

Prince George's County Maryland  
Department of Permitting Inspections & Enforcement  
Peer Review and Third Party Review & Inspections Program



***County Engineers Association of Maryland (CEAM) Spring 2017 Conference***

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# Prince George's County Peer Review and Third Party Review and Inspections Program

## PROGRAM OVERVIEW

- ▶ Nawaf Esayed, P.E. (Maher Mirza)
- ▶ Prince George's County Department of Permitting Inspections and Enforcement (DPIE)
- ▶ Peer Review Coordinator:
  - ▶ Neesayed@ co.pg.md.us
  - ▶ Mmirza@ co.pg.md.us



# Prince George's County Peer Review and Third Party Review and Inspections Program

## PROGRAM OVERVIEW

- ▶ History - When the program started
  - third party inspection
  - peer review
  - third party review
- ▶ Goals of program:
  - + 50% reduced time to secure permits
  - + 50% reduced time to inspect commercial permits
- ▶ Enabling legislation

# Prince George's County Peer Review and Third Party Review and Inspections Program

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## The Baker Vision

Prince George's County is a nationally recognized jurisdiction that will be a leader in the Washington Metropolitan Region because of our unique opportunity to provide high quality healthcare, a thriving economy, great schools and safe neighborhoods.

We will govern with policies and practices that are innovative, results oriented and sustainable.

The residents and businesses of Prince George's County will know that this is one of the best places to live, invest, work and visit.



## The Baker Mission

To transform the quality of life for our residents, visitors and businesses by providing excellent services that achieve high levels of customer satisfaction through integrity, accountability and convenience.

# Prince George's County Peer Review and Third Party Review and Inspections Program

## PROGRAM OVERVIEW

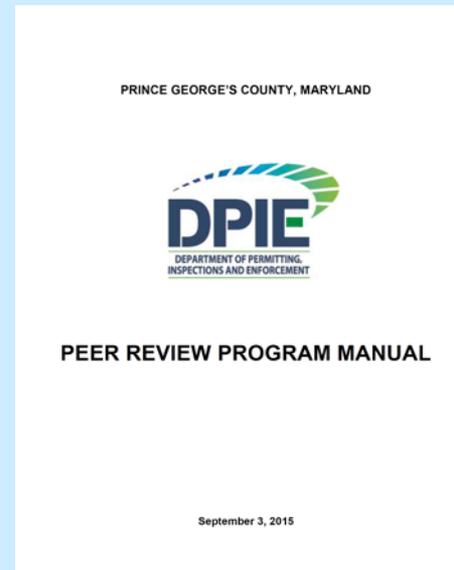
- ▶ **Peer Review** – qualified professionals selected, trained and certified to perform code compliance review for building and site road permit projects. County quality control review prior to issuance.
- ▶ **Third Party Review** – qualified professionals selected, trained and certified to perform code review for building projects. County quality assurance review.
- ▶ **Third Party Inspection** – qualified professionals selected to perform building inspection for commercial structures. County quality assurance reviews.

# Prince George's County Peer Review and Third Party Review and Inspections Program

## PROGRAM OVERVIEW

### ▶ Peer Review Manual -

<http://www.princegeorgescountymd.gov/1494/Peer-Review-Program>



# Prince George's County Peer Review and Third Party Review and Inspections Program

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## PROGRAM OVERVIEW

- ▶ **Third Party Inspection Manual -**  
<http://www.princegeorgescountymd.gov/1488/Inspection-Manuals>

PRINCE GEORGE'S COUNTY, MARYLAND



Department of Permitting,  
Inspections and Enforcement

Third-Party Inspection Program  
(TPIP)  
Manual



2015 Edition

# Prince George's County Peer Review and Third Party Review and Inspections Program

## PROGRAM OVERVIEW

- ▶ Acceptance/Qualifications of Applicants – Plan Review
  - ▶ Engineers and Architects – Licensed in State of Maryland
  - ▶ Experienced plans examiner with at least 5 to 7 years experience minimum
- ▶ BUILDING – experienced in the application of International Building Code (IBC), International Residential Code (IRC), International Energy Conservation Code (IECC), International Mechanical Code (IMC), National Electrical Codes (NEC), MD Fire Prevention Code, MD Accessibility Code, National Fire Protection Association (NFPA) codes and standards, County Codes (subtitle 4, 9, and 11)
- ▶ SITE/ROAD – experienced in Prince George's County land development – drainage, stormwater management, roads, grading, soils, floodplain, traffic and County Codes (subtitle 23, 32, 4) and County Design Manuals, County Standards and Specifications and Maryland Department of Environment (MDE) Codes, Manuals and Standards

# Prince George's County Peer Review and Third Party Review and Inspections Program

## PROGRAM OVERVIEW

- ▶ Training of Applicants – Plan Reviewers
  - ▶ Before Certification –
    - ▶ 80 hours onsite training/evaluation required – OR -
    - ▶ 40 hours onsite training/evaluation required, if certified by ICC as a plan reviewer
  - ▶ Must receive positive evaluation to become certified
  - ▶ After Certification –  
8 hours per year of training to retain certification



# Prince George's County Peer Review and Third Party Review and Inspections Program

## PROGRAM OVERVIEW

- ▶ Procedures to Engage Peer Reviewers, Third Party Reviewers and Third Party Inspectors – ***the contract is between the permittee and the peer reviewer, third party reviewer and third party inspectors***
- ▶ Notifications and Communication
- ▶ Oversight by County Peer Review Coordinator to Ensure Successfully Expedited Project
- ▶ Quality Control / Quality Assurance

# Prince George's County Peer Review and Third Party Review and Inspections Program

## BUILDING PEER and THIRD PARTY REVIEW

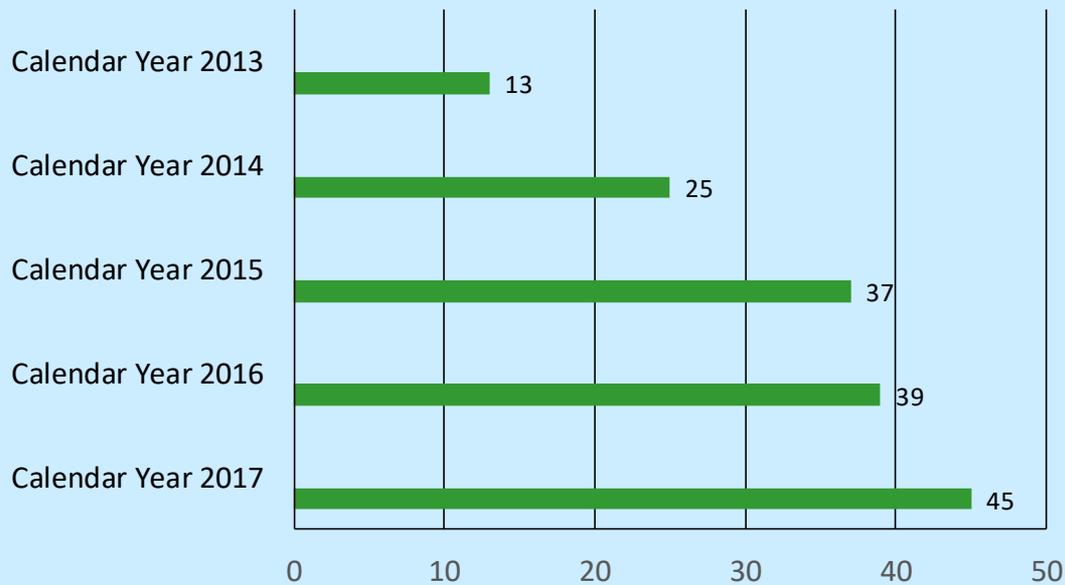
- ▶ Peer Review and Third Party Review Disciplines
  - ▶ Fire Protection/Life Safety
  - ▶ Fire Suppression (Sprinklers)/Fire Alarm Systems
  - ▶ Building/Architectural
  - ▶ Structural
  - ▶ Electrical
  - ▶ Mechanical



# Prince George's County Peer Review and Third Party Review and Inspections Program

## BUILDING PEER REVIEW

TOTAL NUMBER OF CERTIFIED BUILDING PEER REVIEWERS



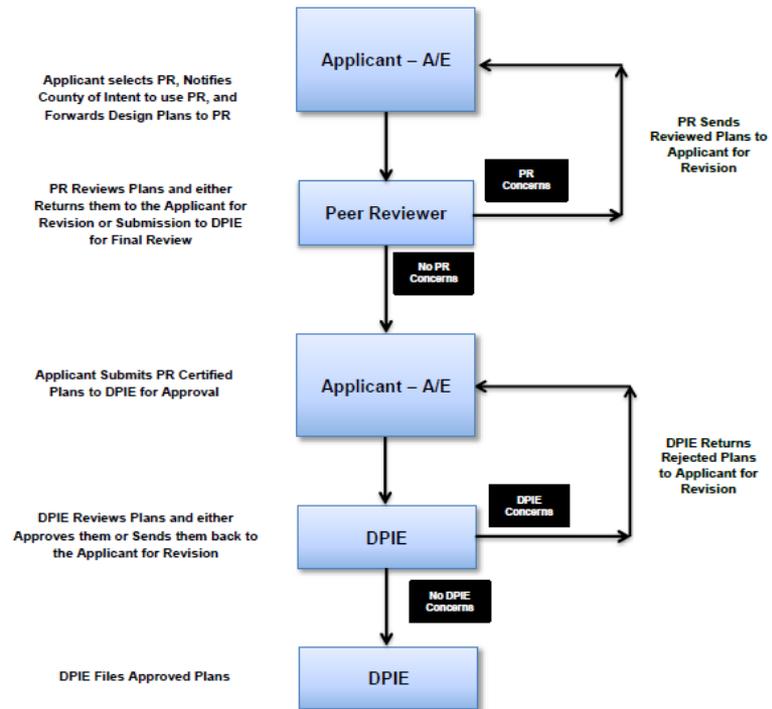
# Prince George's County Peer Review and Third Party Review and Inspections Program

## BUILDING PEER REVIEW



### APPENDIX A1 STANDARD BUILDING PERMIT PEER REVIEW PROCESS (Option 1)

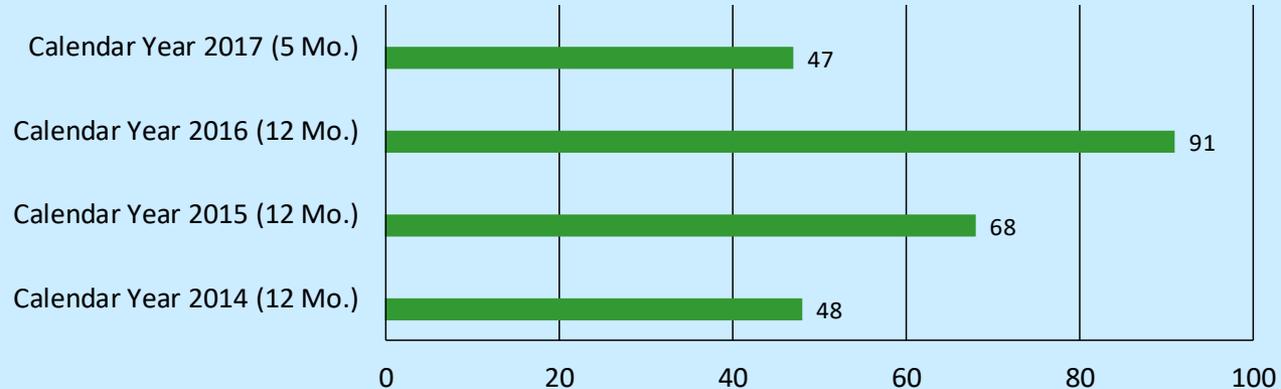
This flowchart highlights DPIE's standard plan submission process for building permit projects.



# Prince George's County Peer Review and Third Party Review and Inspections Program

## BUILDING PEER REVIEW

Number of Peer Review Cases Submitted



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## BUILDING PEER REVIEW

### Bowie Market Place, Bowie



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## BUILDING PEER REVIEW

Terrapin Row, Multi-Family Residential, College Park



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## BUILDING PEER REVIEW

Queen Ann Academic Center, PGCC, Largo



# Prince George's County Peer Review and Third Party Review and Inspections Program

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## BUILDING PEER REVIEW

Department of Housing and  
Community Development,  
Lanham



# Prince George's County Peer Review and Third Party Review and Inspections Program

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## BUILDING PEER REVIEW

Cava Mezze Grille, Laurel



# Prince George's County Peer Review and Third Party Review and Inspections Program

## SITE ROAD PEER REVIEW

- ▶ Mary Giles, P.E.
- ▶ Prince George's County Department of Permitting Inspections and Enforcement (DPIE)
- ▶ Site Road Plan Review Division Associate Director
- ▶ Coordinator of Peer Review
- ▶ [mcgiles@co.pg.md.us](mailto:mcgiles@co.pg.md.us)



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## SITE ROAD PEER REVIEW

### ▶ Peer Review Disciplines

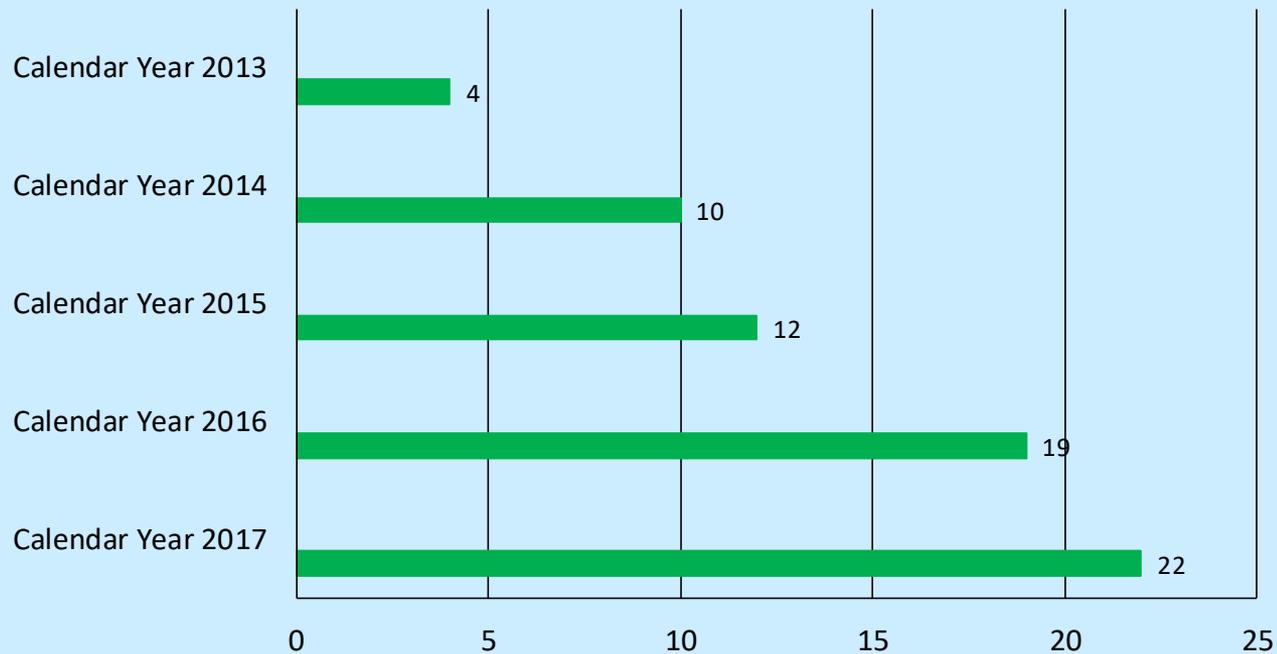
- ▶ Site/Civil – drainage, storm water management, grading, roadway, land development, site ADA
- ▶ Traffic Engineering
- ▶ Geotechnical (Site)
- ▶ Roadway Bridges/Large Culverts
- ▶ Floodplain Hydrology/Hydraulics
- ▶ Utility Permitting



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## SITE ROAD PEER REVIEW

Number of Site Road Peer Reviewers Certified



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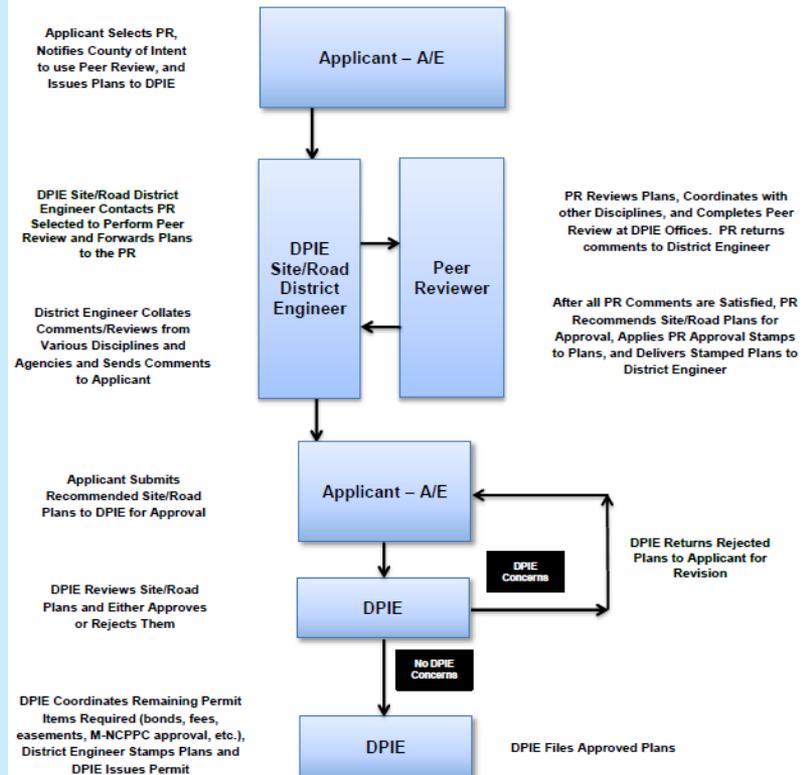
## SITE ROAD PEER REVIEW



### APPENDIX A4

### STANDARD SITE/ROAD PERMIT PEER REVIEW PROCESS

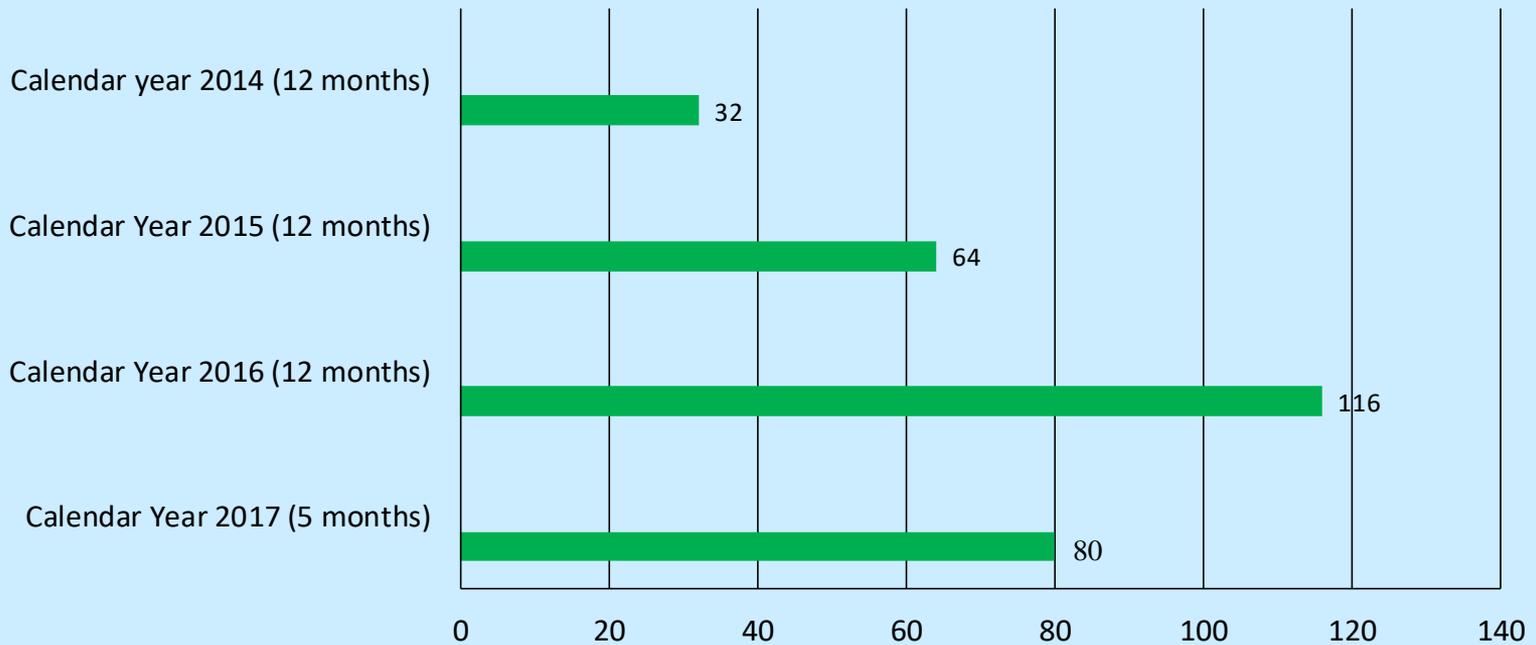
This flowchart shows DPIE's plan submittal process for Site/Road permit projects.



# Prince George's County Peer Review and Third Party Review and Inspections Program

## SITE ROAD PEER REVIEW

Number of Site Road Peer Review Cases Submitted



# Prince George's County Peer Review and Third Party Review and Inspections Program

## SITE ROAD PEER REVIEW

### Example Projects:

- ▶ Keys Energy Power Plant
- ▶ Smith Home Farm Residential Subdivision
- ▶ Oak Grove Road - Oak Creek Club
- ▶ Prince George's County Indoor Fire Arms Facility
- ▶ MGM Casino at National Harbor
- ▶ University of Maryland Hotel & Conference Center
- ▶ Ascend at Apollo Largo Multi Family Residences



# Prince George's County Peer Review and Third Party Review and Inspections Program

- ▶ **Edmund Kalie, P.E.**
- ▶ Prince George's County Department of Permitting Inspections and Enforcement (DPIE)
- ▶ Third Party Inspection Program Coordinator
- ▶ [jekalie@co.pg.md.us](mailto:jekalie@co.pg.md.us)



# Prince George's County Peer Review and Third Party Review and Inspections Program

## ▶ Third Party Inspection Program

- ▶ Differs from IBC Special Inspections
- ▶ Comprehensive inspection program (IBC, IMC, NEC, NFPA, MAC, Subtitles)
- ▶ Requires coordination among the inspections team
- ▶ Requires employee qualifications
- ▶ Pre-construction meeting – coordination
- ▶ Inspector cannot be designer or contractor
- ▶ Routine monitoring by County Inspector
- ▶ Administrative controls
  - ▶ Inspection log
  - ▶ Inspection reports
  - ▶ Testing Reports
  - ▶ Certifications



## PROJECTS REQUIRING THIRD PARTY INSPECTION PROGRAM PARTICIPATION

- ▶ All commercial structures for which a permit is obtained to construct a new building or to construct an addition to an existing structure with an estimated construction cost in excess of \$200,000.
- ▶ Excluded buildings and structures that use Group R2, R3 (Town Houses and Detached Single Family Dwellings), R4 and minor tenant work done in an existing building(s).
- ▶ All deep foundations, such as caissons and piles.
- ▶ All post-tensioned buildings.
- ▶ Buildings on problematic soil conditions.



# Prince George's County Peer Review and Third Party Review and Inspections Program

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## PROJECTS REQUIRING THIRD PARTY INSPECTION PROGRAM PARTICIPATION - continued

- ▶ All elevated concrete slabs.
- ▶ Other structures determined by the Building Code Official, or their representative, to be of unusual design or where code reference standards require special architectural or engineering inspections.
- ▶ The Building Code Official may include or exclude a project from the TPIP due to its simplicity or complexity upon request from the property owner and recommendation from the Deputy Building Code Official, Inspections Division (ID).



# Prince George's County Peer Review and Third Party Review and Inspections Program

## PROGRAM OVERVIEW

- ▶ Acceptance/Qualifications of Applicants – Inspections
  - ▶ Fire General/Systems
    - ▶ Registered Professional Engineer having Fire Protection knowledge and experience or,
    - ▶ NICET level III for certain systems
    - ▶ Specialized Qualifications and years of experience, under supervision of PE
  - ▶ Electrical
    - ▶ Inactive Maryland Master Electricians license
    - ▶ State of Maryland Certification
    - ▶ Liability insurance
- ▶ Testing Laboratory - accredited for testing conducted by an agency such as AALA, NVLAP, WACEL, or other organizations whose programs are recognized by the County and approved in writing by the Building Code Official.
- ▶ BUILDING – experienced in application of International Building Code (IBC), International Residential Code (IRC), International Energy Conservation Code (IECC), International Mechanical Code (IMC), National Electrical Codes (NEC), MD Fire Prevention Code, MD Accessibility Code, National Fire Protection Association (NFPA) codes and standards, County Codes (subtitle 4, 9, 11)

# Prince George's County Peer Review and Third Party Review and Inspections Program

## PHASED THIRD-PARTY PLAN REVIEW AND INSPECTION PROCESSES TO EXPEDITE PERMITTING OF MAJOR COMMERCIAL DESIGN-BUILD PROJECTS

- ▶ Daniel Dornan, P.E.
- ▶ Prince George's County Department of Permitting Inspections and Enforcement (DPIE)
- ▶ Special Assistant to the Director
- ▶ [DLDornan@co.pg.md.us](mailto:DLDornan@co.pg.md.us)

## KEY CHALLENGES FACING COMMERCIAL DEVELOPERS OF MEGA PROJECTS

- ▶ Traditional permitting processes oriented to design-bid-build project delivery whereby the design phase precedes and is distinct from the construction phase
- ▶ Long lead times involved in plan review, inspection and permit issuance due to linear, sequential, and non-concurrent processes
- ▶ All aspects of a project step must be completed before proceeding to succeeding steps adding costs to the project
- ▶ Inability of most public sector building department staffs to perform the plan review and inspection functions of commercial design-build mega projects
- ▶ Cost of capital tied up during the project development process
- ▶ Delay in producing economic return from the project

## INNOVATIVE APPROACHES TO DEVELOP & PERMIT LARGE COMMERCIAL PROJECTS

- ▶ Design-Build Project Delivery - a design-build team works under a single contract with the project owner to provide integrated design and construction services. With Design-Build, there is one entity, one contract and one unified flow of work from initial concept through completion. Design-build projects can be divided into design functions, construction stages or building components to optimize the use of resources as the project advances. D-B used in 40% of commercial construction – will exceed 50% in several years.
- ▶ Third-Party Plan Review – performed by a pre-certified team to ensure compliance with established engineering standards and codes without review by the public agency. The third-party team reviews and signs off on project plans as they are produced, according to the design-build schedule on behalf of the public sector permitting agency – paid by owner.

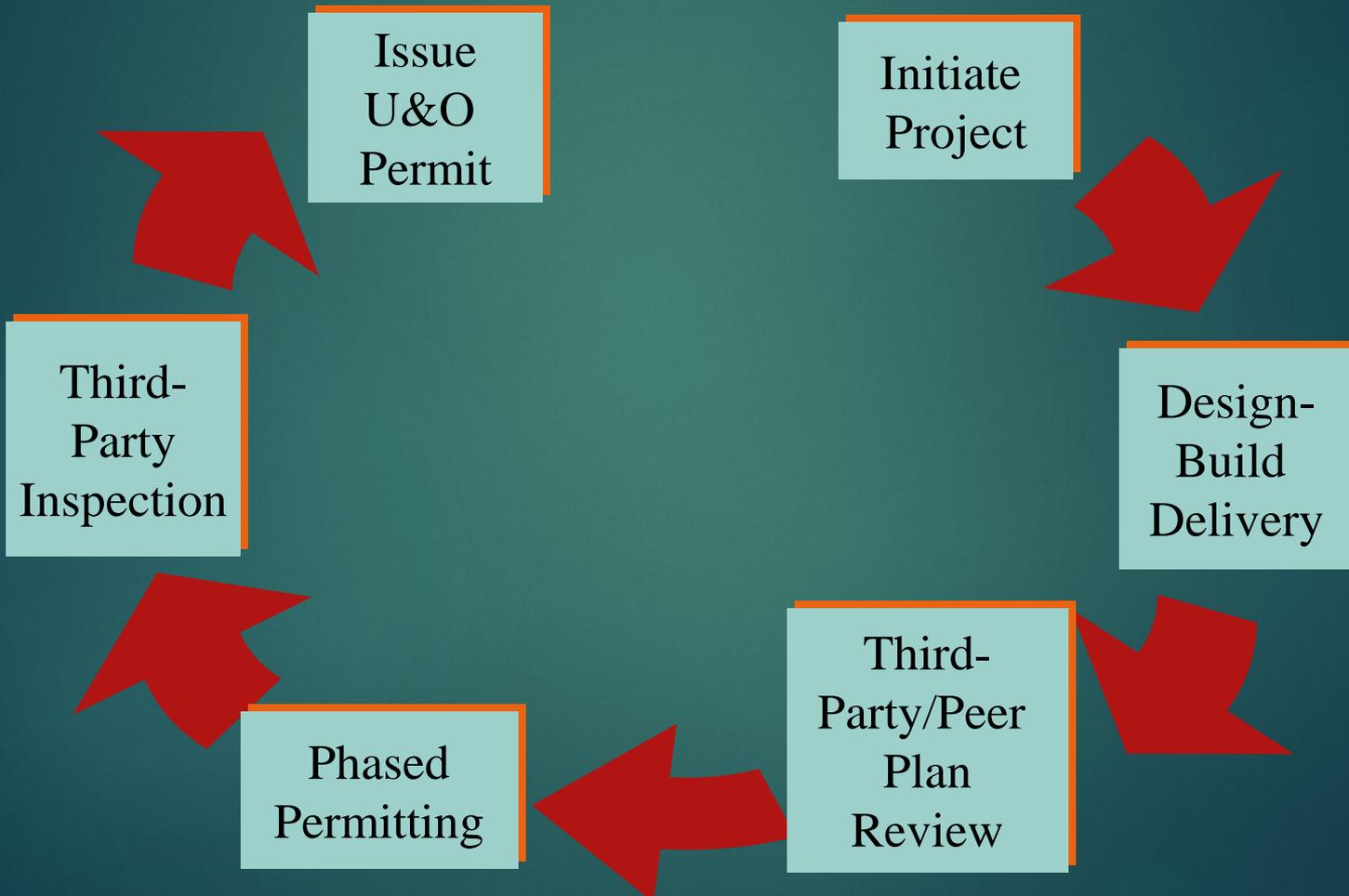
## INNOVATIVE APPROACHES TO DEVELOP & PERMIT LARGE COMMERCIAL PROJECTS – continued

- ▶ Third-Party Inspection – performed by a pre-certified team which conducts on-site inspections of the project features to ensure they conform to approved project plans on behalf of the public sector permitting agency – paid by owner – augmented by QA/QA inspectors.
- ▶ Phased Permitting – the process of receiving applications and issuing permits to allow project components, stages or phases to proceed to construction and to open for occupancy once all components, stages and phases are completed and approved by inspectors for occupancy.

# Prince George's County Peer Review and Third Party Review and Inspections Program

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## EXPEDITED PROJECT DEVELOPMENT AND PERMITTING APPROACHES CONSIDERED



## IMPLICATIONS OF THIRD-PARTY PLAN REVIEW AND INSPECTION PROCESSES FOR LARGE-SCALE PROJECTS

- ▶ Third-party resources leverage public agency staff for plan review and inspection
- ▶ Third-party plan reviewers and inspectors hired by the owner on a negotiated basis
- ▶ Third-party plan review requires continuous communication and coordination between key stakeholders to achieve quality assurance/control throughout the project, involving:
  - ▶ Weekly technical, administrative, and field-based meetings
  - ▶ On-going monitoring of permit approvals at all stages of construction
  - ▶ Continuous coordination of plan review between third-party plan reviewers and A/E design consultants to resolve issues in a timely manner
  - ▶ Coordinated field visits between public agency staff, third-party plan reviewers, construction contractor, and third-party inspectors to resolve construction challenges

## IMPLICATIONS OF PHASED PERMITTING FOR LARGE-SCALE PROJECTS

- ▶ Phased permitting allows the issuance of partial permits for smaller chunks of the overall project scope:
  - ▶ Sequential project delivery phases performed for each portion of the project
  - ▶ Construction plans reviewed on a project component and construction stage basis
  - ▶ Construction plans reviewed and approved by the third-party plan reviewers as the project is being constructed
  - ▶ No part of the construction process may proceed until pertinent plans have been fully reviewed and approved
- ▶ Phased permitting requires coordination between all key stakeholders from concept plan to Use & Occupancy Certificate.

## DESIGN-BUILD PROJECT QUALITY CONTROL AND QUALITY ASSURANCE PROGRAM FEATURES

- ▶ Complete all Critical Infrastructure and Life Safety Elements By Project Design Conclusion
- ▶ Ensure Ongoing Coordination and Communication Between all Parties to the Project Delivery Process
- ▶ Perform Continuous Quality Control Plan Reviews by Private and Public Stakeholders
- ▶ Require Random Quality Assurance Reviews of Selected Features by Private and Public Stakeholders
- ▶ Coordinate Quality Assurance/Quality Control Activities Throughout Project Development and Delivery Processes, involving all Key Stakeholders, Project Components, Process Phases and Building Stages
- ▶ Require Owner/Developer to Assume Liability For Coordination of Design Elements Working In Compliance With County/State Codes

# Prince George's County Peer Review and Third Party Review and Inspections Program

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## MGM CASINO RESORT PROJECT STATISTICS

- ▶ Cost - \$1.6 billion
- ▶ 3 million square foot facility
- ▶ Twenty-three story 233 room hotel
- ▶ Six-level 5,000 space underground parking garage
- ▶ One million square foot casino
- ▶ Numerous signature restaurants, bars, clothing and other stores
- ▶ Up to 3,500 - 5,000 employees
- ▶ Up to 35,000 guests capacity
- ▶ Ultramodern design inside and out, featuring stepped façade for garage levels mimicking the steps of many of the monumental buildings in downtown Washington, D.C.



## BENEFITS OF INNOVATIVE APPROACHES TO MGM CASINO RESORT PROJECT

- ▶ Estimated revenue = \$1 million/day
- ▶ Actual revenue in first month was \$1.9 million/day
- ▶ Project delivered on schedule in 24 months – versus 48 months under traditional approaches
- ▶ At \$1.5 million per day, this amounts to \$1.1 billion by opening two years earlier than normal
- ▶ Project cost savings estimated at \$140 million (10% of \$1.4 billion project cost)
- ▶ Total savings due to innovative approaches = \$1.24 billion (89% of project cost)



## BENEFITS OF USING INNOVATIVE APPROACHES TO DELIVER COMMERCIAL MEGA PROJECTS

Small to medium projects - Design-Build Project Delivery

- ▶ Timeframe reduced by 9 –15%
- ▶ Cost reduced by 2 – 3%
- ▶ Quality – improved through greater focus on quality assurance/control

Large to mega projects (over \$250 million) - Design-Build Project Delivery, Third-Party Plan Review, Third-Party Inspection, and Phased Permitting

- ▶ Timeframe reduced by up to 25-50%
- ▶ Cost reduced by up 10-15% (quicker work schedule)
- ▶ Quality – improved through greater focus on quality assurance/control, continuous improvement, and innovation
- ▶ Revenue acceleration (e.g., \$1.1 billion over 2 years for MGM Resort Casino)



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QUESTIONS?