

COUNTRY CLUB VILLAGE OF ROCHESTER HILLS

FINAL SITE PLAN FOR ONE-FAMILY DETACHED CONDOMINIUMS CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN (PHASE 2)

SHEET INDEX

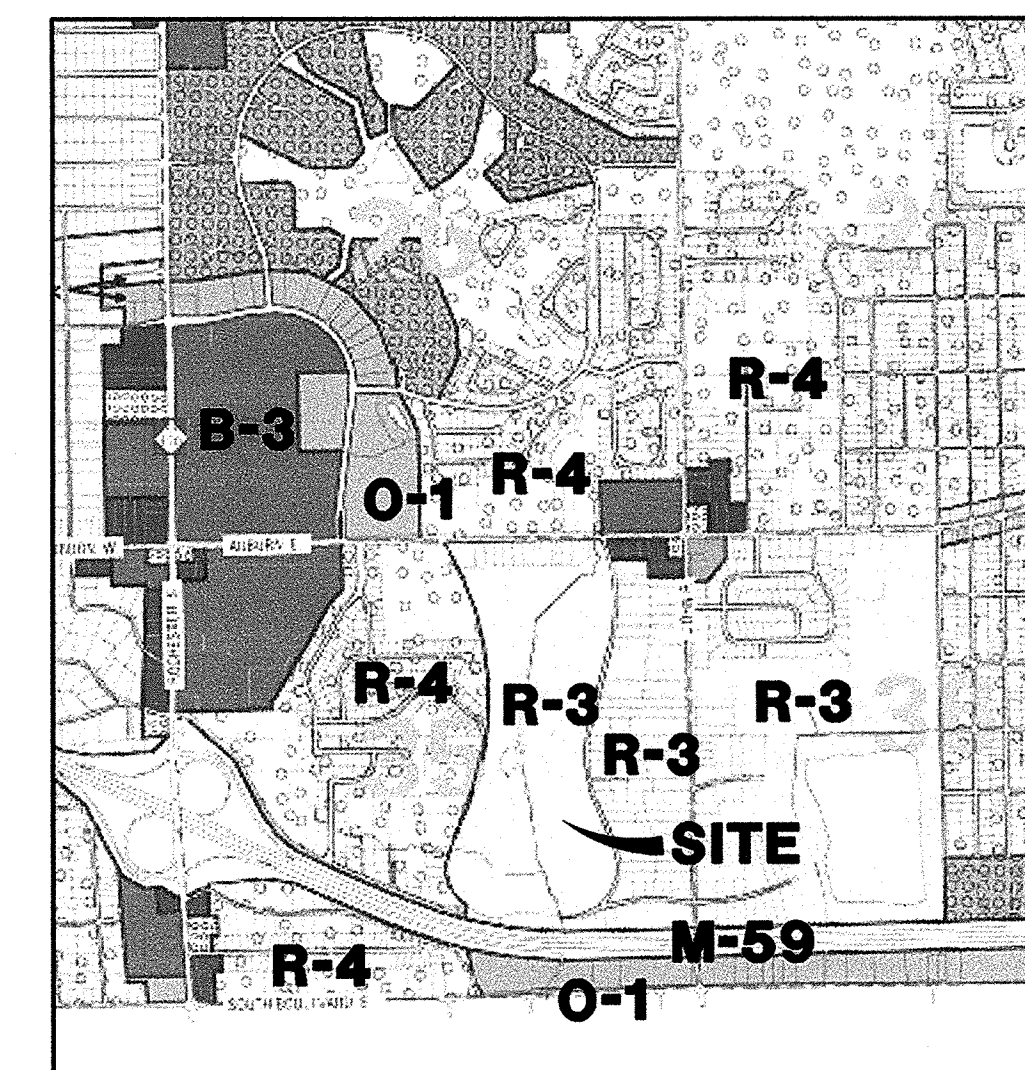
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3. Existing Conditions & Removals
4. Existing Conditions & Removals
5. Dimensional Site Plan
6. Dimensional Site Plan
7. Utility Plan
8. Utility Plan
9. Overall Grading Plan (entire site)
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27. Sanitary Sewer & Watermain Plan & Profile Hogan Cir. 9+00 to End
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36. Road & Storm Sewer Plan & Profile Connors Drive 25+00 to 33+00
37. Road & Storm Sewer Plan & Profile Connors Drive 33+00 to 42+00
38. Road & Storm Sewer Plan & Profile Connors Drive 42+00 to 51+00
39. Road & Storm Sewer Plan & Profile Connors Drive 51+00 to End
40. Road & Storm Sewer Plan & Profile Hogan Cir. 0+00 to 9+00
41. Road & Storm Sewer Plan & Profile Hogan Cir. 9+00 to End
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69. Watermain Details
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71. Bendelow Walk Plan
72. Natural Features Plan
73. Natural Features Plan
74. Phasing/Open Space Plan

OWNER/DEVELOPER

EAST COURSE LIMITED PARTNERSHIP
40900 WOODWARD AVE., SUITE 130
BLOOMFIELD HILLS, MI. 48304
TELE.: (248) 540-8040

ENGINEER

MIDWESTERN CONSULTING, L.L.C.
3815 PLAZA DRIVE
ANN ARBOR, MI. 48108
TELE.: (734) 995-0200



EXIST. ZONING & SITE AREA MAP

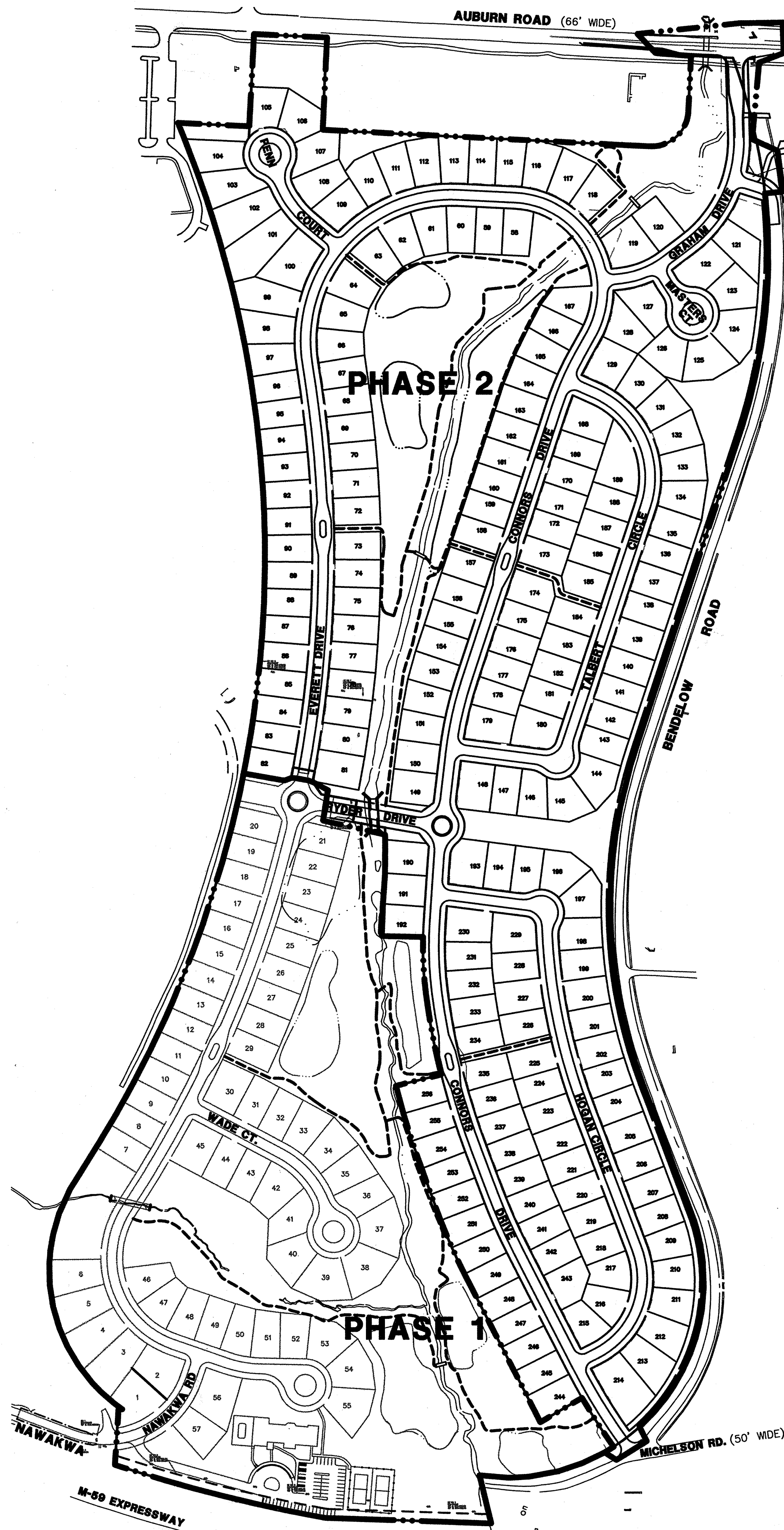
SCALE: 1" = 200'

OAKLAND COUNTY DRAIN COMMISSION - FERRY DRAIN IMPROVEMENT PLANS

- D1. Ferry Drain Plan - Overall South 1/2
- D2. Ferry Drain Plan - Overall North 1/2
- D3. Ferry Drain Access & Grading Plan
- D4. Ferry Drain Access & Grading Plan
- D5. Ferry Drain Access & Grading Plan
- D6. Ferry Drain Access & Grading Plan
- D7. Ferry Drain Profile
- D8. Ferry Drain Profile
- D9. Ferry Drain Cross Sections
- D10. Ferry Drain Cross Sections
- D11. Ferry Drain Cross Sections
- D12. Ferry Drain Construction Details
- D13. Ferry Drain Redignment Details
- D14. Ryder Drive Culvert Crossing Site Plan
- D15. Everett Drive Culvert Crossing Site Plan

PLANS PREPARED BY ROBERT LEIGHTON AND ASSOCIATES

- L1 PHASE 2 LANDSCAPE PLAN/DRAIN IMPROVEMENT PLAN
- L2 PHASE 2 LANDSCAPE PLAN/DRAIN IMPROVEMENT PLAN
- L3 PHASE 2 LANDSCAPE PLAN/DRAIN IMPROVEMENT PLAN
- L4 PHASE 2 LANDSCAPE PLAN/DRAIN IMPROVEMENT PLAN
- L5 PHASE 2 LANDSCAPE PLAN/DRAIN IMPROVEMENT PLAN
- L6 AUBURN ROAD ENTRY PLAN
- L7 AUBURN ROAD WALL DETAILS
- L8 AUBURN ROAD ENTRY PLAN
- TL1 TREE REPLACEMENT CHART
- TL2 TREE REPLACEMENT CHART
- TL3 TREE REPLACEMENT CHART
- TL4 TREE REPLACEMENT CHART
- TL5 TREE REPLACEMENT CHART



OVERALL SITE PLAN

SCALE: 1" = 200'



PERMIT / APPROVALS	DATE
MDEQ PERMIT #03-63-0092-P (FLOODPLAIN / INLAND LAKES & STREAMS)	9-16-03
CITY OF ROCHESTER HILLS - FLOODPLAIN USE PERMIT	10-1-03

CITY FILE NO. 97-004.2, SECTION NO. 35

COUNTRY CLUB VILLAGE

JOB No. 02325

REVISIONS:	REV. DATE	DATE: 9-30-04
PER CITY / OHM REVIEW	12-19-04	SHEET 1 OF 74
PER CITY / OHM REVIEW	02-12-04	
PER 03-18-04 OHM & CITY REVIEW	04-02-04	CADD: SRG,WJF,JC
PER 04-01-04 ODDC SEC. REVIEW	04-02-04	ENG: JCA,MJR,DDM
PER 04-23-04 ODDC MEETING	05-10-04	PM: DMB
PER 05-12-04 CITY REVIEW	06-02-04	TECH:
PER 05-27-04 CITY MEETING	06-03-04	CNSTZ/02325CV2
PER 06-07-04 ODDC MEETING NOTES	06-10-04	

MIDWESTERN CONSULTING

Civil, Environmental and Transportation Engineers
Planners, Surveyors
Landscape Architects

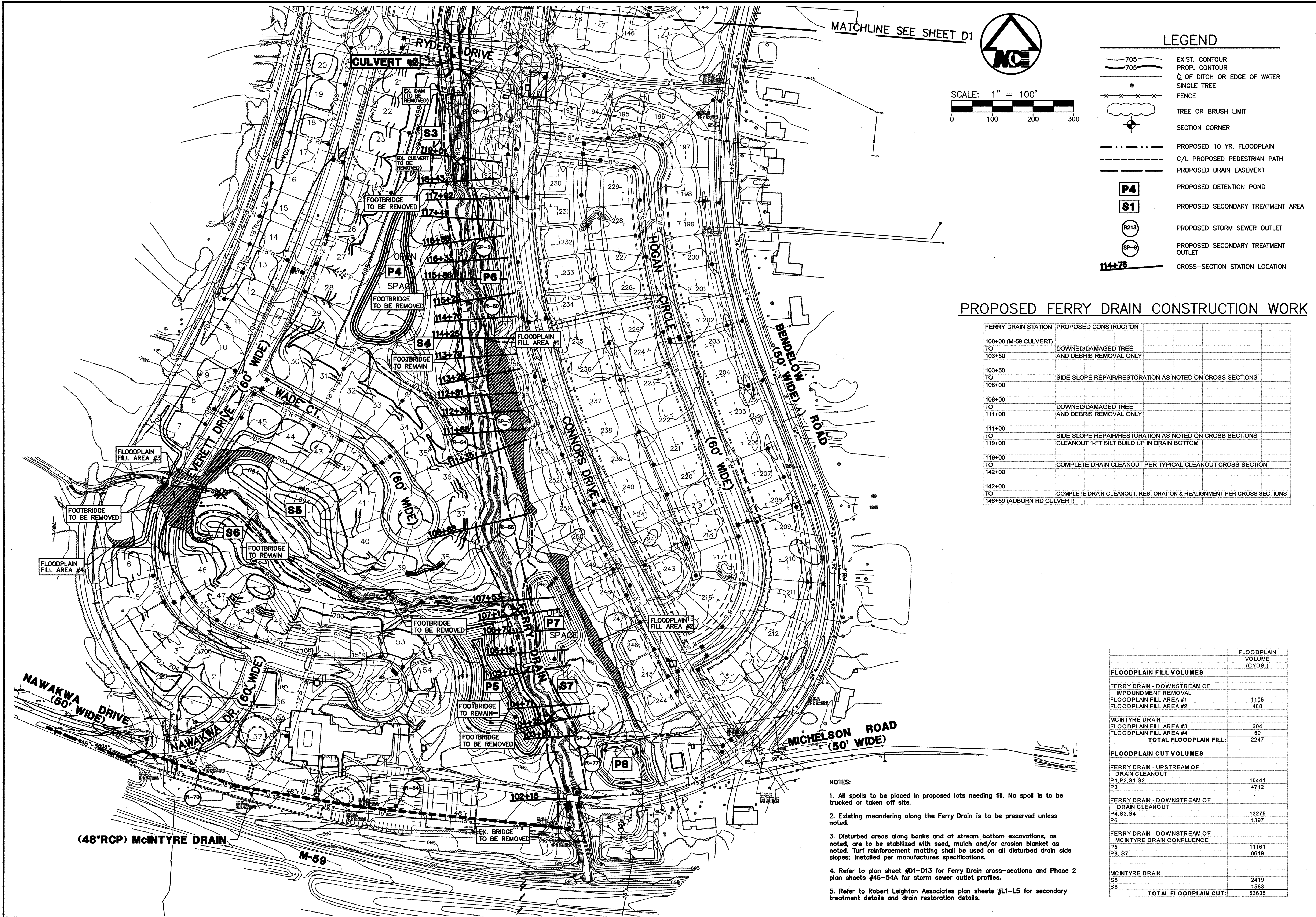
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Phone: 734.995.0200
Fax: 734.995.0599

RELEASED FOR:	DATE

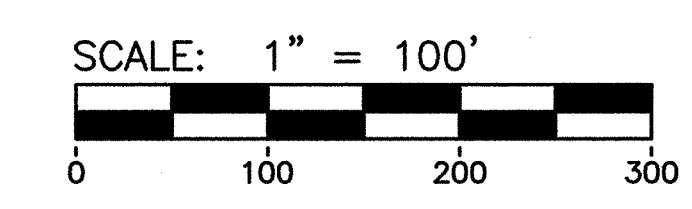
DENNIS D. MCKEE, P.E.
NO. 40073

1

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MATCHLINE SEE SHEET D1



LEGEND

- EXIST. CONTOUR
- PROP. CONTOUR
- C. OF DITCH OR EDGE OF WATER
- SINGLE TREE
- FENCE
- TREE OR BRUSH LIMIT
- SECTION CORNER
- PROPOSED 10 YR. FLOODPLAIN
- C/L PROPOSED PEDESTRIAN PATH
- PROPOSED DRAIN EASEMENT
- PROPOSED DETENTION POND
- PROPOSED SECONDARY TREATMENT AREA
- PROPOSED STORM SEWER OUTLET
- PROPOSED SECONDARY TREATMENT OUTLET
- CROSS-SECTION STATION LOCATION

PROPOSED FERRY DRAIN CONSTRUCTION WORK

FERRY DRAIN STATION	PROPOSED CONSTRUCTION
100+00 (M-59 CULVERT)	
TO 103+50	DOWNED/DAMAGED TREE AND DEBRIS REMOVAL ONLY
103+50 TO 108+00	SIDE SLOPE REPAIR/RESTORATION AS NOTED ON CROSS SECTIONS
108+00 TO 111+00	DOWNED/DAMAGED TREE AND DEBRIS REMOVAL ONLY
111+00 TO 119+00	SIDE SLOPE REPAIR/RESTORATION AS NOTED ON CROSS SECTIONS CLEANOUT 1-FT SILT BUILD UP IN DRAIN BOTTOM
119+00 TO 142+00	COMPLETE DRAIN CLEANOUT PER TYPICAL CLEANOUT CROSS SECTION
142+00 TO 146+59 (AUBURN RD CULVERT)	COMPLETE DRAIN CLEANOUT, RESTORATION & REALIGNMENT PER CROSS SECTIONS

	FLOODPLAIN VOLUME (CYDS.)
FLOODPLAIN FILL VOLUMES	
FERRY DRAIN - DOWNSTREAM OF IMPONDMENT REMOVAL	
FLOODPLAIN FILL AREA #1	1105
FLOODPLAIN FILL AREA #2	488
MCINTYRE DRAIN	
FLOODPLAIN FILL AREA #3	604
FLOODPLAIN FILL AREA #4	50
TOTAL FLOODPLAIN FILL:	2247
FLOODPLAIN CUT VOLUMES	
FERRY DRAIN - UPSTREAM OF DRAIN CLEANOUT	
P1,P2,S1,S2	10441
P3	4712
FERRY DRAIN - DOWNSTREAM OF DRAIN CLEANOUT	
P4,S3,S4	13275
P6	1397
FERRY DRAIN - DOWNSTREAM OF MCINTYRE DRAIN CONFLUENCE	
P5	11161
P8, S7	8619
MCINTYRE DRAIN	
S5	2419
S6	1583
TOTAL FLOODPLAIN CUT:	53605

- NOTES:**
- All spoils to be placed in proposed lots needing fill. No spoil is to be trucked or taken off site.
 - Existing meandering along the Ferry Drain is to be preserved unless noted.
 - Disturbed areas along banks and at stream bottom excavations, as noted, are to be stabilized with seed, mulch and/or erosion blanket as noted. Turf reinforcement matting shall be used on all disturbed drain side slopes; installed per manufactures specifications.
 - Refer to plan sheet #D1-D13 for Ferry Drain cross-sections and Phase 2 plan sheets #46-54A for storm sewer outlet profiles.
 - Refer to Robert Leighton Associates plan sheets #L1-L5 for secondary treatment details and drain restoration details.

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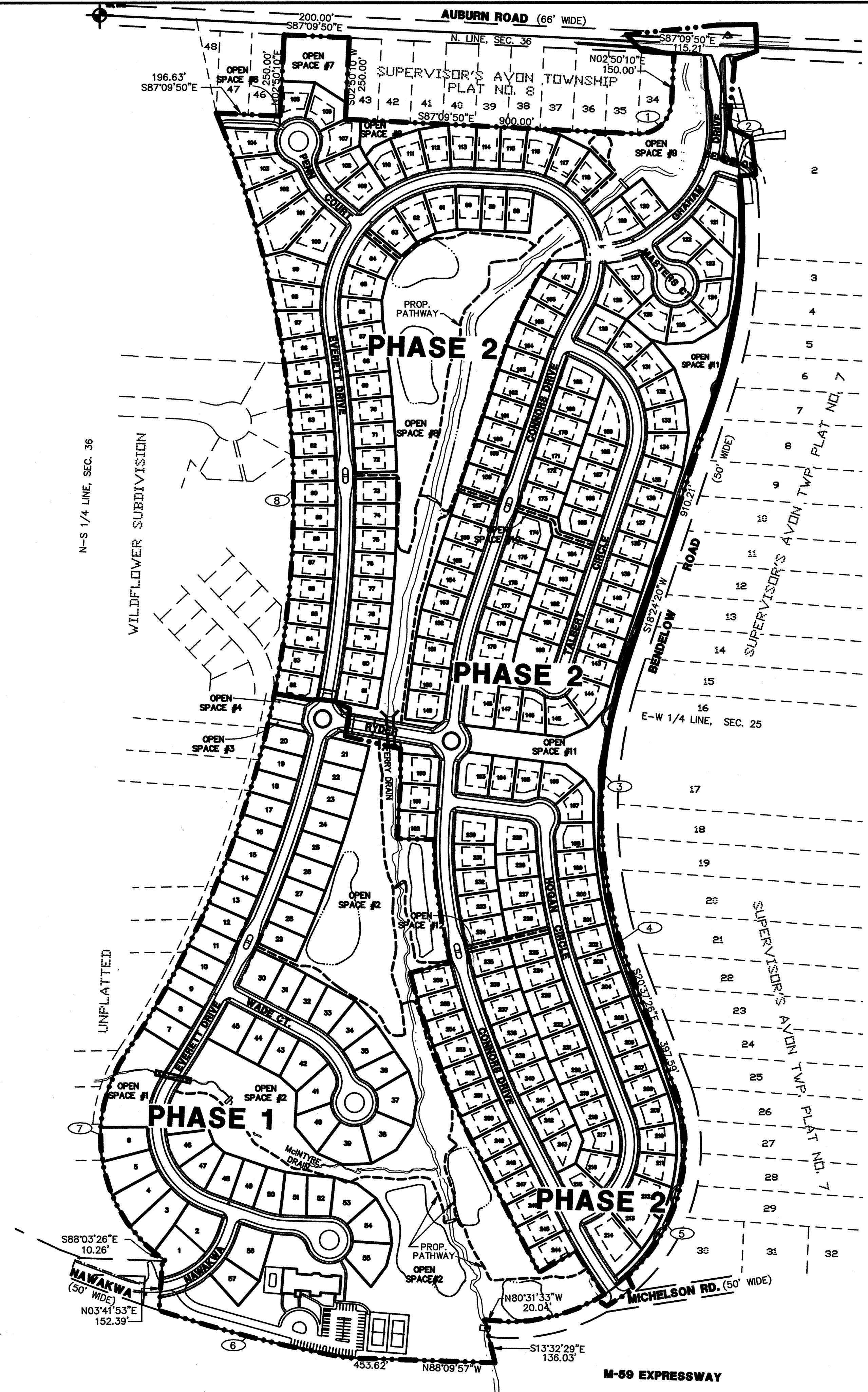
COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
 OCDC - DRAIN IMPROVEMENTS
 FERRY DRAIN PLAN - OVERALL SOUTH 1/2

D1

DATE: 11-17-03
 SHEET: D1 OF D15
 CADD: SRG
 ENG: JGA/TA
 PLS: DMH
 OCDC: Q2325P1
 OCDC: Q2325P2
 OCDC: Q2325P3
 OCDC: Q2325P4
 OCDC: Q2325P5
 OCDC: Q2325P6
 OCDC: Q2325P7
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 OCDC: Q2325P97
 OCDC: Q2325P98
 OCDC: Q2325P99
 OCDC: Q2325P100

JOB No. **02325**

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CONCEPTUAL OPEN SPACE AMENITY PLAN

SCALE: 1" = 200'

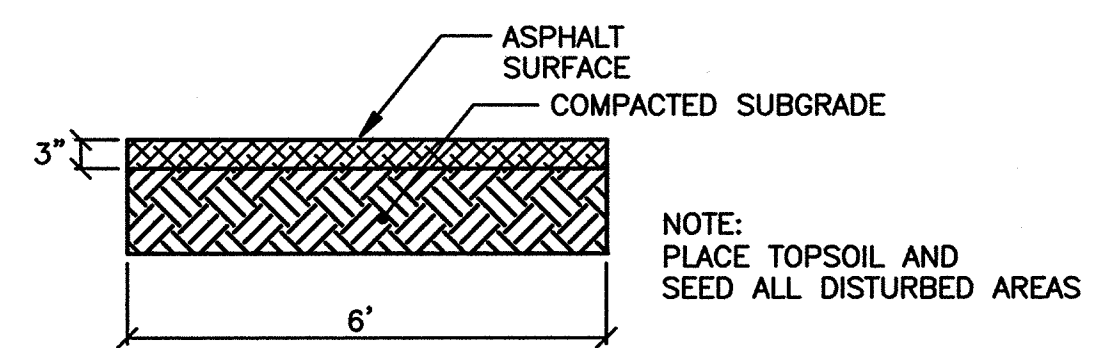


LOT PHASING SUMMARY

Phase	Lots	# Lots	Open Space Acreage	Total Open Space
1	1 to 57	57	20.15	20.15
2	58-256	61	15.47	35.62

OPEN SPACE ACREAGES

Open Space #	Acreage	Phase
1	0.92	1
2	19.14	1
3	0.04	1
4	0.05	1
5	8.80	2
6	0.18	2
7	0.72	2
8	0.26	2
9	2.23	2
10	0.13	2
11	3.03	2
12	0.12	2



(NOTE: USE 8-FT. WIDE ASPHALT PATHWAY WHERE PATHWAY AND O.C.D.C. ACCESS COINCIDE. REFER TO FERRY DRAIN PLAN SHEET #D3-D6)

OPEN SPACE PATHWAY -- SECTION
NOT TO SCALE

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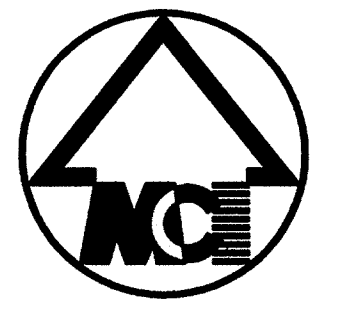
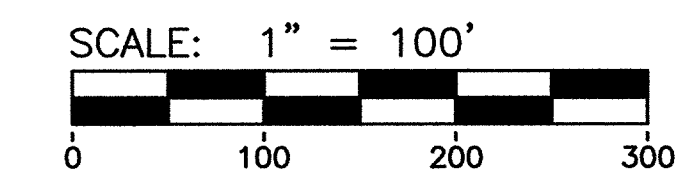
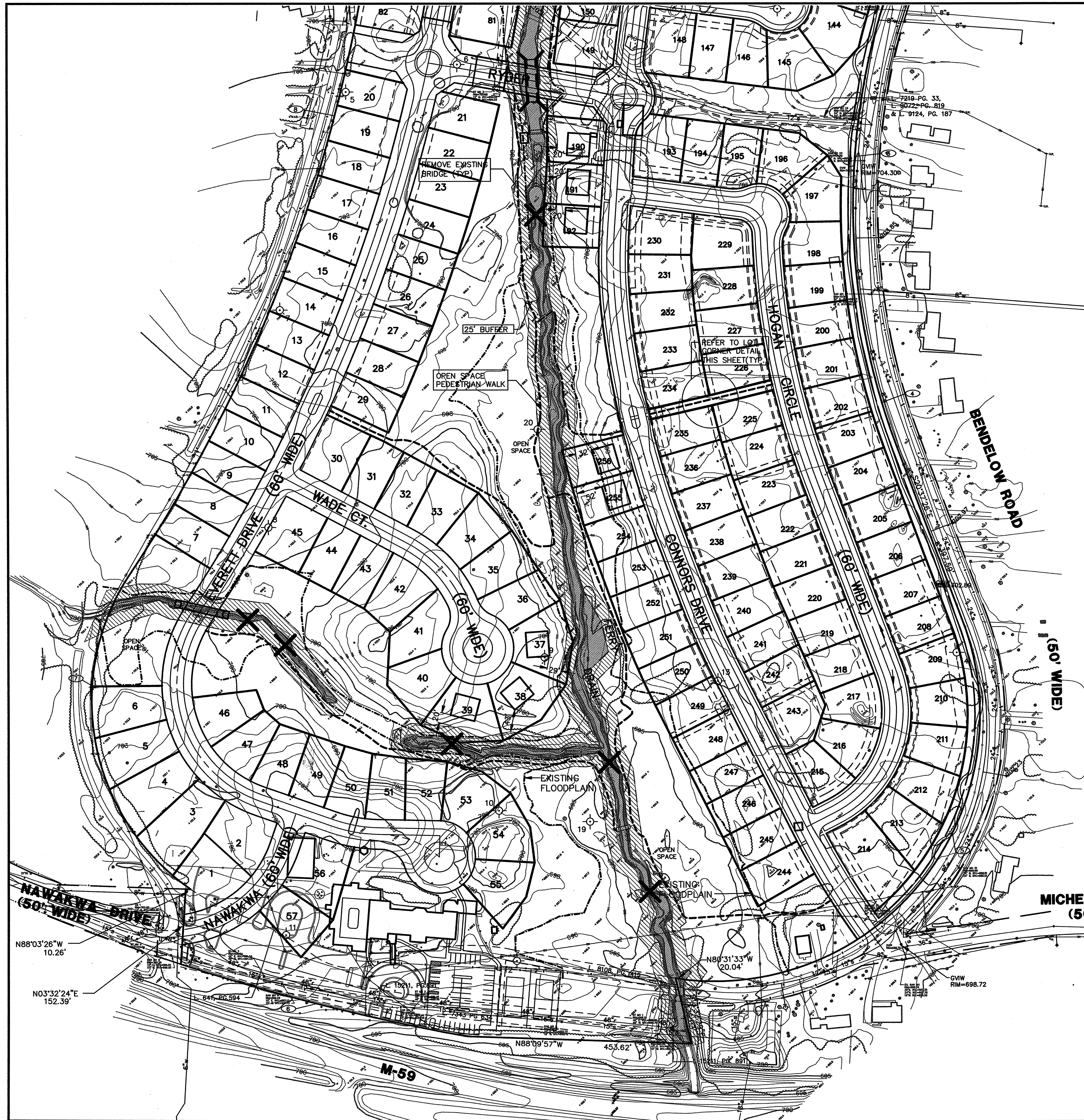
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COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
PHASE 2 - DETAILED CONSTRUCTION PLANS
CONCEPTUAL OPEN SPACE AMENITY AND PHASING PLAN

74

JOB No.	02325
DATE:	9-30-03
SHEET:	74 OF 74
CADD:	MG, SG, FJC
ENG.:	JAL, IDW
PER. CITY/CHM REVIEW:	12-19-03
PER. CITY/CHM REVIEW:	02-12-04
PER. CITY/CHM REVIEW:	05-10-04
PER. CITY/CHM REVIEW:	08-03-04
PER. CITY/CHM REVIEW:	08-03-04

CITY FILE 97-004.2, SECTION 35



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COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
 PHASE 2 - DETAILED CONSTRUCTION PLANS
 EXISTING NATURAL FEATURES PLAN

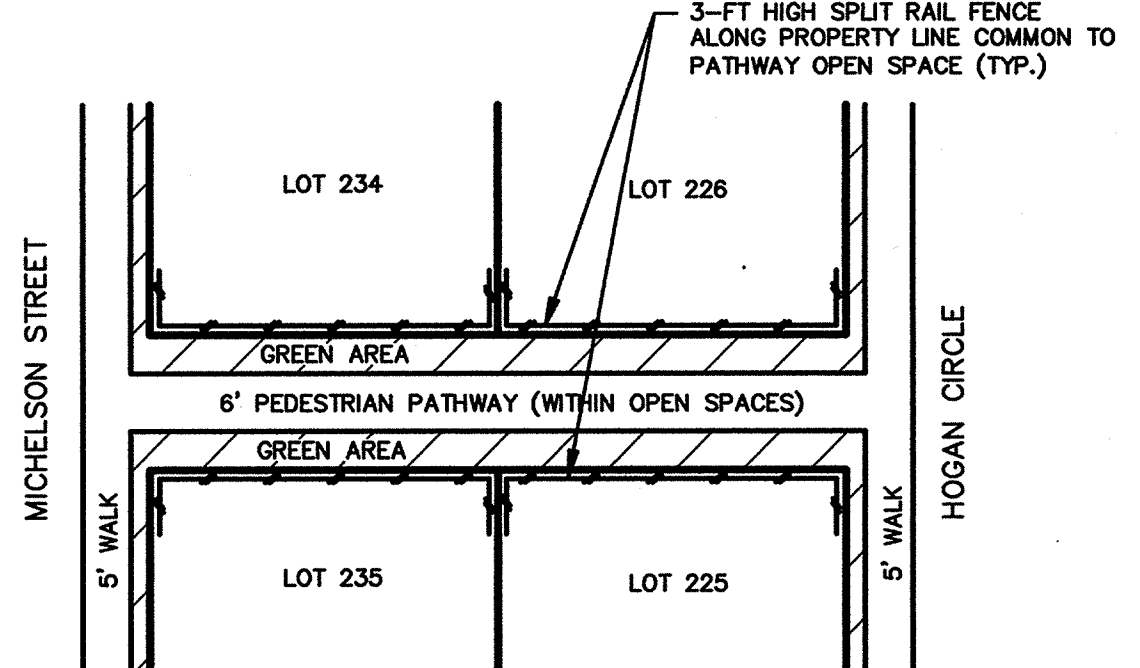
73

DATE: 9-30-03
 SHEET 73 OF 74
 CADD: SRG, WJL, FJC
 ENG: JA, DDM
 PER 02-19-03 CIVIL REVIEW
 PER 03-18-04 CIVIL & STAFF REVIEW
 PER 05-27-04 CITY MEETING
 JOB No. **02325**
 CITY FILE NO. 97-004.2, SECTION NO. 35

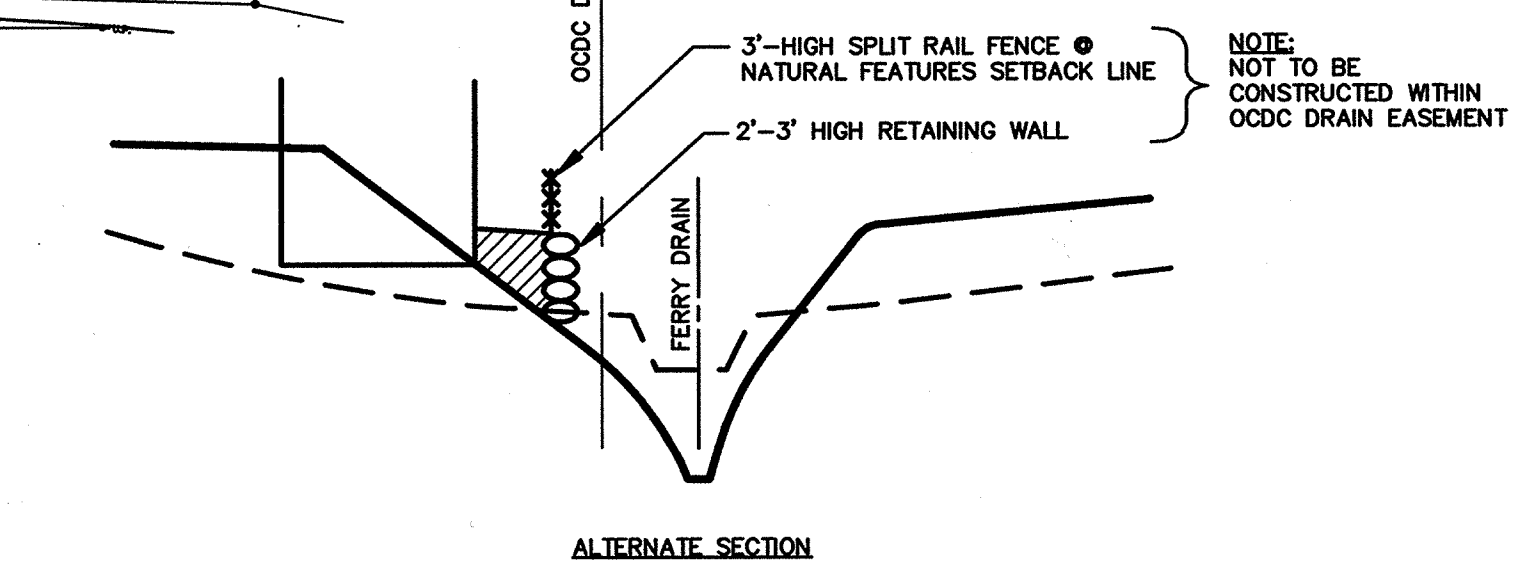
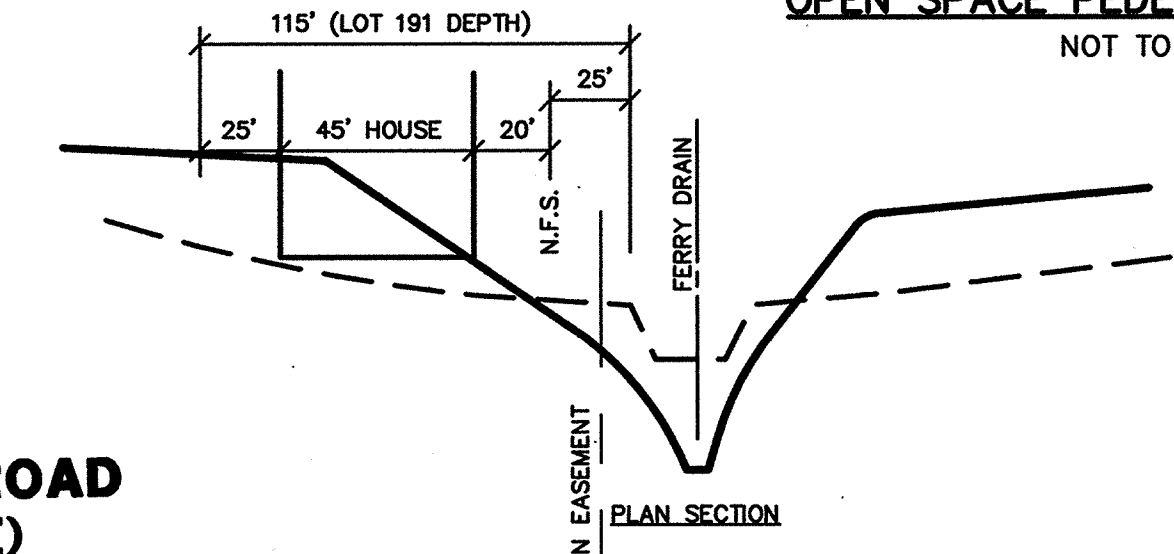
LEGEND

838	EXIST. CONTOUR	---	PROP. CATCH BASIN OR INLET
838	PROP. CONTOUR	---	END SECTION
*836.2	EXIST. SPOT ELEVATION	---	HEAD WALL
36.60	PROP. SPOT ELEVATION	---	CULVERT
U.P.	EXIST. UTILITY POLE	---	EXIST. SANITARY SEWER
○	GUY WIRE	---	PROP. SANITARY SEWER
⊠	ELEC. TRANSFORMER	---	EXIST. CLEANOUT
OH	EXIST. OVERHEAD UTILITY LINE	---	PROP. CLEANOUT
t	EXIST. TELEPHONE LINE	---	∅ OF DITCH OR EDGE OF WATER
e	EXIST. ELECTRIC LINE	---	SINGLE TREE
g	EXIST. GAS LINE	---	FENCE
w	EXIST. WATER MAIN	---	TREE OR BRUSH LIMIT
W	PROP. WATER MAIN	---	SOIL BORING
+	EXIST. HYDRANT	---	FLOODPLAIN LIMITS
+	PROP. HYDRANT	---	WETLAND LIMITS
+	EXIST. GATE VALVE IN BOX	---	EDGE OF PROPOSED POND
+	PROP. GATE VALVE IN BOX	---	C/L PROPOSED PEDESTRIAN PATH (SEE SHEET #74 FOR DETAIL)
+	EXIST. GATE VALVE IN WELL	---	EXISTING WETLAND AREA
+	PROP. GATE VALVE IN WELL	---	EXISTING NATURAL FEATURES SETBACK
+	EXIST. CURB STOP & BOX	---	
+	PROP. CURB STOP & BOX	---	
+	EXIST. STORM SEWER	---	
+	PROP. STORM SEWER	---	
+	EXIST. CATCH BASIN OR INLET	---	

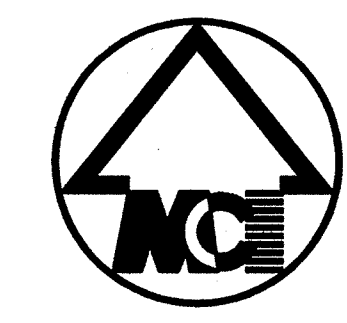
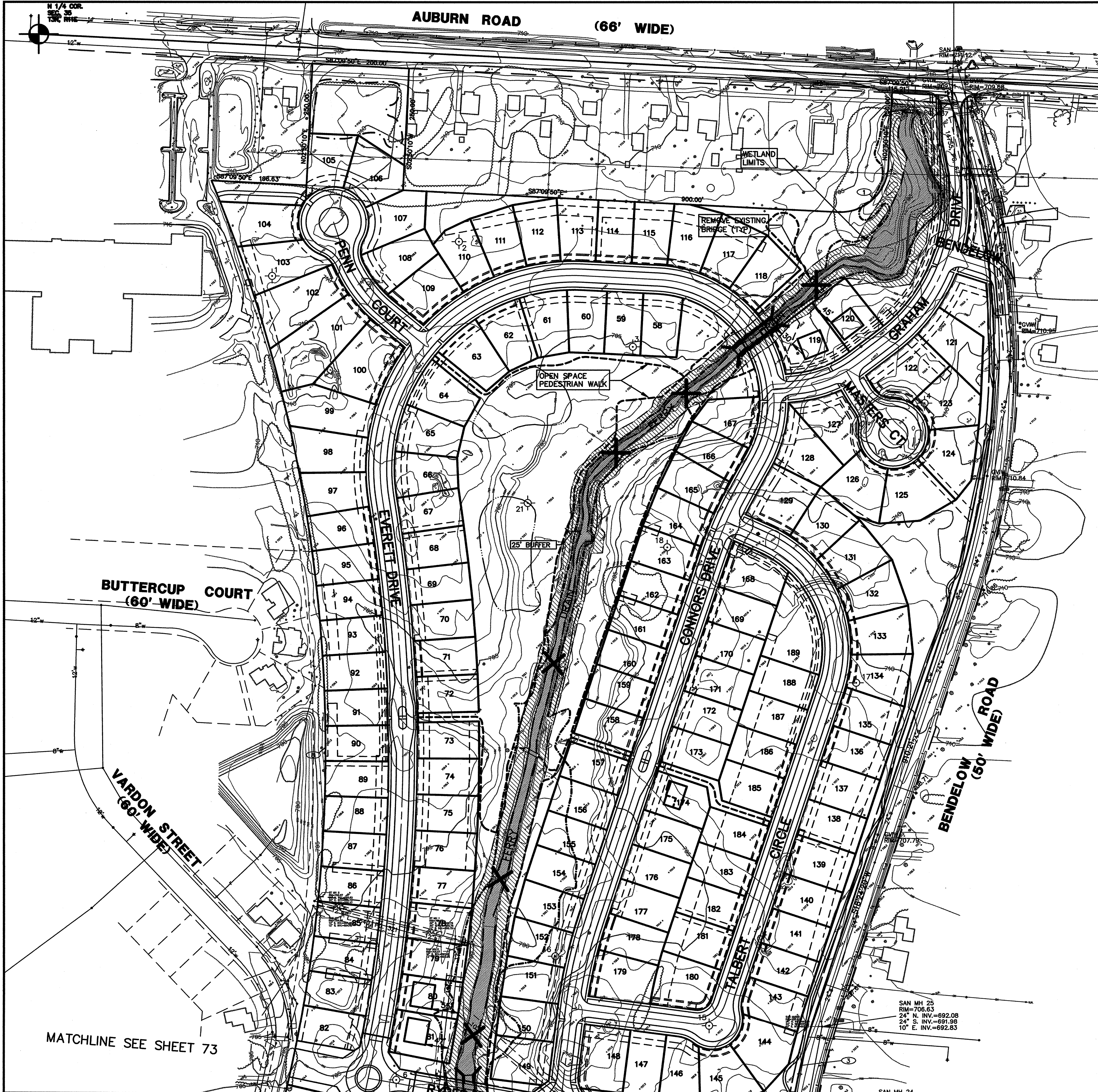
- NOTE:**
- 1.) REFER TO McDOWELL & ASSOC. 3/28/03 SOILS REPORT FOR SOIL BORING LOGS.
 - 2.) LOCATION/FUNCTION OF THE OPEN SPACE PATHWAY IS TO PROVIDE A PEDESTRIAN WALKWAY AND MAINTENANCE ACCESS FOR OAKLAND COUNTY DRAIN COMMISSION WITH MINIMAL IMPACT TO THE EXISTING DRAIN SYSTEM. IT SHOULD BE NOTED THAT 3180 LINEAL FEET OF THE PATHWAY IS WITHIN THE NATURAL FEATURES SETBACK. PRIOR TO PATHWAY CONSTRUCTION, THE PATHWAY SHALL BE FIELD STAKED FOR CITY REVIEW AND APPROVAL.
 - 3.) PRIOR TO ANY CONSTRUCTION ACTIVITY, THE NATURAL FEATURES SETBACK LINE WILL BE FIELD STAKED FOR CITY REVIEW AND APPROVAL. FINAL APPROVED NFS LINE LOCATION WILL THEN BE DELINEATED WITH A PERMANENT SIGN SYSTEM (SPACED @ 100 FT. O.C.) THAT STATES "NATURAL FEATURES AREA-NO GRASS MOWING". SILT FENCE WILL THEN BE INSTALLED AND MAINTAINED A 2 FT. DISTANCE OUTSIDE TO NFS LINE THROUGHOUT CONSTRUCTION.
 - 4.) MASTER DEED RESTRICTIONS WILL REQUIRE THAT: ALL BUILDING ACTIVITIES (E. PATIOS, DECKS, LANDSCAPING, ETC.) SHALL BE OUTSIDE THE NATURAL FEATURES SETBACK. LOT PURCHASERS TO REFER TO MASTER DEED/EXHIBIT "B" DOCUMENTATIONS FOR ALL CITY APPROVED RESTRICTION INFORMATION.
 - 5.) ONLY NATIVE SEED AND PLANTINGS SHALL BE USED IN NATURAL FEATURES SETBACK RESTORATION AREAS. PLANTING REQUIREMENTS TO BE COORDINATED WITH MDEQ, CITY OF ROCHESTER HILLS AND WATERSHED COUNCIL PERMIT REQUIREMENTS & INCORPORATED TO DETAIL ENGINEERING CONSTRUCTION PLANS.
 - 6.) REFER TO THIS SHEET REAR YARD DETAIL ALTERNATIVES FOR LOTS 39, 190, 191, & 192.
 - 7.) BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED CORRECTLY DURING CONSTRUCTION OF BOTH STORMWATER DETENTION BASINS SO AS TO CAUSE MINIMUM ADVERSE ENVIRONMENTAL IMPACTS ON THE NATURAL FEATURES SETBACK.



TYPICAL SIDE YARD ALTERNATE @ OPEN SPACE PEDESTRIAN PATHWAY
 NOT TO SCALE



REARYARD LOTS 39 & 190-192 @ DRAIN ALTERNATES
 NOT TO SCALE



SCALE: 1" = 100'

LEGEND

- | | |
|--|--|
| <ul style="list-style-type: none"> 838 ——— EXIST. CONTOUR 838 ——— PROP. CONTOUR x836.2 ——— EXIST. SPOT ELEVATION 36.60 ——— PROP. SPOT ELEVATION U.P. ——— EXIST. UTILITY POLE GUY WIRE ——— GUY WIRE OH ——— ELEC. TRANSFORMER — t ——— EXIST. OVERHEAD UTILITY LINE — t ——— EXIST. TELEPHONE LINE — e ——— EXIST. ELECTRIC LINE — g ——— EXIST. GAS LINE — w ——— EXIST. WATER MAIN — W ——— PROP. WATER MAIN — H ——— EXIST. HYDRANT — h ——— PROP. HYDRANT — G ——— EXIST. GATE VALVE IN BOX — G ——— PROP. GATE VALVE IN BOX — W ——— EXIST. GATE VALVE IN WELL — W ——— PROP. GATE VALVE IN WELL — X ——— EXIST. CURB STOP & BOX — X ——— PROP. CURB STOP & BOX — R ——— EXIST. STORM SEWER — R ——— PROP. STORM SEWER | <ul style="list-style-type: none"> — C ——— EXIST. CATCH BASIN OR INLET — C ——— PROP. CATCH BASIN OR INLET — E ——— END SECTION — H ——— HEAD WALL — C ——— CULVERT — S ——— EXIST. SANITARY SEWER — S ——— EXIST. SANITARY SEWER — C ——— EXIST. CLEANOUT — C ——— PROP. CLEANOUT — D ——— C/O OF DITCH OR EDGE OF WATER — T ——— SINGLE TREE — F ——— FENCE — L ——— TREE OR BRUSH LIMIT — B ——— SOIL BORING — F ——— FLOODPLAIN LIMITS — W ——— WETLAND LIMITS — C/L ——— C/L PROPOSED PEDESTRIAN PATH (SEE SHEET #74 FOR DETAIL) — W ——— EXISTING WETLAND AREA — W ——— EXISTING NATURAL FEATURES SETBACK |
|--|--|

- NOTE:**
- REFER TO McDOWELL & ASSOC. 3/28/03 SOILS REPORT FOR SOIL BORING LOGS.
 - PRIOR TO ANY CONSTRUCTION ACTIVITY, THE NATURAL FEATURES SETBACK LINE WILL BE FIELD STAKED FOR CITY REVIEW AND APPROVAL. FINAL APPROVED NFS LINE LOCATION WILL THEN BE DELINEATED WITH A PERMANENT SIGN SYSTEM (SPACED @ 100 FT. O.C.) THAT STATES "NATURAL FEATURES AREA—NO GRASS MOWING". SILT FENCE WILL THEN BE INSTALLED AND MAINTAINED A 2 FT. DISTANCE OUTSIDE TO NFS LINE THROUGHOUT CONSTRUCTION.
 - MASTER DEED RESTRICTIONS WILL REQUIRE THAT: ALL BUILDING ACTIVITIES (IE. PATIOS, DECKS, LANDSCAPING, ETC.) SHALL BE OUTSIDE THE NATURAL FEATURES SETBACK. LOT PURCHASERS TO REFER TO MASTER DEED/EXHIBIT "B" DOCUMENTATIONS FOR ALL CITY APPROVED RESTRICTION INFORMATION.
 - ONLY NATIVE SEED AND PLANTINGS SHALL BE USED IN NATURAL FEATURES SETBACK RESTORATION AREAS. PLANTING REQUIREMENTS TO BE COORDINATED WITH MDEQ, CITY OF ROCHESTER HILLS AND WATERSHED COUNCIL PERMIT REQUIREMENTS & INCORPORATED TO DETAIL ENGINEERING CONSTRUCTION PLANS.
 - REFER TO SHEET # 73 REAR YARD DETAIL ALTERNATIVES FOR LOTS 39, 190, 191, & 192.
 - BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED CORRECTLY DURING CONSTRUCTION OF BOTH STORMWATER DETENTION BASINS SO AS TO CAUSE MINIMUM ADVERSE ENVIRONMENTAL IMPACTS ON THE NATURAL FEATURES SETBACK.
 - LOCATION/FUNCTION OF THE OPEN SPACE PATHWAY IS TO PROVIDE A PEDESTRIAN WALKWAY AND MAINTENANCE ACCESS FOR OAKLAND COUNTY DRAIN COMMISSION WITH MINIMAL IMPACT TO THE EXISTING DRAIN SYSTEM. IT SHOULD BE NOTED THAT 3180 LINEAL FEET OF THE PATHWAY IS WITHIN THE NATURAL FEATURES SETBACK. PRIOR TO PATHWAY CONSTRUCTION, THE PATHWAY SHALL BE FIELD STAKED FOR CITY REVIEW AND APPROVAL. THERE IS CURRENTLY 2060 LINEAL FEET OF EXISTING GOLF CART PATH WITHIN THE NATURAL FEATURES SETBACK THAT WILL BE REMOVED. SEE TABLE BELOW.

	Lineal Feet
A Proposed Pedestrian Pathway within N.F.S.	3180
B Proposed Pedestrian Pathway outside N.F.S.	5410
C Total Proposed Pedestrian Pathway	8590 (A + B)
D Existing Golf Cart Path within N.F.S.	2060
E Created Pedestrian Pathway within N.F.S.	1120 (A - D)
F Bendelow Walk (5-ft concrete)	3690

SAN MH 25
RIM=706.63
24" H. INV.=692.08
24" S. INV.=691.98
10" E. INV.=692.83

MATCHLINE SEE SHEET 73

MIDWESTERN CONSULTING
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BLOOMFIELD HILLS, MI. 48304
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COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
PHASE 2 DETAILED CONSTRUCTION PLANS
EXISTING NATURAL FEATURES PLAN

72

JOB No. **02325**
DATE: 9-30-03
SHEET 72 OF 74
CADD: SRG, WAJ, FJC
ENG: JAT, DOM
8-18-03
12-19-03
12-19-03
09-10-04
08-03-04

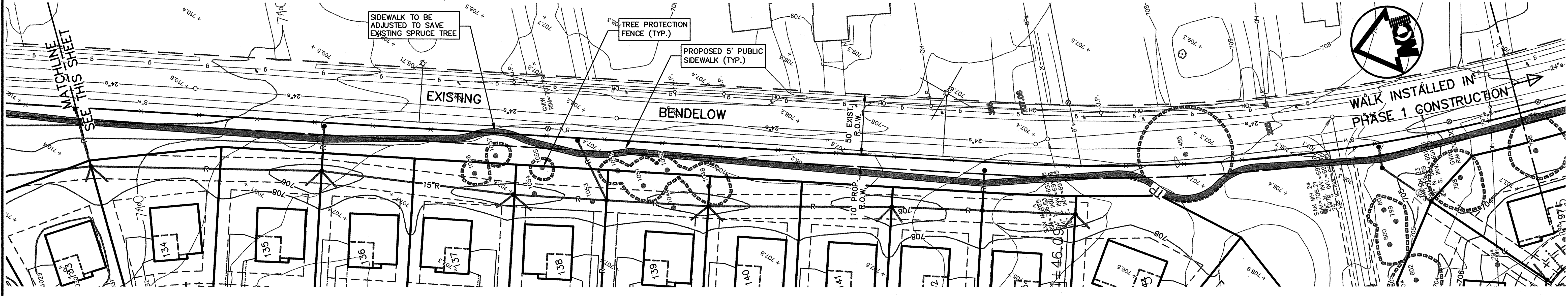
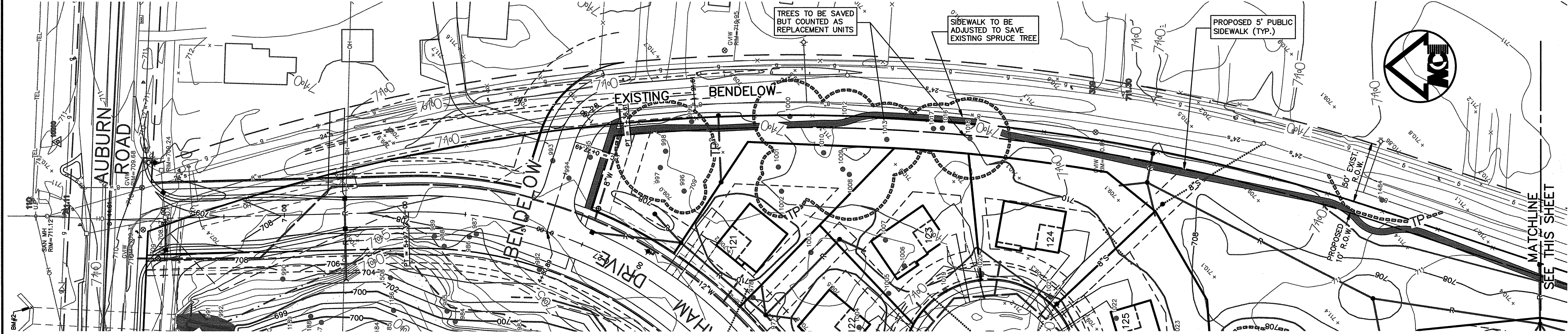
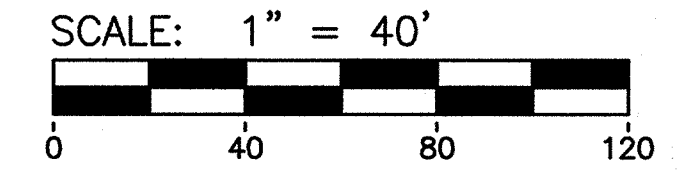
CITY REVIEW
PER CITY/DM REVIEW
PER CITY/DM REVIEW
PER 01-23-04 CDDA MEETING
PER 02-27-04 CITY MEETING

CITY FILE NO. 97-004-2, SECTION NO. 35

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LEGEND

	EXIST. CONTOUR		EXIST. WATER MAIN		EXIST. STORM SEWER		☉ OF DITCH OR EDGE OF WATER
	PROP. CONTOUR		PROP. WATER MAIN		PROP. STORM SEWER		○ SINGLE TREE
	EXIST. SPOT ELEVATION		EXIST. HYDRANT		EXIST. CATCH BASIN OR INLET		— FENCE
	PROP. SPOT ELEVATION		EXIST. GATE VALVE IN BOX		PROP. CATCH BASIN OR INLET		— TREE OR BRUSH LIMIT
	U.P.		PROP. GATE VALVE IN BOX		END SECTION		— SECTION CORNER
	GUY WIRE		EXIST. GATE VALVE IN WELL		HEAD WALL		— EXISTING WETLAND BOUNDARY
	ELEC. TRANSFORMER		PROP. GATE VALVE IN WELL		CULVERT		
	EXIST. OVERHEAD UTILITY LINE		EXIST. CURB STOP & BOX		EXIST. SANITARY SEWER		
	EXIST. TELEPHONE LINE		PROP. CURB STOP & BOX		PROP. SANITARY SEWER		
	EXIST. ELECTRIC LINE				EXIST. CLEANOUT		
	EXIST. GAS LINE				PROP. CLEANOUT		



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 Ann Arbor, Michigan 48108
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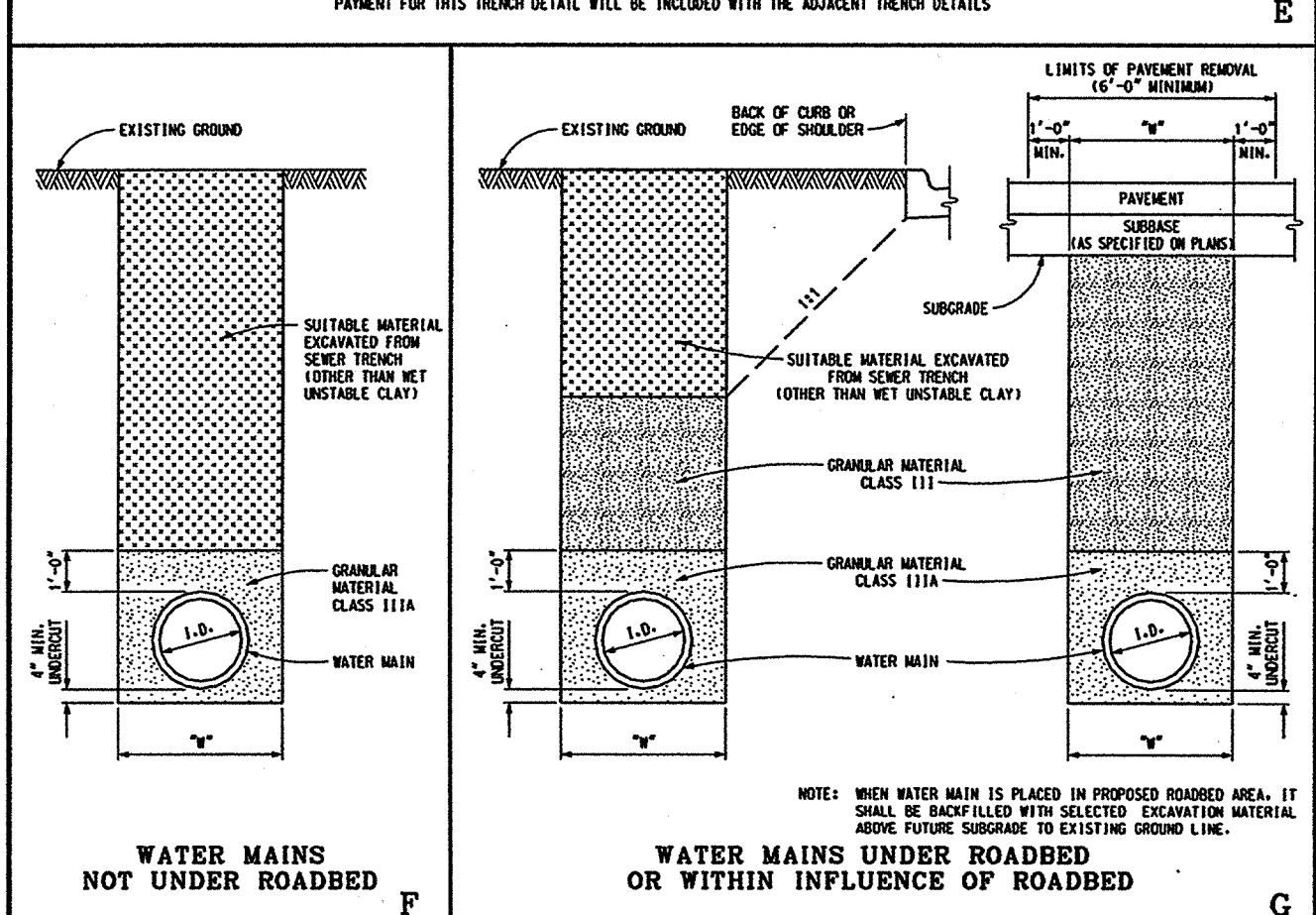
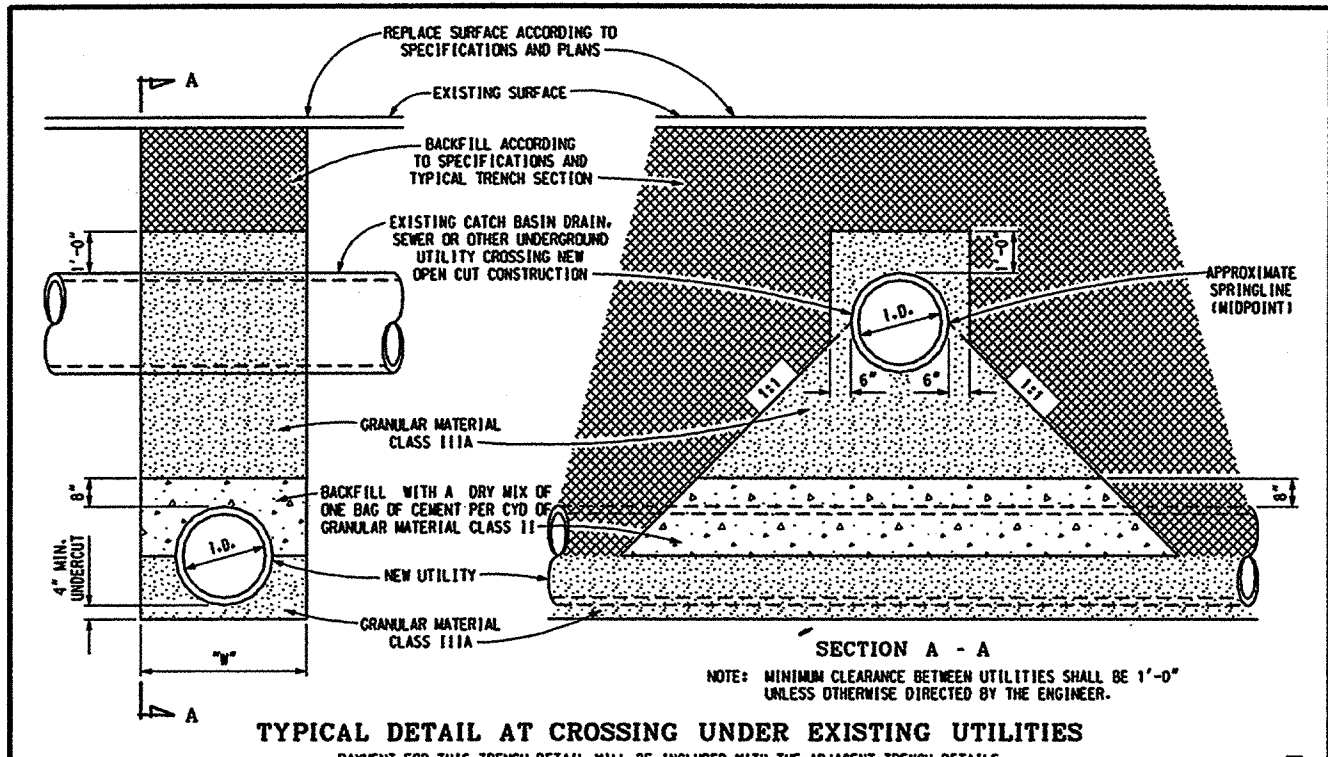
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 BLOOMFIELD HILLS, MI. 48304
 (248) 540-8040

COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
 PHASE 2 - DETAILED CONSTRUCTION PLAN
 BENDELOW WALKWAY PLAN

71

JOB No. **02325**
 SHEET 71 OF 74
 CADD: SRG, WAI, FJC
 12-19-03
 PER CITY/OSM REVIEW ENR: JA, DDM
 PER CITY/OSM APPROVAL ENR: JA, DDM
 PER 05-27-04 CITY MEETING
 DATE: 9-30-03
 CITY FILE NO. 97-004.2, SECTION NO. 35

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MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY TECHNICAL SERVICES STANDARD PLAN FOR

UTILITY TRENCHES

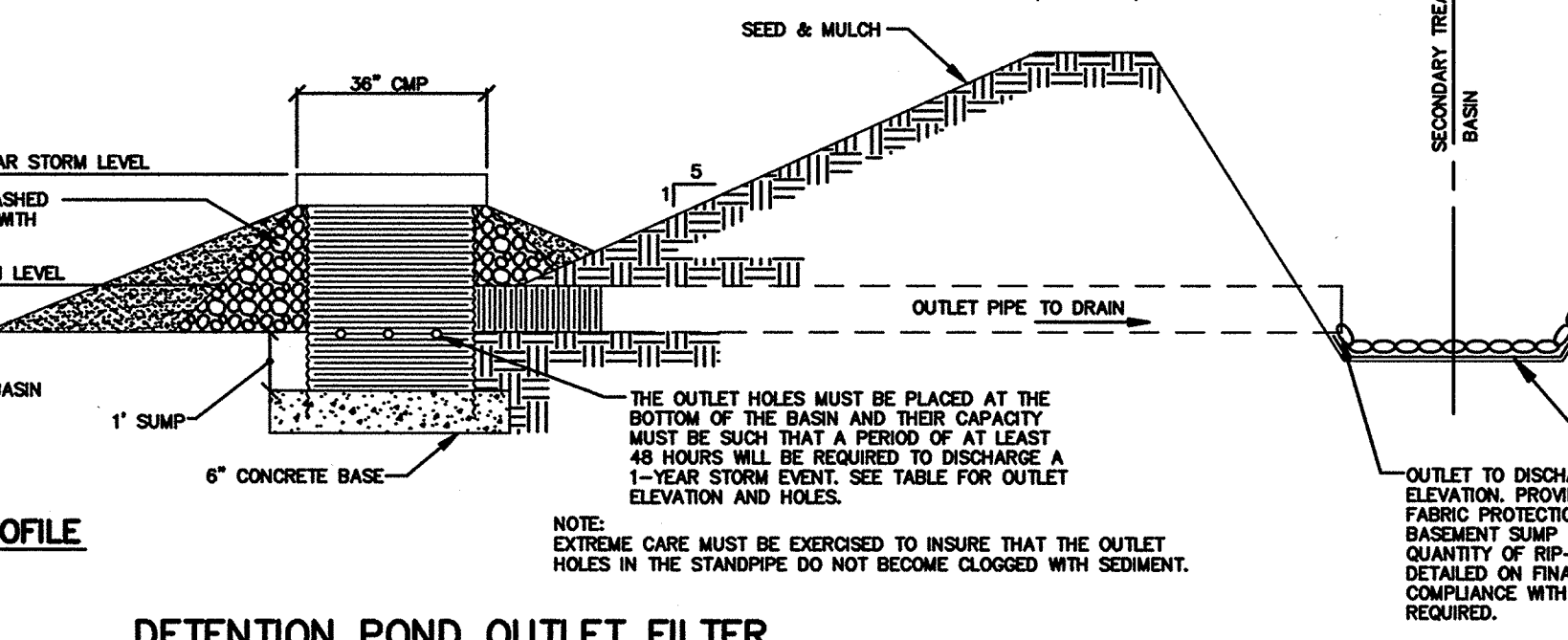
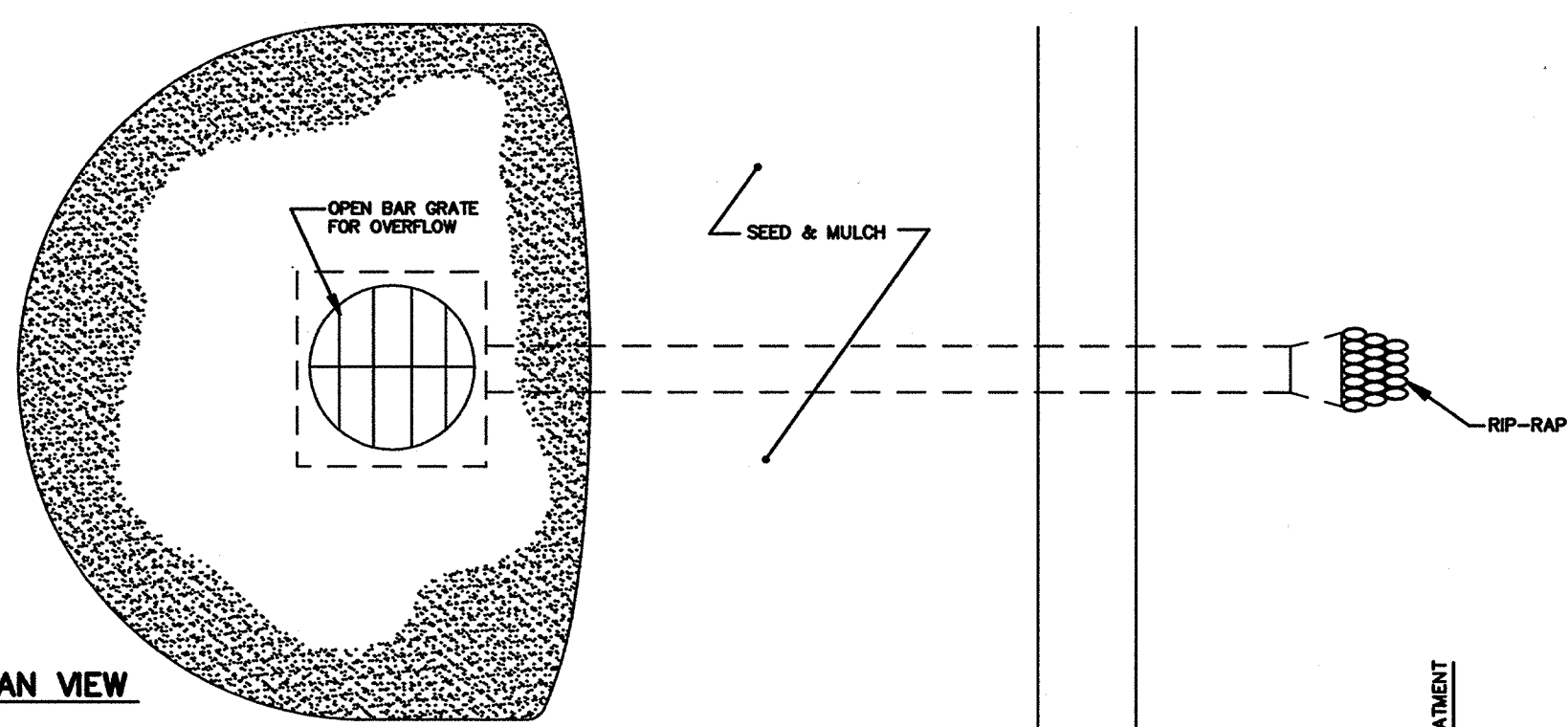
3-14-2001 2-28-2001 R-83-B SHEET 2 OF 3
T.S.L.A. APPROVAL PLAN DATE

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL SIGNED COPY APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.

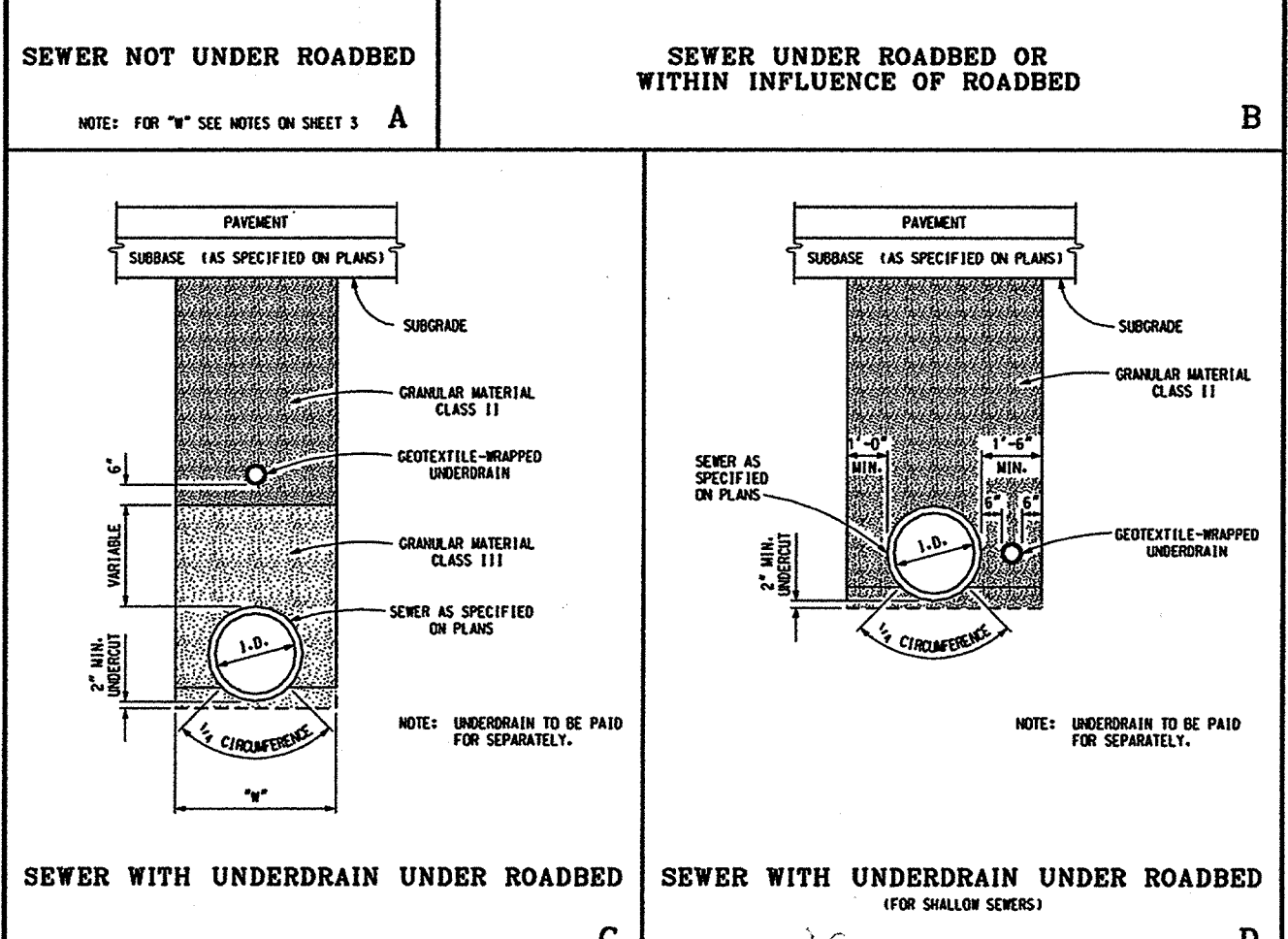
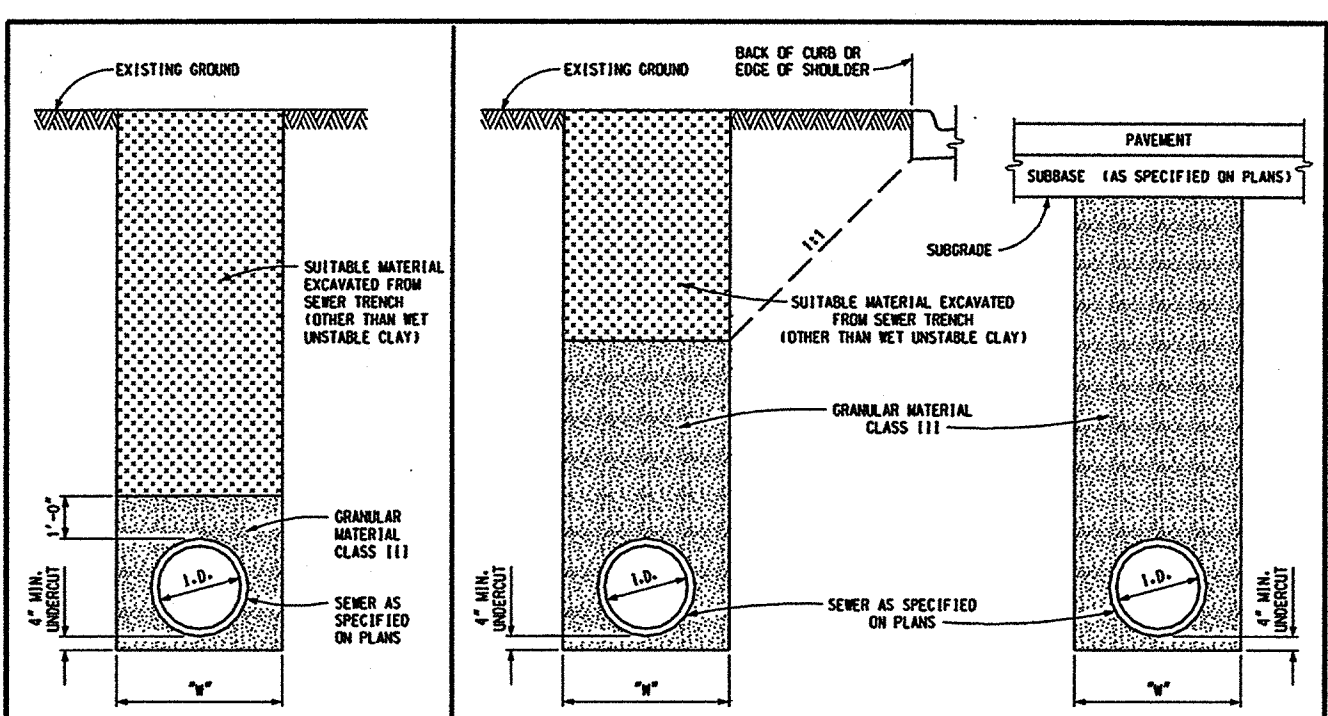
DETENTION POND OUTLET SCHEDULE

STRUCTURE #	POND	POND BOTTOM (ORIFICE ELEV.)	1 YEAR STORM ELEV.	10 YEAR STORM ELEV. (TOP OF STRUCTURE)	#3"Ø HOLES
R-189	1	696.50	697.03	698.14	1
R-154, 174	2	696.50	697.28	699.11	2 (2 STRUCTURES W/ 1 HOLES EACH)
R-242, 242A	3	695.50	696.53	697.92	2 (2 STRUCTURES W/ 1 HOLES EACH)
R-61	4*	693.50	693.90	694.73	1
R-78	5*	684.00	690.28	690.91	1
R-81	6	692.50	693.64	694.75	1
R-76	7	690.00	691.20	692.79	1
R-74	8	690.00	691.04	692.34	1

* DENOTES POND PLACED WITH PHASE I



NO SCALE

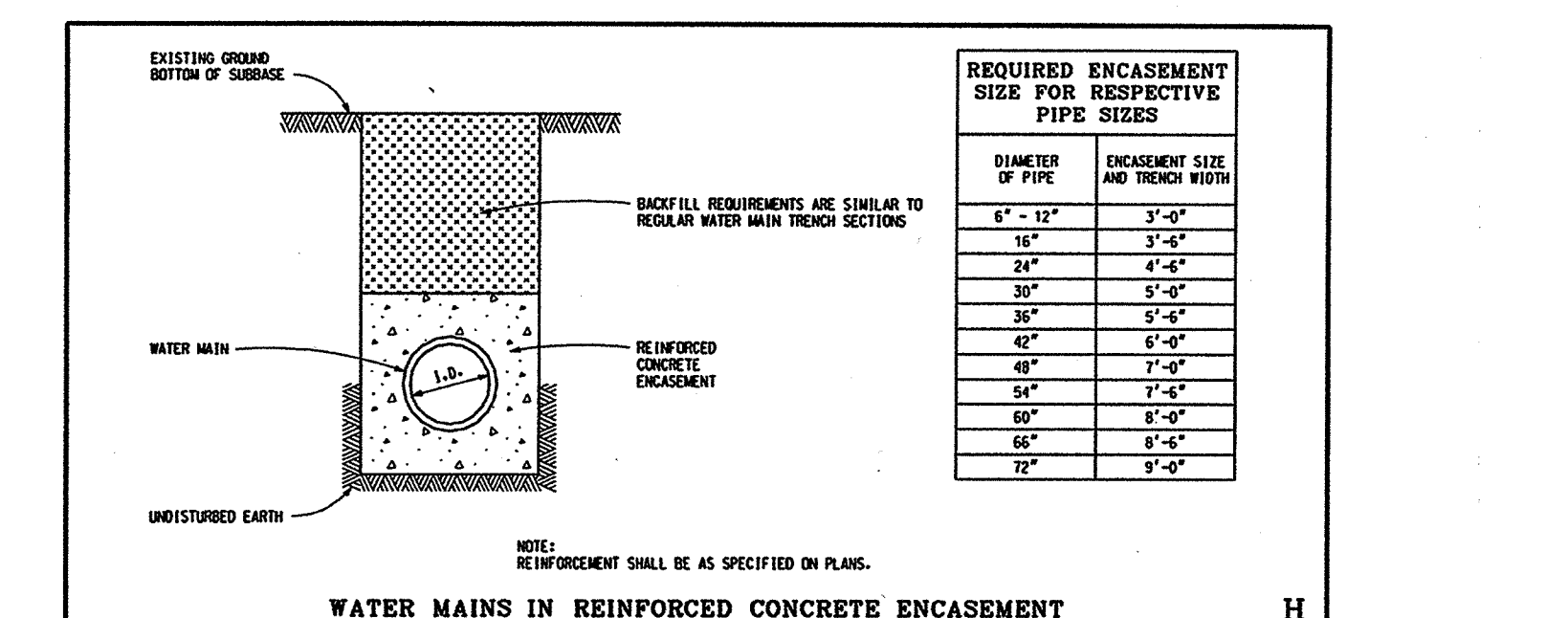


MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY TECHNICAL SERVICES STANDARD PLAN FOR

UTILITY TRENCHES

3-14-2001 2-28-2001 R-83-B SHEET 1 OF 3
T.S.L.A. APPROVAL PLAN DATE

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NOTES:
REINFORCEMENT UNDER THE UTILITY SHALL BE AS SPECIFIED AND THE UNDERLAY MATERIAL SHALL BE GRANULAR MATERIAL CLASS 111A. BACKFILLING SHALL BE ACCORDING TO THE CURRENT STANDARD SPECIFICATION.
BACKFILL FOR UTILITY TRENCHES ABOVE GRANULAR MATERIAL CLASS 111A SHALL BE PLACED AS FOLLOWS:
(A) GRANULAR MATERIAL, OF THE CLASS SPECIFIED ON DETAILS, SHALL BE USED TO BACKFILL UTILITY TRENCHES WITHIN THE 11' ZONE OF INFLUENCE. IT SHALL BE COMPACTED TO NOT LESS THAN 95% OF ITS MAXIMUM UNIT WEIGHT.
(B) GRANULAR MATERIAL, OF THE CLASS SPECIFIED ON DETAILS, SHALL BE USED TO BACKFILL UTILITY TRENCHES OUTSIDE THE 11' ZONE OF INFLUENCE. IT SHALL BE COMPACTED TO NOT LESS THAN 95% OF ITS MAXIMUM UNIT WEIGHT.
(C) WHEN ACCEPTABLE, MATERIAL EXCAVATED FROM THE UTILITY TRENCHES SHALL BE USED TO BACKFILL UTILITY TRENCHES OUTSIDE THE 11' ZONE OF INFLUENCE AND SHALL BE COMPACTED TO NOT LESS THAN 95% OF ITS MAXIMUM UNIT WEIGHT.
GRANULAR MATERIAL CLASS 111, 11A, OR 11B MAY BE USED WHERE GRANULAR MATERIAL CLASS 111 IS SPECIFIED BY THE PLANS.
SUFFICIENT TRENCH WIDTH SHALL BE PROVIDED TO ALLOW FREE WORKING SPACE AND TO PERMIT COMPACTING THE BACKFILL AROUND THE PIPE.
THE FOLLOWING ARE MINIMUM TRENCH WIDTHS:
1.0" PIPE SIZE (INCHES) LESS THAN 18' 21' 24' 30' 36'
TRENCH WIDTH (FEET) 3.0 3.5 4.0 5.0 6.0
1.5" PIPE SIZE (INCHES) 42 48 54 60 66 72
TRENCH WIDTH (FEET) 7.0 8.0 9.5 10.0 10.5 11.0
2.0" PIPE SIZE (INCHES) 48 54 60 66 72 78
TRENCH WIDTH (FEET) 8.0 9.0 10.5 11.0 11.5 12.0
2.5" PIPE SIZE (INCHES) 54 60 66 72 78 84
TRENCH WIDTH (FEET) 9.0 10.0 11.5 12.0 12.5 13.0 13.5 14.0
ESTIMATED PAVEMENT REMOVAL WIDTH IS TO BE TRENCH WIDTH "W" PLUS 1'-0" EACH SIDE OF THE TRENCH (4'-0" MINIMUM).

REQUIRED ENCASUREMENT SIZE FOR RESPECTIVE PIPE SIZES

DIAMETER OF PIPE	ENCASUREMENT SIZE AND TRENCH WIDTH
8" - 12"	3'-0"
18"	3'-6"
24"	4'-4"
30"	5'-0"
36"	5'-6"
42"	6'-0"
48"	7'-0"
54"	7'-6"
60"	8'-0"
66"	8'-6"
72"	9'-0"

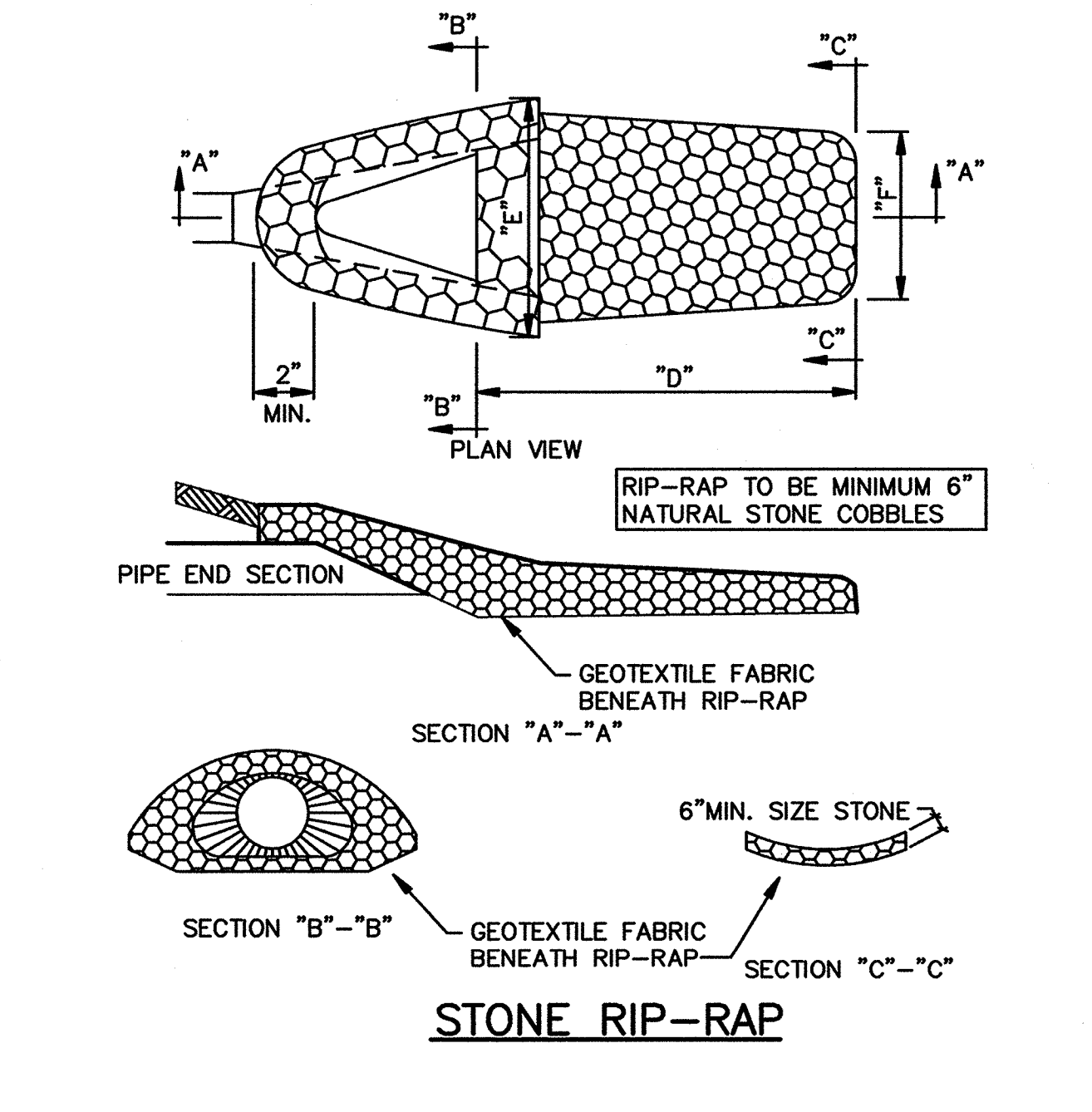
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY TECHNICAL SERVICES STANDARD PLAN FOR

UTILITY TRENCHES

3-14-2001 2-28-2001 R-83-B SHEET 3 OF 3
T.S.L.A. APPROVAL PLAN DATE

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PIPE Ø	D	E	F	SQ. YDS.
12"	5'-0"	6'-6"	3'-0"	4
15"	5'-0"	7'-0"	3'-0"	4
18"	5'-0"	7'-6"	3'-6"	4
21"	5'-6"	8'-0"	4'-0"	5
24"	6'-0"	8'-6"	4'-6"	6
27"	6'-6"	9'-0"	5'-0"	7
30"	7'-0"	9'-6"	5'-6"	8
33"	7'-6"	10'-3"	5'-6"	9
36"	8'-0"	10'-9"	6'-0"	10
42"	9'-0"	11'-9"	6'-6"	12
48"	10'-0"	13'-0"	7'-0"	14



NOTE: REMOVE PRIOR TO THE INSTALLATION OF CONCRETE CURB & GUTTER, GRAVEL OR ASPHALT BASE.

CONSTRUCTION SEQUENCE

CONSTRUCTION SEQUENCE	OPERATION TIME SCHEDULE - BEGINNING MAY 2004						
	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.
INSTALL AND MAINTAIN SOIL EROSION CONTROL MEASURES AS REQUIRED	█	█	█	█	█	█	█
STRIP AND MASS GRADE LOW AREAS	█	█	█	█	█	█	█
INSTALL UTILITIES/DETENTION BASIN	█	█	█	█	█	█	█
PAVE ROADWAY	█	█	█	█	█	█	█
HOUSE CONSTRUCTION	█	█	█	█	█	█	█
COMMUNITY CENTER REMODELING	█	█	█	█	█	█	█
LANDSCAPING	█	█	█	█	█	█	█

SEE SOIL EROSION CONTROL NOTES FOR ON-GOING MAINTENANCE AS WORK PROGRESSES

SOIL EROSION AND SEDIMENTATION CONSTRUCTION NOTES:

- All soil erosion control measures shall comply with the current City ordinances, County Standards and Specifications for Soil Erosion and Sediment Control, and State of Michigan "Soil Erosion and Sedimentation Control Act" (Act #347).
- Straw bales may be used in lieu of silt fence where silt fence is indicated on the plans. Filter fabric may be used in lieu of burlap whenever burlap is designated in the details.
- Prior to commencing earthmoving operations, the grading contractor shall install the mud tracking mat, the silt fence and temporary gravel filter(s) shown on the plans.
- Any lawn area which will have a slope steeper than 6:1 (6 ft. measured horizontally and 1 ft. measured vertically) shall be sodded and pegged or seeded and mulched using a soil erosion control fabric or blanket. Hydroseeding may be used in lieu of seed and mulch or sod where slopes are flatter than 6:1.
- The actual location of the mud tracking mats and the gravel filters may be adjusted by the contractor to match contractor's operations and field conditions but only if approved by the Engineer.
 - All completed portions of swales and all sedimentation basins areas are to be immediately seeded with mulching or netting as necessary.
 - After the pavement is installed, an area 50 feet wide measured from the back of the curb is to be seeded and mulched.
 - Any disturbed area in which earthmoving, utility work or pavement is completed shall be stabilized by seeding and mulching.
- All disturbed areas are to be revegetated per County standards for temporary seeding.
- CB/inlet filters are to be installed at time of installation of frame and grate and cleaned after pavement is installed.
- All soil erosion controls must be removed from the right(s) of way prior to the City acceptance of the streets for routine maintenance.
- Vegetation must be acceptably established prior to the final release of the construction deposit by the Road Commission.

MAINTENANCE REQUIREMENTS

- All straw bale and/or silt fence shall be maintained throughout the duration of the project. If at any time the depth of silt and sediment comes to within 6" of the top of any straw bale or within 12" of the top of any silt fence, all silt and sediment shall be removed to original grade.
- All temporary gravel filters should be adjusted as to location per actual field conditions. The removal of trapped sediment and the cleanout or replacement of clogged stone shall be necessary after each storm event during the project.
- Only upon stabilization of all disturbed areas may the silt fence, and temporary gravel filters be removed. Also, all storm sewers must be cleaned of all sediment.

GRUBBING, STRIPPING & MASS GRADING NOTES:

- THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL ON-SITE TREES, BRUSH, STUMPS, ROCKS, STENCES, FENCE, WIRE, TRASH, OR OTHER UNWANTED DEBRIS AT THE DEVELOPER'S DIRECTION RESULTING FROM MASS GRADING AND ROAD CONSTRUCTION AND SHALL BE AN INCIDENTAL TO THE PROJECT.
- THE CONTRACTOR SHALL PREPARE EXISTING NATURAL GROUND AREAS WHICH ARE INTENDED TO BE FILLED OVER BY FIRST REMOVING ALL VEGETATION (INCLUDING TREES STUMPS AND BRUSH), TOP SOIL AND OBVIOUS SOFT UNSTABLE SURFACE MATERIALS TO THE LIMITS OF THE FILL AREA.
- EXCAVATED MATERIAL THAT IS WET OR OTHERWISE UNFIT FOR BACKFILL SHALL BE ENTIRELY REMOVED AND THE BACKFILLING DONE WITH SUITABLE DRY APPROVED FILL MATL HAULED IN FOR THAT PURPOSE.
- ALL BACKFILL MATERIALS SHALL BE FREE FROM ONDERS, ASHES, REFUSE, VEGETABLE OR ORGANIC MATTER, BOULDERS, ROCKS, OR OTHER UNSTABLE MATERIALS.
- FILL MATERIAL TO BE PLACED OUTSIDE THE LIMITS OF THE 1 ON 1 ROAD INFLUENCE SHALL BE THE EXCAVATED MATERIAL, UNLESS OTHERWISE PROVIDED. SUCH BACKFILL SHALL BE PLACED IN ONE FOOT LAYERS AND COMPACTED WITH AN APPROVED MECHANICAL COMPACTOR TO 90% OF MAXIMUM UNIT WEIGHT PER CUBIC FOOT AS DEFINED BY A.A.S.H.O. T-99.
- FILL MATERIAL WHICH IS TO BE PLACED BELOW AND WITHIN THE 1 ON 1 INFLUENCE LINE UNDER A PROPOSED STRUCTURE OR UTILITY SHALL BE COMPOSED OF MDT CLASS III GRANULAR MATERIAL, COMPACTED IN PLACE IN 6" LAYERS TO 95% OF MAXIMUM UNIT DENSITY AS DEFINED BY THE MODIFIED PROCTOR TEST. ON-SITE MATERIALS WILL BE USED AS TRENCH BACKFILL WHERE APPROVED BY THE INSPECTOR AT THE TIME OF CONSTRUCTION.
- FILL MATL TO BE PLACED W/IN THE 1 ON 1 RD. INFLUENCE OR UNDER SIDEWALKS SHALL BE SELECT APPROVED FILL MATL, COMPACTED IN 1 FT. LAYERS TO 95% MAX. UNIT DENSITY PER MODIFIED PROCTOR TEST.

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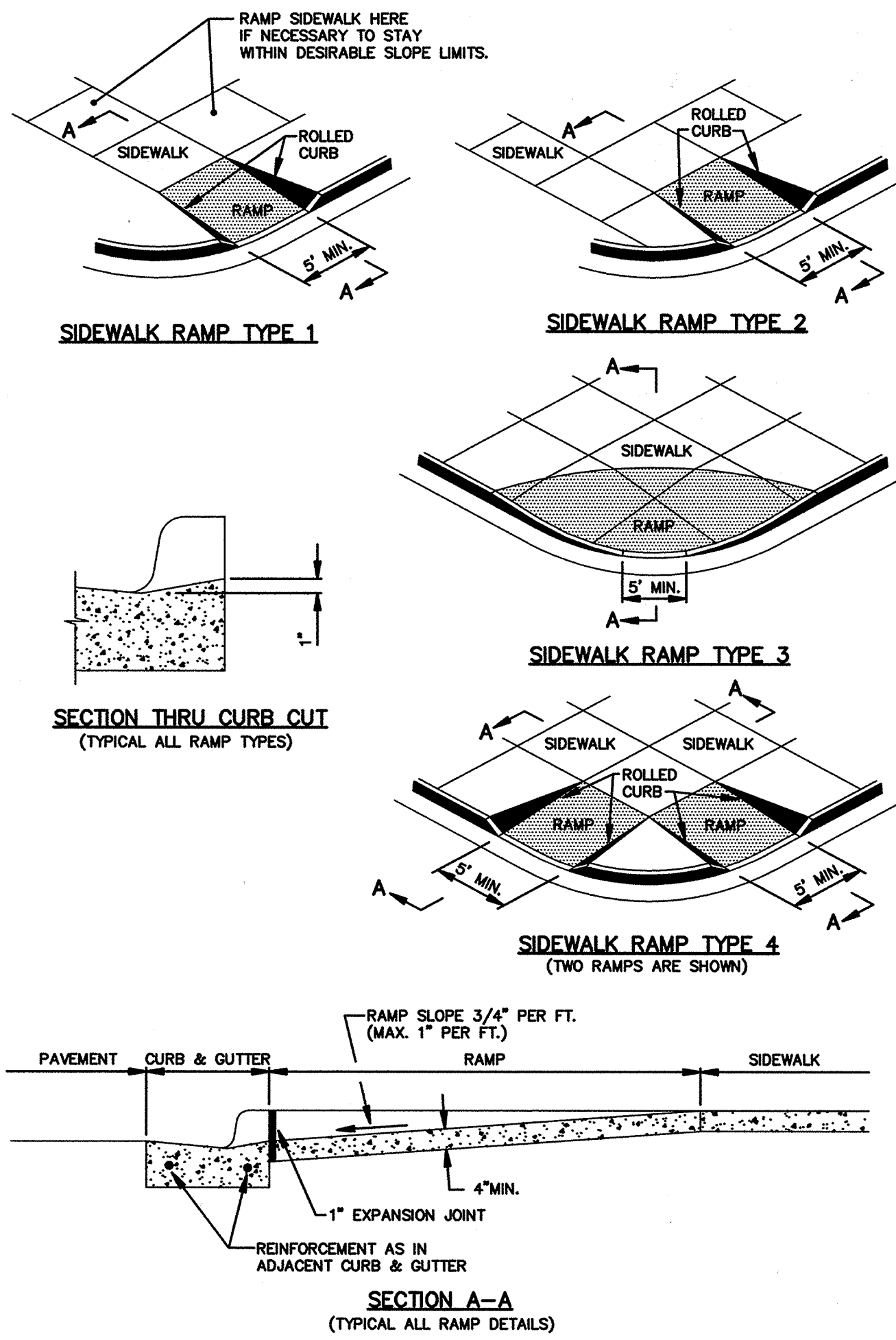
COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
PHASE 2 - DETAILED CONSTRUCTION PLANS
MISCELLANEOUS DETAILS

JOB No. **02325**
DATE: 9-30-03
SHEET 62 OF 74
REV. DATE
12-19-03
2-12-04
05-10-04
08-10-04
02/28/06

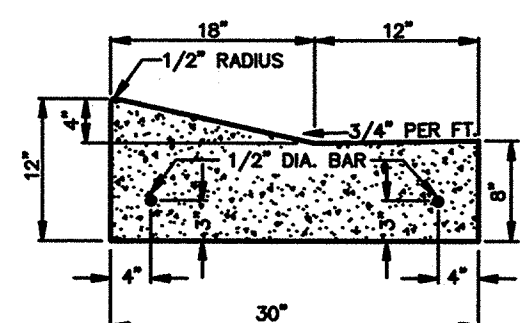
REVISIONS:
PER CITY/CHM REVIEW
PER CITY/CHM REVIEW
PER CITY/CHM REVIEW
PER CITY/CHM REVIEW
PER CITY/CHM REVIEW

ADD: SRG, FIC
ENG: JCA, MWR, JDM
DES: JCA, MWR, JDM
CHK: JCA, MWR, JDM
DATE: 02/28/06

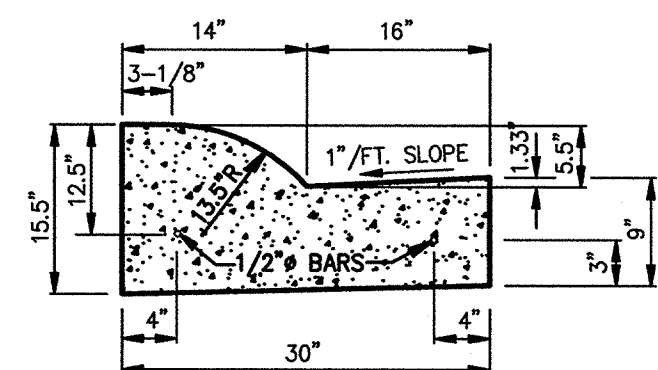
CITY FILE NO. 97-004.2, SECTION NO. 35



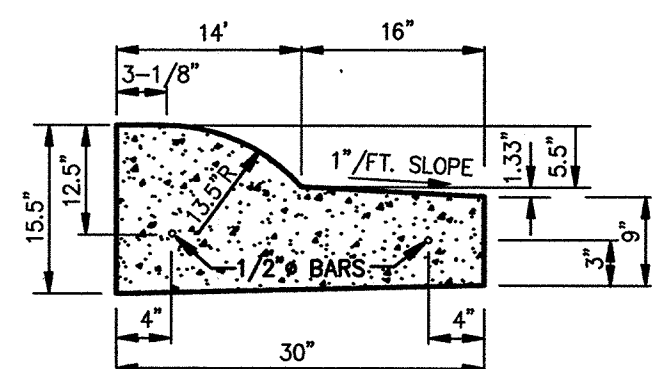
SIDEWALK RAMP DETAILS
MDOT II-28G



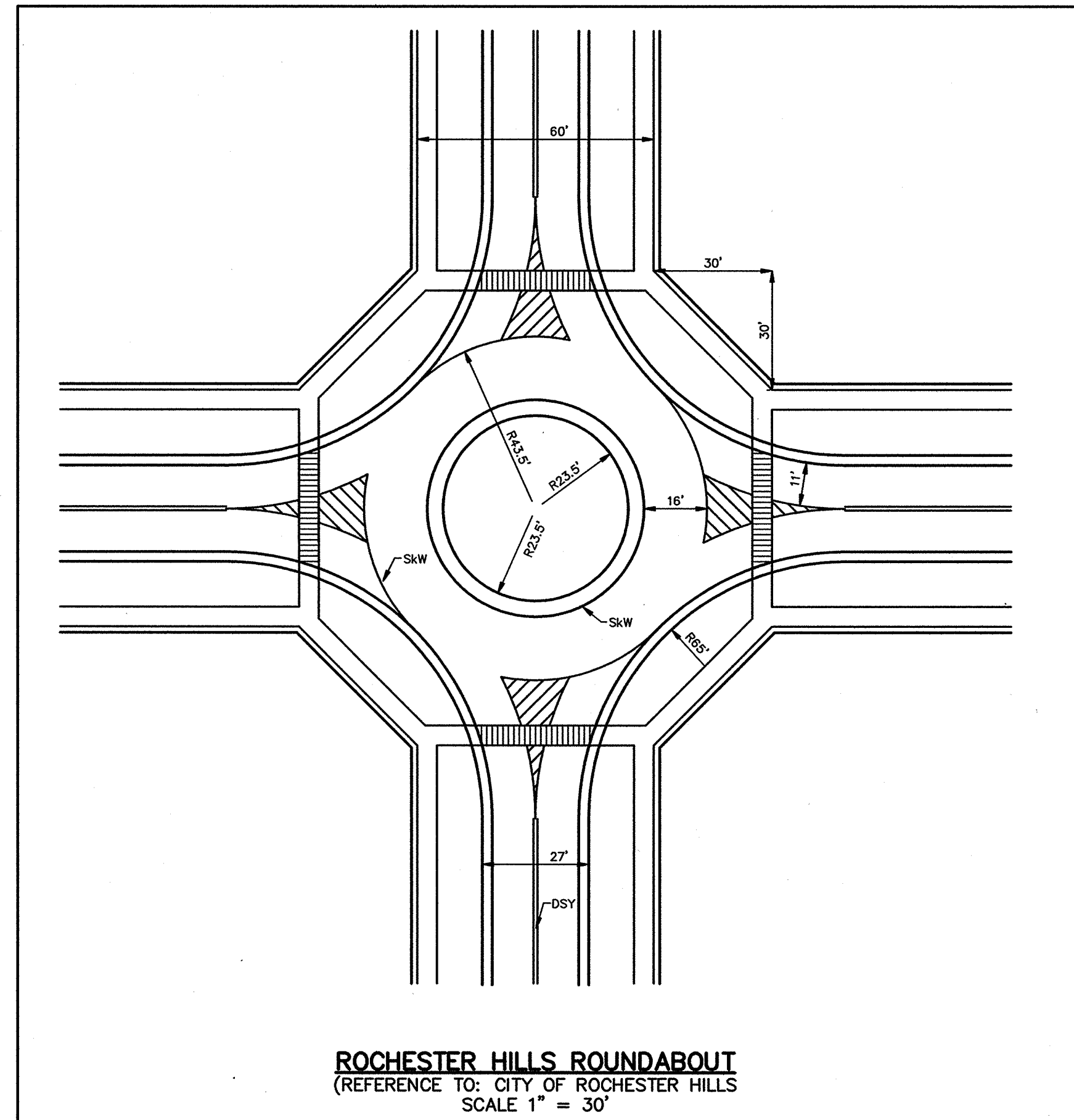
MOUNTABLE CURB & GUTTER DETAIL
NO SCALE



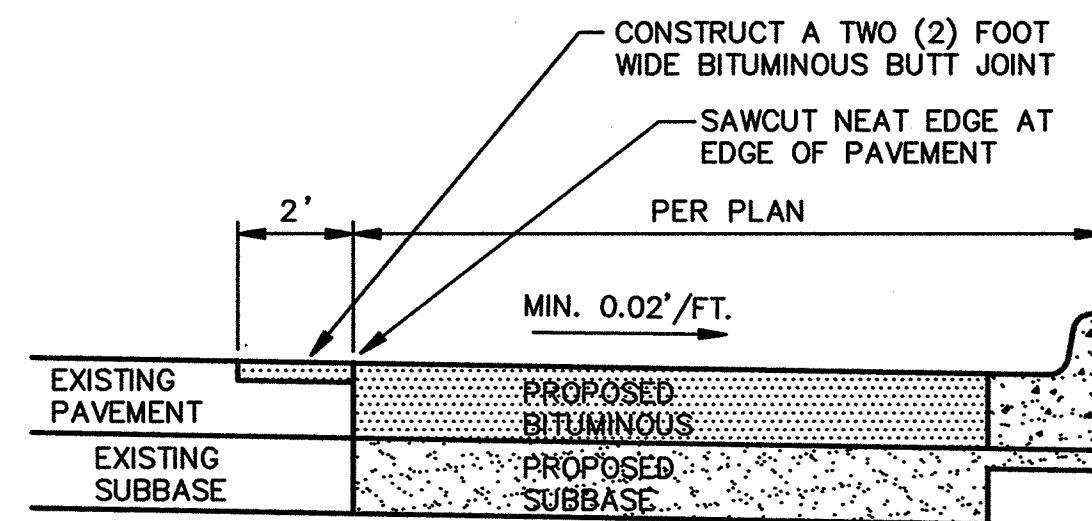
B-2 CURB & GUTTER DETAIL
NO SCALE



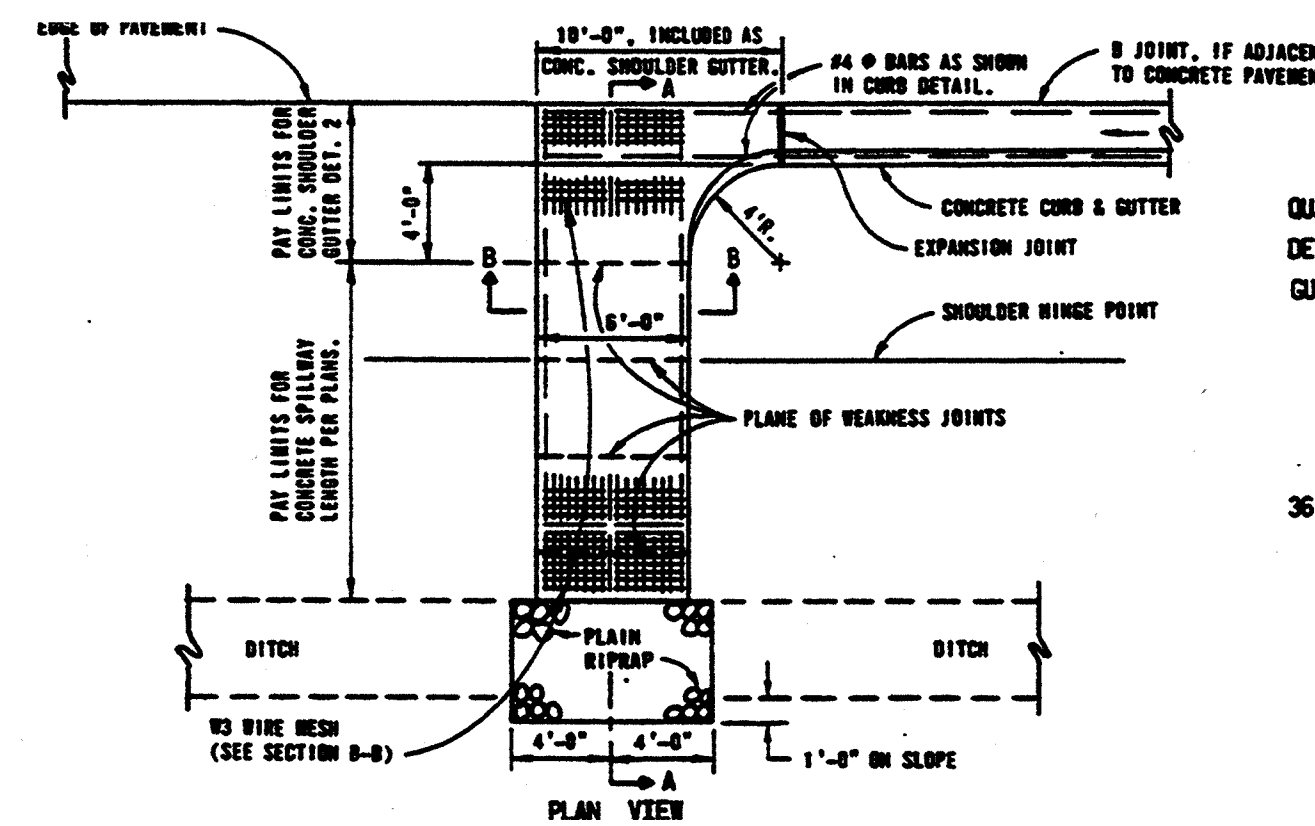
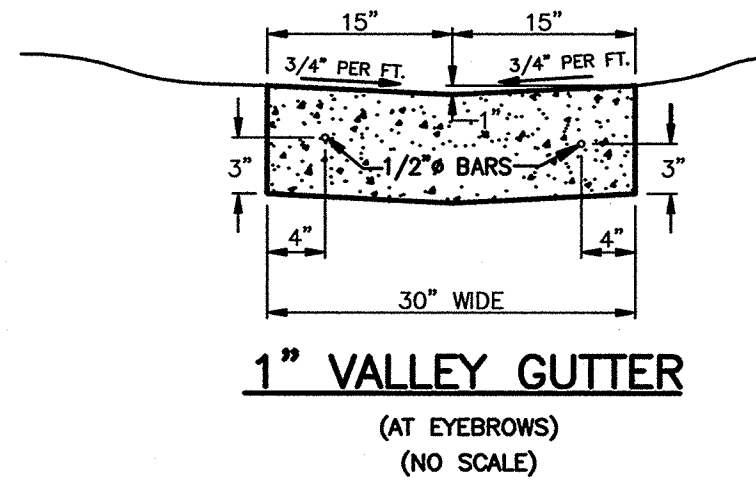
B-2 CURB & SPILLOVER GUTTER DETAIL
NO SCALE



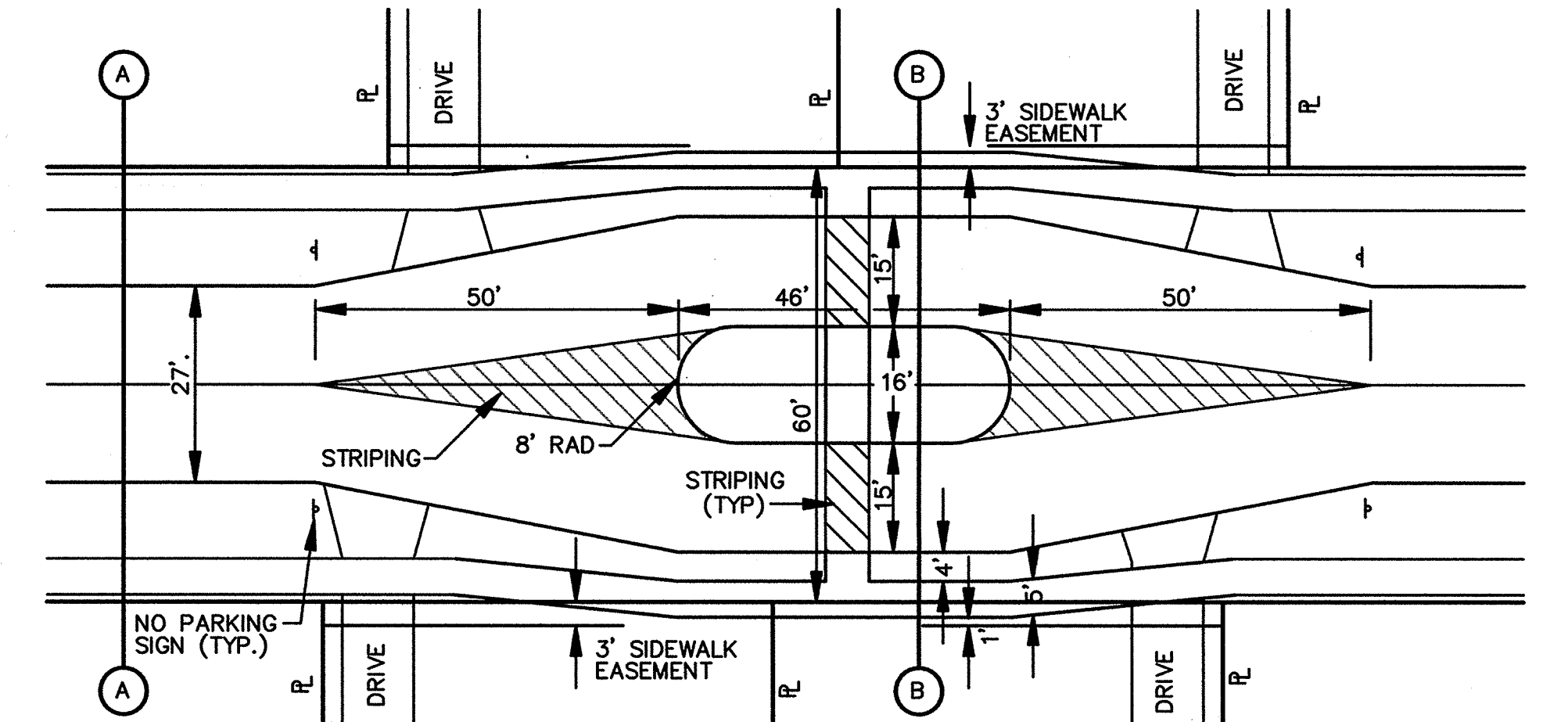
ROCHESTER HILLS ROUNDABOUT
 (REFERENCE TO: CITY OF ROCHESTER HILLS)
 SCALE 1" = 30'



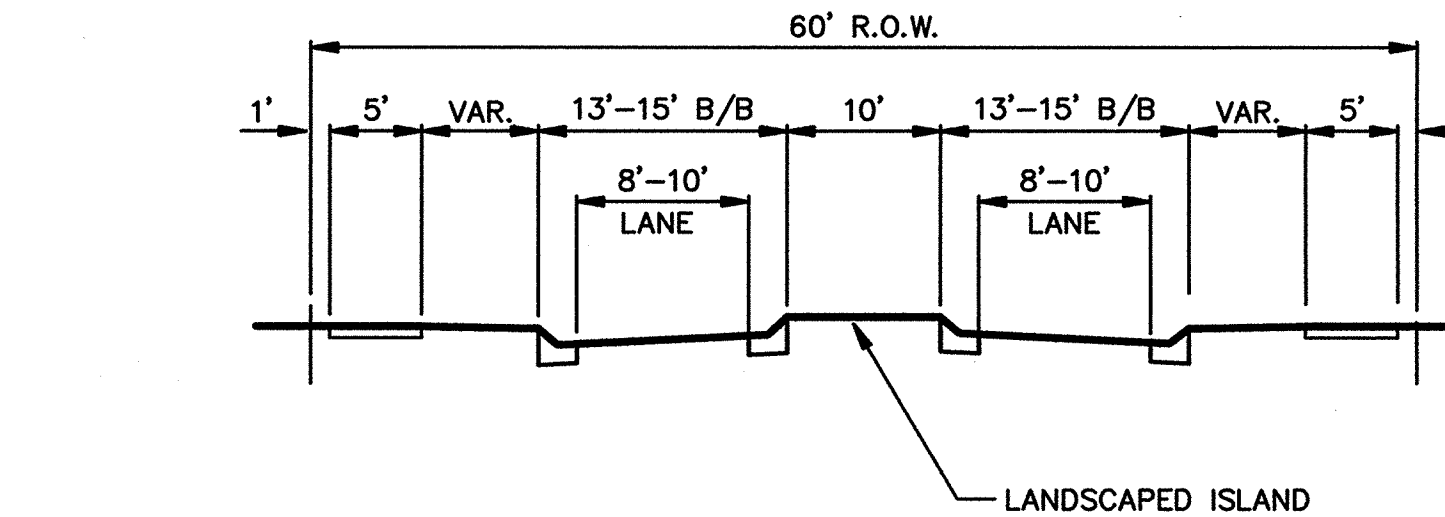
BUTT JOINT DETAIL
NO SCALE



SPILLWAY DETAIL



TRAFFIC CALMING BOULEVARD
 (REFERENCE TO: CITY OF ROCHESTER HILLS)
 SLOW POINT MIDBLOCK DESIGN STD. DETAIL)



TYPICAL ROAD CROSS-SECTION FOR 60 FT. WIDE ROAD RIGHTS-OF-WAY - SECTION A-A
NO SCALE

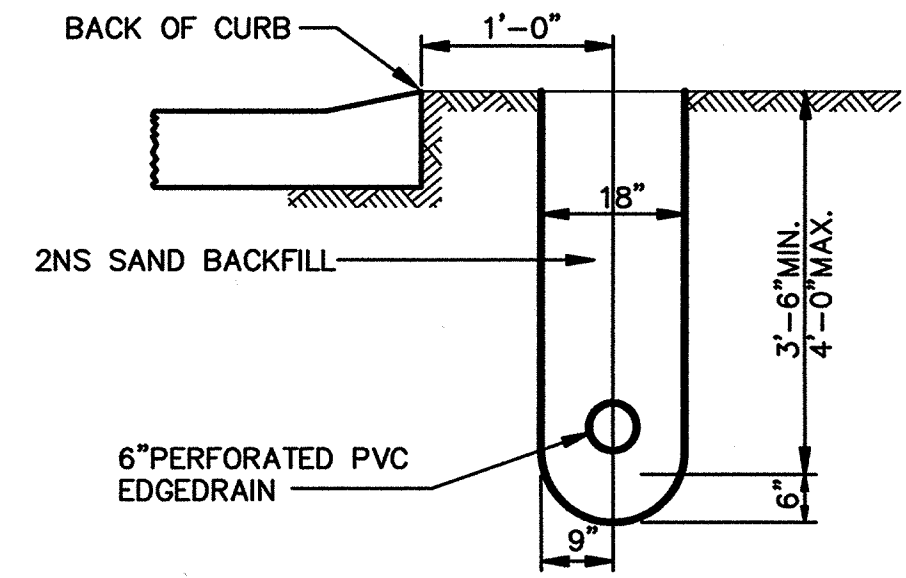
PAVING NOTES:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS AND M.D.O.T.
 2. THE CONTRACTOR SHALL REMOVE ALL UNSUITABLE SOIL MATERIAL AS WELL AS BRUSH, TREES, TREE STUMPS AND SIMILAR MATERIALS FROM THE FULL WIDTH OF THE ROADWAY.
 3. ALL PUBLIC ROADWAYS SHALL BE 8-INCH DEEP STRENGTH ASPHALT OVER 6-INCHES OF 21AA CRUSHED NATURAL AGGREGATE. REFER TO STANDARD DETAILS PLAN SHEET.
 4. ALL ROADWAY CURB AND GUTTER SHALL BE 4-INCH MOUNTABLE CONCRETE INSTALLED WITH 6-INCH CONTINUOUS EDGEDRAIN (REFER TO STORM SEWER NOTES).
- SIDEWALKS SHALL BE 4-INCH THICK, AIR-ENTRAINED CONCRETE, AT 3500 PSI COMPRESSIVE STRENGTH. SIDEWALK THICKNESS SHALL BE INCREASED TO 6-INCHES THROUGH DRIVEWAYS. SIDEWALK BASE SHALL 6-INCHES OF MDOT 2NS SAND, COMPACTED TO 98% MAXIMUM DENSITY.

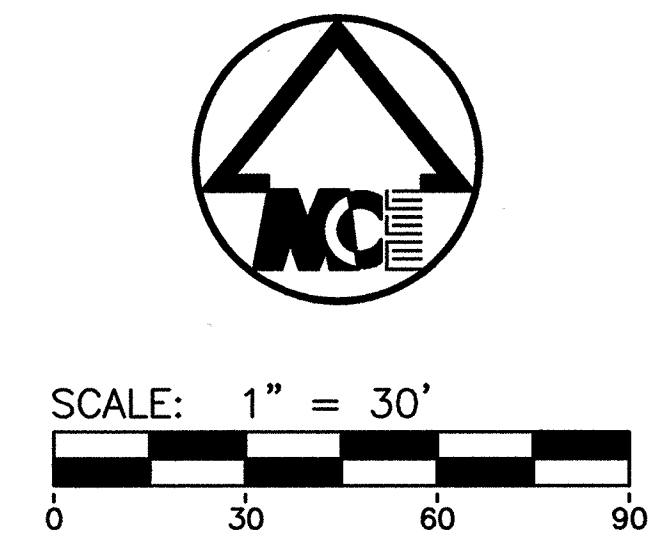
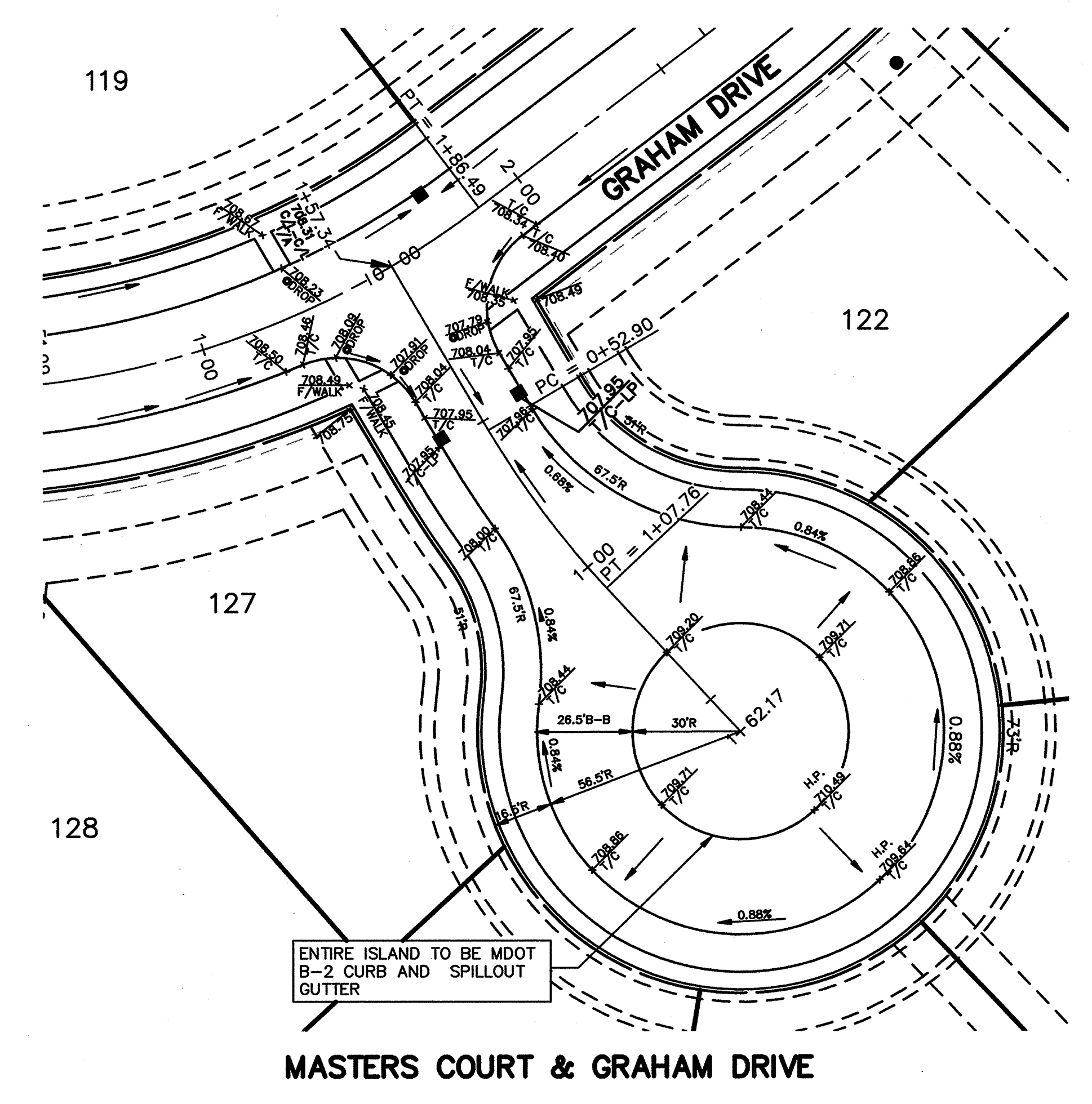
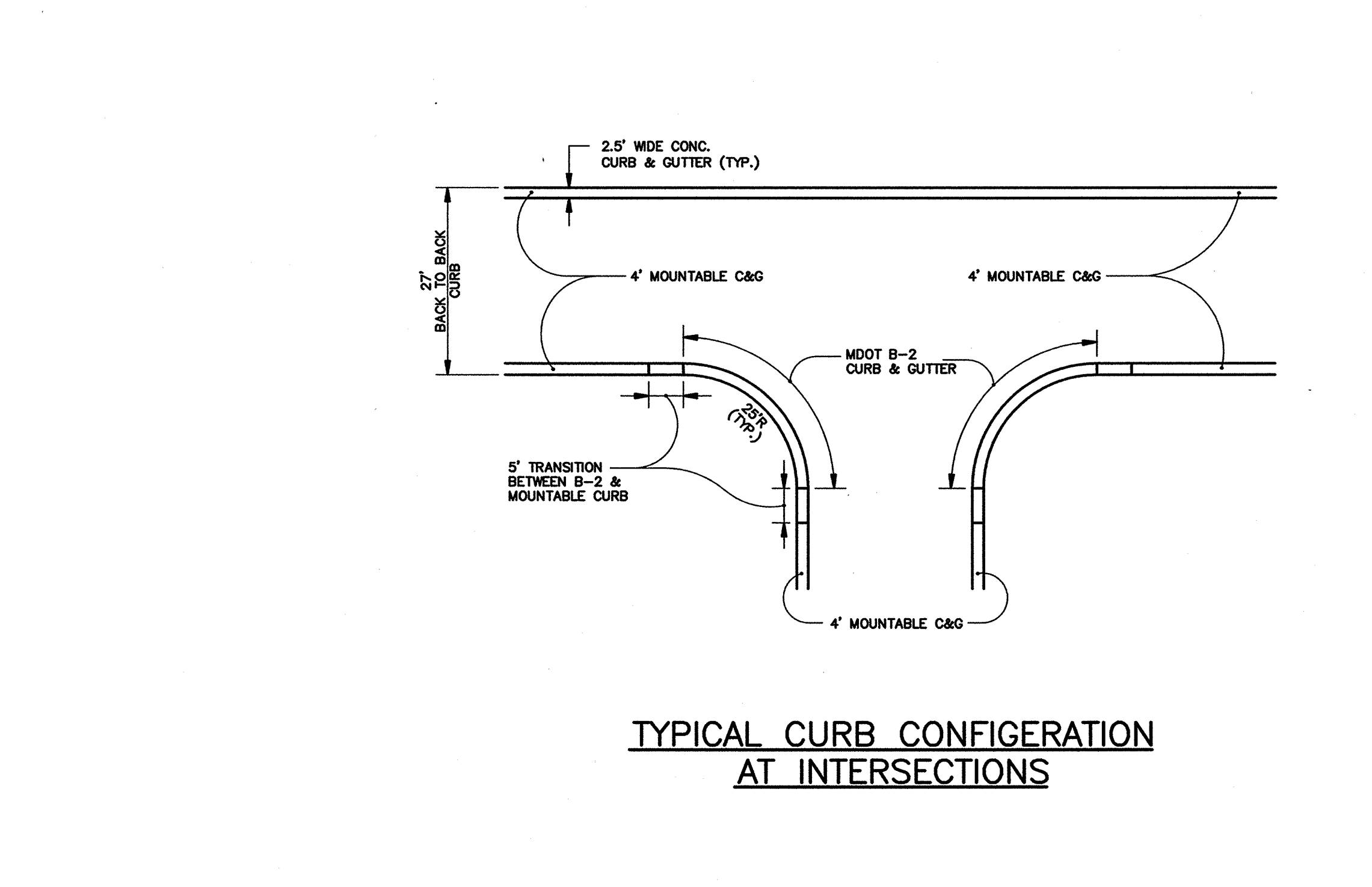
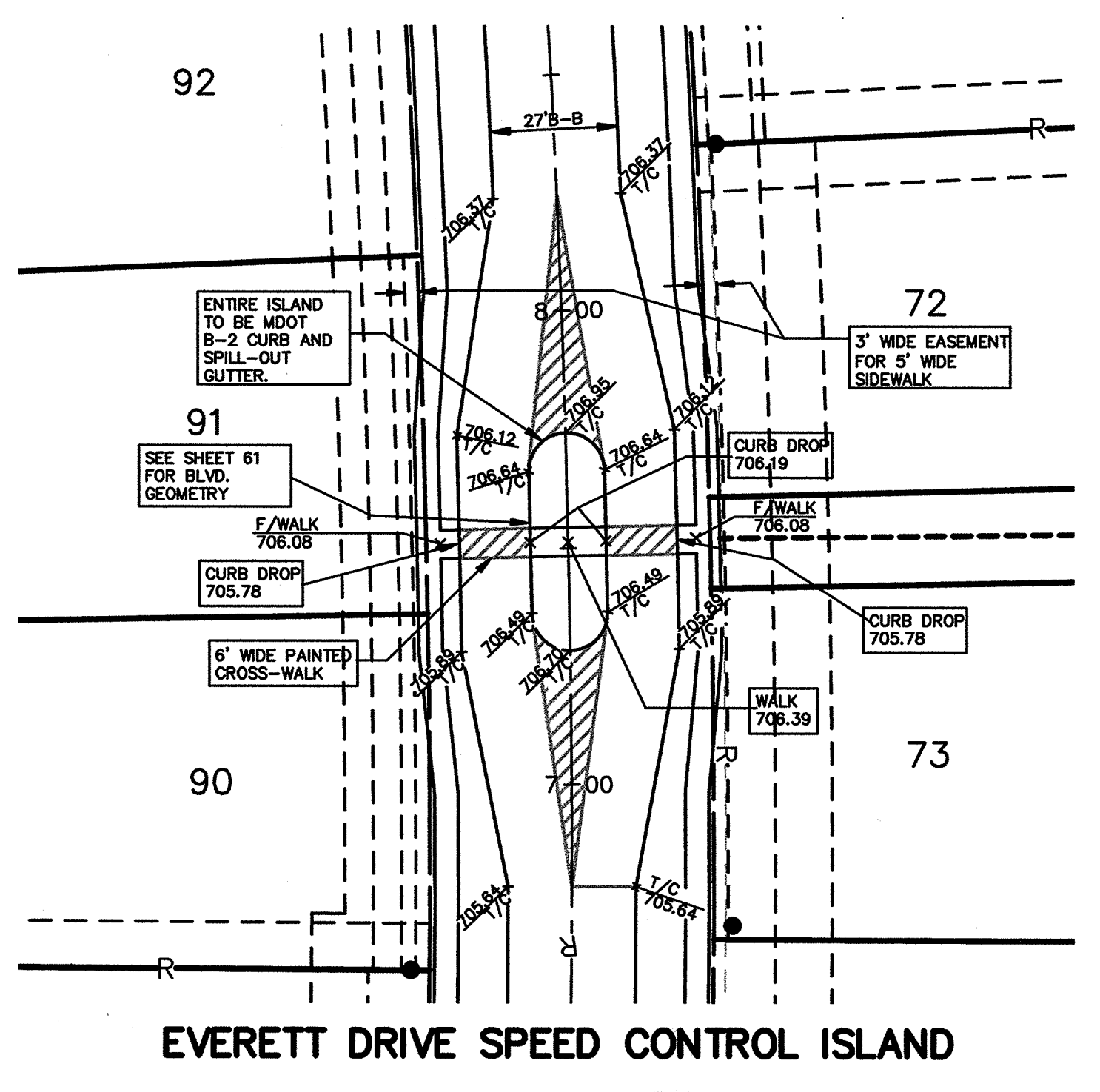
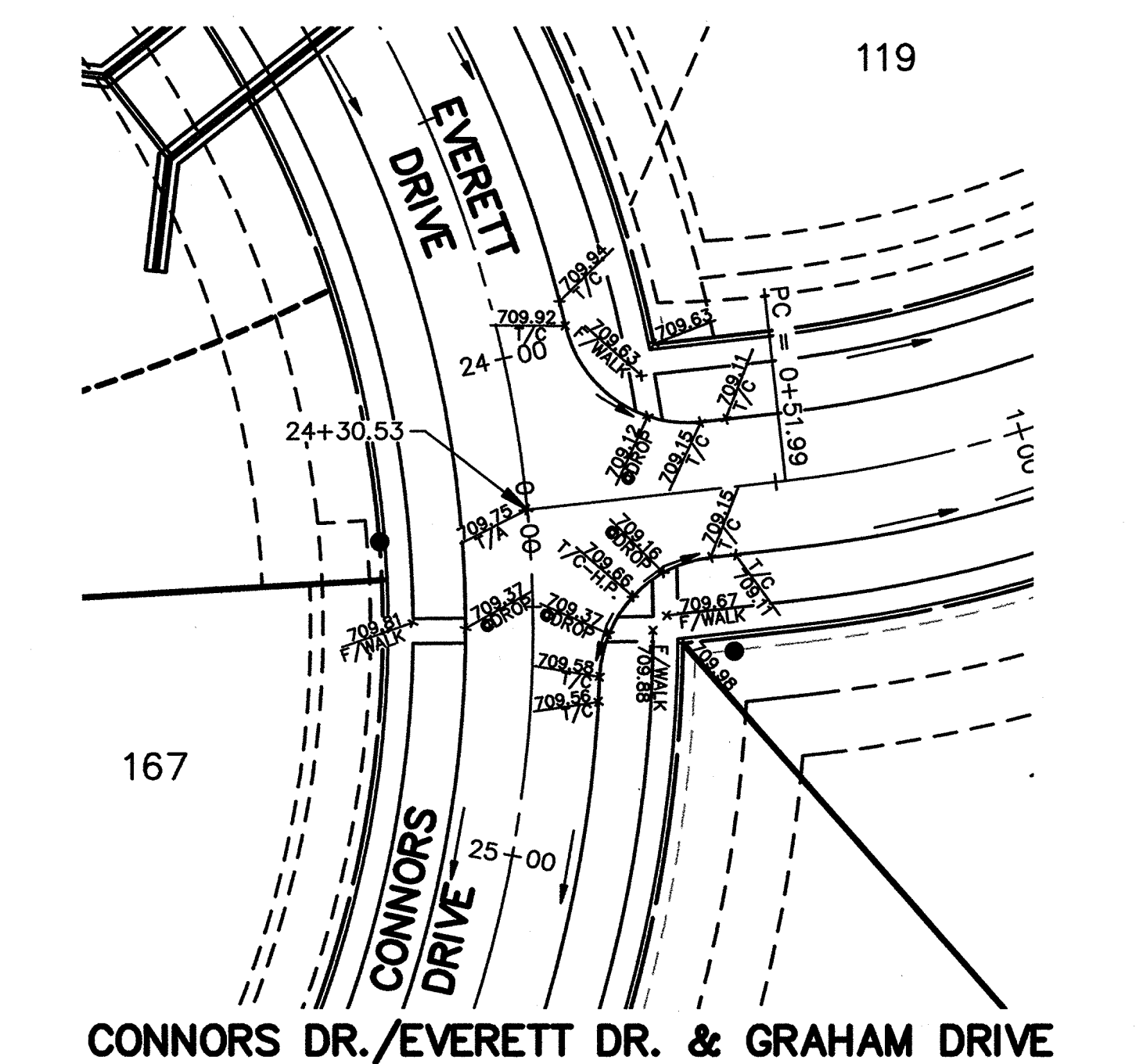
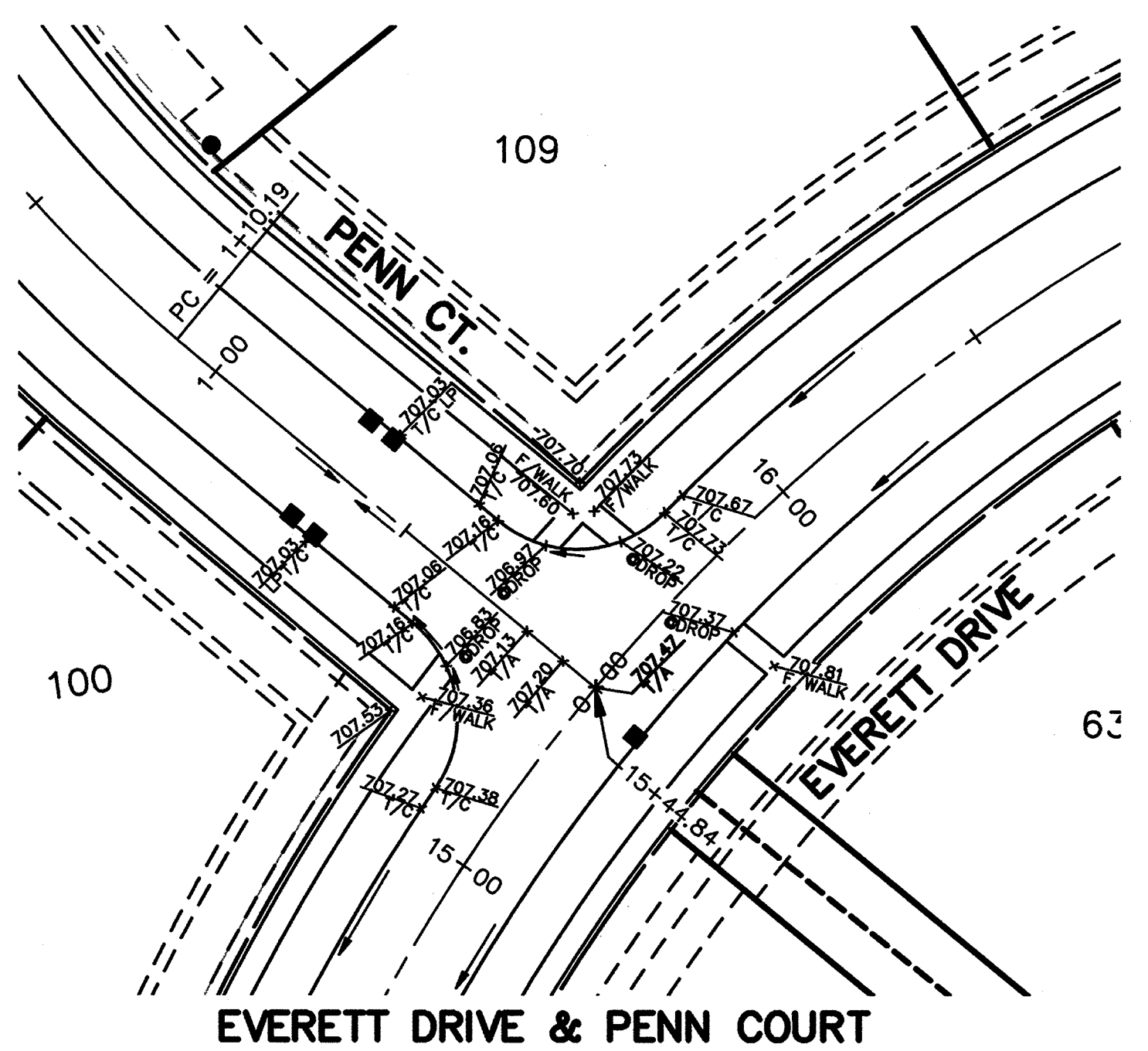
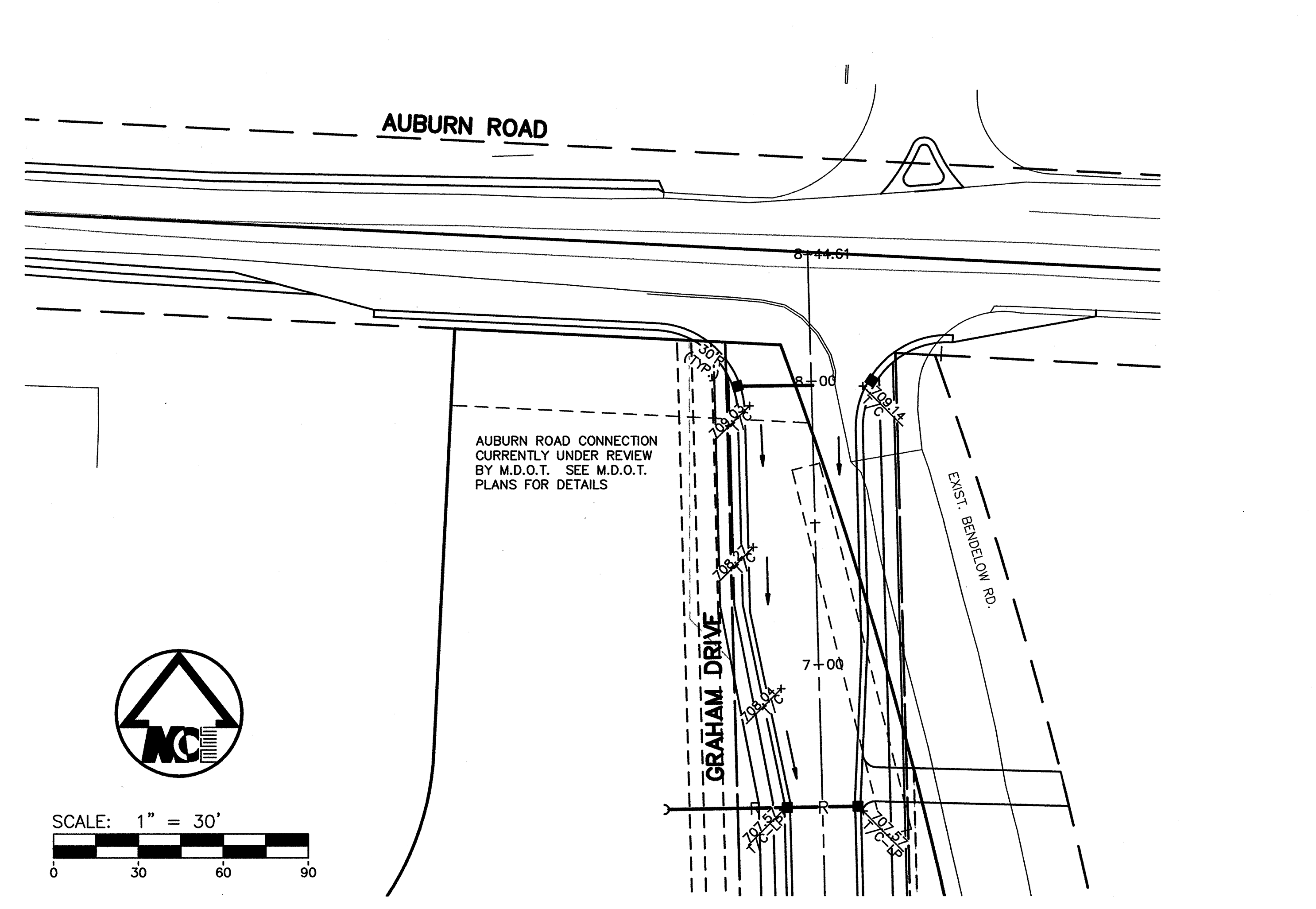
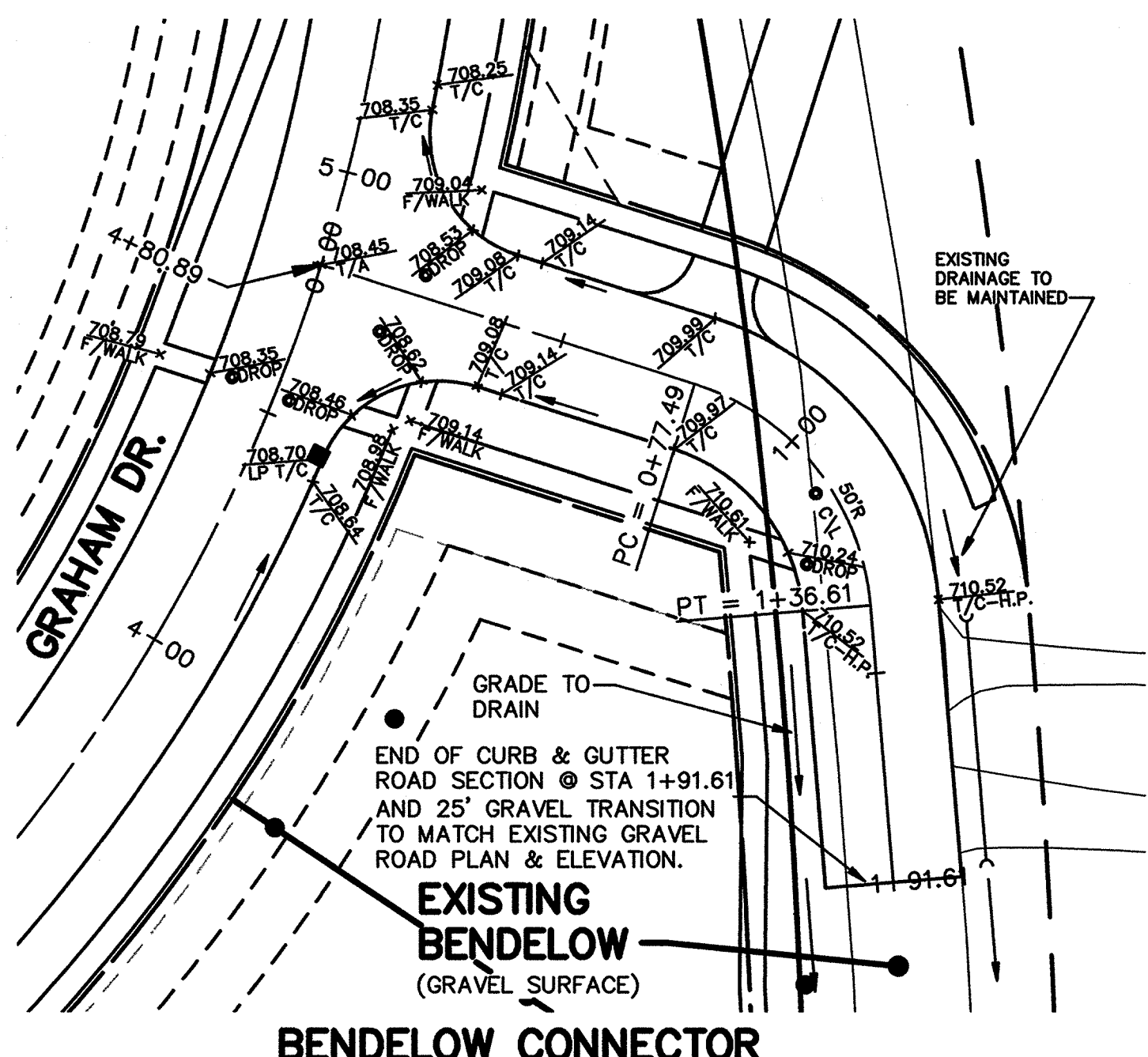
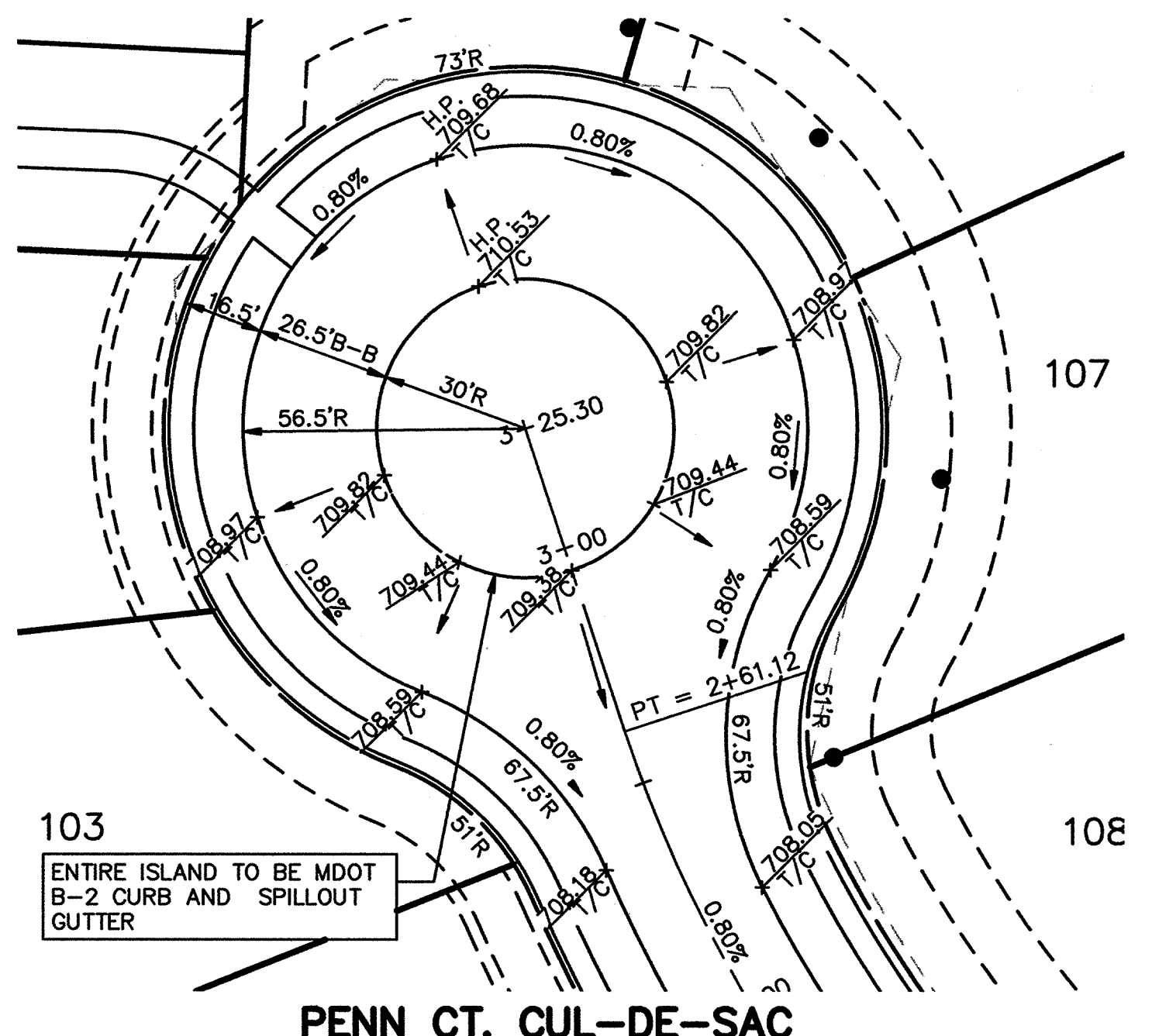
QUANTITIES FOR CONCRETE SHOULDER GUTTER DETAIL 2 USED WITH CONCRETE CURB AND GUTTER:
 DETAIL C1 OR C2 = 1.4 CU. YDS.
 DETAIL C3 OR C4 = 1.5 CU. YDS.
 DETAIL C5 OR C6 = 1.7 CU. YDS.
 DETAIL D1 OR D2 = 1.6 CU. YDS.
 36 POUNDS REINFORCING STEEL.

DETAIL 2

FOR USE AT END OF CURB



EDGE DRAIN DETAILS



MIDWESTERN CONSULTING
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Landscape Architects
3815 Plaza Drive
Bloomington, IL 61802
Ph: 734.985.0200
Fax: 734.985.0599

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40900 WOODWARD AVE., SUITE 130
BLOOMFIELD HILLS, MI. 48304
(248)-540-8040

COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
PHASE 2 - DETAILED CONSTRUCTION PLANS
INTERSECTION DETAILS

55

JOB No.	02325
DATE	09-30-03
SHEET	55 OF 74
REV. DATE	12-19-03
PER CITY/CHM REVIEW	02-12-04
PER CH-23-04 OSCC MEETING	09-10-04
PER CH-27-04 CITY MEETING	09-23-04
REV. DATE	02-19-03
CADD: SRG, WAL, FJC	
ENG: JCA, WJR, LDM	
CHK: DMB	
INSTR: 02325DT1	
DRW:	

CITY FILE NO. 97-004.2, SECTION NO. 35

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SOIL EROSION CONTROL NOTES:

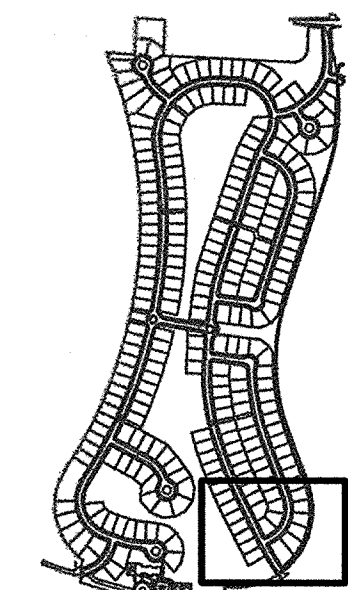
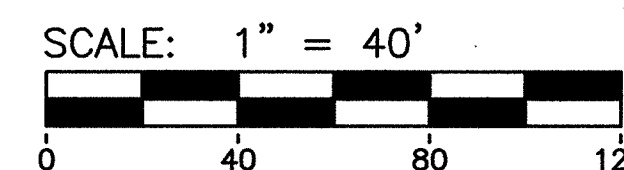
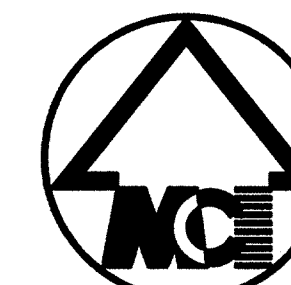
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SOIL EROSION LEGEND

- (E-7) RIP-RAP
- (SI-3) INLET SEDIMENT PIT
- (SI-4) STRAW BALE INLET FILTER
- (SI-5) CURB & GUTTER INLET FILTER BEFORE AND AFTER PAVING
- (SI-6) DETENTION BASIN OUTLET FILTER (CMP)
- (SP-2) SILT FENCE
- (SO-5) DITCH SEDIMENT TRAP
- (SP-7) STONE FILTER

LEGEND

- 838 EXIST. CONTOUR
- 838 PROP. CONTOUR
- x836.2 EXIST. SPOT ELEVATION
- 36.60 PROP. SPOT ELEVATION
- U.P. EXIST. UTILITY POLE
- OH EXIST. OVERHEAD UTILITY LINE
- EXIST. TELEPHONE LINE
- EXIST. ELECTRIC LINE
- EXIST. GAS LINE
- EXIST. WATER MAIN
- PROP. WATER MAIN
- EXIST. HYDRANT
- PROP. HYDRANT
- EXIST. GATE VALVE IN BOX
- PROP. GATE VALVE IN BOX
- EXIST. GATE VALVE IN WELL
- PROP. GATE VALVE IN WELL
- EXIST. CURB STOP & BOX
- PROP. CURB STOP & BOX
- EXIST. STORM SEWER
- PROP. STORM SEWER
- DRAINAGE DIRECTION
- TP TREE PROTECTION FENCING
- PROP. STORM SEWER
- EXIST. CATCH BASIN OR INLET
- PROP. CATCH BASIN OR INLET
- END SECTION W/ RIP-RAP
- HEAD WALL
- CULVERT
- EXIST. SANITARY SEWER
- PROP. SANITARY SEWER
- EXIST. CLEANOUT
- PROP. CLEANOUT
- Q OF DITCH OR EDGE OF WATER
- SINGLE TREE
- FENCE
- TREE OR BRUSH LIMIT
- SECTION CORNER
- PROPOSED FLOODPLAIN LIMITS
- WETLAND LIMITS
- C/L PROPOSED PEDESTRIAN PATH (SEE SHEET #74 FOR DETAIL)
- PHASE 2 CONSTRUCTION LIMIT
- PROP. FILL AREA COMPACTED TO 95% OF MAX. UNIT DENSITY AT APPROX. GARAGE LOCATION (32' WIDE & 35' TO 60' LONG)

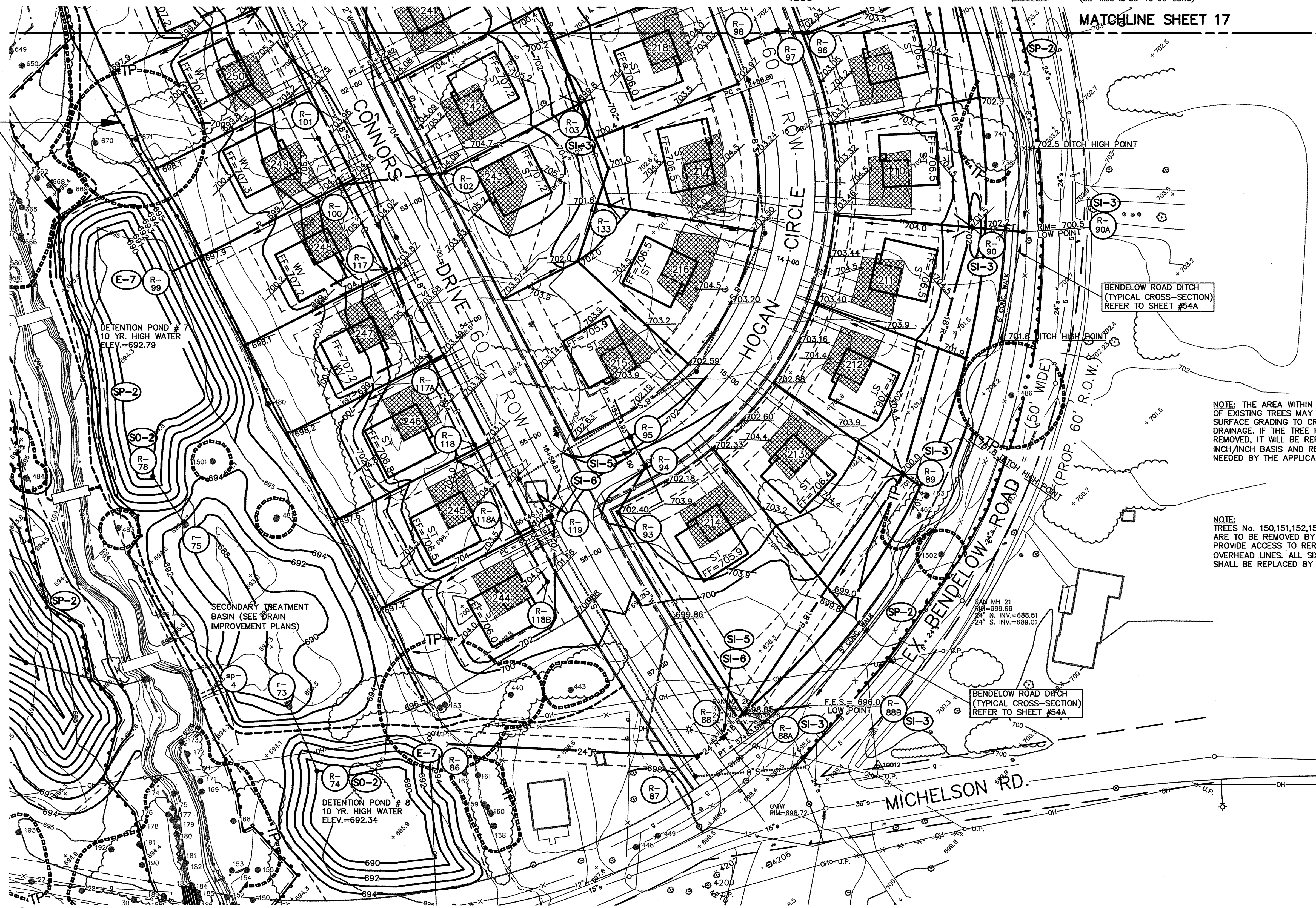


SHEET LOCATION
NO SCALE

MATCHLINE SHEET 17

SILT FENCE
(SEE SOIL EROSION CONTROL NOTE #11)

FINAL LOCATION OF SILT FENCE ALONG FERRY DRAIN TO BE CONSISTENT WITH CITY OF ROCHESTER HILLS. NATURAL FEATURES SETBACK REQUIREMENTS. (REF: SHEETS #72 & #73)



BENDELOW ROAD DITCH (TYPICAL CROSS-SECTION) REFER TO SHEET #54A

BENDELOW ROAD DITCH (TYPICAL CROSS-SECTION) REFER TO SHEET #54A

NOTE: THE AREA WITHIN THE DRIFLINE OF EXISTING TREES MAY REQUIRE SOME SURFACE GRADING TO CREATE POSITIVE DRAINAGE. IF THE TREE IS DAMAGED OR REMOVED, IT WILL BE REPLACED ON AN INCH/INCH BASIS AND REMOVED AS NEEDED BY THE APPLICANT.

NOTE: TREES No. 150,151,152,157,448&449 ARE TO BE REMOVED BY DTE TO PROVIDE ACCESS TO REROUTE SOME OVERHEAD LINES. ALL SIX (6) TREES SHALL BE REPLACED BY THE DEVELOPER.

MIDWESTERN CONSULTING
Civil, Environmental and Transportation Engineers Planners, Surveyors Landscape Architects
3815 Plaza Drive Ann Arbor, Michigan 48108
Phone: 734-995-0200 Fax: 734-995-0999

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(248)-540-8040

COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
PHASE 2 - DETAILED CONSTRUCTION PLANS
GRADING AND SOIL EROSION CONTROL PLAN

18

JOB NO. 02325
DATE: 9-30-03 SHEET 18 OF 74
REV. DATE: 12-19-03
REV. DATE: 02-12-04
REV. DATE: 04-02-04
REV. DATE: 08-10-04
REV. DATE: 08-03-04

CADD: SRG, WAI, FIC
ENG: JCA, MAR, BMC, DIM
P.L.: DMB
CHECKED: JCA, MAR, BMC, DIM
DATE: 02-12-04
DATE: 04-02-04
DATE: 08-10-04
DATE: 08-03-04

PER CITY/CHM REVIEW
PER CITY/CHM REVIEW
PER CITY/CHM REVIEW
PER CITY/CHM REVIEW
PER CITY/CHM REVIEW

CITY FILE NO. 97-004.2, SECTION NO. 35

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SOIL EROSION CONTROL NOTES:

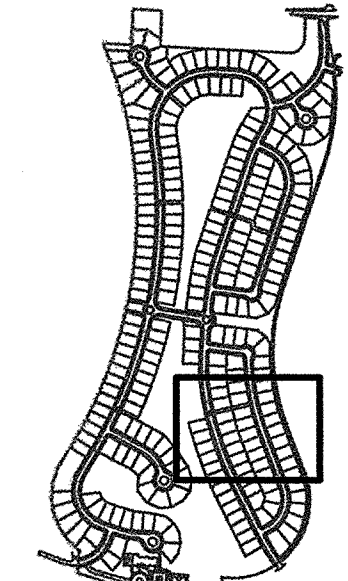
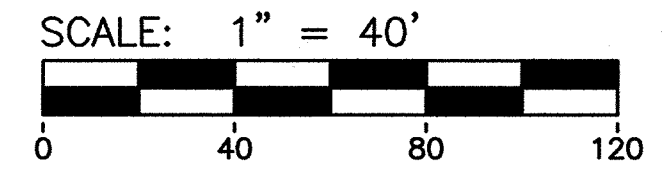
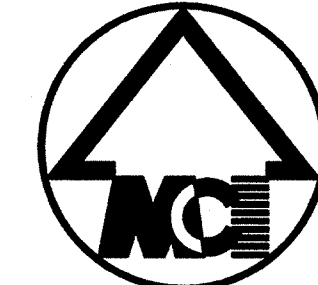
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LEGEND

- 838 EXIST. CONTOUR
- 838 PROP. CONTOUR
- +836.2 EXIST. SPOT ELEVATION
- 36.60 PROP. SPOT ELEVATION
- U.P. EXIST. UTILITY POLE
- GUY WIRE
- OH ELEC. TRANSFORMER
- OH EXIST. OVERHEAD UTILITY LINE
- t EXIST. TELEPHONE LINE
- e EXIST. ELECTRIC LINE
- w EXIST. WATER MAIN
- W PROP. WATER MAIN
- EXIST. HYDRANT
- PROP. HYDRANT
- EXIST. GATE VALVE IN BOX
- PROP. GATE VALVE IN BOX
- EXIST. GATE VALVE IN WELL
- PROP. GATE VALVE IN WELL
- EXIST. CURB STOP & BOX
- PROP. CURB STOP & BOX
- EXIST. STORM SEWER
- DRAINAGE DIRECTION
- TP TREE PROTECTION FENCING
- R PROP. STORM SEWER
- EXIST. CATCH BASIN OR INLET
- PROP. CATCH BASIN OR INLET
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- HEAD WALL
- CULVERT
- EXIST. SANITARY SEWER
- PROP. SANITARY SEWER
- EXIST. CLEANOUT
- PROP. CLEANOUT
- C/O OF DITCH OR EDGE OF WATER
- SINGLE TREE
- FENCE
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- SECTION CORNER
- PROPOSED FLOODPLAIN LIMITS
- WETLAND LIMITS
- C/L PROPOSED PEDESTRIAN PATH (SEE SHEET #74 FOR DETAIL)
- PHASE 2 CONSTRUCTION LIMIT
- PROP. FILL AREA COMPACTED TO 95% OF MAX. UNIT DENSITY AT APPROX. GARAGE LOCATION (32' WIDE & 35' TO 60' LONG)



SHEET LOCATION
NO SCALE

FINAL LOCATION OF SILT FENCE ALONG FERRY DRAIN TO BE CONSISTENT WITH CITY OF ROCHESTER HILLS. NATURAL FEATURES SETBACK REQUIREMENTS. (REF: SHEET # 72 & 73)

SILT FENCE (SEE SOIL EROSION CONTROL NOTE #11)



MATCHLINE SHEET 16

MATCHLINE SHEET 18

MIDWESTERN CONSULTING
Civil, Environmental and Transportation Engineers
Planners, Surveyors
Landscape Architects
3615 Plaza Drive
Ann Arbor, MI 48108
Tel: 734.986.0200
Fax: 734.986.0599

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40900 WOODWARD AVE., SUITE 130
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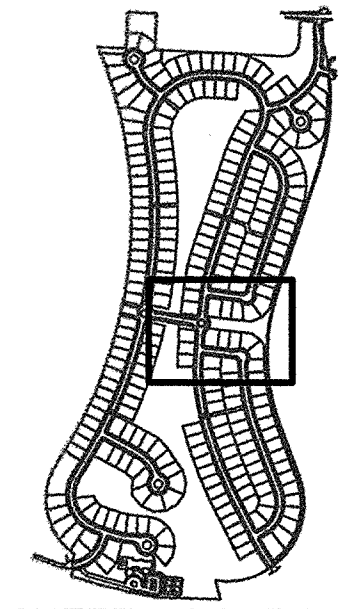
COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
PHASE 2 - DETAILED CONSTRUCTION PLANS
GRADING AND SOIL EROSION CONTROL PLAN

17

JOB No.	02325
REV. DATE	9-30-03
SHEET	17 OF 74
REV. DATE	12-19-03
REV. DATE	02-12-04
REV. DATE	04-07-04
REV. DATE	05-16-04
REV. DATE	08-03-04

CITY FILE NO. 97-004.2, SECTION NO. 35

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SHEET LOCATION
NO SCALE

SILT FENCE
(SEE SOIL EROSION CONTROL NOTE #11)

SOIL EROSION CONTROL NOTES:

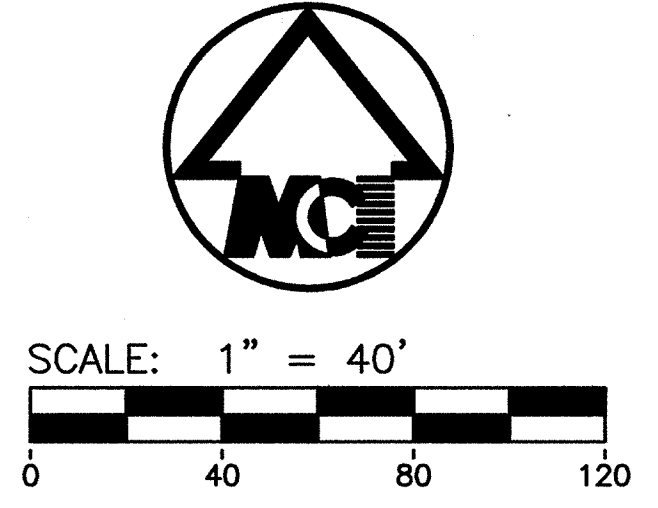
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- CB EXIST. CATCH BASIN OR INLET
- CB PROP. CATCH BASIN OR INLET
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- SS EXIST. SANITARY SEWER
- SS PROP. SANITARY SEWER
- CL EXIST. CLEANOUT
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3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171



FINAL LOCATION OF SILT FENCE ALONG FERRY DRAIN TO BE CONSISTENT WITH CITY OF ROCHESTER HILLS. NATURAL FEATURES SETBACK REQUIREMENTS. (REF: SHEET# 72 & 73)

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REFER TO SHEET 48 FOR STORM PROFILE

BENDELOW ROAD DITCH (TYPICAL CROSS-SECTION) REFER TO SHEET #54A

REFER TO SHEET 47 FOR STORM PROFILE

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COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
PHASE 2 - DETAILED CONSTRUCTION PLANS
GRADING AND SOIL EROSION CONTROL PLAN

16

DATE: 9-30-03
SHEET 16 OF 74

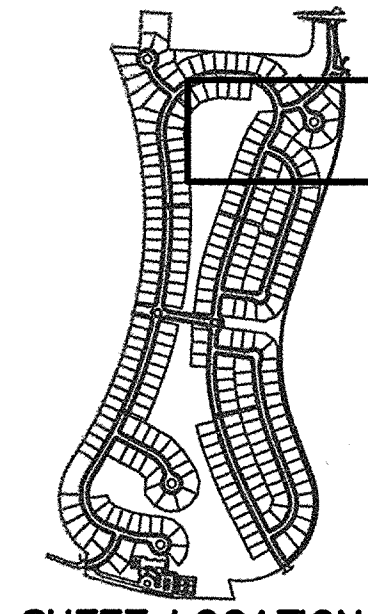
JOB No.	02325
REVISIONS:	
PERK CITY/CHM REVIEW	12-18-03 CADD SRG. WAJ, FJC
PERK CITY/CHM REVIEW	02-12-04 ENG. JCK, MR, DM, BJC
PERK CITY/CHM REVIEW	04-27-04 TECH. DMB
PERK CITY/CHM REVIEW	05-10-04 CRISTO/02325GPG
PERK CITY/CHM REVIEW	05-03-04 PERK

CITY FILE NO. 97-004.2, SECTION NO. 35

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- Soil erosion control fencing will be placed at the top of detention pond and drain slopes prior to clean-out operations, and shall remain in place until vegetation is established in disturbed areas.



SHEET LOCATION
NO SCALE

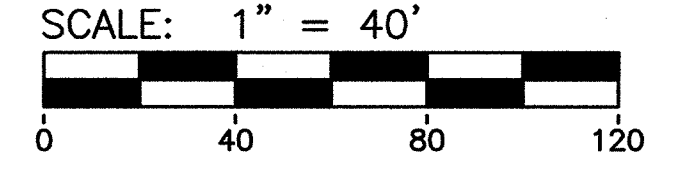
SOIL EROSION LEGEND

- (E-7) RIP-RAP
- (SI-3) INLET SEDIMENT PIT
- (SI-4) STRAW BALE INLET FILTER
- (SI-5) CURB & GUTTER INLET FILTER BEFORE AND AFTER PAVING
- (SI-6) DETENTION BASIN OUTLET FILTER (CMP)
- (SP-2) SILT FENCE
- (SO-5) DITCH SEDIMENT TRAP
- (SP-7) STONE FILTER

- 838 EXIST. CONTOUR
- 836 PROP. CONTOUR
- x836.2 EXIST. SPOT ELEVATION
- 36.60 PROP. SPOT ELEVATION
- U.P. EXIST. UTILITY POLE
- OH ELEC. TRANSFORMER
- OH EXIST. OVERHEAD UTILITY LINE
- T EXIST. TELEPHONE LINE
- G EXIST. GAS LINE
- W EXIST. WATER MAIN
- W PROP. WATER MAIN
- H EXIST. HYDRANT
- H PROP. HYDRANT
- G EXIST. GATE VALVE IN BOX
- G PROP. GATE VALVE IN BOX
- W EXIST. GATE VALVE IN WELL
- W PROP. GATE VALVE IN WELL
- X EXIST. CURB STOP & BOX
- X PROP. CURB STOP & BOX
- S EXIST. STORM SEWER
- S PROP. STORM SEWER
- DRAINAGE DIRECTION
- TP TREE PROTECTION FENCING

LEGEND

- R- EXIST. CATCH BASIN OR INLET
- R- PROP. CATCH BASIN OR INLET
- R- EXIST. SECTION W/ RIP-RAP
- R- HEAD WALL
- R- CULVERT
- R- EXIST. SANITARY SEWER
- R- PROP. SANITARY SEWER
- R- EXIST. CLEANOUT
- R- PROP. CLEANOUT
- R- C/O OF DITCH OR EDGE OF WATER
- R- SINGLE TREE
- R- FENCE
- R- TREE OR BRUSH LIMIT
- R- SECTION CORNER
- R- PROPOSED FLOODPLAIN LIMITS
- R- WETLAND LIMITS
- R- C/L PROPOSED PEDESTRIAN PATH (SEE SHEET #74 FOR DETAIL)
- R- PHASE 2 CONSTRUCTION LIMIT
- R- PROP. FILL AREA COMPACTED TO 95% OF MAX. UNIT DENSITY AT APPROX. GARAGE LOCATION (32' WIDE & 35' TO 60' LONG)



NOTE: THE AREA WITHIN THE DRIPLINE OF EXISTING TREES MAY REQUIRE SOME SURFACE GRADING TO CREATE POSITIVE DRAINAGE. IF THE TREE IS DAMAGED OR REMOVED, IT WILL BE REPLACED ON AN INCH/INCH BASIS AND REMOVED AS NEEDED BY THE APPLICANT.

BENDELOW ROAD DITCH (TYPICAL CROSS-SECTION) REFER TO SHEET #54A

REFER TO SHEET 54A FOR STORM PROFILE

MIDWESTERN CONSULTING
Civil, Environmental and Transportation Engineers
3815 Plaza Drive
Farmington Hills, Michigan 48108
Phone: 734.985.0200
Fax: 734.985.0599

COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
EAST COURSE LTD. PARTNERSHIP
40900 WOODWARD AVE., SUITE 130
BLOOMFIELD HILLS, MI. 48304

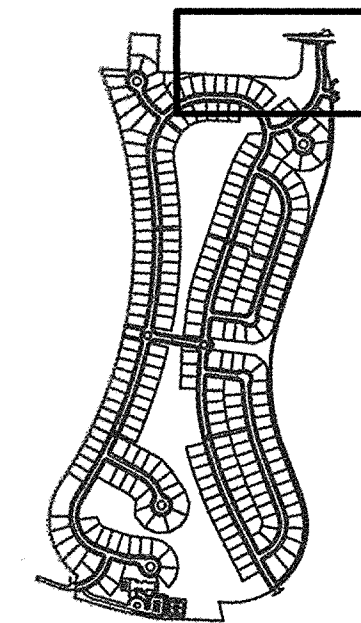
PHASE 2 - DETAILED CONSTRUCTION PLANS
GRADING AND SOIL EROSION CONTROL PLAN

14

JOB No.	02325
DATE:	9-30-03
REV. DATE	SHEET 14 OF 74
PER CITY/CHM REVIEW	12-19-03 CADD: SRG, WAJ, FJC
PER CIVIL/ENR REVIEW	02-12-04 ENGR: JOR, MR, DM, BJC
PER CIVIL/ENR REVIEW	04-27-04 ENGR: JOR, MR, DM, BJC
PER CIVIL/ENR REVIEW	05-10-04 ENGR: JOR, MR, DM, BJC
PER CIVIL/ENR REVIEW	05-03-04 ENGR: JOR, MR, DM, BJC

CITY FILE NO. 97-004.2, SECTION NO. 35

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SHEET LOCATION
NO SCALE

SOIL EROSION CONTROL NOTES:

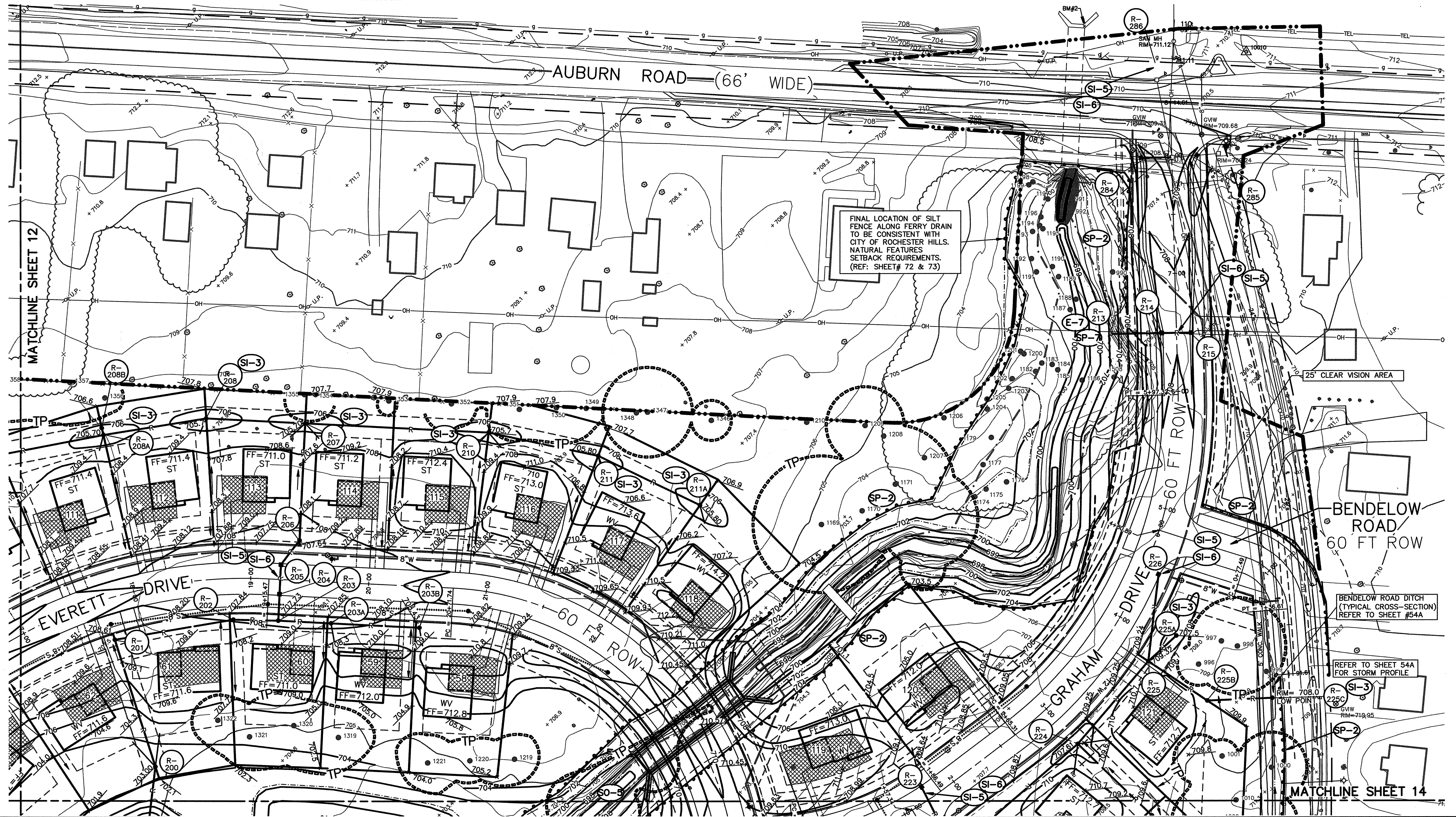
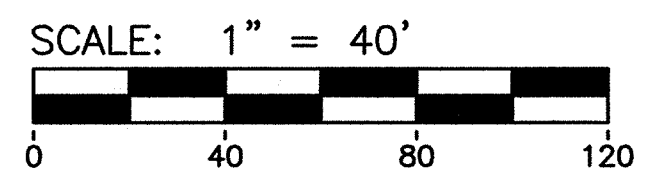
- All erosion and sediment control work shall conform to standards and specifications of the Oakland County Drain Commissioner.
- All temporary and permanent (post construction) soil erosion and sediment control measures shall conform to the City of Rochester Hills current MS4 permit. Any conflict between these standards and the MS4 permit, the permit's conditions shall take precedence.
- Daily inspections shall be made by the Contractor for effectiveness of erosion and sedimentation control measures, and any necessary repairs shall be performed without delay.
- Any sedimentation from work on this site shall be contained on the site and not allowed to collect on any off-site areas or in waterways.
- Contractor shall apply temporary erosion and sedimentation control measures when required and as directed on these plans. He shall remove temporary measures as soon as permanent stabilization of slopes, ditches, and other earth changes have been accomplished. This would include temporary sedimentation ponds and temporary SO2 filters.
- Staging the work will be done by the Contractor as directed in these plans and as required to ensure progressive stabilization of disturbed earth.
- Soil erosion control practices shall be established in the early stages of construction by the Contractor. Sediment control practices will be applied as a perimeter defense against any transporting of silt off the site.
- For grading at phase 1 & 2 interface, refer to phase 1 construction plans and O.C.D.C. soil erosion control permit #RHC/2003-0789/35/DC.
- For construction within the Ferry (Gibson) Drain easement/R.O.W., refer to M.D.E.Q. flood plain use permit #03-63-0092-P and O.C.D.C. Ferry Drain improvement plans. (MCLIC #02325, 9-22-03).
- Turf reinforcement matting shall be used on all disturbed drain side slopes, and installed per manufacturers specifications.
- Soil erosion control fencing will be placed at the top of detention pond and drain slopes prior to clean-out operations, and shall remain in place until vegetation is established in disturbed areas.

SOIL EROSION LEGEND

- (E-7) RIP-RAP
- (SI-3) INLET SEDIMENT PIT
- (SI-4) STRAW BALE INLET FILTER
- (SI-5) CURB & GUTTER INLET FILTER BEFORE AND AFTER PAVING
- (SI-6) DETENTION BASIN OUTLET FILTER (CMP)
- (SP-2) SILT FENCE
- (SO-5) DITCH SEDIMENT TRAP
- (SP-7) STONE FILTER

LEGEND

- 838 EXIST. CONTOUR
- 838 PROP. CONTOUR
- x836.2 EXIST. SPOT ELEVATION
- 36.60 PROP. SPOT ELEVATION
- U.P. EXIST. UTILITY POLE
- OH EXIST. OVERHEAD UTILITY LINE
- t EXIST. TELEPHONE LINE
- e EXIST. ELECTRIC LINE
- w EXIST. WATER MAIN
- W PROP. WATER MAIN
- EXIST. HYDRANT
- PROP. HYDRANT
- EXIST. GATE VALVE IN BOX
- PROP. GATE VALVE IN BOX
- EXIST. GATE VALVE IN WELL
- PROP. GATE VALVE IN WELL
- EXIST. CURB STOP & BOX
- PROP. CURB STOP & BOX
- EXIST. STORM SEWER
- PROP. STORM SEWER
- DRAINAGE DIRECTION
- TP TREE PROTECTION FENCING
- R EXIST. CATCH BASIN OR INLET
- PROP. CATCH BASIN OR INLET
- END SECTION W/ RIP-RAP
- HEAD WALL
- CULVERT
- EXIST. SANITARY SEWER
- PROP. SANITARY SEWER
- EXIST. CLEANOUT
- PROP. CLEANOUT
- C OF DITCH OR EDGE OF WATER
- SINGLE TREE
- FENCE
- TREE OR BRUSH LIMIT
- SECTION CORNER
- PROPOSED FLOODPLAIN LIMITS
- WETLAND LIMITS
- C/L PROPOSED PEDESTRIAN PATH (SEE SHEET #74 FOR DETAIL)
- PHASE 2 CONSTRUCTION LIMIT
- PROP. FILL AREA COMPACTED TO 95% OF MAX. UNIT DENSITY AT APPROX. GARAGE LOCATION (32' WIDE & 35' TO 60' LONG)



FINAL LOCATION OF SILT FENCE ALONG FERRY DRAIN TO BE CONSISTENT WITH CITY OF ROCHESTER HILLS. NATURAL FEATURES SETBACK REQUIREMENTS. (REF: SHEET # 72 & 73)

BENDELOW ROAD DITCH (TYPICAL CROSS-SECTION) REFER TO SHEET #54A

REFER TO SHEET 54A FOR STORM PROFILE

MATCHLINE SHEET 14

MIDWESTERN CONSULTING
Civil, Environmental and Transportation Engineers
Planners, Surveyors
Landscape Architects
3815 Plaza Drive
Auburn Hills, Michigan 48108
Phone: 734.985.0200
Fax: 734.985.0599

CLIENT
COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
EAST COURSE LTD. PARTNERSHIP
40900 WOODWARD AVE., SUITE 130
BLOOMFIELD HILLS, MI. 48304
(248)-540-8040

COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
PHASE 2 - DETAILED CONSTRUCTION PLANS
GRADING AND SOIL EROSION CONTROL PLAN

13

JOB No.	02325
DATE	9-30-03
SHEET	13 OF 74
REV. DATE	12-19-03
REV. DATE	02-12-04
REV. DATE	04-27-04
REV. DATE	05-10-04
REV. DATE	05-10-04
REV. DATE	05-10-04
REV. DATE	05-10-04

CITY FILE NO. 97-004.2, SECTION NO. 35

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SOIL EROSION CONTROL NOTES:

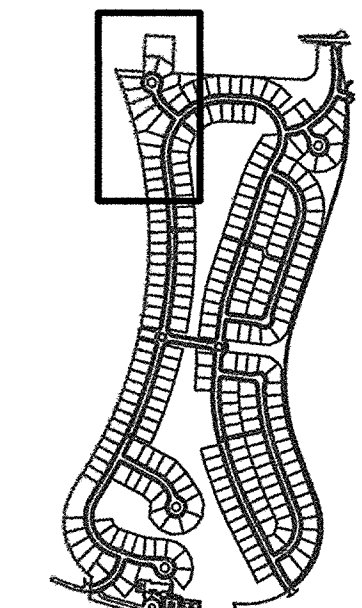
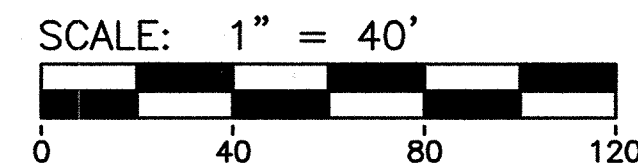
- All erosion and sediment control work shall conform to standards and specifications of the Oakland County Drain Commissioner.
- All temporary and permanent (post construction) soil erosion and sediment control measures shall conform to the City of Rochester Hills current MS4 permit. Any conflict between these standards and the MS4 permit, the permit's conditions shall take precedence.
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- Staging the work will be done by the Contractor as directed in these plans and as required to ensure progressive stabilization of disturbed earth.
- Soil erosion control practices shall be established in the early stages of construction by the Contractor. Sediment control practices will be applied as a perimeter defense against any transporting of silt off the site.
- For grading at phase 1 & 2 interface, refer to phase 1 construction plans and O.C.D.C. soil erosion control permit #RHC/2003-0789/25/DC.
- For construction within the Ferry (Gibson) Drain easement/R.O.W., refer to M.D.E.Q. flood plain use permit #03-63-0092-P and O.C.D.C. Ferry Drain improvement plans. (MCLLC #02325, 9-22-03)
- Turf reinforcement matting shall be used on all disturbed drain side slopes, and installed per manufacturers specifications.
- Soil erosion control fencing will be placed at the top of detention pond and drain slopes prior to clean-out operations, and shall remain in place until vegetation is established in disturbed areas.

SOIL EROSION LEGEND

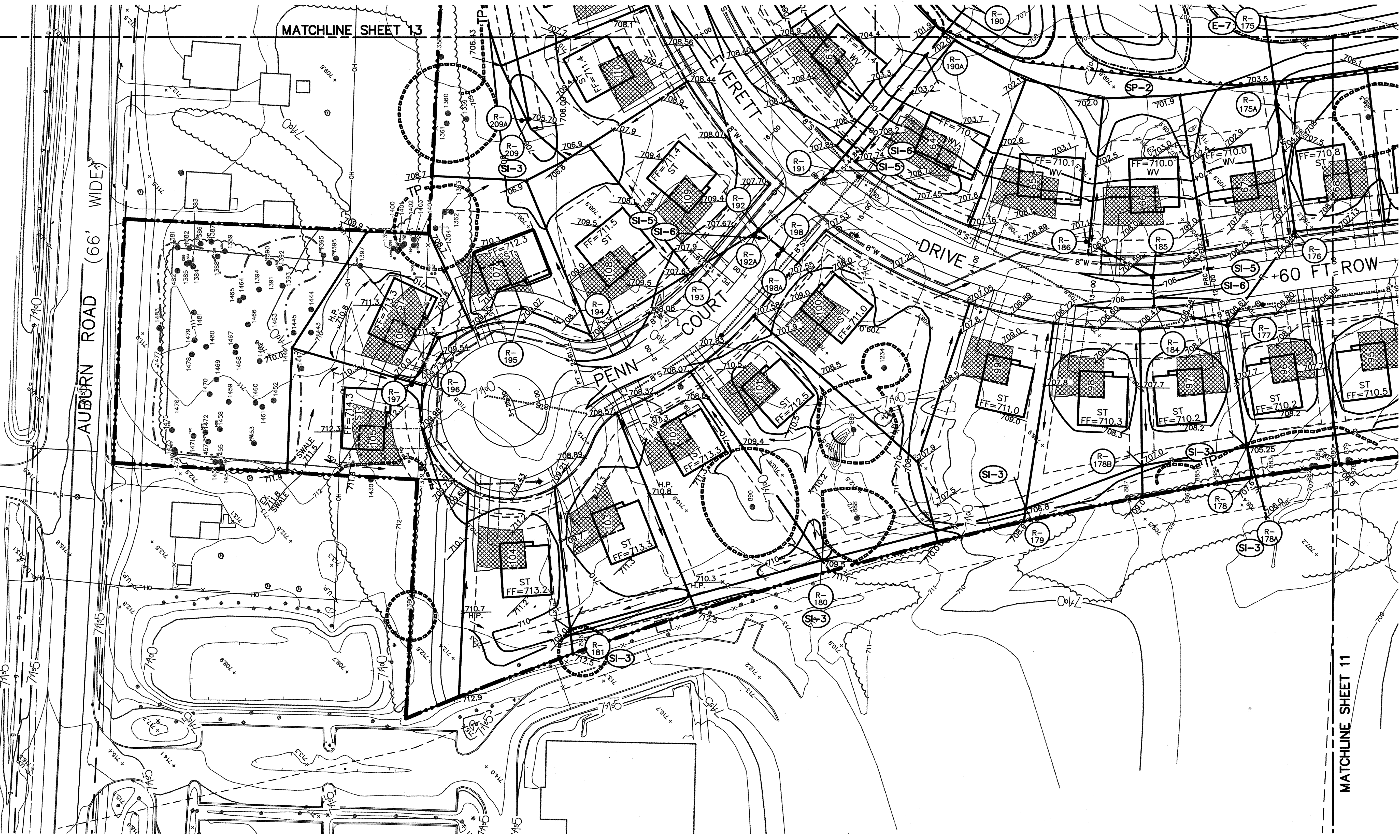
- (E-7) RIP-RAP
- (SI-3) INLET SEDIMENT PIT
- (SI-4) STRAW BALE INLET FILTER
- (SI-5) CURB & GUTTER INLET FILTER BEFORE AND AFTER PAVING
- (SI-6) DETENTION BASIN OUTLET FILTER (CMP)
- (SP-2) SILT FENCE
- (SO-5) DITCH SEDIMENT TRAP
- (SP-7) STONE FILTER

LEGEND

- 838 PROP. CONTOUR
- 838 EXIST. CONTOUR
- x836.2 EXIST. SPOT ELEVATION
- 36.60 PROP. SPOT ELEVATION
- o-U.P. EXIST. UTILITY POLE
- e GUY WIRE
- EH ELEC. TRANSFORMER
- OH EXIST. OVERHEAD UTILITY LINE
- t EXIST. TELEPHONE LINE
- e EXIST. ELECTRIC LINE
- g EXIST. GAS LINE
- w EXIST. WATER MAIN
- W PROP. WATER MAIN
- H EXIST. HYDRANT
- PROP. HYDRANT
- EXIST. GATE VALVE IN BOX
- PROP. GATE VALVE IN BOX
- EXIST. GATE VALVE IN WELL
- PROP. GATE VALVE IN WELL
- EXIST. CURB STOP & BOX
- PROP. CURB STOP & BOX
- EXIST. STORM SEWER
- PROP. STORM SEWER
- DRAINAGE DIRECTION
- TP TREE PROTECTION FENCING
- R- EXIST. CATCH BASIN OR INLET
- PROP. CATCH BASIN OR INLET
- END SECTION W/ RIP-RAP
- HEAD WALL
- CULVERT
- EXIST. SANITARY SEWER
- PROP. SANITARY SEWER
- EXIST. CLEANOUT
- PROP. CLEANOUT
- C OF DITCH OR EDGE OF WATER
- SINGLE TREE
- FENCE
- TREE OR BRUSH LIMIT
- SECTION CORNER
- PROPOSED FLOODPLAIN LIMITS
- WETLAND LIMITS
- C/L PROPOSED PEDESTRIAN PATH (SEE SHEET #74 FOR DETAIL)
- PHASE 2 CONSTRUCTION LIMIT
- PROP. FILL AREA COMPACTED TO 95% OF MAX. UNIT DENSITY AT APPROX. GARAGE LOCATION (32' WIDE & 35' TO 60' LONG)



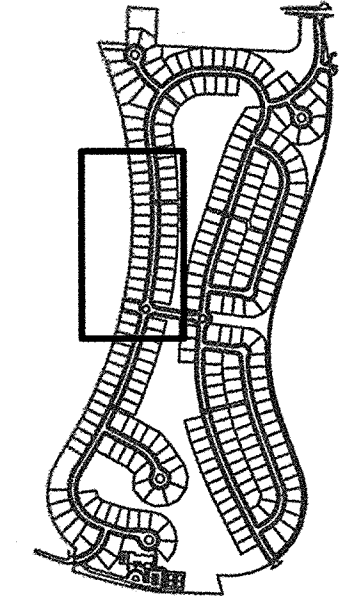
SHEET LOCATION
NO SCALE



MATCHLINE SHEET 13

MATCHLINE SHEET 11

JOB No.	02325
DATE	9-30-03
REV. DATE	SHEET 12 OF 74
PER CITY/DM REVIEW	12-19-03 CADD: SRG, WAI, FJC
PER CIVIL/DM REVIEW	02-12-04 ENG: JJK, MR, DM, BGC
PER CIVIL/DM REVIEW	04-10-04 ENG: JJK, MR, DM, BGC
PER CIVIL/DM REVIEW	05-19-04 ENG: JJK, MR, DM, BGC
PER CIVIL/DM REVIEW	05-19-04 ENG: JJK, MR, DM, BGC
PER CIVIL/DM REVIEW	05-19-04 ENG: JJK, MR, DM, BGC



SHEET LOCATION
NO SCALE

SOIL EROSION CONTROL NOTES:

- All erosion and sediment control work shall conform to standards and specifications of the Oakland County Drain Commissioner.
- All temporary and permanent (post construction) soil erosion and sediment control measures shall conform to the City of Rochester Hills current MS4 permit. Any conflict between these standards and the MS4 permit, the permit's conditions shall take precedence.
- Daily inspections shall be made by the Contractor for effectiveness of erosion and sedimentation control measures, and any necessary repairs shall be performed without delay.
- Any sedimentation from work on this site shall be contained on the site and not allowed to collect on any off-site areas or in waterways.
- Contractor shall apply temporary erosion and sedimentation control measures when required and as directed on these plans. He shall remove temporary measures as soon as permanent stabilization of slopes, ditches, and other earth changes have been accomplished. This would include temporary sedimentation ponds and temporary S02 filters.
- Staging the work will be done by the Contractor as directed in these plans and as required to ensure progressive stabilization of disturbed earth.
- Soil erosion control practices shall be established in the early stages of construction by the Contractor. Sediment control practices will be applied as a perimeter defense against any transporting of silt off the site.
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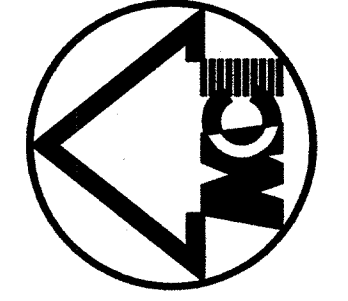
SOIL EROSION LEGEND

- (E-7) RIP-RAP
- (SI-3) INLET SEDIMENT PIT
- (SI-4) STRAW BALE INLET FILTER
- (SI-5) CURB & GUTTER INLET FILTER BEFORE AND AFTER PAVING
- (SI-6) DETENTION BASIN OUTLET FILTER (CMP)
- (SP-2) SILT FENCE
- (SO-5) DITCH SEDIMENT TRAP
- (SP-7) STONE FILTER

SILT FENCE
(SEE SOIL EROSION CONTROL NOTE #11)

LEGEND

- 838 EXIST. CONTOUR
- 836 PROP. CONTOUR
- *836.2 EXIST. SPOT ELEVATION
- 36.60 PROP. SPOT ELEVATION
- U.P. EXIST. UTILITY POLE
- GUY WIRE
- OH ELEC. TRANSFORMER
- OH EXIST. OVERHEAD UTILITY LINE
- t EXIST. TELEPHONE LINE
- e EXIST. ELECTRIC LINE
- g EXIST. GAS LINE
- w EXIST. WATER MAIN
- W PROP. WATER MAIN
- EXIST. HYDRANT
- PROP. HYDRANT
- EXIST. GATE VALVE IN BOX
- PROP. GATE VALVE IN BOX
- EXIST. GATE VALVE IN WELL
- PROP. GATE VALVE IN WELL
- EXIST. CURB STOP & BOX
- PROP. CURB STOP & BOX
- EXIST. STORM SEWER
- DRAINAGE DIRECTION
- TP TREE PROTECTION FENCING
- PROP. STORM SEWER
- EXIST. CATCH BASIN OR INLET
- PROP. CATCH BASIN OR INLET
- END SECTION W/ RIP-RAP
- HEAD WALL
- CULVERT
- EXIST. SANITARY SEWER
- PROP. SANITARY SEWER
- EXIST. CLEANOUT
- PROP. CLEANOUT
- C OF DITCH OR EDGE OF WATER
- SINGLE TREE
- FENCE
- TREE OR BRUSH LIMIT
- SECTION CORNER
- PROPOSED FLOODPLAIN LIMITS
- WETLAND LIMITS
- C/L PROPOSED PEDESTRIAN PATH (SEE SHEET #74 FOR DETAIL)
- PHASE 2 CONSTRUCTION LIMIT
- PROP. FILL AREA COMPACTED TO 95% OF MAX. UNIT DENSITY AT APPROX. GARAGE LOCATION (32' WIDE & 35' TO 60' LONG)
- EXIST. STORM SEWER TO BE ABANDONED/REMOVED AS NOTED
- EXIST. SAN. SEWER TO BE ABANDONED/REMOVED AS NOTED



SCALE: 1" = 40'
0 40 80 120



MIDWESTERN CONSULTING
Civil, Environmental and Transportation Engineers
Planners, Surveyors
Landscape Architects
3815 Plaza Drive
Ann Arbor, Michigan 48108
Phone: 734.995.0200
Fax: 734.995.0599

CLIENT
EAST COURSE LTD. PARTNERSHIP
40900 WOODWARD AVE., SUITE 130
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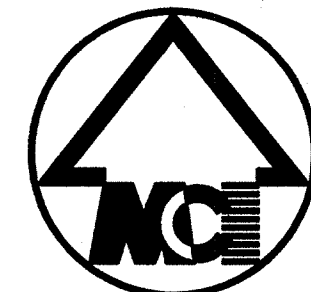
COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
PHASE 2 - DETAILED CONSTRUCTION PLANS
GRADING AND SOIL EROSION CONTROL PLAN

11

JOB No.	02325
DATE:	9-30-03
SHEET:	11 OF 74
REV. DATE	
12-19-03	CADD: SRG, WAJ, FIC
02-12-04	ENG: JDR, MR, DM, BHC
04-01-04	SEC. REVIEW: JDR, DM, BHC
04-09-04	PAV. DMB
08-10-04	ENR: JDR, DM, BHC
08-10-04	ENR: JDR, DM, BHC

CITY FILE NO. 97-004.2, SECTION NO. 35

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SCALE: 1" = 100'
 0 100 200 300

LEGEND

- EXIST. CATCH BASIN OR INLET
- PROP. CATCH BASIN OR INLET
- END SECTION
- HEAD WALL
- CULVERT
- EXIST. SANITARY SEWER
- PROP. SANITARY SEWER
- EXIST. CLEANOUT
- PROP. CLEANOUT
- C/L OF DITCH OR EDGE OF WATER
- SINGLE TREE
- FENCE
- TREE OR BRUSH LIMIT
- SECTION CORNER
- FLOODPLAIN LIMITS
- WETLAND LIMITS
- C/L PROPOSED PEDESTRIAN PATH
(SEE SHEET #74 FOR DETAIL)
- DRAINAGE AREA
- EXIST. CONTOUR
- PROP. CONTOUR
- EXIST. SPOT ELEVATION
- PROP. SPOT ELEVATION
- U.P.
- EXIST. UTILITY POLE
- GUY WIRE
- ELEC. TRANSFORMER
- EXIST. OVERHEAD UTILITY LINE
- EXIST. TELEPHONE LINE
- EXIST. ELECTRIC LINE
- EXIST. GAS LINE
- EXIST. WATER MAIN
- PROP. WATER MAIN
- EXIST. HYDRANT
- PROP. HYDRANT
- EXIST. GATE VALVE IN BOX
- PROP. GATE VALVE IN BOX
- EXIST. GATE VALVE IN WELL
- PROP. GATE VALVE IN WELL
- EXIST. CURB STOP & BOX
- PROP. CURB STOP & BOX
- EXIST. STORM SEWER
- PROP. STORM SEWER

NOTE: GRADING IN PHASE I
 BOUNDARY IS DETAILED IN APPROVED
 PHASE I CONSTRUCTION PLANS.

MIDWESTERN CONSULTING
 Civil, Environmental, and
 Transportation Engineers
 Planners, Surveyors
 Landscape Architects
 3815 Plaza Drive
 Ann Arbor, Michigan 48108
 Phone: 734.995.0200
 Fax: 734.995.0599

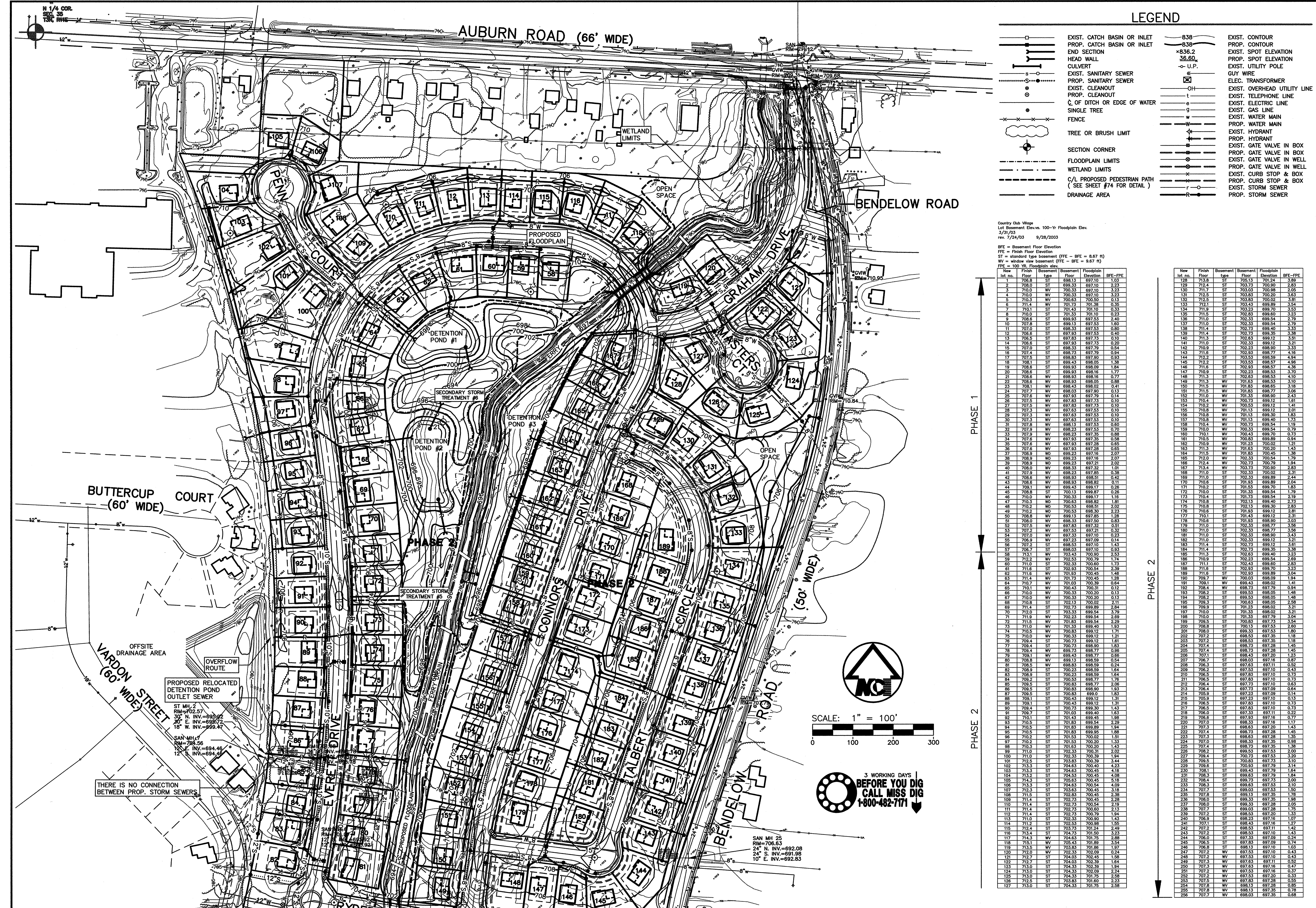
CLIENT
 EAST COURSE LTD. PARTNERSHIP
 40900 WOODWARD AVE., SUITE 130
 BLOOMFIELD HILLS, MI. 48304
 (248)-540-8040

COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
 PHASE 2 - DETAILED CONSTRUCTION PLANS
 OVERALL GRADING PLAN - SOUTH 1/2

10
 DATE: 9-30-03
 SHEET 10 OF 74
 CADD: SRG, WAJ, FJC
 ENG: JCA, MBR, DDM
 TECH: DMG
 PER: 03-27-04 CIV. MEETING
 PER: 03-27-04 CIV. MEETING
 PER: 03-27-04 CIV. MEETING
 PER: 03-27-04 CIV. MEETING



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LEGEND

	EXIST. CATCH BASIN OR INLET		EXIST. CONTOUR
	PROP. CATCH BASIN OR INLET		PROP. CONTOUR
	END SECTION		EXIST. SPOT ELEVATION
	HEAD WALL		PROP. SPOT ELEVATION
	CULVERT		EXIST. UTILITY POLE
	EXIST. SANITARY SEWER		GUY WIRE
	PROP. SANITARY SEWER		ELEC. TRANSFORMER
	EXIST. CLEANOUT		EXIST. OVERHEAD UTILITY LINE
	PROP. CLEANOUT		EXIST. TELEPHONE LINE
	C. OF DITCH OR EDGE OF WATER		EXIST. ELECTRIC LINE
	SINGLE TREE		EXIST. GAS LINE
	FENCE		EXIST. WATER MAIN
	TREE OR BRUSH LIMIT		PROP. WATER MAIN
	SECTION CORNER		EXIST. HYDRANT
	FLOODPLAIN LIMITS		EXIST. GATE VALVE IN BOX
	WETLAND LIMITS		EXIST. GATE VALVE IN WELL
	C/L PROPOSED PEDESTRIAN PATH (SEE SHEET #74 FOR DETAIL)		EXIST. GATE VALVE IN WELL
	DRAINAGE AREA		EXIST. CURB STOP & BOX
			PROP. CURB STOP & BOX
			EXIST. STORM SEWER
			PROP. STORM SEWER

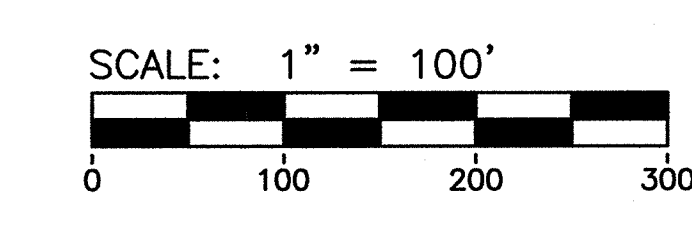
Country Club Village
 Lot Basement Elevations, 100-Yr Floodplain Elev.
 3/21/03
 rev. 7/24/03 9/28/2003

BFE = Basement Floor Elevation
 FFE = Finish Floor Elevation
 ST = standard type basement (FFE - BFE = 8.67 R)
 WW = window view basement (FFE - BFE = 9.87 R)
 FW = 100 YR Floodplain elev.

Lot no.	Finish Floor	Basement Floor	Floodplain Elevation	BFE-FFE
1	706.8	698.13	697.10	1.03
2	693.3	697.10	2.23	
3	710.0	700.33	697.10	3.23
4	700.0	697.10	2.23	
5	710.3	700.63	700.50	0.13
6	711.4	701.73	701.38	0.35
7	710.1	701.10	701.10	0.00
8	710.0	701.33	701.10	0.23
9	708.6	698.83	697.53	1.30
10	707.8	698.33	697.60	1.13
11	707.0	698.33	697.53	0.80
12	706.6	697.33	697.53	0.40
13	706.3	697.33	697.10	0.23
14	706.6	697.33	697.73	0.20
15	707.0	698.33	697.73	0.54
16	707.4	698.73	697.73	0.94
17	707.5	698.83	697.90	0.93
18	708.1	699.43	698.05	1.38
19	708.6	699.93	698.18	1.74
20	708.6	699.93	698.16	1.77
21	708.8	699.93	698.16	1.77
22	708.8	699.93	698.05	1.88
23	708.1	698.43	698.02	0.41
24	707.7	698.03	697.60	0.43
25	707.6	697.93	697.73	0.20
26	707.5	697.83	697.73	0.10
27	707.5	697.83	697.73	0.10
28	707.3	697.63	697.53	0.10
29	707.3	697.63	697.53	0.10
30	707.3	697.63	697.53	0.10
31	707.8	698.13	697.53	0.60
32	707.9	698.23	697.53	0.70
33	707.9	698.23	697.35	0.88
34	707.8	698.13	697.35	0.78
35	707.6	697.93	697.35	0.58
36	707.5	697.83	697.35	0.48
37	707.5	697.83	697.28	0.55
38	708.9	699.23	697.15	2.07
39	708.9	699.23	697.21	2.02
40	708.0	698.33	697.21	1.12
41	707.9	698.23	697.35	0.88
42	708.6	698.83	698.51	0.32
43	708.6	698.83	698.51	0.11
44	708.1	698.43	698.17	0.26
45	708.8	699.13	698.87	0.26
46	710.0	700.33	698.71	1.16
47	710.3	700.63	698.82	1.81
48	710.2	700.53	698.82	1.71
49	710.2	700.53	698.30	2.23
50	708.8	698.13	697.85	0.28
51	708.0	697.33	697.73	0.60
52	707.5	697.83	697.32	0.51
53	707.2	697.53	697.21	0.32
54	707.0	697.23	697.10	0.13
55	706.9	697.23	697.09	0.14
56	707.2	697.53	697.10	0.43
57	706.8	697.13	697.03	0.10
58	713.1	703.43	700.90	2.53
59	712.2	702.53	700.45	2.08
60	711.0	702.33	700.60	1.73
61	711.0	702.33	700.54	1.79
62	711.6	702.93	700.45	2.48
63	711.4	702.73	700.45	2.28
64	710.7	702.03	700.39	0.64
65	710.1	701.43	700.39	1.04
66	710.0	700.33	700.20	0.13
67	710.0	700.33	700.20	0.13
68	710.9	701.23	700.21	1.02
69	711.4	701.73	700.89	2.84
70	712.0	702.33	700.91	1.42
71	711.9	702.23	700.94	1.29
72	711.5	701.83	700.94	0.89
73	711.0	701.33	700.94	0.39
74	710.5	700.83	700.92	0.09
75	710.0	700.33	700.92	0.59
76	709.4	700.43	700.92	1.49
77	709.4	700.43	700.92	1.49
78	709.1	699.73	700.92	1.19
79	708.1	698.73	700.92	0.19
80	708.8	699.13	700.92	0.79
81	708.5	698.83	700.92	1.09
82	708.9	699.23	700.92	1.69
83	708.9	699.23	700.92	1.69
84	709.2	699.53	700.92	1.39
85	709.5	699.83	700.92	1.09
86	709.5	699.83	700.92	1.09
87	709.1	699.43	700.92	1.49
88	709.1	699.43	700.92	1.49
89	709.4	699.73	700.92	1.19
90	709.4	699.73	700.92	1.19
91	709.7	700.03	700.92	0.89
92	710.1	700.43	700.92	0.49
93	710.5	700.83	700.92	0.09
94	710.5	700.83	700.92	0.09
95	710.2	700.53	700.92	0.39
96	710.2	700.53	700.92	0.39
97	710.2	700.53	700.92	0.39
98	710.3	700.63	700.92	0.29
99	711.0	701.33	700.92	0.42
100	711.0	701.33	700.92	0.42
101	711.0	701.33	700.92	0.42
102	713.3	704.83	700.40	4.43
103	713.3	704.83	700.45	4.38
104	713.2	704.73	700.45	4.28
105	714.3	705.83	700.45	5.38
106	714.3	705.83	700.45	5.38
107	712.3	703.83	700.45	3.38
108	712.3	703.83	700.45	3.38
109	712.4	703.93	700.45	3.48
110	711.4	702.93	700.54	2.39
111	711.4	702.93	700.54	2.39
112	711.4	702.93	700.54	2.39
113	711.0	702.53	700.90	1.63
114	711.2	702.73	700.90	1.83
115	712.4	703.73	701.24	2.49
116	713.4	704.73	701.50	3.23
117	714.3	705.73	701.86	3.87
118	715.1	706.53	701.89	3.64
119	713.5	703.83	701.86	1.97
120	712.0	702.33	702.29	0.04
121	712.7	703.03	702.45	0.58
122	712.7	703.03	702.45	0.58
123	713.0	703.33	702.39	0.94
124	713.0	703.33	702.29	1.04
125	713.0	703.33	702.29	1.04
126	712.5	702.83	701.60	2.23
127	712.5	702.83	701.75	2.08

PHASE 1

PHASE 2



BUTTERCUP COURT (60' WIDE)

VARDON STREET (60' WIDE)

SAN MH 25
 RIM=706.63
 24\"/>

PROPOSED RELOCATED
 DETENTION POND
 OUTLET SEWER

THERE IS NO CONNECTION
 BETWEEN PROP. STORM SEWERS

MIDWESTERN CONSULTING
 Civil, Environmental, and
 Transportation Engineers
 Planners, Surveyors
 Landscape Architects

COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
 PHASE 2 - DETAILED CONSTRUCTION PLANS
 OVERALL GRADING PLAN - NORTH 1/2

DATE: 9-30-03
 SHEET 9 OF 74
 REV. DATE: 12-18-03 CADD: SRG, WAI, FJC
 02-12-04 CADD: JCA, MDR, DDM
 06-03-04 CADD: SRG, WAI, FJC
 06-03-04 CADD: SRG, WAI, FJC

JOB No. 02325

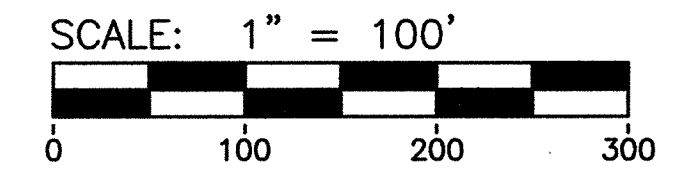
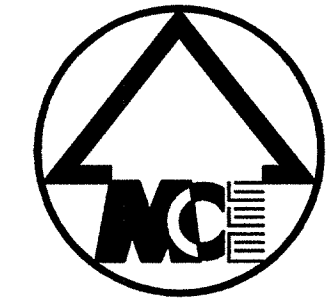
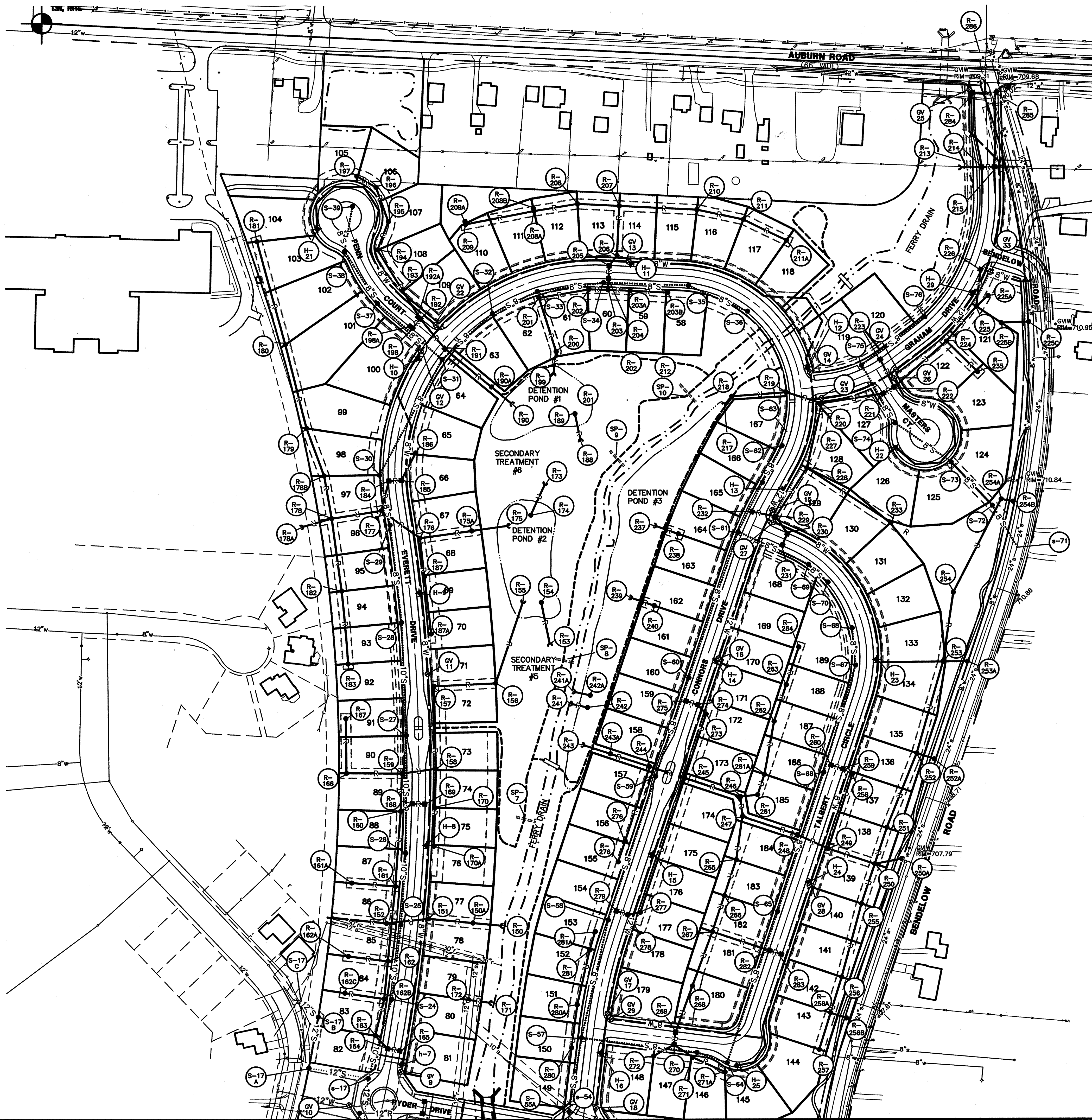
CITY FILE NO. 97-004.2, SECTION NO. 35

SANITARY SEWER & WATERMAIN NOTES:

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS, OAKLAND COUNTY PUBLIC HEALTH DEPT., CITY OF DETROIT WATER, AND THE MICHIGAN DEPT. OF ENVIRONMENTAL QUALITY (MDEQ).
- ALL FIRE HYDRANTS SHALL BE LOCATED A MINIMUM OF 5 FT FROM BACK OF CURB.
- ALL WATERMAIN SHALL BE CEMENT-LINED, DUCTILE IRON PIPE CLASS 54, SIZE AS NOTED.
- WATERMAIN SHALL HAVE A MINIMUM 6 FT OF COVER.
- ALL GATE VALVES SHALL BE RESILIENT WEDGE OR RESILIENT SEATED TYPE (EAST JORDAN OR U.S. PIPE REQUIRED), WITH OPEN COUNTER CLOCKWISE.
- ALL WATER SERVICE LEADS SHALL BE TYPE K SOFT COPPER PIPING.
- MAINTAIN MINIMUM 18-INCH VERTICAL CLEARANCE BETWEEN ALL UTILITIES AND MINIMUM 10-FT HORIZONTAL CLEARANCE BETWEEN WATERMAIN AND SANITARY OR STORM SEWER.
- ALL SANITARY SEWER PIPE SHALL BE ABS TRUSS PIPE, ASTM D 2680, WITH SOLVENT-WELDED JOINTS, SIZE AS NOTED. REFER TO SHEET #57 FOR SANITARY SEWER SCHEDULE.
- ALL SEWER SERVICE LEADS SHALL BE 6-INCH DIA. SOLID WALLED ABS, SDR 23.5.
- DEWATERING SHALL BE INCIDENTAL TO THE CONSTRUCTION OF SANITARY SEWER.
- ALL WATERMAIN AND SANITARY SEWER TRENCHES (EXCEPT AS NOTED ON PLANS) SHALL BE BACKFILLED WITH MDOT CLASS II GRANULAR MATERIAL AND COMPACTED TO 95% MAXIMUM DENSITY.
- ALL TRENCHES WITHIN 1 ON 1 SLOPE FROM BACK OF CURBS, SIDEWALKS, EXISTING OR PROPOSED PAVEMENT OR DRIVEWAYS SHALL BE BACKFILLED WITH MDOT CLASS II GRANULAR MATERIAL AND COMPACTED TO 95% MAXIMUM DENSITY.
- BACKFILL BETWEEN UTILITY CROSSINGS SHALL BE MDOT CLASS II GRANULAR BACKFILL COMPACTED TO 95% MAXIMUM DENSITY.
- REFER TO CITY OF ROCHESTER HILLS SANITARY SEWER AND WATERMAIN DETAILS AND NOTES PLAN SHEETS AT END OF THIS PLAN SET.

STORM SEWER NOTES:

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS, THE OAKLAND COUNTY DRAIN COMMISSIONER (O.C.D.C.), AND THE MICHIGAN DEPT. OF ENVIRONMENTAL QUALITY (MDEQ).
- ALL STORM SEWER PIPE SHALL BE R.C.P. C76 CLASS IV, WITH RUBBER GASKETED JOINTS. REFER TO SHEET #57 FOR STORM SEWER SCHEDULE.
- ALL STORM MANHOLE (M.H.) COVERS SHALL BE EJM 1040, TYPE A OR APPROVED EQUAL.
- ALL ROADWAY STORM CATCH BASIN AND INLET COVERS SHALL BE EJM 7086 OR APPROVED EQUAL.
- ALL OFF ROAD STORM CATCH BASINS AND INLET COVERS SHALL BE EJM TYPE O BEEHIVE OR APPROVED EQUAL.
- ALL SUMP PUMP STORM SEWER SHALL BE SOLID WALL ADS PIPE, MINIMUM 8-INCH DIAMETER.
- ALL SUMP PUMP LEADS SHALL BE SCHEDULE 40 PVC OR SDR 23.5 PIPE.
- ALL EDGE DRAINPIPE SHALL BE 6-INCH DIAMETER, PERFORATED OR SLOTTED PIPE, CONSTRUCTED IN THE BACK OF CURB LINE FOR THE FULL LENGTH OF CURB, BACKFILLED WITH 2NS SAND. PERFORATED PIPE SHALL BE SMOOTH-WALL PVC PLASTIC UNDERDRAIN WITH 3/16 INCH TO 3/8 INCH PERFORATIONS. SLOTTED PIPE SHALL BE A-2000 (CONTECH OR APPROVED EQUAL) SEWER PIPE WITH SLOTTED PERFORATIONS OF 1.90 SQUARE INCHES PER FOOT OF PIPE LENGTH.
- ALL TRENCHES WITHIN 1 ON 1 SLOPE FROM BACK OF CURBS, SIDEWALKS, EXISTING OR PROPOSED PAVEMENT OR DRIVEWAYS SHALL BE BACKFILLED WITH MDOT CLASS II GRANULAR MATERIAL AND COMPACTED TO 95% MAXIMUM DENSITY.
- BACKFILL BETWEEN UTILITY CROSSINGS SHALL BE MDOT CLASS II GRANULAR BACKFILL COMPACTED TO 95% MAXIMUM DENSITY.
- REFER TO OAKLAND COUNTY DRAIN COMMISSION STORM SEWER DETAILS AND NOTES PLAN SHEET AT END OF THIS PLAN SET.
- HYDRAULIC GRADE LINE OF ALL PROPOSED STORM SEWER RUNS IS MAINTAINED WITHIN PIPE CROSS SECTION, UNLESS NOTED REFER TO STORM SEWER CALCULATIONS ON SHEET #59 FOR HGL VALUES.



LEGEND

- o- U.P. EXIST. UTILITY POLE
- x- GUY WIRE
- ⊠ ELEC. TRANSFORMER
- OH- EXIST. OVERHEAD UTILITY LINE
- t- EXIST. TELEPHONE LINE
- e- EXIST. ELECTRIC LINE
- g- EXIST. GAS LINE
- w- EXIST. WATER MAIN
- W- PROP. WATER MAIN
- ⊕ EXIST. HYDRANT
- ⊕ PROP. HYDRANT
- ⊕ EXIST. GATE VALVE IN BOX
- ⊕ PROP. GATE VALVE IN BOX
- ⊕ EXIST. GATE VALVE IN WELL
- ⊕ PROP. GATE VALVE IN WELL
- ⊕ EXIST. CURB STOP & BOX
- ⊕ PROP. CURB STOP & BOX
- ⊕ EXIST. STORM SEWER
- ⊕ PROP. STORM SEWER
- ⊕ EXIST. CATCH BASIN OR INLET
- ⊕ PROP. CATCH BASIN OR INLET
- ⊕ END SECTION
- ⊕ HEAD WALL
- ⊕ CULVERT
- s- EXIST. SANITARY SEWER
- s- PROP. SANITARY SEWER
- o- EXIST. CLEANOUT
- o- PROP. CLEANOUT
- ⊕ C/L OF DITCH OR EDGE OF WATER
- ⊕ SINGLE TREE
- x-x-x-x- FENCE
- ⊕ TREE OR BRUSH LIMIT
- ⊕ SECTION CORNER
- - - - - EXISTING WETLAND LIMITS
- - - - - EDGE OF DETENTION POND
- - - - - C/L PROPOSED PEDESTRIAN PATH (SEE SHEET #74 FOR DETAIL)
- - - - - EXISTING UTILITY TO BE ABANDONED
- SP SECONDARY TREATMENT BASIN SPILLWAY OUTLET

NOTE:

- REFER TO SHEET # 57 FOR STORM, SANITARY SCHEDULE.
- REFER TO PLANS PREPARED BY ROBERT LEIGHTON & ASSOCIATES FOR SECONDARY TREATMENT BASIN SPILLWAY OUTLET.

MIDWESTERN CONSULTING

3815 Plaza Drive
Bloomfield Hills, Michigan 48304
Phone: 734.995.0200
Fax: 734.995.0599

CLIENT
EAST COURSE LTD. PARTNERSHIP
40900 WOODWARD AVE., SUITE 130
BLOOMFIELD HILLS, MI. 48304

COUNTRY CLUB VILLAGE OF ROCHESTER HILLS

PHASE 2 - DETAILED CONSTRUCTION PLANS

UTILITY PLAN (NORTH)



DATE: 9-30-03

SHEET 8 OF 74

REV. DATE

12-18-03 CADD SRG, WAJ, FJC
02-12-04 ENG: JKA, MR, DM, BJC
04-02-04 PNL, DMB
06-10-04 CSM, JCB, JMT, JPT, JBL

JOB No. **02325**

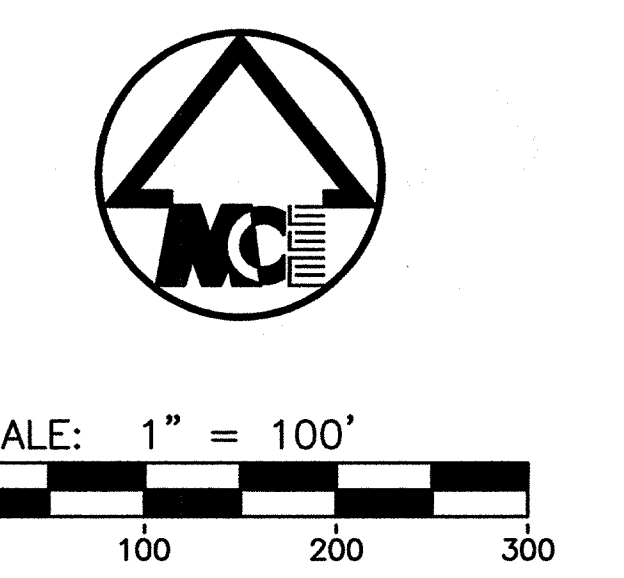
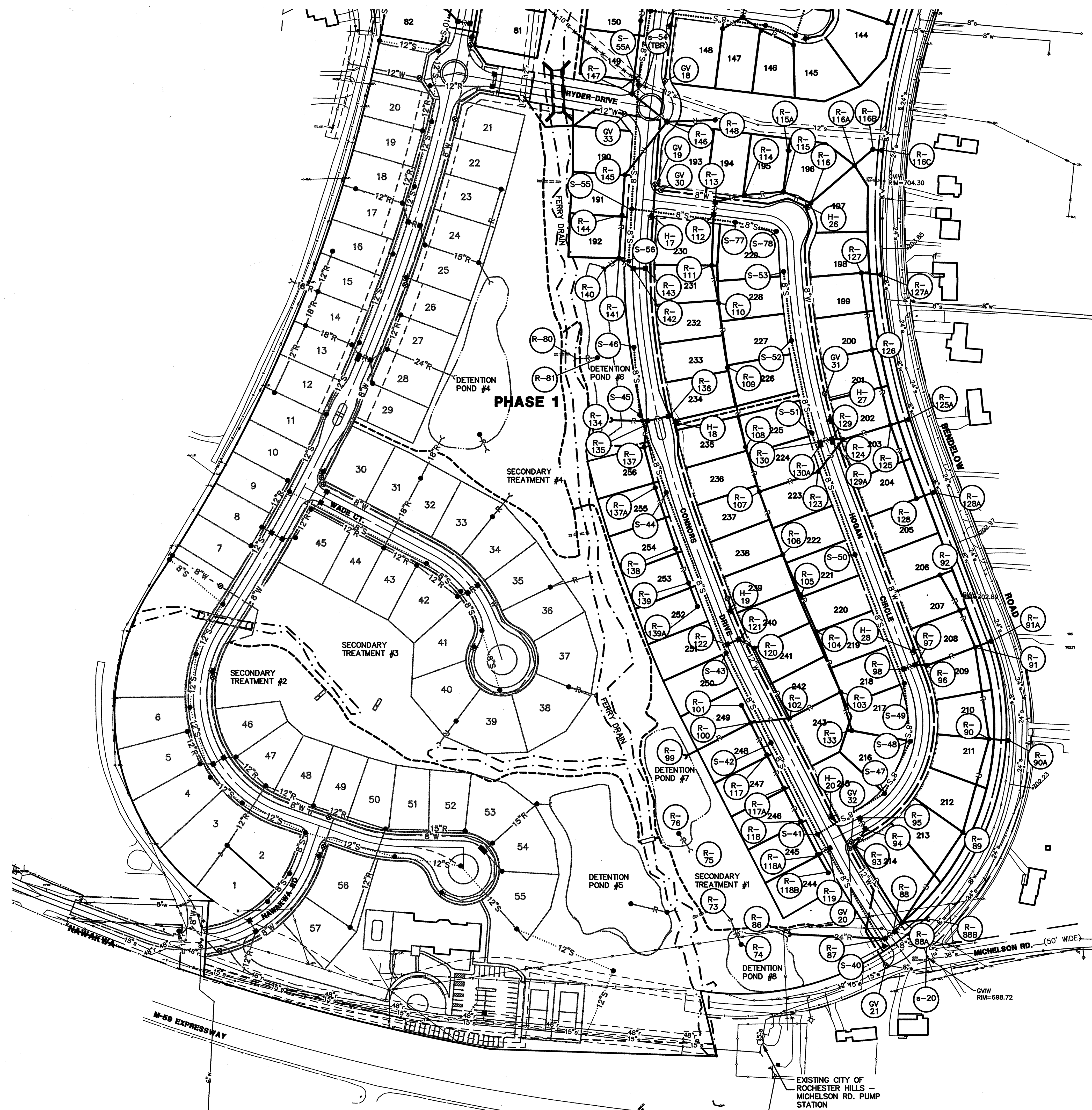


SANITARY SEWER & WATERMAIN NOTES:

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS, OAKLAND COUNTY PUBLIC HEALTH DEPT., CITY OF DETROIT WATER, AND THE MICHIGAN DEPT. OF ENVIRONMENTAL QUALITY (MDEQ).
2. ALL FIRE HYDRANTS SHALL BE LOCATED A MINIMUM OF 5 FT FROM BACK OF CURB.
3. ALL WATERMAIN SHALL BE CEMENT-LINED, DUCTILE IRON PIPE CLASS 54, SIZE AS NOTED.
4. WATERMAIN SHALL HAVE A MINIMUM 6 FT OF COVER.
5. ALL GATE VALVES SHALL BE RESILIENT WEDGE OR RESILIENT SEATED TYPE (EAST JORDAN OR U.S. PIPE REQUIRED), WITH OPEN COUNTER CLOCKWISE.
6. ALL WATER SERVICE LEADS SHALL BE TYPE K SOFT COPPER PIPING.
7. MAINTAIN MINIMUM 18-INCH VERTICAL CLEARANCE BETWEEN ALL UTILITIES AND MINIMUM 10-FT HORIZONTAL CLEARANCE BETWEEN WATERMAIN AND SANITARY OR STORM SEWER.
8. ALL SANITARY SEWER PIPE SHALL BE ABS TRUSS PIPE, ASTM D 2880, WITH SOLVENT-WELDED JOINTS, SIZE AS NOTED. REFER TO SHEET #57 FOR SANITARY SEWER SCHEDULE.
9. ALL SEWER SERVICE LEADS SHALL BE 6-INCH DIA. SOLID WALLED ABS, SDR 23.5.
10. DEWATERING SHALL BE INCIDENTAL TO THE CONSTRUCTION OF SANITARY SEWER.
11. ALL WATERMAIN AND SANITARY SEWER TRENCHES (EXCEPT AS NOTED ON PLANS) SHALL BE BACKFILLED WITH MDOT CLASS II GRANULAR MATERIAL AND COMPACTED TO 95% MAXIMUM DENSITY.
12. ALL TRENCHES WITHIN 1 ON 1 SLOPE FROM BACK OF CURBS, SIDEWALKS, EXISTING OR PROPOSED PAVEMENT OR DRIVEWAYS SHALL BE BACKFILLED WITH MDOT CLASS II GRANULAR MATERIAL AND COMPACTED TO 95% MAXIMUM DENSITY.
13. BACKFILL BETWEEN UTILITY CROSSINGS SHALL BE MDOT CLASS II GRANULAR BACKFILL COMPACTED TO 95% MAXIMUM DENSITY.
14. REFER TO CITY OF ROCHESTER HILLS SANITARY SEWER AND WATERMAIN DETAILS AND NOTES PLAN SHEETS AT END OF THIS PLAN SET.

STORM SEWER NOTES:

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS, THE OAKLAND COUNTY DRAIN COMMISSIONER (O.C.D.C.), AND THE MICHIGAN DEPT. OF ENVIRONMENTAL QUALITY (MDEQ).
2. ALL STORM SEWER PIPE SHALL BE R.C.P. C76 CLASS IV, WITH RUBBER GASKETED JOINTS. REFER TO SHEET #57 FOR STORM SEWER SCHEDULE.
3. ALL STORM MANHOLE (M.H.) COVERS SHALL BE E.I.W. 1040, TYPE A OR APPROVED EQUAL.
4. ALL ROADWAY STORM CATCH BASIN AND INLET COVERS SHALL BE E.I.W. 7082 OR APPROVED EQUAL.
5. ALL OFF ROAD STORM CATCH BASINS AND INLET COVERS SHALL BE E.I.W. TYPE O BEEHIVE OR APPROVED EQUAL.
6. ALL SUMP PUMP STORM SEWER SHALL BE SOLID WALL ADS PIPE, MINIMUM 6-INCH DIAMETER.
7. ALL SUMP PUMP LEADS SHALL BE SCHEDULE 40 PVC OR SDR 23.5 PIPE.
8. ALL EDGE DRAINPIPE SHALL BE 6-INCH DIAMETER, PERFORATED OR SLOTTED PIPE, CONSTRUCTED IN THE BACK OF CURB LINE FOR THE FULL LENGTH OF CURB, BACKFILLED WITH 2NS SAND. PERFORATED PIPE SHALL BE SMOOTH-WALL PVC PLASTIC UNDERDRAIN WITH 3/16 INCH TO 3/8 INCH PERFORATIONS. SLOTTED PIPE SHALL BE A-2000 (CONTECH OR APPROVED EQUAL) SEWER PIPE WITH SLOTTED PERFORATIONS OF 1.90 SQUARE INCHES PER FOOT OF PIPE LENGTH.
9. ALL TRENCHES WITHIN 1 ON 1 SLOPE FROM BACK OF CURBS, SIDEWALKS, EXISTING OR PROPOSED PAVEMENT OR DRIVEWAYS SHALL BE BACKFILLED WITH MDOT CLASS II GRANULAR MATERIAL AND COMPACTED TO 95% MAXIMUM DENSITY.
10. BACKFILL BETWEEN UTILITY CROSSINGS SHALL BE MDOT CLASS II GRANULAR BACKFILL COMPACTED TO 95% MAXIMUM DENSITY.
11. REFER TO OAKLAND COUNTY DRAIN COMMISSIONER STORM SEWER DETAILS AND NOTES PLAN SHEET AT END OF THIS PLAN SET.
12. HYDRAULIC GRADE LINE OF ALL PROPOSED STORM SEWER RUNS IS MAINTAINED WITH PIPE CROSS SECTION UNLESS NOTED REFER TO STORM SEWER CALCULATIONS ON SHEET #58 FOR HGL VALUES.



LEGEND

- o- U.P. EXIST. UTILITY POLE
- E- GUY WIRE
- OH ELEC. TRANSFORMER
- OH EXIST. OVERHEAD UTILITY LINE
- t EXIST. TELEPHONE LINE
- e EXIST. ELECTRIC LINE
- g EXIST. GAS LINE
- w EXIST. WATER MAIN
- W- PROP. WATER MAIN
- H EXIST. HYDRANT
- H PROP. HYDRANT
- GV EXIST. GATE VALVE IN BOX
- GV PROP. GATE VALVE IN BOX
- WV EXIST. GATE VALVE IN WELL
- WV PROP. GATE VALVE IN WELL
- X EXIST. CURB STOP & BOX
- X PROP. CURB STOP & BOX
- R EXIST. STORM SEWER
- R PROP. STORM SEWER
- CB EXIST. CATCH BASIN OR INLET
- CB PROP. CATCH BASIN OR INLET
- END SECTION
- HEAD WALL
- CULVERT
- S EXIST. SANITARY SEWER
- S PROP. SANITARY SEWER
- EXIST. CLEANOUT
- PROP. CLEANOUT
- C/L OF DITCH OR EDGE OF WATER
- SINGLE TREE
- FENCE
- ☁ TREE OR BRUSH LIMIT
- SECTION CORNER
- EXISTING WETLAND LIMITS
- EDGE OF DETENTION POND
- C/L PROPOSED PEDESTRIAN PATH (SEE SHEET #74 FOR DETAIL)
- EXISTING UTILITY TO BE ABANDONED
- SP SECONDARY TREATMENT BASIN SPILLWAY OUTLET

- NOTE:**
1. REFER TO SHEET # 57 FOR STORM, SANITARY SCHEDULE.
 2. REFER TO SHEET NO. 62 FOR DETENTION POND OUTLET SCHEDULE.
 3. REFER TO PLANS PREPARED BY ROBERT LEIGHTON & ASSOCIATES FOR SECONDARY TREATMENT BASIN OUTLET SPILLWAY SCHEDULE.

MIDWESTERN CONSULTING
Civil, Environmental and Transportation Engineers
Planners, Surveyors
Landscape Architects

3615 Plaza Drive
Ann Arbor, Michigan 48108
Phone: 734-995-8200
Fax: 734-995-0399

COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
PHASE 2 - DETAILED CONSTRUCTION PLANS
UTILITY PLAN (SOUTH)

JOB No. 02325

DATE: 9-30-03
SHEET 7 OF 74

REV. DATE
12-19-03
02-12-04
04-02-04
08-02-04
08-02-04

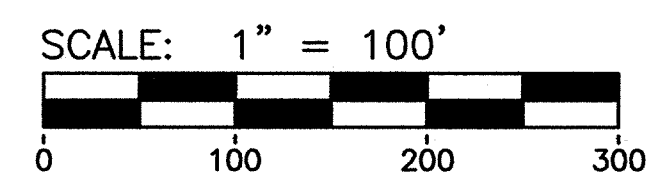
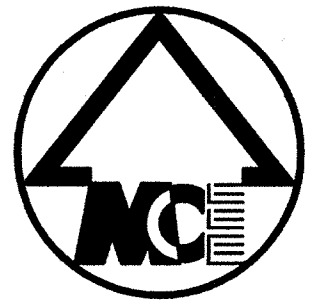
ADD: SRG, WA, FJC
ENGR: JCA, MR, DM, BIC
PNC: DM
DWB
CNSTA 02325/P2
PFB

3 WORKING DAYS
**BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171**

7

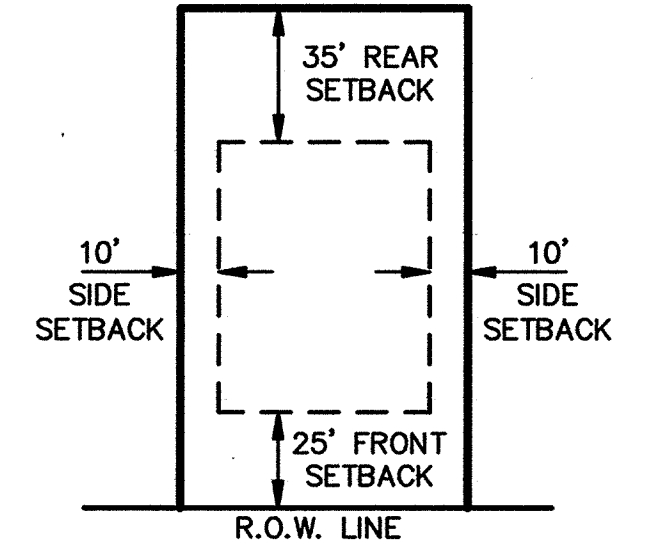
CITY FILE NO. 97-004.2, SECTION NO. 35

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LEGEND

- FENCE
- SECTION CORNER
- WETLAND LIMITS
- C/L PROPOSED PEDESTRIAN PATH (SEE SHEET #74 FOR DETAIL)

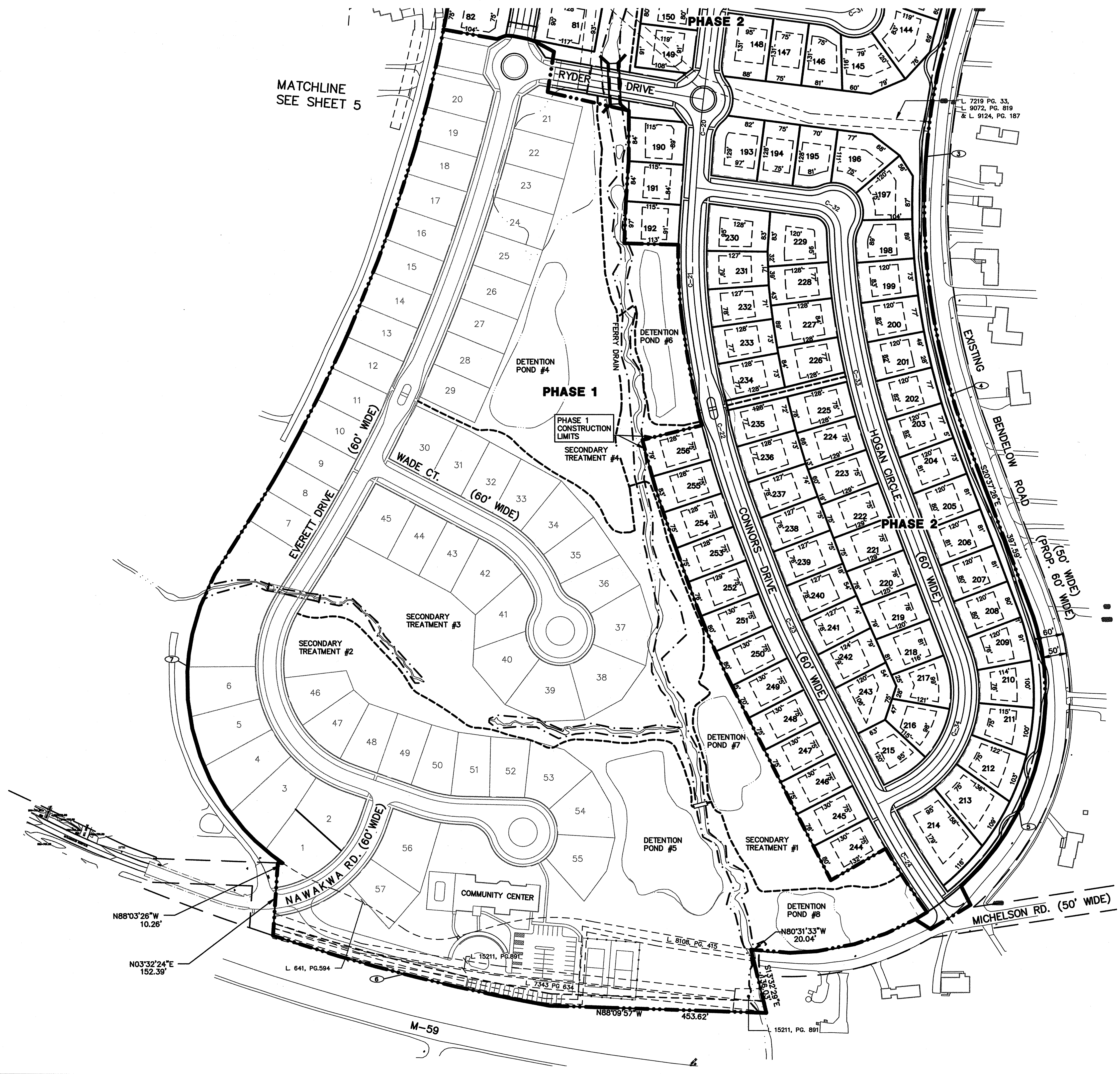


TYPICAL SETBACK DETAIL
SCALE: 1"=50'

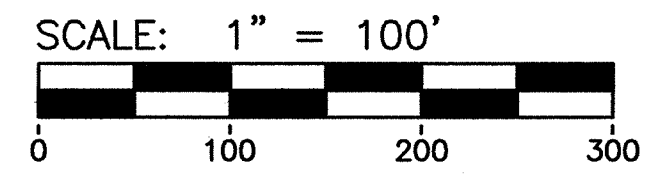
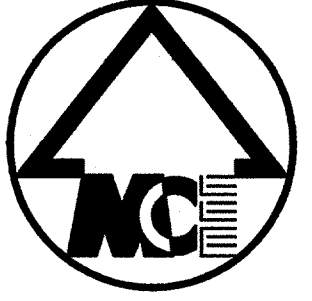
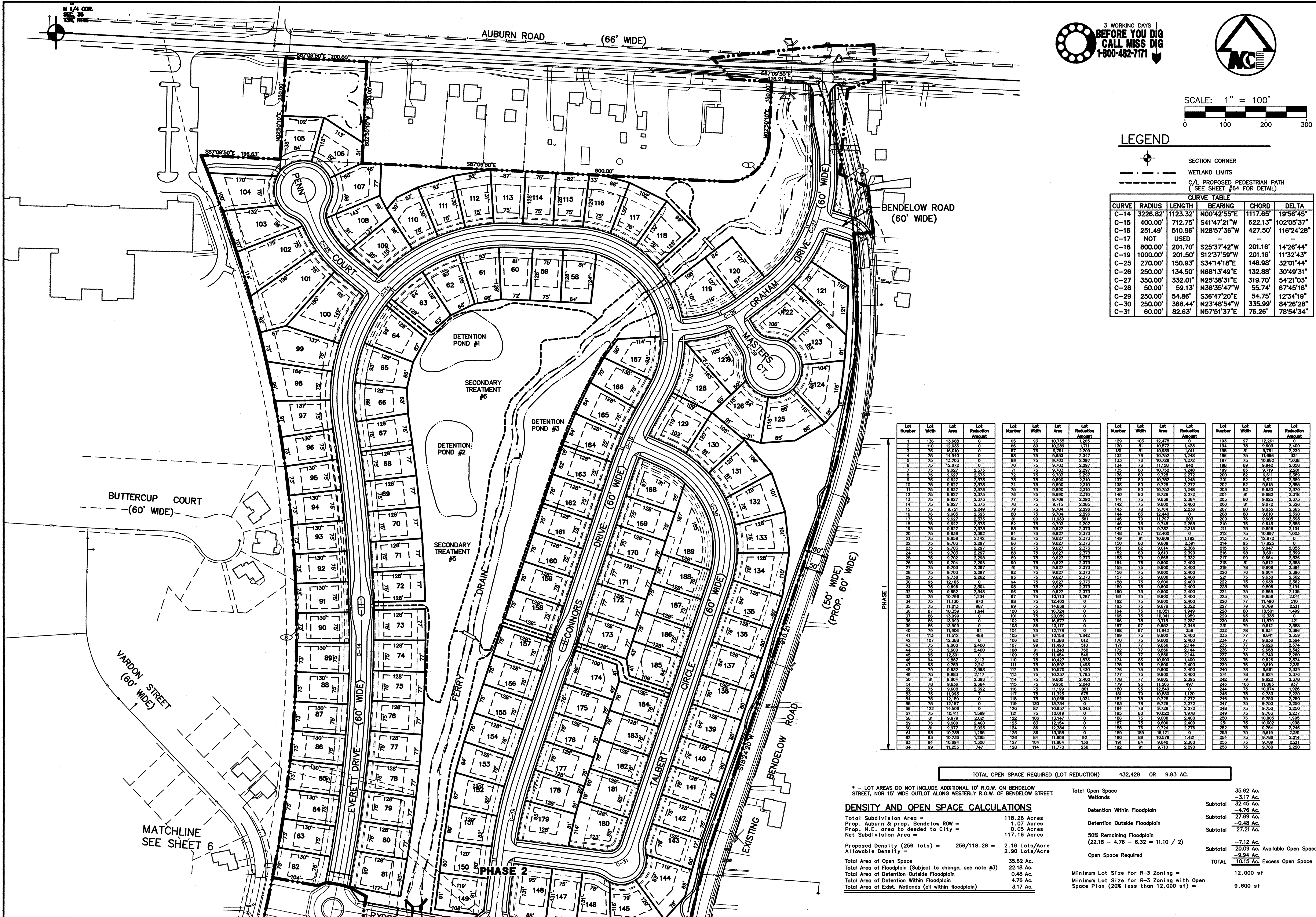
NOTE: REFER TO SHEET 61 FOR PAVING, PEDESTRIAN PATH AND ROAD STANDARD DETAILS

CURVE TABLE					
CURVE	RADIUS	LENGTH	BEARING	CHORD	DELTA
C-20	1857.50'	95.88'	S05°22'54"W	95.87'	2°57'27"
C-21	1000.00'	191.69'	S01°35'20"E	191.40'	10°59'00"
C-22	1873.50'	446.66'	S13°54'38"E	445.61'	13°39'36"
C-23	1500.00'	164.40'	S23°52'49"E	164.31'	6°16'46"
C-24	1500.00'	229.35'	S31°24'01"E	229.13'	8°45'38"
C-32	60.00'	84.56'	N42°18'36"W	77.73'	80°45'00"
C-33	1557.50'	511.20'	S11°20'16"E	508.91'	18°48'20"
C-34	230.00'	336.08'	N21°07'11"E	306.97'	83°43'14"

MATCHLINE
SEE SHEET 5



R:\02325\ACAD\CADNETS\02325BP1.dwg, 6/3/2004 12:16:01 PM, PLOT D1-SIZE.PLOT3



LEGEND

- SECTION CORNER
- WETLAND LIMITS
- C/A PROPOSED PEDESTRIAN PATH (SEE SHEET #64 FOR DETAIL)

CURVE	RADIUS	LENGTH	BEARING	CHORD	DELTA
C-14	3226.82'	1123.32'	N00°42'55\"E	1117.65'	19°56'45"
C-15	400.00'	712.75'	S41°47'21\"W	622.13'	102°05'37"
C-16	251.49'	510.96'	N28°57'36\"W	427.50'	116°24'28"
C-17	NOT USED				
C-18	800.00'	201.70'	S25°37'42\"W	201.16'	14°26'44"
C-19	1000.00'	201.50'	S12°37'59\"W	201.16'	11°32'43"
C-25	270.00'	150.93'	S34°14'18\"E	148.98'	32°01'44"
C-26	250.00'	134.50'	N68°13'49\"E	132.88'	30°49'31"
C-27	350.00'	332.01'	N25°38'31\"E	319.70'	54°21'03"
C-28	50.00'	59.13'	N38°35'47\"W	55.74'	67°45'18"
C-29	250.00'	54.86'	S36°47'20\"E	54.75'	12°34'19"
C-30	250.00'	368.44'	N23°48'54\"W	335.99'	84°26'28"
C-31	60.00'	62.63'	N57°51'37\"E	76.26'	78°54'34"

Lot Number	Lot Width	Lot Area	Lot Reduction	Lot Reduction Amount	Lot Number	Lot Width	Lot Area	Lot Reduction	Lot Reduction Amount	Lot Number	Lot Width	Lot Area	Lot Reduction	Lot Reduction Amount	Lot Number	Lot Width	Lot Area	Lot Reduction	Lot Reduction Amount
1	75	13,698	0	0	129	85	12,478	1,255	1,255	133	87	12,251	0	0					
2	110	12,036	0	0	130	89	10,572	1,428	1,428	134	75	9,600	0	0					
3	75	16,010	0	0	131	81	10,989	1,011	1,011	135	81	9,761	2,339	2,339					
4	75	14,940	0	0	132	82	10,732	1,348	1,348	136	75	11,866	0	0					
5	75	13,705	0	0	133	75	10,728	1,272	1,272	137	75	10,882	1,038	1,038					
6	75	12,672	0	0	134	76	11,158	842	842	138	89	9,942	2,058	2,058					
7	75	9,627	2,373	2,373	135	85	13,722	1,348	1,348	139	80	9,728	2,272	2,272					
8	75	9,627	2,373	2,373	136	80	9,728	2,272	2,272	140	80	9,728	2,272	2,272					
9	75	9,627	2,373	2,373	137	80	10,732	1,348	1,348	141	80	9,728	2,272	2,272					
10	75	9,627	2,373	2,373	138	80	9,728	2,272	2,272	142	75	9,627	2,373	2,373					
11	75	9,627	2,373	2,373	139	80	10,732	1,348	1,348	143	75	9,627	2,373	2,373					
12	75	9,627	2,373	2,373	140	80	9,728	2,272	2,272	144	75	9,627	2,373	2,373					
13	75	9,627	2,373	2,373	141	75	9,627	2,373	2,373	145	75	9,627	2,373	2,373					
14	75	9,627	2,373	2,373	142	75	9,627	2,373	2,373	146	75	9,627	2,373	2,373					
15	75	9,627	2,373	2,373	143	75	9,627	2,373	2,373	147	75	9,627	2,373	2,373					
16	75	9,627	2,373	2,373	144	83	12,440	0	0	148	75	9,627	2,373	2,373					
17	75	9,627	2,373	2,373	145	75	9,627	2,373	2,373	149	75	9,627	2,373	2,373					
18	75	9,627	2,373	2,373	146	75	9,627	2,373	2,373	150	80	9,728	2,272	2,272					
19	75	9,627	2,373	2,373	147	75	9,627	2,373	2,373	151	82	9,814	2,366	2,366					
20	75	9,627	2,373	2,373	148	87	12,400	0	0	152	85	9,810	2,360	2,360					
21	75	9,627	2,373	2,373	149	91	10,808	1,192	1,192	153	75	9,627	2,373	2,373					
22	75	9,627	2,373	2,373	150	80	9,728	2,272	2,272	154	75	9,627	2,373	2,373					
23	75	9,627	2,373	2,373	151	82	9,814	2,366	2,366	155	75	9,627	2,373	2,373					
24	75	9,627	2,373	2,373	152	85	9,810	2,360	2,360	156	75	9,627	2,373	2,373					
25	75	9,627	2,373	2,373	153	75	9,627	2,373	2,373	157	75	9,627	2,373	2,373					
26	75	9,627	2,373	2,373	154	75	9,627	2,373	2,373	158	75	9,627	2,373	2,373					
27	75	9,627	2,373	2,373	155	75	9,627	2,373	2,373	159	75	9,627	2,373	2,373					
28	75	9,627	2,373	2,373	156	75	9,627	2,373	2,373	160	75	9,627	2,373	2,373					
29	75	9,627	2,373	2,373	157	75	9,627	2,373	2,373	161	75	9,627	2,373	2,373					
30	95	12,105	0	0	158	75	9,627	2,373	2,373	162	75	9,627	2,373	2,373					
31	75	9,627	2,373	2,373	159	75	9,627	2,373	2,373	163	75	9,627	2,373	2,373					
32	75	9,627	2,373	2,373	160	75	9,627	2,373	2,373	164	75	9,627	2,373	2,373					
33	75	9,627	2,373	2,373	161	75	9,627	2,373	2,373	165	75	9,627	2,373	2,373					
34	75	9,627	2,373	2,373	162	75	9,627	2,373	2,373	166	75	9,627	2,373	2,373					
35	75	9,627	2,373	2,373	163	75	9,627	2,373	2,373	167	75	9,627	2,373	2,373					
36	75	9,627	2,373	2,373	164	75	9,627	2,373	2,373	168	75	9,627	2,373	2,373					
37	75	9,627	2,373	2,373	165	75	9,627	2,373	2,373	169	75	9,627	2,373	2,373					
38	75	9,627	2,373	2,373	166	75	9,627	2,373	2,373	170	75	9,627	2,373	2,373					
39	75	9,627	2,373	2,373	167	75	9,627	2,373	2,373	171	77	10,822	2,144	2,144					
40	75	9,627	2,373	2,373	168	75	9,627	2,373	2,373	172	77	9,858	2,144	2,144					
41	75	9,627	2,373	2,373	169	75	9,627	2,373	2,373	173	77	9,858	2,144	2,144					
42	75	9,627	2,373	2,373	170	75	9,627	2,373	2,373	174	86	10,600	1,400	1,400					
43	75	9,627	2,373	2,373	171	77	9,858	2,144	2,144	175	75	9,627	2,373	2,373					
44	75	9,627	2,373	2,373	172	77	9,858	2,144	2,144	176	75	9,627	2,373	2,373					
45	75	9,627	2,373	2,373	173	77	9,858	2,144	2,144	177	75	9,627	2,373	2,373					
46	75	9,627	2,373	2,373	174	86	10,600	1,400	1,400	178	77	9,858	2,144	2,144					
47	75	9,627	2,373	2,373	175	75	9,627	2,373	2,373	179	85	11,503	467	467					
48	75	9,627	2,373	2,373	176	75	9,627	2,373	2,373	180	85	12,549	0	0					
49	75	9,627	2,373	2,373	177	75	9,627	2,373	2,373	181	78	10,880	1,120	1,120					
50	81	9,604	2,388	2,388	178	77	9,858	2,144	2,144	182	78	9,728	2,272	2,272					
51	78	9,636	2,384	2,384	179	85	11,503	467	467	183	78	9,728	2,272	2,272					
52	75	9,627	2,373	2,373	180	85	12,549	0	0	184	78	9,728	2,272	2,272					
53	75	11,983	7	7	181	75	9,627	2,373	2,373	185	80	9,728	2,272	2,272					
54	75	12,150	0	0	182	75	9,627	2,373	2,373	186	75	9,627	2,373	2,373					
55	75	12,157	0	0	183	130	13,334	0	0	187	75	9,627	2,373	2,373					
56	122	14,509	0	0	184	87	10,857	1,043	1,043	188	75	9,627	2,373	2,373					
57	75	10,411	1,689	1,689	185	80	9,728	2,272	2,272	189	88	12,284	0	0					
58	81	9,979	2,021	2,021	186	75	9,627	2,373	2,373	190	88	12,284	0	0					
59	75	9,627	2,373	2,373	187	75	9,627	2,373	2,373	191	84	9,640	2,380	2,380					
60	81	9,979	2,021	2,021	188	75	9,627	2,373	2,373	192	91	9,710	2,290	2,290					
61	93	10,735	1,265	1,265	189	88	12,284	0	0										
62	83	10,735	1,265	1,265	190	88	12,284	0	0										
63	84	10,684	1,308	1,308	191	84	9,640	2,380	2,380										
64	99	11,253	747	747	192	114	11,770	230	230										

TOTAL OPEN SPACE REQUIRED (LOT REDUCTION) 432,429 OR 9.93 AC.

* - LOT AREAS DO NOT INCLUDE ADDITIONAL 10' R.O.W. ON BENDELOW STREET, NOR 15' WIDE OUTLOT ALONG WESTERLY R.O.W. OF BENDELOW STREET.

DENSITY AND OPEN SPACE CALCULATIONS

Total Subdivision Area =	118.28 Acres	Wetlands	35.62 Ac.
Prop. Auburn & Prop. Bendelow ROW =	1.07 Acres	Detention Within Floodplain	-3.17 Ac.
Prop. N.E. area to be added to City =	117.16 Acres	Detention Outside Floodplain	-4.76 Ac.
Net Subdivision Area =	117.16 Acres	50% Remaining Floodplain	-27.69 Ac.
Proposed Density (256 lots) =	256/118.28 = 2.16 Lots/Acre	Open Space Required	-0.48 Ac.
Allowable Density	2.90 Lots/Acre	TOTAL	27.21 Ac.
Total Area of Open Space	35.62 Ac.		
Total Area of Floodplain (Subject to change, see note #3)	22.18 Ac.		
Total Area of Detention Outside Floodplain	0.48 Ac.		
Total Area of Detention Within Floodplain	4.76 Ac.		
Total Area of Exist. Wetlands (all within floodplain)	3.17 Ac.		
		Minimum Lot Size for R-3 Zoning =	12,000 sf
		Minimum Lot Size for R-3 Zoning with Open Space Plan (20% less than 12,000 sf) =	9,600 sf

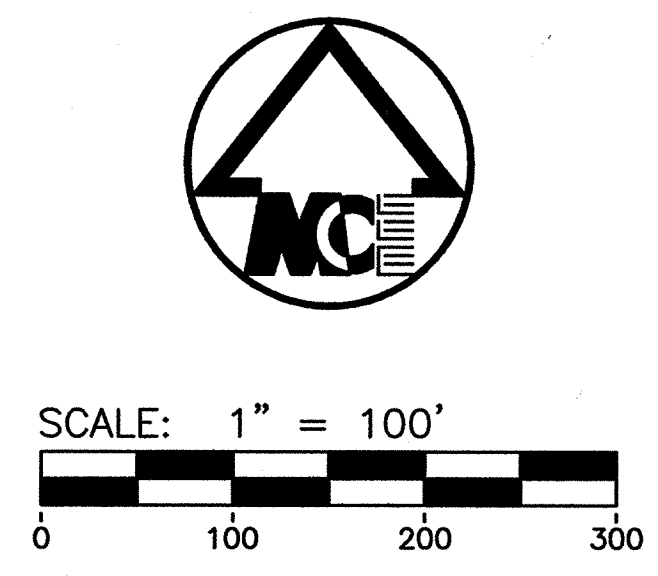
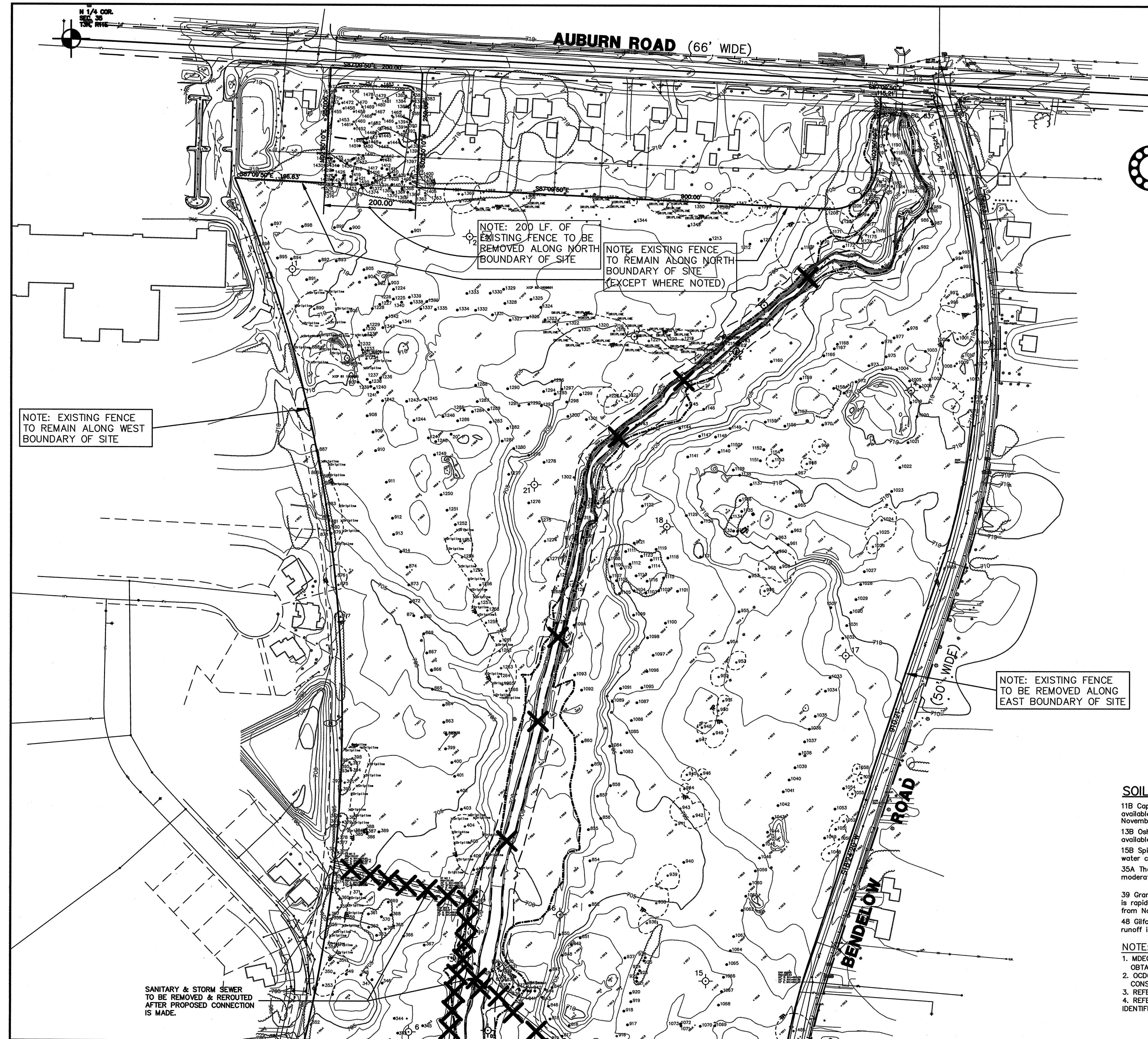
MIDWESTERN CONSULTING
 Civil, Environmental and Transportation Engineers, Planners, Surveyors, Landscape Architects
 3815 Plaza Drive
 Ann Arbor, MI 48108
 Tel: 734.985.0200
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 40900 WOODWARD AVE., SUITE 130
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 (248)-540-8040

COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
 PHASE 2 - DETAILED CONSTRUCTION PLANS
 DIMENSIONAL SITE PLAN - NORTH 1/2

JOB NO. 02325
 SHEET 5 OF 74
 REV. DATE 12-19-03
 PER CITY/CHM REVIEW 02-12-04
 PER CITY/CHM REVIEW 05-10-04
 PER CITY/CHM REVIEW 09-27-04

CITY FILE NO. 97-004.2, SECTION NO. 35



LEGEND

- 838 — EXIST. CONTOUR
- 836.2 EXIST. SPOT ELEVATION
- o- U.P. EXIST. UTILITY POLE
- ⊠ ELEC. TRANSFORMER
- |—|—| EXIST. OVERHEAD UTILITY LINE
- * EXIST. LIGHT POLE
- ⊕ EXIST. TELEPHONE LINE
- |—| EXIST. ELECTRIC LINE
- |—| EXIST. GAS LINE
- |—| EXIST. WATER MAIN
- ⊕ EXIST. HYDRANT
- ⊕ EXIST. GATE VALVE IN BOX
- ⊕ EXIST. GATE VALVE IN WELL
- ⊕ EXIST. STORM SEWER
- ⊕ EXIST. CATCH BASIN OR INLET
- ⊕ EXIST. SANITARY SEWER
- T/C TOP OF CURB
- T/P TOP OF PAVEMENT
- G GUTTER
- |—| TOP OF WALK
- |—| C OF DITCH OR EDGE OF WATER
- |—| SIDEWALK RAMP
- |—| DRAINAGE DIRECTION
- |—| CONCRETE SURFACE
- |—| ENCLOSED TRASH AREA
- ⊠ SIGN
- ⊠ P.M. PARKING METER
- ⊠ MAILBOX
- ⊠ POST
- ⊠ WELL
- ⊠ SINGLE TREE
- x—x—x— FENCE
- x—x—x— GUARDRAIL
- ☁ TREE OR BRUSH LIMIT
- ⊕ SECTION CORNER
- ⊕ SOIL BORING LOCATION
- ⊕ SET IRON PIPE
- ⊕ FOUND IRON PIPE
- ⊕ SET MONUMENT
- ⊕ FOUND MONUMENT
- ⊕ CONTROL PT.
- |—| CENTERLINE
- |—| PROPERTY LINE
- |—| EXISTING WETLAND LIMITS
- |—| EXISTING FLOODPLAIN W/DAM
- |—| TP PROPOSED TREE PROTECTION FENCING
- ⊕ 566 PROPOSED TREE REMOVAL
- ⊕ PROPOSED REMOVALS

SOIL TYPES

- 11B Capac Sandy Loam, 0-4% slopes, somewhat poorly drained, permeability is moderately slow, available water capacity is high, runoff is slow, seasonal high water table 1-2 feet in depth from November through May.
- 13B Oshemo-Boyer Loamy Sand, 0-6% slopes, well-drained, moderately rapid permeability, available water capacity is moderate-low, runoff is slow.
- 15B Spinks Loamy Sand, 0-6% slopes, well-drained, moderately rapid permeability, available water capacity is low, runoff is slow.
- 35A Thetford Loamy Fine Sand, 0-3% slopes, somewhat poorly drained, permeability is moderately rapid, available water capacity is low, runoff is slow, seasonal high water table 1-2
- 39 Granby Loamy Sand, poorly drained, subject to frequent ponding, permeability is rapid, available water capacity is low, runoff very slow, high water table is at or above surface from November - June.
- 48 Gifford Sandy Loam, poorly drained, moderately rapid permeability, water capacity is low, runoff is very slow, high water table is at or above the surface from December to May.

NOTE:

1. MDEQ AND CITY OF ROCHESTER HILLS FLOOD PLAIN USE PERMIT MUST BE OBTAINED PRIOR TO ANY CONSTRUCTION ACTIVITY.
2. OCDC DRAIN CONSTRUCTION PERMIT MUST BE OBTAINED PRIOR TO ANY CONSTRUCTION ACTIVITY.
3. REFER TO SHEET #63 FOR SOIL BORING LOGS.
4. REFER TO PLANS PREPARED BY ROBERT LEIGHTON & ASSOC. FOR TREE IDENTIFICATION AND TREE PROTECTION DETAILS.

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COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
PHASE 2 - DETAILED CONSTRUCTION PLANS

EXISTING CONDITIONS AND REMOVALS - NORTH 1/2

JOB No. **02325**

4

CITY FILE NO. 97-004.2, SECTION NO. 35

DATE: 09-30-03
SHEET: 4 OF 74

REV. DATE
12-19-03
09-12-04
09-27-04
09-10-04

BY: JAC
CHK: JAC
APP: JAC
CONSTR: 02325EX1

SOIL TYPES

11B Capac Sandy Loam, 0-4% slopes, somewhat poorly drained, permeability is moderately slow, available water capacity is high, runoff is slow, seasonal high water table 1-2 feet in depth from November through May.

13B Oshtemo-Boyer Loamy Sand, 0-6% slopes, well-drained, moderately rapid permeability, available water capacity is moderate-low, runoff is slow.

15B Spinks Loamy Sand, 0-6% slopes, well-drained, moderately rapid permeability, available water capacity is low, runoff is slow.

35A Thetford Loamy Fine Sand, 0-3% slopes, somewhat poorly drained, permeability is moderately rapid, available water capacity is low, runoff is slow, seasonal high water table 1-2 ft.

39 Granby Loamy Sand, poorly drained, subject to frequent ponding, permeability is rapid, available water capacity is low, runoff very slow, high water table is at or above surface from November - June.

48 Gilford Sandy Loam, poorly drained, moderately rapid permeability, water capacity is low, runoff is very slow, high water table is at or above the surface from December to May.

NOTE:

1. MDEQ AND CITY OF ROCHESTER HILLS FLOOD PLAIN USE PERMIT MUST BE OBTAINED PRIOR TO ANY CONSTRUCTION ACTIVITY.
2. OCDC DRAIN CONSTRUCTION PERMIT MUST BE OBTAINED PRIOR TO ANY CONSTRUCTION ACTIVITY.
3. REFER TO SHEET #63 FOR SOIL BORING LOGS.
4. REFER TO PLANS PREPARED BY ROBERT LEIGHTON & ASSOC. FOR TREE IDENTIFICATION AND TREE PROTECTION DETAILS.

SANITARY & STORM SEWER TO BE REMOVED & REROUTED AFTER PROPOSED CONNECTION IS MADE.

EXIST. PUMP HOUSE TO BE REMOVED AFTER OBTAINING PERMIT FROM O.C.D.C.

EXIST. BUILDING TO BE REMOVED

NOTE: EXISTING FENCE TO BE REMOVED ALONG WEST BOUNDARY OF SITE

NOTE: EXISTING FENCE TO REMAIN ALONG WEST BOUNDARY OF SITE

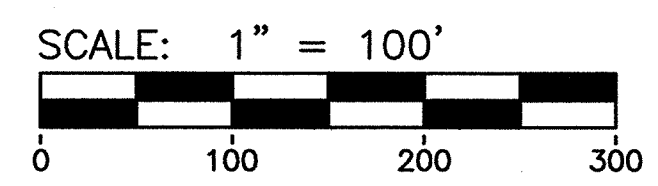
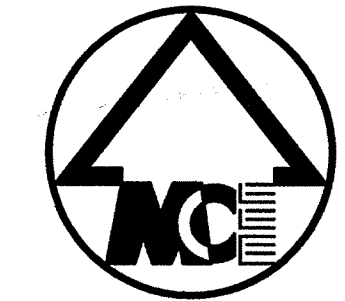
BENDELTON

ROAD 14

NICHOLSON RD. (50' WIDE)

NAWAKWA (50' WIDE)

M-59 EXPRESSWAY



LEGEND

- 838 EXIST. CONTOUR
- x836.2 EXIST. SPOT ELEVATION
- o- U.P. EXIST. UTILITY POLE
- GUY WIRE
- ⊠ ELEC. TRANSFORMER
- OH EXIST. OVERHEAD UTILITY LINE
- * EXIST. LIGHT POLE
- ⊙ PROP. LIGHT POLE
- t EXIST. TELEPHONE LINE
- e EXIST. ELECTRIC LINE
- g EXIST. GAS LINE
- w EXIST. WATER MAIN
- ⊕ EXIST. HYDRANT
- ⊕ EXIST. GATE VALVE IN BOX
- ⊕ EXIST. GATE VALVE IN WELL
- S EXIST. STORM SEWER
- C EXIST. CATCH BASIN OR INLET
- S EXIST. SANITARY SEWER
- T/C TOP OF CURB
- T/P TOP OF PAVEMENT
- G GUTTER
- T/W TOP OF WALK
- C OF DITCH OR EDGE OF WATER
- S SIDEWALK RAMP
- D DRAINAGE DIRECTION
- C CONCRETE SURFACE
- E ENCLOSED TRASH AREA
- S SIGN
- ⊙ P.M. PARKING METER
- ⊙ MAILBOX
- ⊙ TELEPHONE RISER
- ⊙ POST
- ⊙ WELL
- ⊙ SINGLE TREE
- X FENCE
- X GUARDRAIL
- C TREE OR BRUSH LIMIT
- S SECTION CORNER
- ⊙ SOIL BORING LOCATION
- ⊙ SET IRON PIPE
- ⊙ FOUND IRON PIPE
- ⊙ SET MONUMENT
- ⊙ FOUND MONUMENT
- ⊙ CONTROL PT.
- C CENTERLINE
- S PROPERTY LINE
- S EXISTING WETLAND LIMITS
- S EXISTING FLOODPLAIN W/DAM
- S PROPOSED TREE PROTECTION FENCING
- ⊙ PROPOSED TREE REMOVAL
- ⊙ PROPOSED REMOVALS

NOTE: TREE No. 150,151,152,157,448, & 449 SHALL BE REMOVED BY DTE TO ALLOW INSTALLATION OF RELOCATED OVERHEAD LINES.

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Civil, Environmental and Transportation Engineers
Planners, Surveyors
Landscape Architects

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COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
PHASE 2 - DETAILED CONSTRUCTION PLANS
EXISTING CONDITIONS AND REMOVALS - SOUTH 1/2

3

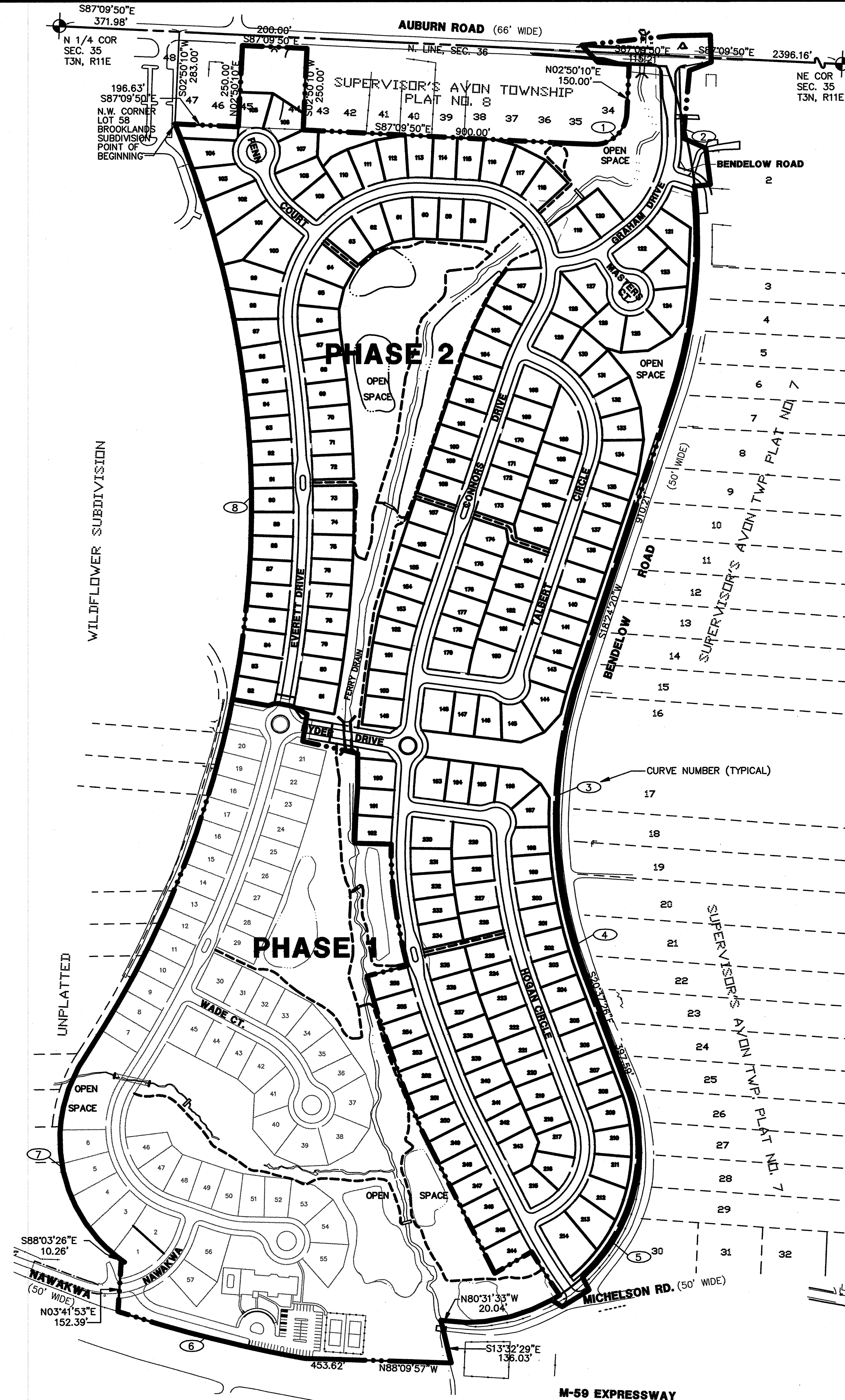
JOB No.	02325
DATE	09-30-03
SHEET	3 OF 74
REV. DATE	
12-19-03	CADD: SRG, WAL, FIC
02-12-04	ENG: JCA, MUR, DM
04-02-04	PLN: DM
08-10-04	OCDC: DM
08-10-04	OCDC: DM



CITY FILE NO. 97-004.2, SECTION NO. 35

GENERAL / CONSTRUCTION NOTES:

- All construction and materials shall be in accordance with the current standards and specifications of the City of Rochester Hills, the Oakland County Drain Commissioner (OCDC), the Michigan Dept. of Environmental Quality (MDEQ) and the Michigan Dept. of Transportation (MDOT), where applicable.
- Midwestern Consulting, L.L.C. shall not be responsible for means, methods, procedures, techniques, or sequences of construction, nor the safety on the job site, nor shall Midwestern Consulting, L.L.C. be responsible for the Contractor's failure to carry out the work in accordance with these documents.
- The Contractor shall indemnify and save harmless the Owner, Engineer, and the City of Rochester Hills, from all liabilities for injury to persons, or damage to or loss of property, or any other loss, cost or expense, as a result of the actions of the Contractor, his employees, agents, or subcontractors.
- The location and elevation of existing underground utilities as shown on these drawings are only approximate. No guarantee is either expressed or implied as to the completeness or accuracy thereof. The contractor shall be exclusively responsible for determining the exact location and elevation of existing utilities and proposed utility crossings in the field prior to construction. Further, the Contractor agrees to be fully responsible for any and all damages, which might be occasioned by the Contractor's failure to exactly locate and preserve any and all underground utilities.
- Three (3) working days prior to any excavation, the Contractor shall telephone Miss Dig (800-462-7171) for the location of underground gas and cable facilities and shall notify representatives of other utilities located in the vicinity of the work. It shall be the Contractor's responsibility to verify and/or obtain any information necessary regarding the presence of underground utilities which affect this job.
- Prior to construction, all existing utilities at proposed connections and crossings shall be field excavated to verify location and elevation. Field information shall be supplied to the Engineer so that the Engineer may confirm, adjust or revise design elevations of proposed utilities.
- All necessary permits, bonds, insurances, etc., shall be obtained and paid for by the Contractor requiring such permits, bonds, etc.
- A Flood Plain Use Permit must be obtained from the MDEQ and City of Rochester Hills prior to any work being done.
- Construction of the sanitary sewer and/or watermain shall not begin until the required state and county construction permits have been issued.
- The primary Contractor shall be responsible for and assure that all provisions of Act 347 of P.A. 1972 are complied with, including soil erosion control devices which shall be installed prior to the start of construction and shall be maintained by the Contractor during the construction phases. The Contractor shall obtain the Soil Erosion Control Permit and pay application fees and bond fees necessary for soil erosion control as required by the Oakland County Drain Commissioner.
- The Contractor shall arrange for a pre-construction meeting two (2) weeks prior to the start of construction to be attended by representatives of all permit issuing agencies to coordinate the work, inspections and timing of all parties.
- The Contractor shall notify the permit issuing agencies three (3) days prior to construction for required inspections. The Contractor shall pay for all necessary permits, bonds, and insurance.
- All elevations on these plans are USGS datum.
- All trenches within 1 on 1 slope from back of curbs, sidewalks, existing or proposed pavement or driveways shall be backfilled with MDOT Class II granular material and compacted to 95% maximum density.
- Maintain 18-inch vertical separation between main line sanitary sewer and watermain crossings and 10-foot horizontal separation between watermain and sanitary and/or storm sewer.
- Refer to 7-17-03 approved Preliminary Site Plans for all proposed Landscaping.
- Fire lanes shall be designated by the Fire Code Official, and shall be conspicuously posted on both sides of the fire lane, with fire lane signs, spaced not more than 100 feet apart, - *No Stopping, Standing, Parking, Fire Lane* -, and in conformance with the Michigan Manual of Uniform Traffic Control Devices. FIRE PREVENTION ORDINANCE Chapter 58, Sec. 901.4.2.
- Construction sites shall be safeguarded in accordance with UFC ART 87, Sec. 8701.
- Open burning is *not* permitted, including the burning of trash, debris, or land clearing materials. FIRE PREVENTION ORDINANCE Chapter 58, Sec. 1102.6.2 & 1102.6.2.3



OVERALL SITE PLAN
SCALE: 1" = 200'

BENCHMARK

- Chiseled square in centerline of headwall, north side Auburn Rd. ± 90' west of Bendelow Road. Elev. = 711.06 USGS Datum
- Railroad spike south face of power pole at N.E. corner Michelson and Bendelow Roads. Elev. = 699.41 USGS Datum

CURVE DATA

CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
1	100.00'	157.08'	141.42'	N 47°50'10" E	90°00'00"
2	1536.50'	1039.81'	1020.08'	S 00°58'54" E	38°46'27"
3	1382.50'	751.76'	742.53'	S 02°49'40" W	31°09'20"
4	1337.65'	183.83'	183.68'	S 16°41'13" E	07°52'26"
5	537.34'	1077.73'	905.96'	S 38°50'48" W	114°55'02"
6	4386.66'	597.22'	597.76'	N 75°53'55" W	07°48'02"
7	461.48'	719.16'	648.57'	N 10°51'59" W	89°17'24"
8	3066.82'	3018.43'	2898.07'	N 05°34'57" E	56°23'31"

BEARINGS BASED ON SUPERVISOR'S AVON TWP. PLAT No. 7.

LEGAL DESCRIPTION

Beginning at the NW Corner of Lot 58 of Brooklands Subdivision as recorded in Liber 25 of Plats Page 10, Oakland County Records.

thence S 87° 09' 50" E 196.63 feet along the north line of said Lot 58 and the south line of the Supervisors Avon Township Plat No. 8 as recorded in Liber 14 of Plats, Page 48,
 thence N 02° 50' 10" E 250.00 feet along the west line of Lot 45 of said Supervisors Avon Township Plat No. 8,
 thence S 87° 09' 50" E 200.00 feet along the south line of Auburn Road and the north line of Lots 44 and 45 of Supervisors Avon Township Plat No. 8,
 thence S 02° 50' 10" W 250.00 feet along the east line of Lot 44 of said Supervisors Avon Township Plat No. 8,
 thence S 87° 09' 50" E 900.00 feet along the south line of said Supervisors Avon Township Plat No. 8,
 thence northeasterly 157.08 feet along the east line of said Supervisors Avon Township Plat No. 8 in the arc of a circular curve, radius 100.00 feet, central angle 90° 00' 00", chord N 47° 50' 10" E 141.42 feet,
 thence N 02° 50' 10" E 150.00 feet along the east line of said Supervisors Avon Township Plat No. 8,
 thence S 87° 09' 50" E 115.21 (measured) 115.80 (recorded) along the south line of Auburn Road and the north line of Lot 58 of Brooklands Subdivision,
 thence along the east line of Lot 58 of said Brooklands Subdivision and the west line of said Supervisors Avon Township Plat No. 7 as recorded in Liber 12 of Plats, Page 59, in the following seven (7) courses;
 southerly 1039.81 feet (measured) 1040.19 feet (recorded) in the arc of a non-tangential circular curve to the right, radius 1536.50 feet, central angle 38° 46' 27", chord S 00° 58' 54" E 1020.08 feet,
 S 18° 24' 20" W 910.21 feet (measured) 909.52 (recorded),
 southerly 751.76 feet (measured) 752.35 feet (recorded) in the arc of a circular curve to the left, radius 1382.50 feet, central angle 31° 09' 20", chord S 02° 49' 40" W 742.53 feet,
 southeasterly 183.83 feet (measured) 183.74 feet (recorded) in the arc of a circular curve to the left, radius 1337.65 feet, central angle 07° 52' 26", chord S 16° 41' 13" E 183.68 feet,
 S 20° 37' 26" E 397.59 feet (measured) 398.52 feet (recorded),
 southwesterly 1077.73 feet in the arc of a non-tangential circular curve to the right, radius 537.34 feet, central angle 114° 55' 02", chord S 38° 50' 48" W 905.96 feet,
 N 80° 31' 33" W 20.04 feet (measured) 19.88 feet (recorded),
 thence S 13° 32' 29" E 136.03 feet,
 thence N 88° 09' 57" W 453.62 feet,
 thence northwesterly 597.22 feet along the north line of M-59 in the arc of a non-tangential circular curve, radius 4386.66 feet, central angle 07° 48' 02", chord N 75° 53' 55" W 596.76 feet,
 thence N 03° 41' 53" E 152.39 feet,
 thence S 88° 03' 26" E 10.26 feet,
 thence along the westerly line of Lot 58 of said Brooklands Subdivision in the following two courses;
 northwesterly 719.16 feet in the arc of a non-tangential circular curve to the right, radius 461.48 feet, central angle 89° 17' 24", chord N 10° 51' 59" W 648.57 feet,
 northerly 3018.43 feet in the arc of a circular curve to the left, radius 3066.82 feet, central angle 56° 23' 31", chord N 05° 34' 57" E 2898.07 feet to the POINT OF BEGINNING. Being a part of Lot 52 and all of Lot 58 of said Brooklands Subdivision and all of Lots 44 and 45 of said Supervisors Avon Township Plat No. 8 located in Section 35, T3N, R11E, City of Rochester Hills, Oakland County, Michigan, and containing 118.28 acres of land more or less.

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COUNTRY CLUB VILLAGE OF ROCHESTER HILLS
 PHASE 2 - DETAILED CONSTRUCTION PLANS
 OVERALL PLAN, GENERAL NOTES AND LEGAL DESCRIPTION

2

JOB NO. 02325
 DATE: 9-30-03
 SHEET 2 OF 74
 REVISIONS:
 PER CITY / OHM REVIEW 12-19-03 CHD: SRG, WAI, FJC
 PER CITY / OHM REVIEW 02-12-04 ENG: JCA, WJR, DDH
 PER CITY / OHM REVIEW 05-10-04 PLS: JCA
 PER CITY / OHM REVIEW 08-05-04 PLS: JCA
 PER CITY / OHM REVIEW 08-05-04 PLS: JCA
 PER CITY / OHM REVIEW 08-05-04 PLS: JCA