

PRELIMINARY SITE PLAN  
**LORNA ON THE GREEN**  
 PART OF THE S.W. 1/4 OF SECTION 32, T3N, R11E,  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

**PARCEL DESCRIPTION**

Lots 1 through 4, "Supervisor's Plat of Messmore Farms Subdivision of part of the Southwest 1/4 of Section 32, T3N, R11E, Avon Township (now City of Rochester Hills), Oakland County, Michigan, described as: Commencing at the South 1/4 corner of said Section 32; thence West 993.34 feet along the South line of said Section 32 and the centerline of South Boulevard (120.00 feet wide); thence North 60.00 feet to the Northerly right-of-way line of South Boulevard, the Southeast corner of Lot 4 and the Point of Beginning; thence West 658.68 feet along the Northerly right-of-way line of South Boulevard and the South line of Lots 1 through 4, inclusive; thence N08°13'44"W (recorded as N08°15'56"W) 1255.28 feet along the West line of "Supervisor's Plat of Messmore Farms Subdivision" to the Northwest corner of "Supervisor's Plat of Messmore Farms Subdivision"; thence N89°35'31"E 686.24 feet along the North line of "Supervisor's Plat of Messmore Farms Subdivision" to the Northeast corner of Lot 4; thence S08°57'14"E 1256.49 feet along the East line of Lot 4 to the Point of Beginning, containing 19.23 acres of land, more or less, subject to any easements and/or exceptions, recorded or otherwise.



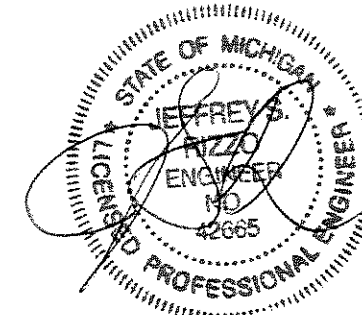
**BENCHMARKS:**  
 BM#1 - 816.05 N.G.V.D. ARROW ON HYDRANT, NORTH SIDE OF SOUTH BOULEVARD, 165' EAST OF SOUTH-WEST CORNER OF MESSMORE FARMS SUBDIVISION.  
 BM#2 - 808.74 N.G.V.D. ARROW ON HYDRANT, NORTH SIDE OF SOUTH BOULEVARD, IN FRONT OF #2552 SOUTH BOULEVARD.  
 BM#3 - 809.81 N.G.V.D. FOUND 60 PENNY NAIL, NORTH FACE OF UTILITY POLE, NORTH OF #2572 SOUTH BLVD.  
 BM#4 - 812.47 N.G.V.D. SET PK NAIL, EAST FACE OF 20" BLACK CHERRY, TAG #256, 450' NORTH OF SOUTH-WEST CORNER OF MESSMORE FARMS SUBDIVISION.

**FENN & ASSOCIATES, INC. SITE PLAN SHEET INDEX:**

- 1) COVER SHEET
- 2) SITE PLAN
- 3) TOPOGRAPHIC & WETLAND SURVEY
- 4) EXISTING DRAINAGE MAP
- 5) PRELIMINARY ENGINEERING PLAN
- 6) PRELIMINARY APPROACH PLAN
- 7) PRELIMINARY DRAINAGE PLAN
- 8) PRELIMINARY DETENTION BASINS AND CALCULATIONS
- 9) PRELIMINARY BASIN CROSS-SECTIONS

**LANDSCAPE PLANS UNDER SEPARATE COVER BY JAMES C. SCOTT & ASSOCIATES**

- L-1 EXISTING SITE CONDITIONS
- L-2 EXISTING TREE LIST
- L-3 SCHEMATIC LANDSCAPE PLAN
- L-4 ENTRY SIGNAGE PLANTING AND IRRIGATION DETAILS
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- L-6 TECHNICAL SPECIFICATIONS AND DETAILS
- IR-1 IRRIGATION PLAN



**FENN & ASSOCIATES, INC.**  
 LAND SURVEYORS AND CIVIL ENGINEERS  
 13399 West Star Drive  
 Shelby Township,  
 Michigan 48315  
 PH: 586.254.9577 FX: 586.254.9020  
 E-mail: engineering@fennsurveying.com

PRELIMINARY SITE PLAN  
 SITE CONDOMINIUM  
**LORNA ON THE GREEN**  
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DISTRIBUTION	
<input type="checkbox"/>	PRELIMINARY
<input type="checkbox"/>	APPROVAL
<input type="checkbox"/>	CONSTRUCTION
<input type="checkbox"/>	AS-BUILT
REVISIONS	
DATE	REMARKS
09/26/06	PER CITY
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01/17/07	PER CITY NEW LAYOUT
02/22/07	PER CITY
04/04/07	PER CITY

SEAL

CLIENT  
 MONDRIAN PROPERTIES  
 LORNA ON THE GREEN, LLC  
 50215 SCHODENHERR  
 SHELBY TOWNSHIP, MI 48315  
 FAX: 586-726-1932  
 PHONE: 586-726-7340

PROJECT NAME  
**LORNA ON THE GREEN**

PROJECT NUMBER  
 06-00018

SHEET NAME  
 COVER SHEET

DRAWING SCALE:	NTS
DATE:	07/25/06
PROJECT MANAGER:	J.S.R., P.E.
DESIGNED BY:	J.D.K.
DRAWN BY:	J.B.
FIELD BY:	T.D.
CHECKED BY:	J.S.R., P.E.

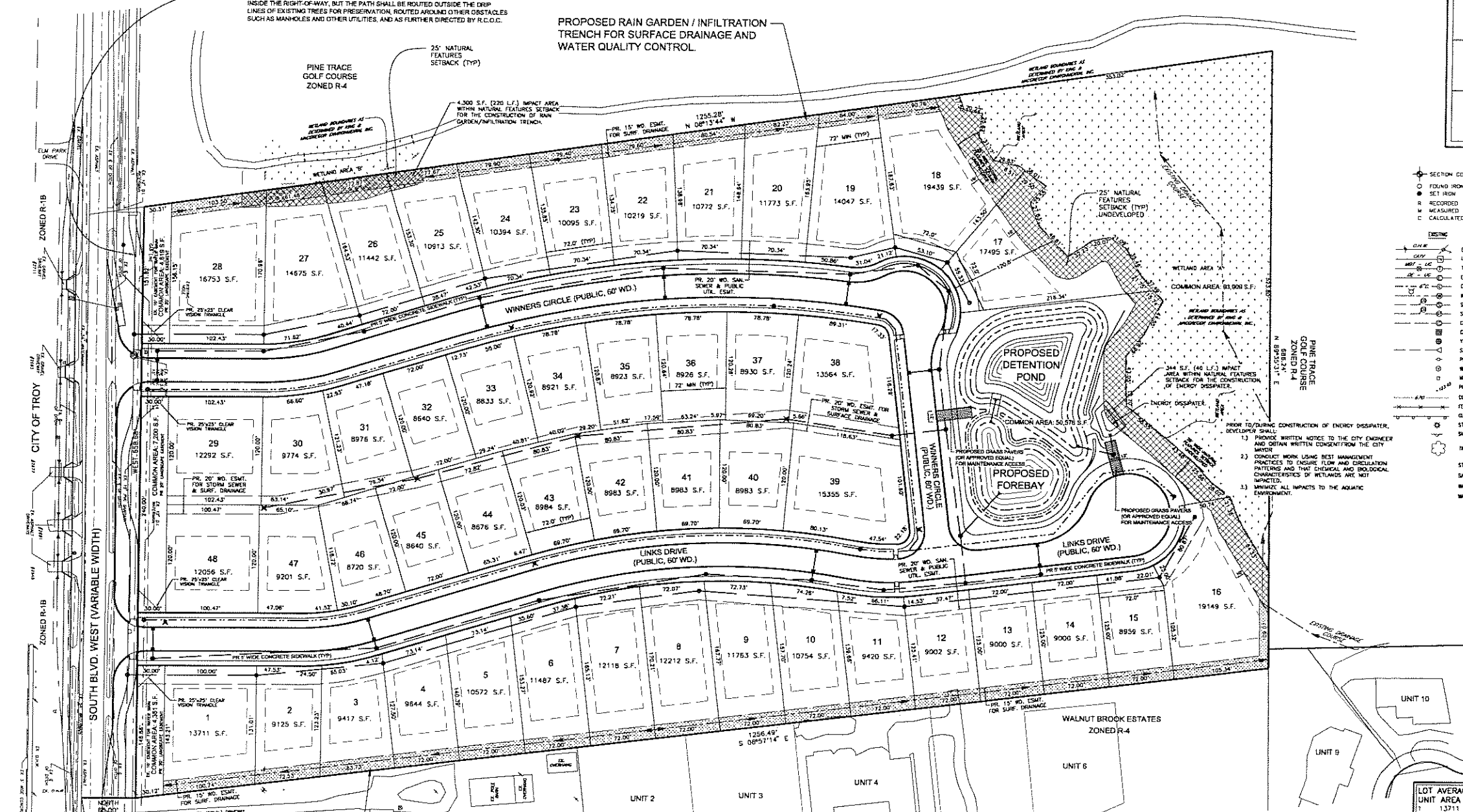
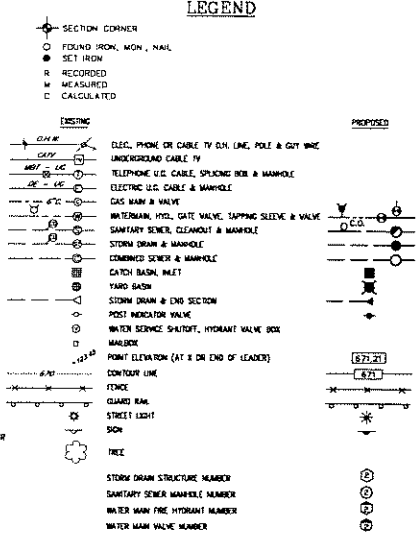
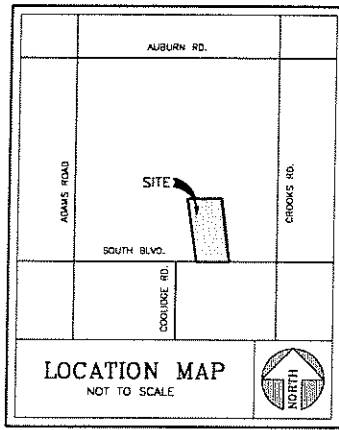
SHEET NUMBER  
**1 OF 9**

NOT TO BE USED AS CONSTRUCTION DRAWINGS

**PARCEL DESCRIPTION**  
 Lots 1 through 4, "Supervisor's Plat of Messmore Farms Subdivision" of part of the Southeast 1/4 of Section 32, T3N, R11E, Aven Township (now City of Rochester Hills), Oakland County, Michigan, as recorded in Liber 86 of Plats, Page 18, Oakland County Records, described as:  
 Commencing at the South 1/4 corner of said Section 32;  
 thence West 923.24 feet along the South line of said Section 32 and the centerline of South Boulevard (100.00 feet wide);  
 thence North 50.00 feet to the Northern right-of-way line of South Boulevard, the Southeast corner of Lot 4 and the Point of Beginning;  
 thence West 658.88 feet along the Northern right-of-way line of South Boulevard and the South line of Lots 1 through 4, inclusive;  
 thence N89°57'14"E (1256.45 feet) along the West line of "Supervisor's Plat of Messmore Farms Subdivision" to the Northwest corner of "Supervisor's Plat of Messmore Farms Subdivision";  
 thence N89°57'14"E (658.24 feet) along the North line of "Supervisor's Plat of Messmore Farms Subdivision" to the Northeast corner of Lot 4;  
 thence S89°57'14"E (1256.45 feet) along the East line of Lot 4 to the Point of Beginning, containing 19.23 acres of land, more or less, subject to any easements and/or exceptions, recorded or otherwise.

**NOTE:**  
 PROPOSED 8 FEET WIDE ASPHALT BIKE PATH SHALL GENERALLY BE LOCATED 1 FOOT INSIDE THE RIGHT-OF-WAY, BUT THE PATH SHALL BE ROUTED OUTSIDE THE DROP LINES OF EXISTING TREES FOR PRESERVATION, ROUTED AROUND OTHER OBSTACLES SUCH AS MANHOLES AND OTHER UTILITIES, AND AS FURTHER DIRECTED BY R.C.O.C.

**PROPOSED RAIN GARDEN / INFILTRATION TRENCH FOR SURFACE DRAINAGE AND WATER QUALITY CONTROL**



**SITE DATA**

RESIDENTIAL SINGLE FAMILY  
 EXISTING ZONING R-4  
 ALL ADJACENT ZONING R-4  
 ACROSS SOUTH BLVD., CITY OF TROY R-18  
 GROSS SITE AREA 26.13 ACRES  
 NET SITE AREA 19.23 ACRES (LESS R.O.W.)  
 COMMON AREA 3.69 ACRES

SETBACKS:  
 FRONT 25'  
 REAR 15'  
 SIDEWARD MINIMUM 10'  
 SIDEWALK TOTAL WIDTH 20'  
 REGULATED WETLAND BUFFER 25'  
 AREA OF UNIT 100 SQ. FT.  
 SIZE OF UNIT 80' (WIDTH) X 120' (DEPTH)  
 AVERAGED UNIT SIZE: 10% REDUCTION IN WIDTH AND AREA  
 MINIMUM AREA OF UNIT READ SQ.FT.  
 MINIMUM SIZE OF UNIT 77' WIDE X 120' DEEP  
 EFFECTIVE BUILDING ENVELOPE 52' WIDE X 80' DEEP

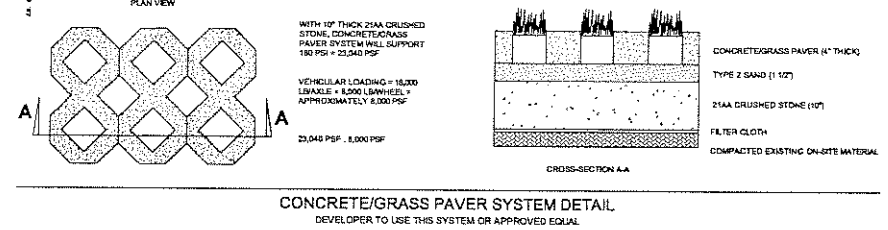
MAXIMUM DENSITY ALLOWED 3.4 UNITS/ACRE  
 MAXIMUM UNITS 19.23 X 3.4 = 65 UNITS  
 PROPOSED 48 UNITS  
 NET DENSITY 48/19.23 = 2.5 UNITS/ACRE

MAXIMUM FLOOR AREA 912 SQ.FT.  
 MAXIMUM STORIES 2  
 MAXIMUM HEIGHT 20'  
 MAXIMUM LOT AREA COVERAGE 30%

**LOT AVERAGING:**

UNIT AREA	UNIT AREA	UNIT AREA	UNIT AREA	UNIT AREA	UNIT AREA	UNIT AREA	UNIT AREA
1	13711	11	9420	21	10772	31	8976
2	9125	12	9002	22	10219	32	8540
3	9417	13	9000	23	10095	33	8833
4	9844	14	9000	24	10394	34	8921
5	10572	15	8959	25	10913	35	8923
6	11487	16	19149	26	11442	36	8926
7	12118	17	17495	27	14675	37	8930
8	12212	18	19439	28	16753	38	12564
9	11763	19	14047	29	12292	39	15355
10	11754	20	11773	30	9774	40	8983
TOTAL OF UNITS 530,710 SFT / 48 = 11,056 SFT AVERAGE > 9,600							

- GENERAL NOTES:**
- SEE LANDSCAPING PLANS FOR PROPOSED LIGHTING & DETAILS. NO STREET LIGHTING PROPOSED.
  - NO STRUCTURES REMAIN ON LOTS 1-4 OF MESSMORE FARMS SUBDIVISION. CURB CUTS MAY OR MAY NOT BE REMOVED, DEPENDING UPON DRAINAGE IMPROVEMENTS IN THE SOUTH BOULEVARD RIGHT-OF-WAY.
  - UNIT AREAS SHOWN ARE RELATED TO 51.0 SFT AND MAY CHANGE UPON FINAL APPROVAL.
  - MINIMUM UNIT WIDTH DIMENSION IS MEASURED AT THE FRONT SETBACK LINE.
  - MINIMUM LOT DEPTHS ARE MEASURED AT THE CENTERLINE OF THE UNIT.
  - UNITS ADJACENT TO WETLANDS ARE DESCRIBED ALONG THE BOUNDARY AS DELINEATED BY KING & HANCOCK ENVIRONMENTAL, INC.
  - SMALL SIGNS TO BE INSTALLED TO DEMARCAT REAR PROPERTY LINES OF UNITS 16, 17, 18, & 25-29 TO PREVENT YARDS FROM ENCRoACHING INTO WETLAND AREA.
  - LOTS 1-4, MESSMORE FARMS SUBDIVISION PLATTED IN 1982. PRIOR TO AUGUST 5, 1988, EXEMPT FROM TREE PRESERVATION ORDINANCE.
  - ANY APPROVED AREAS OF TEMPORARY NATURAL FEATURES SETBACK IMPACTS MUST BE RESTORED TO ORIGINAL GRADE WITH ORIGINAL SOILS OR EQUIVALENT SOILS AND SEEDED WITH A CITY APPROVED SEED MIX, WHERE POSSIBLE.
  - GRADES SHALL BE MATCHED FOR TRANSITION INTO EXISTING GRADE FOR DISCHARGE POINTS OF EACH RAIN GARDEN TO ALLOW FOR DISSIPATED FLOWS.
  - SNOW FENCE SHALL BE PLACED ALONG THE NATURAL FEATURES SETBACKS TO INSURE NO ENCRoACHMENTS INTO THESE AREAS OTHER THAN THOSE WHICH ARE APPROVED HEREIN.



**CONCRETE/GRASS PAVER SYSTEM DETAIL**  
 DEVELOPER TO USE THIS SYSTEM OR APPROVED EQUAL

**NOT TO BE USED AS CONSTRUCTION DRAWINGS**

**FENN & SHELLEY**  
 SOCIETIES INC. MICHIGAN 48315  
 LAND SURVEYORS AND CIVIL ENGINEERS  
 PH: 586.264.9577 FX: 586.254.9020  
 E-mail: engineering@fennsurveying.com

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**SITE CONDOMINIUM**  
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DATE	REMARKS
09/28/06	PER CITY
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01/17/07	PER CITY/NEW LAYOUT
02/23/07	PER CITY
04/04/07	PER CITY

**CLIENT**  
 MONDRAN PROPERTIES  
 LORNA ON THE GREEN, LLC  
 5215 SCHOENHEHR  
 SHELLEY TOWNSHIP, MI 48315  
 PHONE: 586-726-1832  
 FAX: 586-726-7340

**PROJECT NAME**  
**LORNA ON THE GREEN**

**PROJECT NUMBER**  
**06-00018**

**SHEET NAME**  
**SITE PLAN**

**DRAWING SCALE:** 1"=80'  
**DATE:** 07/25/06  
**PROJECT MANAGER:** J.S.R., P.E.  
**DESIGNED BY:** J.D.K.  
**DRAWN BY:** J.B.  
**FIELD BY:** T.D.  
**CHECKED BY:** J.S.R., P.E.

**SHEET NUMBER**  
**2 OF 9**

CITY FILE #06-012



PINE TRACE GOLF COURSE  
ZONED R-4

LOT 1  
ZONED R-4

LOT 2  
ZONED R-4

LOT 3  
ZONED R-4

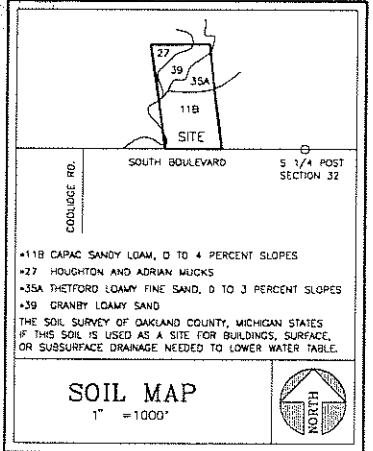
LOT 4  
ZONED R-4

WALNUT BROOK ESTATES  
ZONED R-4

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**BENCHMARKS:**  
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(12x12 FRC)

**LEGEND**

SECTION CORNER	RECORDED
FOUND IRON, WOK, NAIL	MEASURED
SET IRON	CALCULATED
EXISTING	
PIPE, PHONE OR CABLE TV CON. LINE, POLE & CITY WIRE	
UNDERGROUND CABLE TV	
TELEPHONE U.G. CABLE, SIGNALING BOX & MANHOLE	
ELECTRIC U.G. CABLE & MANHOLE	
DOG SIGN & WALK	
WATERMAIN, HYD. GATE WALK, TAPPING SLIT & WALK	
SEWER MAIN & MANHOLE	
COMMERCIAL SEWER & MANHOLE	
CATCH BASIN, HOLE	
TARD BASIN	
STORM SEWER & TARD SECTION	
POST REGULATED WALK	
WATER SERVICE SHEDDY, PORTANT WALK, BEE	
WALKWAY	
POINT ELEVATION (S&T OR END OF LEADER)	
CONCRETE LINE	
FENCE	
CHARD WALL	
STREET LIGHT	
SOIL	
TREE	
REGULATED WETLAND AREAS	

**KENN & SPOONER, INC.**  
LAND SURVEYORS AND CIVIL ENGINEERS  
13399 West Star Drive,  
Shelby Township, Michigan 48315  
PH: 586.254.8577 FX: 586.254.9020  
E-mail: [engineering@kennsurveying.com](mailto:engineering@kennsurveying.com)

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SITE CONDOMINIUM  
LORNA ON THE GREEN**  
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**SEAL**

**CLIENT**  
MONDRAN PROPERTIES  
LORNA ON THE GREEN, LLC  
50215 SCHOOBNER  
SHELBY TOWNSHIP, MI 48315  
PHONE: 586-726-1932  
PHONE: 586-726-7340

**PROJECT NAME**  
LORNA ON THE GREEN

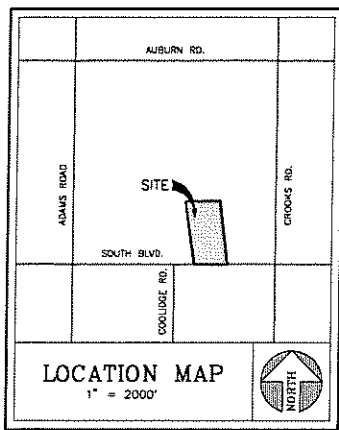
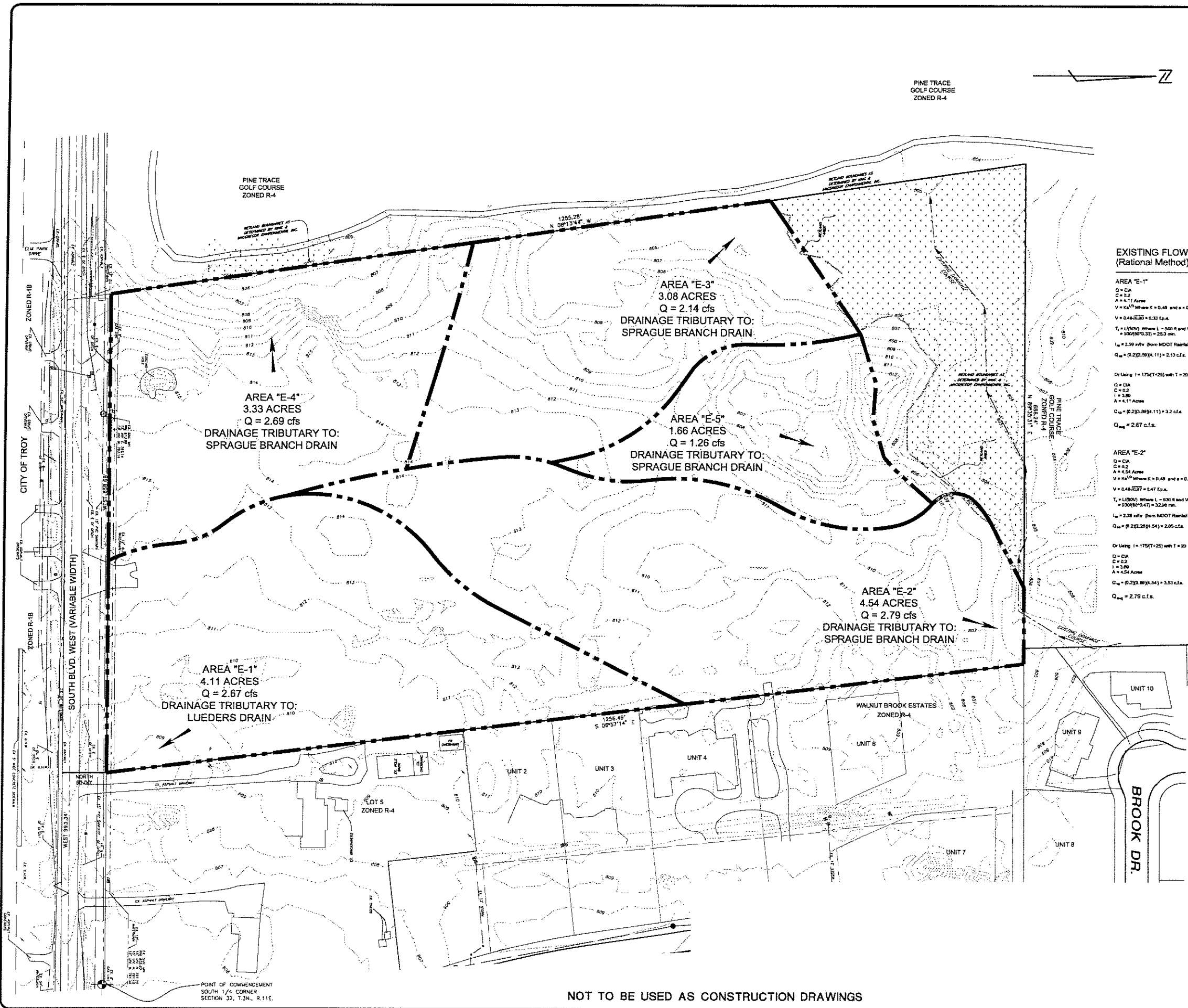
**PROJECT NUMBER**  
06-00018

**SHEET NAME**  
TOPOGRAPHIC & WETLAND SURVEY

**DRAWING NO.** 11-50  
**DATE:** 07/20/06  
**PROJECT MANAGER:** J.S.R., P.E.  
**DESIGNED BY:** J.D.K.  
**DRAWN BY:** J.R.  
**FIELD BY:** T.D.  
**CHECKED BY:** J.S.R., P.E.

**SHEET NUMBER**  
3 OF 9

CITY FILE #06-012



**EXISTING FLOWS (Rational Method)**

Area	Acres	Q (cfs)	Drainage Tributary To
AREA "E-1"	4.11	2.67	LUEDERS DRAIN
AREA "E-2"	4.54	2.79	SPRAGUE BRANCH DRAIN
AREA "E-3"	3.08	2.14	SPRAGUE BRANCH DRAIN
AREA "E-4"	3.33	2.69	SPRAGUE BRANCH DRAIN
AREA "E-5"	1.66	1.26	SPRAGUE BRANCH DRAIN
AREA "E-6"	1.56	1.26	SPRAGUE BRANCH DRAIN

**\*\*TOTAL Q (UNDEVELOPED) = 11.55 cfs\*\***

**FENN & SLOCUM, INC.**  
 LAND SURVEYORS AND CIVIL ENGINEERS  
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 Shelby Township, Michigan 48315  
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**PROJECT NAME**  
 LORNA ON THE GREEN

**PROJECT NUMBER**  
 06-00018

**SHEET NAME**  
 EXISTING DRAINAGE MAP

**DRAWING SCALE**  
 1"=50'

**DATE**  
 07/29/06

**PROJECT MANAGER:** J.S.R., P.E.  
**DESIGNED BY:** J.D.K.  
**DRAWN BY:** J.D.K.  
**FIELD BY:** T.D.  
**CHECKED BY:** J.S.R., P.E.

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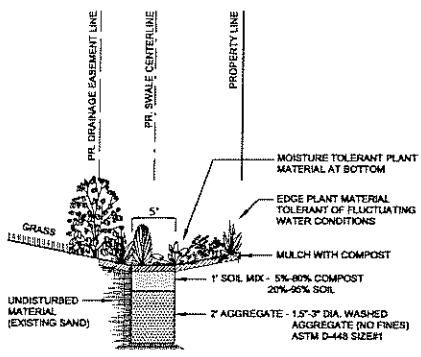
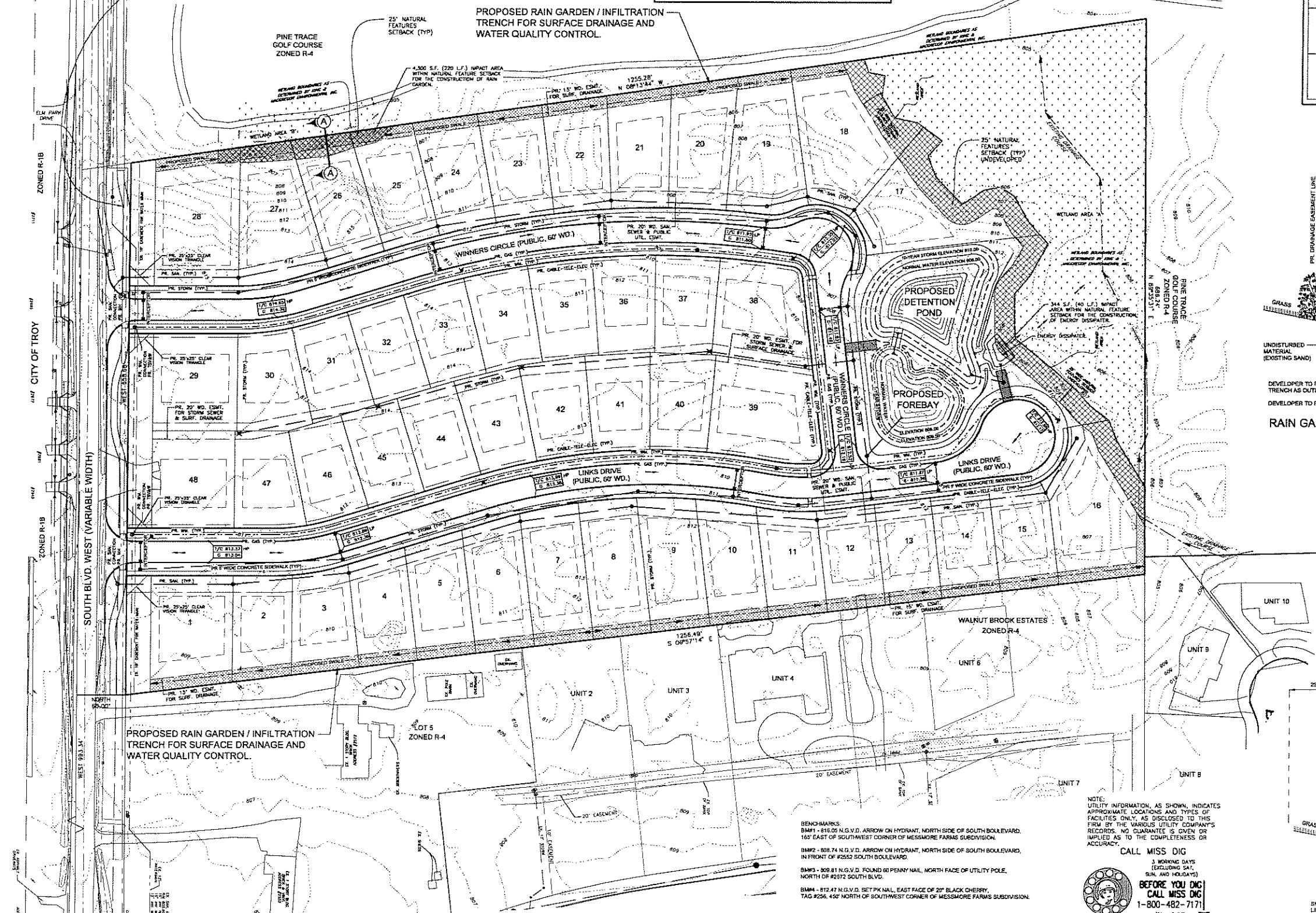
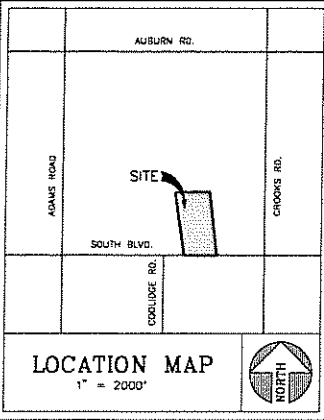
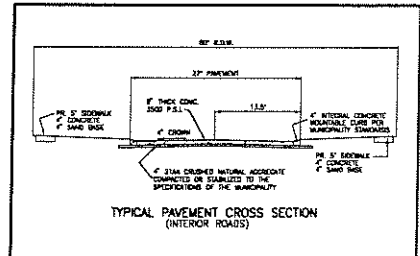
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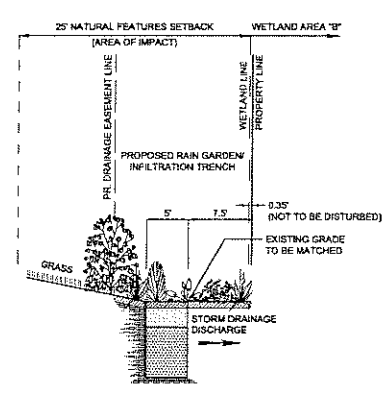
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**PARCEL DESCRIPTION**  
 Lots 1 through 4, "Supervisor's Plat of Messmore Farms Subdivision" of part of the Southwest 1/4 of Section 32, T3N, R11E, Avon Township from City of Rochester Hills, Oakland County, Michigan, as recorded in Liber 86 of Plats, Page 16, Oakland County Records, described as:  
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DEVELOPER TO PROVIDE PLANTING MIX WITHIN RAIN GARDEN/INFILTRATION TRENCH AS OUTLINED IN LANDSCAPE PLAN.  
 DEVELOPER TO PROVIDE THIS SYSTEM OR APPROVED EQUAL.  
**RAIN GARDEN/INFILTRATION TRENCH**  
 TYPICAL CROSS SECTION  
 NOT TO SCALE



SNOW FENCE TO BE INSTALLED ALONG WETLAND LINE AS DELINEATED BY IOWE TO INSURE THAT NO IMPACTS OCCUR TO EXISTING WETLAND AREA "B"  
**SECTION "A-A"**  
 NOT TO SCALE

**BENCHMARKS:**  
 BM#1 - 816.05 N.G.V.D. ARROW ON HYDRANT, NORTH SIDE OF SOUTH BOULEVARD, 165' EAST OF SOUTHWEST CORNER OF MESSMORE FARMS SUBDIVISION.  
 BM#2 - 808.74 N.G.V.D. ARROW ON HYDRANT, NORTH SIDE OF SOUTH BOULEVARD, IN FRONT OF #2552 SOUTH BOULEVARD.  
 BM#3 - 809.81 N.G.V.D. FOUND 60 PENNY NAIL, NORTH FACE OF UTILITY POLE, NORTH OF #2972 SOUTH BLVD.  
 BM#4 - 812.47 N.G.V.D. SET PK NAIL, EAST FACE OF 20\"/>

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 Shelby Township, Michigan 48315  
 LAND SURVEYORS AND CIVIL ENGINEERS  
 PH: 986.254.9577 FAX: 986.254.9020  
 E-mail: engineering@kennsurveying.com

**PRELIMINARY SITE PLAN**  
 SITE CONDOMINIUM  
**LORNA ON THE GREEN**  
 PART OF THE S.W. 1/4 OF SECTION 32, T3N, R11E,  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DISTRIBUTION	
●	PRELIMINARY
○	APPROVAL
○	CONSTRUCTION
○	AS-BUILT
REVISIONS	
DATE	REMARKS
09/28/06	PER CITY
10/30/06	PER CITY
01/17/07	PER CITY/NEW LAYOUT
02/23/07	PER CITY
04/04/07	PER CITY

**SEAL**

CLIENT  
 MONDRIAN PROPERTIES  
 LORNA ON THE GREEN, LLC  
 54215 SCHENHERR  
 SHELBY TOWNSHIP, MI 48315  
 FAX: 586-726-1032  
 PHONE: 586-726-7340

PROJECT NAME  
**LORNA ON THE GREEN**

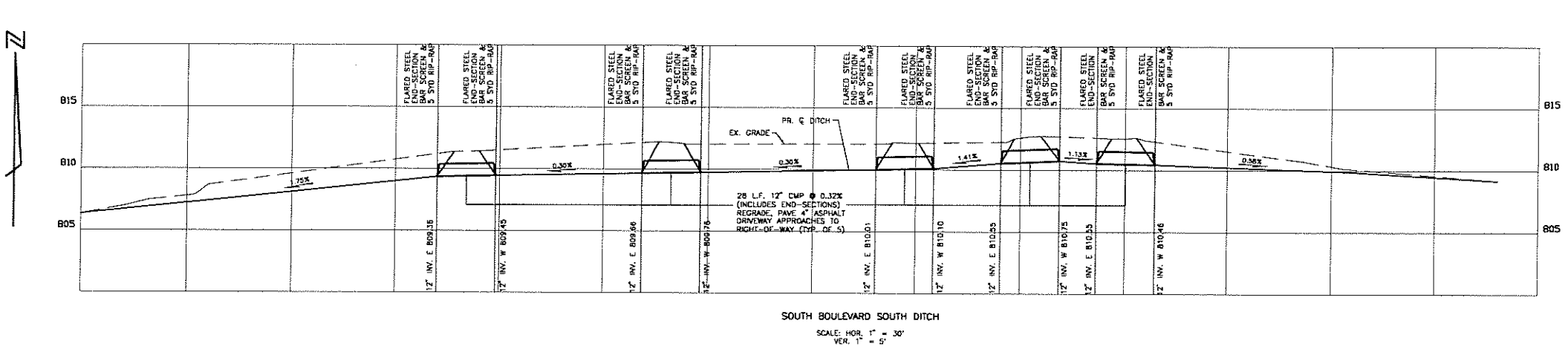
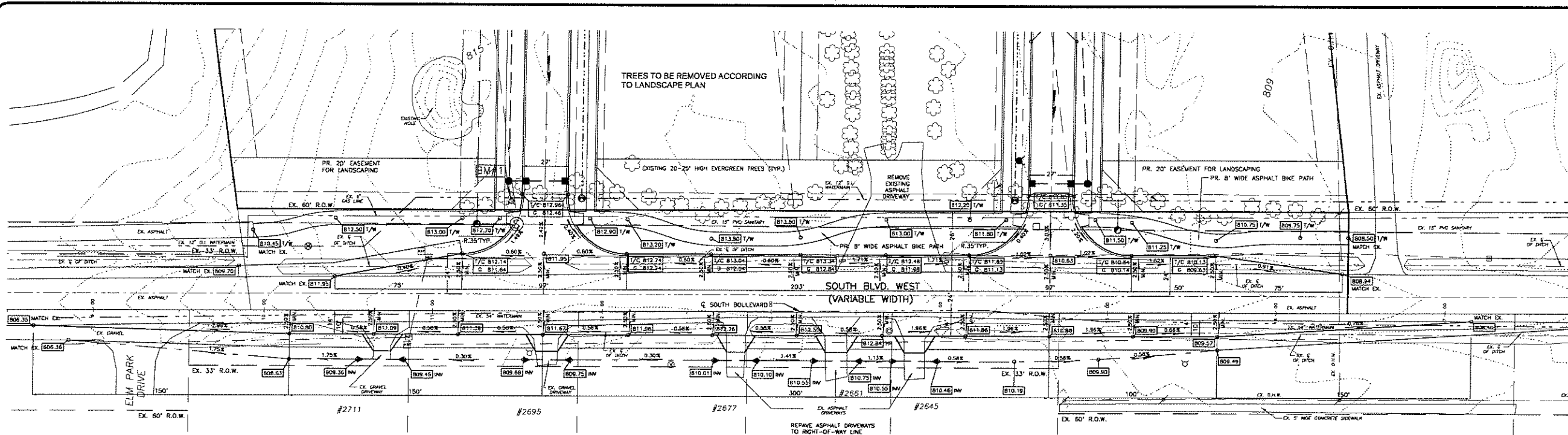
PROJECT NUMBER  
**06-00018**

SHEET NAME  
**PRELIMINARY ENGINEERING PLAN**

DRAWING SCALE: 1"=50'  
 DATE: 07/25/06  
 PROJECT MANAGER: J.S.R., P.E.  
 DESIGNED BY: J.D.K.  
 DRAWN BY: J.B.L.  
 FIELD BY: F.D.  
 CHECKED BY: J.S.R., P.E.

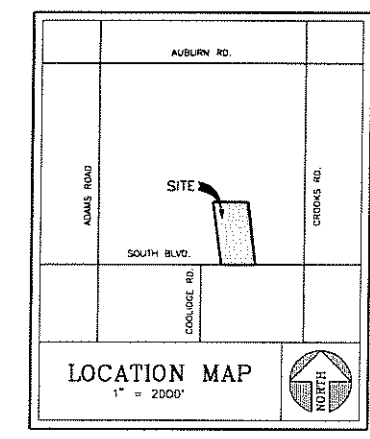
SHEET NUMBER  
**5 OF 9**

CITY FILE #06-012



**LEGEND**

EXISTING	PROPOSED
SECTION CORNER	SECTION CORNER
FOUND IRON, MON., NAIL	FOUND IRON, MON., NAIL
SET IRON	SET IRON
RECORDED	RECORDED
MEASURED	MEASURED
CALCULATED	CALCULATED
ELEC. PHONE OR CABLE TV D.K. LINE, POLE & CUT WIRE	ELEC. PHONE OR CABLE TV D.K. LINE, POLE & CUT WIRE
UNDERGROUND CABLE TV	UNDERGROUND CABLE TV
TELEPHONE D.K. CABLE, SPLITTING BOX & MANHOLE	TELEPHONE D.K. CABLE, SPLITTING BOX & MANHOLE
ELECTRIC D.K. CABLE & MANHOLE	ELECTRIC D.K. CABLE & MANHOLE
GAS MAIN & VALVE	GAS MAIN & VALVE
WATERMAIN, HYD. GATE VALVE, TAPPING SLICE & VALVE	WATERMAIN, HYD. GATE VALVE, TAPPING SLICE & VALVE
SANITARY SEWER, CLEANOUT & MANHOLE	SANITARY SEWER, CLEANOUT & MANHOLE
STORM DRAIN & MANHOLE	STORM DRAIN & MANHOLE
COMBINED SEWER & MANHOLE	COMBINED SEWER & MANHOLE
CATCH BASIN, INLET	CATCH BASIN, INLET
URD BASH	URD BASH
STORM DRAIN & END SECTION	STORM DRAIN & END SECTION
POST INDICATOR VALVE	POST INDICATOR VALVE
WATER SERVICE SHUTOFF, HYDRANT VALVE BOX	WATER SERVICE SHUTOFF, HYDRANT VALVE BOX
MANHOLE	MANHOLE
POINT ELEVATION (AT X OR END OF LEADER)	POINT ELEVATION (AT X OR END OF LEADER)
CONTOUR LINE	CONTOUR LINE
FENCE	FENCE
SHARD RAIL	SHARD RAIL
STREET LIGHT	STREET LIGHT
SOB	SOB
TREE	TREE
STORM DRAIN STRUCTURE NUMBER	STORM DRAIN STRUCTURE NUMBER
SANITARY SEWER MANHOLE NUMBER	SANITARY SEWER MANHOLE NUMBER
WATER MAIN FIRE HYDRANT NUMBER	WATER MAIN FIRE HYDRANT NUMBER
WATER MAIN VALVE NUMBER	WATER MAIN VALVE NUMBER



**PARCEL DESCRIPTION**  
 Lots 1 through 4, "Supervisor's Plat of Messmore Farms Subdivision" of part of the Southwest 1/4 of Section 32, T3N, R11E, Avon Township (now City of Rochester Hills), Oakland County, Michigan, as recorded in Liber 88 of Plats, Page 18, Oakland County Records, described as: Commencing at the South 1/4 corner of said Section 32;  
 thence West 993.34 feet along the South line of said Section 32 and the centerline of South Boulevard (130.00 feet wide);  
 thence North 85.00 feet to the Northern right-of-way line of South Boulevard; the Southwest corner of Lot 4 and the Point of Beginning;  
 thence West 558.68 feet along the Northern right-of-way line of South Boulevard and the South line of Lot 1 through 4, inclusive;  
 thence N40°13'14"W (recorded as N40°15'56"W) 1255.28 feet along the West line of "Supervisor's Plat of Messmore Farms Subdivision" to the Northwest corner of "Supervisor's Plat of Messmore Farms Subdivision";  
 thence N89°55'31"E 546.24 feet along the North line of "Supervisor's Plat of Messmore Farms Subdivision" to the Northwest corner of Lot 4;  
 thence S06°57'14"E 1256.49 feet along the East line of Lot 4 to the Point of Beginning, containing 19.23 acres of land, more or less, subject to any easements and/or exceptions, recorded or otherwise.

**SOUTH BOULEVARD SOUTH DITCH**  
 SCALE: HOR. 1" = 30'  
 VER. 1" = 5'

- GENERAL NOTES:**
- A PERMIT MUST BE OBTAINED FROM THE R.C.O.C. PERMIT DIVISION PRIOR TO ANY WORK BEING DONE ALONG EXISTING COUNTY ROADS.
  - ALL TRENCHES WITHIN 1 ON 1 SLOPE FROM TOP OF CURBS SHALL BE BACKFILLED WITH GRANULAR MATERIAL CLASS II COMPACTED TO 95% OF MAXIMUM UNIT WEIGHT.
  - CONTRACTOR TO REPLACE ALL DISTURBED AREAS TO ORIGINAL OR BETTER CONDITION.
  - THROUGH TRAFFIC MUST BE MAINTAINED AT ALL TIMES AND TWO WAY TRAFFIC RESTORED PRIOR TO WORK END EACH DAY.
  - ADDITIONAL DITCHING MAY BE NECESSARY TO OBTAIN POSITIVE DRAINAGE AS DIRECTED BY R.C.O.C. DURING CONSTRUCTION.
  - ADDITIONAL TREE REMOVAL MAY BE NECESSARY TO OBTAIN THE REQUIRED SIGHT DISTANCE AS DIRECTED BY R.C.O.C. DURING CONSTRUCTION.
  - OVERHEAD LINES TO BE A MINIMUM 14'8" ABOVE PROPOSED TOP OF PAVEMENT.
  - REMOVE ALL FENCE FROM PROPOSED RIGHT-OF-WAY.
  - PROPOSED 8 FEET WIDE ASPHALT BIKE PATH SHALL GENERALLY BE LOCATED 1 FOOT INSIDE THE RIGHT-OF-WAY, BUT THE PATH SHALL BE ROUTED OUTSIDE THE DRIP LINES OF EXISTING TREES FOR PRESERVATION, ROUTED AROUND OTHER OBSTACLES SUCH AS MANHOLES AND OTHER UTILITIES, AND AS FURTHER DIRECTED BY R.C.O.C.

**BENCHMARKS:**  
 BM#1 - 816.09 N.G.V.D. ARROW ON HYDRANT, NORTH SIDE OF SOUTH BOULEVARD, 165' EAST OF SOUTHWEST CORNER OF MESSMORE FARMS SUBDIVISION.  
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 BM#3 - 809.81 N.G.V.D. FOUND 60 PENNY NAIL, NORTH FACE OF UTILITY POLE, NORTH OF #2572 SOUTH BLVD.  
 BM#4 - 812.47 N.G.V.D. SET PK NAIL, EAST FACE OF 20" BLACK CHERRY, TAG #258, 450' NORTH OF SOUTHWEST CORNER OF MESSMORE FARMS SUBDIVISION.

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02/23/07	PER CITY
04/04/07	PER CITY

CLIENT	
MONDRIAN PROPERTIES LORNA ON THE GREEN, LLC 50215 SCHOENHEISS SHELBY TOWNSHIP, MI 48315 FAX: 586-726-1932 PHONE: 586-726-7340	
PROJECT NAME	
LORNA ON THE GREEN	
PROJECT NUMBER	
06-00018	
SHEET NAME	
PRELIMINARY ENGINEERING PLAN	
DRAWING SCALE	
1"=60'	
DATE	
07/25/06	
PROJECT MANAGER	
J.S.R., P.E.	
DESIGNED BY	
J.D.K.	
DRAWN BY	
J.B.	
FIELD BY	
T.D.	
CHECKED BY	
J.S.R., P.E.	

**PROJECT NAME**  
 LORNA ON THE GREEN

**PROJECT NUMBER**  
 06-00018

**SHEET NAME**  
 PRELIMINARY ENGINEERING PLAN

**DRAWING SCALE**  
 1"=60'

**DATE**  
 07/25/06

**PROJECT MANAGER**  
 J.S.R., P.E.

**DESIGNED BY**  
 J.D.K.

**DRAWN BY**  
 J.B.

**FIELD BY**  
 T.D.

**CHECKED BY**  
 J.S.R., P.E.

**SHEET NUMBER**  
 6 OF 9

DISTRIBUTION	
●	PRELIMINARY
○	APPROVAL
○	CONSTRUCTION
○	AS-BUILT
○	REVISIONS
DATE	REMARKS
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10/30/06	PER CITY
01/17/07	PER CITY/NEW LAYOUT
02/23/07	PER CITY
04/04/07	PER CITY

SEAL

CLIENT  
 MONDRIAN PROPERTIES  
 LORNA ON THE GREEN, LLC  
 59215 SCHENKERR  
 SHELBY TOWNSHIP, MI 48315  
 PHONE: 586-726-1932  
 PHONE: 586-726-7340

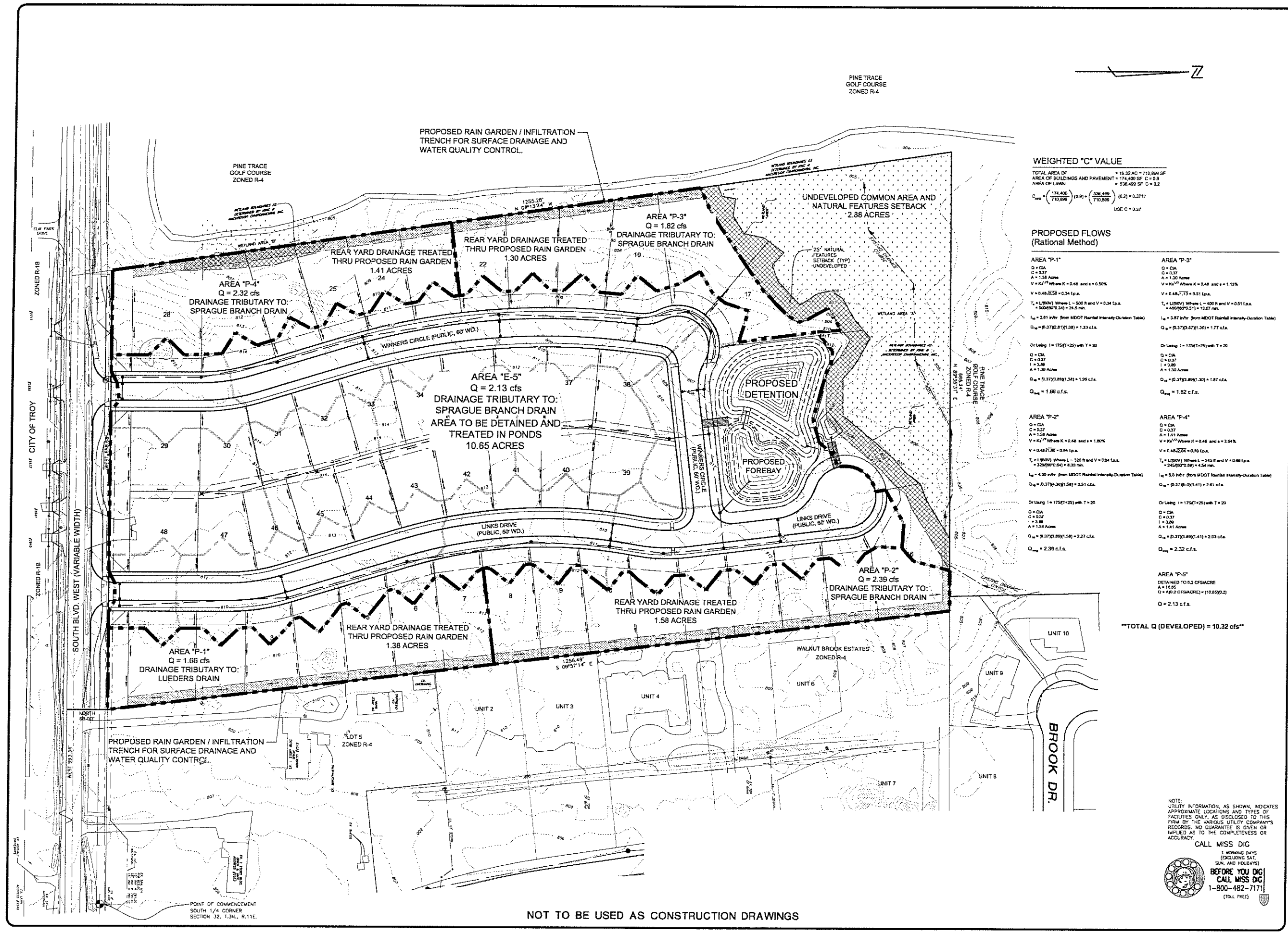
PROJECT NAME  
**LORNA ON THE GREEN**

PROJECT NUMBER  
 06-00018

SHEET NAME  
**PRELIMINARY DRAINAGE PLAN**

DRAWING SCALE: 1"=40'  
 DATE: 07/25/06  
 PROJECT MANAGER: J.S.R., P.E.  
 DESIGNED BY: J.D.K.  
 DRAWN BY: J.B.  
 FIELD BY: T.D.  
 CHECKED BY: J.S.R., P.E.

SHEET NUMBER  
**7 OF 9**



**WEIGHTED "C" VALUE**  
 TOTAL AREA OF UNDEVELOPED COMMON AREA AND NATURAL FEATURES SETBACK = 2.88 ACRES  
 AREA OF BUILDINGS AND PAVEMENT = 174,400 SF C = 0.9  
 AREA OF LAWN = 536,496 SF C = 0.2  
 $C_{wtd} = \left( \frac{174,400}{710,896} \right) (0.9) + \left( \frac{536,496}{710,896} \right) (0.2) = 0.3717$   
 USE C = 0.37

**PROPOSED FLOWS (Rational Method)**

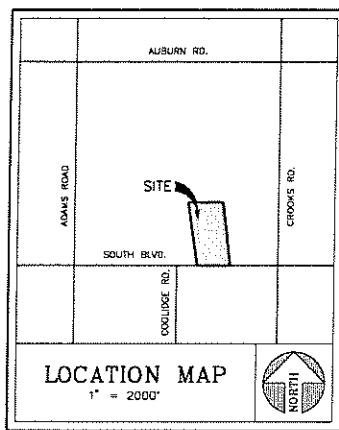
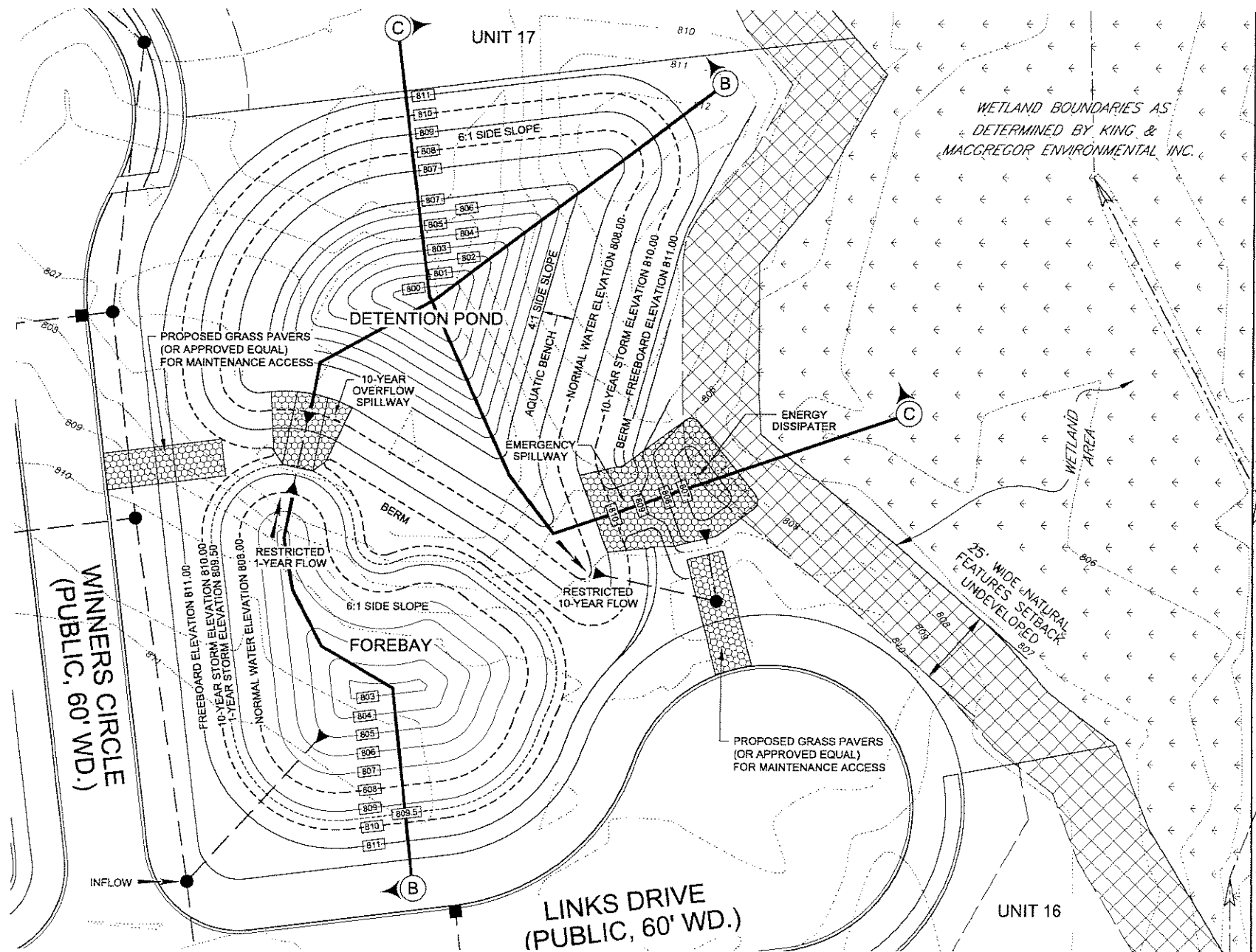
AREA "P-1"	AREA "P-3"
Q = CA C = 0.37 A = 1.38 Acres V = 0.48 ft/s T = 1.80 min I <sub>q</sub> = 4.30 in/hr Q <sub>u</sub> = 0.37(1.38)(4.30) = 2.27 c.f.s.	Q = CA C = 0.37 A = 1.30 Acres V = 0.48 ft/s T = 1.80 min I <sub>q</sub> = 5.87 in/hr Q <sub>u</sub> = 0.37(1.30)(5.87) = 2.81 c.f.s.
Or Using I = 1.75(I+25) with T = 20 Q = CA C = 0.37 I = 3.86 A = 1.38 Acres V = 0.48 ft/s T = 1.80 min I <sub>q</sub> = 4.30 in/hr Q <sub>u</sub> = 0.37(1.38)(4.30) = 2.27 c.f.s.	Or Using I = 1.75(I+25) with T = 20 Q = CA C = 0.37 I = 3.86 A = 1.30 Acres V = 0.48 ft/s T = 1.80 min I <sub>q</sub> = 5.87 in/hr Q <sub>u</sub> = 0.37(1.30)(5.87) = 2.81 c.f.s.
AREA "P-2"	AREA "P-4"
Q = CA C = 0.37 A = 1.41 Acres V = 0.48 ft/s T = 1.80 min I <sub>q</sub> = 4.30 in/hr Q <sub>u</sub> = 0.37(1.41)(4.30) = 2.27 c.f.s.	Q = CA C = 0.37 A = 1.41 Acres V = 0.48 ft/s T = 1.80 min I <sub>q</sub> = 5.87 in/hr Q <sub>u</sub> = 0.37(1.41)(5.87) = 3.11 c.f.s.
Or Using I = 1.75(I+25) with T = 20 Q = CA C = 0.37 I = 3.86 A = 1.41 Acres V = 0.48 ft/s T = 1.80 min I <sub>q</sub> = 4.30 in/hr Q <sub>u</sub> = 0.37(1.41)(4.30) = 2.27 c.f.s.	Or Using I = 1.75(I+25) with T = 20 Q = CA C = 0.37 I = 3.86 A = 1.41 Acres V = 0.48 ft/s T = 1.80 min I <sub>q</sub> = 5.87 in/hr Q <sub>u</sub> = 0.37(1.41)(5.87) = 3.11 c.f.s.
AREA "P-5"	
DETAINED TO 0.2 CFS/ACRE A = 10.65 Q = 0.2(10.65) = 2.13 c.f.s.	

**\*\*TOTAL Q (DEVELOPED) = 10.32 cfs\*\***

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**DETENTION CALCULATION 1 YEAR STORM PER OAKLAND COUNTY STANDARDS**

ALLOWABLE DISCHARGE	C1 =	0.20 CFS/ACRE
TIME INITIAL	T1 =	20.00 MINUTES
AREA	A =	10.65 ACRES
RUNOFF COEFF	C =	0.37
TOTAL ALLOWABLE DISCHARGE	QA = C1 x A =	2.13 CFS
ALLOWABLE OUTFLOW	QO = QA / (A x C1) =	0.54 CFS/ACRE
PEAK STORAGE TIME	T1-25+(5QR/2700/QO) =	45.66 MINUTES
MAX. STORAGE VOLUME/ACRE	VS = (4320 x T1) / (1 + 25) - 640 x QO x T1 =	1804.31 CU.FT./ACRE
TOTAL STORAGE REQUIRED	VT = VS x A x C =	7109.69 CU.FT.
STORAGE HEIGHT PROVIDED	H =	1.50 FEET
TOP AREA OF BASIN	A1 =	9001.00 SQ.FT.
BOTTOM AREA OF BASIN	A2 =	5069.00 SQ.FT.
TOTAL STORAGE VOLUME PROVIDED	V = (A1 + A2 + 5QR(A1 + A2)) x H / 3 =	11101.47 CU.FT.
AREA OF ORIFICE	AR = C1 x A / (0.82 x SQRT(44 x AR / PD) + 32.2 x H) =	0.35 SQ.FT.
DIAMETER OF OUTLET	D = 2 x SQRT(44 x AR / PD) =	8.01 INCHES

USE 8-INCH RESTRICTOR

**DETENTION CALCULATION 10 YEAR STORM PER OAKLAND COUNTY STANDARDS**

ALLOWABLE DISCHARGE	C1 =	0.20 CFS/ACRE
TIME INITIAL	T1 =	20.00 MINUTES
AREA	A =	10.65 ACRES
RUNOFF COEFF	C =	0.37
TOTAL ALLOWABLE DISCHARGE	QA = C1 x A =	2.13 CFS
ALLOWABLE OUTFLOW	QO = QA / (A x C1) =	0.54 CFS/ACRE
PEAK STORAGE TIME	T1-25+(5QR/662.5 / QO) =	85.10 MINUTES
MAX. STORAGE VOLUME/ACRE	VS = (10500 x T1) / (1 + 25) - (40 x QO x T1) =	6275.81 CU.FT./ACRE
TOTAL STORAGE REQUIRED	VT = VS x A x C =	24729.81 CU.FT.
STORAGE HEIGHT PROVIDED	H =	2.00 FEET
TOP AREA OF BASIN	A1 =	28123.00 SQ.FT.
BOTTOM AREA OF BASIN	A2 =	17683.00 SQ.FT.
TOTAL STORAGE VOLUME PROVIDED	V = (A1 + A2 + 5QR(A1 + A2)) x H / 3 =	45404.13 CU.FT.
AREA OF ORIFICE	AR = C1 x A / (0.82 x SQRT(44 x AR / PD) + 32.2 x H) =	0.30 SQ.FT.
DIAMETER OF OUTLET	D = 2 x SQRT(44 x AR / PD) =	7.45 INCHES

USE 8-INCH RESTRICTOR

**KENN & SLOCUMS, INC.**  
 LAND SURVEYORS AND CIVIL ENGINEERS  
 13399 West Star Drive  
 Shelby Township, Michigan 48315  
 PH: 986.254.9577 FX: 986.254.9020  
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**PRELIMINARY SITE PLAN**  
**SITE CONDOMINIUM**  
**LORNA ON THE GREEN**  
 PART OF THE S.W. 1/4 OF SECTION 32, T3N, R11E,  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

**DISTRIBUTION**

- PRELIMINARY
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- CONSTRUCTION
- AS-BUILT

**REVISIONS**

DATE	REMARKS
09/25/06	PER CITY
10/06/06	PER CITY
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**CLIENT**  
 MONDRIAN PROPERTIES  
 LORNA ON THE GREEN, LLC  
 50215 SCHOENHERR  
 SHELBY TOWNSHIP, MI 48315  
 FAX: 586-726-1932  
 PHONE: 586-726-7340

**PROJECT NAME**  
 LORNA ON THE GREEN

**PROJECT NUMBER**  
 06-00018

**SHEET NAME**  
 PRELIMINARY  
 BASINS & CALC'S

**DRAWING SCALE:** 1"=20'  
**DATE:** 07/25/06  
**PROJECT MANAGER:** J.S.R., P.E.  
**DESIGNED BY:** J.D.K.  
**DRAWN BY:** J.B.  
**FIELD BY:** T.D.  
**CHECKED BY:** J.S.R., P.E.

**SHEET NUMBER**  
 8 OF 9

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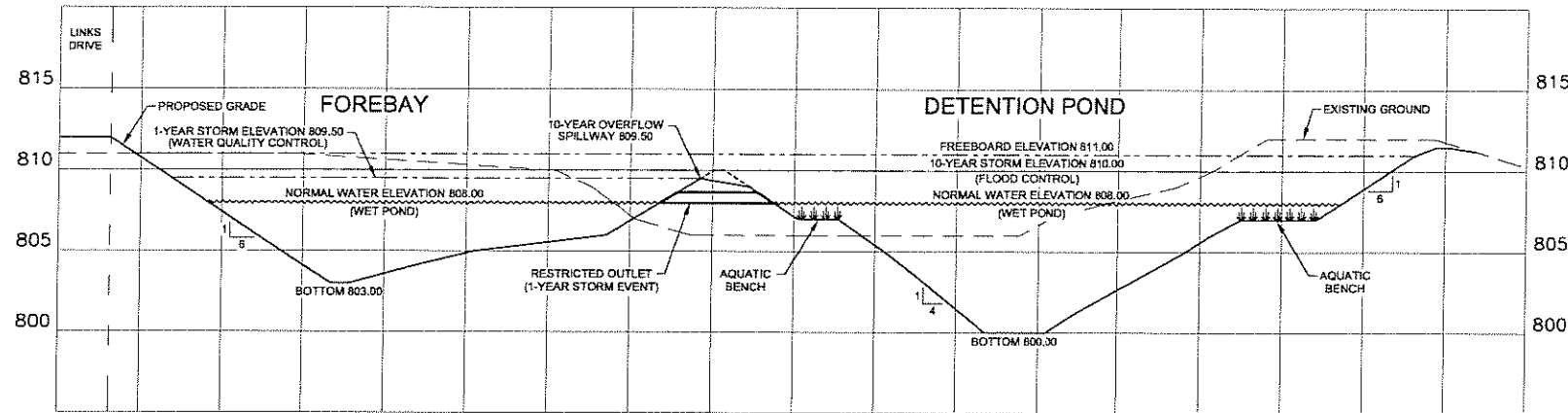
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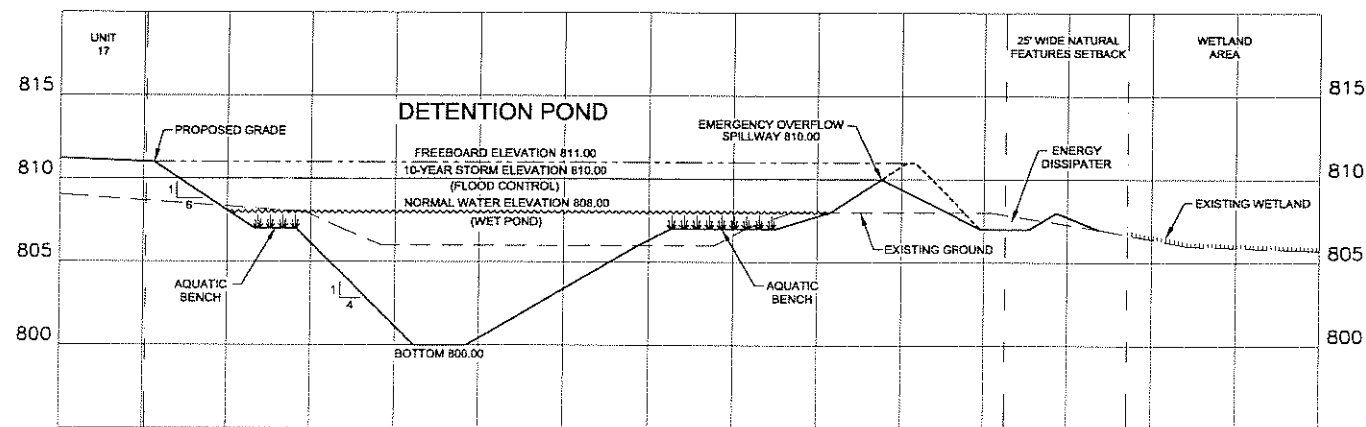
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PRELIMINARY SITE PLAN  
**LORNA ON THE GREEN**  
 PART OF THE S.W. 1/4 OF SECTION 32, T3N, R11E,  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN



SECTION "B-B"  
 HORIZ. SCALE: 1"=20' VERT. SCALE: 1"=5'



SECTION C-C"  
 HORIZ. SCALE: 1"=20' VERT. SCALE: 1"=5'

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 SHELBY TOWNSHIP, MI 48315  
 FAX: 586-726-1832  
 PHONE: 586-726-7340

PROJECT NAME  
**LORNA ON THE GREEN**

PROJECT NUMBER  
**06-00018**

SHEET NAME  
 PRELIMINARY  
 BASIN CROSS  
 SECTIONS

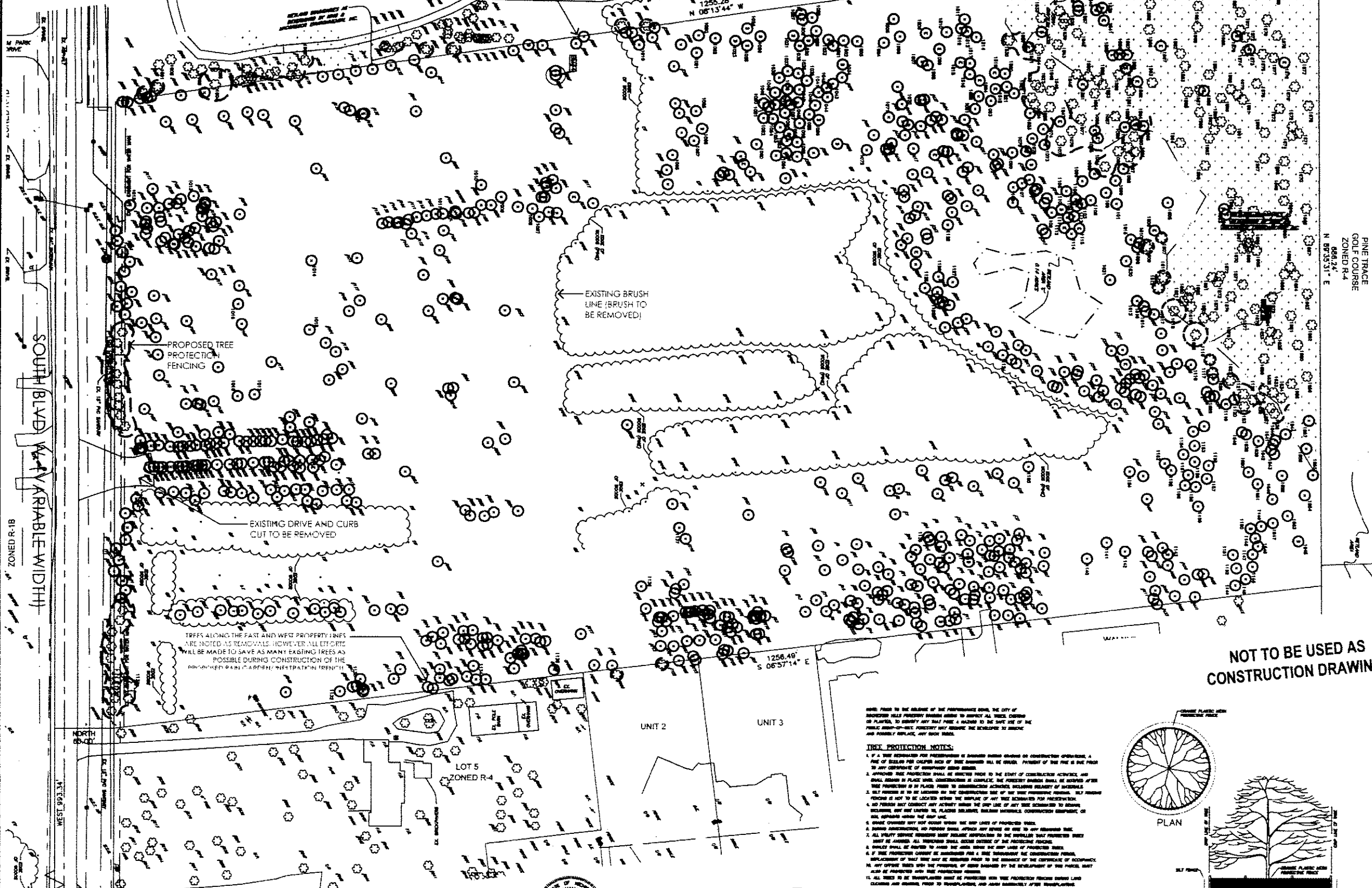
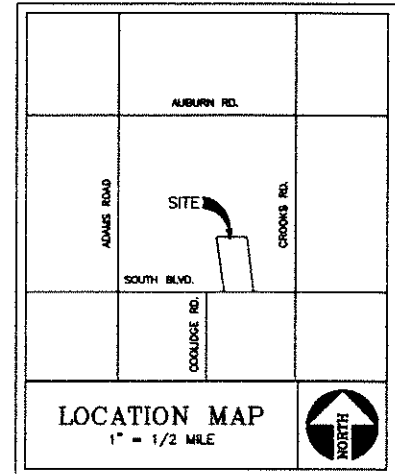
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 CHECKED BY: J.S.R., P.E.

SHEET NUMBER  
**9 OF 9**

CITY FILE #06-012

TREES ALONG THE EAST AND WEST PROPERTY LINES ARE NOTED AS REMOVALS. HOWEVER ALL EFFORTS WILL BE MADE TO SAVE AS MANY EXISTING TREES AS POSSIBLE DURING CONSTRUCTION OF THE PROPOSED RAIN GARDEN/ INFILTRATION TRENCH.

WETLAND BOUNDARIES AS DETERMINED BY KING AND MACGREGOR ENVIRONMENTAL, INC.



EXISTING BRUSH LINE (BRUSH TO BE REMOVED)

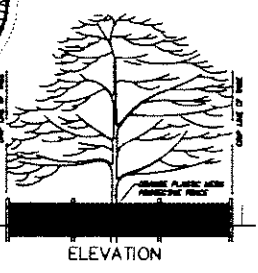
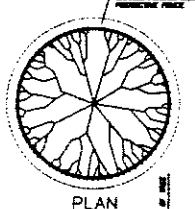
PROPOSED TREE PROTECTION FENCING

EXISTING DRIVE AND CURB CUT TO BE REMOVED

TREES ALONG THE EAST AND WEST PROPERTY LINES ARE NOTED AS REMOVALS. HOWEVER ALL EFFORTS WILL BE MADE TO SAVE AS MANY EXISTING TREES AS POSSIBLE DURING CONSTRUCTION OF THE PROPOSED RAIN GARDEN/ INFILTRATION TRENCH.

NOT TO BE USED AS CONSTRUCTION DRAWINGS

**TREE PROTECTION NOTES:**  
 1. IF A TREE IS TO BE REMOVED OR DAMAGED DURING CONSTRUCTION OPERATIONS, A FENCE OF SIX FEET HIGH SHALL BE CONSTRUCTED TO PROTECT THE TREE FROM THE PUBLIC RIGHT-OF-WAY. THE FENCE SHALL BE LOCATED AT THE POINT OF OCCUPANCY OF THE TREE.  
 2. A WARNING SIGN SHALL BE PLACED AT THE POINT OF OCCUPANCY OF THE TREE. THE SIGN SHALL BE PLACED AT THE POINT OF OCCUPANCY OF THE TREE. THE SIGN SHALL BE PLACED AT THE POINT OF OCCUPANCY OF THE TREE.  
 3. ALL TREE PROTECTION FENCES SHALL BE CONSTRUCTED TO PROTECT THE TREE FROM THE PUBLIC RIGHT-OF-WAY. THE FENCE SHALL BE LOCATED AT THE POINT OF OCCUPANCY OF THE TREE.  
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 10. ALL TREE PROTECTION FENCES SHALL BE CONSTRUCTED TO PROTECT THE TREE FROM THE PUBLIC RIGHT-OF-WAY. THE FENCE SHALL BE LOCATED AT THE POINT OF OCCUPANCY OF THE TREE.  
 11. ALL TREE PROTECTION FENCES SHALL BE CONSTRUCTED TO PROTECT THE TREE FROM THE PUBLIC RIGHT-OF-WAY. THE FENCE SHALL BE LOCATED AT THE POINT OF OCCUPANCY OF THE TREE.  
 12. ALL TREE PROTECTION FENCES SHALL BE CONSTRUCTED TO PROTECT THE TREE FROM THE PUBLIC RIGHT-OF-WAY. THE FENCE SHALL BE LOCATED AT THE POINT OF OCCUPANCY OF THE TREE.



**NOTES:**  
 ALL TREES BEING RETAINED WILL BE IDENTIFIED BY APPROVED METHOD.  
 WHEN PROTECTIVE BARRIERS ARE NECESSARY, THEY WILL BE ERRECTED BEFORE WORK STARTS.  
 THE TREES WILL CONFORM TO THE GUIDELINES ESTABLISHED IN THE MOST RECENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AND MUST BE APPROVED BY THE CITY PRIOR TO PLANTING.  
 REPLACEMENT AND RELOCATED TREES MUST BE STAKED, FERTILIZED AND MULCHED, AND SHALL BE GUARANTEED BY THE DEVELOPER TO EXHIBIT A NORMAL GROWTH CYCLE FOR TWO (2) YEARS FROM THE DATE OF APPROVAL OF THE CITY OF ROCHESTER HILLS LANDSCAPE ARCHITECT.

**TREE DATA:**

TOTAL NUMBER OF TREES SURVEYED:	1051
MINUS DEAD TREES:	-40
TOTAL NUMBER OF REGULATED TREES:	1011
TOTAL NUMBER OF REGULATED TREES REMOVED:	281
TOTAL NUMBER OF REGULATED TREES TO REMAIN:	730

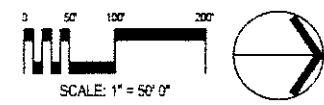
NOTE: BECAUSE THIS SITE WAS PLATTED PRIOR TO 1988, SECTION 126, ARTICLE III (TREE CONSERVATION) DOES NOT APPLY.

**TREE SYMBOL LEGEND**

	EXISTING TREE TO REMAIN
	EXISTING TREE TO BE REMOVED
	EXEMPT TREE
	DEAD TREE

PRIOR APPROVAL IS REQUIRED TO PLANT ANY TREE OR SHRUB ON THE PUBLIC RIGHT-OF-WAY. ALL TREES AND SHRUBS MUST BE PLANTED AT LEAST 10' FROM THE EDGE OF THE PUBLIC ROAD. SHADE TREES AND SHRUBS MUST BE PLANTED AT LEAST 5' FROM THE EDGE OF THE PUBLIC WALKWAY. EVERGREEN AND ORNAMENTAL TREES MUST BE PLANTED AT LEAST 10' FROM THE EDGE OF A PUBLIC WALKWAY. NO TREES OR SHRUBS MAY BE PLANTED WITHIN THE TRIANGULAR AREA FORMED AT THE INTERSECTION OF ANY STREET RIGHT-OF-WAY LINES AT A DISTANCE ALONG EACH LINE OF 25' FROM THEIR POINT OF INTERSECTION. NO TREES OR SHRUBS MAY BE PLANTED IN THE TRIANGULAR AREA FORMED AT THE INTERSECTION OF ANY DRIVEWAY WITH A PUBLIC WALKWAY AT A DISTANCE ALONG EACH LINE OF 15' FROM THEIR POINT OF INTERSECTION. ALL TREES AND SHRUBS MUST BE PLANTED AT LEAST 10' FROM ANY HIGH VOLTAGE, SHADE AND EVERGREEN TREES MUST BE AT LEAST 15' AWAY FROM THE NEAREST OVERHEAD WIRE. TREES MUST BE PLANTED A MINIMUM OF 5' FROM AN UNDERGROUND UTILITY. UNLESS THE CITY'S LANDSCAPE ARCHITECT REQUIRES A GREATER DISTANCE.

ALL QUANTITIES ARE LANDSCAPE ARCHITECT'S ESTIMATES. THESE QUANTITIES ARE NOT TO BE TAKEN AS DEFENDING OR LIMITING THE LIABILITY OF THE ARCHITECT OR ENGINEER UNDER THE CONTRACT. THE CONTRACTOR IS RESPONSIBLE FOR THE OWNERSHIP OF ALL DOCUMENTS AND TO BE INFORMED BY THE ARCHITECT'S OFFICE IMMEDIATELY. ALL DESIGNS, CONCEPTS, DETAILS, ETC. ARE THE PROPERTY OF JAMES C. SCOTT & ASSOCIATES, INC. AND MAY NOT BE DUPLICATED, REPRODUCED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF JAMES C. SCOTT, OWNER. COPYRIGHT 2007



Tag #	S.P.N.	Species	Condition	DBH	Height	Notes	Tag #	S.P.N.	Species	Condition	DBH	Height	Notes
1		Black Locust	...				1		Black Locust	...			
2		Black Locust	...				2		Black Locust	...			
3		Black Locust	...				3		Black Locust	...			
4		Black Locust	...				4		Black Locust	...			
5		Black Locust	...				5		Black Locust	...			
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7		Black Locust	...				7		Black Locust	...			
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49		Black Locust	...				49		Black Locust	...			
50		Black Locust	...				50		Black Locust	...			

NOTE:  
ALL QUANTITIES ARE LANDSCAPE ARCHITECTS ESTIMATES. THESE QUANTITIES ARE NOT TO BE TAKEN AS BINDING OR LIMITING. THE CONTRACTOR IS RESPONSIBLE FOR HIS OWN ESTIMATES. ALL DISCREPANCIES ARE TO BE REPORTED TO THE LANDSCAPE ARCHITECTS OFFICE IMMEDIATELY.  
ALL DESIGN, CONCEPTS, DETAILS, ETC. ARE THE PROPERTY OF JAMES C. SCOTT & ASSOCIATES, INC. AND MAY NOT BE DUPLICATED. PHOTOGRAPHS OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF JAMES C. SCOTT & ASSOCIATES, INC. COPYRIGHT 2007.

NOTES:  
TREE SYMBOLS SHOWN ON THE TREE SURVEY & PRESERVATION INVENTORY, MAY BE LESS THAN 8 INCHES DIAMETER.  
MIKE'S TREE SURGEONS, INC. INDICATED THAT GAPS IN THE TAG NUMBERS & DESCRIPTIONS MAY INDICATE THE TREES ARE OFF-SITE THE SUBJECT PROPERTY, OR WERE CUT DOWN BY THE PREVIOUS LAND OWNER.  
SEVERAL OF THE TREE TAGS, DESCRIBED BY MIKE'S TREE SURGEONS, INC. WERE NOT FIELD LOCATED BY PENN & ASSOCIATES, INC. THIS ALSO MAY BE DUE TO THE CLEARING DONE BY THE PREVIOUS LAND OWNER. THE FOLLOWING TAG NUMBERS, DESCRIBED ON THIS TREE SURVEY INVENTORY, WERE NOT FIELD LOCATED: 283, 271, 328, 373, 402, 404, 407, 408, 413, 414, 418, 419, 421, 425, 427, 428, 430, 447, 448, 449, 452, 453, 454, 455, 459, 460, 471, 473, 475, 476, 484, 486, 489, 499, 563, 781.  
THESE 45 TREES MAY BE CONSIDERED TO BE WITHIN THE AREAS FOR REMOVAL.  
THE LOCATIONS OF ANY TAGGED TREES FOUND ON THE SITE, BUT NOT SHOWN ON THE TREE SURVEY & PRESERVATION PLAN OR DESCRIBED IN THE TREE SURVEY INVENTORY, SHOULD BE REPORTED TO PENN & ASSOCIATES, INC., TO BE FIELD LOCATED.  
THIS TREE SURVEY INVENTORY DOES NOT INCLUDE THE UNTAGGED TREES ALONG THE SOUTHWEST CORNER RIGHT-OF-WAY. THESE UNTAGGED TREES ARE SHOWN ON SHEETS L-1 (EXISTING SITE CONDITIONS) AND L-3 (SCHEMATIC LANDSCAPE PLAN), AND HAVE BEEN ACCOUNTED FOR IN THE TREE PRESERVATION CALCULATIONS SHOWN ON SHEETS L-1, L-2, AND L-3 OF THE LANDSCAPE PLAN SET.

KEY:  
• Duplicate tree tags located  
• Duplicate tag numbers write-on tags  
12 (30) Tree with 3 Stems, 12" being the largest

MIKE'S TREE SURGEONS, INC.  
John P. Hines  
Registered Forester - Michigan  
(313) 330-4598

TREE SURVEY BY:  
MIKE'S TREE SURGEONS, INC.  
(248) 588-0202 TELEPHONE  
(248) 588-4824 FACSIMILE  
263 PARK STREET  
TROY, MI 48063-2725

CLIENT:  
MONDRIAN PROPERTIES  
LORNA ON THE GREEN, LLC  
(586) 726-7340 TELEPHONE  
(586) 726-1932 FACSIMILE  
50215 SCHOENHER  
SHELBY TOWNSHIP, MI 48315

TREE PRESERVATION CALCULATIONS

TOTAL NUMBER OF TREES SURVEYED:	1021
TOTAL NUMBER OF TREES PRESERVED:	82
TOTAL NUMBER OF REGULATED TREES:	939
TOTAL NUMBER OF REGULATED TREES TO BE REMOVED:	10
TOTAL NUMBER OF REGULATED TREES TO BE RETAINED:	929

NOTE: THIS PLAN HAS BEEN REVIEWED AND APPROVED BY THE CITY ENGINEER OF THE CITY OF TROY, MICHIGAN. THIS APPROVAL IS LIMITED TO THE CITY OF TROY AND DOES NOT APPLY TO OTHER JURISDICTIONS.

11/17/07 7:25:06  
2/23/07 9:18:06  
4/15/07 9:26:06  
11:13:06  
7:21:06  
SAW  
11:57:07  
CITY FILE #06-012

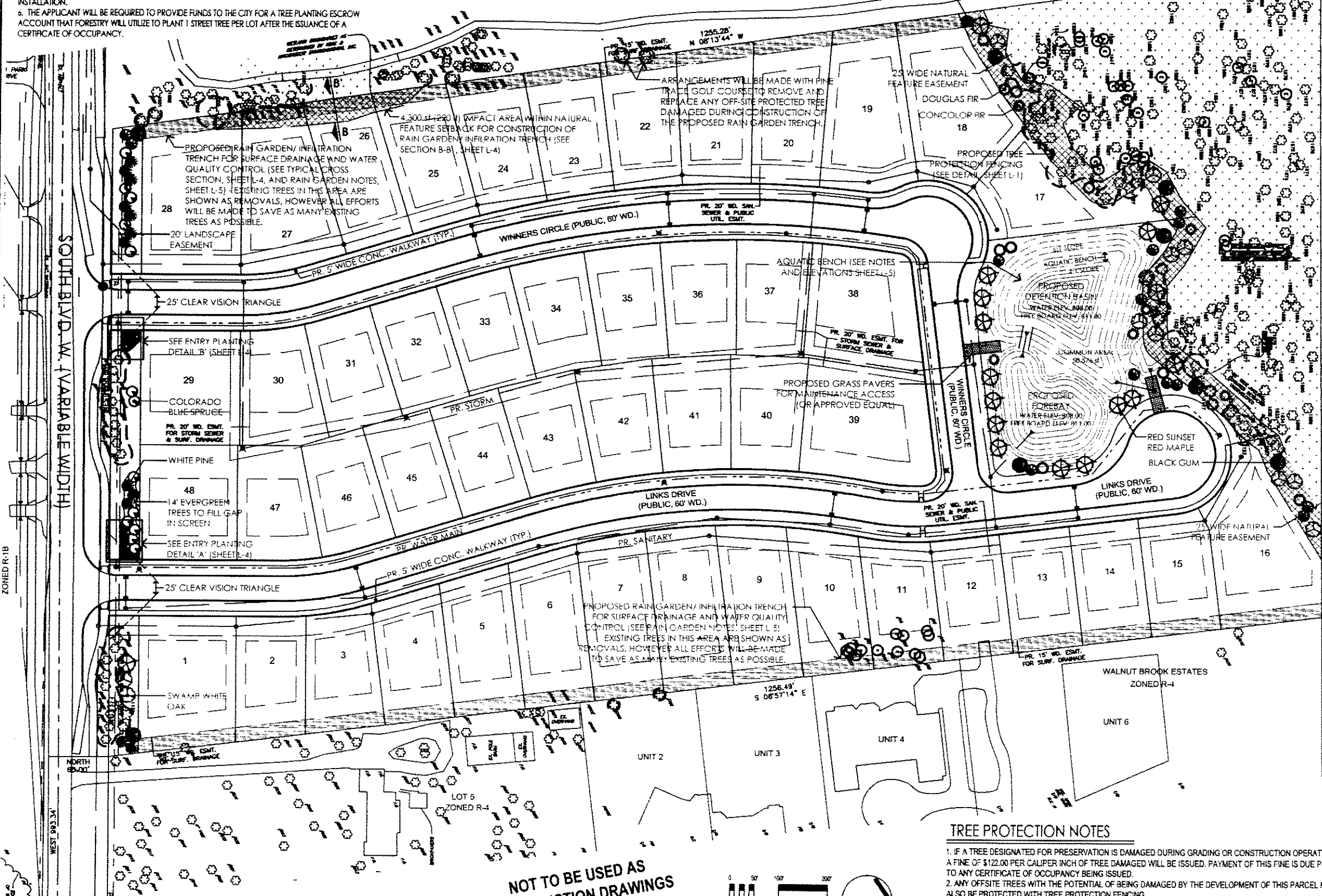
NOT TO BE USED AS CONSTRUCTION DRAWINGS

**LANDSCAPE NOTES**

1. ALL LANDSCAPE BEDS TO BE IRRIGATED BY AN AUTOMATIC IRRIGATION SYSTEM. IRRIGATION SYSTEM SHALL BE INSTALLED AFTER COMPLETION OF ALL GRADING AND CONSTRUCTION, PRIOR TO CERTIFICATE OF OCCUPANCY.
2. ALL LANDSCAPE BEDS TO BE DRESSED WITH SHREDDED BARK MULCH TO A DEPTH OF 3 INCHES. ALL PROPOSED TREES SHALL HAVE A MULCH RING NOT LESS THAN 3' DIAMETER, TO A MINIMUM DEPTH OF 3".
3. ALL LANDSCAPE BEDS TO BE EDGED WITH 1/2" x 4" ALUMINUM EDGING.
4. ALL LANDSCAPE AREAS ARE TO BE MAINTAINED IN A HEALTHY GROWING CONDITION WITH A NEAT AND ORDERLY APPEARANCE. REPLACEMENT OF DEAD PLANT MATERIAL SHALL OCCUR IN A TIMELY MANNER, NO LATER THAN THE FOLLOWING GROWING SEASON.
5. IT SHALL BE REQUIRED TO OBTAIN A SIGN PERMIT FOR ALL PROPOSED SIGNAGE PRIOR TO INSTALLATION.
6. THE APPLICANT WILL BE REQUIRED TO PROVIDE FUNDS TO THE CITY FOR A TREE PLANTING ESCROW ACCOUNT THAT FORESTRY WILL UTILIZE TO PLANT 1 STREET TREE PER LOT AFTER THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

**NOTES**

1. ALL TREES BEING RETAINED WILL BE IDENTIFIED BY AN APPROVED METHOD.
2. WHEN PROTECTIVE BARRIERS ARE NECESSARY, THEY WILL BE ERECTED BEFORE WORK STARTS.
3. THE REPLACEMENT TREES WILL CONFORM TO THE GUIDELINES ESTABLISHED IN THE MOST RECENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AND MUST BE APPROVED BY THE CITY OF ROCHESTER HILLS PRIOR TO PLANTING.
4. ALL REPLACEMENT TREES MUST BE STAKED, FERTILIZED, AND MULCHED, AND SHALL BE GUARANTEED BY THE TREE REMOVAL PERMIT HOLDER TO EXHIBIT A NORMAL GROWTH CYCLE FOR TWO (2) YEARS FROM APPROVAL OF THE CITY OF ROCHESTER HILLS LANDSCAPE ARCHITECT.



**TREE PRESERVATION CALCULATIONS**

TOTAL NUMBER OF TREES SURVEYED:	1051
MINUS DEAD TREES:	-40
MINUS EXEMPT TREES:	-92
TOTAL NUMBER OF REGULATED TREES:	921
TOTAL NUMBER OF REGULATED TREES REMOVED:	-781
TOTAL NUMBER OF REGULATED TREES TO REMAIN:	140

**NOTE:** BECAUSE THIS SITE WAS PLATTED PRIOR TO 1988, SECTION 126, ARTICLE III (TREE CONSERVATION) DOES NOT APPLY.

**REPLACEMENT TREE DATA**

TOTAL # REPLACEMENT TREES:	91
DECIDUOUS TREES (3" CAL):	36 TREES x 2 = 72 CREDITS
CONIFEROUS TREES (10' HT):	29 TREES x 2 = 58 CREDITS
CONIFEROUS TREES (14' HT):	26 TREES x 4 = 104 CREDITS

TOTAL CREDITS REQUIRED (SEE NOTE ABOVE): 0  
TOTAL CREDITS PROVIDED: 234

**PLEASE NOTE:** ALL EFFORTS WILL BE MADE TO PRESERVE ANY EXISTING TREES (CURRENTLY DESIGNATED AS A REMOVAL) THAT ARE NOT IMMEDIATELY IMPACTED BY GRADING AND/OR CONSTRUCTION. ADDITIONAL REPLACEMENT TREES (NOT SHOWN ON THIS PLAN) MAY BE ADDED AFTER GRADING AND CONSTRUCTION HAVE BEEN COMPLETED, SPACE PERMITTING.

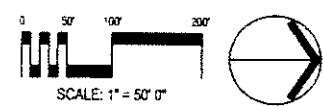
**TREE SYMBOL LEGEND**

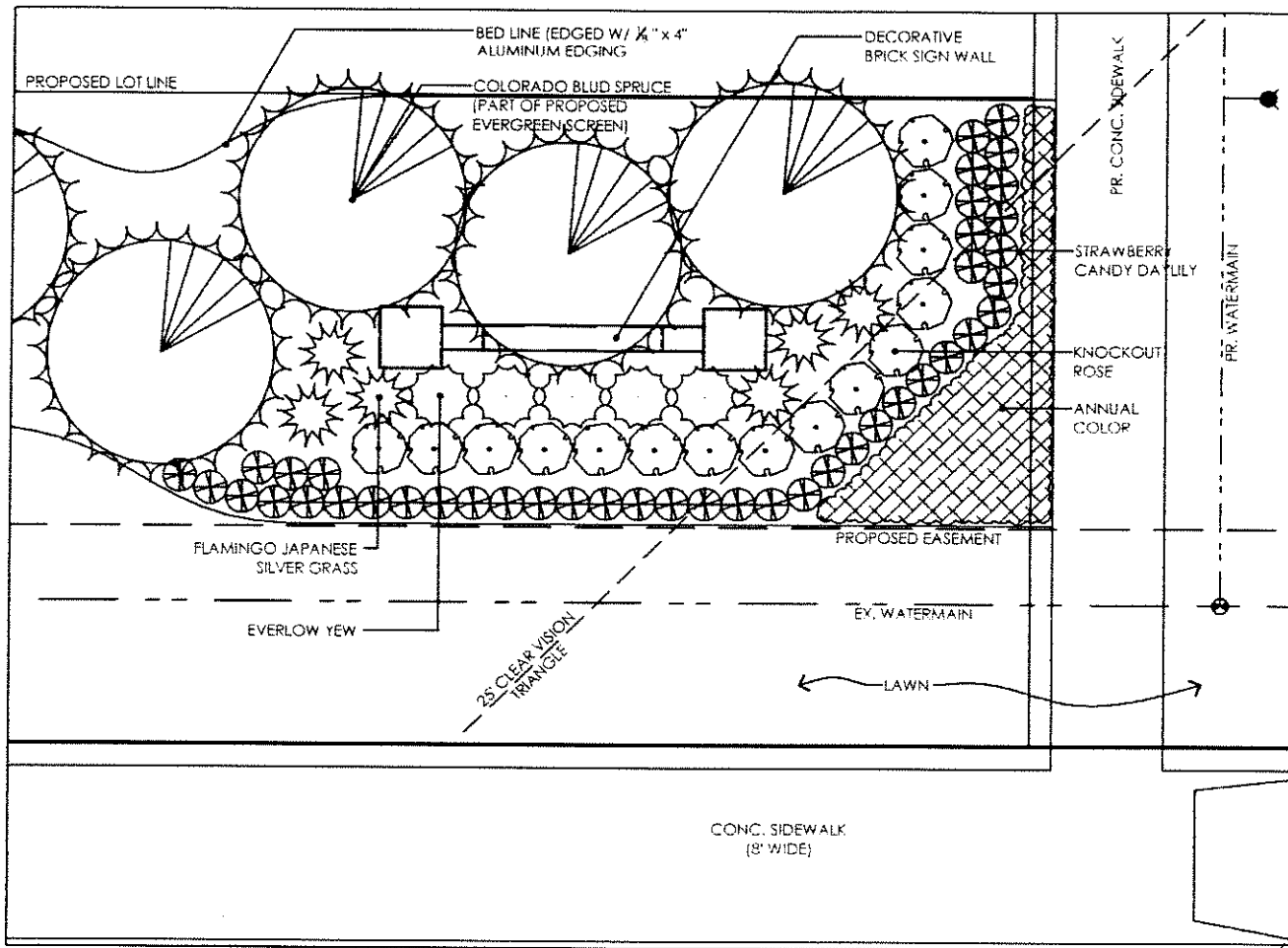
SYMBOL	#	COM. NAME	BOT. NAME	SIZE	COND.	UNIT	TOTAL
(Symbol 17)	17	RED SUNSET RED MAPLE	<i>Acer rubrum 'Franksian'</i>	3" Cal.	B&B	\$500	\$8,500
(Symbol 11)	11	SWAMP WHITE OAK	<i>Quercus bicolor</i>	3" Cal.	B&B	\$500	\$5,500
(Symbol 8)	8	BLACK GUM	<i>Nyssa sylvatica</i>	3" Cal.	B&B	\$500	\$4,000
(Symbol 12)	12	WHITE PINE	<i>Pinus strobus</i>	14" HL	B&B	\$700	\$8,400
(Symbol 13)	13	COLORADO BLUE SPRUCE	<i>Picea pungens var. glauca</i>	14" HL	B&B	\$700	\$9,100
(Symbol 14)	14	WHITE SPRUCE	<i>Picea glauca</i>	10" HL	B&B	\$500	\$7,000
(Symbol 6)	6	CONCOLOR FIR	<i>Abies concolor</i>	10" HL	B&B	\$500	\$3,000
(Symbol 9)	9	DOUGLAS FIR	<i>Pseudotsuga mucronata</i>	10" HL	B&B	\$500	\$4,500
(Symbol 11)	11	RAIN GARDEN SEED MIX	-	Bs.	\$56	\$616	
(Symbol 2)	2	AQUATIC BENCH SEED MIX	-	Bs.	\$24	\$48	
(Symbol 20)	20	SHREDDED BARK MULCH	-	cu. yd.	\$2	\$85,176	
(Symbol 115)	115	ALUMINUM EDGING	-	lin. ft.	\$4	\$460	
						SUBTOTAL	\$ 137,500
						ENTRY LANDSCAPING TOTAL (SEE SHEET L-4)	+ \$ 3,810
						LANDSCAPE COST ESTIMATE TOTAL	\$ 141,310

**TREE PROTECTION NOTES**

1. IF A TREE DESIGNATED FOR PRESERVATION IS DAMAGED DURING GRADING OR CONSTRUCTION OPERATIONS, A FINE OF \$122.00 PER CALIPER INCH OF TREE DAMAGED WILL BE ISSUED. PAYMENT OF THIS FINE IS DUE PRIOR TO ANY CERTIFICATE OF OCCUPANCY BEING ISSUED.
2. ANY OFFSITE TREES WITH THE POTENTIAL OF BEING DAMAGED BY THE DEVELOPMENT OF THIS PARCEL MUST ALSO BE PROTECTED WITH TREE PROTECTION FENCING.
3. SILT FENCING IS TO BE LOCATED ON THE CONSTRUCTION SIDE OF THE TREE PROTECTIVE FENCING. SILT FENCING IS NOT TO BE LOCATED WITHIN THE DRUPLINE OF ANY TREE DESIGNATED FOR PRESERVATION.
4. ALL TREES TO BE TRANSPLANTED MUST BE PROTECTED WITH TREE PROTECTION FENCING DURING LAND CLEARING AND GRADING, PRIOR TO TRANSPLANTING, AND AGAIN IMMEDIATELY AFTER TRANSPLANTING.

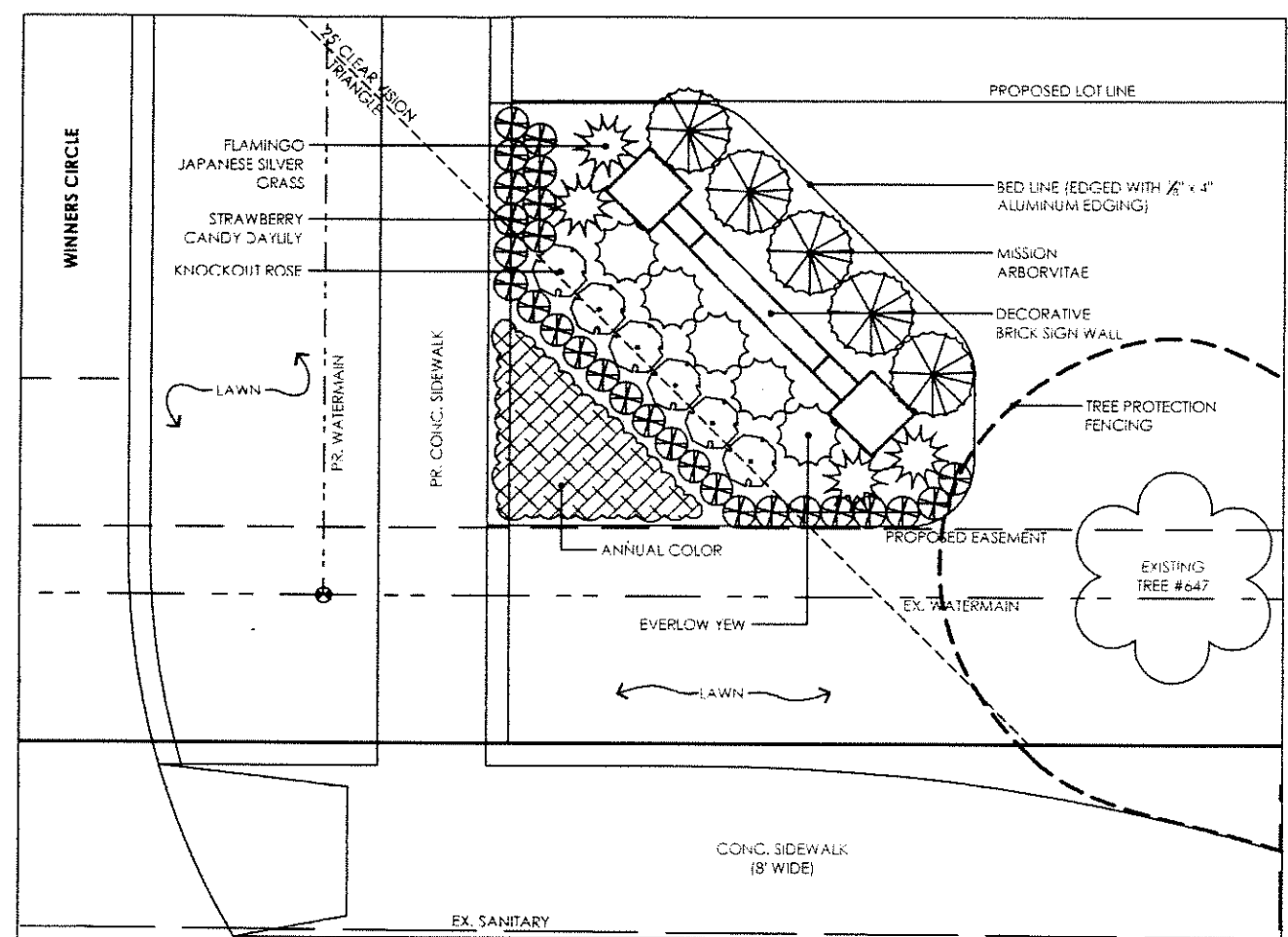
**NOT TO BE USED AS CONSTRUCTION DRAWINGS**





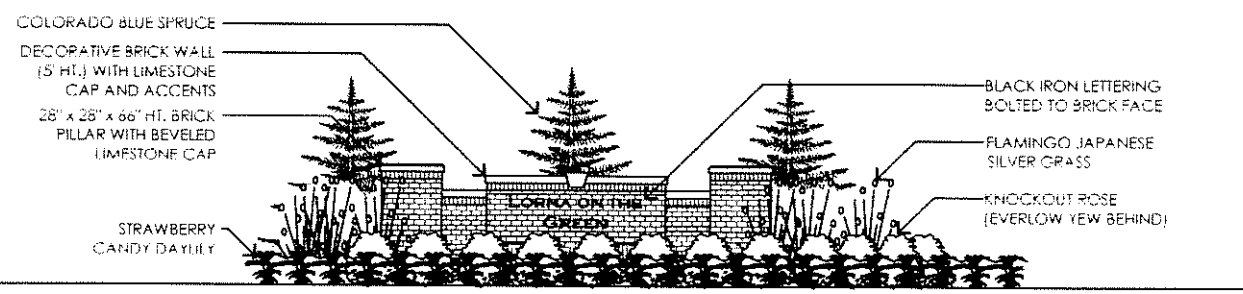
**ENTRY PLANTING DETAIL 'A'**

SCALE: 1/4" = 1' 0"



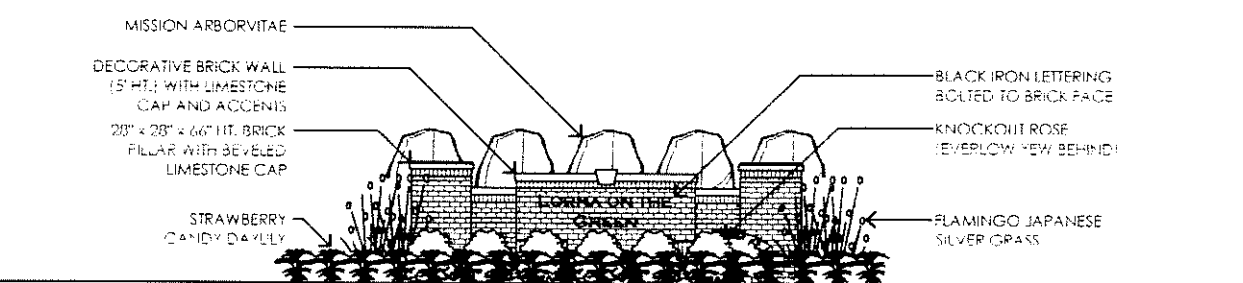
**ENTRY PLANTING DETAIL 'B'**

SCALE: 1/4" = 1' 0"



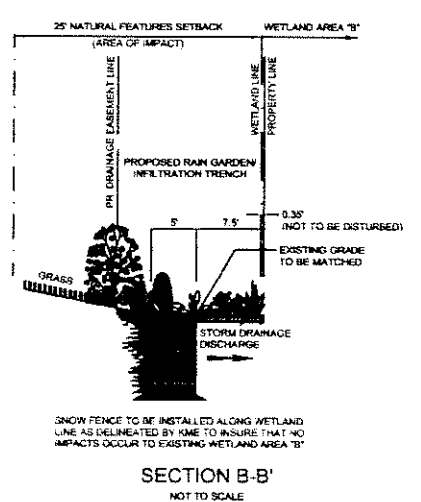
**ENTRY WALL AND SIGNAGE DETAIL 'A'**

NOT TO SCALE - FOR ILLUSTRATION PURPOSES ONLY

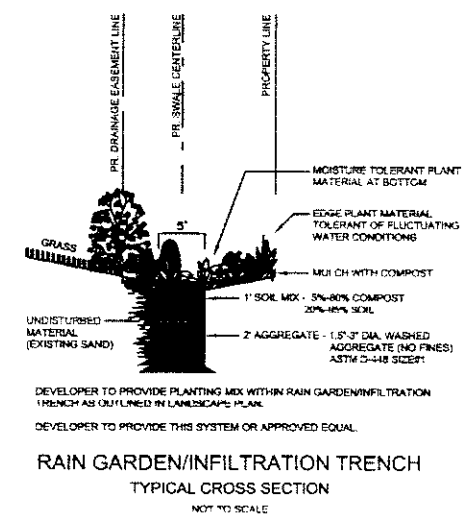


**ENTRY WALL AND SIGNAGE DETAIL 'B'**

NOT TO SCALE - FOR ILLUSTRATION PURPOSES ONLY



**SECTION B-B'**  
NOT TO SCALE



**RAIN GARDEN/INFILTRATION TRENCH**  
TYPICAL CROSS SECTION  
NOT TO SCALE

**LANDSCAPE NOTES**

1. ALL LANDSCAPE BEDS TO BE IRRIGATED BY AN AUTOMATIC IRRIGATION SYSTEM. IRRIGATION SYSTEM SHALL BE INSTALLED AFTER COMPLETION OF ALL GRADING AND CONSTRUCTION, PRIOR TO CERTIFICATE OF OCCUPANCY.
2. ALL LANDSCAPE BEDS TO BE DRESSED WITH SHREDDED BARK MULCH TO A DEPTH OF 3 INCHES. ALL PROPOSED TREES TO HAVE A MULCH RING NOT LESS THAN 3' DIAMETER, TO A MINIMUM DEPTH OF 3'.
3. ALL LANDSCAPE BEDS TO BE EDGED WITH 1/2" x 4" ALUMINUM EDGING.
4. LANDSCAPE CONTRACTOR SHALL MAINTAIN ALL LANDSCAPE AREAS IN A HEALTHY GROWING CONDITION WITH A NEAT AND ORDERLY APPEARANCE FOR A PERIOD NOT LESS THAN 1 YEAR. REPLACEMENT OF DEAD PLANT MATERIAL SHALL OCCUR IN A TIMELY MANNER, NO LATER THAN THE FOLLOWING GROWING SEASON.
5. IT SHALL BE REQUIRED TO OBTAIN A SIGN PERMIT FOR ALL PROPOSED SIGNAGE PRIOR TO INSTALLATION.

**SHRUB SYMBOL LEGEND**

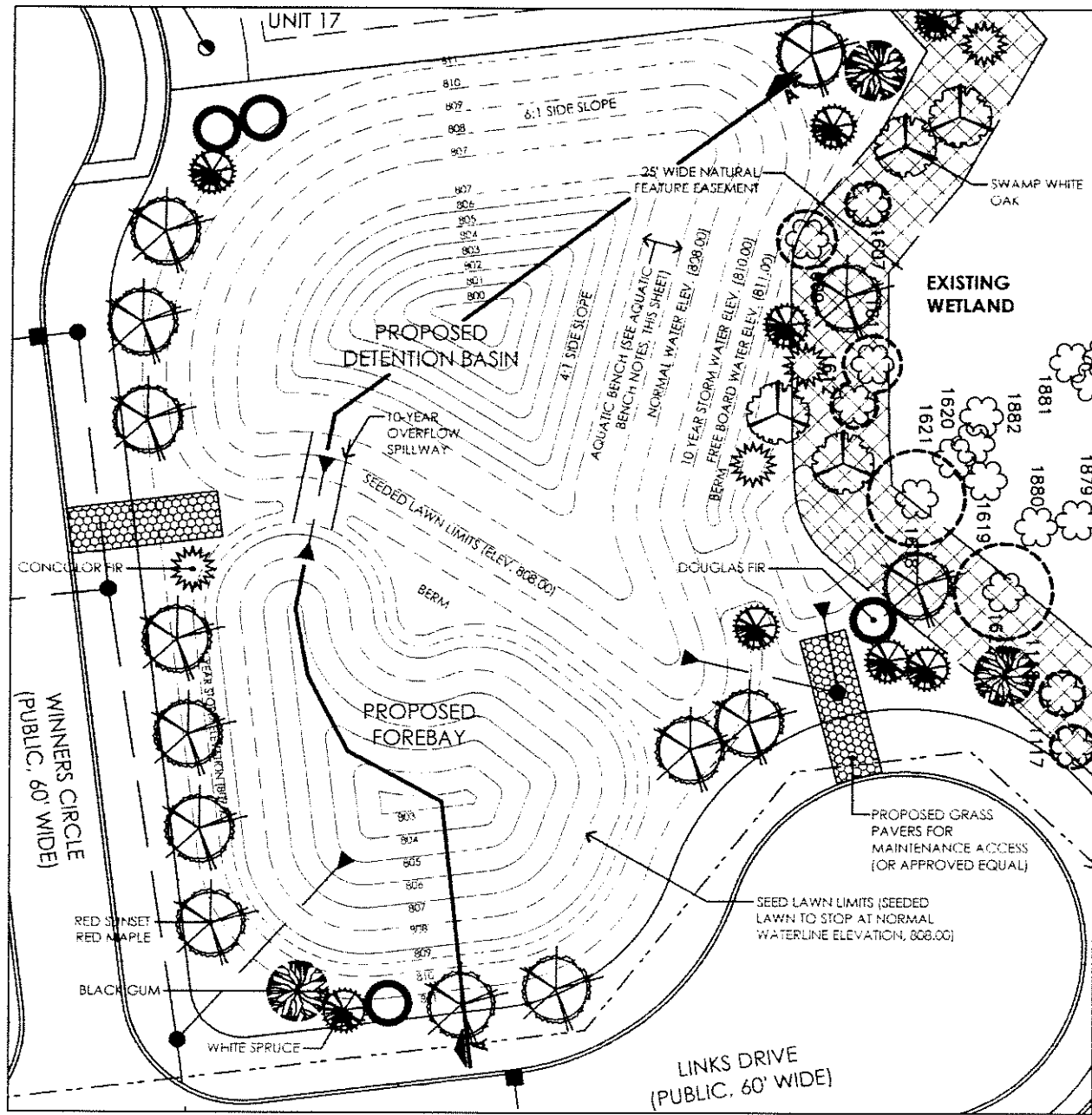
SYMBOL	#	COM. NAME	BOT. NAME	SIZE	COND.	UNIT	TOTAL
	5	MISSION ARBORVITAE	<i>Thuja occidentalis 'Tactica'</i>	6' Ht.	B&B	\$150	\$750
	10	EVERLOW YEW	<i>Taxus x media 'Everlow'</i>	24" Sp.	B&B	\$60	\$600
	21	KNOCKOUT ROSE	<i>Rosa 'Knockout'</i>	24" Ht.	B&B	\$40	\$840
	10	FLAMINGO JAPANESE SILVER GRASS	<i>Miscanthus sinensis 'Flamingo'</i>	5 Gal.	Cont.	\$20	\$200
	48	STRAWBERRY CANDY DAYLILY	<i>Hemerocallis 'Strawberry Candy'</i>	2 Gal.	Cont.	\$15	\$1,035
	11	ANNUAL COLOR	To Be Determined	48 Cal.	Flat	\$35	\$385
<b>SHRUB TOTAL</b>							<b>\$3,810</b>

**NOT TO BE USED AS CONSTRUCTION DRAWINGS**

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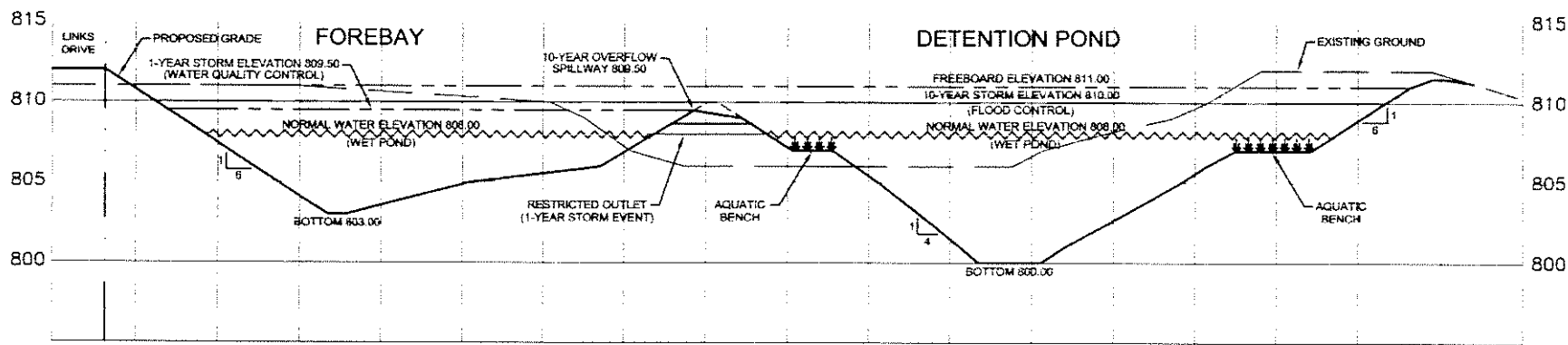


DATE	11/17/07	7/25/06
DATE	2/23/07	9/16/06
DATE	4/11/07	9/26/06
DATE		11/3/06
DATE	7/21/06	
DATE	AS SHOWN	
DATE	1" = 50' 0"	
DATE	CITY FILE #06-012	



**DETENTION BASIN DETAIL**

SCALE: 1" = 20' 0"



**DETENTION BASIN SECTION A-A'**

HORIZONTAL SCALE: 1" = 20' 0" VERTICAL SCALE: 1" = 5' 0"

**TREE SYMBOL LEGEND**

(TOTALS SHOWN ARE FOR ENTIRE SITE)

SYMBOL	#	COMM. NAME	BOT. NAME	SIZE	COND.	UNIT	TOTAL
⊗	17	RED SUNSET RED MAPLE	Acer rubrum 'Franksford'	3" Cal.	B&B	\$300	\$5,100
⊗	11	SWAMP WHITE OAK	Quercus bicolor	3" Cal.	B&B	\$200	\$2,200
⊗	8	BLACK GUM	Nyssa sylvatica	3" Cal.	B&B	\$500	\$4,000
⊗	12	WHITE PINE	Pinus strobus	14" HL	B&B	\$700	\$8,400
⊗	13	COLORADO BLUE SPRUCE	Pinus pungens var. glauca	14" HL	B&B	\$700	\$9,100
⊗	14	WHITE SPRUCE	Picea glauca	10" HL	B&B	\$500	\$7,000
⊗	8	CONCULOR FIR	Abies concolor	10" HL	B&B	\$300	\$3,000
⊗	8	DOUGLAS FIR	Pseudotsuga menziesii	10" HL	B&B	\$500	\$4,500
⊗	11	RARE GARDEN SEED MIX	-	-	sq. ft.	\$26	\$616
⊗	2	AQUATIC BENCH SEED MIX	-	-	sq. ft.	\$24	\$48
⊗	42,000	SEED LAWN	-	-	sq. yd.	\$2	\$84,000
⊗	20	SHREDDED BARK MULCH	-	-	cu. yd.	\$60	\$1,200
⊗	175	ALUMINUM EDGING	-	-	lin. ft.	\$4	\$700
SUBTOTAL							\$ 137,500
ENTRY LANDSCAPING TOTAL (SEE SHEET L-4)							+ \$ 3,810
LANDSCAPE COST ESTIMATE TOTAL							\$ 141,310
⊗	171	EXISTING TREES TO REMAIN	-	-	-	-	-
⊗	18	EXISTING EXEMPT TREES TO REMAIN (MOST LOCATED WITHIN THE WETLAND, 1 LOCATED IN THE LANDSCAPE EASEMENT ALONG SOUTH BOULEVARD)	-	-	-	-	-
⊗	8	EXISTING DEAD TREES TO REMAIN (ALL LOCATED WITHIN THE WETLAND)	-	-	-	-	-

**AQUATIC SHELF NOTES**

- UPON COMPLETION OF AQUATIC SHELF/ DETENTION BASIN GRADING, TOPSOIL SHALL BE PROVIDED IF NECESSARY, TO A MINIMUM DEPTH OF 2" TO INSURE A FERTILE GROWING MEDIUM.
- GLYPHOSATE OR OTHER AQUATIC FORMULATIONS SHALL BE USED TO PREVENT THE SPREADING OF UNWANTED VEGETATION (PURPLE LOOSESTRIPE, PHRAGMITES, ETC.).
- AQUATIC SHELF TO BE SEED WITH A RETENTION BASIN FLOOR SEEDING MIX FOR WILDLIFE AND PLANT DIVERSITY. MIX IS TO BE APPLIED AT A SOWING RATE OF 20 LBS./ACRE. SEED MIX (MIX # EPNMIX-127) SHALL BE PROVIDED BY ERNST CONSERVATION SEEDS (MEADVILLE, PA, 800-873-3321, www.ernstseed.com) AND CONTAIN THE FOLLOWING SPECIES, OR AN EQUIVALENT:

ITEM	% IN MIX
FOX SEDGE ( <i>Carex utahensis</i> )	25%
WILD VIRGINIA RYE ( <i>Elymus virginicus</i> )	25%
FOWL BLUEGRASS ( <i>Poa polystris</i> )	25%
BLUE VERVAIN ( <i>Verbena hastata</i> )	5%
GREEN BULRUSH ( <i>Scirpus atrovirens</i> )	4%
SOFT RUSH ( <i>Juncus effusus</i> )	3%
QUART BURN REED ( <i>Sparganium angustifolium</i> )	3%
PATH RUSH ( <i>Juncus tenuis</i> )	2%
WOOL GRASS ( <i>Scirpus cyperinus</i> )	2%
MANY LEAVED BULRUSH ( <i>Scirpus polyphyllus</i> )	2%
BLUNT BROOM SEDGE ( <i>Carex scoparia</i> )	1%
COMMON SHEEPWEEED ( <i>Halenia autumnalis</i> )	1%
BLUE FLAG ( <i>Iris verticillata</i> )	1%
SQUARE STEMMED MONKEY FLOWER ( <i>Mimulus ringens</i> )	1%

- SEEDING SHALL BE LIMITED TO THE AQUATIC SHELF.
- SEEDING AND ESTABLISHMENT SHALL TAKE PLACE AS SOON AFTER GRADING AS POSSIBLE, AND BEFORE WATER LEVELS REACH AN ELEVATION GREATER THAN ONE (1) INCH ABOVE THE FINISHED SHELF ELEVATION.
- SILT FENCING MAY BE NECESSARY TO PREVENT EROSION PRIOR TO AQUATIC SHELF ESTABLISHMENT.
- THE AQUATIC SHELF IS MEANT TO PROMOTE NATIVE GROWTH IN ORDER TO REDUCE EROSION, ENHANCE NUTRIENT UPTAKE, PROMOTE WILDLIFE, AND TO BLEND THE NEW DETENTION BASIN WITH THE ADJACENT EXISTING WETLAND. THIS AQUATIC SHELF SHOULD REMAIN AS NATURAL AS POSSIBLE, AND ONLY BE MAINTAINED AS REQUIRED. ALL STEPS SHOULD BE TAKEN TO PREVENT THE GROWTH AND SPREADING OF INVASIVE SPECIES SUCH AS (BUT NOT LIMITED TO) PURPLE LOOSESTRIPE AND PHRAGMITES.

**RAIN GARDEN NOTES**

- UPON COMPLETION OF ANY NECESSARY GRADING, TOPSOIL SHALL BE PROVIDED TO A DEPTH OF 2" TO INSURE A FERTILE GROWING MEDIUM. EXISTING TOPSOIL IS ACCEPTABLE IF SCRAPED AND STOCKPILED PRIOR TO ANY GRADING.
- RAIN GARDEN TO BE SEED WITH A WETLAND/ MEADOW SEED MIX AT A SOWING RATE OF 15 LBS./ACRE. SEED MIX SHALL BE PROVIDED BY ERNST CONSERVATION SEEDS (MEADVILLE, PA, 800-873-3321, www.ernstseed.com) AND CONTAIN THE FOLLOWING SPECIES, OR AN EQUIVALENT:

ITEM	PLANTING	SEED
VIRGINIA WILD RYE ( <i>Elymus virginicus</i> )	19.72%	91%
FOWL BLUEGRASS ( <i>Poa polystris</i> )	16.00%	85%
OX-EYE DICKCLOVER ( <i>Helianthus scaberrimus</i> )	4.82%	87%
ZIG ZAG ASTER ( <i>Aster prae-novaeboracensis</i> )	4.68%	4%
NEW YORK IRONWEED ( <i>Veronica novaeboracensis</i> )	3.72%	58%
HEMPSTEM ( <i>Verbena stricta</i> )	3.53%	75%
JOE PYE WEED ( <i>Eupatorium fistulosum</i> )	3.51%	58%
HOP SEDGE ( <i>Carex lupulina</i> )	3.42%	83%
SPOTTED JOE PYE WEED ( <i>Eupatorium maculatum</i> )	2.84%	72%
COSMOS/BRISTLY SEDGE ( <i>Carex comosa</i> )	2.48%	90%
GREEN BULRUSH ( <i>Scirpus atrovirens</i> )	2.10%	82%
WOOLGRASS ( <i>Scirpus cyperinus</i> )	1.82%	74%
BONESSET ( <i>Eupatorium perfoliatum</i> )	1.81%	70%
BLUE VERVAIN ( <i>Verbena hastata</i> )	1.74%	74%
WRINKLE LEAF GOLDENROD ( <i>Solidago rugosa</i> )	1.62%	86%
LURID SEDGE ( <i>Carex lurida</i> )	1.07%	61%
GOLDEN ALEXANDER ( <i>Zizia aurea</i> )	1.00%	77%
ROUGH ANEMONE ( <i>Ceanothium</i> )	0.89%	81%
SOFT RUSH ( <i>Juncus effusus</i> )	0.87%	80%
DITCH STONECROP ( <i>Pantherium sedoides</i> )	0.66%	81%
NEW ENGLAND ASTER ( <i>Aster novae-angliae</i> )	0.40%	75%
SEEDBOX ( <i>Ludwigia alternifolia</i> )	0.35%	80%
GOLDEN RAGWORT ( <i>Senecio aureus</i> )	0.32%	20%
GRASS LEAVED GOLDENROD ( <i>Solidago graminifolia</i> )	0.17%	85%

- STRAW BLANKETS (OR AN EQUAL TREATMENT) MAY BE REQUIRED TO PREVENT EROSION PRIOR TO RAIN GARDEN ESTABLISHMENT.
- PREVENTATIVE MOWING OF THE RAIN GARDEN AREA MAY BE REQUIRED PERIODICALLY TO HELP CONTROL THE SPREAD OF UNWANTED SPECIES. HOWEVER, IT IS ADVISED TO LET THE RAIN GARDEN GROW NATURALLY AND ONLY MAINTAIN AS REQUIRED.

**TREE PRESERVATION CALCULATIONS**

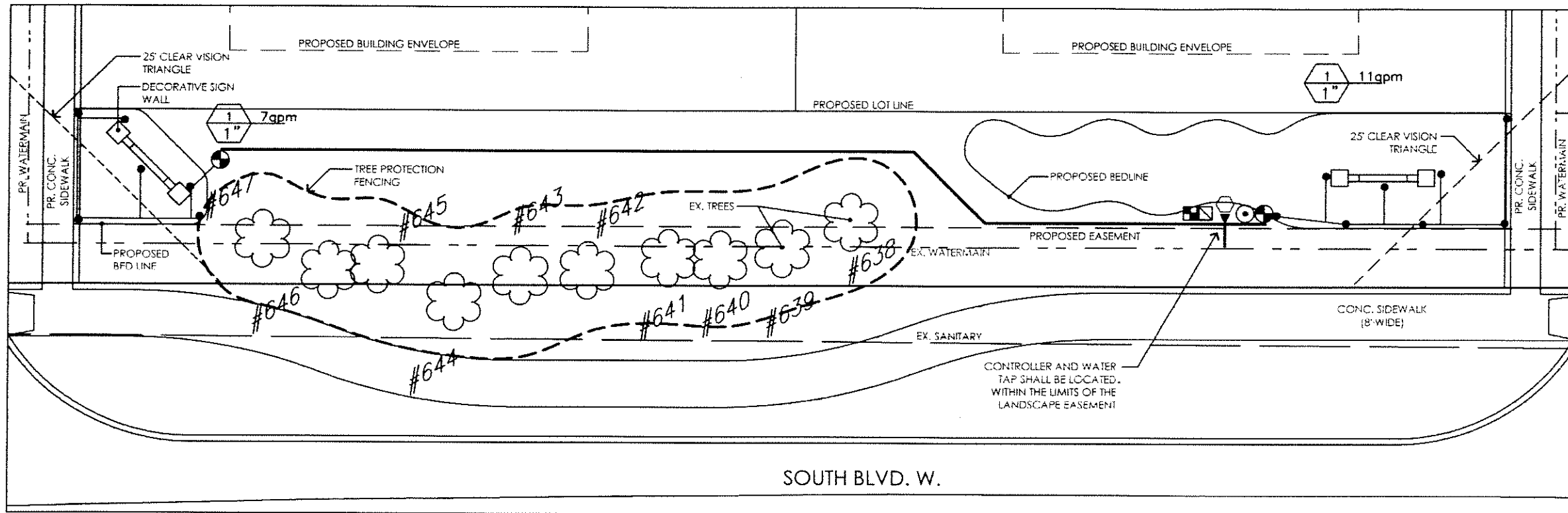
TOTAL NUMBER OF TREES SURVEYED:	1001
MINUS DEAD TREES:	-40
MINUS EXEMPT TREES:	-55
TOTAL NUMBER OF REGULATED TREES:	952
TOTAL NUMBER OF REGULATED TREES REMOVED:	-791
TOTAL NUMBER OF REGULATED TREES TO REMAIN:	171

NOTE: BECAUSE THIS SITE WAS PLATTED PRIOR TO 1988, SECTION 126, ARTICLE III (TREE CONSERVATION) DOES NOT APPLY.

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Date: 2/22/07  
 Project Number: 01361676  
 Designed by: C.P.  
 Approved by: W.D.M.



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 www.johndeerlandscape.com  
 cp@ronski@johndeerlandscape.com

IRRIGATION PLAN

ROCHESTER HILLS, MICHIGAN

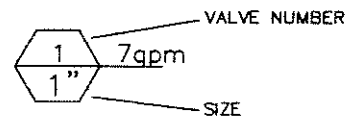
LORNA ON THE GREEN

JAMES C. SCOTT & ASSOCIATES

landscape architects • site planners  
 300 e. long lake rd. ste 120, bloomfield hills, mi 48304  
 (p) 248.646.6564 • (f) 248.646.4938

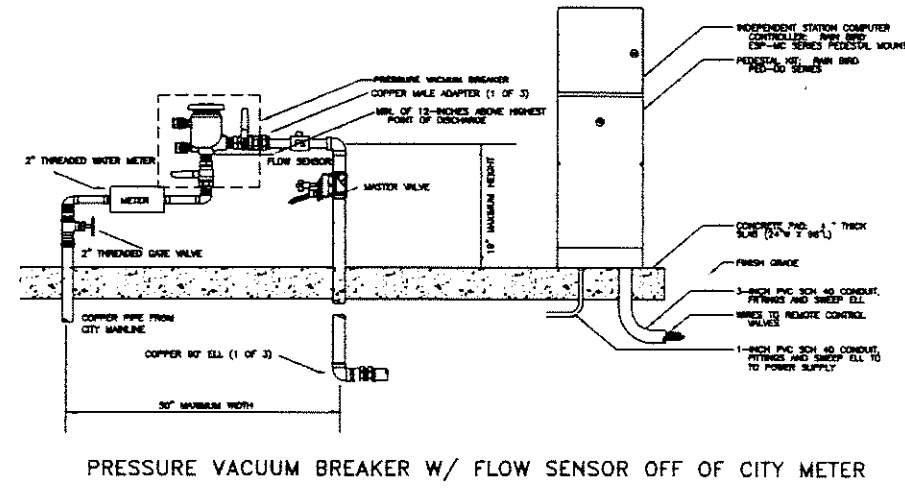
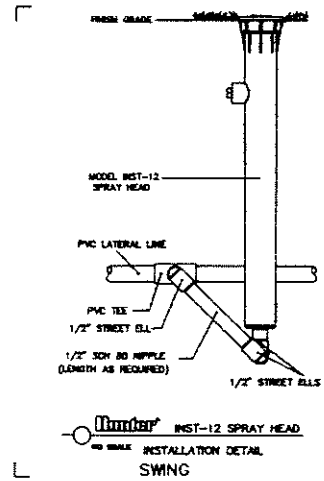
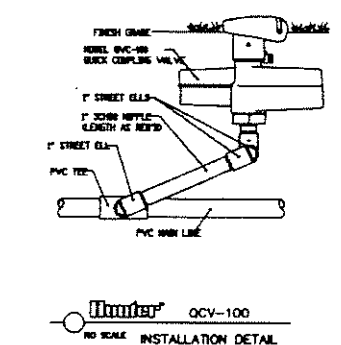
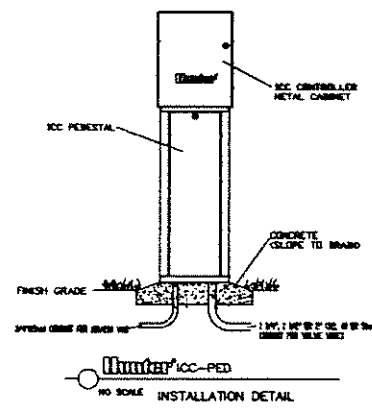
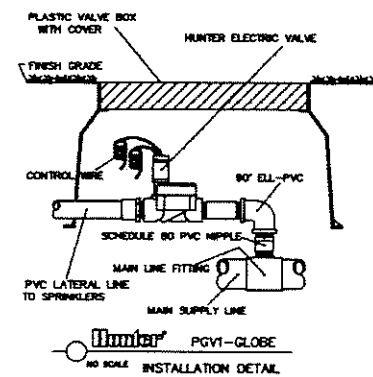
**IRRIGATION LEGEND**

- HUNTER, PRO SERIES, 12" POP UP W/ MPR NOZZLE
- ⊙ HUNTER, QCV, QUICK COUPLING VALVE, 1"
- ⊕ HUNTER, PGV SERIES, ELECTRIC VALVE, 1"
- ⊞ HUNTER, ICC-M SERIES, AUTOMATIC CONTROLLER
- ⊞ HUNTER, MINICLICK, AUTOMATIC RAIN SHUT OFF
- TAP LOCATION, 1"
- ▽ FEBCO, 765 SERIES, PRESSURE VACUUM BREAKER, 1"
- PVC MAINLINE, CLASS 200, BE, 18" BURY, SIZE 1"
- POLY LATERAL, 100 PSI, NSF, 12" BURY, SIZE 1"



**IRRIGATION SPECIFICATIONS**

1. ALL WORK IS TO BE IN COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL CODES AND ORDINANCES.
2. ALL UNDERGROUND ELECTRICAL CONNECTIONS ARE TO BE MADE WITH 3-M WIRE CONNECTORS, DEY.
3. ALL AUTO CONTROL VALVES ARE TO BE INSTALLED IN CARSON VALVE BOXES OF APPROPRIATE SIZE.
4. ALL CONTROL WIRING DOWNSTREAM OF THE CONTROLLER IS TO BE 14 AWG, UL APPROVED FOR DIRECT BURY.
5. ALL ROTORS AND SPRAY POP-UPS SHALL BE INSTALLED ON SWING PIPE.
6. ALL QCV SHALL BE INSTALLED ON 3-ELBOW PVC SWING JOINTS.
7. SYSTEM DESIGN BASED UPON 11 GPM @ 55 PSI.
8. ANY CHANGES IN AVAILABILITY OF SUPPLY SHOULD BE NOTED AND MODIFICATIONS TO THE DESIGN SHOULD BE MADE.
9. CONTRACTOR TO VERIFY WATER PRESSURE AND AVAILABILITY PRIOR TO INSTALLATION.
10. ANY IRRIGATION PIPING SHOWN OUTSIDE OF CURBS FOR CLARITY ONLY.
11. 120V. TO CONTROLLER AND COPPER STUB, BY OTHER THAN IRRIGATION CONTRACTOR.
12. THE CONTROLLER AND TAP FOR THE IRRIGATIONS SYSTEM SHALL BE LOCATED WITHIN THE LIMITS OF THE LANDSCAPE EASEMENT.



1/17/07	7/25/06
2/23/07	9/6/06
4/11/07	9/26/06
	11/3/06
7/21/06	
BMW	
1" x 10"	
CITY FILE #06-012	