

60TH ANNUAL
**PURDUE UNDERGROUND
CORROSION SHORT COURSE**



AUGUST 31 - SEPTEMBER 2, 2021
GRAND WAYNE CONVENTION CENTER
120 W. JEFFERSON BLVD. FT. WAYNE IN 46802

corrosionshortcourse.com



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Purdue Conferences

WHO SHOULD ATTEND

Anyone interested in the causes of corrosion and its control should attend this course. Engineers, corrosion technicians, construction foremen, and maintenance foremen will find that this program fits their needs.

SECTIONS AND OFFERINGS

PRACTICAL APPLICATIONS OF CORROSION CONTROL

This course is designed for engineers, operators, field laborers, and supervisors that want a basic understanding of the concepts of corrosion. Basic fundamentals and hands-on training will be covered. A voluntary test will be offered at the conclusion of the course.

BASIC SECTION

This section will provide a structured course designed to assist in the preparation for the Cathodic Protection Tester Certification test. A voluntary test will be offered at conclusion of the course.

INTERMEDIATE SECTION

This section will discuss rectifiers, galvanic and impressed current anode systems, and both DC and AC interference. A voluntary test will be offered at the conclusion of the course.

ADVANCED SECTION

This section will present advanced techniques, materials, and design. A voluntary test will be offered at conclusion of the course.

COATINGS SECTION

This section will address Surface preparation and coating fundamentals, inspection techniques in the field and coating mills, knowledge of proper coating selection, and hands-on field application procedures.

INTERNAL CORROSION SECTION

This section will have industry experts presenting the latest information on internal corrosion and internal corrosion control.

PIPELINE INTEGRITY MANAGEMENT

This section covers advanced topics relating to integrity management. Topics change each year based on new industry trends, technologies, and interpretation of DOT rule-making from transmission and distribution viewpoints. This section is coordinated with "basic fundamentals of integrity management", so that similar classes of differing levels are offered at the same time.

SPECIAL TOPICS

This section will address current issues and problems facing the industry, and will endeavor to find solutions.

ADDITIONAL OFFERINGS

RECTIFIER SCHOOL

Tuesday August 31 and Wednesday September 1, 8:30 am - 4:00 pm. in Calhoun Ballroom CD
Corrosion technicians can learn about the fundamentals of troubleshooting, maintenance, and operation of rectifiers. In the class, students will be able to work physically with the equipment. There are only 30 seats so register today!

HANDS-ON TRAINING OPPORTUNITY

Tuesday, August 31, from 11:00 am–2:00 pm in Calhoun Ballroom A.
There will be multiple hands-on training stations including ultrasonic instrument and pit gauge measurements, line locating, setting current interrupters in rectifiers, and taking the basic bond measurement. Students will learn how to properly operate the equipment at each station.

THE CORROSION ROUNDTABLE

On Tuesday, August 31, from 2:30 pm–4:00 pm in Calhoun Ballroom B.
This is an excellent opportunity to compare corrosion practices and ask questions to the group.

GENERAL SESSION

Wednesday, August 31st, 8:00-9:15 am in Anthony Wayne Ballroom B.

PROFESSIONAL DEVELOPMENT HOURS

PDH are available for the sessions identified as such. PDH are a standardized, nationwide method of recognition for participation in approved, non-credit educational activities. Attendance at the entire session (Basic, Intermediate, Advanced, or Practical Application) is required for credit. Record keeping for your PDH requirements is your responsibility.

PROGRAM AND REGISTRATION INFO

FOR REGISTRATION INFORMATION, PLEASE CONTACT:

AMANDA JOHNSON, Lead Event Planner or a
REGISTRATION ASSISTANT at confreg@purdue.edu or
866-515-0023
www.purdue.edu/conferences/corrosion

FOR COURSE CONTENT INFORMATION

JOSH BREWER, General Chairman,
(989) 388-3051,
josh.brewer@isfieldservices.com

Once you are registered, you will receive an electronic confirmation letter with parking information, links to maps, and other information.

60TH ANNUAL PURDUE UNDERGROUND CORROSION SHORT COURSE

AUGUST 31 - SEPTEMBER 2, 2021

REGISTER ONLINE: purdue.edu/conferences/corrosion

TUESDAY SCHEDULE

TUESDAY, AUGUST 31ST (Eastern Standard Time) All sessions in Grand Wayne Event Center Main Floor Lobby

8:30 am – 4:00 pm **RECTIFIER SCHOOL** | Calhoun Ballroom CD

8:00 am – 4:00 pm **REGISTRATION** | Grand Wayne Event Center Main Lobby Floor

Check-in registration and receive materials and more information about the courses

11:00 – 2:00 pm **HANDS-ON** | Calhoun Ballroom A

This will be an open forum with multiple stations. Several knowledgeable industry professionals will be available to demonstrate, answer questions, and help students use equipment at each station.

The following stations will be available:

- Anode display (Impressed and Galvanic)
- Taking pipe-to-soil potentials
- Rectifier
- Current interrupter installation
- Bond test station
- Coating thickness profile
- Ultrasonic measurement testing
- Pit depth measurements
- Locating

2:30 – 4:00 pm **ROUNDTABLE** | Calhoun Ballroom B

Roundtable discussion.

This is an open forum for students with any corrosion related question.

5:00 – 7:00 pm **VENDOR SHOW** | Convention Hall A

The show will be held Tuesday 5:00-7:00 pm. Join a number of industry experts in a casual atmosphere to obtain the latest information on CP services and products.

VENDOR SCHEDULE - TUESDAY AND WEDNESDAY

The show will be held Tuesday 5:00-7:00 pm and Wednesday 4:30-7:00 pm in Convention Hall A. Engage, connect and see the latest in innovation and services from over 40 exhibitors.

Food and beverages will be provided by the exhibitors.

60th Purdue Underground Corrosion Short Course Schedule - Wednesday, September 1st, 2021

Registration begins at 7:00 a.m. in the main lobby outside the Exhibit Hall | General Session is from 8:00-9:15 a.m. in Anthony Wayne Ballroom B

Period 1
9:20 – 10:25

Period 2
10:35 – 11:40

Lunch
11:45 – 1:00

Period 3
1:00 – 2:00

Period 4
2:10 – 3:15

Period 5
3:25 – 4:30

Practical Applications of Corrosion Control Mark James, Chair Room: Harrison A	Introduction to Corrosion Control Mark James, Marathon Pipeline	Convention Hall B Unconventional Solutions Inc.	Coatings Instruction Doug Klingensmith, Unconventional Solutions Inc.	Convention Hall B Unconventional Solutions Inc.	Coatings Hands On Doug Klingensmith - Unconventional Solutions Inc.	Cathodic Protection Mark James, Marathon Pipeline Luke Harris, Integrity Solutions	Cathodic Protection Mark James, Marathon Pipeline Luke Harris, Integrity Solutions
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Basic Section Steve Glover, Chair Room: Anthony Wayne Ballroom A	Principals of Basic Electricity Michael Placzek, Ark Engineering	Convention Hall B	Corrosion Fundamentals Dan Rowe, NiSource	Convention Hall B	Corrosion Control Brent Shuler, NiSource	Fundamentals of Cathodic Protection (Part 1) Josh Brewer, Integrity Solutions	Fundamentals of Cathodic Protection (Part 2) Josh Brewer, Integrity Solutions; Brent Shuler, Columbia Gas of Ohio
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Intermediate Section Patrick Elpers, Chair Room: Harrison BC	Galvanic Anode Systems Eric Langelund, Piping & Corrosion Specialties, Inc.	Convention Hall B	Impressed Current Anode Systems Eric Langelund, Piping & Corrosion Specialties, Inc.	Convention Hall B	DC Interference Testing Part 1 Mike Placzek, ARK Engineering	DC Interference Testing Part 2 Mike Placzek, ARK Engineering	AC Interference Testing Mike Baxter, Integrity Solutions
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Advanced Section Rogelio de las Casas, Chair Room: Jefferson A	Impressed Current CP Design, Part 1 Keith Boswell, NPS	Convention Hall B	Impressed Current CP Design, Part 2 Keith Boswell, NPS	Convention Hall B	Cathodic Protection Installation Nathan Wood, Central Michigan CP	Deep Anode Cathodic Protection Design Nathan Wood, Central Michigan CP	Soil Resistivity Testing for CP Design Carlos Melo, Vecor
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Pipeline Coatings Frank Rampton, Chair Room: Jefferson B	Successful Field Coating Applications Scott Feuquay, SL Feuquay	Convention Hall B	Surface Preparation Neil Pittman - Lake Superior Consulting	Convention Hall B	Coating Inspection Techniques Chris Buyle, SME	Coating Inspection Equipment/Calibrations Chris Beninati, Elcometer	Hands On, Rotating Stations: Coating & Inspection Equipment N.Pittman, C.Beninati, C. Buyle, F. Rampton
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Special Topics Brad Malcolm, Chair Room: Harrison D	Station Grounding & Personnel Protection Design for AC Influence Mike Baxter, Integrity Solutions	Convention Hall B	Stress Concentration Tomography (SCT) - Bridging the Data Gap between IJI and DA Methods James Walker - Speir Hunter	Convention Hall B	Next Generation AC Decouplers Tim Bechtel - Dairyland	Overcoming Soil Resistivity with Close Proximity Linear Anode Systems Chris Wilkins, Seal For Life	Composite Repairs - What Have We Learned in 25 Years Tammy Bomia, ClockSpring NRI
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Pipeline Integrity Management Scott Lewandowski, Chair Room: Calhoun AB	HCA/MCA Determination: Process and Tools Jared Fowler, EN Engineering	Convention Hall B	Risk Evaluation - Utilizing a PRA (Probabilistic Risk Assessment) Model. Dan Rowe, NiSource	Convention Hall B	Pre-Assessment and Indirect Survey	Data Evaluation, Direct Examination, and Post Assessment Mark Anderson - EN Engineering	Re-Assessment: Data Integration Process and Tools. Clarke Wiley, SSP Innovations
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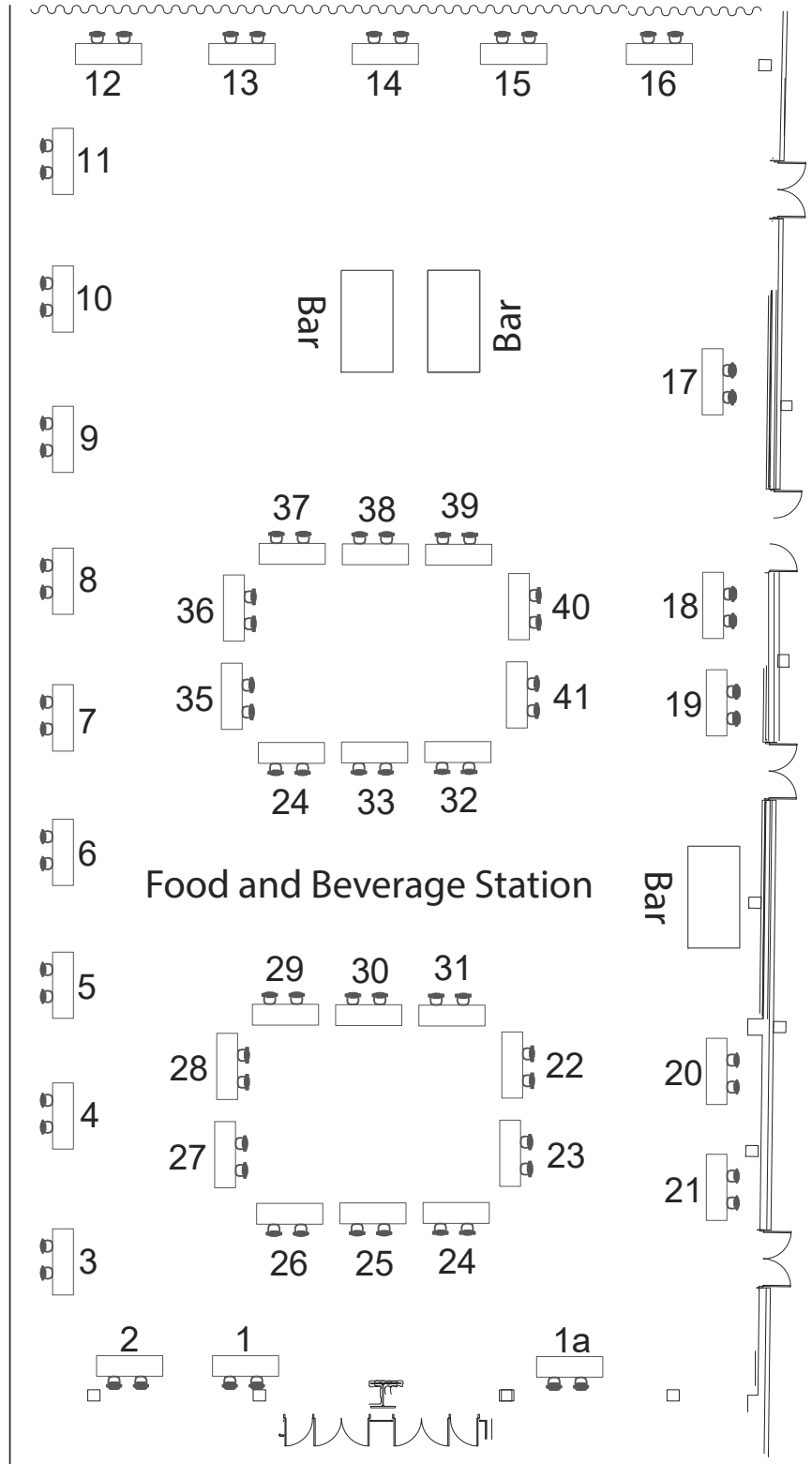
Internal Corrosion Jane Brown, Chair Room: Jefferson C	Sampling Devices and Locations Lance Witt, Sentry Equipment	Convention Hall B	Chemicals David Wint, ChampionX Internal Corrosion Monitoring and Treatment	Convention Hall B	TBD, Internal Modeling Softwares, DNV G	Field Sampling Jason Rine, BK Corrosion	Phil Tisovac TRC ILI
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60th Purdue Underground Corrosion Short Course Schedule - Thursday, September 2nd, 2021

	Period 6 8:30 - 9:35	Period 7 9:45 - 10:50	Break	Period 8 11:10 - 12:15	Period 9 12:20 - 1:30
Practical Applications of Corrosion Control Mark James, Chair Room: Harrison A	Electrical Isolation Mark Anderson, EN Engineering	Test Station & Potential Tim Davis, Lindie	Snacks & Drinks Main Lobby	Soil Resistivity and Economics of CP and Rectifier Inspection & Resistivity Measurements Mary Teague - EN Engineering	Voluntary Exam
Basic Section Steve Glover, Chair Room: Anthony Wayne Ballroom A	Cathodic Protection Measurement Basics (Part 1) Luke Harris, Integrity Solutions	Cathodic Protection Measurement Basics (Part 2) Mark Anderson, EN Engineering	Snacks & Drinks Main Lobby	Monitoring Cathodic Protection Steve Glover - Vectren	Voluntary Exam
Intermediate Section Patrick Elpers, Chair Room: Harrison BC	AC Interference (Part 2) Mike Baxter, Integrity Solutions	Rectifiers (Part 1) Don Olson, Integrated Rectifier Technologies	Snacks & Drinks Main Lobby	Rectifiers Part 2 Don Olson - Integrated Rectifier Technologies Inc.	Voluntary Exam
Advanced Section Rogelio de las Casas, Chair Room: Jefferson A	Galvanic Anode CP Design, Part 1 Rogelio de las Casas, DLCCP	Galvanic Anode CP Design, Part 2 Rogelio de las Casas, DLCCP	Snacks & Drinks Main Lobby	Impressed Current CP Design Exercise Rogelio de las Casas - DLCCP	Voluntary Exam
Pipeline Coatings Frank Rampton, Chair Room: Jefferson B	Why wax based wraps are effective Frank Rampton, Trenton Corporation	(1) Pipeline Coatings & 192/195 Chuck Weindorf, IURC Bill Lowry, PHSMA (2) Pipeline Coatings Failures & Roundtable Chuck Weindorf, IURC, S. Hall	Snacks & Drinks Main Lobby	FBE, Liquid Epoxies & Patch Sticks on Pipelines Steve Hall - 3M	PHMSA Roundtable
Special Topics Brad Malcolm, Chair Room: Harrison D	Cure - In - Place Liner Applications and Corrosion Implications George Ragula, RagulaTech	Grounding Issues Associated with Rectified Power Supplies Clay Breisford, Bass Engineering	Snacks & Drinks Main Lobby	In-Ditch Material Verification Using frictional Sliding - Pipe Seam Characteristics & Attributes - TVC Buddy Powers - Massachusetts Materials Technologies	PHMSA Roundtable
Pipeline Integrity Management Scott Lewandowski, Chair Room: Calhoun AB	Material Planning and TVC for Immediate Response/Emergency Repair Justin Kuffle, Campos EPC	MAOP Reconfirmation: Process & Methods for Sites/Stations Trevor Ortalano, Campos EPC	Snacks & Drinks Main Lobby	MAOP Reconfirmation: Process & Methods for Pipeline Simon Slater, Rosen	PHMSA Roundtable
Internal Corrosion Jane Brown, Chair	No 2nd day classes	No 2nd day classes	Snacks & Drinks Main Lobby	No 2nd day classes	No 2nd day classes

PURDUE UNDERGROUND CORROSION SHORT COURSE

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- 5 Corrpro Companies, Inc (Aegion)
- 15 CorTalk/Mobiltex Data
- 21 Dairyland Electrical Industries
- 10 Denso North America
- 25 Elcometer
- 26 En Engineering
- 16 Entegra
- 6 Farwest
- 7 Groebner
- 29 Helios Rising
- 18 Integrity Solution Field Services
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- 1 Lake Superior Consulting
- 14 Lukas Enterprises
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- 8 Southern Cathodic
- 30 Swain Meter
- 32 Tank Services
- 19 TD Williamson
- 33 TRC Companies
- 31 Tinker & Rasor
- 4 Trenton
- 12 Unconventional Solutions
- 2 USDI Utility Safety and Design, Inc
- 37 Vecor
- 40 VCP Sales
- 41 VCP Sales (Other)



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FITZGERALD AWARD

The Fitzgerald Award is the highest honor a Purdue Underground Corrosion Short Course student can receive. It has been awarded to a deserving student since 2004. This award is not given out every year, as some years no student is able to meet the criteria.

John Fitzgerald III, the award's namesake, was a 1955 graduate of Yale University, professional engineer, NACE Corrosion Specialist, and was involved with corrosion work since 1959. John was a Air Force Veteran, NACE International Fellow, authored over 75 technical papers, and served as NACE International president from 1990 to 1991.

John passed away in 2018. At the short course he was a teacher, chairman, advisor, mentor, and for those of us lucky enough to have known him, he was a friend. His imprint on this course, this industry, and his colleagues, is nothing short of extraordinary. He is profoundly missed.

The 2020 winner was Adam Enyart.

PIERCE AWARD

The Pierce Award is an honor presented to a committee member or an individual that contributes to and adds value to the Purdue Underground Corrosion Short Course. 2013 was its inaugural year.

60TH ANNUAL PLANNING COMMITTEE

HANDS-ON SECTION

Luke Harris, Integrity Solutions Field Services

BASIC SECTION

Steve Glover, CenterPoint Energy

INTERMEDIATE SECTION

Patrick Elpers, CenterPoint Energy

ADVANCED SECTION

Rogelio de las Casas, DeLasCasas CP

PRACTICAL APPLICATIONS OF CORROSION CONTROL

Mark James, Marathon

RECTIFIER SECTION

Don Olson, IRT

COATINGS SCHOOL

Frank Rampton, Trenton

INTERNAL CORROSION

Jane Brown, Brown Corrosion

PIPELINE INTEGRITY MANAGEMENT

Joe Craycraft, NIPSCO; Scott Lewandowski, Integrity Solutions Field Services

SPECIAL TOPICS

Brad Malcolm, Helios

TESTING

Brent Shuler, NiSource

VENDOR REPRESENTATIVE

Tim Bechtel, Dairyland Electrical Industries

BASIC FUND OF PIPELINE INTEGRITY

Scott Lewandowski, Integrity Solutions Field Services

GENERAL CHAIRMAN

Josh Brewer, Integrity Solutions Field Services

VICE CHAIRMAN

Brad Malcolm, Helios

VETERANS PROGRAM

Brent Shuler, Columbia Gas of Ohio

ADVISERS

Josh Brewer, Integrity Solutions
Brent Shuler, NiSource
Brad Malcolm, Helios
Ray Bingman, CenterPoint Energy

ASSOCIATIONS

Chicago Regional Committee on Underground Corrosion
Indiana Corrosion Society Michigan Electrolysis Committee NACE International, Southwest Ohio Section
NACE International, Detroit Chapter
Ohio Corrosion Committee Purdue Physical Facilities Utilities Department

NOTE: Purdue University, Corrosion Short Course, the planning committee, and the committee officers are not responsible for statements made by the speakers.

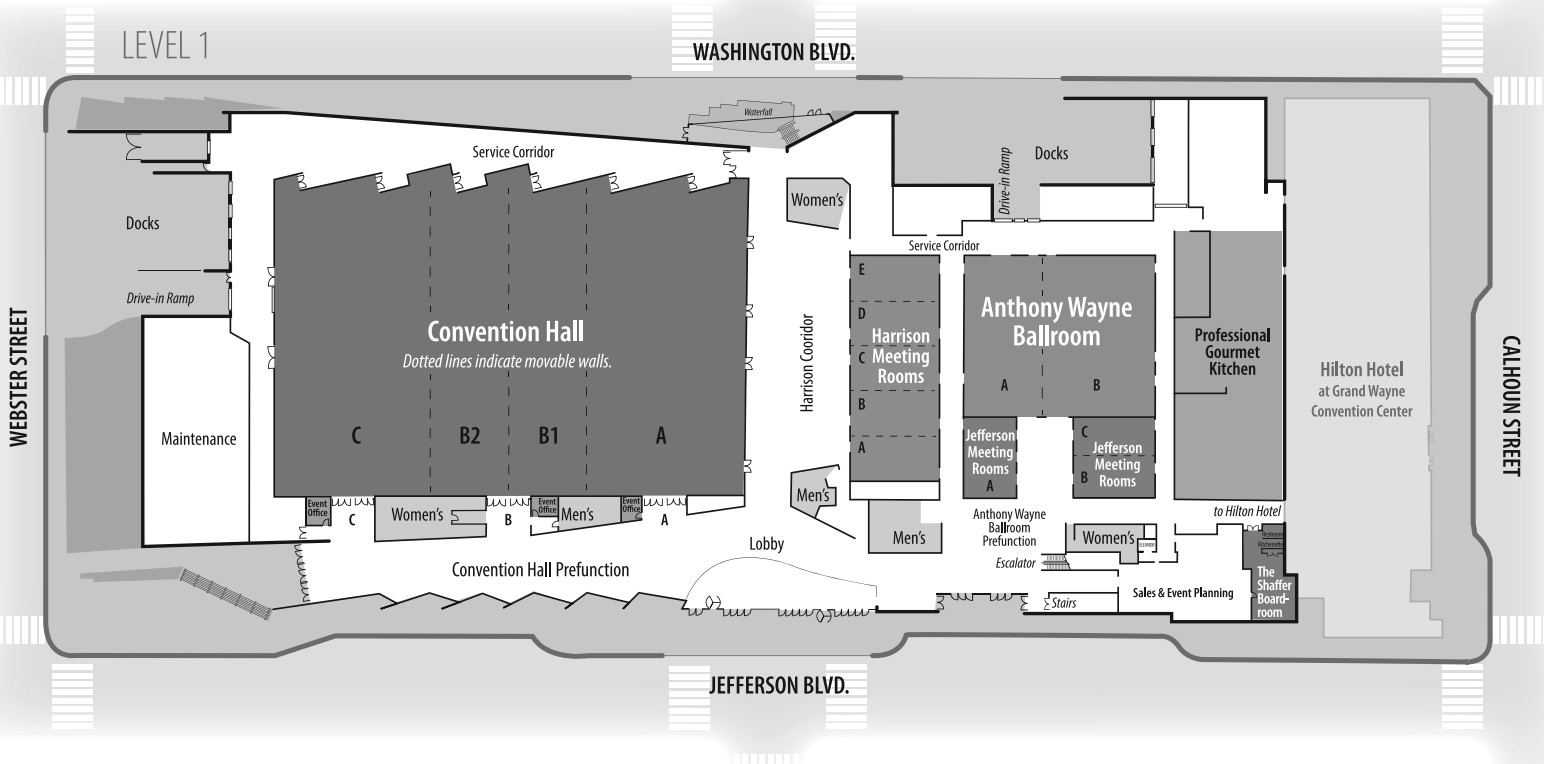
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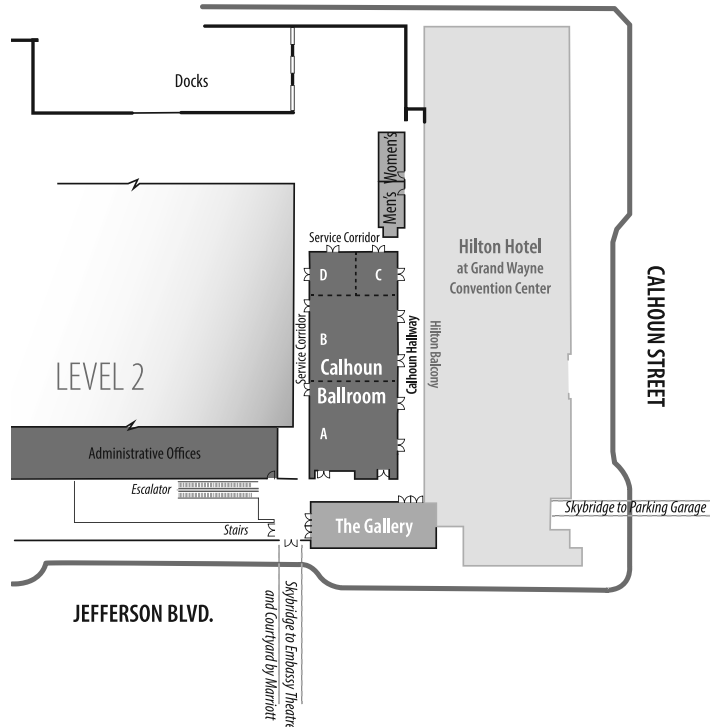
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