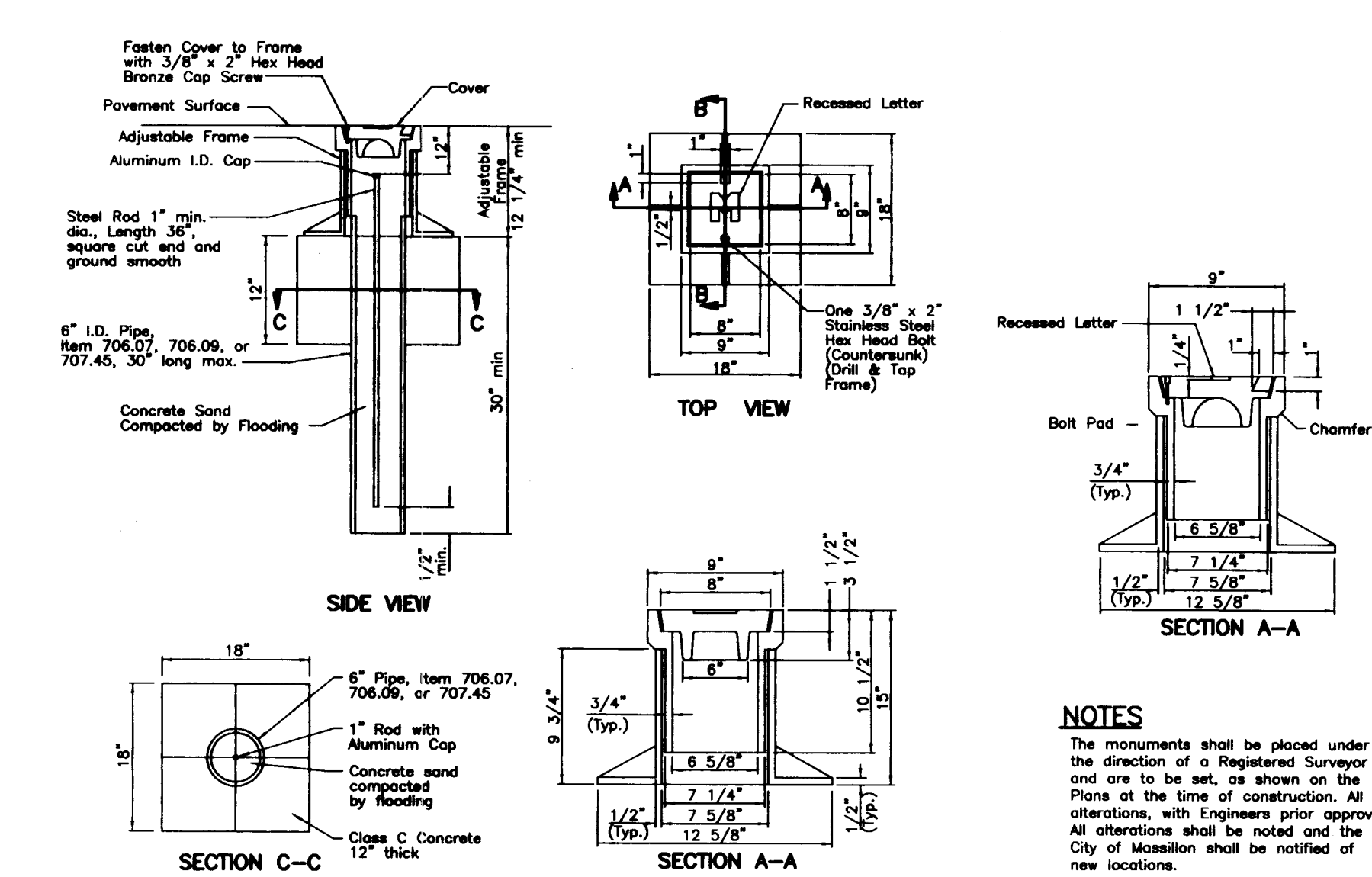
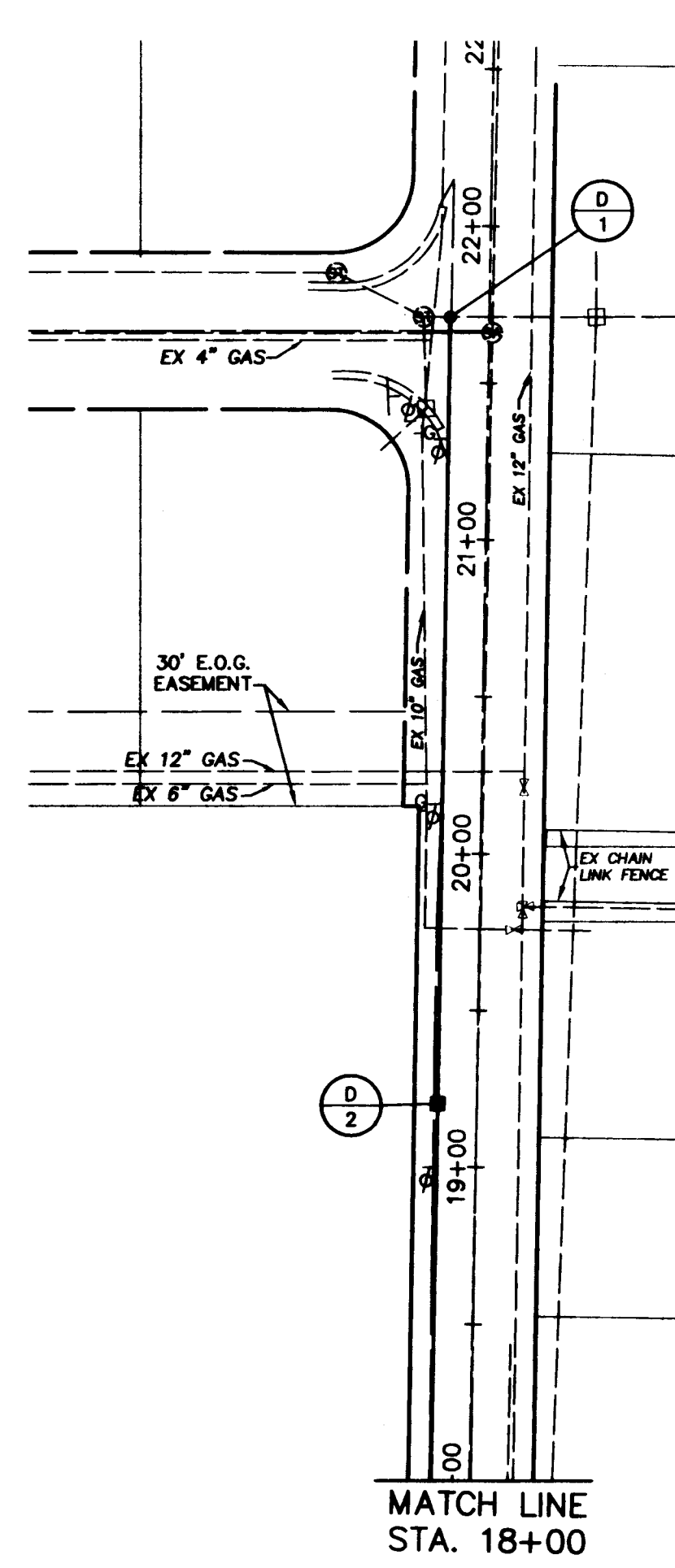
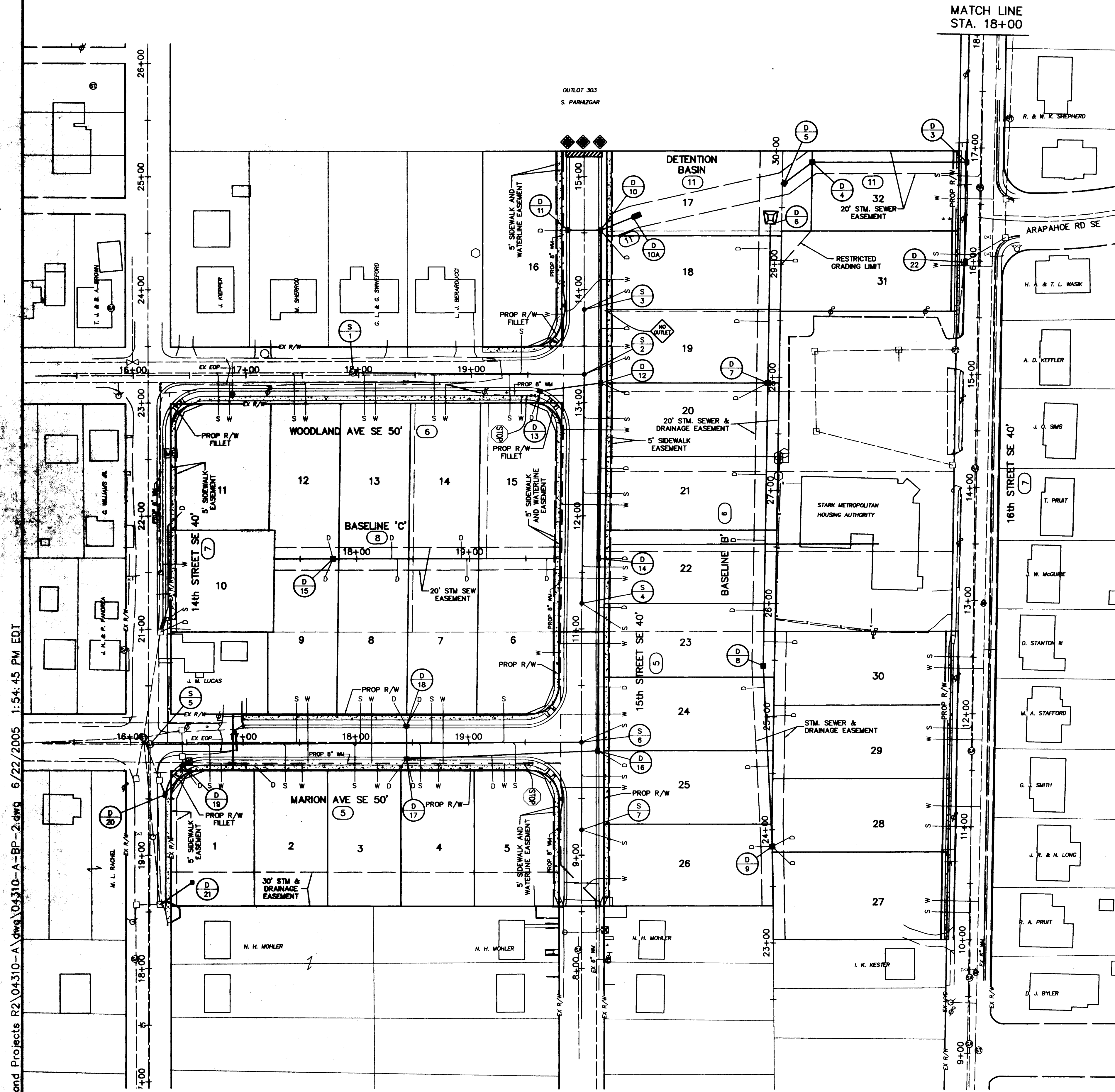


05500

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- LEGEND
- STOP SIGN, MUTCD R-1-30
 - NO OUTLET SIGN, MUTCD W-48
 - OBJECT MARKER, TYPE 4, MUTCD X-4
 - REFERENCE SHEET NUMBER
- NOTES:
- STREET NAME SIGN, MUTCD D-14 TO BE ERRECTED AT ALL INTERSECTIONS.
 - AT THE TIME THE RESIDENTIAL DRIVEWAYS ARE CONSTRUCTED, THEY SHALL BE LAYED OUT IN SUCH A MANNER THAT THEY DO NOT CONFLICT WITH THE CATCH BASINS. IF FOR ANY REASON A RESIDENTIAL DRIVE IS CONSTRUCTED OVER A CATCH BASIN, THE BUILDER (AT HIS OWN EXPENSE) SHALL CONVERT THE CATCH BASIN CASTING TO AN EAST JORDAN NO. 7495 (OR AN APPROVED EQUAL). THE CONVERTED GRATE SHALL BE INSTALLED PER THE CITY OF MASSILLON ENGINEER'S REQUIREMENTS.

PROJECT SCHEMATIC

BALLINGER ESTATES

FOR: MASSILLON HOMES, LLC

DRAWN BY: M.J.L.

CHECKED BY: BJA

FIELD BOOK No.

DATE 2/14/2005

SHEET 2 of 14

PROJ # 04310A

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	6/21/2005	M.J.L.	ADDED STORM ON 14TH ST
2	5/19/05	BJA	CITY OF MASSILLON COMMENTS
3	5/02/05	BJA	CITY OF MASSILLON COMMENTS

COOPER & ASSOCIATES, LLP

ENGINEERS AND SURVEYORS

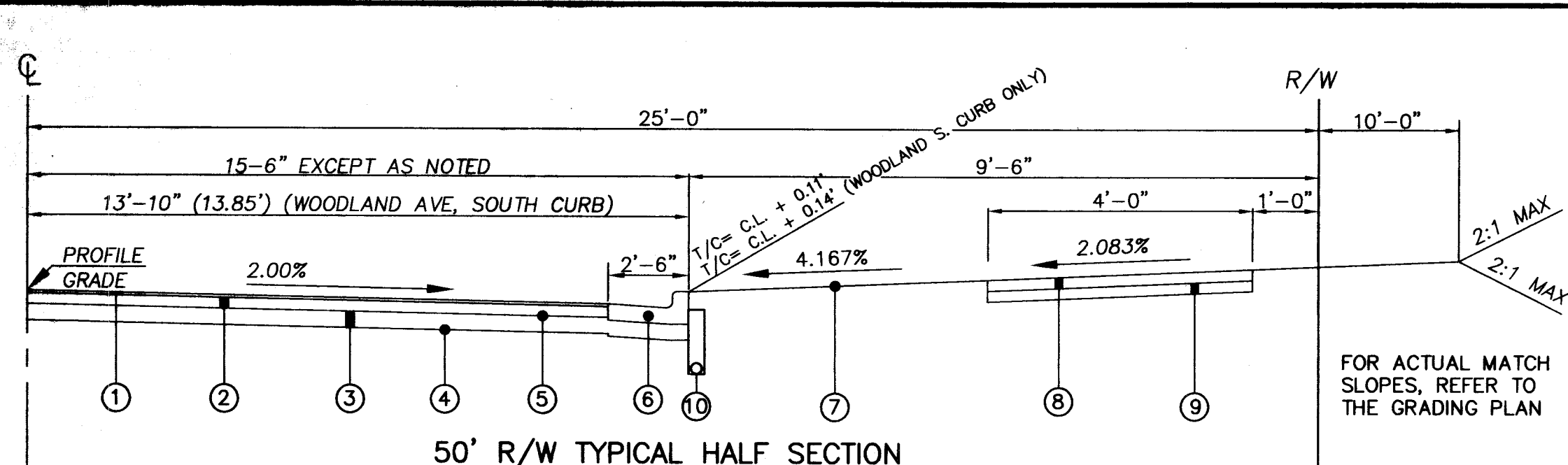
1386 MARKET AVENUE NORTH CANTON, OHIO 44714

PHONE (330) 452-6731 FAX (330) 452-8110

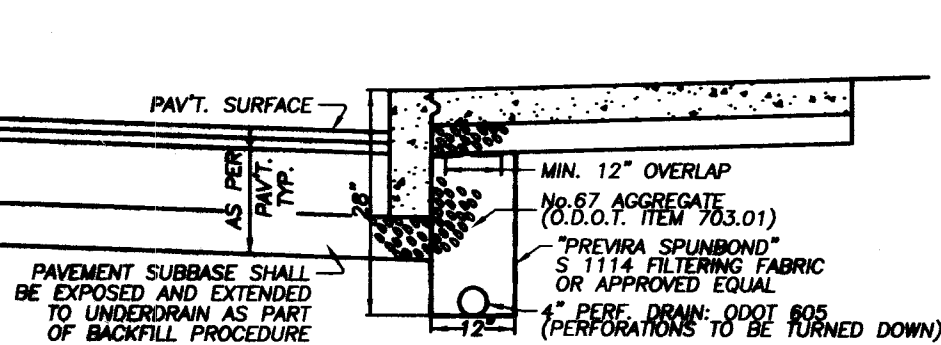
BRYAN J. ASHMAN JEROLD E. GEIB

HORIZONTAL SCALE

SCALE: 1" = 50'



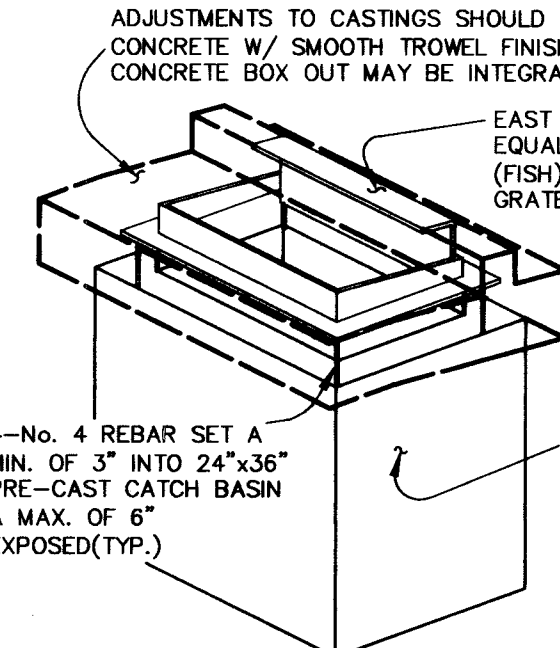
- 50' R/W TYPICAL HALF SECTION
- 1 ITEM 404 1 1/2" ASPHALT CONCRETE SURFACE
 - 2 ITEM 301 4" BITUMINOUS AGGREGATE BASE
 - 3 ITEM 304 6" AGGREGATE BASE
 - 4 ITEM 203 COMPACTED SUBGRADE
 - 5 ITEM 408 BITUMINOUS PRIME COAT @ 0.4 GAL/SY
 - 6 ITEM 609 MASSILLON STANDARD CURB AND GUTTER
 - 7 ITEM 659 SEEDING AND MULCHING
 - 8 ITEM 608 4" CONCRETE SIDEWALK (6" @ DRIVES)
 - 9 ITEM 304 4" AGGREGATE BASE
 - 10 ITEM 605 4" UNDERDRAIN (ODOT 605) SHALLOW
 - 11 ITEM 609 MASSILLON STANDARD CURB & GUTTER OR ODOT TYPE 6 CONCRETE CURB (SEE PLANS FOR LOCATIONS OF EACH)



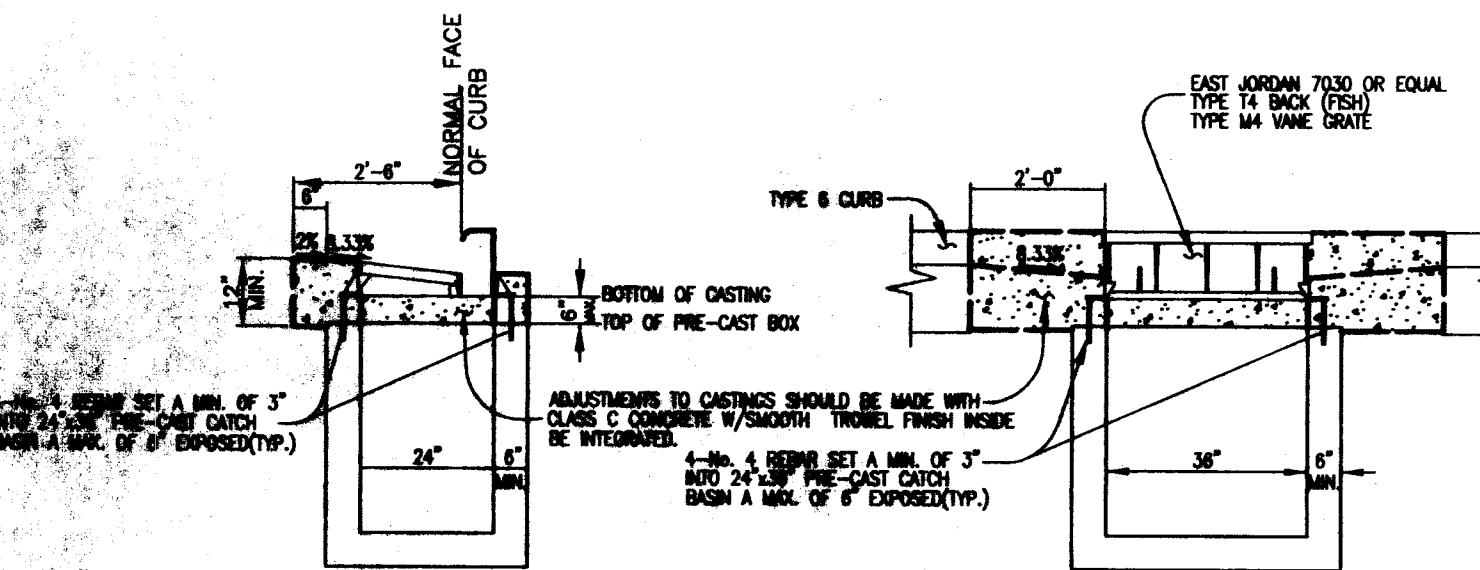
UNDERDRAIN DETAIL

GENERAL NOTES:

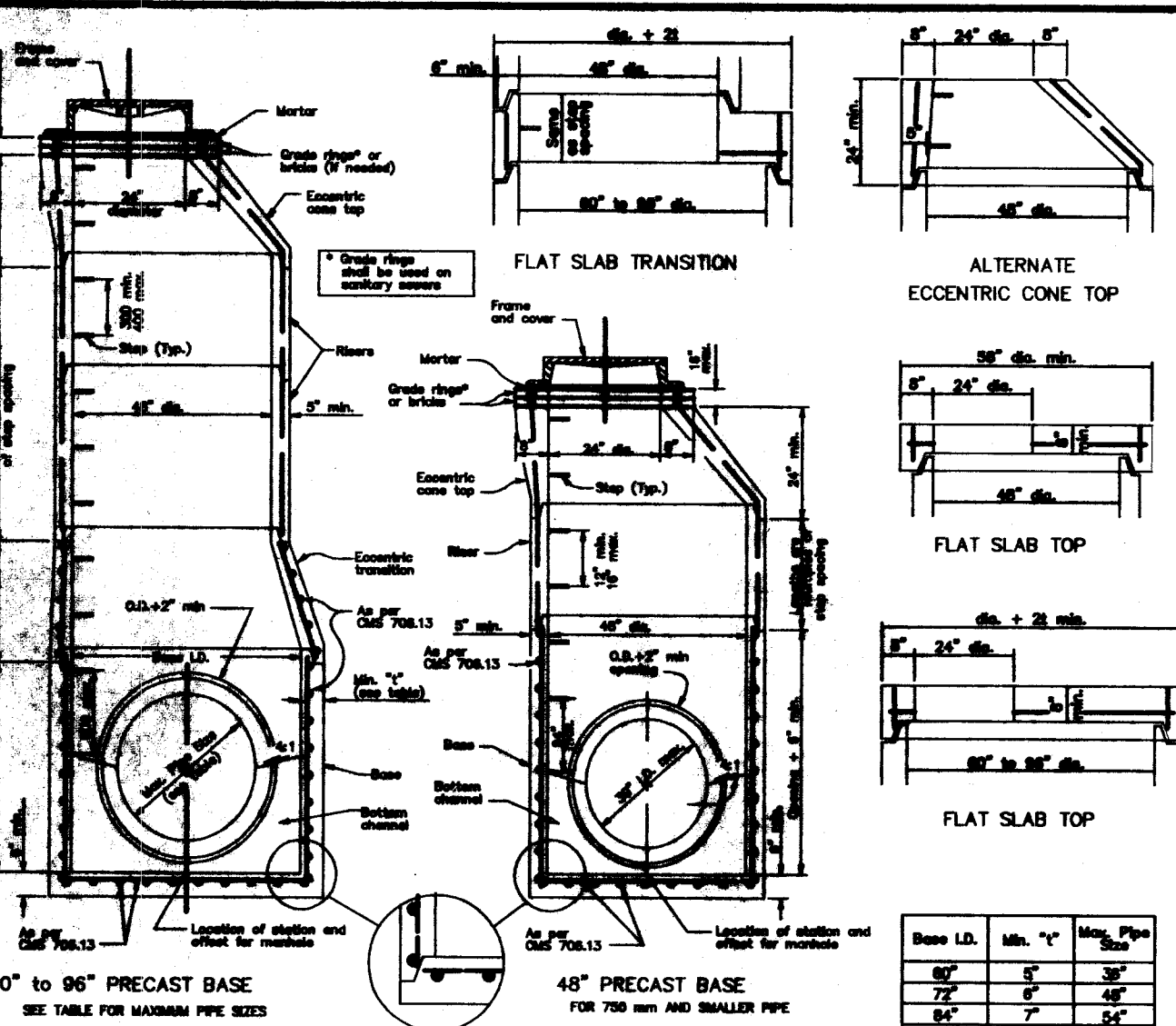
- 1) All loose excavation at bottom of trench shall be removed or compacted before installing filter fabric.
- 2) Inverts of pipe shall maintain positive drainage with no dips or humps in flowline of pipe.
- 3) Contractor shall provide an approved coupling device as per of their conduit installation procedure.



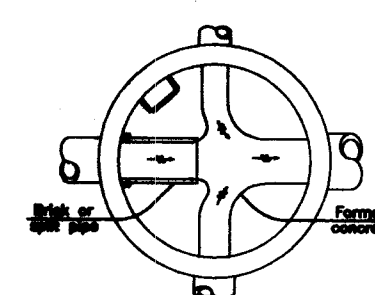
MASSILLON STANDARD CURB AND GUTTER DETAIL



MASSILLON CURB INLET (MASS C1-1)



SECTION VIEWS OF REINFORCED PRECAST MANHOLES



SECTION BELOW SPRING LINE

MH TYPE 3

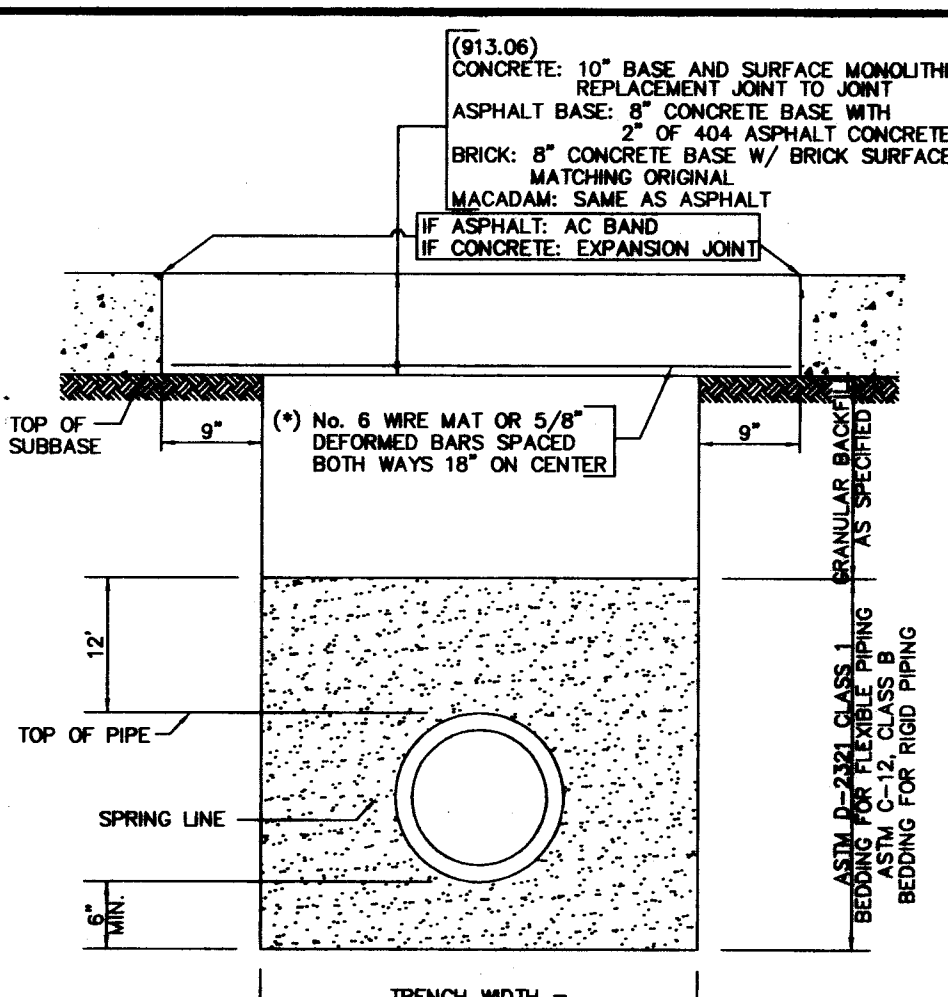
GENERAL NOTES:

With normal soil and site conditions this standard precast manhole may be used for any required manhole depth. Sections of the precast manhole shall be cast and assembled with either all tongue or all groove ends up. Lift holes may be provided in each section for handling.

TOP AND TRANSITION (OR REDUCER): This section shall be a flat slab unless an eccentric cone is specified.

BASE: Manhole No. 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 riser separately. Openings for inlet and outlet pipes shall be provided, either when bottom channels may be formed of concrete, precast in the base or field constructed as shown. Openings for 18" and smaller.

RISER SECTIONS: inlet pipes may be either prefabricated, or cut in the field provided the sides of the pipe at the springline do not project into the manhole.



OPEN CUT DETAIL

NOTES:

(*) Must be used when width of trench is greater than 3' at the subbase level.

Concrete base shall be of 1:2:4, 6 bag mix, Portland Cement concrete using high early strength cement. Must be cured at least 48 hours.

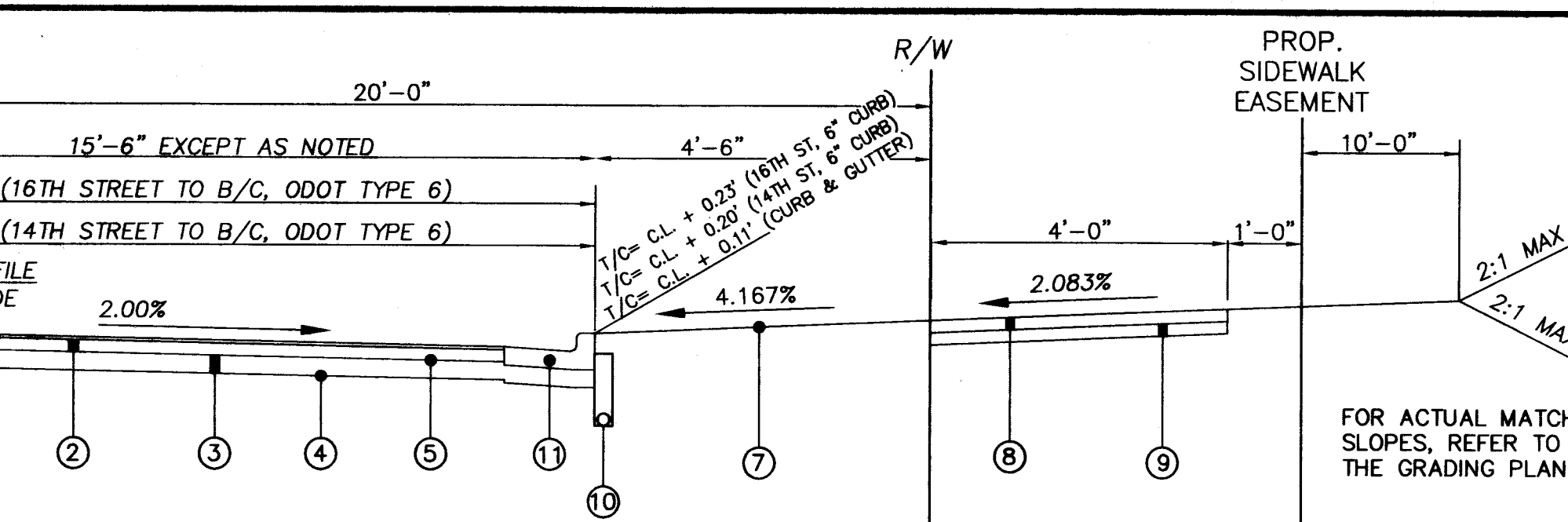
CONNECTIONS: Connections between precast manhole sections and pipes on sanitary sewers may be sealed with resilient connectors conforming to ASTM C 923.

JOINT SEAL: Seal between precast manhole sections on sanitary sewers shall be resilient and flexible gasket joints per CMS 706.11.

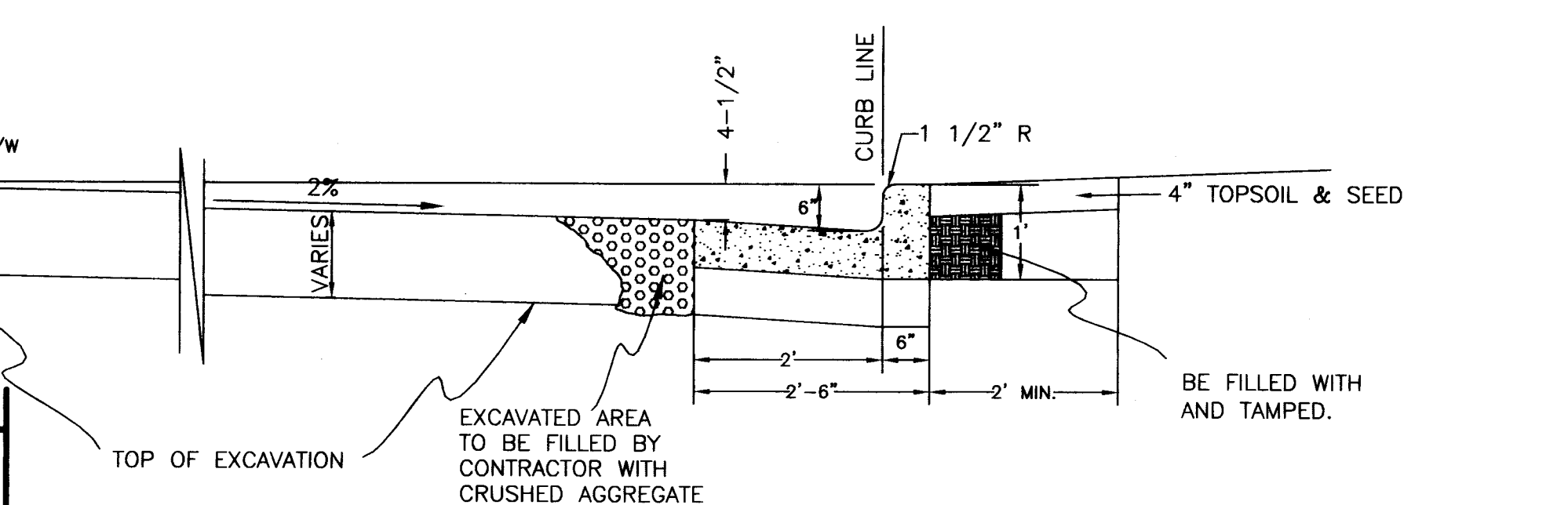
MATERIALS: Materials for bases and other precast sections, including reinforcement not specified herein, shall comply with the requirements of CMS 706.13. When specified on the plans, drop pipe.

DROP PIPE: shall be constructed as shown on MH-3.1M.

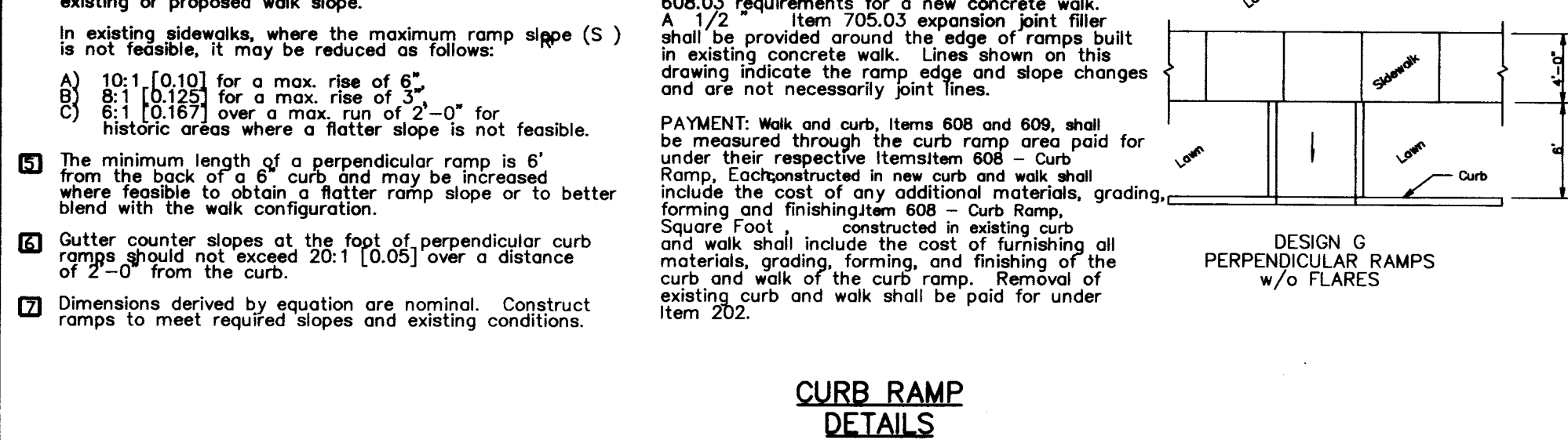
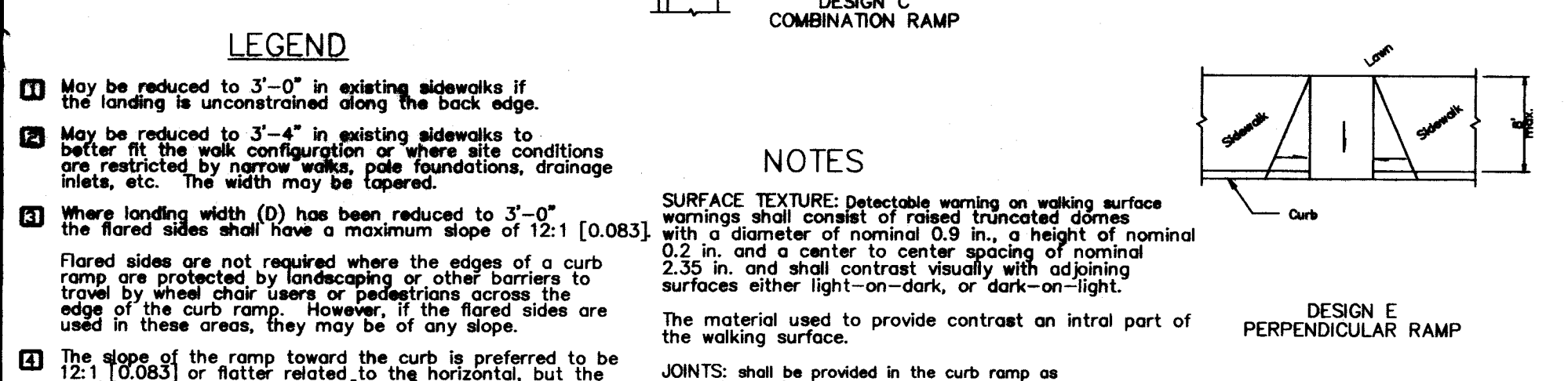
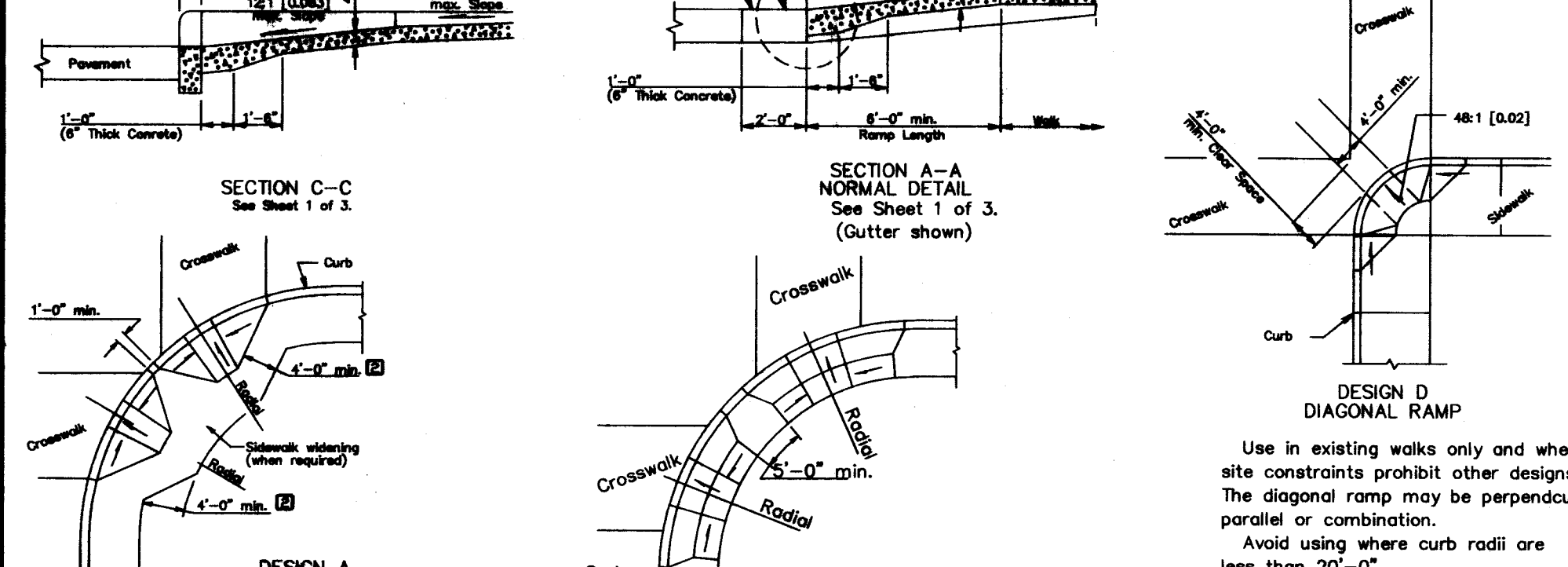
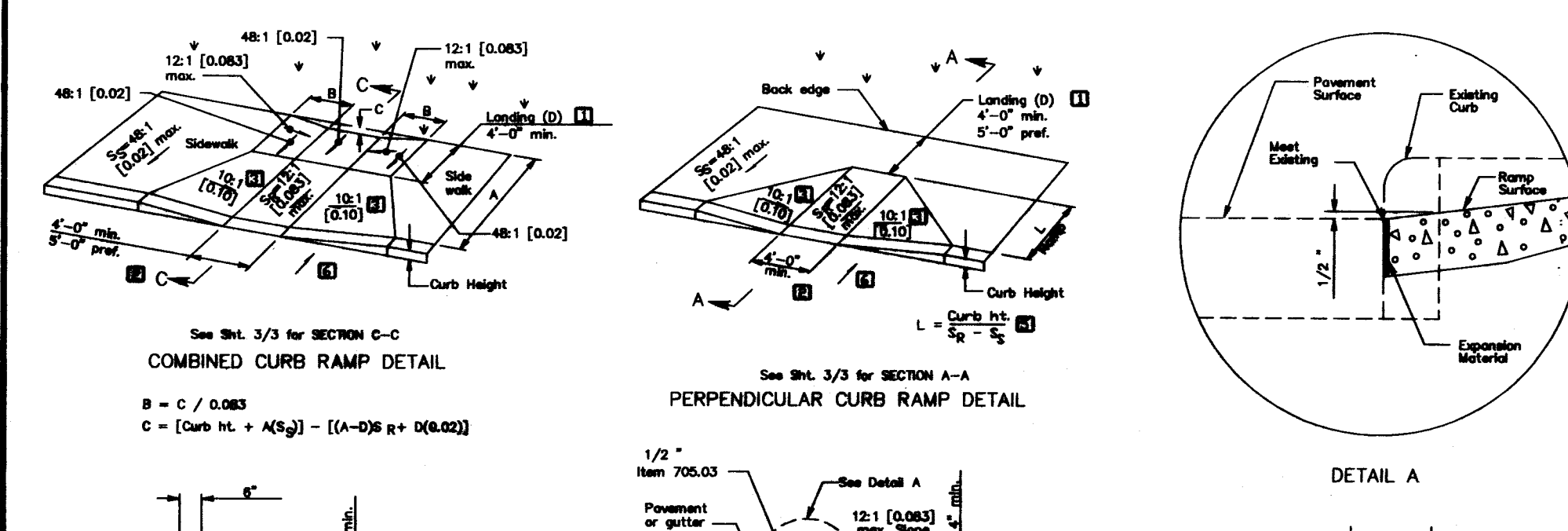
STEPS, FRAMES AND COVERS: Shall comply with the requirements set forth on MH-1.1M.



40' R/W TYPICAL HALF SECTION



MASSILLON STANDARD CURB AND GUTTER DETAIL



CURB RAMP DETAILS

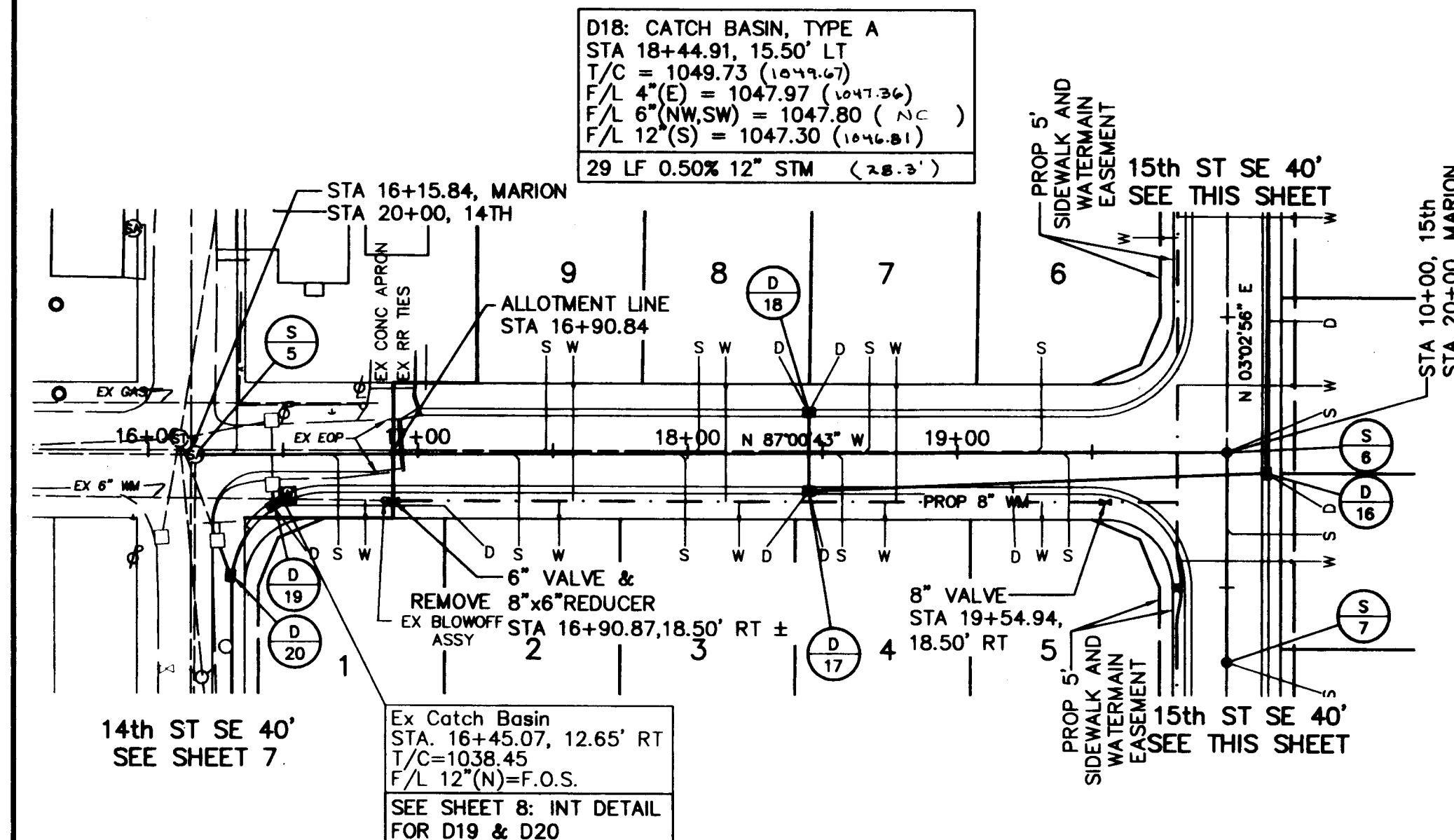
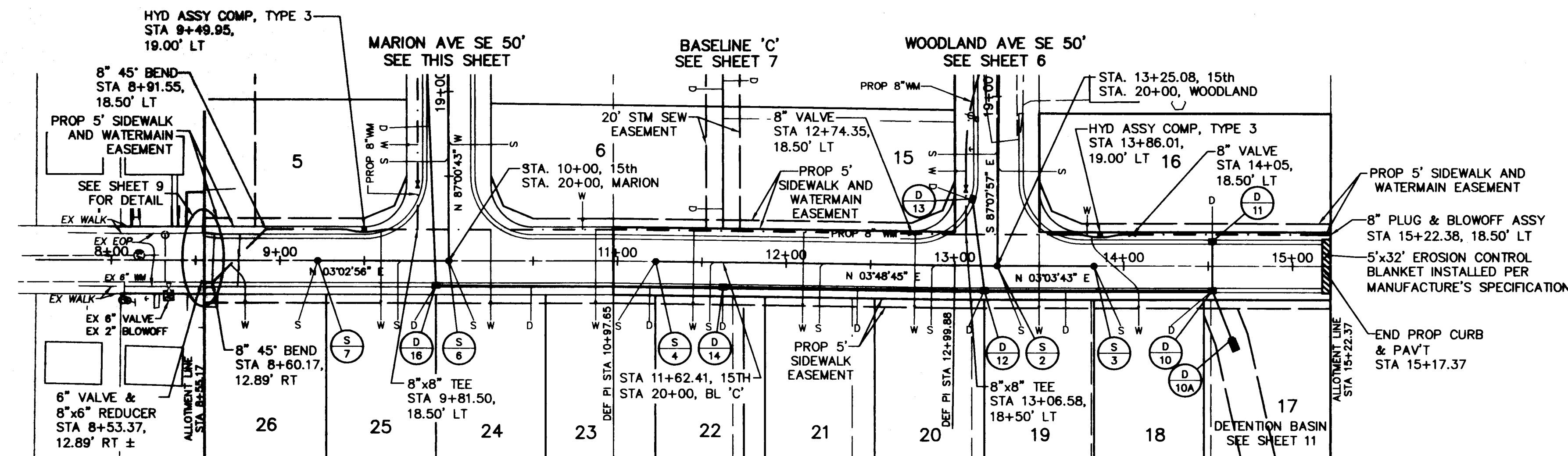
ESTIMATED QUANTITIES			
ITEM	QTY.	UNIT	DESCRIPTION
ROADWAY			
201	1	LUMP	CLEAR AND GRUB INCL TREE & STUMP REMOVAL
202	1	LUMP	REM. OF BLDGS., FENCES & OTHER ITEMS NOT COVERED ON THESE PLANS (BY OTHERS)
202	2	EACH	REMOVAL OF EX. CATCH BASINS
203	8800	CU. YD.	ROADWAY & SITE EMBANKMENT
203	13000	CU. YD.	ROADWAY & SITE EXCAVATION
203	3686	SQ. YD.	SUBGRADE COMPACTION (ROADWAY)
254	147	SQ. YD.	PAVEMENT PLANING, ASPHALT CONCRETE (WOODLAND & 14TH ST.)
254	2012	SQ. YD.	PAVEMENT PLANING, ASPHALT CONCRETE (ON 16TH ST.)
651	1	LUMP	TOPSOIL STRIPPED & STOCKPILED
659	1	LUMP	SEEDING AND MULCHING (INCLUDE DET. BASIN AREA)
EROSION CONTROL			
207	1	LUMP	EROSION CONTROL, SEE STORMWATER POLLUTION PREVENTION PLAN
207	18	SQ. YD.	EROSION CONTROL BLANKET
PAVEMENT			
253	197	SQ. YD.	ASPHALT PAVEMENT REPAIR (ON 16TH ST.)
253	527	SQ. YD.	EX. P.V.M.T. WIDENING (INCL SAW CUT & FULL P.V.M.T. SECTION BUT NOT CURB)
301	350	CU. YD.	4" BITUMINOUS AGGREGATE BASE
304	614	CU. YD.	6" AGGREGATE BASE (2 - 3" COURSES)
404	131	CU. YD.	1-1/2" ASPHALT CONCRETE SURFACE COURSE
408	1260	GAL.	BITUMINOUS PRIME COAT @ 0.40 GAL./SQ. YD.
608	11850	SQ. FT.	4' CONCRETE WALK (INCL ITEMS 203 & 304)
608	6	EACH	CONC CURB RAMP
609	438	LIN. FT.	CONC CURB, (ODOT TYPE 6)
609	2593	LIN. FT.	CONC CURB AND GUTTER (PER MASSILLON'S STD.)
DRAINAGE			
601	1.6	CU. YD.	ROCK CHANNEL PROTECTION TYPE 'C' WITH GEOTEXTILE
603	910	LIN. FT.	6" STORM LATERALS AND FITTINGS
603	109	LIN. FT.	12" STORM SEWER, TYPE B
603	55	LIN. FT.	12" STORM SEWER, REINFORCED CONC. PIPE
603	216	LIN. FT.	12" STORM SEWER, TYPE C
603	1322	LIN. FT.	15" STORM SEWER, TYPE B
603	571	LIN. FT.	15" STORM SEWER, TYPE C
604	6	EACH	CATCH BASIN, ODOT 2-2B
604	1	EACH	CATCH BASIN, ODOT 2-3 (MOD. PER PLAN + TRASH RACK)
604	11	EACH	CATCH BASIN, TYPE A
604	2	EACH	HEADWALL (ODOT HW-2.1 MOD FULL HT) - 15" PIPE
604	1	EACH	REPLACE CATCH BASIN CASTING
604	1	EACH	STORM MANHOLE
604	1	EACH	STORM MANHOLE (CONSTRUCTED ONLINE)
604	1	LUMP	DETENTION BASIN 'A' (INCL EMERGENCY SPILLWAY, CUT-OFF TRENCH, STILLING BASIN, GRAVEL TRENCH W/ 4" UNDERDRAIN, 4" PLUG W/ ORIFICE, TOPSOIL; NOT INCL EARTHWORK & CONTR STRUCTURE
WATER WORKS			
638	25	EACH	1" COPPER TYPE K SERVICE LINE W/ CURB BOX, COMPLETE
638	1	EACH	6" BLOWOFF ASSY (REMOVE)
638	3	EACH	6" GATE VALVE WITH BOX
638	1	EACH	6" x 6" TAPPING SLEEVE & VALVE
638	2	EACH	8" 45° BEND
638	1282	LIN. FT.	8" WATER MAIN, DUCTILE IRON, ANSI PRESSURE CLASS 350 W/POLYWRAP
638	4	EACH	8" GATE VALVE WITH BOX
638	2	EACH	8" PLUG & BLOWOFF ASSY
638	4	EACH	8" x 6" REDUCER
638	2	EACH	8" x 8" MJ TEE
638	2	EACH	HYDRANT ASSEMBLY COMPLETE - TYPE 3
SANITARY SEWER			
603	906	LIN. FT.	8" SANITARY SEWER
603	1194	LIN. FT.	6" SERVICE SEWER
603	8	EACH	8" x 6" SADDLE CONNECTION
603	18	EACH	8" x 6" Y-BRANCH OR T-BRANCH
604	2	EACH	CONNECTION INTO EXISTING MANHOLE
604	1	EACH	SANITARY CLEANOUT
604	46.26	VRT. FT.	(5) MANHOLES, STANDARD TYPE A, COMPLETE
TRAFFIC CONTROL			
614	1	LUMP	MAINTAINING TRAFFIC
630	2	EACH	STOP SIGN, MUTCD R-1-30
630	2	EACH	STREET NAME SIGN, MUTCD D-14
630	1	EACH	NO OUTLET SIGN, MUTCD W-48
630	3	EACH	OBJECT MARKER, TYPE 4, MUTCD X-4
MISCELLANEOUS			
203	2571	LIN. FT.	TRENCHING FOR UTILITIES
4	4	EACH	MONUMENT ASSEMBLY

TYPICAL SECTIONS AND QUANTITIES		COOPER & ASSOCIATES, LLP ENGINEERS AND SURVEYORS		REVISIONS	
BALLINGER ESTATES		BRYAN J. ASHMAN		1	
FOR: MACDONALD, HARRIS & CO., LLC		JEROLD E. GEBB		2	
1509 MARKET STREET, SUITE 200, CHICAGO, IL 60607		PHONE (312) 452-9731		3	
DRAWN BY: M.J.L.		ADJUSTED QUANTITIES		4	
CHECKED BY: BJA		CITY OF MASSILLON COMMENTS		5	
FIELD BOOK No. _____		DATE 7/19/05		6	
DATE 2/14/2005		DATE 5/13/06		7	
SHEET		DATE 7/19/05		8	
3		OF		14	

BENCHMARK No. 2:
T/RIM (WEST SIDE) SAN
E - E OF 14th & MARION
ELEV. = 1038.00

BENCHMARK No. 3:
GIR GEAR 1' UP SW SIDE OF TEL.
POLE (NO NUMBER) E. SIDE OF
15TH, 45th S. OF PROP. LOT 26
ELEV. = 1060.36

NOTES:
1.) SIDEWALKS ARE NOT REPRESENTED ON THIS PLAN
FOR CLARITY SEE TYPICAL SECTION, SCHEMATIC AND
INTERSECTION DETAIL PLAN.



15th ST SE 40'

MARION AVE SE 50'

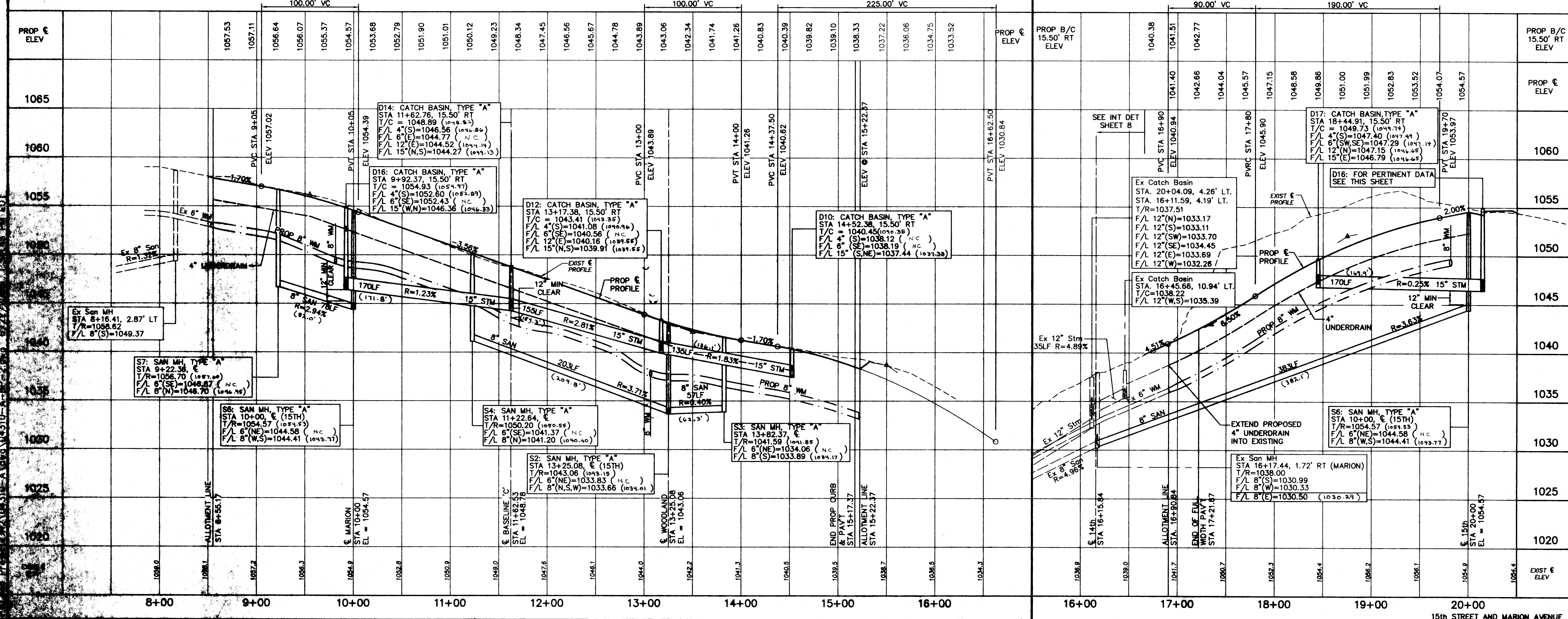
PVI STA = 9+55
PVI ELEV = 1056.17
A.D. = -1.86
K = 53.86
SSD = 630'

PVI STA = 13+50
PVI ELEV = 1042.11
A.D. = 1.86
K = 53.78
SSD = 2663'

PVI STA = 15+50
PVI ELEV = 1038.71
A.D. = -5.30
K = 42.49
SSD = 316'

PVI STA = 17+35
PVI ELEV = 1042.97
A.D. = 1.99
K = 45.14
SSD = 1208'

PVI STA = 18+75
PVI ELEV = 1052.07
A.D. = -4.50
K = 42.22
SSD = 335'



VERTICAL SCALE
SCALE: 1" = 5'

HORIZONTAL SCALE
SCALE: 1" = 50'

REVISIONS

BRYAN J. ASHMAN
JEROLD E. GEIB

COOPER & ASSOCIATES, LLP
ENGINEERS AND SURVEYORS

PHONE (330) 452-5731
FAX (330) 452-9110

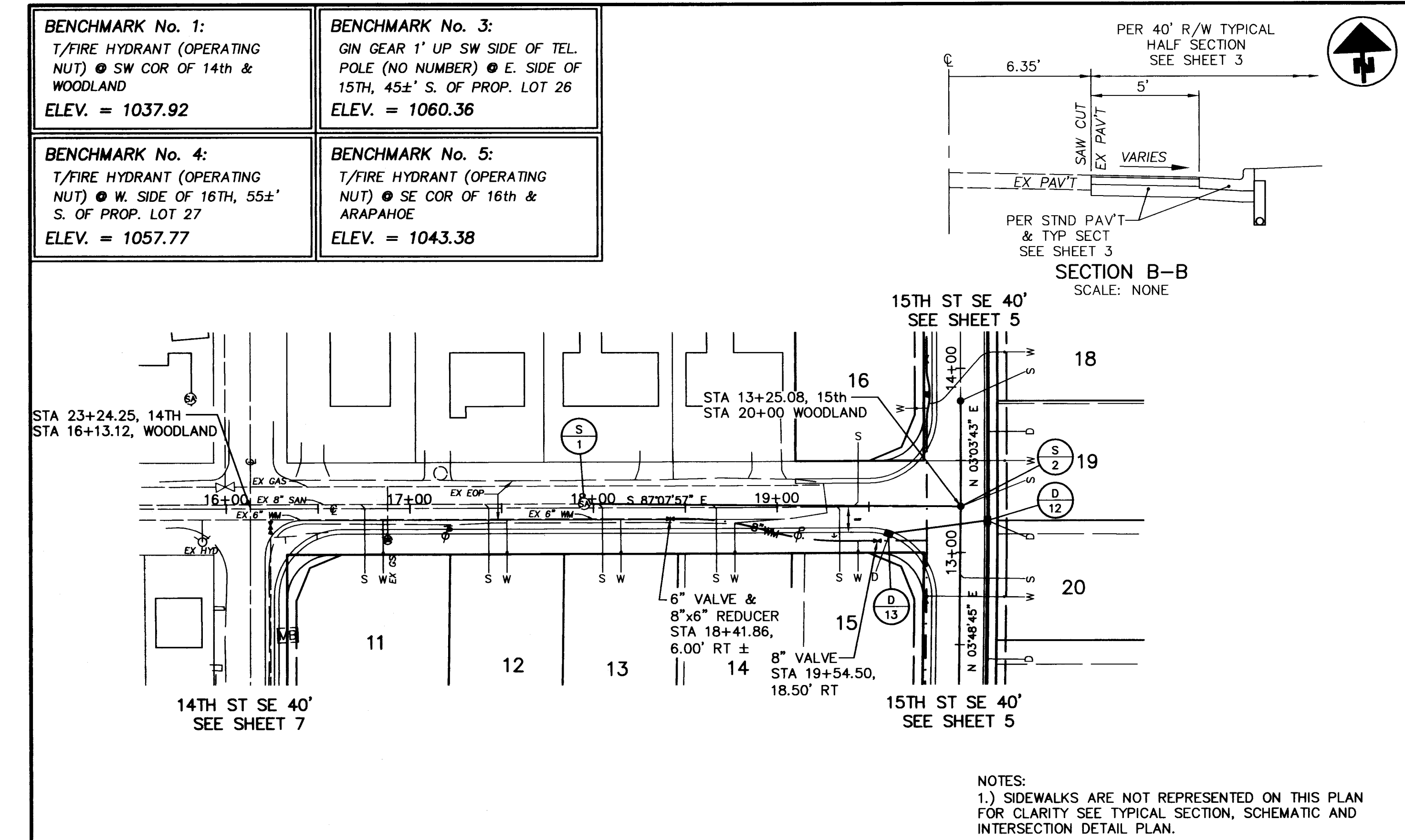
1389 MARKET
AVENUE
CANTON, OHIO
44704

PLAN AND PROFILE

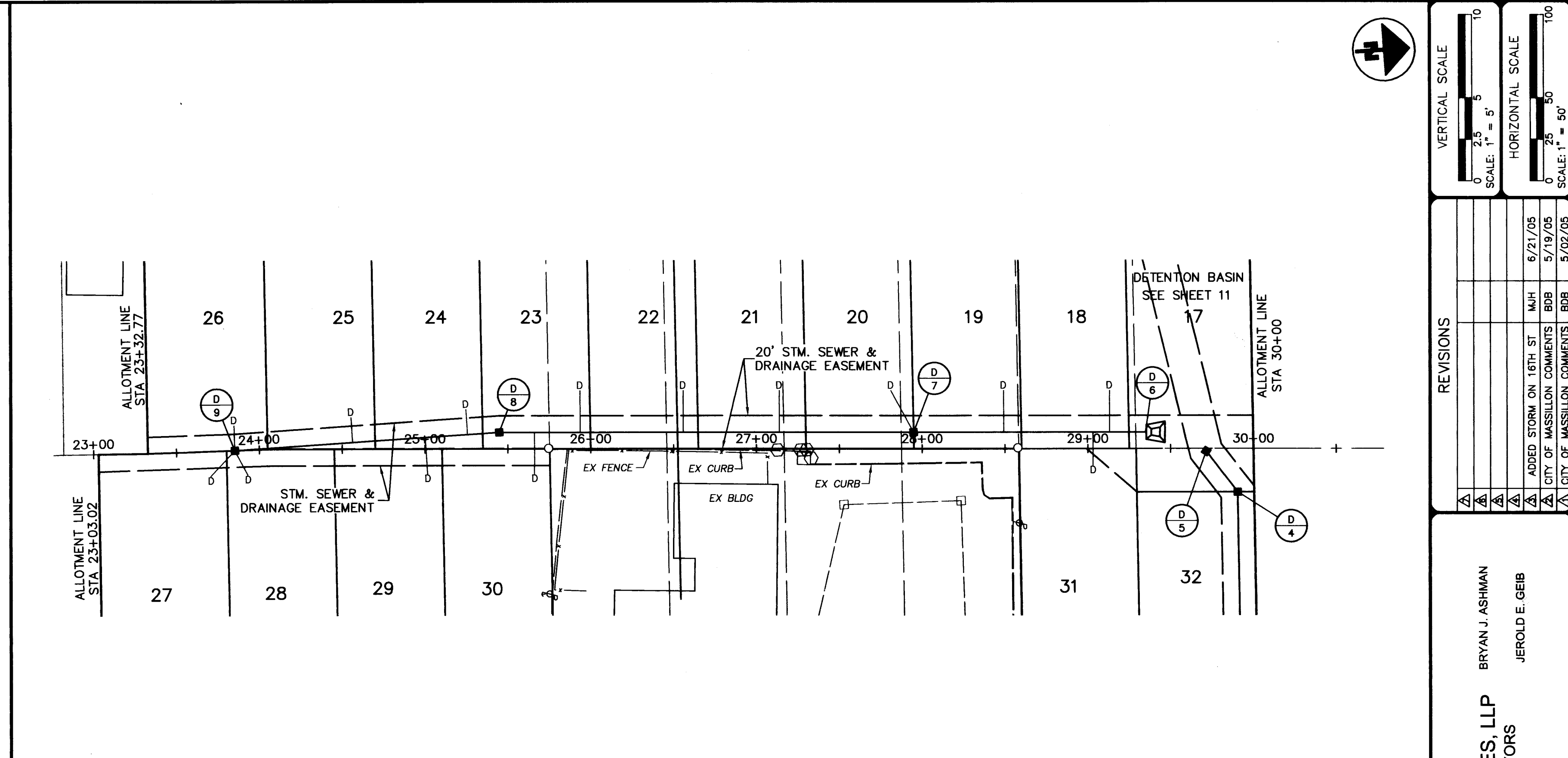
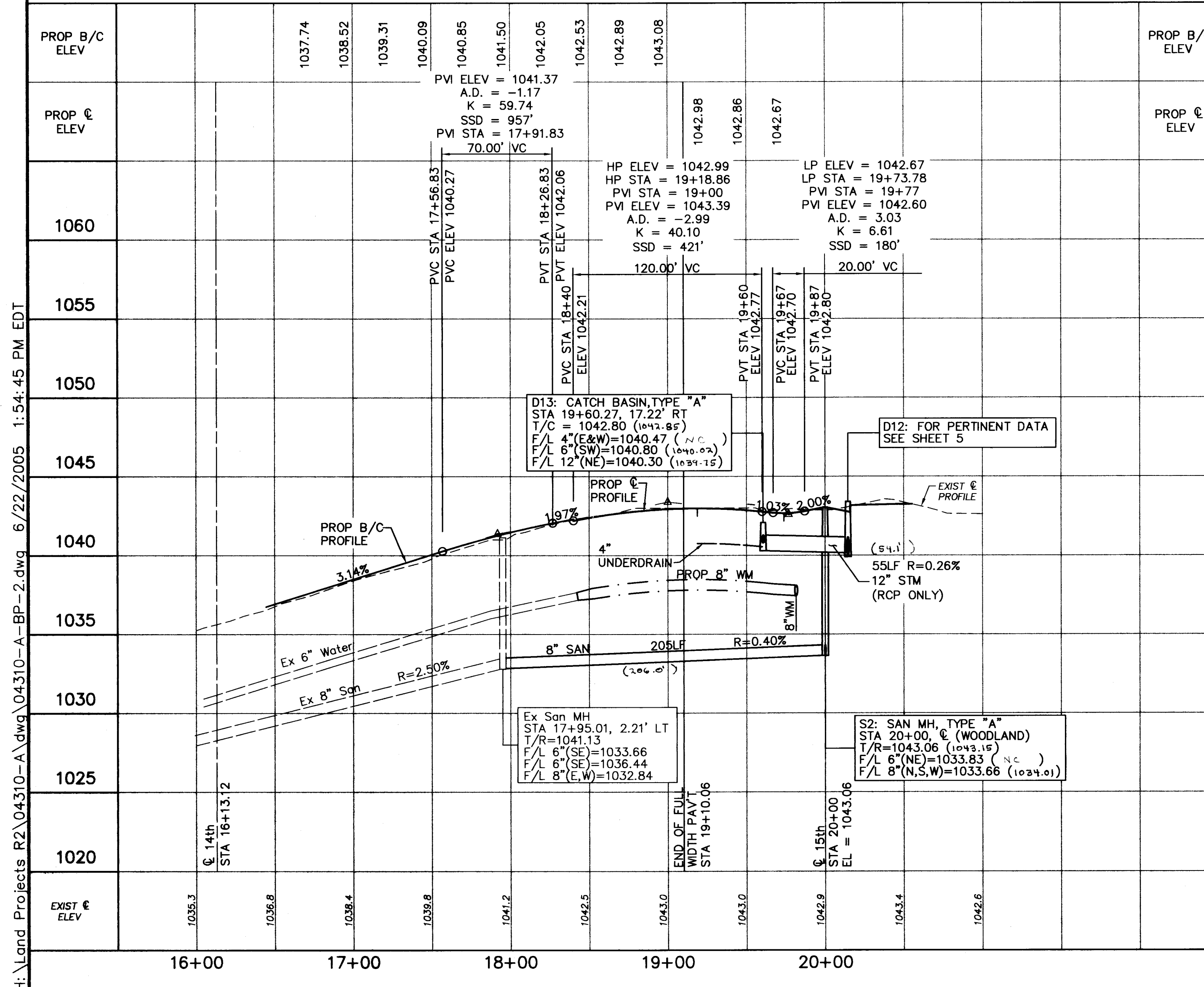
BALLINGER ESTATES

FOR: MASSILLON HOMES, LLC

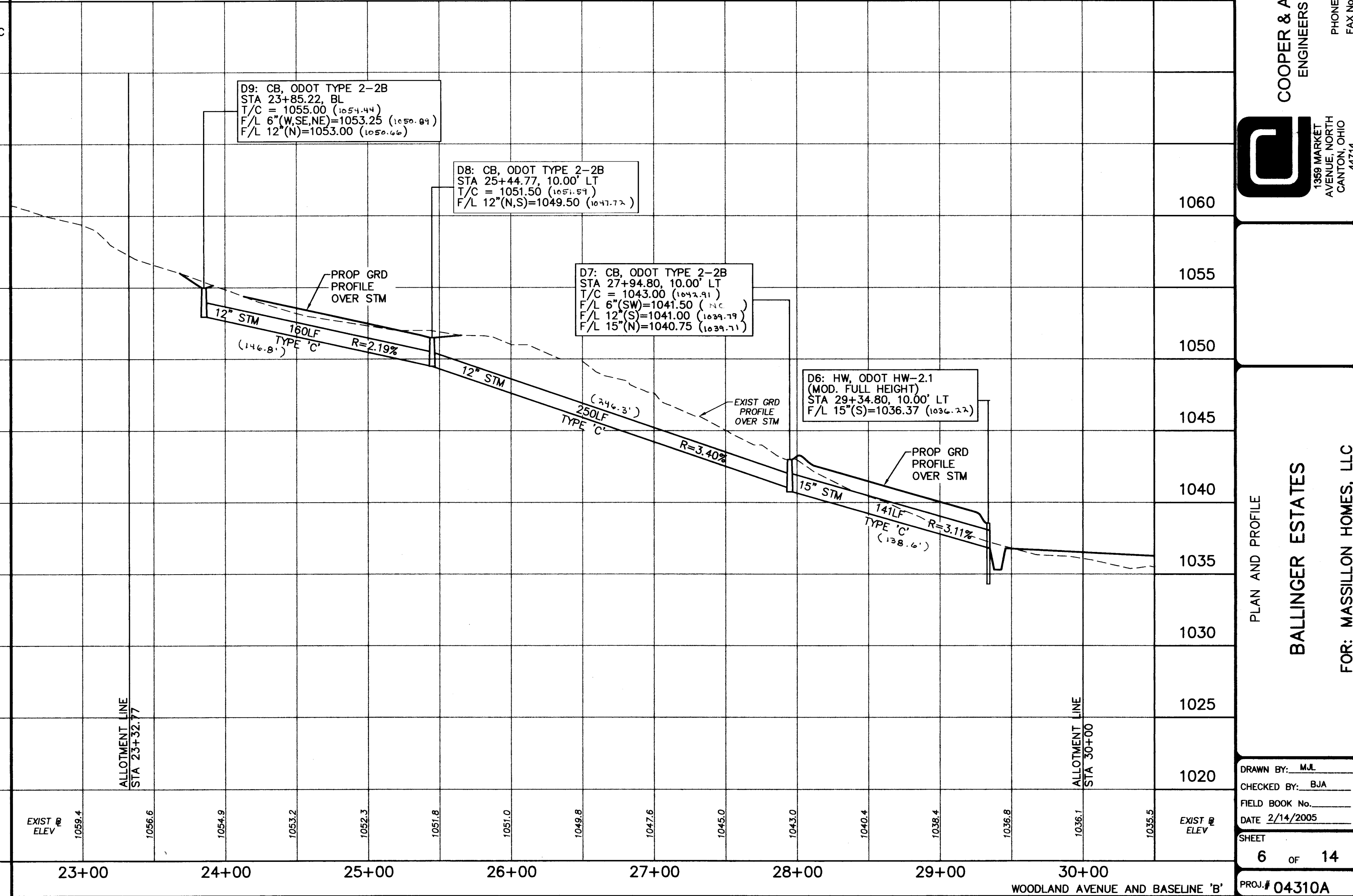
DRAWN BY: M.L.
CHECKED BY: BJA
FIELD BOOK No.
DATE: 2/14/2005
SHEET
5 OF 14
PROJ. # 04310A



WOODLAND AVENUE SE 50'



BASELINE 'B'



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VERTICAL SCALE
SCALE: 1" = 5'

HORIZONTAL SCALE
SCALE: 1" = 50'

REVISIONS

BRYAN J. ASHMAN
JEROLD E. GIBB

COOPER & ASSOCIATES, LLP
ENGINEERS AND SURVEYORS

1389 MARKET
AVENUE, NORTH
CANTON, OHIO
44714

PHONE (330) 452-5731
FAX (330) 452-9110

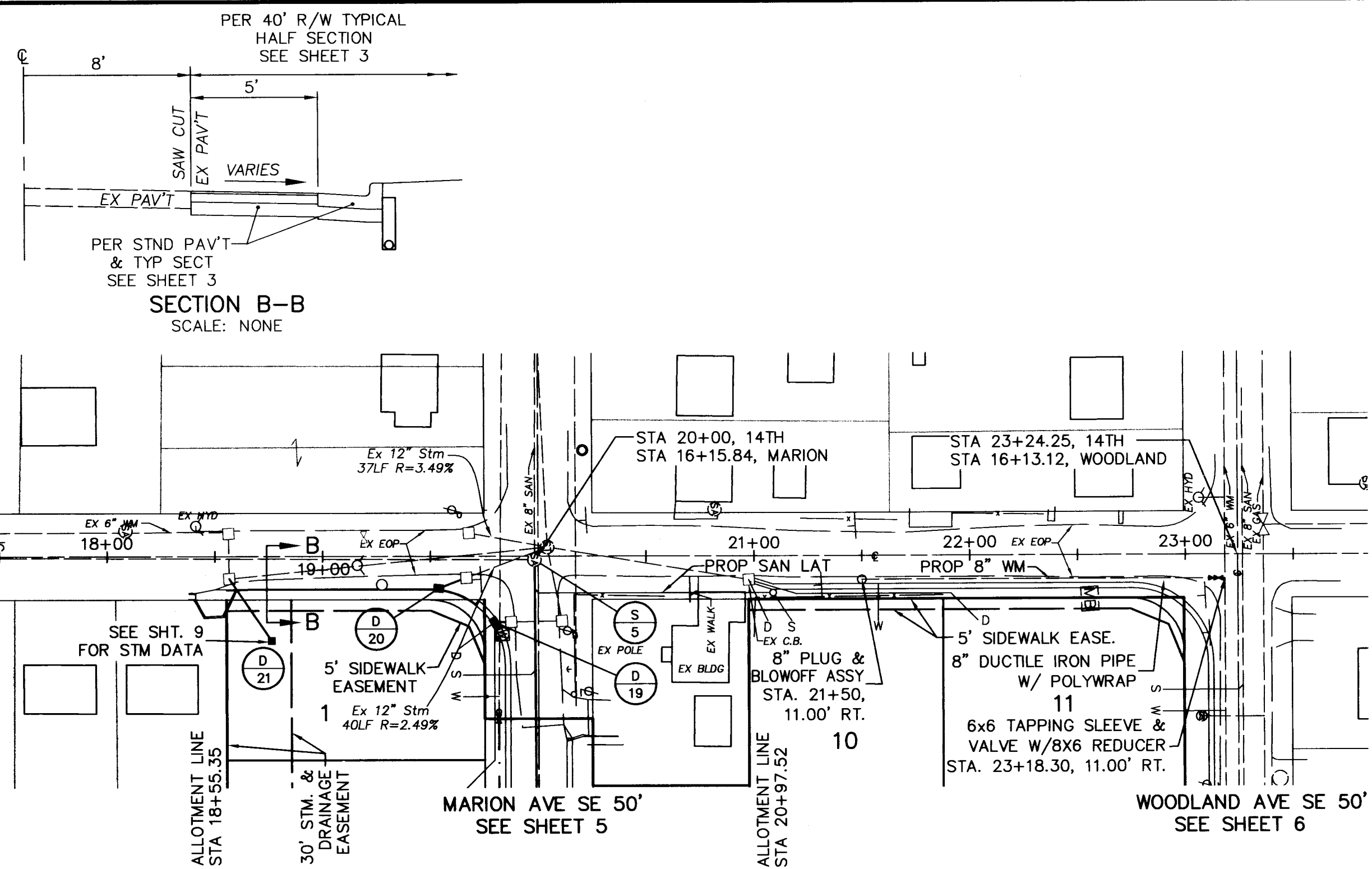
PLAN AND PROFILE

BALLINGER ESTATES

FOR: MASSILLON HOMES, LLC

DRAWN BY: M.J.L.
CHECKED BY: B.J.A.
FIELD BOOK No. _____
DATE 2/14/2005
SHEET 6 OF 14
PROJ.# 04310A

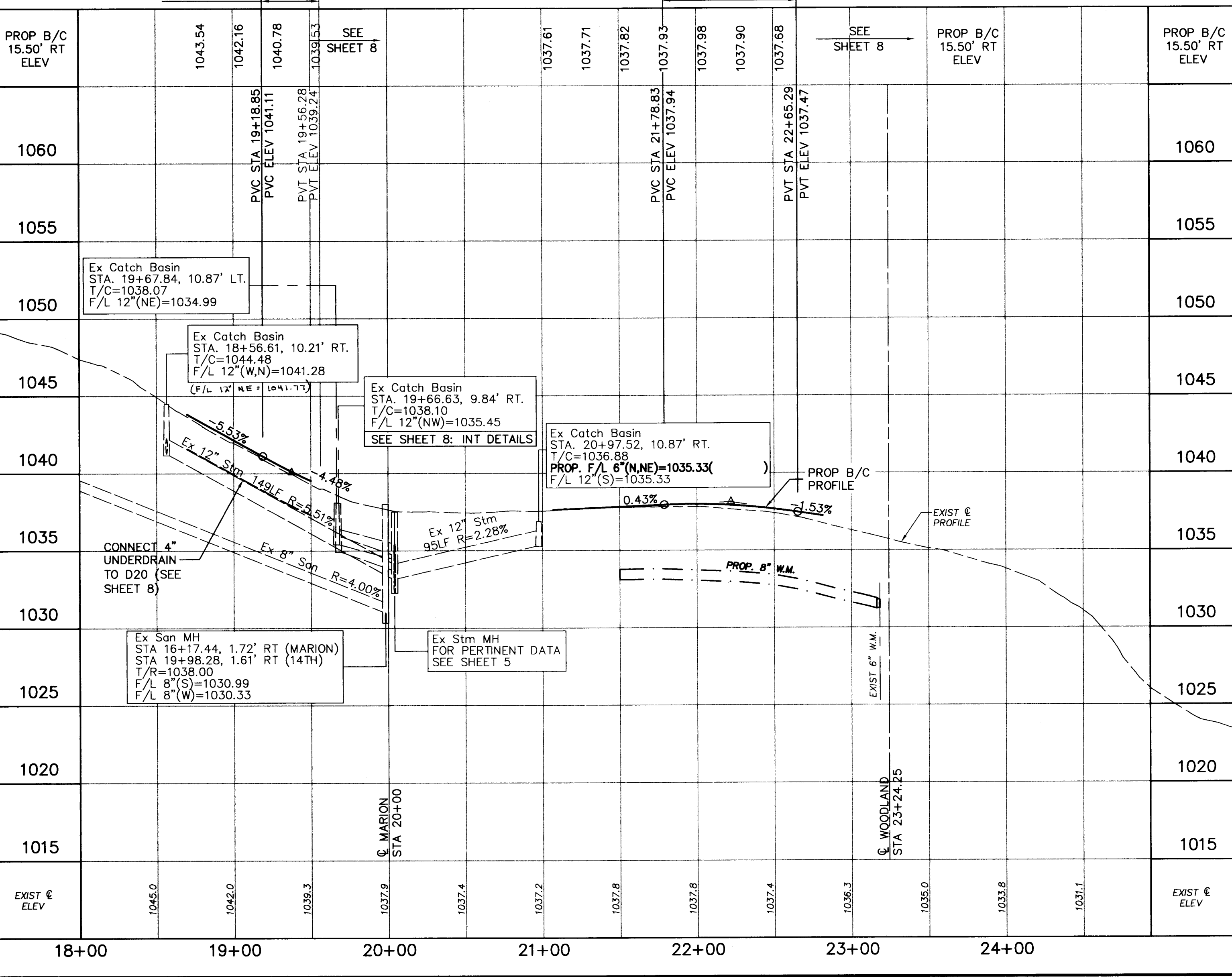
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14TH STREET SE 40'

PVI STA = 19+37.57
PVI ELEV = 1040.08
A.D. = 1.05
K = 35.77
SSD = NOT CONTROLLED BY V.C.
37.43' VC

HIGH POINT ELEV = 1037.98
HIGH POINT STA = 21+97.93
PVI STA = 22+22.06
PVI ELEV = 1038.13
A.D. = -1.96
K = 44.05
SSD = 595'
86.46' VC

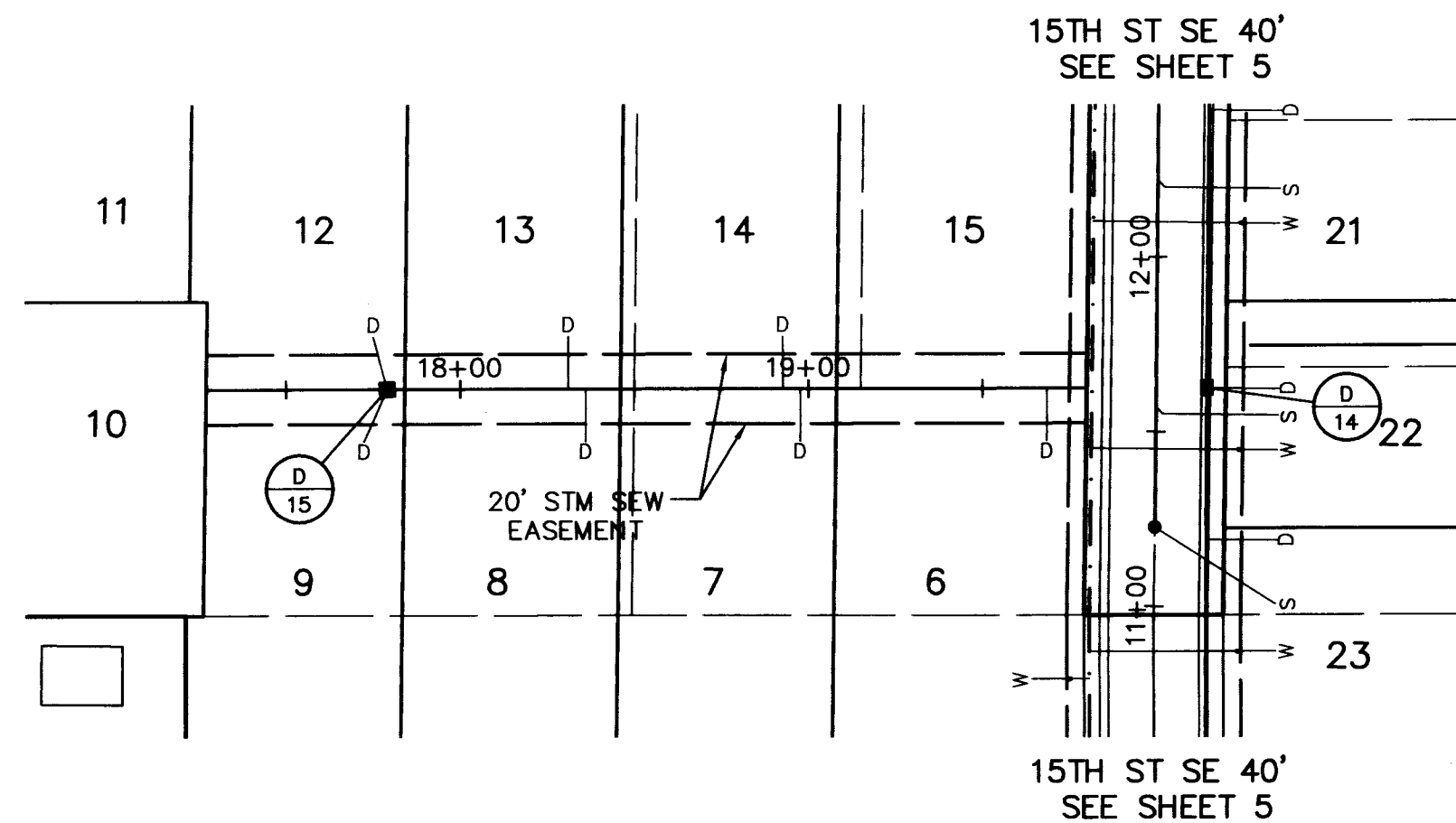


BENCHMARK No. 1:
T/FIRE HYDRANT (OPERATING NUT) @ SW COR OF 14th & WOODLAND
ELEV. = 1037.92

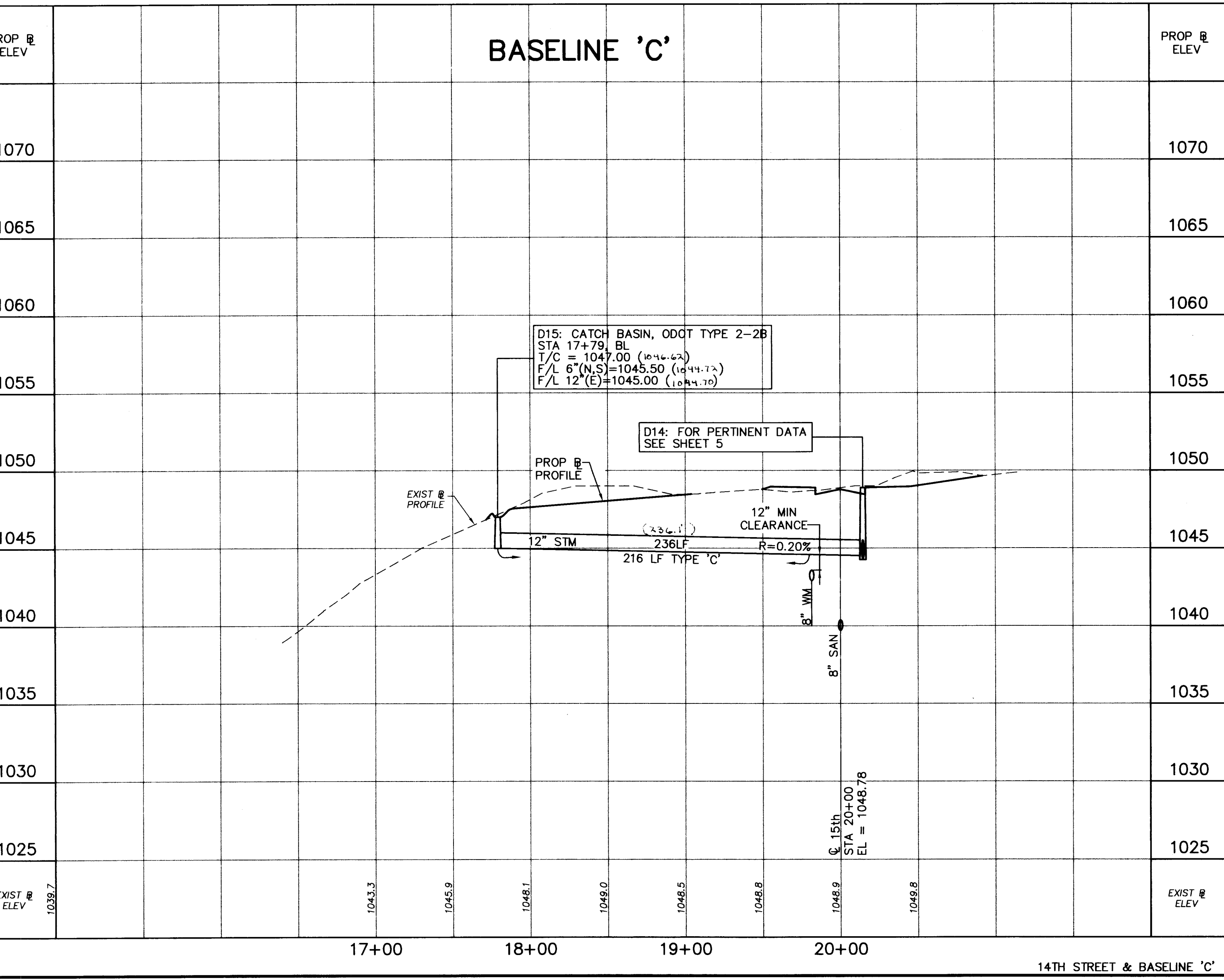
BENCHMARK No. 2:
T/RIM (WEST SIDE) SAN @ E - E OF 14th & MARION
ELEV. = 1038.00

BENCHMARK No. 3:
GIN GEAR 1' UP SW SIDE OF TEL. POLE (NO NUMBER) @ E. SIDE OF 15TH, 45±' S. OF PROP. LOT 26
ELEV. = 1060.36

- NOTES:
- 1.) SIDEWALKS ARE NOT REPRESENTED ON THIS PLAN FOR CLARITY SEE TYPICAL SECTION, SCHEMATIC AND INTERSECTION DETAIL PLAN.
 - 2.) PROPOSED CURB ON 16TH STREET SHALL BE ODOT TYPE 6.
 - 3.) WATER SERVICES TO LOTS 27, 28, 29, 30, 31 & 32 WILL BE PROVIDED AND INTALLED BY AQUA OHIO. THE CONTRACTOR SHALL CONTACT AQUA OHIO & COORDINATE THEIR PROPOSED WORK WITH THEM.



BASELINE 'C'



REVISIONS	
NO.	DESCRIPTION
1	ADDED STORM ON 16TH ST
2	CITY OF MASSILLON COMMENTS
3	DD
4	DD
5	DD

VERTICAL SCALE
SCALE: 1" = 5'

HORIZONTAL SCALE
SCALE: 1" = 50'

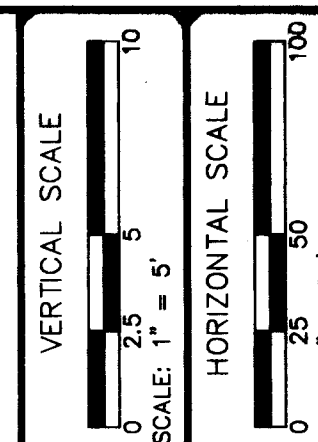
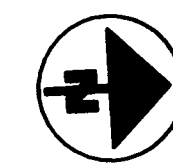
DRAWN BY: MJL
CHECKED BY: BJA
FIELD BOOK No.:
DATE: 2/14/2005
SHEET: 7 OF 14
PROJ. #: 04310A

COOPER & ASSOCIATES, LLP
ENGINEERS AND SURVEYORS
BRYAN J. ASHMAN
JEROLD E. GEBB
PHONE (330) 462-5731
FAX (330) 462-9110

BALLINGER ESTATES
FOR: MASSILLON HOMES, LLC

BENCHMARK No. 5:
T/FIRE HYDRANT (OPERATING
NUT) @ SE COR OF 16th &
ARAPAHOE
ELEV. = 1043.38

- 6.) PRIOR TO OBERING STORM MANHOLE D1 & CATCH BASIN D2, THE CONTRACTOR SHALL EXPOSE THE 6" & 12" GASLINE IN THE LOCATIONS WHERE THE PROPOSED STORM CROSS THEM. THE CONTRACTOR SHALL THEN ACQUIRE A TOP OF PIPE ELEVATION & CONTACT THE PROJECT ENGINEER (COOPER & ASSOCIATES, LLP) FOR APPROVAL OF THE STORM SEWER DESIGN.
- 7.) THE DEVELOPER SHALL BE RESPONSIBLE FOR THE RESURFACING OF 16TH STREET SE FROM STATION 10+00 TO 17+00. RESURFACING SHALL CONSIST OF GRINDING/MILLING FULL WIDTH PAVEMENT TO A DEPTH OF 1 1/2" AND PAVING FULL WIDTH PAVEMENT WITH 1 1/2" OF ODOT SPEC 448 SURFACE COURSE. END JOINTS SHALL BE SEALED WITH LIQUID ASPHALT. CONTRACTOR SHALL NOTIFY THE CITY ENGINEER'S OFFICE AT LEAST 48 HOURS IN ADVANCE OF MILLING AND/OR PAVING TAKING PLACE.



REVISIONS	
Δ	
Δ	
Δ	
Δ	
Δ	
Δ	ADDED STORM ON 16TH ST
Δ	CITY OF MASSILLON COMMENTS

BRYAN J. ASHMAN

COOPER & ASSOCIATES, LLP
ENGINEERS AND SURVEYORS

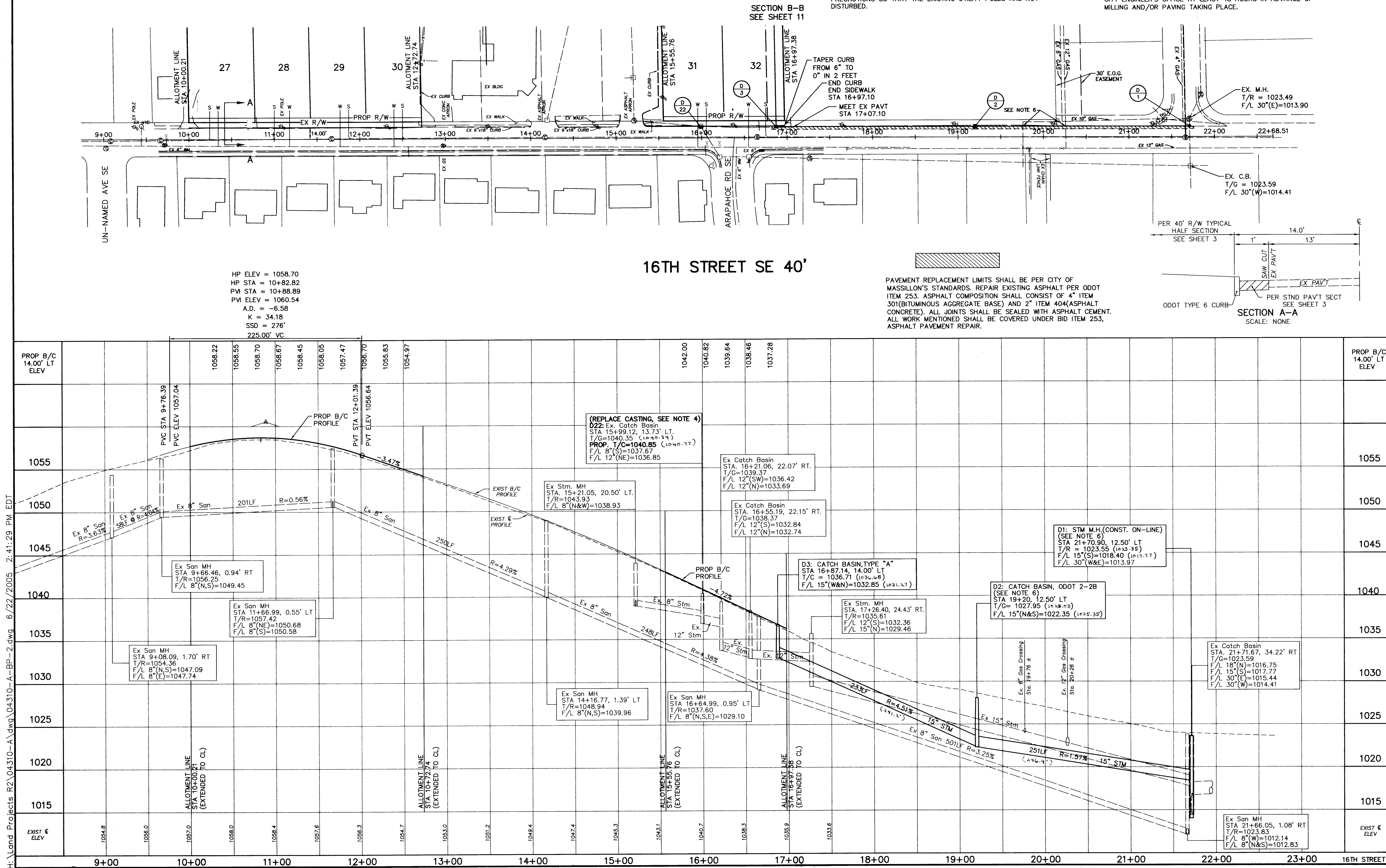


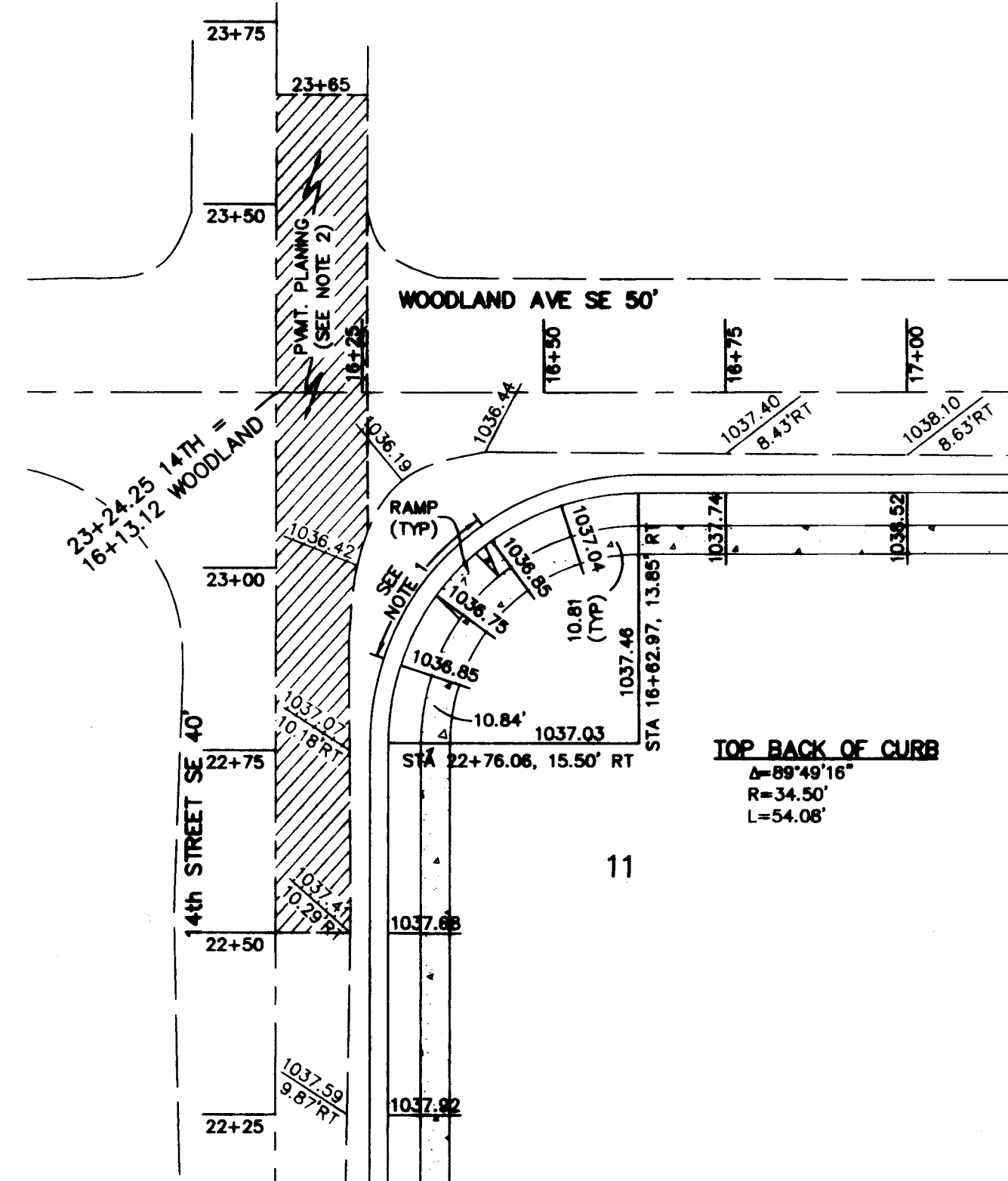
1359 MARKET
AVENUE, NORTH
CANTON, OHIO

FOR: MASSILLON HOMES, LLC

FOR: MASSILLON HOMES, LLC

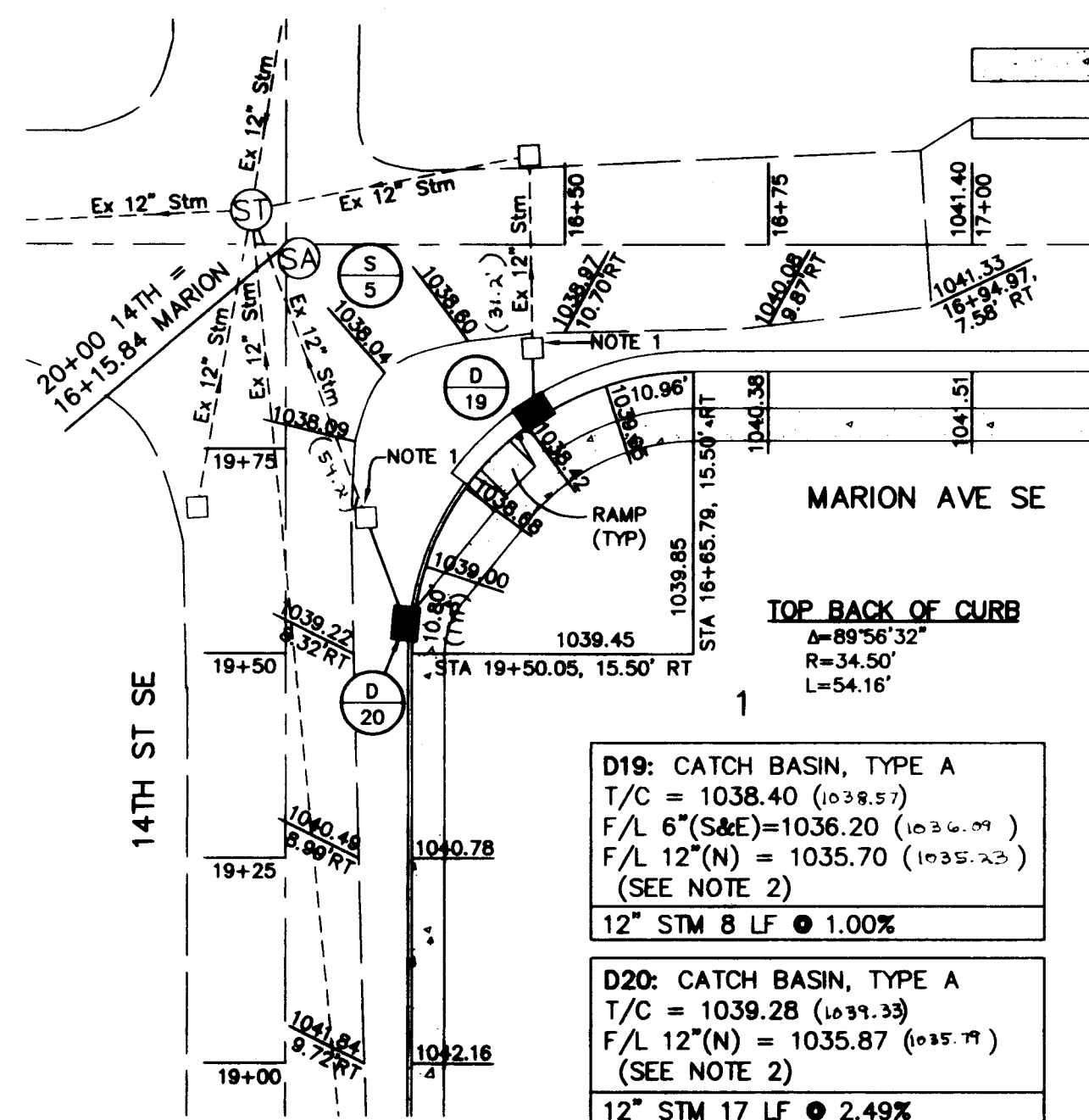
DRAWN BY: MJL
CHECKED BY: BJA
FIELD BOOK No. _____
DATE 2/14/2005
SHEET
7A OF **14**
PROJ. # **04310A**





Ex Stm MH
 STA. 20+04.19, 4.26' LT.
 STA. 16+11.59, 4.19' LT.
 T/R=1037.51
 F/L 12"(N)=1033.17
 F/L 12"(S)=1033.11
 F/L 12"(W)=1033.70
 F/L 12"(SE)=1034.45
 F/L 12"(E)=1033.69
 F/L 12"(W)=1032.26

Ex Catch Basin
 STA. 16+45.66, 10.94' LT
 T/C=1038.22
 F/L 12"(W,S)=1035.39 ✓



D19: CATCH BASIN, TYPE A
 T/C = 1038.40 (1038.5)
 F/L 6"(S&E)=1036.20 (1036.0)
 F/L 12"(N) = 1035.70 (1035.25)
 (SEE NOTE 2)
 12" STM 8 LF @ 1.00%

D20: CATCH BASIN, TYPE A
 T/C = 1039.28 (1039.33)
 F/L 12"(N) = 1035.87 (1035.0)
 (SEE NOTE 2)
 12" STM 17 LF @ 2.49%

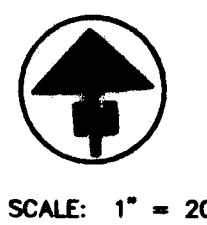
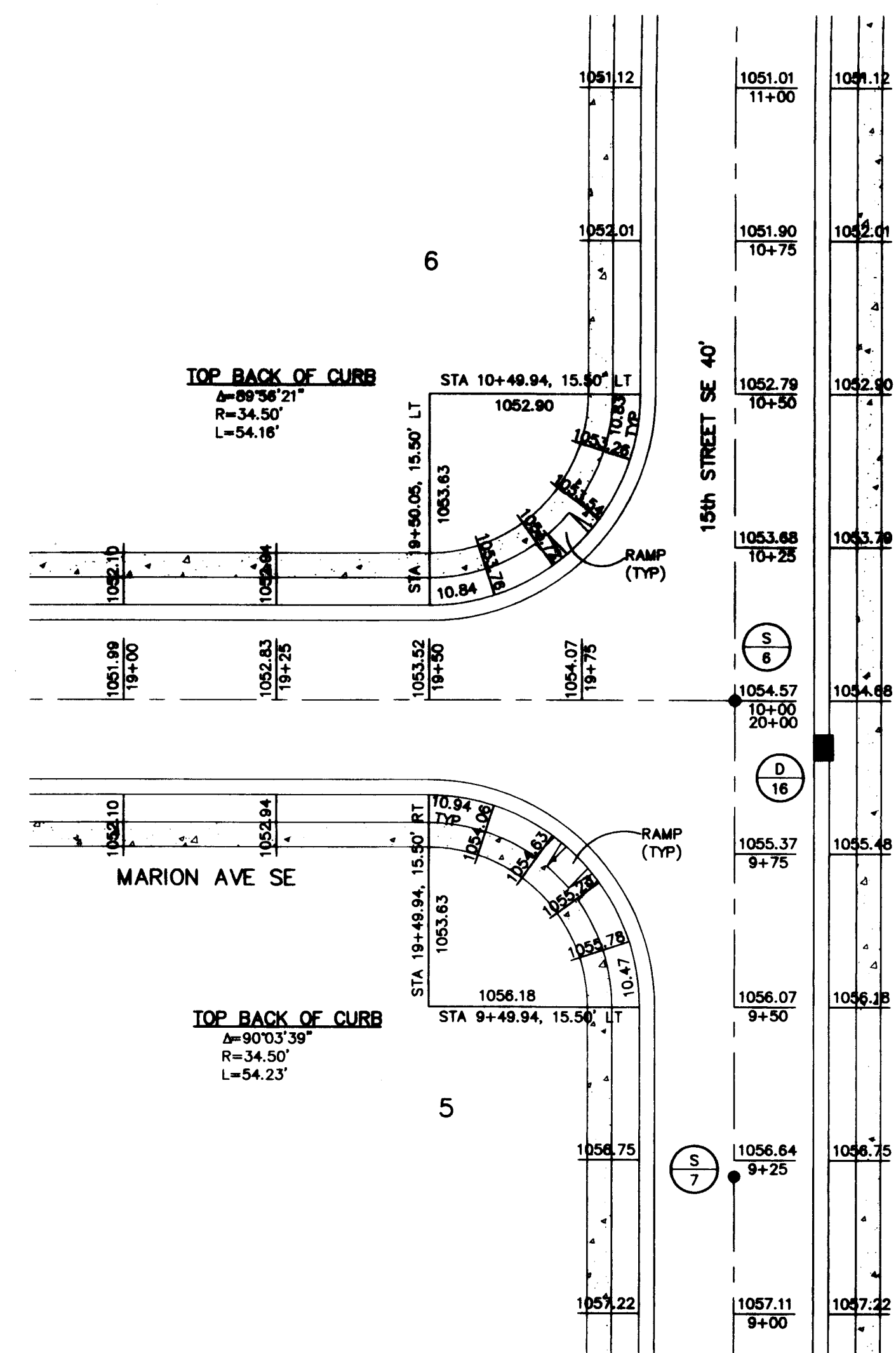
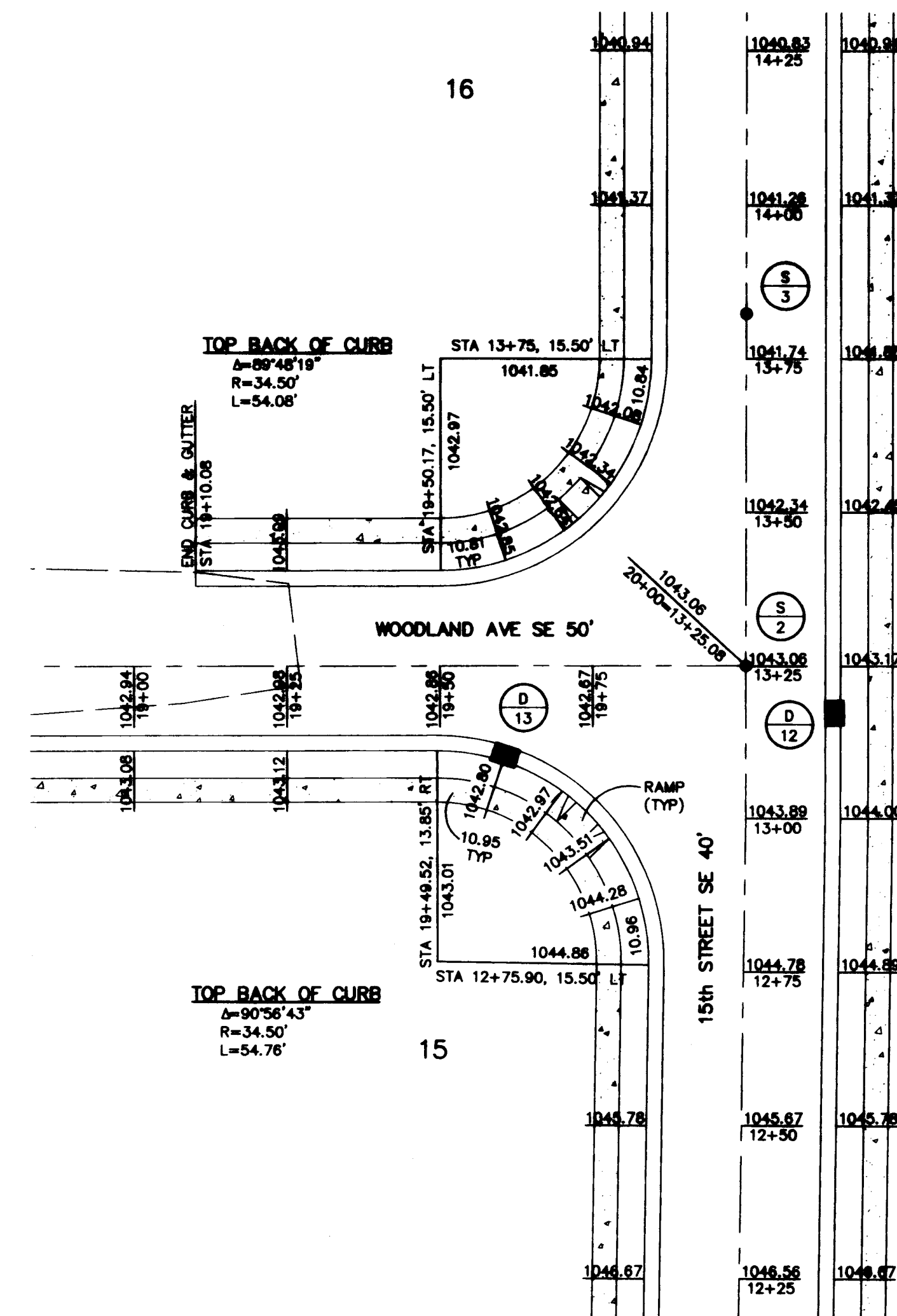
Ex Catch Basin
 STA. 16+45.07, 12.65' RT
 T/C=1038.45
 F/L 12"(N)=F.O.S.

Ex Catch Basin
 STA. 18+56.61, 10.21' RT
 T/C=1044.48
 F/L 12"(W,N)=1041.28

- NOTES
- 1.) REMOVE EX CATCH BASIN AND CONNECT TO EX 12" STM. WITH A CONCRETE COLLAR
 - 2.) CONTRACTOR SHALL ACQUIRE EXISTING 12" PIPE INVERT ELEVATIONS. SHOULD THE RATES IN THE EXISTING PIPES NOT EQUAL THE PROP. RATES, CONTACT THE PROJECT ENGINEER FOR DIRECTION.

GENERAL NOTE:
 FOR HANDICAP RAMP DETAIL, SEE SHEET 3

- NOTES:
- 1.) TRANSITION GUTTER TO REVERSE SLOPE TO FORCE DRAINAGE TO ROADWAY.
 - 2.) WITHIN THE CROSS HATCHED AREA, THE CONTRACTOR SHALL PLANE THE EXISTING ASPHALT IN ACCORDANCE WITH ODOT ITEM 254 IN SUCH A MANNER TO RECREATE A PAVEMENT CROWN AT CENTERLINE WITH A MINIMUM CROSS SLOPE OF 2.00%. THE CONTRACTOR SHALL THEN SURFACE PATCH THE PLANNED AREA WITH 4" OF BITUMINOUS AGGREGATE BASE (ODOT ITEM 301) AND 1.5" OF ASPHALT CONCRETE SURFACE (ODOT ITEM 404). THE SURFACE PATCHING SHALL BE INCLUDED IN THE BID PRICE FOR THE PAVEMENT PLANING.



SCALE: 1" = 20'

REVISIONS

NO.	DATE	BY	CHKD.	APP'D.	REVISION
1	6/21/05	MAL			ADDED STATION ON 16TH ST
2	6/22/05	BJA			ADDED STATION ON 15TH ST
3	6/22/05	BJA			ADDED STATION ON 14TH ST
4	6/22/05	BJA			ADDED STATION ON 13TH ST
5	6/22/05	BJA			ADDED STATION ON 12TH ST
6	6/22/05	BJA			ADDED STATION ON 11TH ST
7	6/22/05	BJA			ADDED STATION ON 10TH ST
8	6/22/05	BJA			ADDED STATION ON 9TH ST
9	6/22/05	BJA			ADDED STATION ON 8TH ST
10	6/22/05	BJA			ADDED STATION ON 7TH ST
11	6/22/05	BJA			ADDED STATION ON 6TH ST
12	6/22/05	BJA			ADDED STATION ON 5TH ST
13	6/22/05	BJA			ADDED STATION ON 4TH ST
14	6/22/05	BJA			ADDED STATION ON 3TH ST
15	6/22/05	BJA			ADDED STATION ON 2TH ST
16	6/22/05	BJA			ADDED STATION ON 1TH ST

BRYAN J. ASHMAN
 JEROLD E. GEIB

COOPER & ASSOCIATES, LLP
 ENGINEERS AND SURVEYORS

735 MARKET
 AVENUE, FORT
 CANTON, OHIO
 44704

PLAN AND PROFILE & INTERSECTION DETAILS

BALLINGER ESTATES

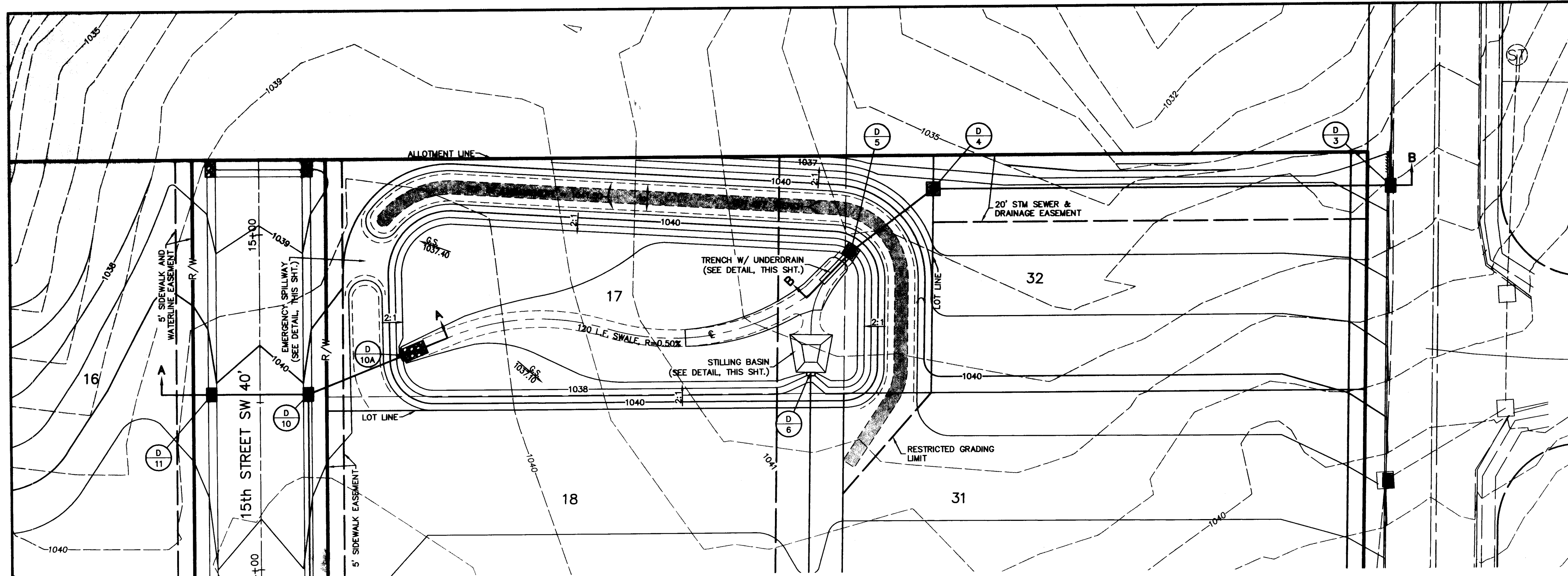
FOR: MASSILLON HOMES, LLC

DRAWN BY: MAL
 CHECKED BY: BJA
 FIELD BOOK No.
 DATE 6/24/2005

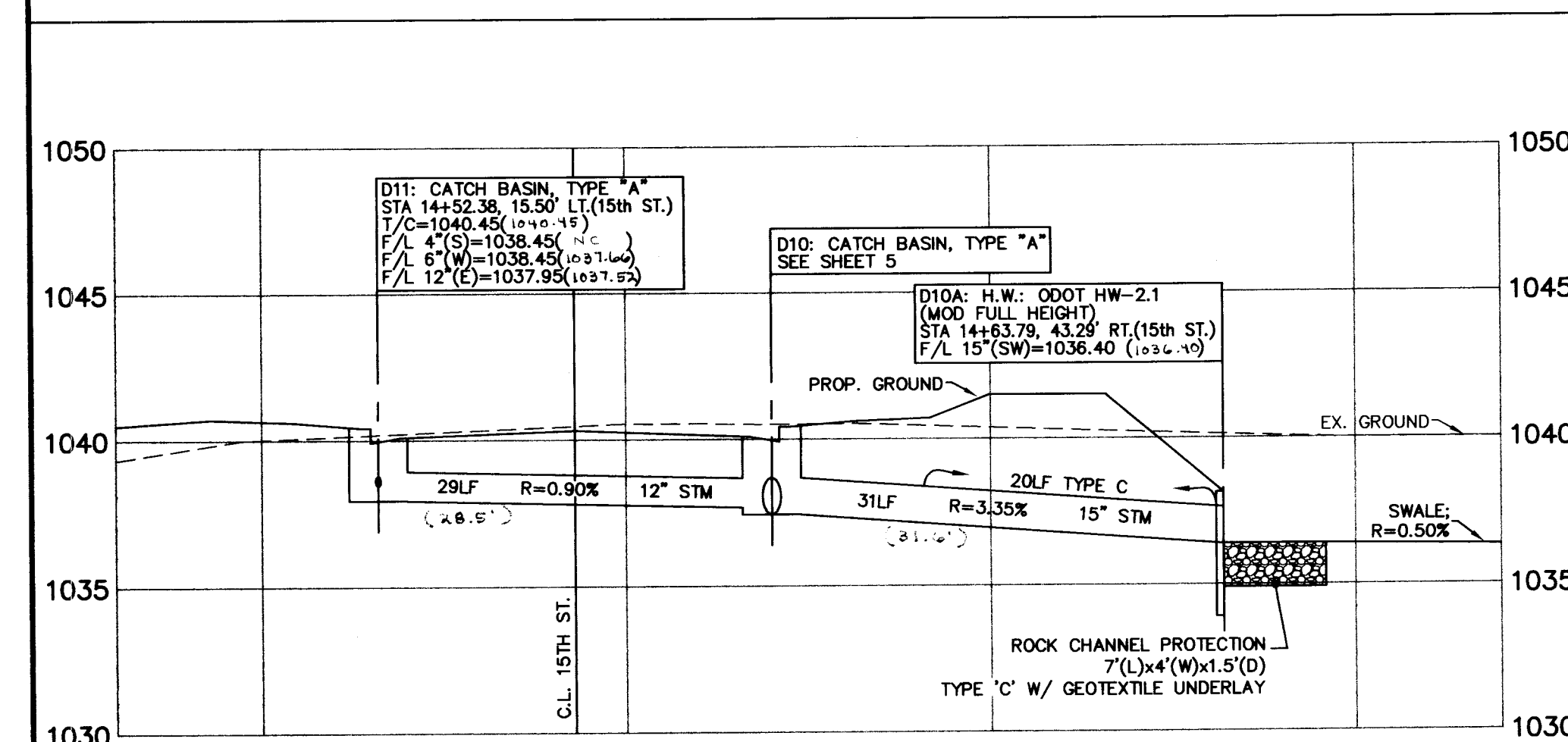
8 of 14

BASELINE 'C' & INTERSECTION DETAILS

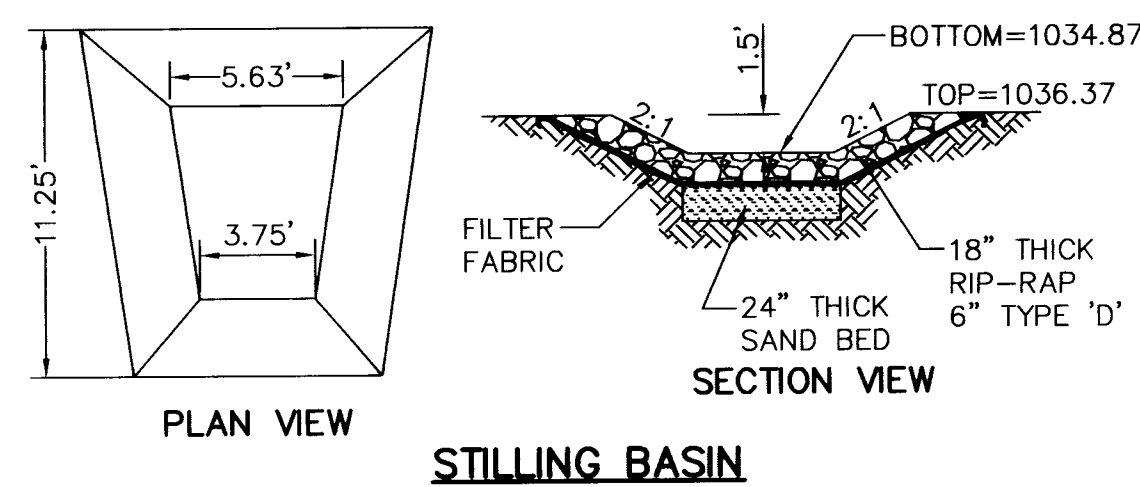
PROJ# 04310A



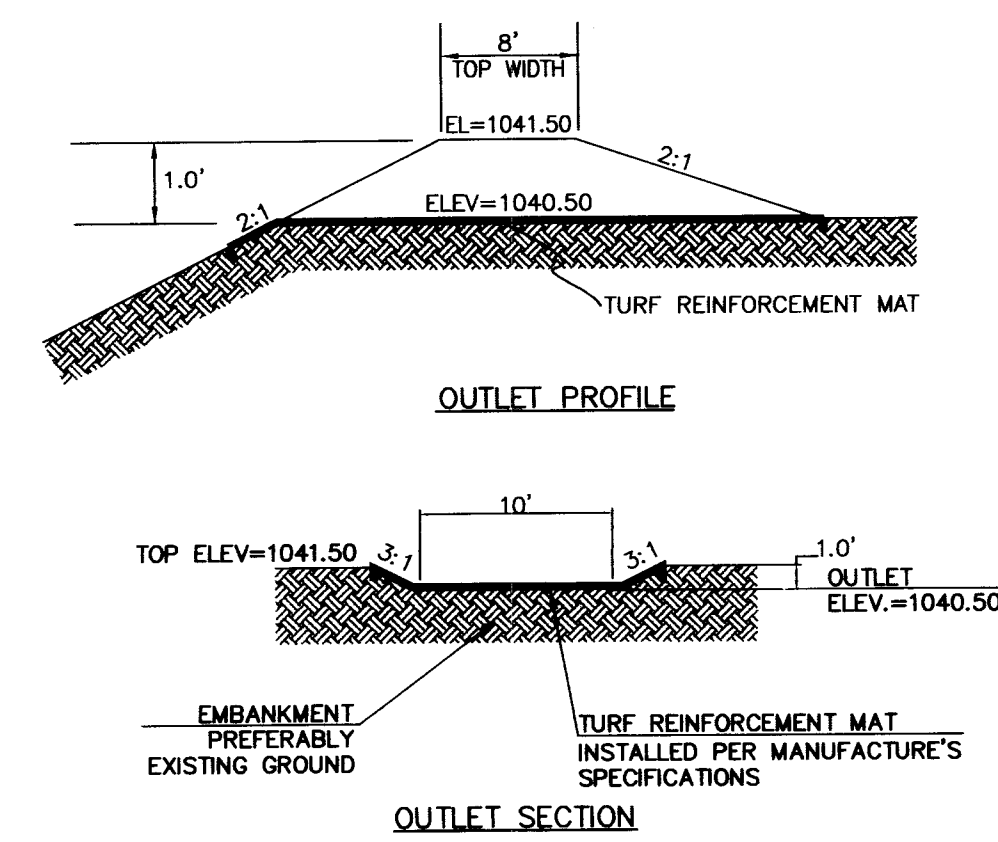
DETENTION BASIN: PLAN VIEW
SCALE: 1" = 20'



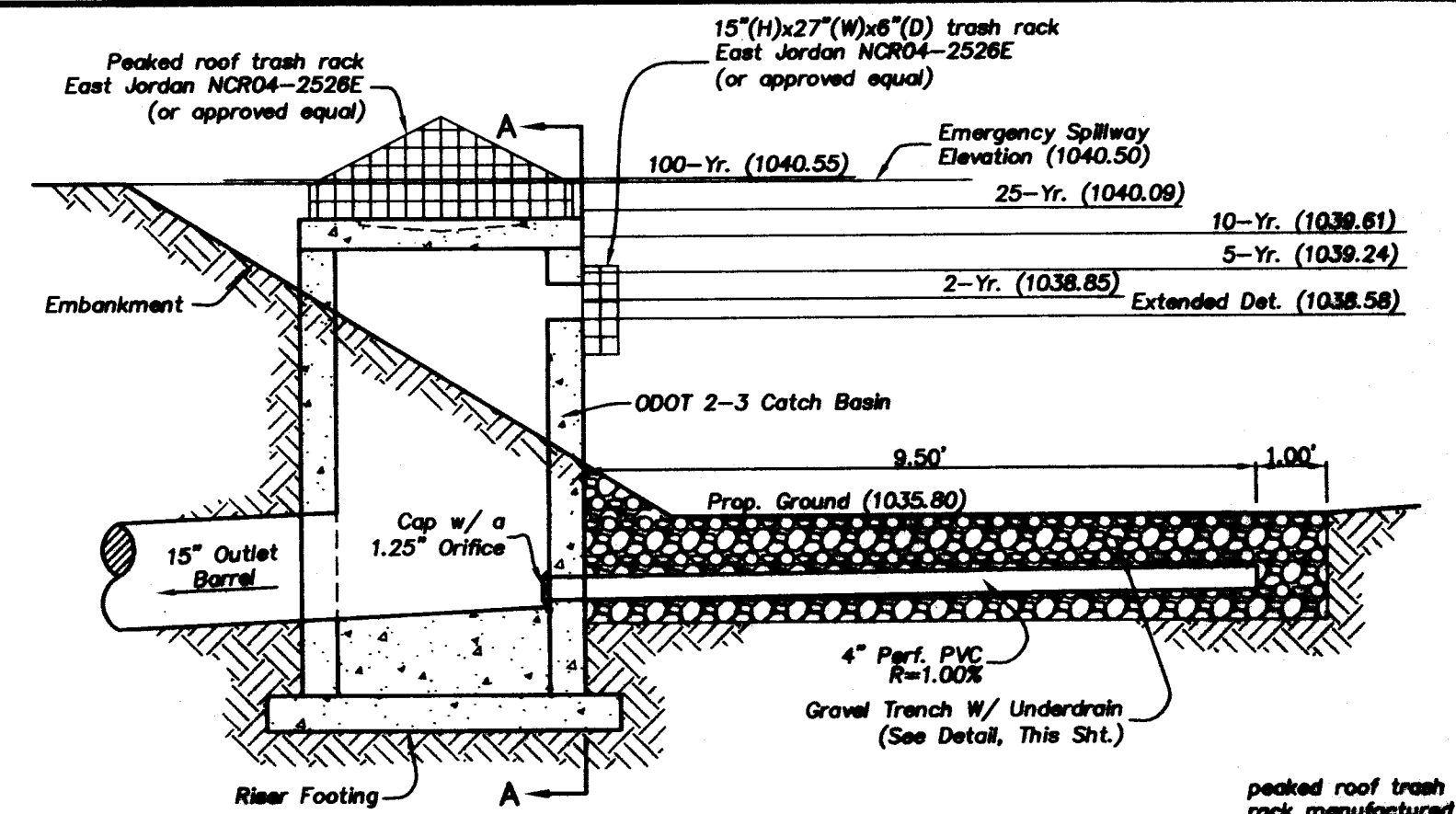
SECTION A-A
SCALE: HORIZ. 1" = 10'
VERT. 1" = 5'



STILLING BASIN

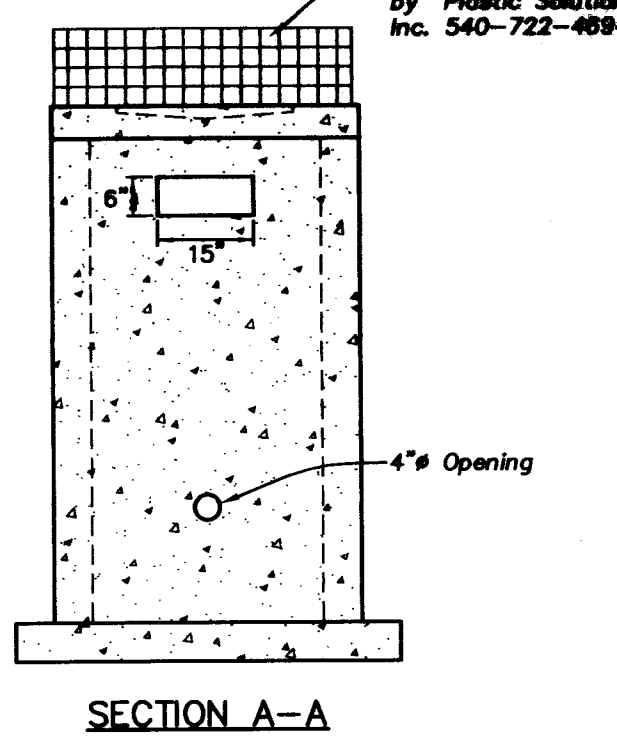


DETENTION BASIN - EMERGENCY SPILLWAY



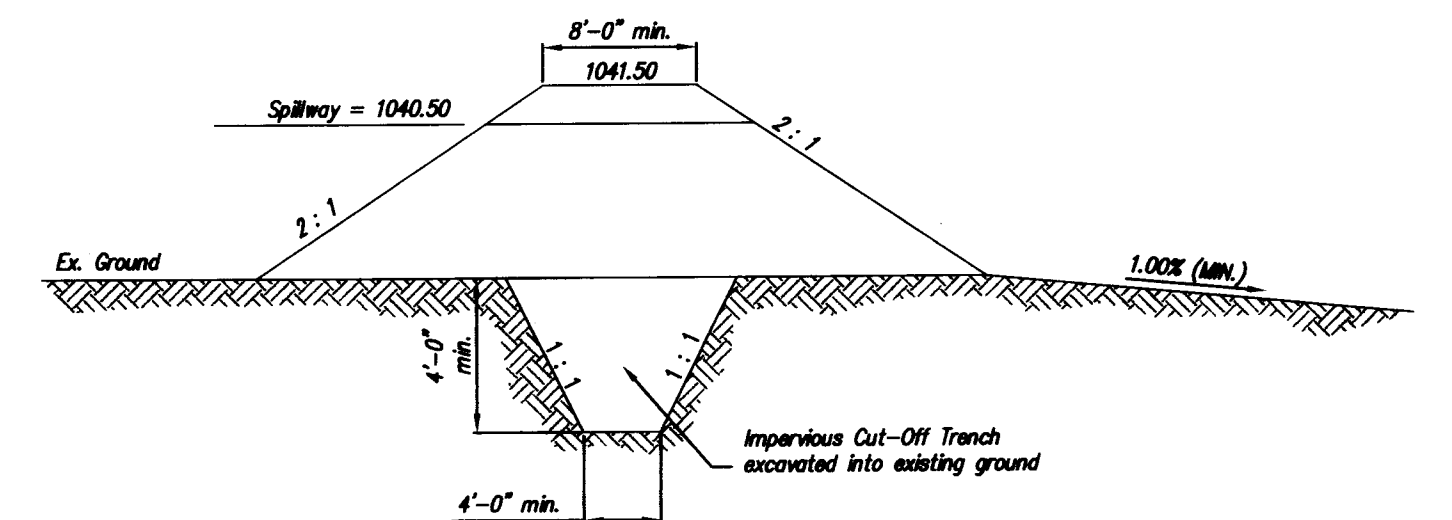
MULTI-STAGE RISER DATA:

Riser specification	ODOT 2-3, MOD. AS SHOWN
T/Grate elevation	1040.00
T/Footer elevation	1033.30
Footer dimensions	60" x 60" x 6" thick
Outlet barrel specification	15" CONDUIT
Outlet barrel elevation	1034.38
Orifice diameter	1.25"
Outlet pipe specification	4" Par. PVC Per ODOT Item 707.41
1 1/2" Orifice invert elevation	1034.75
4" pipe invert elev. @ C.B.	1034.63
2, 5 & 10 YEAR CONTROL DATA	
Control specification	1 SIDED, 6"(H)x1.25"(W) WEIR/ORIFICE
Control invert	1038.58
Height of opening	6"
25 & 100 YEAR CONTROL DATA	
Control specification	TOP OF GRATE
Control invert	1040.00
Emergency spillway elevation	1040.50



SECTION A-A

MULTI-STAGE RISER DETAIL



DETENTION BASIN EMBANKMENT TYPICAL SECTION

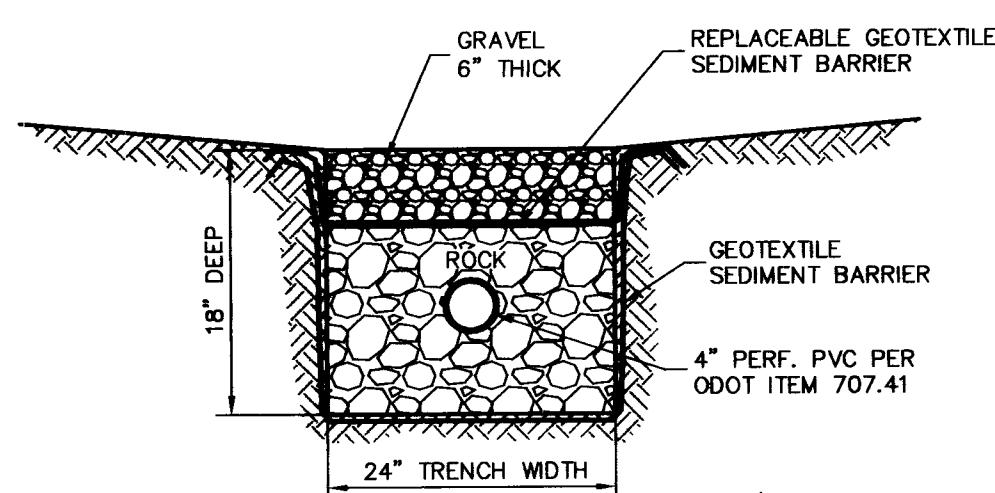
DETENTION BASIN SUMMARY					
DESIGN FREQUENCY (Years)	2	5	10	25	100
PEAK INFLOW (cfs)	7.69	10.73	13.15	16.42	22.68
DETAINED PEAK DISCHARGE (cfs)	0.78	2.08	2.79	5.31	13.42
PEAK WATER SURFACE ELEV.	1038.89	1039.29	1039.69	1040.14	1040.60
STORAGE VOLUME PROVIDED (cf)	11,700	14,500	17,200	20,800	24,600

WATER QUALITY SUMMARY

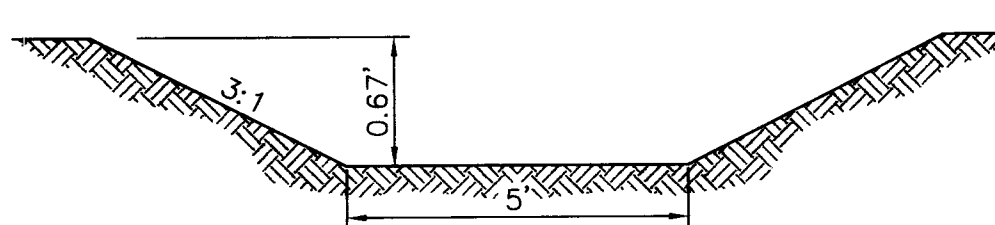
PRACTICES BEING UTILIZED = STILLING BASIN, VEGETATED SWALE & 48 HR. EXT. DETENTION
WATER QUALITY VOLUME REQ. = 8,000 CF
2,000 CF (ADD. FOR SEDIMENT)
WQv PROVIDED FOR EXT. DETENTION = 10,000 CF

GENERAL NOTES:

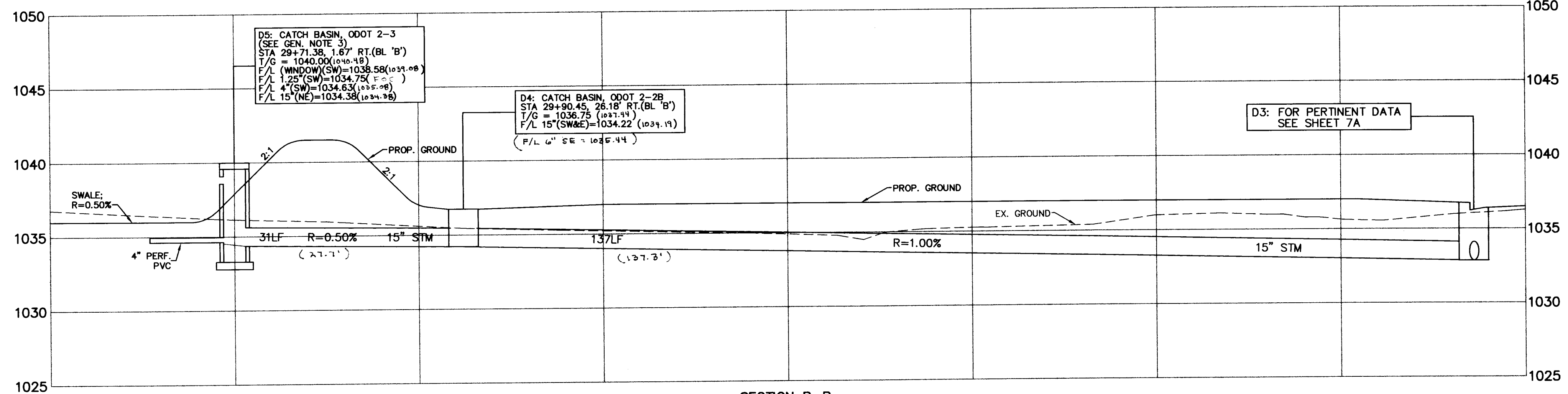
- FOR DETENTION BASIN NOTES AND SPECIFICATIONS, REFER TO SHEET 12.
- THE DETENTION BASIN SHOWN SHALL BE MODIFIED FOR SEDIMENT TRAPPING CAPABILITIES AND BE OPERATIONAL BEFORE UPSLOPE LAND DISTURBANCE BEGINS. SEE EROSION CONTROL PLANS FOR DETAILS AND DESCRIPTIONS ON HOW TO MODIFY THE OUTLET STRUCTURE FOR SEDIMENT TRAPPING CAPABILITIES.
- WHEN THE 2-3 CATCH BASIN (CONTROL STRUCTURE) FOR THE DETENTION BASIN IS INSTALLED, THE CONTRACTOR SHALL NOT INSTALL THE GRAVEL TRENCH WITH THE 4" PERFORATED UNDERDRAIN, ONCE THE SEDIMENT BASIN IS NO LONGER NEEDED AND APPROVAL FROM STARK COUNTY SOIL AND WATER CONSERVATION DISTRICT TO REMOVE THE SEDIMENT BASIN IS ACQUIRED, THE CONTRACTOR SHALL THEN GRADE THE BASIN TO THE ELEVATIONS REPRESENTED ON THIS PLAN AND INSTALL THE GRAVEL TRENCH AND UNDERDRAIN PER THE DETAIL ON THIS SHEET.



GRAVEL TRENCH W/ UNDERDRAIN



DRAINAGE SWALE W/IN BASIN



SECTION B-B
SCALE: HORIZ. 1" = 10'
VERT. 1" = 5'

DETENTION BASIN PLAN AND DETAILS

REVISIONS

NO.	DATE	DESCRIPTION
1	07/17/05	ADDED STAKE ON 16TH ST
2	07/17/05	ADDED STAKE ON 16TH ST
3	07/17/05	ADDED STAKE ON 16TH ST

COOPER & ASSOCIATES, LLP
ENGINEERS AND SURVEYORS
BRYAN J. ASHMEAD
JEROLD E. GIBB
1389 MARKET AVENUE NORTH
CANTON, OHIO 44714
PHONE (330) 452-5731
FAX No (330) 452-9110

BALLINGER ESTATES
FOR: MASSILLON HOMES, LLC

DRAWN BY: BDB
CHECKED BY: BJA
FIELD BOOK No.:
DATE 2/14/2005
SHEET 11 OF 14
PROJ # 04310A

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