

KLM Renovation & Addition

2680 S. Rochester Road
Rochester Hills, MI 48309

DESIGNHAUS

301 WALNUT BOULEVARD
ROCHESTER, MI 48307
T: 248.601.4422
F: 248.453.5854
WWW.DESIGNHAUS.COM



PROJECT TEAM

OWNER
KLM BIKE AND FITNESS
FRANK MARCINIAK
2680 S. ROCHESTER RD
ROCHESTER HILLS, MI 48307
T: (248) 840-0507

ARCHITECT
DESIGNHAUS ARCHITECTURE
301 WALNUT BLVD.
ROCHESTER, MI 48307
T: 248.601.4422
F: 248.453.5854
PROJECT MANAGER: JOE LATOZAS
C: 248.482.5421

SURVEYOR
KENNEDY SURVEYING, INC
105 N. WASHINGTON ST.
OXFORD, MI 48731
T: (248) 628-4241

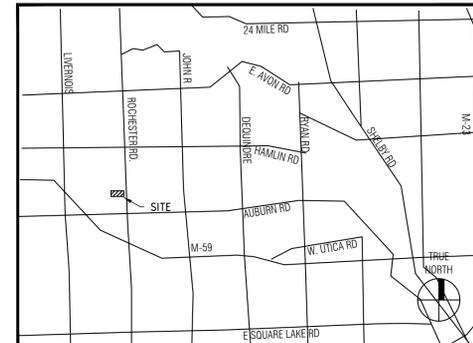
CIVIL ENGINEER
Sharpe Engineering
101 N. Washington
Oxford, MI 48371
T: 248.877.2102
CONTACT: Steve Wagner

PROJECT ARCHITECT:
PETER STUHLREYER, A.I.A.
C: 248.425.1092

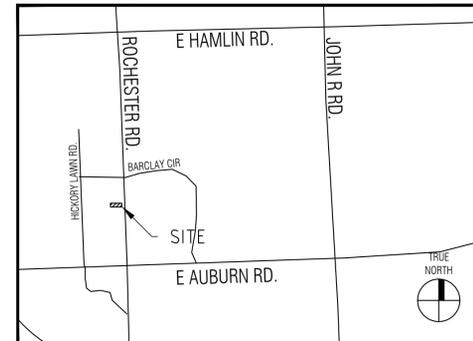
INDEX OF DRAWINGS

SHEET NO:	DRAWING NAME	Site Plan Approval # 9.26.16	Site Plan Approval Revision # 1 2.6.18	Site Plan Approval Revision # 2 4.20.18	Site Plan Approval Revision # 3 6.19.18
<p><input type="checkbox"/> SHEET ISSUED <input type="checkbox"/> REVISED <input type="checkbox"/> SHEET REISSUED</p>					
GENERAL					
G001	Title Sheet and Index Reference & Code Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CIVIL ENGINEERING					
C1.0	Existing Conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C2.0	Demolition Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C3.0	Improvement Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C4.0	Grading Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C5.0	Storm Sewer Plan & Profile	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sheet 1 of 1	Storm System Standard Details	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LANDSCAPE					
S100	Architectural Site Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L100	Landscape Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PHOTOMETRICS					
1 OF 1	Lighting Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ARCHITECTURAL					
A100	Floor Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A200	Elevations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VICINITY MAP



LOCATION MAP



No.	Revision/Issue	Date
	Site Plan Approval Revision #3	6.19.18
	Site Plan Approval Revision #2	4.20.18
	Site Plan Approval Revision #1	2.6.18
	Site Plan Approval	9.26.16

KLM Renovation & Addition

2680 S. Rochester Road
Rochester Hills, MI 48309

Title Sheet and Index

G001

#16-023

015014

DATE	DESCRIPTION
03/23/17	FINAL SUBMITTAL
03/06/18	REVISED DRAINAGE FOOTPRINT
04/18/18	REVISED PER ROCHESTER HILLS REVIEW LETTERS DATED MARCH 2018

MISS DIG SYSTEM
KNOW WHAT'S BELOW!
 800-482-7171 OR 811
 CONTACT THE MISS DIG SYSTEM 3 WORKING DAYS IN ADVANCE

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STEVEN E. WAGNER
 PROFESSIONAL ENGINEER
 NO. 64316

DEVELOPED FOR:
FRANK MARCINIAK

2680 S. ROCHESTER RD.
 ROCHESTER HILLS, MI 48307
 248.840.0007

EXISTING CONDITIONS
 KLM BIKE & FITNESS

CITY: ROCHESTER HILLS
 COUNTY: OAKLAND
 SECTION: 27
 T-3-N, R-11-E

INITIAL SUBMITTAL: 03/23/17
 THIS SUBMITTAL: 06/15/18
 SCALE: 1" = 30'
 SHEET: C1.0
 PROJECT: 024.09.01



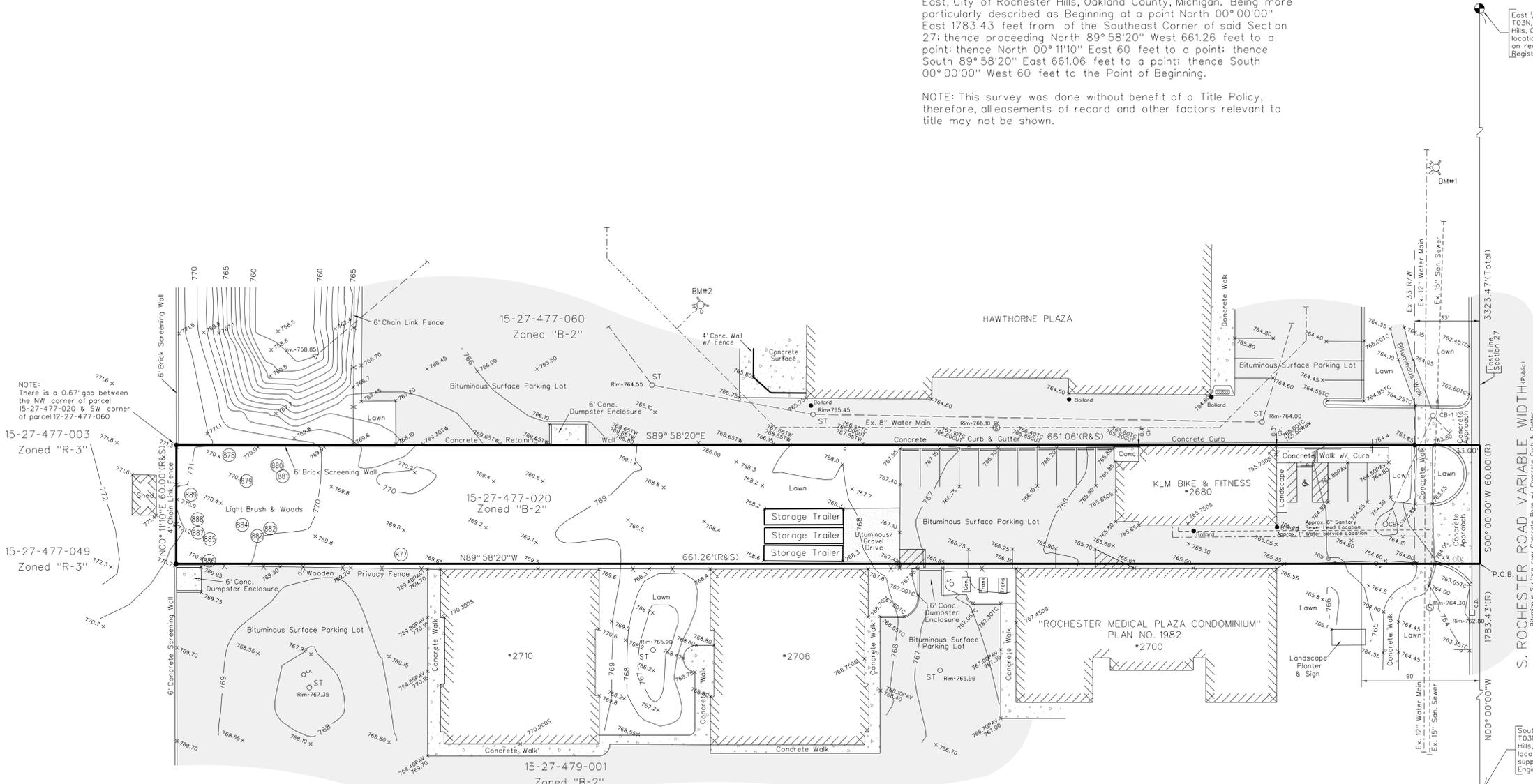
PROPERTY DESCRIPTION FOR 15-27-477-020

Part of the Southeast 1/4 of Section 27, Town 3 North, Range 11 East, City of Rochester Hills, Oakland County, Michigan. Being more particularly described as Beginning at a point North 00°00'00" East 1783.43 feet from of the Southeast Corner of said Section 27; thence proceeding North 89°58'20" West 661.26 feet to a point; thence North 00°11'10" East 60 feet to a point; thence South 89°58'20" East 661.06 feet to a point; thence South 00°00'00" West 60 feet to the Point of Beginning.

NOTE: This survey was done without benefit of a Title Policy, therefore, all easements of record and other factors relevant to title may not be shown.

East 1/4 Corner, Section 27
 T3N, R11E, City of Rochester
 Hills, Oakland County, Michigan
 location determined from data
 on record at the Oakland County
 Register of Deeds

Southeast Corner, Section 27
 T3N, R11E, City of Rochester
 Hills, Oakland County, Michigan
 location determined from data
 supplied by Giffels-Webster
 Engineers, Inc.



TREE LEGEND

TREE TAG	DIA.	TREE NAME	ELEV.
877	14"	Walnut	770.1
878	8"	Walnut	770.4
879	8"	Walnut	770.1
880	12"	Walnut	770.5
881	8"	Walnut	770.9
882	8"	Walnut	770.1
883	8"	Walnut	770.0
884	12"	Elm	770.4
885	8"	Walnut	770.5
886	12"	Elm	770.9
887	10"	Thorn Apple	770.7
888	12"	Elm	770.5
889	10"	Walnut	770.9

- CB-1
 2' Dia. Catch Basin
 Rim=763.25
 12" Inv. SW=760.90
 (w/ 4" Restriction)
- CB-2
 4' Dia. Catch Basin
 Rim=763.75
 12" Inv. NE=761.25

- LEGEND:**
- 769.1 x - EXISTING ELEVATION
 - 767 - EXISTING CONTOUR LINE
 - BM - BENCH MARK
 - - FND. 1/2" IRON ROD UNLESS NOTED
 - - SET 1/2" IRON ROD W/ ID CAP
 - OH - EX. OVERHEAD LINES
 - P.P.O. - EX. POWER POLE
 - - EX. UTILITY RISER
 - L.P.O. - EX. LIGHT POLE
 - F.F. - FINISHED FLOOR
 - (877) - TREE TAG
 - - SANITARY SEWER MANHOLE
 - ⊕ - FIRE HYDRANT
 - ⊗ - WATER GATE VALVE
 - ST ○ - STORM WATER STRUCTURE
 - - CATCH BASIN
 - ▨ - EX. BITUMINOUS SURFACE
 - ▩ - EX. CONCRETE SURFACE
 - ▧ - EX. GRAVEL SURFACE

SURVEY PROVIDED BY:
 Kennedy Surveying, Inc.
 105 N. Washington St.
 Oxford, MI 48371
 248.628.4241

JOB NUMBER: 16-760
 DATED: July 18, 2016

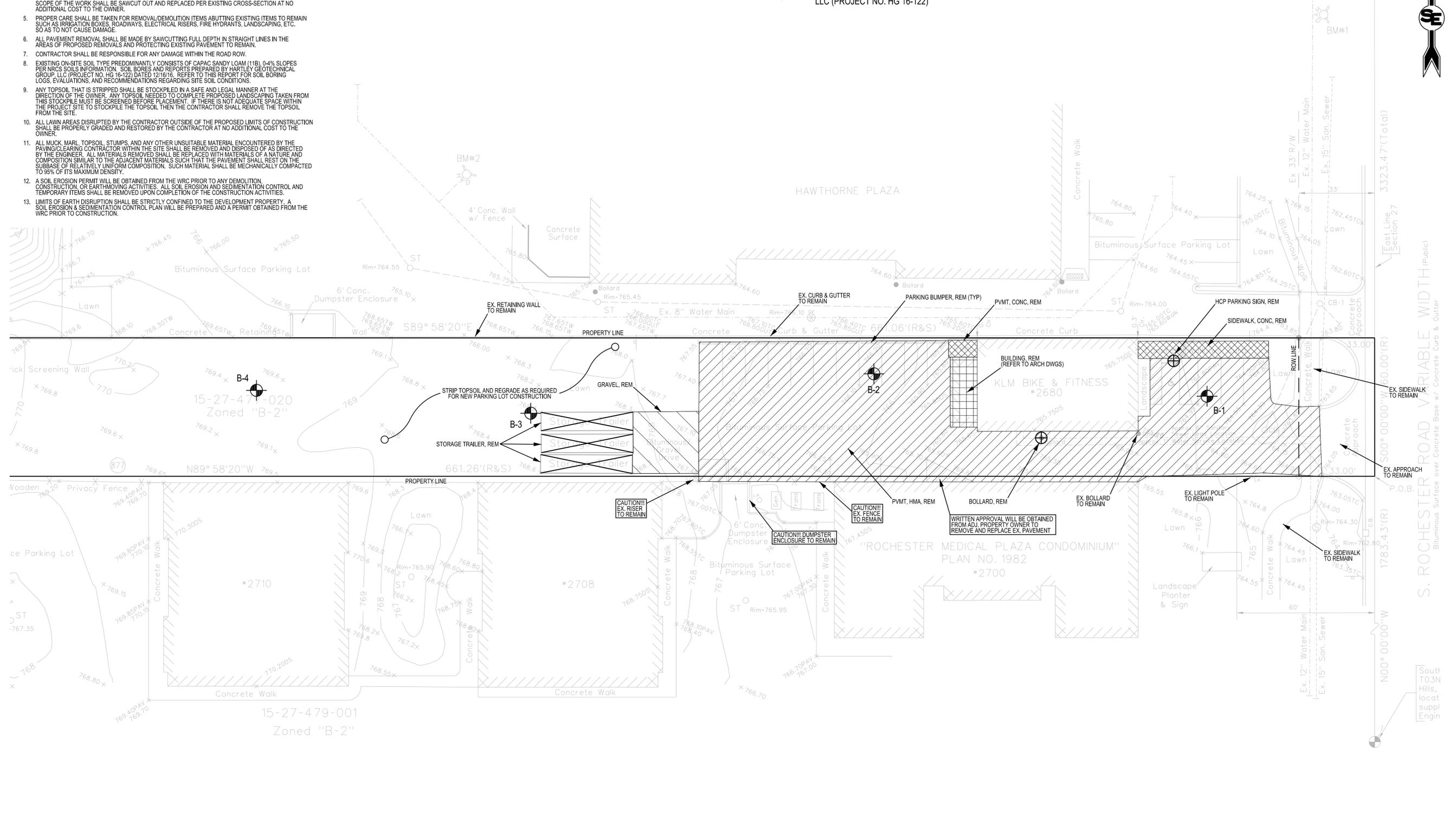
BENCHMARKS

- BM #1 • Arrow head on top of Fire Hydrant 125' north of south entrance to Hawthorne Plaza
 ELEV = 765.34 (from construction plans for Hawthorne Plaza prepared by REI#03-129)
- BM #2 • Arrow head on top of Fire Hydrant near southwest building corner of Hawthorne Plaza
 ELEV = 768.29 (from construction plans for Hawthorne Plaza prepared by REI#03-129)

REMOVAL AND DEMOLITION NOTES

- CONTACT MISS-DIG FOR UTILITY STAKING PRIOR TO ANY REMOVALS.
- ALL DEMOLITION ITEMS REMOVED AS PART OF THE CONSTRUCTION ACTIVITIES SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OFF-SITE IN A SAFE AND LEGAL MANNER.
- ANY ITEMS NOT SPECIFICALLY CALLED OUT FOR DEMOLITION BUT ARE REQUIRED FOR THE SUCCESSFUL COMPLETION OF THIS PROJECT SHALL NOT BE PAID FOR SEPARATELY, BUT RATHER INCLUDED IN OTHER CONTRACT PAY ITEMS.
- ANY DAMAGE TO THE EXISTING SIDEWALKS, PATHWAYS, PARKING AREAS, CURBING, ETC. OUTSIDE THE SCOPE OF THE WORK SHALL BE SAWCUT OUT AND REPLACED PER EXISTING CROSS-SECTION AT NO ADDITIONAL COST TO THE OWNER.
- PROPER CARE SHALL BE TAKEN FOR REMOVAL/DEMOLITION ITEMS ABUTTING EXISTING ITEMS TO REMAIN SUCH AS IRRIGATION BOXES, ROADWAYS, ELECTRICAL RISERS, FIRE HYDRANTS, LANDSCAPING, ETC. SO AS TO NOT CAUSE DAMAGE.
- ALL PAVEMENT REMOVAL SHALL BE MADE BY SAWCUTTING FULL DEPTH IN STRAIGHT LINES IN THE AREAS OF PROPOSED REMOVALS AND PROTECTING EXISTING PAVEMENT TO REMAIN.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE WITHIN THE ROAD ROW.
- EXISTING ON-SITE SOIL TYPE PREDOMINANTLY CONSISTS OF CAPAC SANDY LOAM (11B). 0-4% SLOPES PER NRCS SOILS INFORMATION. SOIL BORES AND REPORTS PREPARED BY HARTLEY GEOTECHNICAL GROUP, LLC (PROJECT NO. HG 16-122) DATED 12/18/16. REFER TO THIS REPORT FOR SOIL BORING LOGS, EVALUATIONS, AND RECOMMENDATIONS REGARDING SITE SOIL CONDITIONS.
- ANY TOPSOIL THAT IS STRIPPED SHALL BE STOCKPILED IN A SAFE AND LEGAL MANNER AT THE DIRECTION OF THE OWNER. ANY TOPSOIL NEEDED TO COMPLETE PROPOSED LANDSCAPING TAKEN FROM THIS STOCKPILE MUST BE SCREENED BEFORE PLACEMENT. IF THERE IS NOT ADEQUATE SPACE WITHIN THE PROJECT SITE TO STOCKPILE THE TOPSOIL THEN THE CONTRACTOR SHALL REMOVE THE TOPSOIL FROM THE SITE.
- ALL LAWN AREAS DISRUPTED BY THE CONTRACTOR OUTSIDE OF THE PROPOSED LIMITS OF CONSTRUCTION SHALL BE PROPERLY GRADED AND RESTORED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- ALL MUCK, MARL, TOPSOIL STUMPS, AND ANY OTHER UNSUITABLE MATERIAL ENCOUNTERED BY THE PAVING/CLEARING CONTRACTOR WITHIN THE SITE SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY THE ENGINEER. ALL MATERIALS REMOVED SHALL BE REPLACED WITH MATERIALS OF A NATURE AND COMPOSITION SIMILAR TO THE ADJACENT MATERIALS SUCH THAT THE PAVEMENT SHALL REST ON THE SUBBASE OF RELATIVELY UNIFORM COMPOSITION. SUCH MATERIAL SHALL BE MECHANICALLY COMPACTED TO 95% OF ITS MAXIMUM DENSITY.
- A SOIL EROSION PERMIT WILL BE OBTAINED FROM THE WRC PRIOR TO ANY DEMOLITION, CONSTRUCTION, OR EARTHMOVING ACTIVITIES. ALL SOIL EROSION AND SEDIMENTATION CONTROL AND TEMPORARY ITEMS SHALL BE REMOVED UPON COMPLETION OF THE CONSTRUCTION ACTIVITIES.
- LIMITS OF EARTH DISRUPTION SHALL BE STRICTLY CONFINED TO THE DEVELOPMENT PROPERTY. A SOIL EROSION & SEDIMENTATION CONTROL PLAN WILL BE PREPARED AND A PERMIT OBTAINED FROM THE WRC PRIOR TO CONSTRUCTION.

SOIL BORES PERFORMED BY
HARTLEY GEOTECHNICAL GROUP,
LLC (PROJECT NO. HG 16-122)



DATE	DESCRIPTION
03/23/17	SITE PLAN SUBMITTAL
03/26/18	REVISED SUBMITTAL FOOTPRINT
04/18/18	REVISED PER ROCHESTER HILLS REVIEW LETTERS DATED MARCH 2018

MISS DIG SYSTEM
800-482-7171 OR 811
CONTACT THE MISS DIG SYSTEM 3 WORKING DAYS IN ADVANCE

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STEVEN E. WAGNER
PROFESSIONAL ENGINEER
NO. 64316

DEVELOPED FOR:
FRANK MARCINIAK
2680 S. ROCHESTER RD
ROCHESTER HILLS, MI 48307
248.840.0507

DEMOLITION PLAN
KLM BIKE & FITNESS

CITY: ROCHESTER HILLS
COUNTY: OAKLAND
SECTION: 27
T-3-N, R-11-E

INITIAL SUBMITTAL: 03/23/17
THIS SUBMITTAL: 06/15/18
SCALE: 1" = 20'
SHEET: C2.0
PROJECT: 024.09.01

DATE	DESCRIPTION
03/23/17	SITE PLAN SUBMITTAL
03/06/18	REVISED SUBMITTAL FOOTPRINT
04/08/18	REVISED PER ROCHESTER HILLS REVIEW LETTERS DATED MARCH 2018
06/15/18	REVISED PER ROCHESTER HILLS REVIEW LETTERS DATED 05/09/18

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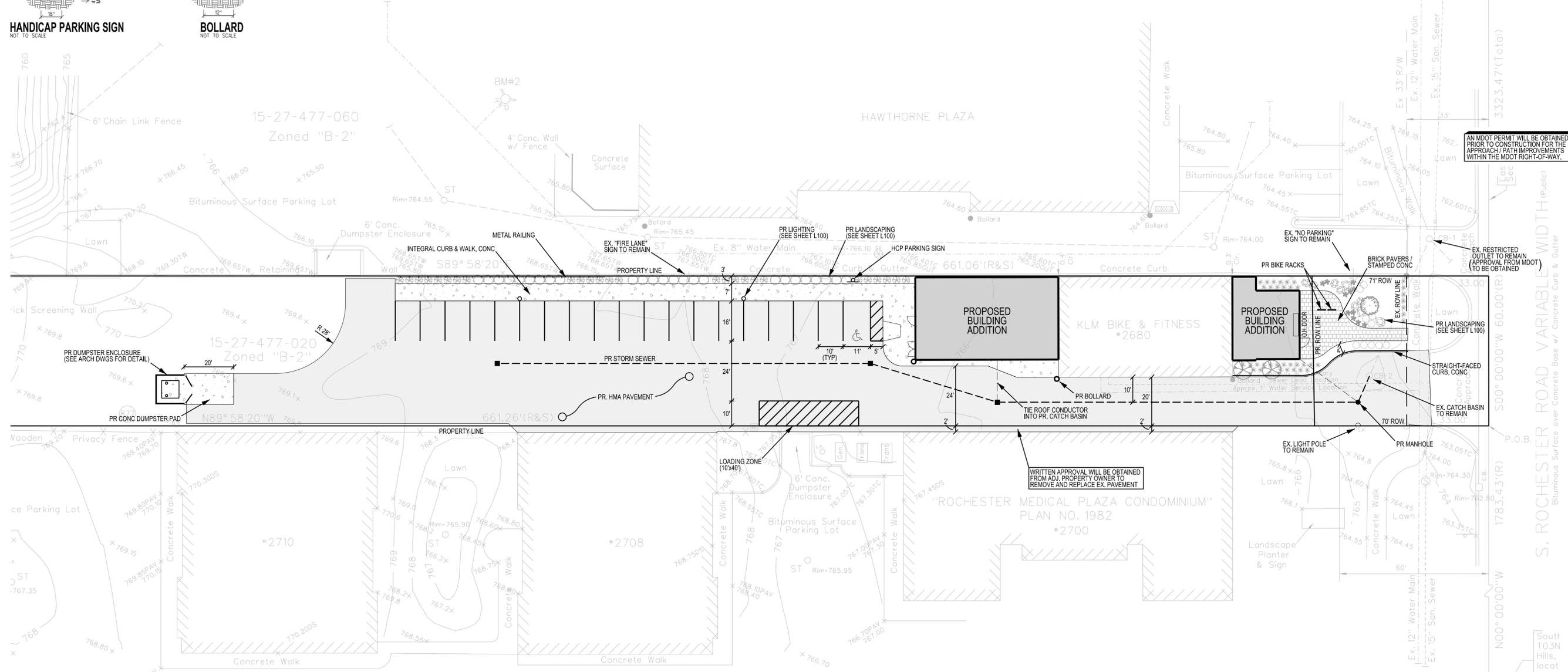
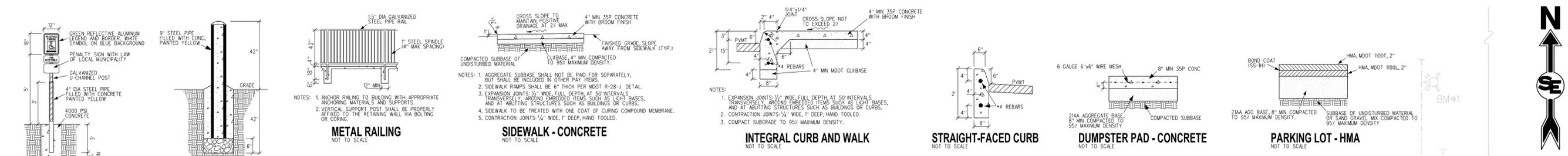
DEVELOPED FOR:
FRANK MARCINIAK
 2680 S. ROCHESTER RD
 ROCHESTER HILLS, MI 48307
 248.840.0307

IMPROVEMENT PLAN
 KLM BIKE & FITNESS

PLAN NAME:

CITY: ROCHESTER HILLS
 COUNTY: OAKLAND
 SECTION: 27
 T-3-N, R-11-E

INITIAL SUBMITTAL: 03/23/17
 THIS SUBMITTAL: 06/15/18
 SCALE: 1" = 20'
 SHEET: C3.0
 PROJECT: 024.09.01



DEVELOPMENT NOTES

- WATER SUPPLY: NO MODIFICATIONS TO THE PUBLIC WATER SYSTEM ARE PROPOSED. THE BUILDING WILL CONTINUE TO BE SERVICED BY THE EXISTING 1" DOMESTIC SERVICE CONNECTED TO THE 12" PUBLIC MAIN.
- SEWAGE DISPOSAL: NO MODIFICATIONS TO THE PUBLIC SANITARY SYSTEM ARE PROPOSED. THE BUILDING WILL CONTINUE TO BE SERVICED BY THE EXISTING 8" DOMESTIC LEAD CONNECTED TO THE 15" PUBLIC SEWER.
- STORM DRAINAGE: AN UNDERGROUND STORM SEWER PIPING SYSTEM IS PROPOSED. THE SYSTEM IS PROPOSED TO CONNECT INTO AN EXISTING CATCH BASIN WHICH CURRENTLY DISCHARGES STORM WATER AT A RESTRICTED RATE TO THE MDOT STORM SEWER SYSTEM.
- REFER TO PHOTOMETRIC PLAN PREPARED BY GASSER BUSH ASSOCIATES AND DATED 09/20/16 FOR DETAILED INFORMATION REGARDING SITE LIGHTING IMPROVEMENTS.
- REFER TO LANDSCAPE PLAN PREPARED BY DESIGNHAUS ARCHITECTURE FOR DETAILED INFORMATION REGARDING LANDSCAPING / PLANTINGS.

SANITARY SEWER BASIS OF DESIGN

BUILDING DATA	
UNIT ASSIGNMENT FACTOR:	0.04 / 1,000 SF
BUILDING AREA:	5,485 SF
FLOW CALCULATION	
5,485 SF x 0.04 / 1,000 SF =	0.22 UNITS
TOTAL PERSONS = 0.22 UNITS x 3.5 PERSONS / UNIT =	0.77 PERSONS
DAILY FLOW = 0.77 PERSONS x 100 GPD / PERSON =	77 GPD
DAILY FLOW = 77 GPD x 1.548 x 10 ⁻⁶ CFS / GPD =	0.000119 CFS
PEAKING FACTOR =	4.0
PEAK FLOW = 0.000119 CFS x 4.0 =	0.000476 CFS
CAPACITY OF 6" DOMESTIC LEAD @ 1.00% MIN SLOPE = 0.56 CFS	
CAPACITY OF 15" PUBLIC SEWER @ 0.15% MIN SLOPE = 2.50 CFS	

IMPROVEMENT LEGEND

- STORM SEWER
- ROOF LEAD
- CATCH BASIN
- MANHOLE
- SIGN
- BOLLARD
- HMA PVMT
- CONC PVMT
- DECORATIVE PVMT
- CONC CURB

BENCHMARKS

- BM #1 • Arrow head on top of Fire Hydrant 125' north of south entrance to Hawthorne Plaza
 ELEV = 765.34 (from construction plans for Hawthorne Plaza prepared by REI #03-129)
- BM #2 • Arrow head on top of Fire Hydrant near southwest building corner of Hawthorne Plaza
 ELEV = 768.29 (from construction plans for Hawthorne Plaza prepared by REI #03-129)

DATE	SUBMITTAL NOTE
03/23/17	STAFF PLAN SUBMITTAL
03/06/18	REVISED BUILDING FOOTPRINT
04/08/18	REVISED PER ROCHESTER HILLS REVIEW LETTERS DATED MARCH 2018

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STEVEN E. WAGNER
 PROFESSIONAL ENGINEER
 NO. 64316

DEVELOPED FOR:
FRANK MARCINIAK
 2680 S. ROCHESTER RD
 ROCHESTER HILLS, MI 48307
 248.840.0307

GRADING PLAN
 KLM BIKE & FITNESS

PLAN NAME:

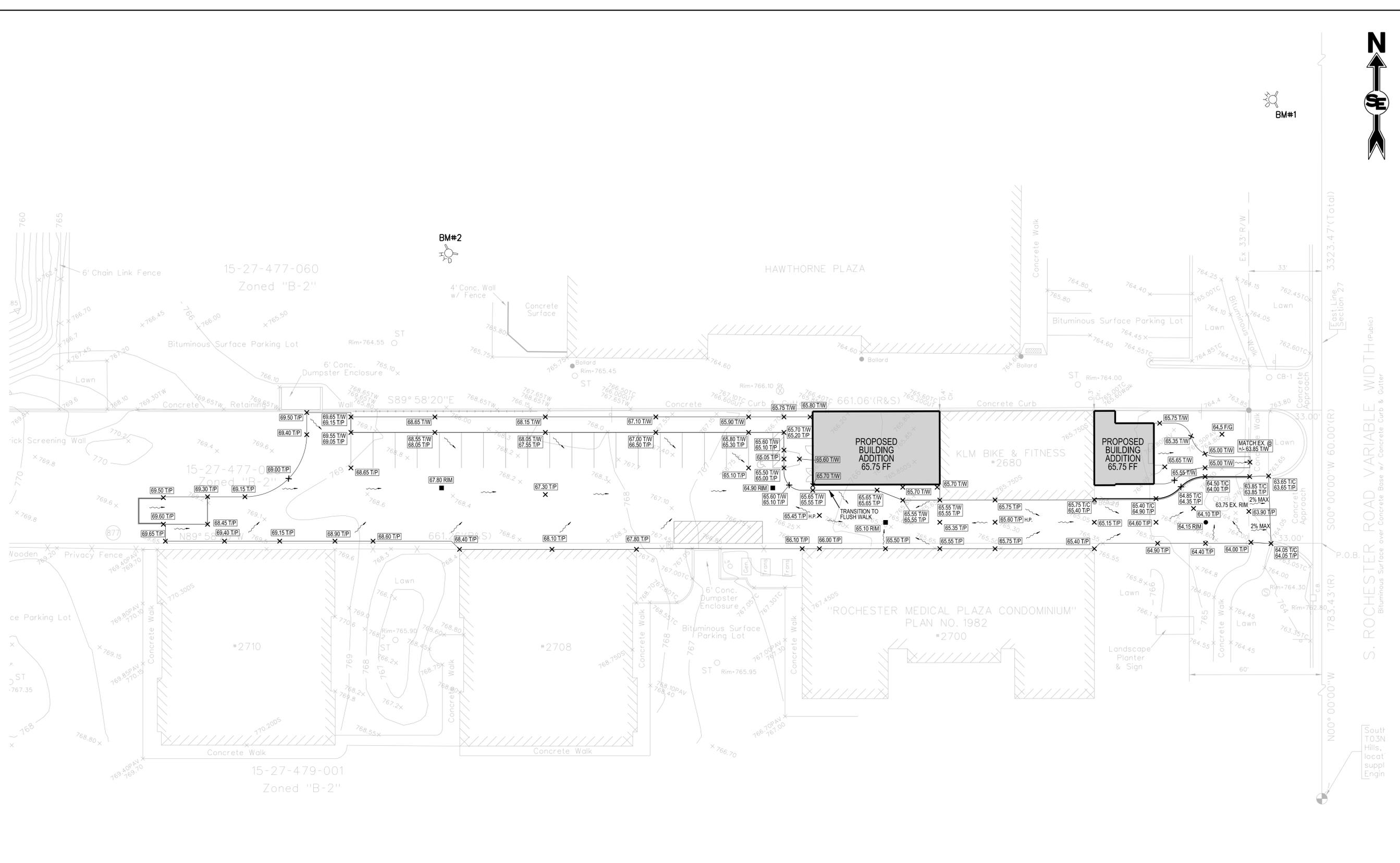
CITY: ROCHESTER HILLS
 COUNTY: OAKLAND
 SECTION: 27
 T-3-N, R-11-E

INITIAL SUBMITTAL: 03/23/17
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 SCALE: 1" = 20'
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BM#1

BM#2



GRADING LEGEND

- TOP OF CURB ELEV. XX.XX T/C
- TOP OF PVMT ELEV. XX.XX T/P
- TOP OF WALK ELEV. XX.XX T/W
- RIM ELEV. XX.XX RIM
- FINISH GRADE ELEV. XX.X F/G
- FINISH FLOOR ELEV. XXX.XX FF
- DRAINAGE PATTERN H.P.
- HIGH POINT

BENCHMARKS

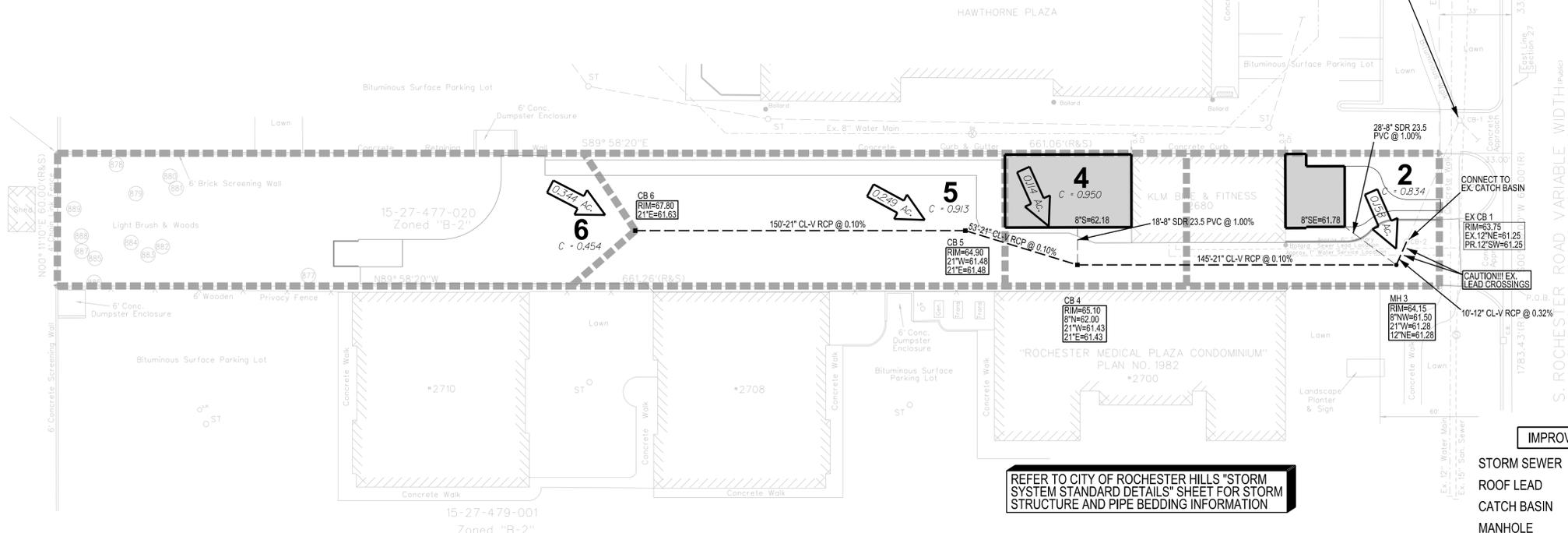
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STORM SEWER PIPE DESIGN

n = 0.013 T_{rain} = 20 MIN. INTENSITY (i) = 175 / (T+25)

STRUCT #	DRAINAGE AREA (ACRES)	"C" VALUE	EQUIV AREA "A"	TOTAL EQUIV AREA	TIME OF CONC. (MIN)	RAINFALL INTENSITY (IN/HR)	RUNOFF Q=CIA (CFS)	PIPE DIAM. (IN)	PIPE SLOPE %	PIPE LENGTH (FT)	DESIGN VELOCITY (FT/S)	FLOW TIME (MIN)	DESIGN CAPACITY (CFS)	HGL SLOPE %	HGL UPPER END	INVERT		CHK PIPE COVER	CHK PIPE CAPACITY	HGL MINUS INV	RIM MINUS HGL		
																U.S.	D.S.						
6	5	0.344	0.454	0.156	0.156	20.00	3.89	0.61	21	0.10	150	2.08	1.20	5.01	0.001	763.03	761.63	761.48	767.80	4.42	4.40	1.40	4.77
5	4	0.249	0.913	0.228	0.384	21.20	3.79	1.45	21	0.10	53	2.08	0.42	5.01	0.008	762.88	761.48	761.43	764.90	1.67	3.56	1.40	2.02
4	3	0.114	0.950	0.108	0.492	21.62	3.75	1.85	21	0.10	145	2.08	1.16	5.01	0.014	762.83	761.43	761.28	765.10	1.92	3.17	1.40	2.27
3	EX CB2	0.000	0.000	0.000	0.492	22.78	3.66	1.80	12	0.32	10	2.57	0.06	2.02	0.255	762.08	761.25	761.25	764.15	1.87	0.22	0.80	2.07
EX CB2	EX CB1	0.158	0.834	0.132	0.624	22.85	3.66	2.28	12	0.58	60	3.46	0.29	2.72	0.410	762.05	761.25	760.90	763.75	1.50	0.44	0.80	1.70
EX CB1					0.624											760.55	760.55	763.25					

of parcel 12-27-477-060
15-27-477-003
Zoned "R-3"
15-27-477-049
Zoned "R-3"



EXISTING 4" RESTRICTION TO REMAIN. APPROVAL FROM MDT WILL BE OBTAINED FOR ADDITIONAL STORM WATER RUNOFF.

REFER TO CITY OF ROCHESTER HILLS "STORM SYSTEM STANDARD DETAILS" SHEET FOR STORM STRUCTURE AND PIPE BEDDING INFORMATION

IMPROVEMENT LEGEND

- STORM SEWER
- ROOF LEAD
- CATCH BASIN
- MANHOLE

KLM BIKE & FITNESS Stormwater Calculations

Surface	Runoff Coefficient
Roof & Pavement	0.95
Brick & Gravel	0.85
Semi-Permeous (Group B, >4%)	0.25

C-FACTOR / INCREASED IMPERVIOUS CALCULATION

PHASE	Area (ac)	Area (sf)	Roof & Pmnt (sf)	Brick & Gravel (sf)	Semi-Permeous (sf)	Runoff Coeff (C)	Acres Impervious (C x Area)	
PRE-DEVELOPMENT	0.865	37690	15787	767	21135	0.555	0.481	
POST-DEVELOPMENT	0.865	37690	24903	520	12267	0.721	0.624	
							Difference	0.143

STORMWATER VOLUME DESIGN (1-YR, 24 HR STORM)

RAIN EVENT = 1.87 IN
 IMPERV. AREA INCREASE = 0.624 - 0.481 = 0.143 AC
 $V_{DET} = 1.87 \times 0.143 \text{ AC} \times (43,560 \text{ SF/AC}) \times (1' / 12") = 971 \text{ CF}$

STORMWATER VOLUME PROVIDED

21" Dia. Pipe - Solid Wall
 Length of Pipe = 348 LF
 Cross-sectional Area (pipe) = $\pi r^2 = \pi 0.875^2 = 2.41 \text{ SF}$
 Total 18" Storage Volume = CA (pipe) x Length = 837 CF

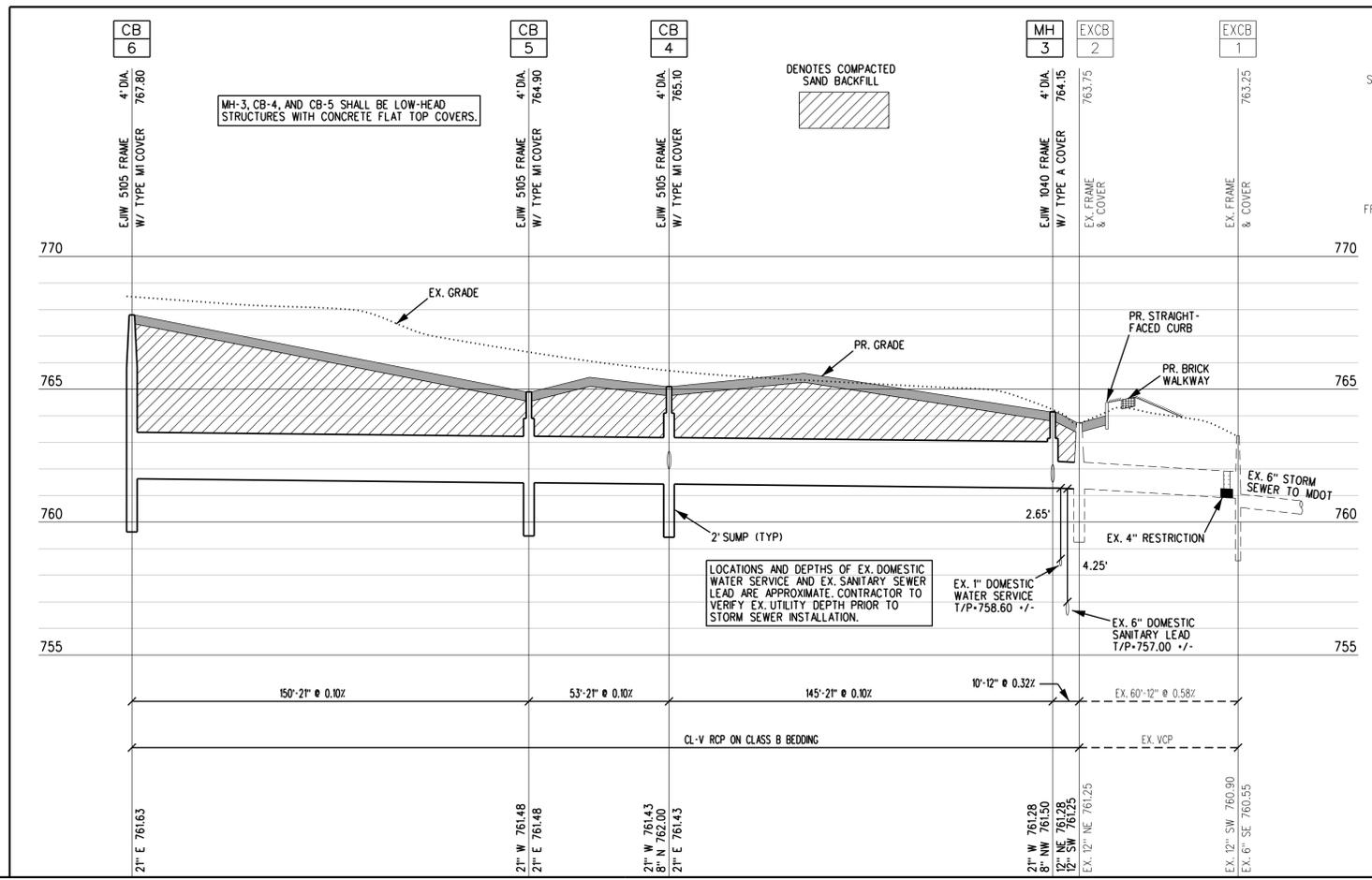
12" Dia. Pipe - Solid Wall
 Length of Pipe = 70 LF
 Cross-sectional Area (pipe) = $\pi r^2 = \pi 0.5^2 = 0.79 \text{ SF}$
 Total 12" Storage Volume = CA (pipe) x Length = 55 CF

Catch Basins
 Interior Height of CBs = 3 FT
 Interior Diameter of CBs = 4 FT
 Number of CBs = 5 EA
 Volume per CB = $\pi r^2 h = \pi 2.0^2 \times 3 = 37.7 \text{ CF}$
 Total CB Storage Volume = Volume / CB x Number of CBs = 188 CF

Total Storage Volume = 837 + 55 + 188 = 1,081 CF

BENCHMARKS

- BM #1 • Arrow head on top of Fire Hydrant 125' north of south entrance to Hawthorne Plaza
ELEV = 765.34 (from construction plans for Hawthorne Plaza prepared by REI*03-129)
- BM #2 • Arrow head on top of Fire Hydrant near southwest building corner of Hawthorne Plaza
ELEV = 768.29 (from construction plans for Hawthorne Plaza prepared by REI*03-129)



DATE
03/23/17
03/26/18
04/28/18

DATE
03/23/17
03/26/18
04/28/18

MISS DIG SYSTEM
 800-482-7171 OR 811
 CONTACT THE MISS DIG SYSTEM 3 WORKING DAYS IN ADVANCE

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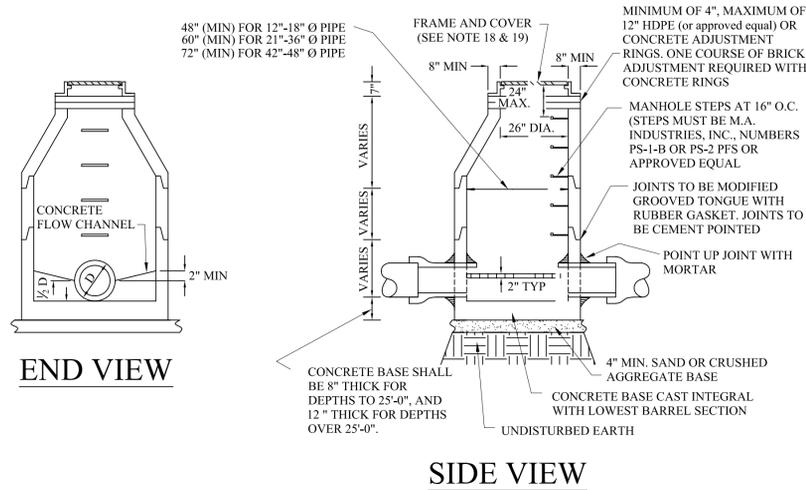
STEVEN E. WAGNER
 PROFESSIONAL ENGINEER
 NO. 64316

DEVELOPED FOR:
FRANK MARCINIAK
 2680 S. ROCHESTER RD.
 ROCHESTER, HILLS, MI 48307
 248.840.0507

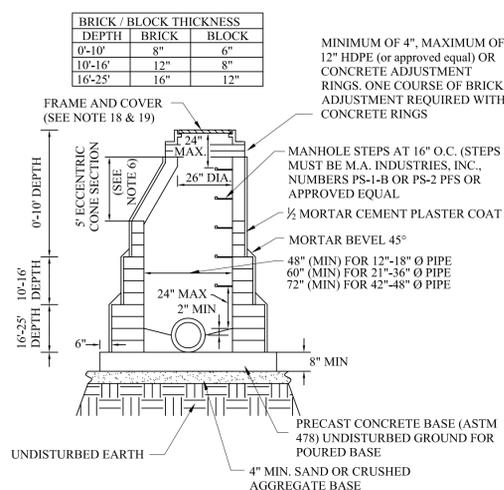
STORM SEWER PLAN & PROFILE
 KLM BIKE & FITNESS

CITY: ROCHESTER HILLS
 COUNTY: OAKLAND
 SECTION: 27
 T-3-N, R-11-E

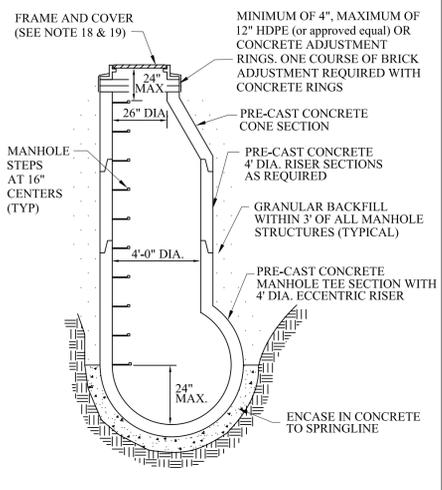
INITIAL SUBMITTAL: 03/23/17
 THIS SUBMITTAL: 06/15/18
 SCALE: H=1"=30' V=1"=3'
 SHEET: C5.0
 PROJECT: 024.09.01



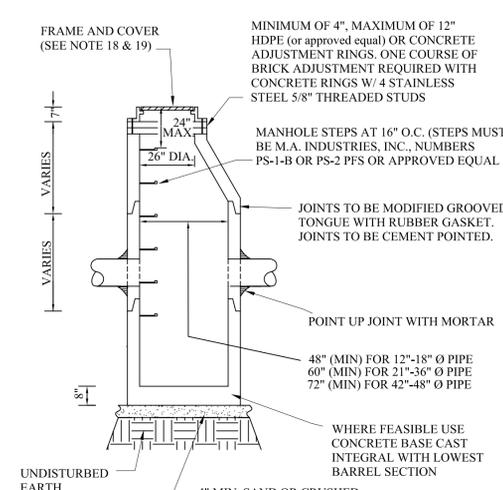
PRE-CAST STORM MANHOLE



BRICK OR BLOCK MANHOLE



PRE-CAST TEE MANHOLE DETAIL



PRECAST STORM CATCH BASIN

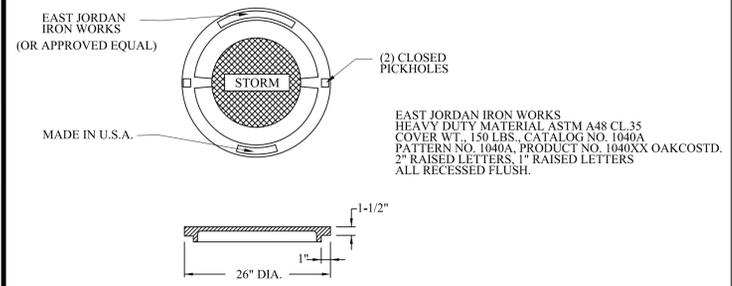
GENERAL NOTES:

- ALL EXISTING AND NEW STORM SYSTEMS SHALL BE CLEANED AND FLUSHED ONCE SITE IS 90% BUILT OUT AND VEGETATED. SEDIMENT, ROCK AND OTHER DEBRIS SHALL BE COLLECTED AND DISPOSED OF IN A PROPER MANNER. IN NO CASE SHALL DEBRIS BE FLUSHED DOWN A STORM OR SANITARY SEWER FOR DISPOSAL. ALL DAMAGED IRRIGATION AND HOUSE DRAINAGE PIPE, DRAIN TILES, SEWER LATERALS AND CULVERTS SHALL BE REPAIRED EXPEDITIOUSLY. DEBRIS COLLECTED SHALL BE DISPOSED IN A COMMERCIAL LANDFILL OR OTHER APPROVED LOCATION.
- STORM SEWER PIPE SHALL BE OF SIZE AND TYPE NOTED ON THE APPROVED PLANS.
- REINFORCED CONCRETE PIPE (RCP) SHALL BE MODIFIED GROOVED TONGUE JOINTS WITH O-RING TYPE RUBBER GASKET, PER ASTM C443.
- ALL CATCH BASIN LEADS AND INLET LEADS SHALL BE ASTM C76-CLASS IV PIPE.
- MINIMUM PIPE SIZE FOR SEWERS, CATCH BASIN LEADS, AND INLET LEADS SHALL BE 12" NOMINAL INTERNAL DIAMETER.
- ECCENTRIC CONES SHALL BE PROVIDED ON ALL STRUCTURES, REGARDLESS OF THE MATERIAL USED. PRECAST REINFORCED CONCRETE MANHOLE, BLOCK, OR BRICK TO PROVIDE A TRUE VERTICAL FACE FOR PLACEMENT OF MANHOLE STEPS.
- THE INSIDE JOINTS OF PIPES SIZES 42" AND LARGER DIAMETER SHALL BE POINTED UP WITH MORTAR UPON COMPLETION OF BACKFILLING OPERATIONS.
- ALL PIPES SHALL HAVE CLASS, LOT NUMBER, AND DATE OF MANUFACTURED CONSPICUOUSLY MARKED ON EACH LENGTH BY MANUFACTURER.
- ALL END SECTIONS 18" AND LARGER SHALL BE PROVIDED WITH A GALVANIZED BAR SCREEN.
- PRECAST REINFORCED CONCRETE SECTIONS SHALL CONFORM TO ASTM 2478.
- IN DRY, STABLE SOILS, PEASTONE (EQUIVALENT TO M.D.O.T. 34R SPECIFICATIONS) MAY BE SUBSTITUTED FOR THE STANDARD BEDDING, IF THE TRENCH IS WET OR UNSTABLE A GEOTEXTILE FABRIC MUST BE USED TO LINE THE TRENCH PRIOR TO THE PLACEMENT OF THE 2NS SAND, PEASTONE, OR 1/4" - 1/2" ANGULAR GRADED STONE.
- SCHEDULE INSPECTIONS 48 HOURS PRIOR TO START OF CONSTRUCTION BY CALLING THE CITY'S INSPECTION LINE AT 248-841-2510. FULL TIME INSPECTION SHALL BE REQUIRED FOR ALL UNDERGROUND STORM SEWER CONSTRUCTION.
- THE CONTRACTOR SHALL CONTACT MISS DIG 72 HOURS BEFORE CONSTRUCTION AT (811) TO LOCATE EXISTING UNDERGROUND UTILITIES.
- PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL HAVE IN HIS POSSESSION A CURRENT SOIL EROSION CONTROL PERMIT AS ISSUED BY THE O.C.D.C.
- MINIMUM SUMP DEPTH IS 2' FOR CATCH BASINS.
- A FLOATABLE TRAP IS REQUIRED FOR THE OUTLET, IN ACCORDANCE WITH CURRENT CITY OF ROCHESTER HILLS DESIGN STANDARDS.
- AS A MEANS OF INSURING PROPER INSTALLATION OF THE STORM SEWER PIPE, AT THE DISCRETION OF THE CITY ENGINEER, THE CONTRACTOR SHALL VIDEO INSPECT, ACCORDING TO THE CITY OF ROCHESTER HILLS VIDEO INSPECTION STANDARDS, 100% OF THE STORM SEWER PIPE 12" AND LARGER IN DIAMETER. IF VIDEO INSPECTION IS REQUIRED BY THE CITY ENGINEER THE CONTRACTOR SHALL PROVIDE 24 HOURS NOTICE TO THE CITY OF ROCHESTER HILLS PRIOR TO VIDEO INSPECTION, SO A REPRESENTATIVE MAY BE PRESENT. ROCHESTER HILLS WILL BE PROVIDED WITH A DIGITAL COPY OF THE VIDEO INSPECTION AND LOG IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS VIDEO INSPECTION STANDARDS.

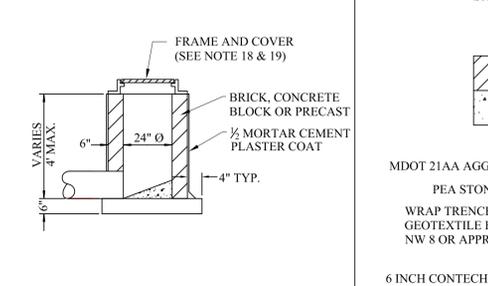
- PROJECTS THAT THE CITY ENGINEER MAY IMPOSE THESE REQUIREMENTS ARE:
- ALL PUBLIC PROJECTS OR PROJECTS BEING CONSTRUCTED ON PUBLIC PROPERTY.
 - ANY PROJECT INVOLVING A DEVELOPMENT, SUBDIVISION, SITE CONDOMINIUM, CONDOMINIUM, OR ASSOCIATION.
 - ANY PROJECT THAT WILL RESULT IN MORE THEN ONE OWNER RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE COMPLETE STORM DRAINAGE SYSTEM

COVERS FOR MANHOLES, CATCH BASINS, AND INLETS

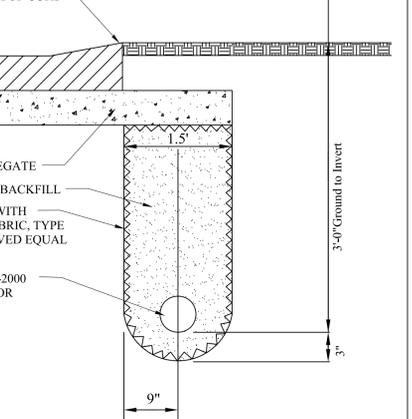
- MANHOLE FRAME AND COVER SHALL BE EIHW 1040, TYPE A COVER OR EQUIVALENT.
 - CATCH BASINS AND INLET FRAME AND COVER SHALL BE AS FOLLOWS:
 - EIHW 7045 WITH TYPE M1 GRATE AND 7050 T1 BACK, OR EQUAL, FOR USE WITH CONCRETE CURB AND GUTTER, (STRAIGHT CURB/ M.D.O.T. F CURB) AND WITH CONCRETE PAVEMENT WITH INTEGRAL CURB.
 - EIHW 7085 WITH TYPE M1 GRATE OR EQUAL, FOR USE WITH CONCRETE B-2 MODIFIED MODIFIED CURB AND GUTTER, AND WITH CONCRETE WITH B-2 MODIFIED INTEGRAL CURB.
 - EIHW 7065 WITH TYPE M1 GRATE AND 7060 T1 BACK, OR EQUAL, FOR USE WITH MOUNTABLE CURB AND GUTTER, AND WITH CONCRETE PAVEMENT WITH MOUNTABLE INTEGRAL CURB.
 - EIHW FRAME 1040 WITH TYPE N OVAL GRATE OR TYPE 02 BEEHIVE GRATE, OR EQUAL, FOR USE ON OPEN DITCH STRUCTURES AND ON CATCH BASINS LOCATED IN SWALES, AND IN EASEMENTS OUTSIDE THE PUBLIC STREET RIGHT-OF-WAY.
 - EIHW FRAME 7030 WITH TYPE M6 VANE GRATE AND T1 BACK, OR EQUAL, FOR USE WITH RELIEF BASINS WHICH ARE ON LONGITUDINAL ROAD SLOPES OF 4% OR GREATER.
 - EIHW FRAME 5105 WITH TYPE M1 SINUSOIDAL GRATE, OR EQUAL, FOR USE IN NON-CURB PAVEMENT AREAS.
- NOTE: COVERS MUST HAVE THE "DUMP NO WASTE! DRAINS TO WATERWAY" LETTERING (WHEN APPLICABLE).



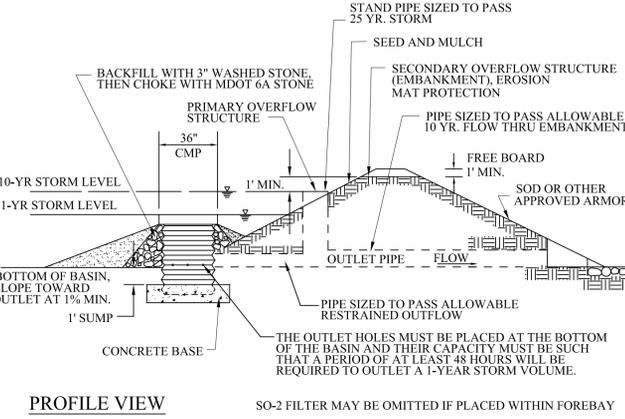
LETTERED MANHOLE COVER



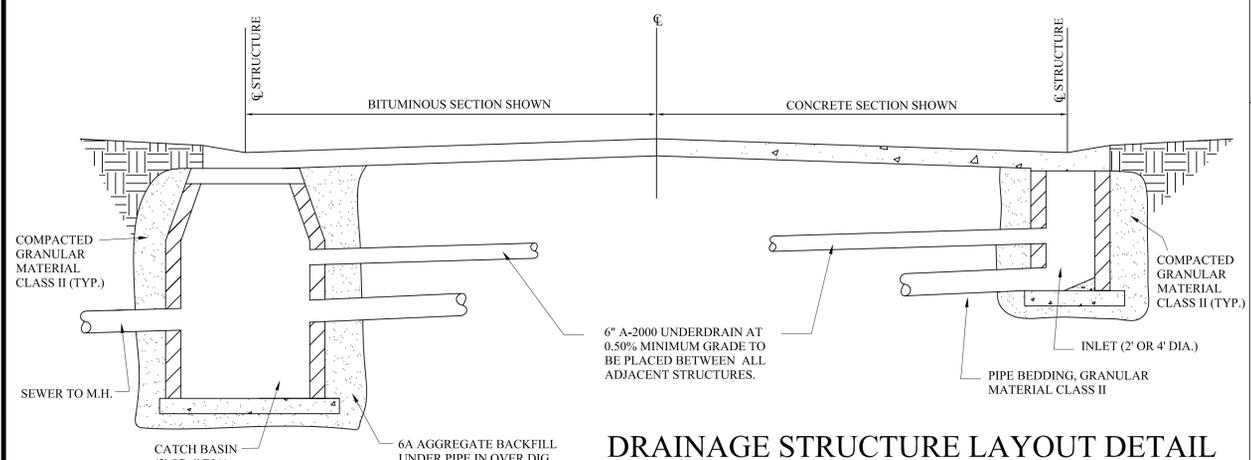
INLET DETAIL



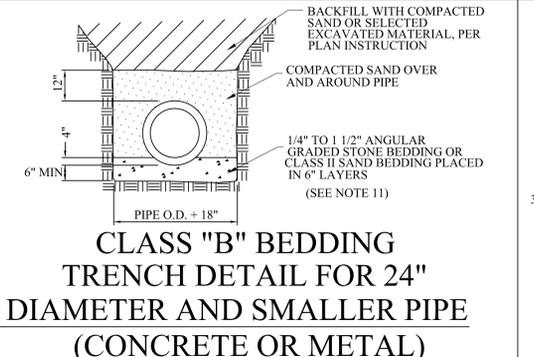
EDGE DRAIN DETAIL FOR PUBLIC AND PRIVATE ROADS



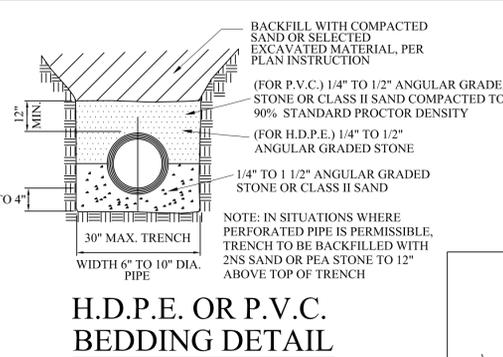
SO-2 DETENTION BASIN OUTLET FILTER (CMP)
(SEE OCDC STANDARD DETAILS FOR SEDIMENT BASIN OR FOREBAY OUTLET STRUCTURE)



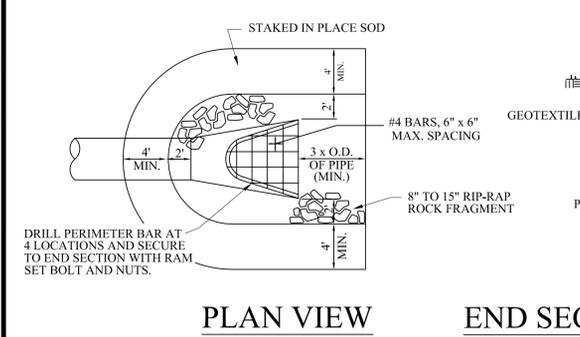
DRAINAGE STRUCTURE LAYOUT DETAIL



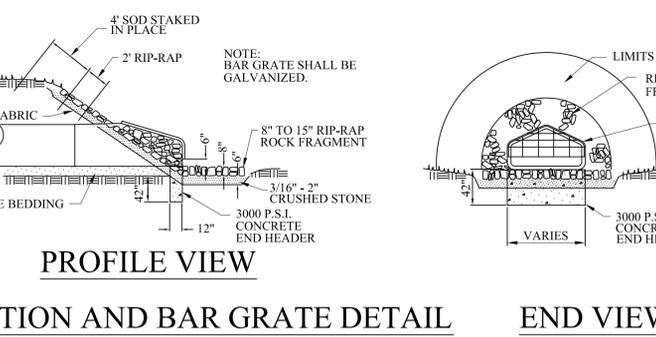
CLASS "B" BEDDING TRENCH DETAIL FOR 24" DIAMETER AND SMALLER PIPE (CONCRETE OR METAL)



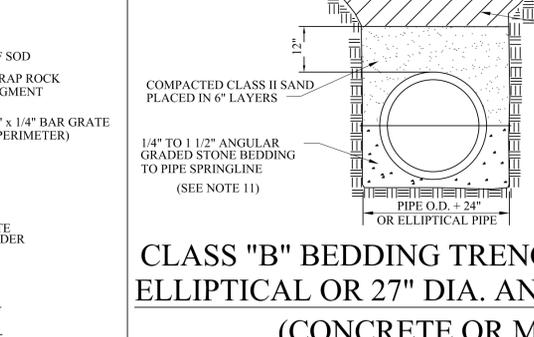
H.D.P.E. OR P.V.C. BEDDING DETAIL



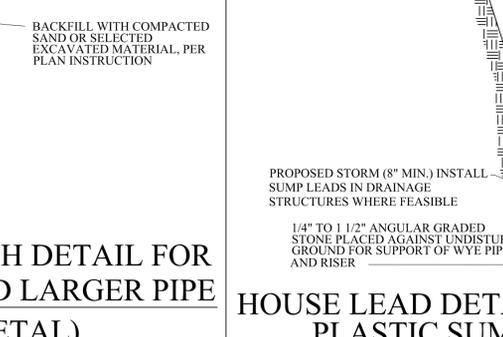
PLAN VIEW



END SECTION AND BAR GRATE DETAIL



END VIEW



HOUSE LEAD DETAIL FOR 3" OR 4" DIA. PLASTIC SUMP PUMP LEADS



REVISIONS	DATE	APPROVED BY
Edge Drain Detail	11-7-12	CITY COUNCIL, DATE: JULY 21, 2008
		PREPARED BY ENGINEERING DIVISION DEPARTMENT OF PUBLIC SERVICES

NOTIFY ROCHESTER HILLS ENGINEERING DEPARTMENT @ 248-841-2510 48 HRS. PRIOR TO START OF CONSTRUCTION

City of Rochester Hills
1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

STORM SYSTEM STANDARD DETAILS

NOT TO SCALE	DATE: 7/21/2008
SHEET 1 OF 1	

FIRE DEPARTMENT NOTES

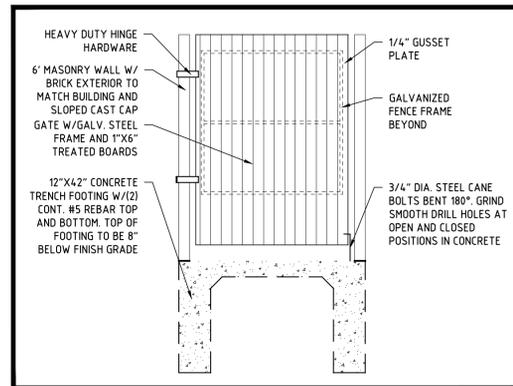
A Knox key system shall be installed, in a location approved by the Fire Code Official. Ordering information is available from the Knox Company at knoxbox.com.

Fire lanes shall be designated by the Fire Code Official, and shall be conspicuously posted on both sides of the fire land, with fire lane signs, spaced not more than 100 feet apart. Fire land signs shall read "No stopping, Standing, Parking, Fire Lane." and shall conform to the Michigan Manual of Uniform Traffic Control Devices.

Construction sites shall be safeguarded in accordance with IFC 2006 Chapter 14

Open burning is not permitted including the burning of trash, debris, or land clearing materials. Open burning for warming of sand and/or water for the preparation of mortar shall be within the City of Rochester Hills Burn Permit Guidelines.

TRASH ENCLOSURE DETAIL



PARKING SUMMARY

Regulation	Required	Provided
Parking	1 Space/400 SF Retail Existing Building: 800SF/400 = 7 Spaces Proposed Addition: 2,685SF/400 = 7 Spaces TOTAL REQUIRED: 14	19 Parking Spaces provided including (one) handicap space

BUILDING INFORMATION

Ex. Building is not sprinkled
Construction Type: 2B
EXISTING BUILDING: 2,801 GSF (ONE STORY)
PROPOSED ADDITIONS: 2,693 GSF (BOTH ONE STORY)
TOTAL BUILDING: 5,494 GSF

NOTES

- Existing dumpster to be utilized/relocated
- Existing Sanitary, Sewer, Water lines to remain
- Ex. pavement to be removed and replaced
- Mechanical units to be roof top mounted on existing building
- Portion of the existing west side of the building to be removed
- Finished Floor Elevations to be verified in field to match existing building
- Final Stormwater and Grading plans - see Civil Engineering drawings
- Lighting information - see Lighting Plan
- All Signs to meet Chapter 134 of the City Code of Ordinances and be approved under a separate permit issued by the Building Department.

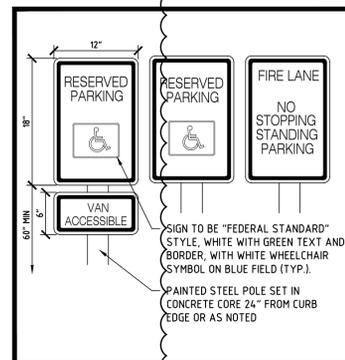
SITE DATA

Regulation	Information
Parcel I.D.	# 15-27-477-020
Address	2680 S. Rochester Rd., Rochester Hills, MI 48307
Zoning	B-2 General Business w/ FB-3 Flexible Business Overlay
Parcel Area	(40,095 Sq.Ft.) 0.92 Acres

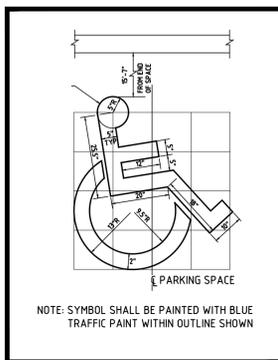
ZONING SCHEDULE OF REGULATIONS

Regulation	Required	Existing	Proposed
Setbacks	Front: 0'-7' Sides: 0' Rear: 50' (abutting residential)	Front: 102.92' Sides: 0.31'/19.50' Rear: 476.50'	Front: 76.00' Sides: 0.60'/26.41' Rear: 441.63' Future ROW: 5' & 5.5'
Building Height	Maximum: 2 stories/30'	One Story/18'	One Story/17.50'
Coverage	Maximum: N/A	6.98%	12.97%
Impervious Coverage	N/A	15,787 SF	23,372 SF (7,585 SF Increase)

HANDICAP SIGN DETAIL

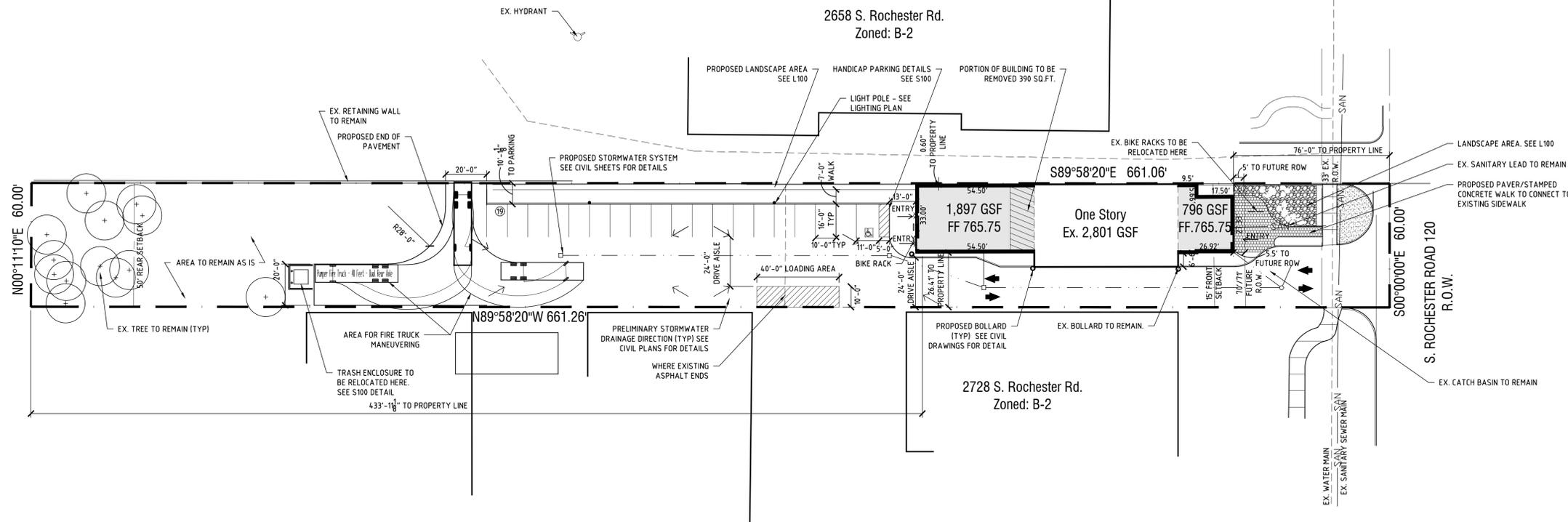


PARKING SPACE PAINT DETAIL



2667 Hickory Lawn Rd.
Zoned: R-3

2689 Hickory Lawn Rd.
Zoned: R-3



1 Architectural Site Plan
SCALE: 1" = 30'

DESIGNHAUS

301 WALNUT BOULEVARD
ROCHESTER, MI 48307
T: 248.601.4422
F: 248.453.5854
WWW.DESIGNHAUS.COM



No.	Revision/Issue	Date
	Site Plan Approval Revision #3	6.19.18
	Site Plan Approval Revision #2	4.20.18
	Site Plan Approval Revision #1	2.6.18
	Site Plan Approval	9.26.16

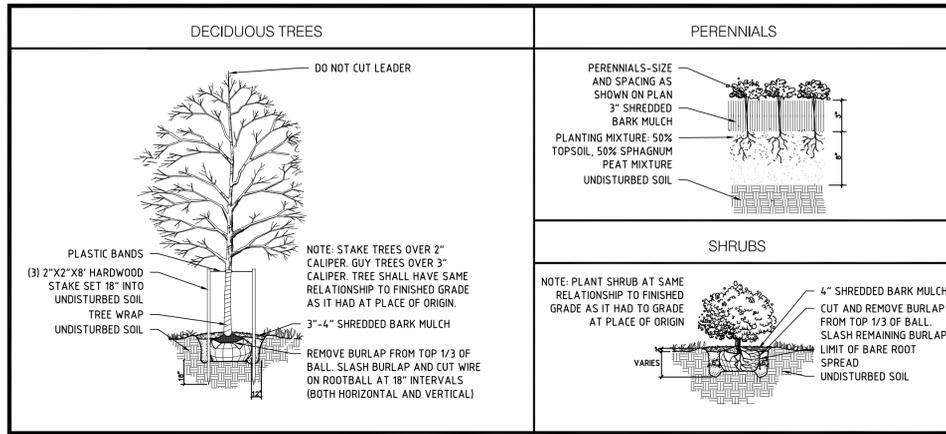
KLM Renovation & Addition
2680 S. Rochester Road
Rochester Hills, MI 48309

Architectural Site Plan

S100 #16-023 015014

NOT TO BE USED FOR CONSTRUCTION

PLANTING DETAILS



GENERAL NOTES FOR LANDSCAPE DEVELOPMENT

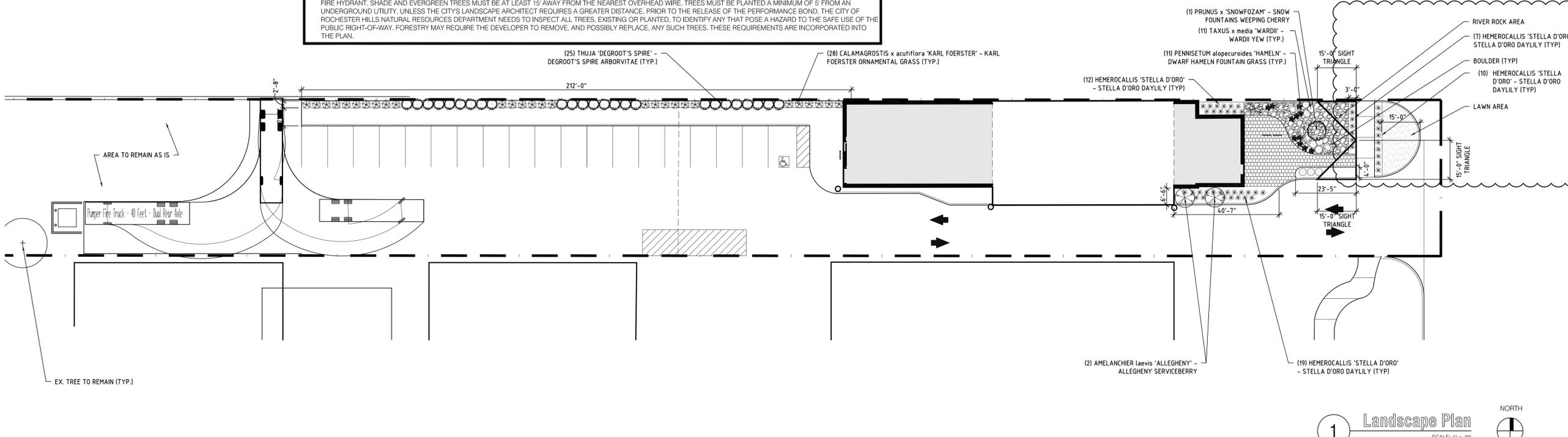
- LANDSCAPE CONTRACTOR SHALL VISIT THE SITE, INSPECT EXISTING SITE CONDITIONS AND REVIEW PROPOSED PLANTING AND RELATED WORK. IN CASE OF DISCREPANCY BETWEEN PLAN AND PLANT LIST, PLAN SHALL GOVERN QUANTITIES. CONTACT LANDSCAPE ARCHITECT WITH ANY CONCERNS.
- CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ON SITE UTILITIES PRIOR TO BEGINNING CONSTRUCTION OR HIS/HER PHASE OF WORK. ELECTRIC, GAS, TELEPHONE, CABLE TELEVISION MAY BE LOCATED BY CALLING MISS DIG. ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF CONTRACTOR. CONTRACTOR SHALL COORDINATE ALL RELATED ACTIVITIES WITH OTHER TRADES ON THE JOB AND SHALL REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNERS REPRESENTATIVE PRIOR TO COMMENCING.
- ALL PLANT MATERIAL TO BE PREMIUM GRADE NURSERY STOCK AND SHALL SATISFY AMERICAN ASSOCIATION OF NURSERYMEN STANDARD FOR NURSERY STOCK. ALL LANDSCAPE MATERIAL SHALL BE NORTHERN GROWN, NO. 1 GRADE.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON LANDSCAPE PLAN PRIOR TO PRICING THE WORK.
- THE OWNERS REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL NOT MEETING SPECIFICATIONS.
- ALL SINGLE STEM SHADE TREES TO HAVE STRAIGHT TRUNKS AND SYMMETRICAL CROWNS.
- ALL SINGLE TRUNK SHADE TREES TO HAVE A CENTRAL LEADER; TREES WITH FORKED OR IRREGULAR TRUNKS WILL NOT BE ACCEPTED.
- ALL TREES TO HAVE CLAY OR CLAY LOAM BALLS. TREES WITH SAND BALLS WILL BE REJECTED.
- ALL TREE LOCATIONS SHALL BE STAKED BY LANDSCAPE CONTRACTOR AND ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF THE PLANT MATERIAL.
- CONCERNING GROUND COVER, ALL PLANTING BEDS SHALL RECEIVE 3" SHREDDED HARDWOOD BARK MULCH. SEE SPECIFICATIONS. ALL OTHER DISTURBED AREAS SHALL BE SODDED.
- LANDSCAPING SHALL BE MAINTAINED IN A GOOD CONDITION TO PRESENT A HEALTHY, NEAT, AND ORDERLY APPEARANCE FREE FROM REFUSE AND DEBRIS. ALL UNHEALTHY AND DEAD MATERIAL SHALL BE REPLACED WITHIN ONE (1) YEAR OF THE NEXT APPROPRIATE PLANTING PERIOD.
- OWNER TO ESTABLISH MAINTENANCE PROGRAM TO ENSURE GROUNDS AND LANDSCAPING TO REMAIN HEALTHY AND WELL GROOMED.
- RECOMMENDED PLANTING DATES ARE MARCH 1ST TO MAY 15TH FOR ALL MATERIALS, AND OCTOBER 15TH TO DECEMBER 15TH FOR DECIDUOUS MATERIALS. PLANTINGS OUTSIDE THESE DATES SHALL HAVE PRIOR APPROVAL OF THE LANDSCAPE ARCHITECT.
- UNDERGROUND IRRIGATION SYSTEM TO BE DESIGNED AND INSTALLED BY CONTRACTOR.
- TURF GRASS TO BE COMMON TO OAKLAND COUNTY, MI.
- 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. (TREES MUST BE PLANTED AT LEAST 15' AWAY FROM CURB OR ROAD EDGE WHERE THE SPEED LIMIT IS MORE THAN 35 MPH.) 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 EDGE OF THE 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 FIRE HYDRANT. 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. PRIOR TO THE RELEASE OF THE PERFORMANCE BOND, THE CITY OF ROCHESTER HILLS NATURAL RESOURCES DEPARTMENT NEEDS TO INSPECT ALL TREES, EXISTING OR PLANTED, TO IDENTIFY ANY THAT POSE A HAZARD TO THE SAFE USE OF THE PUBLIC RIGHT-OF-WAY. FORESTRY MAY REQUIRE THE DEVELOPER TO REMOVE, AND POSSIBLY REPLACE, ANY SUCH TREES. THESE REQUIREMENTS ARE INCORPORATED INTO THE PLAN.

PLANT SCHEDULE

#	BOTANICAL NAME / COMMON NAME	SIZE/ROOT	REQUIRED PER CODE	UNIT/TOTAL COST
RIGHT OF WAY - ROCHESTER ROAD 60' (ONE DECIDUOUS AND ONE ORNAMENTAL)				
1	PRUNUS x 'SNOWFOZAM'	12 GAL.	1/1 ORNAMENTAL	\$200/\$200
10	HEMEROCALLIS 'STELLA D'ORO'/STELLA D'ORO DAYLILY (INSTEAD OF DECIDUOUS TREE)	1 GAL.		\$50/\$500
TOTAL ROW PLANTS: \$700				
FRONT YARD IN FB DISTRICT ARTERIAL (ONE DECIDUOUS, TWO ORNAMENTAL AND SEVEN SHRUBS)				
2	AMELANCHIER laevis 'ALLEGHENY'	2.5" CAL.	2/2 ORNAMENTAL	\$200/\$400
9	TAXUS x media 'WARDII' / WARDII YEWS	18-24" B&B	9/7 SHRUBS	\$100/\$900
(DEFICIENT BY ONE DECIDUOUS TREE)				
TOTAL FRONT YARD REQUIRED PLANTS: \$1,300				
ADDITIONAL PLANTS ON SITE				
28	CALAMAGROSTIS x acutiflora /KARL FOERSTER ORNAMENTAL GRASS	3 GAL.		\$100/\$2,800
38	HEMEROCALLIS 'STELLA D'ORO'/STELLA D'ORO DAYLILY	1 GAL.		\$50/\$1,900
11	PENNISETUM alopecuroides 'HAMELN'/DWARF HAMELN GRASS	1 GAL.		\$75/\$825
25	THUJA 'DEGROOT'S SPIRE'/DEGROOT'S SPIRE ARBORVITAE	7-8" B&B		\$150/\$3,750
TOTAL ADDITIONAL PLANTS: \$9,275				
TOTAL PLANT COST: \$11,275				
PRELIMINARY IRRIGATION COST: \$2,500				
DEFICIENT BY ONE DECIDUOUS TREE = \$216.75 TO TREE FUND				

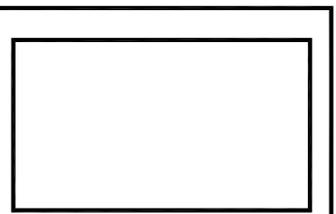
LANDSCAPE MAINTENANCE NOTES

- PER SECTION 138-12.109
- The owner of the property shall be responsible for all maintenance of site landscaping, as follows:
- Landscaping shall be kept in a neat, orderly and healthy growing condition, free from debris and refuse.
 - Pruning shall be minimal at the time of installation, only to remove dead or diseased branches. Subsequent pruning shall assure proper maturation of plants to achieve their approved purpose.
 - All dead, damaged, or diseased plant material shall be removed immediately and replaced within six months after it dies or in the next planting season, whichever occurs first. For purposes of this Section, the planting season for deciduous plants shall be between March 1 and June 1 and from October 1 until the prepared soil becomes frozen. The planting season for evergreen plants shall be between March 1 and June 1. Plant material installed to replace dead or diseased material shall be as close as practical to the size of the material it is intended to replace. The City may notify property owners of the need to replace dead, damaged, or diseased material.
 - The approved landscape plan shall be considered a permanent record and integral part of the Site Plan Approval. Unless otherwise approved in accordance with the aforementioned procedures, any revisions to or removal of plant materials, or non-compliance with the maintenance requirements of this Section 138-12.109 will place the parcel in non-conformity with the approved landscape plan and be a violation of this ordinance.
 - If protected trees are damaged, a fine shall be issued on an inch-by-inch basis at a monetary rate as defined by the Forestry Department.
- ALL LANDSCAPE AREAS ARE TO BE IRRIGATED (WATERING TO OCCUR BETWEEN THE HOURS OF 12AM AND 5AM)
- PRIOR TO THE RELEASE OF THE PERFORMANCE BOND, THE CITY OF ROCHESTER HILLS MUST INSPECT ALL LANDSCAPE PLANTINGS.



DESIGNHAUS

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KLM Renovation & Addition
2680 S. Rochester Road
Rochester Hills, MI 48309

Landscape Plan

L100 #16-023 015014

NOT TO BE USED FOR CONSTRUCTION

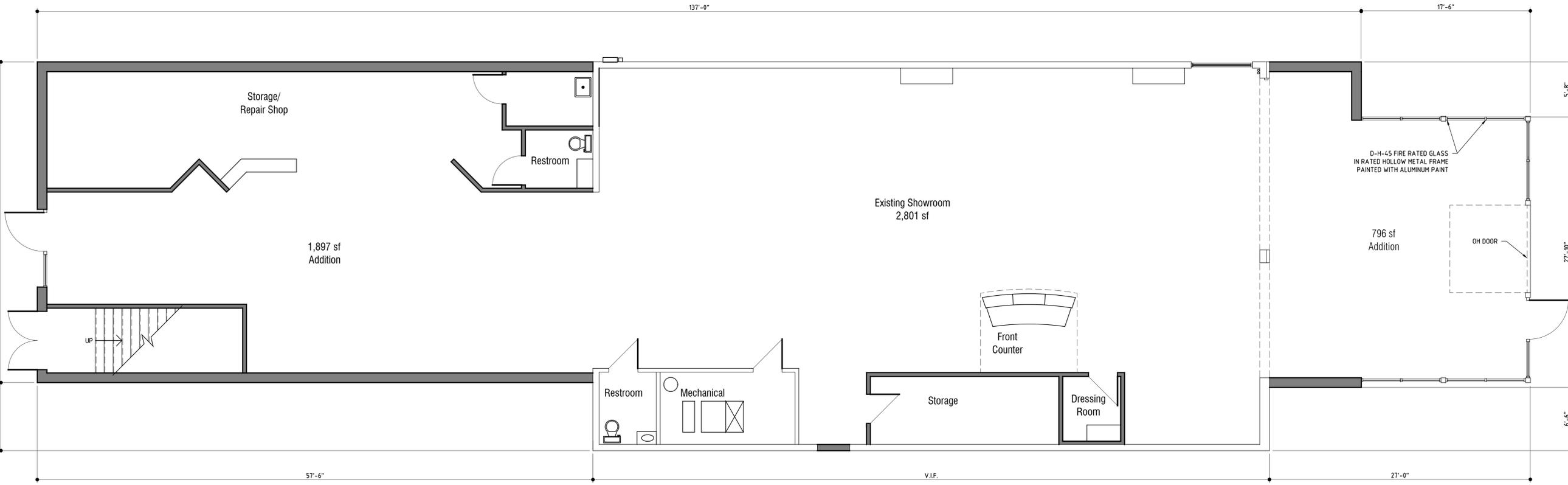
L100 Landscape Plan.dwg

6/20/2018

Francesca Argonne



2 Mezzanine
 SCALE: 3/16" = 1'
 PROJECT NORTH



1 Floor Plan
 SCALE: 3/16" = 1'
 PROJECT NORTH

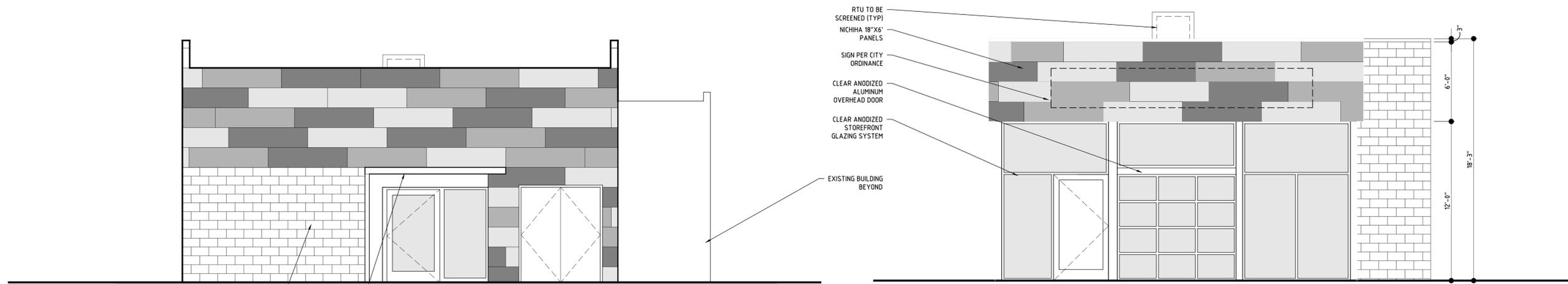
	Site Plan Approval Revision #3	6.19.18
	Site Plan Approval Revision #2	4.20.18
	Site Plan Approval Revision #1	2.6.18
	Site Plan Approval	9.26.16
No.	Revision/Issue	Date

KLM Renovation & Addition
 2680 S. Rochester Road
 Rochester Hills, MI 48309

Floor Plan

A100 015014

A100 Floor Plan 3/3/20
 6/19/20
 Francesco Aragona

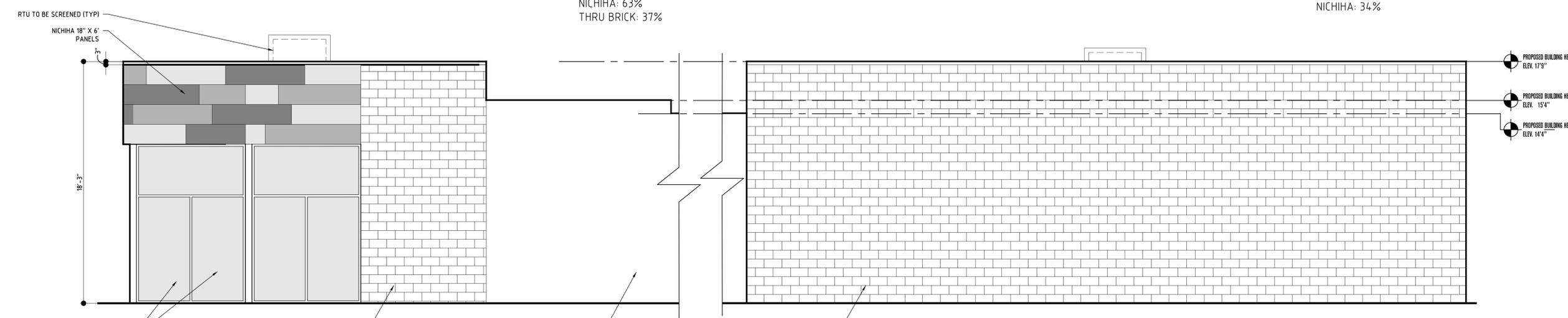


4 West Elevation
 SCALE: 1/4" = 1'

NICHHA: 63%
 THRU BRICK: 37%

3 East Elevation
 SCALE: 1/4" = 1'

(FRONT TRANSPARENCY) GLASS: 66%
 NICHHA: 34%



2 North Elevation
 SCALE: 1/4" = 1'

NICHHA: 4.9%
 THRU BRICK: 95.1%

1 South Elevation
 SCALE: 1/4" = 1'

GLASS: 14%
 NICHHA: 11%
 THRU BRICK: 75%

PANEL LEGEND

FIBER CEMENT PANELS BY NICHHA 18" X 6' COLOR MIX	
GREEN-TUSCAN-60%	
CYAN-MOCHA-30%	
BLUE-GRAY-30%	

No.	Revision/Issue	Date
	Site Plan Approval Revision #3	6.19.18
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	Site Plan Approval Revision #1	2.6.18
	Site Plan Approval	9.26.16

KLM Renovation & Addition
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 Rochester Hills, MI 48309

Elevations

A200 #16-023 015014

NOT TO BE USED FOR CONSTRUCTION



WST LED Architectural Wall Sconce

Category Number	
Notes	
Type	

Introduction

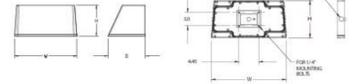
The WST LED is designed with the specifier in mind. The traditional, trapezoidal shape offers a soft, non-pixelated light source for end-user visual comfort. For emergency egress lighting, the WST LED offers six battery options, including remote. For additional code compliance and energy savings, there is also a Bi-level motion sensor option. With so many standard and optional features, three lumen packages, and high LPW, the WST LED is your "go to" luminaire for most any application.

Specifications Luminaire

Height: 8-1/2" (21.59 cm)
Width: 17" (43.18 cm)
Depth: 10 3/16" (25.9 cm)
Weight: 20 lbs (9.1 kg)

Optional Back Box (BBW)

Height: 4" (10.2 cm)
Width: 5-1/2" (14.0 cm)
Depth: 1-1/2" (3.8 cm)



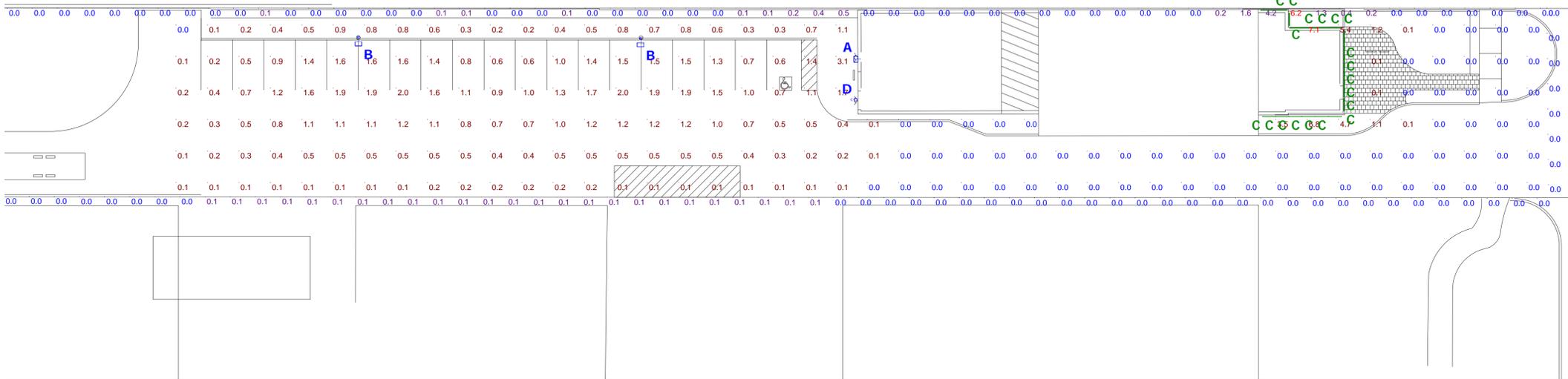
Ordering Information

Series	Performance Package	Color Temperature	Distribution	Voltage	Mounting
WST LED	P1 1,000 lumen package	27K 2700K	WF Visual comfort forward throw	MVOLT1	277
	P2 3,000 lumen package	30K 3000K	WW Visual comfort wide	120V	347
	P3 6,000 lumen package	50K 5000K		240V	486

Options	Finish (optional)
PE Photocell on, battery on	DBR00 Dark bronze
PER 8300 heat sink (optional)	DBL00 Black
PER5 Two-wire recessed only	EA000 Natural aluminum
PER7 Seven-wire recessed only	DW000 White
DMG 0-10V dimming (remote out back of housing for external control - no cover)	DS000 Sandstone
PRM MotionAmbient Light Sensor, 8-15' mounting height	DD000 Textured dark bronze
PR5CIV MotionAmbient sensor, 8-15' mounting height, ambient sensor enabled at 18"	DBL00 Textured black
PRM180 MotionAmbient light sensor, 18-30' mounting height	DN000 Textured natural aluminum
PRM180CIV MotionAmbient sensor, 18-30' mounting height, ambient sensor enabled at 18"	DW000 Textured white
SF Single face (120, 27, 347V)	DS000 Textured sandstone
DF Double face (120, 240, 480V)	
IS Dual switching	
ETWH Emergency battery backup (700')	

Accessories	NOTES
WSTPWH Battery - Power source - recessed back box	1. MVOLT driver operates on any line voltage from 120-277V (0-180 Hz). Specify 120V, 240V, or 277V options only when ordering with bottom type photocell (PEL), honey (CE), or dual switching (DS).
WSTPWH50 Battery - Power source - recessed back box	2. Also available as a separate accessory: see accessories information.
WSTPWH100 Battery - Power source - recessed back box	3. Top conduit entry standard.
	4. Not available with ETWH, ETWC, ETWHR, E20WC, E20WH, or E22WHR. Not available with PER5 & PER7.
	5. Not available with PE, PER, PER5, PER7, VU or VIG.
	6. Not available with MVOLT option. Button photocell (PE) can be ordered with a dedicated voltage option. Single face (SF) requires 120, 277 or 347 voltage option. Double face (DF) requires 240, 240 or 480 voltage option.
	7. Not available with ETWH, ETWC, ETWHR, E20WC, E20WH, or E22WHR. Used with inverter system. Not available with PER5 & PER7.
	8. Not available with 347V/80V. Battery pack rated for -20° to 40°C.
	9. Comes with PRM.
	10. Warranty period is 3 years.
	11. Not available with BBN.
	12. Must order with fixture, not an accessory.
	13. Must order with fixture, not an accessory.

LITHONIA LIGHTING One Lithonia Way • Conyers, Georgia 30012 • Phone: 800.279.8081 • www.lithonia.com WSTLED Rev. 05/14/17 ©2011-2017 Acuity Brands Lighting, Inc. All rights reserved.



NOTE:
 - ALL EXTERIOR LIGHTING TO BE ON LIGHTING CONTROLS PER MEC SEC. C405.2
 - EXTERIOR LIGHTING TO BE CONTROLLED BY COMBINATION PHOTSENSOR AND TIME CLOCK
 - DISPLAY AN ACCENT LIGHTING TO BE ON SEPARATE CONTROLS PER ASHRAE, 90.1-213 SEC. 9.4.1.4

Plan View Scale: 1" = 20ft

Wall luminaires with directed light in one direction

Housing: One Piece, die cast aluminum housing with a one piece, die cast aluminum mounting plate. The mounting plate is supplied with a fast plate that mounts directly to a standard, recessed 4" octagonal wiring box. Die castings are marine grade, copper free (is 0.3% copper content) A360.0 aluminum alloy.

Enclosure: Clear tempered glass diffuser. Provided reflector made of pure anodized aluminum. Housing is secured to the mounting plate with two (2) mechanically captive, stainless steel set screws.

Electrical: 12W LED luminaires, 16 total system watts, >30° start temperature, integral 120V through 277V electronic LED driver, 0-10V dimming. LED modules are available from factory for easy replacement. Standard LED color temperature is 3000K with an 85 CRI. Available in 4000K B5 CRI, add suffix K4 to order.

Note: Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to www.bega-us.com.

Finish: All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order.

CSA: certified to US and Canadian standards, suitable for wet locations. Protection class IP64.

Weight: 5.3 lbs.

Luminaire Lumens: 449
 Tested in accordance with LM-79-08

Type: BEGA Product:
 Project: Voltage:
 Color: Options:
 Modified:



Specification Sheet

lumenpulse™
 HORIZONTAL COLOR CHANGING

Client _____ Project name _____
 Order# _____ Type _____ Qty _____

FEATURES AND BENEFITS

- Physical :**
- Low copper content extruded aluminum housing
 - Available in 1", 2", 3" or 4" sections
 - Electrostatically applied polyester powder coat finish
 - Machined aluminum end caps and silicone gaskets
 - Stainless steel hardware
 - Clear tempered glass lens
 - Asymmetric wallwash, 8° x 8°, 10° x 10°, 10° x 30°, 10° x 60°, 10° x 90°, 15° x 25°, 30° x 30°, 30° x 60°, 35° x 35°, 50° x 80°, 60° x 60°, 80° x 80°, or 90° x 90° optics
 - Right or left feeding side options available
 - IP65
 - IK07 rated (asymmetric wallwash lens is IK06 rated)
 - Meets 3G ANSI C136.31 Vibration standard for bridge applications
 - Corrosion-resistant coating for hostile environments²

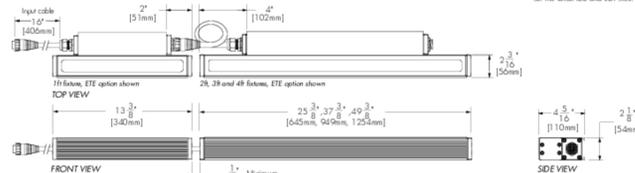
- Performance :**
- Color mixing options: RGB (3 channels), RGBV (4 channels) or RGBA (4 channels)
 - 1,898 delivered lumens and 8,350 candelas at nadir (RGB full output, 4" unit, 10°x60° optic)
 - 2,215 delivered lumens and 7,300 candelas at nadir (RGBV full output, 4" unit, 10°x60° optic)
 - 1,442 delivered lumens and 4,730 candelas at nadir (RGBA full output, 4" unit, 10°x60° optic)
 - Lumen maintenance: 120,000 hrs [L70 @ 25°C]
 - Lumen measurements comply with LM-79-08 standard
 - Resolution per foot or per fixture (configured with LumenD V3 software & DMX/RDM)
 - Operating temperatures: -25° C to 50° C (-13F to 122F)

- Electrical :**
- Line voltage luminaire for 100 to 277V
 - Power and data in 1 cable (#16)
 - End-to-end option (ETE): 16' black input cable, no jumper cable needed
 - Maximum of 32x DMX/RDM devices per run
 - 17.25W/ft³
 - Control options: LumenTalk or DMX/RDM enabled

Photometric Summary

4ft RGB Output (full white)	Delivered Intensity
WW	[lm]
8"x8"	1,901 * 36,611 *
10"x10"	1,771 * 18,023 *
10"x30"	1,800 * 14,126 *
10"x60"	1,698 8,350
10"x90"	1,481 * 3,712 *
30"x30"	1,770 * 4,921 *
30"x60"	1,815 * 2,406 *
60"x60"	1,420 * 1,417 *
90"x90"	1,488 * 886 *

Photometric performance is measured in compliance with IESNA LM-79-08. *Estimated. Consult lumenpulse website for the latest ETC and LED files.



- 1. Asymmetric wallwash lens is IK06 rated.
- 2. Use only when exposed to salt spray and harsh chemicals. This option is not required for normal outdoor exposure!
- 3. Power consumption is typically 20% higher for 1' fixture lengths.

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D-Series Size 0 LED Area Luminaire

Specifications: EPA: 0.000, Length: 26" (660mm), Width: 13" (330mm), Height: 7" (178mm), Weight (max): 16 lbs (7.3kg)

Ordering Information: Example: DSX0 LED P6 40K T3M MVOLT 5FA DDBKD

Series	LED	Color Temperature	Beam Spread	Mounting	Shipping	Other options	Finish (optional)	
DSX0 LED	Forward optics	30K 3000K	T15 15° spot	MVOLT1	Shipped included	None	DBR00 Dark bronze	
		40K 4000K	T25 15° spot	120V	SPA Spot pole mounting		DBL00 Black	
		50K 5000K	T35 15° spot	208V	RFA Recessed mounting		EA000 Natural aluminum	
	Rear optics	30K 3000K	T15 15° spot	120V	WVA Wall bracket		Shipped separately	DW000 White
		40K 4000K	T25 15° spot	208V	WVA Wall bracket		Shipped separately	DBR00 Textured dark bronze
		50K 5000K	T35 15° spot	208V	WVA Wall bracket		Shipped separately	DBL00 Textured black
	Rear optics	30K 3000K	T15 15° spot	120V	WVA Wall bracket		Shipped separately	DBR00 Textured dark bronze
		40K 4000K	T25 15° spot	208V	WVA Wall bracket		Shipped separately	DBL00 Textured black
		50K 5000K	T35 15° spot	208V	WVA Wall bracket		Shipped separately	EA000 Natural aluminum
	Rear optics	30K 3000K	T15 15° spot	120V	WVA Wall bracket		Shipped separately	DBR00 Textured dark bronze
		40K 4000K	T25 15° spot	208V	WVA Wall bracket		Shipped separately	DBL00 Textured black
		50K 5000K	T35 15° spot	208V	WVA Wall bracket		Shipped separately	EA000 Natural aluminum

- GENERAL NOTE**
1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
 2. SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
 3. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0".

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.

THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
PROPERTY LINE VALUES AT GRADE	+	0.1 fc	6.2 fc	0.0 fc	N/A	N/A	0.0:1
SITE VALUES AT GRADE	+	0.6 fc	7.1 fc	0.0 fc	N/A	N/A	0.1:1

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage	Mounting Height
A	A	1	Lithonia Lighting	WST LED P1 40K VF MVOLT	WST LED, Performance package 1, 4000 K, visual comfort forward throw, MVOLT	LED	1	WST_LED_P1_40K_VF_MVOLT.lvs	1639	0.85	12	12'-0"
B	B	2	Lithonia Lighting	DSX0 LED P2 40K BLC MVOLT	DSX0 LED P2 40K BLC MVOLT	LED	1	DSX0_LED_P2_40K_BLC_MVO.LT.lvs	4925	0.9	49	20'-0"
C	C	19	Lumenpulse	LOGH-120-48-RGBW 8x8	Lumenfacade Horizontal, 49 3/8 inches, Additive red, green, blue and white 4000K, 8" x 8" Optic. (all IES file used)	LED	1	LOG-120-48-RGBW-10x60-SI_G1504022-R1.lvs	Absolute	0.1	40	17'-0"
D	D	1	BEGA LIGHTING	33 5B1	Wall luminaires with directed light in one direction	LED	1	335B1.IES	549	0.9	16	9'-0"

Designer: LM/AM
 Date: 09/20/2016 REV 4/19/2018
 Scale: Not to Scale
 Drawing No: #16-61116 V3
 1 of 1



KLM BIKE & FITNESS
 PHOTOMETRIC SITE PLAN
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