Pavement Management Report

City of West University Place, Texas

March 25, 2022

Terracon Project No. 92215152

Prepared for:

City of West University Place
3826 Amherst Street
West University Place, TX 77005

Prepared by:

Terracon Consultants, Inc.
Houston, Texas

11555 Clay Road, Suite 100
Houston, TX 77043
P (713) 690-8989
F (713) 690-8787
Terracon.com

March 25, 2022

City of West University Place
3826 Amherst Street
West University Place, TX 77005

Attn: Mr. Danny Cameron
Assistant Public Works Director

Re: Pavement Management Report
City of West University Place, Texas
Terracon Project No. 92215152

Dear Mr. Cameron:

Terracon Consultants, Inc. (Terracon) has conducted pavement engineering evaluations and prepared a pavement management workplan for the City of West University Place. This work was completed in general accordance with our Proposal No. P92215152 dated September 30, 2021.

The purpose of this project was to evaluate the pavement condition and develop the Pavement Condition Index (PCI) for the City streets and to provide recommendations for maintenance and rehabilitation at a network level. The results of our study, including our engineering evaluation of current pavement condition, recommendations for maintenance and rehabilitation of the pavements developed for the City, and other pavement information for the project are included in the attached Pavement Management Report. The report presents certain recommendations, strategies and budgets that may need alteration to fit the unique needs and requirements of the City. Accordingly, we are prepared to assist you in the selection of the final strategies for implementation during future planning and during the project phase of your maintenance and repair program. We are also available to provide supplemental consulting services to the City as recommended in this report.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants, Inc.

Sheue Torng Lee, P.E.
Senior Staff Engineer

Daniel A. Mofor, P.E.
Senior Project Manager

Donald R. Clark, P.E.
Senior Principal/Senior Consultant

Attachment: Management Plan Workbook

03/23/22

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PAVEMENT MANAGEMENT REPORT
CITY OF WEST UNIVERSITY PLACE, TEXAS
Terracon Project No. 92215152
March 25, 2022

INTRODUCTION

Terracon Consultants, Inc. (Terracon) has conducted pavement engineering evaluations and prepared a pavement management workplan for the City of West University Place, Texas. This work was completed in general accordance with our Proposal No. P92215152 dated September 30, 2021. This report is comprised of the following components:

- A summary containing an assessment of the current portland cement concrete (PCC) pavement condition with recommended maintenance and rehabilitation activities developed for the City; and,

- Estimates or probable costs for repairs at both network level and project level that can serve as guidance to the City for future planning and financing of the recommended maintenance and rehabilitation activities.

Exhibit A-3 in Appendix A shows the 2021 Pavement Condition Index (PCI) map generated as a result of the network level pavement condition evaluation conducted by Terracon.

Exhibit A-4 in Appendix A shows the 2023 Pavement Condition Index (PCI) of all the street segments along with the project PCI for the next 7 years.

MANAGEMENT LEVELS

The management of pavements as recommended in this report occurs at both Network Level and Project Level. Each of these levels is discussed in the following paragraphs.

Network Level Management: In network level management, the current and future requirements for the entire pavement system owned by the City were generated considering the needs within the entire pavement network. The most important requirement in analyzing network needs is to project the future condition of the pavements.

Projections of future condition provide the information needed to perform two tasks which include:

- Scheduling inspections and identifying candidate project level pavement areas; and,

- Identifying pavement sections that will require maintenance and rehabilitation in current and future years so that estimated budgets for expenditures can be established.

At the network level, forecasted budget requirements included in this report should be compared with the actual amount of money which can be allocated for pavement maintenance and rehabilitation. Based upon this comparison, coupled with projected pavement condition, priorities can be established for the entire pavement network owned by the City.

Project Level Management: At project level management, the pavement should be subjected to a detailed condition survey to develop quantities, final plans and specifications for the maintenance and rehabilitation work in any particular program year. At that time specific areas should be identified, along with actual quantities so that final repair plans can be created, and cost estimates developed to complete the work. The results of project level inspection of the pavement, combined with any budget and/or management constraints, produce the final maintenance and rehabilitation project list for any particular program year. Analysis of benefits associated with each feasible maintenance and rehabilitation strategy ensure maximum return on investment.

Benefits: Continuation of the management system initiated as a result of this evaluation will benefit the City in several ways. With an objective, consistent method of evaluating pavement condition, maintenance and rehabilitation needs and priorities can be determined on a systematic, documentable engineering basis. Necessary budget requirements can be identified for maintaining pavements at various condition levels, and the effects of delaying repairs on pavement condition can be shown and analyzed.

Database Management: To manage all field data, construction history, and pavement information for this project, a computer driven database was established for the entire pavement network within the City. The data were processed using MicroPAVER™, a computerized pavement management program developed by the U.S. Army Corps of Engineers in conjunction with the American Public Works

Association. Currently, the computerized database for this pavement network is being maintained at Terracon Consultants, Inc.

PROJECT INFORMATION

General Information: The City of West University Place currently owns and maintains approximately 50 centerline miles of streets under their jurisdiction. The inventory shown in **Exhibit A-4** totals 268,148 lineal feet of streets.

The majority of the streets within the City are classified as residential and consist of two lanes with the exceptions of Buffalo Speedway and Bissonnet Street. There are two commercial areas within the City along West University Marketplace and West University Towne Center. The City provided the street inventory for use by Terracon in the evaluation and further classified the streets as minor or major.

Existing Pavement: The primary type of pavement on all existing streets consists of portland cement concrete (PCC). There are a few asphalt concrete pavements under City jurisdiction, which have been planned for improvements in the near future. There is a brick paver pavement, Rutgers Place, which was not inspected as part of our work. Although coring or testing was not conducted as a part of this evaluation, available information in the form of as-built plans provided by City indicates that the primary pavement structure usually consists of 6 to 8 inches of PCC pavement.

Pavement History: According to the information provided by City, the pavements were generally constructed between 1999 and 2005. We understand there has been limited maintenance and rehabilitation work completed thus far within the City. However, the following streets are being planned by the City for drainage and street improvements in the next few years. See **Exhibit A-2** for citywide street and drainage improvements map provided by the City. For purposes of this evaluation, these streets were not inspected as part of our work and were assigned a PCI rating of 100 in our evaluation for future years.

Network Analysis: For purposes of this evaluation, all pavements on the project were subdivided into management units including branches, sections, and samples.

- **Branch**: A branch is defined as any identifiable part of the pavement network which is a single entity and has a distinct function or specific management objective. This project has been divided into 12 branches. The branches used in our inventory matched the priority areas as defined by the City and were

numbered as Branches 1 through 12. Branches used in the analysis are included in Column A in Table 1 of the attached workbook.

- **Section**: A section is a segment of a branch that may be unique because of its construction history, pavement structure, pavement use, pavement condition, or location. For this project each individual street was considered as a unique pavement section. The City provided further distinction for minor and major sections. The minor or major sub-section designations are shown on Column B in Table 1 of the attached workbook. Section names are included in Column D of Table 1 in the attached workbook and are shown on Exhibits 4 through 7 attached.

- **Sample Unit**: A sample unit is defined as any easily identified, convenient area of a pavement section which is designated only for the purpose of pavement inspection, distress survey and determination of network or project level pavement condition. Typically, at a network level, only a portion of sample units are inspected for determination of the initial PCI. For PCC pavements a sample unit is defined as 20 slabs, plus or minus 8 slabs. However, for this evaluation, Terracon inspected all existing PCC slabs in each pavement section, essentially constituting a Project Level Inspection.

Branch Listing and Pavement Inventory: For future pavement management, each branch and section (sample unit) was numbered according to the City and meeting the above criteria. Designations for each pavement section are provided on in the tables and exhibits listed and included with this report. Pavement areas were determined for each section on the basis of information provided by the City.

Section designations and the area representing the pavement inventory are listed on Table 1. Total pavement area included in the inventory for the City is approximately 6.96M square feet.

PAVEMENT CONDITION SURVEY

Engineering observations of the existing pavements were conducted by Terracon personnel within the City in December 2021. The visual distress survey and identification of pavement distress was completed in general accordance with applicable portions of the *Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys*, ASTM D-6433. **See Exhibit A-3** for the PCI map. The PCI

is used to measure pavement condition on a scale of 0 to 100, with 100 being a perfect roadway with no distress.

The distress survey of the pavements within the City were conducted at essentially a Project Level of pavement management consistent with the ASTM standard. At a Project Level 100% of all the slabs in the PCC pavements were inspected.

Consistent with the ASTM standard, the inspections were made to determine the type, quantity and severity of distress in the pavements. Based on the pavement inspections, a total of 14 individual types of distress of low to high severity levels were observed in the pavements. The typical distresses observed on the City streets grouped by two major distress categories are summarized in **Table 1** below:

Table 1
Distress Categories & Distress Types

Category I	Category II
Structural Distress	**Climate/Durability Distress**
Corner Break	Joint Seal Damage
Divided Slab	Linear Cracking (Longitudinal, Transverse, and Diagonal Cracks)
Faulting	Scaling, Map Cracking, and Crazing
Patching, Large and Utility Cuts	Shrinkage Cracks
Patching, Small and Utility Cuts	Spalling, Corner
Polished Aggregate	
Popouts	Spalling, Joint
Punchout	

Structural distress is considered the most detrimental to pavement condition and when present, will shorten pavement life when preventative maintenance or rehabilitation measures are not undertaken on a timely basis. Climate/durability related distress usually contributes to deterioration in pavement serviceability. While less detrimental than structural distress, maintenance measures are usually employed for climate/durability distress to maintain safe pavement conditions.

Descriptions of the distresses that have occurred in the pavement are as follows, as obtained from the PAVER™ software:

- **Corner Break**: A corner break is a crack that intersects the joints at a distance less than or equal to half the slab length on both sides, measured from the corner of the slab. A corner break differs from a corner spall in that the crack extends vertically through the entire slab thickness, whereas a corner spall intersects the joint at an angle. Load repetition combined with loss of support and curling stresses usually cause corner breaks.

- **Divided Slab**: This distress is characterized by a slab that is divided by cracks into four or more pieces. Divided slab is usually the result of overloading and/or inadequate support.

- **Faulting**: Faulting is the difference in elevation across a joint. Some common causes of faulting are:
    1. Settlement because of a soft foundation.
    2. Pumping or eroding of material from under the slab.
    3. Curling of the slab edges due to temperature and moisture changes.

- **Patching, Large, and Utility Cuts:** A patch is an area where the original pavement has been removed and replaced by filler material. A utility cut is a patch that has replaced the original pavement to allow the installation or maintenance of underground utilities.

- **Patching, Small and Utility Cuts:** A patch is an area where the original pavement has been removed and replaced by filler material.

- **Polished Aggregate:** This distress is caused by repeated traffic applications. Polished aggregate is present when close examination of a pavement reveals that the portion of aggregate extending above the pavement is either very small, or there are no rough or angular aggregate particles to provide good skid resistance.

- **Popouts**: A popout is a small piece of pavement that breaks loose from the surface due to freeze-thaw action, combined with expansive aggregates. Popouts usually range in diameter from approximately 1 to 4 in. and in depth from 1/2 to 2 in.

- **Punchout**: This distress is a localized area of the slab that is broken into pieces. The punchout can take many different shapes and forms, but it is usually defined by a crack and a joint. This distress is caused by heavy repeated loads, inadequate slab thickness, loss of foundation support, and/or a localized concrete construction deficiency (e.g. honeycombing).

- **Joint Seal Damage**: Joint seal damage is any condition that enables soil or rocks to accumulate in the joints or allows significant water infiltration. Accumulation of incompressible materials prevents the slab from expanding and may result in buckling, shattering, or spalling. Typical types of joint seal damage are:
    1. Stripping of joint sealant.
    2. Extrusion of joint sealant.
    3. Weed growth.
    4. Hardening of the filler (oxidation).
    5. Loss of bond to the slab edges.
    6. Lack or absence of sealant in the joint.

- **Linear Cracking (Longitudinal, Transverse, and Diagonal Cracks)**: These cracks divide the slab into two or three pieces and are usually caused by a combination of repeated traffic loading, thermal gradient curling, and repeated moisture loading.

- **Scaling, Map Cracking, and Crazing**: Map cracking or crazing refers to a network of shallow, fine, or hairline cracks that extend only through the upper surface of the concrete. The cracks tend to intersect at angles of 120 degrees. Map cracking or crazing is usually caused by concrete over-finishing, and may lead to surface scaling, which is the breakdown of the slab surface to a depth of approximately 1/4 to 1/2 in. Scaling may also be caused by deicing salts, improper construction, freeze-thaw cycles, and poor aggregate.

- **Shrinkage Cracks**: Shrinkage cracks are hairline cracks that are usually less than 6.6 ft long and do not extend across the entire slab. They are formed during the setting and curing of the concrete and usually do not extend through the depth of the slab.

- **Spalling, Corner**: Corner spalling is the breakdown of the slab within approximately 1-1/2 ft of the corner. A corner spall differs from a corner break in that the spall usually angles downward to intersect the joint, whereas a break extends vertically through the slab comer.

- **Spalling, Joint**: Joint spalling is the breakdown of the slab edges within 1-1/2 ft of the joint. A joint spall usually does not extend vertically through the slab, but intersects the joint at an angle. Spalling results from:
    1. Excessive stresses at the joint caused by traffic loading or by infiltration of incompressible materials.

2. Weak concrete at the joint caused by overworking.
3. Water accumulation in the joint and freeze-thaw action.

Selected site photographs, documenting typical pavement distress, are included in Appendix B.

2021 PCI SUMMARY

Pavement Condition Indexing: PAVER™, which is an asset management software, was used to record and determine the PCI and the condition of the roadways. The software calculates PCI based on the distress type, distress severity, and quantity of slabs with distress. Distress severity is categorized into low, medium, and high. The PCI is calculated on the basis of deducting certain values based on the type, amount and severity of distress within a pavement sample. Theoretically, a newly constructed pavement, or one which has been recently rehabilitated to restore structural integrity, has a Pavement Condition Index of 100. Pavements with some level of distress have a PCI less than 100.

Exhibit A-3 shows a map of the Pavement Condition rating of each street based on the 2021 pavement condition inspections. The weighted average PCI of the streets, in terms of length, is 78. The majority of the streets at the time of inspection are in considered to be in a Satisfactory condition. **Table 2** below provides an overall summary of the 2021 PCI of the entire pavement network within the City.

Table 2
2021 PCI Summary

Condition Category	PCI Range	Length (mile)	Percent of Road Network
Good	86 - 100	5.7	13.9
Satisfactory	71 - 85	29.8	73.2
Fair	56 - 70	5.1	12.4
Poor	41 - 55	0.1	0.3
Very Poor	26 - 40	0.0	0.0
Serious	11 - 25	0.1	0.2
Failed	0 - 10	0.0	0.0

Projected Future Pavement Condition: The most important element in utilization of a consistent pavement management system is the prediction of future pavement

condition. Such information is necessary to plan for future maintenance and rehabilitation needs of the pavement, and to anticipate future required expenditures and budget requirements.

Projected pavement condition is usually based upon the past performance of the pavement and follows a predictable deterioration curve. The rate of deterioration of any given pavement is based upon the age of the structure, the type, quantity and severity of existing distress, and the history of previous maintenance and rehabilitation undertaken. As the history of the pavement is better defined, the more accurate the prediction of future pavement condition. Planned and periodic observations of pavement condition also aid to define the predicted deterioration rate.

For this project, future Pavement Condition Indices were predicted on the basis of the standard default curve for PCC pavements included in the PAVER software. Certain assumptions are associated with the using the standard curves including:

- The assumption that the last maintenance returned the pavement to a PCI of 100;
- The current PCI based upon observation of sample units made for this evaluation; and,
- Assuming no maintenance or rehabilitation being undertaken in the future.

Although the assumption of no future maintenance or rehabilitation is unlikely to occur, PCIs calculated under this assumption reflect the level of deterioration in the pavement and show the effect of delaying planned maintenance and rehabilitation.

The results of the calculated predictions are included in **Exhibit A-4** for Program Years 2023 through 2030. The predicted PCIs should not be considered in absolute terms since the actual pavement condition can be affected by a variety of factors over time. Rather, the PCI's should be used to plan various maintenance and rehabilitation strategies to prolong pavement life; to maintain consistent or improve on pavement condition; and to project future budgetary requirements for all pavements within the City.

By examining the predicted pavement condition indexes in Table 2, it can be seen that pavements that are in poor or very poor condition at the present time will be in very poor to failed condition within the next eight years if no pavement maintenance

program is implemented. Pavements that are fair condition now will deteriorate to poor condition within the eight-year period that was examined.

MAINTENANCE AND REHABILITATION (M & R) STRATEGIES

Generally, PCC pavements are designed for a 30-year life. However, to achieve a 30-year design life, the design procedures for new pavements assume that the pavements will be maintained over the entire design life in some manner. To maintain pavements at various levels of serviceability, an annual and long-range work plan must be established and maintained at both the network and project level of pavement management. Program elements in the recommended work plans for pavements within the City include:

- Annual Recurring Requirements; and,
- Program Year Projects.

A Critical PCI (CPCI) must be established for the pavements within the City before pavement maintenance and rehabilitation needs and costs can be determined. The CPCI is defined as the PCI value below which the pavement shows a significant increase in the rate of deterioration and preventive maintenance cost. The Critical PCI is usually between 55 and 70. For this project, and based on City expectations, a PCI of 70 was selected for consideration in future planning for all pavement within the City. Theoretically, by implementing a preventative maintenance plan, the life of the pavement can be extended.

Preventative Maintenance: Preventative maintenance activities are intended to slow the rate of pavement deterioration and preserve the pavement investment. Preventative maintenance consists of localized maintenance (e.g. joint repair and curb replacement). Preventative maintenance is usually the **first priority** when implementing a planned pavement maintenance program and provides the highest return on investment. Preventative maintenance is usually undertaken on pavements where the Pavement Condition Index is above the Critical PCI, where pavement condition rating is in the good to excellent categories.

Program Year Projects: Program year projects include all pavement sections at, or below the Critical PCI in any program year, and those pavements above the Critical PCI that are beginning to show structural distress. Pending budget constraints, treatment of all program year projects with cost effective maintenance or rehabilitation strategies would be desirable. Since budgets are usually limited, it is

important to prioritize program year pavements to insure the highest return on investment, and to meet unique managerial constraints and preferences.

Third priority should be given to pavements above the Critical PCI that exhibit structural distress. Although such sections are beginning to deteriorate rapidly, proper condition can be restored and the deterioration arrested at relatively low cost if maintenance or rehabilitation activities are undertaken in a timely manner.

Maintenance Policies: The following summarizes the maintenance policy that was established for this project in consultation with the City.

- No action would be needed on PCC pavements that are in Good category.

- For pavements that are currently in the Fair category, deferred maintenance (e.g. isolated concrete replacement and slab re-leveling) is recommended. Deferred maintenance is effective when it's performed on candidate pavements, where the distresses are observed on a few panels and the remainder of the panels do not have extensive medium to high severity structural distresses.

- For pavements that have fallen below the Fair category, some form of rehabilitation of the pavement such as reconstruction is recommended. At this point, maintenance of pavements that have fallen below the Fair category is not considered to be a viable option since maintenance would not restore the pavement integrity. These pavements have aged and have generally lost structural capacity.

- Without funding or budget constraints it would be ideal to undertake the recommended rehabilitation of all pavements on the project at the same time. However, in a best first scenario, if budgets require the implementation of a phased program over a period of years, priority should be given to maintaining the pavements that are currently considered a Satisfactory or above rating, specifically with those with higher PCI.

Table 3 below, summarizes the M & R strategy developed based on the discussion with the City. Various M & R needs could be categorized into three Capital Expenditure (CAPEX) categories. The M & R strategy has been used for analysis and budget scenario formulations at a project level. The unit pricing associated with each M & R activity has been provided by the City and an annual inflation rate of 5% has been applied.

Table 3 Maintenance and Rehabilitation Protocols				
Condition Rating	**PCI Range**	**Category**	**CAPEX**	**Budget Year(s)**
Good	86 - 100	3	No Action Needed	Current (Year 0)
Satisfactory	71 - 85		Preventative Maintenance[1]	
Fair	56 - 70	2	Deferred Maintenance[2]	4 - 7
Poor	41 - 55	1	Immediate Action[3]	1 - 3
Very Poor	26 - 40			
Serious	11 - 25			
Failed	0 - 10			

[1] Joint repair and curb replacement
[2] Isolated concrete panel replacement and slab re-leveling
[3] Total reconstruction

The following inspection schedule is recommended to monitor the condition of the pavements and update the estimated annual budget.

1. PCI is greater than 70 then, Network level inspection every 3 years
2. PCI is less than and equal to 70 then, Project level inspection prior to any M & R
3. Network level inspection follows a Project level inspection the next year provided deferred maintenance is performed on the street
4. No Network level inspection the year after reconstruction

Based on the established M & R strategies outlined above and the current and predicted future PCIs of all streets, an eight-year work plan has been established for consideration by the City as shown in **Exhibit A-6**. Additional pavement evaluation such as geotechnical engineering evaluations and pavement forensics may be needed to obtain information on the pavement structure and subgrade soils for the streets to develop project level plans.

Based on the recommend inspection schedule and frequency outlined above and consistent with the work plan, the recommend schedule of pavement inspections to maintain the pavement management system is shown in **Exhibit A-5**.

ESTIMATED COSTS FOR M & R

Annual projected budget requirements for this project have been developed for consideration of the City based on:

- The M & R strategies outlined in **Table 3** above;
- The current PCIs determined from the inspection performed citywide in December 2021;
- The predicted future PCIs of the streets as previously discussed;
- The recommendations contained in the work plan included in **Exhibit A-6**;
- Unit costs for the various M & R work provided by the City;
- Future unit costs based on an annual inflation rate of 5%; and,
- The estimated costs calculated for Years 4 to 7 are based on the assumptions that 10 percent of the panels have deteriorated e.g. low severity distresses have degraded into medium severity distresses.

Based on the Work Plan included in **Exhibit A-6**, and the application of the M & R policy established, estimated costs of repairs have been developed for each of the sections within the City network and are shown individually on **Exhibit A-7**. **Table 4** below summarizes the projected annual budget requirements based on all previous factors discussed and outlined in this report.

Table 4
Projected Annual Budget Requirements

Year	M & R Activity	Estimated Costs[3]
2023	Preventative Maintenance (Joint Repair and/or Curb Replacement)[1]	$376,000
2024	Immediate Action (Total Reconstruction)[2]	$689,000
2025		$1,007,000
2026		$1,076,000
2027	Deferred Maintenance (Isolated Panel Replacement and/or Slab Re-Leveling)[1]	$818,000
2028		$782,000
2029		$935,000
2030		$846,000

[1] Estimated annual budget includes one mobilization per priority area and per M & R activity.
[2] Estimated annual budget includes one mobilization per site.
[3] Costs are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Since Terracon has no control over the cost of labor, materials, equipment or services furnished by a potential contractor, a contractor's method of determining prices, or over competitive bidding or market conditions, the estimated costs provided in this report have been made on the basis of our experience and represents our best judgement as an experienced and qualified professional engineer, familiar with the construction industry. The estimated unit costs should be considered for preliminary budgeting purposes only. Terracon cannot and does not guarantee that proposal, bids or actual project or construction cost will not vary from the estimated values provided in this report. If the City requires greater assurance as to project or construction cost before undertaking this work, or for budgeting purposes, a detailed quantity survey should be undertaken along with the development of detailed plans and specifications, and the services of and independent construction cost estimator are recommended.

GENERAL COMMENTS

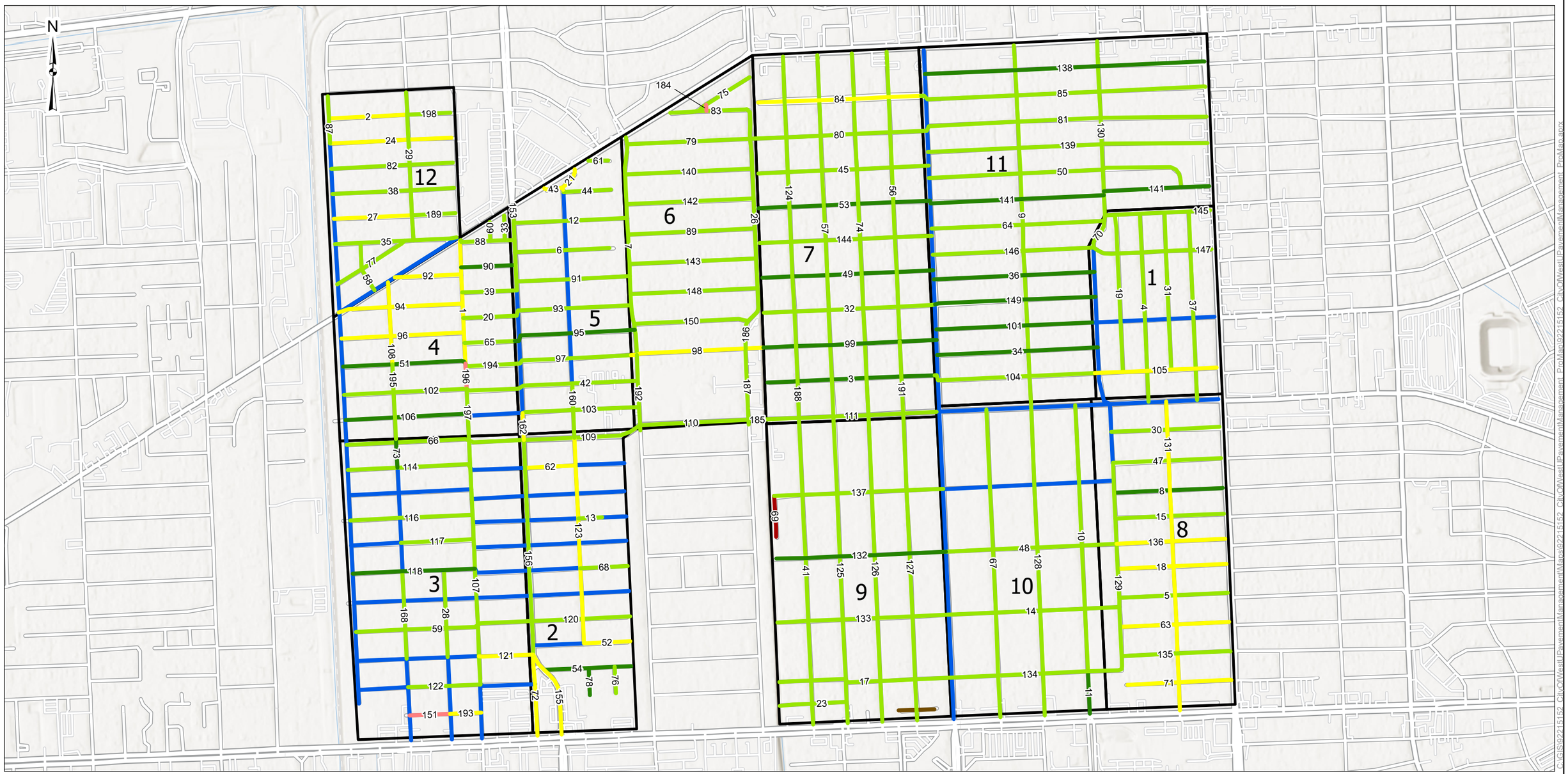
Pavement management is a dynamic process which should be adapted to site specific needs. This report presents certain recommendations, strategies and budgets which may need alteration to fit the unique needs and requirements of the City. Accordingly, Terracon is prepared to assist you in the selection of the final strategies for rehabilitation of the pavements at the site. We are also available to assist with on-going pavement engineering services during the design and construction phase of the pavement rehabilitation program. Recommended additional services include:

- Project Level Condition Surveys on candidate pavements in any program year;
- Geotechnical and pavement forensic evaluations for project level candidate pavements;
- Preparation of design plans and specifications;
- Preparation of bid documents and soliciting bids from prospective contractors;
- Conducting pre-bid meetings with prospective contractors;
- Preparation of contract documents including the technical specifications and any additional plans required for the project;
- Contract administration services for the project including: conducting preconstruction meetings; construction observation of the work; review and approval of contractor pay requests; preparation of project punch lists and contract/project closeout; and,
- Construction materials testing during the construction.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted engineering practices. No warranties, either expressed or implied, are intended or made. In the event that changes are made in the recommend strategies outlined in this report, the conclusions and recommendations contained in this report shall not be considered valid unless Terracon reviews the changes and either verifies or modifies the conclusions of this report in writing.

APPENDIX A
PCI Map and Work Plans

Exhibit A-1	2022 Section ID Map
Exhibit A-2	Citywide Street and Drainage Improvements Map
Exhibit A-3	2021 PCI Map
Exhibit A-4	2023 Eight-Year Pavement Condition Index Projections
Exhibit A-5	2023 Recommended Eight-Year Inspection Schedule
Exhibit A-6	2023 Recommended Eight-Year Work Plan
Exhibit A-7	2023 Recommended Cost Estimates for Eight-Year Work Plan
Exhibit A-8	2023 Recommended Eight-Year Work Plan Maps



Legend

Pavement Condition Index (PCI)

- Failed (0 - 10)
- Serious (11 - 25)
- Very Poor (26 - 40)
- Poor (41 - 55)
- Fair (56 - 70)
- Satisfactory (71 - 85)
- Good (86 - 100)
- Planned for street and/or drainage improvements
- Brick pavers, not evaluated
- Priority Areas

Notes:

1. All segments are labeled with their Section ID.

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Feet
0 500 1,000 2,000

Project No.:	92215152
Date:	Mar 2022
Drawn By:	EMA
Reviewed By:	STL

Terracon
13400 15th Ave. N. Minneapolis, MN 55441
PH. (763) 489-3100 terracon.com

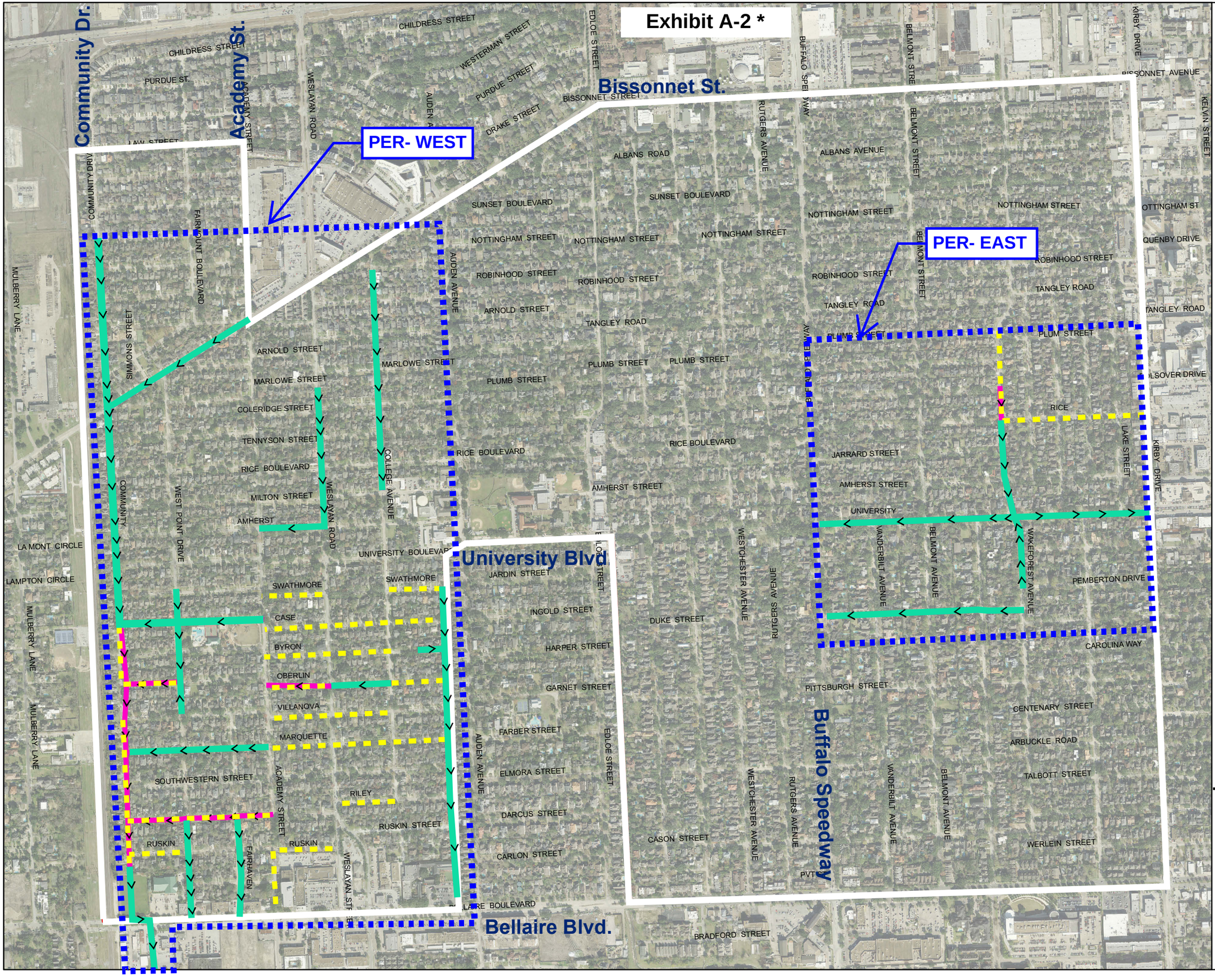
2022 Section ID Map

City of West University Place Pavement Assessment
West University Place
Houston, TX 77005

Exhibit

A-1

Exhibit A-2 *



N

City of West University Place

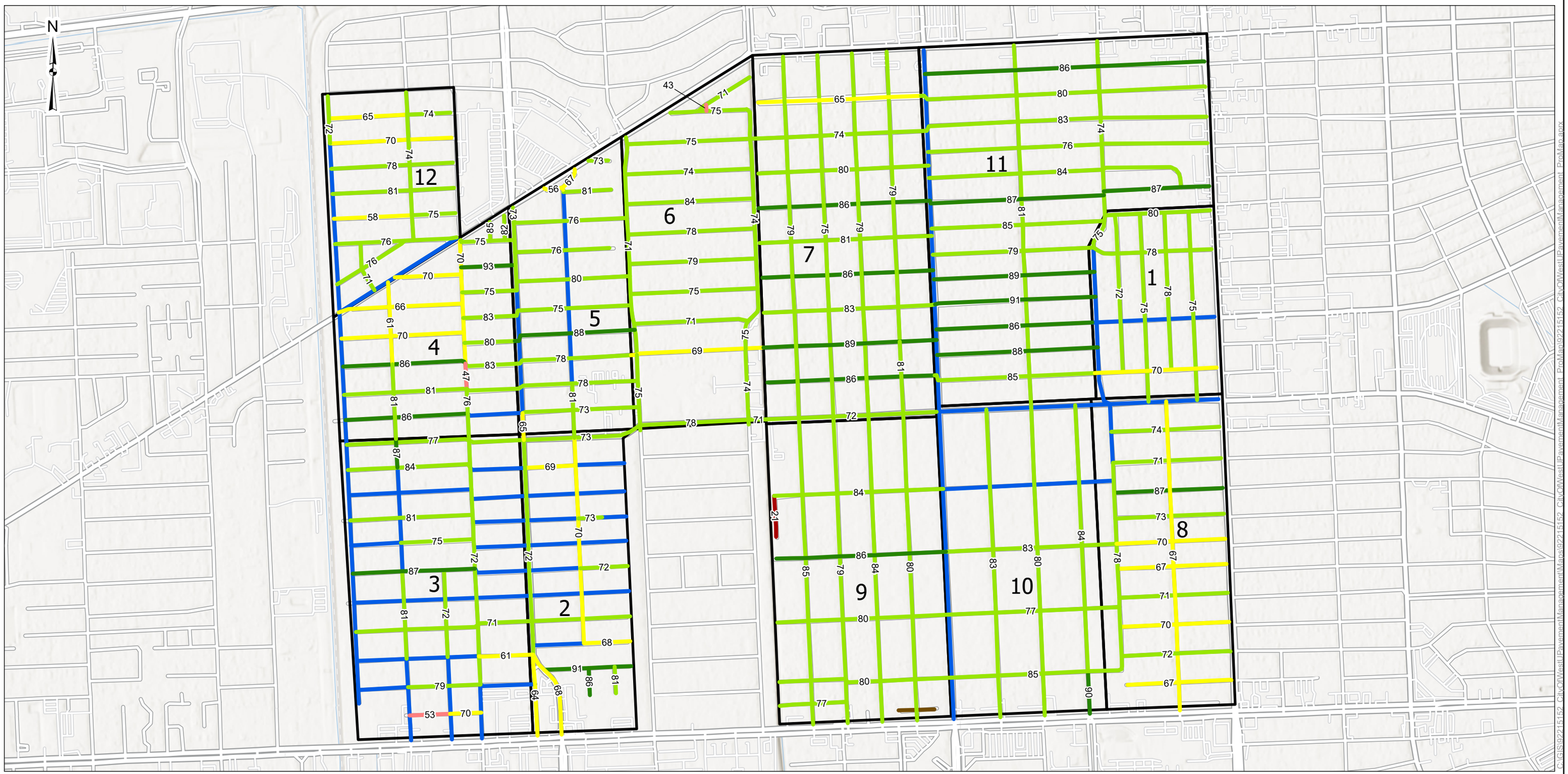
Legend

- Street Replacement
- Street & Storm Sewer Replacement
- Storm Sewer Replacement
- PER Boundary

*** Map provided by the City of West University Place**

CITYWIDE STREET & DRAINAGE IMPROVEMENTS

PROPOSED IMPROVEMENTS



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- Poor (41 - 55)
- Fair (56 - 70)
- Satisfactory (71 - 85)
- Good (86 - 100)
- Planned for street and/or drainage improvements
- Brick pavers, not evaluated

Priority Areas

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Feet
0 500 1,000 2,000

Project No.:	92215152
Date:	Dec 2021
Drawn By:	EMA
Reviewed By:	STL

Terracon
13400 15th Ave. N. Minneapolis, MN 55441
PH. (763) 489-3100 terracon.com

2021 PCI Map

City of West University Place Pavement Assessment
West University Place
Houston, TX 77005

Exhibit

A-3

Exhibit A-4. 2023 Eight-Year Pavement Condition Index Projections

Project Data

Network Name: West University Place, Texas

Total Pavement Length (ft) 268,148

PCI Range	86 - 100	71 - 85	56 -70	41 - 55	26 - 40	11 - 25	0 - 10
PCI Rating	Good	Satisfactory	Fair	Poor	Very Poor	Serious	Failed

Section ID	Street Name	Length (ft)	Width (ft)	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030
69	VIRGINIA CT	422	26	10,960	21	16	11	5				
184	WROXTON RD	65	20	1,300	43	40	37	34	31	27	23	19
196	ACADEMY ST	258	26	6,718	47	44	41	39	36	32	29	25
151	CASON ST	418	26	10,194	53	50	48	45	43	40	37	34
43	NORTHWESTERN	198	26	5,151	56	53	51	49	46	43	41	38
27	EMORY ST	808	27	21,081	58	56	53	51	48	46	43	40
121	RILEY ST	560	26	13,832	61	59	56	54	52	49	47	44
108	WEST POINT ST	847	27	22,865	61	59	56	54	52	49	47	44
72	WESLAYAN ST	838	30	25,130	64	62	60	57	55	53	50	48
84	ALBANS ST	1,683	36	60,144	65	63	61	58	56	54	51	49
162	WESLAYAN ST	277	30	8,310	65	63	61	58	56	54	51	49
2	ALBANS ST	809	27	21,119	65	63	61	58	56	54	51	49
94	COLERIDGE ST	1,286	26	32,047	66	64	62	60	57	55	53	50
131	ANNAPOLIS ST	3,189	33	76,532	67	65	63	61	58	56	54	51
18	CENTENARY ST	1,124	24	25,887	67	65	63	61	58	56	54	51
71	WERLEIN ST	1,073	24	24,681	67	65	63	61	58	56	54	51
21	COLLEGE ST	261	26	6,786	67	65	63	61	58	56	54	51
155	STELLA LINK RD	919	30	27,564	68	66	64	62	60	57	55	53
52	RILEY ST	479	26	12,116	68	66	64	62	60	57	55	53
62	SWARTHMORE ST	523	26	12,870	69	67	65	63	61	59	56	54
98	RICE BLVD	1,370	30	39,410	69	67	65	63	61	59	56	54
105	AMHERST ST	1,258	24	28,474	70	68	66	64	62	60	58	55
136	PITTSBURGH ST	1,124	24	25,890	70	68	66	64	62	60	58	55

Exhibit A-4. 2023 Eight-Year Pavement Condition Index Projections

Project Data

Network Name: West University Place, Texas

Total Pavement Length (ft) 268,148

PCI Range	86 - 100	71 - 85	56 -70	41 - 55	26 - 40	11 - 25	0 - 10
PCI Rating	Good	Satisfactory	Fair	Poor	Very Poor	Serious	Failed

Section ID	Street Name	Length (ft)	Width (ft)	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030
63	TALBOTT ST	1,125	24	25,931	70	68	66	64	62	60	58	55
123	COLLEGE ST	2,122	26	54,814	70	68	66	64	62	60	58	55
24	DARTMOUTH ST	1,256	26	31,955	70	68	66	64	62	60	58	55
193	CASON ST	322	26	7,699	70	68	66	64	62	60	58	55
1	ACADEMY ST	1,269	26	33,007	70	68	66	64	62	60	58	55
92	MARLOWE ST	685	26	17,472	70	68	66	64	62	60	58	55
96	TENNYSON ST	1,266	26	31,534	70	68	66	64	62	60	58	55
47	PEMBERTON DR	1,117	34	36,459	71	69	67	65	63	61	59	56
5	ARBUCKLE ST	1,121	24	25,814	71	69	67	65	63	61	59	56
150	GEORGETOWN ST	1,178	25	28,831	71	69	67	65	63	61	59	57
75	WROXTON RD	637	26	16,558	71	69	67	65	63	61	59	57
185	UNIVERSITY BLVD	183	40	7,332	71	69	67	65	63	61	59	57
120	SOUTHWESTERN ST	1,057	26	26,029	71	69	67	65	63	61	59	57
59	SOUTHWESTERN ST	1,788	26	44,111	71	69	67	65	63	61	59	57
7	AUDEN ST	2,252	26	58,563	71	69	67	65	63	61	59	57
58	SIMMONS	527	27	14,218	71	69	67	65	63	61	59	57
19	CHARLOTTE ST	1,623	24	37,230	72	70	68	66	64	62	60	58
135	CASON ST	1,125	24	25,917	72	70	68	66	64	62	60	58
156	WESLAYAN	2,217	30	66,500	72	70	68	66	64	62	60	58
68	VILLANOVA ST	491	26	12,428	72	70	68	66	64	62	60	58
107	ACADEMY ST	3,117	26	81,054	72	70	68	66	64	62	60	58
28	FAIRHAVEN ST	899	26	23,374	72	70	68	66	64	62	60	58
111	UNIVERSITY BLVD	1,577	26	40,990	72	70	68	66	64	62	60	58

Exhibit A-4. 2023 Eight-Year Pavement Condition Index Projections

Project Data

Network Name: West University Place, Texas

Total Pavement Length (ft) 268,148

PCI Range	86 - 100	71 - 85	56 -70	41 - 55	26 - 40	11 - 25	0 - 10
PCI Rating	Good	Satisfactory	Fair	Poor	Very Poor	Serious	Failed

Section ID	Street Name	Length (ft)	Width (ft)	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030
87	COMMUNITY DR	488	27	13,176	72	70	68	66	64	62	60	58
15	CAROLINA WAY	1,123	24	25,871	73	71	69	67	65	63	61	59
109	UNIVERSITY BLVD	1,205	28	32,720	73	71	69	67	65	63	61	59
13	BYRON ST	246	26	6,058	73	71	69	67	65	63	61	59
103	AMHERST ST	1,250	26	30,988	73	71	69	67	65	63	61	59
153	WESLAYAN ST	855	30	25,650	73	71	69	67	65	63	61	59
61	SUNSET BLVD	205	26	5,325	73	71	69	67	65	63	61	59
30	FENWOOD RD	1,119	24	25,764	74	72	70	69	67	65	63	60
130	WAKEFOREST ST	1,799	30	53,980	74	72	70	69	67	65	63	60
80	SUNSET BLVD	1,727	34	55,174	74	72	70	69	67	65	63	60
140	NOTTINGHAM ST	1,313	25	32,190	74	72	70	69	67	65	63	60
187	EDLOE ST	785	26	18,580	74	72	70	69	67	65	63	60
26	EDLOE ST	2,244	24	53,845	74	72	70	69	67	65	63	60
198	ALBANS ST	444	26	10,855	74	72	70	69	67	65	63	60
29	FAIRMONT ST	1,527	27	41,224	74	72	70	69	67	65	63	60
37	LAKE ST	1,946	24	45,559	75	73	71	70	68	66	64	62
4	ANNAPOLIS ST	1,943	24	45,490	75	73	71	70	68	66	64	62
70	WAKEFOREST ST	367	30	11,010	75	73	71	70	68	66	64	62
57	SEWANEE ST	3,732	20	72,357	75	73	71	70	68	66	64	62
148	PLUMB ST	1,312	25	32,167	75	73	71	70	68	66	64	62
186	EDLOE ST	289	30	8,679	75	73	71	70	68	66	64	62
79	SUNSET BLVD	1,327	30	38,705	75	73	71	70	68	66	64	62
83	ALBANS ST	791	26	20,558	75	73	71	70	68	66	64	62

Exhibit A-4. 2023 Eight-Year Pavement Condition Index Projections

Project Data

Network Name: West University Place, Texas

Total Pavement Length (ft) 268,148

PCI Range	86 - 100	71 - 85	56 -70	41 - 55	26 - 40	11 - 25	0 - 10
PCI Rating	Good	Satisfactory	Fair	Poor	Very Poor	Serious	Failed

Section ID	Street Name	Length (ft)	Width (ft)	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030
117	OBERLIN ST	751	26	18,850	75	73	71	70	68	66	64	62
88	BROWNING ST	570	26	14,421	75	73	71	70	68	66	64	62
93	COLERIDGE ST	1,257	26	31,281	75	73	71	70	68	66	64	62
192	AUDEN ST	779	34	24,803	75	73	71	70	68	66	64	62
189	EMORY ST	449	26	11,318	75	73	71	70	68	66	64	62
39	MARLOWE ST	564	26	13,938	75	73	71	70	68	66	64	62
139	NOTTINGHAM ST	2,888	28	78,575	76	74	73	71	69	67	65	63
12	BROWNING ST	1,168	26	28,976	76	74	73	71	69	67	65	63
6	ARNOLD ST	977	26	24,325	76	74	73	71	69	67	65	63
35	JUDSON ST	1,258	26	32,001	76	74	73	71	69	67	65	63
77	S JUDSON ST	830	26	20,880	76	74	73	71	69	67	65	63
197	ACADEMY ST	491	26	12,771	76	74	73	71	69	67	65	63
14	CARNEGIE ST	1,760	24	40,627	77	75	74	72	70	68	66	64
23	CORONDO CT	691	24	16,307	77	75	74	72	70	68	66	64
66	UNIVERSITY BLVD	1,791	28	48,315	77	75	74	72	70	68	66	64
129	WAKEFOREST ST	2,131	30	63,930	78	76	75	73	71	69	68	66
147	PLUMB ST	1,236	24	29,372	78	76	75	73	71	69	68	66
31	FORDHAM ST	1,622	24	37,198	78	76	75	73	71	69	68	66
42	MILTON ST	1,256	26	31,247	78	76	75	73	71	69	68	66
97	RICE BLVD	1,209	30	34,967	78	76	75	73	71	69	68	66
110	UNIVERSITY BLVD	1,371	50	67,157	78	76	75	73	71	69	68	66
89	ARNOLD ST	1,310	25	32,137	78	76	75	73	71	69	68	66
82	SUNSET BLVD	1,256	26	31,947	78	76	75	73	71	69	68	66

Exhibit A-4. 2023 Eight-Year Pavement Condition Index Projections

Project Data

Network Name: West University Place, Texas

Total Pavement Length (ft) 268,148

PCI Range	86 - 100	71 - 85	56 -70	41 - 55	26 - 40	11 - 25	0 - 10
PCI Rating	Good	Satisfactory	Fair	Poor	Very Poor	Serious	Failed

Section ID	Street Name	Length (ft)	Width (ft)	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030
146	PLUMB ST	1,661	28	44,620	79	77	76	74	72	71	69	67
124	MERCER ST	2,988	20	58,128	79	77	76	74	72	71	69	67
188	MERCER ST	744	26	18,509	79	77	76	74	72	71	69	67
56	RUTGERS ST	2,991	20	58,179	79	77	76	74	72	71	69	67
74	WESTCHESTER ST	3,737	20	72,456	79	77	76	74	72	71	69	67
125	SEWANEE ST	3,166	24	75,504	79	77	76	74	72	71	69	67
143	TANGLEY ST	1,307	25	32,050	79	77	76	74	72	71	69	67
122	RUSKIN ST	748	26	18,096	79	77	76	74	72	71	69	67
145	TANGLEY ST	1,086	24	25,783	80	78	77	75	73	72	70	68
128	BELMONT ST	3,183	28	88,583	80	78	77	75	73	72	70	68
85	ALBANS ST	2,955	24	68,385	80	78	77	75	73	72	70	68
17	CASON ST	1,800	24	40,026	80	78	77	75	73	72	70	68
45	NOTTINGHAM ST	1,759	24	39,714	80	78	77	75	73	72	70	68
127	RUTGERS ST	3,169	28	88,185	80	78	77	75	73	72	70	68
133	CARNEGIE ST	1,772	24	39,361	80	78	77	75	73	72	70	68
91	MARLOWE ST	1,170	26	29,027	80	78	77	75	73	72	70	68
65	TENNYSON ST	520	26	13,177	80	78	77	75	74	72	70	68
9	BELMONT ST	3,738	28	104,667	81	79	78	76	75	73	71	69
144	TANGLEY ST	1,779	24	40,207	81	79	78	76	75	73	71	69
191	RUTGERS ST	745	26	18,546	81	79	78	76	75	73	71	69
76	E COLLEGE ST	274	26	6,784	81	79	78	76	75	73	71	69
116	BYRON ST	1,262	26	31,460	81	79	78	76	75	73	71	69
168	WEST POINT ST	904	26	23,504	81	79	78	76	75	73	71	69

Exhibit A-4. 2023 Eight-Year Pavement Condition Index Projections

Project Data

Network Name: West University Place, Texas

Total Pavement Length (ft) 268,148

PCI Range	86 - 100	71 - 85	56 -70	41 - 55	26 - 40	11 - 25	0 - 10
PCI Rating	Good	Satisfactory	Fair	Poor	Very Poor	Serious	Failed

Section ID	Street Name	Length (ft)	Width (ft)	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030
102	MILTON ST	1,795	26	44,946	81	79	78	76	75	73	71	69
195	WEST POINT ST	771	27	20,817	81	79	78	76	75	73	71	69
160	COLLEGE ST	561	26	14,222	81	79	78	76	75	73	71	69
44	NORTHWESTERN ST	493	26	12,470	81	79	78	76	75	73	71	69
38	LEHIGH ST	1,257	26	31,986	81	79	78	76	75	73	71	69
33	JANE AUSTEN ST	254	19	4,831	82	80	79	77	76	74	72	71
48	PITTSBURGH ST	1,761	24	40,660	83	81	80	78	77	75	73	72
67	VANDERBILT ST	3,178	28	85,754	83	81	80	78	77	75	73	72
81	SUNSET BLVD	2,962	28	79,974	83	81	80	78	77	75	73	72
32	GEORGETOWN ST	1,768	24	39,937	83	81	80	78	77	75	73	72
194	RICE BLVD	534	26	13,554	83	81	80	78	77	75	73	72
20	COLERIDGE ST	521	26	13,196	83	81	80	78	77	75	73	72
10	BROMPTON RD	2,746	28	73,801	84	82	81	79	78	76	75	73
50	QUENBY ST	2,756	24	63,900	84	82	81	79	78	76	75	73
126	WESTCHESTER ST	3,165	28	88,053	84	82	81	79	78	76	75	73
137	DUKE ST	1,748	24	38,785	84	82	81	79	78	76	75	73
142	ROBINHOOD ST	1,311	25	32,161	84	82	81	79	78	76	75	73
114	SWARTHMORE ST	1,286	26	32,084	84	82	81	79	78	76	75	73
134	CASON ST	1,759	24	40,614	85	83	82	80	79	77	76	74
104	AMHERST ST	1,695	24	38,844	85	83	82	80	79	77	76	74
64	TANGLEY ST	1,785	24	41,225	85	83	82	80	79	77	76	74
41	MERCER ST	3,163	28	87,323	85	83	82	80	79	77	76	74
60	SPELMAN ST	195	19	3,698	85	83	82	80	79	77	76	74

Exhibit A-4. 2023 Eight-Year Pavement Condition Index Projections

Project Data

Network Name: West University Place, Texas

Total Pavement Length (ft) 268,148

PCI Range	86 - 100	71 - 85	56 -70	41 - 55	26 - 40	11 - 25	0 - 10
PCI Rating	Good	Satisfactory	Fair	Poor	Very Poor	Serious	Failed

Section ID	Street Name	Length (ft)	Width (ft)	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030
101	RICE BLVD	1,611	30	46,779	86	84	83	81	80	78	77	75
138	WROXTON RD	2,887	24	67,323	86	84	83	81	80	78	77	75
3	AMHERST ST	1,727	24	38,577	86	84	83	81	80	78	77	75
49	PLUMB ST	1,764	24	39,848	86	84	83	81	80	78	77	75
53	ROBINHOOD ST	1,775	24	40,102	86	84	83	81	80	78	77	75
132	PITTSBURGH ST	1,752	24	38,879	86	84	83	81	80	78	77	75
78	W COLLEGE ST	280	26	6,930	86	84	83	81	80	78	77	75
106	AMHERST ST	1,264	26	31,512	86	84	83	81	80	78	77	75
51	RICE BLVD	1,276	26	31,805	86	84	83	81	80	78	77	75
8	BARBARA LN	1,121	24	25,826	87	85	84	82	81	79	78	76
141	ROBINHOOD ST	2,879	24	66,802	87	85	84	82	81	79	78	76
118	VILLANOVA ST	1,261	26	31,434	87	85	84	82	81	79	78	76
73	WEST POINT ST	296	27	7,992	87	85	84	82	81	79	78	76
34	JARRARD ST	1,660	24	38,225	88	86	85	83	82	80	79	77
95	TENNYSON ST	1,282	26	31,934	88	86	85	83	82	80	79	77
36	LAFAYETTE ST	1,662	24	38,287	89	87	86	84	83	81	80	78
99	RICE BLVD	1,790	34	60,033	89	87	86	84	83	81	80	78
11	BROMPTON ST	440	28	11,975	90	88	87	85	84	82	81	79
149	GEORGETOWN ST	1,659	24	38,215	91	89	88	86	84	83	81	80
54	RUSKIN ST	900	26	23,002	91	89	88	86	85	83	81	80
90	ARNOLD ST	562	26	13,892	93	91	90	88	86	85	83	82
100	RICE BLVD	1,262	24	29,714	100	99	97	95	94	92	90	89
181	WAKEFOREST ST	1,653	30	39,672	100	99	97	95	94	92	90	89

Exhibit A-4. 2023 Eight-Year Pavement Condition Index Projections

Project Data

Network Name: West University Place, Texas

Total Pavement Length (ft) 268,148

PCI Range	86 - 100	71 - 85	56 -70	41 - 55	26 - 40	11 - 25	0 - 10
PCI Rating	Good	Satisfactory	Fair	Poor	Very Poor	Serious	Failed

Section ID	Street Name	Length (ft)	Width (ft)	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030
112	UNIVERSITY BLVD	1,600	38	60,793	100	99	97	95	94	92	90	89
152	BUFFALO SPEEDWAY	3,174	48	152,355	100	99	97	95	94	92	90	89
25	DUKE ST	1,760	24	40,621	100	99	97	95	94	92	90	89
157	BUFFALO SPEEDWAY	3,736	48	179,342	100	99	97	95	94	92	90	89
154	BISSONNET ST	1,610	54	86,952	100	99	97	95	94	92	90	89
158	COMMUNITY DR	1,759	26	45,734	100	99	97	95	94	92	90	89
115	CASE ST	1,060	26	26,091	100	99	97	95	94	92	90	89
167	SWARTHMORE ST	500	26	12,662	100	99	97	95	94	92	90	89
172	VILLANOVA ST	566	26	13,936	100	99	97	95	94	92	90	89
173	RILEY ST	523	26	13,208	100	99	97	95	94	92	90	89
182	BYRON ST	526	26	12,558	100	99	97	95	94	92	90	89
183	BYRON ST	246	26	6,396	100	99	97	95	94	92	90	89
40	MARQUETTE ST	1,059	26	26,090	100	99	97	95	94	92	90	89
46	OBERLIN ST	1,054	26	25,951	100	99	97	95	94	92	90	89
119	MARQUETTE ST	1,914	26	47,390	100	99	97	95	94	92	90	89
16	CASE ST	1,781	26	44,611	100	99	97	95	94	92	90	89
164	SWARTHMORE ST	578	26	14,300	100	99	97	95	94	92	90	89
165	WEST POINT ST	3,116	24	74,793	100	99	97	95	94	92	90	89
166	OBERLIN ST	511	26	12,610	100	99	97	95	94	92	90	89
169	BYRON ST	561	26	13,910	100	99	97	95	94	92	90	89
170	OBERLIN ST	1,779	24	42,694	100	99	97	95	94	92	90	89
171	VILLANOVA ST	553	24	13,272	100	99	97	95	94	92	90	89
174	RILEY ST	1,257	26	30,654	100	99	97	95	94	92	90	89

Exhibit A-4. 2023 Eight-Year Pavement Condition Index Projections

Project Data

Network Name: West University Place, Texas

Total Pavement Length (ft) 268,148

PCI Range	86 - 100	71 - 85	56 -70	41 - 55	26 - 40	11 - 25	0 - 10
PCI Rating	Good	Satisfactory	Fair	Poor	Very Poor	Serious	Failed

Section ID	Street Name	Length (ft)	Width (ft)	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030
175	RUSKIN ST	508	24	12,192	100	99	97	95	94	92	90	89
176	RUSKIN ST	571	26	14,118	100	99	97	95	94	92	90	89
177	FAIRHAVEN ST	1,747	24	41,936	100	99	97	95	94	92	90	89
178	WEST POINT ST	3,116	24	74,793	100	99	97	95	94	92	90	89
179	ACADEMY ST	3,117	26	81,054	100	99	97	95	94	92	90	89
86	COMMUNITY DR	2,712	26	70,506	100	99	97	95	94	92	90	89
163	AMHERST ST	572	26	14,534	100	99	97	95	94	92	90	89
22	COMMUNITY DR	1,315	26	34,190	100	99	97	95	94	92	90	89
159	COLLEGE ST	2,000	24	48,000	100	99	97	95	94	92	90	89
161	WESLAYAN ST	1,268	24	30,432	100	99	97	95	94	92	90	89
113	UNIVERSITY BLVD	1,309	38	31,416	100	99	97	95	94	92	90	89
180	WAKEFOREST ST	611	30	14,664	100	99	97	95	94	92	90	89

Exhibit A-5. 2023 Recommended Eight-Year Inspection Schedule

Project Data

Network Name:	**West University Place, Texas**	**N**	Network Level Inspection
Total Pavement Length (ft)	**268,148**		(Approx. 10% of surface is surveyed)
Total Pavement Area (sf)	**6,959,452**	**P**	Project Level Inspections
			(100% of surface is surveyed)

Section ID	Street Name	Area (sf)	Last Surveyed	2023	2024	2025	2026	2027	2028	2029	2030
69	VIRGINIA CT	10,960	Dec-21		P			N			N
184	WROXTON RD	1,300	Dec-21		P	N		N			N
196	ACADEMY ST	6,718	Dec-21		P			N			N
151	CASON ST	10,194	Dec-21		P			N			N
43	NORTHWESTERN	5,151	Dec-21			P			N		
27	EMORY ST	21,081	Dec-21			P			N		
121	RILEY ST	13,832	Dec-21			P			N		
108	WEST POINT ST	22,865	Dec-21				P			N	
72	WESLAYAN ST	25,130	Dec-21				P			N	
84	ALBANS ST	60,144	Dec-21			N		P	N		
162	WESLAYAN ST	8,310	Dec-21			N		P	N		
2	ALBANS ST	21,119	Dec-21			N		P	N		
94	COLERIDGE ST	32,047	Dec-21			N		P	N		
131	ANNAPOLIS ST	76,532	Dec-21			N		P	N		
18	CENTENARY ST	25,887	Dec-21			N		P	N		
71	WERLEIN ST	24,681	Dec-21			N		P	N		
21	COLLEGE ST	6,786	Dec-21			N		P	N		
155	STELLA LINK RD	27,564	Dec-21			N		P	N		
52	RILEY ST	12,116	Dec-21			N		P	N		
62	SWARTHMORE ST	12,870	Dec-21			N			P	N	
98	RICE BLVD	39,410	Dec-21			N			P	N	
105	AMHERST ST	28,474	Dec-21			N			P	N	
136	PITTSBURGH ST	25,890	Dec-21			N			P	N	
63	TALBOTT ST	25,931	Dec-21			N			P	N	
123	COLLEGE ST	54,814	Dec-21			N			P	N	
24	DARTMOUTH ST	31,955	Dec-21			N			P	N	
193	CASON ST	7,699	Dec-21			N			P	N	

Exhibit A-5. 2023 Recommended Eight-Year Inspection Schedule

Project Data

Network Name:	**West University Place, Texas**	**N**	Network Level Inspection
Total Pavement Length (ft)	**268,148**		(Approx. 10% of surface is surveyed)
Total Pavement Area (sf)	**6,959,452**	**P**	Project Level Inspections
			(100% of surface is surveyed)

Section ID	Street Name	Area (sf)	Last Surveyed	2023	2024	2025	2026	2027	2028	2029	2030
1	ACADEMY ST	33,007	Dec-21			N			P	N	
92	MARLOWE ST	17,472	Dec-21			N			P	N	
96	TENNYSON ST	31,534	Dec-21			N			P	N	
47	PEMBERTON DR	36,459	Dec-21			N			P	N	
5	ARBUCKLE ST	25,814	Dec-21			N			P	N	
150	GEORGETOWN ST	28,831	Dec-21			N			P	N	
75	WROXTON RD	16,558	Dec-21			N			P	N	
185	UNIVERSITY BLVD	7,332	Dec-21			N			P	N	
120	SOUTHWESTERN ST	26,029	Dec-21			N			P	N	
59	SOUTHWESTERN ST	44,111	Dec-21			N			P	N	
7	AUDEN ST	58,563	Dec-21			N			P	N	
58	SIMMONS	14,218	Dec-21			N			P	N	
19	CHARLOTTE ST	37,230	Dec-21				N			P	N
135	CASON ST	25,917	Dec-21				N			P	N
156	WESLAYAN	66,500	Dec-21				N			P	N
68	VILLANOVA ST	12,428	Dec-21				N			P	N
107	ACADEMY ST	81,054	Dec-21				N			P	N
28	FAIRHAVEN ST	23,374	Dec-21				N			P	N
111	UNIVERSITY BLVD	40,990	Dec-21				N			P	N
87	COMMUNITY DR	13,176	Dec-21				N			P	N
15	CAROLINA WAY	25,871	Dec-21				N			P	N
109	UNIVERSITY BLVD	32,720	Dec-21				N			P	N
13	BYRON ST	6,058	Dec-21				N			P	N
103	AMHERST ST	30,988	Dec-21				N			P	N
153	WESLAYAN ST	25,650	Dec-21				N			P	N
61	SUNSET BLVD	5,325	Dec-21				N			P	N
30	FENWOOD RD	25,764	Dec-21				N			P	N

Exhibit A-5. 2023 Recommended Eight-Year Inspection Schedule

Project Data

Network Name:	**West University Place, Texas**	**N**	Network Level Inspection
Total Pavement Length (ft)	**268,148**		(Approx. 10% of surface is surveyed)
Total Pavement Area (sf)	**6,959,452**	**P**	Project Level Inspections
			(100% of surface is surveyed)

Section ID	Street Name	Area (sf)	Last Surveyed	2023	2024	2025	2026	2027	2028	2029	2030
130	WAKEFOREST ST	53,980	Dec-21				N			P	N
80	SUNSET BLVD	55,174	Dec-21				N			P	N
140	NOTTINGHAM ST	32,190	Dec-21				N			P	N
187	EDLOE ST	18,580	Dec-21				N			P	N
26	EDLOE ST	53,845	Dec-21			N			N		P
198	ALBANS ST	10,855	Dec-21			N			N		P
29	FAIRMONT ST	41,224	Dec-21			N			N		P
37	LAKE ST	45,559	Dec-21			N			N		P
4	ANNAPOLIS ST	45,490	Dec-21			N			N		P
70	WAKEFOREST ST	11,010	Dec-21			N			N		P
57	SEWANEE ST	72,357	Dec-21			N			N		P
148	PLUMB ST	32,167	Dec-21			N			N		P
186	EDLOE ST	8,679	Dec-21			N			N		P
79	SUNSET BLVD	38,705	Dec-21			N			N		P
83	ALBANS ST	20,558	Dec-21			N			N		P
117	OBERLIN ST	18,850	Dec-21			N			N		P
88	BROWNING ST	14,421	Dec-21			N			N		P
93	COLERIDGE ST	31,281	Dec-21			N			N		P
192	AUDEN ST	24,803	Dec-21			N			N		P
189	EMORY ST	11,318	Dec-21			N			N		P
39	MARLOWE ST	13,938	Dec-21			N			N		P
139	NOTTINGHAM ST	78,575	Dec-21			N			N		P
12	BROWNING ST	28,976	Dec-21			N			N		P
6	ARNOLD ST	24,325	Dec-21			N			N		P
35	JUDSON ST	32,001	Dec-21			N			N		P
77	S JUDSON ST	20,880	Dec-21			N			N		P
197	ACADEMY ST	12,771	Dec-21			N			N		P

Exhibit A-5. 2023 Recommended Eight-Year Inspection Schedule

Project Data

Network Name:	**West University Place, Texas**	**N**	Network Level Inspection
Total Pavement Length (ft)	**268,148**		(Approx. 10% of surface is surveyed)
Total Pavement Area (sf)	**6,959,452**	**P**	Project Level Inspections
			(100% of surface is surveyed)

Section ID	Street Name	Area (sf)	Last Surveyed	2023	2024	2025	2026	2027	2028	2029	2030
14	CARNEGIE ST	40,627	Dec-21			N			N		P
23	CORONDO CT	16,307	Dec-21			N			N		P
66	UNIVERSITY BLVD	48,315	Dec-21			N			N		P
129	WAKEFOREST ST	63,930	Dec-21			N			N		
147	PLUMB ST	29,372	Dec-21			N			N		
31	FORDHAM ST	37,198	Dec-21			N			N		
42	MILTON ST	31,247	Dec-21			N			N		
97	RICE BLVD	34,967	Dec-21			N			N		
110	UNIVERSITY BLVD	67,157	Dec-21			N			N		
89	ARNOLD ST	32,137	Dec-21			N			N		
82	SUNSET BLVD	31,947	Dec-21			N			N		
146	PLUMB ST	44,620	Dec-21			N			N		
124	MERCER ST	58,128	Dec-21			N			N		
188	MERCER ST	18,509	Dec-21			N			N		
56	RUTGERS ST	58,179	Dec-21			N			N		
74	WESTCHESTER ST	72,456	Dec-21			N			N		
125	SEWANEE ST	75,504	Dec-21			N			N		
143	TANGLEY ST	32,050	Dec-21			N			N		
122	RUSKIN ST	18,096	Dec-21			N			N		
145	TANGLEY ST	25,783	Dec-21			N			N		
128	BELMONT ST	88,583	Dec-21			N			N		
85	ALBANS ST	68,385	Dec-21			N			N		
17	CASON ST	40,026	Dec-21			N			N		
45	NOTTINGHAM ST	39,714	Dec-21			N			N		
127	RUTGERS ST	88,185	Dec-21			N			N		
133	CARNEGIE ST	39,361	Dec-21			N			N		
91	MARLOWE ST	29,027	Dec-21			N			N		

Exhibit A-5. 2023 Recommended Eight-Year Inspection Schedule

Project Data

Network Name:	**West University Place, Texas**	**N**	Network Level Inspection
Total Pavement Length (ft)	**268,148**		(Approx. 10% of surface is surveyed)
Total Pavement Area (sf)	**6,959,452**	**P**	Project Level Inspections
			(100% of surface is surveyed)

Section ID	Street Name	Area (sf)	Last Surveyed	2023	2024	2025	2026	2027	2028	2029	2030
65	TENNYSON ST	13,177	Dec-21			N			N		
9	BELMONT ST	104,667	Dec-21			N			N		
144	TANGLEY ST	40,207	Dec-21			N			N		
191	RUTGERS ST	18,546	Dec-21			N			N		
76	E COLLEGE ST	6,784	Dec-21			N			N		
116	BYRON ST	31,460	Dec-21			N			N		
168	WEST POINT ST	23,504	Dec-21			N			N		
102	MILTON ST	44,946	Dec-21			N			N		
195	WEST POINT ST	20,817	Dec-21			N			N		
160	COLLEGE ST	14,222	Dec-21			N			N		
44	NORTHWESTERN ST	12,470	Dec-21			N			N		
38	LEHIGH ST	31,986	Dec-21			N			N		
33	JANE AUSTEN ST	4,831	Dec-21			N			N		
48	PITTSBURGH ST	40,660	Dec-21			N			N		
67	VANDERBILT ST	85,754	Dec-21			N			N		
81	SUNSET BLVD	79,974	Dec-21			N			N		
32	GEORGETOWN ST	39,937	Dec-21			N			N		
194	RICE BLVD	13,554	Dec-21			N			N		
20	COLERIDGE ST	13,196	Dec-21			N			N		
10	BROMPTON RD	73,801	Dec-21			N			N		
50	QUENBY ST	63,900	Dec-21			N			N		
126	WESTCHESTER ST	88,053	Dec-21			N			N		
137	DUKE ST	38,785	Dec-21			N			N		
142	ROBINHOOD ST	32,161	Dec-21			N			N		
114	SWARTHMORE ST	32,084	Dec-21			N			N		
134	CASON ST	40,614	Dec-21			N			N		
104	AMHERST ST	38,844	Dec-21			N			N		

Exhibit A-5. 2023 Recommended Eight-Year Inspection Schedule

Project Data

Network Name:	**West University Place, Texas**	**N**	Network Level Inspection
Total Pavement Length (ft)	**268,148**		(Approx. 10% of surface is surveyed)
Total Pavement Area (sf)	**6,959,452**	**P**	Project Level Inspections
			(100% of surface is surveyed)

Section ID	Street Name	Area (sf)	Last Surveyed	2023	2024	2025	2026	2027	2028	2029	2030
64	TANGLEY ST	41,225	Dec-21			N			N		
41	MERCER ST	87,323	Dec-21			N			N		
60	SPELMAN ST	3,698	Dec-21			N			N		
101	RICE BLVD	46,779	Dec-21			N			N		
138	WROXTON RD	67,323	Dec-21			N			N		
3	AMHERST ST	38,577	Dec-21			N			N		
49	PLUMB ST	39,848	Dec-21			N			N		
53	ROBINHOOD ST	40,102	Dec-21			N			N		
132	PITTSBURGH ST	38,879	Dec-21			N			N		
78	W COLLEGE ST	6,930	Dec-21			N			N		
106	AMHERST ST	31,512	Dec-21			N			N		
51	RICE BLVD	31,805	Dec-21			N			N		
8	BARBARA LN	25,826	Dec-21			N			N		
141	ROBINHOOD ST	66,802	Dec-21			N			N		
118	VILLANOVA ST	31,434	Dec-21			N			N		
73	WEST POINT ST	7,992	Dec-21			N			N		
34	JARRARD ST	38,225	Dec-21			N			N		
95	TENNYSON ST	31,934	Dec-21			N			N		
36	LAFAYETTE ST	38,287	Dec-21			N			N		
99	RICE BLVD	60,033	Dec-21			N			N		
11	BROMPTON ST	11,975	Dec-21			N			N		
149	GEORGETOWN ST	38,215	Dec-21			N			N		
54	RUSKIN ST	23,002	Dec-21			N			N		
90	ARNOLD ST	13,892	Dec-21			N			N		
100	RICE BLVD	29,714	Dec-21			N			N		
181	WAKEFOREST ST	39,672	Dec-21			N			N		
112	UNIVERSITY BLVD	60,793	Dec-21			N			N		

Exhibit A-5. 2023 Recommended Eight-Year Inspection Schedule

Project Data

Network Name:	**West University Place, Texas**	**N**	Network Level Inspection
Total Pavement Length (ft)	**268,148**		(Approx. 10% of surface is surveyed)
Total Pavement Area (sf)	**6,959,452**	**P**	Project Level Inspections
			(100% of surface is surveyed)

Section ID	Street Name	Area (sf)	Last Surveyed	2023	2024	2025	2026	2027	2028	2029	2030
152	BUFFALO SPEEDWAY	152,355	Dec-21			N			N		
25	DUKE ST	40,621	Dec-21			N			N		
157	BUFFALO SPEEDWAY	179,342	Dec-21			N			N		
154	BISSONNET ST	86,952	Dec-21			N			N		
158	COMMUNITY DR	45,734	Dec-21			N			N		
115	CASE ST	26,091	Dec-21			N			N		
167	SWARTHMORE ST	12,662	Dec-21			N			N		
172	VILLANOVA ST	13,936	Dec-21			N			N		
173	RILEY ST	13,208	Dec-21			N			N		
182	BYRON ST	12,558	Dec-21			N			N		
183	BYRON ST	6,396	Dec-21			N			N		
40	MARQUETTE ST	26,090	Dec-21			N			N		
46	OBERLIN ST	25,951	Dec-21			N			N		
119	MARQUETTE ST	47,390	Dec-21			N			N		
16	CASE ST	44,611	Dec-21			N			N		
164	SWARTHMORE ST	14,300	Dec-21			N			N		
165	WEST POINT ST	74,793	Dec-21			N			N		
166	OBERLIN ST	12,610	Dec-21			N			N		
169	BYRON ST	13,910	Dec-21			N			N		
170	OBERLIN ST	42,694	Dec-21			N			N		
171	VILLANOVA ST	13,272	Dec-21			N			N		
174	RILEY ST	30,654	Dec-21			N			N		
175	RUSKIN ST	12,192	Dec-21			N			N		
176	RUSKIN ST	14,118	Dec-21			N			N		
177	FAIRHAVEN ST	41,936	Dec-21			N			N		
178	WEST POINT ST	74,793	Dec-21			N			N		
179	ACADEMY ST	81,054	Dec-21			N			N		

Exhibit A-5. 2023 Recommended Eight-Year Inspection Schedule

Project Data

Network Name:	**West University Place, Texas**	**N**	Network Level Inspection
Total Pavement Length (ft)	**268,148**		(Approx. 10% of surface is surveyed)
Total Pavement Area (sf)	**6,959,452**	**P**	Project Level Inspections
			(100% of surface is surveyed)

Section ID	Street Name	Area (sf)	Last Surveyed	2023	2024	2025	2026	2027	2028	2029	2030
86	COMMUNITY DR	70,506	Dec-21			N			N		
163	AMHERST ST	14,534	Dec-21			N			N		
22	COMMUNITY DR	34,190	Dec-21			N			N		
159	COLLEGE ST	48,000	Dec-21			N			N		
161	WESLAYAN ST	30,432	Dec-21			N			N		
113	UNIVERSITY BLVD	31,416	Dec-21			N			N		
180	WAKEFOREST ST	14,664	Dec-21			N			N		

Exhibit A-6. 2023 Recommended Eight-Year Work Plan

Project Data

Network Name:	**West University Place**	**P**	PREVENTATIVE MAINTENANCE
Total Pavement Length (ft)	**268,148**	**D**	DEFERRED MAINTENANCE
Total Pavement Area (sf)	**6,959,452**	**R**	RECONSTRUCTION

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030
69	VIRGINIA CT	10,960		R						
184	WROXTON RD	1,300		D						
196	ACADEMY ST	6,718		R						
151	CASON ST	10,194		R						
43	NORTHWESTERN	5,151			R					
27	EMORY ST	21,081			R					
121	RILEY ST	13,832			R					
108	WEST POINT ST	22,865				R				
72	WESLAYAN ST	25,130				R				
84	ALBANS ST	60,144					D			
162	WESLAYAN ST	8,310					D			
2	ALBANS ST	21,119					D			
94	COLERIDGE ST	32,047					D			
131	ANNAPOLIS ST	76,532					D			
18	CENTENARY ST	25,887					D			
71	WERLEIN ST	24,681					D			
21	COLLEGE ST	6,786					D			
155	STELLA LINK RD	27,564					D			
52	RILEY ST	12,116					D			
62	SWARTHMORE ST	12,870						D		
98	RICE BLVD	39,410						D		
105	AMHERST ST	28,474						D		
136	PITTSBURGH ST	25,890						D		
63	TALBOTT ST	25,931						D		
123	COLLEGE ST	54,814						D		
24	DARTMOUTH ST	31,955						D		
193	CASON ST	7,699						D		
1	ACADEMY ST	33,007						D		

Exhibit A-6. 2023 Recommended Eight-Year Work Plan

Project Data

Network Name:	**West University Place**	**P**	PREVENTATIVE MAINTENANCE
Total Pavement Length (ft)	**268,148**	**D**	DEFERRED MAINTENANCE
Total Pavement Area (sf)	**6,959,452**	**R**	RECONSTRUCTION

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030
92	MARLOWE ST	17,472						D		
96	TENNYSON ST	31,534						D		
47	PEMBERTON DR	36,459	P					D		
5	ARBUCKLE ST	25,814	P					D		
150	GEORGETOWN ST	28,831	P					D		
75	WROXTON RD	16,558	P					D		
185	UNIVERSITY BLVD	7,332	P					D		
120	SOUTHWESTERN ST	26,029	P					D		
59	SOUTHWESTERN ST	44,111	P					D		
7	AUDEN ST	58,563	P					D		
58	SIMMONS	14,218	P					D		
19	CHARLOTTE ST	37,230	P						D	
135	CASON ST	25,917	P						D	
156	WESLAYAN	66,500	P						D	
68	VILLANOVA ST	12,428	P						D	
107	ACADEMY ST	81,054	P						D	
28	FAIRHAVEN ST	23,374	P						D	
111	UNIVERSITY BLVD	40,990	P						D	
87	COMMUNITY DR	13,176	P						D	
15	CAROLINA WAY	25,871	P						D	
109	UNIVERSITY BLVD	32,720	P						D	
13	BYRON ST	6,058	P						D	
103	AMHERST ST	30,988	P						D	
153	WESLAYAN ST	25,650	P						D	
61	SUNSET BLVD	5,325	P						D	
30	FENWOOD RD	25,764	P						D	
130	WAKEFOREST ST	53,980	P						D	
80	SUNSET BLVD	55,174	P						D	

Exhibit A-6. 2023 Recommended Eight-Year Work Plan

Project Data

Network Name:	**West University Place**
Total Pavement Length (ft)	**268,148**
Total Pavement Area (sf)	**6,959,452**

P	PREVENTATIVE MAINTENANCE
D	DEFERRED MAINTENANCE
R	RECONSTRUCTION

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030
140	NOTTINGHAM ST	32,190	P						D	
187	EDLOE ST	18,580	P						D	
26	EDLOE ST	53,845	P							D
198	ALBANS ST	10,855	P							D
29	FAIRMONT ST	41,224	P							D
37	LAKE ST	45,559	P							D
4	ANNAPOLIS ST	45,490	P							D
70	WAKEFOREST ST	11,010	P							D
57	SEWANEE ST	72,357	P							D
148	PLUMB ST	32,167	P							D
186	EDLOE ST	8,679	P							D
79	SUNSET BLVD	38,705	P							D
83	ALBANS ST	20,558	P							D
117	OBERLIN ST	18,850	P							D
88	BROWNING ST	14,421	P							D
93	COLERIDGE ST	31,281	P							D
192	AUDEN ST	24,803	P							D
189	EMORY ST	11,318	P							D
39	MARLOWE ST	13,938	P							D
139	NOTTINGHAM ST	78,575	P							D
12	BROWNING ST	28,976	P							D
6	ARNOLD ST	24,325	P							D
35	JUDSON ST	32,001	P							D
77	S JUDSON ST	20,880	P							D
197	ACADEMY ST	12,771	P							D
14	CARNEGIE ST	40,627	P							D
23	CORONDO CT	16,307	P							D
66	UNIVERSITY BLVD	48,315	P							D

Exhibit A-6. 2023 Recommended Eight-Year Work Plan

Project Data

Network Name:	**West University Place**	**P**	PREVENTATIVE MAINTENANCE
Total Pavement Length (ft)	**268,148**	**D**	DEFERRED MAINTENANCE
Total Pavement Area (sf)	**6,959,452**	**R**	RECONSTRUCTION

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030
129	WAKEFOREST ST	63,930	P							
147	PLUMB ST	29,372	P							
31	FORDHAM ST	37,198	P							
42	MILTON ST	31,247	P							
97	RICE BLVD	34,967	P							
110	UNIVERSITY BLVD	67,157	P							
89	ARNOLD ST	32,137	P							
82	SUNSET BLVD	31,947	P							
146	PLUMB ST	44,620	P							
124	MERCER ST	58,128	P							
188	MERCER ST	18,509	P							
56	RUTGERS ST	58,179	P							
74	WESTCHESTER ST	72,456	P							
125	SEWANEE ST	75,504	P							
143	TANGLEY ST	32,050	P							
122	RUSKIN ST	18,096	P							
145	TANGLEY ST	25,783	P							
128	BELMONT ST	88,583	P							
85	ALBANS ST	68,385	P							
17	CASON ST	40,026	P							
45	NOTTINGHAM ST	39,714	P							
127	RUTGERS ST	88,185	P							
133	CARNEGIE ST	39,361	P							
91	MARLOWE ST	29,027	P							
65	TENNYSON ST	13,177	P							
9	BELMONT ST	104,667	P							
144	TANGLEY ST	40,207	P							
191	RUTGERS ST	18,546	P							

Exhibit A-6. 2023 Recommended Eight-Year Work Plan

Project Data

Network Name:	**West University Place**	**P**	PREVENTATIVE MAINTENANCE
Total Pavement Length (ft)	**268,148**	**D**	DEFERRED MAINTENANCE
Total Pavement Area (sf)	**6,959,452**	**R**	RECONSTRUCTION

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030
76	E COLLEGE ST	6,784	P							
116	BYRON ST	31,460	P							
168	WEST POINT ST	23,504	P							
102	MILTON ST	44,946	P							
195	WEST POINT ST	20,817	P							
160	COLLEGE ST	14,222	P							
44	NORTHWESTERN ST	12,470	P							
38	LEHIGH ST	31,986	P							
33	JANE AUSTEN ST	4,831	P							
48	PITTSBURGH ST	40,660	P							
67	VANDERBILT ST	85,754	P							
81	SUNSET BLVD	79,974	P							
32	GEORGETOWN ST	39,937	P							
194	RICE BLVD	13,554	P							
20	COLERIDGE ST	13,196	P							
10	BROMPTON RD	73,801	P							
50	QUENBY ST	63,900	P							
126	WESTCHESTER ST	88,053	P							
137	DUKE ST	38,785	P							
142	ROBINHOOD ST	32,161	P							
114	SWARTHMORE ST	32,084	P							
134	CASON ST	40,614								
104	AMHERST ST	38,844								
64	TANGLEY ST	41,225								
41	MERCER ST	87,323								
60	SPELMAN ST	3,698								
101	RICE BLVD	46,779								
138	WROXTON RD	67,323								

Exhibit A-6. 2023 Recommended Eight-Year Work Plan

Project Data

Network Name:	**West University Place**	**P**	PREVENTATIVE MAINTENANCE
Total Pavement Length (ft)	**268,148**	**D**	DEFERRED MAINTENANCE
Total Pavement Area (sf)	**6,959,452**	**R**	RECONSTRUCTION

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030
3	AMHERST ST	38,577								
49	PLUMB ST	39,848								
53	ROBINHOOD ST	40,102								
132	PITTSBURGH ST	38,879								
78	W COLLEGE ST	6,930								
106	AMHERST ST	31,512								
51	RICE BLVD	31,805								
8	BARBARA LN	25,826								
141	ROBINHOOD ST	66,802								
118	VILLANOVA ST	31,434								
73	WEST POINT ST	7,992								
34	JARRARD ST	38,225								
95	TENNYSON ST	31,934								
36	LAFAYETTE ST	38,287								
99	RICE BLVD	60,033								
11	BROMPTON ST	11,975								
149	GEORGETOWN ST	38,215								
54	RUSKIN ST	23,002								
90	ARNOLD ST	13,892								
100	RICE BLVD	29,714								
181	WAKEFOREST ST	39,672								
112	UNIVERSITY BLVD	60,793								
152	BUFFALO SPEEDWAY	152,355								
25	DUKE ST	40,621								
157	BUFFALO SPEEDWAY	179,342								
154	BISSONNET ST	86,952								
158	COMMUNITY DR	45,734								
115	CASE ST	26,091								

Exhibit A-6. 2023 Recommended Eight-Year Work Plan

Project Data

Network Name:	**West University Place**	**P**	PREVENTATIVE MAINTENANCE
Total Pavement Length (ft)	**268,148**	**D**	DEFERRED MAINTENANCE
Total Pavement Area (sf)	**6,959,452**	**R**	RECONSTRUCTION

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030
167	SWARTHMORE ST	12,662								
172	VILLANOVA ST	13,936								
173	RILEY ST	13,208								
182	BYRON ST	12,558								
183	BYRON ST	6,396								
40	MARQUETTE ST	26,090								
46	OBERLIN ST	25,951								
119	MARQUETTE ST	47,390								
16	CASE ST	44,611								
164	SWARTHMORE ST	14,300								
165	WEST POINT ST	74,793								
166	OBERLIN ST	12,610								
169	BYRON ST	13,910								
170	OBERLIN ST	42,694								
171	VILLANOVA ST	13,272								
174	RILEY ST	30,654								
175	RUSKIN ST	12,192								
176	RUSKIN ST	14,118								
177	FAIRHAVEN ST	41,936								
178	WEST POINT ST	74,793								
179	ACADEMY ST	81,054								
86	COMMUNITY DR	70,506								
163	AMHERST ST	14,534								
22	COMMUNITY DR	34,190								
159	COLLEGE ST	48,000								
161	WESLAYAN ST	30,432								
113	UNIVERSITY BLVD	31,416								
180	WAKEFOREST ST	14,664								

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data and Unit Pricing

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

M & R [3,4]	Unit	2023	2024	2025	2026	2027	2028	2029	2030
Joint/Crack Sealing	L.F.	$2.00	$2.10	$2.21	$2.32	$2.43	$2.55	$2.68	$2.81
Curb Replacement [1]	L.F.	$82.00	$86.10	$90.41	$94.93	$99.67	$104.66	$109.89	$115.38
Isolated Panel Replacement [2]	S.F.	$13.11	$13.77	$14.46	$15.18	$15.94	$16.73	$17.57	$18.45
Type A Drainage Grates	EA.	$695.00	$729.75	$766.24	$804.55	$844.78	$887.02	$931.37	$977.93
Mobilization	EA.	$1,495.00	$1,569.75	$1,648.24	$1,730.65	$1,817.18	$1,908.04	$2,003.44	$2,103.62
Slab Re-Leveling	S.F.	$2.98	$3.13	$3.29	$3.45	$3.62	$3.80	$3.99	$4.19
Excavation (To the Depth of Base)	C.F.	$1.93	$2.02	$2.12	$2.23	$2.34	$2.46	$2.58	$2.71
Cement Stabilized Sand for Base (Compacted In Place)	C.F.	$2.07	$2.18	$2.29	$2.40	$2.52	$2.65	$2.78	$2.92

[1] Curb replacement includes remove and dispose concrete curb (all sizes) and install 6" concrete curb 5000 psi (poured in place)
[2] Isolated panel replacement includes breakout and dispose of 8" concrete and install 8" concrete 5000 psi (poured in place)

[3] Reconstruction includes excavate material to depth for base (8" base), cement stabilized sand for 8" base (compacted in place), install Type A Drainage Grates (provided by City and assuming one per 10 L.F.), install construction joints (assuming 15' long panels), breakout and dispose of 8" concrete and install 8" concrete 5000 psi (poured in place), remove and dispose concrete curb (all sizes) and intall 6" concrete curb 5000 psi (poured in place). Mobilization costsincluded one per site

[4] Unit pricing is based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
69	VIRGINIA CT	10,960		$261,073							Reconstruction
184	WROXTON RD	1,300		$19,466							Short segment at a triangle junction; full depth panel replacement recommended
196	ACADEMY ST	6,718		$160,310							Reconstruction
151	CASON ST	10,194		$247,752							Reconstruction
43	NORTHWESTERN	5,151			$129,799						Reconstruction
27	EMORY ST	21,081			$525,525						Reconstruction
121	RILEY ST	13,832			$351,482						Reconstruction
108	WEST POINT ST	22,865				$521,478					Reconstruction
72	WESLAYAN ST	25,130				$554,436					Reconstruction
84	ALBANS ST	60,144					$199,654				Isolated panel replacement
162	WESLAYAN ST	8,310					$46,289				Isolated panel replacement and slab re-leveliing

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
2	ALBANS ST	21,119					$96,815				Isolated panel replacement
94	COLERIDGE ST	32,047					$68,368				Isolated panel replacement
18	CENTENARY ST	25,887					$44,368				Isolated panel replacement
71	WERLEIN ST	24,681					$33,276				Isolated panel replacement
131	ANNAPOLIS ST	76,532					$148,306				Isolated panel replacement
21	COLLEGE ST	6,786					$24,861				Isolated panel replacement
52	RILEY ST	12,116					$49,722				Isolated panel replacement
155	STELLA LINK RD	27,564					$83,667				Isolated panel replacement
62	SWARTHMORE ST	12,870						$17,403			Isolated panel replacement
98	RICE BLVD	39,410						$50,200			Isolated panel replacement
105	AMHERST ST	28,474						$53,053			Isolated panel replacement and slab re-leveliing
63	TALBOTT ST	25,931						$34,939			Isolated panel replacement

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
136	PITTSBURGH ST	25,890						$34,939			Isolated panel replacement
123	COLLEGE ST	54,814						$34,806			Isolated panel replacement
193	CASON ST	7,699						$16,750			Isolated panel replacement
1	ACADEMY ST	33,007						$57,647			Isolated panel replacement
92	MARLOWE ST	17,472						$30,455			Isolated panel replacement
96	TENNYSON ST	31,534						$47,858			Isolated panel replacement
24	DARTMOUTH ST	31,955						$65,261			Isolated panel replacement
5	ARBUCKLE ST	25,814	$820					$34,939			Curb replacement in 2023, followed by isolated panel replacement in 2028
47	PEMBERTON DR	36,459						$65,997			Isolated panel replacement
75	WROXTON RD	16,558	$4,165					$26,104			Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2028

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
150	GEORGETOWN ST	28,831	$4,167					$37,650			Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2028
185	UNIVERSITY BLVD	7,332						$10,040			Isolated panel replacement
120	SOUTHWESTERN ST	26,029	$5,064					$14,056			Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2028
59	SOUTHWESTERN ST	44,111	$6,326					$60,910			Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2028
7	AUDEN ST	58,563	$8,455					$52,208			Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2028

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
58	SIMMONS	14,218	$656					$13,554			Curb replacement in 2023, followed by isolated panel replacement in 2028
19	CHARLOTTE ST	37,230	$3,280						$56,084		Curb replacement in 2023, followed by isolated panel replacement in 2029
135	CASON ST	25,917	$5,740						$36,686		Curb replacement in 2023, followed by isolated panel replacement in 2029
68	VILLANOVA ST	12,428	$1,626						$18,273		Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2029
156	WESLAYAN	66,500	$7,348						$63,253		Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2029

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
28	FAIRHAVEN ST	23,374	$4,991						$87,368		Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2029
107	ACADEMY ST	81,054	$8,712						$63,955		Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2029
111	UNIVERSITY BLVD	40,990	$2,460						$68,524		Curb replacement in 2023, followed by isolated panel replacement in 2029
87	COMMUNITY DR	13,176	$574						$94,879		Curb replacement in 2023, followed by isolated panel replacement in 2029
15	CAROLINA WAY	25,871							$36,686		Isolated panel replacement

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
13	BYRON ST	6,058	$1,997						$13,705		Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2029
109	UNIVERSITY BLVD	32,720	$3,426						$14,759		Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2029
61	SUNSET BLVD	5,325	$410						$13,705		Curb replacement in 2023, followed by isolated panel replacement in 2029
103	AMHERST ST	30,988	$3,378						$27,409		Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2029
153	WESLAYAN ST	25,650	$2,171						$31,626		Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2029

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
30	FENWOOD RD	25,764							$36,686		Isolated panel replacement
130	WAKEFOREST ST	53,980	$2,050						$52,710		Curb replacement in 2023, followed by isolated panel replacement in 2029
80	SUNSET BLVD	55,174							$89,608		Isolated panel replacement
26	EDLOE ST	53,845	$6,234						$37,952		Joint repair in 2023, followed by isolated panel replacement in 2029
140	NOTTINGHAM ST	32,190	$6,531						$39,533		Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2029
187	EDLOE ST	18,580							$27,409		Isolated panel replacement
198	ALBANS ST	10,855	$1,476							$24,906	Curb replacement in 2023, followed by isolated panel replacement in 2030

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
29	FAIRMONT ST	41,224	$164							$43,336	Curb replacement in 2023, followed by isolated panel replacement in 2030
4	ANNAPOLIS ST	45,490	$2,460							$70,843	Curb replacement in 2023, followed by isolated panel replacement in 2030
37	LAKE ST	45,559	$656							$70,843	Curb replacement in 2023, followed by isolated panel replacement in 2030
70	WAKEFOREST ST	11,010								$13,836	Isolated panel replacement
57	SEWANEE ST	72,357	$10,102							$74,902	Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2030

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
79	SUNSET BLVD	38,705	$5,354							$49,811	Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2030
83	ALBANS ST	20,558	$2,864							$28,780	Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2030
148	PLUMB ST	32,167	$5,380							$41,509	Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2030
186	EDLOE ST	8,679	$1,218							$49,811	Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2030
117	OBERLIN ST	18,850	$2,691							$19,187	Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2030

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
88	BROWNING ST	14,421	$1,501							$13,191	Joint repair in 2023, followed by isolated panel replacement in 2029
93	COLERIDGE ST	31,281	$4,509							$28,780	Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2030
192	AUDEN ST	24,803	$2,109							$18,818	Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2030
39	MARLOWE ST	13,938								$11,992	Isolated panel replacement
189	EMORY ST	11,318								$13,910	Isolated panel replacement
139	NOTTINGHAM ST	78,575	$2,214							$61,987	Curb replacement in 2023, followed by isolated panel replacement in 2030

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
6	ARNOLD ST	24,325	$2,536							$14,390	Joint repair in 2023, followed by isolated panel replacement in 2029
12	BROWNING ST	28,976	$4,274							$14,390	Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2030
197	ACADEMY ST	12,771	$1,412							$12,711	Joint repair in 2023, followed by isolated panel replacement in 2029
35	JUDSON ST	32,001	$1,968							$41,731	Curb replacement in 2023, followed by isolated panel replacement in 2030
77	S JUDSON ST	20,880	$574							$14,390	Curb replacement in 2023, followed by isolated panel replacement in 2030

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
23	CORONDO CT	16,307								$15,054	Isolated panel replacement
14	CARNEGIE ST	40,627	$7,154							$39,849	Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2030
66	UNIVERSITY BLVD	48,315	$7,246							$30,994	Curb replacement and joint repair in 2023, followed by isolated panel replacement in 2030
129	WAKEFOREST ST	63,930	$410								Curb replacement
31	FORDHAM ST	37,198	$820								Curb replacement
147	PLUMB ST	29,372									
42	MILTON ST	31,247	$4,259								Curb replacement and joint repair
97	RICE BLVD	34,967	$3,362								Curb replacement and joint repair
89	ARNOLD ST	32,137	$2,624								Curb replacement
110	UNIVERSITY BLVD	67,157	$410								Curb replacement

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
82	SUNSET BLVD	31,947	$820								Curb replacement
146	PLUMB ST	44,620	$1,640								Curb replacement
56	RUTGERS ST	58,179	$8,825								Curb replacement and joint repair
74	WESTCHESTER ST	72,456	$12,007								Curb replacement and joint repair
124	MERCER ST	58,128	$8,490								Curb replacement and joint repair
188	MERCER ST	18,509	$1,370								Curb replacement and joint repair
125	SEWANEE ST	75,504	$17,362								Curb replacement and joint repair
143	TANGLEY ST	32,050	$1,230								Curb replacement
122	RUSKIN ST	18,096									
145	TANGLEY ST	25,783	$2,214								Curb replacement
17	CASON ST	40,026	$3,526								Curb replacement
128	BELMONT ST	88,583	$1,722								Curb replacement
85	ALBANS ST	68,385	$2,460								Curb replacement

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
45	NOTTINGHAM ST	39,714	$6,271								Curb replacement and joint repair
127	RUTGERS ST	88,185									
133	CARNEGIE ST	39,361									
91	MARLOWE ST	29,027	$3,049								Joint repair
65	TENNYSON ST	13,177	$1,804								Curb replacement
9	BELMONT ST	104,667	$13,310								Curb replacement and joint repair
144	TANGLEY ST	40,207	$4,557								Joint repair
191	RUTGERS ST	18,546	$1,783								Curb replacement and joint repair
76	E COLLEGE ST	6,784	$808								Joint repair
116	BYRON ST	31,460	$1,066								Curb replacement
168	WEST POINT ST	23,504									
102	MILTON ST	44,946	$6,136								Curb replacement and joint repair
195	WEST POINT ST	20,817	$2,468								Curb replacement and joint repair

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
44	NORTHWESTERN ST	12,470	$1,734								Curb replacement and joint repair
160	COLLEGE ST	14,222	$2,010								Curb replacement and joint repair
38	LEHIGH ST	31,986	$4,706								Curb replacement and joint repair
33	JANE AUSTEN ST	4,831	$574								Curb replacement
48	PITTSBURGH ST	40,660									
67	VANDERBILT ST	85,754	$1,230								Curb replacement
81	SUNSET BLVD	79,974									
32	GEORGETOWN ST	39,937	$4,935								Curb replacement and joint repair
20	COLERIDGE ST	13,196	$656								Curb replacement
194	RICE BLVD	13,554	$1,870								Curb replacement and joint repair
10	BROMPTON RD	73,801	$12,082								Curb replacement and joint repair
50	QUENBY ST	63,900	$6,560								Curb replacement
126	WESTCHESTER ST	88,053	$14,875								Curb replacement and joint repair

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
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Total Pavement Area (sf) 264,779

Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
137	DUKE ST	38,785	$5,039								Curb replacement and joint repair
142	ROBINHOOD ST	32,161	$4,560								Curb replacement and joint repair
114	SWARTHMORE ST	32,084	$5,538								Curb replacement and joint repair
134	CASON ST	40,614									
64	TANGLEY ST	41,225									
104	AMHERST ST	38,844									
41	MERCER ST	87,323									
60	SPELMAN ST	3,698									
101	RICE BLVD	46,779									
138	WROXTON RD	67,323									
3	AMHERST ST	38,577									
49	PLUMB ST	39,848									
53	ROBINHOOD ST	40,102									

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

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Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
132	PITTSBURGH ST	38,879									
78	W COLLEGE ST	6,930									
51	RICE BLVD	31,805									
106	AMHERST ST	31,512									
8	BARBARA LN	25,826									
141	ROBINHOOD ST	66,802									
73	WEST POINT ST	7,992									
118	VILLANOVA ST	31,434									
34	JARRARD ST	38,225									
95	TENNYSON ST	31,934									
99	RICE BLVD	60,033									
36	LAFAYETTE ST	38,287									
11	BROMPTON ST	11,975									

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

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Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
149	GEORGETOWN ST	38,215									
54	RUSKIN ST	23,002									
90	ARNOLD ST	13,892									
100	RICE BLVD	29,714									
181	WAKEFOREST ST	39,672									
40	MARQUETTE ST	26,090									
46	OBERLIN ST	25,951									
115	CASE ST	26,091									
167	SWARTHMORE ST	12,662									
172	VILLANOVA ST	13,936									
173	RILEY ST	13,208									
182	BYRON ST	12,558									
183	BYRON ST	6,396									

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
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Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
16	CASE ST	44,611									
86	COMMUNITY DR	70,506									
119	MARQUETTE ST	47,390									
164	SWARTHMORE ST	14,300									
165	WEST POINT ST	74,793									
166	OBERLIN ST	12,610									
169	BYRON ST	13,910									
170	OBERLIN ST	42,694									
171	VILLANOVA ST	13,272									
174	RILEY ST	30,654									
175	RUSKIN ST	12,192									
176	RUSKIN ST	14,118									
177	FAIRHAVEN ST	41,936									

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
Total Pavement Length (ft) 268,148
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Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
178	WEST POINT ST	74,793									
179	ACADEMY ST	81,054									
22	COMMUNITY DR	34,190									
163	AMHERST ST	14,534									
159	COLLEGE ST	48,000									
161	WESLAYAN ST	30,432									
113	UNIVERSITY BLVD	31,416									
180	WAKEFOREST ST	14,664									
25	DUKE ST	40,621									
112	UNIVERSITY BLVD	60,793									
152	BUFFALO SPEEDWAY	152,355									
157	BUFFALO SPEEDWAY	89,671									
154	BISSONNET ST	86,952									

Exhibit A-7. 2023 Recommended Cost Estimates for Eight-Year Work Plan

Project Data

Network Name: West University Place,Texas
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Note: The estimated costs below are based on today's dollar at year 2023 with an annual inflation rate of 5% for the following years (Year 2024 to year 2030). Current events and inflation rates may impact actual pricing in the future.

Section ID	Street Name	Area (sf)	2023	2024	2025	2026	2027	2028	2029	2030	Comments
158	COMMUNITY DR	45,734									
Total Cost of Repair Per Year			$375,495	$688,602	$1,006,806	$1,075,915	$817,133	$781,667	$934,851	$845,194	

Legend

- Road Segments Requiring Preventative Maintenance
- Other Road Segments
- Priority Areas

Notes:
1. All segments are labeled with their Section ID.

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Feet
0 500 1,000 2,000

Project No.:	92215152
Date:	Mar 2022
Drawn By:	EMA
Reviewed By:	STL

Terracon
13400 15th Ave. N. Minneapolis, MN 55441
PH. (763) 489-3100 terracon.com

Preventative Maintenance Segments (2023)

City of West University Place Pavement Assessment
West University Place
Houston, TX 77005

Exhibit

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Legend

Deferred Maintenance Year

- 2024
- 2027
- 2028
- 2029
- 2030
- Other
- Priority Areas

Notes:

1. All segments are labeled with their Section ID.

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Feet
0 500 1,000 2,000

Project No.:	92215152
Date:	Mar 2022
Drawn By:	EMA
Reviewed By:	STL

Terracon
13400 15th Ave. N. Minneapolis, MN 55441
PH. (763) 489-3100 terracon.com

Deferred Maintenance Segments

City of West University Place Pavement Assessment
West University Place
Houston, TX 77005

Exhibit

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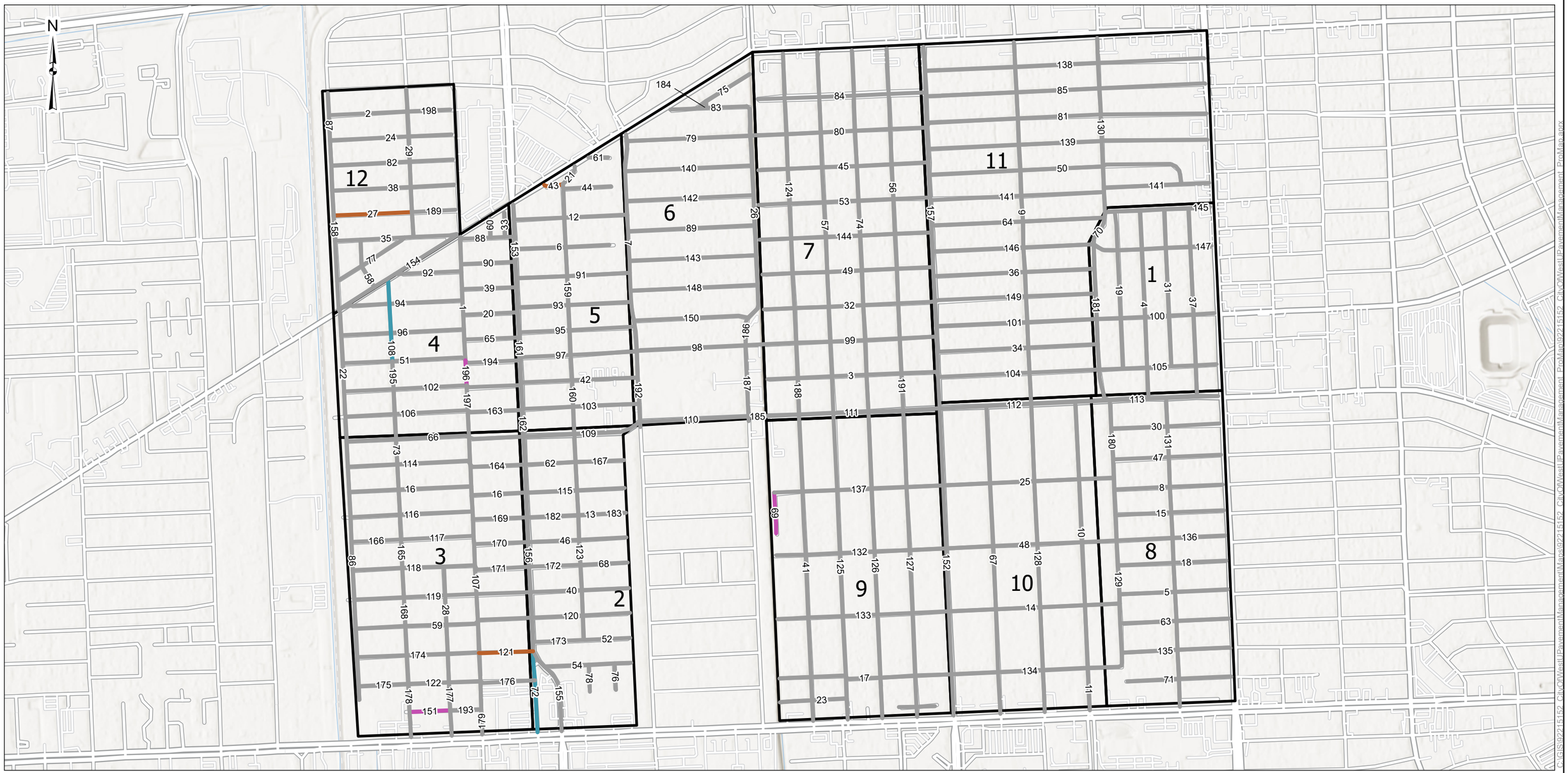

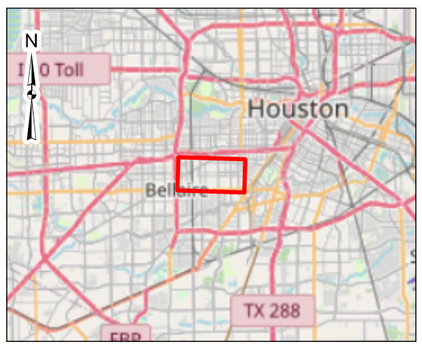

Legend

Year of Reconstruction

- 2024
- 2025
- 2026
- Other
- Priority Areas

Notes:
1. All segments are labeled with their Section ID.

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Feet
0 500 1,000 2,000

Project No.:	92215152
Date:	Mar 2022
Drawn By:	EMA
Reviewed By:	STL

Terracon
13400 15th Ave. N. Minneapolis, MN 55441
PH. (763) 489-3100 terracon.com

Reconstruction Segments Map

City of West University Place Pavement Assessment
West University Place
Houston, TX 77005

Exhibit

A-8

APPENDIX B
Site Photographs

Photo #1 Divided slab observed on Virginia Court (Section ID: 69).

Photo #2 Patching observed on West Point Street (Section ID: 168).

Photo #3 Polished aggregate observed on University Boulevard (Section ID: 109).

Photo #4 Popouts observed on College Street (Section ID: 123).

Photo #5 Punchout observed on Riley Street (Section ID: 121).

Photo #6 Joint seal damage observed on Oberlin Street (Section ID: 117).

Photo #7 Linear cracking observed on Southwestern Street (Section ID; 120).

Photo #8 Scaling and map cracking crazing observed on Carnegie Street (Section ID: 133).

Photo #9 Shrinkage cracks observed on Albans Street (Section ID: 85).

Photo #10 Joint spalling observed on Auden Street (Section ID: 7).

Photo #11 Example photo of corner break, not obtained in West University Place.

Photo #12 Example photo of faulting, not obtained in West University Place.

Photo #13 Example photo of corner spalling, not obtained in West University Place.