Development Standards – Staff Recommendations

Introduction and Purpose

Once infrastructure is in place, it rarely goes away. Infrastructure built now will likely be in place for our children and grandchildren. The City's current Infrastructure Design Standards or Subdivision Standards were adopted in 1972, and have not been significantly revised since that time. In 2013, Staff proposed a revised set of Infrastructure Design Standards (IDS), or Manual of Practice, to incorporate Action Items and Critical Success Factors from the City's Comprehensive Plan. The goal of the revised standards is to improve the design of our infrastructure (streets, sidewalks, storm water management, etc.) with regard to sustainability and livability, **while positioning Peoria as a desirable place and a competitive city for development.** The comprehensive 2013 effort was realigned per City Council direction to pursue consensus on individual standards.

The purpose of this Memorandum is to inform the City Council about Staff's recent efforts to improve upon the 2013 Development Standards, in order to gain public consensus while remaining true to City's Comprehensive Plan; and to present current Development Standards recommendations.

Relation to the Strategic Plan

The proposed Infrastructure Design Standards is listed as a High Priority Policy Agenda Item in the City's 2013-2028 Strategic Plan.

> *It's our **safety** and **attractiveness**, lively downtown/warehouse district, **great place** for diverse business, **desirable neighborhoods**, **growing city,** culture of educational achievement, and collaboration for **community excellence** that makes us **unique.***
>
> --City of Peoria Vision Statement

Improvements to our Development Design Standards align with the Strategic Plan Principles below:

- **Safety and Attractiveness**
  - Reputation and reality that the city is safe in which to live, or visit
  - People feeling safe and secure in their homes, in their neighborhoods and anywhere in the city
  - Well maintained neighborhood streets, sidewalks, and public areas
  - City designed for connectivity for all
  - Beautiful, well maintained major corridors with attractive streetscapes and businesses

- **Desirable Neighborhoods**
  - Well maintained, connected neighborhood infrastructure: streets, sidewalks and bike lanes
  - Pedestrian friendly and walkable neighborhoods with gathering places
  - Residents feeling safe in their homes and in their neighborhood
- **Growing City**
  - Families want to live in the city
  - Businesses prefer to locate and grow in the city
  - City population is increasing
  - Growing middle class population
  - Our children stay or return to the city to raise their families
  - Positive image of city government with responsible governance and responsive, cost effective service delivery
- **Collaboration for Community Excellence**
  - Shared visions and goals
  - Coordinated plans and actions

Additionally, many of the proposed Development Design Standards elements, such as street trees, are already in harmony with the intent and requirements of the City's Land Development Code for the Heart of Peoria. The proposed standards will provide more consistency in requirements between the older and newer areas of the City.

History

A drive around the City will reveal neighborhood streets from 22' to 44' wide, with and without curb and gutter, with and without sidewalks, with and without street lights, and with and without right of way trees. Newer infrastructure generally follows the 1972 requirements including 34' wide neighborhood streets with curb and gutter and sidewalks, but does not include street trees or street lights. Storm water regulations were significantly revised in 1997 to require erosion control during construction and storm water management (detention areas).

A primary driver for the revision of our infrastructure standards is failing street pavement in relatively new (less than 10 years old) neighborhoods.

Public Works staff began updating the 1972 standards in 2009 by researching other communities that had comprehensive infrastructure standards, including Bloomington, Normal, and Champaign. A draft proposed Infrastructure Design Standards for Peoria was based on the City of Champaign's requirements. As the City's Comprehensive Plan process unfolded in 2010, Critical Success Factors and Actions Items from the Comprehensive Plan (adopted in April, 2011) were incorporated into the draft standards. An example of one such Action Item was a requirement for street trees. Street trees have not been previously required for newly developed neighborhoods.

Steering Committee Undertakings – 2011 - 2013

A ten member Steering Committee was formed in 2011 including representatives from City Council, the Planning Commission, Community Development, and Public Works. A draft Infrastructure Design Standards Manual was posted to the City website in September 2012, for public review and comment. A significant outreach effort to seek public comment regarding the proposed Standards was held in 2012 and included notices of public meetings to over nineteen groups and organizations including builders, realtors, neighborhood associations, local and state units of government including Commissions and School District 150, local design professionals, and utility companies; and ten public meetings and focus group discussions.

Comments received at the meetings and presentations ranged from enthusiasm for the benefits to concerns with the associated costs. One local developer and the Peoria Area Association of Realtors submitted written comments regarding their concerns with associated costs, which were estimated to add $5,000 to the cost of developing a new single family lot.

A Policy Session was held with the City Council on March 19, 2013, at which the time the topics which received mixed public comment were discussed. These seven topics included Narrower Streets, Pavement Design, Sidewalk Installation, Storm Water, Street Lights, Testing and Inspection and Street Trees.

At the conclusion of the Policy Session, the City Council directed staff to continue to work on individual topics, incorporating public involvement to reach consensus.

For a full detailed report of the policy session, see the March 5, 2013 Memorandum "Infrastructure Design Standards/Manual of Practice - Peoria City Council Policy Session" and the Policy Session Minutes.

Follow Up – 2013

In May 2013, staff held a Street Paving Seminar for interested parties. Professionals for the concrete and asphalt industries discussed pavement construction methods, durability, and cost. The professionals recommended less thickness of pavement than was proposed in the 2012 draft standards. The seminar seemed to be well-received and was well attended.

In September 2013, through the arrangement of Councilwoman Akeson, a Complete Streets seminar and Council presentation was held. The Complete Streets topic interfaces with the many key design issues, such as pavement width, street trees, and pedestrian connectivity.

Currently, Community Development Staff is leading an effort to adopt a Unified Code which will combine and replace current City code including Appendix A – Subdivisions, Appendix B – zoning Ordinance, and Appendix C – Heart of Peoria Land Development Code. This is relevant because currently, there are two different right-of-way and street width requirements in the City's Municipal Code. The Subdivision Ordinance is used for new construction, generally in the Growth Cells or north of War memorial Drive; and the Land Development Code is intended to be

applied to redeveloped streets south of War Memorial Drive. Recommendations to revise Infrastructure Design Standards must be coordinated with the City's efforts to adopt a Unified Code.

Update - 2014 and 2015

Public Works Staff formed a new Steering Committee in late 2014, with representatives from a cross-section of participants with interest in and knowledge of development issues. The Development Standards Stakeholders Group included the following members:

1. Councilwoman Beth Akeson
2. Former Councilman Chuck Weaver
3. Councilwoman Beth Jensen
4. Jeff Kolbus, REMAX Traders Unlimited
5. Allen Cullinan, RA Cullinan
6. Tom Wall, RA Cullinan
7. Steve Worsfold, IDOT
8. Eric Therkildsen, TERRA Engineering
9. Tim Shea, Peoria Builders
10. Cheryl Bluth, Dunlap resident
11. Devin Birch, Austin Engineering Co
12. Jason Haupt, University of Illinois Extension
13. Anthony Corso, i-team Director
14. Ross Black, Community Development Director
15. Josh Naven, Community Development
16. Mike Rogers, Public Works Director
17. Scott Reeise, City Engineer
18. Jane Gerdes, Public Works
19. Karen Dvorsky, Public Works Representative

The Stakeholders Group met eleven times over the period of a year, from November 2014 to November 2015. Additional Staff and the City's Urban Forestry Commission members were invited to attend meetings relevant to their area of interest and expertise. Discussion at the meetings focused on the same seven topics discussed at the March 2013 Policy Session:

- Street Width
- Pavement Design
- Testing and Inspection Requirements
- Sidewalks
- Storm Water Management
- Street Lights
- Street Trees

Based on the discussion and feedback from the Development Standards Stakeholder's Group meetings, Staff will request City Council concurrence to move forward on revisions to the City's code to reflect the following recommendations for each topic, as detailed on the following pages.

Note that the discussions and recommendations of the Stakeholders Group were focused on local residential and residential collector streets typical of new subdivisions; and proposed changes to City requirements will not directly impact the design of higher volume arterial streets serving the wider community. In addition, any changes to proposed standards cannot be

enforced on properties with an annexation or other agreement stating otherwise. Anticipated cost to implement the proposed changes is shown in the table below.

Incremental Initial Cost of Proposed Standards*

	Estimated Cost to Developer	***Estimated Cost to Consumer***
Street Width & Pavement Thickness	$132 (HMA) or $518 (PCC with HMA surface)	
Street Lights	Optional; if installed, $2,700	
Street Trees		$150 or $300 for corner lot
Sidewalk Installation**	$0 or $2060 **	-$2060 or $0 **
Storm water	Varies – see explanation in Storm water section	
Testing & Improvement Inspection	$560	
Total:	**$692 to $5838**	**-$1910 to $300**

**These figures represent additional initial costs of the proposed standards – shown as cost per 75' frontage, R3 zoning lot*

***In theory, there is no additional cost to developing a single family lot since sidewalks are already required in residential subdivisions. However, depending on the timing of when individual lots are sold relative to when sidewalk installation is required, the new standard may result in a shift of cost from the home builder to the developer.*

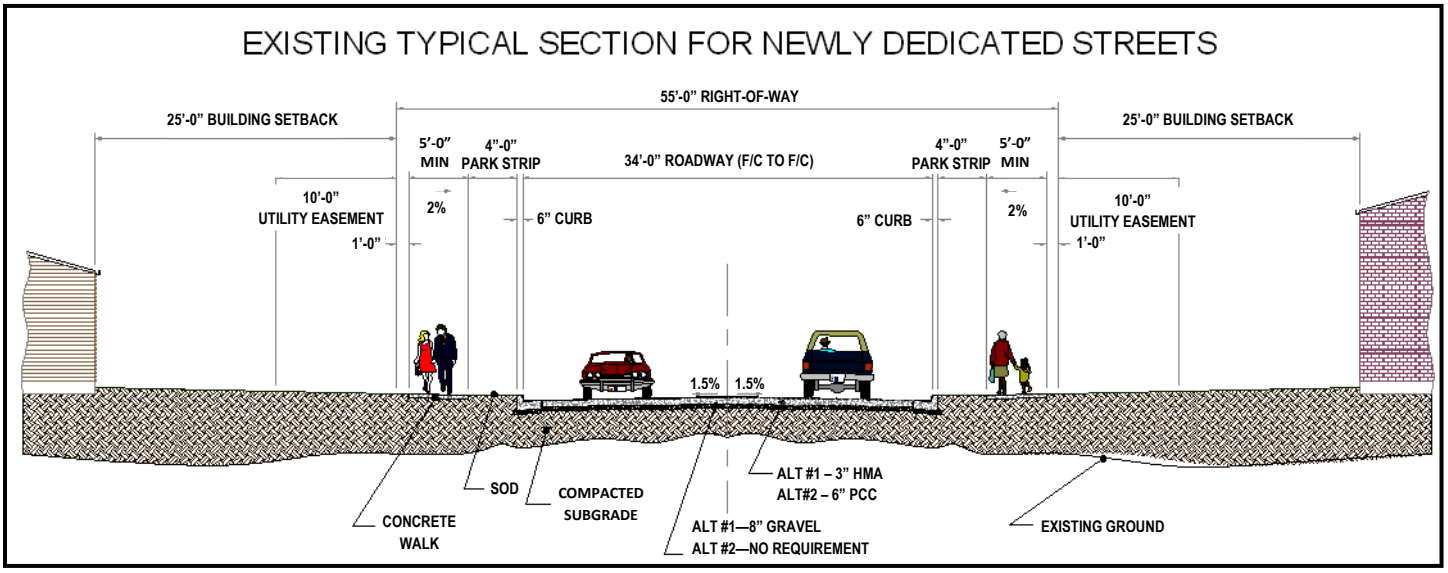
For each of the seven topics, a summary follows describing the existing standards, proposed standards, benefits, cost considerations and peer comparisons. This data is also presented in tabular format in Attachment A.

TOPIC: Street Width (NARROWER STREETS)

The 2014/15 Stakeholder's Group reviewed the research and recommendations from the previous 2012/13 Steering Committee and concurs with the recommendation for narrower streets.

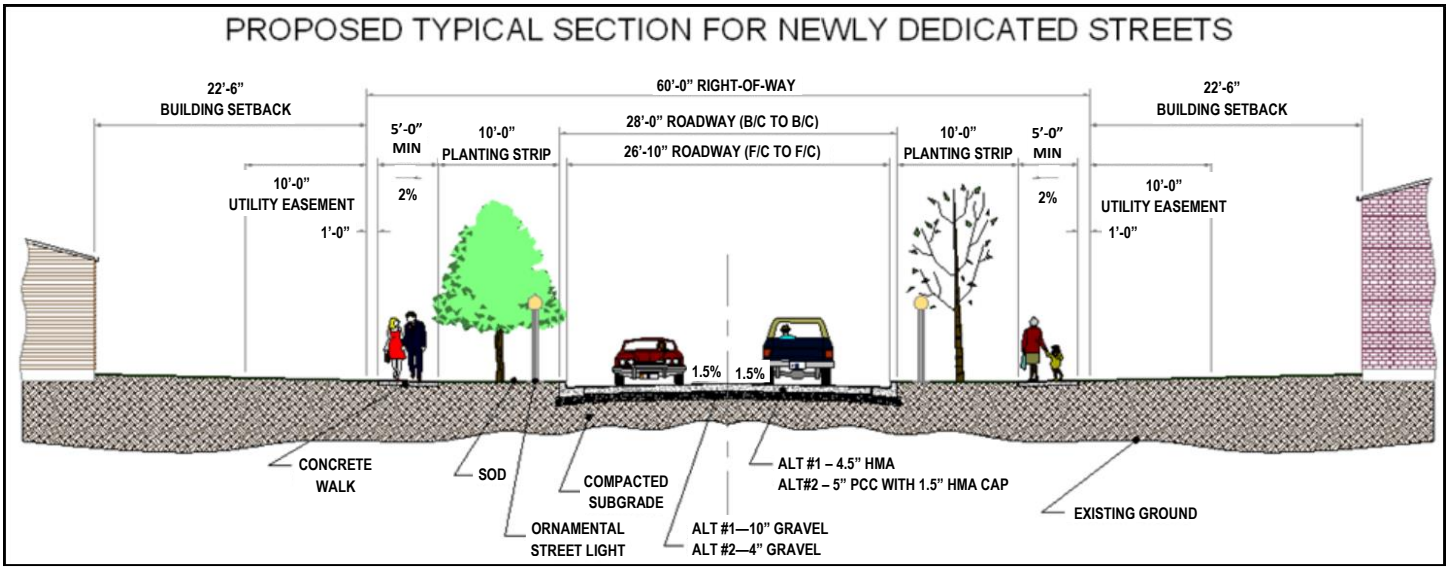
Existing Standards

The current standard for residential street width is 34 feet from face of curb to face of curb.



Proposed Standards

The proposed standard for residential street width is 28 feet from back of curb to back of curb. Narrower or wider sections, including boulevard sections, will be considered and will provide flexibility to the Developer. Approval will be through a waiver process overseen by the Transportation Commission.



Benefits

The benefits of narrower streets are as follows:

- Reduction in impervious cover which reduces the impact on existing and future storm water assets and helps with erosion control.
- Reduction in speed of traffic. Wide neighborhood streets are a strong contributing factor to higher vehicle speeds which increase the frequency and severity of accidents. Air pollution from vehicle emissions is also reduced.
- Savings in cost of paving, clearing and grading, infrastructure, long-term maintenance and storm-water management.
- Narrower streets also contribute to neighborhood livability and provide a pedestrian and bicycle friendly environment which, in turn, supports sustainability
- "Increased" space within the right-of-way to provide a buffer between pedestrian and cars, room for street amenities such as street trees and/or street lights, and room to manage utilities.

Cost Considerations

Refer to the cost information included in the Pavement Design section.

Peer Comparisons (also see Attachment A)

During the 2013 efforts, a comparison of infrastructure standards for Peoria was made to other neighboring municipalities as well as other cities in the Midwest with similar size or character. This information, as updated in 2015, is presented in Attachment A. Regarding pavement width standards, some of our neighboring Tri-County communities have similar requirements to current City standards. Metamora and Pekin require narrower streets at 29 feet and 24 feet, respectively. 'Scorecard Cities' Madison, Dayton, Des Moines and Omaha have narrower street width regulations than the current City requirements.

Comments

The primary driver for recommending narrower streets came from comments received through the Comprehensive Plan development process.

There are no notable concerns from the current Stakeholder's Group in regard to recommending narrower streets. In fact, it was suggested that streets could be even narrower if parking was prohibited. Staff would not object to narrower streets/no parking if the no parking requirements were recorded on the plat; however, this request would need to be evaluated on a case by case basis.

TOPIC – PAVEMENT DESIGN

The 2014/15 Stakeholder's Group reviewed the research and recommendations from the previous 2012/13 Steering Committee. A sub-committee of technical experts including contractors, materials experts, and engineers was formed to evaluate additional options to improve long term pavement performance. **Seven** pavement design options were developed, with an emphasis on better sub-base requirements. These options were evaluated and compared to existing standards in terms of initial cost to construct. The sub-committee chose two cost effective options for further evaluation including long term maintenance costs over the life of the pavement. All options were presented to the Stakeholders Group for consideration and the group concurred with the sub-committee's recommendation to propose **two** alternate pavement design options as the new minimum City standard.

Back Ground - Performance of Existing Streets

A survey was done on about 8 miles of streets that were built in Growth Cell One over the past 10+ years. The pavement condition was rated as Excellent, Good, Fair, or Poor. In the area surveyed, 8% of the streets were rated excellent, 11.8% good, 74.3% fair, and 5.9% of the streets were rated poor. Subsequently, in 2015, an extensive city-wide street condition rating survey was completed based on a Pavement Condition Index (PCI). Results of the study were consistent with previous studies, in particular, it showed that many streets in Growth Cell One have fallen too short of a "good" rating, too early. The pictures below are reflective of pavement conditions noted within Growth Cell One in the past couple of years. Most of the unsatisfactory pavement and pavement failures have been a result of inadequate sub-grade (the dirt beneath the pavement structure).

Patched pavement

Cracked pavement

Failed pavement

Current Standards

Typically, developers opt to utilize the minimums the City will allow in lieu of incurring the cost of a site specific pavement design. Thus, these minimums become the standard in practice. The two most common "designs" utilized in Peoria's subdivisions are shown below, based on design standards as adopted by the City in 1972:

- 3-inch Hot Mix Asphalt (HMA), 8" of gravel base overtop an un-treated sub-grade.

- 6-inch concrete overtop an un-treated sub-grade (*less common*)

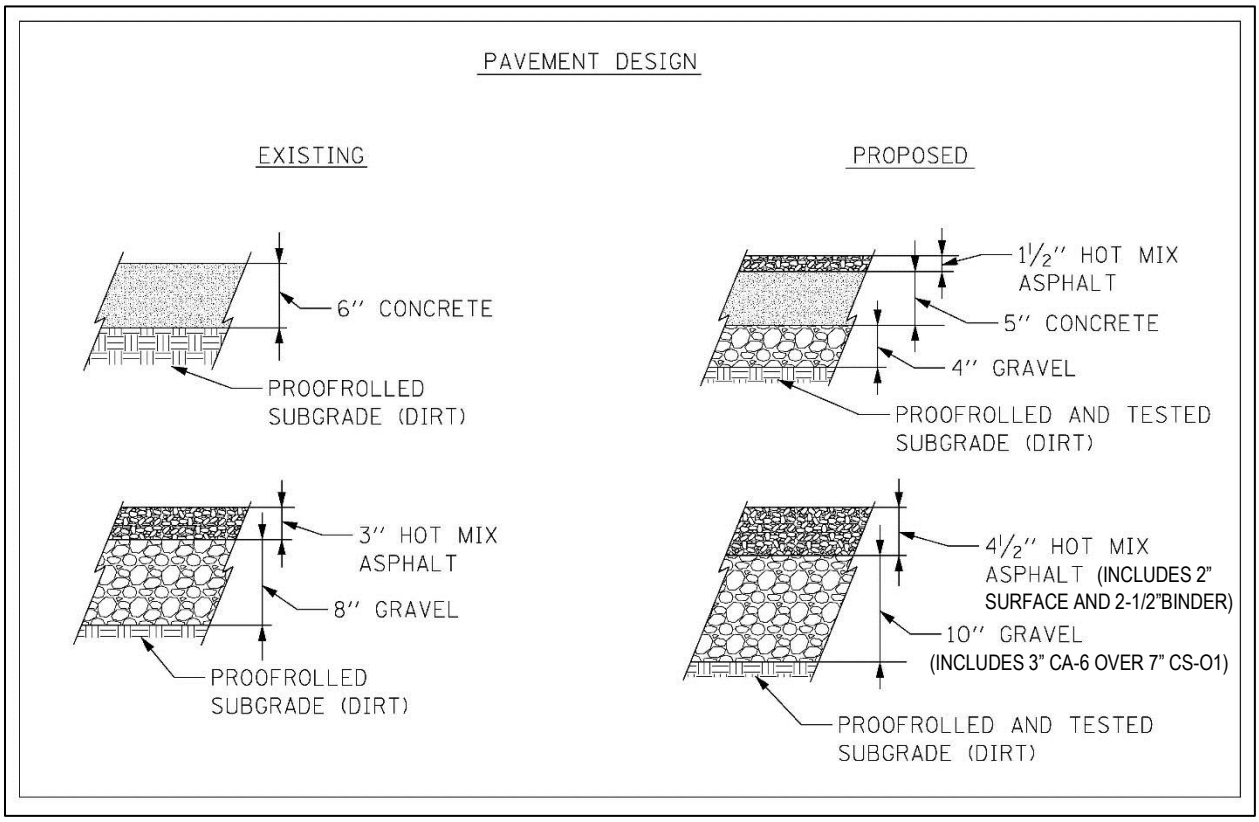
Proposed Standards

The proposed minimum pavement design standards for new subdivisions include one asphalt section and one concrete section as follows:

- 4.5-inch HMA overtop a 10-inch gravel base with a B6.18 C&G
  (4.5" HMA includes 2.0" HMA surface and 2.5" HMA binder; 10" gravel base includes 3" of CA-6 over 7" of CS-01)
- 5-inch Portland Cement Concrete (PCC) with monolithic curb overtop 4-inch CA-6; plus a 1.5-inch HMA surface

The City will entertain other alternative pavement structure with appropriate engineering studies and analysis, as approved by the Director of Public Works. Permeable pavement designs will be welcomed and encouraged, but will require site specific engineering studies to determine appropriate base and drainage layers.

General consensus was to move forward with the two options the sub-committee presented as minimum standards, and a standard width of 28-feet width, back of curb to back of curb (BOC – BOC). Preference is that options for alternative pavement structure and width is built into the revised code.



Benefits

The market expects quality infrastructure as a baseline requirement. It is rarely praised, but it is often cited as a complaint of residents and users of public roadways. Quality streets help maintain a safe environment for vehicles and pedestrians alike. Additionally, studies have shown that better streets result in higher market prices.

In order to adequately maintain its street pavements in "good" condition, both improved construction standards and ongoing maintenance strategies need to be employed:

Cost Considerations

A cost comparison was done for existing standards with a 34' f-f pavement and for the proposed standards with a 28' b-b pavement. Maintenance costs, over a 60-year life were then projected for each pavement type. These costs are based on the premise that you get the highest condition level at the lowest cost through preventive maintenance. By using surface treatments and crack sealing on a regular basis the need for more costly rehabilitation strategies such as mill and overlays or total reconstruction will be delayed, while giving the motoring public much better roads on which to drive.

While the initial cost (to developers) is slightly higher, the overall cost (to citizens) including long term maintenance is lower. These cost comparisons are shown in the following table, presented for one mile of roadway and on a per lot basis, assuming a lot width of 75 feet.

	EXISTING		**PROPOSED**	
	HMA	Concrete	HMA	Composite
	3" asphalt w/ 8" gravel base	6" PCC on subgrade	4.5" HMA w/ 7" CS-01 base with 3" CA-6 Cap	1.5 HMA Surface with 5" PCC Pavement w/ 4" CA-6 (1)
	Per 1000-LF of Road			
Initial Cost	$ 172,290	$ 188,320	$ 175,820	$ 186,110
Maintenance Cost (60 yr life cycle)	$ 550,872	$ 369,750	$ 229,808	$ 227,158
Total	**$ 723,162**	**$ 558,070**	**$ 405,628**	**$ 413,268**
	Per 75' Lot			
Initial Cost	$ 6,461	$ 7,062	$ 6,593	$ 6,979
Maintenance Cost (60 yr life cycle)	$ 20,658	$ 13,866	$ 8,618	$ 8,518
Total	**$ 27,119**	**$ 20,928**	**$ 15,211**	**$ 15,498**
	(1) Initial cost based on pavement constructed with a monolithic curb			

Comments

A concern was brought up that not all contractors are set up to construct monolithic curbs. This would not be a requirement. Curb could be constructed separately from the pavement.

Representatives from the development community indicate that they cannot compete in the market if there are additional requirements placed on them. While this proposed standard would

not necessarily be a deterrent to area developers in terms of cost, it will need to be evaluated in combination with added costs in conjunction with all new standards being proposed.

Others felt that initial costs cannot control (City) decisions to implement new standards. Long term consequences need to be considered.

Another comment was that the City should include a minimum standard for a concrete pavement section (without the HMA overlay). Initial costs of the concrete section would be higher, but the additional cost would be borne by the Developer. However, since maintenance costs over the life of the concrete pavement would be approximately 30% higher than the composite section, staff was not supportive of adding a third standard pavement section.

TOPIC: TESTING AND INSPECTION OF PUBLIC IMPROVEMENTS

The 2014/15 Stakeholder's Group reviewed the research and recommendations from previous 2012/13 Steering Committee and generally concur with the need for increased testing of city infrastructure.

Comprehensive Plan

The Comprehensive Plan repeatedly cites the importance of investing in infrastructure and transportation. Similarly, it emphasizes competitive taxes and fees and supporting sustainability. In response to the Comprehensive Plan, the City of Peoria is proposing modifications to testing and improvement inspection requirements to improve quality control and ensure the longevity of the City's infrastructure.

Benefits

Increased testing and inspection requirements will help reduce premature pavement degradation and/or pavement failure by assuring standards are being met during construction and by assuring that the new pavement is placed upon a suitable sub-base.

Current Standards

Currently, the City requires minimal inspection and material testing of new roads, and storm sewers. Peoria also requires an informal 1-year warranty, with no bond.

It is worth noting that both IAWC and GPSD require full time inspection of their respective utilities, and pass this cost along to the Developer. In contrast, City utilities (storm sewers) and streets are self-inspected by Developers, who hire the design engineer to inspect on a part-time basis and certify to the City that the streets are constructed to standards. The City is currently contracting with Dewberry Architects Inc. to provide limited oversight services.

Compare the inspection of infrastructure to the inspection of buildings: The City inspects buildings that it will not own, yet permits developers to self-certify infrastructure that the City will

own. It seems logical that the City should adopt the process that is used for the sanitary sewers and take over the inspection of infrastructure.

Proposed Standards

Staff proposes to require additional inspection and testing of public infrastructure construction by the City during the installation of improvements.

Proposed inspection requirements include full time inspection for specific tasks including city-owned utilities, trench backfill, roadway sub-base and all pavement structure.

For testing, staff proposes to add a Quality Control / Quality Assurance (QA/QC) requirement per IDOT specifications. This places the burden for 100% of material testing on the Contractor, plus spot checking (about 20% of the tests) by a City representative. This process puts the responsibility on the appropriate parties (contractor and supplier). Compaction testing will also be required for earthwork.

Lastly, it is recommended that the City require materials come from an IDOT certified plant.

Staff recommends assessing a developer fee of $15/LF for City inspection and testing costs. Staff recommends eliminating the warranty requirements.

Cost Considerations

City inspection costs are estimated at $15 per centerline foot (or $560 per 75-foot lot). As a comparison, the cost for sanitary sewer inspections per GPSD requirements ranges from $130 to $1090 per lot. Inspection of streets is expected to be 5% of construction cost, whereas developers have indicated they are currently paying only 2%. The cost for adding a QA/QC should be minimal as most contractors are already doing this as part of all work, so there should not be a cost increase to the Developer for testing the HMA or concrete infrastructure components.

Peoria currently charges forty cents per centerline-foot (or $15 per lot); Morton charges $3 per centerline-foot; while Washington has a per lot fee which includes water and sewer tap fees.

Note that eliminating the warranty requirements will offset some of the additional cost to the developer for increased inspection and testing requirements.

Peer Comparisons (also see Attachment A)

Comparative cities analyzed require varying degrees of frequency and acceptable testing authority, but almost all of them require testing. A third-party observer is typically required to be present during critical periods of the installation process, and to make periodic inspections. The frequency of the inspections can vary with the experience and workmanship of the contractor involved. Generally speaking, it appears that Morton has more inspection and testing requirements than Peoria, while East Peoria and Washington has equal or less stringent requirements.

Comments

Developers expressed concerns over the proposed increased testing and inspection requirements as a part of the total package. They have generally agreed with the importance of street quality, but urged the City to look at the total cost impact of all proposed development standards.

Others felt that initial costs cannot control (City) decisions to implement new standards. Long term consequences need to be considered.

Several options were discussed as to how to assess fees for inspection and testing. Developers indicated a preference for a fixed fee / LF as opposed to being invoiced for the actual cost of inspections and testing, since the former is easier to budget. This is consistent with the staff recommendation of $15/LF.

It was suggested that Peoria should look into partnering with IAWC and GPSD for combined inspection services. Based on initial discussions with these agencies, this would be a challenge to implement. There could potentially be some cost savings if inspection for city utilities is performed by the engineer as opposed to by the City staff or City representative, since the same engineer is likely to be on site for the IAWC required full-time water main inspection.

TOPIC: SIDEWALK INSTALLATION

The 2014/15 Stakeholder's Group reviewed the research and recommendations from previous 2012/13 Steering Committee. Group consensus is that the current standard, which delays sidewalk installation for undeveloped lots and consequently requires homeowners who move in early to wait for completed sidewalks for many years, falls short. However, the Stakeholder's Group did not concur with the recommendation for installing sidewalk in new subdivisions at that time that initial infrastructure is installed. The main concern with upfront installation is that too much damage can occur to sidewalks during construction. Options such as thicker initial sidewalk, or sidewalk protection during construction were discussed and dismissed. The 2014/2015 Stakeholder's Group was in favor of reducing the timeframe and/or percent of occupancy requirements for sidewalk installation.

Comprehensive Plan

"Critical success factors" related to sidewalk installation include "Invest in Our Infrastructure & Transportation," "Reinvest in Neighborhoods," and "Reduce Crime." Specific action items in the Plan include, "require sidewalks," "require connectivity," "adopt complete streets," "enforce accessibility standards," "safe and attractive infrastructure," "plan for more attractive neighborhoods," and "safe streets." These action items are closely correlated to the provision of sidewalks.

Benefits

Sidewalks allow for pedestrian safety, and they promote social interaction and healthier residents, among other positives. In addition, “walkable neighborhoods” have been shown to have higher property values.

Current Standards

In residential subdivisions, each homebuilder installs the sidewalk along the new home’s frontage. The installation of sidewalks in front of undeveloped lots, by the Developer, is not required until two years after the development is 80% occupied. Sidewalk requirements in commercial and redeveloped areas are a “gray area” of the current Code, occasionally requiring Commissions/Council to consider staff recommendation for conditions on a site per site basis. There are no current requirements for sidewalks in industrial zones.

Proposed Standards

The proposed standard is to require the installation of sidewalks in all residential, commercial, and industrial areas. Sidewalk construction within commercial and industrial areas will be required with the initial installation of infrastructure and prior to the occupancy of buildings in redeveloped areas. The proposed standard in new subdivisions is that each homebuilder will be required to install the sidewalk along the new home’s frontage, and installation of sidewalks in front of undeveloped lots will be required within one year after an individual block is 70% occupied.

Cost Considerations

Since sidewalks are already required in residential subdivisions, theoretically, there would be no additional installation cost to developers.

Comments

Installing the sidewalks in advance of home construction could require the developer to “guess” where the driveway will be located along each lot, because sidewalks through driveways must be 6” thick, rather than 4” thick at all other locations.

TOPIC: STORMWATER

The 2014/15 Stakeholder’s Group reviewed the research and recommendations from previous 2012/13 Steering Committee and did not concur with the proposal to adopt the Unified Stormwater Ordinance. There was however general consensus that additional requirements are needed in regard to management flood events.

Comprehensive Plan

The Comprehensive Plan identifies three "critical success factors" which relate to stormwater management: "Invest in Our Infrastructure & Transportation"—with the "Action Item" *Green Infrastructure*; "Grow Employers & Jobs"—with the "Action Item" *Increase Green Development*; and "Support Sustainability"—with the "Action Items" *Protect Streams and Floodways, Regional Stormwater Solutions, Use Permeable Pavement*, and *Preserve & Protect Resources*.

Benefits

The Illinois River is perhaps our greatest natural resource. The river is currently polluted with bacteria, and sedimentation threatens wildlife, recreation, and commerce. The proposed stormwater management standards include both water quantity and water quality requirements, in order to enhance the protection of our environment. Also, from a flooding standpoint, homes would be protected to the same 100-year level of protection as currently adopted and administered under the Flood Insurance Program.

Current Standards

The current standard for storm water management was effective in 1997, requiring detention of the 2 year and 25 year, 24-hour rainfalls. Erosion control during construction is required. This City also requires storm water detention for redeveloped site, even if the amount of impervious (hard) surface is reduced.

Proposed Standards

In addition to our current ordinance requirements, Staff proposes to add requirements for the following:

- Safe conveyance (flood routing) for 100-year storm event
- Storage for the first 1-inch of rainfall from all hard surfaces
- Encourage infiltration techniques to improve water quality and reduce stormwater runoff
- Encourage the use of native vegetation

In recent years, the need for flood conveyance has been evident. With an apparent increase in high-intensity rainfall and long wet seasons, the City has received numerous calls reporting flooded streets, flooded yards, and flooded basements in newly constructed subdivisions.

New storage requirements will have a dual benefit of addressing both water quantity and water quality. The first inch of rainfall will be required to be stored and then soaked into the ground. This is consistent with the City's CSO solution of green infrastructure. Design elements like permeable pavers for driveways and patios, rain gardens, rain barrels and bioswales are measures that would be allowed and encouraged. The City will also encourage multi-functional storm water management systems, for example designs can add aesthetic value while providing the required storm water management.

Erosion control during construction and management of the 2-year and 25-year storm events will still be required, per current requirements.

Cost Considerations

It is difficult to assess a general cost increment per acre of development since stormwater management is dependent on the site characteristics and topography of the land. Meeting stormwater management requirements on very flat sites generally costs more than meeting the same requirements on steeper sites with a defined 'low spot'. There are also a wide variety of design solutions available to meet the proposed storm water standards, which further exaggerates the challenge of assessing an incremental cost.

Current permit review fees are $50/acre with a $250 minimum and $2000 maximum. No additional permit fees are proposed at this time.

No additional inspection fees are proposed at this time (for storm water detention systems).

Comments

The primary concerns staff received were cost increase and disparity with other neighboring communities' requirements.

Others felt that initial costs cannot control (City) decisions to implement new standards. Long term consequences need to be considered.

Some stakeholders recommend that the City should consider taking over long term maintenance of detention systems, in particular the maintenance of vegetation including native plants, which should to be cared for by qualified professionals.

TOPIC: STREET LIGHTS

The 2014/15 Stakeholder's Group reviewed the research and recommendations from previous 2012/13 Steering Committee and **did not** concur with the proposed requirement for street lights in all new subdivisions. Discussion included concerns with added cost burden to Peoria Developers, and possible alternatives including yard lights instead of street lights. It was also discussed that street lighting may not be appropriate for all subdivisions, for example lower density, rural or estate type areas. Generally, it was determined that when desired, a combination of street and pedestrian scale lighting will have the most benefit.

Comprehensive Plan

The Comprehensive Plan identifies three "critical success factors" which relate to the provision of street lights. "Invest in Our Infrastructure & Transportation", "Reinvest in Neighborhoods", and "Reduce Crime" are all objectives outlined in the Plan. Specific action items in the Plan include "street and alley lighting", "safe and attractive infrastructure", and "safe streets".

Benefits

Studies have shown a connection between street lighting and reduction in crime. It is difficult to quantify the exact effect of additional lighting; however, it is clear that additional lighting increases neighbors' perception of safety. Studies show that neighbors who feel safer are more likely to spend time outside, and that added presence monitoring the streets adds additional safety. According to the Pacific Institute, improved lighting also allows safer operation of vehicles at night, reduces accidents, and assists in traffic flow.

Current Standards

Currently, the City of Peoria does not require street lights for new residential subdivisions. Exterior yard lighting can be required by homeowners' associations; however, it is not mandated by the City. Maintenance of the yard lights is the responsibility of the individual homeowners.

Proposed Standards

The proposed standard is approximately one, pedestrian scale street light every three (3) lots on both sides of a residential street. Street lights will not be required for all new residential subdivisions, but when installed, installation meeting new standards will be by the Developer and maintenance will be by the City. Subdivisions constructed after the new standard is in place will not be eligible for any type of cost-share assistance for retrofitting street and/or pedestrian scale lights.

The proposed street lights for residential streets would be similar to the street lights installed in the Lynnhurst Subdivision in Peoria, which recently voted as a neighborhood to install street lights as part of the City's Special Assessment process. Another recent example of neighborhood lighting is Forrest Hill, from Sheridan Road to Knoxville Avenue.

Cost Considerations

The installation of one pole every three lots would come at an estimated initial cost of $2,700/lot. Although the City does not track costs for streetlight maintenance separately, the post-installation maintenance/bulb changing/energy costs are expected to be minimal, in that the City currently maintains thousands of streetlights.

Peer Comparisons

See attachment A

Comments

We have received concerns from developers about the initial cost of streetlight installation and the future maintenance costs to the City. The concerns were related to increased cost to developers and the ability of the City of Peoria to compete with surrounding communities for

homeowners. Since streetlights installation has a relatively high cost to developers, staff recommends making street lights optional.

Home buyers need to be aware that if the Developer opts out of installing street lights initially, then the City will not participate in cost to install street lights at a later date. It was suggested to partner with the Peoria Area Association of Realtors and the Home Builders Association of Greater Peoria to disseminate this information.

Concerns were expressed by utility representatives that street lights within the right of way are not desirable because it adds additional burden for long-term maintenance of underground utilities.

TOPIC: STREET TREES

The 2014/15 Stakeholder's Group, the City's Urban Forestry Commission and a represented from IAWC reviewed the research and recommendations from previous 2012/13 Steering Committee. Developers raised concerns regarding the cost of trees and the long term maintenance costs to the City. Another concern is with the timing of tree planting with consideration of home construction and initial watering requirements. Yard trees versus street (parkway) trees was discussed, but general consensus was that with yard trees, the benefits of street trees are lost considering in that there would be no street canopy, no 'wall' to slow traffic and no separation for pedestrians and vehicles. In addition, the City would lose control over the maintenance and long term sustainability of the trees. The proposed recommendation is to require street trees, but implementation will be by the City as opposed to by the Developer or Home Owner.

Comprehensive Plan

The Comprehensive Plan adopted goals to provide attractive public spaces, design for pedestrians, and promote safety. Street trees were one of the features that the public strongly encouraged, and requiring street trees was an action item in the plan.

Benefits

The benefits of trees are numerous and include:

- Barrier between pedestrians and vehicles
- Traffic Calming
- Combat greenhouse effect
- Clean the air
- Provide oxygen
- Conserve energy
- Save water
- Reduce runoff (absorption and evaporation)
- Improve water quality
- Provide visual screening
- Increase property value

Current Standards

The City of Peoria does not require street trees in new developments, and the narrow 4' parkways prevent trees from being planted later.

Proposed Standards

The proposed standard is a 10' wide parkway (area between the curb and sidewalk) with trees at a maximum 60' spacing with at least one tree per lot and at least two trees per corner lot. The Developer or the Homeowner will be charged a fee, and the City will responsible for planting trees as homes are built and as sidewalks are installed on vacant lots (see proposed Sidewalk Standards). City staff will coordinate tree placement with other infrastructure elements such as driveways, utilities, light poles (if applicable), etc.

Cost Considerations

The cost for the City to install a new tree is estimated at $150 each. Staff was assisted by Davey Resource Group, a tree industry leader, to help estimate long term maintenance costs. They prepared a scenario which included 50 large, 35 medium, and 25 small trees. Based on a 40 year scenario they estimated the annual maintenance cost for trees to be $21 per tree per year. This included costs for replanting, pruning, removals, pest and disease control, infrastructure repair, cleanup, irrigation, liability, legal and administrative costs.

Peer Comparisons

See Attachment A.

Comments

Concerns were expressed by utility representatives that trees within the right of way are not desirable because it adds additional burden for long-term maintenance of underground utilities.

Advantages to the City managing the street tree installation include ability to layout and select specimens/species on a larger scale (by block versus by lot), flexibility to plant trees at the appropriate time of year, and control to ensure quality installation by trained staff and/or a qualified professional.

An internal standard needs to be developed to address planting installation requirements and species/specimen options.

The City could consider offering the home building a more expensive tree or additional specimen/species options for an "upcharge."

ATTACHMENT A

Peer Community Comparison

Based on readily available information – refer to narratives for design standard details. Created in 2013; updated in 2015.

Design Standard	Peoria (existing)	Peoria (proposed)	Morton	Washington	Metamora	Pekin	Des Moines	Madison	Omaha	Scottsdale
Street Width	34' FOC - FOC	28' BOC - BOC	34'	34'	29'	24'	32'	32'	25'	
Pavement Thickness (surface, base)	6",0" PCC* 3",8" HMA*	5",4" + 1.5" HMA 4.5",10"	7",0" 3",9"	6",4" 3",8"	6",0" 2.5",10"	6",0" 3",8"		3.5",10"	7",0"	
Street Lights	No	Optional	Yes	Yes	Sometimes	Yes		Yes	Yes	Yes
Street Trees	No	Yes, installed by City Staff	No	No	No	Sometimes	Yes	Yes	Yes	Yes
Stormwater	See narrative	See narrative	Similar to Peoria existing	Similar to Peoria existing	Less stringent than Peoria	Similar to Peoria existing	Similar to Peoria proposed	Similar to Peoria proposed	Similar to Peoria proposed	Similar to Peoria proposed
Sidewalk Installation	2 years after 80% occupancy	1 year after 70% occupancy per block	75% occupancy or 3 years	2 years				18 months	3 yrs	First bldg. permit
Improvement Testing	Limited	Yes	Yes	Yes	Yes	Yes		Yes		
Improvement Inspection	Certify by Developer's Engineer; limited City oversight	See narrative	Dev.'s Engr plus more City oversight	Dev.'s Engr with limited City oversight	No	No	No	No		
Warranty / Guarantee	Informal 1-year; no bond	No, with improved testing	2-year w/ 20% bond	Informal, uses surety						
Inspection Fees	$0.40 per centerline foot	$15 per centerline foot	$3.00 per centerline foot	Per lot fee, includes utilities						

*PCC = thickness of concrete pavement, thickness of gravel base;

* HMA = thickness of hot-mix asphalt pavement, thickness of gravel base