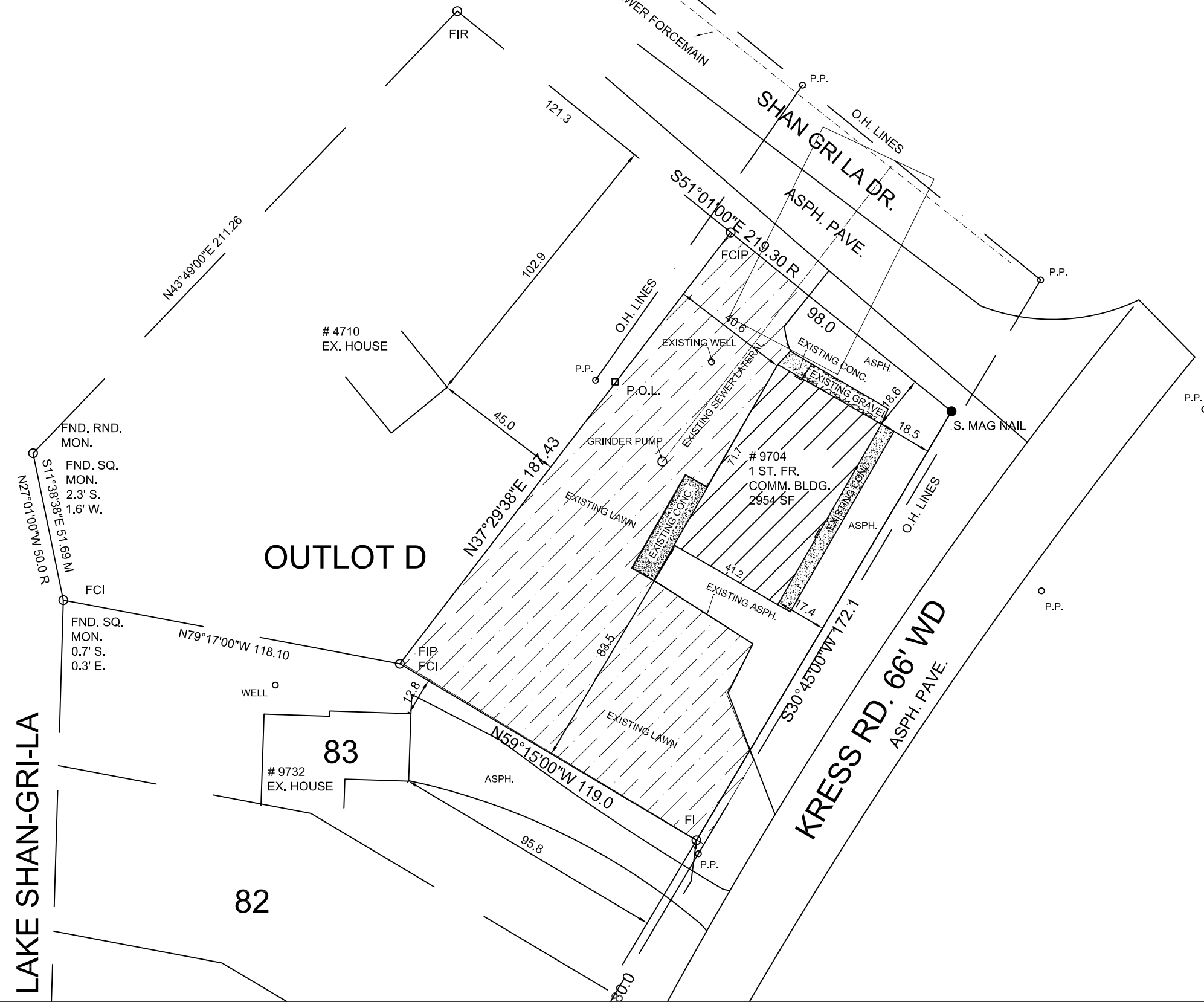


9704 KRESS ROAD -016

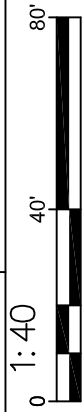
PART OF OUTLOT D "SHAN-GRI-LA SUB'N. ANNEX NO. 4" OF PART OF THE S.E. 1/4 OF SECTION 21, T.1N., R.5E., HAMBURG TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS: BEGINNING AT THE S.E. CORNER OF OUTLOT D; THENCE N59°15'00"W, ALONG THE SOUTH LINE OF SAID OUTLOT D, 119.00 FEET; THENCE N37°39'38"E, 187.43 FEET TO THE NORTH LINE OF SAID OUTLOT D; THENCE S51°01'00"E, ALONG SAID NORTH LINE, 98.00 FEET TO THE N.E. CORNER OF SAID OUTLOT D; THENCE S30°45'00"W, ALONG THE EAST LINE OF SAID OUTLOT D, 172.10 FEET TO THE POINT OF BEGINNING. CONTAINING 0.445 ACRES OF LAND MORE OR LESS. SUBJECT TO ANY EASEMENTS OR RESTRICTIONS OF RECORD.



LAKE SHAN-GRI-LA



DESIGNED MG		DRAWN MG		CHECKED MG	
		9/6/2021			
9704 KRESS ROAD EXISTING CONDITIONS HAMBURG TWP, LIVINGSTON COUNTY 15-21-405-016					
GES-LLC Consulting Engineers 5711 S. ASHFORD WAY, YPSILANTI, MI 48197 GES734@GMAIL.COM 734-272-9763					
REVISIONS 12.15.23 ADDED EXISTING TREE LINES & PARKING LIGHTING 12.22.23 PER LORC COMMENTS 1.27.23 PER MEG COMMENTS DATED 1.10.2023 3.01.23 PER MEG COMMENTS DATED 3.01.2023					
File No. WOOLLEY21					
Sheet 1 of 4					



SOIL TEST PITS OBSERVED BY GES-LLC (9/3/2021)

TEST PIT 1
 0-3 IN LOAMY TOP SOIL
 3-13 IN BROWN LOAMY SAND WITH STONES
 13-56 IN BRN MED/CO SAND MOIST TO WET AT BOTTOM

TEST PIT 2
 0-6" FILL
 6-48 IN BRN MED SAND WITH STONES
 48-64 IN CO. GRAY MOIST TO WET SAND WATER AT 6 FT B.G.

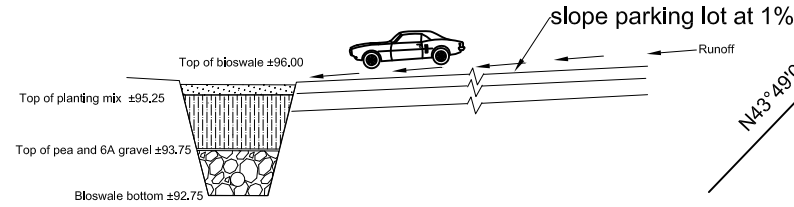
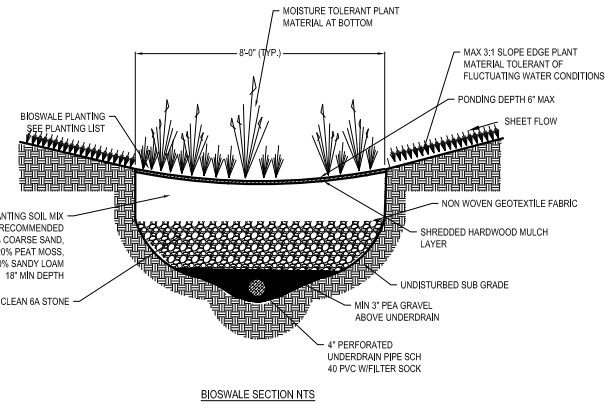
TEST PIT 3
 0-3 IN LOAMY TOP SOIL
 3-38 IN BRN MED SAND WITH STONES
 38-63 IN COARSE GRAVELLY MOIST GRAY SAND WATER AT 4.5 FT B.G.

PARKING:

Apartment 1.5 parking per apartment
 Required 3, Provided 3
 Store:
 1 parking per 150 sq ft
 Required 20; Provided 20

Parking Dimension: 19'x10'

Pavement:
 The parking lot will be half paved. The other half will be gravel. This will significantly reduce storm runoff given the gravelly sand formation as described by the observed soil test pits.



Storm Water Management:

Due to site constraints, the following is proposed:

- Roof drainage will be routed to a 15X15X3 drywell. Alternatively, use 3 NDS FWAs24 Flo Well Storm Water Leaching System (see NDS typ. detail) to store and discharge storm water to the sandy subsurface soils.
- Parking lot drainage will be captured in a bioswale. See detailed calculations on Page 3.

Stormwater Calculations Per LCDC:

Weighted C Factor:

$C_{asphalt} = 0.9$
 $C_{gravel} = 0.7$
 $C_{greenbelt} = 0.35$

Areas:

$Area_{asphalt} = 0.13 \text{ ac}$
 $Area_{gravel} = 0.05 \text{ ac}$
 $Area_{greenbelt} = 0.15 \text{ ac}$

$C_{weighted} = 0.6$

Storage Volume

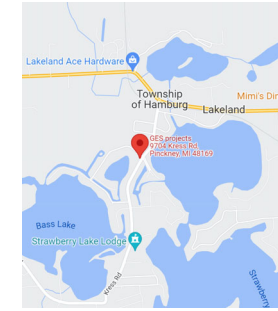
Water Quality Volume:
 $Volume_{WQ} = 3,630 * C_{weighted} * Area(ac) = 3,630 * 0.6 * 0.34 = 740 \text{ CF}$

Channel Protection Volume:
 $Volume_{CPVC} = 4,719 * Area(ac) = 4,719 * 0.6 * 0.34 = 962.7 \text{ CF}$

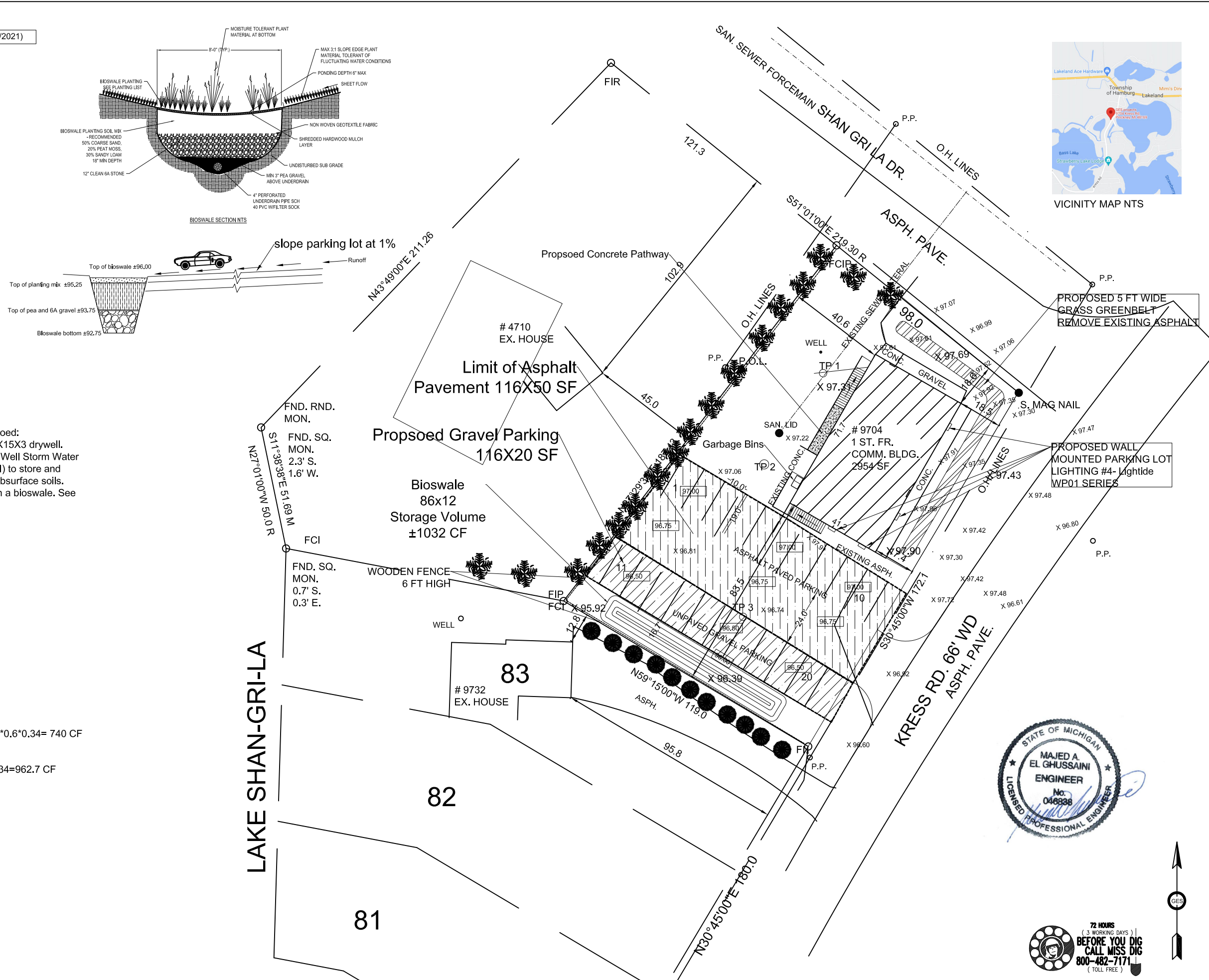
Volume provided = 1032 CF > 962.7 cf

X 96.92 Existing Grade
 96.92 Proposed Grade

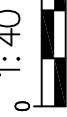
BENCHMARK 100 (TOP OF GAS METER)



VICINITY MAP NTS



Designed MG	9/6/2021
Drawn MG	
Checked MG	



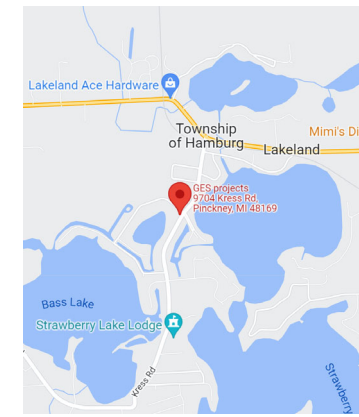
0 1:40 40' 80'

9704 KRESS ROAD
 Preliminary Site Plan

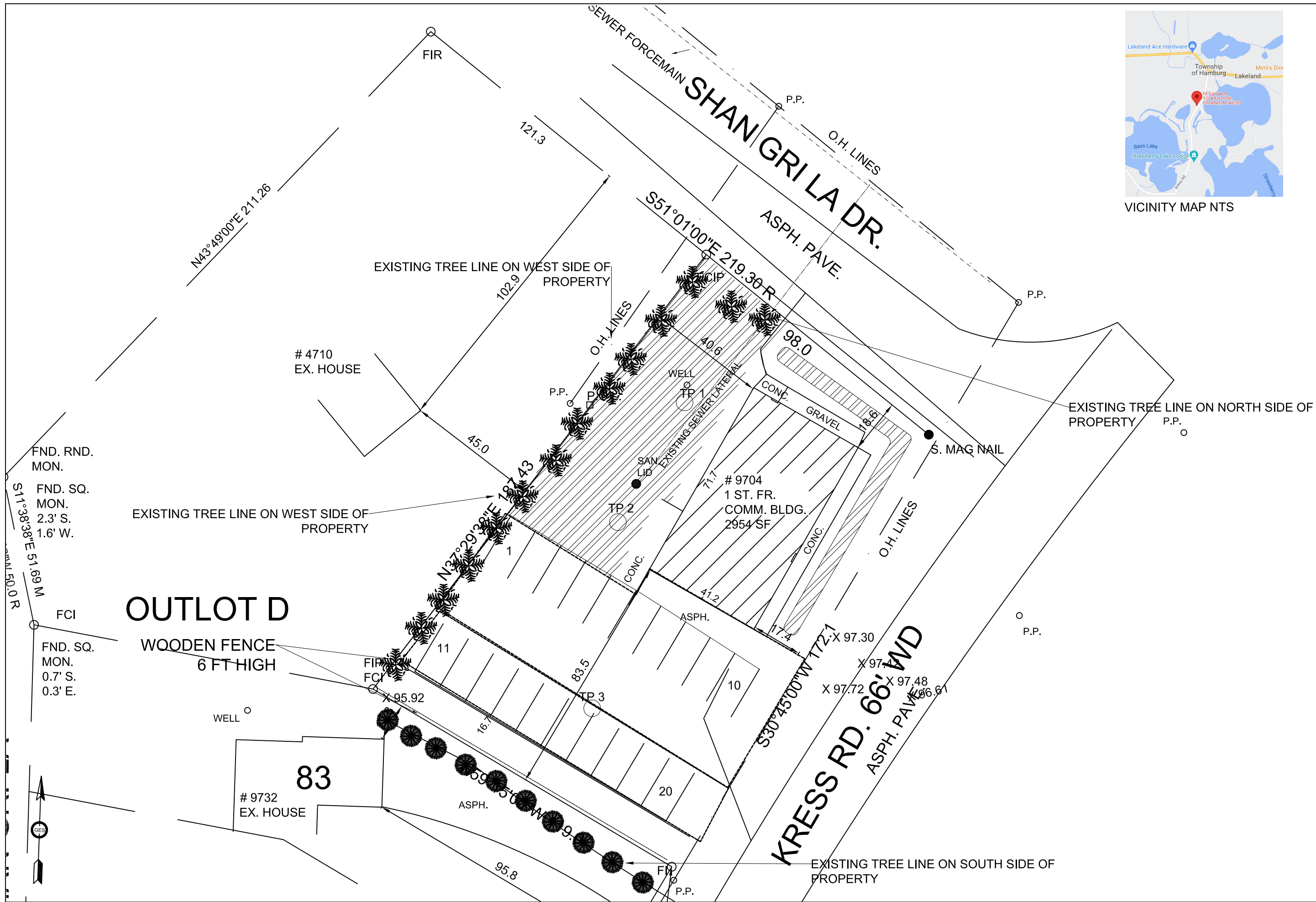
GES-LLC
 Consulting Engineers
 5711 S. ASHFORD WAY, YPSILANTI, MI 48197
 GES734@GMAIL.COM
 734-272-9763

REVISIONS	
12.15.22	ADDED EXISTING TREE LINES & PARKING LIGHTING
12.22.22	PER LIRC COMMENTS
1.27.23	PER MEG COMMENTS DATED 1.10.2023
3.01.23	PER MEG COMMENTS DATED 3.01.2023

File No.
 WOOLLEY21
 Sheet 2 of 4



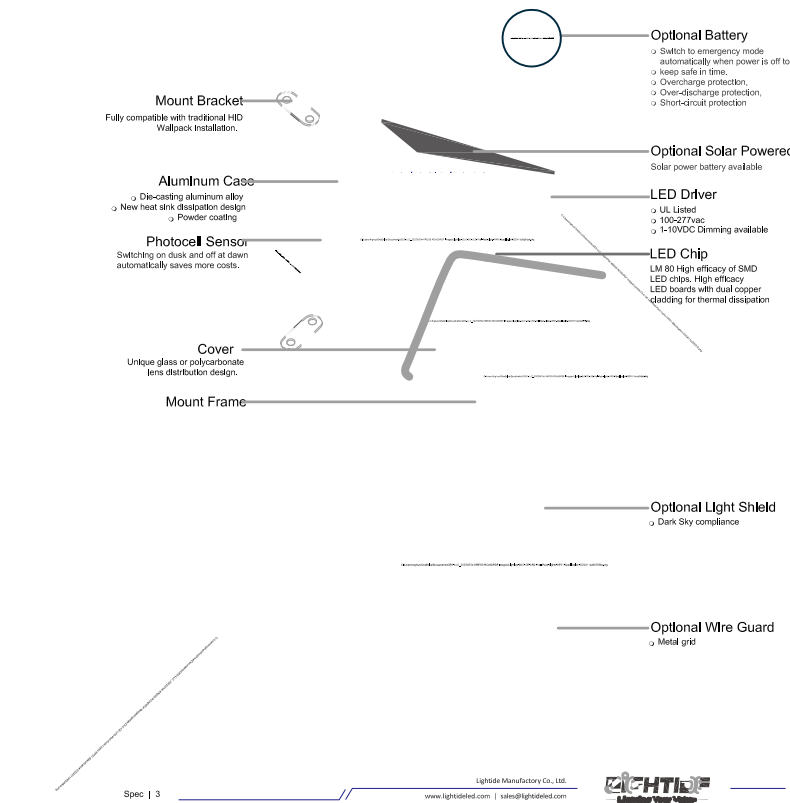
VICINITY MAP NTS



DESIGNED MG	12.10.21										
DRAWN MG	12.10.21										
CHECKED MG											
1:30											
9704 KRESS ROAD Preliminary Landscaping Plan											
HAMBURG TWP, LIVINGSTON COUNTY 15-21-405-016											
GES-LLC Consulting Engineers Info@GSMICH.COM 734-272-9763											
<table border="1"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> </thead> <tbody> <tr> <td>12.15.22</td> <td>ADDED EXISTING TREE LINES & PARKING LIGHTING</td> </tr> <tr> <td>12.22.22</td> <td>PER LENC COMMENTS</td> </tr> <tr> <td>1.27.23</td> <td>PER IMEG COMMENTS DATED 1.10.2023</td> </tr> <tr> <td>3.01.23</td> <td>PER IMEG COMMENTS DATED 3.01.2023</td> </tr> </tbody> </table>		REVISIONS		12.15.22	ADDED EXISTING TREE LINES & PARKING LIGHTING	12.22.22	PER LENC COMMENTS	1.27.23	PER IMEG COMMENTS DATED 1.10.2023	3.01.23	PER IMEG COMMENTS DATED 3.01.2023
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3.01.23	PER IMEG COMMENTS DATED 3.01.2023										
File No. WOOLEY21											
Sheet 3 of 4											

WP01
LED WALL PACK LIGHT
DLC QPL | 140 LPW | DARK SKY COMPLIANCE

Catalog#	Type
Comment	
Project	Date



Model#	Product ID	Input Voltage	Input Wattage	Lumen Output	CCT	CRI (Ra)	DLC Family Code
LT-WP01-40W-30K	PSJ5ZWC3	100-277 VAC	39W	4600 lm	3000K	73	WWWPB
LT-WP01-40W-40K	PXXZ1X36	100-277 VAC	40W	4800 lm	4000K	72	WWWPB
LT-WP01-40W-50K	P2AMPQ92	100-277 VAC	39W	4600 lm	5000K	72	WWWPB
LT-WP01-40W-57K	P2XW931H	100-277VAC	40W	4800 lm	5700K	72	WWWPB
LT-WP01-60W-30K	PYC9HUE3	100-277 VAC	57W	7000 lm	3000K	73	WWWBP
LT-WP01-60W-40K	P8F4PRH3	100-277 VAC	57W	7200 lm	4000K	73	WWWBP
LT-WP01-60W-50K	PEF6WJUF	100-277 VAC	57W	7200 lm	5000K	73	WWWBP
LT-WP01-60W-57K	PGQVDV1	100-277 VAC	57W	7200 lm	5700K	73	WWWBP
LT-WP01-80W-30K	PWMZ4MVS	100-277 VAC	89W	10200 lm	3000K	72	WWWBP
LT-WP01-80W-40K	PLZSNXDU	100-277 VAC	89W	10400 lm	4000K	72	WWWBP
LT-WP01-80W-50K	PF3BTQSW	100-277 VAC	89W	10400 lm	5000K	72	WWWBP
LT-WP01-120W		100-277 VAC	116.8 W	14475.5 lm	5000K	72.5	

OPTIONAL EM BATTER

When the AC power goes out, the emergency driver detects the AC power outage and automatically switches to the working emergency mode. The green LED light on. When the AC power is restored, the emergency driver backs to AC power working and starts re-charging, the green LED light off.

- Features**
- Meet most of safety standards for lighting
 - Factory production over-charge protection over-charge
 - Emergency protection short-circuit protection
 - Stays on CSA C92.2 NO.141 UL894
 - External Li-ion, LiFePO4 or Ni-MH battery
 - The battery has over 600 cycles of charging and discharging
 - Full lifetime up to 30 years
 - Redundant power supply working modes
 - Recharge protection
 - Stays on 1.6 hours (2 hrs, 3hrs for options)

- Specifications**
- Input Voltage: 100-277Vac, 60/50Hz
 - AC Input Currents: 0.36-0.37A max.
 - AC Input Power Rating: 1.2KW max.
 - Output Current and Voltage: 35-40Vdc
 - Output Power: 6W / 15W
 - Emergency Time: >= 1.6H
 - Full Lifetime: 30 Years
 - Test Switch: Indicator Light
 - Illuminated Test Switch, Indicator Light

OPTIONAL SOLAR POWER

The eco-friendliness of solar energy meets the energy efficiency of LED lights. The Li-ion 3.7 volt, 2200mAh battery charges for 6-8 hours and back lasts up to 12 hours. You may set 2-4-6 lighting hours through remote controller.

- Remote Control Mode: Infrared Ray Signal
- Operation Distance: 12 meters

WP01
LED WALL PACK LIGHT
DLC QPL | 140 LPW | DARK SKY COMPLIANCE

LED Wall Packs provide die-casting aluminum alloy heat sink, and shatter-proof glass or polycarbonate diffuser. They are DLC qualified and CE certified for 5 years warranty. Powder-coating, finished housing and sealed gasket for full ingress protection are suitable for outdoor controller and wall clamp brackets. The photocell sensor can be optional application for building, parking lot lighting, square, road and others.

CONSTRUCTION & MATERIALS

- Die-casting aluminum alloy housing fully sealed to be self-healing and IP65
- Impact-proof and shatter-proof glass or polycarbonate diffuser
- IP 65 rating water-proof protection
- Physical powder-coated finish, rust and corrosion proof
- Optional Solar powered
- Internal UL approved power supply

MOUNTING AND WIRING

- Mount directly over a standard outlet box or for surface wiring in any of the 3 convenient 1/2 inch threaded conduit entry hubs.

ENVIRONMENTAL SYSTEM

- Outdoor weatherproof location
- Work Temperature: -20°C(-4°F)~+45°C(+103°F)

FINISH

- Dark Bronze

ELECTRICAL SYSTEM

- Input Voltage: 100-277VAC, 200-480VAC, 120/240VAC
- DLC, ETL, ETL, CE, RoHS

LIGHTING CONTROL

- Standard 0-10V dimming
- Photocell
- Motion Sensor

OPTICAL SYSTEM

- 100-140 Beam angle adjustable
- Cold temperature: 3000K, 4000K and 5000K, 5700K.
- Outdoor semi-cutoff wall-mounted area luminaire.

STANDARD

- EN62471, EN61347-3-13, EN60598-2-1, EN60598-1
- UL 1995, CAN/CSA C-22.2 No. 350.0
- EN50175, EN1547, EN1000-3-03, FCC part 15, FCC Class B

WARRANTY

- 5 Years

EMERGENCY OPTION

- Li-Ion/LiFePO4/ Ni-MH
- UL 324 & CSA C22.2 NO.141
- Charge time: 2-4hrs
- Duration: 90 minutes (to 100 minutes)
- Charge cycle: >500 times

DATA SHEET

Model#	LT-WP01-40W	LT-WP01-60W	LT-WP01-80W	LT-WP01-120W
DLC Family Code	WWWPB	WWWPB	WWWPB	PEFBND
Rating	40 watts	60 watts	80 watts	116.8 watts
Light Output (L)	4600 lumens	7200 lumens	10400 lumens	14475 lumens
Input Voltage	100-277VAC	100-277VAC	100-277VAC	100-277VAC
Power Factor	>=0.95	>=0.95	>=0.95	>=0.95
Dimming	0-10VDC	0-10VDC	0-10VDC	0-10VDC
CRF	>=72	>=72	>=72	>=72
Life	>=30,000 hrs	>=30,000 hrs	>=30,000 hrs	>=30,000 hrs
Work Temp. (F)	>=30~140	>=30~140	>=30~140	>=30~140
Store Temp. (F)	>=0~140	>=0~140	>=0~140	>=0~140

ORDER INFORMATION

QTY	FAMILY CODE	WATT	VOLTAGE	CCT	ACCESSORIES	DURATION (EM MODE)	FINISH	COVER OPTION
LT	WP 01	40W	100~277VAC	3000/4000/5000K	0-10VDC Dimming Photocell Motion Sensor EM Emergency 1.6 IP65-rated	90 min (to 120 min) 2H to 10H	Black/White Black/White Black/White	Black/White Black/White Black/White

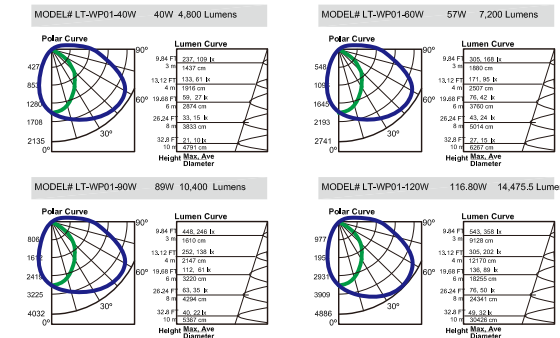


Catalog#	Type
Comment	
Project	Date

WP01
LED WALL PACK LIGHT
DLC QPL | 140 LPW | DARK SKY COMPLIANCE

NO.	Model#	Carton Size (LxWxH)	G.W./CIN	QTY/CIN
1	LT-WP01-40W-30K	43X31X27 cm	3.8 kg	1 pc
2	LT-WP01-60W	43X31X27 cm	4.3 kg	1 pc
3	LT-WP01-120W	43X31X27 cm	4.7 kg	1 pc

PHOTOMETRICS



INSTALLATION

Fully compatible with traditional HID Wallpack installation. Mount directly over a standard outlet box or for surface wiring in any of the 3 convenient 1/2 inch threaded conduit entry hubs.



Designed	
Drawn	MG
Checked	1/12/2022
NTS	

9704 KRESS ROAD
Parking Wall Mounted Lighting
HAMBURG TWP, LIVINGSTON COUNTY
15-21-405-016

GES-LLC
Consulting Engineers
5711 S. ASHFORD WAY, YPSILANTI, MI 48197
GES734@GMAIL.COM
734-272-9763

REVISIONS	
NO.	DESCRIPTION
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12/22/22	PER LORC COMMENTS
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