Please be advised

This presentation is the first draft of a larger training initiative. The material contained in the presentation is meant to be a summary of Ordinance regulations based upon interpretation at the time of preparation, but is not intended to supplement nor supersede the actual written requirements from the Stormwater Ordinance (CSFPO) and General Certifications (GCs). Therefore, the most recent copy of the CSFPO and GCs should be referenced during planning, preparation, and permitting of site development plans. As the material contained within the presentation is reviewed and revised, it will be replaced with the latest version. A number of seminars on this topic will be available in the near future. Please check back for updated training materials and information about upcoming seminars. If you have questions about this presentation or the regulations, please do not hesitate to contact us for clarification.

- Phone: (630) 407-6700
- Email: contactedp@dupageco.org

DuPage County Ordinance Revisions

PRESENTED BY

STORMWATER MANAGEMENT

JULY 13, 2012

Intent

- To amend the Stormwater Ordinance to provide the structure to better meet local, state, and federal stormwater regulations, while optimizing the requirements for new development, re-developments, and existing developments so DuPage County may remain competitive in maintaining/attracting business while preserving the high standard of flood control and environmental protection for all County residents

Background

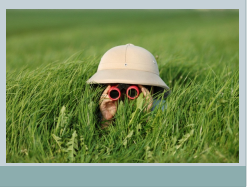
- Contract to proceed with revisions approved by County Board June 9, 2009
- Public meeting
- Survey
- Meeting with Forest Preserve
- National Ordinance review
- Municipal Engineers Meeting Group
- Steering Committee consisting of staff and municipal members
- Meetings with Stormwater Management Committee
- Website and blog to maximize public outreach
  - ec.dupageco.org/stormwaterupdate

Background (Cont.)

- 60-Day Public Comment period from January 4, 2011 through March 4, 2011
  - 45 separate sources submitted written comments
- 45-Day Public Comment period from September 6, 2011 through October 20, 2011
  - 20 sources submitted written comments
- Final draft approved by DuPage County Board April 24, 2012
- Final version effective April 25, 2012

Involvement

- Maximize engagement from federal, state, and local government agencies, local municipalities, the DuPage Mayors and Managers Conference, private sector professionals, the development community, County residents, and anyone else that wanted to provide input into the process



Highlights

- Provides alternate methods to review and approve applications for permits by reducing submittal requirements under special circumstances through General Certifications and Letters of Permission.
- Thresholds for providing stormwater runoff facilities is changed from a zoning based system to a system that recognizes the change in impervious areas on a site over time.
- Volume control BMPs are now required on development sites to promote runoff reduction, groundwater recharge, water quality.
- Limitations on flood plain modeling regulations to reduce submittal requirements.

Highlights (Cont.)

- Flood plain regulations adjusted to allow for additional types of development within the flood plain (sheds, detached garages, etc.).
- Consolidating requirements for riparian mitigation into the requirements of wetland buffers.
- Amending the thresholds for post construction best management practices (PCBMP) to correlate directly with changes in impervious area on the development site.
- Recognizing additional special cases of development that may be eligible for reduced submittal requirements.

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Articles with Minimal Changes

- Article 1: Authority and Purpose
- Article 13: Fee-in-Lieu
- Article 14: Prohibited Acts/Enforcement/Penalties
- Article 15: Appeals
- Article 16: Variances
- Article 17: Waiver Communities
- Article 18: Miscellaneous Provisions

Article I: Authority and Purpose

- Watershed specific criteria established in Watershed Plans or Interim Watershed Plans shall be set forth as a schedule to the Ordinance.
- The Countywide requirements of the Ordinance shall apply in all watersheds unless superseded by more specific watershed certification criteria.
- Six major watershed divisions shown on Exhibit 1:
  - Salt Creek
  - East Branch DuPage River
  - West Branch DuPage River
  - Sawmill Creek
  - Des Plaines River Tributaries
  - Fox River Tributaries

Article II: Administration

- Duties of Administrators
  - Maintaining documentation necessary on "Cost of Improvement" on buildings in the flood plain… etc.
- Municipal Engineers Group (MEG)
  - Formal portion of the Municipal Engineers Meeting Group
  - Purpose will be to provide advisory input to the Director for representation of communities on technical matters related to the Ordinance
  - Will adopt their own bylaws
  - Voting may apply to decisions
  - Summaries of discussions will be kept of meetings
- Certifications and County Authorization
- Definitions moved to Appendix A

Article III: General Provisions

- List of Exempt Developments criteria.
- Nonconforming structures shall not be replaced or enlarged in any manner unless such replacements or enlargements conform to the requirements of the Ordinance or the applicable Waiver Community Ordinance. (15-23.E)
- Interpretation:
  - When provisions of this Ordinance, or any Waiver Community Ordinance, differ from any other applicable statute, law, ordinance, regulation, or rule, the more stringent provision shall apply. (15-25.C)

Article III: General Provisions (Cont.)

- General Stormwater and Flood Plain Requirements. The following general stormwater and flood plain requirements shall apply to all development.
  - Development shall not:
    - Result in unreasonable new or additional expense to any person other than the developer for flood protection or for lost environmental stream uses and functions attributable to the development; nor
    - Unreasonably increase flood elevations or decrease flood conveyance capacity upstream or downstream of the area under the ownership or control of the developer; nor
    - Pose any unreasonable new or additional increase in flood velocity or impairment of the hydrologic and hydraulic functions of streams and flood plains unless a watershed benefit is realized; nor
    - Violate any provision of this Ordinance or any applicable Waiver Community Ordinance either during or after construction; nor
    - Unreasonably or unnecessarily degrade surface or ground water quality.

Article III: General Provisions (Cont.)

- Site runoff storage and compensatory storage facilities shall be either constructed before or concurrently with general construction. The facilities shall be functional prior to or concurrent with any building construction that increases a site's total impervious area.
- Building Protection Standards
  - All usable space in new buildings or added to existing buildings, shall be elevated, floodproofed, or otherwise protected to at least one foot above the design elevation to prevent the entry of surface stormwater.

Article IV: Stormwater Management Certifications

- When a stormwater management certification is required
  - Flood plain, wetland, buffers present
  - >= 2,500 SF of net new impervious
  - >= 5,000 SF of land disturbance....
  - And other exclusions as identified
- Letters of Permission
  - Minor developments
    - 3 acres or less
    - <= 2,500 SF of net new impervious or no stormwater runoff facilities required with permission
  - No flood plain, wetland, or buffers present
  - No indirect impacts to wetlands
  - Cannot be used to substantively change the technical standards of the Ordinance.

Article IV (Cont.)

- General Certifications
  - Act as the Stormwater Certification
  - Intended to reduce submittal requirements, design cost, and review time
    - Construction of Accessory Structures in a Flood Plain
    - Construction of Utilities
    - Etc... 12 adopted on April 24, 2012 (located on County website)
- Datum
  - North American Vertical Datum of 1988 (NAVD 88)
  - Clearly establish in submittals (Flood Plain and Modeling)

Article IV: (Cont.)

- Professional Engineer statement with application. Unless waived by the Community or by General Certification, a Professional Engineer under the employment of the applicant shall provide a statement rendering an opinion that the development meets the minimum criteria for stormwater management in accordance with this Ordinance, or the applicable Waiver Community Ordinance.
- Other agency approvals (15-37): Failure to obtain a permit from other required stormwater related jurisdictions will invalidate an issued Stormwater Management Certification.
  - IDNR and other Federal permits may need to be received prior to issuance of the Stormwater Management Certification (15-39 and 15-51.A.4).

Article IV: (Cont.)

- Certification Application Requirements and Submittals. The following shall guide the determination that an application for Stormwater Certification is complete:
  - Minimum submittal requirements from Article V and record drawing requirements
  - Maintenance Plan
  - Easements
  - Performance security
  - SESC
  - PCBMP
  - Flood Plain, Floodways, wetlands, buffers

Article IV (Cont.)

- Special Cases of Development
  - Roadway
  - Bridge and Culvert
  - Streambank Stabilization
  - Natural Area Restoration
  - Wetland Mitigation Site
  - Wetland Mitigation Bank
  - Trail, Bikeway, Pedestrian Walkway
  - Open Space Development
  - Water and Sewer Improvement

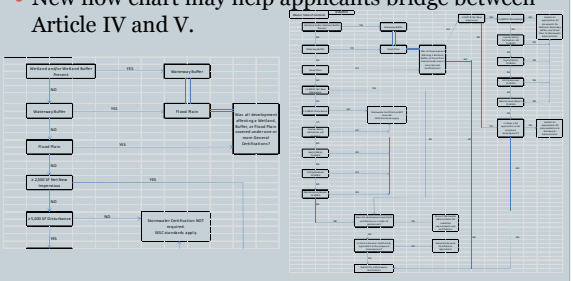
Table 1 Note: Referenced Ordinance Sections apply to the Special Cases of Development.

	FLOOD PLAIN/ FLOODAY (Note these Sections)	POST CONSTRUCTION BEST MANAGEMENT PRACTICES	SITE RUNOFF STORAGE
ROADWAY DEVELOPMENT	15-81 A.3 15-81 D.4	15-82 A (EXCEPTING >2,000 S.F. NET NEW IMPERVIOUS OR 15-82 (NEW)	ONLY SITE RUNOFF STORAGE (SPECIAL) 15-72.C.1
BRIDGE AND CULVERT MODIFICATION	15-81 A.3, A.3.c, A.3.e 15-82 A.6, 15-82 D.4, 15-82 E 15-82 G	EXEMPT 15-63.A	EXEMPT 15-72.C.2
STREAMBANK STABILIZATION	15-82 D.3	EXEMPT 15-63.C	EXEMPT 15-72.C.3
NAUTRAL AREA RESTORATION		EXEMPT 15-63.C	EXEMPT 15-72.C.4
WETLAND MITIGATION SITE	15-82 D.5	EXEMPT 15-63.C	EXEMPT 15-72.C.5
WETLAND MITIGATION BANK	15-82 D.5	EXEMPT 15-63.C	EXEMPT 15-72.C.5
TRAIL DEVELOPMENT, BIKEWAY, PEDESTRIAN WALKWAY	15-81 A.3.b 15-81 A.3.c	EXEMPT 15-82 D (MEETING CONDITIONS)	EXEMPT 15-72.C.6
OPEN SPACE DEVELOPMENT	15-82 A.5 15-81 B.3 f 15-82 A.9	15-63 >2,500 S.F. NET NEW IMPERVIOUS	ONLY SITE RUNOFF STORAGE (SPECIAL) 15-72.C.7
WATER AND SEWER IMPROVEMENT DEVELOPMENT	15-81 C.2 15-81 C.3	EXEMPT 15-63.F	EXEMPT 15-72.C.8

TABLE 1: SPECIAL CASES OF DEVELOPMENT

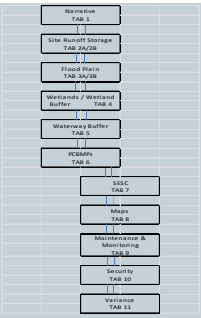
Article IV (Cont.)

- New flow chart may help applicants bridge between Article IV and V.



Article IV (Cont.)

- Suggested tabular format:
  - Tab 1: Narrative
  - Tab 2: Site Runoff Storage/Calcs.
  - Tab 3: Flood Plain
  - Tab 4: Wetlands / Wetland Buffers
  - Tab 5: Waterway Buffer
  - Tab 6: PCBMPs
  - Tab 7: SESC
  - Tab 8: Maps
  - Tab 9: Maintenance & Monitoring
  - Tab 10: Security
  - Tab 11: Variance

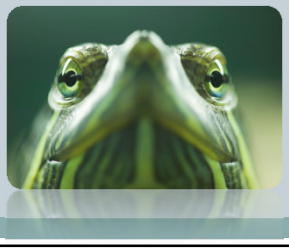


Article IV (Cont.)

- Release of Performance Security and Easements. The record drawings requirements of Sections 15-47.B and 15-55 will also be required to be satisfied prior to the release of the remaining development securities in Section 15-54.
- Duration and Revision to Certifications and Authorizations. Certifications expire December 31st of the third year from the date of Certification.
  - No activity by the Applicant in the form of a resubmittal or follow-through on outstanding issues required for Certification in the 12 month period following the date of the last correspondence from the Director, or Administrator, pertaining to the Application, will be cause for considering the application withdrawn.

Article V: Certification Submittals

- Minimum Submittal Requirements
- Record Drawings / Information note
- Documentation such as Site Runoff Storage Calculations
- Wetland, Buffer
- PCBMP
- SESC
- Flood Plain



Article VI: Performance Security and Easements

- Easements required for site runoff storage facilities, compensatory storage facilities, and storm sewers covered by the certification.
  - As a reminder, a note shall be recorded against the title when wetlands, buffers, flood plain, or PCBMPs with drainage areas 1 acre or greater. Easements are not required for most individual parcels.
  - Required for VCBMPs if deducted from detention volume.
- Temporary easements are required to access the development site to perform or complete any act or work the developer is required to do. (15-54.A.5)

Article VI: Security and Easements (Cont.)

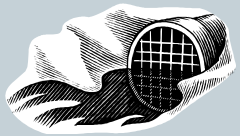
- Public bodies shall not be required to post Performance Security under this Article VI for development activities which involve construction, improvement, relocation or demolition work paid for in whole or in part with public funds.
- Securities are required for SESC, development, native vegetation.

Article VII: SESC

- Soil erosion and sediment control features shall be considered as part of any development's initial site planning process. Soil erosion and sediment control related measures are required to be constructed and maintained for any land disturbance activity. (15-58.A)
  - Winter Shutdown… etc.
- Pumping sediment laden water into any stormwater facility that is not designated to be a sediment trap, drainageway, or offsite area either directly or indirectly without filtration is prohibited.
- Soil stockpiles shall not be located in a drainageway, flood plain area or a designated buffer, unless otherwise approved, under specific conditions to be established by the Director or Administrator.

Article IX: Site Runoff Conveyance

- Stormwater Facilities draining over 5 acres must use event hydrograph methods
- Use ISWS Bulletin 71
- Trib Area > 100 acres use critical duration analysis



Article IX: Site Runoff Storage

- Site runoff storage facilities, consisting of site runoff storage and a control structure with an emergency overflow shall be required for all developments.
- First three exceptions based on Total Impervious Area (TIA) of the site:
  - Increases by 25,000 SF of net new impervious area (excluding areas where detention was previously provided). Calculated cumulatively since 1992; or,
  - When comparing the highest percentage of impervious area of the same development site in the 3-years immediately prior to the date of the Stormwater Management Certification application to the with-development impervious area the percentage will decrease by a minimum of 5%; or,
  - The with-development impervious area of the same development site is less than or equal to 10%.

Article IX: Site Runoff Storage (Cont.)

- Other exceptions to Site Runoff Storage include:
  - "Open Space Development" or "Roadway" projects shall only be required to provide Site Runoff Storage, Special, which is defined as only that volume of site runoff storage required such that pre-development peak discharges for the 2-year, 24-hour duration and the 100-year, 24-hour duration rainfall events are not increased.
  - Special Cases of Development are not required to provide Site Runoff Storage or "Site Runoff Storage, Special"

Article IX: Site Runoff Storage (Cont.)

- Special Cases of Development not requiring "Site Runoff Storage" or "Site Runoff Storage, Special"
  - Bridge and Culvert Modification, Repair or Replacement
  - Streambank Stabilization
  - Natural Area Restoration
  - Wetland Mitigation Sites or Banks.
  - Trails, Bikeways & Walkways
  - Water & Sewer Improvement and All Underground Utilities

Article IX: Calculating Runoff Storage

- Limits of Grading or Land Cover Disturbance, whichever encompasses a greater area.
  - Including previously deferred disturbance.
- NRCS Curve Number
- ISWS Bulletin 71 Rainfall Depth, 100-Year, 24-Hour
- Release Rate of 0.1 cfs/Acre of disturbed Area (cumulative)
- Sites < 5 acres can use NIPC (a.k.a. CMAP) Nomograph (where applicable)
- Sites > 5 acres require event hydrograph
- Volume can be reduced if Volume Control BMP used

Article IX: Site Runoff Storage (Cont.)

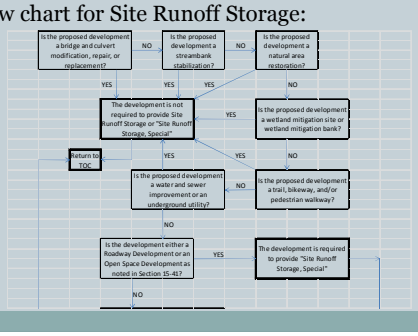
- On development sites that may have an existing site runoff storage facility, the volume of site runoff storage required, for a proposed development shall not be less than the volume on-site pre-development, regardless of the provisions of this section.
- Small areas of the disturbed area of a development site (less than 5% cumulatively) that are impractical to drain to a site runoff storage facility (backslopes of landscaping berms for example) may be allowed to drain off-site without routing through a site runoff storage facility provided that the areas are primarily vegetated and contain only incidental amounts of impervious surfaces such as sidewalks, utility appurtenances, or trails. Such areas do not "penalize" the allowable release rate by subtracting the anticipated 100-year discharge from these areas from the release rate, but may not be included in the area used for calculating the allowable release rate.

Article IX: Modifications to Drainage Tiles

- Any modification of a drainage tile shall comply with the Illinois Drainage code.
  - Listed provisions in Ordinance for purposes of determining compliance.
  - Drain tile systems disturbed by development activities shall be reconnected unless the approved drainage plan provides otherwise, etc…
- Documentation for maintenance activities and re-routed tiles.
- Guidelines for submittal when subsurface Drainage Tiles are detected on a pre-development site.
- Maintenance allowed without a Stormwater Certification - except in special management areas.

Article IX: Site Runoff Storage (Cont.)

- Flow chart for Site Runoff Storage:



Article X: Floodplain Management

- Base Flood Elevation (BFE) is determined by the following hierarchy:
  - Flood plain study completed and adopted by FEMA as the regulatory flood plain.
  - Flood Plain study published by the Director.
  - If neither is available, the BFE shall be determined using FEMA-accepted models and methodology.
- Compensatory storage based on FEMA regulatory model when available.
- Flood Protection Elevation (FPE) is the BFE plus one foot of freeboard at a minimum. If a FEMA regulatory BFE and an elevation published by the Director are both available, the FPE is based upon the **higher** of the elevations. Communities may be more restrictive.
- Parking Lots Max Depth 1 Foot during Base Flood; Require Signs when below BFE.

Article X: Floodplain Management (Cont.)

- Where a channel has a tributary drainage area greater than 640 acres, the site specific floodplain study completed in Section 15-80.B.2 shall be submitted to IDNR-OWR for approval or other designee.
- If a floodway is not designated on the maps in Exhibit 2 and the tributary area is greater than one square mile, IDNR-OWR Part 3708 rules shall apply. If a floodway is not designated on the maps in Exhibit 2 and the tributary area is less than one square mile, then the regulatory flood plain shall have no designated floodway.

Article X: Floodplain Management (Cont.)

- General Performance Standards
  - No adverse hydraulic impact upstream or downstream from development in the floodplain
  - Removal, Replacement, or Modification of Stormwater Facilities that has an adverse hydraulic impact shall provide a watershed benefit
  - Development Exceptions to H&H Modeling 15-81.A.3
    - Flood fringe, pedestrian paths, guard rails, equivalent culverts…

Article X: Floodplain Management (Cont.)

- In accordance with FEMA and State regulations, a CLOMR shall be required for any development that either: (1) revises the regulatory floodway boundary or (2) encroaches upon a floodplain without an established floodway and causes an increase of 0.1 feet or more in the BFE.
- In accordance with NFIP Regulations, a building permit shall not be issued for construction in the SFHA until a LOMR is issued by FEMA unless the building meets the building protection standards in Section 15-81.B.
- A copy of an application for a LOMC to remove a property from the SFHA including all the required information, calculations, and documents shall be submitted to the Department and Waiver Community concurrent with the application to FEMA or IDNR-OWR or its designee.

Article X: Building Protection

- New Buildings in SFHA Shall:
  - Be adequately anchored
  - Be constructed of flood damage resistant materials
  - Be constructed by methods that minimize flood damage
  - Be constructed with utilities located above the FPE
  - Be in conformance with FEMA Technical Bulletin 2 below the FPE
  - Storage of materials in accordance with 15-81.C.1.

Article X: Residential Buildings in SFHA

- New construction or substantial improvements:
  - Lowest floor at least to FPE
  - Fully enclosed areas (not basements) can be used for parking vehicles, building access or storage
  - The fully enclosed areas below the BFE must have at least 2 flood openings meeting size requirements.
  - Flood openings may be screened as long as displacement is calculated in size of vents.

Article X:Non-Residential Buildings in SFHA

- New construction or substantial improvements:
  - Lowest floor at least to FPE; OR
  - Watertight walls below the BFE; and
  - Utilities and Sanitary facilities designed to keep building watertight; and
  - A registered PE or architect shall certify the design in accordance with 44CFR60.3; and,
  - Record of Floodproofing elevation filed with community.

Article X: Accessory Structures in SFHA

- Detached garages and sheds:
  - Meet standards listed in the ordinance…
  - The walls of the accessory structure shall include openings to allow floodwater to enter the structure from the adjacent grade to the FPE. For a detached garage, this applies to three sides of the garage. Floodwater openings should be sized according to FEMA Technical Bulletin 1.
  - The detached garage must be less than fifteen thousand dollars ($15,000) in market value or replacement cost, whichever is greater, or less than five hundred and seventy six (576) square feet (24' X24')

Article X: Storage of Materials

- Temporary or permanent storage in the flood plain of the following are prohibited unless elevated or floodproofed to one foot above the base flood elevation:
  - Items susceptible to flood damage; or
  - Unsecured buoyant materials or materials that may cause off-site damage including bulky materials, flammable liquids, chemicals, explosives, pollutants, or other hazardous materials; or
  - Landscape wastes.

Article X: Compensatory Storage

- Required for fill above grade in floodplain
- 1.5 times volume displaced
  - 1.0 times in 0-10-yr and 10-100-yr increments
  - Remaining 0.5 times in any increment

Article X: Comp Storage Exceptions

- No comp storage if: no regulatory floodway and less than 640 acres tributary AND
  - X-Sectional Floodplain Area not reduced by more than 0.5% at any X-Section throughout the site
  - OR Total Fill Volume < 200 ft^3
- 1:1 Comp Storage Required For:
  - Channel Modifications
  - Public Roadway Developments

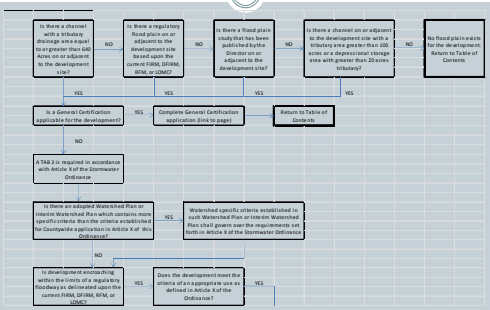
Article X: Floodway

- Only Appropriate Uses Allowed in Floodway
  - Listed in 15-82.A
  - Examples: Utilities, Flood control structures, bridges, culverts
  - Recreational facilities and elevating structures without enlarging footprint now recognized
- H&H Modeling for Proposed Floodway Impacts
- Preserve Floodway conveyance without increases to 100 year flood elevations, flows, or velocity
  - UNLESS increases are contained in public flood easement and a watershed benefit is provided
  - Increases of 0.1 feet or less for bridge or culverts is allowable, in accordance with IDNR-OWR Part 3700 and 3708 rules

Article X: Floodway

- County has delegation from IDNR-OWR for certain floodway developments
  - Must still apply to IDNR-OWR for delegation to County
  - Exceptions to delegated authority listed in 15-82G

Article X: Flow chart



Letters of Permission and GC's

- Letters of Permission
  - Different than Article IV LOP
  - Vegetative maintenance in a buffer is allowed without a formal permit
  - Submit written description of goals, objectives, and a management plan
- General Certifications may also apply in wetlands & buffers

Additional Information

- Final Adoption by all communities under the jurisdiction of the Stormwater Ordinance should be complete by July 25, 2012 (3 months)
- Future products should include additional flow charts, checklists, and a guidance document
- Anticipated revisions in 6 months
- Revised Ordinance on GCs available on the DuPage County Website directly at www.dupageco.org/EDP/Stormwater_Management/Regulatory_Services/1420/

Questions?

- DuPage County Stormwater Management and Stormwater Permitting:
  - (630) 407-6700 main
  - ContactEDP@dupageco.org
- DuPage County website:
  - www.dupageco.org
- Archival documents from Ordinance revisions:
  - ec.dupageco.org/stormwaterupdate