

TECHNICAL MEMORANDUM

Date: June 19, 2020

BKF Job Number: 190191

To: Mr. Edwin Norris, PE
Deputy Director of Public Works
City of Downey, California

From: **Daniel Villines**
Sr. Project Manager
BKF Engineers

Subject: **Lakewood Blvd. and Florence Ave. Intersection Improvement Project**
Professional Opinion Regarding Drainage Impacts

Project Description

The City of Downey is presently moving forward with the design of improvements at the intersection of Lakewood Boulevard and Florence Avenue (Project). The improvements primarily consist of enlarging the curb-returns at each of the four corners of the intersection; the slight widening of the easterly side of Lakewood Boulevard on both sides of the intersection; and the widening of the north side of Florence Avenue to a point approximately mid-way between Lakewood Boulevard and Arrington Avenue. The proposed improvements will generally improve traffic flow and turning movements at the intersection.

Pre-Project Drainage Patterns

Under existing conditions, drainage on Florence Avenue, west of the intersection flows easterly towards the intersection. Prior to reaching the intersection, flow is intercepted by two catch basins located on the northerly and southerly sides of the street. Flow on the easterly side of the intersections flows to the east in the Florence Avenue gutters away from the Project area.

Flow on Lakewood Boulevard, north of the intersection, flows southerly towards the intersection. Flow on both the easterly and westerly sides of the street is intercepted by catch basins prior to reaching the intersection. South of the intersection, runoff flows to the south away from the intersection.

Flow that is intercepted by the catch basins is conveyed to a mainline storm drain system identified as Project No. 0427 (Line B) of Miscellaneous Transfer Drain (MTD) No. 0641. This

designation indicates that the storm drain is owned and maintained by the Los Angeles County Department of Public Works (LACDPW). The upstream end of this storm drain is located on Florence Avenue, west of the Project, at the approximate location of the Birchdale Avenue intersection with Florence Avenue. The storm drain continues to the east, through the intersection and terminates at its junction with LACDPW's Line A of Project No. 0427. Flow intercepted at the Project intersection ultimately discharges into the San Gabriel River.

Figure 1 is a map from the LACDPW Graphical Information System database that shows the location of the existing storm drain and the existing condition catch basins. The map has been augmented to show the drainage patterns flowing towards and away from the intersection.

Post-Project Drainage Patterns

The proposed intersection improvements will not alter the pre-Project drainage patterns. Flows as depicted on Figure 1 will continue undiverted and unobstructed under post-Project conditions.

The slight widening of the easterly side of Lakewood Boulevard and the north side of Florence Avenue will not create any additional area tributary to the existing storm drain facilities. The widenings will result in the conversion of a small amount of area from landscaped pervious cover to an impervious surface. However, the total area of the converted landscaping is estimated to be less than a tenth of an acre. Therefore, the project will not have any significant impact on pre-Project peak flow rates tributary to the existing storm drain facilities within the Project area.

The physical improvements to the intersection will require that two catch basins and a portion of their connecting lateral storm drains be demolished and reconstructed in-kind. The first catch basin is located on the southerly side of Florence Avenue, just west of the intersection. The second catch basin is located on the easterly side of Lakewood Boulevard, just north of the intersection. The project will replace both catch basins with facilities of equal or slightly greater capacity. Both connecting laterals will be replaced with equal-sized reinforced concrete pipe configured to meet Los Angeles County Department of Public Works standards.

Conclusions

Based on a comparison of the pre- and post-Project drainage patterns, the Project will not have any significant effect on the performance and functionality of the existing storm drain system. As such, more detailed numerical modeling and analyses are not necessary and the findings of this Technical Memorandum should suffice for the engineering analysis of the drainage improvements associated with the Project.

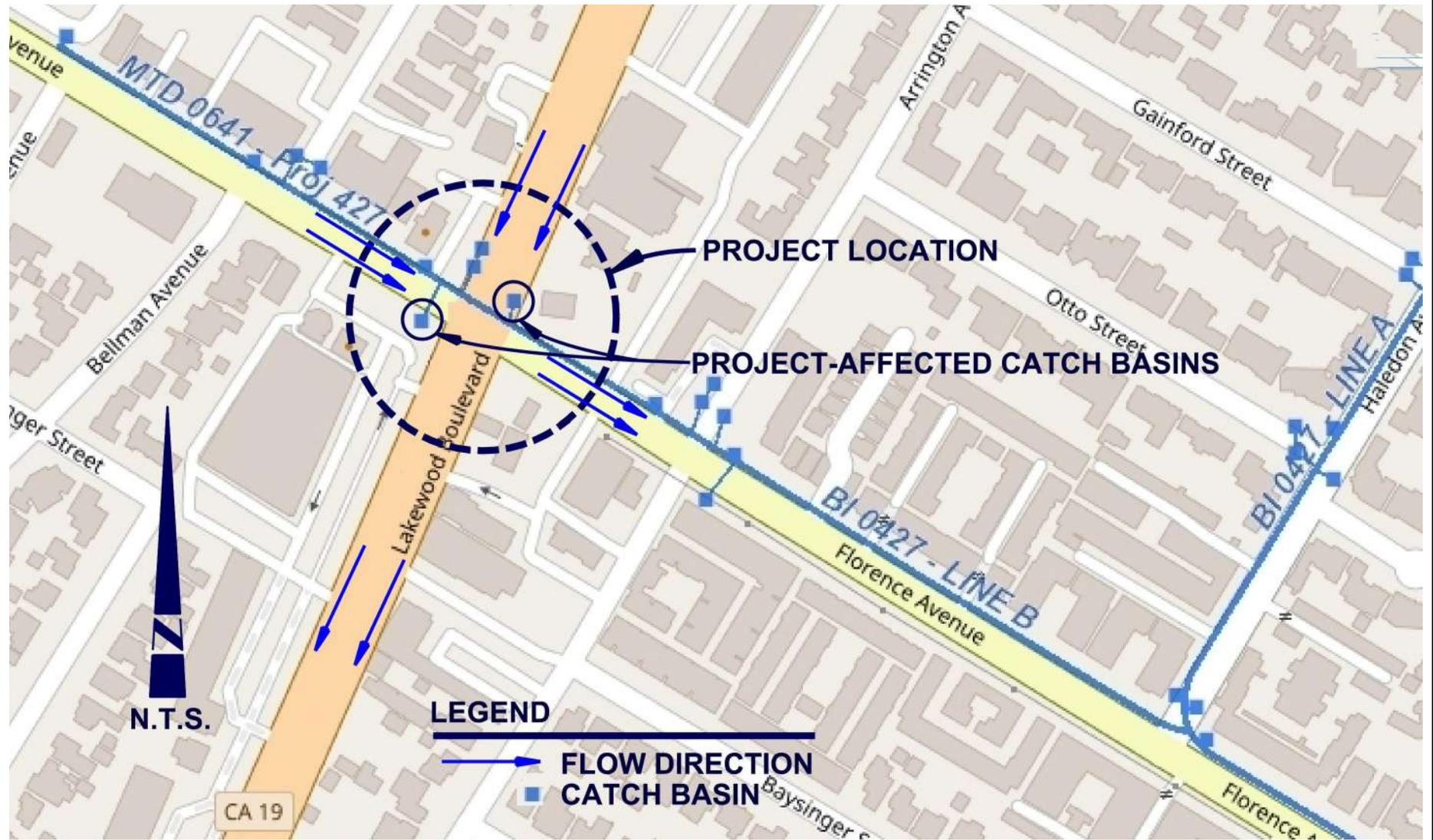
...

Please feel free to call me at (949) 526-8488 should you have any questions.



Daniel D. Villines, PE
Senior Project Manager

Attachment: Figure 1



LAKEWOOD-FLORENCE INTERSECTION

PRE-PROJECT DRAINAGE FACILITIES

Figure 1

April 2020