Village of McFarland
Community Development Department

Plan Commission Application – 2020

~Application must be completed in full~

Applicant - Owner	Tricycle Motors Properties, LLC	Applicant's Agent	MSP Real Estate, Inc.
	Matt Kuehl	Name	Daniel DiFrancesco
Address	5224 Farwell St. McFarland, WI 53558	Address	1295 Northland Drive, Suite 270 Mendota Heights, MN 55120
Email	mjkuehl17@gmail.com	Email	ddifrancesco@msphousing.com
Phone #	608-513-2989	Phone #	952-351-4546
Fax #		Fax #	952-935-7202

Parcel No(s). 061003216501 & 061003216801 **Type of Proposal – Please check boxes below that apply**

Requires Public Hearing (Class One)	FEES	Requires Public Hearing (Class Two)	FEES	Public Hearing Not required	FEES
❑ Preliminary Plat	$500+AF	❑ Conditional Use	$370+F	❑ Annexation	At cost
❑ Preliminary Plat (reapplication)	$500+BF	❑ Rezoning (map)	$405+	❑ Dev. Agreement Including Addendums	$400 F
❑ Certified Survey Map	$300+FG	☒ Zoning Amendment (text)	$405 +F	❑ Final Plat	$500 +CF
❑ Condominium	$300+EF	❑ Variance-Board of Zoning Appeals	$380+F	❑ Final Plat (reapplication)	$400 +DF
❑ Comprehensive Plan Amendment	$500+F			☒ Site/Design Review	$400 + F

+ = Plus publication and notification charges

A = Plus $50.00 per lot

B = Any preliminary plat which has previously been reviewed/revised within the last 36 months

C = Plus $50.00 for each lot within the final plat

D = Any final plat which has been previously reviewed or/ revised within the last 36 months

E = Plus $40.00 for each unit shown

F = Plus actual legal, engineering and financial consulting costs incurred by the Village

G = Plus $25.00 per lot for two or more lots.

Escrow Deposits (covers costs for outside consultants; e.g., engineers, attorneys, etc.)	
❑ R-E, R-3 & PD (up to 50 acres)	$5,000
❑ R-E, R-3 & PD (greater than 50 acres)	$10,000
☒ Commercial Site/Design Review (5,000 sq. ft. or more)	$2,000
❑ All Plats including condominiums	$5,000

Nature of the development proposal: Must provide address of proposed development, legal description, current zoning and description of proposal. (Attach additional paper if needed)

MSP is proposing a 51-unit multi-family workforce housing development proposal at 4845 Taylor Road and 4900 Larson Beach Road in the Village of McFarland. The building will be 3 stories with underground parking with a mix of 1, 2, and 3 bedrooms. See attached for legal description of the 2 parcels.

What action is the applicant requesting of the Plan Commission?

Detail Plan Approval Site / Design Approval for PD-1 (Planned Development Infill General Plan Implementation.)

Has this specific proposal been previously discussed or acted upon by the Plan Commission?

☒ **YES** ❑ **NO** **(If "yes" state the nature and the date(s) of the previous application.)**

PLEASE READ AND SIGN AT THE BOTTOM ON THE REVERSE SIDE

Schedule: The Village of McFarland Plan Commission conducts meetings on the third Monday of each month at 7:00 p.m. at the McFarland Municipal Center in the Community Room. To ensure adequate time for staff review, and publication of legal notices; all potential agenda item materials -are required to be submitted per the schedule listed below. **Six (6) Copies** of all materials, **one (1) copy must be 8 ½ x 11, five (5) copies to be 11 x 17 and one (1) electronic copy** (*only one copy of application, completed in full, is necessary)* shall be submitted to the Community Development Department (608-838-3154), with fees paid **by *NOON of the deadline day**, according to the following schedule:

Village of McFarland Plan Commission 2020 Schedule

***Submittal Deadline Noon on: For Scheduled 2020 Meeting date of:**

December 12 (2019) ----------January Tuesday Jan. 21

January 7----------February 17

February 11----------March 16

March 10----------April 20

April 7----------May 18

May 12 ----------June 15

June 9 ----------July 20

July 7 ----------August 17

August 11----------September 21

September 8 ----------October 19

October 6 ----------November 16

November 3 ----------December 21 (Pending)

December 8----------(Pending) Tuesday, Jan. 19, 2021

*** Submittal deadline: No exceptions are given for above deadlines**

- **I understand failure to provide required materials/information/fees by the submittal deadline can result in this application being withdrawn for consideration by the Plan Commission. Materials submitted for review after the submittal deadline date, or incomplete submittals, will be held over until the next scheduled meeting.**

- **I understand any fees not paid for (i.e. legal notices, mailings, etc.) will require any permits to be withheld until all payments are made in full. In addition, all application fees are non-refundable.**

X Danny DiFrancesco 07/06/2020

Signature of Applicant/Agent Date

Village of McFarland, WI

Planned Development Infill District – General Implementation Plan

For

Taylor Pointe Apartments

Statement of Owner's Intent and Description of Development

MSP is pleased to introduce a proposed workforce multi-family housing project located at 4845 Taylor Road and 4900 Larson Beach Road in the Village of McFarland. The development will provide much needed workforce housing in the Village with over 90% of the units being reserved for individuals and families earning less than 60% of the area median income.

Document Date:

Document Contents, per Section 62-67(h)(1):

a. A legal description of the entire tract of land included in the proposed development.
b. A statement indicating the nature of the applicant's interest in the land included in the proposed development.
c. A statement describing the proposed development, including the character, method and operation of the development and a development schedule or timetable for construction.
d. A statement as to the following data or graphic information referenced to a map or plan of the proposed development:
    1. The location and size of the site including dimensioned exterior boundaries, topography and other salient features, and existing buildings and structures, and also adjacent properties and streets, including all public utilities and public easements.
    2. The use and approximate location and bulk of buildings and structures including number of stories and dimensions of buildings.
    3. The approximate location of vehicular and pedestrian facilities, such as streets, sidewalks and off-street parking areas, including approximate number of parking spaces.
    4. The approximate location of areas for public or common open spaces and for other public or semipublic uses.
    5. A tabulation of land areas for the different types of uses in relation to the total area.
    6. A tabulation of the gross floor areas of buildings by types of uses.
    7. A tabulation of the number of types of dwelling units.

a. Legal Descriptions

4900 Larson Beach Road Legal Description (Parcel 0610-032-1650-1)

Lot 1 of Certified Survey Map No. 11273 recorded in the Office of the Register of Deeds for Dane County, Wisconsin, in Volume 68 of Certified Survey Maps, page 109, as Document No. 3998454, being a division of Lot 1, Woodland Commons and located in the NE 1/4 of the NW 1/4 of Section 3, Township 6 North, Range 10 East and the SE 1/4 of the SW 1/4 of Section 34, Township 7 North, Range 10 East, in the Village of McFarland, Dane County, Wisconsin.

4845 Taylor Road Legal Description (Parcel 0610-032-1680-1)

Lot Three (3) of Certified Survey Map No. 11273 recorded in the office of Register of Deeds for Dane County, Wisconsin on December 07, 2004, in Volume 68 of Certified Survey Maps, Page 109 as Document No. 3998454, being a division of Lot 1, Woodland Commons and located in the NE 1/4 of the NW 1/4 of Section 3, Township 6 North, Range 10 East and the SE 1/4 of the SW 1/4 of Section 34, Township 7 North, Range 10 East, in the Village of McFarland, Dane County, Wisconsin.

b. Statement indicating applicant's interest in the land included in the proposed development.

MSP Real Estate, Inc. is proposing a workforce multi-family housing project located at 4900 Larson Beach and 4845 Taylor Road.

c. Statement describing the proposed development, including character, method and operation of development and a development schedule or timetable for construction.

MSP is proposing to develop a 3-story building with underground parking with a mix of 1, 2, and 3 bedrooms. The project will have a tenant target mix towards individuals, families, seniors, and veterans. Exterior elevations have not been completed at this time, but MSP is planning on featuring masonry at the base of the building that will turn into fiber cement lap siding with neutral colors that will complement the adjacent buildings.

Below is an anticipated development schedule for Taylor Pointe Apartments:

December 2019	Tax credit application submitted to WHEDA
March/April 2020	WHEDA announces tax credit awards
July 2020	Dane County affordable housing application submitted
September 2020	Dane County announces affordable housing awards
October 2020	Send out construction plans for bidding
December 2020	Close on construction/permanent financing and tax credit investor
January 2021	Submit for building permit/construction start
March 2022	Construction completed

d. Statement to the following data or graphic information referenced to a map or plan of the proposed development.

1. Location and size of the site including dimensioned exterior boundaries, topography, and other salient features, and existing buildings and structures, and also adjacent properties and streets, including all public utilities and public easements.

See attached site plan from Dimension IV Architects dated November 1, 2019.

2. The use and approximate location and bulk of buildings and structures including number of stories and dimensions of buildings.

Taylor Pointe Apartments will be one building consisting of 3 stories with underground parking. The building will consist of 51 units that will include approximately 23 1-bedrooms, 18 2-bedrooms, and 10 3-bedrooms. The dimensions of the building can be found on the attached site plan.

3. The approximate location of vehicular and pedestrian facilities, such as streets, sidewalks and off-street parking areas, including approximate number of parking spaces.

Taylor Pointe Apartments will have a total of 84 parking stalls (31 surface parking and 53 underground parking). This gives the project 1.65 parking stalls/unit. We have included on the site plan that we could add a potential 8 parking stalls and if needed, the project would have 1.80 parking stalls/unit.

4. The approximate location of areas for public or common open spaces and for other public or semipublic uses.

This project will feature a community room and play area outside for children. These uses will be for the residents that live at Taylor Pointe Apartments. There is also a potential for a garden that will allow residents to use at their discretion.

5. A tabulation of land areas for the different types of uses in relation to the total area.

See attached site plan.

6. A tabulation of the gross floor areas of buildings by types of uses.

See attached site plan.

7. A tabulation of the number of types of dwelling units.

See attached site plan.

DIMENSION IV
Madison Design Group

architecture · interior design · planning
6515 Grand Teton Plaza, Suite 120, Madison, Wisconsin 53719
p608.829.4444 f608.829.4445 dimensionivmadison.com

MULTIFAMILY TAYLOR RD.

Larsen Beach Rd. at Taylor Rd.,
McFarland, WI

View to NW

Architecture : **Dimension IV - Madison Design Group**
6515 Grand Teton Plaza, Suite 120, Madison, WI 53719
p: 608.829.4444 www.dimensionivmadison.com

Civil Engineering : **CJ Engineering**
9205 W. Center St., Ste. 214, Milwaukee, WI 53222
p: 414.443.1312 www.cj-engineering.com

Landscape : **raSmith**
221 S. 2nd St., Milwaukee, WI 53204-1412
p: 262.781.1000 www.rasmith.com

Drawing List:

Cover Sheet
Aerial Vicinity Map
CSM
C1.0
C2.0
C3.0
C4.0
C5.0
L1.0 Landscape Plan
Site Photometrics
Architectural Site Plan/Ground Floor Plan
Schematic Parking & Upper Floor Plans
Unit Plans
Elevations 1
Elevations 2
3D View to NW

PROJECT LOCATION

DETAILED IMPLEMENTATION PLAN

PROJECT 19111

7 JULY 2020

G0.1

Aerial Vicinity Map

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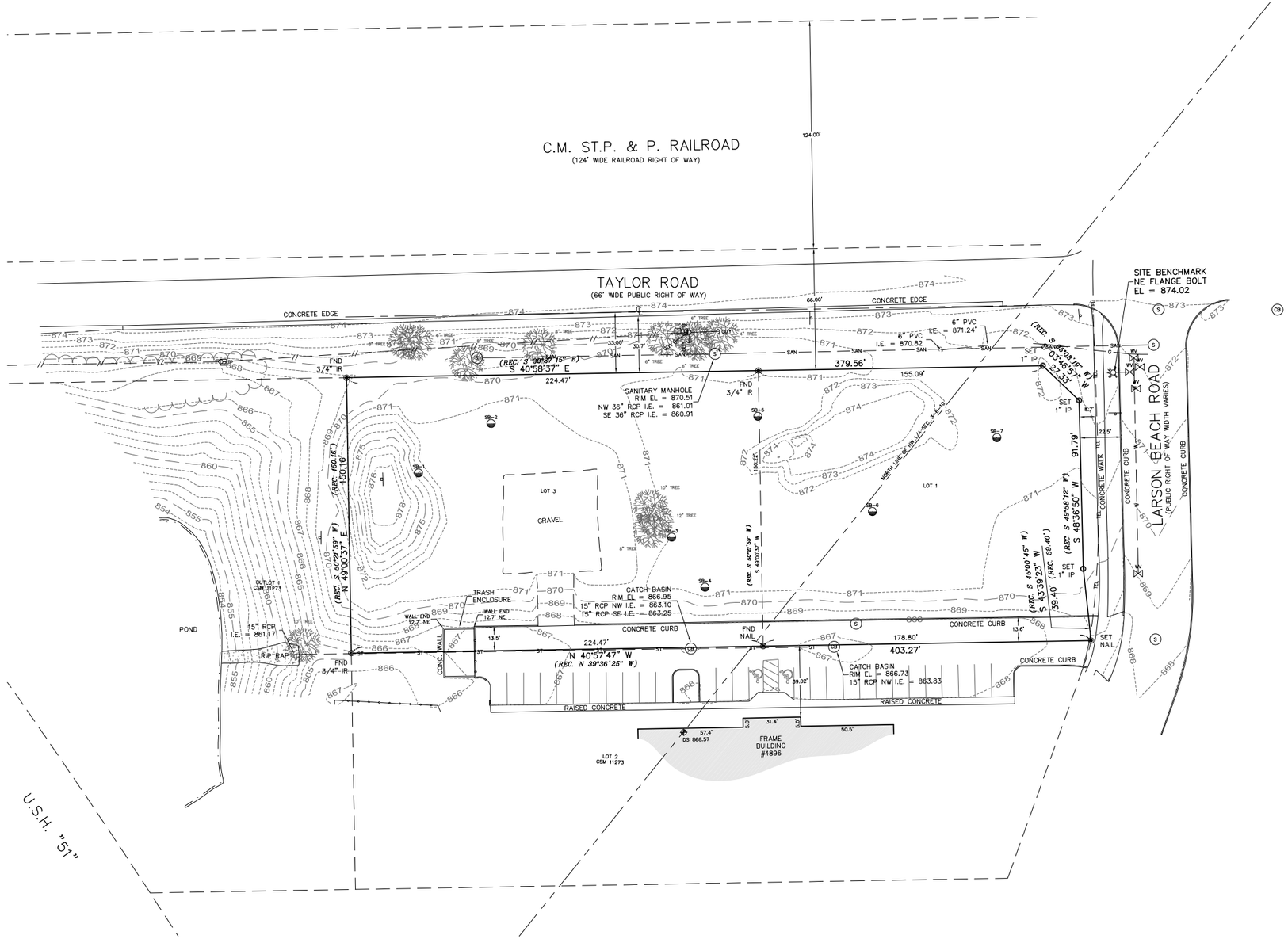
p608.829.4444 f608.829.4445 dimensionivmadison.com

No Scale

MULTIFAMILY TAYLOR RD.

Taylor Rd., McFarland, WI

VICINITY MAP
09/24/19
19111



CSE
CAPITOL SURVEY ENTERPRISES
220 REGENCY CT. STE. 210
BROOKFIELD, WI 53045
PH: (262) 786-6600
FAX: (414) 786-6608
WWW.CAPITOLSURVEY.COM

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9205 W. Center Street
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Milwaukee, WI 53222
PH. (414) 443-1312
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LEGAL DESCRIPTION:

LOTS 1 AND 3 OF CERTIFIED SURVEY MAP NO. 11273, LOCATED IN THE NE 1/4 OF THE NW 1/4 OF SECTION 3, T6N, R10E AND THE SE 1/4 OF THE SW 1/4 OF SECTION 34, T7N, R10E, VILLAGE OF MCFARLAND, DANE CO. WISCONSIN.

CONTAINING: 59,873 SQUARE FEET OR 1.3745 ACRES.

NOTES

1. LEGAL DESCRIPTION BASED ON INFORMATION FROM CSM 11273

2. THE UNDERGROUND UTILITY INFORMATION AS SHOWN HEREON IS BASED, IN PART, ON INFORMATION FURNISHED BY THE UTILITY COMPANIES, DIGGERS HOTLINE AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED NOR CERTIFIED TO.

3. SUBJECT PROPERTY IS LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION X: AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN PER INFORMATION FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NO. 55025C0443H, WITH A DATE OF IDENTIFICATION OF 09/17/2014, IN COMMUNITY NO. 550086, THE VILLAGE OF MCFARLAND, WHICH IS THE COMMUNITY IN WHICH THE SUBJECT PROPERTY IS SITUATED.

4. SITE BENCHMARK – NORTHEAST FLANGE BOLT OF HYDRANT AS SHOWN HEREON, EL = 874.02.

5. SURVEY DATUM:
COORDINATES ARE BASED ON THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DANE COUNTY, NORTH AMERICAN DATUM OF 1983, 2011 ADJUSTMENT (NAD83(2011)). NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88(2012)), USING THE WISCONSIN CONTINUALLY OPERATING REFERENCE STATIONS (WISCORS & GEOID 12A).

LEGEND

SAN	SANITARY SEWER	ELECTRIC TRANSFORMER	HYDRANT
ST	STORM SEWER	ELECTRIC METER	WATER VALVE
W	WATER MAIN	ELECTRIC PEDESTAL	GAS VALVE
G	BURIED GAS LINE	ELECTRIC BOX AT GRADE	MANHOLE
TEL	BURIED TELEPHONE LINE	TELEPHONE BOX AT GRADE	STORM MANHOLE
E	BURIED ELECTRIC LINE	TELEPHONE PEDESTAL	CATCH BASIN
FO	BURIED FIBER OPTIC LINE	TV PEDESTAL	CURB INLET
//	OVERHEAD UTILITY LINES	GAS METER	METAL LIGHT POLE
CATV	BURIED CABLE TELEVISION LINES	AIR CONDITIONER	CONCRETE LIGHT POLE
COMB	COMBINATION SEWER	UTILITY POLE	WOOD LIGHT POLE
	WOOD FENCE	WOOD SIGN	MAIL BOX
	METAL FENCE	METAL SIGN	FIBER OPTIC MARKER
	EDGE OF TREES AND BRUSH	FLAG POLE	GUY WIRE
868.57 DS	DOOR SILL ELEVATION	BOLLARD	
	FIRE DEPARTMENT CONNECTION	BOLLARD LIGHT	
		YARD LIGHT	

I CERTIFY THAT I HAVE SURVEYED THE ABOVE DESCRIBED PROPERTY, AND THE ABOVE MAP IS A TRUE REPRESENTATION THEREOF AND SHOWS THE SIZE AND LOCATION OF THE PROPERTY, ITS EXTERIOR BOUNDARIES, THE LOCATION AND DIMENSIONS OF ALL VISIBLE STRUCTURES THEREON, BOUNDARY FENCES, APPARENT EASEMENTS AND ROADWAYS AND VISIBLE ENCROACHMENTS, IF ANY.
THIS SURVEY IS MADE FOR THE EXCLUSIVE USE OF THE PRESENT PROPERTY, AND ALSO THOSE WHO PURCHASE, MORTGAGE, OR GUARANTEE THE TITLE THERETO, WTHIN ONE (1) YEAR FROM DATE THEREOF.

JUNE 14, 2020
DATE

MICHAEL J. BERRY, R.L.S.
REGISTERED LAND SURVEYOR S-2545

WISCONSIN
MICHAEL J. BERRY
S-2545
BROOKFIELD, WI
LAND SURVEYOR

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1 INCH = 30 FT.

PLAT OF SURVEY WITH TOPOGRAPHY
FOR
MSP MCFARLAND
MCFARLAND, WI

DRAWN BY:	ES	DATE:	JUNE 14, 2020
CHECKED BY:	MJB	DRAWING NO.	P - 0
CSE JOB NO.:	20 - 052	SHEET 1	OF 1

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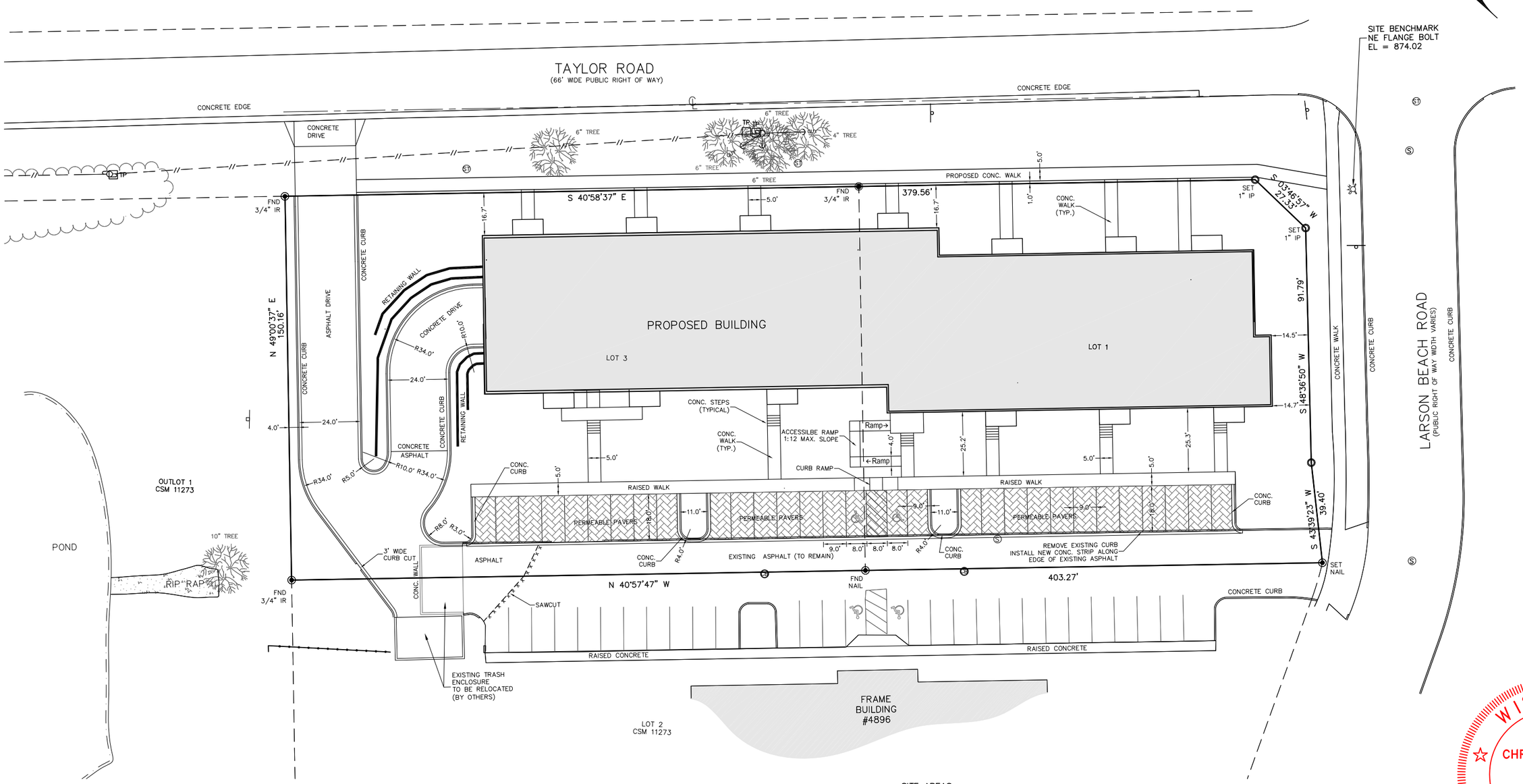
MSP MCFARLAND
MCFARLAND, WISCONSIN



CJE NO.: 1948RI
JULY 07, 2020
REV.:07-15-20

WISCONSIN
CHRISTOPHER A. JACKSON
E-34614
WAUWATOSA, WI
PROFESSIONAL ENGINEER

www.DiggersHotline.com
DIGGERS HOTLINE
DIAL 811 OR (800) 242-8511

NOTES:

1. STORM WATER MANAGEMENT FOR THIS PARCEL IS PROVIDED BY AN EXISTING STORM WATER POND TO THE NORTHWEST OF THIS DEVELOPMENT. ADDITIONAL STORM WATER MANAGEMENT MEETING THE CITY AND DNR REQUIREMENTS TO THE MAXIMUM EXTENT PRACTICAL IS PROVIDED BY THE USE OF POROUS PAVEMENT PAVERS.

2. ALL WORK IN THE RIGHT-OF-WAY PER CITY OF MCFARLAND REQUIREMENTS.

3. ALL DIMENSIONS TO THE FACE OF CURB OR EDGE OF PAVEMENT.

GRAPHIC SCALE

40 0 20 40 80

1 inch = 40 ft

SITE AREAS

PROPOSED DEVELOPMENT AREAS:

APARTMENT SITE LOT = 59,870 S.F. (1.374 ACRES)

BUILDING FOOTPRINT = 19,013 S.F.
PATIOS = 936 S.F.
CONC. WALKS =3,340 S.F.
PROPOSED ASPHALT / CONCRETE DRIVES = 7,050 S.F.
EXISTING ASPHALT DRIVES = 3,995 S.F.
PAVERS = 4,905 S.F.

TOTAL PAVED AREA = 20,226 S.F.
TOTAL IMPERVIOUS AREA= 39,239 S.F.

OPEN SPACE (LANDSCAPE AREA) = 20,632 S.F. – 34% OF THE SITE

DISTURBED AREA = 61,500 S.F. (1.41 ACRES)

SURFACE PARKING

TOTAL = 30
28 REGULAR SPACES
2 HANDICAPPED SPACES

SITE PLAN

C1.0

SHEET 1 OF 5

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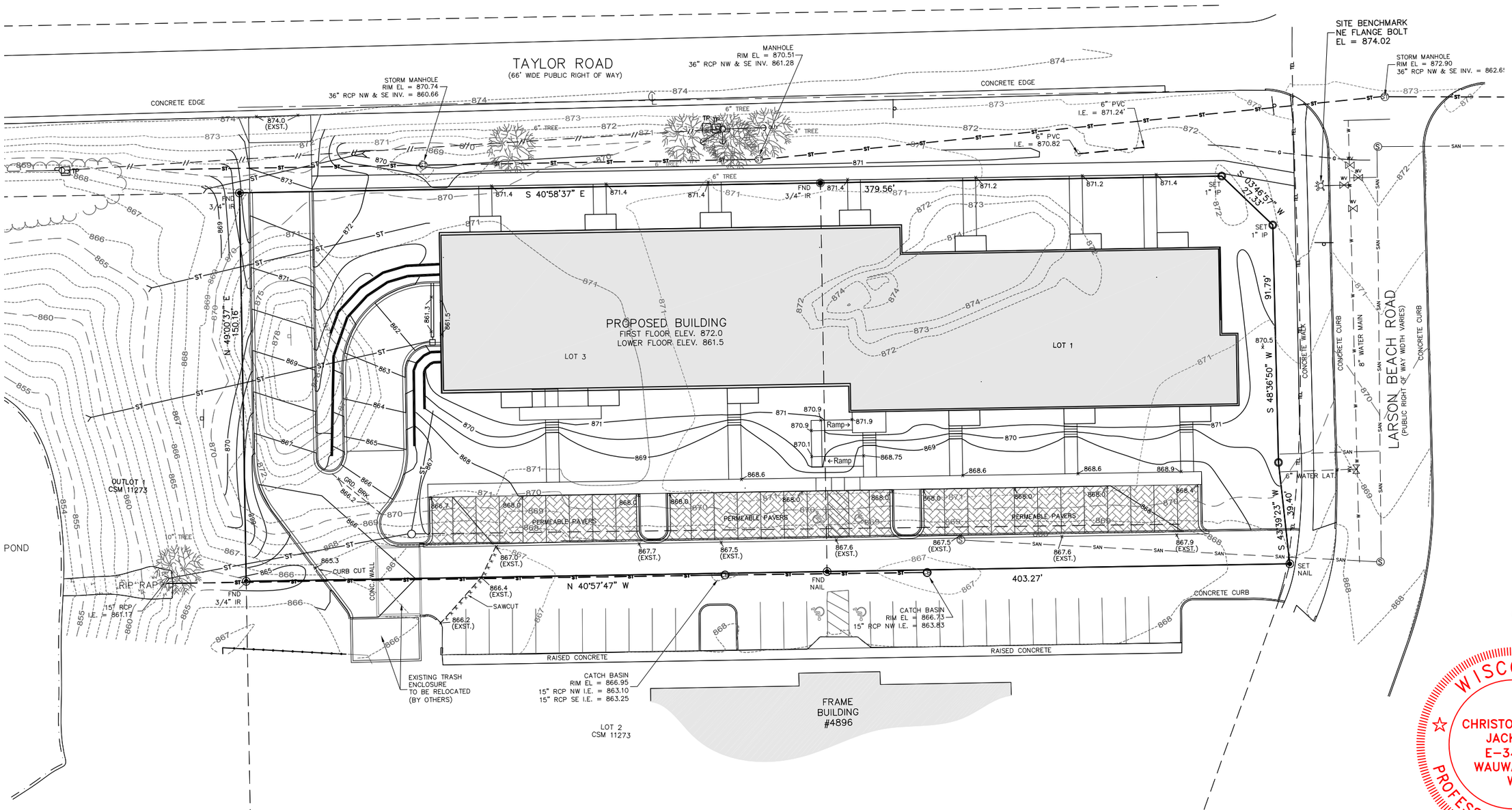

MSP MCFARLAND
MCFARLAND, WISCONSIN

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LEGEND

856	EXISTING CONTOUR
860	PROPOSED CONTOUR
x 858.5	PROPOSED ELEVATION
ST	PROPOSED STORM SEWER

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GRAPHIC SCALE
40 0 20 40 80
1 inch = 40 ft

NOTES:

1. STORM WATER MANAGEMENT FOR THIS PARCEL IS PROVIDED BY AN EXISTING STORM WATER POND TO THE NORTHWEST OF THIS DEVELOPMENT. ADDITIONAL STORM WATER MANAGEMENT MEETING THE CITY AND DNR REQUIREMENTS TO THE MAXIMUM EXTENT PRACTICAL IS PROVIDED BY THE USE OF POROUS PAVEMENT PAVERS.
2. ALL WORK IN THE RIGHT-OF-WAY PER CITY OF MCFARLAND REQUIREMENTS.
3. ALL SPOT GRADES ALONG THE CURB / RAISED WALK ARE AT THE BOTTOM OF THE CURB / WALK.

SITE GRADING PLAN C2.0

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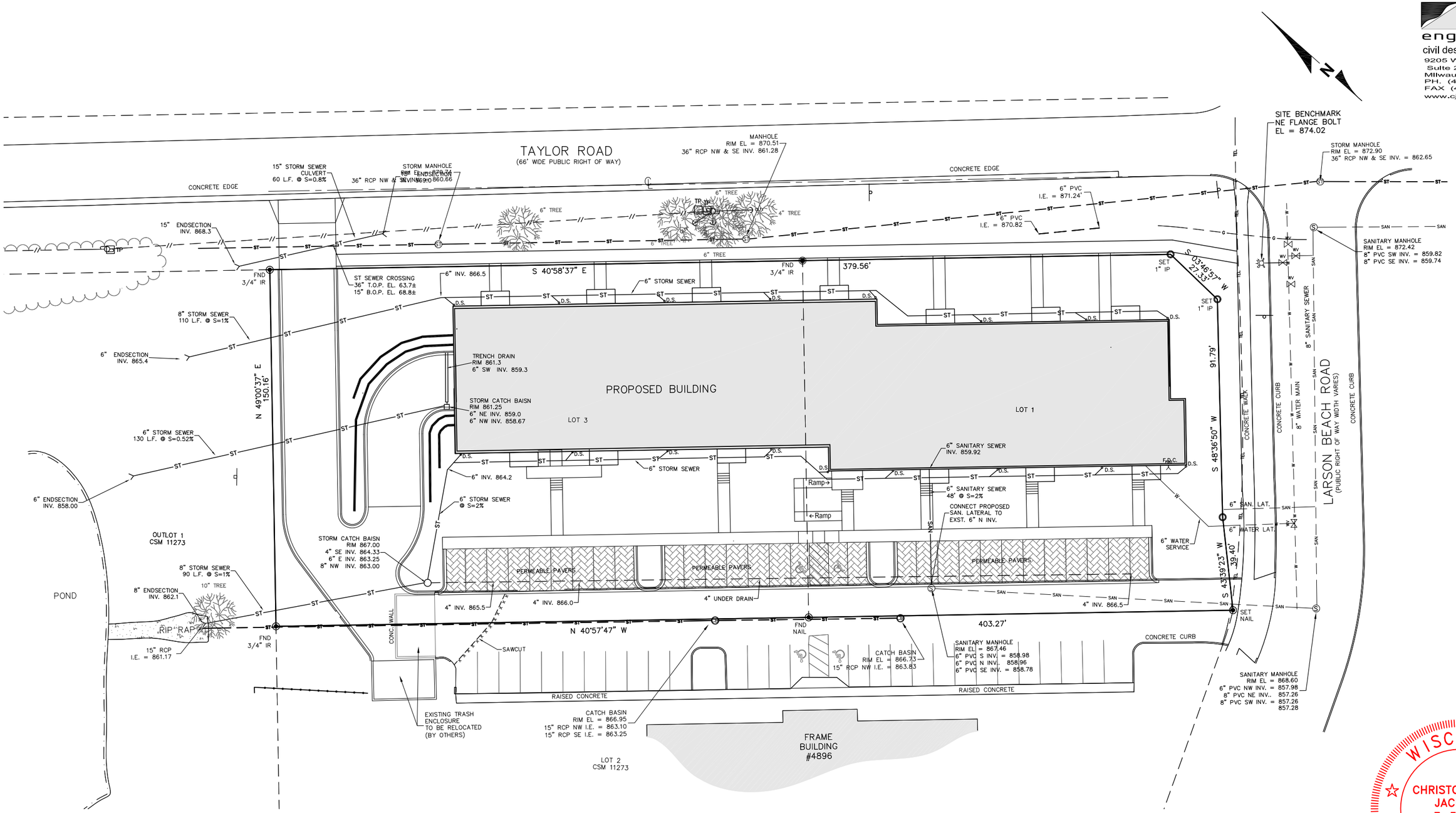
MSP MCFARLAND
MCFARLAND, WISCONSIN



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LEGEND

ST	EXISTING STORM SEWER
ST	PROPOSED STORM SEWER
SAN	EXISTING SANITARY SEWER
SAN	PROPOSED SANITARY SEWER
W	EXISTING WATER MAIN
W	PROPOSED WATER MAIN
G	BURIED GAS MAIN
//	OVER HEAD WIRE
E	BURIED ELECTRIC
	UTILITY POLE

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GRAPHIC SCALE

40 0 20 40 80

1 inch = 40 ft

NOTES:

1. ALL STORM SEWER, SANITARY SEWER, AND WATER MAIN MATERIALS AND INSTALLATION PER APPLICABLE SECTIONS OF THE LATEST EDITIONS OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, WISCONSIN ADMINISTRATIVE PLUMBING CODE AND THE CITY OF MCFARLAND REQUIREMENTS.

2. ALL TRENCHES IN PAVEMENT AREAS SHALL HAVE GRAVEL BACKFILL.

3. EXACT SIZE AND LOCATION OF STORM, SANITARY AND WATER SERVICE TO PROPOSED BUILDINGS TO BE VERIFIED BY PLUMBING CONSULTANT/CONTRACTOR. CONTACT CJ ENGINEERING WITH ANY DISCREPANCIES.

4. PROPOSED WATER MAIN SHALL HAVE A MINIMUM 6 FEET OF COVER.

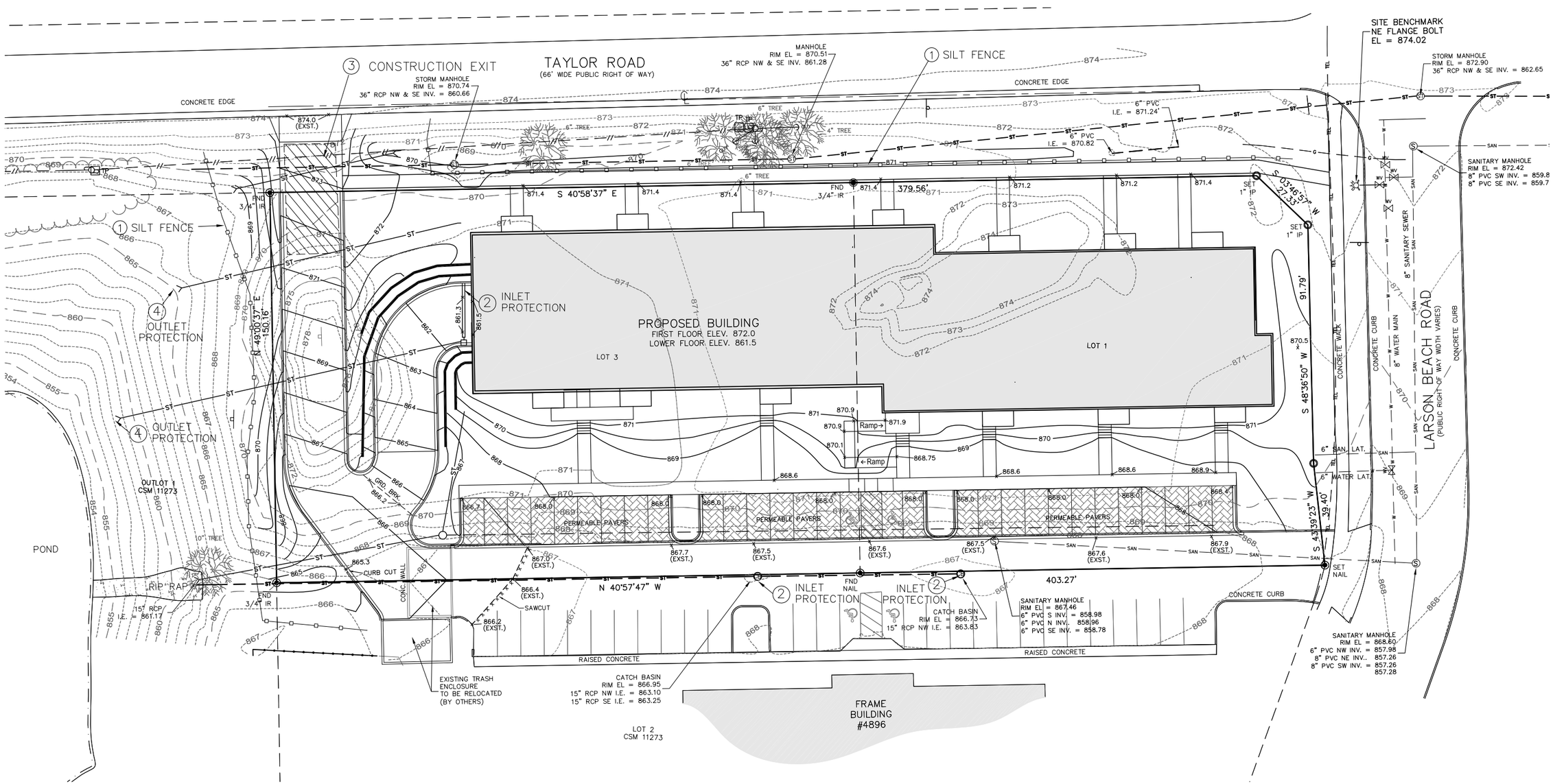
5. THE CONTRACTOR SHALL VERIFY ALL SEWER AND WATER CONNECTIONS PRIOR TO UTILITY CONSTRUCTION. NOTIFY THE ENGINEER WITH ANY DISCREPANCIES.

6. ALL THE WORK IN THE PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED BY A CITY-LICENSED CONTRACTOR.

SITE UTILITY PLAN

C3.0

SHEET 3 OF 5



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MSP MCFARLAND

MCFARLAND, WISCONSIN

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NOTE:

DISTURBED AREA = 61,500 S.F. (1.41 ACRES)

LEGEND

856	EXISTING CONTOUR
860	PROPOSED CONTOUR
x 858.5	PROPOSED ELEVATION
ST	PROPOSED STORM SEWER
	PROPOSED SILT FENCE

GRAPHIC SCALE

40 0 20 40 80

1 inch = 40 ft

CONSTRUCTION SCHEDULE

1. OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS.
2. INSTALL SILT FENCE.
3. INSTALL INLET PROTECTION IN THE EXISTING STORM INLETS AND CATCH BASINS.
4. INSTALL CONSTRUCTION EXITS (TRACKING PADS)
5. SAWCUT PAVEMENT AND REMOVE PAVEMENT AS SHOWN.
6. ROUGH GRADE SITE.
7. BEGIN BUILDING CONSTRUCTION.
8. INSTALL PROPOSED UTILITIES.
9. INSTALL INLET GRATE SCREENS IN THE NEW TRENCH DRAIN.
10. INSTALL OUTLET PROTECTION ON THE NEW STORM ENDSECTIONS.
11. INSTALL CURB, WALK AND BASE COURSE OF PAVEMENT.
12. FINAL GRADE SLOPES AND TOPSOIL CRITICAL SLOPES; VEGETATE AND MULCH ALL DISTURBED AREAS.
13. INSTALL POROUS PAVERS.
14. ALL EROSION CONTROL PRACTICES WILL BE INSPECTED WEEKLY AND AFTER RAINFALL, NEEDED REPAIRS WILL BE PERFORMED IMMEDIATELY.
15. AFTER SITE IS STABILIZED, REMOVE ALL TEMPORARY MEASURES AND VEGETATE THE DISTURBED AREAS.
16. ESTIMATED TIME BEFORE FINAL STABILIZATION – 6 MONTHS.

MAINTENANCE PLAN

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY ½" RUNOFF–PRODUCTION RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.

2. SEDIMENT WILL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 0.5 FT. DEEP AT THE FENCE. THE SILT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.

3. ALL SEEDED AREAS WILL BE WATERED, FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

4. ANY SEDIMENT REACHING A PUBLIC OR PRIVATE ROAD SHALL BE REMOVED BY STREET CLEANING BEFORE THE END OF EACH DAY.

EROSION CONTROL PRACTICES SCHEDULE

1. SILT FENCE
2. INLET PROTECTION
3. CONSTRUCTION EXIT
4. OUTLOT PROTECTION

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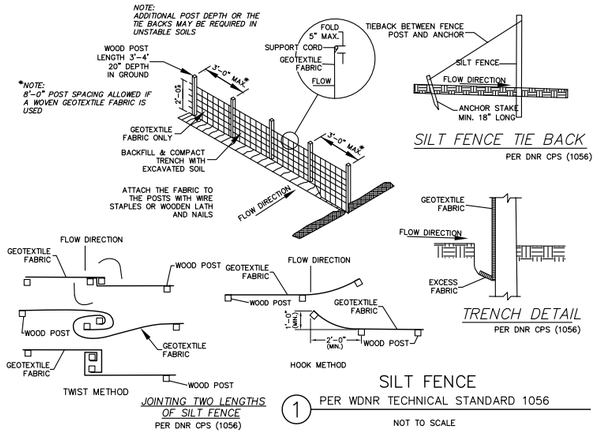
WAUWATOSA, WI
PROFESSIONAL ENGINEER

EROSION CONTROL PLAN

C4.0

SHEET 4 OF 5



SILT FENCE

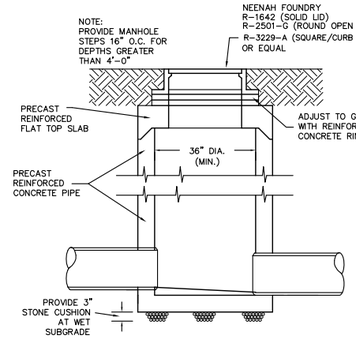
1 PER WDNR TECHNICAL STANDARD 1056

NOT TO SCALE

SILT FENCE CONSTRUCTION SPECIFICATIONS

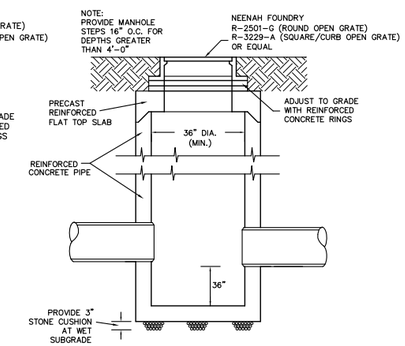
PER DNR CPS (1056)

1. Construction silt fence around the disturbed areas as shown on Erosion Control Plan, to prevent sediment from being washed into the drainage system.
2. Locate posts per DNR CPS (1056)
3. When joints are necessary, refer to DNR CPS (1056).
4. Filter fabric to be of nylon, polyester, propylene or ethylene yarn with extra strength – 50 LB/lin. in. (Minimum) – and with a flow rate of at least 0.3 gal./sq. ft./min. Fabric should contain ultraviolet ray inhibitors and stabilizers.
5. The filter fabric shall be anchored by spreading at least 8 inches of fabric in a 4" x 6" trench.
6. The filter fabric shall be stapled and/or nailed to the upslope side of the posts.
7. Post to be 1 1/8"x 1 1/8" hickory or oak, 3 feet long, spaced a maximum of 3 feet apart.
8. Use wire reinforcement in unstabilized minor swales, ditches or diversions.
9. Use WisDOT approved silt fence.



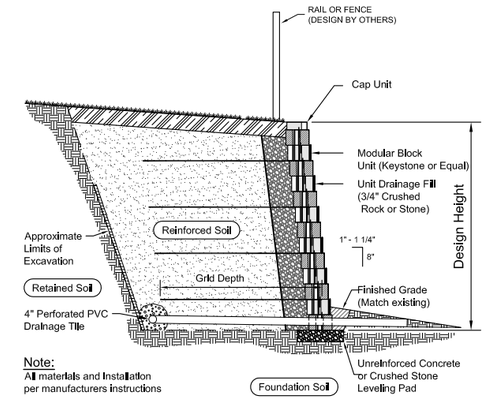
PRECAST STORM MH/INLET

NOT TO SCALE



PRECAST STORM CATCH BASIN

NOT TO SCALE

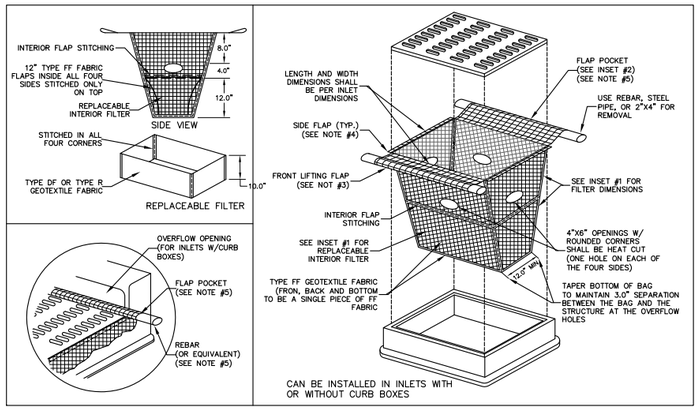


Note:
All materials and installation per manufacturers instructions

Typical Retaining Wall Section

NTS

CJ engineering
civil design and consulting
9205 W. Center Street
Suite 214
Milwaukee, WI 53222
PH. (414) 443-1312
www.cj-engineering.com



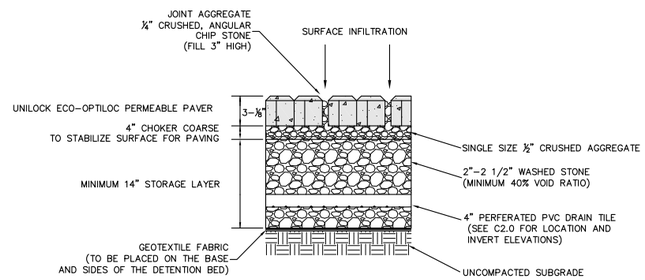
NOTES:
1. TAPER BOTTOM OF BAG TO MAINTAIN THREE INCHES OF CLEARANCE BETWEEN THE BAG AND THE STRUCTURE, MEASURED FROM THE BOTTOM OF THE OVERFLOW OPENINGS TO GHT STRUCTURE WALL.
2. GEOTEXTILE FABRIC TYPE FF FOR FLAPS, TOP AND BOTTOM OF OUTSIDE OF FILTER BAG. FRONT, BACK AND BOTTOM OF FILTER BAG BEING ONE PIECE.
3. FRONT LIFTING FLAP IS TO BE USED WEN REMOVING AND MAINTAINING FILTER BAG.
4. SIDE FLAPS SHALL BE A MAXIMUM OF TWO INCHES LONG. FOLD THE FABRIC OVER AND REINFORCE WITH MULTIPLE STITCHES.
5. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2"X4". THE REBAR, STEEL PIPE, OR WOOD SHALL BE INSTALLED IN THE REAR FLAP AND SHALL NOT BLOCK THE TOP HALF OF THE CURB FACE OPENING.

MAINTENANCE NOTES:
1. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED IN THE FABRIC DOES NOT FALL INTO THE STRUCTURE. MATERIAL THAT HAS FALLEN INTO THE INLET SHALL BE IMMEDIATELY REMOVED.

INLET PROTECTION, TYPE D-M

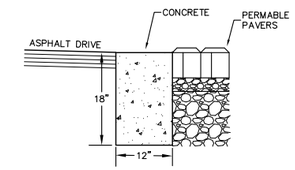
2 PER WDNR TECHNICAL STANDARD 1060

NOT TO SCALE



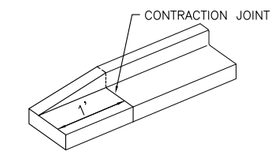
PERMEABLE PAVER TYPICAL DESIGN X-SECTION

NOT TO SCALE



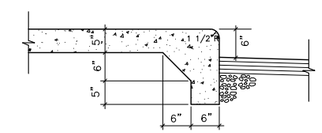
PAVER CONCRETE EDGE

NOT TO SCALE



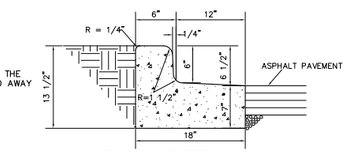
END SECTION CURB TAPER

NOT TO SCALE



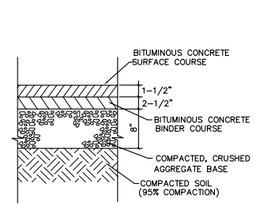
CONCRETE WALK WITH INTEGRAL CURB

NOT TO SCALE



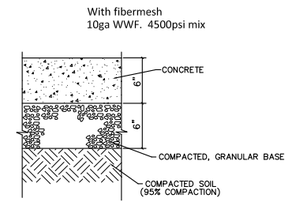
HIGH SIDE CONCRETE CURB

NOT TO SCALE



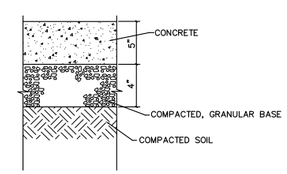
ASPHALT PAVEMENT

NOT TO SCALE



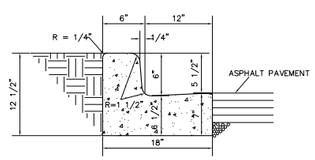
CONCRETE PAVEMENT

NOT TO SCALE



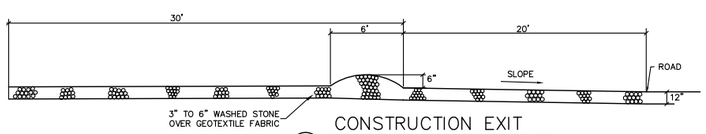
CONCRETE SIDEWALK

NOT TO SCALE



LOW SIDE CONCRETE CURB

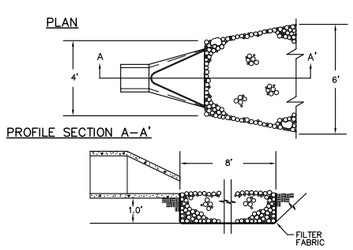
NOT TO SCALE



CONSTRUCTION EXIT

3 PER WDNR TECHNICAL STANDARD 1057

NOT TO SCALE

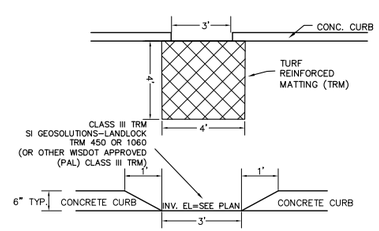


CONSTRUCTION SPECIFICATIONS

1. EXCAVATE BELOW CHANNEL OUTLET AND WIDEN CHANNEL TO THE REQUIRED RIP RAP THICKNESS FOR EACH APRON. FOUNDATION TO BE CUT TO ZERO GRADE AND SMOOTHED.
2. PLACE FILTER CLOTH ON BOTTOM AND SIDES OF PREPARED FOUNDATION. ALL JOINTS TO OVERLAP A MINIMUM OF 1.0'.
3. EXERCISE CARE IN RIP RAP PLACEMENT TO AVOID DAMAGE TO FILTER FABRIC.
4. PLACE RIP RAP ON ZERO GRADE – TOP OF RIP RAP TO BE LEVEL WITH EXISTING OUTLET – NO OVERFALL AT ENDS.
5. RIP RAP TO BE HARD, ANGULAR, WELL GRADE STONE OF 5" TO 8" DIA.
6. IMMEDIATELY AFTER CONSTRUCTION, STABILIZE ALL DISTURBED AREAS WITH VEGETATION.

OUTLET PROTECTION FOR ENDSECTION

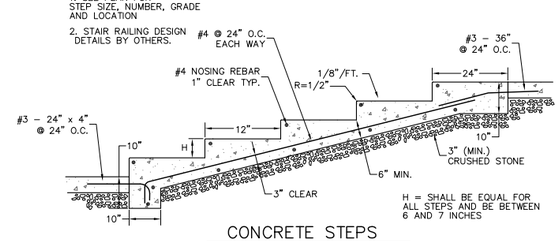
4 NOT TO SCALE



CURB CUT DETAIL

NOT TO SCALE

NOTES:
1. SEE PLAN FOR STEP SIZE, NUMBER, GRADE AND LOCATION
2. STAIR RAILING DESIGN DETAILS BY OTHERS.



CONCRETE STEPS

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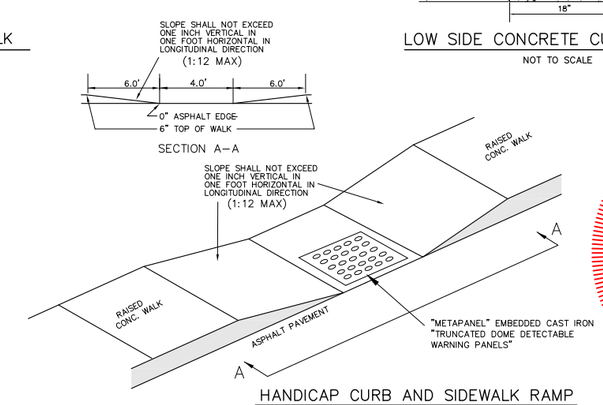


HANDICAP CURB AND SIDEWALK RAMP

NOT TO SCALE

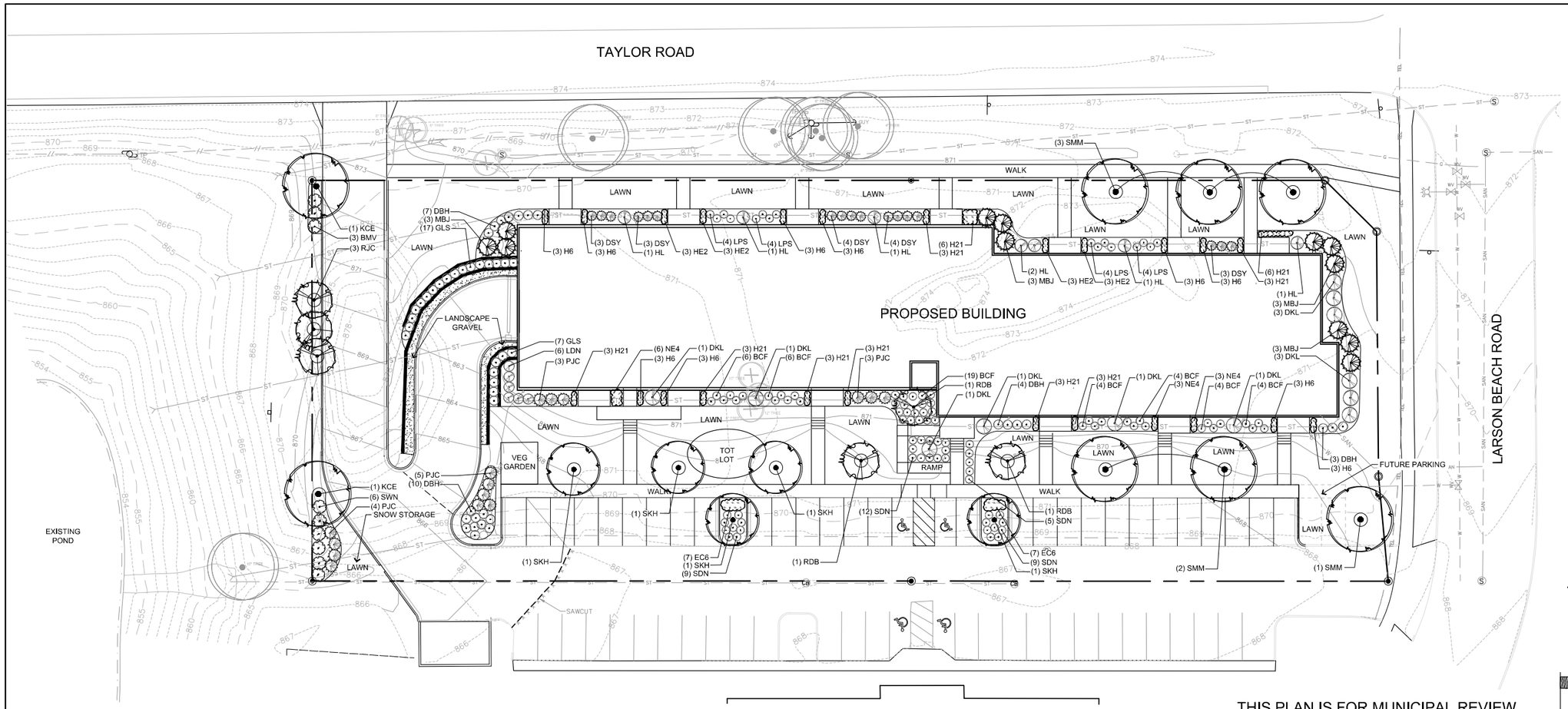
MSP MCFARLAND
MCFARLAND, WISCONSIN

CJE NO.: 1948RI
JULY 07, 2020
REV.:07-15-20

WISCONSIN
CHRISTOPHER A. JACKSON
E-34614
WAUWATOSA, WI
PROFESSIONAL ENGINEER

SITE DETAILS

C5.0



THIS PLAN IS FOR MUNICIPAL REVIEW
NOT FOR BIDDING
OR CONSTRUCTION PURPOSES

CITY OF MCFARLAND LANDSCAPE CALCULATIONS

PD-1 and R-3 Zoning Requirements
Division 2 Zoning Districts & District Regulations 62-66

MINIMUM LANDSCAPE POINTS

Foundation 760 LF 50 points per 100 LF
REQUIRED: 380 points
PROVIDED: 455 points

Gross Floor Area 56,944 SF 20 points per 1,000 SF
REQUIRED: 1,139 points
PROVIDED: 1,150 points

Street Frontage 50 points per100 LF
Taylor Road 380 LF
REQUIRED: 190 points
EXISTING: 4 Canopy trees (greater than 2") -160 points
PROVIDED: 1 Canopy tree - 40 points
Larson Beach Road 120 LF
REQUIRED: 60 points
PROVIDED: 2 Canopy trees - 80 points

Paved Area 15,720 SF 100 points per 10,000 SF
REQUIRED: 158 points
PROVIDED: 529 points

Multi-Family Residential Landscape Requirments
(Appendix B Village of McFarland Landscape Standards Item 6)
a) All yards sod or seed: provided
b) Street yards: addressed above
c) Rear yards and interior side yards:
Mix of canopy, evergreen and other trees 1 per 50LF
Large shrubs along 50% of LF

Northwest property line 151 LF
REQUIRED: 4 trees and 45LF tall shrubs
PROVIDED: 4 trees and 45LF tall shrubs

Southwest property line 403 LF
Not applicable - length is part of shared parking and drive isle

PLANT SYMBOL KEY

- CANOPY TREES
- LOW DECIDUOUS TREES
- MEDIUM EVERGREEN TREES
- DECIDUOUS TREE TO BE REMAIN
- DECIDUOUS TREE TO BE REMOVED
- TALL DECIDUOUS SHRUBS
- MEDIUM DECIDUOUS SHRUBS
- LOW DECIDUOUS SHRUBS
- MEDIUM EVERGREEN SHRUBS
- LOW EVERGREEN SHRUBS
- PERENNIALS -

GENERAL LANDSCAPE NOTES

- ALL DETAILS AND SPECIFICATIONS TO BE DETERMINED ON FINAL LANDSCAPE PLANS.
- ALL PLANTINGS SHALL COMPLY WITH STANDARDS AS DESCRIBED IN AMERICAN STANDARD OF NURSERY STOCK - ANSI Z60.1 (LATEST VERSION)
- MULCH: ALL PLANTING BEDS TO RECEIVE 3" DEEP LAYER OF SHREDDED HARDWOOD BARK MULCH. TREES IN LAWN TO BE SURROUNDED BY 5' DIA MULCH RING
- TURF SEED: DURABLE, PREMIUM COMMERCIAL BLEND.

PLANT SCHEDULE SITE

CANOPY TREES	QTY	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
SMM	6	State Street Miyabe Maple	'Acer miyabei `Morton` TM	2" CAL / 6' HT	B&B	Full, matching heads
SKH	5	Street Keeper Honey Locust	Gleditsia triacanthos `Draves`	2" CAL / 6' HT	B&B	Full, matching heads
KCE	2	Espresso Kentucky Coffeetree	Gymnodadus dioica `Espresso`	2" CAL / 6' HT	B&B	Full, matching heads
LOW DECIDUOUS TREES	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
RDB	3	Eastern Redbud	Cercis canadensis	2" CAL / 6' HT	B&B	Full, matching heads. Northern grown
RJC	3	Red Jewel Crab Apple	Malus x `Red Jewel`	2" CAL / 6' HT	B&B	Full, matching heads
LOW EVERGREEN TREES	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
MBJ	12	`Mountbatten` Juniper	Juniperus chinensis `Mountbatten`	4' HT	B&B	Unsheared
TALL DECIDUOUS SHRUBS	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
SWN	6	Summer Wine Ninebark	Physocarpus opulifolius `Seward`	24" HT	B&B	
BMV	3	Blue Muffin Arrowwood Viburnum	Viburnum dentatum `Chistom`	3' HT	B&B	
MEDIUM DECIDUOUS SHRUBS	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
HL	7	Little Quick Fire Hydrangea	Hydrangea paniculata `Little Quick Fire`	24" HT	CONT.	
LDN	6	Little Devil Dwarf Ninebark	Physocarpus opulifolius `Little Devil` TM	24" HT	CONT.	
DKL	12	Dwarf Korean Lilac	Syringa meyeri `Palibin`	24" HT	CONT.	
MEDIUM EVERGREEN SHRUBS	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
DSY	17	Dense Yew	Taxus x media `Densiformis`	18"SPD	CONT.	
LOW DECIDUOUS SHRUBS	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
SDN	35	Nikko Slender Deutzia	Deutzia gracilis `Nikko`	18" HT	CONT.	
DBH	24	Dwarf Bush Honeysuckle	Diervilla lonicera	18" HT	CONT.	
BCF	47	Beaver Creek Dwarf Fothergilla	Fothergilla gardenii `Klmtwo`	18" HT	CONT.	
GLS	24	Gro-Low Fragrant Sumac	Rhus aromatica `Gro-Low`	18" HT	CONT.	
LPS	16	Little Princess Spirea	Spiraea x japonica `Little Princess`	18" HT	CONT.	
LOW EVERGREEN SHRUBS	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
PJC	15	Kallay Compact Pfitzer Juniper	Juniperus chinensis `Kallays Compact`	18"SPD	CONT.	
PERENNIALS	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
EC6	14	Magnus Purple Coneflower	Echinacea purpurea `Magnus`	4 1/2"	POT	18" Spacing
H6	30	Little Business Daylily	Hemerocallis x `Little Business`	4 1/2"	POT	24" Spacing
H21	36	Stella de Oro Daylily	Hemerocallis x `Stella de Oro`	4 1/2"	POT	18" Spacing
HE2	12	Palace Purple Coral Bells	Heuchera micrantha `Palace Purple`	4 1/2"	POT	15" Spacing
NE4	12	Kit Kat Catmint	Nepeta x faassenii `Kit Kat`	4 1/2"	POT	18" Spacing

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THIS PLAN ARE APPROXIMATE. THERE MAY BE OTHER UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES.

R.A. SMITH, INC. ASSUMES NO RESPONSIBILITY FOR DAMAGES, LIABILITY OR COSTS RESULTING FROM CHANGES OR ALTERATIONS MADE TO THIS PLAN WITHOUT THE EXPRESSED WRITTEN CONSENT OF R.A. SMITH, INC.

DATE	DESCRIPTION
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raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com
Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI | Cedarburg, WI
Mount Pleasant, WI | Naperville, IL | Irvine, CA

MSP MCFARLAND
MCFARLAND, WI

LANDSCAPE PLAN

© COPYRIGHT 2020
R.A. Smith, Inc.

DATE: 07/06/2020
SCALE: 1" = 20'
JOB NO. 3200152
PROJECT MANAGER: LUKE J. HAAS, PLA
DESIGNED BY: NJW/LJH
CHECKED BY: LJH

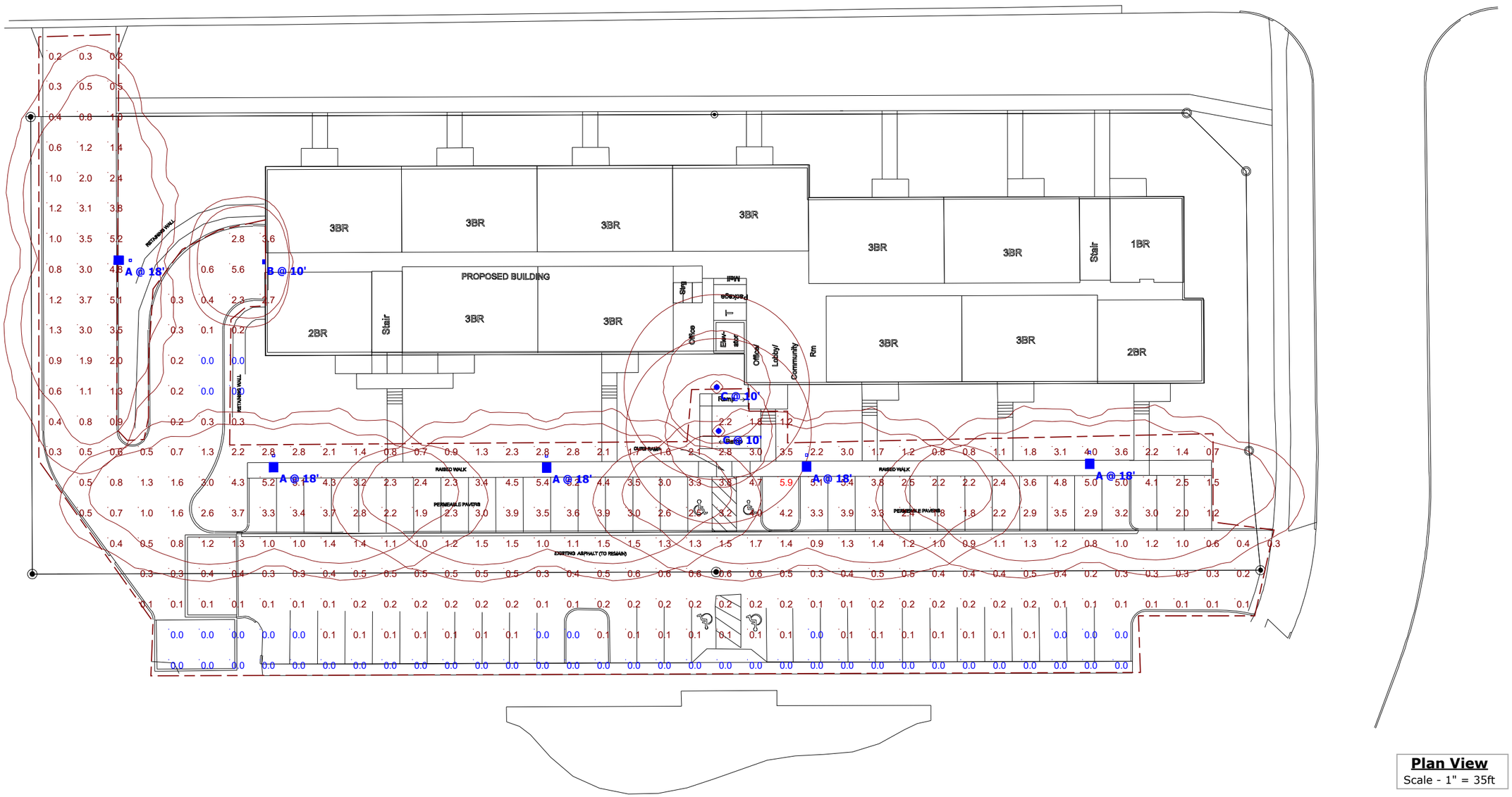
SHEET NUMBER
L1.0

Note

TYPE A - 15' POLE WITH 3' BASE.

Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Light Loss Factor	Wattage
	A	5	RAB LIGHTING INC.	ALED2T78N	1	79.5
	B	1	RAB LIGHTING INC. RC LIGHTING	SLIM26N	1	29.9
	C	2	RAB LIGHTING INC. RC LIGHTING	BLEDR24N	1	23.3



Plan View

Scale - 1" = 35ft

HEIN ELECTRIC SUPPLY COMPANY

MSP - MCFARLAND
MCFARLAND, WI.

Designer	RJE
Date	7/6/2020
Scale	Not to Scale
Drawing No.	
Summary	

Flr	1	2	3	
1BR	1	11	11	23
2BR	2	8	8	18
3BR	10	0	0	10
TOTAL	13	19	19	**51**

0' 10' 20' 40'

SITE PLAN - GROUND FLOOR PLAN

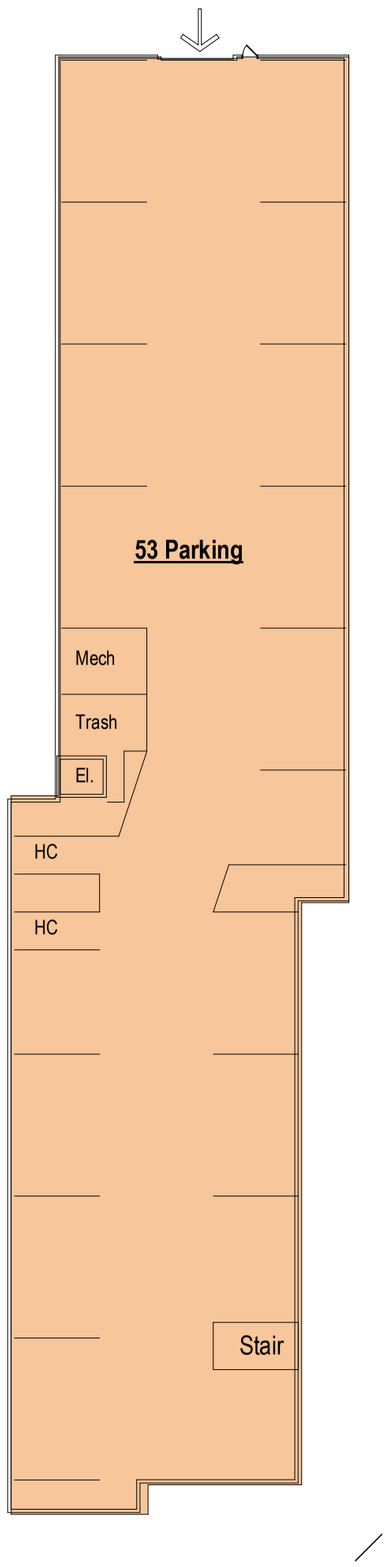
MULTIFAMILY TAYLOR RD.

DIMENSION IV
Madison Design Group
architecture · interior design · planning
6515 Grand Teton Plaza, Suite 120, Madison, Wisconsin 53719
p608.829.4444 f608.829.4445 dimensionivmadison.com

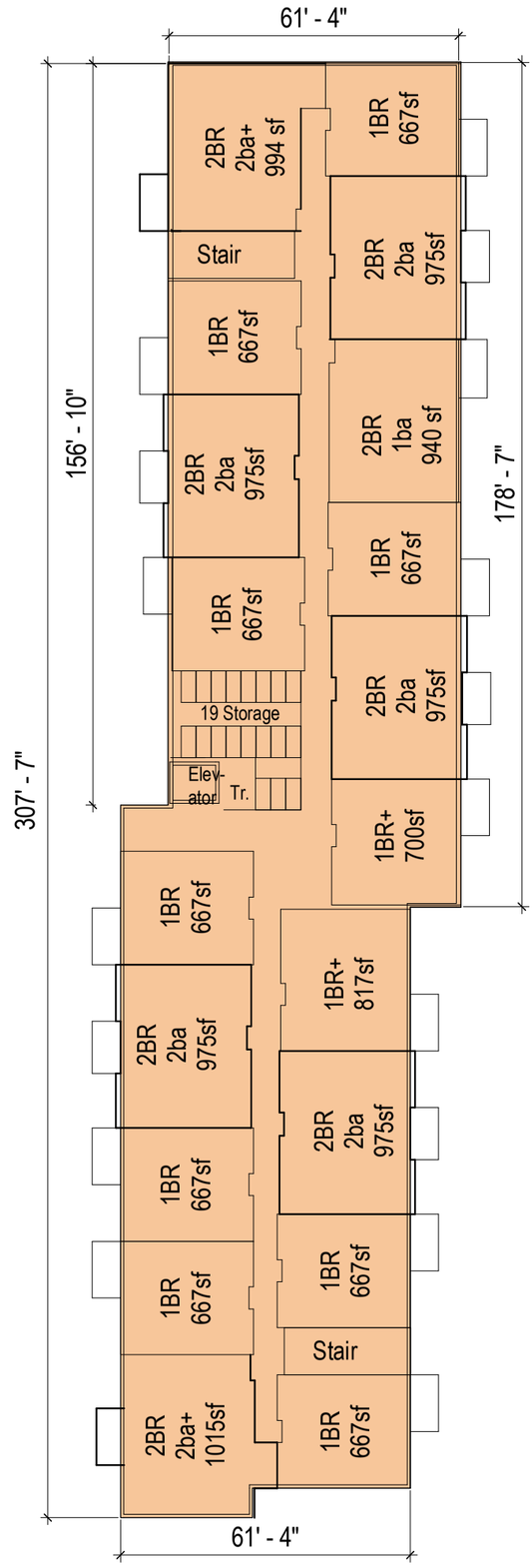
Larsen Beach Rd. at Taylor Rd., McFarland, WI

ARCHITECTURAL SITE PLAN - GROUND FLOOR PLAN
7 JULY 2020
19111

Flr	1	2	3	
1BR	1	11	11	23
2BR	2	8	8	18
3BR	10	0	0	10
TOTAL	13	19	19	**51**



1 **00-PARKING LEVEL**
1/16" = 1'-0"



2 **SECOND FLOOR PLAN**
1/16" = 1'-0"
Third Floor Similar

0' 4' 8' 16'

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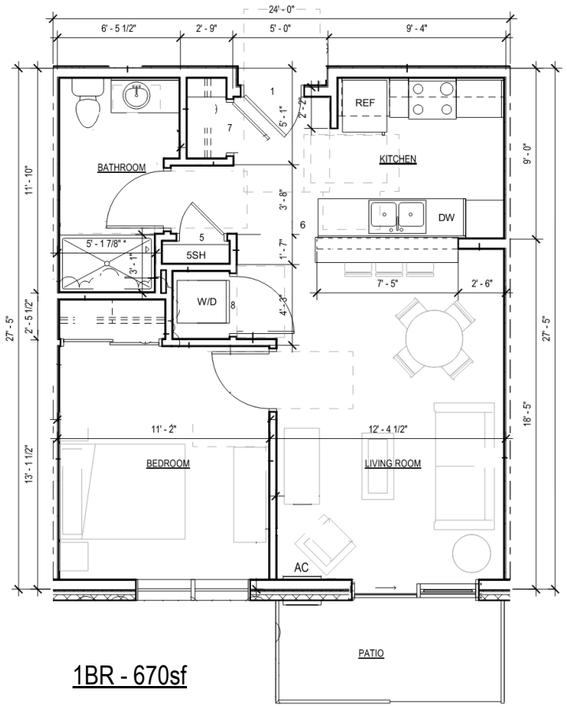
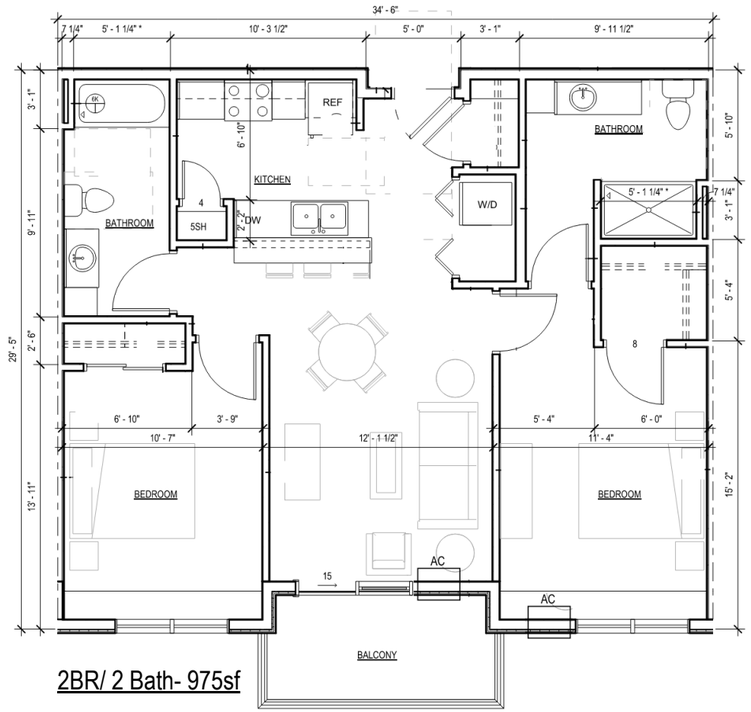
MULTIFAMILY TAYLOR RD.

Larsen Beach Rd. at Taylor Rd., McFarland, WI

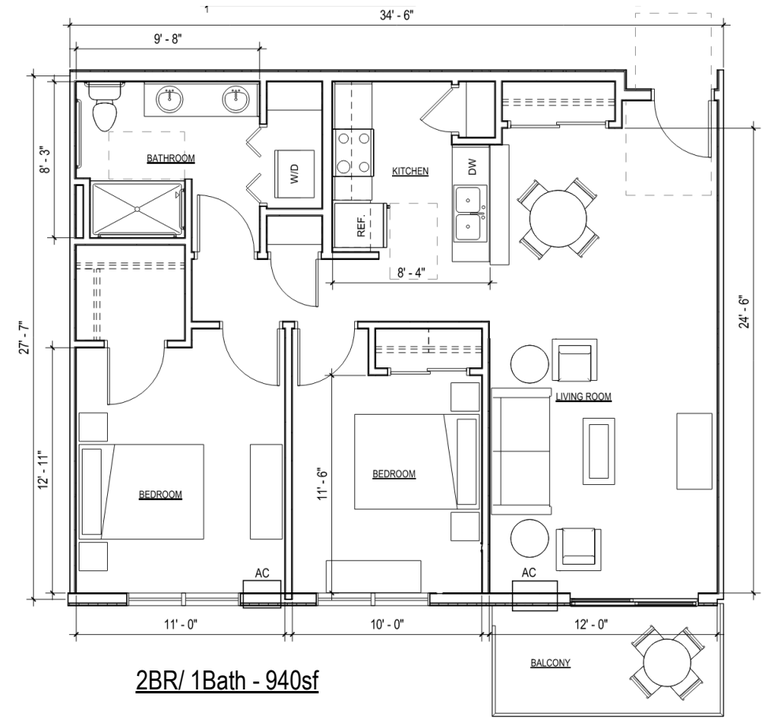
FLOOR PLANS
6 JULY 2020
19111



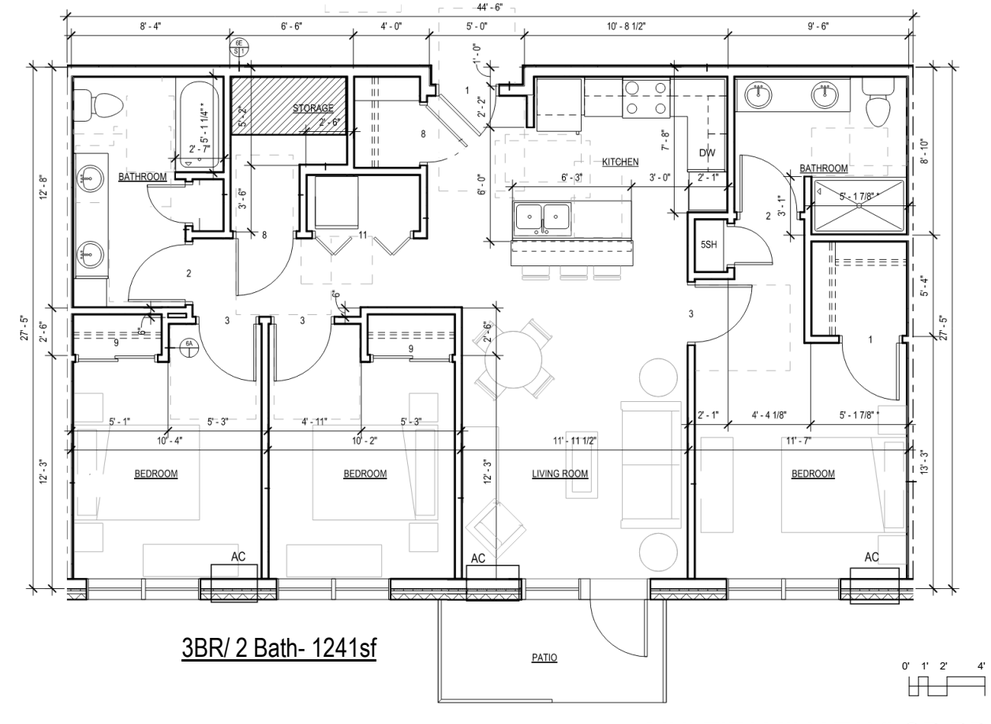
1BR - 670sf



2BR/ 2 Bath- 975sf



2BR/ 1Bath - 940sf



3BR/ 2 Bath- 1241sf

UNIT PLANS

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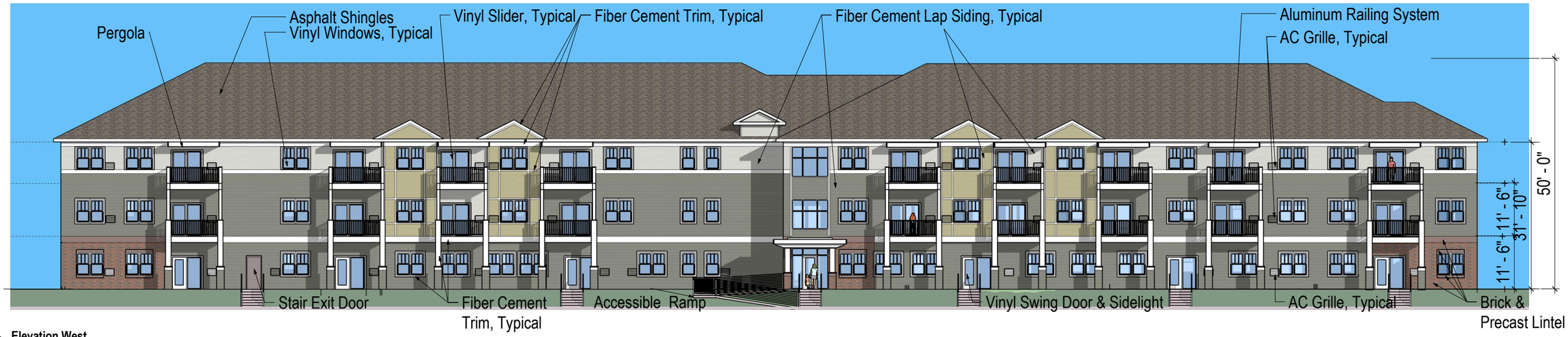
MULTIFAMILY TAYLOR RD.

Larsen Beach Rd. at Taylor Rd., McFarland, WI

UNIT PLANS
07/01/20
19111



2 **Elevation West**
3/32" = 1'-0"

1 **Elevation East**
3/32" = 1'-0"

0' 2' 4' 8'

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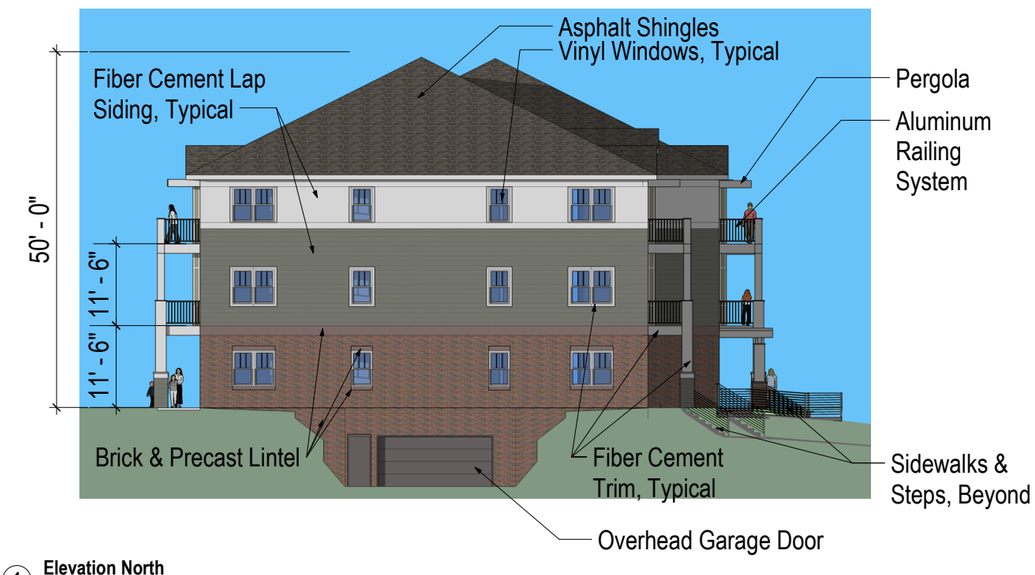
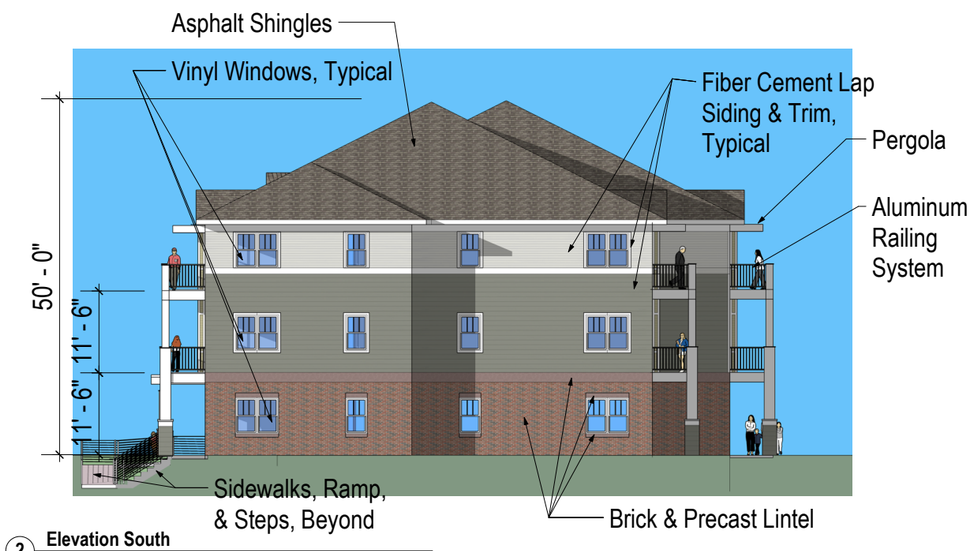
MULTIFAMILY TAYLOR RD.

Larsen Beach Rd. at Taylor Rd., McFarland, WI

ELEVATIONS
07/06/20
19111



1 **Elevation North**
3/32" = 1'-0"



2 **Elevation South**
3/32" = 1'-0"

0' 2' 4' 8'

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MULTIFAMILY TAYLOR RD.

Larsen Beach Rd. at Taylor Rd., McFarland, WI

ELEVATIONS 2
07/06/20
19111

3D View to NW

DIMENSION IV
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MULTIFAMILY TAYLOR RD.

Larsen Beach Rd. at Taylor Rd., McFarland, WI

3D VIEW TO NW
07/06/20
19111

STORM WATER MANAGEMENT PLAN

FOR

MSP – McFarland

LARSON BEACH ROAD AND TAYLOR ROAD
McFarland, Wisconsin

July 7, 2020

PREPARED BY:

Christopher A Jackson, PE
CJ Engineering, LLC
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Milwaukee, WI 53222
414-443-1312
chris@cj-engineering.com

CJE Job No.: 1948R0

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2.) Method of Analysis

3.) Water Quality

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iii. WinSLAMM Water Quality Calculations

iv. Maintenance Requirements

Introduction:

The proposed MSP McFarland development will consist of a new 19013 s.f. apartment building with new surface parking, drives and sidewalks located just to the southeast of a shared existing parking lot on the northwest corner of Taylor Road and Larson Beach Road. This land is part of a larger development that has an existing regional storm water pond to the northwest. This pond was designed to provide runoff control for this property under future developed conditions. The pond also has a permanent water volume (it is a "wet" pond) that will provide sediment control prior to discharging the runoff to the north. As part of this project, the Village of McFarland is requiring some additional water quality control and infiltration practices to meet the goals and requirements of the current Village and WDNR storm water codes and ordinances. In order to meet the additional water quality and infiltration requirements we are proposing to install porous pavers in all the new surface parking spaces. There will be a 4" drain tile installed within the stone sub-base the will be connected to the existing storm sewer system. In addition to providing sediment removal, the porous pavers will also allow for infiltration into the underlying soils. As the enclosed calculations show, the storm water management features of this development along with the existing off site storm water pond allow this proposed development to meet the storm water management requirements of the Village and WDNR.

Method of Analysis:

Water quality and infiltration calculations were done using SLAMM for Windows "Source Loading and Management Model" version 10.2.1.

Water Quality:

Based on the installation of porous pavement, the water quality for the proposed development, (the Total suspended sediment – TSS) out of site analysis is as summarized below:

	Before Drainage System	After Controls	% Reduction
Proposed site	3605 lbs.	978.8 lbs.	72.85%

Infiltration:

Infiltration calculations were done using SLAMM for Windows and run over a period from August 1979 to December 1999. Over the this period the proposed development will infiltrate (reduce runoff volume) 65% off all the runoff volume.

Conclusion:

The proposed development drains to an existing storm water pond that provides water runoff quantity control and based on the normal water volume also provides some water quality control. In order to meet the addition storm water requirements for water quality and infiltration we are proposing to install porous pavers in the new surface parking stalls. As the enclosed plans and calculations show this site meets the goals and requirements storm water management requirements of the Village of McFarland ordnance and WI DNR requirements.

APPENDIX

SITE LOCATION

MSP Housing ■ SW Corner of Larson Beach St & Taylor Rd ■ McFarland, WI
June 2020 ■ Terracon Project No. 58205126

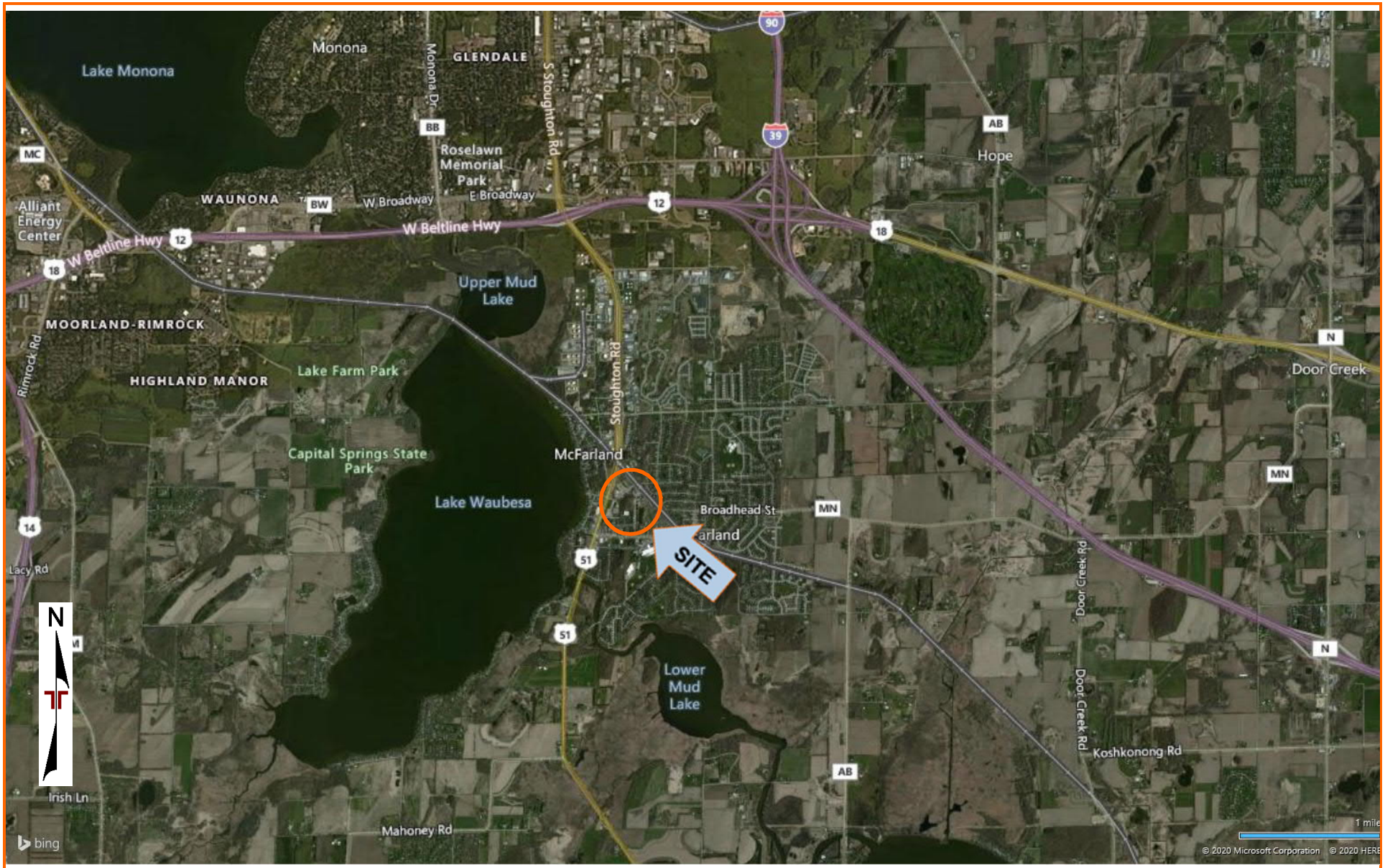


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLANS

MSP Housing ■ SW Corner of Larson Beach St & Taylor Rd ■ McFarland, WI

June 2020 ■ Terracon Project No. 58205126

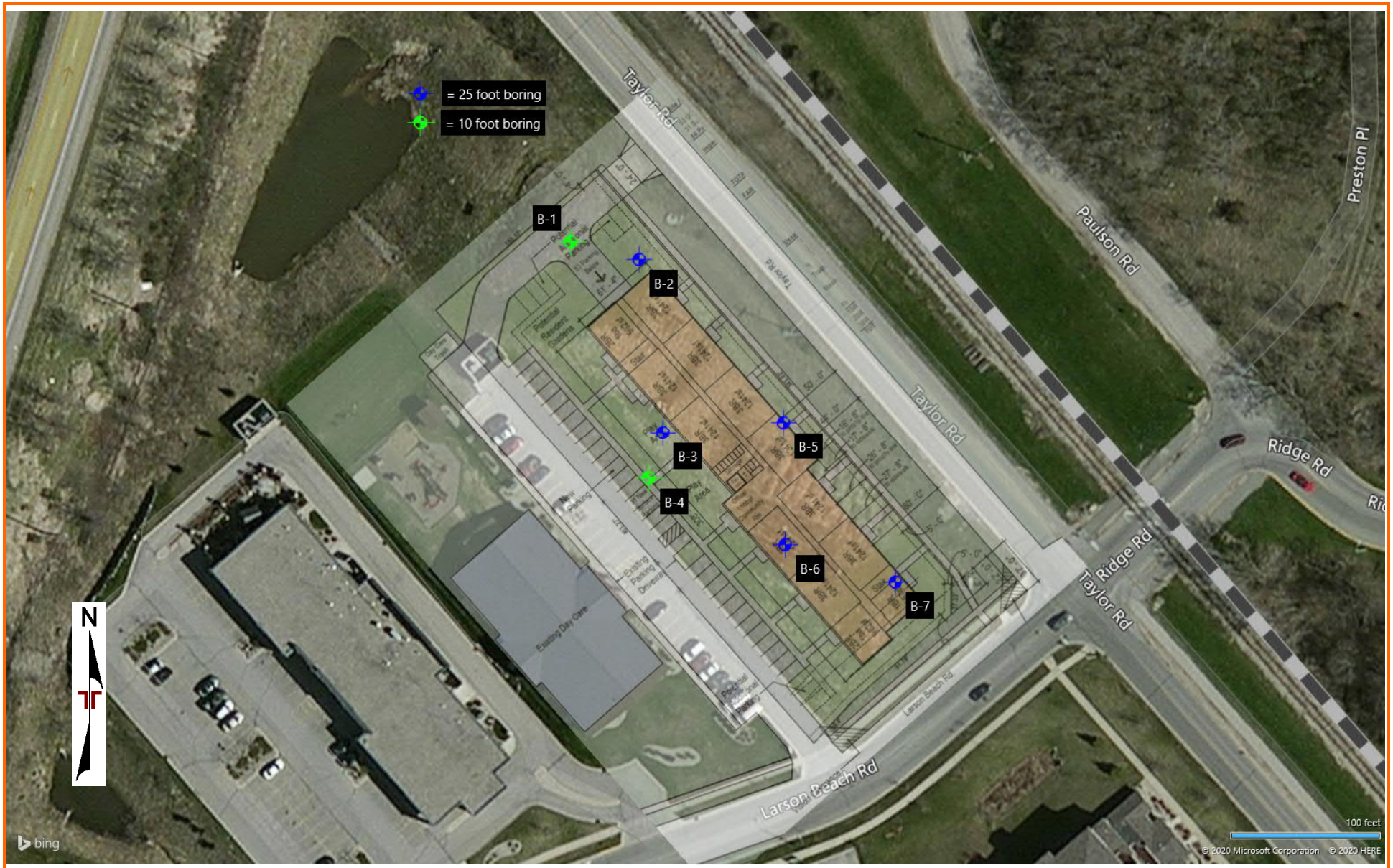
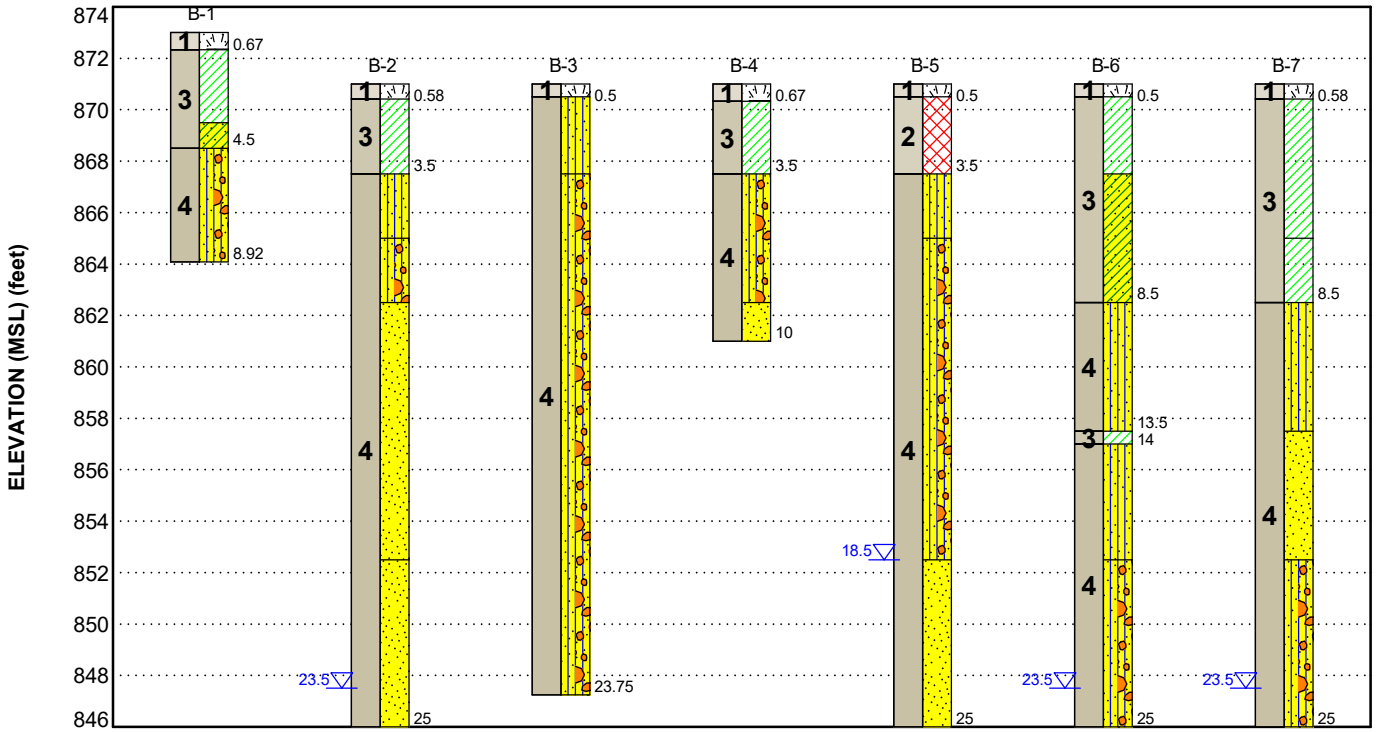


DIAGRAM IS FOR ENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY GIS

GEOMODEL

MSP Housing McFarland ■ McFarland, WI
Terracon Project No. 58205126



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	**Topsoil**	Topsoil
2	**Existing Fill**	Existing Fill, Sandy Clay, trace organics, dark brown and brown
3	**Native Lean Clay**	Native Lean Clay, brown, stiff to hard
4	**Native Non-Cohesive Soils**	Native Silty Sand with Gravel or Sand, moist to wet, medium dense to very dense

LEGEND

- Topsoil
- Lean Clay
- Sandy Lean Clay
- Silty Sand with Gravel
- Silty Sand
- Poorly-graded Sand
- Fill

First Water Observation

Groundwater levels are temporal. The levels shown are representative of the date and time of our exploration. Significant changes are possible over time. Water levels shown are as measured during and/or after drilling. In some cases, boring advancement methods mask the presence/absence of groundwater. See individual logs for details.

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project. Numbers adjacent to soil column indicate depth below ground surface.

BORING LOG NO. B-1

PROJECT: MSP Housing McFarland

CLIENT: MSP Real Estate, Inc.
West Allis, WI

SITE: Larson Beach Road and Taylor road
McFarland, WI

LOCATION See Exploration Plan

Latitude: 43.0192° Longitude: -89.2986°

Surface Elev.: 873 (Ft.)

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY ()	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)
1		0.7	872.5	**TOPSOIL**, (8" thick)							
3				**LEAN CLAY (CL)**, trace sand and gravel, brown mottled gray, hard				17	5-5-7 N=12	3.25 (HP)	19
		3.5	869.5								
		4.5	868.5	**SANDY LEAN CLAY (CL)**, trace gravel, brown, stiff				14	13-15-16 N=31		8
4				**SILTY SAND WITH GRAVEL (SM)**, fine grained, brown, moist, dense to very dense	5			10	23-25-18 N=43		13
		8.9	864					5	50/5"		5
				Boring Terminated at 8.92 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3 1/4" HSA

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Terracon
9856 S 57th St
Franklin, WI

Boring Started: 06-18-2020	Boring Completed: 06-18-2020
Drill Rig: CME 55	Driller: MS/PTS
Project No.: 58205126	

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 58205126 MSP HOUSING MCFARLAND.GPJ TERRACON_DATATEMPLATE.GDT 6/24/20

BORING LOG NO. B-2

PROJECT: MSP Housing McFarland

CLIENT: MSP Real Estate, Inc.
West Allis, WI

SITE: Larson Beach Road and Taylor road
McFarland, WI

LOCATION See Exploration Plan

Latitude: 43.0191° Longitude: -89.2984°

Surface Elev.: 871 (Ft.)

MODEL LAYER	DEPTH	ELEVATION (Ft.)	DESCRIPTION
1	0.6	870.5	**TOPSOIL**, (7" thick)
3	3.5	867.5	**LEAN CLAY (CL)**, trace sand and gravel, brown, very stiff
4	6.0	865	**SILTY SAND (SM)**, trace gravel, fine grained, brown, moist, dense
	8.5	862.5	**SILTY SAND WITH GRAVEL (SM)**, fine grained, light brown, moist, very dense
	18.5	852.5	**SAND (SP)**, fine grained, light brown, moist, dense
	25.0	846	**SAND WITH CLAY (SP)**, fine to medium grained, light brown, moist to wet, dense
			Boring Terminated at 25 Feet

DEPTH (Ft.)	SAMPLE TYPE	RECOVERY ()	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)
		15	8-7-9 N=16	2.25 (HP)	15
5		5	14-16-17 N=33		8
		14	22-35-36 N=71		6
10		16	10-16-20 N=36		2
15		15	18-19-21 N=40		4
20		10	15-17-19 N=36		11
25		17	18-20-21 N=41		17

WATER LEVEL OBSERVATIONS: ▽ Water observed at 23.5 feet while drilling.

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3 1/4" HSA

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Water observed at 23.5 feet while drilling.

Terracon
9856 S 57th St
Franklin, WI

Boring Started: 06-18-2020
Boring Completed: 06-18-2020
Drill Rig: CME 55
Driller: MS/PTS
Project No.: 58205126

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 58205126 MSP HOUSING MCFARLAND.GPJ TERRACON_DATATEMPLATE.GDT 6/24/20

BORING LOG NO. B-3

PROJECT: MSP Housing McFarland

CLIENT: MSP Real Estate, Inc.
West Allis, WI

SITE: Larson Beach Road and Taylor road
McFarland, WI

LOCATION See Exploration Plan

Latitude: 43.0188° Longitude: -89.2984°

Surface Elev.: 871 (Ft.)

MODEL LAYER	DEPTH	ELEVATION (Ft.)	Description
1	0.5	870.5	**TOPSOIL**, (6" thick)
4	3.5	867.5	**SILTY SAND (SM)**, possible fill, trace clay and gravel, fine to medium grained, brown, moist, medium dense
	23.8	847.5	**SILTY SAND WITH GRAVEL (SM)**, fine grained, light brown, moist, medium dense to very dense
			Boring Terminated at 23.75 Feet

DEPTH (Ft.)	SAMPLE TYPE	RECOVERY ()	FIELD TEST RESULTS	WATER CONTENT (%)
		15	6-7-7 N=14	20
5		17	8-14-17 N=31	9
		15	13-12-13 N=25	5
10		15	10-13-14 N=27	3
15		14	20-22-21 N=43	8
20		4	22-50/1"	16
		1	50/3"	3

WATER LEVEL OBSERVATIONS

LABORATORY HP (tsf)

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3 1/4" HSA

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Terracon
9856 S 57th St
Franklin, WI

Boring Started: 06-18-2020 | Boring Completed: 06-18-2020

Drill Rig: CME 55 | Driller: MS/PTS

Project No.: 58205126

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 58205126 MSP HOUSING MCFARLAND.GPJ TERRACON_DATATEMPLATE.GDT 6/24/20

BORING LOG NO. B-4

PROJECT: MSP Housing McFarland

CLIENT: MSP Real Estate, Inc.
West Allis, WI

SITE: Larson Beach Road and Taylor road
McFarland, WI

LOCATION See Exploration Plan

Latitude: 43.0187° Longitude: -89.2984°

Surface Elev.: 871 (Ft.)

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY ()	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)
1		0.7	870.5	**TOPSOIL**, (8" thick)							
3		3.5	867.5	**LEAN CLAY (CL)**, trace sand and gravel, brown, stiff			X	11	4-4-5 N=9	1.75 (HP)	
4		8.5	862.5	**SILTY SAND WITH GRAVEL (SM)**, fine grained, brown, moist, medium dense	5		X	11	5-11-17 N=28		
							X	15	6-9-13 N=22		
		10.0	861	**SAND (SP)**, fine to medium grained, light brown, moist, dense	10		X	15	9-16-20 N=36		
				Boring Terminated at 10 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3 1/4" HSA

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Terracon
9856 S 57th St
Franklin, WI

Boring Started: 06-18-2020	Boring Completed: 06-18-2020
Drill Rig: CME 55	Driller: MS/PTS
Project No.: 58205126	

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 58205126 MSP HOUSING MCFARLAND.GPJ TERRACON_DATATEMPLATE.GDT 6/24/20

BORING LOG NO. B-5

PROJECT: MSP Housing McFarland

CLIENT: MSP Real Estate, Inc.
West Allis, WI

SITE: Larson Beach Road and Taylor road
McFarland, WI

LOCATION See Exploration Plan

Latitude: 43.0188° Longitude: -89.2981°

Surface Elev.: 871 (Ft.)

MODEL LAYER	DEPTH	ELEVATION (Ft.)	Description	SAMPLE TYPE	RECOVERY ()	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)
1	0.5	870.5	**TOPSOIL**, (6" thick)					
2	3.5	867.5	**FILL - SANDY LEAN CLAY**, trace organics and gravel, dark brown and brown					
				X	15	10-11-13 N=24	4.5+ (HP)	16
4	6.0	865	**SILTY SAND (SM)**, trace clay, fine grained, brown, very moist, loose					
				X	17	6-5-3 N=8		14
	18.5	852.5	**SILTY SAND WITH GRAVEL (SM)**, fine grained, light brown, moist, medium dense to dense					
				X	15	9-11-13 N=24		6
				X	16	11-11-10 N=21		5
				X	17	7-14-16 N=30		5
	25.0	846	**SAND (SP)**, fine grained, light brown, wet, medium dense					
				X	14	9-12-14 N=26		23
				X	16	10-11-15 N=26		18
			Boring Terminated at 25 Feet					

DEPTH (Ft.): 5, 10, 15, 20, 25

WATER LEVEL OBSERVATIONS: ▽ 852.5

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3 1/4" HSA

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *Water observed at 18.5 feet while drilling.*

Terracon
9856 S 57th St
Franklin, WI

Boring Started: 06-18-2020	Boring Completed: 06-18-2020
Drill Rig: CME 55	Driller: MS/PTS
Project No.: 58205126	

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 58205126 MSP HOUSING MCFARLAND.GPJ TERRACON_DATATEMPLATE.GDT 6/24/20

BORING LOG NO. B-6

PROJECT: MSP Housing McFarland

CLIENT: MSP Real Estate, Inc.
West Allis, WI

SITE: Larson Beach Road and Taylor road
McFarland, WI

LOCATION See Exploration Plan

Latitude: 43.0186° Longitude: -89.2981°

Surface Elev.: 871 (Ft.)

MODEL LAYER	DEPTH	ELEVATION (Ft.)	DESCRIPTION
1	0.5	870.5	**TOPSOIL**, (6" thick)
3	3.5	867.5	**LEAN CLAY (CL)**, trace sand and gravel, brown to brown mottled gray, very stiff
4	8.5	862.5	**SANDY LEAN CLAY (CL)**, trace sand seams, brown, very stiff to stiff
3	13.5	857.5	**SILTY SAND (SM)**, fine grained, brown, very moist, loose
4	14.0	857	**LEAN CLAY (CL)**, light brown with rust mottling, very stiff
	18.5	852.5	**SILTY SAND (SM)**, fine grained, light brown, moist, medium dense
	25.0	846	**SILTY SAND WITH GRAVEL (SM)**, fine grained, light brown, moist to wet, medium dense
			Boring Terminated at 25 Feet

DEPTH (Ft.)	SAMPLE TYPE	RECOVERY ()	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)
		16	7-7-8 N=15	1.75 (HP)	16
5		14	5-7-10 N=17	3.75 (HP)	23
		19	4-4-6 N=10	1.75 (HP)	29
10		18	3-4-4 N=8		12
15		17	5-12-15 N=27	2.5 (HP)	24
20		13	5-10-13 N=23		10
25		13	11-12-14 N=26		15

WATER LEVEL OBSERVATIONS

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3 1/4" HSA

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Water observed at 23.5 feet while drilling.

Terracon
9856 S 57th St
Franklin, WI

Boring Started: 06-18-2020
Boring Completed: 06-18-2020
Drill Rig: CME 55
Driller: MS/PTS
Project No.: 58205126

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 58205126 MSP HOUSING MCFARLAND.GPJ TERRACON_DATATEMPLATE.GDT 6/24/20

BORING LOG NO. B-7

PROJECT: MSP Housing McFarland

CLIENT: MSP Real Estate, Inc.
West Allis, WI

SITE: Larson Beach Road and Taylor road
McFarland, WI

LOCATION See Exploration Plan

Latitude: 43.0185° Longitude: -89.2978°

Surface Elev.: 871 (Ft.)

MODEL LAYER	DEPTH	ELEVATION (Ft.)	Description	RECOVERY ()	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)
1	0.6	870.5	**TOPSOIL**, (7" thick)				
3			**LEAN CLAY (CL)**, trace sand and gravel, brown, hard	16	7-11-14 N=25	4.5+ (HP)	16
				14	6-10-12 N=22	4.5+ (HP)	21
	6.0	865	**LEAN CLAY (CL)**, brown mottled gray, stiff	19	4-6-7 N=13	DIST	29
4	8.5	862.5	**SILTY SAND (SM)**, fine grained, brown, moist, loose	16	3-2-3 N=5		12
	13.5	857.5	**SAND (SP)**, fine grained, light brown, moist, dense	15	19-22-21 N=43		1
	18.5	852.5	**SILTY SAND WITH GRAVEL (SM)**, fine grained, brown, moist to wet, medium dense to very dense	3	20-50/1"		12
	25.0	846		13	4-7-9 N=16		12
			Boring Terminated at 25 Feet				

DEPTH (Ft.): 5, 10, 15, 20, 25

WATER LEVEL OBSERVATIONS: ▽

SAMPLE TYPE

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3 1/4" HSA

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *Water observed at 23.5 feet while drilling.*

Terracon
9856 S 57th St
Franklin, WI

Boring Started: 06-18-2020 | Boring Completed: 06-18-2020

Drill Rig: CME 55 | Driller: MS/PTS

Project No.: 58205126

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 58205126 MSP HOUSING MCFARLAND.GPJ TERRACON_DATATEMPLATE.GDT 6/24/20

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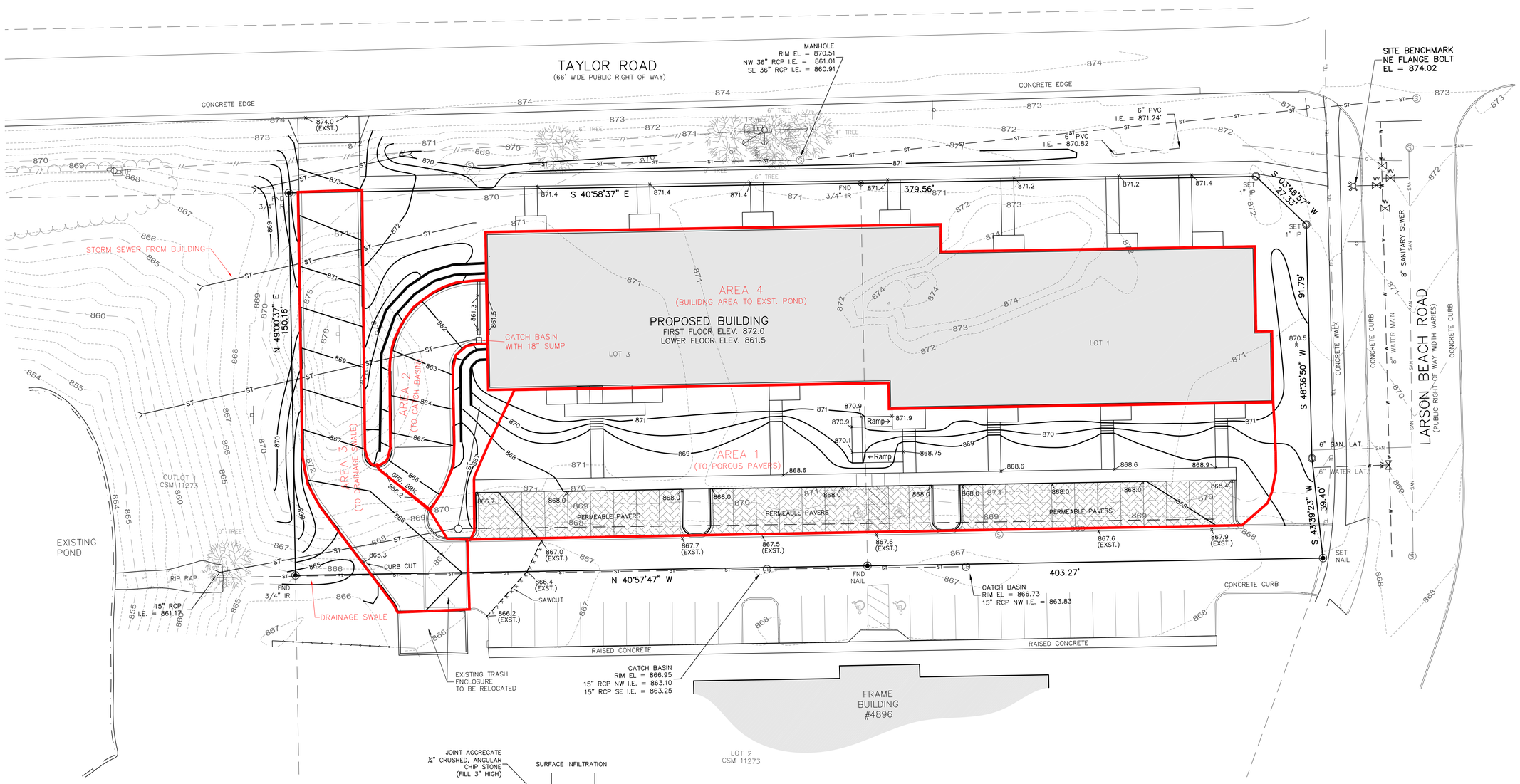
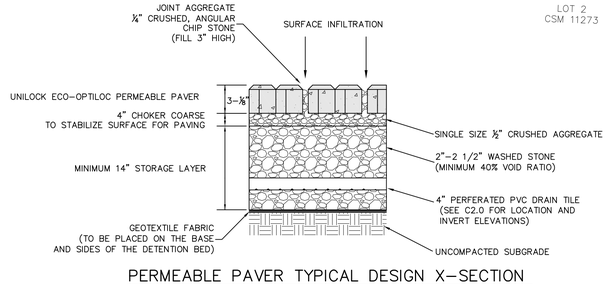


MSP MCFARLAND
MCFARLAND, WISCONSIN

CJE NO.: 1948R0
JULY 07, 2020



PERMEABLE PAVER TYPICAL DESIGN X-SECTION

NOT TO SCALE

LEGEND

856	EXISTING CONTOUR
860	PROPOSED CONTOUR
x 858.5	PROPOSED ELEVATION
ST	PROPOSED STORM SEWER

NOTES:

1. STORM WATER MANAGEMENT FOR THIS PARCEL IS PROVIDED BY AN EXISTING STORM WATER POND TO THE NORTHWEST OF THIS DEVELOPMENT. ADDITIONAL STORM WATER MANAGEMENT MEETING THE CITY AND DNR REQUIREMENTS TO THE MAXIMUM EXTENT PRACTICAL IS PROVIDED BY THE USE OF POROUS PAVEMENT PAVERS.

2. ALL WORK IN THE RIGHT-OF-WAY PER VILLAGE OF MCFARLAND REQUIREMENTS.

3. ALL SPOT GRADES ALONG THE CURB / RAISED WALK ARE AT THE BOTTOM OF THE CURB / WALK.

GRAPHIC SCALE

20 0 10 20 40

1 inch = 20 ft

SWMP - PROPOSED CONDITIONS

Data file name: Z:\WinSLAMM\CJE1948R1-PC.mdb
WinSLAMM Version 10.2.1
Rain file name: C:\WinSLAMM Files\Rain Files\WI Madison Dane Co AP 4899.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 08/03/79 Study period ending date: 12/27/99
Start of Winter Season: 12/02 End of Winter Season: 03/12
Date: 07-07-2020 Time: 11:11:58
Site information:

LU# 1 - Commercial: Commercial 1 Total area (ac): 0.375
13 - Paved Parking 1: 0.113 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.070 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 0.192 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Commercial: Commercial 2 Total area (ac): 0.100
13 - Paved Parking 1: 0.050 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.050 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 3 - Commercial: Commercial 3 Total area (ac): 0.110
25 - Driveways 1: 0.110 ac. Disconnected Normal Sandy Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 4 - Commercial: Commercial 4 Total area (ac): 0.436
1 - Roofs 1: 0.436 ac. Pitched Disconnected Normal Sandy Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Porous Pavement CP# 1 (DS) - DS Porous Pavement # 1
Porous pavement area (ac): 0.113
Inflow hydrograph peak to average flow ratio: 3.8
Porous pavement thickness (in): 3.1
Porous pavement porosity: 0.25
Aggregate bedding thickness (in): 4
Aggregate bedding porosity: 0.4
Aggregate base reservoir thickness (in): 14
Aggregate base reservoir porosity: 0.4
Porous pavement surface area to aggregate base area ratio: 1
Underdrain diameter (in): 4
Underdrain outlet invert elevation (ft above datum): 4
Number of underdrains: 1
Subgrade seepage rate (in/hr): 2.5
Use random number generation to account for uncertainty in seepage rate: 0
Subgrade seepage rate COV: 0.6
Surface pavement initial infiltration rate (in/hr): 100
Surface Pavement Percent Solids Removal Upon Cleaning: 50
Porous pavement surface clogging load (lbs/sf): 0.06
Porous pavement restorative cleaning frequency: Every seven years
TSS concentration reduction percentage through underdrain: 0
Porous pavement particle size distribution file name: Not needed - calculated by program

Control Practice 2: Catchbasin Cleaning CP# 1 (DS) - DS Catchbasins # 5

1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 1
3. Average sump depth below catchbasin outlet invert (feet) = 1.5
4. Depth of sediment in catchbasin sump at beginning of study period (ft) = 0
5. Typical outlet pipe diameter (ft) = 0.5
6. Typical outlet pipe Mannings n = 0.011
7. Typical outlet pipe slope (ft/ft) = 0.005
8. Typical catchbasin sump surface area (square feet) = 7
9. Total catchbasin depth (feet) = 4
10. Inflow hydrograph peak to average flow ratio = 3.8
11. Leakage rate through sump bottom (in/hr) = 0
12. Catchbasin Critical Particle Size File Name: Not needed - calculated by program
13. Catchbasin cleaning frequency: Once every two years

Control Practice 3: Grass Swale CP# 1 (DS) - DS Grass Swales # 1

Total drainage area (acres)= 0.110
Fraction of drainage area served by swales (ac) = 1.00
Swale density (ft/ac) = 350.00
Total swale length (ft) = 39
Average swale length to outlet (ft)= 39
Typical bottom width (ft) = 3.0
Typical swale side slope (_H:1V) = 4.0
Typical longitudinal slope (ft.H/ft.V) = 0.015
Swale retardance factor: B
Typical grass height (in) = 4.0
Swale dynamic infiltration rate (in/hr)= 1.250
Typical swale depth (ft) for cost analysis (optional) = 0.0
Particle size distribution file name: Not needed - calculated by program
Use total swale length instead of swale density for infiltration calculations: False

CJE1948R1-PC - Output Summary

SLAMM for Windows Version 10.2.1
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Data file name: Z:\WinSLAMM\CJE1948R1-PC.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WI Madison Dane Co AP 4899.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Start of Winter Season: 12/02 End of Winter Season: 03/12
Model Run Start Date: 08/03/79 Model Run End Date: 12/27/99
Date of run: 07-07-2020 Time of run: 11:16:50
Total Area Modeled (acres): 1.021
Years in Model Run: 20.41

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	462889	-	124.7	3605	-
Outfall Total with Controls:	159885	65.46%	98.07	978.8	72.85%
Annualized Total After Outfall Controls:	7834			47.96	

Pollutant	Concentration - No Controls	Concentration - With Controls	Conc. Units	Pollutant Yield No Controls	Pollutant Yield With Controls	Pol. Yield Units	Percent Reduction
Particulate Solids	124.7	98.07	mg/L	3605	978.8	lbs	72.85 %
Particulate Phosphorus	0.2608	0.2000	mg/L	7.537	1.996	lbs	73.52 %

EXHIBIT B
Maintenance Provisions

***Permeable* Pavement (1008)**
Wisconsin Department of Natural Resources Conservation Practice Standard

VIII. Operations and Maintenance

A. An operation and maintenance plan shall be written for the intended life of the permeable pavement system. The plan shall include an inspection checklist and schedule.

B. The following activities shall be prohibited from occurring on the permeable pavement surface:
   1. Temporary or permanent stockpiling of soil or other material that can potentially cause or contribute to clogging.
   2. Application of pavement seal-coating.
   3. Application of sand for deicing.

C. Inspection of the permeable pavement system shall be conducted at least once per year to evaluate the following:
   1. Pavement Condition – Inspect permeable pavement surfaces for settlement, deformation or cracking.
   2. Surface Infiltration – Inspect permeable pavement surfaces for sedimentation or evidence of ponding.
   3. Drainage – Inspect observation wells, if present, 72 hours after a rain event of 0.5 inches or greater to verify that the aggregate storage reservoir is draining down effectively.
   4. Outfalls - Inspect underdrain outfall locations for obstructions and erosion.
   5. Run-on Areas – Inspect run-on areas for adequate cover and stability.

D. Maintenance of the permeable pavement system shall be conducted as follows:
   1. Clean the pavement surface using industry recommended methods, such as regenerative air or vacuum sweeping, at least twice per year in accordance with Section V.G.
   2. If water ponding persists on the pavement surface after a storm event, clean the pavement surface to mitigate clogging.
   3. Repair any settlement, deformations or cracking that are significant enough to adversely impact the water quality function of the system.
   4. Repair blocked, restricted or eroding underdrain outfalls.
   5. Repair and/or replant eroding run-on areas.
   6. For permeable pavers/blocks with joints that are filled with aggregate:
      a. Replenish the joint aggregate in accordance with industry recommendations.
      b. If necessary, remediate the system by extracting accumulated debris and aggregate from the joints using a vacuum and re-filling the joints with new aggregate.
   7. For porous asphalt and pervious concrete, repairs may be done with conventional impervious materials if the total impervious repair areas do not exceed 10% of the original permeable surface area and runoff from the repair areas will run on to adjacent permeable areas. The 10% threshold may only be exceeded if design calculations confirm that the system is still able to accept the full loading for which it was originally designed.

E. If the pavement surface infiltration rate is questionable at any time during the effective life of the pavement, the administering authority may require infiltration rate testing to verify that the surface infiltration rate is no lower than 10 in/hr. If the surface infiltration rate is lower than 10 in/hr, appropriate action shall be taken to restore the infiltration rate to an acceptable level based on the remaining effective life of the pavement.

F. If verification of in place pavement surface infiltration rates is necessary, conduct pavement surface infiltration rate testing per ASTM C1701 Standard Test Method for Infiltration Rate of In Place Pervious Concrete for pervious concrete and porous asphalt, ASTM C1781 Standard Test Method of Surface Infiltration Rate of Permeable Unit Pavement Systems for permeable pavers/blocks or other methods approved by the administering authority.

G. Qualified personnel, as determined by the administering authority, shall perform inspection, infiltration testing and maintenance work.

H. All inspection, infiltration testing and maintenance activities shall be documented in written reports. All written reports shall be made available on request by the administering authority.