

BRIEFING NOTES

Advanced public notice of the Planning Commission briefing was posted on the County-City bulletin board and the Planning Department's website.

NAME OF GROUP: PLANNING COMMISSION

DATE, TIME AND PLACE OF MEETING: Wednesday, November 2, 2021, 1:31 P.M., Council Chambers, County-City Building, 555 South 10th Street, Lincoln, Nebraska.

MEMBERS IN ATTENDANCE: Lorenzo Ball, Dick Campbell, Tracy Corr, Maribel Cruz, Gloria Eddins, Cristy Joy, Rich Rodenburg, Cindy Ryman Yost, and Tracy Edgerton

OTHERS IN ATTENDANCE: David Cary, Steve Henrichsen, and Alexis Longstreet of the Planning Department. Tim Zach of Lincoln Watershed Management.

STATED PURPOSE: Briefing on the **“Proposed Text Amendment – Design Standards Text Amendments TX22012, TX22010, TX22011”**

Chair Edgerton called the meeting to order and acknowledged the posting of the Open Meetings Act in the back of the room.

David Cary came forward and stated that the briefing will cover the amendments. He stated that in three weeks there will be three separate applications that will come before the planning commission.

Tim Zach, Lincoln Transportation and Utility, 555 South 10th Street, came forward and discussed the history of the city protecting its residents from flooding risk and other hazards. Zach referred to a presentation and discussed previous flooding and the risk of flooding in Lincoln. He discussed previous initiatives that the city has had in place regarding flood protection, erosion, and water quality hazards. Zach stated that in the 1950's there were multiple projects that were in effect. Deadman's Run Flood Risk Management Project is a current project. Zach stated that the city joined the NFIP in which property owners could obtain flood insurance. In 1991, the city joined the CRS program in which the communities can retain points and move up levels within the program if they do additional floodplain management activities. Zach stated that the city is doing pretty well in the program at a Class 5. He discussed the structure of the program. Zach stated that the city is currently in audit with FEMA to receive scores on the city's activities. He stated that that the Watershed Master Plan effort was effective in the year 2000. Zach stated that projects have been implemented in the last 20 years to address issues found utilizing the Master Plan.

There were standards put in place in new growth areas in 2004 to protect existing developments. Zach discussed the timeline of initiatives that the city has implemented. Zach stated that urban drainage studies have been done to address current issues and establish a plan for capital improvement projects. He stated that requirements have been put in place to regulate and protect communities: stormwater quantity regulation, flood protection and clean water regulations. Zach stated that the proposed revision process started in October 2017. He discussed the timeline and steps that LTU took to propose revision. He emphasized that stakeholders have been involved in the process. Zach discussed the Salt Creek resiliency study and its goal. He reiterated that the floodplain map is out of date and stated that the rainfall data from the study was used to update that floodplain map. He stated that they looked at a climate model to anticipate future rainfall in 2100. He stated that the analysis showed that the footprint maps are out of date, do not accurately portray the risk, and there is a higher risk in the future. Zach stated that the study resulted in six recommendations. He discussed the city's current plan of action to continue mitigating risk of flooding and stated that FEMA will fund 100% of the development of the new floodplain maps.

Zach then discussed the updated proposals. He discussed funding for projects and programs. He reiterated the timeline of proposed changes. He discussed the standards that are going to be updated and stated that they are updating rainfall amounts, revising minimum flood corridor standard, detention pond standards, storm drain systems, minimum street grade, erosion and sediment control requirements, and floodplain requirements. He discussed the benefits of maintaining storm corridors. Zach discussed the change of criteria for flood corridors and stated that the current criteria is subjective and complex. He stated that the change will simplify the criteria. Zach stated that the change is not to widen the corridors but rather have precise calculations. He discussed the creation of a standard exemption with assistance from the Planning Department. He stated that there was not a major change to detention ponds. Zach stated that some common standards have been added to the water quality regulations. He stated that there was some clarification provided to the drainage system criteria. He discussed the increase of the minimum street grade proposal. Zach stated that the updates to the erosion and sediment control are based on the new state's construction storm water permit from December. He discussed the proposal to the freeboard requirement based on the new data and floodplain maps. He discussed proposed requirements for raising ground/elevation based on residential v. non-residential zoning. He discussed the Letter of Map Change requirement for future residential development. Zach discussed proposal to change to the No-Rise Standard. He stated that changes were made based on the feedback received throughout this process. Zach reiterated that the proposed revisions are to the Flood and water quality protection manual, LMC and design standards. He discussed the implementation of the revisions and stated that they will take place 60 days after they are adopted. Zach stated that any Preliminary Plat approved 5 years prior to the revisions will be grandfathered in. Zach discussed affordability and impacts that the floodplains will have on current and future property owners and development. He discussed the next steps and anticipated timeline.

Campbell noted that the plan addresses future problem areas and asked if there are any components that address current problem areas. Zach stated that the studies that are taking place help address current problems.

Joy asked Zach to discuss the upcoming/current projects. Zach reiterated that the Deadman's Run project is the largest project from 2019. He stated that some projects are top priority, and they are evaluating the projects to see if they are feasible. He discussed that the next bond issue that comes up will help bring forward new projects. He stated that the grant with FEMA will allow them to evaluate other areas and projects that can be implemented.

Rodenburg reiterated that they have met with developers and stakeholders and asked what some foreseen objections are. Zach stated that the corridor revision and the floodplain freeboard (elevate) requirement. Rich asked if Zach could estimate about how many structures may go into the floodplain. Zach stated that not at this moment and that would be difficult to anticipate the number of structures that would be affected. Rich asked about the financial impact on those who have fixed incomes. Zach stated that they are in the area of the floodplain, and they would like to educate those owners. He stated that through the floodplain mapping process, they hope to formulate future ways to mitigate risk.

Joy asked if the different studies discussed will be presented for example the Olsson Dam study. Zach stated that study was included in the Salt Creek study. He stated that FEMA isn't the only federal agency that handles flood control projects and programs.

Edgerton asked for clarification that objection in the future will most likely be surrounded by the cost of future development. She asked if the 60 - day implementation is a concern. Zach answered yes. Edgerton asked why it has taken so long for revisions/updates to be proposed. Zach stated that rainfall is a major component and funding was an issue previously.

Campbell asked if Antelope creek would be a smaller example of flood mitigation. He stated that the floodplain maps were updated shortly after and asked if it is easier to get smaller areas maps updated sooner. Zach stated that with the Letter Map Revision, it can take up to a year but when considering multiple watersheds and complexities.

Corr asked when some revisions were described and referred to the Waterford estates project and asked if any updates will affect the project. Zach stated that it shouldn't affect that project. He stated that the Wilderness Hills South is a good example. He stated that the land couldn't be developed since the crossing has to be developed, it wasn't deemed feasible.

Cary stated that project is a good and recent example.

Campbell asked for clarification that Stephen's Creek is a major focus in the update. He stated that Stephen's Creek will be reviewed at some point, it will take time since it is a larger watershed.

Cary stated that the three items will need to be acted on separately and they are recommending that the commissions hold off on acting until after they have heard public hearing on all items.

Edgerton asked for clarification of process that the commission would go through the entire hearing (testimony, support, opposition) before acting on the items individually.



FLOOD AND WATER QUALITY PROTECTIONS

PLANNING COMMISSION BRIEFING

NOVEMBER 2, 2022

Tim Zach, Superintendent of Stormwater
LTU Watershed Management Division

OVERVIEW OF PRESENTATION



**History of
Flood & Water
Quality
Protection
Efforts**

**Ordinance &
Manual
Update
Process**

**Salt Creek
Floodplain
Resiliency
Study**

**Ordinance &
Manual
Proposed
Revisions**

**Other Flood &
Water Quality
Protection
Efforts**

MISSION STATEMENT

The Watershed Management Division encourages sustainable growth by upholding responsible standards that maximize safety, minimize flood damage, and conserve natural resources to ensure quality of life for future generations.

FAMILIES AND BUSINESSES ACROSS LINCOLN FACE DANGER DUE TO INCREASED RISK OF FLOODING

Two cars are barely visible above the flood water on Old Cheney Road near U.S. 77.



A house basement near Old Cheney and Hunts Drive is a total loss.



Water covers the parking lot at Lincoln Southwest High School on Thursday, May 7, 2015.

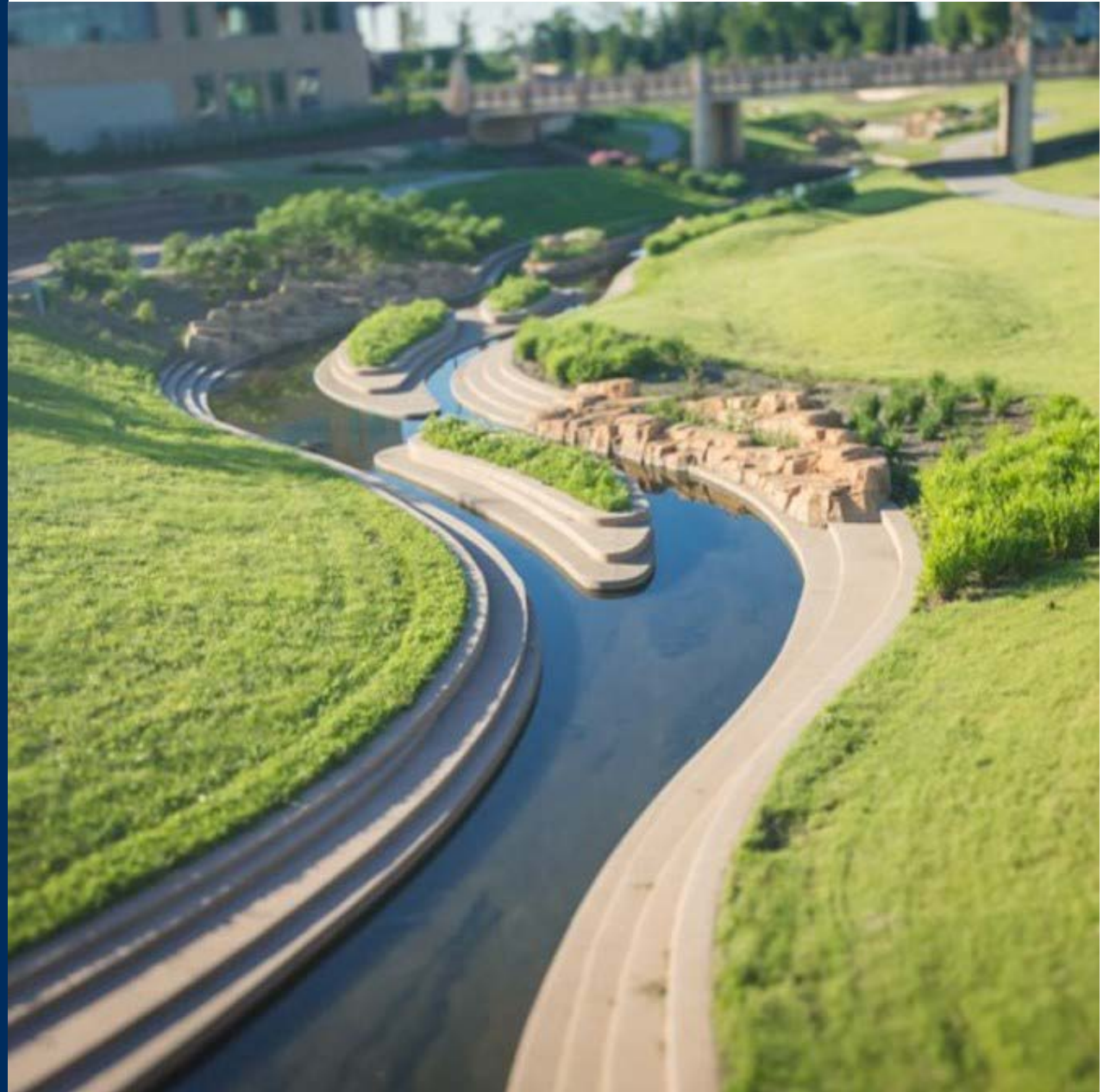
FAMILIES AND BUSINESSES ACROSS LINCOLN FACE DANGER DUE TO INCREASED RISK OF FLOODING



Residents are rescued from rising flood waters in south central Lincoln. Lincoln Fire and Rescue swift water team, LPD, and Lancaster County Sheriff helped lead the evacuation of entire neighborhoods.

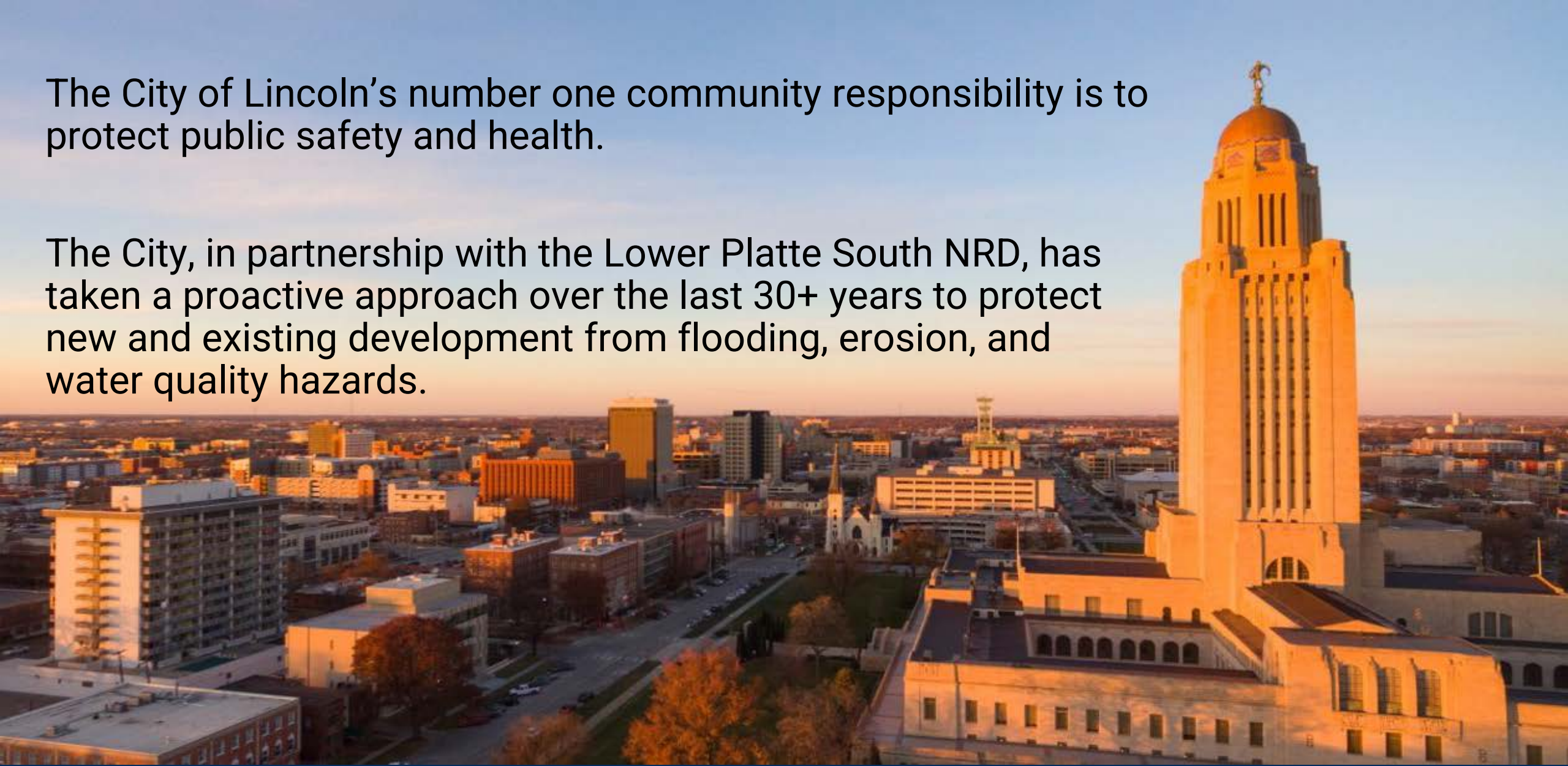


HISTORY OF FLOOD & WATER QUALITY PROTECTION EFFORTS



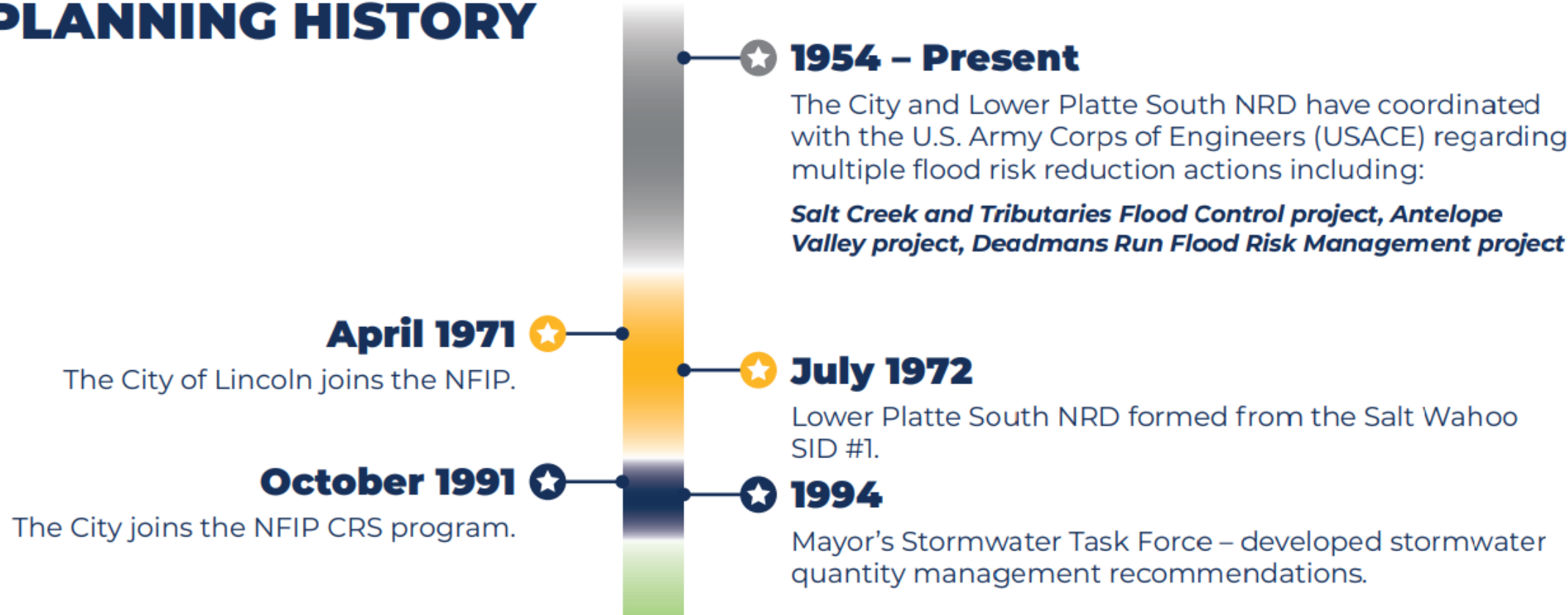
The City of Lincoln's number one community responsibility is to protect public safety and health.

The City, in partnership with the Lower Platte South NRD, has taken a proactive approach over the last 30+ years to protect new and existing development from flooding, erosion, and water quality hazards.



IT IS OUR MISSION to responsibly deliver, enhance and maintain vital infrastructure and services for the good of our community.

WATERSHED MANAGEMENT & MASTER PLANNING HISTORY



IT IS OUR MISSION to responsibly deliver, enhance and maintain vital infrastructure and services for the good of our community.

Watershed Master Plan Development & Implementation

PHASE 1: 2000-2009

Focus on flood risk reduction, stream stability, and water quality with an emphasis on flood risk analysis and reduction. Plans developed during this phase included:

Beal Slough (2000), Southeast Upper Salt Creek (2003), Stevens Creek (2005), Cardwell Branch (2007), Deadmans Run (2007), Little Salt Creek (2009).

September 2002

Implementation of large development construction stormwater runoff management through sediment and erosion control.

May 2004

Implementation of updated floodplain standards pursuant to the Floodplain Task Force Recommendations. These standards included the addition of a Minimum Flood Corridor (MFC).

December 2007

Salt Creek floodplain study.

2008

Development of the Lower Platte South NRD's first Hazard Mitigation Plan (HMP), with the City as a participating jurisdiction. The plan was then updated in 2015 and in 2020.

2000-2012

Antelope Valley Project.

February 2000

Initial adoption of Drainage Criteria Manual (DCM).

August 2001

Mayor's Floodplain Task Force – developed floodplain management policy recommendations.

2003

Watershed Management Division of Public Works and Utilities formed.

December 2006

Development of Master Plan Capital Improvement Project Prioritization scoring methodology.

Watershed Master Plan Development & Implementation

★ PHASE 2: 2012-2018

Focus on stream stability and water quality with a lower emphasis on flood risk reduction. Plans developed during this phase included:

Antelope Creek (2012), Haines Branch (2015), Middle Creek (2015), South Salt Creek (2015), Upper Wagon Train (2017), Oak Creek (2018), Lynn Creek (2018), North Salt Creek (2018).

★ February 2014

Implementation of post-construction stormwater management regulations for individual sites.

★ 2016-2020

Development of the Salt Creek Levee Assessment and Systemwide Improvement Framework (SWIF).

★ 2015-Present

Deadmans Run Flood Risk Management Project.

★ August 2015

The City achieves a CRS ranking of Class 5, providing a 25% flood insurance discount to NFIP policy holders.

★ 2020

Salt Creek Floodplain Resiliency Study.

★ 2020-Present

Adoption of the Comprehensive Watershed Master plan, and updates to the Flood & Water Quality Protection Manual.

FLOOD & WATER QUALITY PROTECTION EFFORTS

The City, in partnership with the Lower Platte South NRD, has implemented the following programs to protect our community from flooding, erosion, and water quality hazards:

- Watershed Master Plans & Urban Drainage Studies
 - Identifies the current issues and a plan for capital improvement projects to address issues of flooding, erosion, and water quality
- Hazard Mitigation Planning
 - Identifies vulnerability to all hazards and mitigation projects to reduce or eliminate such risks
- Large Structural Flood Control Projects
 - Salt Creek and Tributaries Flood Control project
 - Antelope Valley project
 - Beal Slough Flood Control project
 - Deadmans Run Flood Risk Reduction project

FLOOD & WATER QUALITY PROTECTION EFFORTS

The City has implemented the following regulations to protect our community from **flooding, erosion, and water quality** hazards:

- Stormwater Quantity Regulations
 - Detention
 - Storm drainage standards
- Flood Protection Regulations
 - No Adverse Impact
 - No-net fill
 - No-rise
 - Elevating residential lots and structures
 - Elevating or floodproofing non-residential lots and structures
 - Minimum flood corridor preservation
- Clean Water Regulations
 - Construction erosion protections
 - Permanent water quality measures

FLOOD & WATER QUALITY PROTECTION MANUAL & ORDINANCE UPDATE



HISTORY OF THE FLOOD & WATER QUALITY PROTECTION MANUAL

- 2000 Drainage Criteria Manual adopted
- 2001-2003 Mayor's Floodplain Task Force
- 2004 Ch 1 Intro & Ch 10 Flood Design Criteria added
- 2007 Ch 9 Erosion and Sediment Control added
- 2012 Mayor's Clean Water Program Task Force
- 2014 Ch 8 Stormwater Best Management Practices added



Drainage Criteria Manual

City of Lincoln
Public Works and Utilities Department

February 22, 2000

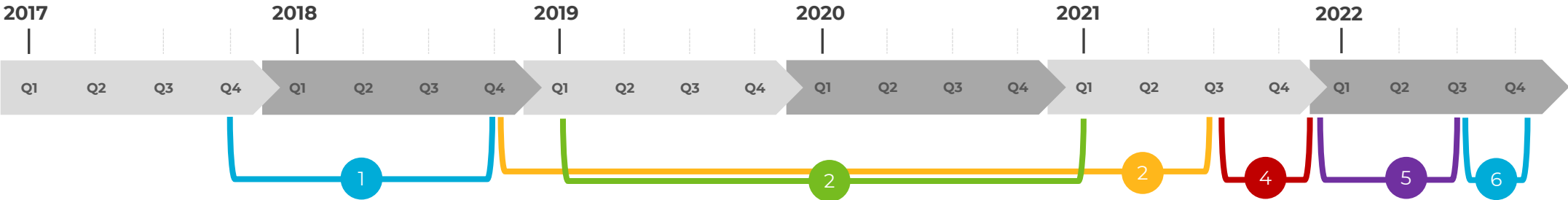
Revised May 10, 2004 (Chapters 1 and 10)

Revised June 21, 2007 (Chapter 9)

Revised January 27, 2014 (Chapter 8)

FLOOD & WATER QUALITY PROTECTION MANUAL - UPDATE HISTORY (4+ YEARS)

- 1 Oct 2017 – Oct 2018 Manual Chapter-by-Chapter Workshops
- 2 Jan 2019 – Jan 2021 Salt Creek Floodplain Resiliency Study
- 3 Oct 2018 – July 2021 Drafting of Manual / Ordinance Revisions
- 4 July 2021 – Oct 2021 Public Review & Stakeholder Meetings
- 5 Oct 2021 – June 2022 Individual Meetings & Feedback
- 6 July 2022 – Oct 2022 Review Workshops & Proposal Update based on Feedback



SALT CREEK FLOODPLAIN RESILIENCY STUDY



RESILIENCY

For the purpose of this study resiliency is the ability to meet the challenges of today and safeguard against the uncertainties of the future

GOAL

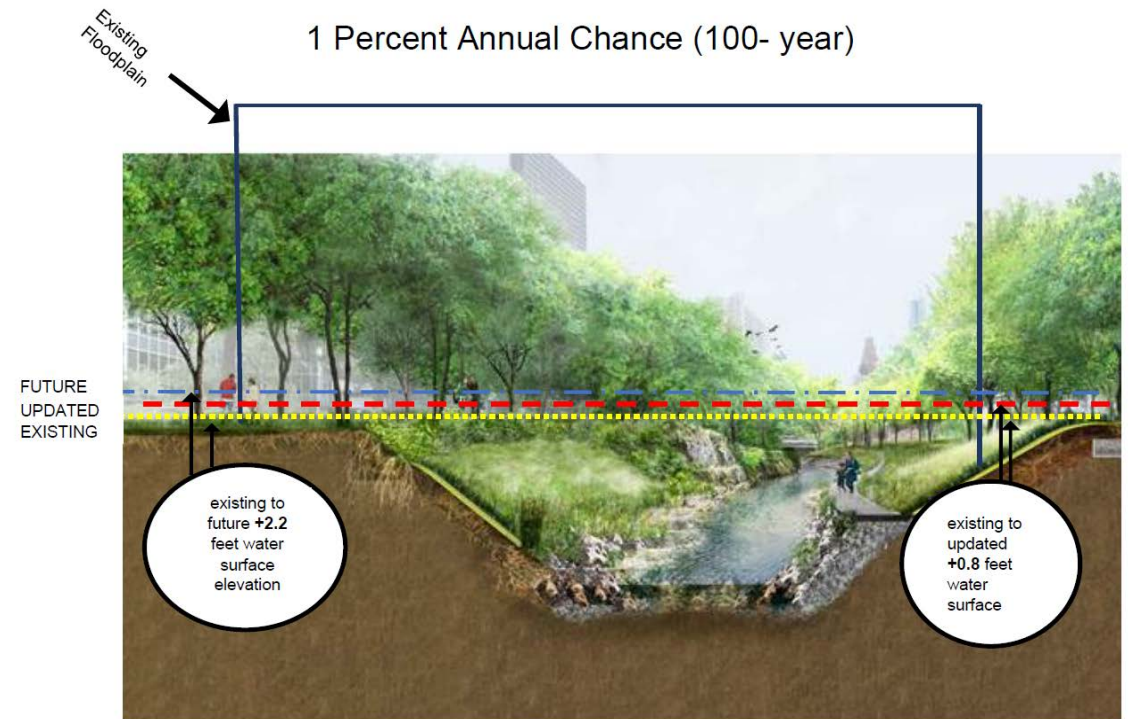
Reduce adverse impacts from flooding to life and property from future flood events

SALT CREEK FLOODPLAIN CHANGES

The study shows that there is a **higher risk of flooding** in our community today than what is shown on the FEMA floodplain maps.

The study also shows that there is the potential for even **higher risk of flooding** in our community in the **future** from climate change.

There is an increased responsibility for the City to consider **additional floodplain management** approaches to address this higher risk of flooding.



SALT CREEK FLOODPLAIN RESILIENCY STUDY

Recommendations:

- Continue active participation in FEMA's Community Rating System
- **Adopt higher floodplain regulatory standards**
- Initiate the development of new floodplain maps
- Use national best management practices (BMPs) identified to guide planning objectives
- Consider implementation of nonstructural flood resiliency strategies
- Continue with the development of a resiliency strategy for Salt Creek

TAKING ACTION TO PROTECT OUR COMMUNITY

- Continue active participation in FEMA's Community Rating System
 - Confirmed: We are protecting lives and property PLUS helping residents save on flood insurance
- **Adopt higher floodplain regulatory standards**
 - **Today's discussion**
- Initiate the development of new floodplain maps
 - FEMA funds 100%, grant awarded for Phase 1; RFP expected to be released in Nov; remapping process expected to take 6-8 years
- Continue additional resiliency strategies for Salt Creek
 - Analyzing structural flood resiliency strategies
 - FEMA Building Resilient Infrastructure and Communities (BRIC) grant application submitted
 - Additional stakeholder engagement
- Expanding funding opportunities
 - Local, State, and Federal
 - Additional community discussion and stakeholder engagement

FLOOD AND WATER QUALITY PROTECTION MANUAL & STANDARDS UPDATES

Updated Proposal Based
on Stakeholder Feedback



PUBLIC REVIEW AND FEEDBACK

The City has spent the last **16 months** meeting with stakeholders and receiving feedback on the proposed update.

July 2021 Draft of Manual / Ordinance Revisions Made Available for Review

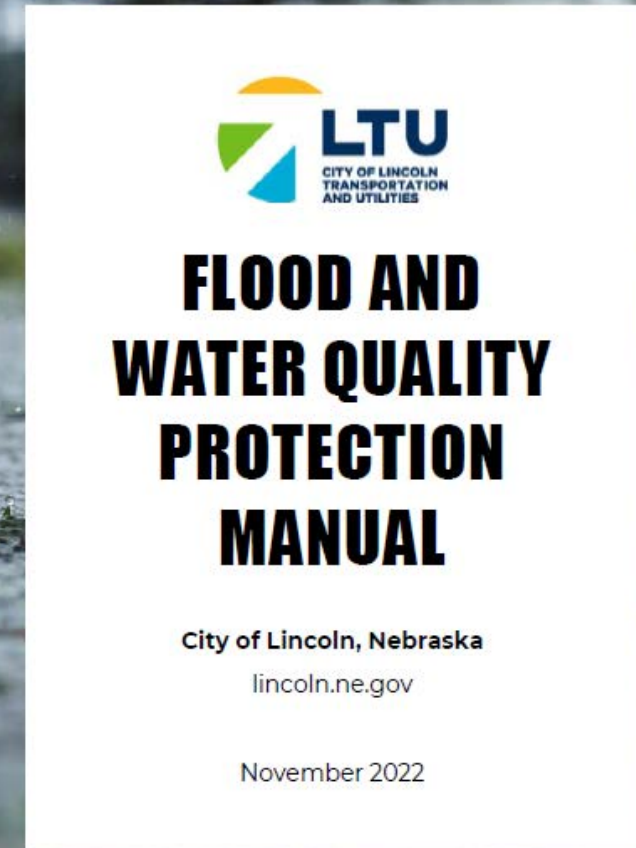
July 2021 – Oct 2021 Public Review & Stakeholder Meetings

Nov 2021 – June 2022 Individual Meetings & Feedback

July 2022 – Oct 2022 Review Workshops & Proposal Update based on Feedback

F&WQ PROTECTION MANUAL SIGNIFICANT CHANGES

- Updated Rainfall Amounts
- Revised Minimum Flood Corridor Standard
- Detention Ponds
- Post Construction BMPs
- Storm Drainage System
- Minimum Street Grade
- Erosion & Sediment Control
- Floodplain Requirement



UPDATED RAINFALL AMOUNTS

Why? Need to design based on the most current data

- Current requirement based on Technical Paper 40 (1961)
- Updating rainfall records to NOAA Atlas 14 (2013)

Probability (percent annual chance)	Common Event Name	Total Precipitation TP40 (in)	Total Precipitation Atlas 14 (in)
50	2-Year	3.00	3.03
10	10-year	4.69	4.47
2	50-year	6.00	6.37
1	100-year	6.68	7.31
0.2	500-year	8.18	9.75

BENEFITS OF STREAM CORRIDORS

Maintaining a properly sized corridor around the channels in Lincoln provides cleaner, healthier, safer streams for everyone:

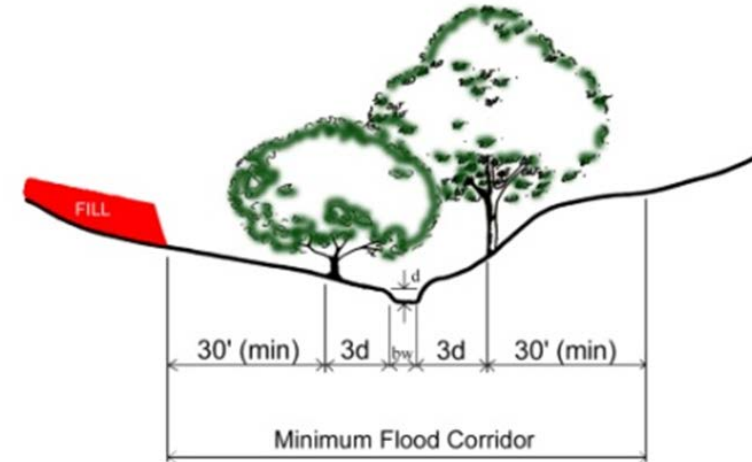
- Enhance adjacent property values
- Provide natural screening between properties
- Protect structures from channel erosion
- Improve flood flow attenuation
- Improve stormwater quality
- Improve aesthetics and provide recreational opportunities



MINIMUM FLOOD CORRIDOR

Current Criteria

- Minimum Flood Corridor is required where:
 - drainage area is over 150 acres
 - OR-
 - defined bed and bank is present



Why change criteria?

- Not Consistent – Existing method of using “defined bed and bank” is subjective & produced widely varying results
- Costly to development – Requires an engineer or environmental scientist to determine where “defined bed and bank” starts and calculate buffer width
- Not fair and equitable to everyone

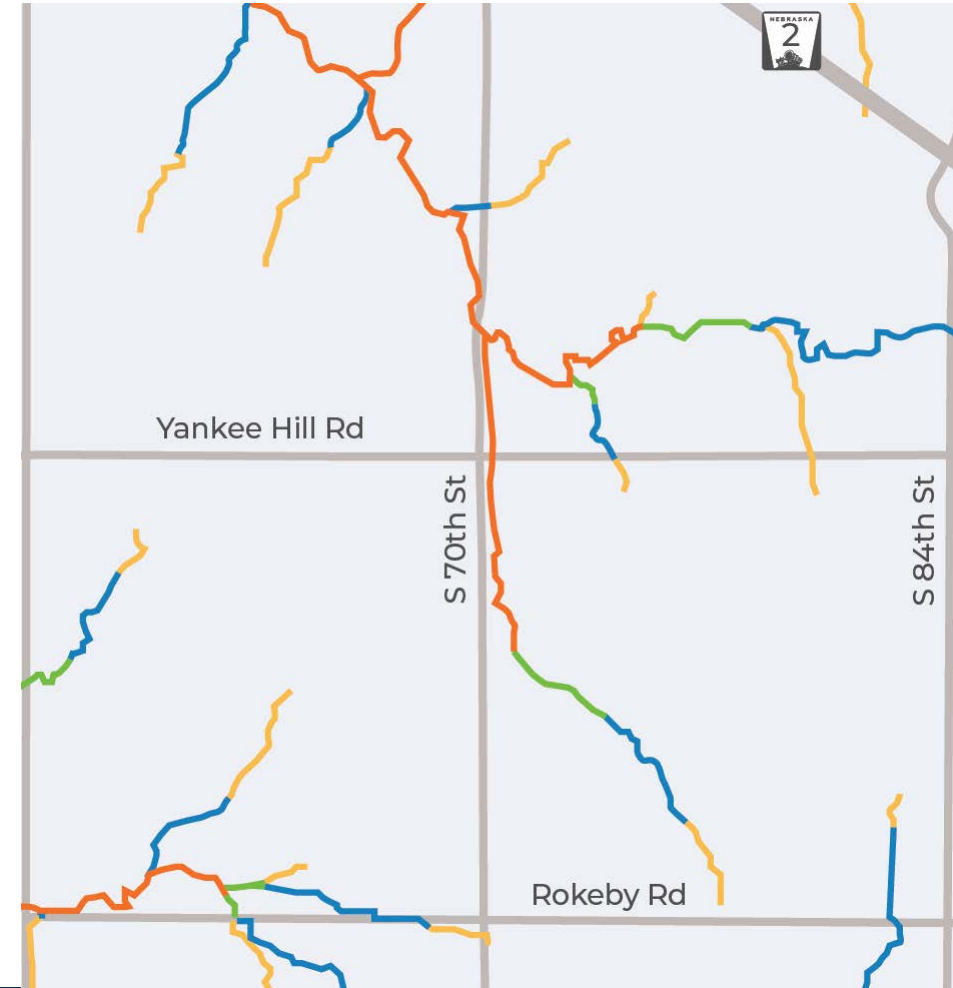
Proposed Criteria: consistent & simplified, cost savings, property owners know what is required

MINIMUM FLOOD CORRIDOR

Updated Proposal:

- drainage area 40 – 100 ac
 - 90 ft wide corridor
- drainage area 100 – 200 ac
 - 100 ft wide corridor
- drainage area 200 – 300 ac
 - 120 ft wide corridor
- drainage area over 300 ac
 - buffer width = channel width + (6 x depth)] + 60 ft

NOTE: Comparison of existing calculation vs updated shows on average corridor widths remain the same. This update saves time and money.



MINIMUM FLOOD CORRIDOR ALTERNATIVES

2022 Change based on feedback:

- For channels determined to be non-jurisdictional by the US Army Corps of Engineers:
 - Mitigating at a 1 to 1 ratio
 - Providing grade controls if needed, appropriate vegetation, maintenance plan
- For channels determined to be jurisdictional by the US Army Corps of Engineers:
 - Mitigate at a 1.5 to 1 ratio
 - Providing grade controls if needed, appropriate vegetation, maintenance plan
- Block length exemption

BLOCK LENGTH EXEMPTION

2022 Change based on feedback:

Why? Reduce the cost of large drainage crossings that are not necessary to provide two points of access to a development.

26.23.130 Block Sizes.

- a. Block lengths shall not exceed 1,320 feet except where a major street, school, park, or other man-made barrier, lake, or other natural barrier forms one boundary of a block, or if it requires crossing a flow route which drains an area of more than 200 acres unless the street is needed to provide more than one access point to the development for emergency response. Block lengths shall not exceed 1,000 feet in neighborhoods originally platted prior to December 31, 1949.

DETENTION PONDS

2021 Proposal (same as existing):

- Top embankment width
 - 14 ft for all embankments
- Side slopes
 - 4:1 for all slopes
- Retaining walls
 - Not allowed

2022 Changes based on feedback: (adds flexibility)

- Top embankment width
 - 8 ft for embankment less than or equal to 6 ft high
 - 14 ft for embankments greater than 6 ft high
- Side slopes
 - 4:1 for embankment and slopes adjacent to ROW
 - 3:1 for all other slopes
- Retaining walls
 - Allowed in some situations with certification by engineer

DETENTION PONDS

2021 Proposal (same as existing):

- Bottom slope
 - Pilot channels allowed where bottom slope less than 2%
- Maintenance Access
 - Required on 2 sides
- Certification (update from current)
 - As-built survey and maintenance plan required before surety release

2022 Changes based on feedback:

- Bottom slope
 - No change
- Maintenance Access
 - Required on 2 sides; can be waived in unique situations
- Certification
 - No change

POST CONSTRUCTION BEST MANAGEMENT PRACTICES

2021 Proposal (same in updated 2022):

- Standard BMPs added:
 - Grass swales
 - Vegetated buffer strips
 - Underground BMPs (ex: hydrodynamic separators)
- Certification
- Sureties required with subdivision
 - Surety released with as-built plan and certification document

STORM DRAINAGE SYSTEM

2021 Proposal (same in updated 2022):

- Clarifying Current Culvert Design Criteria
 - 1 ft freeboard from 50-year flood elevation to low overtopping elevation at the centerline of the roadway
 - This is the **current** requirement....just providing clarification
- Storm Drain Alignment
 - Center of street reserved for storm (same as current)
 - Horizontal curves allowed in certain instances (change to provide flexibility)
 - Vertical breaks allowed to reduce outlet velocity (change to provide flexibility)

MINIMUM STREET GRADE

Current:

- 0.5% minimum

2021 Proposal:

- 1.0% minimum
 - To prevent standing water in street

2022 Proposal based on feedback:

- Leaving as current 0.5% minimum
- Clarifying that it is the grade along the curb and gutter line, specifically for cul-de-sacs (to prevent standing water in street)

EROSION & SEDIMENT CONTROL

2022 Changes:

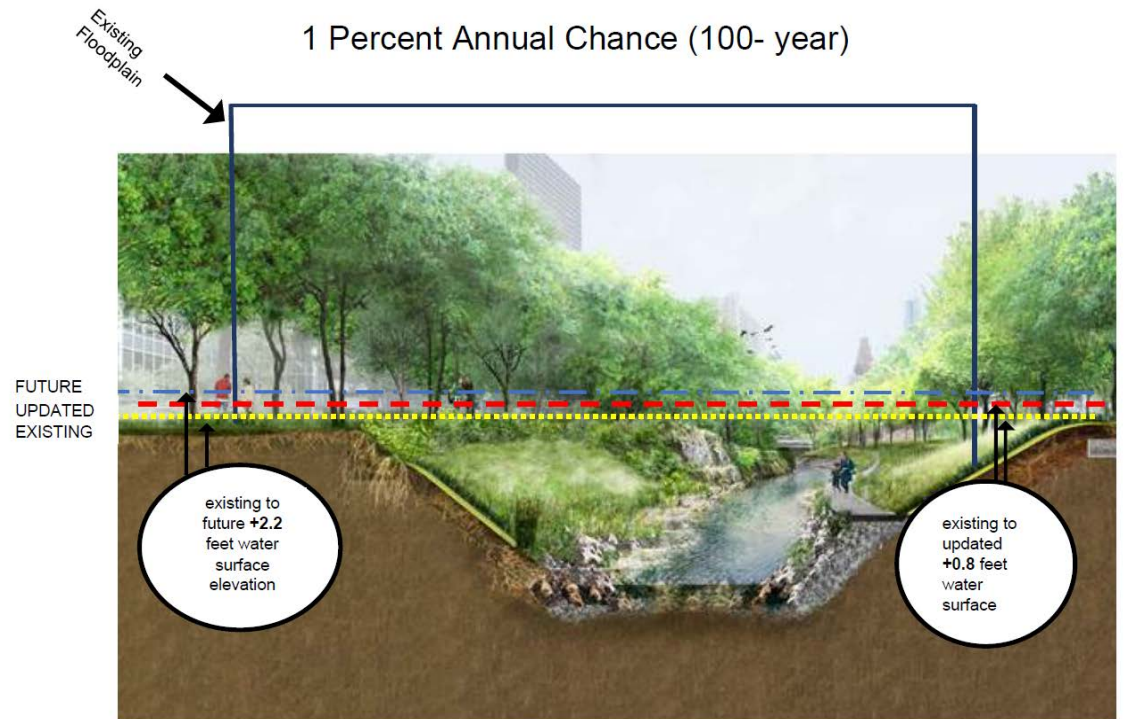
- Updates per State's new Construction Stormwater permit
 - SWPPP inspections required at least once every 7 calendar days or at least once every 14 calendar days and within 24 hours of 0.25 in rain event.
 - Previous requirement at least once every 14 calendar days and within 24 hours of a 0.5 in rain event
- Reinspection fee staying at \$75
- New permit transfer process
- SWPP narrative requirements
- New temporary BMP guidelines



FLOODPLAIN REQUIREMENTS

Why update the floodplain requirements?

- There is a **higher risk of flooding** in our community **today** than what is shown on the FEMA floodplain maps.
- There is the potential for even **higher risk of flooding** in our community in the **future** from climate change.
- There is an increased responsibility for the City to consider **additional floodplain management** approaches to address this higher risk of flooding.



FREEBOARD

Current

- Permanent freeboard requirement = 1 ft

2021 Proposal:

- Proposed **permanent** freeboard requirement = 2 ft

2022 Change based on feedback:

- Proposed **temporary** freeboard requirement = 2 ft
- New freeboard definition:

26.07.120 Freeboard.

Freeboard shall mean 1 foot above the 100-year flood elevation where it is based upon NOAA Atlas 14 precipitation, or 2 feet above the 100-year flood elevation where it is not based upon NOAA Atlas 14 precipitation.

FREEBOARD – RAISING GROUND / ELEVATING

2021 Proposal:

- Lots **in** the floodplain
 - Subdivision – ground raised 2 ft above 100-year flood elevation
 - Subdivision & Zoning – **lowest floor elevation** = 2 ft above 100-year flood elevation
- Lots **adjacent** to the floodplain susceptible to flooding
 - Manual – ground raised 2 ft above 100-year flood elevation
 - Subdivision – **lowest floor elevation** = 2 ft above 100-year flood elevation

New definition based on feedback:

Freeboard shall mean 1 foot above the 100-year flood elevation where it is based upon NOAA Atlas 14 precipitation, or 2 feet above the 100-year flood elevation where it is not based upon NOAA Atlas 14 precipitation.

2022 Changes based on feedback:

- Lots **in** the floodplain
 - Subdivision – ground raised the required freeboard above 100-year flood elevation
 - Subdivision & Zoning – **lowest floor elevation** = the required freeboard (new definition) above 100-year flood elevation
- Lots **adjacent** to the floodplain susceptible to flooding
 - Subdivision – ground raised the required freeboard above 100-year flood elevation
 - Subdivision – **minimum opening elevation** = the required freeboard (new definition) above 100-year flood elevation

RESIDENTIAL VS. NON-RESIDENTIAL

Additional information - Residential (including apartments) / non- residential

- Subdivision Code:
 - New residential lots (including apartments) – ground raised the required freeboard (new definition) above 100-year flood
 - New non-residential building site – ground raised the required freeboard (new definition) above 100-year flood or floodproofed to the required freeboard above 100-year flood
- Zoning Code:
 - New residential construction (including apartments) – lowest floor elevated the required freeboard (new definition) above 100-year flood
 - New non-residential construction – lowest floor elevated the required freeboard (new definition) above 100-year floor or floodproofed to the required freeboard above 100-year flood

LETTER OF MAP CHANGE (LOMC)

Additional 2022 Changes:

- LOMC required before final plat (instead of before building permit) for residential
 - Updated to reflect current practice
 - Not workable to grade lot-by-lot in residential development
- LOMC required if causing a rise in flood elevations on other properties
- Ground removed by all LOMCs cannot be graded below the required freeboard above the 100-year flood elevation
 - Builder activity / construction must maintain the required freeboard

NO-RISE

Current:

- No-Rise Standard:
 - All Streams – 0.05'

2021 Proposal:

- Reduce the allowable minor (de minimus) deviation from the No-Rise Standard:
 - Salt Creek – 0.02'
 - Named Streams – 0.03'
 - Minor Stream – 0.05'

2022 Changes based on feedback:

- Only reduce Salt Creek. Leave the standard as-is for flexibility in other streams. No-Rise Standard:
 - Salt Creek – 0.02'
 - All other Stream – 0.05'

SUMMARY OF PROPOSED REVISIONS

2021 Proposal

- Rainfall Data
 - Updating from TP-40 to NOAA Atlas 14
- Minimum Flood Corridor
 - Simplifying standard to be based on drainage area & set width
- Detention
 - Top width & side slopes same as current
 - Establish certification process
- Post Construction BMPs
 - Adding new standard BMPs to simplify process
 - Requiring surety, as-built plans, and certification form
- Storm Drainage System
 - Allowing flexibility with horizontal/vertical alignment

2022 Changes based on Feedback

- Rainfall Data
 - Same as 2021 Proposal
- Minimum Flood Corridor
 - Added alternatives to allow flexibility
 - Revised block length to reduce crossings
- Detention
 - Allowing flexibility to reduce footprint
- Post Construction BMPs
 - Same as 2021 Proposal
- Storm Drainage System
 - Same as 2021 Proposal

SUMMARY OF PROPOSED REVISIONS

2021 Proposal

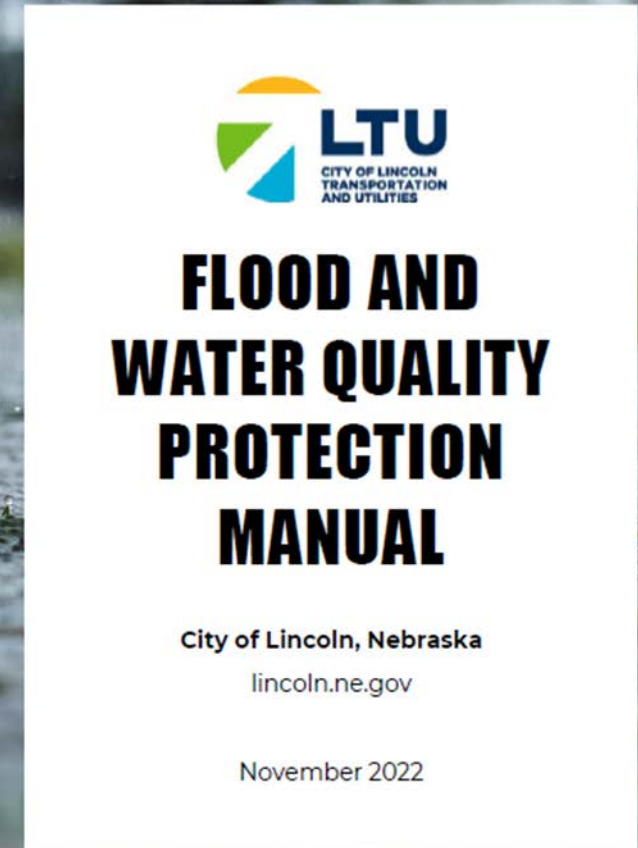
- Minimum Street Grade
 - Going from 0.5% to 1.0% minimum to reduce standing water in street
- Erosion & Sediment Control
 - Updated enforcement requirement
- Floodplain Requirements
 - Permanent 2 ft freeboard
 - Lowest floor elevations for both lots in and adjacent to the floodplain
 - No-net rise reduced for named streams, minor streams left at 0.05'

2022 Changes based on Feedback

- Minimum Street Grade
 - Reverted to 0.5% minimum, but clarified grade is along curb line to reduce standing water in street
- Erosion & Sediment Control
 - Revised based on updated States requirements
- Floodplain Requirements
 - Temporary 2 ft freeboard (reverts to 1 ft with floodplain maps based on NOAA Atlas 14)
 - Lowest floor elevations for lots in the floodplain, minimum opening elevations for lots adjacent to the floodplain
 - LOMC before final plat, not building permit for residential
 - No-net rise only reduced for Salt Creek, all other streams left at 0.05'

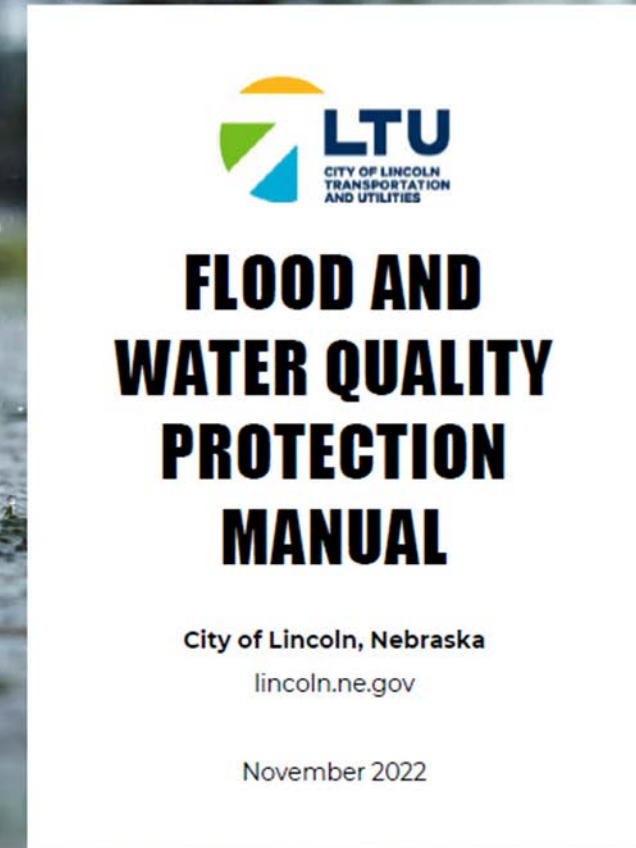
PROPOSED REVISIONS

- Flood and Water Quality Protection Manual
- Lincoln Municipal Code:
 - Title 26
 - Title 27
 - Title 28.01
 - Title 28.03
- Design Standards



IMPLEMENTATION

- Updated requirements will go into effect **60 days** after adoption by City Council
- Preliminary Plats approved prior to updated requirements will be grandfathered in
 - Unless a final plat has not been submitted in the last 5 years
- Building permits **in** the floodplain will be required to meet the updated requirement
- LTU Watershed is planning to have **quarterly** review workshops with development / engineering community to assess the effectiveness of the updated requirements
 - Will move to biannual or annual review workshops in the future



AFFORDABILITY



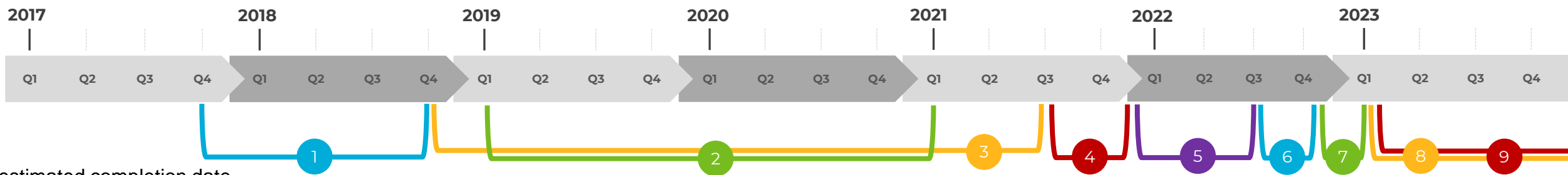
DOES THIS IMPACT AFFORDABILITY?

- The floodplain covers approximately 14% of Lancaster County. The 2050 Comprehensive Plan does not plan for any new development in the floodplain by designating the floodplain to be preserved as Open Space/Environmental Resources.
- Sub-standard construction is NOT an affordability strategy. Buildings must be constructed to protect families and businesses from loss of life or property.
- Meeting the new flood protection standards only increases construction costs by a minimal amount. FEMA estimates each foot of freeboard adds between 0.25 and 1.5 percent to the total cost of construction.
- Properties built in the flood plain must purchase flood insurance. Building to the updated standards can lower flood insurance premiums. The payback with lower premiums is typically 2-3 years. It's more affordable to simply build it safely.
- Nation-wide data shows every \$1 spent flood proofing saves \$4 - \$11 dollars in flood damages to property...AND reduces the threat to loss of life.
- The best strategy is to build according to the updated safety standards **AND** provide additional funding for affordable housing as needed. City of Lincoln budget has affordable housing funds to help close financing gaps for affordable projects.

TIMELINE / NEXT STEPS



- 1 Oct 2017 – Oct 2018 Manual Chapter-by-Chapter Workshops
- 2 Jan 2019 – Jan 2021 Salt Creek Floodplain Resiliency Study
- 3 Oct 2018 – July 2021 Drafting of Manual / Ordinance Revisions
- 4 July 2021 – Oct 2021 Public Review & Stakeholder Meetings
- 5 Oct 2021 – June 2022 Individual Meetings & Feedback
- 6 July 2022 – Oct 2022 Review Workshops & Proposal Update based on Feedback
- 7 Nov 2022 – Dec 2022 Planning Commission Approval / City Council Adoption
- 8 Jan 2023 – 2029/31* Floodplain Remapping Effort (6-8 year process)
- 9 Jan 2023 – 2025* Analyze Structural Flood Resiliency Strategies for Salt Creek



*estimated completion date



IT IS OUR MISSION to responsibly deliver, enhance and maintain vital infrastructure and services for the good of our community.

TAKING ACTION TO PROTECT OUR COMMUNITY

- **Adopt needed flood protection and water quality updates (this proposal)**
 - Planning Commission: 11-16-22
 - City Council: 12-12-22 Public Hearing; 12-19-22 Action
- **Initiate the development of new floodplain maps**
 - FEMA Cooperating Technical Partnership (CTP) FY2022 grant of \$515,450 awarded to the City to start remapping efforts with Beal Slough and Cardwell Branch (Phase 1)
- **Continue additional resiliency strategies for Salt Creek**
 - Analyzing structural flood resiliency strategies
 - FEMA Building Resilient Infrastructure and Communities (BRIC) grant application submitted January 2022; application in review, expected award Q1 2023
 - Additional stakeholder engagement
- **Expanding funding opportunities**
 - Local, State, and federal
 - Additional community discussion and stakeholder engagement

QUESTIONS?



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