

SITE DISTANCE REPORT FOR HILLVIEW WAY AND HILLVIEW CROSSING ROADS *VEHICULAR AND PEDESTRIAN SAFETY*

for

Hillview Crossing Townhome Development

Located in Section 6, Township 12 North, Range 19 West, P.M.M.,
City of Missoula, Missoula County, Montana

September 28, 2018

Prepared For:

Hillview Crossing Missoula, LLC
3605 Arthur Street
Caldwell, ID 83605

Prepared By:

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Background

The Hillview Crossing project proposes to have an intersection with Hillview Way in a section of roadway with a 35 mph speed limit. In addition, pedestrians that already cross the road from the Tonkin Trail without a crosswalk and pedestrians from the development will be expected to cross Hillview since there are only sidewalks on the South side of Hillview Way. Hillview way is at a 6.34% grade and has a slight curve. Please consider the following analysis for the site distance evaluation.

Vehicular Access to Hillview Way

This analysis is per the AASHTO Green Book for Geometric Design of Highways and Streets (section 3.2.6) based on the speed limit (35 MPH or 51.3 ft/sec) for Hillview Way. The Hillview Improvement plans were provided to TLI by City Engineering. The approach location is at STA 38+70, and per the method of determining sight distance in the AASHTO manual, we have an uphill vertical sight distance at 29+52 (918 feet) and a downhill vertical sight distance 47+82(912 feet). In review of the Hillview Way designs and from a site visit, there is adequate site distance in both directions for a safe ingress to Hillview Way from the proposed roadway on the north side of Hillview Way. Additionally, the recent reconstruction of Hillview Way contemplated this location as shown on those plans.

Pedestrian Crossing of Hillview Way

The AASHTO Green Book specifies per Exhibit 3-2 with a grade of approximately 6% that the stopping sight distance is 271 feet for a speed of 35 mph. However, the area in concern is on a vertical curve and has a slight horizontal curve as well. In addition, this is a pedestrian crossing and therefore poses a higher risk and need for adequate stopping sight distance. Therefore, Exhibit 3-3 of the AASHTO Green Book is utilized to determine the Decision Sight Distance. Condition B is used for stopping on an urban road. For 35 mph, the determined distance is 590'.

For the north side crossing, there is ample sight distance in both directions. However, the east side is on the inside of the curve. There is roughly 600' of sight distance based on a site visit with Troy Monroe, PE of the City Engineering staff. However, the site line is marginal and may become obstructed over time. Since the sight line is marginal and on a vertical curve, we are recommending that a Rectangular Rapid Flash Beacon (RRFB) system be installed on each side of the roadway. They will be set to both flash

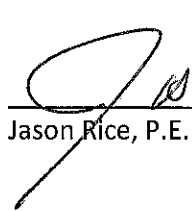
regardless of which side of the road is actuated by a pedestrian and designed in accordance with the Manual of Uniform Traffic Control Devices (MUTCD) Interim Approval 21 and the City of Missoula Standards for roadside construction.

Conclusion

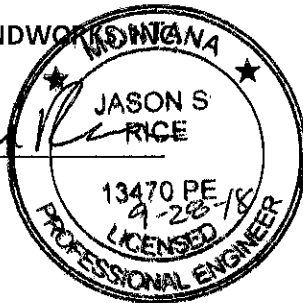
Vehicles exiting the proposed road should have ample sight distance to safely ingress from the proposed development. However, due to the crossing maneuver from the south side of Hillview Way and concerns of the east bound traffic, we are recommending that a RRFB be installed. A site plan showing the crosswalk area is attached.

Prepared by:

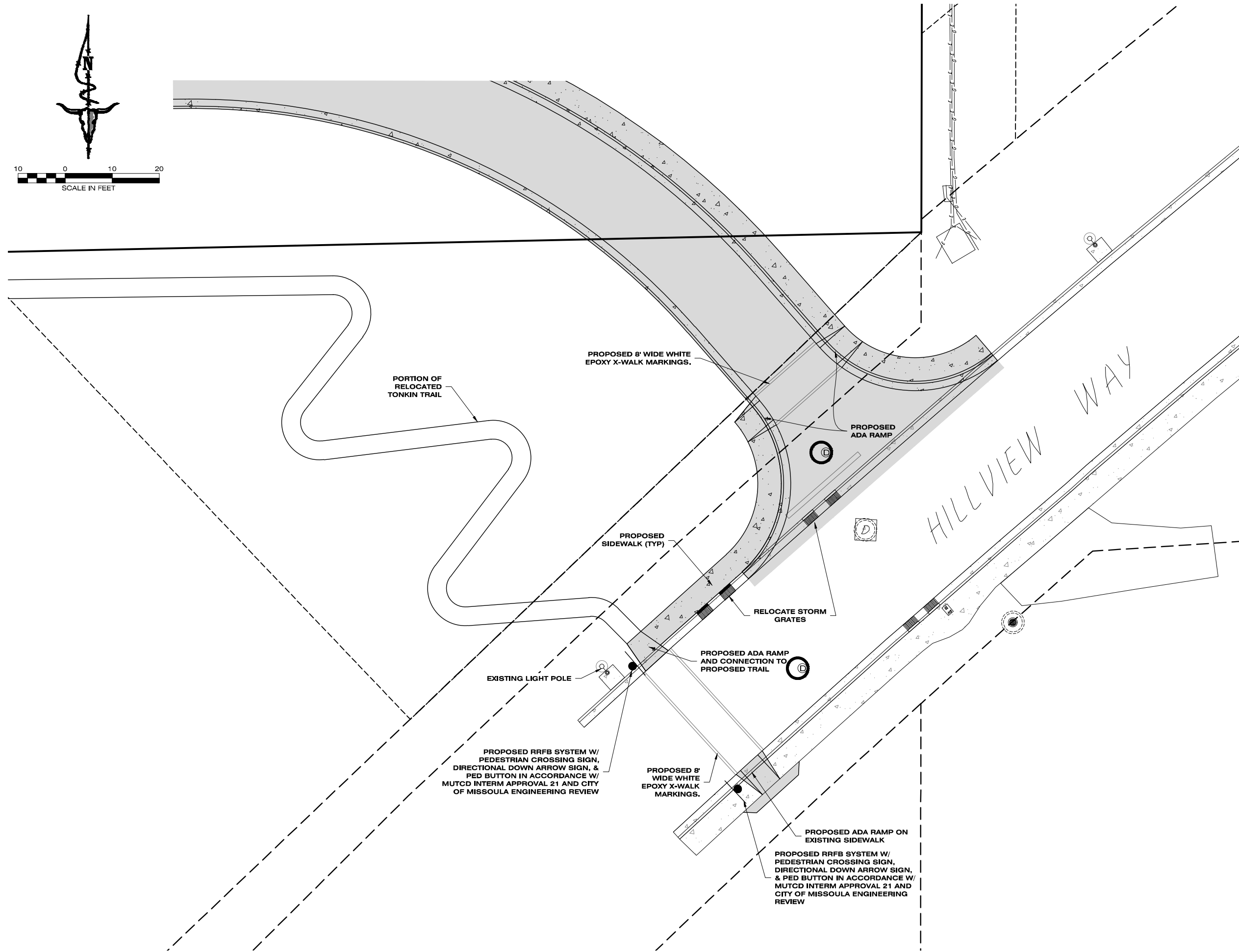
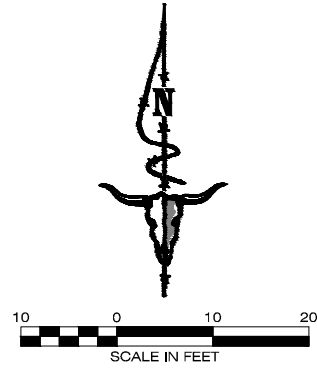
TERRITORIAL-LANDWORKS



Jason Rice, P.E.



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PORTION OF RELOCATED TONKIN TRAIL

PROPOSED 8' WIDE WHITE EPOXY X-WALK MARKINGS.

PROPOSED ADA RAMP

PROPOSED SIDEWALK (TYP)

RELOCATE STORM GRATES

HILLVIEW WAY

EXISTING LIGHT POLE

PROPOSED ADA RAMP AND CONNECTION TO PROPOSED TRAIL

PROPOSED RRFB SYSTEM W/ PEDESTRIAN CROSSING SIGN, DIRECTIONAL DOWN ARROW SIGN, & PED BUTTON IN ACCORDANCE W/ MUTCD INTERM APPROVAL 21 AND CITY OF MISSOULA ENGINEERING REVIEW

PROPOSED 8' WIDE WHITE EPOXY X-WALK MARKINGS.

PROPOSED ADA RAMP ON EXISTING SIDEWALK

PROPOSED RRFB SYSTEM W/ PEDESTRIAN CROSSING SIGN, DIRECTIONAL DOWN ARROW SIGN, & PED BUTTON IN ACCORDANCE W/ MUTCD INTERM APPROVAL 21 AND CITY OF MISSOULA ENGINEERING REVIEW

PRELIMINARY	PROJECT NO. 14-3592	PROJECT NAME HILLVIEW CROSSING - MISSOULA	LOCATION CITY OF MISSOULA 12N, 19W, S6 MISSOULA COUNTY, MONTANA	TERRITORIAL LANDWORKS, INC. CIVIL ENGINEERING • SURVEYING • LAND USE CONSULTING www.territoriallandworks.com P.O. Box 3851 Missoula, MT 59806 Ph: 406/721-0142 Fax: 406/721-5224 PLOT DATE: 09/27/2018 1:58 PM
	SHEET: 1 OF 1	SHEET TITLE: HILLVIEW WAY INTERSECTION DETAIL	PREPARED FOR: HILLVIEW CROSSING, LLC.	DESIGNED: DRAFTED: <i>/W</i> CHECKED: DATE: <i>4/19/2018</i>
REVISIONS		DATE		