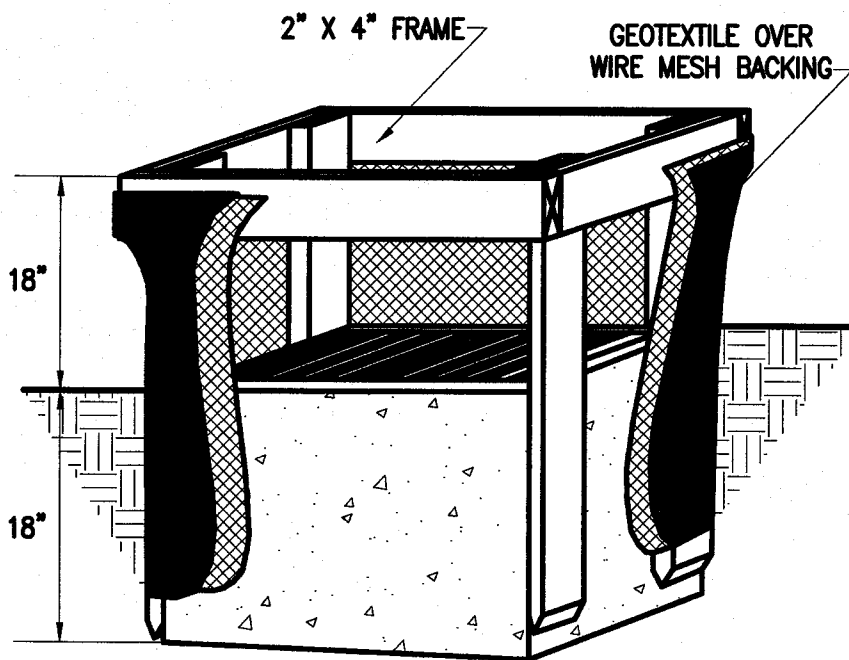
- SUBGRADE FOR THE FILTER OR BEDDING AND RIPRAP SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES AS SHOWN ON THE PLAN. THE SUBGRADE SHALL BE CLEARED OF ALL TREES, STUMPS, ROOTS, SOD, LOOSE ROCK, OR OTHER MATERIAL.
- RIPRAP SHALL CONFORM TO THE GRADING LIMITS AS SHOWN ON THE PLAN.
- GEOTEXTILE SHALL BE SECURELY ANCHORED ACCORDING TO MANUFACTURERS' RECOMMENDATIONS.
- GEOTEXTILE SHALL BE LAID WITH THE LONG DIMENSION PARALLEL TO THE DIRECTION OF FLOW AND SHALL BE LAID LOOSELY BUT WITHOUT WRINKLES AND CREASES. WHERE JOINTS ARE NECESSARY, STRIPS SHALL BE PLACED TO PROVIDE A 12-IN. MINIMUM OVERLAP, WITH THE UPSTREAM STRIP OVERLAPPING THE DOWNSTREAM STRIP.
- GRAVEL BEDDING SHALL BE 0DOT NO. 67S OR 57S UNLESS SHOWN DIFFERENTLY ON THE DRAWINGS.
- RIPRAP MAY BE PLACED BY EQUIPMENT BUT SHALL BE PLACED IN A MANNER TO PREVENT SLIPPAGE OR DAMAGE TO THE GEOTEXTILE.
- RIPRAP SHALL BE PLACED BY A METHOD THAT DOES NOT CAUSE SEGREGATION OF SIZES. EXTENSIVE PUSHING WITH A DOZER CAUSES SEGREGATION AND SHALL BE AVOIDED BY DELIVERING RIPRAP NEAR ITS FINAL LOCATION WITHIN THE CHANNEL.
- CONSTRUCTION SHALL BE SEQUENCED SO THAT OUTLET PROTECTION IS PLACED AND FUNCTIONAL WHEN THE STORM DRAIN, CULVERT, OR OPEN CHANNEL ABOVE IT BECOMES OPERATIONAL.
- ALL DISTURBED AREAS WILL BE VEGETATED AS SOON AS PRACTICAL.

DE-WATERING

- A DE-WATERING PLAN SHALL BE DEVELOPED PRIOR TO THE COMMENCEMENT OF ANY PUMPING ACTIVITIES.
- THE DE-WATERING PLAN SHALL INCLUDE ALL PUMPS AND RELATED EQUIPMENT NECESSARY FOR THE DEWATERING ACTIVITIES AND DESIGNATE AREAS FOR PLACEMENT OF PRACTICES. OUTLETS FOR PRACTICES SHALL BE PROTECTED FROM SCOUR EITHER BY RIPRAP PROTECTION, FABRIC LINER, OR OTHER ACCEPTABLE METHOD OF OUTLET PROTECTION.
- WATER THAT IS NOT DISCHARGED INTO A SETTLING/TREATMENT BASIN BUT DIRECTLY INTO WATERS OF THE STATE SHALL BE MONITORED HOURLY. DISCHARGED WATER SHALL BE WITHIN ±5' F OF THE RECEIVING WATERS.
- SETTLING BASINS SHALL NOT BE GREATER THAN FOUR (4) FEET IN DEPTH. THE BASIN SHALL BE CONSTRUCTED FOR SEDIMENT STORAGE AS OUTLINED IN CHAPTER 6, SEDIMENT BASIN OR SEDIMENT TRAP. THE INLET AND OUTLET FOR THE BASIN SHALL BE LOCATED AT THE FURTHEST POINTS OF THE STORAGE. A FLOATING OUTLET SHALL BE USED TO ENSURE THAT SETTLED SOLIDS DO NOT RE-SUSPEND DURING THE DISCHARGE PROCESS. THE SETTLING BASIN SHALL BE CLEANED OUT WHEN THE STORAGE HAS BEEN REDUCED BY 50% OF ITS ORIGINAL CAPACITY.
- ALL NECESSARY NATIONAL, STATE AND LOCAL PERMITS SHALL BE SECURED PRIOR TO DISCHARGING INTO WATERS OF THE STATE.

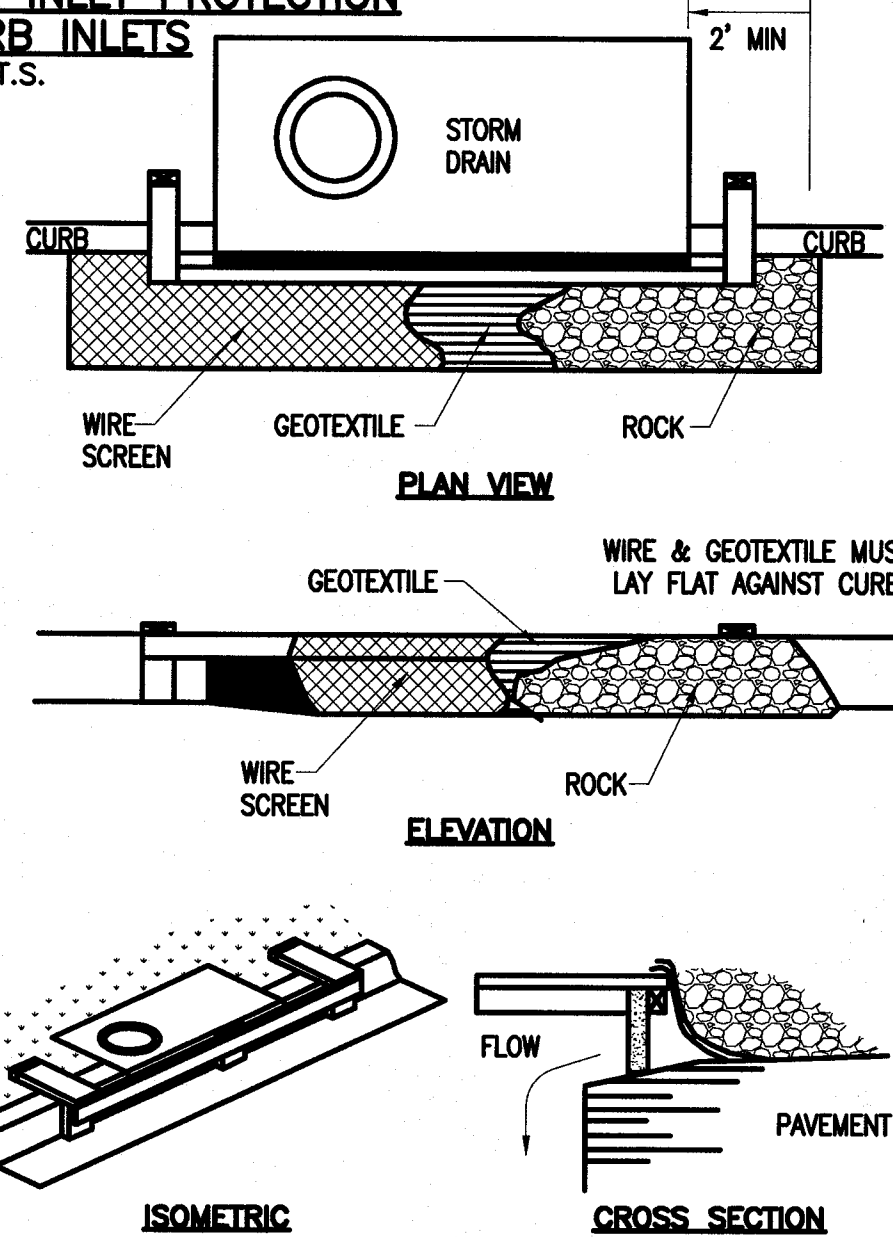
GEOTEXTILE INLET PROTECTION
N.T.S.

- INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE INLET BECOMES FUNCTIONAL.
- THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH AT LEAST 18 INCHES.
- THE WOODEN FRAME SHALL BE CONSTRUCTED OF 2-INCH BY 4-INCH CONSTRUCTION GRADE LUMBER. THE 2-INCH BY 4-INCH POSTS SHALL BE DRIVEN ONE (1) FT. INTO THE GROUND AT FOUR CORNERS OF THE INLET AND THE TOP PORTION OF 2-INCH BY 4-INCH FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN. THE TOP OF THE FRAME SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WILL POSE A SAFETY HAZARD TO TRAFFIC.
- 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.
- GEOTEXTILE MATERIAL 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 INCHES 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.
- BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6-INCH LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES.
- A COMPACTED EARTH DIKE OR CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION. THE TOP OF THE DIKE SHALL BE AT LEAST 6 INCHES HIGHER THAN THE TOP OF THE FRAME.



GEOTEXTILE-STONE INLET PROTECTION FOR CURB INLETS
N.T.S.

- INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE INLET BECOMES FUNCTIONAL.
- CONSTRUCT A WOODEN FRAME 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.
- 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.
- 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.
- 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.
- 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.
- THIS TYPE OF PROTECTION MUST BE INSPECTED FREQUENTLY AND THE STONE AND/OR GEOTEXTILE REPLACED WHEN CLOGGED WITH SEDIMENT.



CONCRETE WASHOUT FACILITY
N.T.S.

NOTES:
TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE LOCATED A MINIMUM OF 50 FT FROM STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES, AND WATERCOURSES. EACH FACILITY SHOULD BE LOCATED AWAY FROM CONSTRUCTION TRAFFIC OR ACCESS AREAS TO PREVENT DISTURBANCE OR TRACKING.

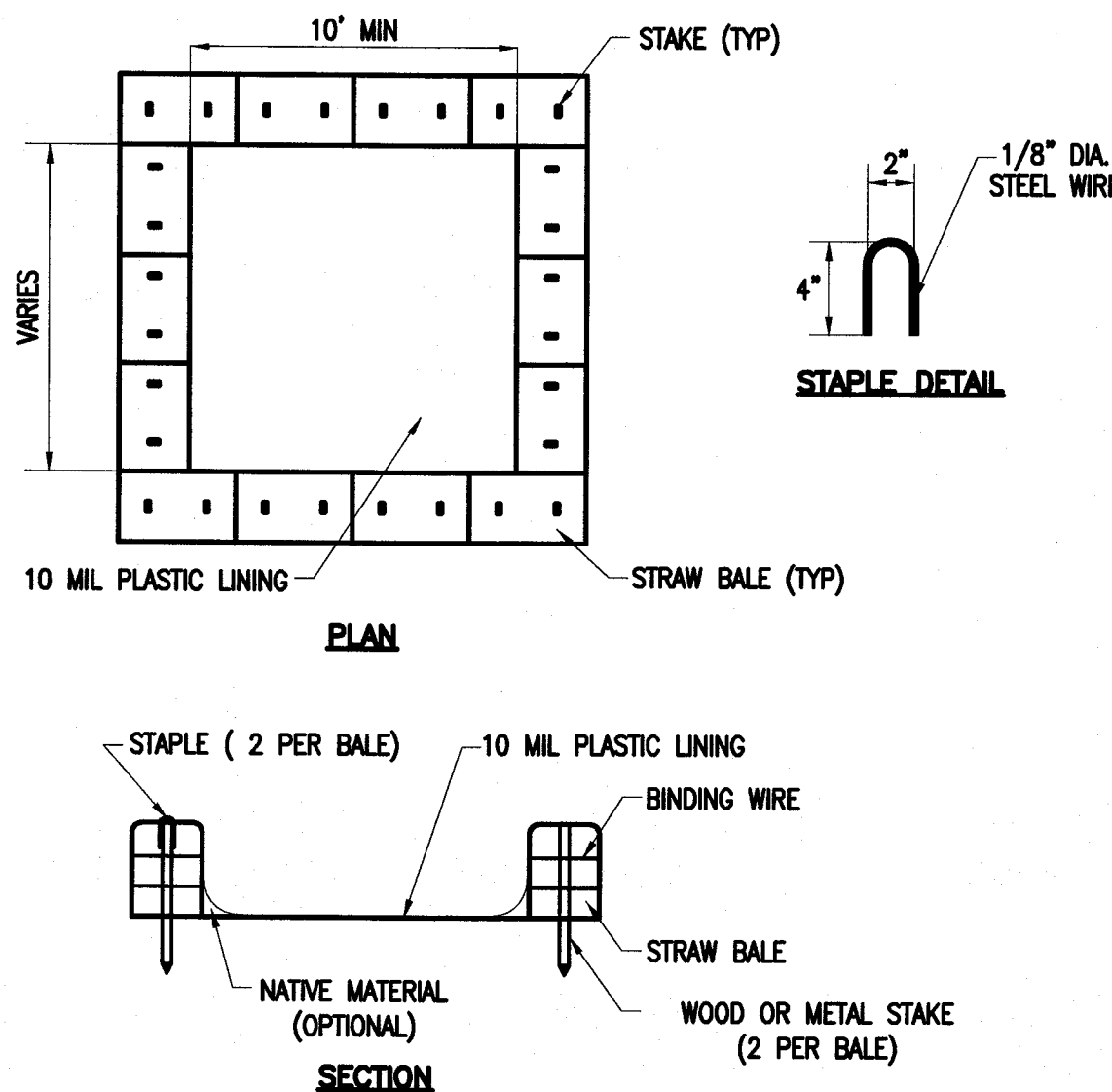
A SIGN SHOULD BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.

TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE CONSTRUCTED ABOVE GRADE OR BELOW GRADE AT THE OPTION OF THE CONTRACTOR. TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

ONLY CONCRETE FROM MIXER TRUCK CHUTES SHOULD BE WASHED INTO CONCRETE WASH OUT.

CONCRETE WASHOUT FROM CONCRETE PUMPER BINS CAN BE WASHED INTO CONCRETE PUMPER TRUCKS AND DISCHARGED INTO DESIGNATED WASHOUT AREA OR PROPERLY DISPOSED OF OFFSITE.

ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN, THE CONCRETE SHOULD BE BROKEN UP, REMOVED, AND DISPOSED OF ON A REGULAR BASIS.



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CHECKED BY: <u>BHB</u>	CHKO BY: <u>BHB</u>	REV. BY: <u>BAB</u>	DATE: <u>01-21-13</u>	DESC.: <u>PER DEV. COMMENTS</u>
REVIEWED BY: <u>BHB</u>	CPYRIGHT: 2012	REV. BY: <u>BAB</u>	DATE: <u>12-10-12</u>	DESC.: <u>PER CITY COMMENTS #2</u>
DATE: <u>02/16/12</u>	TAB: <u>SWP3-D2</u>	REV. BY: <u>BAB</u>	DATE: <u>10-15-12</u>	DESC.: <u>PER CITY OF MASSILLON COMMENTS</u>
BY: PLOTTER: C:\MY\MASSILLON\121512012-RECON\1215-01-01.dwg PLOT: MASSILLON 2007/2008				

STORMWATER POLLUTION PREVENTION PLAN DETAILS
NEOCOM 1 INDUSTRIAL PARK NO. 7
FOR: MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO
28
30

TEMPORARY SEEDING

SEEDING DATES	SPECIES	LB./1000 FT2	LB./ACRE
MARCH 1 TO AUGUST 15	OATS TALL FESCUE ANNUAL RYEGRASS	3	128
		1	40
		1	40
	PERENNIAL RYEGRASS TALL FESCUE ANNUAL RYEGRASS	1	40
		1	40
		1	40
	ANNUAL RYEGRASS PERENNIAL RYEGRASS CREEPING RED FESCUE KENTUCKY BLUEGRASS	1.25	55
		3.25	142
		0.40	17
		0.40	17
AUGUST 16TH TO NOVEMBER	OATS TALL FESCUE ANNUAL RYEGRASS	3	128
		1	40
		1	40
	RYE TALL FESCUE ANNUAL RYEGRASS	3	112
		1	40
		1	40
	WHEAT TALL FESCUE ANNUAL RYEGRASS	3	120
		1	40
		1	40
	PERENNIAL RYE TALL FESCUE ANNUAL RYEGRASS	1	40
		1	40
		1	40
NOVEMBER 1 TO FEB. 29	ANNUAL RYEGRASS PERENNIAL RYEGRASS CREEPING RED FESCUE KENTUCKY BLUEGRASS	1.25	40
		3.25	40
		0.40	40
		0.40	40
	USE MULCH ONLY OR DORMANT SEEDING		

NOTE: OTHER APPROVED SPECIES MAY BE SUBSTITUTED.

- STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION SITE.
- TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 21 DAYS OR GREATER. THESE IDLE AREAS SHALL BE SEEDED WITHIN 7 DAYS AFTER GRADING.
- THE SEEDBED SHOULD BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. TEMPORARY SEEDING SHOULD NOT BE POSTPONED IF IDEAL SEEDBED PREPARATION IS NOT POSSIBLE.
- SOIL AMENDMENTS: TEMPORARY VEGETATION SEEDING RATES SHALL ESTABLISH ADEQUATE STANDS OF VEGETATION, WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. BASE RATES FOR LIME AND FERTILIZER SHALL BE USED.
- SEEDING METHOD: SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SPREADER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON-SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

GRADE TREATMENT

CUT SLOPES—GREATER THAN 3:1 SLOPES

- STAIR-STEP GRADING MAY BE CARRIED OUT ON ANY MATERIAL SOFT ENOUGH TO BE RIPPED WITH A BULLDOZER. THE RATIO OF THE HORIZONTAL DISTANCE TO THE VERTICAL CUT DISTANCE SHALL BE FLATTER THAN 1:1 AND THE HORIZONTAL PORTION OF THE 'STEP' SHALL SLOPE TOWARD THE VERTICAL WALL. INDIVIDUAL VERTICAL CUTS SHALL NOT BE MORE THAN 24 INCHES ON SOFT SOIL MATERIALS AND NOT MORE THAN 36 INCHES IN ROCKY MATERIALS.
- GROOVING MAY BE MADE WITH ANY APPROPRIATE IMPLEMENT WHICH CAN BE SAFELY OPERATED ON THE SLOPE AND WHICH WILL NOT CAUSE UNDUE COMPACTION. SUGGESTED IMPLEMENTS INCLUDE DISCS, TILLERS, SPRING HARROWS, AND THE TEETH ON A FRONT-END LOADER BUCKET. SUCH GROOVES SHALL NOT BE LESS THAN 3 INCHES DEEP NOR FURTHER THAN 15 INCHES APART.

FILL SLOPES—GREATER THAN 3:1 SLOPES

- FILL SLOPES STEEPER THAN 3:1 SHALL BE GROOVED OR ALLOWED TO REMAIN ROUGH AS THEY ARE CONSTRUCTED UTILIZING METHOD (1) OR (2) BELOW.
- GROOVING MAY BE MADE WITH ANY APPROPRIATE IMPLEMENT WHICH CAN BE SAFELY OPERATED ON THE SLOPE AND WHICH WILL NOT CAUSE UNDUE COMPACTION SUCH AS DISCS, TILLERS, SPRING HARROWS, AND THE TEETH ON A FRONT-END LOADER BUCKET. GROOVES LEFT SHALL NOT BE LESS THAN 3 INCHES DEEP NOR FURTHER THAN 15 INCHES APART.
 - AS LIFTS OF THE FILL ARE CONSTRUCTED, SOIL AND ROCK MATERIALS MAY BE ALLOWED TO FALL NATURALLY ONTO THE SLOPE SURFACE. AT NO TIME SHALL SLOPES BE BLADED OR SCRAPED TO PRODUCE A SMOOTH, HARD SURFACE.

CUTS, FILLS, AND GRADED AREAS WHICH WILL BE MOWED

- MOWED SLOPES SHOULD NOT BE STEEPER THAN 3:1 AND SHALL AVOID EXCESSIVE ROUGHNESS. THESE AREAS MAY BE ROUGHENED WITH SHALLOW GROOVES SUCH AS THOSE, WHICH REMAIN AFTER TILLING, DISCING, HARROWING, RAKING, OR USE OF A CULTIPACKER-SEEDER. THE FINAL PASS OF ANY SUCH TILLAGE IMPLEMENT SHALL BE ON THE CONTOUR (PERPENDICULAR TO THE SLOPE).
- GROOVES FORMED BY IMPLEMENTS SHALL BE NOT LESS THAN 1 INCH DEEP AND NOT FURTHER THAN 12 INCHES APART. FILL SLOPES THAT ARE LEFT ROUGH DURING CONSTRUCTION MAY BE SMOOTHED WITH A CHAIN HARROW OR SIMILAR IMPLEMENT TO FACILITATE MOWING.

PERMANENT SEEDING

SEED MIX	SEEDING RATE		NOTES:
	LBS./ACRE	LBS./1,000 SQ. FEET	
	GENERAL USE		
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	20-40 10-20 20-40	1/2-1 1/4-1/2 1/2-1	FOR CLOSE MOWING & FOR WATERWAYS WITH <2.0 FT/SEC VELOCITY
TALL FESCUE TURF-TYPE (DWARF) FESCUE	40-50 90	1-1 1/4 2 1/4	
STEEP BANKS OR CUT SLOPES			
TALL FESCUE CROWN VETCH TALL FESCUE	40-50 10-20 20-30	1-1 1/4 1/4-1/2 1/2-3/4	DO NOT SEED LATER THAN AUGUST
FLAT PEA TALL FESCUE	20-25 20-30	1/2-3/4 1/2-3/4	DO NOT SEED LATER THAN AUGUST
ROAD DITCHES AND SWALES			
TALL FESCUE TURF-TYPE (DWARF) FESCUE KENTUCKY BLUEGRASS	40-50 80 5	1-1 1/4 2 1/4 0.1	
LAWNS			
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	100-120	2 2	
KENTUCKY BLUEGRASS CREEPING RED FESCUE	100-120	2 1-1/2	FOR SHADED AREAS

SITE PREPARATION:

- 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.
- THE SITE SHALL BE GRADED AS NEEDED TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION AND SEEDING.
- TOPSOIL SHALL BE APPLIED WHERE NEEDED TO ESTABLISH VEGETATION.

SEEDBED PREPARATION:

- 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 POUNDS PER 1,000-SQ. FT. OR 2 TONS PER ACRE.
- FERTILIZER: FERTILIZER SHALL BE APPLIED AS RECOMMENDED BY A SOIL TEST. IN PLACE OF A SOIL TEST, FERTILIZER SHALL BE APPLIED AT A RATE OF 25 POUNDS PER 1,000-SQ. FT. OR 1000 POUNDS PER ACRE OF A 10-10-10 OR 12-12-12 ANALYSES.
- 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 INCHES. 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 AUGUST 1 TO SEPTEMBER 30. IF SEEDING OCCURS OUTSIDE OF THE ABOVE-SPECIFIED DATES, ADDITIONAL MULCH AND IRRIGATION MAY BE REQUIRED TO ENSURE A MINIMUM OF 80% GERMINATION. TILLAGE FOR 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:

- SEEDINGS SHOULD NOT BE MADE 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.

TOPSOILING

SALVAGING AND STOCKPILING:

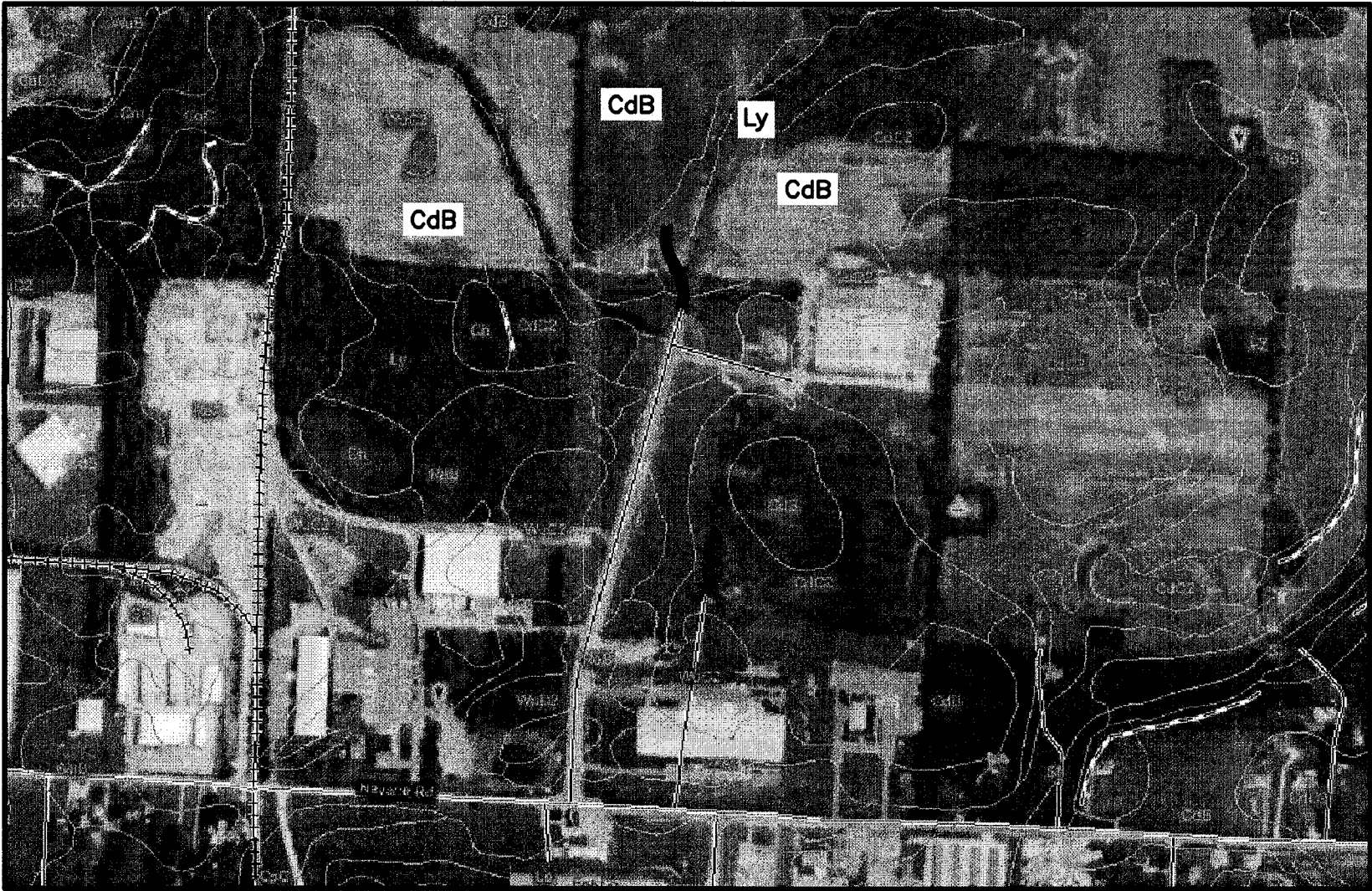
- DETERMINE THE DEPTH AND SUITABILITY OF TOPSOIL AT THE SITE. (FOR HELP, CONTACT YOUR LOCAL SWCD OFFICE TO OBTAIN A COUNTY SOIL SURVEY REPORT).
- PRIOR TO STRIPPING TOPSOIL, INSTALL APPROPRIATE DOWNSLOPE EROSION AND SEDIMENTATION CONTROLS SUCH AS SEDIMENT TRAPS AND BASINS.
- REMOVE THE SOIL MATERIAL NO DEEPER THAN WHAT THE COUNTY SOIL SURVEY DESCRIBES AS 'SURFACE SOIL' (IE. A OR AP HORIZON).
- CONSTRUCT STOCKPILES IN ACCESSIBLE LOCATIONS THAT DO NOT INTERFERE WITH NATURAL DRAINAGE. INSTALL APPROPRIATE SEDIMENT CONTROLS TO TRAP SEDIMENT SUCH AS SILT FENCE IMMEDIATELY ADJACENT TO THE STOCKPILE OR SEDIMENT TRAPS OR BASINS DOWNSTREAM OF THE STOCKPILE. STOCKPILE SIDE SLOPES SHALL NOT EXCEED A RATIO OF 2:1.
- IF TOPSOIL IS STORED FOR MORE THAN 21DAYS, IT SHOULD BE TEMPORARY SEEDED, OR COVERED WITH A TARP.

SPREADING THE TOPSOIL

- PRIOR TO APPLYING TOPSOIL, THE TOPSOIL SHOULD BE PULVERIZED.
- TO ENSURE BONDING, GRADE THE SUBSOIL AND ROUGHEN THE TOP 3-4 IN. BY DISKING.
- DO NOT APPLY WHEN SITE IS WET, MUDDY, OR FROZEN, BECAUSE IT MAKES SPREADING DIFFICULT, CAUSES COMPACTION PROBLEMS, AND INHIBITS BONDING WITH SUBSOIL.
- APPLY TOPSOIL EVENLY TO A DEPTH OF AT LEAST 4 INCHES AND COMPACT SLIGHTLY TO IMPROVE CONTACT WITH SUBSOIL.
- AFTER SPREADING, GRADE AND STABILIZE WITH SEEDING OR APPROPRIATE VEGETATION.

SOILS MAP

N.T.S.



WETLAND MAP

N.T.S.



FEMA MAP

N.T.S.



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STORMWATER POLLUTION PREVENTION PLAN DETAILS
NEOCOM 1 INDUSTRIAL PARK NO. 7
FOR: MASSILLON DEVELOPMENT FOUNDATION
LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

CONSTRUCTION SITE INSPECTION CHECKLIST

BY MAKING USE OF SOME SIMPLE BEST MANAGEMENT PRACTICES (BMPS) A CONSTRUCTION SITE OPERATOR CAN DO HIS OR HER SHARE TO PROTECT OHIO'S WATER RESOURCES FROM THE HARMFUL EFFECTS OF SEDIMENT. THE TOPOGRAPHY OF THE SITE AND THE EXTENT OF THE CONSTRUCTION ACTIVITIES WILL DETERMINE WHICH OF THESE PRACTICES ARE APPLICABLE TO ANY GIVEN SITE, BUT THE BMPS LISTED HERE ARE APPLICABLE TO MOST CONSTRUCTION SITES. FOR DETAILS ON THE INSTALLATION AND MAINTENANCE OF THESE BMPS, PLEASE REFER TO RAINWATER AND LAND DEVELOPMENT. OHIO'S STANDARDS FOR STORM WATER MANAGEMENT, LAND DEVELOPMENT AND URBAN STREAM PROTECTION (OHIO DEPARTMENT OF NATURAL RESOURCES, 1996), AVAILABLE FROM YOUR COUNTY SOIL AND WATER CONSERVATION DISTRICT (SWCD) OR BY CONTACTING THE ODNR DIVISION OF SOIL AND WATER CONSERVATION.

TEMPORARY STABILIZATION

THIS IS THE MOST EFFECTIVE BMP. ALL DISTURBED AREAS THAT WILL LIE DORMANT FOR OVER 21 DAYS MUST BE STABILIZED WITHIN 7 DAYS OF THE DATE THE AREA BECOMES INACTIVE. THE GOAL OF TEMPORARY STABILIZATION IS TO PROVIDE COVER, QUICKLY. AREAS WITHIN 50 FEET OF A STREAM MUST BE STABILIZED WITHIN 2 DAYS OF INACTIVITY. THIS IS ACCOMPLISHED BY SEEDING WITH FAST-GROWING GRASSES THEN COVERING WITH STRAW MULCH. APPLY ONLY MULCH BETWEEN NOVEMBER 1 AND MARCH 31. TO MINIMIZE YOUR COSTS OF TEMPORARY STABILIZATION, LEAVE NATURAL COVER IN PLACE FOR AS LONG AS POSSIBLE. ONLY DISTURB AREAS YOU INTEND TO WORK WITHIN THE NEXT 21 DAYS.

CONSTRUCTION ENTRANCES

CONSTRUCTION ENTRANCES ARE INSTALLED TO MINIMIZE OFF-SITE TRACKING OF SEDIMENTS. A STONE ACCESS DRIVE SHOULD BE INSTALLED AT EVERY POINT WHERE VEHICLES ENTER OR EXIT THE SITE. EVERY INDIVIDUAL LOT SHOULD ALSO HAVE ITS OWN DRIVE ONCE CONSTRUCTION ON THE LOT BEGINS.

SEDIMENT PONDS

THIS IS THE SEDIMENT CONTROL OF CHOICE FOR AREAS, WHICH EXCEED THE DESIGN CAPACITY OF SILT FENCE (SEE PAGE 119 OF THE RAINWATER MANUAL) OR TO CONTROL CONCENTRATED RUNOFF. THERE ARE TWO TYPES OF SEDIMENT PONDS: SEDIMENT BASINS AND SEDIMENT TRAPS. A SEDIMENT TRAP IS APPROPRIATE WHERE THE CONTRIBUTING DRAINAGE AREA IS 10 ACRES OR LESS. THE OUTLET IS AN EARTHEN EMBANKMENT WITH A SIMPLE STONE SPILLWAY. A SEDIMENT BASIN IS APPROPRIATE FOR DRAINAGE AREAS LARGER THAN 10 ACRES. THE OUTLET IS AN ENGINEERED RISER PIPE. OFTEN A PERMANENT STORM WATER MANAGEMENT POND, SUCH AS A RETENTION OR DETENTION BASIN, CAN BE MODIFIED TO ACT AS A SEDIMENT BASIN DURING CONSTRUCTION. ALL SEDIMENT PONDS, REGARDLESS OF WHETHER THEY ARE A TRAP OR A BASIN AND REGARDLESS OF WHETHER THEY WILL BECOME A PERMANENT STORM WATER POND, MUST PROVIDE A MINIMUM STORAGE OF 67 CUBIC YARDS PER ACRE OF TOTAL CONTRIBUTING DRAINAGE AREA. SEDIMENT PONDS MUST BE INSTALLED WITHIN 7 DAYS OF FIRST GRUBBING THE AREA THEY CONTROL.

SILT FENCE

THIS IS TYPICALLY USED AT THE PERIMETER OF A DISTURBED AREA. IT'S ONLY FOR SMALL DRAINAGE AREAS ON RELATIVELY FLAT SLOPES OR AROUND SMALL SOIL STORAGE PILES. NOT SUITABLE WHERE RUNOFF IS CONCENTRATED IN A DITCH, PIPE OR THROUGH STREAMS. FOR LARGE DRAINAGE AREAS WHERE FLOW IS CONCENTRATED, COLLECT RUNOFF IN DIVERSION BERMS OR CHANNELS AND PASS IT THROUGH A SEDIMENT POND PRIOR TO DISCHARGING IT FROM THE SITE. COMBINATION BARRIERS CONSTRUCTED OF SILT FENCE SUPPORTED BY STRAW BALES OR SILT FENCE EMBEDDED WITHIN ROCK CHECK DAMS MAY BE EFFECTIVE WITHIN SMALL CHANNELS. AS WITH ALL SEDIMENT CONTROLS, SILT FENCE MUST BE CAPABLE OF PONDING RUNOFF SO THAT SEDIMENT CAN SETTLE OUT OF SUSPENSION. SILT FENCE MUST BE INSTALLED WITHIN 7 DAYS OF FIRST GRUBBING THE AREA IT CONTROLS.

INLET PROTECTION

THIS MUST BE INSTALLED ON ALL YARD DRAINS AND CURB DRAINS WHEN THESE INLETS DO NOT DRAIN TO A SEDIMENT TRAP OR BASIN. EVEN IF THERE IS A SEDIMENT TRAP OR BASIN, INLET PROTECTION IS STILL RECOMMENDED, AS IT WILL INCREASE THE OVERALL SEDIMENT REMOVAL EFFICIENCY. THESE ARE BEST USED ON ROADS WITH LITTLE OR NO TRAFFIC. IF WORKING PROPERLY, INLET PROTECTION WILL CAUSE WATER TO POND. IF USED ON CURB INLETS, STREETS WILL FLOOD TEMPORARILY DURING HEAVY STORMS. CHECK WITH YOUR MUNICIPALITY BEFORE INSTALLING CURB INLET PROTECTION. THEY MAY PREFER AN ALTERNATE MEANS OF SEDIMENT CONTROL SUCH AS SILT FENCE OR PONDS.

PERMANENT STABILIZATION

ALL AREAS AT FINAL GRADE MUST BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF REACHING FINAL GRADE. THIS IS USUALLY ACCOMPLISHED BY USING SEED AND MULCH, BUT SPECIAL MEASURES ARE SOMETIMES REQUIRED. THIS IS PARTICULARLY TRUE IN DRAINAGE DITCHES OR ON STEEP SLOPES. THESE MEASURES INCLUDE THE ADDITION OF TOPSOIL, EROSION CONTROL MATTING, ROCK RIP-RAP OR RETAINING WALLS. PERMANENT SEEDING SHOULD BE DONE MARCH 1 TO MAY 31 AND AUGUST 1 TO SEPTEMBER 30. DORMANT SEEDING CAN BE DONE FROM NOVEMBER 20 TO MARCH 15. AT ALL OTHER TIMES OF THE YEAR, THE AREA SHOULD BE TEMPORARILY STABILIZED UNTIL A PERMANENT SEEDING CAN BE APPLIED.

NON-SEDIMENT POLLUTION CONTROL

ALTHOUGH SEDIMENT IS THE POLLUTANT OF GREATEST CONCERN ON MOST CONSTRUCTION SITES, THERE ARE OTHER SOURCES OF POLLUTION. MOST OF THESE BMPS ARE EASY TO IMPLEMENT WITH A LITTLE BIT OF PLANNING AND GO A LONG WAY TOWARD KEEPING YOUR SITE CLEAN AND ORGANIZED. PLEASE BE SURE TO INFORM ALL CONTRACTORS HOW THESE BMPS AFFECT THEIR OPERATIONS ON THE SITE, PARTICULARLY THOSE THAT WILL BE WORKING NEAR A STREAM.

INSPECTION SHEET

INSPECTIONS MUST BE CONDUCTED ONCE EVERY 7 DAYS AND WITHIN 24 HOURS OF A 0.5" OR GREATER RAINFALL. ALL SEDIMENT CONTROLS MUST BE INSTALLED PRIOR TO GRADING AND WITHIN 7 DAYS OF FIRST GRUBBING

TEMPORARY STABILIZATION

- ARE THERE ANY AREAS OF THE SITE THAT ARE DISTURBED, BUT WILL LIKELY LIE DORMANT FOR OVER 21 DAYS?
- HAVE ALL DORMANT, DISTURBED AREAS BEEN TEMPORARILY STABILIZED IN THEIR ENTIRETIES?
- HAVE DISTURBED AREAS OUTSIDE THE SILT FENCE BEEN SEEDDED OR MULCHED?
- HAVE SOIL STOCKPILES THAT WILL SIT FOR OVER 21 DAYS BEEN STABILIZED?
- HAS SEED AND MULCH BEEN APPLIED AT THE PROPER RATE? IN GENERAL, SEED IS APPLIED AT 3 TO 5 LBS PER 1000 SQ FT AND STRAW MULCH IS APPLIED AT 2-3 BALES PER 1000 SQ FT.
- HAS SEED OR MULCH BLOWN AWAY? IF SO, REPAIR.

NOTE AREAS WHERE REPAIRS OR MAINTENANCE IS NEEDED OR WHERE THIS PRACTICE NEEDS TO BE APPLIED:

CONSTRUCTION ENTRANCES

- HAS THE DRIVE BEEN CONSTRUCTED BY PLACING GEOTEXTILE FABRIC UNDER THE STONE?
- IS THE STONE 2-INCH DIAMETER?
- HAS THE STONE BEEN PLACED TO A DEPTH OF 6 INCHES, WITH A WIDTH OF 10 FEET AND A LENGTH OF AT LEAST 50 FEET (30 FEET FOR ENTRANCES ONTO INDIVIDUAL SUBLOTS)?
- IF THE DRIVE IS PLACED ON A SLOPE, HAS A DIVERSION BERM BEEN CONSTRUCTED ACROSS THE DRIVE TO DIVERT RUNOFF AWAY FROM THE STREET OR WATER RESOURCE?
- IF DRIVE IS PLACED ACROSS A DITCH, WAS A CULVERT PIPE USED TO ALLOW RUNOFF TO FLOW ACROSS THE DRIVE?

NOTE AREAS WHERE REPAIRS OR MAINTENANCE IS NEEDED OR WHERE THIS PRACTICE NEEDS TO BE APPLIED:

SEDIMENT PONDS

- ARE CONCENTRATED FLOWS OF RUNOFF DIRECTED TO A SEDIMENT POND?
- IS SHEET-FLOW RUNOFF FROM DRAINAGE AREAS THAT EXCEED THE DESIGN CAPACITY OF SILT FENCE (GENERALLY 0.25 ACRE OR LARGER) DIRECTED TO A SEDIMENT POND?
- IS RUNOFF BEING COLLECTED AND DIRECTED TO THE SEDIMENT POND VIA THE STORM SEWER SYSTEM OR VIA A NETWORK OF DIVERSION BERMS AND CHANNELS?
- IS THE SEDIMENT POND APPROPRIATELY SIZED (67 CUBIC YARDS PER ACRE OF TOTAL DRAINAGE AREA)?
- HAVE THE EMBANKMENTS OF THE SEDIMENT POND AND THE AREAS THAT LIE DOWNSTREAM OF THE POND BEEN STABILIZED?
- FOR SEDIMENT BASINS THAT DEWATER 100% BETWEEN STORMS, IS THE RISER PIPE WRAPPED WITH CHICKEN WIRE AND DOUBLE WRAPPED WITH GEOTEXTILE FABRIC?
- DOES THE RISER HAVE 1-INCH DIAMETER HOLES SPACED 4 INCHES APART, BOTH HORIZONTALLY AND VERTICALLY?
- FOR SEDIMENT BASINS, WHICH DEWATER 60% BETWEEN STORMS, IS THE DIAMETER OF THE DEWATERING HOLE PER PLAN (SEE PAGE 105 OF RAINWATER MANUAL)?
- FOR SEDIMENT TRAPS, IS THERE GEOTEXTILE UNDER THE STONE SPILLWAY AND IS THE SPILLWAY S ADDLESHAPED?
- FOR SEDIMENT TRAPS, WHICH DEWATER 100% BETWEEN STORMS, IS THE DEWATERING PIPE END-CAPPED, NO LARGER THAN 6 INCHES IN DIAMETER, PERFORATED AND DOUBLE-WRAPPED IN GEOTEXTILE?
- IS THE LENGTH-TO-WIDTH RATIO BETWEEN INLET(S) AND OUTLET AT LEAST 2:1? NOTE: IF NOT, A BAFFLE SHOULD BE ADDED TO LENGTHEN THE DISTANCE.
- IS THE DEPTH FROM THE BOTTOM OF THE BASIN TO THE TOP OF THE PRIMARY SPILLWAY NO MORE THAN 3 TO 5 FEET?
- FOR A MODIFIED STORM WATER POND BEING USED AS A SEDIMENT POND, IS THE CONNECTION BETWEEN THE RISER PIPE AND THE PERMANENT OUTLET WATER-TIGHT?
- WAS THE BASIN INSTALLED PRIOR TO GRADING THE SITE?
- IS IT TIME TO CLEAN-OUT THE SEDIMENT POND TO RESTORE ITS ORIGINAL CAPACITY? GENERALLY, SEDIMENT SHOULD BE REMOVED ONCE THE POND IS HALF-FULL. STABILIZE THE DREDGED SEDIMENTS WITH SEED AND MULCH.

NOTE AREAS WHERE REPAIRS OR MAINTENANCE IS NEEDED OR WHERE THIS PRACTICE NEEDS TO BE APPLIED:

SILT FENCE

- IS THE FENCE AT LEAST 4" TO 6" INTO THE GROUND?
- IS THE TRENCH BACKFILLED TO PREVENT RUNOFF FROM CUTTING UNDERNEATH THE FENCE?
- IS THE FENCE PULLED TIGHT SO IT WON'T SAG WHEN WATER BUILDS UP BEHIND IT?
- ARE THE ENDS BROUGHT UPSLOPE OF THE REST OF THE FENCE SO AS TO PREVENT RUNOFF FROM GOING AROUND THE ENDS?
- IS THE FENCE PLACED ON A LEVEL CONTOUR? IF NOT, THE FENCE WILL ONLY ACT AS A DIVERSION.
- HAVE ALL THE GAPS AND TEARS IN THE FENCE BEEN ELIMINATED.
- IS THE FENCE CONTROLLING AN APPROPRIATE DRAINAGE AREA? REFER TO PAGE 119 OF RAINWATER MANUAL. RULE OF THUMB: DESIGN CAPACITY FOR 100 LINEAR FEET OF SILT FENCE IS 0.5 ACRES FOR SLOPES < 2%, 0.25 ACRES FOR SLOPES 2% TO 20%, & 0.125 ACRES FOR SLOPES 20% OR MORE. GENERALLY, NO MORE THAN 0.25 ACRES SHOULD LIE BEHIND 100 FEET OF FENCE AT 2% TO 10% SLOPE, I.E., THE DISTANCE BETWEEN THE FENCE AND THE TOP OF THE SLOPE BEHIND IT SHOULD BE NO MORE THAN 125 FEET. THE ALLOWABLE DISTANCE INCREASES ON FLATTER SLOPES AND DECREASES FOR STEEPER SLOPES.

NOTE AREAS WHERE REPAIRS OR MAINTENANCE IS NEEDED OR WHERE THIS PRACTICE NEEDS TO BE APPLIED:

INLET PROTECTION

- DOES WATER POND AROUND THE INLET WHEN IT RAINS?
- HAS THE FABRIC BEEN REPLACED WHEN IT DEVELOPS TEARS OR SAGS?
- FOR CURB INLET PROTECTION, DOES THE FABRIC COVER THE ENTIRE GRATE, INCLUDING THE CURB WINDOW?
- FOR YARD INLET PROTECTION, DOES THE STRUCTURE ENCIRCLE THE ENTIRE GRATE?
- IS THE FABRIC PROPERLY ENTRENCHED OR ANCHORED SO THAT WATER PASSES THROUGH IT AND NOT UNDER IT?
- FOR YARD INLET PROTECTION, IS THE FABRIC PROPERLY SUPPORTED TO WITHSTAND THE WEIGHT OF WATER AND PREVENT SAGGING? THE FABRIC SHOULD BE SUPPORTED BY A WOOD FRAME WITH CROSS BRACES, OR STRAW BALES.
- IS SEDIMENT THAT HAS ACCUMULATED AROUND THE INLET REMOVED ON A REGULAR BASIS?

NOTE AREAS WHERE REPAIRS OR MAINTENANCE IS NEEDED OR WHERE THIS PRACTICE NEEDS TO BE APPLIED:

PERMANENT STABILIZATION

- ARE ANY AREAS AT FINAL GRADE?
- HAS THE SOIL BEEN PROPERLY PREPARED TO ACCEPT PERMANENT SEEDING?
- HAS SEED AND MULCH BEEN APPLIED AT THE APPROPRIATE RATE (SEE PAGE 169 OF THE RAINWATER MANUAL)?
- IF RAINFALL HAS BEEN INADEQUATE, ARE SEEDDED AREAS BEING WATERED?
- FOR DRAINAGE DITCHES WHERE FLOW VELOCITY EXCEEDS 3.5 FT/S FROM A 10-YEAR, 24-HOUR STORM HAS MATTING BEEN APPLIED TO THE DITCH BOTTOM?
- IF THE FLOW VELOCITY EXCEEDS 5.0 FT/S, HAS THE DITCH BOTTOM BEEN STABILIZED WITH ROCK RIP-RAP? NOTE: ROCK CHECK DAMS MAY BE NEEDED TO SLOW THE FLOW OF RUNOFF.
- HAS ROCK RIP-RAP BEEN PLACED UNDER ALL STORM WATER OUTFALL PIPES TO PREVENT SCOURING IN THE RECEIVING STREAM OR EROSION OF THE RECEIVING CHANNEL?
- FOR SITES WITH STEEP SLOPES OR FILL AREAS, IS RUNOFF FROM THE TOP OF THE SITE CONVEYED TO THE BOTTOM OF THE SLOPE OR FILL AREA IN A CONTROLLED MANNER SO AS NOT TO CAUSE EROSION? NOTE AREAS WHERE REPAIRS OR MAINTENANCE IS NEEDED OR WHERE THIS PRACTICE NEEDS TO BE APPLIED:

NON-SEDIMENT POLLUTION CONTROL

- HAS AN AREA BEEN DESIGNATED FOR WASHING OUT CONCRETE TRUCKS? WASHINGS MUST BE CONTAINED ON SITE WITHIN A BERMED AREA UNTIL THEY HARDEN. THE WASHINGS SHOULD NEVER BE DIRECTED TOWARD A WATERCOURSE, DITCH OR STORM DRAIN.
- IS WASTE AND PACKAGING DISPOSED OF IN A DUMPSTER? DO NOT BURN THEM ON SITE.
- ARE FUEL TANKS AND DRUMS OF TOXIC AND HAZARDOUS MATERIALS STORED WITHIN A DIKED AREA OR TRAILER AND AWAY FROM ANY WATERCOURSE, DITCH OR STORM DRAIN?
- ARE STREETS SWEEP AS OFTEN AS NECESSARY TO KEEP THEM CLEAN AND FREE FROM SEDIMENT? NOTE: SEDIMENT SHOULD BE SWEEP BACK ONTO THE LOT - NOT DOWN THE STORM SEWERS.
- ARE STOCKPILES OF SOIL OR OTHER MATERIALS STORED AWAY FROM ANY WATERCOURSE, DITCH OR STORM DRAIN?
- HAVE STREAM CROSSINGS BEEN CONSTRUCTED ENTIRELY OF NON-ERODIBLE MATERIAL?
- IF AN AREA OF THE SITE IS BEING DEWATERED, IS IT BEING PUMPED FROM A SUMP PIT OR IS THE DISCHARGE DIRECTED TO A SEDIMENT POND? NOTE: IF YOU MUST LOWER GROUND WATER, THE WATER MAY BE DISCHARGED TO THE RECEIVING STREAM AS LONG AS THE WATER REMAINS CLEAN. BE SURE NOT TO CO-MINGLE THE CLEAN GROUND WATER WITH SEDIMENT-LADEN WATER OR TO DISCHARGE IT OFF-SITE BY PASSING IT OVER DISTURBED GROUND.

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