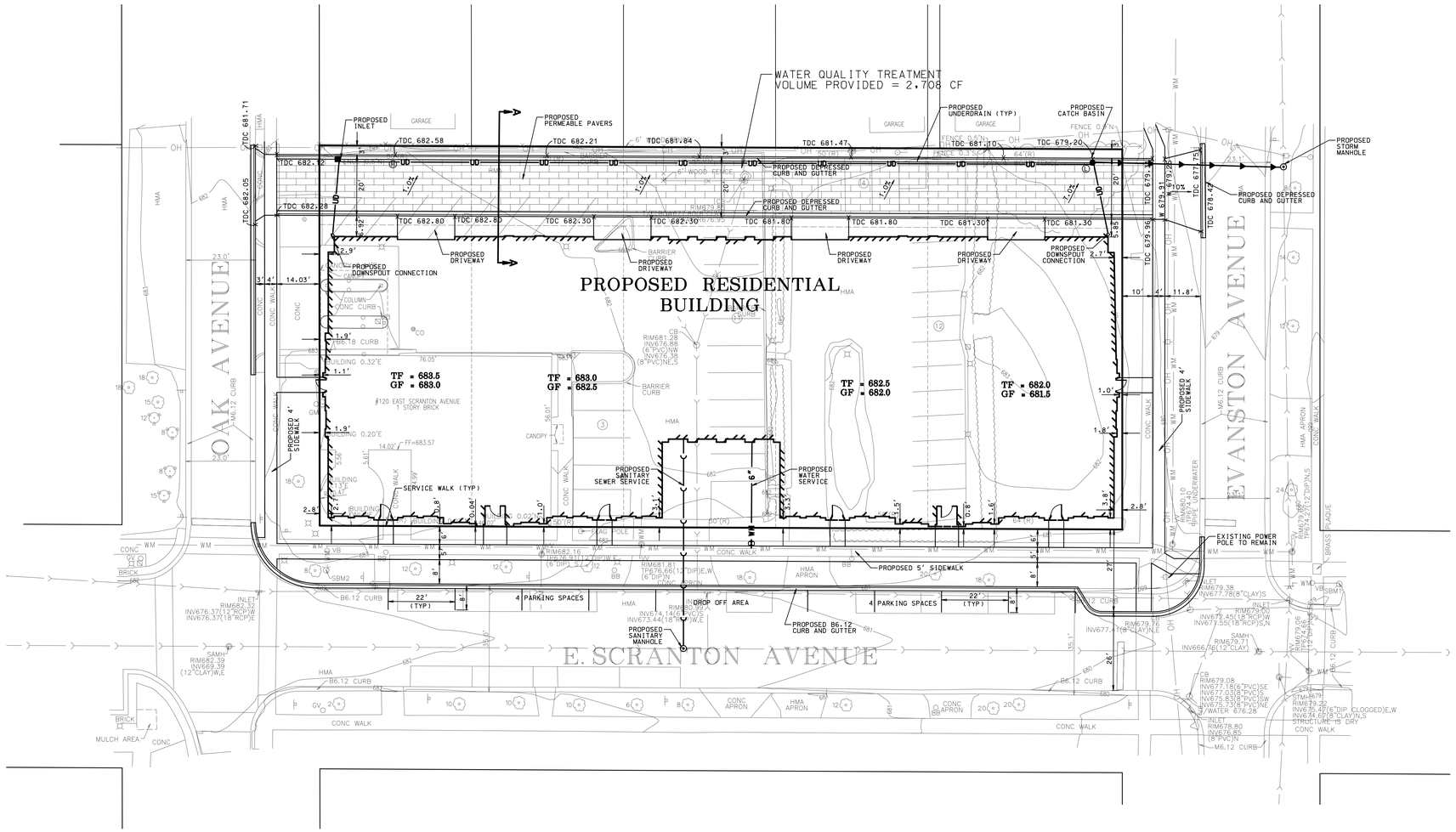
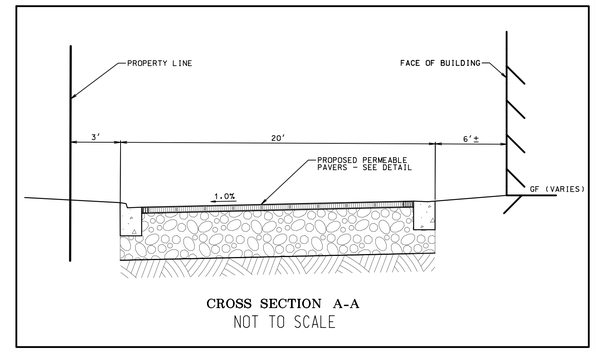
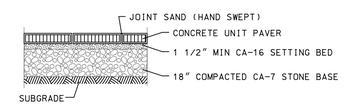
4.07 Preliminary Engineering & Stormwater Report





CROSS SECTION A-A
NOT TO SCALE



NOTES:
1. SAWCUT 2" DEEP CONTRACTION JOINT 8' ON CENTER.
2. CONCRETE UNIT PAVER SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

PERMEABLE PAVER DETAIL
NOT TO SCALE

LEGEND

	EXISTING	PROPOSED
SANITARY SEWER	8" PVC	8" PVC
FORCE MAIN	FM	FM
STORM SEWER	12" RCP	12" RCP
UNDERDRAIN	UD	UD
MANHOLE		
CATCH BASIN		
INLET		
CLEANOUT		
WATER MAIN	WM	8" WM
VALVE VAULT		
VALVE BOX		
FIRE HYDRANT		
FLARED END SECTION		
COMBINED SEWER		
STREET LIGHT/PARKING LOT LIGHT		
POWER POLE		
STREET SIGN		
FENCE		
GAS MAIN	G	G
OVERHEAD LINE	OH	OH
TELEPHONE LINE	T	T
ELECTRIC LINE	E	E
CABLE TV LINE	CTV	CATV
HIGH WATER LEVEL		HWL XXX
NORMAL WATER LEVEL		NWL XXX
CONTOUR LINE	XXX.XX	XXX.XX
OVERLAND FLOOD ROUTE		

ABBREVIATIONS

AC	ACRE	HWL	HIGH WATER ELEVATION	SAN	SANITARY SEWER
BC	BACK OF CURB	INL	INLET	SMH	SANITARY MANHOLE
BTM	BOTTOM	INV	INVERT	STA	STATION
CB	CATCH BASIN	LF	LINEAL FEET/FOOT	STM	STORM SEWER
CFS	CUBIC FEET PER SECOND	LP	LIGHT POLE	SY	SQUARE YARD
CY	CUBIC YARD	LT	LEFT	SWPP	STORMWATER POLLUTION PREVENTION PLAN
DIA	DIAMETER	L/W	LOWEST GRADE ADJACENT TO RETAINING WALL	TDC	TOP OF DEPRESSED CURB
DIWM	DUCTILE IRON WATER MAIN			TC	TOP OF CURB
EL	ELEVATION	MAX	MAXIMUM	TF	TOP OF FOUNDATION
EP	EDGE OF PAVEMENT	MH	STORM MANHOLE	T/W	TOP OF RETAINING WALL
FF	FINISHED FLOOR	MIN	MINIMUM	TYP	TYPICAL
FES	FLARED END SECTION	NWL	NORMAL WATER ELEVATION	VB	VALVE BOX
FT	FOOT/FEET	OCS	OUTLET CONTROL STRUCTURE	VC	VERTICAL CURVE
G	GUTTER ELEVATION	P	PAVEMENT ELEVATION	VV	VALVE VAULT
GF	GRADE AT FOUNDATION	PVC	POLYVINYL CHLORIDE PIPE	W	WALK ELEVATION
GR	GRADE RING ELEVATION	R	RADIUS	WM	WATER MAIN
HDPE	HIGH DENSITY POLYETHYLENE PIPE	RCP	REINFORCED CONCRETE PIPE	VPI	VERTICAL POINT OF INTERSECTION
		RIM	RIM ELEVATION		
HYD	FIRE HYDRANT	RT	RIGHT		
HMA	HOT MIX ASPHALT	ROW	RIGHT OF WAY		

SOURCE BENCHMARK:
BENCHMARKS ARE IN ACCORDANCE WITH NAVD 88 DATUM

SITE BENCHMARK 1: SET "X" CUT ON TOP OF THE NORTHWEST BONNET BOLT OF THE FIRE HYDRANT AT THE NORTHEAST CORNER OF EVENSTON AVENUE AND SCTRANTON AVENUE.
ELEVATION = 680.77

SITE BENCHMARK 2: FOUND "X" CUT ON TOP OF THE NORTHWEST BONNET BOLT OF THE FIRE HYDRANT AT THE NORTHEAST CORNER OF SCRANTON AVENUE AND OAK AVENUE.
ELEVATION = 684.73

MACKIE CONSULTANTS
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www.mackieconsult.com

CLIENT:
THE ROANOKE GROUP
22 EAST SCRANTON AVENUE
LAKE BLUFF, ILLINOIS 60044
PHONE: 847-457-1297

DATE	DESCRIPTION OF REVISION	BY
6-06-16	REVISED PER CLIENT COMMENTS	TKB
5-20-16	REVISED PER CLIENT COMMENTS	TKB

DESIGNED	TKB
DRAWN	DWP
APPROVED	TKB
DATE	05/16/2016
SCALE	1" = 20'

PRELIMINARY ENGINEERING PLAN
SCRANTON RESIDENTIAL PROPERTY
LAKE BLUFF, ILLINOIS

SHEET 1 OF 1
PROJECT NUMBER: 2981
© MACKIE CONSULTANTS LLC, 2016
ILLINOIS FIRM LICENSE 184-002694

5/16/2016 2:44:28 PM
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STORMWATER MANAGEMENT CALCULATIONS

FOR

SCRANTON AVENUE RESIDENTIAL DEVELOPEMENT ROSEMONT, ILLINOIS

Prepared By:

MACKIE CONSULTANTS

Mackie Consultants, LLC
9575 W. Higgins Road, Suite 500
Rosemont, IL 60018
(847)696-1400
www.mackieconsult.com

Dated: May 16, 2016

WATERSHED DEVELOPMENT PERMIT APPLICATION

Revised 10/2012

Office Use	1. COMMUNITY AND STATUS	2. Map Number *(office use only)*	3. STORMWATER APP. PERMIT #	4. COMMUNITY APP. NO. *(to be assigned by Community)*
	☐ Standard: ☐ Conditional ☐ Certified ☐ Non-Certified ☐ Isolated Wetlands: ☐ Conditional ☐ Certified ☐ Non-Certified		___-___-___	

5. NAME & ADDRESS OF PROPERTY OWNER	6. NAME & ADDRESS OF ENGINEER/AGENT	7. NAME & ADDRESS OF CERT. WETLAND SPECIALIST
The Roanoke Group 22 E. Scranton Avenue Lake Bluff, Illinois 60044	Mackie Consultants, LLC 9575 W. Higgins Road Suite 500 Rosemont, Illinois 60018	N/A
Daytime Phone: 847-457-1297	Daytime Phone: 847-696-1400	Daytime Phone: -
Fax: 847-457-4948	Fax: 847-696-1410	Fax: -
Email:	Email: tbuehler@mackieconsult.com	Email: -

8A. CHECK THE *ONE* CONDITION THAT APPLIES:

- ☐ Exempt, Watershed Development Permit Not Required (IV.A.2)
- ■ Minor Development (IV.A., IV.B.)
- ☐ Major Development Outside the Floodplain (IV.A., IV.B., IV.D., IV.G.)
- ☐ Major Development Inside the Floodplain (IV.A., IV.B., IV.C., IV.D., IV.G.)
- ☐ Public Road Development (IV.A., IV.F.)
- ☐ Public Development in the Floodplain (Appendix E.J.2.)
- ☐ Existing Conditions BFE Only (no development)
- ☐ Soil Erosion and Sediment Control Review Only

8B. CHECK *ALL* CONDITIONS THAT APPLY:

- ☐ Isolated Wetland Impact (IV.E.)
- ☐ Request Letter of No Wetland Impact (LONI) (IV.E.)
- ☐ Development in a Floodway (IV.C.3.)
- ☐ Floodplain Map Revision or Amendment (IV.C.2.g.; IV.C.3.d.(8))
- ☐ Watercourse w/Drainage Area >20 Acres and <100 Acres (IV.A., IV.D.)
- ☐ Watercourse w/Drainage Area >100 Acres and <640 Acres (IV.A., IV.D.)
- ☐ Earth Change Approval (ECA) (IV.A.4.b.)
- ☐ Variance Request (V.)
- ☐ BFE or Floodway Determination (IV.C.)
- ☐ Designated Erosion Control Inspector (DECI Required)
- ☐ Pre-application Meeting Held _____
- ☑ Hydrologically Disturbs 5000 sq. ft. or More

9A. STORMWATER DATA SUMMARY

			Unit
Total Property Ownership	=	0.76	Acres
Hydrologic Disturbance	=	0.76	Acres
Watershed Area Tributary to Development	=	0.00	Acres
Proposed Impervious Area	=	0.72	Acres
Existing Impervious Area Pre-1992	=	0.57	Acres
Existing Impervious Area Post-1992	=	0.57	Acres
Detention Volume Required	=	N/A	Acre-ft.
Compensatory Storage Required	=	N/A	Acre-ft.
Depressional	=	N/A	Acre-ft.
Riverine 0- to 10-Year	=	N/A	Acre-ft.
Riverine 10- to 100-Year	=	N/A	Acre-ft.

9B. WETLAND DATA SUMMARY

Existing Wetland Acreage			=	0.00
Waters of the U.S.	=	0.00		
Isolated Waters of Lake County	=	0.00		
Impacted Wetland Acreage			=	0.00
Waters of the U.S.	=	0.00		
Isolated Waters of Lake County	=	0.00		
Mitigation Replacement Ratio			=	N/A
Mitigation Acreage Required			=	N.A
Waters of the U.S.	=	N/A		
Isolated Waters of Lake County	=	N/A		
On-Site			=	N/A
Off-Site			=	N/A
Mitigation Bank			=	N/A
SMC Wetland Restoration Fund			=	N/A

9C. Check box if State (IL) funds are being used for this development. ☐

9D. Check box if this is a project being funded in part/in whole by an SMC grant? ☐

10A. DESCRIPTION OF DEVELOPMENT Proposed residential buildings in Lake Bluff, Illinois

10B. NAME OF DEVELOPMENT

Scranton Residential Property

10C. SINGLE FAMILY HOME ONLY

Estimated future home value:

10D. LOCATION OF DEVELOPMENT

East of Oak Ave, north of Scranton Ave, west of Evanston Ave

Street Address: 120 E Scranton Avenue

Municipality: Lake Bluff, Illinois

Lake Michigan (Watershed) — Bluff/Ravine (Sub-Watershed)

11. LEGAL DESCRIPTION

NE (¼ Section) — 21 (Section) — 44N (Township) — 12E (Range)

PIN: See Attached

(If more than three PIN exists for the project, please include on a separate attachment)

42° 16' 18" N (Latitude) — 87° 50' 34" W (Longitude)

12. LIST ALL LOCAL, STATE, AND FEDERAL PERMIT APPLICATION, OR APPROVAL LETTERS REQUIRED FOR DEVELOPMENT

Permit Type	Issuing Agency	Permit Number	Application Filing Date	Permit Issue Date
N/A	-	-	-	-
N/A	-	-	-	-
N/A	-	-	-	

13A. UNDER PENALTY OF INTENTIONAL MISREPRESENTATION AND/OR PERJURY, I declare that I have examined and/or made this application and it is true and correct to the best of my knowledge and belief. I agree to construct said development in compliance with the permitted documents. I realize that the information that I have affirmed hereon forms a basis for the issuance of the Watershed Development Permit(s) herein applied for and approval of plans in connection therewith shall not be construed to permit any construction upon said premises or use thereof in violation of any provision of any applicable ordinance or to excuse the owner or his successors in title from complying therewith.

Signature of Property Owner, or Authorized Agent — Date

13B. I CERTIFY that the plans/documents submitted for the above-referenced development have been prepared under the supervision of a professional engineer or certified wetland specialist as appropriate.

Trudy K. Buehler — 062-052023 — 5/16/16

Signature of Professional Engineer — P.E.# — Date

Trudy K. Buehler — 062-052023 — 05/13/16

Print Name of Engineer

Signature of Certified Wetland Specialist — CWS# — Date

Print Name Of Certified Wetland Specialist

FOR OFFICE USE ONLY

14. PERMIT REVIEW FEES (separate checks)

Stormwater Review Amount: $ _____ Isolated Wetland Review Amount: $ _____

15. VARIANCE REQUEST Date Requested: Date Advertised: Date Approved/Denied:

16. SECURITIES (if required) AMOUNT

Pre Construction $ _____ Inspection Deposit $ _____ 5 Year Mitigation $ _____

Surety$ _____ Wetland Credit held by _____ TOTAL SECURITY $ _____

17. FINAL APPROVAL FOR PLANS ENTITLED AND DATED:

Date of Signature Approved By/Title P.E.# / CWS#

Community Professional Engineer _____

Certified Wetland Specialist _____

Lake Co. Stormwater Management Commission _____

Enforcement Officer _____

This permit is subject to the following conditions:

(a) This permit does not convey title to the permittee or recognize title of the permittee to any submerged or other lands, and furthermore, does not convey, lease or provide any right or rights of occupancy or use of the public or private property on which the project or any part thereof will be located, or otherwise grant to the permittee any right or interest in or to the property, whether the property is owned or possessed by the County of Lake or by any private or public party or parties.

(b) This permit does not release the permittee from liability for damage to persons or property resulting from the work covered by this permit, and does not authorize any injury to private property or invasion of private rights.

(c) This permit does not relieve the permittee of the responsibility to obtain other federal, state or local authorizations required for the construction of the permitted activity; and if the permittee is required by law to obtain approval from any federal or state agency to do the work, this permit is not effective until those approvals are obtained.

(d) The permittee shall, at his own expense, remove all temporary piling, cofferdams, false work, and material incidental to the construction of the project, from the floodprone area, river, stream or lake in which the work is done.

(e) The execution and details of the work authorized shall be subject to the approval of the SMC. SMC representatives shall have right to access to accomplish this purpose.

(f) Application for permit will be considered full acceptance by the permittee of the terms and conditions of the permit.

(g) The SMC, in issuing this permit has relied, upon the statements and representations made by the permittee; if any statement or representation made by the permittee is found to be false, the permit may be revoked at the option of the SMC; and when a permit is revoked all rights of the permittee under the permit are voided.

(h) If the project authorized by this permit is located in or along Lake Michigan or a meandered lake, the permittee and successors shall make no claim whatsoever to any interest in any accretions caused by the project.

(i) In issuing this permit, the SMC does not approve the adequacy of the design or structural strength or the structure or improvement.

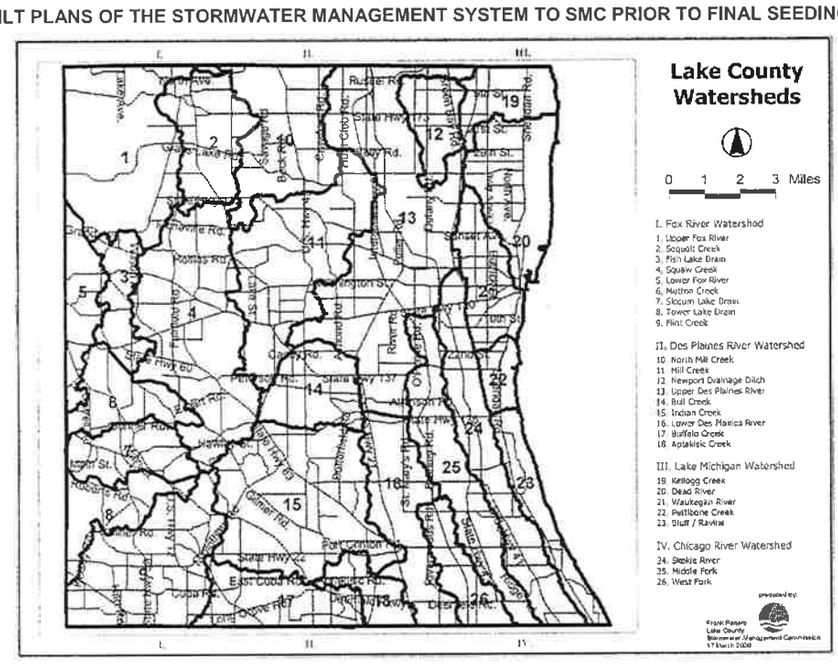
(j) Noncompliance with the conditions of this permit will be considered grounds for revocation.

(k) If the work permitted is not completed within three years of the permit issuance date, this permit shall be void.

This permit is subject to further special conditions as follows:

PROVIDE PRIOR NOTIFICATION OF THE PRE-CONSTRUCTION MEETING TO SMC (847) 377-7700 INSPECTOR FIVE WORKING DAYS BEFORE START OF CONSTURCTION TO ENABLE SMC ATTENDANCE.

PROVIDE AS-BUILT PLANS OF THE STORMWATER MANAGEMENT SYSTEM TO SMC PRIOR TO FINAL SEEDING.



P.I.N.:

12-21-111-006

12-21-111-007

12-21-111-008

12-21-111-009

12-21-111-010

SCRANTON AVENUE RESIDENTIAL DEVELOPMENT
ROSEMONT, ILLINOIS

LOCATION MAP
NOT TO SCALE

MACKIE CONSULTANTS

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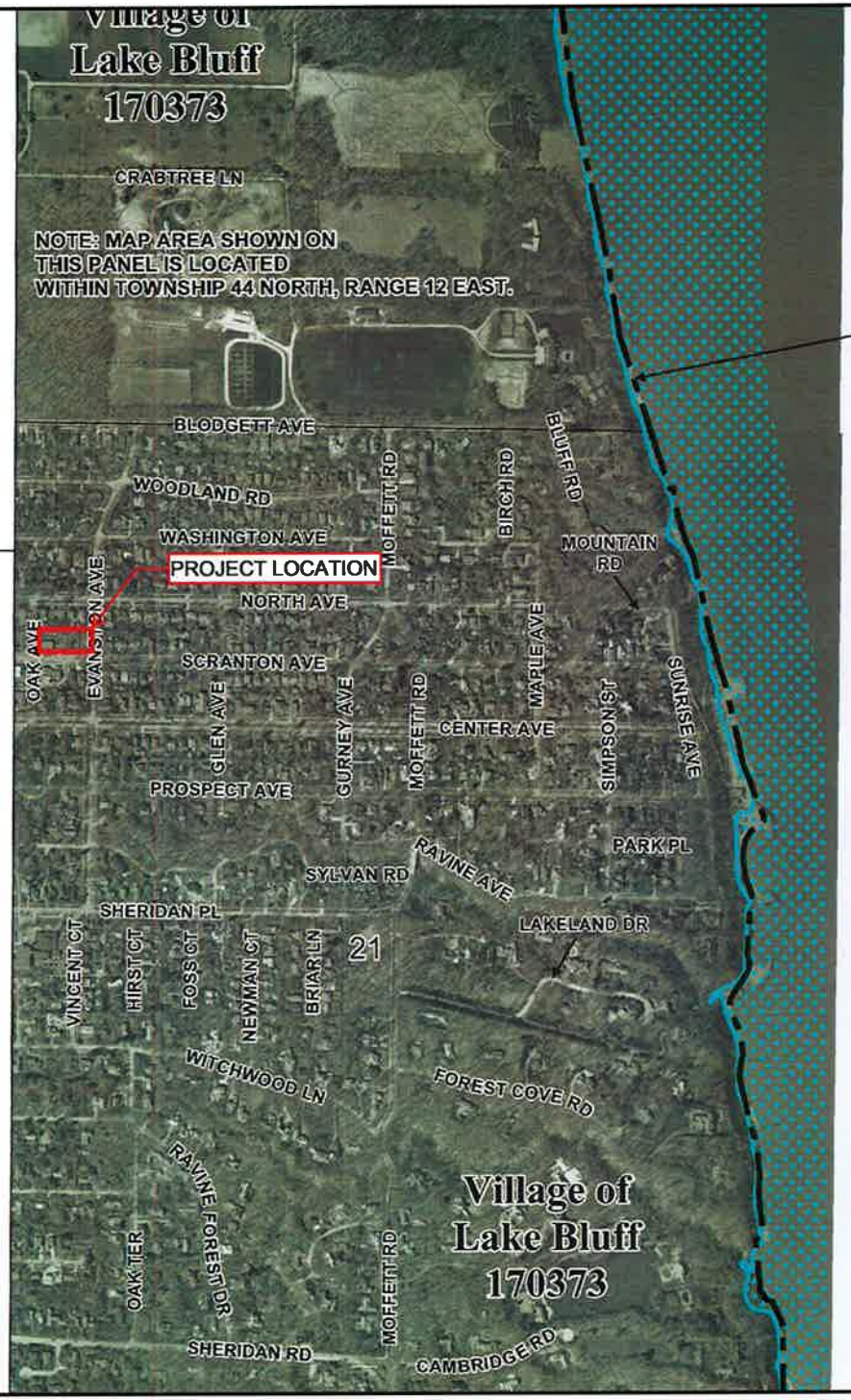


CORPORATE LIMITS COINCIDENT WITH SHORELINE

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

300 0 300 600 M

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0190K

FIRM

FLOOD INSURANCE RATE MAP

LAKE COUNTY, ILLINOIS

AND INCORPORATED AREAS

PANEL 190 OF 295

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LAKE BLUFF, VILLAGE OF	170373	0190	K
LAKE COUNTY	170357	0190	K
LAKE FOREST, CITY OF	170374	0190	K
NORTH CHICAGO, CITY OF	170384	0190	K

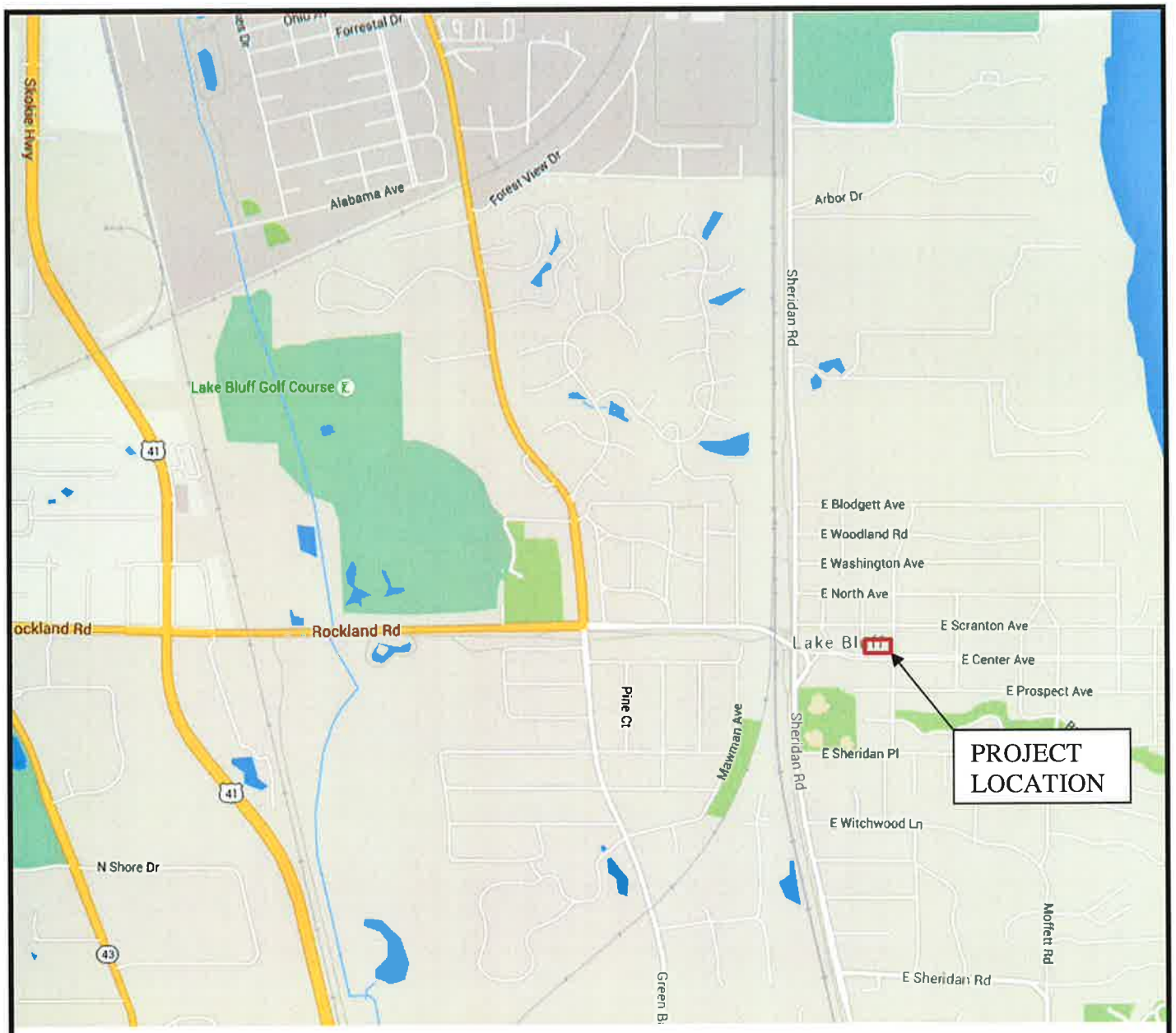
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
17097C0190K

MAP REVISED
SEPTEMBER 18, 2013

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



SCRANTON AVENUE RESIDENTIAL DEVELOPMENT
LAKE BLUFF, ILLINOIS

LOCATION MAP
NOT TO SCALE

MACKIE CONSULTANTS

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(847)696-1400
www.mackieconsult.com

Map Scale: 1:599 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 5 10 20 30

Feet: 0 25 50 100 150

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County, Illinois
Survey Area Data: Version 9, Sep 25, 2015

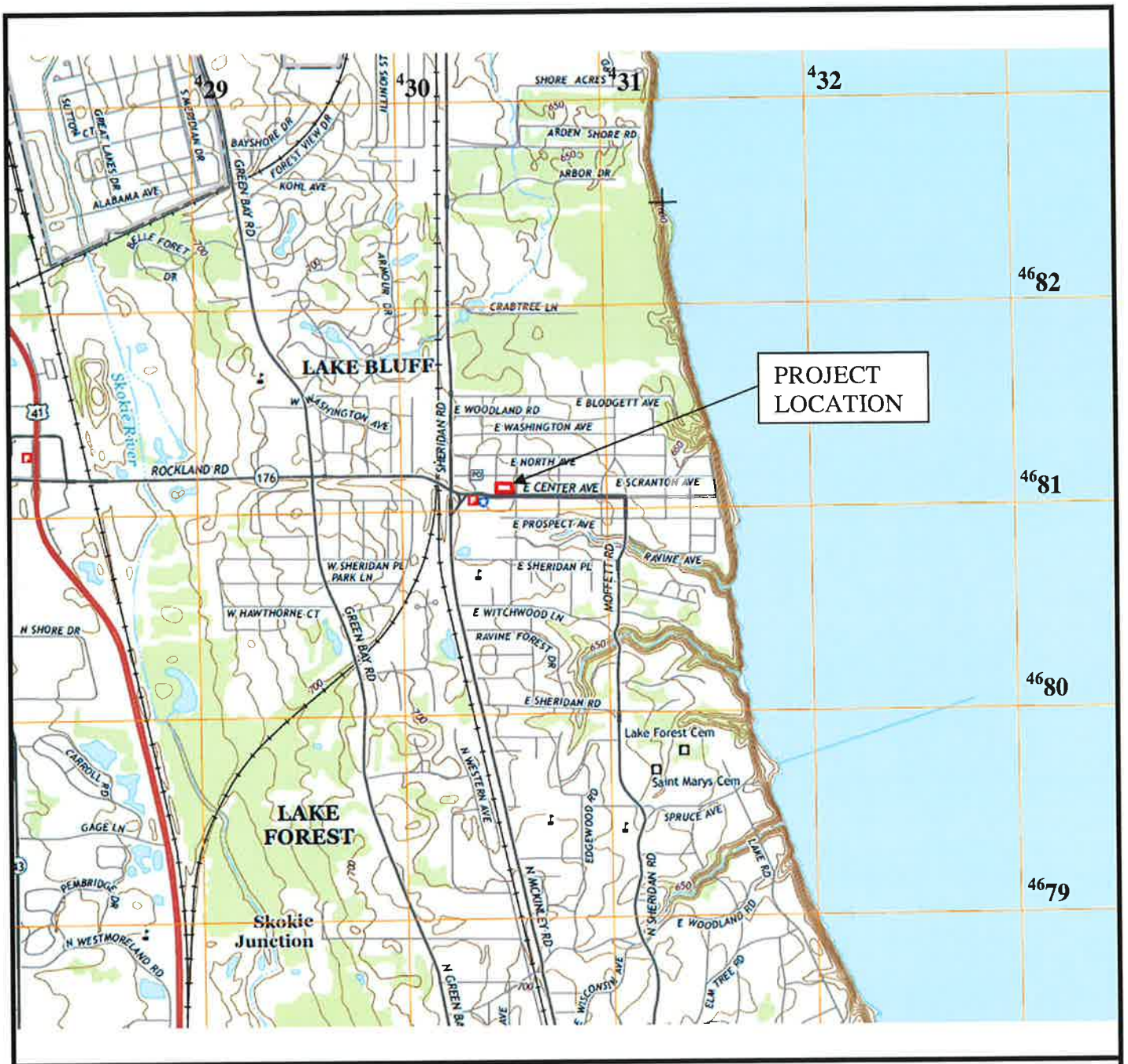
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 13, 2012—Mar 28, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Lake County, Illinois (IL097)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
530B	Ozaukee silt loam, 2 to 4 percent slopes	1.6	100.0%
Totals for Area of Interest		**1.6**	**100.0%**



SCRANTON AVENUE RESIDENTIAL DEVELOPMENT
LAKE BLUFF, ILLINOIS

USGS MAP
WAEKEGAN QUADRANGLE
NOT TO SCALE

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Rosemont, IL 60018
(847)696-1400
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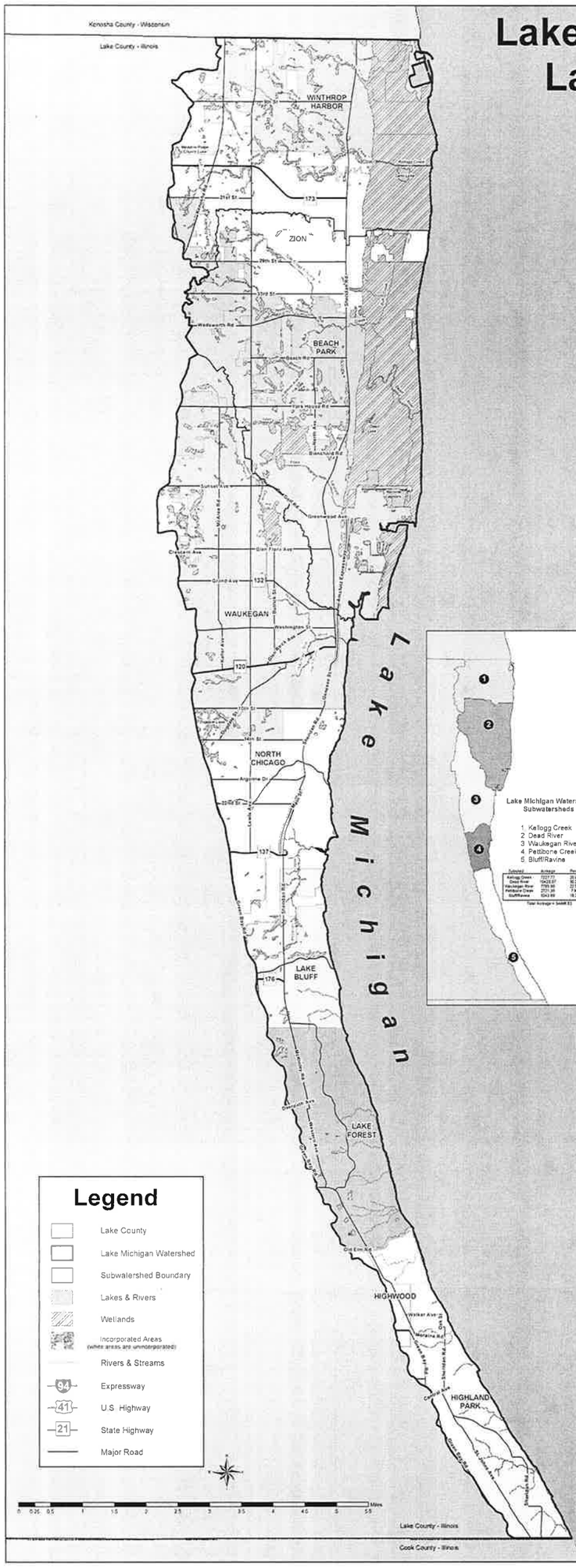
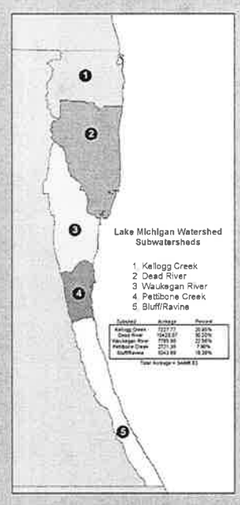
Lake Michigan Watershed
Lake County, Illinois

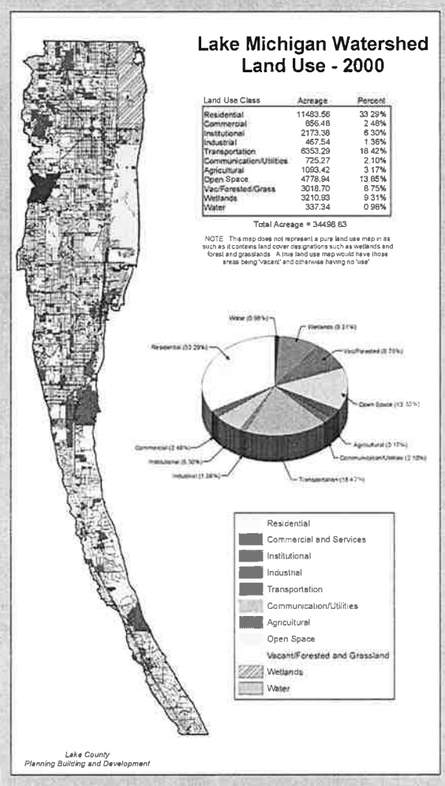




Subwatershed	Acreage	Percent
Kellogg Creek	7217.77	20.90%
Dead River	10428.87	30.20%
Waukegan River	7785.96	22.56%
Pettibone Creek	2701.99	7.83%
Bluff/Ravine	6343.84	18.38%

Total Acreage = 34498.63

Lake Michigan Watershed Land Use - 2000



Land Use Class	Acreage	Percent
Residential	11483.56	33.29%
Commercial	856.48	2.48%
Institutional	2173.38	6.30%
Industrial	467.54	1.36%
Transportation	6353.29	18.42%
Communication/Utilities	725.27	2.10%
Agricultural	1093.42	3.17%
Open Space	4778.94	13.85%
Vac/Forested/Grass	3018.70	8.75%
Wetlands	3210.93	9.31%
Water	337.34	0.98%

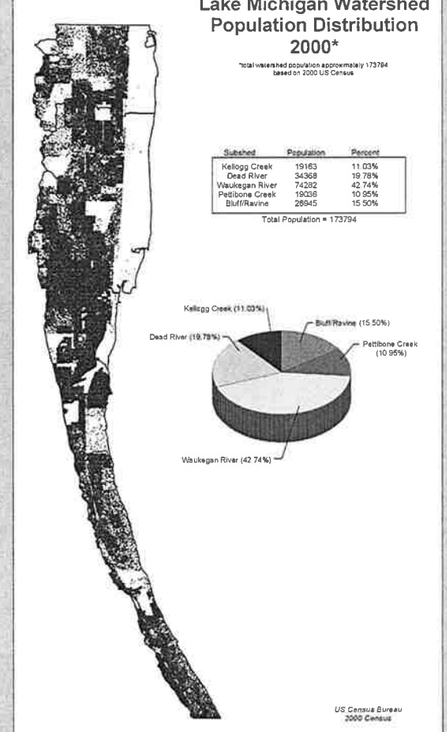
Total Acreage = 34498.63

NOTE: This map does not represent a pure land use map in as such as it contains land cover designations such as wetlands and forest and grasslands. A true land use map would have those areas being "vacant" and otherwise having no "use"

Lake County Planning Building and Development

Lake Michigan Watershed Population Distribution 2000*

*total watershed population approximately 173784 based on 2000 US Census

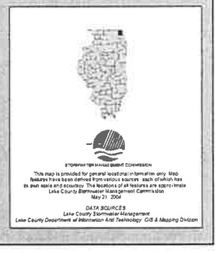


Subshed	Population	Percent
Kellogg Creek	19163	11.03%
Dead River	34368	19.78%
Waukegan River	74282	42.74%
Pettibone Creek	19026	10.95%
Bluff/Ravine	26945	15.50%

Total Population = 173794

US Census Bureau 2000 Census

Locator Map
Lake Michigan Watershed - Lake County, Illinois



Prepared by Lake County Stormwater Management Commission
This map is provided for general locational information only. Map features have been derived from various sources, each of which has its own scale and accuracy. The locations of all features are approximate.
Lake County Stormwater Management Commission
Nov 21, 2001
DATA SOURCES
Lake County Stormwater Management
Lake County Department of Information & Technology: GIS & Mapping Division

Stormwater Detention Calculations
Scranton Residential Development
The Roanoke Group
Lake Bluff, Illinois
May 16, 2016

Total Project Area	33,000	sq. feet
	0.76	**acres**

Existing Impervious Area: **0.51 acres**

The existing site was developed prior to 10/18/92.

Proposed Impervious Area:

assume 95% impervious **0.72 acres**

Per the Lake County WDO: The proposed development does not qualify as a Regulated Development, since the development is not more than 1 acre and the new impervious area is less than 0.5 acres

The proposed development hydrologically disturbs over 5,000 sf therefore, a watershed development permit is required

Development Requirements:

Classification:	**Minor Development**
Stormwater Detention:	Not required since it is not a regulated development
Runoff Volume Reduction:	Not required
Water Quality Treatment:	Not required, however, water quality treatment will be provided to reduce the runoff from the site:

See attached calculations for Runoff Comparison

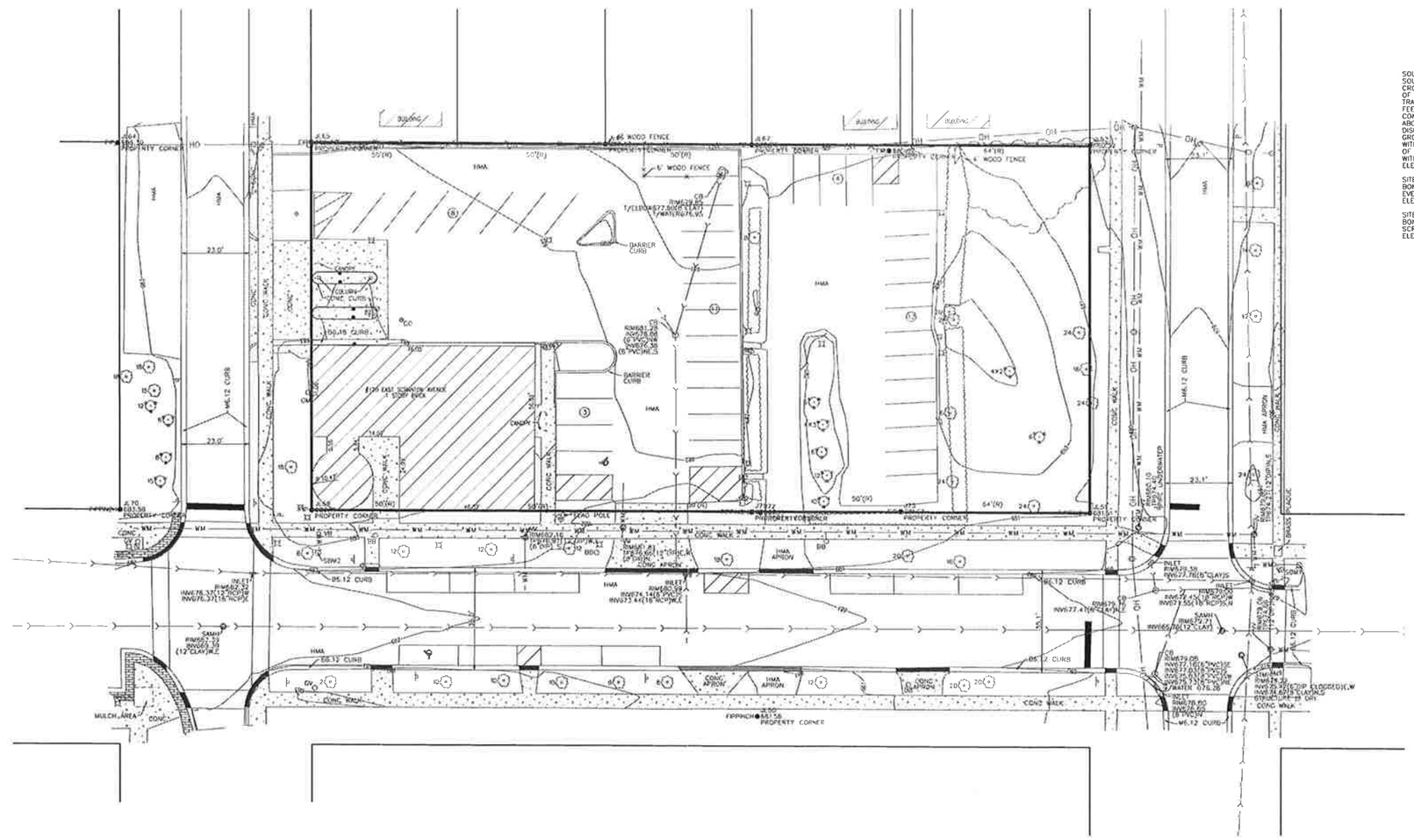
Water Quality Treatment was required: using 95% impervious

WQT = 2612.5 cubic feet

Storage Volume Provided in voids below pavers = 2708 cubic feet

LEGEND:

- BOUNDARY LINE
- PROPOSED LOT LINE
- BUILDING SETBACK LINE (BSL)
- EASEMENT LINE
- EXISTING RIGHT-OF-WAY LINE
- EXISTING LOT LINE
- UNDERLYING LOT LINE
- SECTION LINE
- SANITARY SEWER
- STORM SEWER
- COMBINED SEWER
- WM — WATER MAIN
- FM — FORCE MAIN
- CATV — CABLE TV LINE
- E — ELECTRIC LINE
- FO — FIBER OPTIC LINE
- G — GAS LINE
- T — TELEPHONE LINE
- OH — OVERHEAD WIRE
- X — FENCE
- GUARDRAIL
- BUSH LINE
- TREE LINE
- RAILROAD
- EDGE OF WATER
- WETLANDS
- MANHOLE (STMH/SAMH)
- CATCH BASIN (CB)
- INLET (INL)
- FLARED END SECTION (FES)
- VALVE VAULT (VV)
- VALVE BOX (VB)
- BUFFALO BOX (BB)
- FIRE HYDRANT (FH)
- AUXILIARY VALVE (AV)
- CLEANOUT (CO)
- BOLLARD (BOL)
- GAS VALVE (GV)
- ELECTRIC MANHOLE (EMH)
- TELEPHONE MANHOLE (TMH)
- HANDHOLE (HH)
- TRAFFIC SIGNAL BOX (TSB)
- TRAFFIC SIGNAL (TS)
- LIGHT (LHT)
- GROUND LIGHT (GLHT)
- POWER POLE (PP)
- GUY WIRE (GW)
- CABLE PEDESTAL (PEDC)
- ELECTRIC PEDESTAL (PEDE)
- TELEPHONE PEDESTAL (PEDT)
- TRANSFORMER
- SIGN
- SOIL BORING
- MAILBOX (MB)
- 20 DECIDUOUS TREE (SIZE IN INCHES)
- 12 CONIFEROUS TREE (SIZE IN INCHES)
- BUSH
- XX — CONTOUR LINE
- XXX.XX — SPOT ELEVATION
- PXXX.XX — PAVEMENT ELEVATION
- TCXXX.XX — TOP OF CURB ELEVATION
- TDCXXX.XX — TOP OF DEPRESSED CURB ELEVATION
- WXXX.XX — WALK ELEVATION
- ACU — AIR CONDITIONER UNIT
- B/WALL — BOTTOM OF WALL
- CB= — CHORD BEARING
- CH= — CHORD LENGTH
- CLF — CHAIN LINK FENCE
- (D) — DEED
- DIP — DUCTILE IRON PIPE
- EM — ELECTRIC METER
- FF — FINISHED FLOOR
- FIR — FOUND IRON ROD
- FIP — FOUND IRON PIPE
- GAR/F — GARAGE FLOOR
- GF — GRADE AT FOUNDATION
- GM — GAS METER
- INV — INVERT
- L= — ARC LENGTH
- (M) — MEASURED
- PVC — POLYVINYL CHLORIDE PIPE
- R= — RADIUS
- (R) — RECORD
- RCP — REINFORCED CONCRETE PIPE
- RW — RETAINING WALL
- SAN — SANITARY
- SBM — SITE BENCHMARK
- SIP — SET IRON PIPE
- SIR — SET IRON ROD
- SMN — SET MAG NAIL
- ST — STORM
- STR — STRUCTURE
- T/F — TOP OF FOUNDATION
- T/P — TOP OF PIPE
- T/WALL — TOP OF WALL
- TRANS — TRANSFORMER
- CONCRETE (CONC)
- GRAVEL
- HOT MIX ASPHALT (HMA)
- BUILDING
- DEPRESSED CURB



N

SCALE 1" = 20'

0 20 40

SOURCE BENCHMARK: NGS MONUMENT NC0172, ABOUT 0.85 MILES SOUTH ALONG THE CHICAGO AND NORTH WESTERN RAILWAY FROM THE CROSSING OF DEERPATH AVENUE AT LAKE FOREST, AT THE CROSSING OF RYAN PLACE, 25 FEET EAST OF THE EAST RAIL OF THE EAST TRACK, 81 FEET SOUTH OF THE CENTERLINE OF RYAN PLACE, 24.6 FEET SOUTH OF THE SOUTHWEST CORNER OF A 4 FOOT SQUARE CONCRETE BATTERY BOX, 2 FEET SOUTH OF A TELEPHONE POLE, ABOUT HALF A FOOT BELOW THE LEVEL OF THE TRASK AND IS A DISK ON TOP OF A COPPER COATED STEEL ROD FLUSH WITH THE GROUND AND PROTECTED BY A 6 INCH IRON PIPE WHICH IS FLUSH WITH THE GROUND, THE ROD WAS DRIVEN TO REFUSAL AT A DEPTH OF 47.5 FEET, ALSO ABOUT HALF A FOOT NORTH OF A METAL WITNESS POST.
ELEVATION = 701.33 (NAVD 88)

SITE BENCHMARK #1: SET "X" CUT ON TOP OF THE NORTHWEST BONNET BOLT OF THE FIRE HYDRANT AT THE NORTHEAST CORNER OF EVENSTON AVENUE AND SCRANTON AVENUE.
ELEVATION = 680.77

SITE BENCHMARK #2: FOUND "X" CUT ON TOP OF THE NORTHWEST BONNET BOLT OF THE FIRE HYDRANT AT THE NORTHEAST CORNER OF SCRANTON AVENUE AND OAK AVENUE.
ELEVATION = 684.73

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PHONE: 847-457-1297

DATE	DESCRIPTION OF REVISION	BY

DESIGNED	TKB
DRAWN	DWP
APPROVED	TKB
DATE	05/16/2016
SCALE	1" = 20'

EXISTING CONDITIONS
SCRANTON RESIDENTIAL PROPERTY
LAKE BLUFF, ILLINOIS

SHEET 1 OF 1

PROJECT NUMBER: 2981

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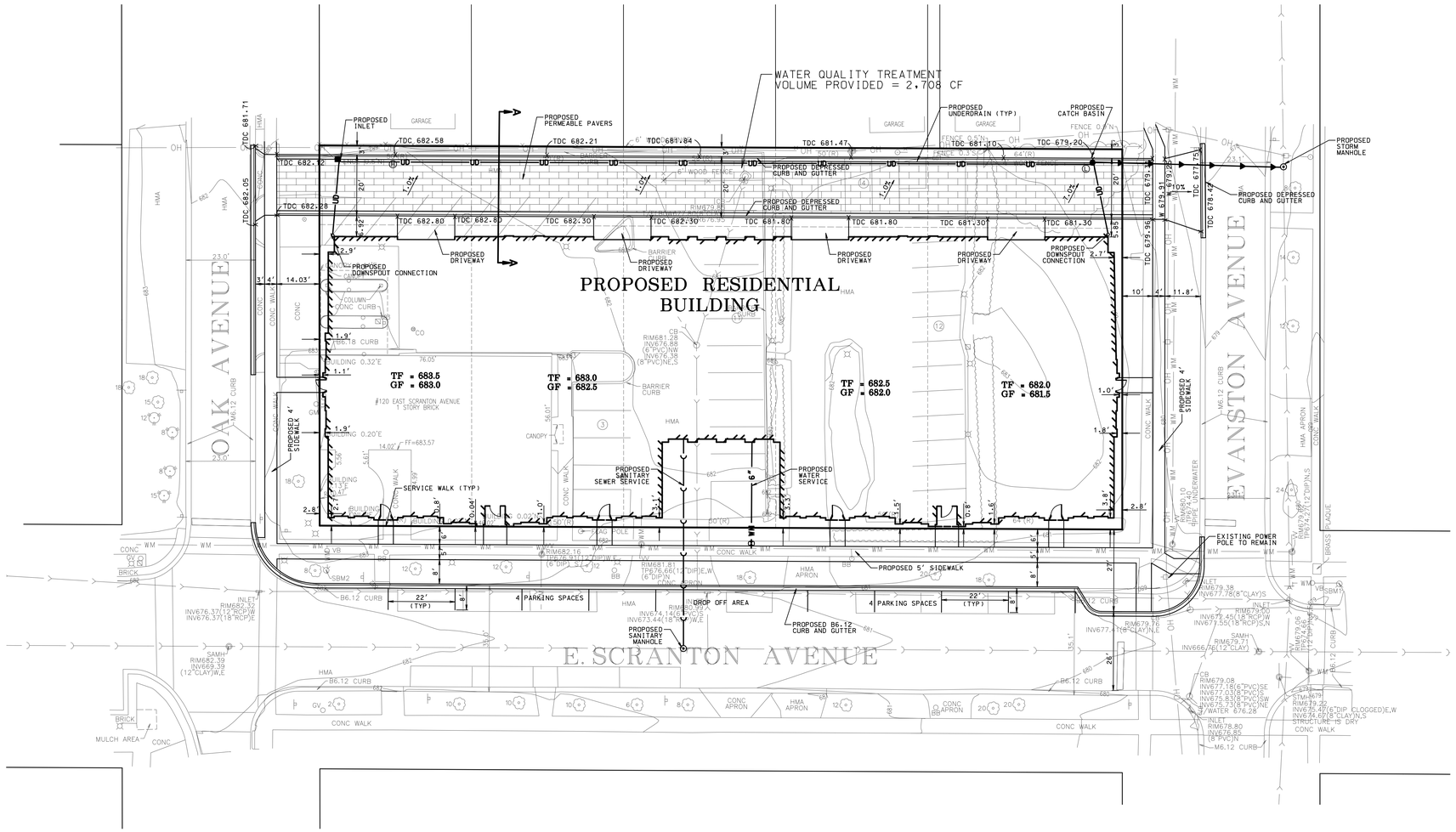
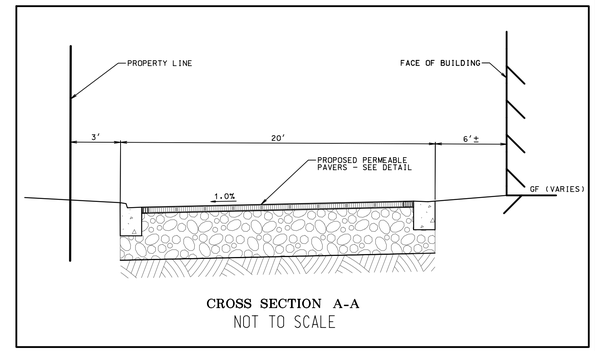
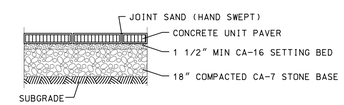




CROSS SECTION A-A
NOT TO SCALE



NOTES:
1. SAWCUT 2" DEEP CONTRACTION JOINT 8' ON CENTER.
2. CONCRETE UNIT PAVER SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

PERMEABLE PAVER DETAIL
NOT TO SCALE

LEGEND

	EXISTING	PROPOSED
SANITARY SEWER	8" PVC	8" PVC
FORCE MAIN	FM	FM
STORM SEWER	12" RCP	12" RCP
UNDERDRAIN	UD	UD
MANHOLE		
CATCH BASIN		
INLET		
CLEANOUT		
WATER MAIN	WM	8" WM
VALVE VAULT		
VALVE BOX		
FIRE HYDRANT		
FLARED END SECTION		
COMBINED SEWER		
STREET LIGHT/PARKING LOT LIGHT		
POWER POLE		
STREET SIGN		
FENCE		
GAS MAIN	G	G
OVERHEAD LINE	OH	OH
TELEPHONE LINE	T	T
ELECTRIC LINE	E	E
CABLE TV LINE	CTV	CATV
HIGH WATER LEVEL		HWL XXX
NORMAL WATER LEVEL		NWL XXX
CONTOUR LINE	XXX.XX	XXX.XX
OVERLAND FLOOD ROUTE		

ABBREVIATIONS

AC	ACRE	HWL	HIGH WATER ELEVATION	SAN	SANITARY SEWER
BC	BACK OF CURB	INL	INLET	SMH	SANITARY MANHOLE
BTM	BOTTOM	INV	INVERT	STA	STATION
CB	CATCH BASIN	LF	LINEAL FEET/FOOT	STM	STORM SEWER
CFS	CUBIC FEET PER SECOND	LP	LIGHT POLE	SY	SQUARE YARD
CY	CUBIC YARD	LT	LEFT	SWPP	STORMWATER POLLUTION PREVENTION PLAN
DIA	DIAMETER	L/W	LOWEST GRADE ADJACENT TO RETAINING WALL	TDC	TOP OF DEPRESSED CURB
DIWM	DUCTILE IRON WATER MAIN			TC	TOP OF CURB
EL	ELEVATION	MAX	MAXIMUM	TF	TOP OF FOUNDATION
EP	EDGE OF PAVEMENT	MH	STORM MANHOLE	T/W	TOP OF RETAINING WALL
FF	FINISHED FLOOR	MIN	MINIMUM	TYP	TYPICAL
FES	FLARED END SECTION	NWL	NORMAL WATER ELEVATION	VB	VALVE BOX
FT	FOOT/FEET	OCS	OUTLET CONTROL STRUCTURE	VC	VERTICAL CURVE
G	GUTTER ELEVATION	P	PAVEMENT ELEVATION	VV	VALVE VAULT
GF	GRADE AT FOUNDATION	PVC	POLYVINYL CHLORIDE PIPE	W	WALK ELEVATION
GR	GRADE RING ELEVATION	R	RADIUS	WM	WATER MAIN
HDPE	HIGH DENSITY POLYETHYLENE PIPE	RCP	REINFORCED CONCRETE PIPE	VPI	VERTICAL POINT OF INTERSECTION
		RIM	RIM ELEVATION		
HYD	FIRE HYDRANT	RT	RIGHT		
HMA	HOT MIX ASPHALT	ROW	RIGHT OF WAY		

SOURCE BENCHMARK:
BENCHMARKS ARE IN ACCORDANCE WITH NAVD 88 DATUM

SITE BENCHMARK 1: SET "X" CUT ON TOP OF THE NORTHWEST BONNET BOLT OF THE FIRE HYDRANT AT THE NORTHEAST CORNER OF EVENSTON AVENUE AND SCTRANTON AVENUE.
ELEVATION = 680.77

SITE BENCHMARK 2: FOUND "X" CUT ON TOP OF THE NORTHWEST BONNET BOLT OF THE FIRE HYDRANT AT THE NORTHEAST CORNER OF SCRANTON AVENUE AND OAK AVENUE.
ELEVATION = 684.73

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DATE	DESCRIPTION OF REVISION	BY
6-06-16	REVISED PER CLIENT COMMENTS	TKB
5-20-16	REVISED PER CLIENT COMMENTS	TKB

DESIGNED	TKB
DRAWN	DWP
APPROVED	TKB
DATE	05/16/2016
SCALE	1" = 20'

PRELIMINARY ENGINEERING PLAN
SCRANTON RESIDENTIAL PROPERTY
LAKE BLUFF, ILLINOIS

SHEET 1 OF 1
PROJECT NUMBER: 2981
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JOB Scranton
SHEET NO. 1 OF 2
CALCULATED BY 5/12/16 DATE TKB

Site Runoff:

Existing Conditions:

using Rational Formula $Q = cIA$

- Site Area = 0.76 acres
- Impervious Area = 0.57 ; Pervious Area = 0.19
- assume 10 min Tc

Rainfall Intensity at 10 min Tc

$$Q = \left[\frac{(0.19)\overset{(0.84)}{(0.45)} + 0.57(0.95)}{0.76}\right](10.02)(0.76)$$

$Q = 6.41$ cfs

Proposed Conditions:

- Site Area = 0.76 acres
- Impervious Area @ 95% = 0.72 acres
- Pervious Area @ 5% = 0.04 acres

Runoff Coefficient = 0.92

- assume 10 min Tc

$Q = 0.92(10.02)(0.76) = 7.00$ cfs

⇒ use Permeable Pavers to decrease the rate of runoff

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JOB Scranton
SHEET NO. 2 OF 2
CALCULATED BY 5/12/16 DATE TKB

w/ Permeable Pavers in drive aisle

Site Area = 0.76 acres

Permeable Pavers (264')(19') = 5016 SF (15%)
Pervious Area : 1650 SF (5%)
Impervious Area = 26,334 SF (80%)

Runoff coefficient

$$\frac{(1650)(0.45) + (26{,}334)(0.95) + (5016)(0.45)^{*}}{0.76}$$

* assume permeable pavers have 0.45 runoff coefficient

Runoff Coefficient = 0.85

assumes 10 min Tc

$Q = 0.85(0.76)(10.02)$

$= 6.47$ cfs

Storage will also be provided in void space below permeable pavement

assume 18" CA-7 below pavers and setting bed

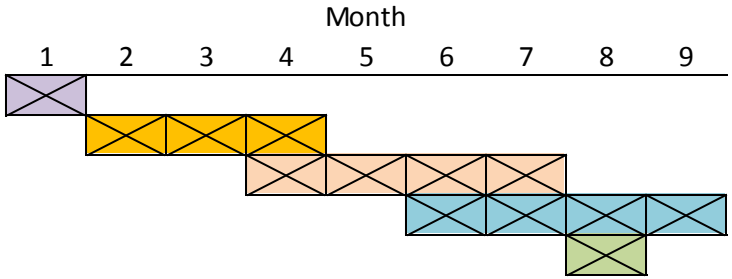
Volume = 1.5'(19')(264')(0.36) = 2708 CF

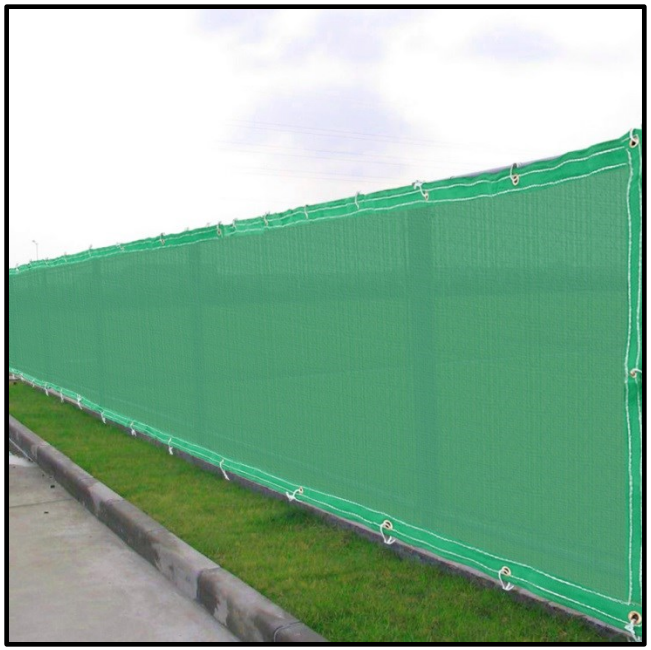
= 0.06 ac-ft storage

4.08 Construction Sequence & Information

Construction Schedule (1 Phase)

Item	Description
1	Fencing (Green Screen), Site Prep. & Demolition
2	Foundation, Structural & Framing
3	Exterior Façade & Enclosures
4	Interior Finishes
5	Landscape*





4.09 Governance Structure

120 E. Scranton Avenue
Governance Structure

The Roanoke Group proposes to develop the 0.759-acre site, which is bounded by Scranton Avenue on the south, Oak Avenue on the west, Evanston Avenue on the east and four single family homes on the north, with a three-story condominium building with 16 units, ranging in size from 1,880 to 3,050 square feet. Each unit will have two indoor parking spaces.

The site is currently improved with a one-story vacant bank building with an area of 3,910 square feet. The remainder of the property was used for parking. The existing building will be razed to enable the condominium development.

The project will be organized as a condominium pursuant to the Illinois Condominium Property Act (the "Act"). A condominium declaration (the "Declaration") will be created and recorded against the land and improvements, which Declaration will provide for the establishment of an Illinois not-for-profit corporation (the "Association") to manage all of the "common elements" of the condominium. The common elements will include the land parcel and all improvements constructed as part of the project, other than the condominium units themselves, such as hallways, private drives, trash receptacle area, and the storm water management system. Pursuant to the Act, the common elements will be owned by the unit owners collectively as tenants-in-common and will be managed and maintained by the Association on the unit owners' behalf.

The Declaration will also provide for requirements governing the project (such as architectural controls, landscaping standards and other operating covenants) and will also grant cross easements for the use of certain shared amenities and common facilities constructed as part of the project. The Declaration will provide for assessments to be collected from unit owners to cover the various maintenance and capital costs and other expenses incurred by the Association in the performance of its duties, certain insurance obligations and shall also contain certain other rights, obligations and provisions customarily included in a declaration organizing a condominium regime.