



# NEWS

### **Land Improvement Contractors Of America** · Illinois Chapter

#### September - October 2019

Lee Bunting Past President

Grant Curtis

President

Steve Anderson

Vice President

Eric Layden
First Vice President

Ryan Arch

Executive Secretary
Bill Dean

Treasurer

#### **Area Directors**

Area 1

Brian Brooks

#### Area 3

Wes Litwiller Joe Streitmatter

#### Area 4

David Kennedy John McCoy

Area 5

Earl Mast

Area 6

Bill Dean

Jon Seevers

#### Area 8

Tom Beyers Norm Kocher

Brad Baker

Associate Director

Ryan Arch

Executive Director

#### **Upcoming Events:**

#### Board of Directors Meeting

ILICA Office: Brimfield September 7, 2019

**Board of Directors Meeting** 

TBD

November 2, 2019



## STRATEGIC PLANNING ROUND 1 RESULTS

(page 11)



# GOLF OUTING RAINED OUT... PAR FOR THE COURSE

(page 9)



SUMMER PICNIC & MEMBERS' MTG.:
PLASTIC PIPE EXPLORED,
BYLAWS AMENDED

(page 15)

#### Also Featured Inside:

- ► SB 90 Passes House & Senate...Remains on Pritzker's Desk (page 6)
- ► The Extension Connection: Drainage Coefficient Effects on Drainage System Response to Large Rainfall Events (page 12-14)
- ► Furthering ILICA's Mission: One Project Demonstration at a Time (page 16-17)

Illinois LICA P.O. Box 474 Brimfield, IL 61517





Dimond Bros.

**Insurance Since 1867** 

DimondBros.com

**Spring Valley** 120 E. Dakota St.

Spring Valley, IL 61362 815-663-9905

**Fairbury** 

118 N. Third St. Fairbury, IL 61739 815-692-2343



//AGPS



INDUSTRY LEADING FINE GRADE RTK GPS MACHINE CONTROL SYSTEMS



Design and machine control for tile drainage, land leveling and surface water management needs.

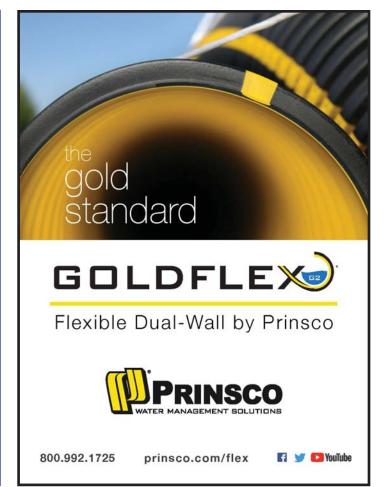


**GPS-GNSS Receivers & Antennas** 

Working with NovAtel technologies, we have the ability to control equipment requiring 2 GPS positions with 1 rover, Novated saving you the cost of buying a second rover system.

CONTACT US ABOUT IMPORTANT UPDATES FOR YOUR EXISTING SYSTEM

Contact Nate or Mike: Phone: 989-640-2347 or 989-587-3528 Email: nate@cookswms.com or mike@cookswms.com



### The ILICA News



Editor / Advertising Manager Ryan Arch

> Past President Lee Bunting, Dwight

President Grant Curtis, Sciota

Vice President Steve Anderson, Marseilles

1st Vice President Eric Layden, Hoopeston

> Executive Secretary Ryan Arch, Galva

Treasurer Bill Dean, Mattoon

**Educational Advisor Professor Richard Cooke** University of Illinois

The ILICA News is the official publication of Illinois Land Improvement Contractors Association, Inc. at 118 E. Knoxville St., Brimfield, IL 61517. (309)

Subscription price is \$50.00/year, issued bi-monthly: Jan.-Feb.; Mar.-Apr.; May-June; July-Aug,; Sept.-Oct.; Nov.-Dec., and also includes one annual directory.

#### FEATURES

SB 90 Passes House & SenateRemains on Pritzker's Desk
Golf Outing Rained OutPar for the Course
Strategic Planning Round 1 Results
National LICA Meets in Pacific Northwest
Summer Picnic & Members' Mtg: Plastic Pipe Explored, Bylaws Amd 15
Furthering ILICA's Mission: One Project Demonstration at a Time 16-17

#### COLUMNS

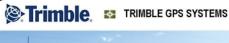
President's Message
New Members
2019 Board Member Schedule & Attendance
ILICA Ladies Page: Executive Director Approved Crockpot Meals 8
The Extension Connection
Advertisers Index
Board Meeting Notice
Calendar of Events
Featured NEW LICA Benefits: Sandhills Global
Safety Feature: Roadside Traffic Controls

## Northland Trenching Equipment, LLC

"We are the largest volume supplier for this type of equipment in the US



Inter-Drain Plows & Trenchers





The Inter-Drain plow, three types, double link, single cantilever, or single link, each in three sizes. Cat, Cummins or Volvo power. Offset available.



The Inter-Drain chain trencher. Four size choices, mechanical or hydraulic chain drive, vertical and offset available. Cummins, Volvo or Cat power.

**FULL SERVICE AND REBUILDS** 

HUGE PARTS INVENTORY

Corporate Office 12929 410th Avenue Waseca, MN 56093 Phone: (507) 835-4214 Fax: (507) 835-2032

Eastern Division - Indiana 3578 North State Road 59 Brazil, IN 47834 Phone: (812) 835-2900

Fax: (812) 835-2535

Email: nte@hickorytech.net www.northlandtrenching.com



#### PRESIDENT'S MESSAGE



Hello Illinois LICA,

Hope this finds you healthy, rejuvenated and ready for cooler weather after this hot and dry summer! Summer has officially ended at Curtis Land Improvement as Kane, our 1st grader, has returned to school

as of August 15th. Time flies when you're having fun!

Speaking of fun! Don't forget about participating in our upcoming Illinois LICA events during the week of Sept. 23-27 where we will be holding multiple area membership meetings across the state covering various education topics, new membership benefits, and more. These programs are brief, highly informational, and include a FREE meal for an added bonus!

A big THANK YOU to all involved in making the constructed wetland on the ICC Campus in East Peoria a success! I had a

great time helping out and enjoyed running some equipment that I don't normally get to run...that haul truck was a blast wasn't it Norm Kocher! I would also like to thank all of our Associates for their donations to this project and others, it does not go unnoticed!

I would also like to apologize for our family being absent at the Summer Picnic, we had a family vacation scheduling conflict. I heard that Springfield Plastics gave Illinois LICA a great tour of their facilities.

As we continue working and enter into our busier time this fall, make safety a priority. This machinery is like second nature to us and it is easy to take things for granted, stay alert and don't get too complacent.

Respectfully,

Grant Curtis







#### NEW MEMBERS

#### **Active Contractors**

**Fred Pitts** 

LAG & F Farms

5305 Boyscout Rd.

St. Anne, IL 60964

Ph: 815-933-1232

**Gary Elliott** 

Elliott Subsurface Drainage

526 Athensville Rd.

Palmyra, IL 62674

Ph: 217-473-5284

Email: gwe61@frontiernet.net

**Dennis Drake** 

Drake Excavating & Construction, Inc.

1765 Beech Tree Rd.

Charleston, IL 61920

Ph: 217-345-6302

Email: dennis@drakeexcavating.com

### BOARD & MEMBERS' MEETING SCHEDULE

Unless changed by the Board during the year, the ILICA business meetings are scheduled as follows:

**Sept. 7, 2019 -** Regular Meeting of the Board:

ILICA Office, Brimfield

Nov. 2, 2019 - Regular Meeting of the Board:

TBD

Exact location, committee meeting times & other details will be published in the ILICA News and sent to members via mail and/or email.

#### **Associate Members**

FHP - Farm and Home Publishers

Jacqueline Michelle Peifer

PO Box 305

524 River Ave N

Belmond, Iowa 50421

Ph: 309-585-9344

Email: jpeifer@farmandhomepublishers.com

Website: www.farmandhomepublishers.com

#### 2019 BOARD MEMBER MTG. ATTENDANCE

A = absent P = pre	C = cancelled meeting						
Area / Director	Jan	Mar	May	Aug	Sep	Nov	
Pres: Grant Curtis	Р	Р	Р	Α			
VP: Steve Anderson	Р	Р	Р	Р			
1st VP: Eric Layden	Р	Р	Р	Р			
Area 1 - Brian Brooks	Р	Р	Р	Р			
Area 2 - <b>Vacant</b>	-	-	-	-			
Area 3 - Wes Litwiller	Р	Р	Α	Α			
Area 3 - Joe Streitmatter	Р	Р	Α	Р			
Area 4 - David Kennedy	Р	Р	Α	Α			
Area 4 - John McCoy	Р	Α	Р	Α			
Area 5 - Earl Mast	-	Р	Α	Α			
Area 6 - Jon Seevers	Р	Р	Р	Р			
Area 6 - Bill Dean	Р	Р	Α	Α			
Area 7 - <b>Vacant</b>	_	_					
Area 8 - Norm Kocher	Α	Α	Α	Α			
Area 8 - Tom Beyers	Р	Α	Р	Α			
Associate Dir: Brad Baker	Р	Р	Α	Р			

### MAURER-STUTZ

#### **Conservation Engineering Services**

- · State and Federal Permitting Assistance
- Familiarity with NRCS Conservation Practice Standards
- NRCS Technical Service Provider (TSP)

Contact Gayle Baker, PE 309.693.7615

Thank You! UNIVERSITY OF ILLINOIS EXTENSION SUMMER DRAINAGE WORKSHOP EXHIBITORS

### SB 90 PASSES HOUSE & SENATE... REMAINS ON PRITZKER'S DESK

By Richard Lyons

The 101st legislative session of the General Assembly for the Spring of 2019 is over with many significant bills passed by the Illinois House and Senate and on their way to the Governor to be signed. From a Capitol Bill to an increase in the gas tax with associated increases in vehicle fees to SB 90, a bill which will affect drainage districts now and into the future. As your registered, unpaid lobbyist, I learned a lot about the legislative process in Illinois this past session. I learned that the divide be-

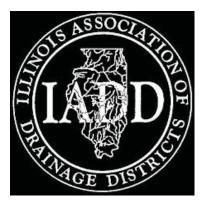
tween urban and rural issues within Illinois continues. I learned that being truthful and honest about issues both to the public and to your fellow legislators is not a value held by some Illinois legislators. I learned that common sense is not an important issue when making a decision regarding your vote on an issue. Finally, I learned that scientific evidence supporting a practice is not as important a statement as it is to create a position against the practice to get reelected in the next election cycle.

What do you need to know about SB 90? If your drainage district is in an area where metropolitan areas compose a significant portion of the district, then the viability of your district is at risk. SB 90 opened the door to the dissolution of active drainage districts by county government. The district funds may be taken over by the municipalities within the district for

the purpose of storm water management not necessarily agriculture drainage even though that is the purpose for which drainage districts were originally formed. Originally, the legislation stated that districts could be dissolved if one or more municipalities accounted for 50 percent of the drainage district's territory. An amendment changed it to 75 percent and limits the provisions to drainage districts that are wholly or partially contained within the Lake Michigan Watershed, Chicago/Calumet Watershed, Plaines River Watershed, or Fox River Watershed that are wholly contained within a county with a stormwater management planning committee.

Historically, drainage districts have not been politically active and the IADD has refrained from entering the political arena to stay above the fray of Illinois politics. However, our previous Governor insisted on reducing governmental units within Illinois. The task force to do so under the Lieutenant Governor focused intently on drainage districts. The IADD turned back that assault. Personally, I thought that this fight was over, but the sponsor of SB 90 and his political colleagues brought this up as a reason for dissolving active drainage districts. It seems that the IADD must become politically active to preserve drainage districts so that they can function as they were

> originally intended. This intent was for the improvement of agriculture productivity in Illinois. SB 90 passed both the House and the Senate and was sent to Governor Pritzker to sign on June 29, 2019. SB 90 is past history. The question to members now is: should the IADD become more politically active to ward off more assaults on our agricultural drainage in the near and distant future? If you have an opinion, then please contact me at rlyons@speednet.com or the IADD State Office at info@iadd.info.



Richard Lyons is an Illinois Association of Drainage Districts Board Member and a registered lobbyist for IADD.

Source: Reprinted with permission from IADD Info-Line, Summer 2019 Issue

#### **Hi-impact Polypropylene** AGCO Animal Guards

Prevent animals from plugging & destroying your tile drainage pipe!



Field Tested & Field Improved! An extra stainless-steel screw has been added to all the guards to prevent the baffle from turning inside the pipe.

> It always stays straight and centered! Screw torques up and stays tight!

The baffle is 1/2" smaller in diameter than the pipe, so it is more difficult for the animals to pick it up.

- Made stronger with 20% fiberglass and is non-corrosive.
- Will withstand temperatures from -40° to 300°F.
- Stabilizer added to prevent damage by ultraviolet rays.
  - Less than half the price of our competitors.

8", 10" and 12" guards are REINFORCED for stronger protection!

Solid guards provide more protection than finger-type guards! AGCO has satisfied customers from Nova Scotia to Oregon!

For more information, price list and FREE sample, call:

Inc. Since 1963

PHONE: (419) 542-8785 FAX: (419) 542-6861 8897 STATE ROUTE 18, MARK CENTER, OH 43536

## Water Management Solutions

for Today's Farmers





Advanced Drainage Systems provides farmers with drainage pipe and complete water management solutions designed for modern, successful farms.



We know farmers. They know us. Let's help them together.

#### **ADS Agriculture Applications**

- \* Field Drainage
- Lift Stations and Pumps
- Water Quality and Control

AGRICULTURE

#### For more please contact:

#### Dave Randolph

david.randolph@ads-pipe.com 217-855-7286

#### Michael Maierhofer

michael.maierhofer@ads-pipe.com 815-510-1512

www.ads-pipe.com

© 2019 Advanced Drainage Systems, Inc.

## ILICA Ladies Page



#### Slow Cooker Buffalo Chicken Sandwiches

#### Ingredients

4 skinless, boneless chicken breast halves

1 (17.5 fluid ounce) bottle buffalo wing sauce, divided

1/2 (1 ounce) package dry ranch salad dressing mix

2 tablespoons butter

6 Kaiser/hoagie rolls, split lengthwise

6 pepper jack cheese singles

#### **Directions**

Place the chicken breasts into a slow cooker, and pour in 3/4 of the wing sauce and the ranch dressing mix. Cover, and cook on low for 6 to 7 hours.

Once the chicken has cooked, add the butter, and shred the meat finely with two forks. Pile the meat onto the hoagie rolls, top with pepper jack cheese and splash with the remaining buffalo wing sauce to serve.

Adapted from source:: https://www.allrecipes.com/recipe/176132/slow-cooker-buffalo-chicken-sandwiches/#

#### Crockpot Chicken & Noodles

#### Ingredients

2 cans cream of chicken soup

2 cans chicken broth (15 oz each)

1 stick butter or margarine

1 lb chicken breasts (fresh or frozen)

1 package frozen egg noodles (24 oz; like Reames brand)

#### Directions

In crockpot, put chicken on bottom. Pour the chicken broth and soup on top. Then top that with the stick of butter. Put the crockpot on low for 6-7 hours.

Take the chicken out and shred. Put back in crockpot.

Add the frozen noodles and cook for 2 more hours, stirring occasionally.

\*Note: If meal seems too bland, feel free to use whatever spices one would use for chicken and dumplings anytime during the cooking process.



Adapted from source: https://cookpad.com/us/recipes/349318-crockpot-chicken-and-noodles

## Slow Cooker Root Beer Pulled Pork Sandwiches

#### Ingredients

1 (3 pound) pork roast (boneless)

1 (12 oz) can root beer

1 (18 oz) bottle of your favorite BBQ sauce

8 hamburger buns

#### **Directions**

Spray your slow cooker with nonstick cooking spray. Place roast inside slow cooker and pour the root



beer over the meat. Cook on low for about 6-8 hours (or until meat easily shreds).

Take the roast out of the slow cooker and shred using two forks (it should just fall apart). Drain the root beer out of the slow cooker and place the shredded roast back inside. Stir in the bottle of BBQ sauce. Keep warm in the slow cooker until serving.

Place meat on hamburger buns and serve.

Source: https://www.sixsistersstuff.com/recipe/slow-cooker-root-beer-pulled-pork/

## GOLF OUTING RAINED OUT... PAR FOR THE COURSE

Strategically scheduled for rain avoidance on June 21st, to the best of the Golf Outing Committee's (and most weathermen's) ability, the Area 6 Golf Outing and Trap Shoot had great potential with around 60 registered golfers and nearly a dozen registered shooters. However, during a year with record setting rainfall and weather events, it only seemed "par for the course" that the Area 6 Golf Outing was completely rained out after about 4 holes. Trap shooters faired much better on the day, completing their entire shoot and winning a number of great prizes.

For 2019, trap shooting was introduced to the Area 6 Golf Outing, after being introduced to the Area 3 Golf Outing the year before with a positive response. Held just 9 miles from Meadowview GC in Lerna, IL at the Paul McKillip Farm, trap shooters started off the day's event successfully completing their round of clay shooting in the morning. Paul graciously hosted the event and welcomed our group to his personal grounds where shooters had the opportunity to shoot at two stations for 50 clays, competing for points, bragging rights, and

prizes. Top shot, after a tie breaker, went to K.C. "Shooter" Rhodes, who edged out Josh Neff by only 4 shots. From the bottom of the pack, three individuals with the lowest scores were entered into a drawing for a brand new Remington 870 donated by Prins Insurance. Greg Magsamen was the winner of the new gun, even scoring a new gun case from the door prize pile to transport the firearm home in.

Around noon, golfers began gathering at Meadowview Golf Course for lunch as

weather radars indicated that storms were pending over the next few hours. Shortly after the shotgun start, the quick moving storms were already upon golfers with strong winds, heavy rain, and



Top Shot, KC "Shooter" Rhodes, wins a clay thrower and box of clays after a tie-breaker shoot off

lightning after an average of only four holes completed. It quickly became obvious that the storm had already dumped too much rain on the course to resume play even after it started, additionally the storm was only building instead of letting up. So, the golf outing was officially deemed rained out. Dinner was started early as many golfers socialized in the clubhouse with no other option but to have fun indoors instead. And while you never hope for rain during your outdoor events, most golfers were understanding particularly during a year like this. Fortunately, those that were interested received a 9 hole raincheck from Meadowview GC for a sunnier day.

Though the weather was on par for the year, the Area 6 Golf Outing and Trap Shoot realistically saw very few pars on the course with only 4 holes completed before the rain out. Regardless, golfers and shooters, who did get their full event in, still enjoyed the fun day and camaraderie that only a social event like this can provide.

Thank you to our countless green and tee sponsors, outing sponsors, prize donors, and Paul McKillip for supporting

the Illinois LICA Area 6 Golf Outing and Trap Shoot!













Greg Magsamen wins a Remington 870, donated by Prins Insurance's Bruce Mosier





### **ENVISION**

**INSURANCE GROUP** 

Owned and Operated by

Miller Dredge Insurance

#### Four Area Locations to Serve You

7150 N. University St. Peoria, IL 61614 (309) 683-1100 456 E. Main St. Galesburg, IL 61401 (309) 343-1168

300 E. War Memorial Dr. Peoria, IL 61614 (309) 685-6606 150 S. Main St. Morton, IL 61550 (309) 263-2400

- Business & Personal Insurance
- Life & Health Benefits
   Bonding



#### **Quality Products...Unequalled Service**

Over 50 years of manufacturing and supplying corrugated metal pipe and related highway drainage products.

Havana, IL Office (309) 543-2271 Monmouth, IL Office (309) 734-4113 Corporate Office (800) 735-7312

Email: <u>sales@metalculverts.com</u> www.metalculverts.com





## REMINDER: FREE CONTRACTOR CLASSIFIED LISTINGS AVAILABLE

Contact the ILICA Office to learn more 309.446.3700



#### STRATEGIC PLANNING ROUND 1 RESULTS

Discussed exactly one year ago during the September Board Meeting, it was decided that strategic planning for the Association in the short term would be beneficial, providing a roadmap for the future of the organization. Tasked to the Executive, Long Term Planning, and Membership Committees, the process was set in motion shortly after being discussed with a date set on the calendar for the first planning session and with the securement of Prins Insurance as strategic planning facilitator.

In an effort to minimize travel for Prins Insurance and members involved with the planning process, the first round of strategic planning was held the day before the Area 6 Golf Outing & Trap Shoot in Mattoon, IL on June 20. For the entire day, eight members of leadership engaged with Prins Insurance team members, Amber Bosma and Bruce Mosier, to review the importance of strategic planning, to dive into mem-

bership metrics, to explore the Association's strengths and weaknesses, and to set short term goals for the organization. Some of the strategic planning goals drafted for the next few years focus on engaging and growing membership, ramping

> up branding efforts, and diversifying education content and partnership relations. (For full session notes, contact Ryan in the office.)

> As the growth of Associations struggle nationwide, the Illinois LICA Board of Direc-

tors has already begun one of the most difficult parts of strategic planning...just getting started. With strong notes and valuable discussion from the first round of strategic planning in June, Prins Insurance will help guide members involved with the process to a final document on the last day of the 2020 ILICA Convention on February 22 in Springfield, IL. Members are encouraged to attend and provide input to help steer Illinois LICA to continued growth and success for our members.

#### NATIONAL LICA MEETS IN PACIFIC NORTHWEST

For those willing to make the trek towards the west coast for the 2019 National LICA Summer Meeting in Vancouver, WA, the Pacific Northwest did not disappoint.

As is often the case with tours hosted at National LICA events, the views and history surrounding Mount St. Helens, the Columbia River Gorge, Multnomah Falls, and Mt. Hood were amazing; particularly Mount St. Helens where the aftermath of its powerful eruption almost 40 years ago can still be witnessed on the landscape to this day.

Though attendance for the event was down noticeably, education sessions that covered Facebook development, website optimization, risk management, and subsurface drainage

were still well attended; as were various committee meetings.

A number of new benefits were announced during the Summer Meeting including Sunbelt Rentals' 10% discount for LICA members and 5 benefits from Sandhills Global: premium hosted website options with free banner advertising, eCommerce options for websites, Currency financing and credit card processing, and Inventory Management System for buying and selling equipment via the National LICA website for free!

Another great National LICA Summer Meeting is on the books with the next Convention scheduled ahead of CONEX-PO in Vegas on March 7-9.





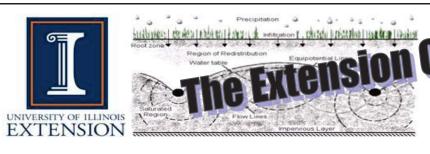












Source: Richard Cooke - Department of Agricultural

Source: Kichara Cooke - Department of Agriculural and Biological Engineering, University of Illinois at Urbana-Champaign, Urbana, IL

## DRAINAGE COEFFICIENT EFFECTS ON DRAINAGE SYSTEM RESPONSE TO LARGE RAINFALL EVENTS

Drainage systems in Illinois are typically designed using a 0.375" or a 0.5" drainage coefficient. The drainage coefficient is the depth of water removed from the soil in 24 hours, from a soil with an elliptic water table that initially touches the soil surface midway between the drains. There were several large rainfall events this spring, often on successive days, that left water ponded on even intensively drained fields for what seemed like forever. This raises the question as to whether or not recommended design drainage coefficients should be increased. The answer lies in the realm of Economics, optimizing cost and benefits. Such optimization requires an understanding of the hydraulic performance of various design options, among other things.

A hydraulic analysis of the performance of three drainage systems for the field shown in Figure 1 is presented below. This field is typical of many fields in Illinois -flat with a mixture of hydric soils that require drainage to be productive. In this instance the design is done for Drummer, the State Soil and the most ubiquitous soil in the state. Because there is a ditch next to the field, the mains are short. Longer mains change the economic calculus, but the hydraulic analysis is very representative.

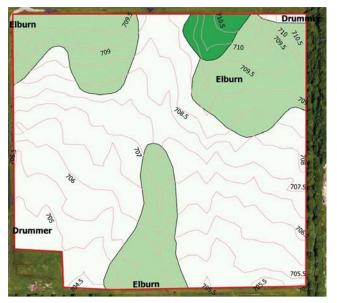


Figure 1. Field, with ditch on the right, used for hydraulic analysis of three drainage system designs.

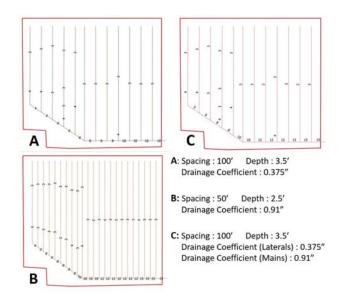


Figure 2. Layout and pipe sizes for drainage systems used for analysis.

The layout and pipe sizes for the three designs are shown in Figure 2. System A is a typical design for Drummer. The tiles are spaced 100' apart and put at an average depth of 3.5'. The resulting drainage coefficient is 0.375". The tile spacing in System B (50') is half that of System A, and the tiles are shallower (2.5'). This system represents a trend towards installing narrower, shallower systems with higher drainage coefficients, 0.91" in this instance. In System C, the drainage coefficients are uncoupled, with 0.375" and 0.91" used for the laterals and mains, respectively.

The analysis was performed for the first 24 hours after an event that saturates the soil and causes the water table to be flat at the soil surface. This scenario is likely after a rain event that exceeds the capacity of the main. The capacity of the main is not necessarily the same as the design drainage coefficient. The relationship between design drainage coefficient and main capacity is shown in Figure 3. The main capacity corresponding to a 0.375" drainage capacity is 8.9" (Pipe a). However, since pipes sizes are standard, a 10" pipe would be used for this system. The main capacity for this 10" pipe is the drainage coefficient that makes the actual pipe size the same as the nominal pipe size (Pipe c). This value (0.512") can be found by

	В8		· 1 >	· ·	fx 1.509	16458089117												
	d	А	В	С	D	E	F	G	н	T	j	K	L	М	N	0	Р	
Figure 3.	1 2						Pipe	Type Inc	dices: 1-Sin	gle Wa	II 2-Dual	Wall 3	-Clay 4-0	oncrete				
Layout	3	Pipe	Drain.	Latera	al (feet)	Upstream		Attached I	Pipe	Inflow	Inle	et .	Effective	м	ain	Actual Size	Nominal	
and pipe	4	Name or#	Coeff (in/day)	Length	Spacing	(acres)	Size (inches)	Slope (percent	Pipe Type Index	(cfs)	Diameter (in)	Head (feet)	Flowrate (cfs)	Slope (percent)	Pipe Type Index	(Inches)	Size (inches)	
sizes for	5	а	0.375	0	70	28	0	0.3	1	0	0	2	0.441	0.1	1	8.90	10	
drainage	6	b	0.91			28							1.071	0.1	1	12.41	15	
systems	7	с	0.5118			28	9						0.602	0.1	1	10.00	10	
used for	8	d	1.5092			28	Goa	l Seek		<			1.775	0.1	1	15.00	15	
	9	e					Sgt		\$0\$8 15	16			0.000	1	1	0.00	3	
analysis.	10	f					*17.00	alue: hanging cell:		16			0.000	1	1	0.00	3	
	11	g						ОК	Cancel				0.000	1	1	0.00	3	
	12	h											0.000	1	1	0.00	3	

trial and error, or by using the Goal Seek function in the Main Sizing, EXCEL worksheet as demonstrated in Figure 3. The capacity for the 15" main was 1.51" in this instance.

A schematic of water table profiles from draining a flat water table is shown in Figure 4. Firstly, the extent of the drawdown region, called the effective spacing, increases until it extends to midway between the drains. At this instant the effective spacing is the same as the actual drain

spacing (red line in Figure 4). As time increases, the mid-plane water table height decreases. When the effective spacing is less than the actual drain spacing, the instantaneous drainage coefficient exceeds the design drainage coefficient. The maximum rate at which water leaves the profile is governed by the capacity of the main. At the instant the effective spacing equals the actual drain spacing, the instantaneous drainage coefficient is equal to the design drainage coefficient. As time progresses and the mid-plane water table height decreases, the instantaneous drainage coefficient is less than the design drainage coefficient.

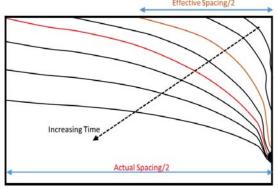


Figure 4. Water table profiles on one side of a lateral resulting from draining an initially flat water table.

The evolution for the effective spacing for Systems A and B in Figure 2 are shown in Figure 5. For the deeper wider system, System A, it takes approximately 9 hours for the effective spacing to equal the actual spacing. The corresponding time for the narrower, shallower system, System B, is approximately 3 hours.

The instantaneous drainage coefficients for the first 24 hours of drainage are shown in Figure 6. The capacity of the main controls the drainage for

the first 3.0 hours and 1.8 hours, respectively, for Systems A and B. After these times the drainage rate is dictated by the transport properties of the soil. The drainage rate in the deeper, wider system equals or exceeds that of the shallower, narrower system for the first 4.8 hours. After 24 hours, the drainage rate from the two systems are approximately equal, but drainage rate from the shallow system decreases faster than that for the deeper system.

The depth of water removed over the first 24 hours by each of the three systems is shown in Figure 7. The cumulative depths are 0.42", 0.69", and 0.58", respectively, for Systems A, B, and

Table 1. Drainage Systems Costs.

SYSTEM A (100' 3.5' 10"main)						
Pipe	Length (ft)	Unit cost (\$/ft)	Cost (\$)			
3" plowed	9898	\$0.75	\$7,424			
4" plowed	1467	\$1.00	\$1,467			
5" plowed	120	\$1.25	\$150			
6" plowed	240	\$1.50	\$360			
8" trenched	400	\$2.85	\$1,140			
10" trenched	418	\$5.20	\$2,174			
12" trenched	0	\$7.30	\$0			
15" dual wall	0	\$13.50	\$0			
Sy	\$12,714					
Cost per acre \$410						
24 hour drainage (in) 0.42						

SYSTEM B (50' 2.5' 15"main)						
Pipe	Length (ft)	Unit cost (\$/ft)	Cost (\$)			
3" plowed	21376	\$0.75	\$16,032			
4" plowed	1099	\$1.00	\$1,099			
5" plowed	62	\$1.25	\$78			
6" plowed	122	\$1.50	\$183			
8" trenched	245	\$2.85	\$698			
10" trenched	200	\$5.20	\$1,040			
12" trenched	350	\$7.30	\$2,555			
15" dual wall	244	\$13.50	\$3,294			
System Cost \$24,979						
Cost per acre \$806						
24 hour drainage (in) 0.69						

SYST	TEM C (100' 3	.5' 15"main)		
Pipe	Length (ft)	Unit cost (\$/ft)	Cost (\$)	
3" plowed	9898	\$0.75	\$7,424	
4" plowed	1347	\$1.00	\$1,347	
5" plowed	120	\$1.25	\$150	
6" plowed	120	\$1.50	\$180	
8" trenched	240	\$2.85	\$684	
10" trenched	200	\$5.20	\$1,040	
12" trenched	300	\$7.30	\$2,190	
15" dual wall	318	\$13.50	\$4,293	
System Cost \$1				
Cost per acre \$558				
24 hour drainage (in) 0.58				

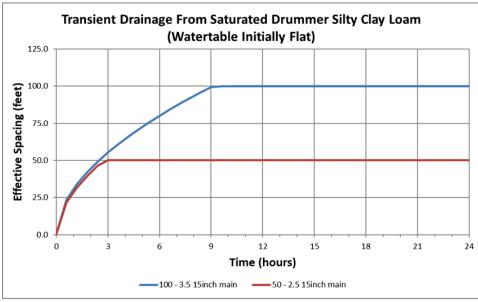


Figure 5. Effective spacing versus time from draining an initially flat water table.

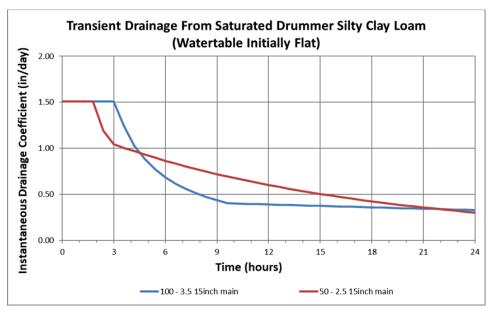


Figure 6. Instantaneous drainage coefficient versus time from draining an initially flat water table.

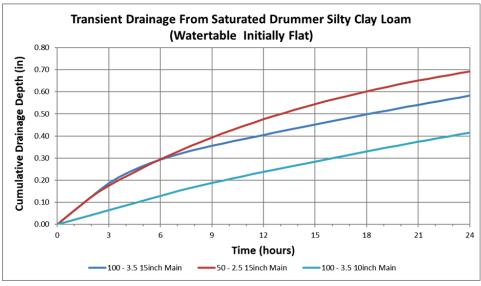


Figure 7. Instantaneous drainage coefficient versus time from draining an initially flat water table.

C. System costs and 24 hour drainage rates are shown in Table 1. The unit pipe costs are representative industry standard. Unit pipe cost is often dependent on job size, decreasing as job size increases. The cost does not include the cost of making connections or of moving equipment. As mentioned earlier, these systems have short mains as they are next to a ditch. In actually, main costs can be significantly more, depending on the distance to be travelled to an outlet.

The systems were designed using 3" laterals were possible. With the laterals being steep and much shorter than the lengths that would cause them to flow at capacity, it is unlikely that the laterals will restrict flow, even at high instantaneous drainage rates. However, 4" laterals are much less likely to restrict flow than 3" laterals, so that might be a design consideration.

The most cost effective of the three systems seem to be System C, in which the drainage coefficients for mains and laterals were uncoupled. This should be a consideration in designing drainage systems for faster drainage after large events. Another option would be to increase the depth of narrower systems. In this instance, for example, if the narrow system were placed 3.5' deep, the drainage coefficient would be 1.34", which is less than the 1.51" limit for a 15" main shown in Figure 2. The cost, therefore, would not change much. However, the 24 hour drainage would increase to 1.0", a 45% increase over the 24 hour drainage of the shallower system with the same spacing.

In many cases system depth is limited by the depth of the outlet. In instances where this is not so, it seems that designing the system with a drainage coefficient that equalizes the actual and nominal pipe sizes would be the most cost effective. Cost effectiveness could also be increased by uncoupling the drainage coefficients for mains and laterals.

## SUMMER PICNIC & MEMBERS' MEETING: PLASTIC PIPE EXPLORED, BYLAWS AMENDED

For the second year in a row, Illinois LICA members had the opportunity to get a behind-the-scenes glimpse of the processes involved to manufacture plastic drainage pipe as part of the Summer Picnic and Members' Meeting. Following the morning tour hosted by Springfield Plastics, Inc. in Auburn, IL, members enjoyed a grilled picnic lunch and camaraderie before addressing membership matters including a bylaws amendment.

From the moment members pulled into the parking lot of Springfield Plastics', they were warmly greeted by a number of staff members along their path to the company's breakroom; the starting point of their tour. After attendees enjoyed morning snacks and beverages, Steve Baker provided the official welcome to the group and highlighted tour logistics. As tour groups departed throughout the plant, donned with appropriate safety gear, guides explained the various methods and steps involved with Springfield Plastics' pipe production from incoming product to final product quality control and even the loading of trucks. Members had the chance to witness three

different pipe sizes, as well as fittings, under production during the Saturday tour. They also learned about Springfield Plastics' newest production line and many of the additional steps the company takes to ensure a quality product, start to finish.

Traveling 30 minutes north to beautiful Southwind Park in Springfield, members regrouped after the plant tour for a delicious grilled picnic meal provided by retired member Stan Seevers with assistance from Jon & Veronica Seevers. Wasting no time after lunch, the members'

meeting began addressing business including amending the bylaws to increase state chapter dues by \$30, from \$170 to \$200 annually; thereby raising total Association dues, including National dues, to \$350/year effective October 2019. Some other business discussed during the meeting included strategic planning, upcoming Association events, advertising opportunities, and the Administrative Assistant job opening.

The Summer Picnic & Members' Meeting had fantastic food, tours, and weather yet again this year, providing members the opportunity to learn about plastic drainage pipe manufacturing and providing the perfect setting to address Association business in the company of friends.

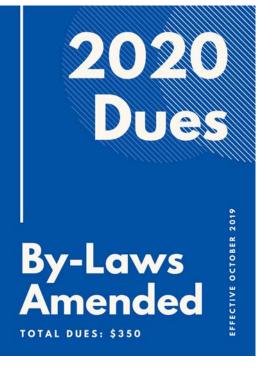
We thank all our event sponsors and supporters including Springfield Plastics, Inc.; Stan Seevers; Jon & Veronica Seevers: Martin Equipment of Illinois; Sullivan Auctioneers; Northland Trenching; Bower's Great Lakes Inter-Drain; Precision Intakes; and Hickenbottom, Inc.











## FURTHERING ILICA'S MISSION: ONE PROJECT DEMONSTRATION AT A TIME

To promote, perpetuate, and improve the proper use of our natural resources for the benefit of all; as Illinois LICA continues to advance its mission, few strategies have proven more effective at accomplishing this than the completion of summer project demonstrations. By the time of print, ILICA will have completed installation of roughly 35 acres of pattern tile drainage, a bioreactor, a saturated buffer, and a constructed wetland this summer alone. Promoting edge of field practices; perpetuating conservation drainage; and improving water quality.

On June 20, ILICA installed a saturated buffer system near Longview, IL for The Nature Conservancy, in conjunction with the Illinois Sustainable Ag Partnership's Advanced Conservation Drainage Training program; marking the second installation of a saturated buffer by the Association in 2019. Local member Koeberlein Drainage completed the project on behalf of the Association. Despite the soggy conditions, the project was successfully completed during the open-to -the-public field day event where approximately 60 producers, technical assistance providers, ag service providers, and media gathered to learn more

about the practice, its installation, and its benefits.

#### Saturated Buffer Details (images above)

- Lead Partner: The Nature Conservancy
- Technical Design: Water Management Solutions, LLC
- Treated Drainage Acreage: 46
- Practice Specs.: Lateral length 1200' (6")

During the week of July 22-27, ILICA constructed one of the most unique constructed wetlands to-date for The Wetlands Initiative (TWI) on the campus of Illinois Central College (ICC) in East Peoria, IL. With its horseshoe design, peninsula, and island areas, this roughly 1 acre constructed wetland, designed by TWI, was built with ICC's users in mind. Sited near the campuses main loop, the constructed wetland integrates an existing cross country course along its berms, provides enhanced aesthetics to a prior green space on campus, and serves as a multidisciplinary education and research site for







the agriculture and biology departments. While the constructed wetland could be visited by the public any time during the week of construction, the official field day event on Thursday drew nearly 50 individuals interested in conservation drainage, wildlife habitat, nutrient management, cover crops, and soil conservation to the site.

### Constructed Wetland Details (images opposite page)

- Lead Partner:
   The Wetlands Initiative
- Technical Design:
  The Wetlands Initiative
- Treated Drainage Acreage: 35
- Practice Specs.: Area 0.93 ac.

ILICA can only accomplish our mission through the strong efforts, expertise, and support of our members, associates, and partners. Thank you to ALL those involved, including the following partners and supporting members:

Saturated Buffer Project: Illinois Sustainable Ag Partnership; The Nature Conservancy; Koeberlein Drainage; Agri Drain, Corp; Springfield Plastics, Inc.

#### Constructed Wetland Project:

The Wetlands Initiative; Agri Drain Corp.; Alta Equipment Company; Altorfer, Inc.; Birkey's; Bradford Supply Company; Fratco, Inc.; Martin Equipment of Illinois, Inc.; Mathis-Kelley Construction Supply; Metal Culverts, Inc.; Roland Machinery Co.; Schlatter's, Inc.; Storm Water Supply, LLC

For a complete listing of supporters and to view more photos and videos from the summer partnership projects visit www.illica.net under the "Projects" tab. (Continued pg. 17)



















FLEXIBLE DUAL-WALL PIPE

## FLEX CORR

**EVEN** MORE SIZES.

EVEN MORE POSSIBILITIES.



Fratco offers the widest range of flexible dual-wall pipe on the market.

FRATCO.COM

IF IT HAS TO BE RIGHT, IT HAS TO BE

FRATCO

#### **CALENDAR OF EVENTS**

#### Illinois

#### Board of Directors Meeting September 7, 2019

ILICA Office - Brimfield, IL Committee meetings: 10 am - 1 pm Board Meeting: 2 pm

Board of Directors Meeting November 2, 2019

Area Members' Meetings September 23-27 2019

TBD (Statewide): Education, Benefits Update, FREE Meal

#### **National**

#### National LICA Open House October 11, 2019

3080 Ogden Ave., Suite 300, Lisle, IL 60532 Come visit the new National LICA Office from 1-5 pm! Refreshments & snacks will be served.

## Schlatter's Inc.

Intelligent Water Management<sup>TM</sup>



Drainage Plows GPS Machine Control Design Software Custom Fabrication

> 16179 W 500 S Francesville, IN 47946 (219) 567-9158 www.SchlattersInc.com







### **ADVERTISERS INDEX**

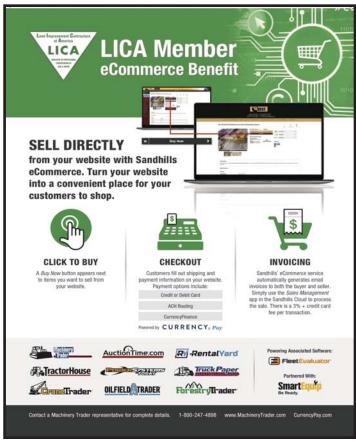
	7
AGCO, Inc.	6
Agri Drain Corp	21
Bower's Great Lakes Inter-Drain, Inc	23
BRON	21
Cook's AGPS, LLC	2
Dimond Bros. Insurance	2
E-K Petroleum, LLC	4
Envision Insurance Group, LLC	10
Fratco, Inc	18
Hickenbottom, Inc	4
Jim Hawk Truck Trailers, Inc	23
Lincoln Financial Agribusiness Services	4
Martin Equipment of Illinois, Inc	24
Maurer-Stutz, Inc	5
Metal Culverts, Inc	10
Northland Trenching Equipment, LLC	3
Precision Intakes, Ltd	21
,	
Prins Insurance, Inc./United Fire Group 2	
	24
Prins Insurance, Inc./United Fire Group 2	24 2
Prins Insurance, Inc./United Fire Group	24 2 23
Prins Insurance, Inc./United Fire Group	24 2 23 24
Prins Insurance, Inc./United Fire Group	24 2 23 24 19
Prins Insurance, Inc./United Fire Group. 2 Prinsco, Inc	24 2 23 24 19 24

## FEATURED NEW LICA BENEFITS: SANDHILLS GLOBAL













# Precision Intakes Full Line of Surface Water Intakes

- 8" & 10" riser with patented 8" & 10" combination Tees.
   Also 6" square & round risers with patented reducing Tee.
- Constructed of heavy-weight, high-density polyethlene.
- Parts highly adjustable & interchangeable with others on the market.
- Orifice plate placed at tee level or at ground level.
- Exclusive locking device on each part.
- User Friendly-Priced effectively.
- Adaptor available to repair old metal or broken intakes.



Why inventory 2, when 1 serves both!



"Dealer Inquires Welcome"

PRECISION INTAKES

Tim Rozendaal — Coretha Rozendaal (2064 Republic Ave West, Monroe IA 50170 (

www.precisionintakes.com

(800) 932-7611 (641) 259-2651 Fax (641) 259-3218

## SAFETY FEATURE: ROADSIDE TRAFFIC CONTROLS

If a motorist is confused, not paying attention or driving recklessly, you could be in grave danger while on a job site.



Even when you and your crew think you are safe, some drivers can make working on the roadside potentially deadly. If a motorist is confused, not pay-

ing attention or driving recklessly, you could be in grave danger while on a job site.

When a worksite involves moving traffic, it is up to the roadside workers to protect the public and themselves from dangerous accidents. Remember these safety tips while you are on the job.

#### Plan Ahead

Traffic controls should be implemented prior to the start of the roadwork by driving through the proposed traffic pattern.

- This dry run will allow you to make changes to the route so that it makes sense to motorists.
- If you notice any obstacles or areas that may be confusing, change them before beginning the work.

#### Signs

- Follow the Manual on Uniform Traffic Control Devices provided from the U.S. Department of Transportation found at <a href="http://mutcd.fhwa.dot.gov">http://mutcd.fhwa.dot.gov</a> and your local and state regulations regarding proper signage and barricading.
- Place warning signs at least 1,000 feet before the start of the work zone.
- Signs should be highly visible and in good working order.

#### **Barricades**

- Place space cones, barrels and other devices used to guide traffic close together throughout the construction site.
  - ♦ Motorists should not be able to deviate from the path you feel is safest for them to travel.

#### Safety Gear

 Wear hard hats, Day-Glo® or orange vests during the day and light-reflective strips at night.

#### Flagging Duties

At least one employee should act as the traffic control person.

- Control traffic with a highly visible sign paddle during the daytime.
- Flaggers should carry two-way radios to communicate with other employees.

Alert motorists of the presence of flaggers by placing signage at least 500 feet from the beginning of the work zone.

#### **Vehicle Specifications**

- All vehicles must have backing alarms, two-way radios and signs indicating "Slow Moving."
- All vehicle operators should be properly trained on how to operate the equipment.
- Place cones around vehicles parked on the side of the road to warn motorists to slow down and watch out for them.

#### Take Extra Precautions at Night

- Increase warning distances for signage.
- Flaggers should use orange-cone flashlights to guide traffic.
- Place flashing lights on barricades.
- Tape off excavation site access.

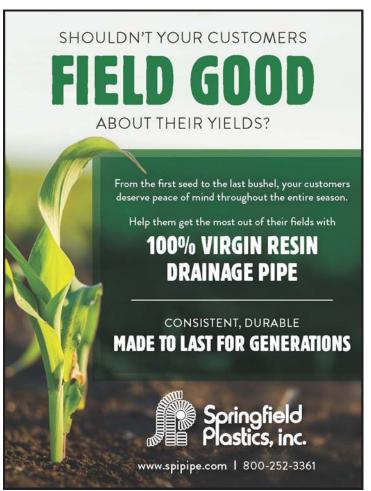
Discussion Date:
Employee Participants

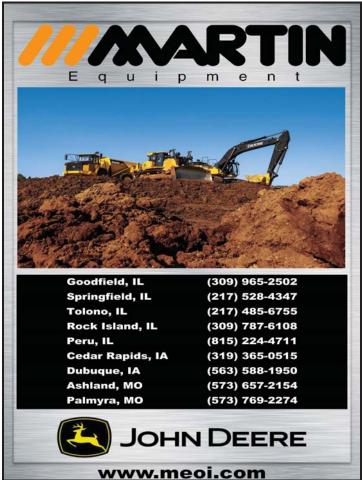
















Cedar Rapids, IA

©UFG 2018. All rights reserved.