

SITE DATA

Acreage:

Lowe's Tract	18.07±
Total	18.07±

Main Building:

Sales Floor	118,000 S.F.
Office Area	3,894 S.F.
Receiving/Storage	13,370 S.F.
Utility Rooms	1,370 S.F.
Racking Area	48,843 S.F.

Vestibules:

Main Entrance	1,049 S.F.
Main Exit	331 S.F.
Lumber	480 S.F.
MAIN BUILDING TOTAL	138,431 S.F.

Garden Center:

Shade Structures	7,996 S.F.
Covered Area	9,429 S.F.
Open Area	11,728 S.F.
Racking Area	10,158 S.F.
Garden Center Total	29,153 S.F.

Total Useable 147,153 S.F.

Staging:

Non-Covered Area	7,301 S.F.
Staging Area Total	7,301 S.F.

Parking Requirements:

Local Parking Required	576
Standard	12
Handicapped	12
Total Parking Required	588
Ratio = 4.25 (spaces/1000 sf)	

Parking Provided:

Standard	554
Landbanked	22
Handicapped	12
Total Parking Provided	588
Ratio = 4.25 (spaces/1000 sf)	

LEGEND

- PROPERTY LINE
- SETBACK LINE
- NATURAL FEATURE BUFFER
- PROP. WATERMAIN EASEMENT
- INTERIOR BOUNDARY LINE
- PROP. STOP SIGN
- SEE SHEET SP-40 FOR DETAIL
- PROP. FIRE LANE SIGN
- SEE SHEET SP-40 FOR DETAIL
- PROP. STOP AND FIRE LANE SIGN
- PROP. HANDICAP SIGN
- SEE SHEET SP-39 FOR DETAIL
- FINISH FLOOR ELEV.
- PARKING LANE COUNT
- PROP. LIGHT POLE
- HEAVY DUTY CONCRETE
- SEE SHEET SP-39 FOR PAVEMENT CROSS SECTION
- HEAVY DUTY ASPHALT
- SEE SHEET SP-39 FOR PAVEMENT CROSS SECTION
- FIRE LANE

SITE NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL RADI SHALL BE 4' UNLESS OTHERWISE NOTED.
3. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH DIVISION 2 OF LOWE'S STANDARD SITE SPECIFICATIONS.
4. TWO STALL CART RETURN RACK FURNISHED AND INSTALLED BY LOWE'S.
5. A PERMIT FROM MDT SHALL BE REQUIRED FOR ALL WORK WITHIN ROCHESTER ROAD.
6. APPLICANT SHALL PROVIDE SIGNED AND SEALED ENGINEERING DRAWINGS FOR THE CONSTRUCTION OF THE LANDBANKED PARKING SPACES IF THE CITY REQUIRES THE LANDBANKED PARKING SPACES TO BE CONSTRUCTED.
7. SIGNS REQUIRE INDIVIDUAL PERMITS.
8. ALL MERCHANDISE MUST BE SOLD IN A COMPLETELY ENCLOSED BUILDING.
9. NO OUTDOOR STORAGE, DISPLAYS AROUND BUILDING OR PARKING LOT, GREEN BELTS EXCEPT IN AREA APPROVED BY CONDITIONAL LAND USE.

FIRE DEPARTMENT NOTES:

1. BUILDING TYPE - TYPE IIB UNLIMITED
2. PROPOSED BUILDING USE GROUP: M (MERCANTILE)
3. CONSTRUCTION SITE SHALL BE SAFEGUARDED IN ACCORDANCE WITH UFC ARTICLE 87, SECTION 87.01
4. OPEN BURNING IS NOT PERMITTED INCLUDING THE BURNING OF TRASH, DEBRIS OR LAND CLEARING MATERIAL. OPEN BURNING FOR WARMING OF SAND AND/OR WATER FOR THE PREPARATION OF MORTAR SHALL BE WITHIN CITY OF ROCHESTER HILLS BURNING PERMIT GUIDELINES. CONTACT ROCHESTER HILLS FIRE DEPARTMENT FOR PERMIT INFORMATION.
5. BUILDING TO BE FULLY PROTECTED WITH A SPRINKLER SYSTEM.
6. FIRE LANES SHALL BE DESIGNED BY THE FIRE CODE OFFICIAL, AND SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE WITH SIGNS SPACED NOT MORE THAN 100 FEET APART - NO STOPPING, STANDING, PARKING, FIRELANE - IN CONFORMANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND FIRE PROTECTION ORDINANCE CHAPTER 58, SEC. 901A1
7. ANY PROPANE TANK EXCHANGE WILL BE LIMITED TO OUTDOOR SALES AREAS ONLY (GARDEN CENTER). NO PROPANE TANKS WILL BE PERMITTED INSIDE THE STORE EXCEPT FOR EMPTY NEW AND UNUSED TANKS THAT ARE BEING OFFERED FOR SALE.
8. PROPANE STORAGE SHALL MEET THE PROVISIONS OF NFPA 58 STORAGE IS SUBJECT TO FIELD VERIFICATION DURING FINAL SITE INSPECTION.

FLOODPLAIN:

THE SITE DOES NOT LINE WITHIN A SPECIAL FLOOD HAZARD ZONE ON THE FLOOD INSURANCE MAP, COMMUNITY-PANEL NUMBER 260471 0020, DATED SEPTEMBER 2, 1994 FOR THE CITY OF ROCHESTER HILLS.

CITY OF ROCHESTER HILL DOES PARTICIPATE IN FEMA.

SCREENING BUFFERS:

	REQUIRED	PROVIDED
NORTH	NA	NA
EAST	50'	70.8'
SOUTH	50'	51.6'
WEST	NA	NA

WETLAND DISTURBANCE
0.17 ACRES FILLED
2,500 C.Y. FILLED
MDEQ PERMIT NO. 05-63-0385-P

CURVE TABLE

CURVE	LENGTH	RADIUS	CHD. BEARING	CHORD	DELTA
1	58.77	68.00	S65°14'27"W	56.96	49°31'07"
2	43.75	72.00	S72°35'26"W	43.08	34°49'07"
3	37.81	72.00	S74°57'25"E	37.37	30°05'09"
4	52.46	68.00	S67°54'03"E	51.16	44°11'55"
5	26.26	15.00	N39°50'19"W	23.04	100°19'22"
6	15.65	15.00	N60°07'11"E	14.95	59°45'38"
7	12.89	20.00	N18°11'30"E	12.67	36°56'03"
8	37.58	20.00	S56°15'59"E	32.29	107°38'56"
9	18.87	10.00	S27°32'11"E	16.19	108°06'23"
10	30.96	212.50	N77°24'58"W	30.93	8°20'49"
11	25.58	20.00	S51°22'39"W	23.87	73°17'25"
12	57.40	262.50	S04°03'29"W	57.29	12°31'46"
13	70.21	237.50	S08°11'47"W	69.96	16°56'20"
14	35.87	187.50	N03°01'30"E	35.82	105°37'44"
15	7.11	212.50	N62°56'17"W	7.11	1°54'58"
16	33.93	112.50	S88°16'58"E	33.81	1°16'52"
17	16.79	87.50	S86°23'32"E	16.76	1°09'28"
18	124.88	79.50	S47°12'23"E	112.43	90°00'00"
19	43.00	54.50	S24°48'36"E	41.89	45°12'26"
20	24.70	10.50	N65°11'24"E	19.39	134°47'34"
21	20.42	13.00	S48°12'33"E	18.38	90°00'00"
22	20.42	13.00	N42°47'37"E	18.38	90°00'00"
23	20.24	13.00	S47°36'32"E	18.26	89°11'43"
24	20.24	13.00	N43°11'45"E	18.26	89°11'43"
25	12.76	4.06	N02°12'23"W	8.13	180°00'00"
26	40.06	25.50	S42°47'37"E	36.06	90°00'00"
27	24.35	15.50	N47°12'23"W	21.92	90°00'00"
28	35.52	20.00	S87°46'51"W	34.78	40°24'42"
29	21.59	50.00	S79°29'53"E	21.42	24°44'18"
30	48.09	30.50	N42°57'48"E	43.26	90°20'22"
31	38.69	30.50	S38°32'54"E	36.15	72°41'00"
32	72.68	150.00	N61°00'35"W	71.97	27°45'37"
33	20.62	10.00	N73°47'52"E	17.16	118°08'44"
34	31.15	20.00	N47°43'37"E	28.10	89°14'45"
35	36.75	20.00	S90°01'35"W	31.80	109°17'39"
36	42.88	90.00	N63°40'35"E	42.48	27°18'02"
37	39.27	25.00	S42°22'45"W	35.36	90°00'00"
38	4.55	12.00	N61°37'43"W	4.52	21°42'15"
39	18.26	25.00	N71°41'56"W	17.85	41°50'39"
40	21.19	25.00	N28°29'32"W	20.56	48°34'08"
41	39.45	25.00	S47°24'51"E	35.48	90°24'47"
42	3.35	110.00	S88°15'09"W	3.35	1°44'48"
43	35.00	128.00	N81°01'52"W	34.89	15°39'53"
44	22.71	67.00	N82°54'35"W	22.60	19°25'20"
45	51.54	183.00	S81°16'00"E	51.37	16°08'09"
46	47.57	140.00	S82°53'14"E	47.34	19°28'02"
47	19.08	55.00	S73°09'36"W	18.99	19°52'37"
48	11.32	5.00	N18°13'18"E	9.05	129°45'13"
49	39.64	50.00	N69°22'08"W	38.61	45°25'39"
50	78.90	50.00	S42°34'58"W	70.96	90°24'26"
51	25.27	50.00	S17°05'51"E	25.00	28°57'13"
52	55.59	55.00	N02°37'15"W	53.25	57°54'27"
53	25.27	50.00	S11°51'22"W	25.00	28°57'13"
54	64.13	50.00	S39°21'47"E	59.82	73°29'04"
55	156.93	55.00	N05°38'13"E	108.98	163°29'04"
56	27.87	112.00	S83°29'27"E	27.80	14°15'34"
57	12.45	87.50	S82°26'17"E	12.44	8°09'13"
58	55.52	42.00	S40°29'28"E	51.57	75°44'25"
59	20.79	17.00	S43°19'11"E	19.52	70°04'59"
60	8.71	25.00	N12°36'21"W	8.67	19°58'12"
61	21.08	25.00	N71°36'19"W	20.46	48°19'02"
62	54.55	68.00	S61°51'17"W	53.10	45°27'47"
63	27.71	72.00	S78°21'15"W	27.54	22°03'00"
64	33.75	72.00	S79°11'25"E	33.45	26°51'40"
65	9.42	3.00	N02°37'15"W	6.00	180°00'00"
66	47.36	68.00	S71°35'42"E	46.41	39°54'30"
67	39.42	25.00	N42°32'54"E	35.46	90°20'18"

LINE TABLE

LINE	LENGTH	BEARING	LINE	LENGTH	BEARING
L1	16.66	N90°00'00"W	L92	219.89	S87°22'45"W
L2	7.99	N90°00'00"W	L93	24.24	N88°19'23"E
L3	13.54	N90°00'00"W	L94	32.13	S02°37'15"E
L4	47.42	N90°00'00"W	L95	298.59	S02°37'15"E
L5	27.80	N30°14'22"E	L96	680.93	S87°22'45"W
L6	43.74	S02°26'31"E	L97	57.33	S78°21'40"E
L7	15.90	N88°13'05"E	L98	57.28	N78°21'40"W
L8	4.99	N02°04'14"W	L99	13.53	S02°37'15"E
L9	8.72	S01°59'31"E	L100	50.00	N87°22'45"E
L10	15.95	N88°13'05"E	L101	26.93	S87°22'45"W
L11	10.18	S02°23'46"E	L102	14.00	S02°37'15"E
L12	15.79	S88°13'05"W	L103	7.00	N87°22'45"E
L13	16.66	S01°59'31"E	L104	7.00	S87°22'45"W
L14	28.43	N61°58'48"W	L105	5.54	S87°22'45"W
L15	10.85	N01°59'31"W	L106	5.54	N87°22'45"E
L16	15.89	N88°09'30"E	L107	159.16	N02°37'15"W
L17	10.33	N01°59'26"W	L108	28.00	S02°37'15"E
L18	15.97	S88°09'30"W	L109	24.36	S02°37'15"E
L19	15.94	N88°06'44"E	L110	3.04	S06°32'32"W
L20	2.03	S01°59'31"E	L111	8.32	N87°22'45"W
L21	32.00	S87°47'37"E	L112	14.00	S02°37'15"E
L22	32.00	S88°06'44"W	L113	10.00	S87°22'45"W
L23	4.64	S02°12'23"E	L114	14.00	N02°37'15"W
L24	16.00	N87°47'37"E	L115	28.36	S06°32'20"W
L25	10.00	S02°12'23"E	L116	2.83	S87°22'45"W
L26	16.00	N87°47'37"E	L117	220.00	N87°22'45"E
L27	8.83	S02°12'23"E	L118	220.00	S87°22'45"W
L28	6.77	N02°12'23"W	L119	14.00	S02°37'15"E
L29	16.00	N87°47'37"E	L120	14.00	N02°37'15"W
L30	10.00	S02°12'23"E	L121	8.54	N87°22'45"E
L31	16.00	S87°47'37"W	L122	13.96	N02°37'15"W
L32	11.08	N02°12'23"E	L123	13.96	S02°37'15"E
L33	16.81	S87°47'37"E	L124	8.54	S87°22'45"W
L34	16.00	S02°12'23"E	L125	19.06	N00°21'53"E
L35	240.00	N02°12'23"W	L126	18.92	S87°22'45"W
L36	155.41	N02°12'23"W	L127	12.57	S87°22'45"W
L37	155.41	S02°12'23"E	L128	8.54	S87°22'45"W
L38	16.50	S87°47'37"W	L129	8.54	S87°22'45"W
L39	7.87	N02°12'23"E	L130	367.49	N02°37'15"W
L40	32.00	S87°47'37"E			
L41	7.87	S02°12'23"E			
L42	14.00	N87°47'37"E			
L43	32.00	S87°47'37"W			
L44	14.00	N87°47'37"E			
L45	22.44	N87°47'37"E			
L46	7.50	N87°47'37"E			
L47	15.94	S87°47'37"E			
L48	40.00	N02°12'23"W			
L49	6.64	S02°12'23"E			
L50	5.05	S02°12'23"E			
L51	63.00	S87°47'37"W			
L52	39.50	S02°12'23"E			
L53	15.74	N87°47'37"E			
L54	145.00	N88°07'09"E			
L55	135.51	S88°08'00"W			
L56	4.54	S87°22'45"W			
L57	4.54	N87°22'45"E			
L58	2.74	S87°22'45"W			
L59	13.00	N02°37'15"W			
L60	90.00	S87°22'45"W			
L61	14.00	S02°37'15"E			
L62	4.79	N87°22'45"E			
L63	47.97	N02°37'15"W			
L64	44.87	N02°37'15"W			
L65	14.00	N02°37'15"W			
L66	70.00	S87°22'45"W			
L67	6.66	S50°01'34"E			
L68	14.00	N02°37'15"E			
L69	1.84	S87°22'45"W			
L70	28.00	S02°37'15"E			
L71	22.00	N87°22'45"E			
L72	28.00	S02°37'15"E			
L73	22.00	N87°22'45"E			
L74	13.51	N02°37'15"W			
L75	20.00	N87°22'45"E			
L76	14.00	S02°37'15"E			
L77	11.57	N87°22'45"E			
L78	38.91	N50°46'36"W			
L79	53.65	S50°46'36"E			
L80	35.85	S02°12'28"E			
L81	31.20	S87°22'45"W			
L82	14.00	S02°37'15"E			
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 FIRE LANE
 PROP. ASPHALT SIDEWALK

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B-3 SHOPPING CENTER BUSINESS

MINIMUM SIZE LOT PER UNIT	MAXIMUM HEIGHT OF STRUCTURE	MINIMUM YARD SETBACK (PER LOT IN FEET)
AREA IN SQUARE FEET	IN STORIES	FRONT SIDES REAR
5 ACRES	400'	2(0) 30(0) 75 (0), (m), (s) 25 (k), (m), (s) 50 (s) 100 (m), (n), (s)

REQUIRED PARKING CALCULATION:
 TOTAL SALES FLOOR AREA IN MAIN BUILDING: 118,000 S.F.
 TOTAL SALES FLOOR AREA IN GARDEN CENTER: 29,153 S.F.
 TOTAL: 147,153 S.F.

TOTAL RACKING AREA IN MAIN BUILDING SALES FLOOR: 48,843 S.F.
TOTAL RACKING AREA IN GARDEN CENTER SALES FLOOR: 10,158 S.F.
TOTAL: 59,001 S.F.

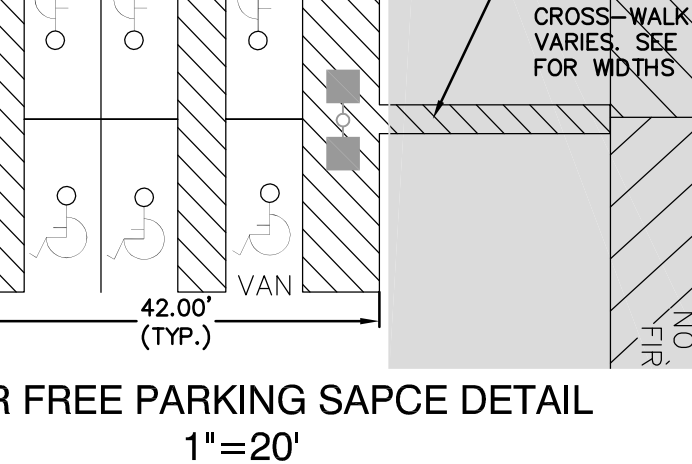
TOTAL USABLE SALES FLOOR AREA: 147,153 - 59,001 = 88,152 S.F.

PARKING REQUIRED: 1 SPACE / 150 S.F. OF USABLE SPACE
 88,152 S.F. / 150 S.F. = 587.68 SPACES
 = 588 SPACES REQUIRED

PARKING PROVIDED:
 588 SPACES PROVIDED

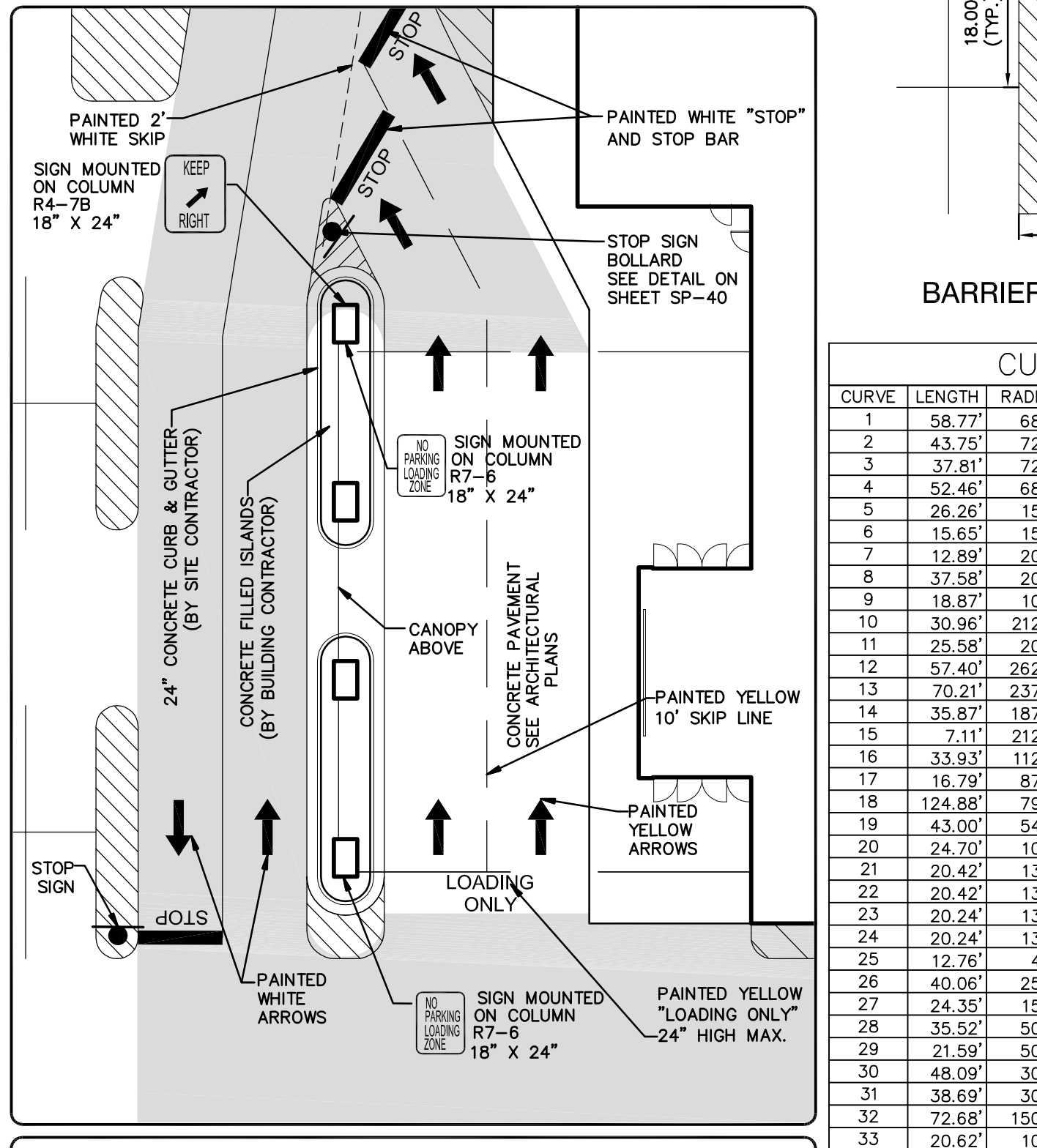
HANDICAP PARKING CALCULATIONS:
 588 X 0.02 = 11.78
 TOTAL HANDICAP SPACES REQUIRED = 12 SPACES
 TOTAL HANDICAP SPACES PROVIDED = 12 SPACES

MEJER PARKING DATA:
 EXISTING:
 TOTAL PARKING REQUIRED = 1098 SPACES
 TOTAL PARKING PROVIDED = 1127 SPACES
 PROPOSED:
 TOTAL SPACES REMOVED = 189
 TOTAL SPACES REPLACED = 176
 TOTAL PARKING REMAINING = 1114



CURVE TABLE

CURVE	LENGTH	RADIUS	CHD. BEARING	CHORD	DELTA
1	58.77	68.00	S65°14'27"W	56.98	49°31'07"
2	43.75	172.00	S72°35'26"W	43.08	34°49'07"
3	37.81	72.00	S74°57'25"E	37.37	30°05'09"
4	52.46	68.00	S67°54'03"E	51.16	44°11'55"
5	26.26	15.00	N39°50'19"W	23.04	100°19'22"
6	15.65	15.00	N60°07'11"E	14.95	59°45'38"
7	12.89	20.00	N16°01'30"E	12.67	36°56'03"
8	37.58	20.00	S56°15'59"E	32.29	107°38'56"
9	18.87	10.00	S27°32'11"E	18.19	108°06'23"
10	30.96	212.50	N77°24'58"W	30.93	87°04'20"
11	25.58	20.00	S51°22'39"W	23.87	73°17'25"
12	57.40	262.50	S04°03'29"W	57.29	123°31'46"
13	70.21	237.50	S08°15'47"W	69.96	165°26'20"
14	35.87	187.50	N68°06'35"W	35.82	105°57'44"
15	7.11	212.50	N62°56'17"W	7.11	156°58"
16	33.93	112.50	S68°16'58"E	33.81	171°16'27"
17	16.79	87.50	S86°23'32"E	16.78	105°59'28"
18	124.88	79.50	S47°12'23"E	112.43	90°00'00"
19	43.00	54.50	S24°48'36"E	41.89	45°12'26"
20	24.70	10.50	N65°11'24"E	19.39	134°47'34"
21	20.42	13.00	S47°12'23"E	18.38	90°00'00"
22	20.42	13.00	N42°47'37"W	18.38	90°00'00"
23	20.24	13.00	S42°47'37"W	18.26	89°11'43"
24	20.24	13.00	N42°47'37"W	18.26	89°11'43"
25	12.76	4.00	N02°12'23"W	8.13	180°00'00"
26	40.06	25.50	S42°47'37"W	36.06	90°00'00"
27	24.35	15.50	N47°12'23"W	21.92	90°00'00"
28	35.52	50.00	S67°46'51"W	34.78	40°42'18"
29	21.59	50.00	S79°29'53"E	21.42	24°44'18"
30	48.09	30.50	N42°59'48"E	43.26	90°20'27"
31	38.69	30.50	S38°32'54"E	36.15	72°41'00"
32	72.68	150.00	N61°00'35"W	71.97	27°45'37"
33	20.62	10.00	N73°47'52"E	17.16	118°08'44"
34	31.15	20.00	N47°14'37"W	28.10	89°14'45"
35	36.75	20.00	S50°01'35"W	31.80	105°17'39"
36	42.88	90.00	N63°40'35"W	42.48	27°18'02"
37	39.27	25.00	S42°22'45"W	35.36	90°00'00"
38	4.55	12.00	N61°37'43"W	4.52	21°42'15"
39	18.26	25.00	N71°41'56"W	17.85	41°50'39"
40	21.19	25.00	N26°29'32"W	20.56	48°34'08"
41	39.45	25.00	S47°24'51"E	35.48	90°24'47"
42	3.35	110.00	S85°15'09"W	3.35	144°48"
43	35.00	128.00	N81°01'52"W	34.89	183°59'33"
44	22.71	67.00	N82°54'35"W	22.60	192°25'20"
45	51.54	183.00	S81°16'00"E	51.37	16°08'09"
46	47.57	140.00	S82°53'14"E	47.34	19°28'02"
47	19.08	55.00	S73°09'36"W	18.99	19°52'37"
48	11.32	5.00	N18°13'18"E	9.05	129°45'13"
49	39.64	50.00	N69°22'08"W	38.61	45°25'39"
50	78.90	87.00	S82°34'58"W	72.96	90°24'26"
51	25.27	50.00	S17°05'51"E	25.00	28°57'13"
52	55.59	55.00	N02°37'15"W	53.25	57°54'27"
53	25.27	50.00	S11°51'22"W	25.00	28°57'13"
54	64.13	50.00	S39°21'47"E	59.82	7°32'04"
55	156.93	55.00	N05°38'13"E	108.86	163°29'04"
56	77.27	112.00	S85°29'27"E	77.00	14°15'34"
57	12.45	87.00	S82°34'58"W	12.44	8°09'13"
58	55.52	42.00	S40°29'28"E	51.57	75°44'25"
59	20.79	17.00	S43°19'11"E	19.52	70°04'59"
60	8.71	25.00	N12°36'21"W	8.67	19°58'12"
61	21.08	25.00	N71°36'19"W	20.46	48°19'02"
62	54.55	68.00	S61°15'17"W	53.10	45°57'47"
63	27.71	72.00	S76°21'15"W	27.00	22°30'00"
64	33.75	72.00	S79°11'25"E	33.45	26°51'40"
65	9.42	3.00	N02°37'15"W	6.00	180°00'00"
66	47.36	68.00	S71°35'42"E	46.41	39°54'30"
67	39.42	25.00	N42°32'54"E	35.46	80°20'18"

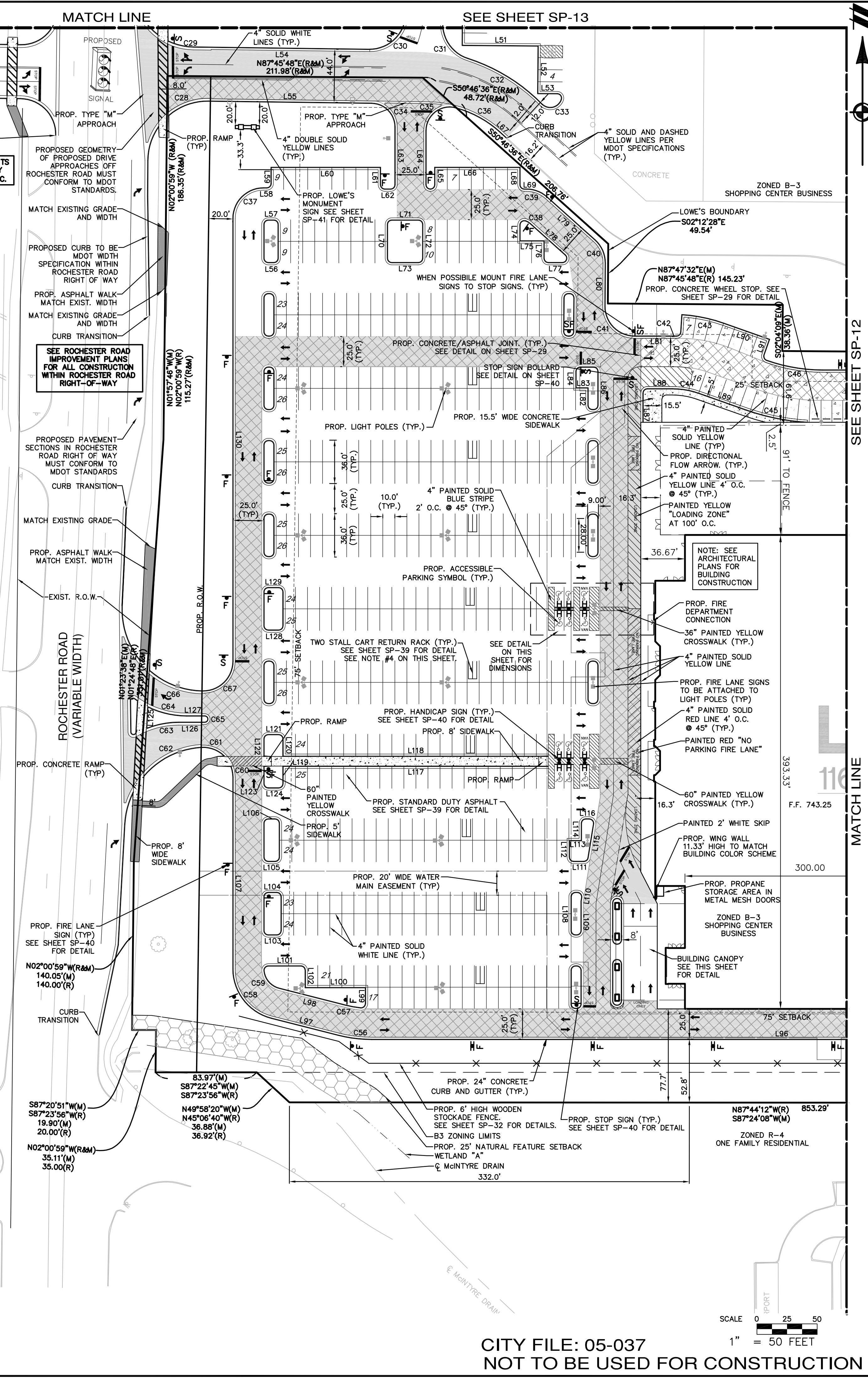


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CITY FILE: 05-037
 NOT TO BE USED FOR CONSTRUCTION

SCALE 0 25 50
 1" = 50 FEET

LEGEND

	EXIST. CONTOUR
	PROP. CONTOUR
	PROPERTY LINE
	PROP. STORM
	EXIST. CATCH BASIN/INLET
	PROP. CATCH BASIN/INLET
	EXIST. END SECTION/HEAD WALL
	EXIST. CULVERT
	PROP. END SECTION/HEAD WALL
	PROP. CULVERT
	EXIST. CURB AND GUTTER
	PROP. CURB AND GUTTER
	F.F.
	FINISH FLOOR ELEV.
	EXIST. DECIDUOUS TREE
	EXIST. EVERGREEN TREE
	PROP. TREE PROTECTION
	LIMITS OF GRADING
	PROP. RIP-RAP
	PROP. HIGH RIDGE LINE
	EXIST. WETLAND LIMITS

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BENCHMARK: #1
ARROW ON HYDRANT
ELEV. = RIM 745.17 USGS

BENCHMARK: #2
NAIL ON HEADWALL
ELEV. = 736.00 USGS

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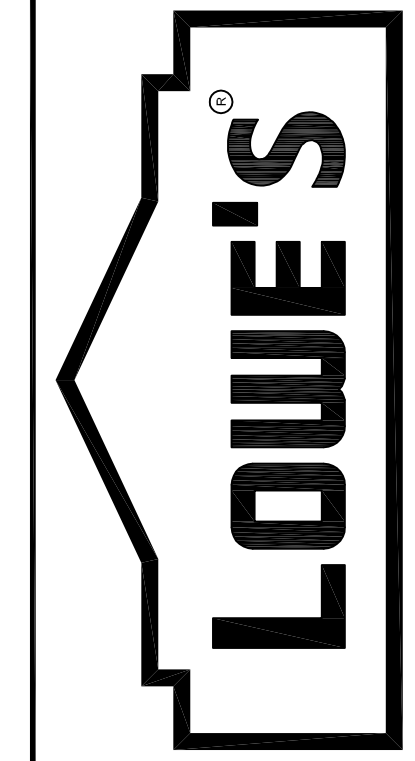
REVISIONS

DATE	DESCRIPTION
12/21/05	REVISED PER CITY OF ROCHESTER HILLS
07/06/06	REVISED PER CITY OF ROCHESTER HILLS
02/28/08	REVISED PER CITY OF ROCHESTER HILLS

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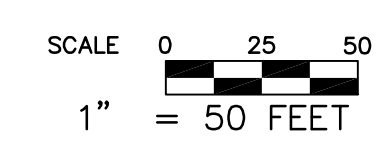
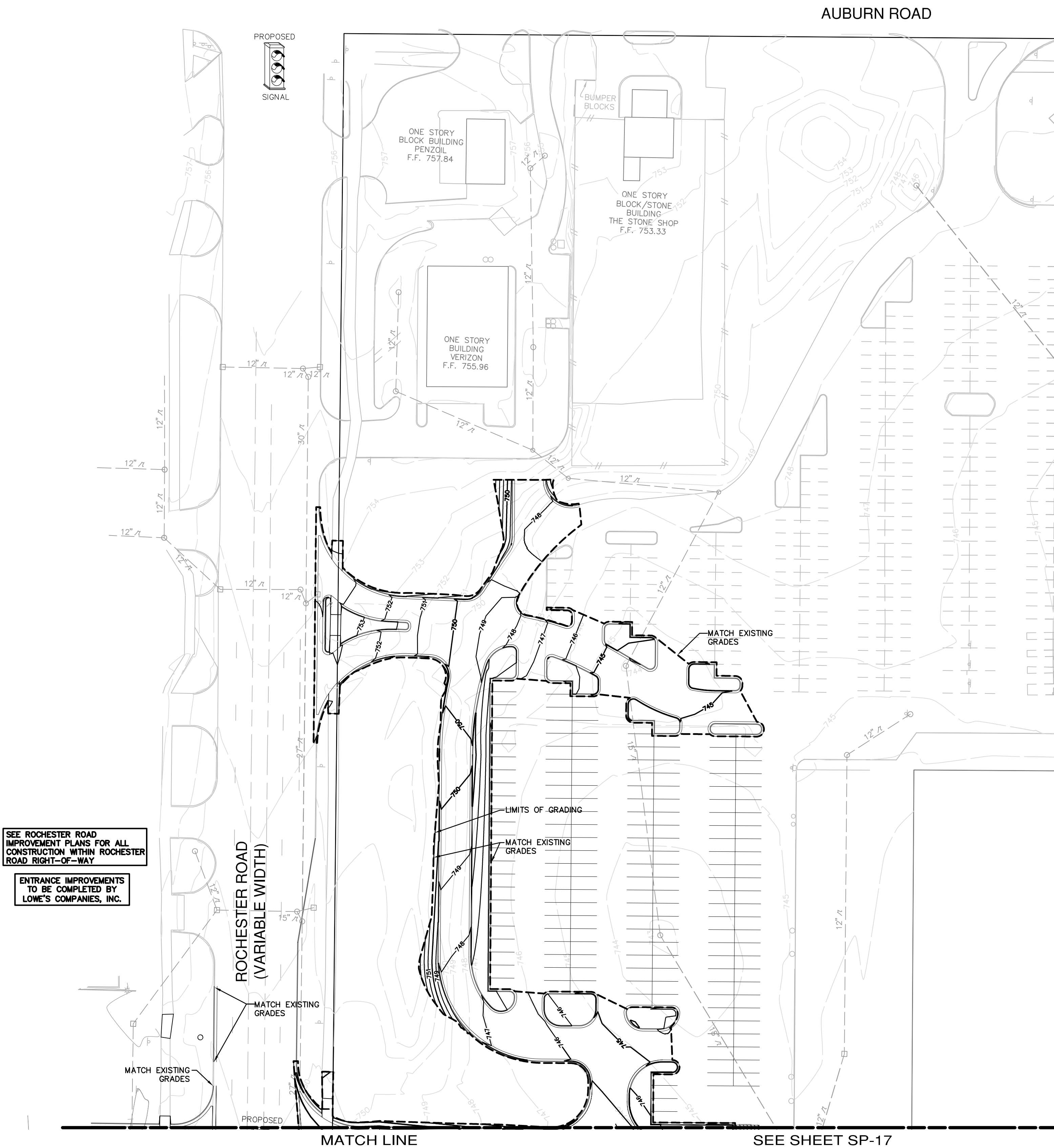
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SITE PLAN
GRADING PLAN
LOWE'S OF
ROCHESTER HILLS
OAKLAND COUNTY, MICHIGAN
PROJECT No: 05000184 | DRAWN BY: JTL | CHECKED BY: DL

ORIGINAL
ISSUE DATE: 10/18/2005
PERMIT SET
ISSUE DATE:
CONSTRUCTION SET
ISSUE DATE:
DRAWING NUMBER:

SP-16
4102-50-16



CITY FILE: 05-037
NOT TO BE USED FOR CONSTRUCTION

K:\05000184\sp16\Plan_SitePlan_Preliminary.dwg APPROVED BY CITY OF ROCHESTER HILLS PLANNING COMMISSION 05/01/08 16:42:00 3/8/2008 2:30:48 PM embf

LEGEND

- 835 EXIST. CONTOUR
- PROP. CONTOUR
- PROPERTY LINE
- PROP. STORM
- EXIST. CATCH BASIN/INLET
- PROP. CATCH BASIN/INLET
- EXIST. END SECTION/HEAD WALL
- PROP. END SECTION/HEAD WALL
- EXIST. CURB AND GUTTER
- PROP. CURB AND GUTTER
- F.F. FINISH FLOOR ELEV.
- EXIST. DECIDUOUS TREE
- EXIST. EVERGREEN TREE
- PROP. TREE PROTECTION
- LIMITS OF GRADING
- PROP. RIP-RAP
- PROP. HIGH RIDGE LINE
- EXIST. WETLAND LIMITS

BENCHMARKS

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ARROW ON HYDRANT
ELEV. = RIM 745.17 USGS
- BENCHMARK: #2
NAIL ON HEADWALL
ELEV. = 736.00 USGS

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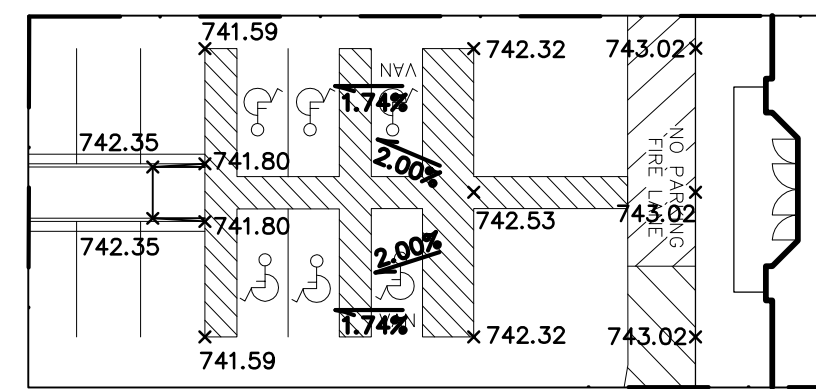
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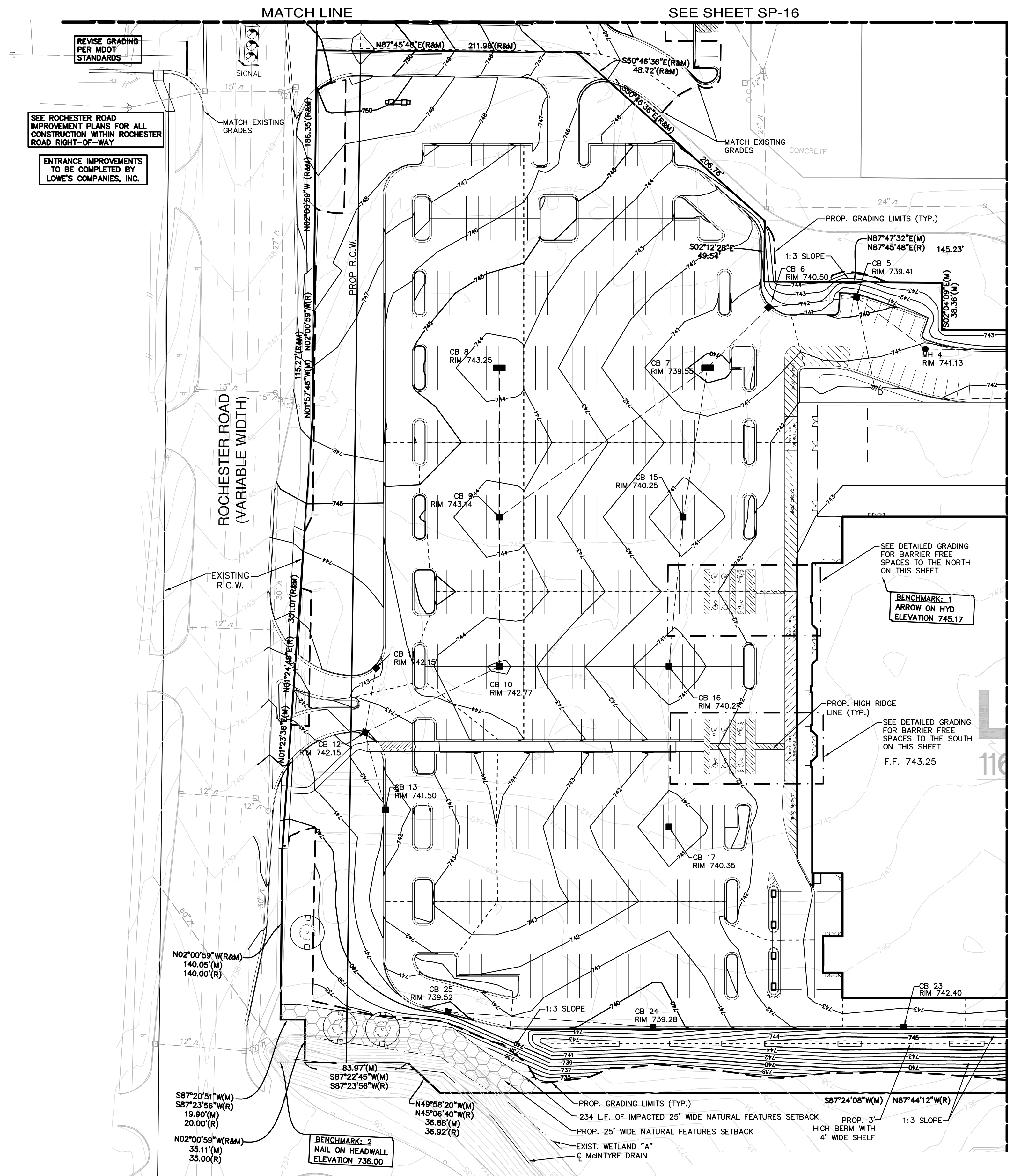
GRADING FOR BARRIER FREE SPACES TO THE NORTH

SCALE 1" = 30'



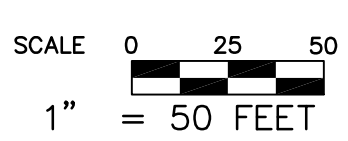
GRADING FOR BARRIER FREE SPACES TO THE SOUTH

SCALE 1" = 30'



SEE SHEET SP-18

MATCH LINE



CITY FILE: 05-037
NOT TO BE USED FOR CONSTRUCTION

REVISIONS

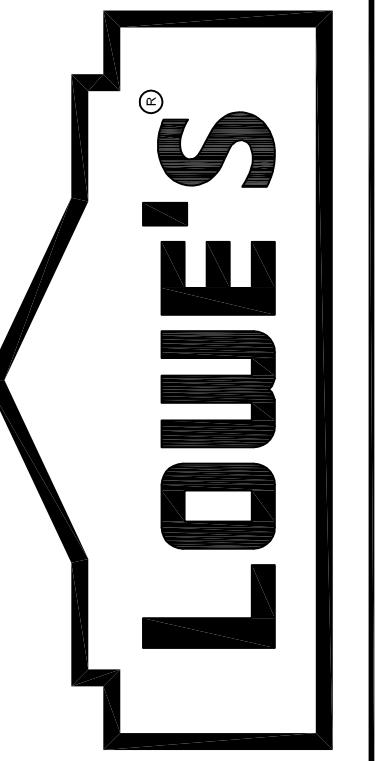
DATE	DESCRIPTION
12/21/05	REVISED PER CITY OF ROCHESTER HILLS
07/06/06	REVISED PER CITY OF ROCHESTER HILLS
08/28/06	REVISED PER CITY OF ROCHESTER HILLS

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SITE PLAN
GRADING PLAN

LOWE'S OF
ROCHESTER HILLS
OAKLAND COUNTY, MICHIGAN

PROJECT No: 05000184 | DRAWN BY: JTL | CHECKED BY: DL

ORIGINAL
ISSUE DATE: 10/18/2005

PERMIT SET
ISSUE DATE:

CONSTRUCTION SET
ISSUE DATE:

DRAWING NUMBER:
SP-17
4102-50-17

K:\05000184\sp17\Plan_SitePlan_Primaries.dwg Submitted: 2006-09-09 APPROVED BY: CITY OF ROCHESTER HILLS PLANNING COMMISSION\05000184\SP-17.dwg, 9/8/2006 2:31:30 PM, embf

LEGEND

	EXIST. CONTOUR
	PROP. CONTOUR
	PROPERTY LINE
	PROP. 6' HIGH CHAIN LINK FENCE
	PROP. STORM CATCH BASIN/INLET
	EXIST. END SECTION/HEAD WALL
	EXIST. CULVERT
	PROP. END SECTION/HEAD WALL
	PROP. CULVERT
	EXIST. CURB AND GUTTER
	PROP. CURB AND GUTTER
	F.F. FINISH FLOOR ELEV.
	EXIST. DECIDUOUS TREE
	EXIST. EVERGREEN TREE
	PROP. TREE PROTECTION
	LIMITS OF GRADING
	PROP. RIP-RAP
	PROP. HIGH RIDGE LINE
	EXIST. WETLAND LIMITS
	STORM WATER DISCHARGE PATH
	PROP. 25' WIDE NATURAL FEATURES SETBACK
	PROP. IMPACTED WETLANDS

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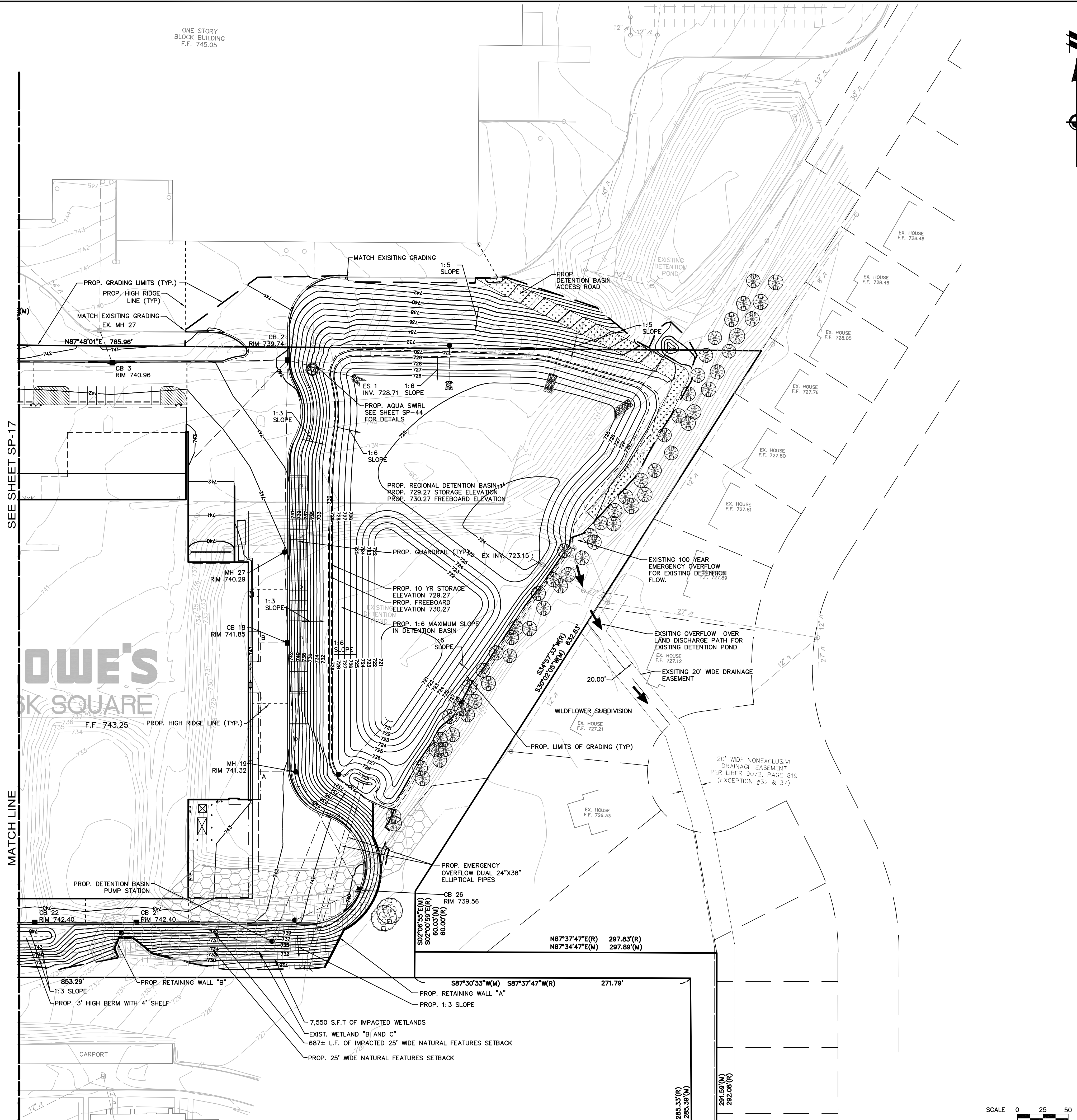


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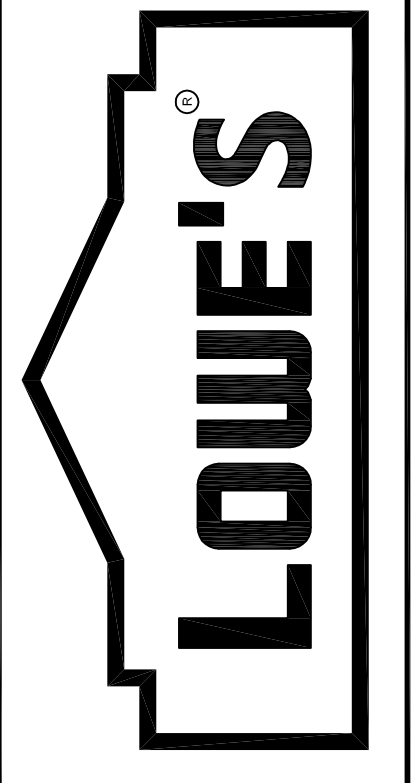
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SITE PLAN
GRADING PLAN

LOWE'S OF
ROCHESTER HILLS
OAKLAND COUNTY, MICHIGAN

PROJECT No: 05000184 | DRAWN BY: JTL | CHECKED BY: DL

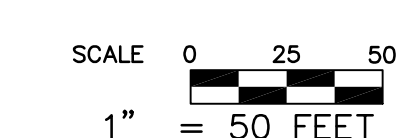
ORIGINAL
ISSUE DATE: 10/18/2005

PERMIT SET
ISSUE DATE:

CONSTRUCTION SET
ISSUE DATE:

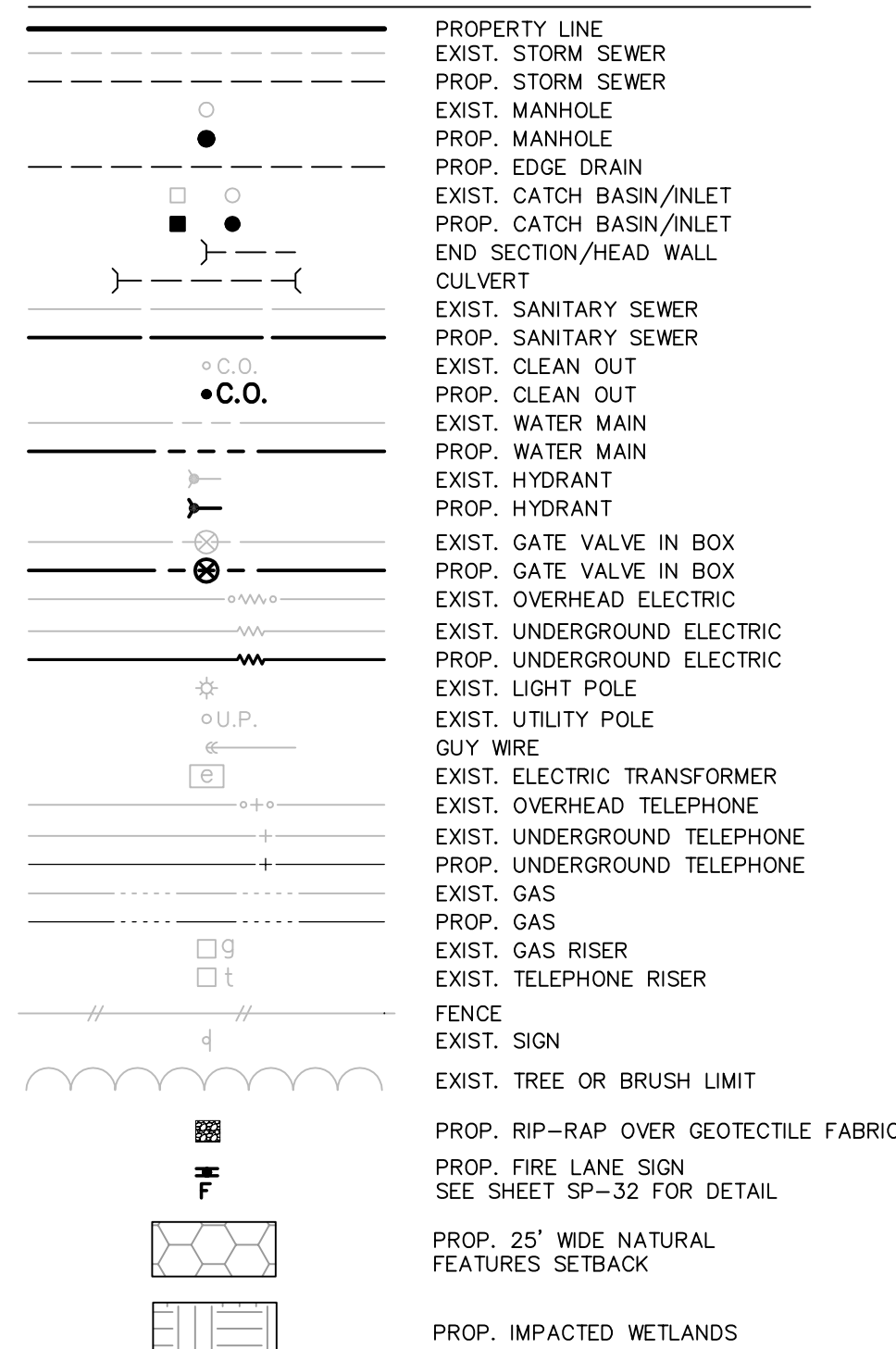
DRAWING NUMBER:
SP-18
4102-50-18

CITY FILE: 05-037
NOT TO BE USED FOR CONSTRUCTION



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LEGEND



Lowe's of Rochester Hills, MI					
Estimated Sanitary Sewer Flows					
BUILDING	AREA (S.F.)	USE	REU	FLOW RATE (CFS/1000 S.F.)	EST. FLOW (CFS)
Lowe's	138,431 sf	Retail	30	0.000064	0.0089 cfs
Totals:	138,431 sf		30		0.0089 cfs
Note: Flows per Lowe's Store Records = 2500 gal/day =					0.0039 cfs
					1.74 GPM
Peak Flow Factor:					
Population =	2.6 people	per REU =	78	People	
	$18 + \sqrt{\text{pop} - \text{in} - \text{thousands}}$		$18 + \sqrt{0.078}$		4.27
	$4 + \sqrt{\text{pop} - \text{in} - \text{thousands}}$		$4 + \sqrt{0.078}$		
ESTIMATED MAXIMUM PEAK FLOW:					0.0381 cfs
					17.08 GPM
Infiltration:					
Length of pipe =	200 LF				
Size =	6 inch				
Allowable =	200 gal.				
	in. Dia.-Mile-Day			$= 0.0000035 \times \text{length of pipe} =$	0.000070 cfs
	$200 \text{ gal.} / \text{pipe dia.}$				
	$5280 \text{ ft} \times 86,400 \text{ sec} \times 7.48 \text{ gal}$				
Average Flow:					
Average Flow =	Qavg. + Infiltration =				0.0090 cfs
					4.03 GPM
Peak Flow:					
Peak Flow =	Qmax. + Infiltration =				0.0381 cfs
					17.11 GPM
Available Capacity:					
Existing 8" pipe @ 0.35%	Pipe Size =	8 inches			
$Q = vA = (1.49) AR^{2/3} \sqrt{S}$	slope (S) =	0.35%			
	Roughness (n) =	0.13			
	Area (A) =	0.35 sf			
	Hyd Radius (R) =	0.17 ft			
	Flow Rate (Q) =	0.72 cfs			= 321.7 GPM
	Velocity (v) =	2.05 ft/s			
FLOW RATES COMPUTED AS FOLLOWS:					
	Retail Use:	0.16 REUs per employee assuming one employee per 750 s.f.			
	Conversion Factor:	1 REU is equivalent to 300 GPD = 0.0004023 cfs			
	Population:	1 REU = 260 GPD, 1 PERSON = 100 GPD = 1 REU = 2.6 PEOPLE			
Note: Flow rates are based on the Oakland County Drain Commissioner Schedule of Unit Assignment Factors dated July 1, 1998.					

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2. GENERAL CONTRACTOR SHALL PROVIDE 2' x 2' x 6" THICK CONCRETE APRON AT ALL CLEANOUTS, VALVES AND METERS AND 5'x5'x6" THICK REINFORCED CONCRETE APRON AT ALL MANHOLES AND INLETS WITHIN THE LIMITS OF PAVING OUTSIDE OF THE BUILDING.
3. GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR ALL TAP AND TIE ON FEES REQUIRED, AS WELL AS COST OF UNDERGROUND SERVICE CONNECTIONS TO THE BUILDING.
4. ELECTRICAL SERVICE TO PAD MOUNTED TRANSFORMER SHALL BE RUN UNDERGROUND, FROM EXISTING SERVICE CONNECTION TO TRANSFORMER LOCATION. ASSOCIATED COST BY GENERAL CONTRACTOR.
5. GENERAL CONTRACTOR SHALL FURNISH (2) - 4" TELEPHONE CONDUIT(S) AS SHOWN ON PLAN, VERIFY LOCATION OF TIE IN AT TELEPHONE COMPANY'S SERVICE LINE. PROVIDE NYLON PULL CORDS INSIDE CONDUIT.
6. DIMENSIONS SHOWN ARE TO CENTERLINE OF PIPE OR FITTING.
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8. REFER TO PLUMBING SHEETS FOR LOCATION OF SEWER, DOMESTIC, AND IRRIGATION CONNECTIONS.
9. FIRE LINE SHALL BE STUBBED UP 1' ABOVE FFE IN SPRINKLER ROOM.
10. ALL FIRE HYDRANTS SHALL BE PROVIDED WITH AN APPROVED GATE VALVE A MAXIMUM OF 5'-0" FROM HYDRANT. ALL HYDRANTS SHALL BE A MINIMUM OF 40' FROM THE PROPOSED BUILDING. ALL FIRE HYDRANTS SHALL BE TO CITY STANDARDS.
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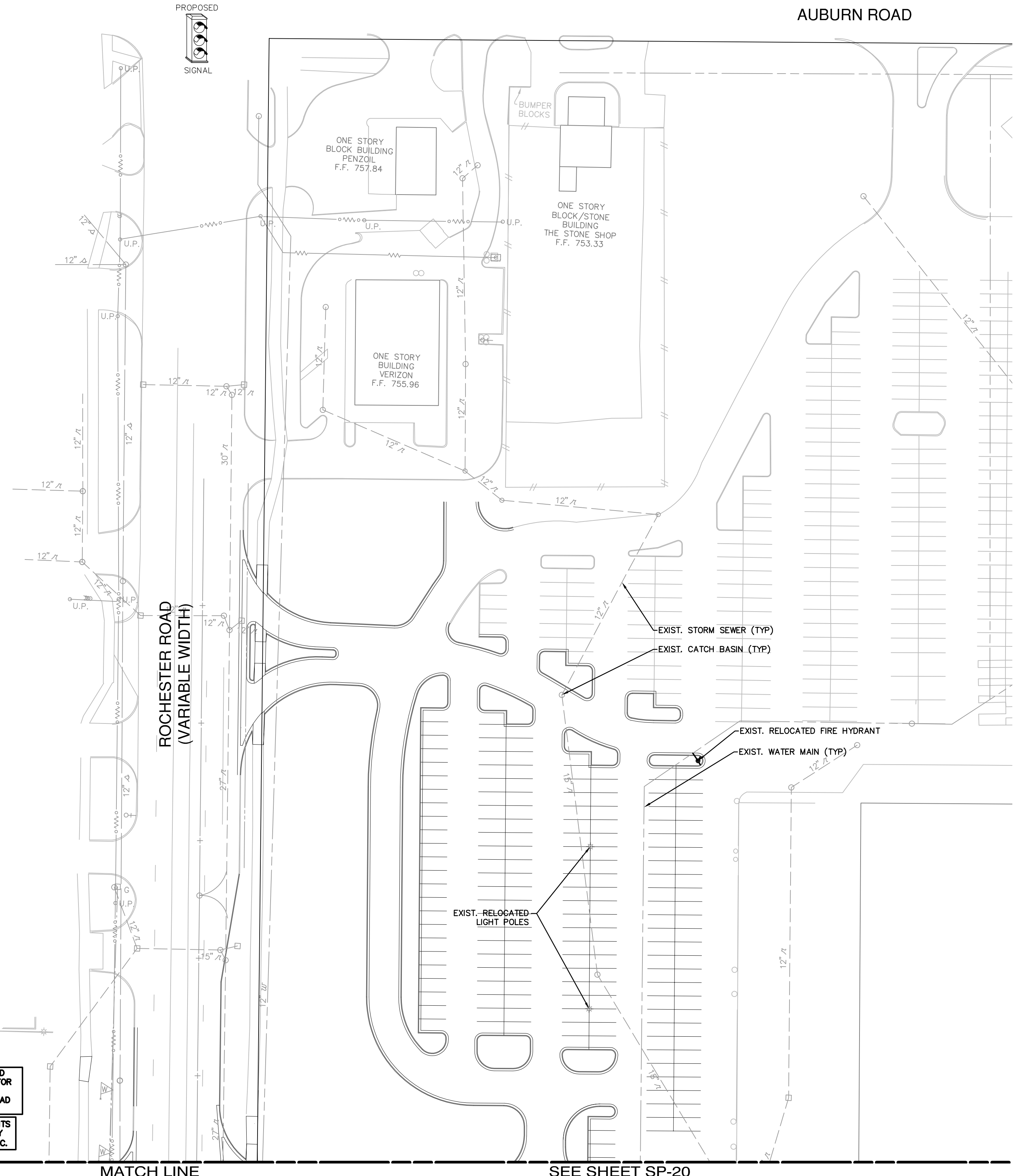
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SEE ROCHESTER ROAD IMPROVEMENT PLANS FOR ALL CONSTRUCTION WITHIN ROCHESTER ROAD RIGHT-OF-WAY
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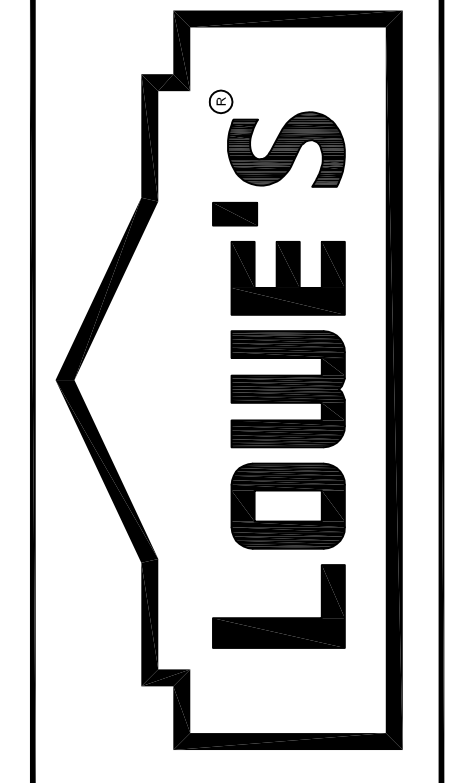


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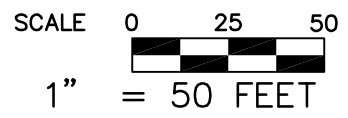
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WILKESBORO, NC 28697
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SITE PLAN OVERALL UTILITY PLAN
LOWE'S OF ROCHESTER HILLS
OAKLAND COUNTY, MICHIGAN
PROJECT No: 05000184 | CHECKED BY: DL

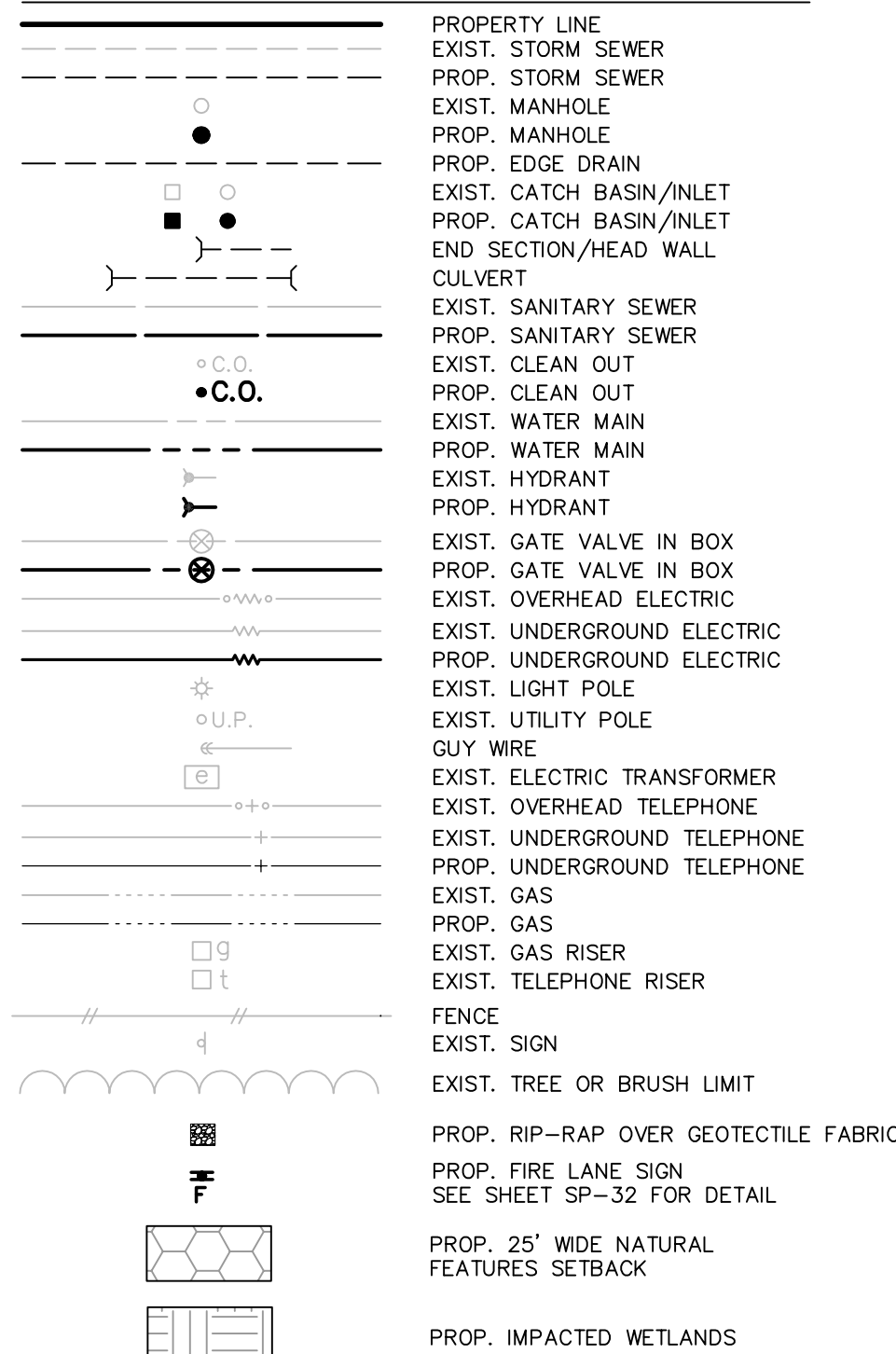
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CONSTRUCTION SET ISSUE DATE:
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4102-50-19

CITY FILE: 05-037
NOT TO BE USED FOR CONSTRUCTION



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LEGEND



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	$18 + \sqrt{\text{pop} - \text{in} - \text{thousands}}$		$18 + \sqrt{0.078}$		4.27
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	in. Dia. Mile-Day		$0.0000035 \times \text{length of pipe} =$		0.000070 cfs
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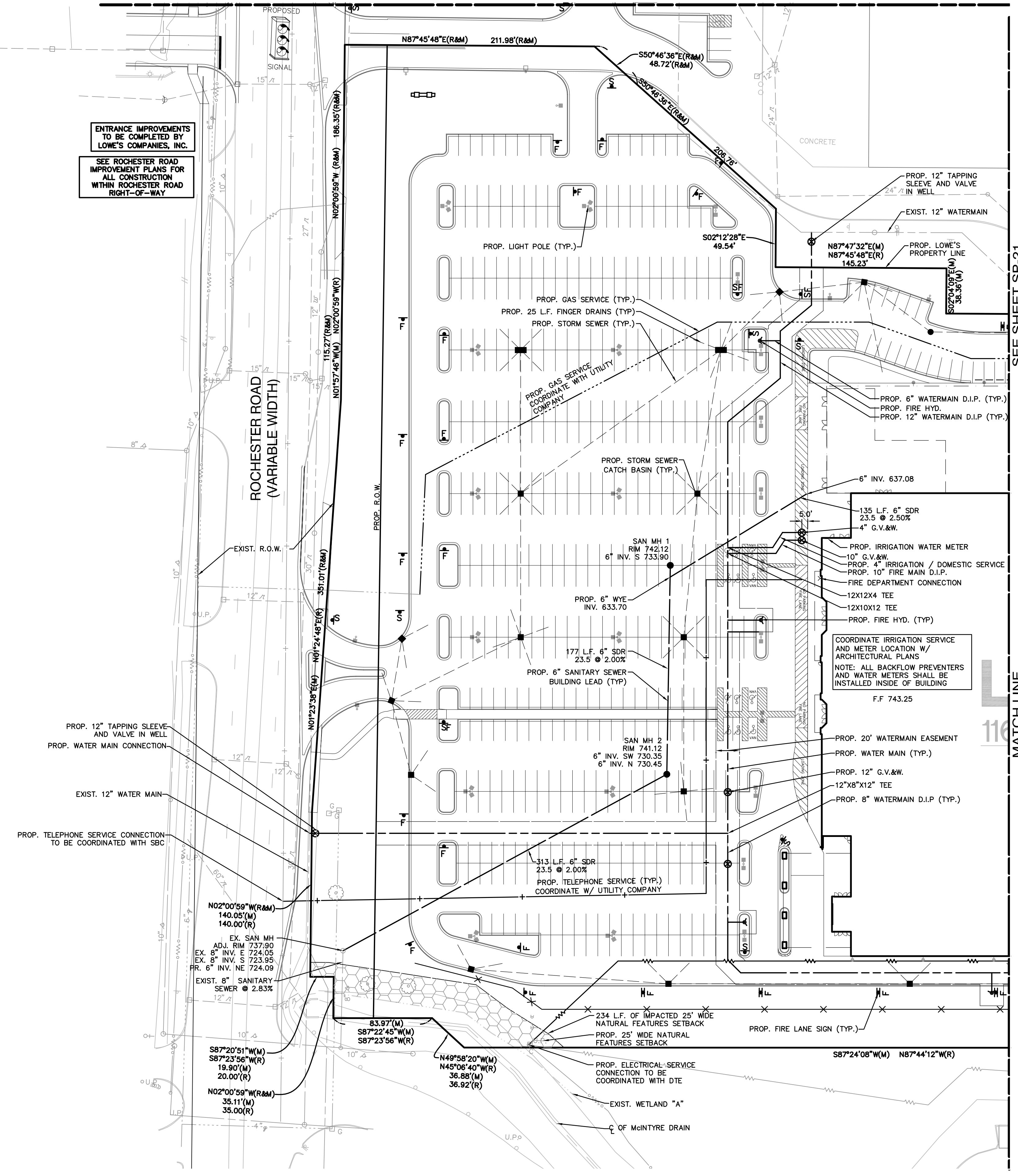
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MATCH LINE

SEE SHEET SP-19



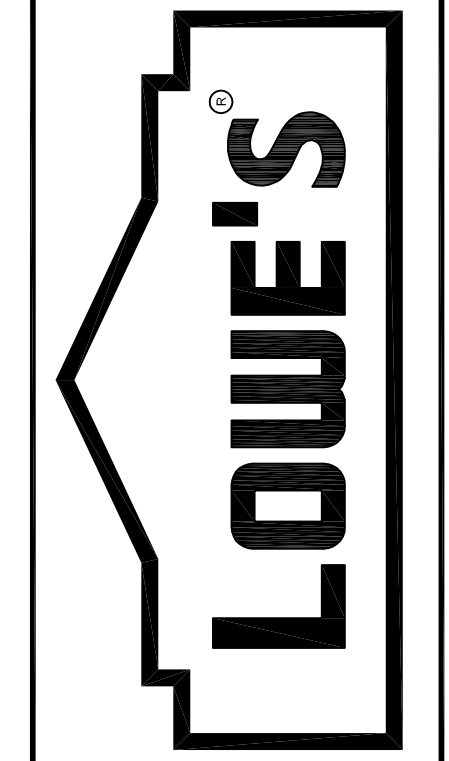
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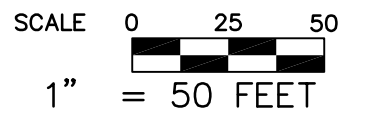
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SITE PLAN
OVERALL UTILITY PLAN
LOWE'S OF
ROCHESTER HILLS
OAKLAND COUNTY, MICHIGAN
PROJECT No. 05000184 | DRAWN BY: JTL | CHECKED BY: DL

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CONSTRUCTION SET ISSUE DATE:
DRAWING NUMBER:
SP-20
4102-50-20

CITY FILE: 05-037
NOT TO BE USED FOR CONSTRUCTION



LEGEND

	PROPERTY LINE
	EXIST. STORM SEWER
	PROP. STORM SEWER
	EXIST. MANHOLE
	PROP. MANHOLE
	PROP. EDGE DRAIN
	EXIST. CATCH BASIN/INLET
	PROP. CATCH BASIN/INLET
	END SECTION/HEAD WALL
	CULVERT
	EXIST. SANITARY SEWER
	PROP. SANITARY SEWER
	EXIST. CLEAN OUT
	PROP. CLEAN OUT
	EXIST. WATER MAIN
	PROP. WATER MAIN
	EXIST. HYDRANT
	PROP. HYDRANT
	EXIST. GATE VALVE IN BOX
	PROP. GATE VALVE IN BOX
	EXIST. OVERHEAD ELECTRIC
	EXIST. UNDERGROUND ELECTRIC
	PROP. UNDERGROUND ELECTRIC
	EXIST. LIGHT POLE
	EXIST. UTILITY POLE
	GUY WIRE
	EXIST. ELECTRIC TRANSFORMER
	EXIST. OVERHEAD TELEPHONE
	EXIST. UNDERGROUND TELEPHONE
	PROP. UNDERGROUND TELEPHONE
	EXIST. GAS
	PROP. GAS
	EXIST. GAS RISER
	EXIST. TELEPHONE RISER
	FENCE
	EXIST. SIGN
	EXIST. TREE OR BRUSH LIMIT
	PROP. RIP-RAP OVER GEOTEXTILE FABRIC
	PROP. FIRE LANE SIGN
	SEE SHEET SP-40 FOR DETAIL
	PROP. 25' WIDE NATURAL FEATURES SETBACK
	PROP. IMPACTED WETLANDS

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16. ALL WATER MAINS SHALL BE DUCTILE IRON PIPE (CLASS 54).
17. MAINTAIN A MINIMUM 10'-0" HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN SANITARY, WATER, AND STORM UTILITY LINES.
18. ALL MATERIALS, STRUCTURES, AND PIPE TESTING SHALL BE IN ACCORDANCE WITH CITY OF ROCHESTER HILLS STANDARDS.
19. THE CONTRACTOR SHALL CONTACT THE INSPECTION AGENCY AS SHOWN ON THE PERMIT 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
20. THE CONTRACTOR SHALL CONTACT THE INSPECTION AGENCY AS SHOWN AT THE COMPLETION OF CONSTRUCTION FOR A FINAL INSPECTION.
21. CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR DETERMINING DEFLECTION ANGLES AND LOCATION OF ALL VERTICAL BEND IN THE WATER MAIN PLAN IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS STANDARDS FOR WATER MAIN CONSTRUCTION. ANY QUESTIONS OR CONFLICTS WITH OTHER UTILITIES IN THE CONSTRUCTION PLANS MUST BE PROVIDED TO THE DESIGN ENGINEER IN WRITING PRIOR TO THE START OF CONSTRUCTION.
22. ALL SANITARY SEWER AND WATERMAIN MUST BE DESIGNED IN ACCORDANCE WITH CITY OF ROCHESTER HILLS ENGINEERING DESIGN STANDARDS.
23. CONTRACTOR TO COORDINATE ANY WATER STOPPAGE WITH ALL AFFECTED BUSINESS/RESIDENTS PRIOR TO CONSTRUCTION OF WATERMAIN.
24. ALL STORM MUST BE DESIGNED IN ACCORDANCE WITH CITY OF ROCHESTER HILLS ENGINEERING DESIGN STANDARDS.

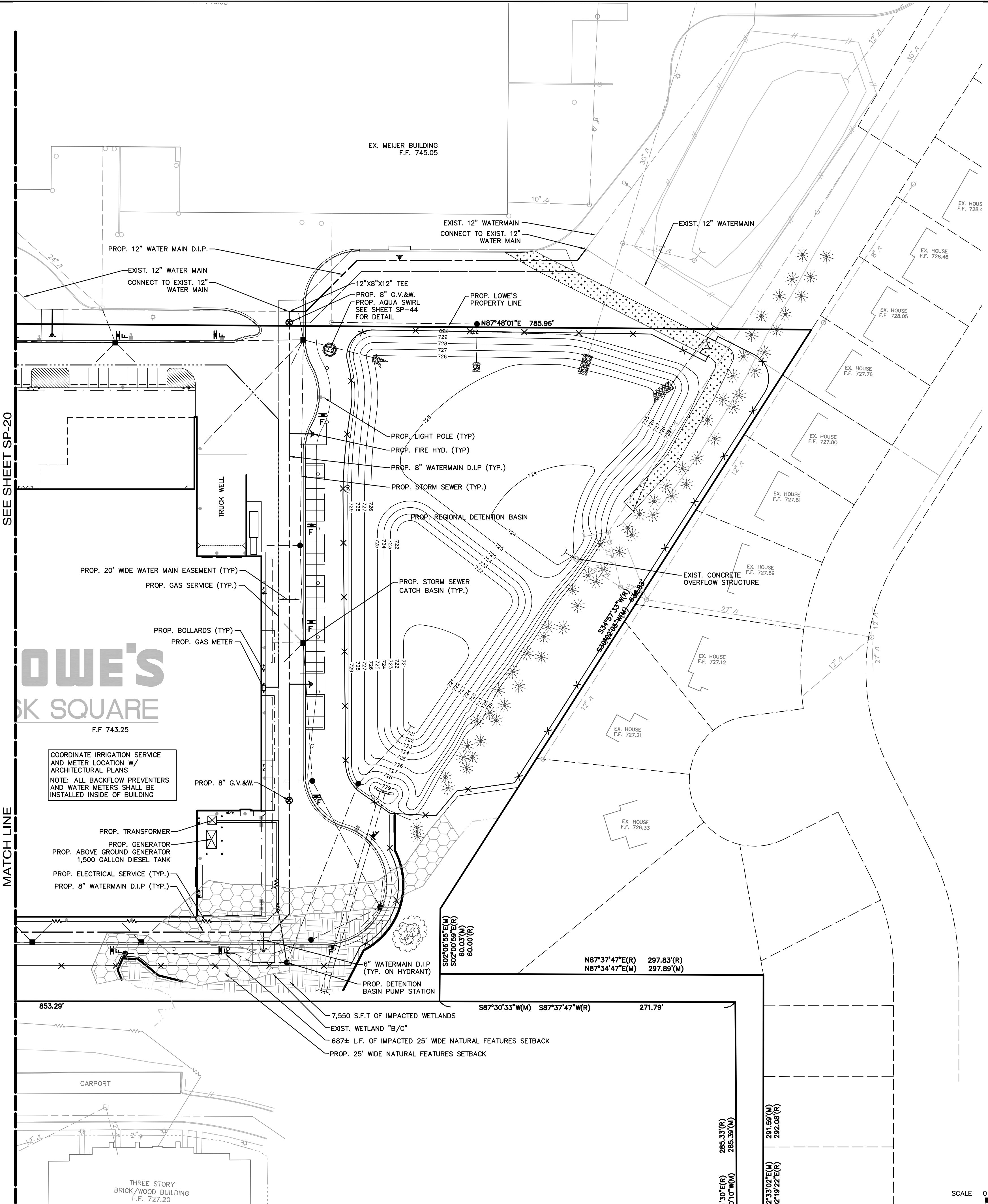


THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:

CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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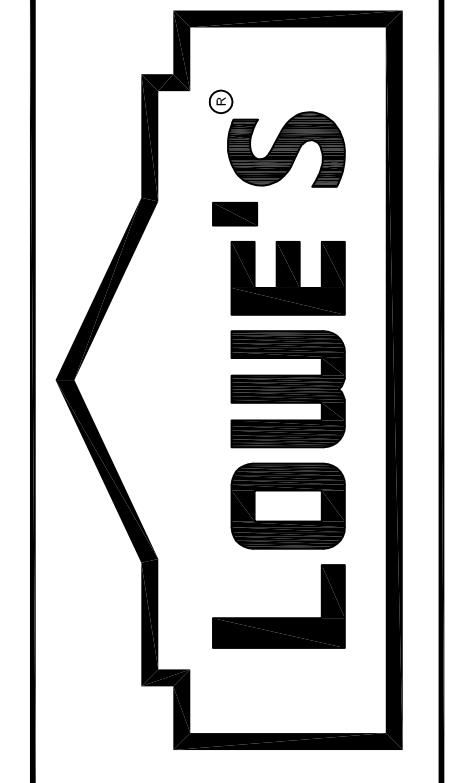


REVISIONS

DATE	DESCRIPTION
12/21/05	REVISED PER CITY OF ROCHESTER HILLS
07/06/06	REVISED PER CITY OF ROCHESTER HILLS
08/28/06	REVISED PER CITY OF ROCHESTER HILLS

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**SITE PLAN
OVERALL UTILITY PLAN**
LOWE'S OF
ROCHESTER HILLS
OAKLAND COUNTY, MICHIGAN
PROJECT No. 05000184 | DRAWN BY: JTL | CHECKED BY: DL

ORIGINAL
ISSUE DATE: 10/18/2005
PERMIT SET
ISSUE DATE:
CONSTRUCTION SET
ISSUE DATE:
DRAWING NUMBER:
SP-21
4102-50-21

CITY FILE: 05-037
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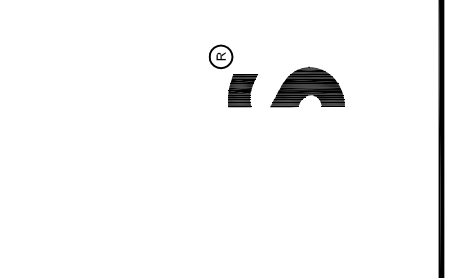


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DATE	DESCRIPTION
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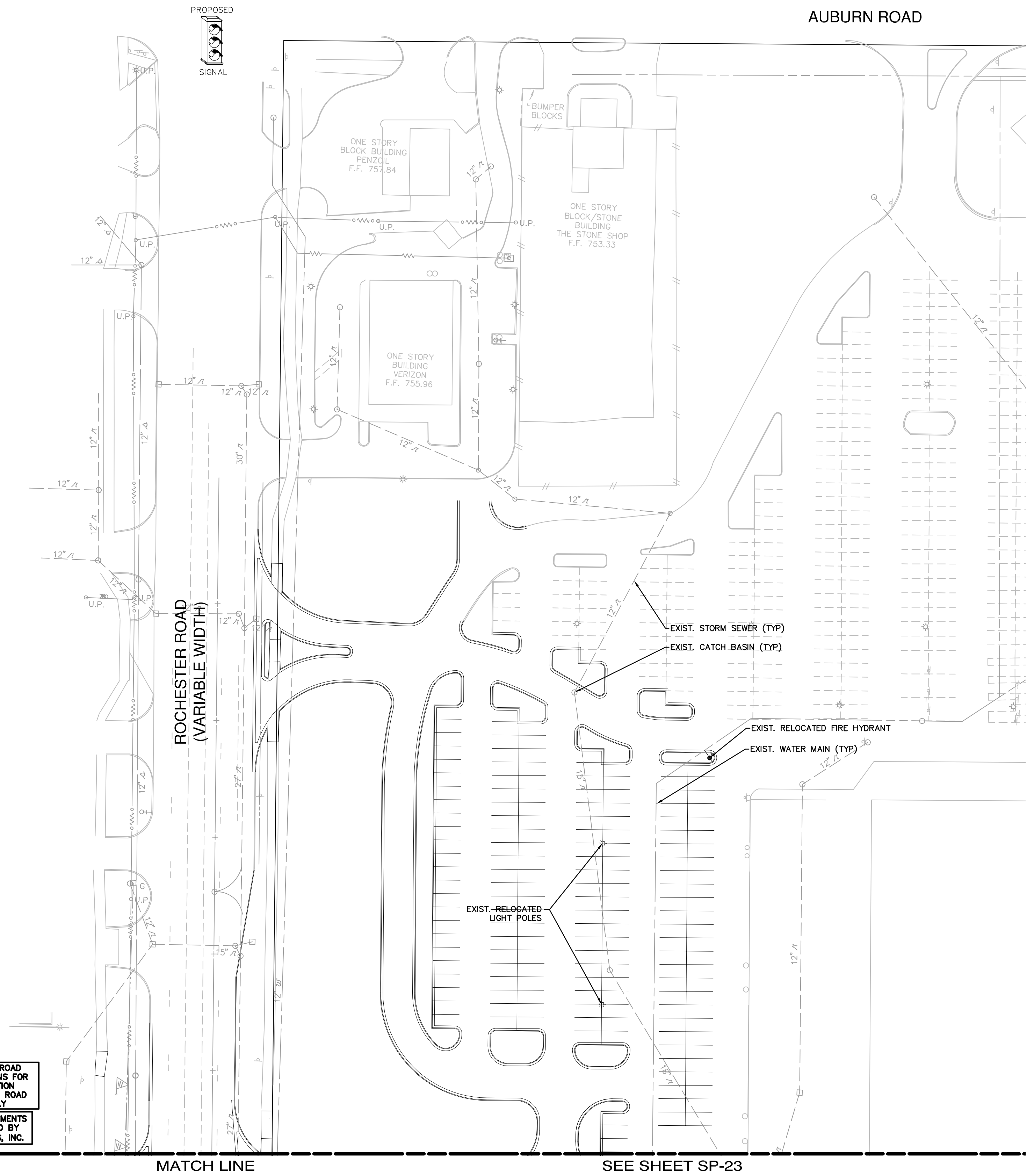
SITE PLAN
 STORM SEWER PLAN
 LOWE'S OF
 ROCHESTER HILLS
 OAKLAND COUNTY, MICHIGAN
 PROJECT No: 05000184 DRAWN BY: JTL CHECKED BY: DL
 ORIGINAL ISSUE DATE: 10/18/2005
 PERMIT SET ISSUE DATE:
 CONSTRUCTION SET ISSUE DATE:
 DRAWING NUMBER:
SP-22
 4102-50-22

LEGEND

- PROPERTY LINE
- EXIST. STORM SEWER
- PROP. STORM SEWER
- EXIST. MANHOLE
- PROP. MANHOLE
- PROP. EDGE DRAIN
- EXIST. CATCH BASIN/INLET
- PROP. CATCH BASIN/INLET
- END SECTION/HEAD WALL
- CULVERT
- EXIST. SANITARY SEWER
- PROP. SANITARY SEWER
- EXIST. CLEAN OUT
- PROP. CLEAN OUT
- EXIST. WATER MAIN
- PROP. WATER MAIN
- EXIST. HYDRANT
- PROP. HYDRANT
- EXIST. GATE VALVE IN MANHOLE
- PROP. GATE VALVE IN MANHOLE
- EXIST. OVERHEAD ELECTRIC
- EXIST. UNDERGROUND ELECTRIC
- PROP. UNDERGROUND ELECTRIC
- EXIST. LIGHT POLE
- EXIST. UTILITY POLE
- GUY WIRE
- EXIST. ELECTRIC TRANSFORMER
- EXIST. OVERHEAD TELEPHONE
- EXIST. UNDERGROUND TELEPHONE
- PROP. UNDERGROUND TELEPHONE
- EXIST. GAS
- PROP. GAS
- EXIST. GAS RISER
- EXIST. TELEPHONE RISER
- FENCE
- EXIST. SIGN
- PROP. RIP-RAP OVER GEOTEXTILE FABRIC

GRADING AND DRAINAGE NOTES

1. ALL EXISTING STRUCTURES, UNLESS OTHERWISE NOTED TO REMAIN, FENCING, TREES, & ETC., WITHIN CONSTRUCTION AREA SHALL BE REMOVED & DISPOSED OF OFF SITE. ANY BURNING ON SITE SHALL BE SUBJECT TO LOCAL ORDINANCES & LOWE'S SPECIFICATIONS.
2. ALL DRAINAGE STRUCTURES SHALL BE PRE-CAST.
3. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY.
4. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO GRADING START.
5. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
6. AFTER PERMITS HAVE BEEN OBTAINED & EROSION CONTROL MEASURES INSTALLED, THE CONTRACTOR SHALL GRADE BUILDING PAD, GARDEN CENTER & APRONS TO 1/2" ± FT. OF SUBGRADE AS PER SECTION 02300, DIVISION 2 OF LOWE'S STANDARD SITE SPECIFICATIONS.
7. IMMEDIATELY APPLY & COMPACT STONE BASE FOR BUILDING PAD TO +/- 1/2" BEFORE EXCAVATING INTERIOR & PERIMETER FOOTINGS.
8. FRENCH DRAIN SHALL BE INSTALLED IF DIRECTED BY THE GEOTECHNICAL ENGINEER OR AS SHOWN ON PLANS.
9. CONTRACTOR SHALL PROVIDE 2' x 2' x 6" THICK CONCRETE APRON AT ALL CLEANOUTS OUTSIDE OF BUILDING.
10. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH DIVISION 2 OF LOWE'S STANDARD SITE SPECIFICATIONS.
11. ALL ROOF DRAINS TO BUILDING SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLAN AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AT THE END.
12. PROPOSED RETENTION POND SHALL HAVE MAXIMUM SIDE SLOPES OF 1 FOOT VERTICAL AND 6 FOOT HORIZONTAL.
13. PROPOSED CATCH BASINS ARE BASED ON THE CENTER OF THE BACK OF CASTING WHICH IS LOCATED ON THE BACK OF CURB. ACTUAL GUTTER LINE OF STRUCTURE SHALL BE CALCULATED PRIOR CONSTRUCTION. REFER TO CITY OF ROCHESTER HILLS TOWNSHIP STORM STANDARDS FOR RIM TYPES.
14. TOP OF CURB GRADE FOR PITCH-OUT CURB WILL BE 0.50' ABOVE TOP OF ASPHALT AND FOR PITCH-IN CURB TOP OF CURB WILL BE 0.42' ABOVE TOP OF ASPHALT.
15. ALL CURB NOT LABELED AS 24" CONCRETE PITCH-IN CURB SHALL BE 24" CONCRETE PITCH-OUT CURB.
16. A PERMIT FROM MDOT SHALL BE REQUIRED FRO ALL WORK WITHIN ROCHESTER ROAD RIGHT-OF-WAY.
17. ALL GRADING MUST BE DESIGNED IN ACCORDANCE WITH CITY OF ROCHESTER HILLS ENGINEERING DESIGN STANDARDS.
18. ALL STORM MUST BE DESIGNED IN ACCORDANCE WITH CITY OF ROCHESTER HILLS ENGINEERING DESIGN STANDARDS.



SEE ROCHESTER ROAD IMPROVEMENT PLANS FOR ALL CONSTRUCTION WITHIN ROCHESTER ROAD RIGHT-OF-WAY.
 ENTRANCE IMPROVEMENTS TO BE COMPLETED BY LOWE'S COMPANIES, INC.

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171
 FOR THE LOCATION OF UNDERGROUND UTILITIES

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