



January 18, 2023

Mr. Michael Padella, City Administrator
City of Weldon Spring
5401 Independence Road
Weldon Spring, MO 63304

RE: Pedestrian Crossing Evaluations – Recommendation Report
M22-8566

Dear Mr. Padella:

On November 17, 2022 Cochran visited the eight (8) pedestrian crossing locations identified by the City of Weldon Spring to perform visual evaluations and provide recommendations to the City. The eight (8) pedestrian crossing locations were evaluated on the basis of whether new pedestrian crossings were warranted or if the existing pedestrian crossings required updates per MUTCD and AASHTO criteria. Per our on-site evaluations, our recommendations are as follows:

ITEM A) – EXISTING CROSSWALK ON WELDON SPRING PARKWAY AT CITY POCKET PARK

Upon evaluation of the existing pedestrian crossing location, the following items are recommended for updates:

1. With an existing shared-use path on the south side and an existing sidewalk on the north side of the roadway, it is recommended that the current signage be updated to give motorists warning of the different types of pedestrian traffic that are utilizing the crossing. It is recommended that the two (2) existing pedestrian crossing signs be replaced with a combined pedestrian/bicycle crossing sign (W11-15), accompanied with a trail crossing sign (W11-15P) and a downward left pointing arrow sign (W16-7P), in both directions of traffic.
2. To ensure motorists can clearly identify the location where pedestrians will be crossing the roadway, it is recommended that the existing crosswalk striping be restriped with a “mid-block” type crosswalk.
3. To increase safety between motorist and pedestrians, it is recommended that rectangular rapid flashing beacons be installed, in both directions of traffic, to give motorists advanced warning of the upcoming pedestrian crossing. The existing pedestrian crossing is located within a curve and has street-side parking available on both sides of the roadway which can cause a sight distance concern.

ITEM B) – EXISTING CROSSWALK ON INDEPENDENCE ROAD AND GALAHAD DRIVE

Upon evaluation of the existing pedestrian crossing location, the following items are recommended for updates:

1. The existing rapid flashing beacons are currently inoperable, as noted by the City during the project kick-off meeting, and shall be reviewed by an electrician in order to reestablish this safety feature between motorists and pedestrians.
2. Although the four (4) existing combined pedestrian/bicycle crossing signs and the four (4) existing downward left pointing arrow signs are currently installed at this location, this crossing is not located within a school zone, as noted by the City during the project kick-off meeting. Therefore, in order to correctly follow the MUTCD standards, it is recommended that these signs be replaced using the same type and quantity of signs (W11-15 and W16-7P, respectively), however, provide signs of a yellow/black color scheme, per MUTCD criteria, similar to the color of the signs located at the intersection of Independence Road and Camelot Drive.
3. To ensure motorists can clearly identify the location where pedestrians will be crossing the roadway, it is recommended that the existing crosswalk striping be restriped with a “mid-block” type crosswalk.

ITEM C) – EXISTING CROSSWALK ON INDEPENDENCE ROAD AND CAMELOT DRIVE

Upon evaluation of the existing pedestrian crossing location, the following items are recommended for updates:

1. Industry standards recommend uniformity of pedestrian safety features throughout a City, especially when multiple locations are in close proximity. The safety features provided at this location should match the safety features provided at the crossing at Independence Road and Galahad Drive. It is therefore recommended to replace the existing poles, signs, and rectangular rapid flashing beacons at this location. The recommended safety features and/or updates are as follows:
 - a. The existing sign pole is recommended to be the same height as the sign pole located at the intersection of Independence Road and Galahad Drive, for uniformity and, in order to increase the distance and time which motorists are warned of an upcoming pedestrian crossing.
 - b. It is recommended that four (4) new combined pedestrian/bicycle crossing signs (W11-15), four (4) new downward left pointing arrow signs (W16-7P), and four (4) new rectangular rapid flashing beacons be installed on each side of two (2) new sign poles in order to provide the motorist with the maximum amount of warning to an upcoming pedestrian crossing.
 - c. To ensure motorists can clearly identify the location where pedestrians will be crossing the roadway, it is recommended that the existing crosswalk striping be restriped with a “mid-block” type crosswalk.
 - d. It is recommended that a “left turning vehicles, yield to pedestrians” sign (i.e., the same sign that is located along Galahad Drive when motorists are approaching Independence Road) be installed along Camelot Drive to warn motorists, when approaching the intersection and wanting to make a left-hand turn, that they will be crossing a pedestrian crosswalk and will need to yield to pedestrians.

ITEM D) – EXISTING CROSSWALK ON PITMAN HILL ROAD AND SAMMELMAN ROAD

Upon evaluation of the existing pedestrian crossing location, the existing safety features currently comply with MUTCD and AASHTO criteria and no further action is needed at this time.

ITEM E) – EXISTING CROSSWALK ON INDEPENDENCE ROAD AND PATRIOTIC TRAIL INTERSECTION

Upon evaluation of the existing pedestrian crossing location, the following items are recommended for updates:

1. To ensure motorists can clearly identify the location where pedestrians will be crossing the roadway, especially since this location is next to the school access, it is recommended that the existing crosswalks be restriped with a “mid-block” type crosswalk (i.e., the existing crosswalk for vehicles traveling southbound along Independence Road making a right-hand turn into the school’s parking lot and the existing crosswalk running perpendicular to Independence Road/between the two existing concrete islands). Also, with this location being within a school zone, it is also recommended that two (2) new “mid-block” type crosswalks be added to the intersection (i.e., for vehicles traveling westbound along Independence Road and making a right-hand turn onto Independence Road to travel northbound towards Route 94 and along the west side of Independence Road at the school’s entrance/exit point which also correlates with the future walking trail being considered under the feasibility study at this location).
2. Due to this location being with a school zone, it is recommended that a “school advance crossing assembly” be installed for motorists approaching the intersection in any direction (i.e., vehicles traveling northbound and southbound along Independence Road and vehicles traveling westbound along Independence Road). A commonly used “school advance crossing assembly” are the S1-1 and W16-9P signs from MUTCD, which shows a pictorial of pedestrians and a sign stating “ahead” on a neon green/black color scheme. However, there are multiple “school advance crossing assembly” options available and these options can be further discussed if needed.
3. During our evaluation of this location, it was noted that no sidewalk/pedestrian access currently exists for pedestrians traveling from the intersection to the school. This item might not necessarily pertain directly to the original scope of work under the pedestrian crossing evaluations/recommendations; however, it can be a secondary item for the City’s consideration.

ITEM NEW #1) – POTENTIAL CROSSWALK ON WOLFRUM ROAD AND SHETLAND/ROENOKE DRIVE

Upon evaluation of the proposed pedestrian crossing location, we believe it is unsafe to encourage pedestrians to cross Wolfrum Road at this intersection due to high vehicle speeds, sight distance concerns for vehicles traveling in both the northbound and southbound directions along Wolfrum Road, and the intersection is uncontrolled (i.e., no stop signs, signals, etc.). However, if there is a high demand for a pedestrian crossing and the City decides to move forward with a proposed pedestrian crossing at this location, below is a list of options for the City’s consideration in order to make the intersection safer:

Option 1: **Best Solution**

- a. Make this location a 4-way stop intersection.
- b. Provide “mid-block” type crosswalk striping between the two existing concrete curb ramps in front of the Williamsburg Subdivision and crosswalk striping running perpendicular to Wolfrum Road between the Williamsburg Subdivision and The Highlands Subdivision (i.e., from the southwest corner to the southeast corner of the intersection).

- c. Provide an ADA compliant ramp/landing pad at the end of the new crosswalk on the east side of Wolfrum Road in front of The Highlands Subdivision (i.e., at the southeast corner of the intersection).
- d. Provide a “left turning vehicles, yield to pedestrians” sign along Shetland Drive for motorists approaching the intersection and wanting to make a left-hand turn onto Wolfrum Road (i.e., the same sign that is located along Galahad Drive).
- e. Provide advance warning signs (i.e., stop sign ahead signs (W3-1)) along Wolfrum Road, in both the northbound and southbound directions of traffic.

OR

Option 2:

- a. Provide “mid-block” type crosswalk striping between the two existing concrete curb ramps in front of the Williamsburg Subdivision and crosswalk striping running perpendicular to Wolfrum Road between the Williamsburg Subdivision and The Highlands Subdivision (i.e., from the southwest corner to the southeast corner of the intersection).
- b. Provide an ADA compliant ramp/landing pad at the end of the new crosswalk on the east side of Wolfrum Road in front of The Highlands Subdivision (i.e., at the southeast corner of the intersection).
- c. Provide four (4) rectangular rapid flashing beacons, four (4) combined pedestrian/bicycle crossing signs (W11-15), two (2) downward left pointing arrow signs (W16-7P), and two (2) downward right pointing arrow signs (W16-7P), for each side of the sign pole, at the new Wolfrum Road crosswalk.
- d. Provide advance warning signs (i.e., combined pedestrian/bicycle crossing signs (W11-15) and “ahead” sign (W16-9P)) along Wolfrum Road, in both the northbound and southbound directions of traffic.
- e. Provide a “left turning vehicles, yield to pedestrians” sign along Shetland Drive for motorists approaching the intersection and wanting to make a left-hand turn onto Wolfrum Road (i.e., the same sign that is located along Galahad Drive).

ITEM NEW #2) – POTENTIAL CROSSWALK ON WOLFUM ROAD AND INDEPENDENCE/ROSEMOUNT DRIVE

Upon evaluation of the proposed pedestrian crossing location, the following items are recommended in order to provide a new crossing:

1. To ensure motorists can clearly identify the location where pedestrians will be crossing the roadway, it is recommended to provide crosswalks using a “mid-block” type crosswalk. It is suggested so have the first crosswalk located between the two existing concrete curb ramps along Independence Road and the second crosswalk located perpendicular to Wolfrum Road from the northwest corner to the northeast corner of the intersection.
2. Provide an ADA compliant ramp/landing pad at the end of the new crosswalk on the east side of Wolfrum Road in front of The Highlands Subdivision (i.e., at the northeast corner of the intersection).
3. If the suggested crosswalk locations listed above are used, then minor modifications will be needed to the existing concrete curb ramp, asphalt trail, and concrete curb & gutter located at the northwest corner of the intersection. The existing asphalt trail and concrete curb & gutter will need to be extended towards the intersection and a new raised concrete island will need to be installed at the existing curb ramp to clearly identify and separate the two new crosswalk paths at the intersection.

ITEM NEW #3) – POTENTIAL CROSSWALK ON WOLFRUM ROAD AND WHITMOOR DRIVE

Upon evaluation of the proposed pedestrian crossing location, this location does not warrant a pedestrian crossing due to high vehicle speeds, the excessive amount of vehicle traffic and lack of pedestrian traffic, sight distance concerns for vehicles traveling in both the northbound and southbound directions around the curve along Wolfrum Road, and the intersection is uncontrolled. This location demonstrates a high-risk crossing, even if adequately signed and marked, and poses safety concerns for the pedestrians. Pedestrians should not be encouraged to cross at this intersection.

Once the City has completed their review of the above recommendations and determined how they would like to proceed, Cochran will proceed accordingly to the direction given by the City of Weldon Spring.

Sincerely,

A handwritten signature in blue ink that reads "Nathan Buehrle". The signature is written in a cursive style with a large initial 'N'.

Nathan Buehrle
Project Engineer
Cochran

