

— G —	GAS LINE
⊗	GAS LINE MARKER
⊙	GAS METER
⋈	GAS VALVE
⊕	GAS TANK
⊖	GAS WELL
— SAN —	SANITARY SEWER LINE
⊗	SANITARY SEWER LINE MARKER
⊙	SANITARY M.H. / C.O.
M.H.	MANHOLE
C.O.	CLEAN OUT
— ST —	STORM SEWER LINE
⊗	STORM SEWER LINE MARKER
⋈	STORM CATCH BASIN
⊖	STORM CURB INLET
⊙	STORM MANHOLE
⊖	STORM DOWNSPOUT
—	STORM HEADWALL
C.B.	CATCH BASIN
C.I.	CURB INLET
T/G	TOP OF GRATE
T/C	TOP OF COVER
T/CU	TOP OF CURB
ℓ	FLOWLINE
Y.D.	YARD DRAIN
D.S.	DOWNSPOUT
— OE —	OVERHEAD TELEPHONE LINE
— UT —	UNDERGROUND TELEPHONE LINE
⊗	TELEPHONE LINE MARKER
⊖	TELEPHONE BOX
⊕	TELEPHONE MANHOLE
— OTV —	OVERHEAD TV LINE
— UTV —	UNDERGROUND TV LINE
⊗	TV LINE MARKER
⊖	TV/CABLE BOX
⊕	TV/CABLE MANHOLE
— W —	WATER LINE
⊗	WATER LINE MARKER
⊕	WATER MANHOLE
⊙	WATER METER
⋈	WATER VALVE
⋈	WATER SPRINKLER
⊕	FIRE HYDRANT
⊖	MONITORING WELL

[illegible]

ELEV. = 1053.94

ELEV. = 1052.69

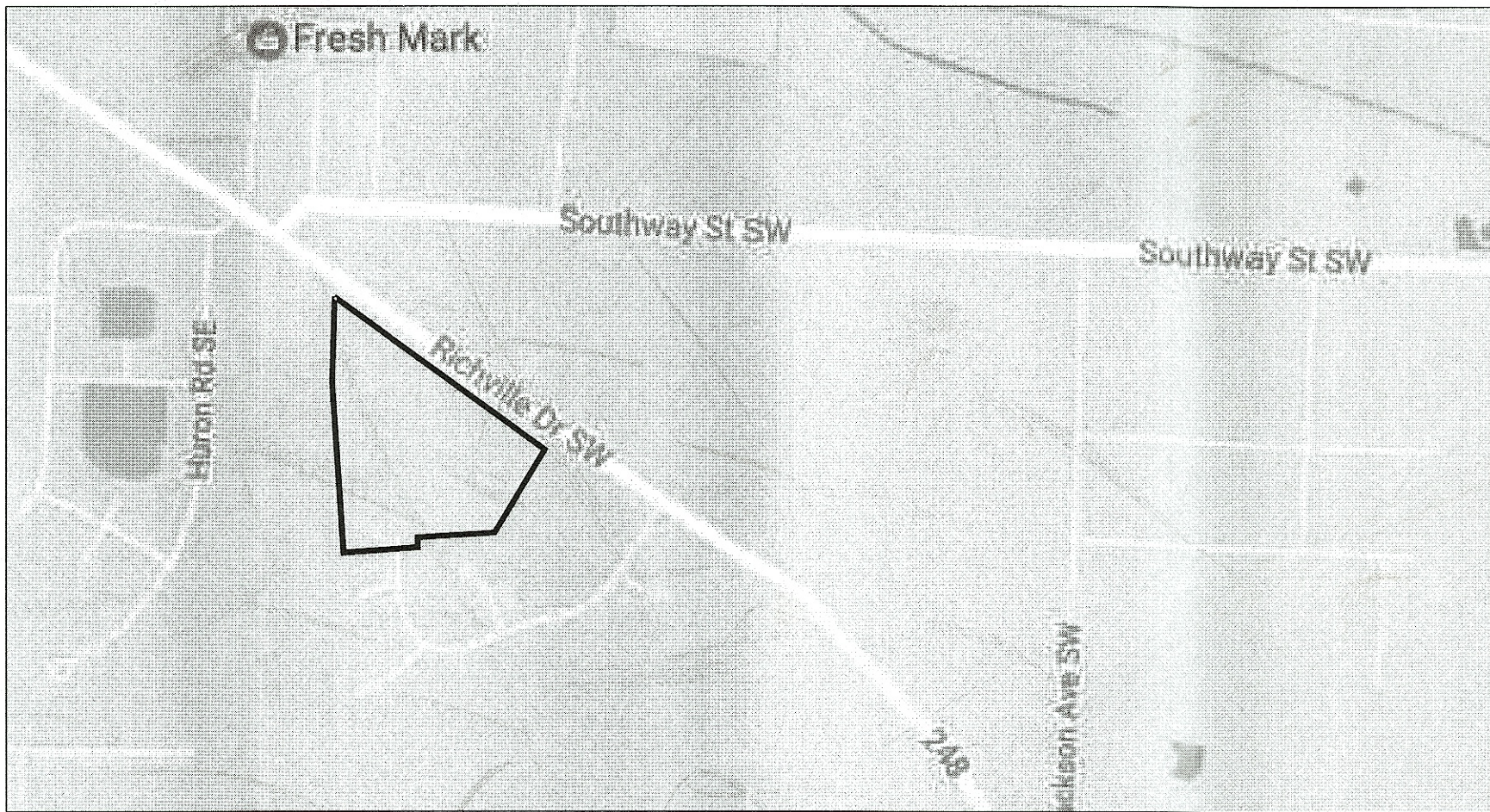
ELEV. = 1079.40

ELEV. = 1080.38

SEPTEMBER, 2020

EMAIL— steve@smithdevelopmentcorp.com

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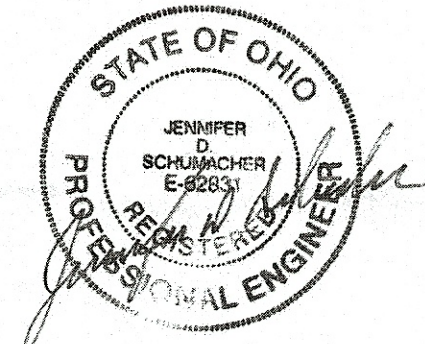


PH: 330-833-5509

COVER	1		
UTILITY SCHEMATIC	2		
TYPICAL SECTIONS AND QUANTITIES	3A		
TYPICAL SECTION – RESURFACING	3B		
GENERAL NOTES	4		
CHAMPIONSHIP CIRCLE PLAN & PROFILE	5–6		
FOUNDERS CIRCLE PLAN & PROFILE	7		
AMEN CORNER PLAN & PROFILE	8		
STORM & SANITARY PLAN & PROFILE	9A		
WATERLINE TO WEST R PLAN & PROFILE	9B		
STORM SEWER TO WQ BASIN PLAN & PROFILE	10		
INTERSECTION DETAILS	11		
GRADING PLAN	12		
CITY OF MASSILLON DETAILS	13–17		
AQUA OHIO WATER DETAILS	18		
STORM WATER POLLUTION PREVENTION COVER	19		
STORM WATER POLLUTION PREVENTION PLAN	20		
WATER QUALITY BASIN/SEDIMENT BASIN	21		
STORM WATER POLLUTION PREVENTION DETAILS	22–25		

APPROVED BY: _____
AQUA OHIO – REGISTERED PROFESSIONAL ENGINEER
*APPROVAL OF PLANS IS FOR AQUA OHIO AND OEPA COMPLIANCE ONLY. NOT FOR DESIGN OR CONSTRUCTION.

* THE CONTRACTOR IS TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION



11/05/2020

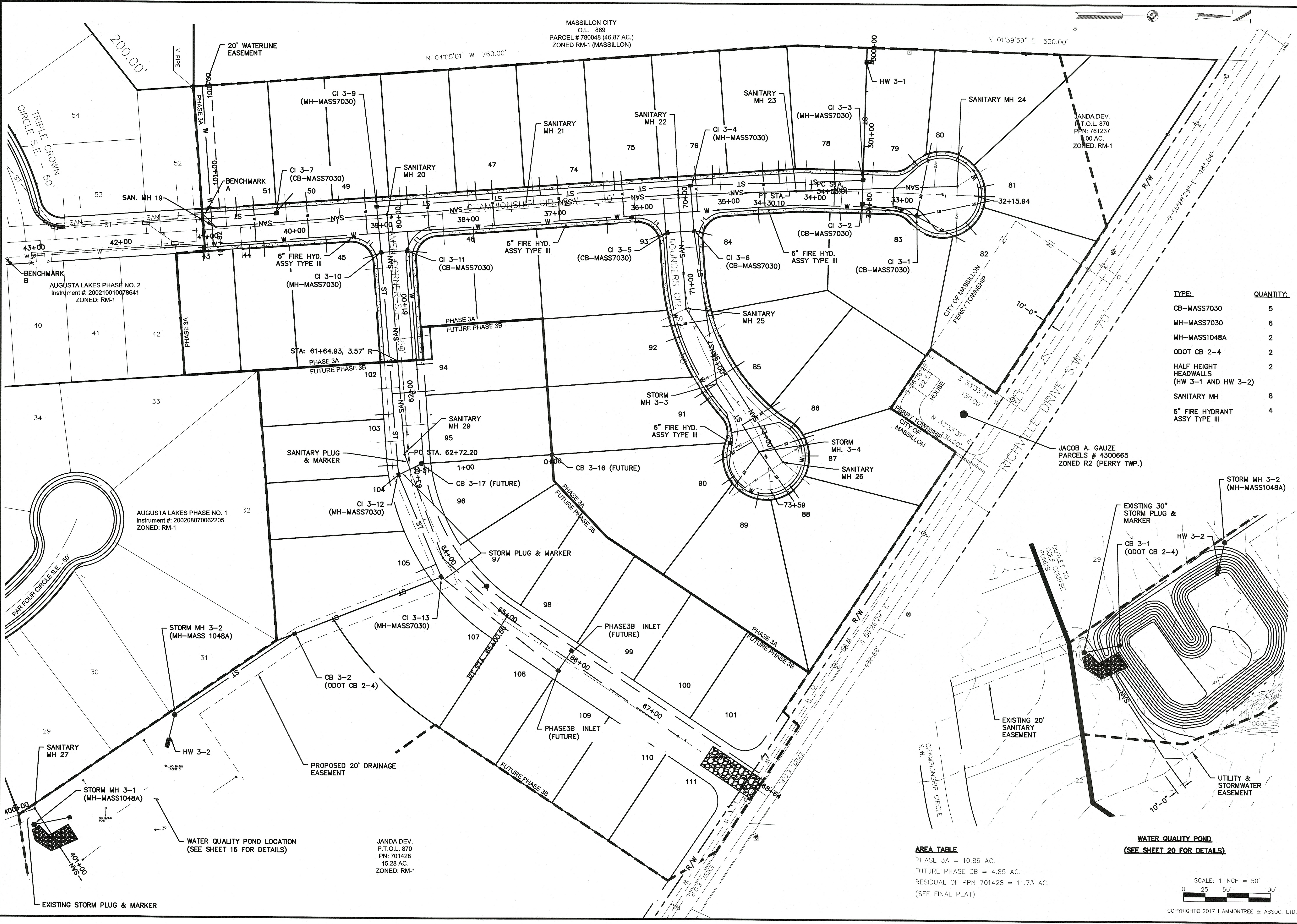
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DESN BY:	<u>PCC</u>
DRWN BY:	<u>MGT</u>
RVWD BY:	<u>PCC</u>
FLD BK:	<u>100</u>
BK PG:	<u>XXX</u>
DATE:	SEP. 2020

SCALES
HORIZ:
VERT:
CONTOUR INT:

COVER SHEET
AUGUSTA LAKES – PHASE 3A
FOR: SMITH DEVELOPMENT CORP.
LOT: 870 LOCATED IN THE CITY OF MASSILLON
STARKE COUNTY, OHIO

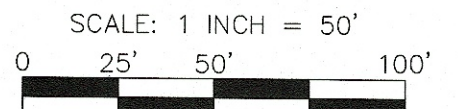
R:\Stark\City\Massillon\66\SWIRD2D\Phases 3A-3B\Smith- Augusta Lakes 2017\DWG\2019 Augusta Lakes Plan Sheets_01.dwg; 11/05/20 - 8:46am; j.bender



TYPE:	QUANTITY:
CB-MASS7030	5
MH-MASS7030	6
MH-MASS1048A	2
ODOT CB 2-4	2
HALF HEIGHT HEADWALLS (HW 3-1 AND HW 3-2)	2
SANITARY MH	8
6" FIRE HYDRANT ASSY TYPE III	4

AREA TABLE	
PHASE 3A	= 10.86 AC.
FUTURE PHASE 3B	= 4.85 AC.
RESIDUAL OF PPN 701428	= 11.73 AC.
(SEE FINAL PLAT)	

WATER QUALITY POND
(SEE SHEET 20 FOR DETAILS)



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UTILITY SCHEMATIC

AUGUSTA LAKES - PHASE 3A

FOR: SMITH DEVELOPMENT CORP.

OUT LOT 870 LOCATED IN THE CITY OF MASSILLON

STARK COUNTY, OHIO

DESIGN BY:	PCG	DATE:	SEP. 2020
DRAWN BY:	MGT	DATE:	
REVIEW BY:	PCG	DATE:	
FIELD BK:	100	DATE:	
BK PG:	XXX	DATE:	

DESC:	DESC:	DESC:	DESC:

ENGINEERS, PLANNERS, SURVEYORS

PA

OH

PA

OH

5233 STONEHAM RD. NORTH CANTON, OH 44720
PHN: (330) 499-8817 FAX: (330) 499-0149
TOLL FREE: 1-800-394-8817
www.hammontree-engineers.com

2

CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES.

② ADDITIONAL TEMPORARY EROSION CONTROL QUANTITIES MAY BE REQUIRED AT THE DIRECTION OF THE MASSILLON CITY ENGINEER AND/OR THE STARK COUNTY SOIL & WATER CONSERVATION DISTRICT.

Phase 3A
Quantity

201	Clearing and Grubbing	LS	1.0
203	Excavation (cut) including Water Quality pond	C.Y.	22,440
203	Embankment (Fill)	C.Y.	19,242
204	Subgrade Compaction	S.Y.	6,006
304	6" Aggregate Base	C.Y.	795
301	3" Asphalt Concrete Base	C.Y.	397
442	1-3/4" Asphalt Concrete Intermediate Course 12.5 mm, Type A (446)	C.Y.	232
442	1-1/4" Asphalt Concrete Surface Course, 9.5 mm, Type A (446)	C.Y.	199
407	Tack Coat (0.04 Gal/SY)	Gal	381
605	4" Shallow Pipe Underdrains	L.F.	2,788
609	Massillon Standard Concrete Curb and Gutter	L.F.	2,788
623	Standard Monument	Each	5
623	Monument Box Assembly	Each	5
624	Mobilization	Lump	1
651	Topsoil Stockpiled ①	C.Y.	14,313

611	8" PVC Gravity Sewer Pipe, ASTM D3034	L.F.	1,712
611	6" on 8" Wye W 6" 45° Bend, ASTM D3034	Each	27
611	6" PVC Gravity Sewer Pipe, ASTM D3034	L.F.	1,245
611	Sanitary Sewer Manhole Type 3, Massillon Standard (148 Vert. Ft.)	Each	9

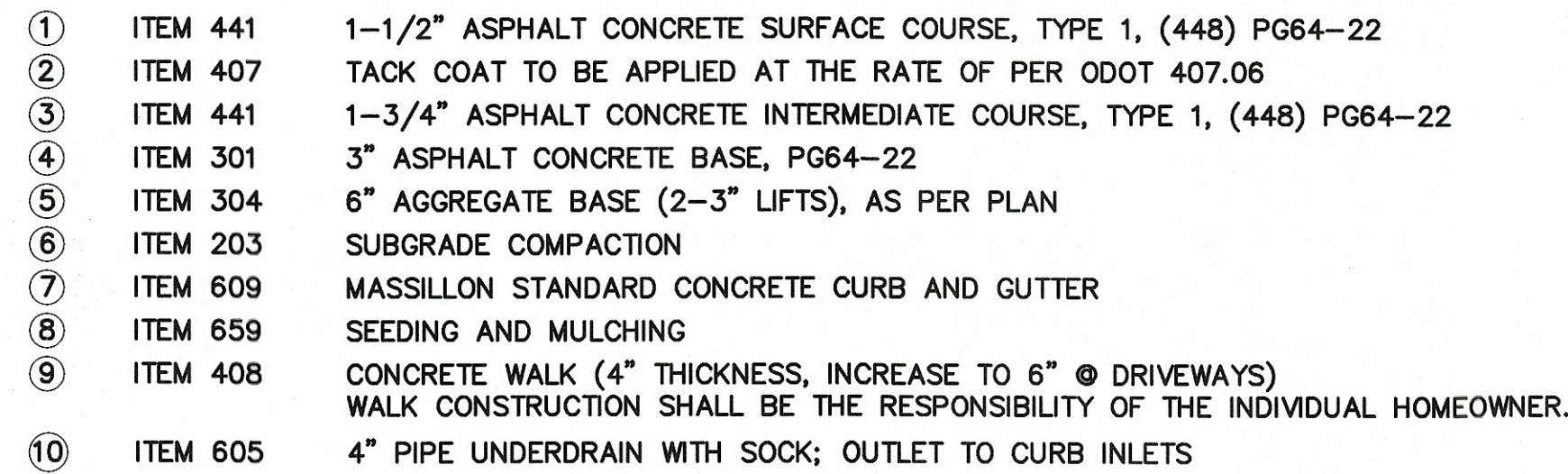
611	6" Conduit, Type E (707.45) (Storm Lateral)	L.F.	1,106
611	12" Conduit, Type B (707.33)	L.F.	517
611	15" Conduit, Type B (707.33)	L.F.	81
611	24" Conduit, Type B (707.33)	L.F.	391
611	30" Conduit, Type B (707.33)	L.F.	1,006
611	36" Conduit, Type B (707.33)	L.F.	192
601	Rock Channel Protection, Type C with Filter	C.Y.	50
602	Concrete Masonry	C.Y.	1
611	Catch Basin, CB-MASS7030	Each	5
611	Catch Basin, MH-MASS7030	Each	7
611	Catch Basin, ODOT 2-4 (Unpaved Areas)	Each	1
611	Manhole, MH-MASS1048A For WQ Basin (Unpaved Areas)	Each	2
611	Catch Basin, ODOT 2-3 For WQ Basin (Unpaved Areas)	Each	1

638	8" Ductile Iron Waterline Class 52 w/Polywrap and Fittings	L.F.	1,494
638	2" HDPE SDR-9 Waterline w/Tracer Wire & Marker Tape, Joints and Fittings	L.F.	512
638	8" MJ Plug W/ 2" TAP	Each	2
638	8" Gate Valve	Each	10
638	2" Curb Stop	Each	4
638	8" x 2" MJ Tee	Each	2
638	8" x 8" MJ Tee	Each	3
638	2" x 1" Tee	Each	9
638	8" PLUG & Blow-Off Valve	Each	2
638	1" Service Connection	L.F.	914
638	1" Curb Stop	Each	29
638	6" Fire Hydrant Assembly, Complete, Type III	Each	4

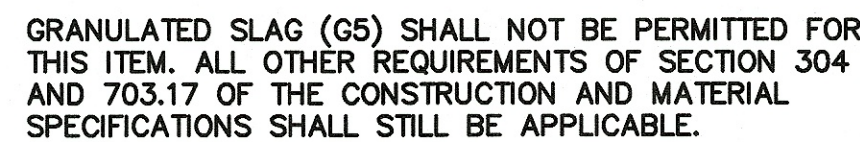
659	Temporary Seeding and Mulching	S.Y.	32,204
659	Permanent Seeding and Mulching	S.Y.	32,204
659	Perimeter filter fabric fence or filter sock	L.F.	2,870
659	Inlet Protection	Each	2
659	Curb Inlet Protection	Each	12
659	Construction Entrance	Each	1
659	Sediment Trap	Each	3
659	Temporary Diversion Channel	L.F.	925

608	4" Concrete Walk (By homeowner)	S.F.	11,148
608	Curb Ramp, Type A1 (By homeowner)	EACH	4
638	1" Corporation Stop (by Other)	Each	29

SCALE: 3/8"=1'



1. ALL SUBGRADE COMPACTION AND ALL 304 AGGREGATE BASE SHALL BE INSPECTED AND APPROVED AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO PLACEMENT OF ANY 304 AGGREGATE BASE OR 301 ASPHALT CONCRETE BASE.



A cross-sectional diagram of a roadway under drain installation. The diagram shows a central circular drain pipe with a diameter of 10 inches, set within a 30-inch wide trench. The trench is lined with a fabric material that overlaps the top of the trench. The trench is filled with porous backfill, specifically #6 or #8 washed aggregate. Above the backfill is a layer of tamped earth backfill, which is 6 inches thick. The entire assembly is supported by a subbase. The subbase is 10 inches thick and is composed of two layers: a top layer of 4-inch preformed underdrain (ODOT 707.41 or 707.42) and a bottom layer of 4-inch porous backfill. The diagram also shows a line trench with fabric overlap at the top of the trench. The overall width of the subbase is 30 inches, and the total width of the trench is 30 inches. The distance from the bottom of the trench to the top of the curb is 3 feet 0 inches. The distance from the bottom of the trench to the top of the subbase is 1 foot 10 inches. The distance from the center of the drain to the edge of the subbase is 3 inches. The distance from the center of the drain to the edge of the backfill is 4 inches. The distance from the center of the drain to the edge of the tamped earth backfill is 3 inches.

TAMPED EARTH BACKFILL

6"

3'-0"

BOTTOM OF TRENCH TO TOP OF CURB

POROUS BACKFILL
#6 OR #8
WASHED
AGGREGATE

3" 4" 3"

1'-10"

SUBBASE

4" PREFORMED UNDERDRAIN
(ODOT 707.41 OR 707.42)

10"

LINE TRENCH WITH
FABRIC OVERLAP TOP
OF TRENCH

ROADWAY UNDER DRAIN

N.T.S.

3A

AUGUSTA LAKES – PHASE 3A

FOR: SMITH DEVELOPMENT CORP.

OUT LOT 870 LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

CONTOUR INT: _____

SCALES

HORIZ: _____

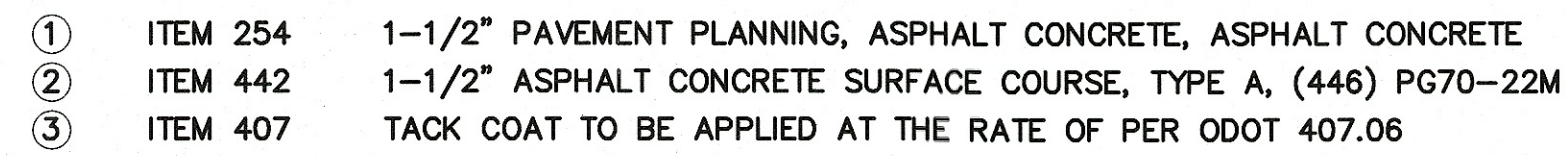
VERT: _____

PLAN BY: _____	PCC: _____	REV. BY: _____	DATE: _____	DESC: _____
DRWN BY: _____	MGT: _____	REV. BY: _____	DATE: _____	DESC: _____
RWMD BY: _____	PCC: _____	REV. BY: _____	DATE: _____	DESC: _____
FLD BK: _____	100	REV. BY: _____	DATE: _____	DESC: _____
BK PG: _____	XXX	REV. BY: _____	DATE: _____	DESC: _____
DATE: _____	SEP. 2020			



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TOLL FREE: 1-800-394-8817
www.hammontree-engineers.com

STA. 41+47± TO STA. 41+12±
(CHAMPIONSHIP CIRCLE)
SCALE: 3/8"=1'



- (A) ASPHALT CONCRETE, THICKNESS 6" ±
(B) 6" AGGREGATE BASE
(C) EXISTING COMBINATION CURB AND GUTTER
(D) EXISTING UNDERDRAIN

* = PAVEMENT SHALL BE PLANED TO A MINIMUM CROSS SLOPE OF 1/4"/FT. MAINTAIN THE EXISTING PAVEMENT CROSS SLOPE IF GREATER THAN 1/4"/FT.

SCALES
HORZ:
VERT:
CONTOUR INT:

DESN BY:	<u>PCC</u>
DRWN BY:	<u>MGT</u>
RVWD BY:	<u>PCC</u>
FLD BK:	<u>100</u>
BK PG:	<u>XXX</u>

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3. AS REQUIRED BY THE CITY OF MASSILLON, ALL ITEMS ARE TO BE CONSTRUCTED ACCORDING TO STANDARDS AND SPECIFICATIONS LISTED IN THE LATEST EDITION OF THE ODOT MATERIAL SPECIFICATIONS.
2. 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.
3. 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.
4. THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES.
5. 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.
6. IF ANY PAVEMENT IS DAMAGED OUTSIDE THE SAW-CUT LIMITS, THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND REPAIR OF THAT PAVEMENT.
7. 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.
8. WITHIN THE SUBJECT PROPERTY, THE INTENT IS TO HAVE A CLEAN, CLEAR SITE, FREE OF ALL EXISTING ITEMS NOTED TO BE REMOVED IN ORDER TO PERMIT THE CONSTRUCTION OF THE NEW PROJECT.
9. WHERE EXISTING ITEMS ARE SHOWN TO REMAIN, CARE SHOULD BE TAKEN TO INSURE PROTECTION OF THAT ITEM FROM DAMAGE. ANY ITEMS DISTURBED BY CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE TO A CONDITION EQUAL TO OR BETTER THAN EXISTING AND TO THE SATISFACTION OF THE OWNER OF THE ITEM.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS, METHODS, AND MATERIALS OF CONSTRUCTION TO COMPLETE PROPOSED CONSTRUCTION.
11. ANY APPARENT DISCREPANCIES OR QUESTIONS IN CONTRACT DOCUMENTS ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVES IMMEDIATELY.
12. 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.
13. THE DESIGN ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, PROCEDURES, TECHNIQUES, OR SEQUENCES OF CONSTRUCTION NOT SPECIFIED HEREIN, NOR FOR THE SAFETY ON THE JOB SITE, NOR SHALL THE DESIGN ENGINEER BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
14. ANY MODIFICATIONS TO THE WORK SHOWN ON THE PLANS MUST HAVE PRIOR WRITTEN APPROVAL FROM THE OWNER AND REVIEW AGENCIES.
15. INSPECTIONS - SEE CITY OF MASSILLON SUBDIVISION REGULATIONS, SEC. 1111.03
16. CONSTRUCTION RESPONSIBILITIES - SEE CITY OF MASSILLON REGULATIONS, SEC. 1111.04

1. THE CONTRACTOR SHALL INSTALL ALL SEDIMENTATION CONTROLS TO MINIMIZE SOIL EROSION AND OFF-SITE SILTATION BEFORE ANY CLEARING, GRUBBING OR EARTHWORK HAS BEGUN. REFERENCE THE STORMWATER POLLUTION PREVENTION PLAN FOR EROSION CONTROL STRUCTURES AND SPECIFICATIONS, AND AS REQUIRED BY THE CITY OF MASSILLON ENGINEER.
2. ALL TIMBER, LOGS, BRUSH, RUBBISH, AND VEGETATIVE MATTER WHICH WILL INTERFERE WITH THE GRADING OPERATION OR AFFECT THE PLANNED STABILITY OF FILL AREAS SHALL BE REMOVED FROM THE PROJECT CONSTRUCTION AREA.
3. ANY UNSUITABLE SOILS ENCOUNTERED IN PROPOSED PAVEMENT AREAS SHALL BE REMOVED AND REPLACED WITH COMPACTED MATERIAL APPROVED BY THE ENGINEER.
4. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES AND SHALL BACKFILL AND GRADE EXCAVATED AREAS SO AS TO ELIMINATE PONDING ON THE SITE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPORTATION OF ANY BORROW MATERIAL NECESSARY TO COMPLETE THE JOB.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE OFF-SITE DISPOSAL OF ANY AND ALL EXCESS OR UNSUITABLE MATERIAL NOT USED ON THE JOB SITE.
7. PROPOSED PAVEMENT AREAS ARE TO BE PROOF-ROLLED PER SPECIFICATIONS IMMEDIATELY PRIOR TO CONSTRUCTION. IF ANY AREAS ARE FOUND TO BE "SOFT" OF "SPONGY", THE CONTRACTOR IS TO COORDINATE THE REMOVAL OR PROCEDURE WITH THE GEOTECHNICAL ENGINEER.
8. PROPOSED ELEVATIONS SHOWN SHALL NOT BE CHANGED WITHOUT APPROVAL OF THE ENGINEER.
9. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR USE IN FINAL LANDSCAPING AND IN AREAS SELECTED BY OWNER.
10. UNLESS OTHERWISE INDICATED AT A SPECIFIC LOCATION, ALL FINISHED GRADES AT THE LIMITS OF NEW WORK ARE TO CONFORM TO AND MATCH EXISTING GRADES.
11. SITE GRADING SHALL PROVIDE POSITIVE DRAINAGE TO CATCH BASINS OR SHEET FLOW OFF OF AREAS, THUS PREVENTING THE PONDING OF WATER ON SITE.
12. PRIOR TO PLACEMENT OF ANY COMPACTED FILLS, PROCTOR CURVES SHALL BE ESTABLISHED FROM PROPOSED BORROW MATERIAL SAMPLES.
13. PRIOR TO PAVING, THE SUBGRADE SHALL BE TESTED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK FURNISHED BY THE CONTRACTOR. ANY YIELDING AREAS IN THE SUBGRADE SHALL BE REMOVED AND/OR REPLACED PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
14. ALL COMPACTED FILLS RELATED TO THE CONSTRUCTION OF THE PROPOSED PROJECT SHALL BE PLACED IN ACCORDANCE WITH ODOT ITEM 203. DURING CONSTRUCTION, THESE COMPACTED FILLS SHALL BE TESTED USING THE NUCLEAR DENSOMETER METHOD. COMPACTION REQUIREMENT SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
15. THE COMPLETE RIGHT-OF-WAY IS TO BE GRADED AS SHOWN ON THE TYPICAL SECTION. DURING CONSTRUCTION OF THE ROAD, THE DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING THE TYPICAL SECTION BETWEEN THE PAVEMENT AND THE RIGHT-OF-WAY LINE.

1. AS REQUIRED BY THE CITY OF MASSILON, ALL ITEMS ARE TO BE CONSTRUCTED ACCORDING TO STANDARDS AND SPECIFICATIONS LISTED IN THE LATEST EDITION OF THE ODOT MATERIAL SPECIFICATIONS.

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 QUPS 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 THEIR OWN PERMITS AND CONTACT THE UTILITY COMPANY FOR VERIFICATION AND LOCATION OF HOOK-UP PRIOR TO ANY WORK BEING DONE.
5. WATER:

ALL WATER SERVICE LATERALS SHALL BE 1" TYPE "K" COPPER. ALL WATER LATERALS SHALL HAVE 4-½ FEET (MIN) OF COVER. ALL BACKFLOW PREVENTION DEVICES SHALL BE APPROVED BY THE LOCAL WATER DEPARTMENT.

THE MECHANICAL/PLUMBING DESIGNER IS TO ENSURE THAT ADEQUATE PRESSURE AND CAPACITY IS AVAILABLE TO SERVICE THE SITE. EXISTING WATER MAIN PRESSURE & CAPACITY IS UNKNOWN AT THIS TIME.

- A 6" STORM LATERAL SHALL BE INSTALLED TO SERVE EACH LOT HAVING STORM SEWER AVAILABLE WITHIN THE ROAD RIGHT-OF-WAY OR ON A SIDE LOT LINE. LATERALS SHALL BE CORE DRILLED INTO THE SIDE OF THE MAIN STORM PIPE OR STORM MANHOLE AND EXTEND TO THE RIGHT-OF-WAY OR BEYOND FURTHEST UTILITY. PLUG THE END OF THE LATERAL AND PROVIDE A LOCATION MARKER.
7. SANITARY:

SANITARY LATERAL SHALL BE A MINIMUM 6" DIAMETER PVC PIPE, ASTM D3034, SDR35, WITH RUBBER GASKET JOINTS OR APPROVED EQUAL. LATERAL SHALL BE CONSTRUCTED WITH A MINIMUM OF 1% SLOPE (10% MAX), AND HAVE A MINIMUM OF 4 FOOT OF COVER.

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

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SLOPE OF BUILDING SEWERS TOWARDS THE LATERAL SEWER IN STRICT ACCORDANCE WITH THE GOVERNING AUTHORITIES.

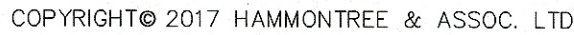
CLEAN-OUTS TO BE INSTALLED AT ALL PIPE BENDS AND ANGLES, UNLESS A MANHOLE IS INDICATED.
8. THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION, INVERT ELEVATION, AND CONDITION OF ALL EXISTING UTILITIES AT THE POINT OF CONNECTIONS PRIOR TO ANY INSTALLATION. THE CONTRACTOR IS TO ENSURE EXISTING UTILITIES ARE IN GOOD WORKING ORDER. IF ELEVATIONS DIFFER FROM WHAT IS SHOWN ON THIS DRAWING, THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY PRIOR TO ANY CONSTRUCTION.
9. 10 FT--HORIZONTAL AND 1.5 FT--VERTICAL (MINIMUM) CLEARANCE IS REQUIRED BETWEEN SANITARY & WATER LINES, AND STORM AND WATER LINES. ALL OTHER UTILITIES SHALL HAVE 5 FT--HORIZONTAL AND 1.0 FT--VERTICAL (MINIMUM) CLEARANCE BETWEEN LINES.
10. GAS, ELECTRIC, TELEPHONE & CABLE LINES SHOWN FOR REFERENCE ONLY AND ARE DESIGNED BY OTHERS. CONTRACTOR TO INSTALL PER RESPECTIVE UTILITY APPROVED SET OF PLANS.
11. COORDINATE UTILITY CONNECTIONS AT THE BUILDING WITH THE MECHANICAL DRAWINGS.
12. ALL TRENCHES BENEATH THE PROPOSED PAVEMENT OR EXISTING PAVEMENT SHALL BE COMPACTED IN LIFTS. IN A MANNER, AND WITH MATERIAL SPECIFIED BY THE MASSILLON ENGINEERING DEPARTMENT OR ANY APPLICABLE, O.D.O.T. SPECIFICATIONS.

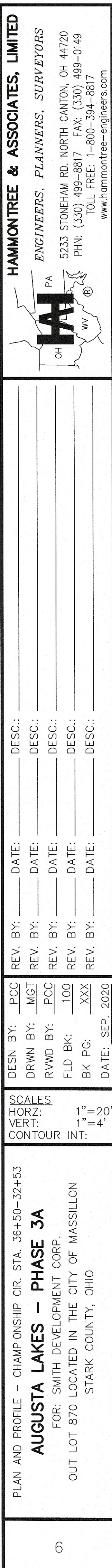
ALL DRAIN BASINS SHALL BE AS MANUFACTURED BY NYLOPLAST OR AN APPROVED EQUAL. ALL STRUCTURES SHALL HAVE STANDARD CAST IRON SOLID COVERS. (SEE PLANS FOR TYPE & SIZE OF DRAINS & BASINS USED). ALL SOLID LIDS SHALL HAVE THE TEXT: STORM SEWER EMBOSSED ON THE CENTER OF COVER LID. THE CONTRACTOR SHALL ADHERE TO THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION RECOMMENDATIONS FOR EACH STRUCTURE TYPE. ALL MATERIALS AND LABOR, INCLUDING EXCAVATION, AND BACKFILLING SHALL BE PAID FOR UNDER ITEM SPECIAL - DRAIN BASIN. EXCAVATION AND BACKFILLING REQUIREMENTS SHALL FOLLOW CMS ITEM 611.

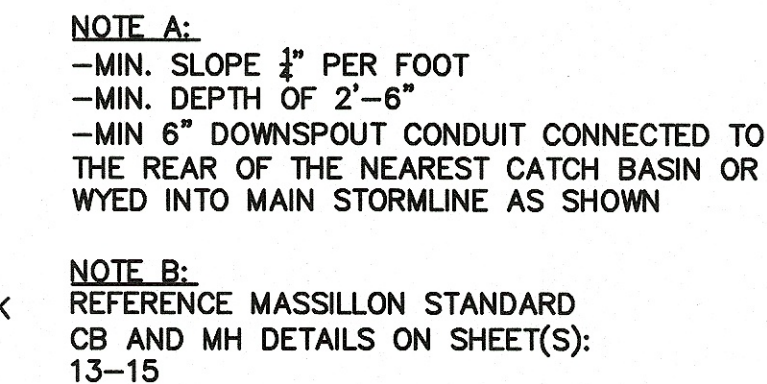
1. ALL SANITARY SEWERS & APPURTENANCES SHALL BE CONSTRUCTED ACCORDING TO CITY OF MASSACHUSETTS ENGINEERING DEPARTMENT SPECIFICATIONS IN EFFECT AT TIME OF CONSTRUCTION.
2. ALL SANITARY SEWER LATERALS TO BE 6" DIAMETER.
3. ROOF DRAINS, FOUNDATION DRAINS & OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.
4. MINIMUM COVER OVER SANITARY SEWER SHALL BE 3 FT.
5. SANITARY LATERALS SHALL EXTEND TO THE RIGHT-OF-WAY LINE OR BEYOND THE FURTHEST UTILITY — WHICHEVER IS GREATER. THE END OF THE SERVICE LATERAL SHALL BE PLUGGED AND A LOCATION MARKER PROVIDED.
6. NO CHANGES TO SANITARY SERVICE LOCATIONS SHALL BE MADE WITHOUT THE APPROVAL OF THE CITY ENGINEER.
7. PVC GRAVITY SEWER PIPE SHALL CONFORM TO ASTM D-3034 AS AN ALTERNATE TO PVC GRAVITY SEWER, SHOWN IN QUANTITIES VITRIFIED CLAY PIPE SEWER, EXTRA STRENGTH, ASTM C-700 MAY BE USED.
8. MINIMUM VERTICAL CLEARANCE BETWEEN SANITARY SEWER & WATERLINE IS 18 INCHES. MINIMUM VERTICAL CLEARANCE BETWEEN SANITARY SEWER & STORM SEWER IS 12 INCHES.
9. JOINT SPECIFICATIONS SHALL MEET ASTM-3212
10. MANHOLE SPECIFICATIONS SHALL MEET ASTM C-478 AND C-443
11. BEDDING SPECIFICATIONS SHALL MEET ASTM D-2321, CLASS II
12. LEAKAGE TEST LIMITS: 100 GAL./INCH OF DIA./MILE/DAY MAXIMUM.
13. ALL MANHOLES SHALL BE AIR/VACUUM TESTED IN ACCORDANCE WITH ASTM C-1244.
14. PIPE DEFLECTION TESTS SHALL BE PERFORMED ACCORDING TO GLUMBRG SECTION 33.85 AND THE ASTM SPECIFICATION FOR THE PIPE BEING TESTED. THE ALLOWABLE DEFLECTION RATE SHALL NOT EXCEED 5%.
15. MAINTAIN MINIMUM 10' HORIZONTAL SEPARATION BETWEEN WATER AND SANITARY SEWER LINES.

1. WATERLINES AND APPURTENANCES SHALL BE CONSTRUCTED ACCORDING TO AQUA OHIO SPECIFICATIONS & DETAILS IN EFFECT AT TIME OF CONSTRUCTION. ANY SITUATION REQUIRING A MODIFICATION TO SAID STANDARDS & SPECIFICATIONS MUST FIRST BE APPROVED BY AQUA OHIO.
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 VERT. CLEARANCE BETWEEN WATERLINE AND SANITARY SEWER SHALL BE 18 INCHES. MINIMUM HORIZ. SEPARATION SHALL BE 10 FT. MINIMUM VERT. CLEARANCE BETWEEN WATERLINE AND STORM SEWER SHALL BE 18 INCHES AND AWWA C900 FOR PVC PIPE. MINIMUM HORIZ. SEPARATION SHALL BE 10 FT.
7. WATER SERVICE LINES SHALL TERMINATE AT THE 12' UTILITY EASEMENT OUTSIDE OF R.O.W.
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. 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.
13. FIRE HYDRANTS SHALL BE FIELD PAINTED RED & YELLOW (2 COATS).
14. HYDRANTS, HYDRANT VALVES, MAINLINE VALVE BOXES AND CURB BOXES SHALL NOT BE LOCATED WITHIN SIDEWALKS, DRIVEWAYS, OR APRONS.
15. BLOW-OFF HYDRANTS SHALL HAVE 2" INLET, 2" OUTLET AND RISER PIPE, AND SHALL BE ECLIPSE NO. TF500, OR APPROVED EQUAL.
16. 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.
17. 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. BLOCKING 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.
18. THE PROPOSED FACILITIES WILL MAINTAIN A MINIMUM 35 PSI PRESSURE DELIVERED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.
19. BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS. THE WATER SYSTEM MAY GRANT SPECIAL PERMISSION FOR BUILDINGS SIX STORIES OR HIGHER.
20. CONTRACTOR TO PROVIDE LINE AND GRADE STAKES AT 100 FOOT INTERVAL FOR WATER MAIN AND EACH FITTING APPURTENANCE.

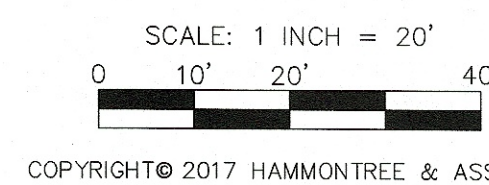
1. DUCTILE IRON PIPE: PUSH-ON JOINTS, CEMENT LINED, THICKNESS CLASS 52 FOR 4 INCH THROUGH 16 INCH, MANUFACTURING STANDARDS AWWA C150 AND C151. POLYETHYLENE ENCASEMENT SHALL BE INSTALLED ON ALL DUCTILE PIPE AND FITTINGS.
2. DUCTILE IRON FITTINGS (TEES, CROSSES, BENDS, REDUCERS, SLEEVES, COUPLINGS AND PLUGS.): MECHANICAL JOINT, TEES, CROSSES, BENDS AND REDUCERS ARE TO BE CEMENT LINED; WORKING PRESSURE RATING 250 PSI, MANUFACTURING STANDARDS ANSI A21.53, ANSI A21.4 AND ANSI A21.10. COMPACT STYLE IS ACCEPTABLE. RETAINER GLANDS SHALL BE INSTALLED WHEREVER THERE IS A POSSIBILITY OF JOINT SEPARATION.
3. FIRE HYDRANTS: POST TYPE, BREAKABLE FLANGE DESIGN FOR TRAFFIC COLLISIONS, 5 1/4" DIAMETER MAIN VALVE, ONE 5" STORZ 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.
4. TAPPING VALVES: 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 SPECIFICATION C500.
5. 4" THROUGH 12" GATE VALVES: 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.
6. VALVE BOXES: 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.
7. 2" WATER MAIN: 2" WATER MAIN SHALL BE SOFT DRAWN TYPE "K" COPPER TUBING OR HIGH DENSITY POLYETHYLENE PLASTIC (HDPE), COPPER TUBE SIZE, AS CALLED OUT ON THE PLAN. IF HDPE IS USED, IT SHALL BE 200 PSI, SDR 9 WITH MARKING TAPE AND A 12 GAUGE COPPER TRACER WIRE LAID IN THE TRENCH. BRASS COMPRESSION FITTINGS SHALL BE USED. STAINLESS STEEL STIFFENERS ARE NECESSARY AT EACH JOINT.
8. POLYETHYLENE ENCASEMENT: EIGHT MIL THICK POLYETHYLENE TUBE MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA C105/A21.5. POLYETHYLENE ADHESIVE TAPE, 1 1/2" WIDE, IS TO SEAL JOINTS.
9. BLOW OFF ASSEMBLIES: KUPFERLE FOUNDRY IF500 OR APPROVED EQUAL. INSTALL IN VALVE BOX. INSTALL 2" CURB STOP WITH CURB BOX AHEAD OF EACH BLOW OFF.

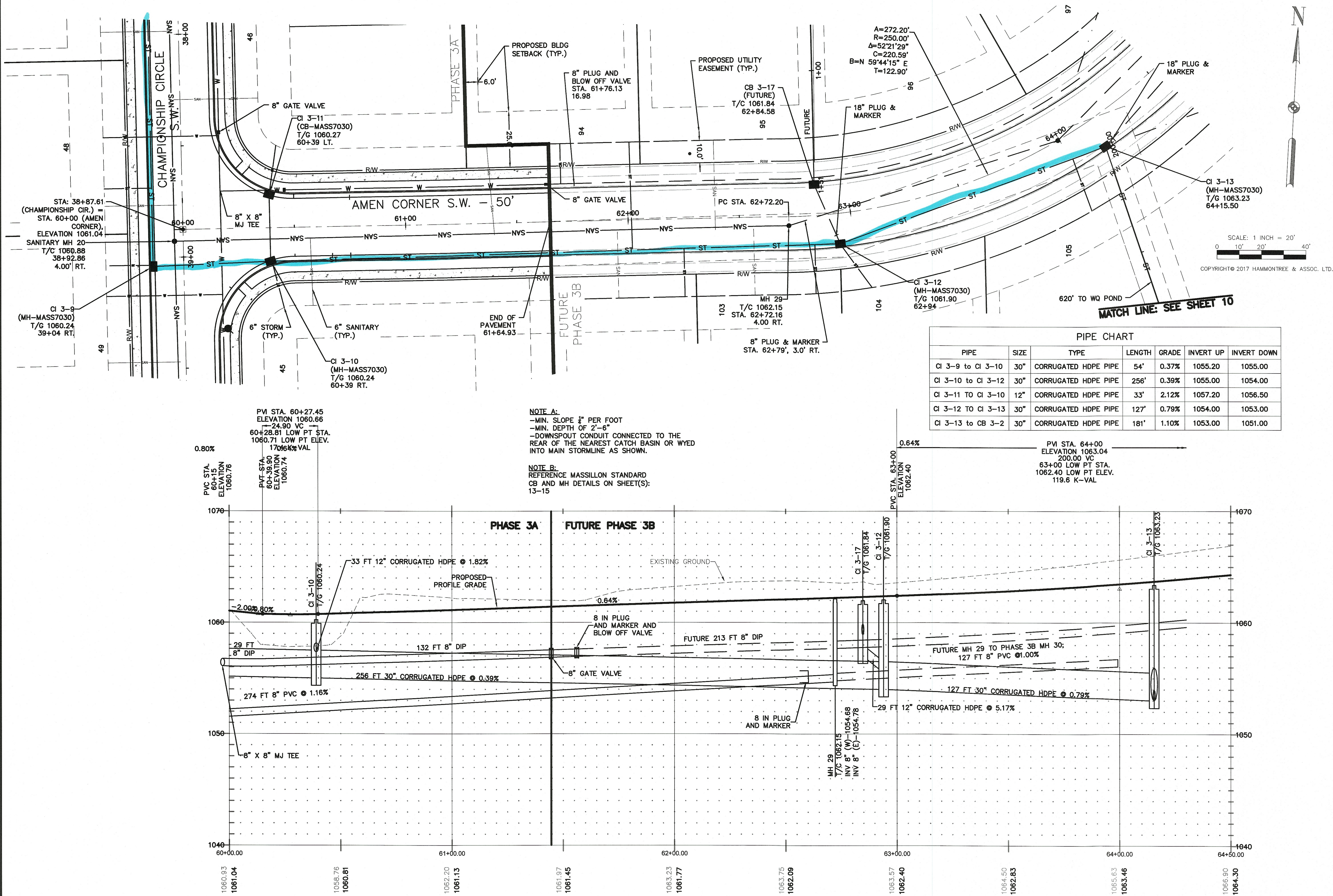


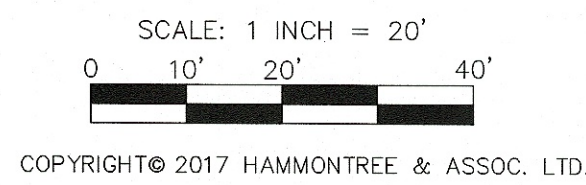




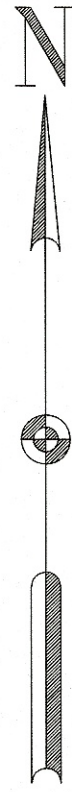
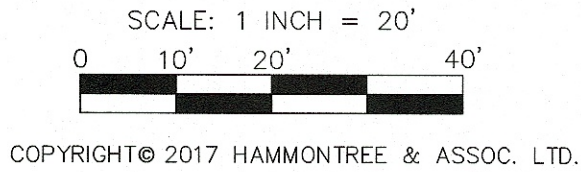
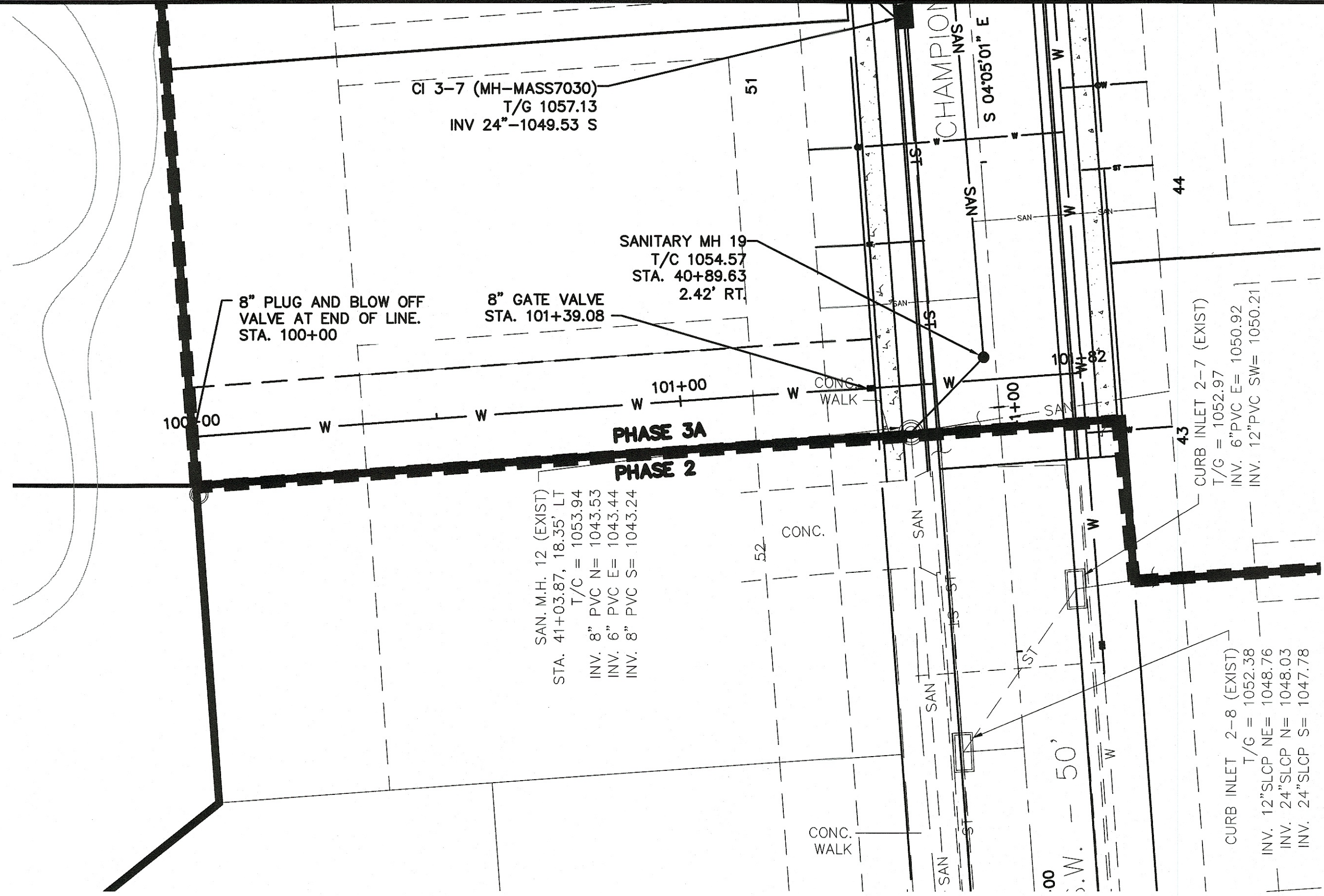
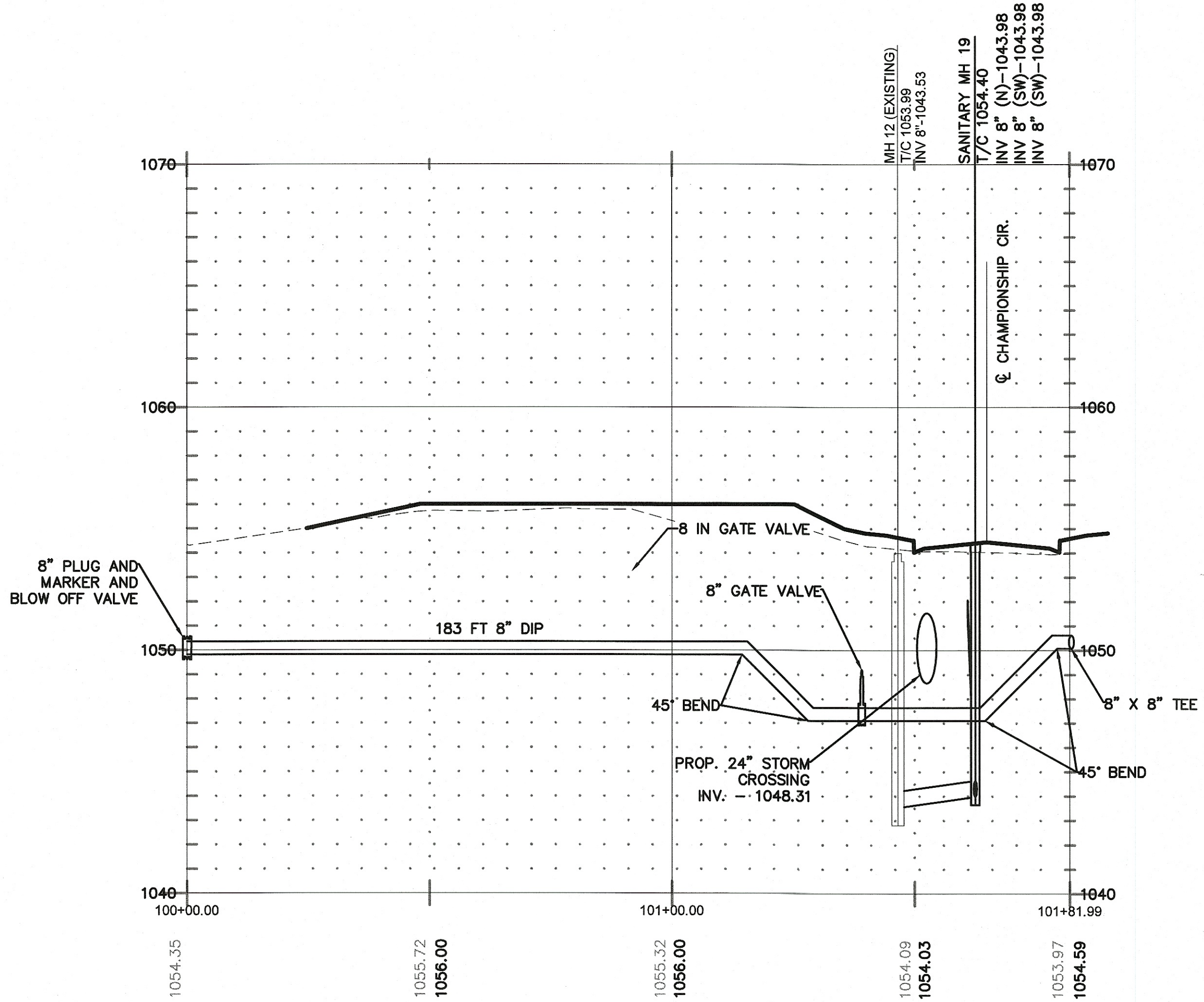
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DRAWN BY: MGT	REV. BY: _____	DATE: _____	DESC: _____
CHECKED BY: PCC	REV. BY: _____	DATE: _____	DESC: _____
FLD BK: 100	REV. BY: _____	DATE: _____	DESC: _____
BK PG: XXX	REV. BY: _____	DATE: _____	DESC: _____
DATE: SEP 2020			







PLAN AND PROFILE - HW 3-1 - CL 3-2 & SANITARY AUGUSTA LAKES - PHASE 3A FOR: SMITH DEVELOPMENT CORP. OUT LOT 870 LOCATED IN THE CITY OF MASSILLON STARK COUNTY, OHIO	SCALES HORIZ: _____ VERT: _____ CONTOUR INT: _____		DESIN BY: _____ DRAWN BY: _____ PLOT BY: _____ REVMD BY: _____ FLD BK: _____ BK PG: _____ DATE: SEP. 2020		REV. BY: _____ DATE: _____ DESC.: _____ REV. BY: _____ DATE: _____ DESC.: _____ REV. BY: _____ DATE: _____ DESC.: _____		 	HAMMONTREE & ASSOCIATES, LIMITED ENGINEERS, PLANNERS, SURVEYORS 5233 STONEHAM RD. NORTH CANTON, OH 44720 PHN: (330) 499-8817 FAX: (330) 499-0149 TOLL FREE: 1-800-394-8817 www.hammontree-engineers.com



PLAN & PROFILE - WATERLINE TO WEST E
AUGUSTA LAKES - PHASE 3A
FOR: SMITH DEVELOPMENT CORP.
OUT LOT 870 LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

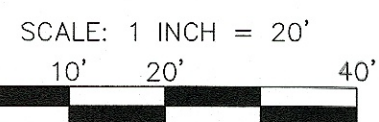
9B

SCALES
HORIZ: 1"=20'
VERT: 1"=4'
CONTOUR INT: 2'

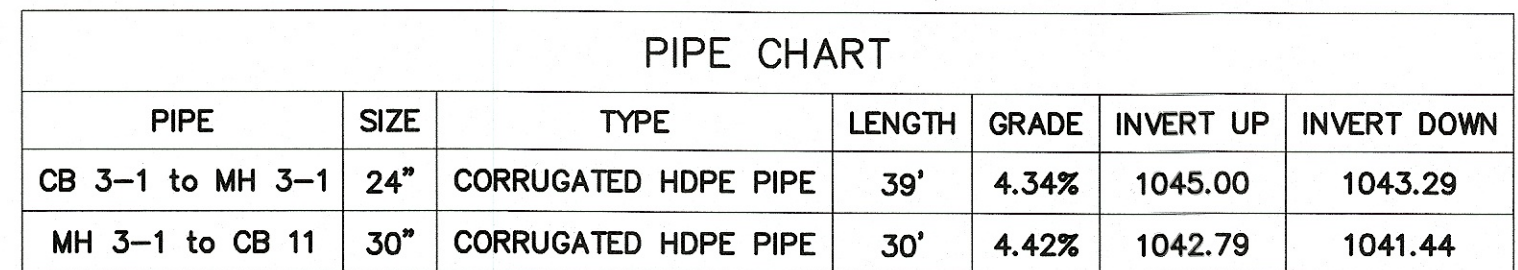
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DRAWN BY: MGT
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DATE: SEP. 2020

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

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IN
OH
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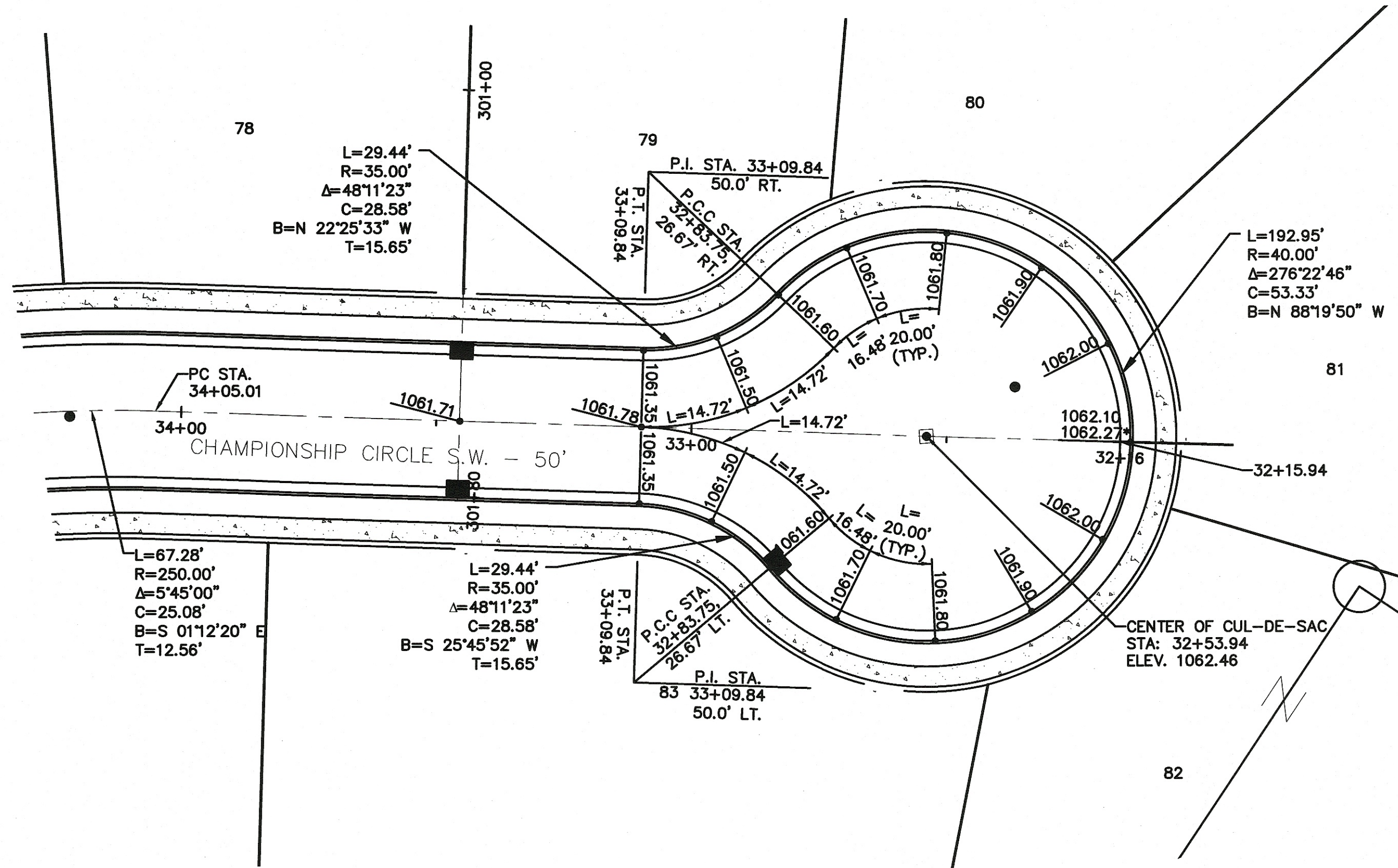
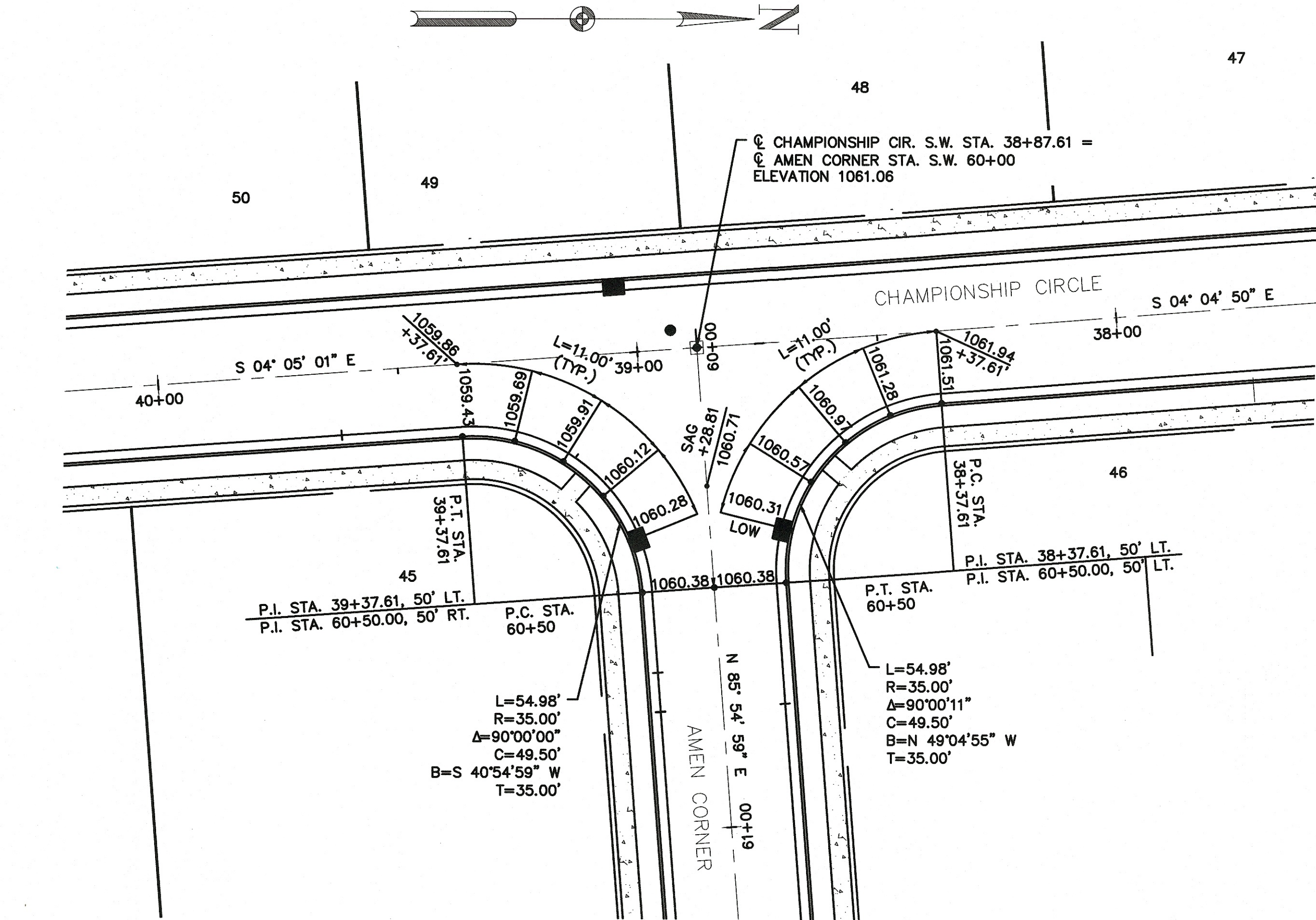


HAI PA
OH WV

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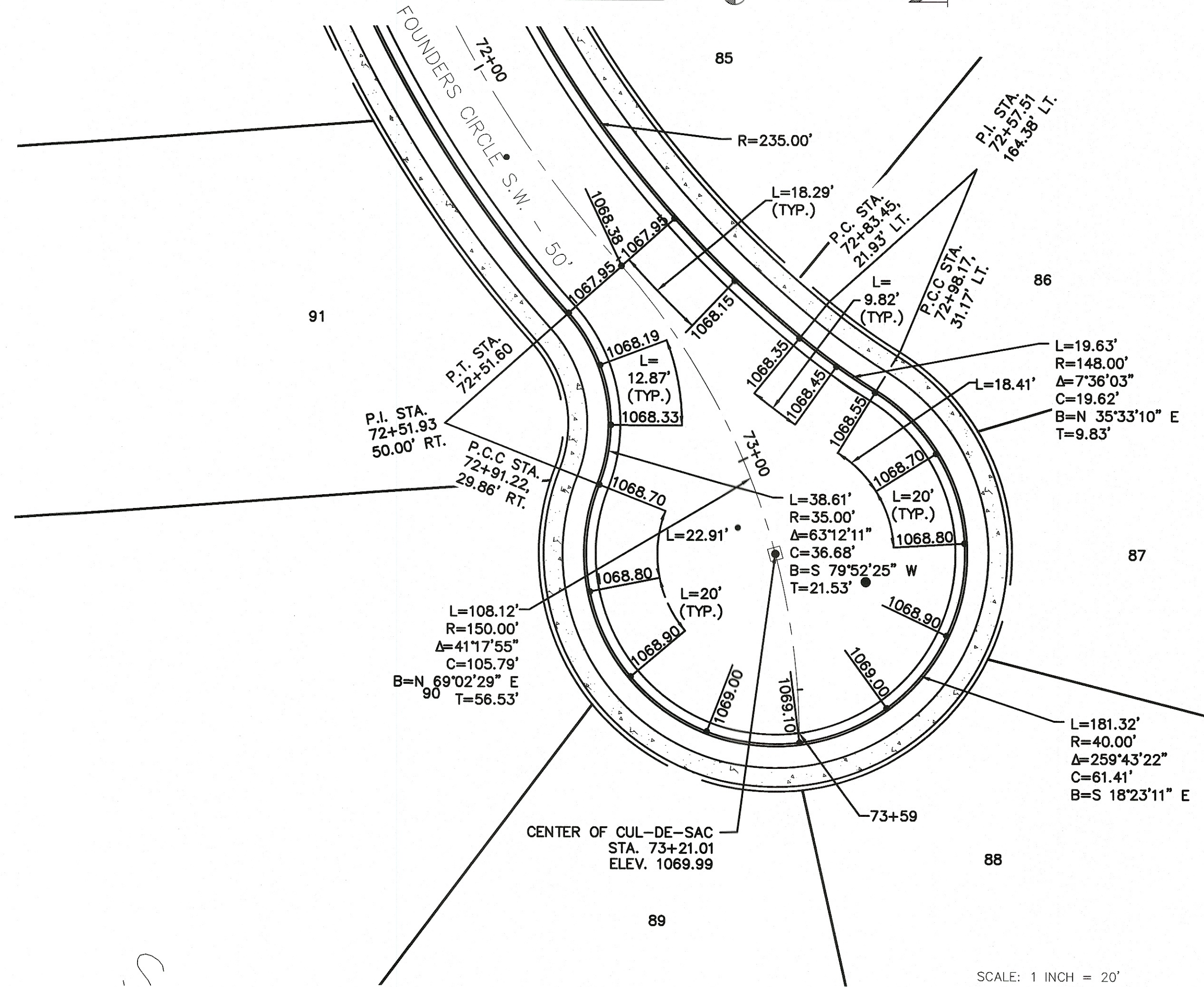
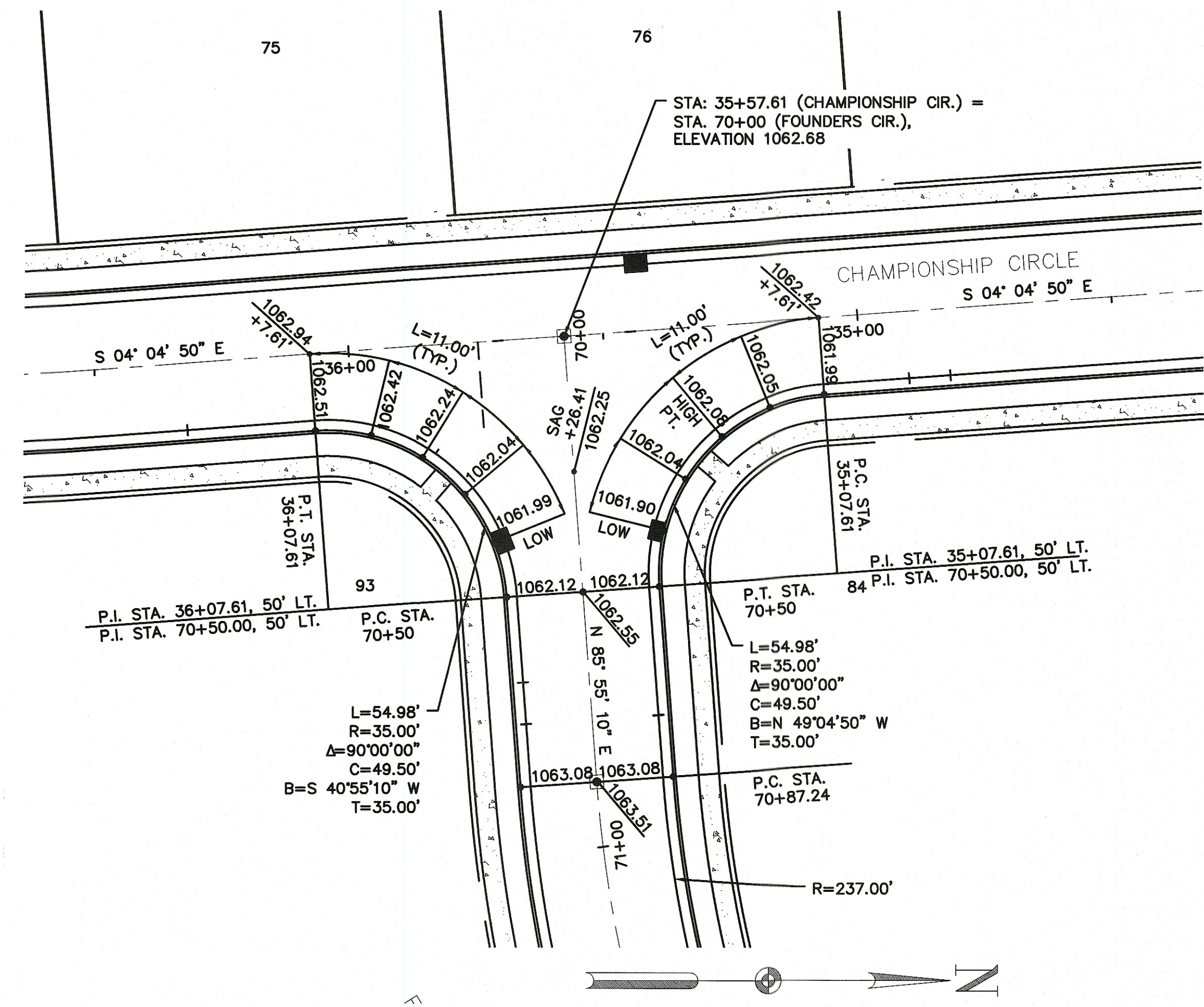


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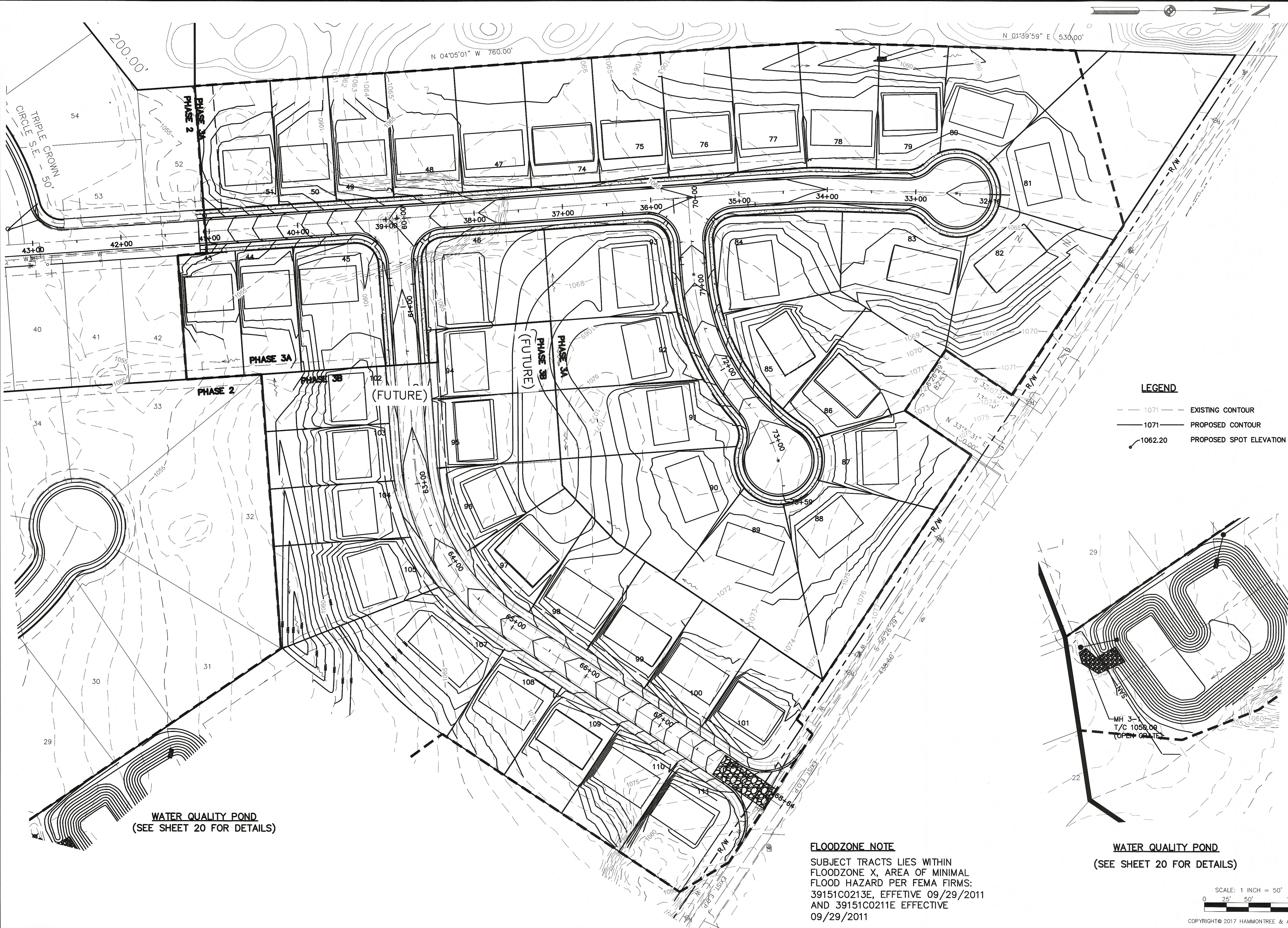
- ALL ELEVATIONS ARE FRONT/BOTTOM OF CURB EXCEPT FOR ONES DENOTED WITH SUFFIX *.
- * = ELEVATION AT EDGE OF PAVEMENT.
- ARC LENGTHS ARE MEASURED AT THE FACE OF CURB.

- TOP OF CURB IS 6\"/>

- PROPOSED CITY OF MASSILLON MONUMENT BOX ASSEMBLY W/ 3/4\"/>



SCALE: 1 INCH = 20'
0 10' 20' 40'
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LEGEND

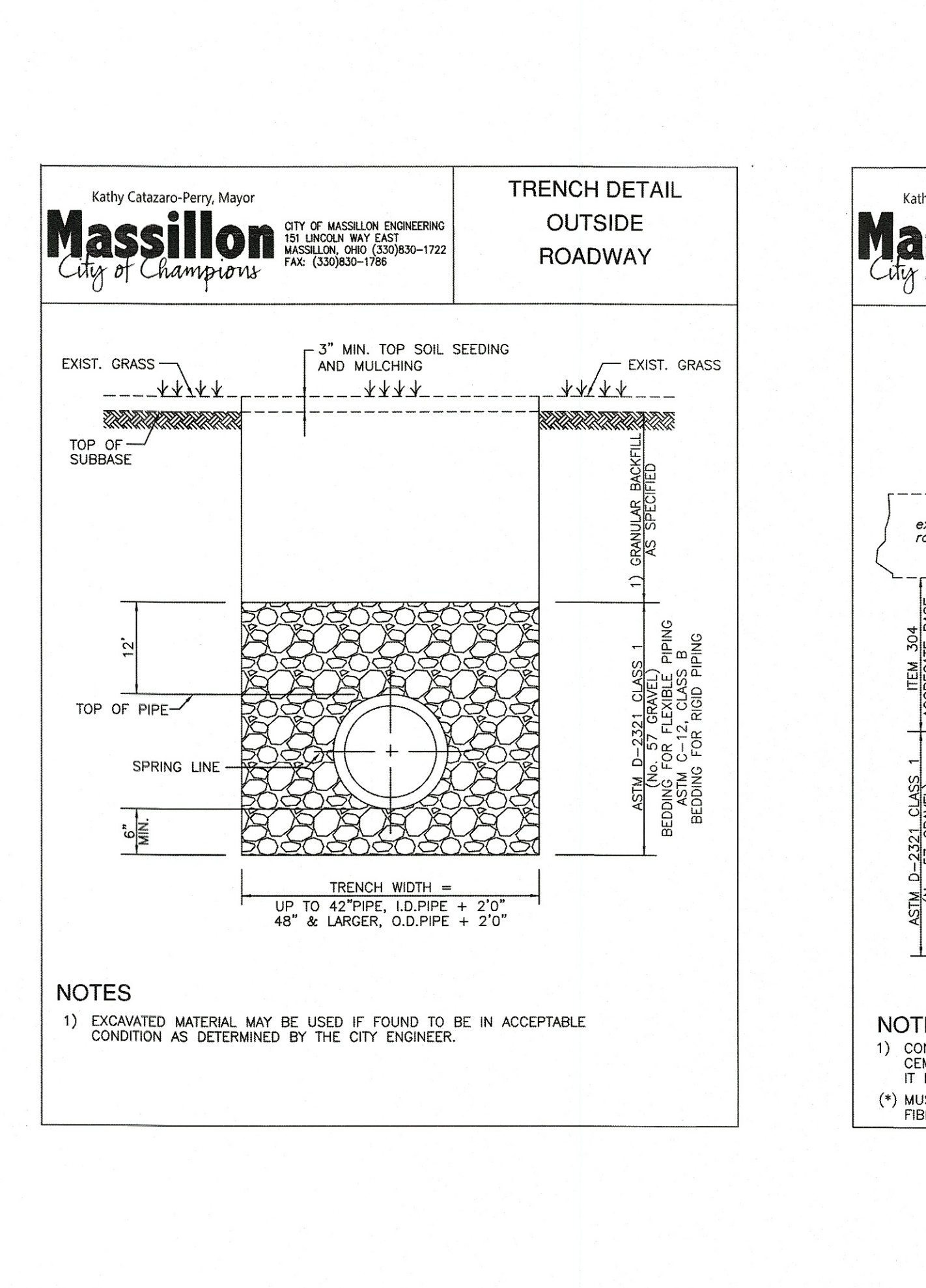
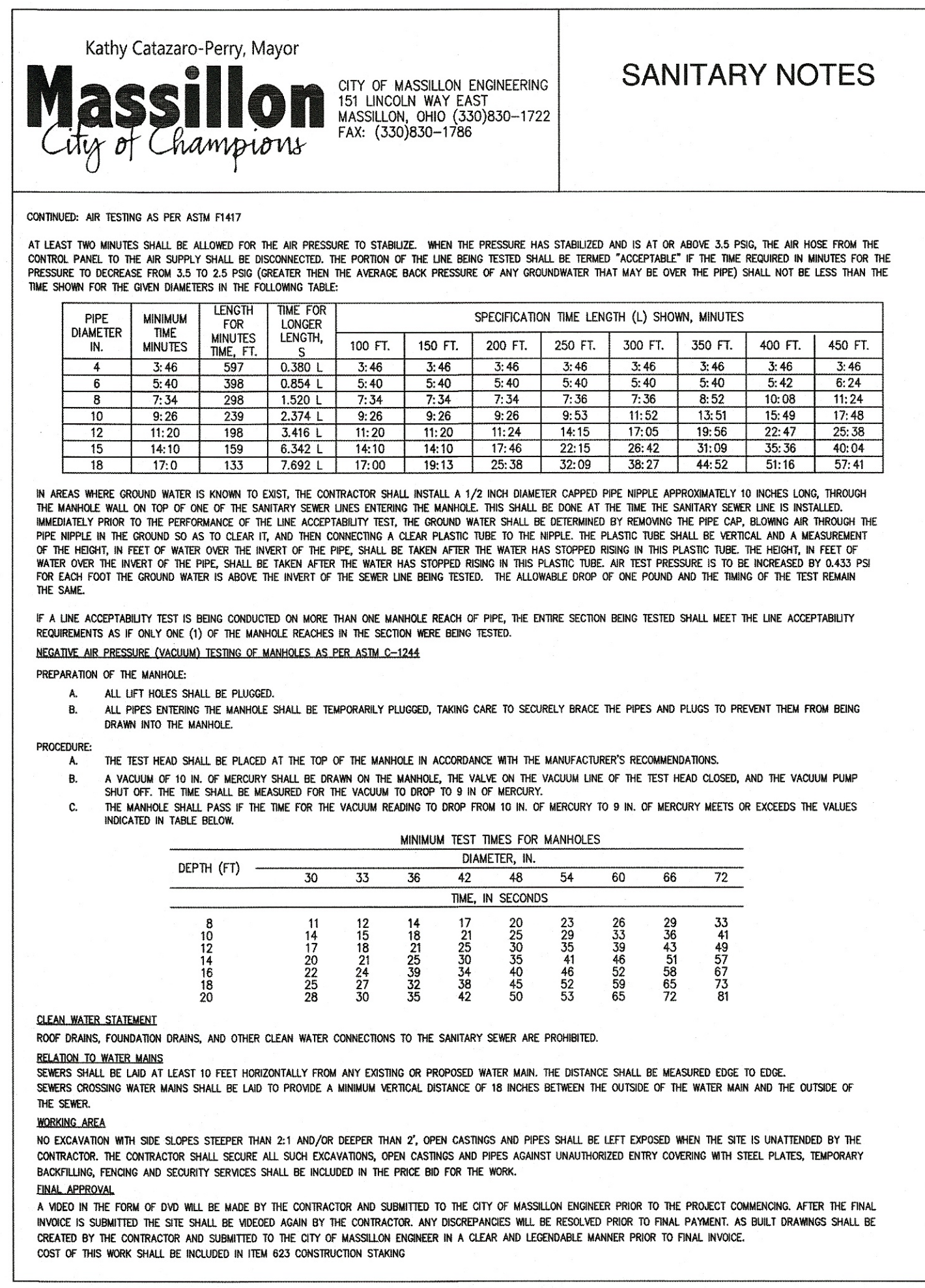
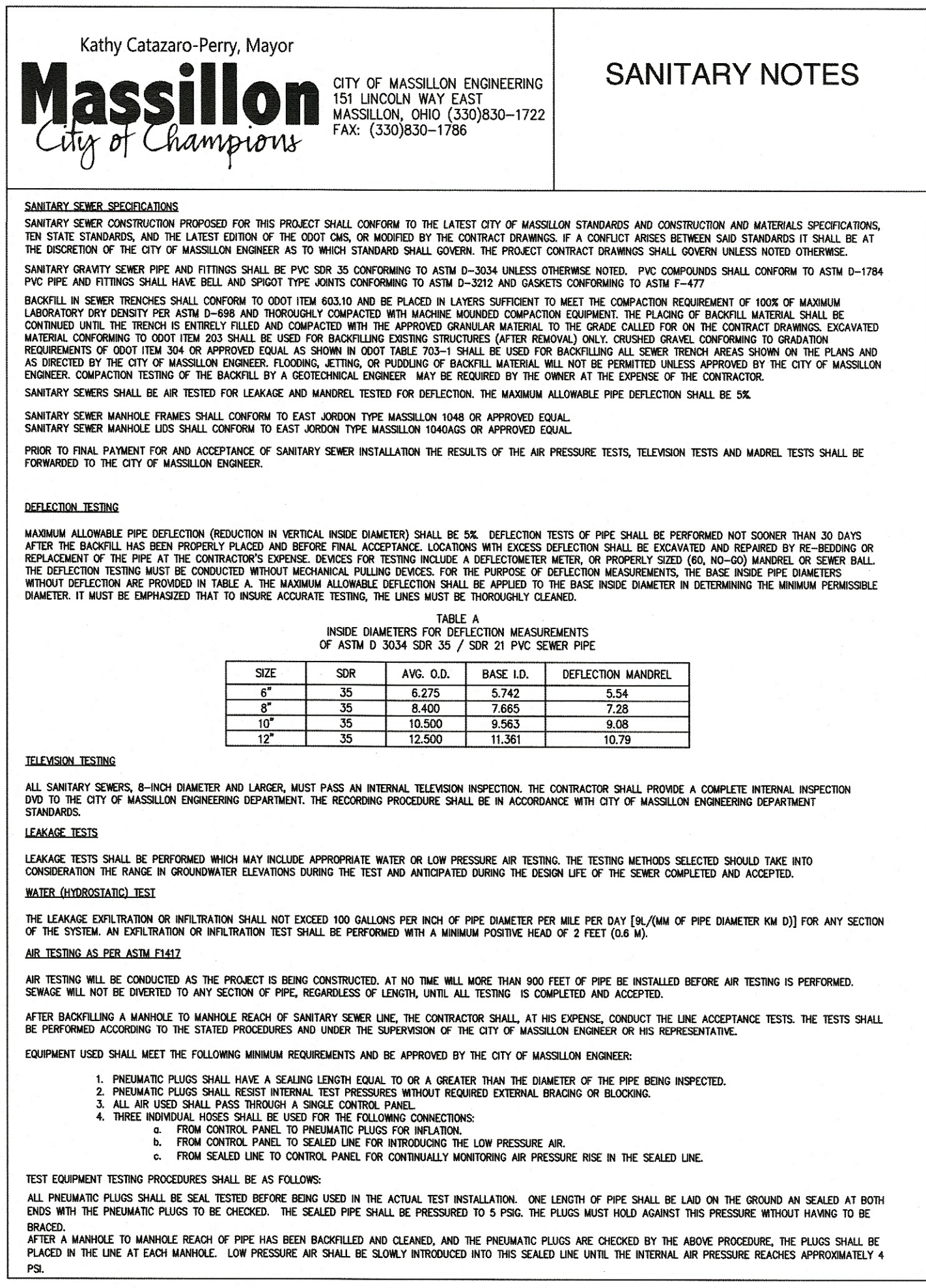
--- 1071 --- EXISTING CONTOUR
--- 1071 --- PROPOSED CONTOUR
1062.20 PROPOSED SPOT ELEVATION

WATER QUALITY POND
(SEE SHEET 20 FOR DETAILS)

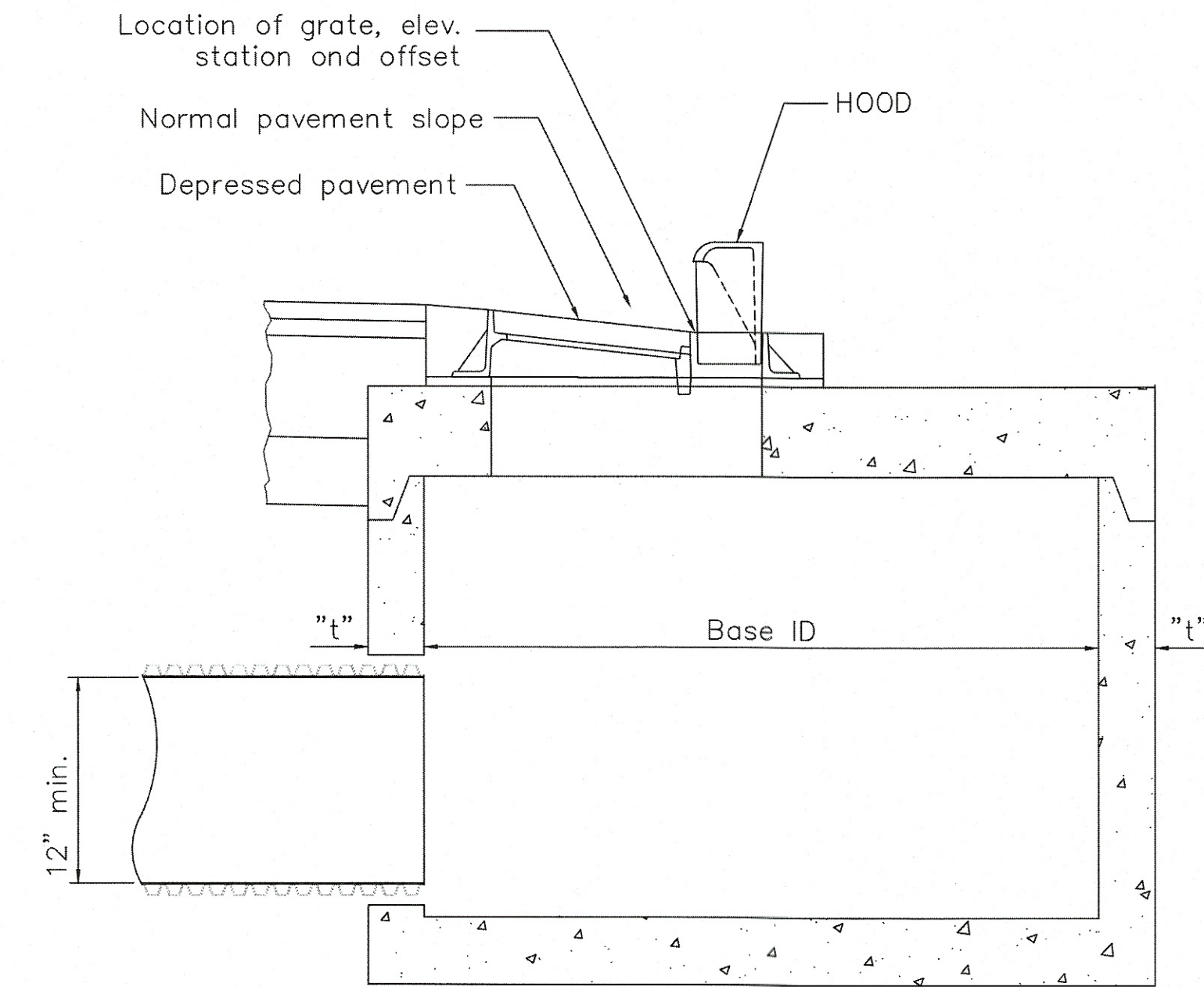
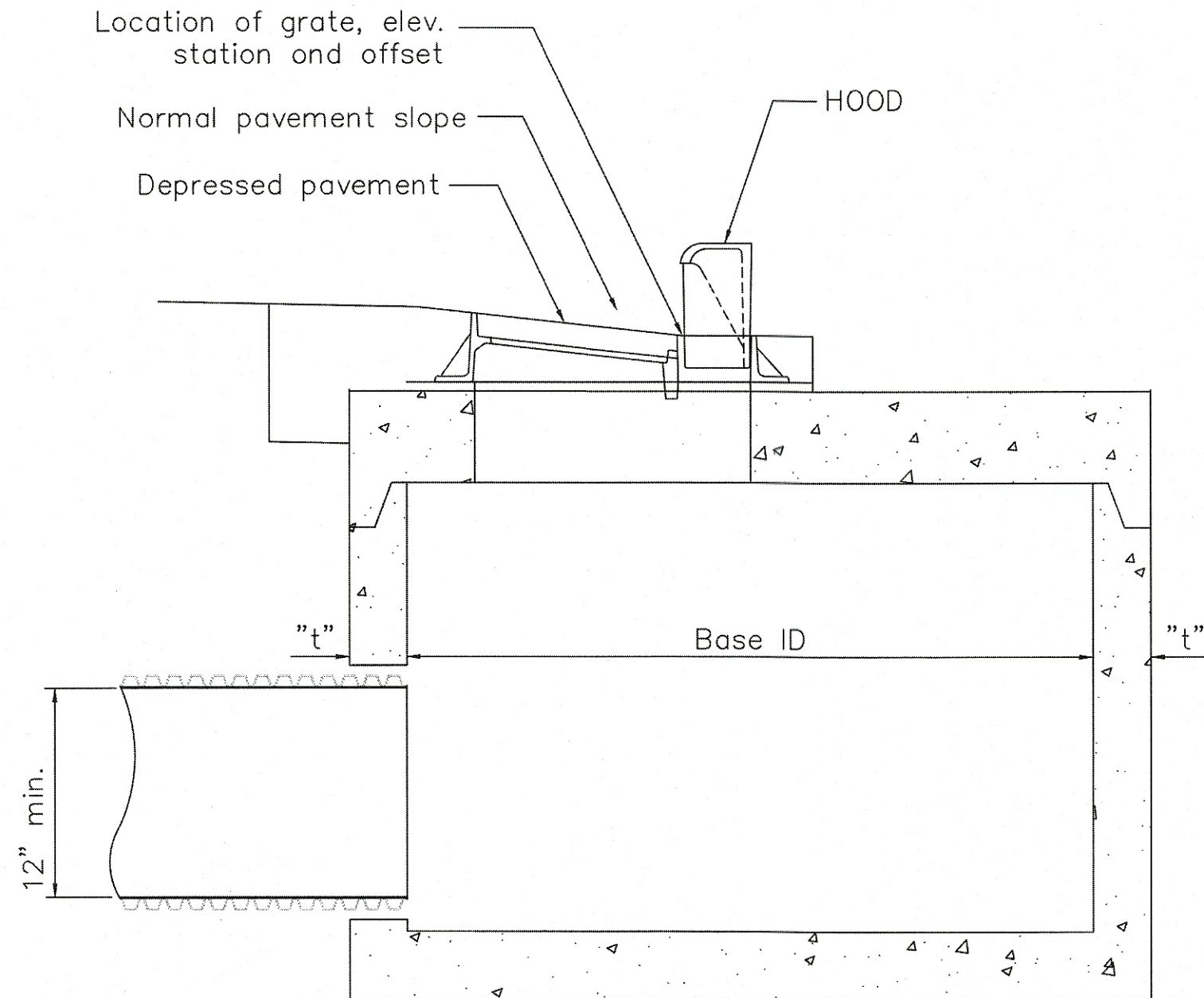
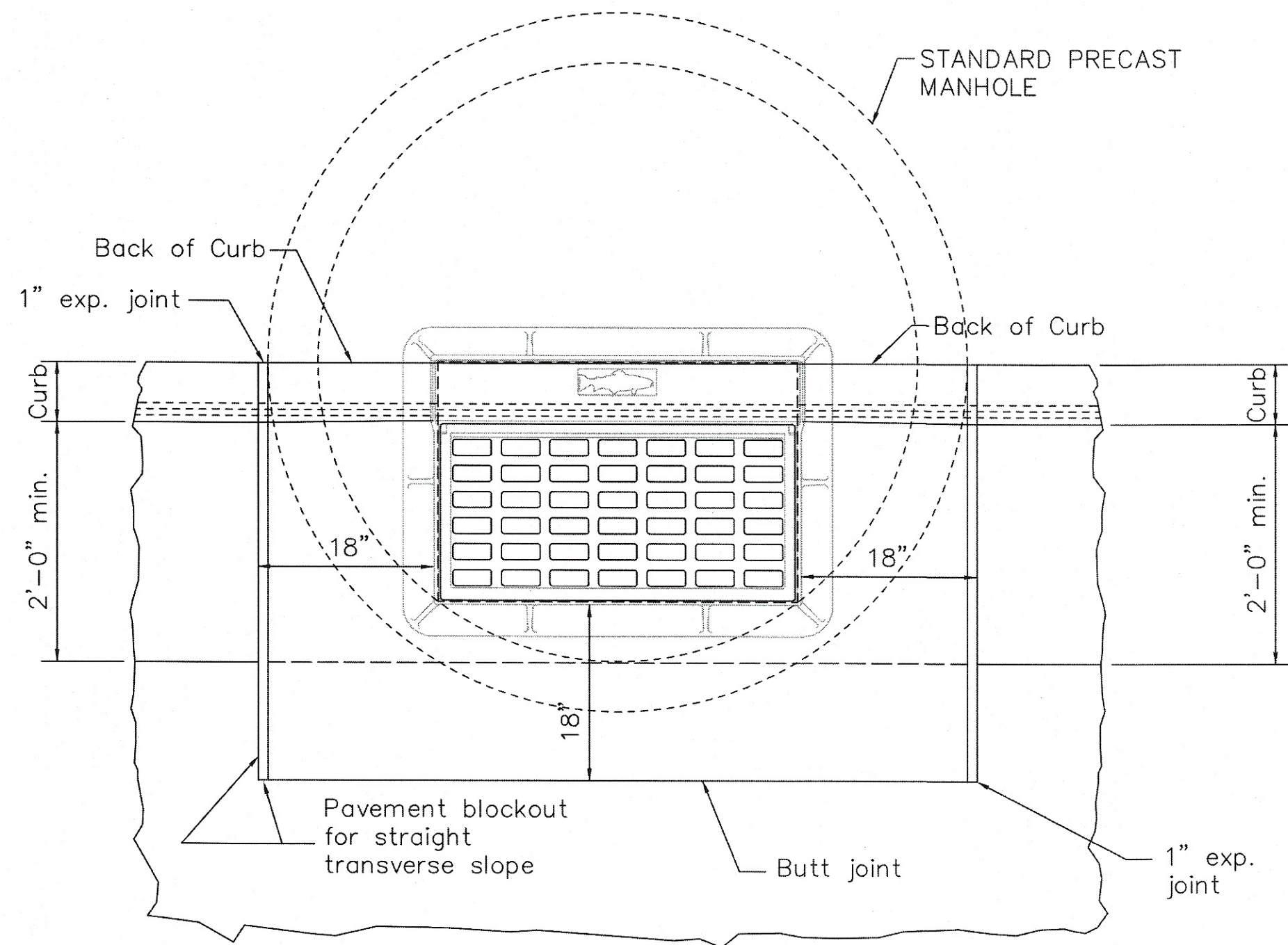
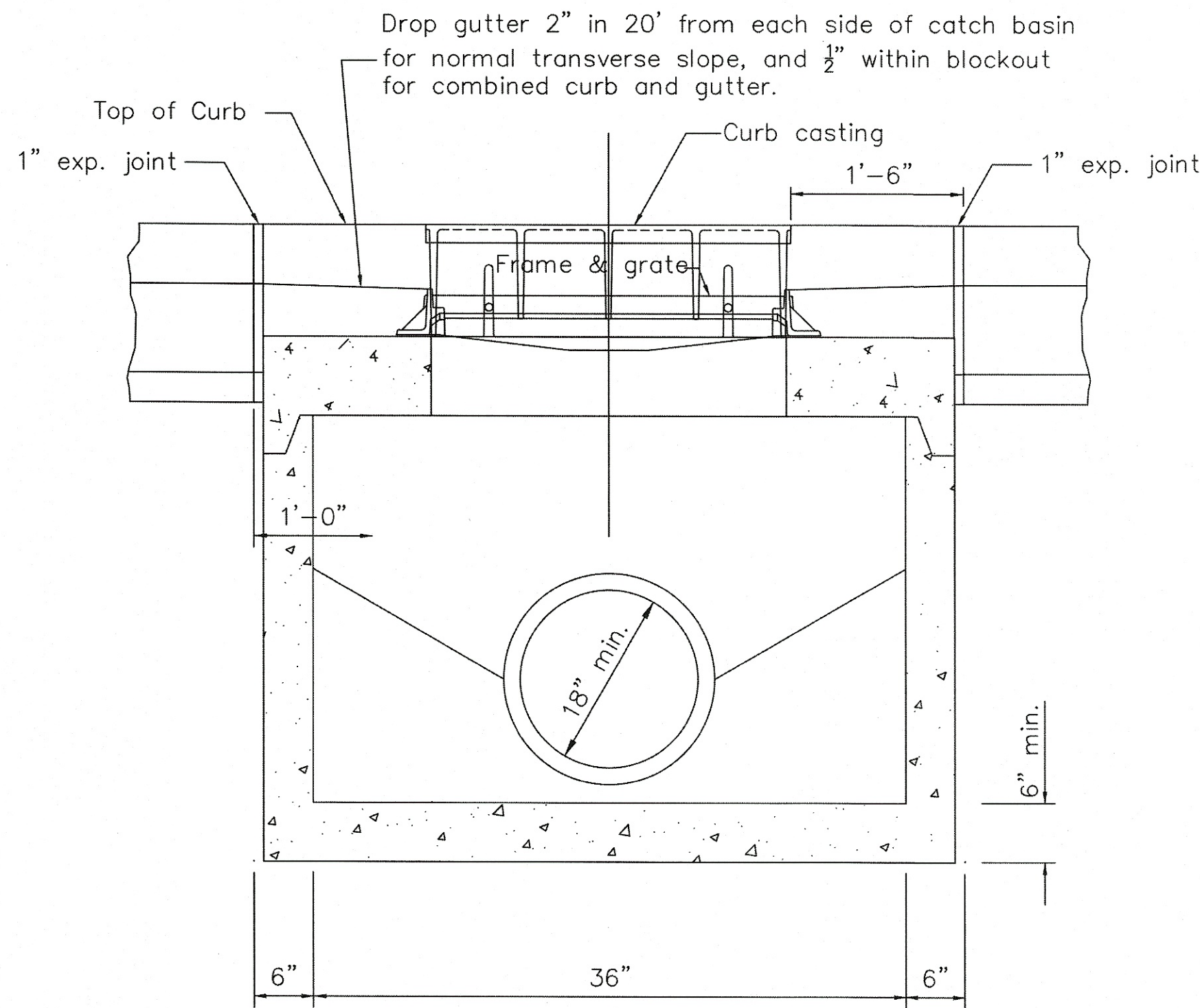
FLOODZONE NOTE
SUBJECT TRACTS LIES WITHIN
FLOODZONE X, AREA OF MINIMAL
FLOOD HAZARD PER FEMA FIRMS:
39151C0213E, EFFECTIVE 09/29/2011
AND 39151C0211E EFFECTIVE
09/29/2011

WATER QUALITY POND
(SEE SHEET 20 FOR DETAILS)

SCALE: 1 INCH = 50'
0 25' 50' 100'
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GRATES: Two required. For details, see EJ 7030Z. provide Grate M2 unless the plans specifically require the bicycle safety grate.

CASTINGS: Provide a design essentially the same and equally as strong as the the one shown. Below is a list of approved EJ

Frame = 7030 Z
Grate = 7030 M2
= 7030 M3 for bicycle safety
Hood = 7030 T1
7030 T3 for drop curb areas

BEARING AREAS: Fit and finish the frame and grate to provide a firm seat and even seat. No projections are permitted on bearing areas, and grate must seat in its frame without rocking.

MINIMUM DEPTH: The minimum depth is per the cover requirements for that pipe type.

OPENINGS: Obtain the Engineer's approval for any pipe opening greater than 4" from the outside of the pipe to the structure. Fill all voids per CMS 611.

DOWELS: Furnish four 1"x18" dowels for concrete pavement or gutter blackout. See ODOT SCD BP-2.2 for dowel details.

BLOCKOUT: Pave blockouts with 4000 psi compressive strength concrete in PCC pavement or gutter. Blockouts are paid for as part of the catch basin quantities because of the castings. Cast a 4000 psi compressive strength concrete apron, the size of the 2'-0" gutter blackout, in place in asphalt pavement (no dowels required) with the cost included in the catch basin bid price. No deduction is made in curb quantities.

PAYMENT: All materials and labor, including excavation and backfilling, are paid for under Item 611Spec -- Manhole Mass7030.

ADJUSTMENT: No brick shall be used to adjust castings height. See Adjustment detail this sheet.

BASE: Manhole 3 is shown with a monolithic floor and riser which may be cast in one or two operations. A permissible alternate is to cast and ship the floor and barrel separately. Provide openings for inlet and outlet pipes, either when the unit is cast or later, to meet project requirement. Bottom channels may be formed of concrete, precast in the base or field constructed.

RISER SECTIONS: Openings for 18" and smaller inlet pipes may either prefabricated or cut in field provided the sides of pipe at the springline do not project into the manhole.

JOINT SEAL: Furnish flexible gasket joints per CMS 706.11.

OPENING: The maximum pipe opening is the O.D. of the pipe being supplied plus 2" when fabricated or field cut. Fill any voids per CMS 611.

MATERIALS: Provide materials for bases and other precast sections, including reinforcement not specified here, that meet the requirements of CMS 706.13

TOP SLAB REBAR: Use epoxy coated reinforcing steel within the top slab.

MAXIMUM PIPE SIZE		
BASE I.D.	MIN. "t"	MAX. PIPE SIZE
60"	5"	36"
72"	6"	48"
84"	7"	54"
90"	7 1/2"	60"
96"	8"	66"
108"	9"	72"

NWNE

SWSE

V

C

A

L

1"=100'

200

100

0

HORIZONTAL

SCALE IN FEET

200

100

0

CHECKED BY: KAD

DATE: MAY, 2012

DRAWN BY: FPW

DATE: MAY, 2012

REVISIONS:

DATE	DESCRIPTION

Massillon Standard Construction Details

MH-MASS7030
City of Massillon
Stark County, Ohio

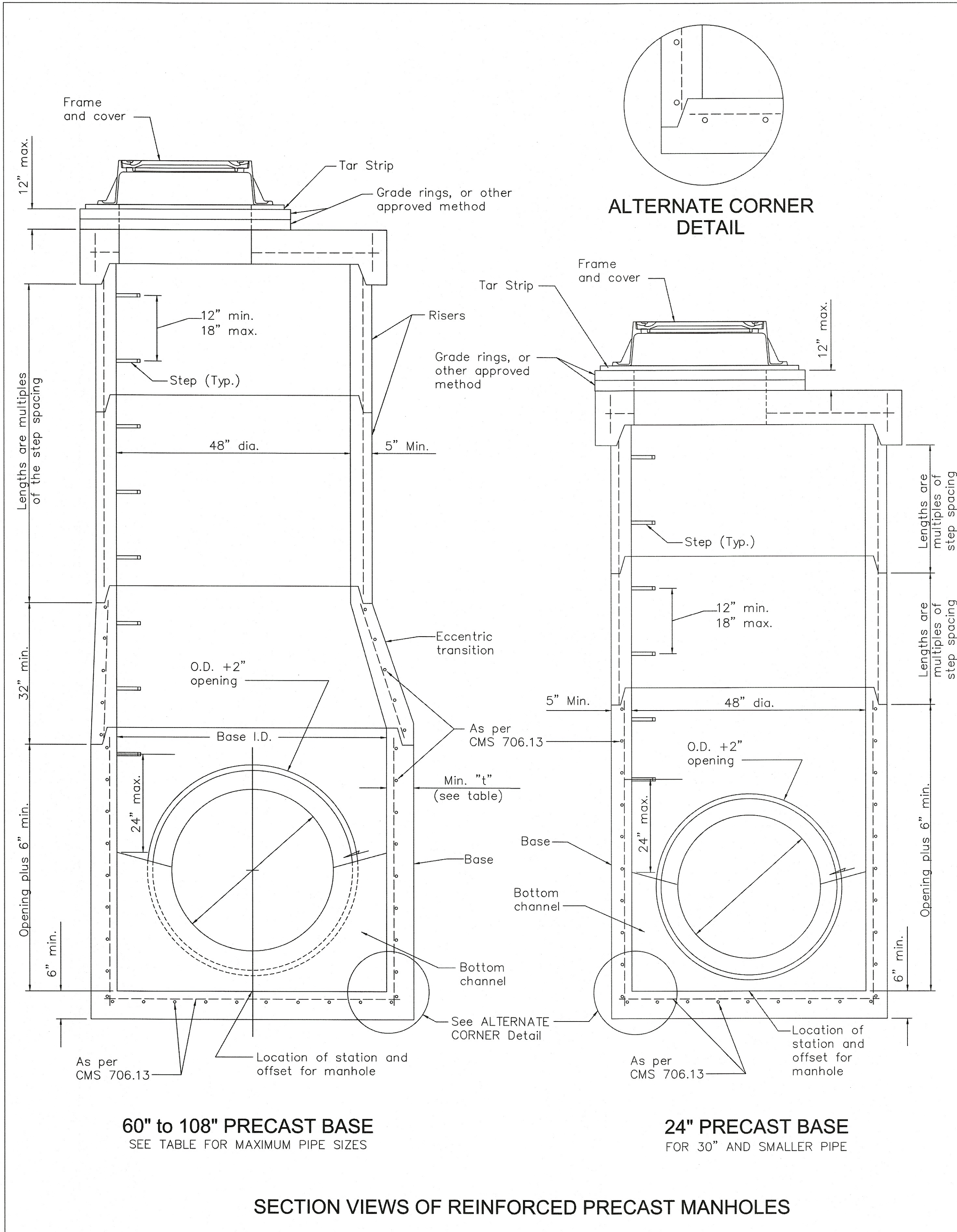
Kathy Catzaro-Perry, Mayor

Massillon
City of Massillon

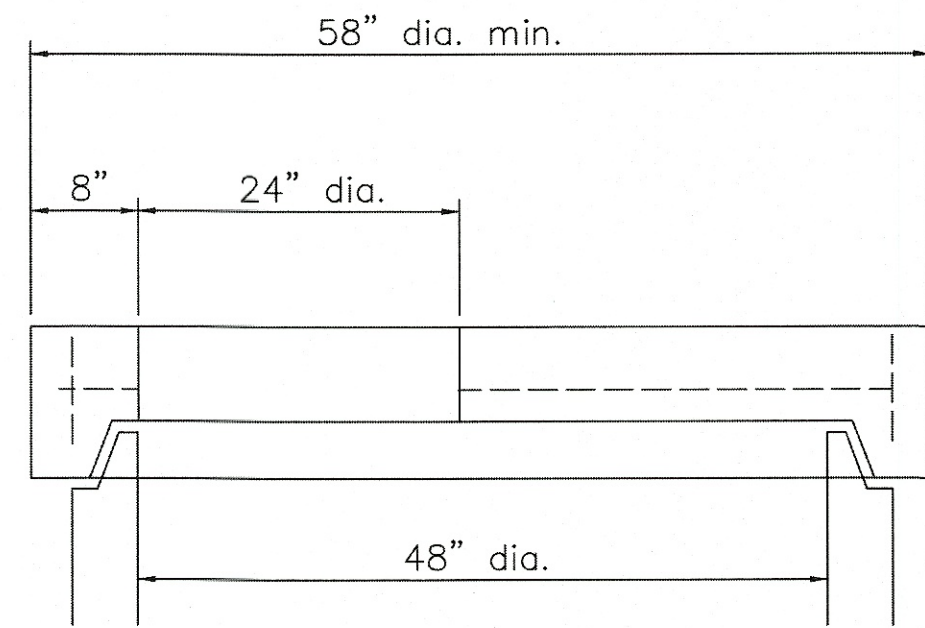
DRAWING NAME: Drainagedet.DWG
CITY NUMBER: 2015

CITY OF MASSILLON DETAILS
AUGUSTA LAKES -- PHASE 3A
FOR: SMITH DEVELOPMENT CORP.
OUT LOT 870 LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

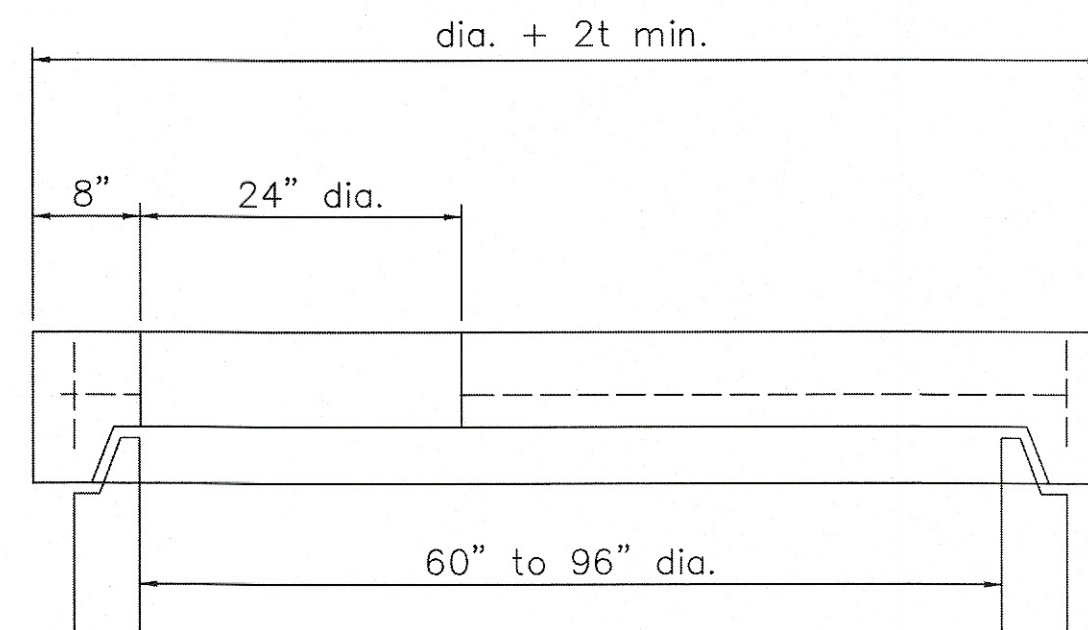
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PH: (330) 499-8817 FAX: (330) 499-0149
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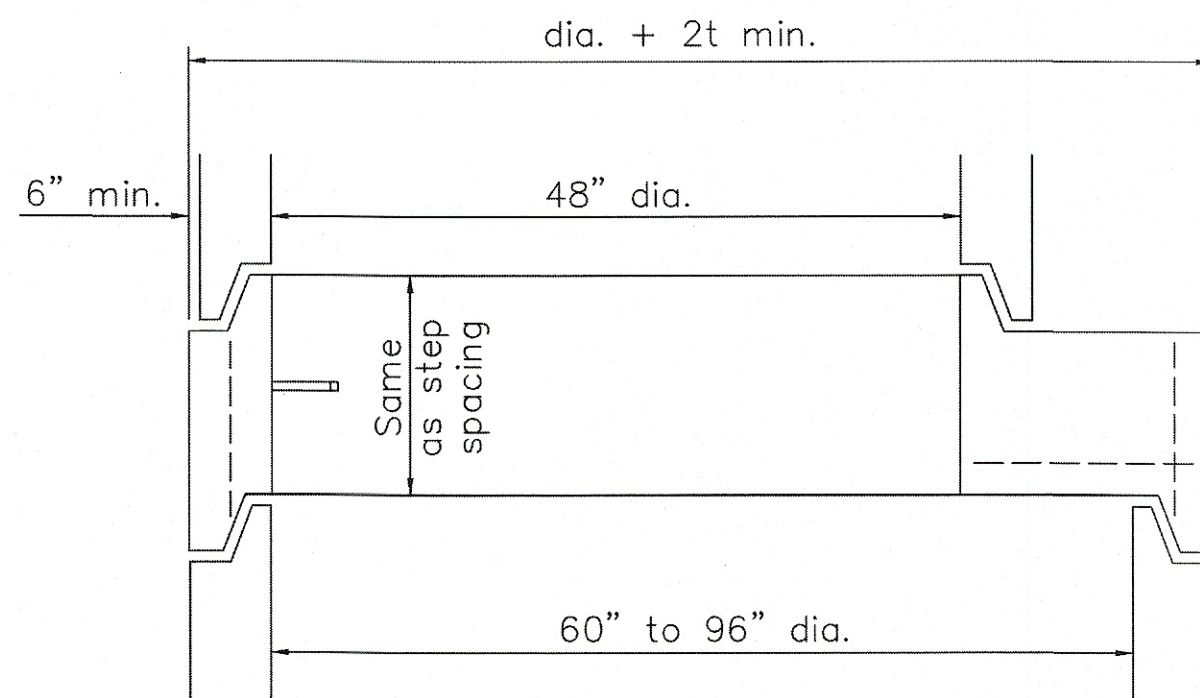
SECTION VIEWS OF REINFORCED PRECAST MANHOLES



FLAT SLAB TOP

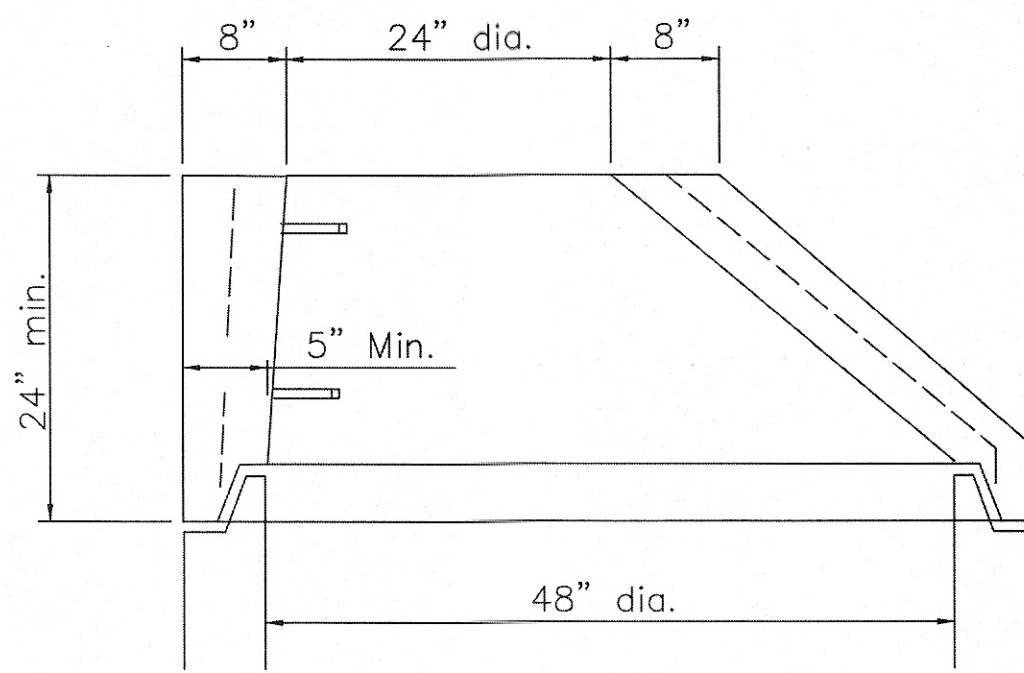


FLAT SLAB TOP



FLAT SLAB TRANSITION

MAXIMUM PIPE SIZE		
BASE I.D.	MIN. "t"	MAX. PIPE SIZE
60"	5"	36"
72"	6"	48"
84"	7"	54"
90"	7 1/2"	60"
96"	8"	66"
108"	9"	72"



ALTERNATE ECCENTRIC CONE TOP

GENERAL: With normal soil and site conditions, this standard precast manhole may be used for any required manhole depth. Cast and assemble sections of the precast manhole with either all tongue or all groove ends up. Lift holes may be provided in each section for handling. Leave handling device for flat slab in place.

CASTINGS: Provide a design essentially the same and equally as strong as the the one shown. Below is a list of approved EJ

DRAINAGE: Cover = Massillon 1040A
Cover = 1040 M3 ADA(WHEN SPECIFIED)
Frame = 1048

SANITARY: Cover = Massillon 1040AGS
Frame = 1048

TOP: Provide a flat slab for this section unless an eccentric cone is specified.

TRANSITION (OR REDUCER): This section can be either eccentric cone or flat slab.

BASE: Manhole is shown with a monolithic floor and riser which may be cast in one or two operations. A permissible alternate is to cast and ship the floor and barrel separately. Provide openings for inlet and outlet pipes, either when the unit is cast or later, to meet project requirement. Bottom channels may be formed of concrete, precast in the base or field constructed.

RISER SECTIONS: Openings for 18" and smaller inlet pipes may either prefabricated or cut in field provided the sides of pipe at the springline do not project into the manhole.

CONNECTIONS: Connections between precast manhole sections and pipes on sanitary sewers may be sealed with a resilient connectors conforming to ASTM C 923.

JOINT SEAL: Furnish resilient seal between precast manhole sections on sanitary sewers and flexible gasket joints per CMS 706.11.

OPENING: The maximum pipe opening is the O.D. of the pipe being supplied plus 2" when fabricated or field cut. Fill any voids per CMS 611.

MATERIALS: Provide materials for bases and other precast sections, including reinforcement not specified here, that meet the requirements of CMS 706.13

DROP PIPE: When specified on the plans, construct drop pipe as shown on SCD MASS1048-DROP.

TOP SLAB REBAR: Use epoxy coated reinforcing steel within the top slab.

North arrow pointing North (N) and a scale bar showing 0, 100, and 200 feet. The scale bar is labeled 'HORIZONTAL SCALE IN FEET'. Below the scale bar, it says 'CHECKED BY: KAD', 'DATE: MAY, 2012', 'DRAWN BY: FPW', and 'DATE: MAY, 2012'. To the right of the scale bar, there is a table for 'REVISIONS' with columns for 'DATE', 'DESCRIPTION', and 'BY'.

Massillon Standard Construction Details

MH-MASS1048A AND MH-MASS1048AGS
City of Massillon
Stark County, Ohio

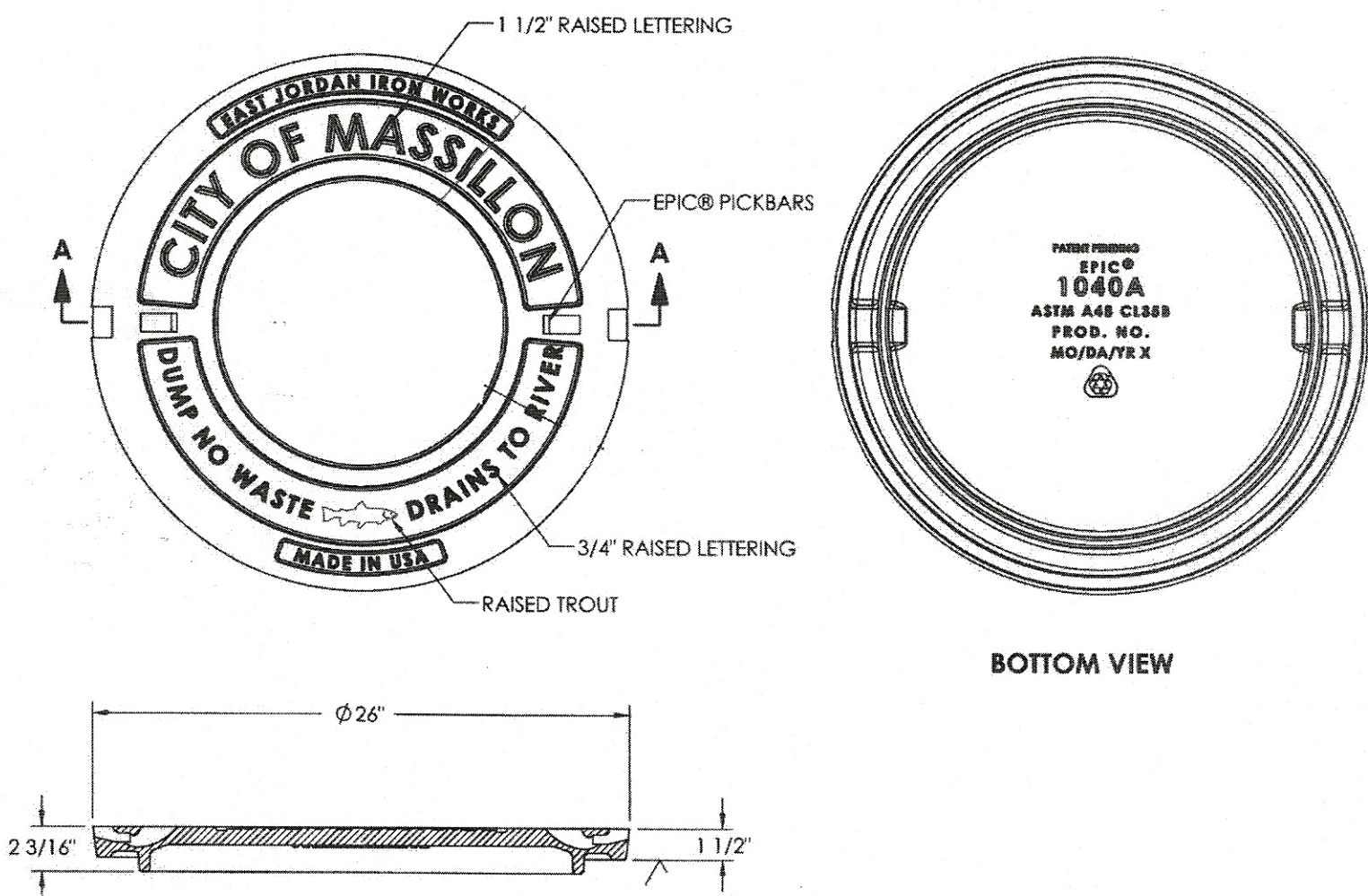
Kathy Catanzaro-Perry, Mayor
Massillon
City of Massillon

DRAWING NAME: Drainagedet.DWG
CITY NUMBER: 2015
8 / 22

CITY OF MASSILLON DETAILS
AUGUSTA LAKES - PHASE 3A
FOR: SMITH DEVELOPMENT CORP.
OUT LOT 870 LOCATED IN THE CITY OF MASSILLON
STARK COUNTY, OHIO

HAMMOTREE & ASSOCIATES, LIMITED
ENGINEERS, PLANNERS, SURVEYORS
5233 STONEHAM RD. NORTH CANTON, OH 44720
PHN: (330) 499-8817 FAX: (330) 499-0149
TOLL FREE: 1-800-394-8817
www.hammotree-engineers.com

1040A COVER



SECTION A-A

Corporate Headquarters
301 Spring Street
PO Box 439
East Jordan, MI 49727-0439
800.874.4100
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PRODUCT NUMBER

00103723

DESIGN FEATURES

MATERIALS
COVER - GRAY IRON
ASTM A48 CL35B

DESIGN LOAD
HEAVY DUTY

COATING
DIPPED

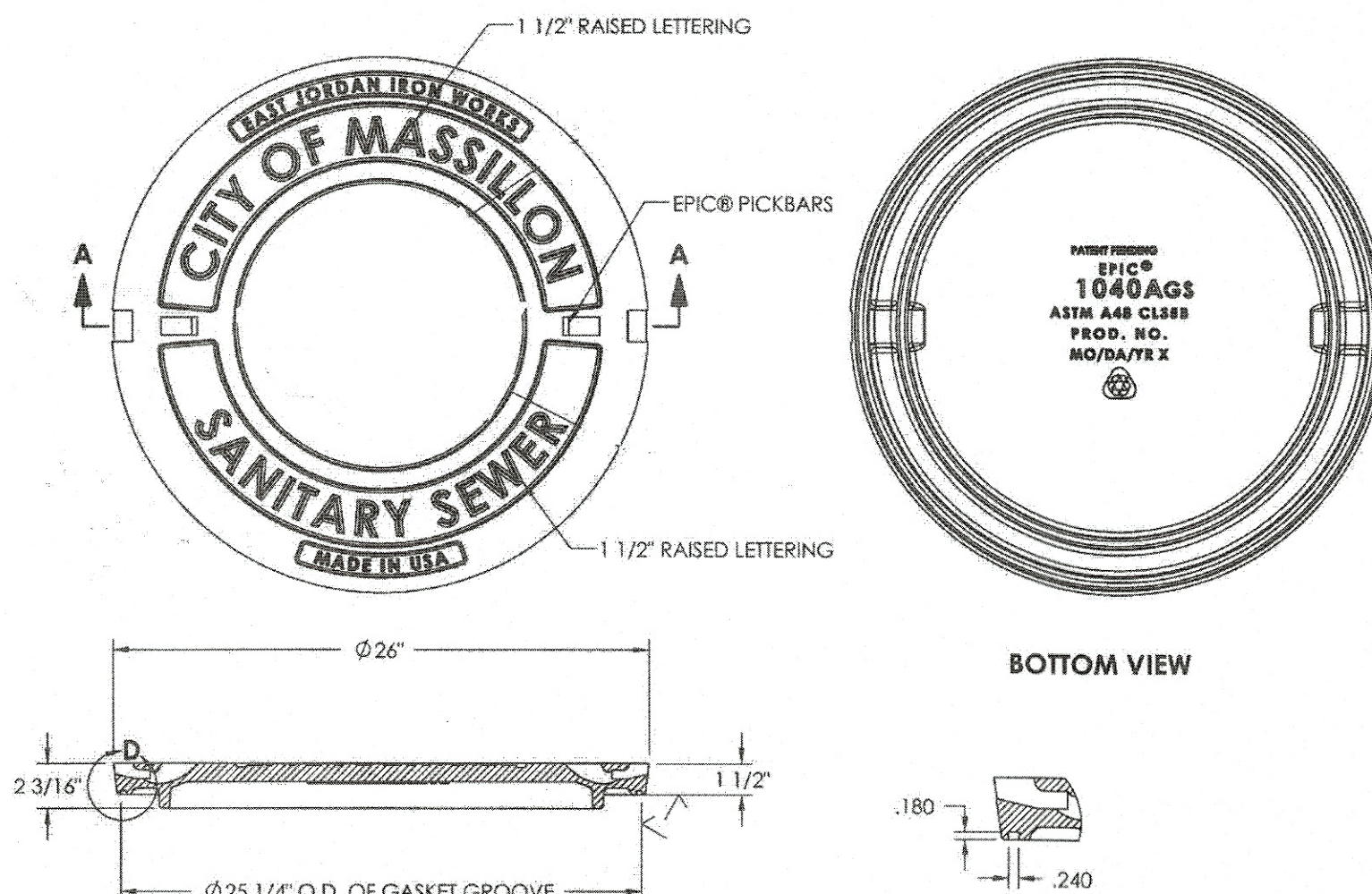
OPEN AREA
N/A

✓ DESIGNATES MACHINE SURFACE

DRAWING DETAILS

ORIGINAL DRAWING: JI 3/28/2010
REVISED BY: DEF 4/15/2010

1040AGS COVER



SECTION A-A

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East Jordan, MI 49727-0439
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PRODUCT NUMBER

00103722

DESIGN FEATURES

MATERIALS
COVER - GRAY IRON
ASTM A48 CL35B

DESIGN LOAD
HEAVY DUTY

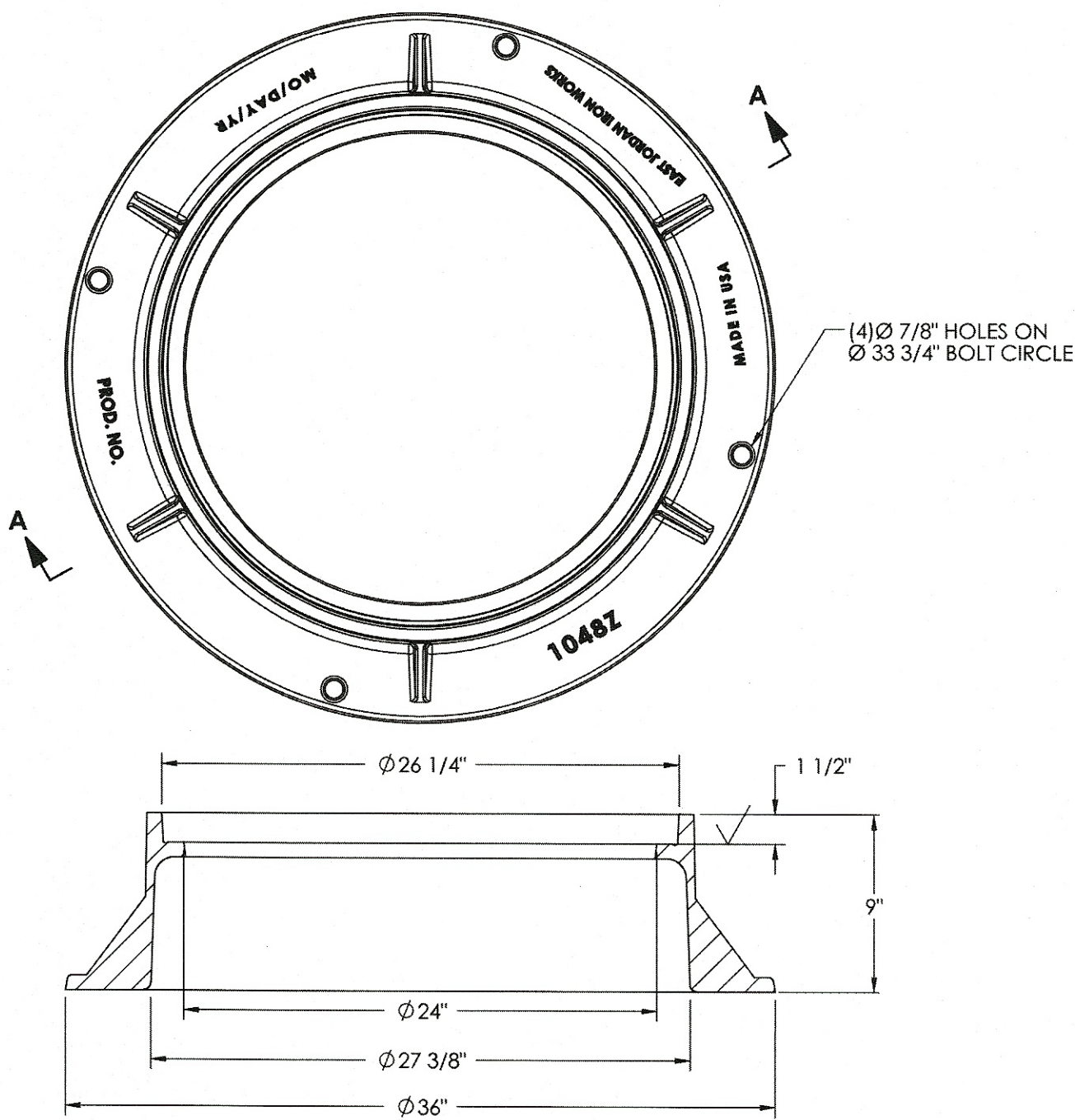
COATING
DIPPED

OPEN AREA
N/A

✓ DESIGNATES MACHINE SURFACE

DRAWING DETAILS

ORIGINAL DRAWING: JI 3/28/2010
REVISED BY: DEF 4/15/2010



SECTION A-A

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MADE IN THE USA

PRODUCT NUMBER

00104810

CATALOG NUMBER

1048Z

FRAME

LOAD RATING

HEAVY DUTY

COATING

DIPPED

SPECIFICATION

FRAME-GRAY IRON

ASTM A48 CL35B

ESTIMATED WEIGHT

224 LBS.

OPEN AREA

N/A

✓ DESIGNATES

MACHINED SURFACE

DRAWN

DVDS-VP

DATE

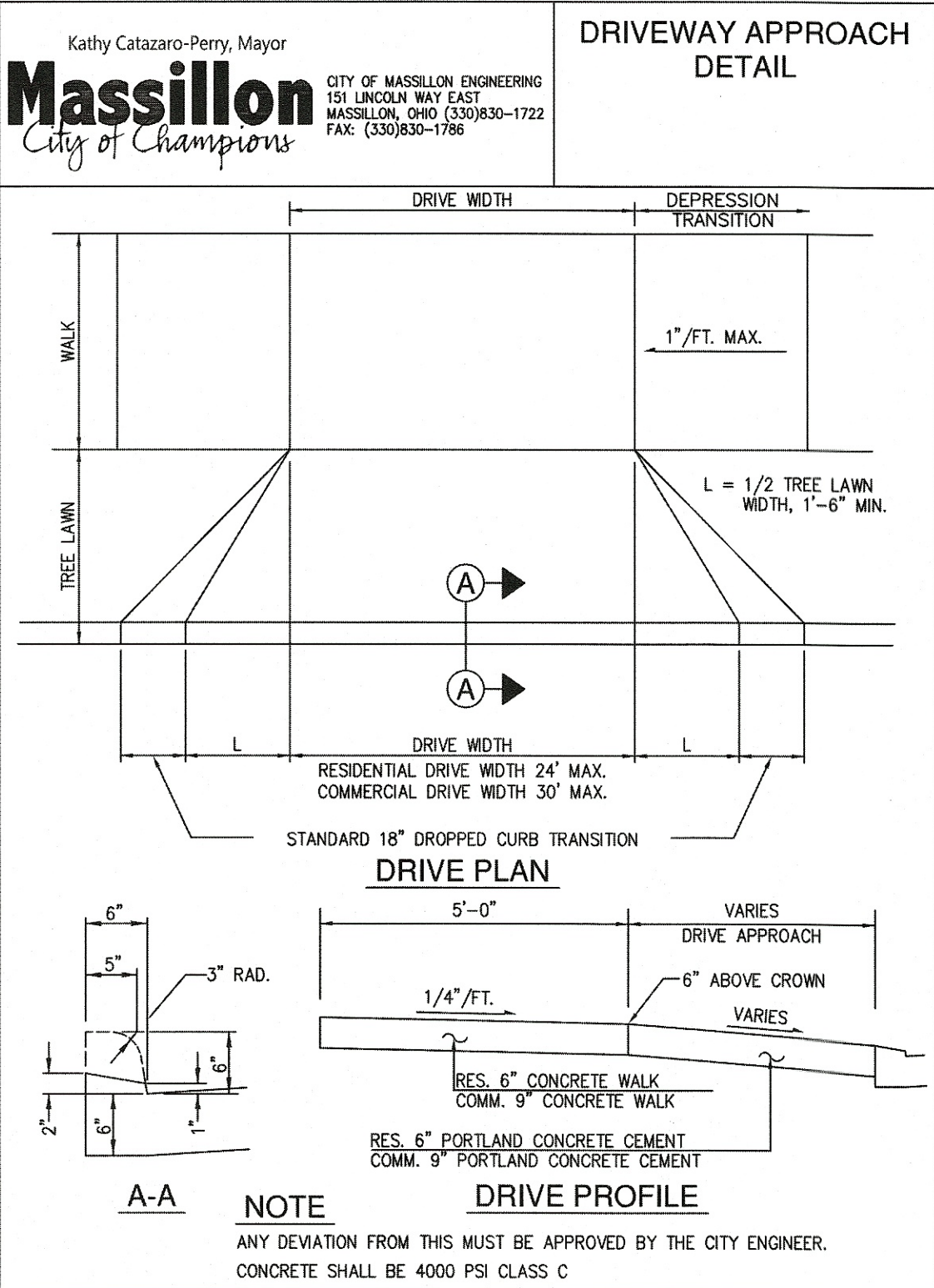
7/14/2009

LAST REVISED

DEW

DATE

8/6/2009



A-A

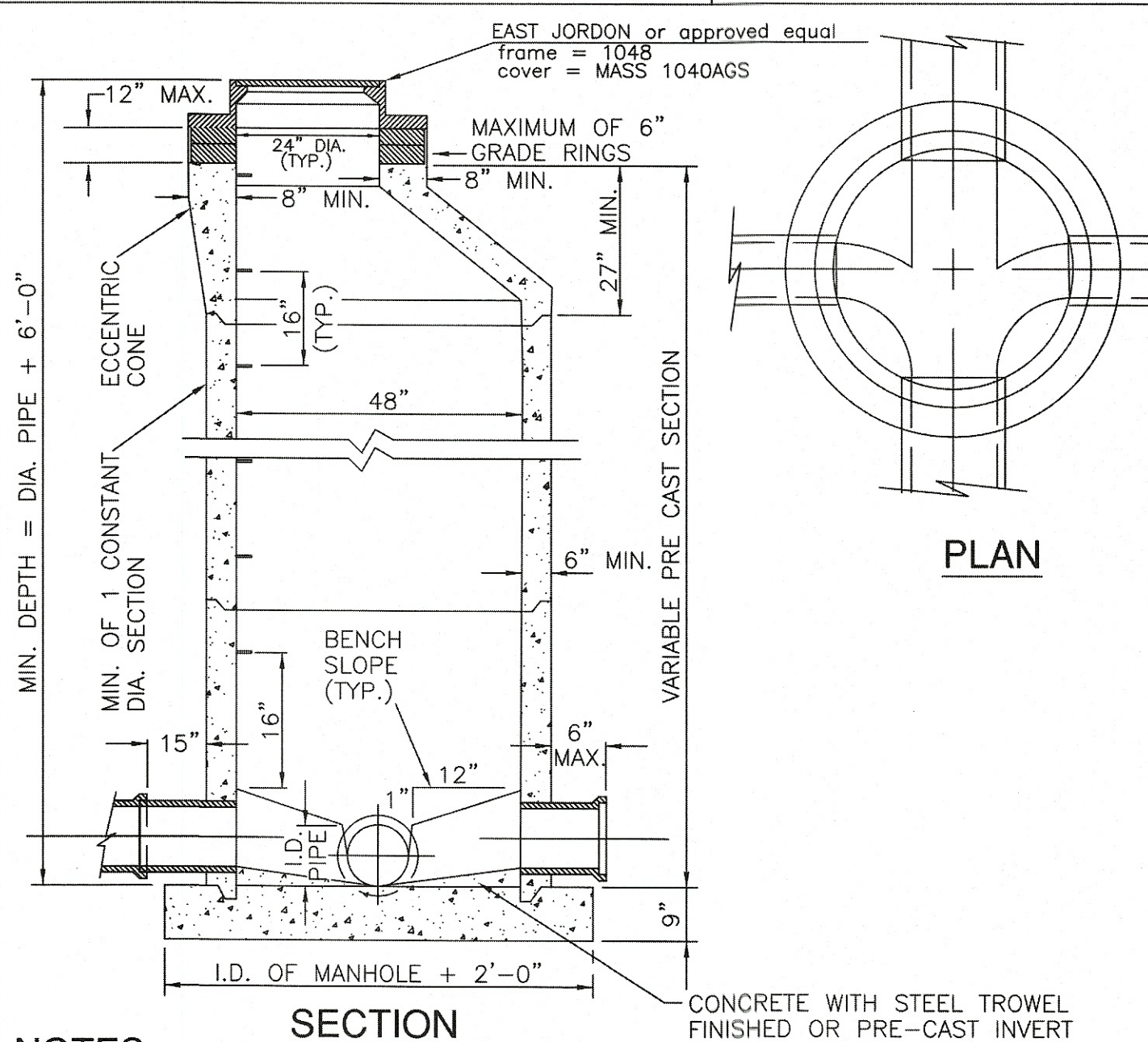
NOTE

ANY DEVIATION FROM THIS MUST BE APPROVED BY THE CITY ENGINEER.
CONCRETE SHALL BE 4000 PSI CLASS C

DRIVEWAY APPROACH
DETAIL

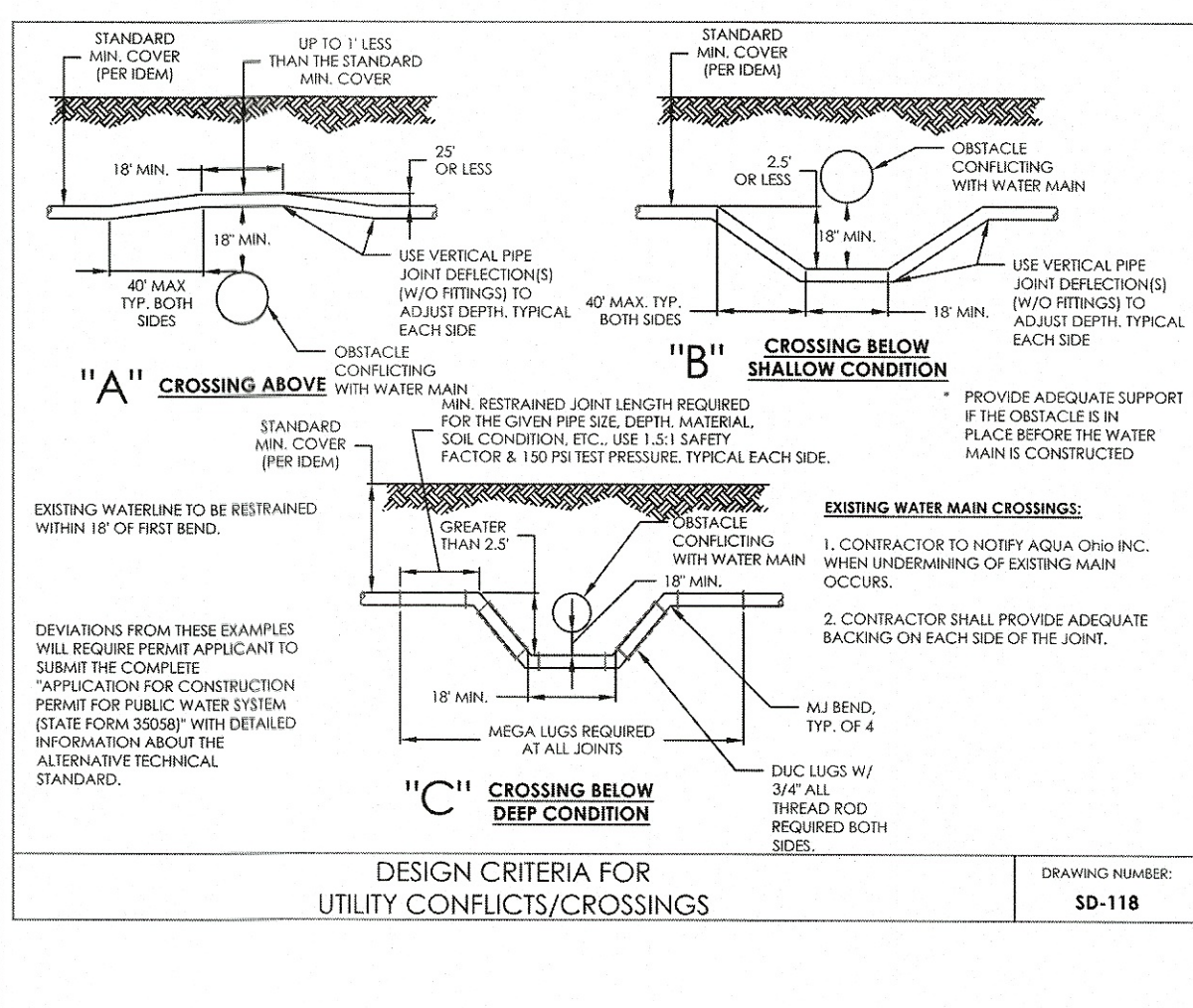
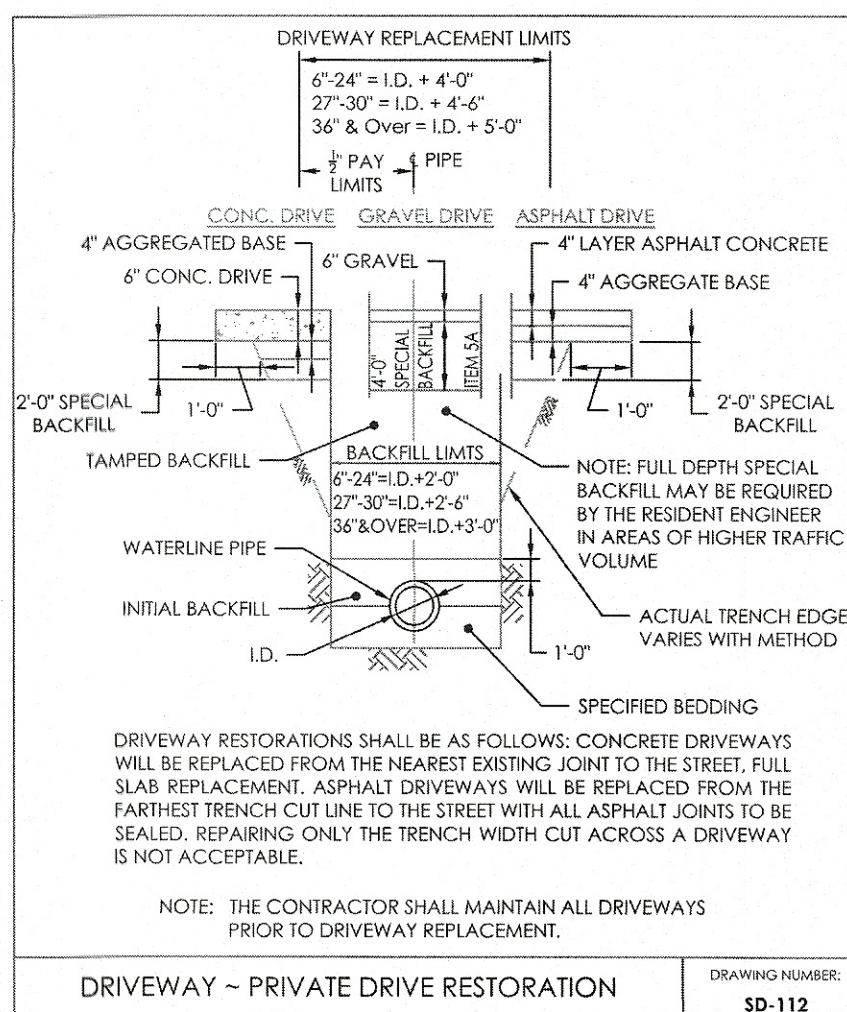
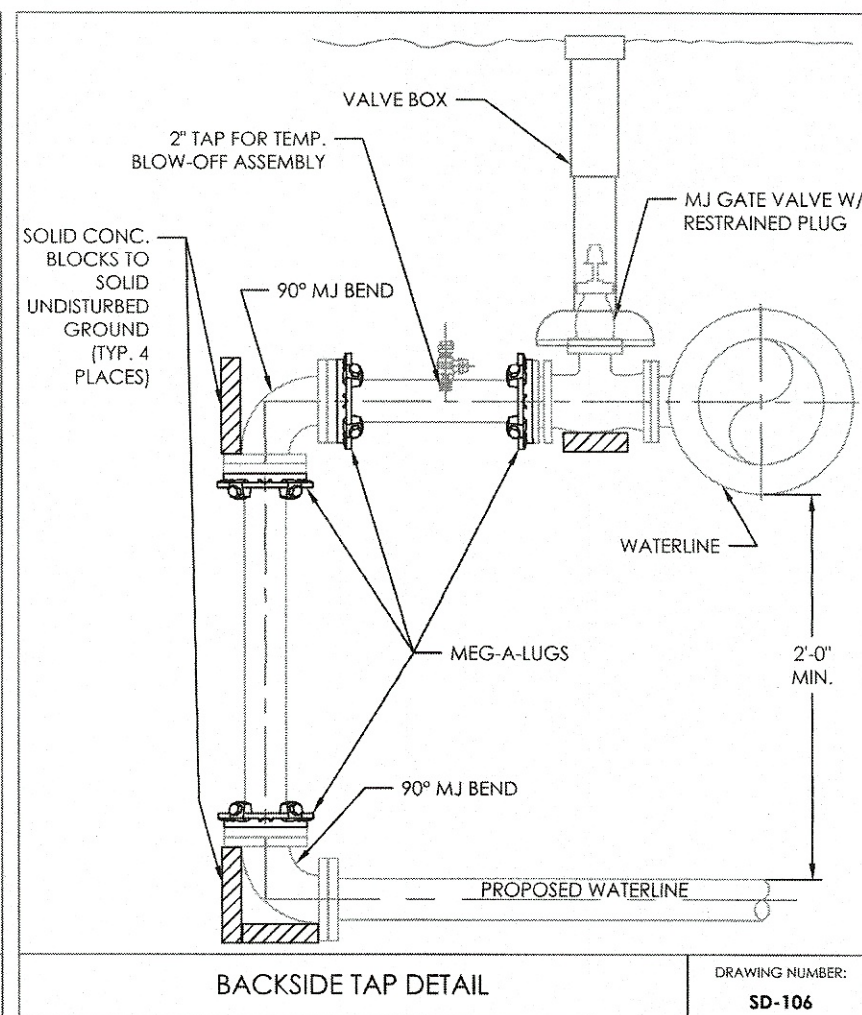
Kathy Catanzaro-Perry, Mayor
Massillon
City of Champions
CITY OF MASSILLON ENGINEERING
151 LINCOLN WAY EAST
MASSILLON, OHIO (330)830-1722
FAX: (330)830-1786

SANITARY MANHOLE
TYPE 3
SEWERS 8" TO 21"



NOTES:

1. IF TOP STEP IS IN 24" DIA. OPENING IT MAY PROJECT NO MORE THAN 3 1/2".
2. M.A. IND. PS-1-PF STEPS OR APPROVED EQUAL.
3. FOR SPECIFICATIONS REGARDING CONCRETE TO BE USED IN MANHOLES SEE ITEM NO. 4&16.
4. FOR PVC & ABS PIPE CONNECTIONS USE ASTM C-923 FLEXIBLE GASKET SUCH AS A-LOK, DURA SEAL III, KOR-N-SEAL OR APPROVED EQUAL. THIS METHOD ALSO ACCEPTABLE FOR VCP.
5. PRE CAST MANHOLES SECTIONS SHALL MEET ASTM C-478.
6. MANHOLE JOINTS SHALL MEET ASTM C-443.
7. MANHOLE ADJUSTMENTS TO GRADE WILL BE NO GREATER THAN 12", USING PRECAST COLLARS MEETING ASTM C-478



1. ALL PROPERTIES ADJACENT TO THE SITE OF SOIL-DISTURBING ACTIVITY SHALL BE PROTECTED TO THE MAXIMUM EXTENT PRACTICABLE, FROM SOIL EROSION AND SEDIMENT RUNOFF AND DRAINAGE, 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 AND PERMANENTLY STABILIZED WITHIN TWO (2) DAYS OF REACHING FINAL GRADE. 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 FOURTEEN (14) 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 WEATHER 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 ABATE 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. CONTRACTOR TO KEEP A WRITTEN LOG OF INSPECTIONS AND IMPROVEMENTS TO E&S CONTROLS. A CHECKLIST/INSPECTION FORM CAN BE FOUND AT : www.sumitswcd.org/forms/inspectionchecklist.pdf. CONTRACTOR TO COMPLETE THIS FORM ONCE EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF A 0.5" OR GREATER RAINFALL EVENT. THIS WRITTEN LOG OF INSPECTIONS AND IMPROVEMENTS TO E&S 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 14 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 (2006).
 - 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 14 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 ARE TO BE USED.

CONSTRUCTION PERSONNEL INCLUDING SUBCONTRACTORS WHO MAY USE OR HANDLE HAZARDOUS OR TOXIC MATERIALS, SHALL BE MADE AWARE OF THE FOLLOWING GENERAL GUIDELINES REGARDING DISPOSAL AND HANDLING OF HAZARDOUS AND CONSTRUCTION WASTES:

- PREVENT SPILLS
- FOLLOW LABEL DIRECTIONS FOR DISPOSAL
- REMOVE LIDS FROM EMPTY BOTTLES AND CANS WHEN DISPOSING IN TRASH
- RECYCLE WASTES WHENEVER POSSIBLE
- DON'T POUR INTO WATERWAYS, STORM DRAINS OR ONTO THE GROUND
- DON'T BURY CHEMICALS OR CONTAINERS
- DON'T POUR DOWN THE SINK, FLOOR DRAIN OR SEPTIC TANKS
- DON'T BURN CHEMICALS OR CONTAINERS
- 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 ENCRoACH 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 SAWDUST 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 OR ANOTHER PROPERTY. OPEN BURNING IS PERMISSIBLE IN A RESTRICTED AREA FOR HEATING TAR, WELDING, SMUDGE POTS AND SIMILAR OCCUPATIONAL NEEDS, AND HEATING FOR WARMTH OF OUTDOOR BARBEQUES. 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 ALL COMMERCIAL 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.

OWNER- _____ DATE _____

SITE ADDRESS: RICHVILLE DRIVE S.W., MASSILLON, OHIO 44646

VICINITY MAP
N.T.S.



1. PRE-CONSTRUCTION MEETING HELD WITH THE STARK COUNTY SWCD OFFICE AND MASSILLON CITY ENGINEER. CALL STARK SWCD OFFICE AT 330-451-7644.
2. INSTALL SILT FENCE AND CONSTRUCTION ENTRANCE AS SHOWN ON PLANS. (CONTRACTOR SHALL DESIGNATE THE AREA UTILIZED FOR CONSTRUCTION ENTRANCE.)
3. CLEAR TREES, BRUSH AND STUMPS AS NECESSARY.
4. ALL PERIMETER BARRIERS TO BE CONSTRUCTED WITHIN 7 DAYS OF FIRST GRUBBING.
5. INSTALL TEMPORARY SEEDING TO ALL STRUCTURAL EROSION INSTALLATIONS PRIOR TO MASS GRADING OF SITE.
6. STRIP/STOCKPILE TOPSOIL. STOCKPILES THAT ARE INACTIVE FOR 14 DAYS OR LONGER SHALL BE SEEDED/STABILIZED WITHIN 7 DAYS OF LAST ACTIVITY.
7. MASS GRADING
8. INSTALL UNDERGROUND UTILITIES AND BUILDING.
9. INSTALL INLET PROTECTION.
10. BRING PAVEMENT AREAS TO SUB GRADE.
11. INSTALL PAVEMENT AND BACK FILL CURBS. AFTER INSTALLATION OF PAVEMENT REPLACE INLET PROTECTION.
12. FINISH GRADE, SEED AND MULCH ALL DISTRIBUTED AREAS AND MAINTAIN TEMPORARY EROSION CONTROLS AS REQUIRED.
13. 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.

ADDITIONAL PROVISIONS:

1. INSTALLATION OF SILT FENCING SHALL NOT OCCUR PRIOR TO THE INITIAL 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 14 DAYS OR LONGER SHALL BE STABILIZED WITHIN 7 DAYS OF LAST ACTIVITY.

SITE INFO

SITE DESCRIPTION

EXISTING - OPEN FIELD
PROPOSED - ROADS WITH SINGLE FAMILY HOME LOTS
(29 LOTS)

TOTAL AREA OF SITE	- 17.24 AC
AREA OF SITE TO UNDER GO EXCAVATION	- 17.24 AC

PRE-CONSTRUCTION RUNOFF COEFFICIENT - 0.30
POST-CONSTRUCTION RUNOFF COEFFICIENT - 0.55

SCHEDULE OF MAJOR CONSTRUCTION

COMMENCEMENT	-WINTER 2020
COMPLETION	-SPRING 2021

RECEIVING STREAM & SURFACE WATER

ONSITE DRAINAGE FLOWS TO PONDS AND WATERWAYS WITHIN
LEGENDS GOLF COURSE AND THEN TO TUSCARAWAS RIVER.

OWNER/DEVELOPER

JANDA DEVELOPMENT LTD.
6360 PROMLER AVE. N.W.
NORTH CANTON, OHIO 44720

ATTN— STEVEN SMITH
PHONE— (330) 832-1040

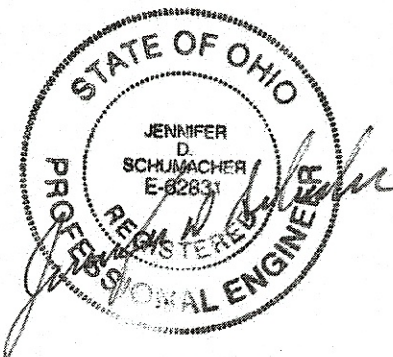
ENGINEER/ SURVEYOR

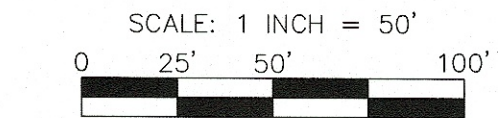
HAMMONTREE & ASSOCIATES, LIMITED
5233 STONEHAM ROAD
NORTH CANTON, OHIO 44720

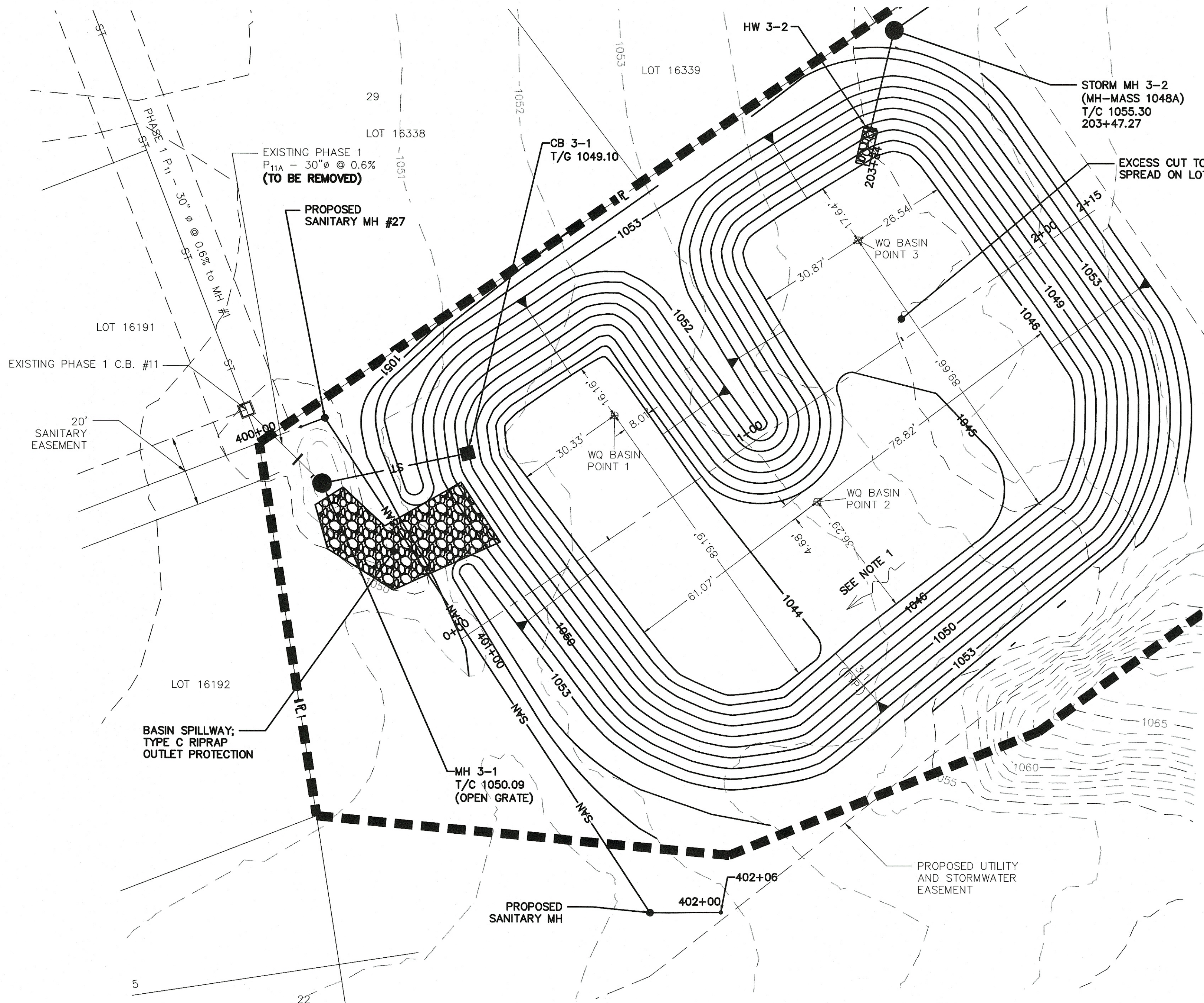
ATTN- JENNIFER D. SCHUMACHER, PE,
LEED-AP

PHONE— 330-499-8817

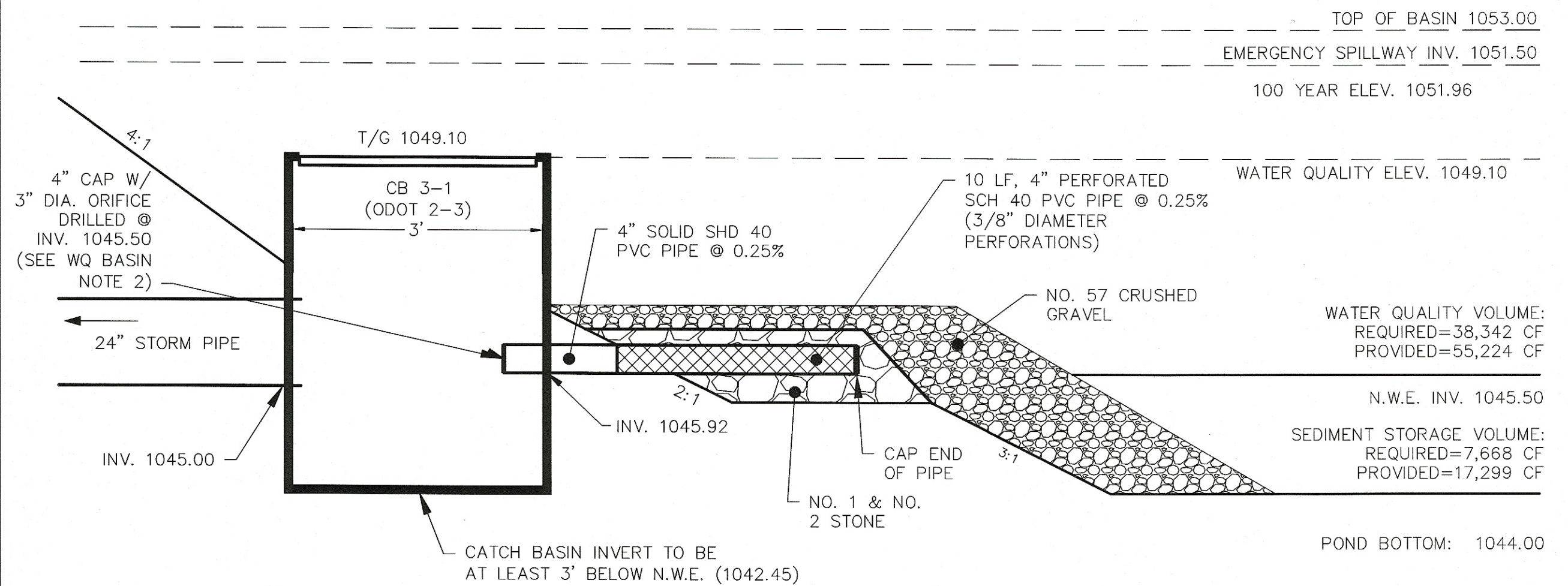
jschumacher@hammontree-engineers.com





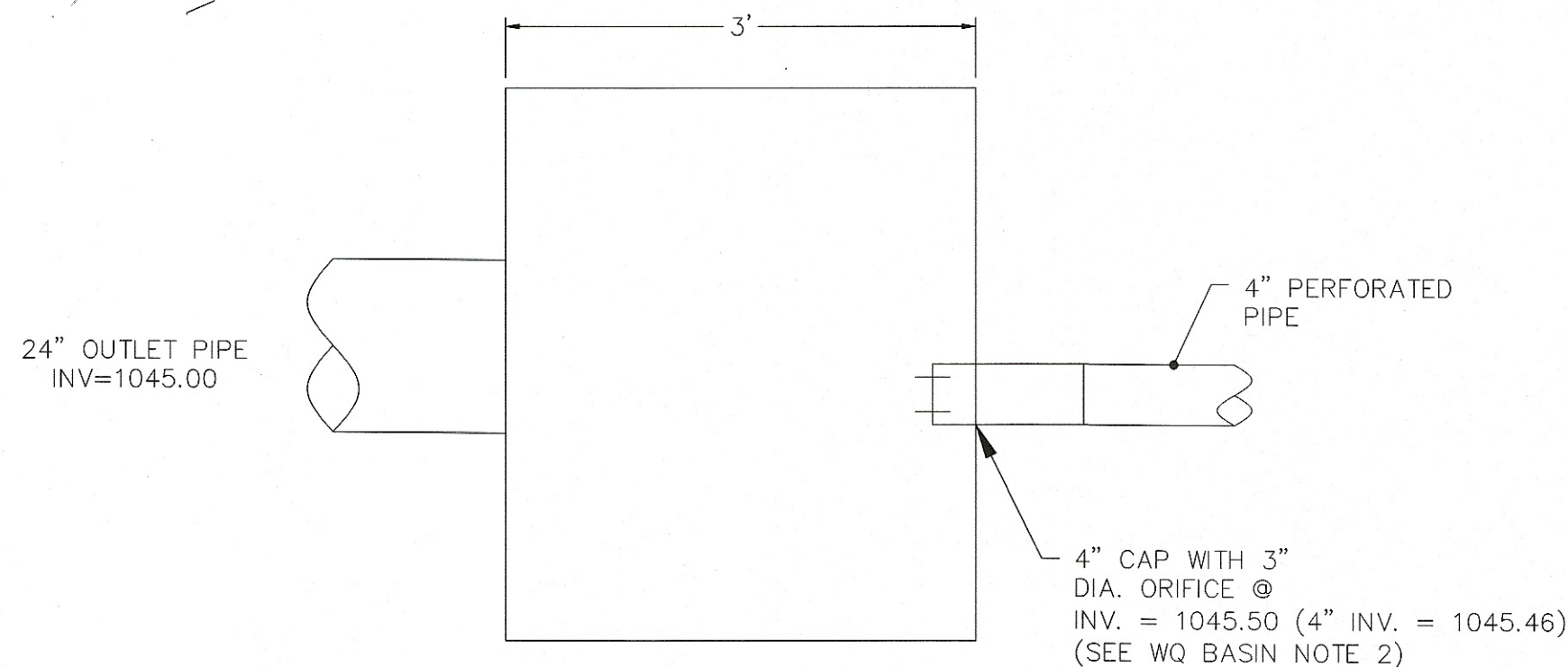


EXTENDED DETENTION/WATER QUALITY BASIN PLAN VIEW
N.T.S.

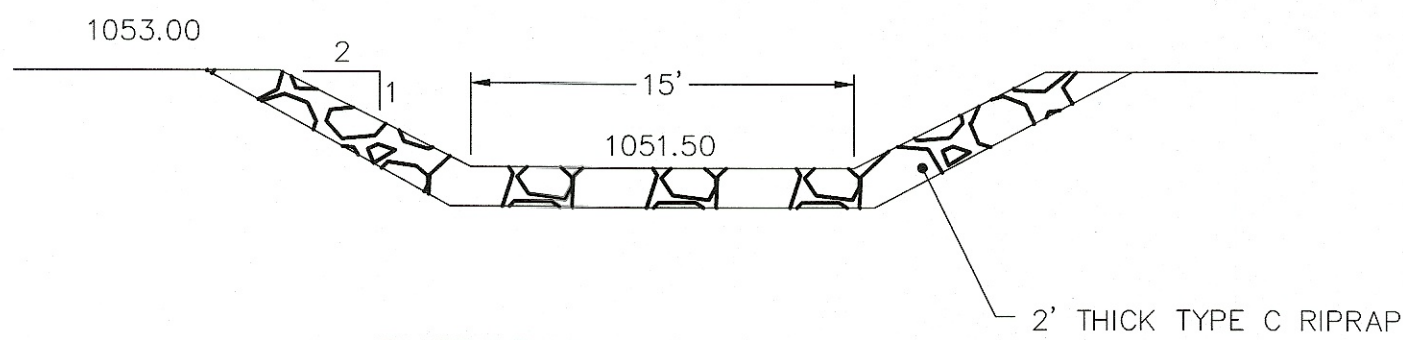


EXTENDED DETENTION/WATER QUALITY BASIN OUTLET STRUCTURE DETAIL
N.T.S.

DRAINAGE AREA= 30.32 AC
IMPERVIOUS AREA= 17.24 AC



OUTLET STRUCTURE DETAIL (CB 3-1)
N.T.S.

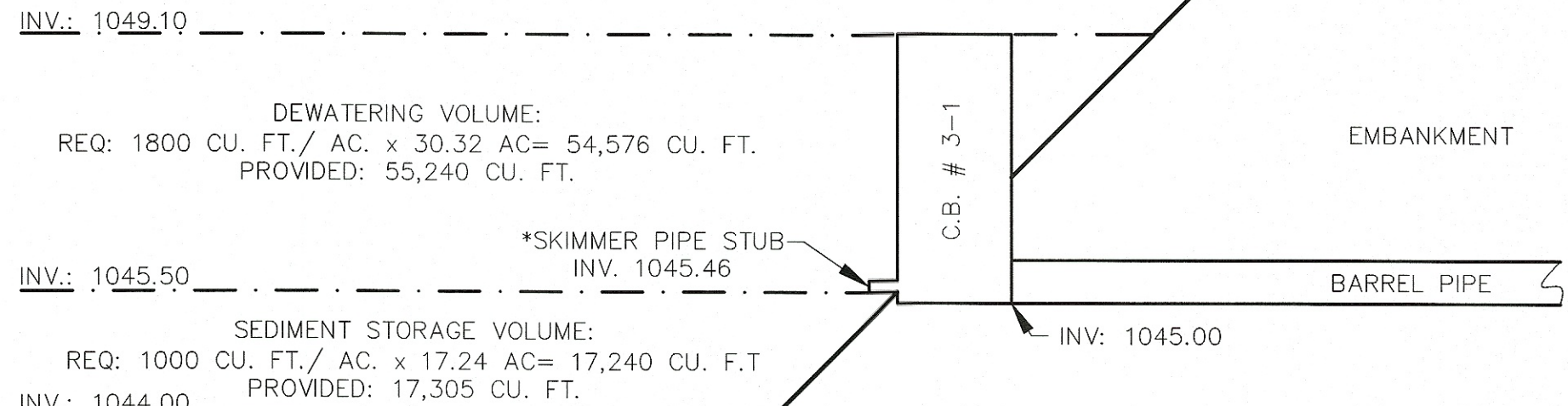


EMERGENCY SPILLWAY DETAIL
N.T.S.

SEDIMENT BASIN
N.T.S.

1. SEDIMENT BASINS SHALL BE CONSTRUCTED AND OPERATIONAL BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
2. 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.
3. 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.
4. 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.
5. 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 COMPACTION WITHIN 2 FT. OF THE PIPE SPILLWAY WILL BE ACCOMPLISHED WITH HAND-OPERATED TAMPING EQUIPMENT.
6. DURING CONSTRUCTION, CB #3-1 WILL SERVE AS THE OUTLET STRUCTURE FOR THE SEDIMENT BASIN. A SKIMMER WILL BE USED FOR DEWATERING THE BASIN (SEE DETAIL SHEET 25). THE 4" ORIFICE WILL NOT BE CAPPED (SEE WQ BASIN NOTE 2).
7. TRASH RACKS: THE TOP OF THE C.B. SHALL BE FITTED WITH TRASH RACKS FIRMLY FASTENED.
8. 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.
9. 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.
10. 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.
11. ONCE CONSTRUCTION IS COMPLETE, AND 80% OF THE UPLAND VEGETATION IS ESTABLISHED, THE SKIMMER WILL BE REMOVED AND THE 3" ORIFICE CAP OR REDUCER TO BE INSTALLED (SEE DETAIL THIS SHEET). FINALLY THE SEDIMENT BASIN IS TO BE REGRADED TO THE FINAL DETENTION BASIN CONFIGURATION AND SLOPE.

CONTRIBUTING DRAINAGE AREA: 30.32 ACRES
DISTURBED AREA: 17.24 ACRES



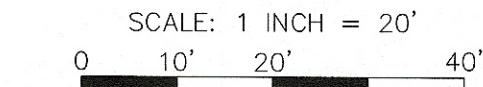
*USE A DELAWARE DOT SKIMMER
W/ 4.00" ORIFICE FOR A 48 HR DRAWDOWN
TIME

WQ BASIN POINT LOCATIONS

POINT	NORTHING	EASTING
1	406886.44	2246740.06
2	406943.53	2246764.46
3	406955.12	2246691.01

WQ BASIN NOTES:

1. CONTRACTOR SHALL PROVIDE A MINIMUM 0.5% SLOPE.
2. DURING CONSTRUCTION, OUTLET NEEDS TO BE A 4" ORIFICE WITH SKIMMER. ONCE CONSTRUCTION OF ALL PHASES OF AUGUSTA LAKES HAS BEEN COMPLETED, THE 4" ORIFICE TO BE CAPPED AND 3" ORIFICE DRILLED IN CENTER OR 3"x4" REDUCER.

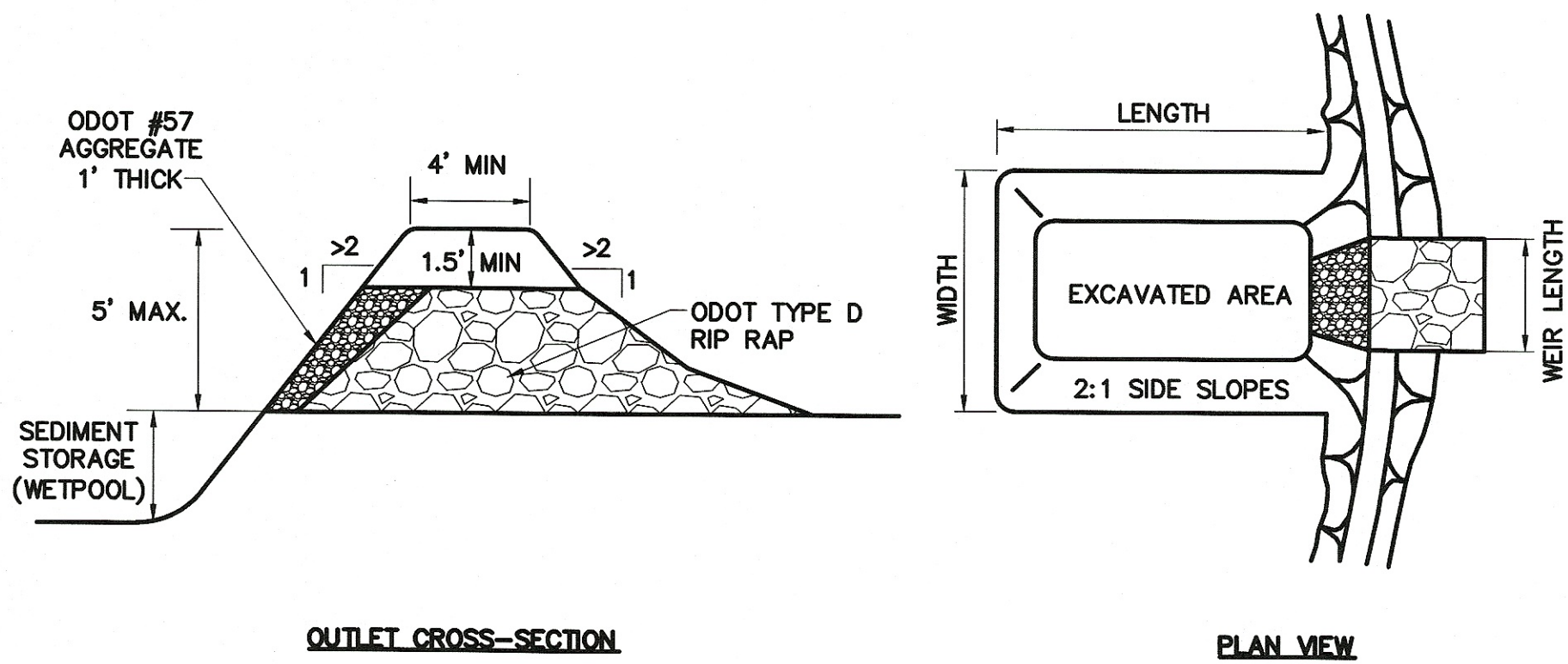


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SEDIMENT TRAP
N.T.S.

1. WORK SHALL CONSIST OF THE INSTALLATION, MAINTENANCE AND REMOVAL OF ALL SEDIMENT TRAPS AT THE LOCATIONS DESIGNATED ON THE DRAWINGS.
2. SEDIMENT TRAPS SHALL BE CONSTRUCTED TO THE DIMENSIONS SPECIFIED ON THE DRAWINGS AND OPERATIONAL PRIOR TO UPSLOPE LAND DISTURBANCE.
3. THE AREA BENEATH THE EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF VEGETATION TO A MINIMUM DEPTH OF SIX (6) INCHES. THE POOL SHALL BE CLEARED AS NEEDED TO FACILITATE SEDIMENT CLEANOUT.
4. FILL USED FOR THE EMBANKMENT SHALL BE EVALUATED TO ASSURE ITS SUITABILITY AND IT MUST BE FREE OF ROOTS OR OTHER WOODY VEGETATION, LARGE ROCKS, ORGANICS OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL SHALL BE PLACED IN SIX (6) INCH LIFTS AND SHALL BE COMPACTED BY TRAVERSING WITH A SHEEPSFOOT OR OTHER APPROVED COMPACTION EQUIPMENT. FILL HEIGHT SHALL BE INCREASED FIVE (5) PERCENT TO ALLOW FOR STRUCTURE/FOUNDATION SETTLEMENT. CONSTRUCTION SHALL NOT BE PERMITTED IF EITHER THE EARTHFILL OR COMPACTION SURFACE IS FROZEN.
5. THE MAXIMUM HEIGHT OF EMBANKMENT SHALL BE FIVE (5) FEET. ALL CUT AND FILL SLOPES SHALL BE 2:1 (H:V) OR FLATTER.
6. A MINIMUM STORAGE VOLUME BELOW THE CREST OF THE OUTLET OF 67 YD3. FOR EVERY ACRE OF CONTRIBUTING DRAINAGE AREA SHALL BE ACHIEVED AT EACH LOCATION NOTED ON THE DRAWINGS WITH ADDITIONAL SEDIMENT STORAGE VOLUME PROVIDED BELOW THIS ELEVATION.
7. TEMPORARY SEEDING SHALL BE ESTABLISHED AND MAINTAINED OVER THE USEFUL LIFE OF THE PRACTICE.
8. THE OUTLET FOR THE SEDIMENT TRAP STRUCTURE SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN ON THE DRAWINGS.
9. THE OUTLET SHALL BE CONSTRUCTED USING THE MATERIALS SPECIFIED ON THE DRAWINGS. WHERE GEOTEXTILE IS USED, ALL OVERLAPS SHALL BE A MINIMUM OF TWO (2) FEET OR AS SPECIFIED BY THE MANUFACTURER, WHICHEVER IS GREATER. ALL OVERLAPS SHALL BE MADE WITH THE UPPER MOST LAYER PLACED LAST. GEOTEXTILE SHALL BE KEYED IN AT LEAST 6" ON THE UPSTREAM SIDE OF THE OUTLET.
10. WARNING SIGNS AND SAFETY FENCE SHALL BE PLACED AROUND THE TRAPS AND MAINTAINED OVER THE LIFE OF THE PRACTICE.
11. AFTER ALL SEDIMENT-PRODUCING AREAS HAVE BEEN PERMANENTLY STABILIZED, THE STRUCTURE AND ALL ASSOCIATED SEDIMENT SHALL BE REMOVED. STABLE EARTH MATERIALS SHALL BE PLACED IN THE SEDIMENT TRAP AREA AND COMPACTED. THE AREA SHALL BE GRADED TO BLEND IN WITH ADJOINING LAND SURFACES AND HAVE POSITIVE DRAINAGE. THE AREA SHALL BE IMMEDIATELY SEEDED.

NOTE: ALL CONSTRUCTED SLOPES SHALL BE NO STEEPER THAN 2:1



SILT FENCE
N.T.S.

1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS THAT MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
3. ENDS OF THE SILT FENCES SHALL BE BROUGHT UPSLOPE SLIGHTLY SO THAT WATER PONDED BY THE SILT FENCE WILL BE PREVENTED FROM FLOWING AROUND THE ENDS.
4. SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FEET (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
6. THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
7. THE SILT FENCE SHALL BE PLACED IN AN EXCAVATED OR SLICED TRENCH CUT A MINIMUM OF 6 INCHES DEEP. THE TRENCH SHALL BE MADE WITH A TRENCHER, CABLE LAYING MACHINE, SLICING MACHINE, OR OTHER SUITABLE DEVICE THAT WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
8. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE. A MINIMUM OF 8 INCHES OF GEOTEXTILE MUST BE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6-INCH DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED ON BOTH SIDES OF THE FABRIC.
9. SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE SPICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6-IN. OVERLAP PRIOR TO DRIVING INTO THE GROUND, (SEE DETAILS).
10. MAINTENANCE--SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERFLOWS TOPS THE SILT FENCE, FLOWS UNDER THE FABRIC OR AROUND THE FENCE ENDS, OR IN ANY OTHER WAY ALLOWS A CONCENTRATED FLOW DISCHARGE, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3) OTHER PRACTICES SHALL BE INSTALLED.

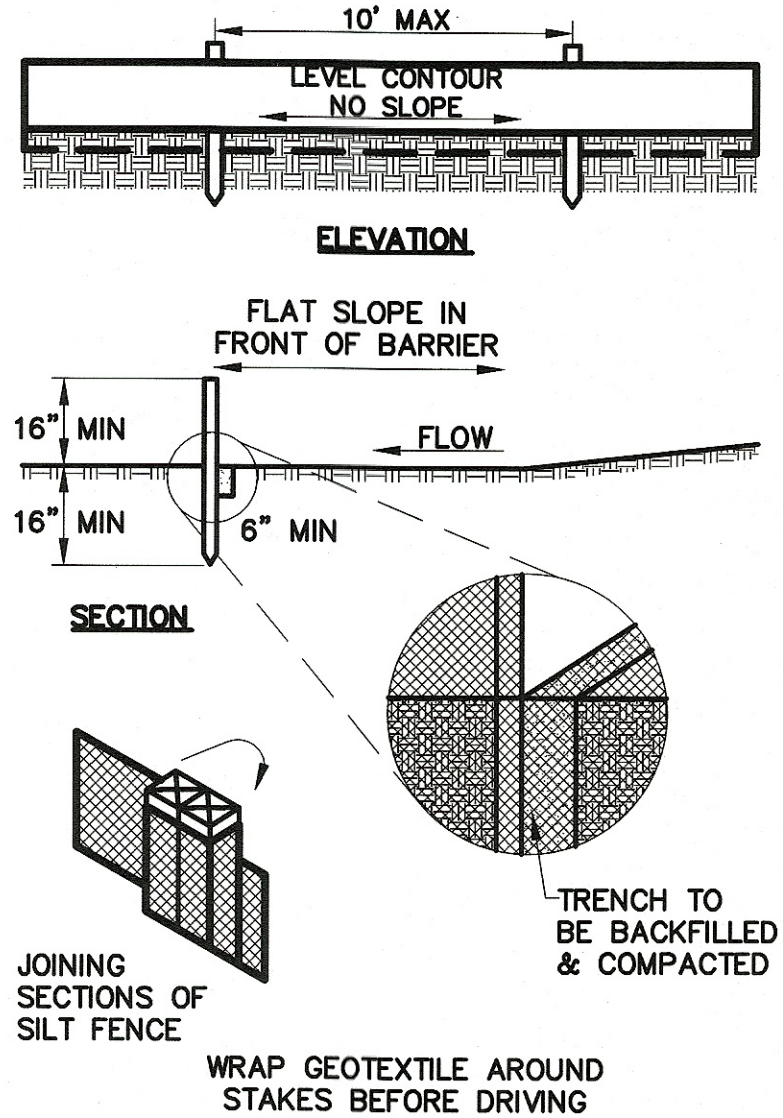
SEDIMENT DEPOSITS SHALL BE ROUTINELY REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE-HALF OF THE HEIGHT OF THE SILT FENCE.

SILT FENCES SHALL BE INSPECTED AFTER EACH RAINFALL AND AT LEAST DAILY DURING A PROLONGED RAINFALL. THE LOCATION OF EXISTING SILT FENCE SHALL BE REVIEWED DAILY TO ENSURE ITS PROPER LOCATION AND EFFECTIVENESS. IF DAMAGED, THE SILT FENCE SHALL BE REPAIRED IMMEDIATELY.

CRITERIA FOR SILT FENCE MATERIALS

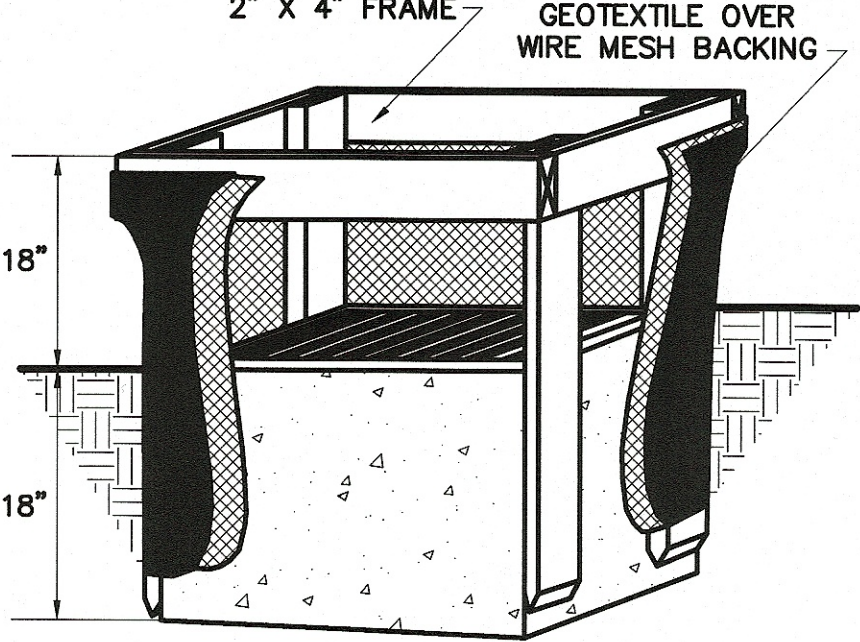
1. FENCE POST -- THE LENGTH SHALL BE A MINIMUM OF 32 INCHES. WOOD POSTS WILL BE 2-BY-2-IN. NOMINAL DIMENSIONED HARDWOOD OF SOUND QUALITY. THEY SHALL BE FREE OF KNOTS, SPLITS AND OTHER VISIBLE IMPERFECTIONS, THAT WILL WEAKEN THE POSTS. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT. POSTS SHALL BE DRIVEN A MINIMUM 16 INCHES INTO THE GROUND, WHERE POSSIBLE. IF NOT POSSIBLE, THE POSTS SHALL BE ADEQUATELY SECURED TO PREVENT OVERTURNING OF THE FENCE DUE TO SEDIMENT/WATER LOADING.
2. SILT FENCE FABRIC -- SEE CHART BELOW.

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	40 LBS	ASTM D 4533
APPARENT OPENING SIZE	0.84 MM	ASTM D 4751
UV EXPOSURE STRENGTH	70%	ASTM G 4355
MIN. PERMITIVITY	1X10-2SEC.-1	ASTM D 4491



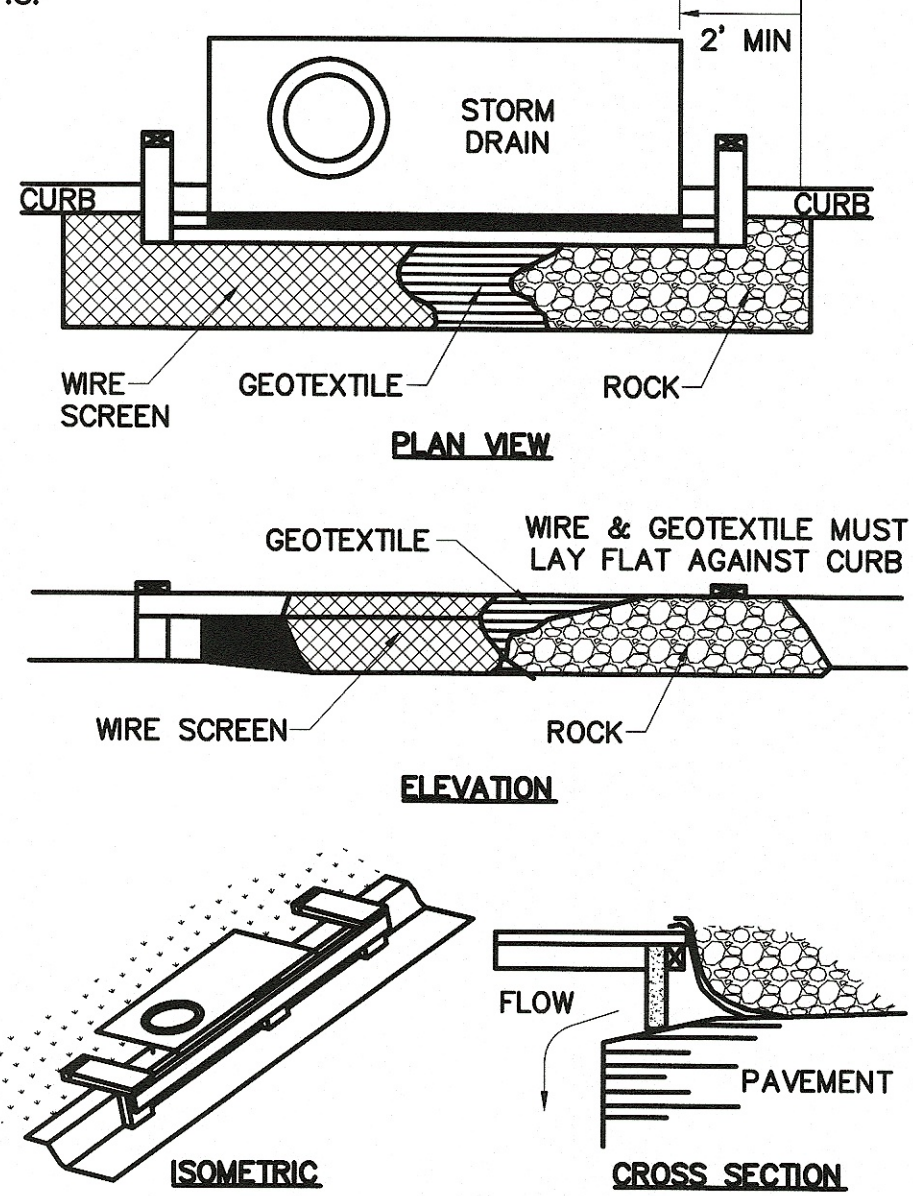
GEOTEXTILE INLET PROTECTION
N.T.S.

1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE INLET BECOMES FUNCTIONAL.
2. THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH AT LEAST 18 INCHES.
3. 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.
4. WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPOUNDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.
5. GEOTEXTILE 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.
6. 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.
7. 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.

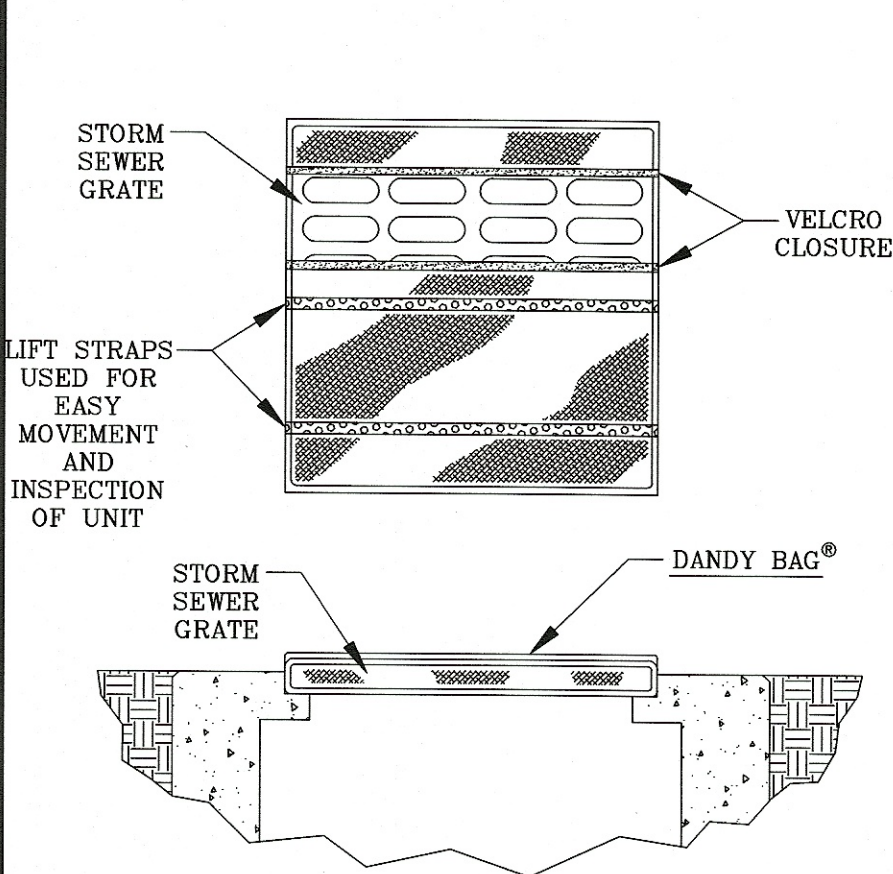


GEOTEXTILE--STONE INLET PROTECTION FOR CURB INLETS (CIP)
N.T.S.

1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE INLET BECOMES FUNCTIONAL.
2. 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.
3. THE WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC AND STONE. IT SHALL BE A CONTINUOUS PIECE WITH A MINIMUM WIDTH OF 30 IN. AND 4 FT. LONGER THAN THE THROAT LENGTH OF THE INLET, 2 FT. ON EACH SIDE.
4. GEOTEXTILE CLOTH SHALL HAVE AN EQUIVALENT OPENING SIZE (EOS) OF 20-40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE AT LEAST THE SAME SIZE AS THE WIRE MESH.
5. THE WIRE MESH AND GEOTEXTILE CLOTH SHALL BE FORMED TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET AND SECURELY FASTENED TO THE 2-BY-4-IN. FRAME.
6. TWO-INCH STONE SHALL BE PLACED OVER THE WIRE MESH AND GEOTEXTILE IN SUCH A MANNER AS TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE CLOTH.
7. THIS TYPE OF PROTECTION MUST BE INSPECTED FREQUENTLY AND THE STONE AND/OR GEOTEXTILE REPLACED WHEN CLOGGED WITH SEDIMENT.



DANDY BAG®
SPECIFICATIONS



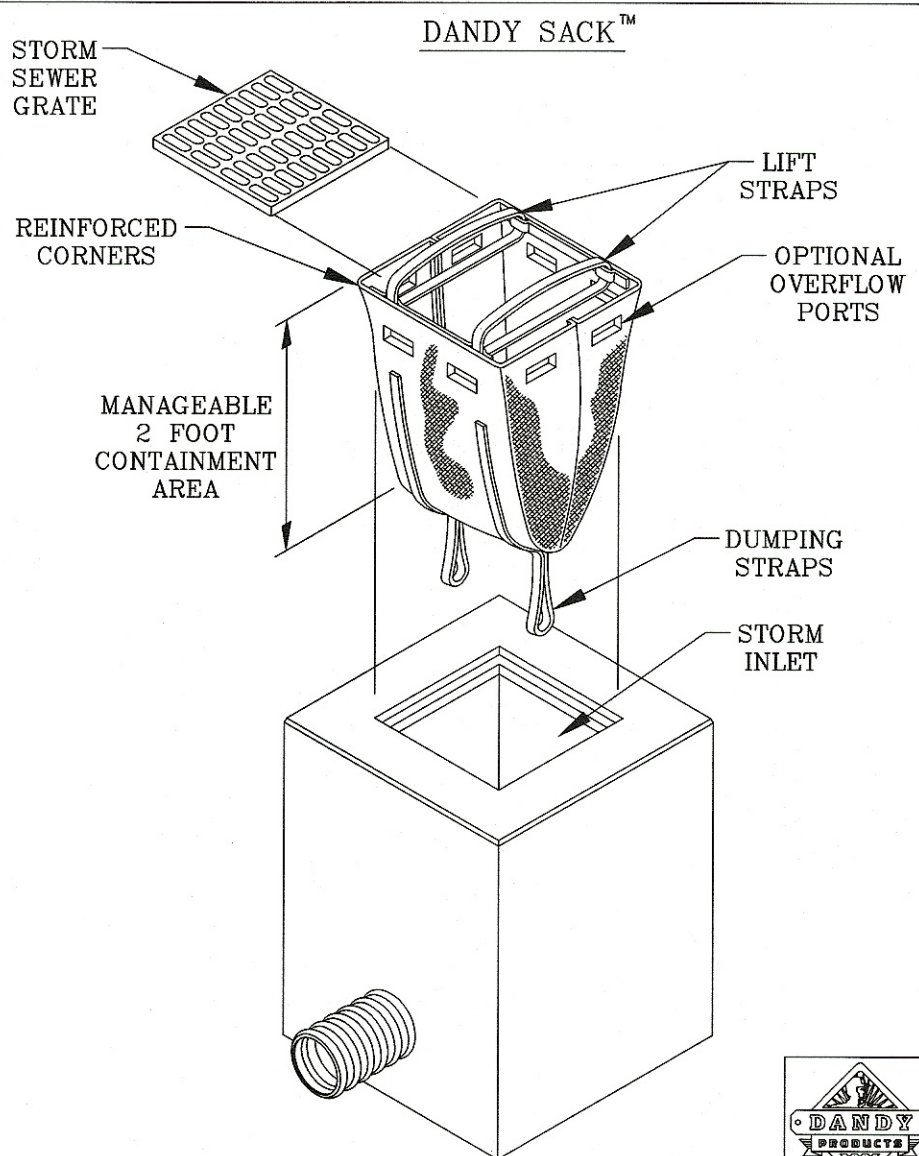
DANDY BAG®
SPECIFICATIONS

NOTE: THE DANDY BAG® WILL BE MANUFACTURED IN THE U.S.A. FROM A WOVEN MONOFILAMENT FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

HI-FLOW DANDY BAG® (SAFETY ORANGE)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbf)	1.62 (365) X 0.89 (200)
Grab Tensile Elongation	ASTM D 4632	%	24 X 10
Puncture Strength	ASTM D 4833	kN (lbf)	0.40 (90)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	3097 (450)
Trapezoid Tear Strength	ASTM D 4533	kN (lbf)	0.51 (115) X 0.33 (75)
UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	1/min/m² (gal/min/ft²)	5907 (145)
Permittivity	ASTM D 4491	Sec⁻¹	2.1

*Note: All Dandy Bags® can be ordered with our optional oil absorbent pillows



DANDY SACK™
SPECIFICATIONS

DANDY SACK™
SPECIFICATIONS

NOTE: THE DANDY SACK™ WILL BE MANUFACTURED IN THE U.S.A. FROM A WOVEN MONOFILAMENT FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

REGULAR FLOW DANDY SACK™ (BLACK)

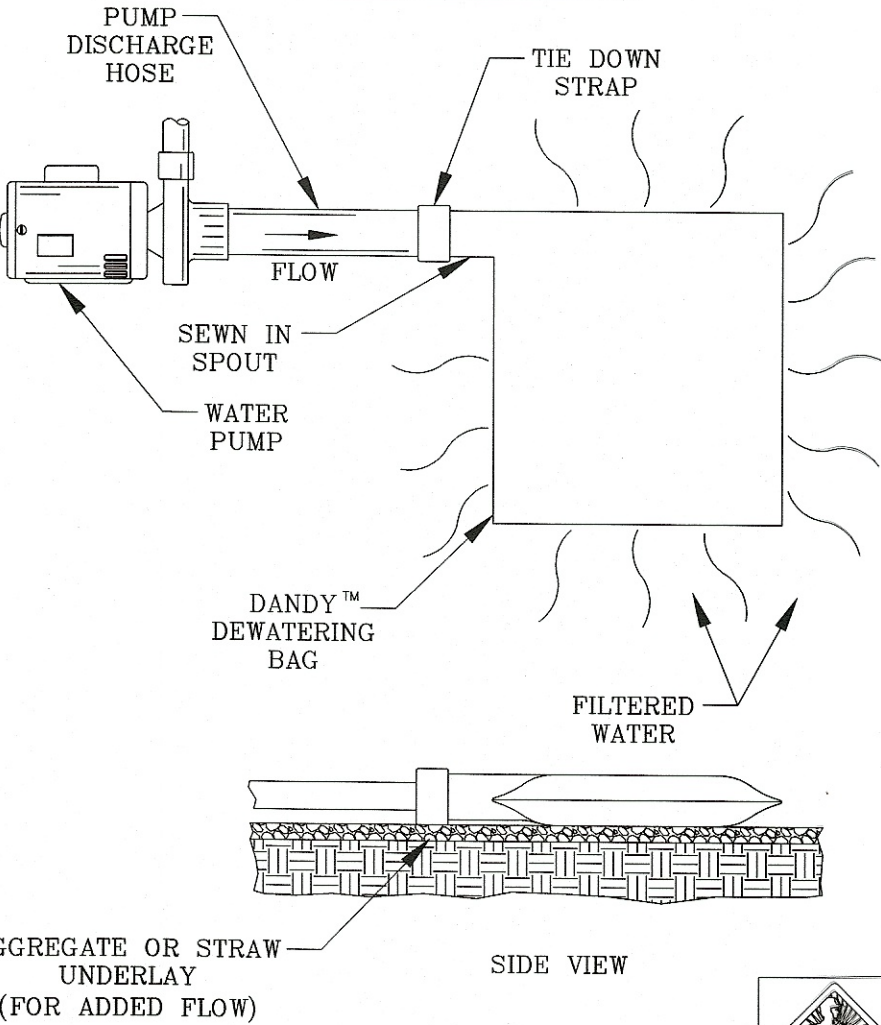
Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbf)	1.78 (400) X 1.40 (315)
Grab Tensile Elongation	ASTM D 4632	%	15 X 15
Puncture Strength	ASTM D 4833	kN (lbf)	0.67 (150)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	5506 (800)
Trapezoid Tear Strength	ASTM D 4533	kN (lbf)	0.67 (150) X 0.73 (165)
UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	1/min/m² (gal/min/ft²)	5953 (145)
Permittivity	ASTM D 4491	Sec⁻¹	0.90

HI-FLOW DANDY SACK™ (SAFETY ORANGE)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbf)	1.62 (365) X 0.89 (200)
Grab Tensile Elongation	ASTM D 4632	%	24 X 10
Puncture Strength	ASTM D 4833	kN (lbf)	0.40 (90)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	3097 (450)
Trapezoid Tear Strength	ASTM D 4533	kN (lbf)	0.51 (115) X 0.33 (75)
UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	1/min/m² (gal/min/ft²)	5907 (145)
Permittivity	ASTM D 4491	Sec⁻¹	2.1

*Note: All Dandy Sacks™ can be ordered with our optional oil absorbent pillows

DANDY DEWATERING BAG™
SPECIFICATIONS



DANDY DEWATERING BAG™
SPECIFICATIONS

NOTE: THE DANDY DEWATERING BAG™ WILL BE MANUFACTURED IN THE U.S.A. FROM A NONWOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

DANDY DEWATERING BAG™

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbf)	0.9 (205) X 0.9 (205)
Grab Tensile Elongation	ASTM D 4632	%	50 X 50
Puncture Strength	ASTM D 4833	kN (lbf)	0.58 (130)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	2618 (380)
Trapezoid Tear Strength	ASTM D 4533	kN (lbf)	0.36 (80) X 0.36 (80)
UV Resistance	ASTM D 4355	%	70
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.180 (80)
Flow Rate	ASTM D 4491	1/min/m² (gal/min/ft²)	3866 (95)
Permittivity	ASTM D 4491	Sec⁻¹	1.2

DETAIL OF A DEWATERING BAG

PROJECT: DR. BY:
CITY/STATE: DATE: DR. NO:

DETAIL OF INLET SEDIMENT CONTROL DEVICE

PROJECT: DR. BY:
CITY/STATE: DATE: DR. NO:

N.T.S.

- ### GEOTEXTILE SPECIFICATION FOR CONSTRUCTION ENTRANCE

MINIMUM TENSILE STRENGTH	200 LBS.	MINIMUM PUNCTURE STRENGTH	80 PSI.
MINIMUM TEAR STRENGTH	50 LBS.	MINIMUM BURST STRENGTH	320 PSI.
MINIMUM ELONGATION	20%	EQUIVALENT OPENING SIZE	EOS < 0.6 MM.
PERMITTIVITY	1X10-3 CM/SEC.		

- N.T.S.

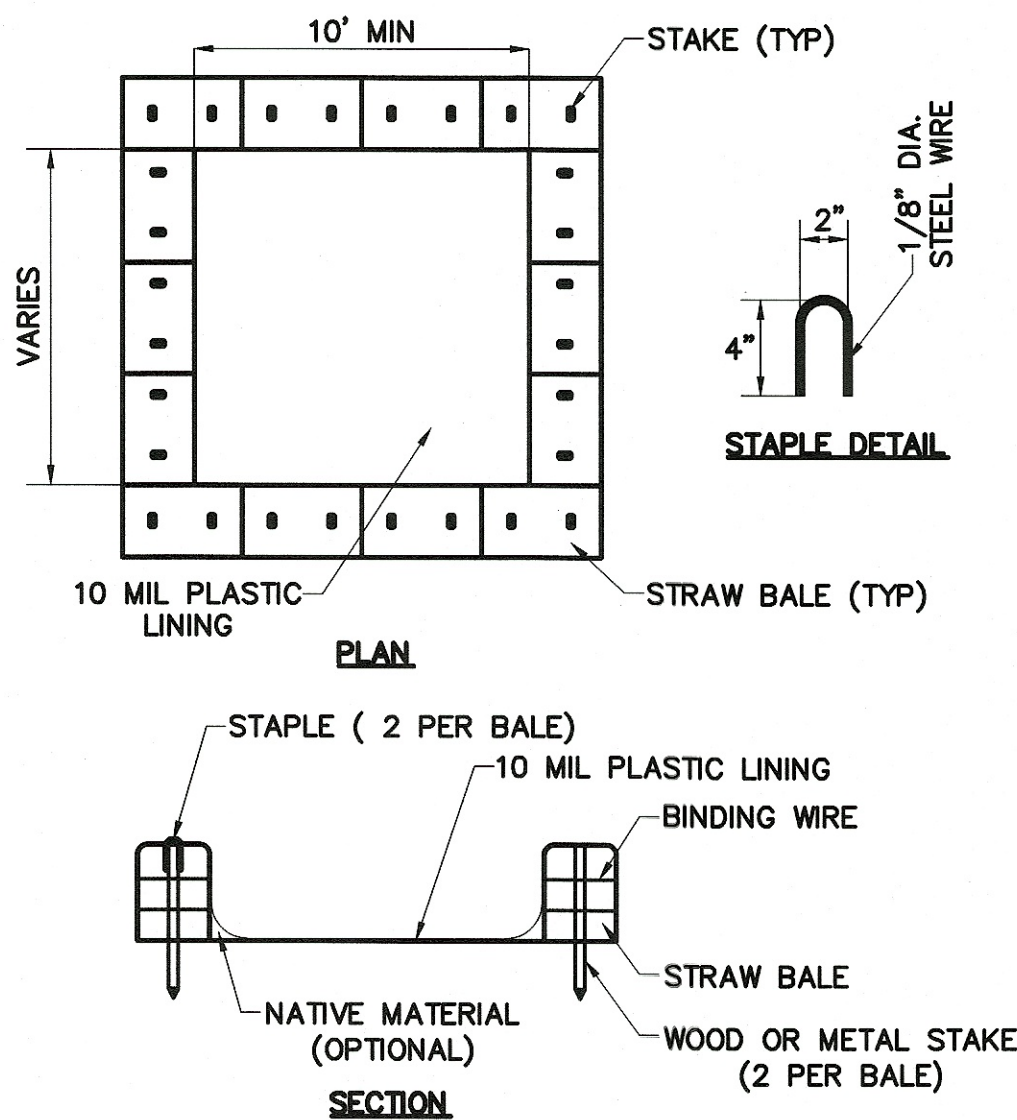
- | DIKE TOP WIDTH (FT.) | HEIGHT (FT.) | SIDE SLOPES | SHAPE |
|----------------------|--------------|-------------|-------------|
| 0 | 1.5 | 4:1 | TRAPEZOIDAL |
| 4 | 1.5 | 2:1 | PARABOLIC |

- ### 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

NOTES:

N.T.S.



N.T.S.

- ## SLOPE INSTALLATION

- ## CHANNEL INSTALLATION

-

STORM WATER POLLUTION PREVENTION DETAILS

AUGUSTA LAKES - PHASE 3A

FOR: SMITH DEVELOPMENT CORP.

LOCATED IN THE CITY
STARK COUNTY OHIO

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
	ANNUAL RYEGRASS PERENNIAL RYEGRASS CREEPING RED FESCUE KENTUCKY BLUEGRASS	1.25 3.25 0.40 0.40	55 142 17 17
	OATS TALL FESCUE ANNUAL RYEGRASS	3 1 1	128 40 40
AUGUST 16TH TO NOVEMBER	RYE TALL FESCUE ANNUAL RYEGRASS	3 1 1	112 40 40
		3	120
		1	40
	WHEAT TALL FESCUE ANNUAL RYEGRASS	1	40
		1	40
	PERENNIAL RYE TALL FESCUE ANNUAL RYEGRASS	1 1 1	40 40 40
	ANNUAL RYEGRASS PERENNIAL RYEGRASS CREEPING RED FESCUE KENTUCKY BLUEGRASS	1.25 3.25 0.40 0.40	40 40 40 40
NOVEMBER 1 TO FEB. 29	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 14 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 SCRAPPED 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

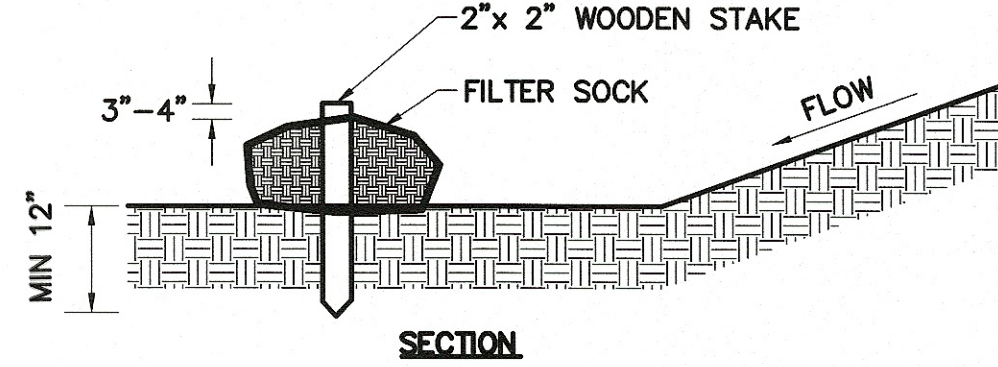
SALVAGING AND STOCKPILING:

- 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.

FILTER SOCK
N.T.S.



- MATERIALS: COMPOST USED FOR FILTER SOCKS 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 3/8" TO 2".
- FILTER SOCKS SHALL BE 3 OR 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8" KNITTED MESH NETTING MATERIAL, FILLED WITH COMPOST PASSING THE ABOVE SPECIFICATIONS FOR COMPOST PRODUCTS.
- FILTER SOCKS 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 SOCKS SHALL BE PROVIDED AT THE TOP AND AS NEEDED MID--SLOPE.
- FILTER SOCKS INTENDED TO BE LEFT AS A PERMANENT FILTER OR PART OF THE NATURAL LANDSCAPE, SHALL BE SEEDED AT THE TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION.
- FILTER SOCKS ARE NOT TO BE USED IN CONCENTRATED FLOW SITUATIONS OR IN RUNOFF CHANNELS.
- ROUTINELY INSPECT FILTER SOCKS AFTER EACH SIGNIFICANT RAIN, MAINTAINING FILTER SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES.
- REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE FILTER SOCKS WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OF THE PRACTICE.
- WHERE THE FILTER SOCK DETERIORATES OR FAILS, IT WILL BE REPAIRED OR REPLACED WITH A MORE EFFECTIVE ALTERNATIVE.
- REMOVAL: FILTER SOCKS WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED IN SUCH AS WAY AS TO FACILITATE AND NOT OBSTRUCT SEEDINGS.

MULCHING

- MULCH AND OTHER APPROPRIATE VEGETATIVE PRACTICES SHALL BE APPLIED TO DISTURBED AREAS WITHIN 7 DAYS OF GRADING IF THE AREA IS TO REMAIN DORMANT (UNDISTURBED) FOR MORE THAN 21 DAYS OR ON AREAS AND PORTIONS OF THE SITE WHICH CAN BE BROUGHT TO FINAL GRADE.
- MULCH SHALL CONSIST OF ONE OF THE FOLLOWING:
 - STRAW -- STRAW SHALL BE UNROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 2 TONS/AC. OR 90 LB./1,000 SQ. FT. (TWO TO THREE BALES). THE STRAW MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND--SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQ.FT. SECTIONS AND PLACE TWO 45--LB. BALES OF STRAW IN EACH SECTION.
 - HYDROSEEDERS -- WOOD CELLULOSE FIBER SHOULD BE USED AT 2,000 LB./AC. OR 46 LB./1,000 SQ. FT.
 - OTHER -- ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS AND ROLLED EROSION CONTROL PRODUCTS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD MULCH/CHIPS APPLIED AT 10-20 TONS/AC.
- MULCH ANCHORING -- MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR RUNOFF. THE FOLLOWING ARE ACCEPTABLE METHODS FOR ANCHORING MULCH.
 - MECHANICAL -- USE A DISK, CRIMPER, OR SIMILAR TYPE TOOL SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT BE LEFT GENERALLY LONGER THAN 6 INCHES.
 - MULCH NETTINGS -- USE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, FOLLOWING ALL PLACEMENT AND ANCHORING REQUIREMENTS. USE IN AREAS OF WATER CONCENTRATION AND STEEP SLOPES TO HOLD MULCH IN PLACE.
 - SYNTHETIC BINDERS -- FOR STRAW MULCH, SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA--70, PETROSET, TERRA TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER. ALL APPLICATIONS OF SYNTHETIC BINDERS MUST BE CONDUCTED IN SUCH A MANNER WHERE THERE IS NO CONTACT WITH WATERS OF THE STATE.
 - WOOD CELLULOSE FIBER -- WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LB./ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB./100 GAL. OF WOOD CELLULOSE FIBER.

DUST CONTROL

- VEGETATIVE COVER AND/MULCH: APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREAS THAT WILL REMAIN IDLE FOR OVER 21 DAYS. SAVING EXISTING TREES AND LARGE SHRUBS WILL ALSO REDUCE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS. SEE TEMPORARY SEEDING; PERMANENT SEEDING; MULCHING PRACTICES; AND TREE AND NATURAL AREA PROTECTION PRACTICES.
 - WATERING: SPRAY SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEEDED, ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. WETTING AGENTS SHALL BE UTILIZED ACCORDING TO MANUFACTURERS INSTRUCTIONS.
 - SPRAY--ON ADHESIVES: APPLY ADHESIVE ACCORDING TO THE FOLLOWING TABLE OR MANUFACTURERS' INSTRUCTIONS.

ADHESIVE	WATER DILUTION	NOZZLE TYPE	APPLICATION RATE GAL./AC.
LATEX EMULSION	2.5:1	FINE	235
RESIN IN WATER ACRYLIC EMULSION	4:1	FINE	300
ACRYLIC EMULSION (NO--TRAFFIC)	7:1	COARSE	450
ACRYLIC EMULSION (TRAFFIC)	3.5:1	COARSE	350
 - STONE: GRADED ROADWAYS AND OTHER SUITABLE AREAS WILL BE STABILIZED USING CRUSHED STONE OR COARSE GRAVEL AS SOON AS PRACTICABLE AFTER REACHING AN INTERIM OR FINAL GRADE. CRUSHED STONE OR COARSE GRAVEL CAN BE USED AS A PERMANENT COVER TO PROVIDE CONTROL OF SOIL EMISSIONS.
 - BARRIERS: EXISTING WINDBREAK VEGETATION SHALL BE MARKED AND PRESERVED. SNOW FENCING OR OTHER SUITABLE BARRIER MAY BE PLACED PERPENDICULAR TO PREVAILING AIR CURRENTS AT INTERVALS OF ABOUT 15 TIMES THE BARRIER HEIGHT TO CONTROL AIR CURRENTS AND BLOWING SOIL.
 - CALCIUM CHLORIDE: THIS CHEMICAL MAY BE APPLIED BY MECHANICAL SPREADER AS LOOSE, DRY GRANULES OR FLAKES AT A RATE THAT KEEPS THE SURFACE MOIST BUT NOT SO HIGH AS TO CAUSE WATER POLLUTION OR PLANT DAMAGE. APPLICATION RATES SHOULD BE STRICTLY IN ACCORDANCE WITH SUPPLIERS' SPECIFIED RATES.
 - OPERATION AND MAINTENANCE: WHEN TEMPORARY DUST CONTROL MEASURES ARE USED; REPETITIVE TREATMENT SHOULD BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.
- STREET CLEANING: PAVED AREAS THAT HAVE ACCUMULATED SEDIMENT FROM CONSTRUCTION SHOULD BE CLEANED DAILY, OR AS NEEDED, UTILIZING A STREET SWEEPER OR BUCKET --TYPE ENDLOADER OR SCRAPER.

