APPENDIX - H

ACCESS LAW DESIGN COMPLIANCE MEMORANDUM

CITY OF SAN DIEGO PUBLIC WORKS DEPARTMENT

ACCESS LAW DESIGN COMPLIANCE
PRELIMINARY ENGINEERING PROJECTS
MEMORANDUM

Date: February 19, 2015

To: Virginia Oskoui, Project Engineer, Public Works Department, Project Implementation Division

Subject: Preliminary Evaluation Report for AC Water Group 1019 Project

From: Fletcher Callanta, Senior CIP Access Law Compliance Officer, Public Works Department, Project Implementation Division

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The office has completed the review of the project as referenced above for compliance with the access law. The project proposes to replace in place approximately 6,628 lineal feet of existing 8-inch asbestos cement (AC) water main and 10,181 lineal feet of existing 6-inch AC water main with new 8-inch polyvinyl chloride (PVC) via open trench construction methods in certain areas in Mid-City: Eastern Area Community in Council District 4.

The plan check comments listed below shall be addressed during the design stage. If you have any questions on the issues or requested revisions, you may contact me directly via email at fcallanta@sandiego.gov.

Please note that this is a preliminary evaluation only. The review was based on the submitted preliminary design document only. If the scope changes, this report will be considered null and void and the project must be resubmitted for a new evaluation review.

The project is required to be submitted to the office at 60% prior to finalization as part of the required citywide plan check for a more comprehensive review. Additional items and requirements may be identified during the course of the review of the design package. If the project is not submitted for the citywide plan check, the project may not be approved.

UUP 4J1 Project (Undergrounding Utilities Program) is scheduled to remove power poles and install curb ramps in certain locations within the AC Water Group 1019 project area. Please confirm the locations of the curb ramps with the project manager.

I. Curb Ramp Policy:

1. Existing curb ramps with no DWTs – When curb ramp requirements are triggered, all existing curb ramps with no DWTs shall be replaced with ones per the current City of San Diego Standard Drawings (SDG series only).

2. Existing curb ramps with DWTs – When curb ramp requirements are triggered, the project is not required to replace existing curb ramps with DWTs unless there is concrete and tile damage.

3. Unless technically infeasible (site constraints, ROW restrictions, existing conditions, etc.), the project shall install two curb ramps per corner to the maximum extent practicable.

4. Do not assume that the curb ramp standards will work at all locations. The designer shall perform a comprehensive site evaluation to verify site constraints and conditions that can impact access to sidewalk corners and corner facilities. The designer shall "design" the curb ramps to accommodate sidewalk, slope, road, drainage, vehicular and pedestrian traffic conditions.

5. Curb ramp access shall be provided to the maximum extent feasible. Do not use the existing sidewalk width as the basis for the curb ramp design. The designer shall verify the parkway right-of-way limits (ROW) to ensure the appropriate design or type of curb ramp is used. "Verify parkway ROW limits" is to measure the width of the ROW at the sidewalk area from face of curb to the property line.

   In a level sidewalk condition (with a 6"-high curb) with no barriers or constraints:

   - A Type A curb ramp may be used if the ROW distance is 10'-0" or more.
   - If the distance is less than 10'-0" but not less than 8'-0", a Type C2 curb ramp may be used.
   - If the distance is less than 8'-0", a Type C1 curb ramp may be used.
   - The City Standards have special curb ramp designs that can be used to accommodate unique site conditions (refer to SDG-130, page 2 of 5).
   - In existing signalized intersections, the pedestrian pushbuttons (PPB) may be required to be relocated to comply with the ADA and MUTCD standards if a Type C2 or C1 curb ramps are used.
   - The designer may come up with a modified design to accommodate non-standard curb heights, slopes and other site constraints. Provide an enlarged detail of the curb ramp(s) on the plans. The detail shall include elevations, slopes and dimensions. Modified curb ramp designs are the responsibility of the designer and shall be submitted to the office for review and approval. These types shall be addressed at the first preconstruction meeting with the Resident Engineer.

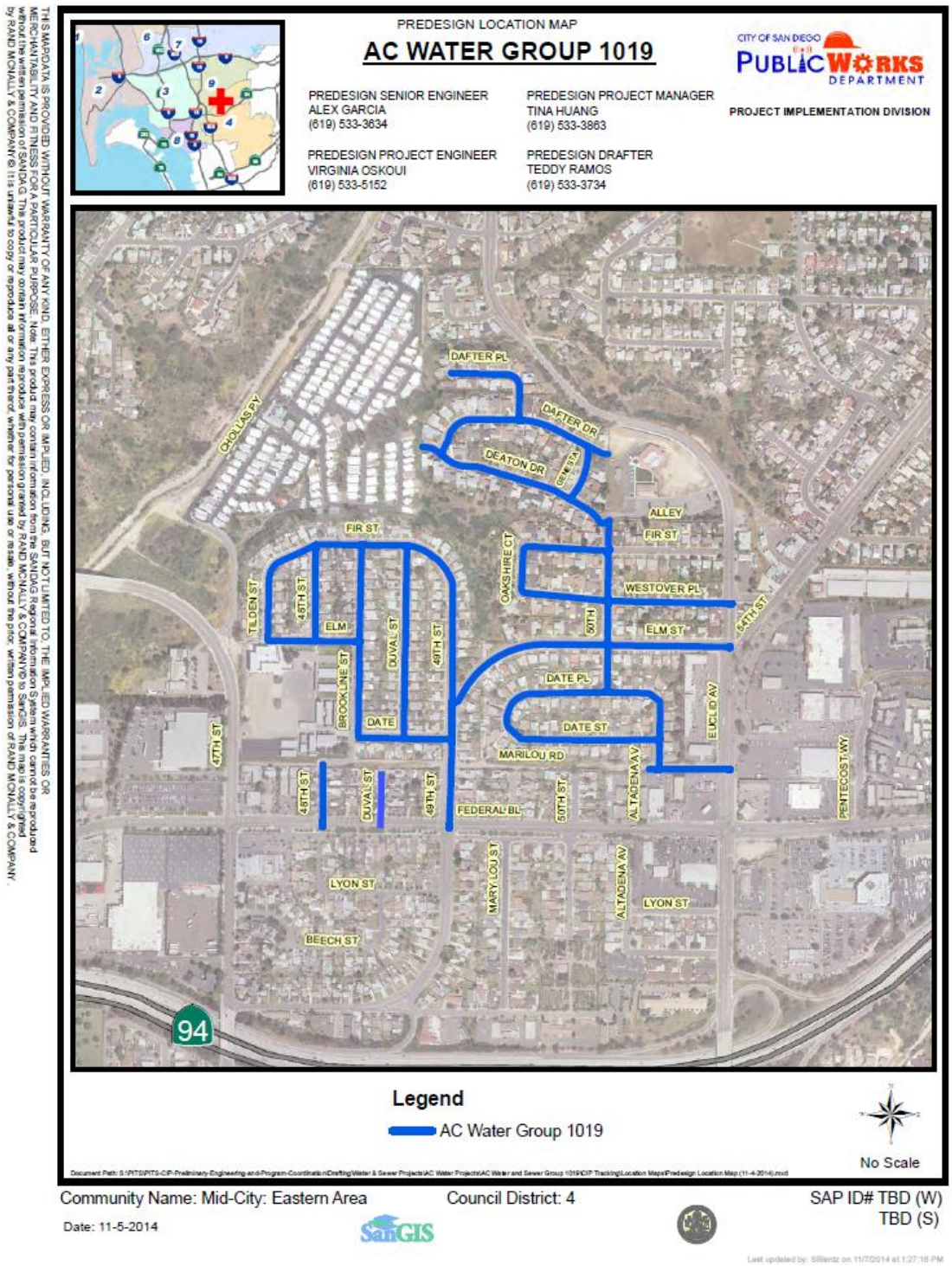
6. Unless an encroachment permit can be provided by the property owner, any unpermitted improvements within the ROW shall be removed to allow for the installation of a curb ramp.

7. If a curb ramp is required at a sidewalk corner with a curb inlet, signal pole, light pole, manhole, traffic controller cabinet, pull boxes, trees and other obstructions, the project is required to remove these obstructions regardless of the extent of the removal process.

8. All DWTs shall be per the City's Approved Materials List (AML). Note the material on the curb ramp sheet.

9. Protect and keep all historic stamps within corner sidewalks. Ensure this is noted on the curb ramp sheet.

II. Plan Check Comments:



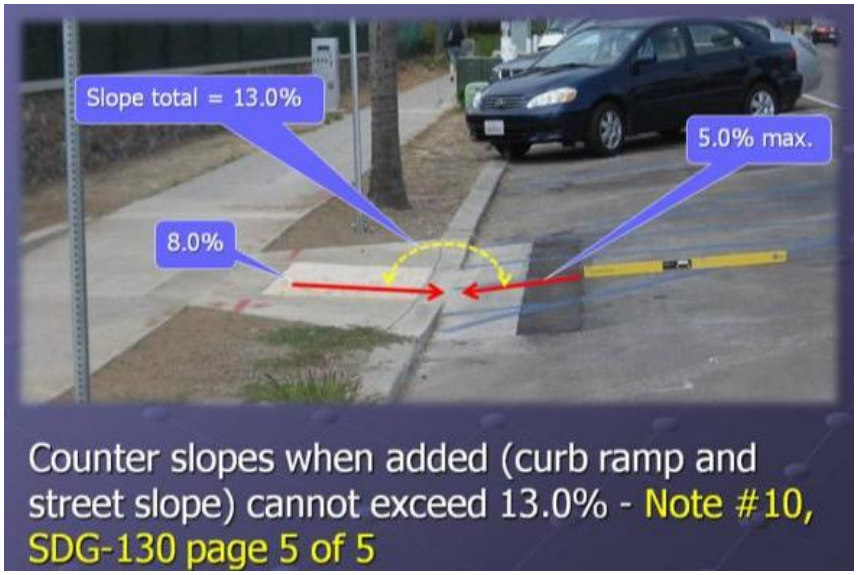
Predesign Location Map

Legend:

- Existing curb ramp with a detectable warning tile (DWT)
- Existing curb ramp with no DWT
- Missing curb ramp
- Recommended location for the new curb ramp
- Pedestrian access route (PAR)
- Water main to be replaced

1. Provide the following general notes on the curb ramp sheet:

   a. Refer to the City's Approved Materials List for Detectable Warning Tiles products.
   b. Protect and keep all historic stamps within sidewalks.
   c. The design of the curb ramp shall not affect the drainage pattern on the street.
   d. Counter slopes (curb ramp slope plus street slope) when added cannot exceed 13%. With the exception of a Type C2 and C1, adjust the slope of the main ramp and/or street if the counter slope exceeds 5.0%.



2. Submit the complete set of 60% design plans with the curb ramp and resurfacing sheets for the required citywide plan check review. MACC and JOC projects are not exempt from the review.

3. Resurfacing/Overlay – The project is required to address the curb ramps, pedestrian crossing, any marked crosswalks and pedestrian signal requirements at all intersections (including alleys) if the overlay is going to be extended beyond the alignment. Ensure the design plans address those intersections that were not addressed in this report.

4. Type C1 curb ramps – The landing of a Type C1 is flushed with the street therefore; address/design the drainage pattern to prevent ponding at the landing of the curb ramp.

5. Sidewalks:

5.1 The project is required to repair any lifted, damaged and missing sidewalk panels at the immediate areas leading to the existing and new curb ramps that are within the project area (including those triggered by the overlay that is going beyond the alignment).

5.2 If within a designated historic district, provide a note on the plans for the Contractor to use the same existing sidewalk concrete color on the new sidewalk panels and curb ramps.

6. Crosswalks:

6.1 Continental Standard – If the affected crosswalks meet the criteria then crosswalks shall be restriped to meet the City's "continental" standard. For additional questions on the standard, please contact:

Edd Alberto, Associate Traffic Engineer, Transportation Engineering Operations Division/Transportation and Storm Water Department
Phone: (619) 533-3093
Email: AlbertoE@sandiego.gov

6.2 Striping Requirements:

- Restripe Transverse crosswalks using 12" wide Thermoplastic finish.
- Refer to the Continental Crosswalk Standards for striping information.
- Projects shall include a striping plan or detail on the plans with a copy of "Figure 406.6" for the designer/contractor's reference.
- Access law requirements on placement of markings at single curb ramped corners:

  2010 ADA Section 406.6 and 2010 CBC 11B-406.5.10 (this applies to sidewalk corners with a single curb ramp only) – Diagonal or corner type curb ramps with returned curbs or other well-defined edges shall have the edges parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have a clear space 48" minimum outside active traffic lanes of the roadway. Diagonal curb ramps provided at marked crossings shall provide the 48" minimum clear space within the markings. Diagonal curb ramps with flared sides shall have a segment of curb 24" long minimum located on each side of the curb ramp and within the marked crossing.

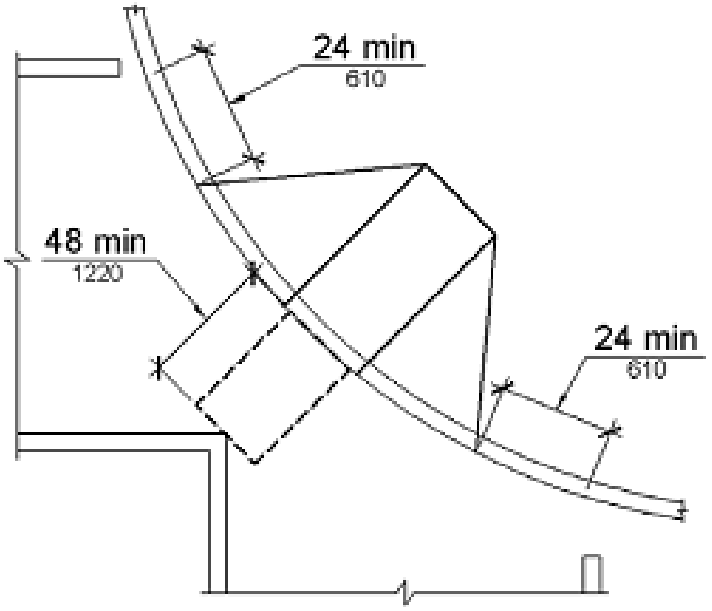


Figure 406.6 (Type A)

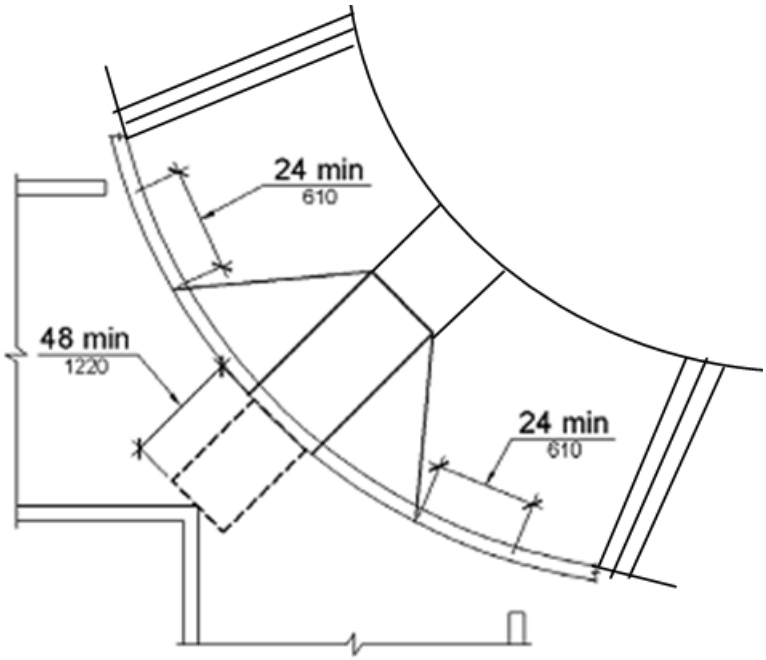


Figure 406.6 (Single Type C2 curb ramp at corner)

7. Dafter Place elbow:

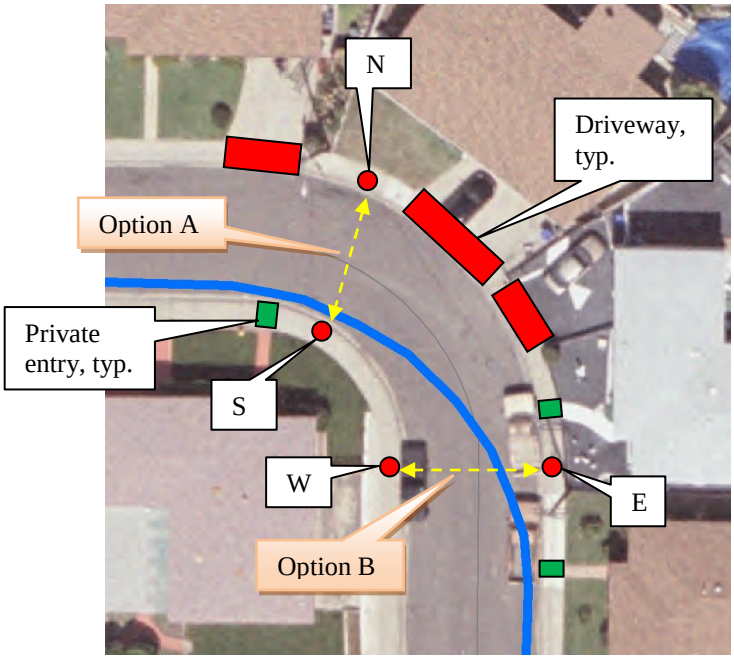


Photo 7a – Location Map

7.1 Select one of the two options below that works best for the location. Verify conditions and constraints prior to design:

a. Option A an Option B – Verify parkway ROW limits and select the best type of curb ramp for the locations shown in photo 6a. Do not use the existing depth of the sidewalk as the basis for the selection. We have to remove unpermitted improvements along the ROW to allow for the installation of curb ramps.

b. Patch and repair surface damages along the crossing areas.

c. Always maintain a 48" separation between a curb ramp and a "private entry" and/or "driveway".

d. "Private Entry" – Sidewalk panels fronting private access areas/sidewalks/walkways shall be level at all times. The ramped portion of a curb ramp is not allowed to be installed at those areas. If due to constraints a curb ramp has to be installed then the level landing of the curb ramp shall only be allowed at those areas. If a Type C2 or C1 is used, the private walkway shall be sloped properly to meet the landing of those curb ramps.

d. Regardless of the type of curb ramp, always provide a retaining curb behind the entire curb ramp if the grade elevation behind the sidewalk is higher.

8. Dafter Place and Dafter Drive:

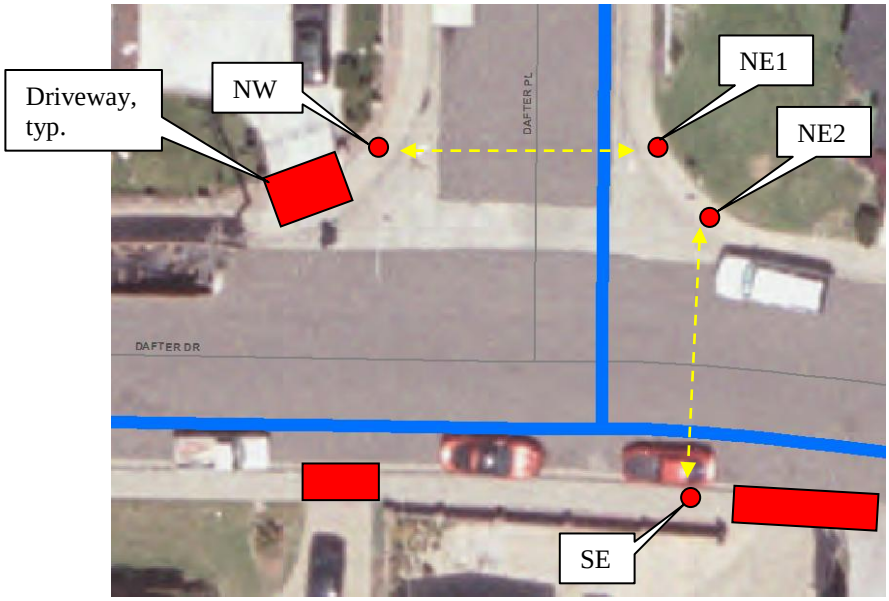


Photo 8a – Location Map

8.1 NW – There is an existing driveway at the corner therefore; verify parkway ROW limits and install a directional curb ramp at the location shown in photo 8a. Ensure that there is a 48" level separation between the curb ramp and the driveway. If a Type C2 or C1 is to be used, ensure that there is a retaining curb behind the sidewalk. Provide a note in the plans for the contractor to protect the adjacent wall during demolition and construction.

8.2 NE1 and NE2 – To accommodate the existing conditions, install two directional curb ramps at the corner. See photo 8a. Verify parkway ROW limits and select the best type for the corner. If a Type C2 or C1 is to be used, provide an enlarged scaled detail on the plans.

8.3 SE – Verify parkway ROW limits and install the appropriate type of curb ramp at the location shown in photo 8a. If a Type C2 or C1 is to be used, ensure that there is a retaining curb behind the sidewalk. Ensure that there is a 48" level separation between the curb ramp and the driveway. Provide a note in the plans for the contractor to protect the adjacent wall during demolition and construction.

8.4 Patch and repair surface damages along the crossing areas.

9. Dafter Drive and Deaton Drive:

9.1 NW – Verify parkway ROW limits and install a Type C2 at the corner. Provide a retaining wall behind the curb ramp to support the grade elevation behind the sidewalk. If the buildable area is less than 8'-0", a Type C1 may be used. See photo 9a.

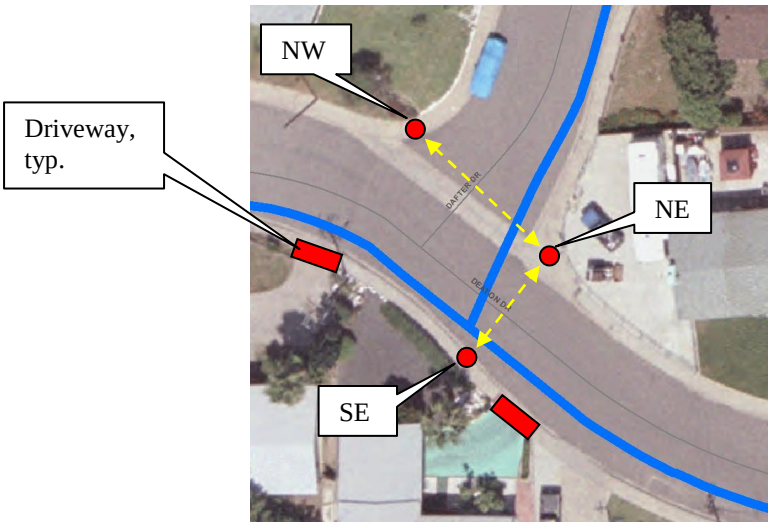


Photo 9a – Location Map

9.2 NE2 – Verify parkway ROW limits and install a Type B curb ramp at the location shown in photo 9a. Provide a 3'-0" long red curb at both sides of the curb ramp.

9.3 SE – Verify parkway ROW limits and install a Type C2 directly across the NE corner. See photo 9a. If the ROW is less than 8'-0" (face of curb to property line) then a Type C1 may be used. Provide a retaining curb behind the curb ramp and add a note in the table for the contractor to protect the wall behind the sidewalk during demolition and construction. Ensure that a level landing (min. 4'-0") is maintained between the curb ramp and the driveway.

9.4 Patch and repair surface damages along the crossing areas.

10. <u>Deaton Drive and Genesta Street:</u>

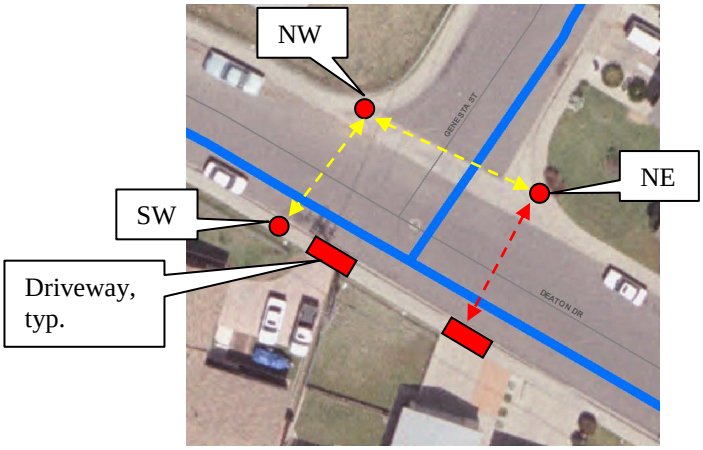


Photo 10a – Location Map

10.1 NW – Verify parkway ROW limits and install a Type C2 at the corner. If the ROW is less than 8'-0" (face of curb to property line) then a Type C1 may be used. Provide a retaining curb behind the curb ramp and add a note in the table for the contractor to

protect the wall behind the sidewalk during demolition and construction. See photo 11a.

10.2 NE – Verify parkway ROW limits and install a Type C2 at the corner. If the ROW is less than 8'-0" (face of curb to property line) then a Type C1 may be used. Provide a retaining curb behind the curb ramp.

10.3 SW – Verify parkway ROW limits and install a Type B directly across the NW corner. See photo 10a. If the ROW is less than 10'-0" (face of curb to property line) then a Type C2 may be used. Provide a retaining curb behind the curb ramp. Ensure that a level landing (min. 4'-0") is maintained between the curb ramp and the driveway.

10.4 Patch and repair surface damages along the crossing areas.

11. <u>Deaton Drive/50th Street and Fir Street:</u>

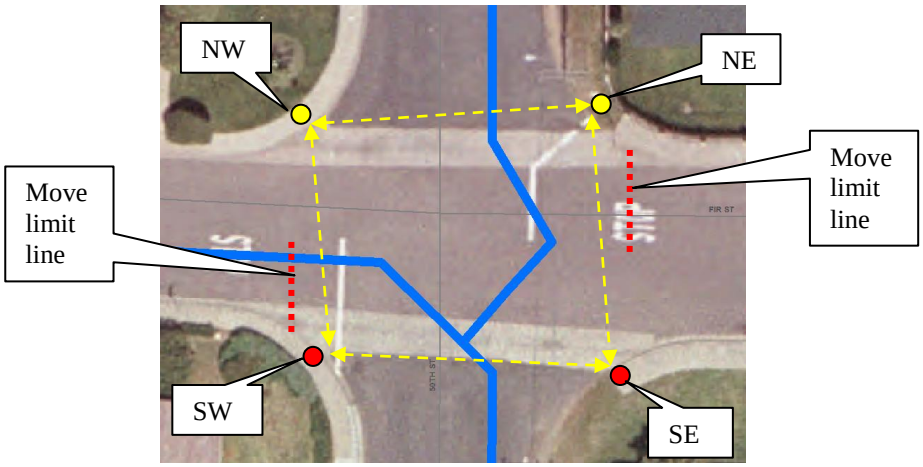


Photo 11a – Location Map

11.1 NW and NE – There are curb ramps with DWT at the corners. Unless there are concrete and DWT damages, the project is not required to replace them. Verify conditions on site.

11.2 SE – Verify parkway ROW limits and install a Type C2 at the corner. See photos 11a and 11b. If the ROW is less than 8'-0" (face of curb to property line) then a Type C1 may be used. Provide a retaining curb behind the curb ramp and add a note in the table for the contractor to protect the wall behind the sidewalk during demolition and construction. Install a full curb ramp as shown in the photo below. Provide an enlarged scaled detail on the plans so that the contractor knows how wide the sidewalk is on the other side of the corner.

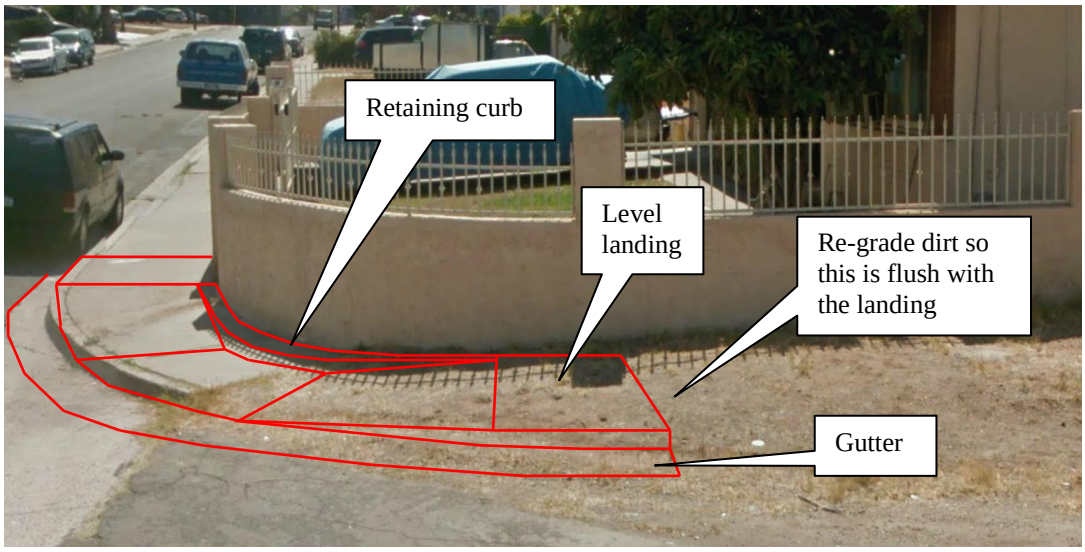


Photo 11b – SE corner

11.3 SW – Verify parkway ROW limits and install a Type C2 at the corner. Do not use the sidewalk width as the basis for the design. Provide a retaining curb behind the curb ramp.

11.4 Adjust limit lines before the curb ramps.

11.5 Patch and repair surface damages along the crossing areas.

11.6 Prior to design, coordinate the work at the intersection with the project manager for Sewer and Water AC 776. The project that goes in first shall do the curb ramp improvements.

12. <u>Fir Street and Oakshire Court:</u>

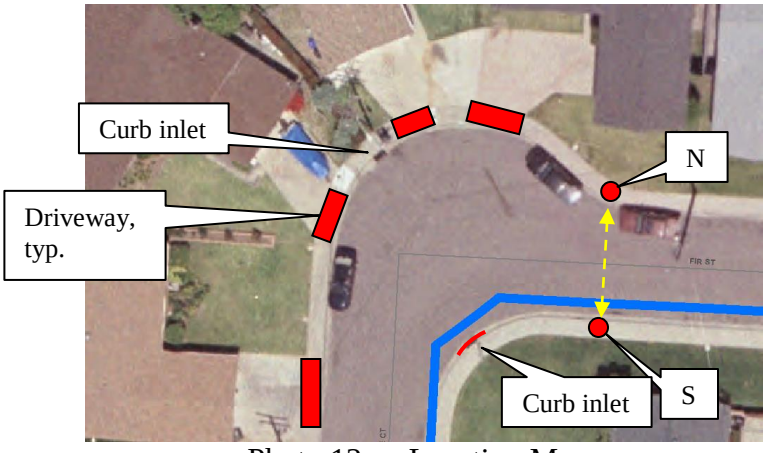


Photo 12a – Location Map

12.1 N and S – Verify parkway ROW limits and install directional curb ramps at the location shown in photo 12a. Provide retaining curbs behind the entire curb ramp.

12.2 Patch and repair surface damages along the crossing areas.

13. Oakshire Court and Westover Place:

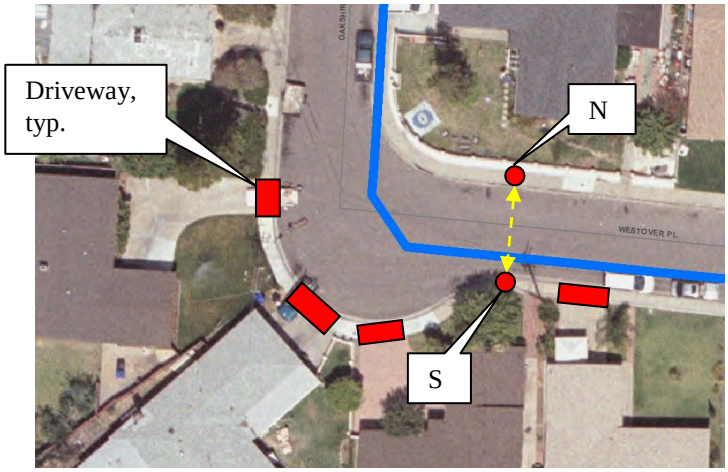


Photo 13a – Location Map

13.1 N and S – Verify parkway ROW limits and install directional curb ramps at the location shown in photo 13a. Provide retaining curbs behind the entire curb ramp. For the N curb ramp, add a note in the table for the contractor to protect the wall behind the sidewalk during demolition and construction. For the S curb ramp, if a Type C2 or C1 is to be used, ensure there is a 48" level transition between the curb ramp and the driveway.

13.2 Patch and repair surface damages along the crossing areas.

14. Westover Place and 50th Street:

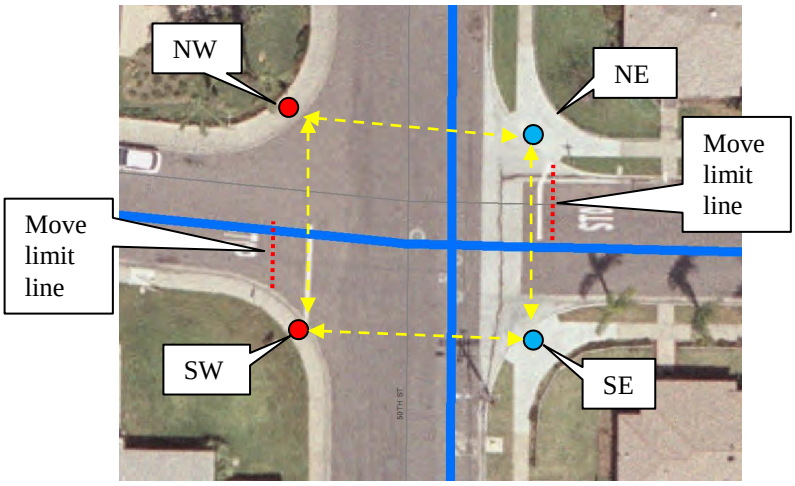


Photo 14a – Location Map

14.1 NE and SE – Verify parkway ROW limits and replace the existing curb ramps with a Type A.

14.2 NW and SW – Verify parkway ROW limits and install the appropriate type at the corners. Provide retaining curbs behind the entire curb ramps. For the NW curb ramp, add a note in the table for the contractor to protect the wall behind the sidewalk during demolition and construction.

14.3 Adjust the limit lines before the curb ramps.

14.4 Patch and repair surface damages along the crossing areas.

15. Westover Place and Euclid Avenue:

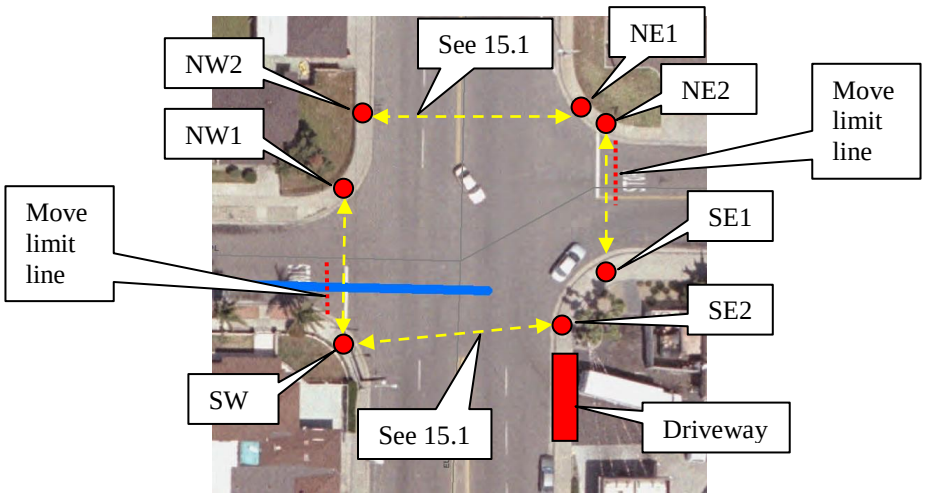


Photo 15a – Location Map

15.1 Prior to design, check with Traffic Engineering and Operations (Gray Pence) if pedestrian crossing will be allowed across Euclid Avenue. If allowed, install curb ramps at NW2, NE1 and SE2. Verify parkway ROW limits and install directional curb ramps at those locations. See photo 15a. If not allowed, install pedestrian barricades at all four corners and ensure the arrows on the signs point to the nearest crossing area.

If due to the existing driveway the curb ramp at SE2 will not work for crossing to/from the SW curb ramp, then the crossing across Euclid Avenue may be directed to the NW2 and NE1 curb ramps. Pedestrian barricades will then be required to direct pedestrians to those curb ramps.

15.2 NW1, SW, NE2 and SE1 – Verify parkway ROW limits and install the appropriate type of curb ramps at the corners. See photo 15a. Do not use the existing sidewalk width as the basis for the design. Specify stainless steel or replaceable DWT. For the SW curb ramp, provide a retaining curb behind the curb ramp and add a note in the table for the contractor to protect the wall behind the sidewalk during demolition and construction.

15.3 Accessible routes at corners – Check to see if there is at least 36” of clear passageway space between the base of the power pole to the edge of sidewalk and base of the light

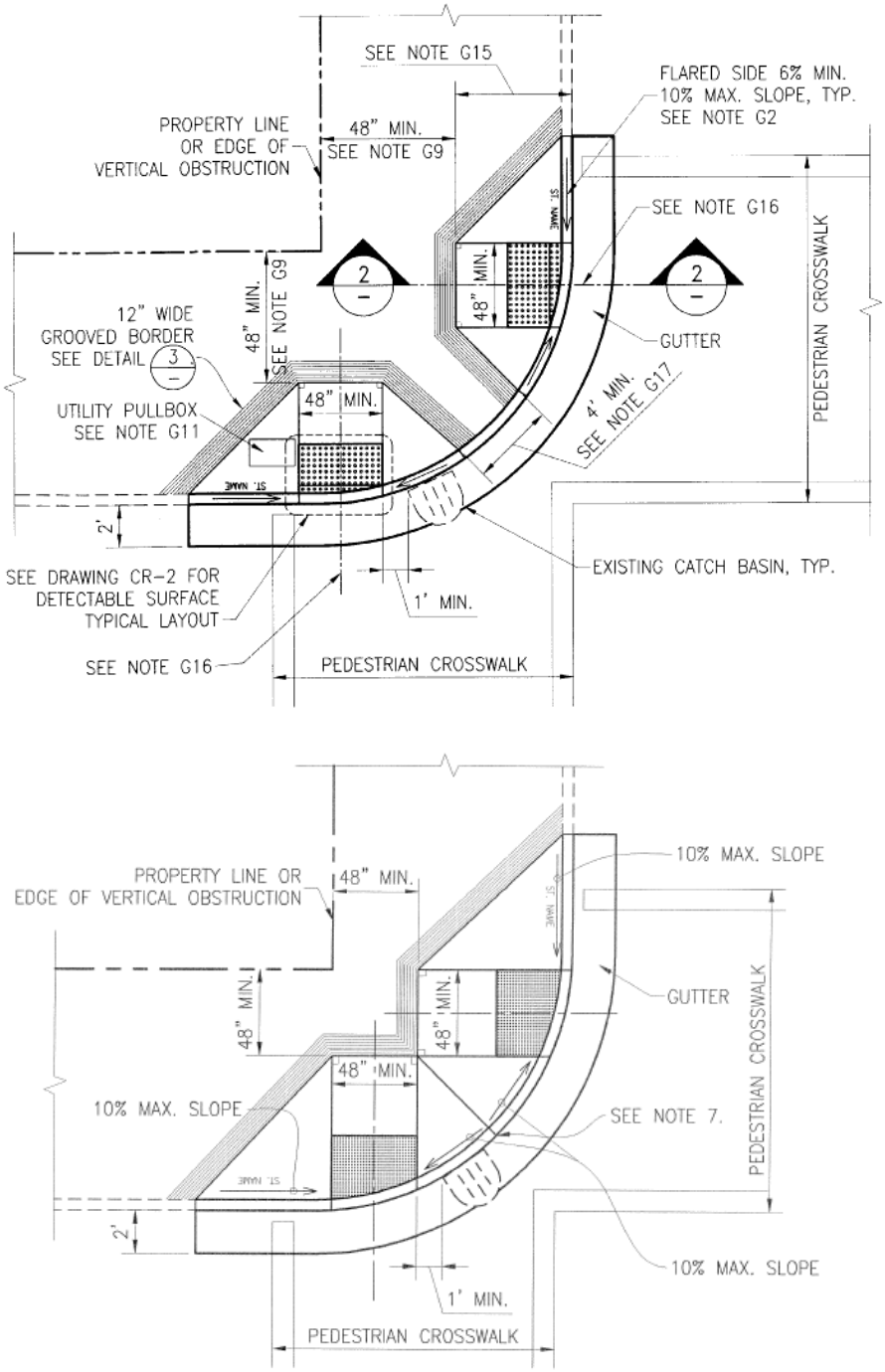
pole to the edge of the sidewalk. Extend the sidewalk if necessary to ensure compliance with the accessible route regulations. See photo 15a.

SW corner – If it is technically infeasible to provide the 36" passageway, relocate the light pole and check with the Undergrounding Program (UG) on when the power pole is going to be removed. Document the removal date, UG project name and project contact in your file. See photo 15b.

Photo 15b – SW corner

Photo 15c – NE corner

15.4 NE – If pedestrian crossing is allowed across Euclid Avenue, design two curb ramps at the corner to accommodate the access to NW2 and SE1. See examples below.



Examples of dual-curb ramp design at a corner

15.5 Move the limits lines before the curb ramps.

15.6 Patch and repair surface damages along the crossing areas.

16. Elm Street and Euclid Avenue – Prior to design, contact Dayue Zhang if UUP 4J1 Project will complete the required improvements at this intersection.

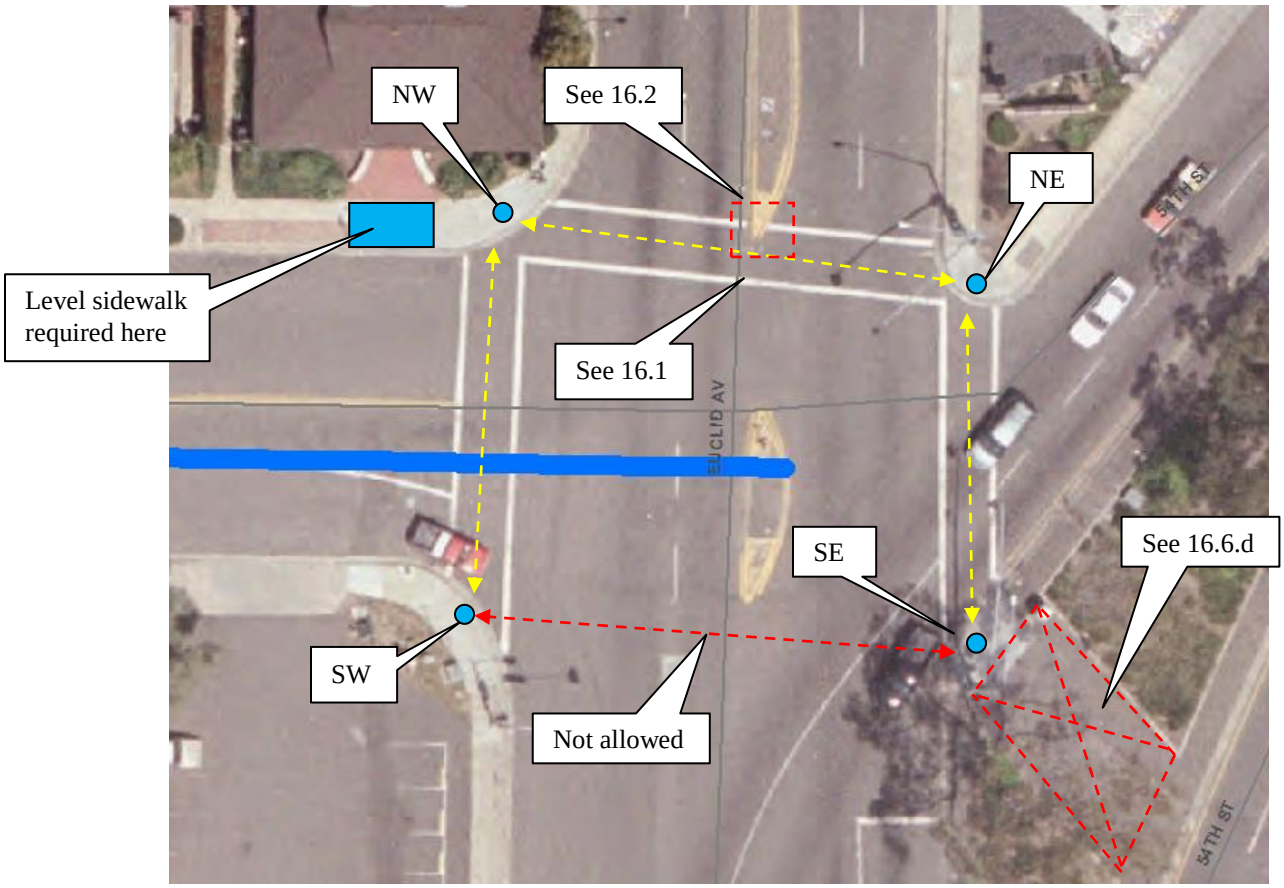


Photo 16a – Location Map

16.1 Restripe all crosswalks to meet current standards. See comment #6.

16.2 Remove a portion of the raised median that is encroaching onto the crosswalk.

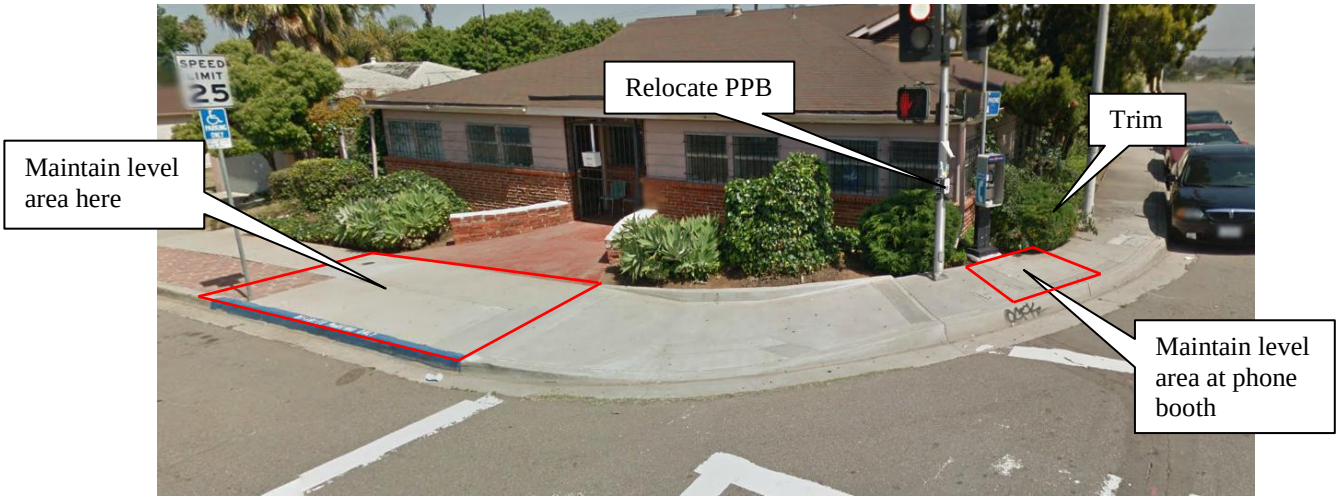


Photo 16b – NW corner

16.3 NW – Verify parkway ROW limits and see if a Type C2 can be used to replace the existing curb ramp. Specify stainless steel or removable DWT. See photo 16b.

a. Provide a retaining curb behind the curb ramp.

b. Ensure that a level sidewalk area in front of the corner establishment is maintained. Relocate the existing PPB to the mid landing area of the curb ramp to conform to the MUTCD Standards. Relocate the signal pole if necessary to accommodate the new curb ramp. If the signal pole needs to be relocated, check with Traffic Engineering and Operations (Eddie Flores or Duncan Hughes) if they have a project that will upgrade the signals in this intersection otherwise, the project shall move the signal pole.

c. Adjust the location of the blue curb if necessary. Prior to adjustment, contact Gary Pence (Traffic Engineering and Operations).

d. Check to see if the phone booth is still operational. If not, contact the phone company to have it removed. If operational, a level landing is required to be maintained in front of the phone booth. Relocate the phone booth if necessary to accommodate the new curb ramp.

e. Trim the landscaping overgrowth that is encroaching onto the sidewalk.

f. Provide an enlarged and scaled detail of the curb ramp and include the blue curb, private entrance to the corner establishment, existing landscaping, phone booth, signal pole and PPB, portion of the crosswalk, elevations and slopes.

16.4 SW – Verify parkway ROW limits and replace the existing curb ramp with a Type A. Relocate any obstructions within the ROW. Specify stainless steel or removable DWT. Ensure the PPB is at the location specified in the MUTCD Standards.

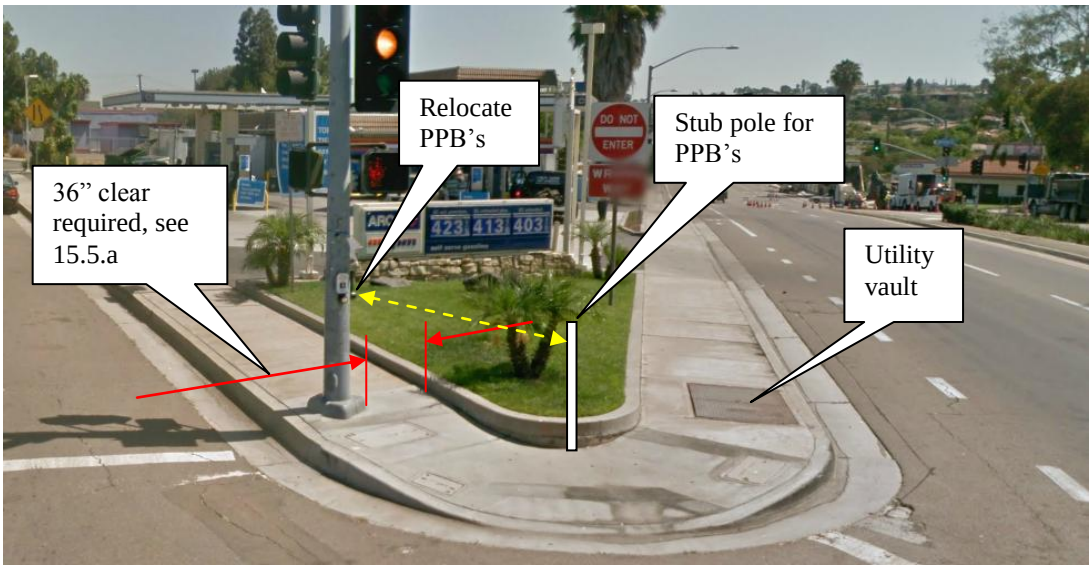


Photo 16c – NE corner

16.5 NE – Verify parkway ROW limits and replace the existing curb ramp with a modified Type C1. Specify replaceable DWT. The opening shall be wide enough to accommodate access to the NW and SE corners. Relocate the PPB to the landing area to conform with the MUTCD Standards. Provide an enlarged and scaled detail on the plans. See photo 16c.

a. Verify on site if there is at least 36" clear passageway between the face of the base of the signal pole and the face of curb at the landscaped area. If less than 36", verify location of property line and adjust signal pole or curb to widen the passageway. If the signal pole needs to be relocated, check with Traffic Engineering and Operations (Eddie Flores or Duncan Hughes) first if they have a project that will upgrade the signals in this intersection otherwise, the project shall move the signal pole.

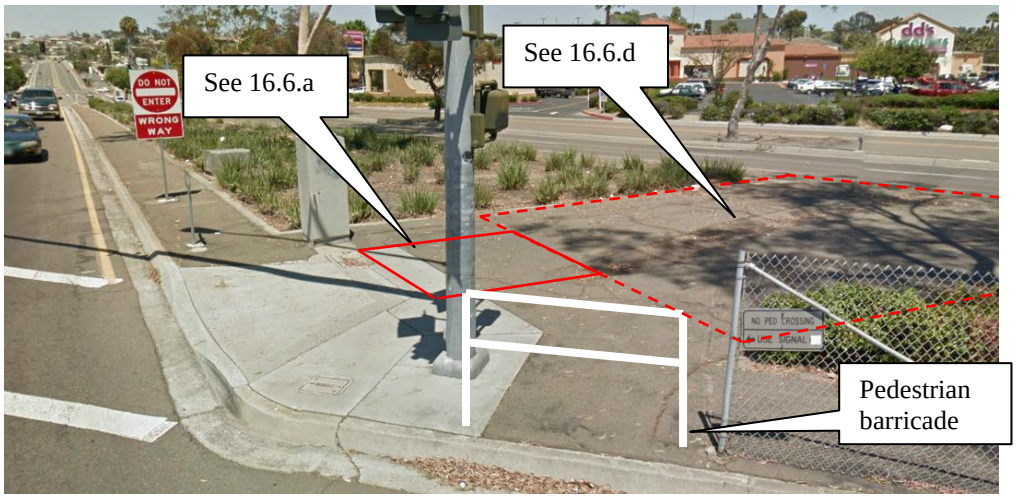


Photo 16d – SE corner

16.6 SE – Verify parkway ROW limits and replace the existing curb ramp with a Type B. Specify stainless steel or replaceable DWT. See photo 16d.

a. Pave a minimum of 5'-0" x 5'-0" level landing with concrete. Ensure that the connection between the concrete landing and the adjacent asphalt paving is smooth and level.

b. Provide a pedestrian barricade next to the curb ramp. See photo 16d. Ensure the sign is facing the sidewalk not the street. The direction of the arrow on the sign shall also point to the nearest crosswalk.

c. Ensure the height and location of the PPB complies with the MUTCD Standards.

d. If UUP 4J1 Project replaces the curb ramp at the SE corner then the group job shall resurface the damaged portion of the median behind the curb ramp. See photos 16a and 16d.

16.7 Patch and repair surface damages along the crossing areas.

17. Elm Street and 50th Street:

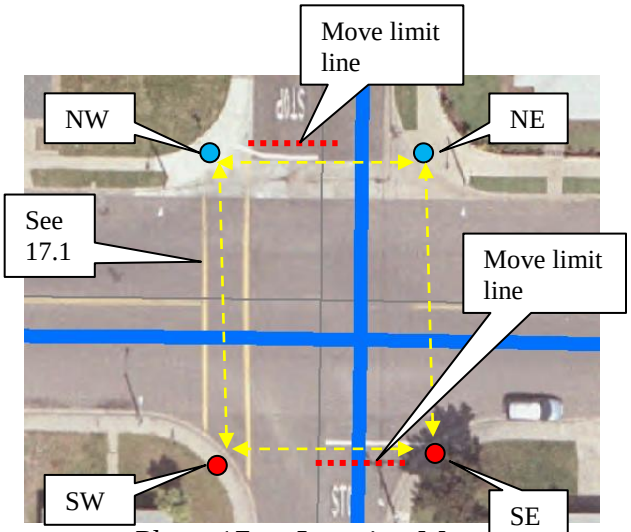


Photo 17a – Location Map

17.1 Restripe the school crosswalk to meet the current "continental" standard. See comment #6.

17.2 NW, NE, SW and SE – The curb ramp improvements at the corners are scheduled to be completed by UUP 4J1 Project. Please confirm with the project manager.

18. Elm Street and 49th Street:

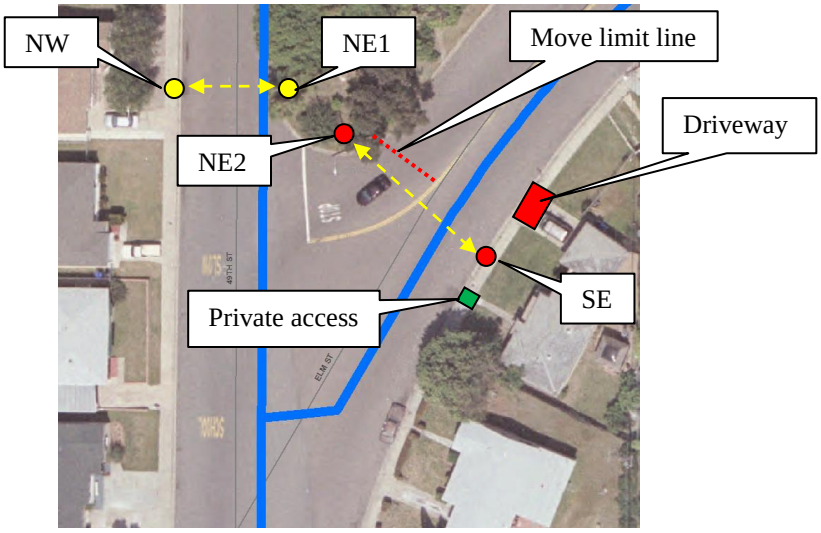


Photo 18a – Location Map

18.1 NE2 and SE – The curb ramp improvements and limit line adjustment at the corners are scheduled to be completed by UUP 4J1 Project. Please confirm with the project manager.

19. 49th Street and Date Street:

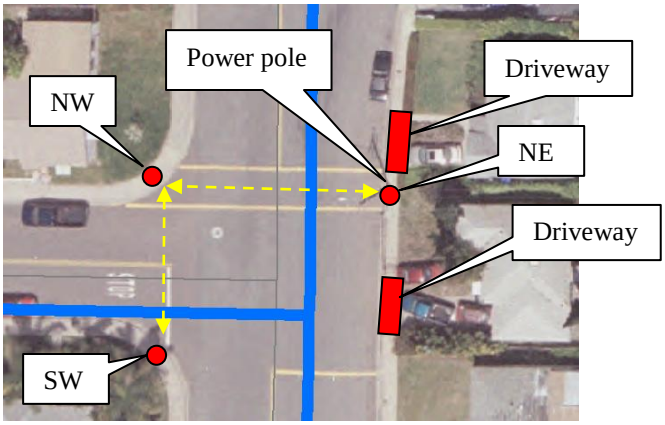


Photo 19a – Location Map (Existing Conditions)

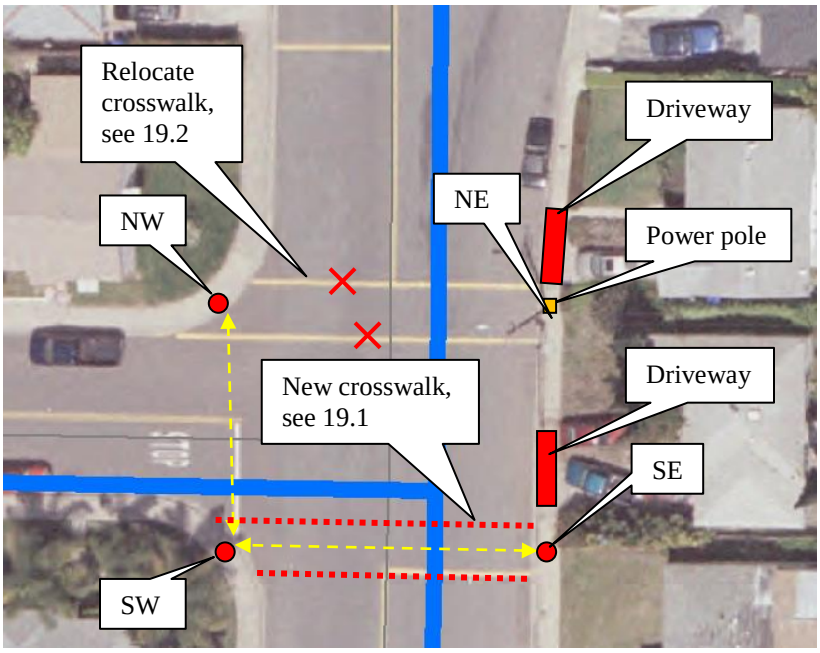


Photo 19b – Location Map (Recommendation)

19.1 If the UUP 4J1 Project was able to install a curb ramp at the SE corner (confirm installation with the project manager), provide a new school crosswalk at the location shown in photo 19b to meet the current "continental" standard. See comment #6.

19.2 NW, SW, SE and existing crosswalk – The removal of the existing crosswalk on the north side and curb ramp improvements are scheduled to be completed by UUP 4J1 Project. Please confirm with the project manager.

20. 49th Street and Marilou Road:

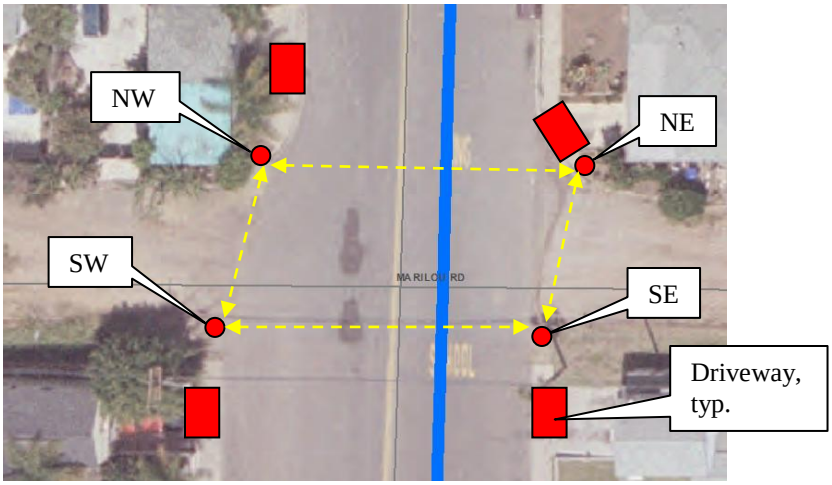


Photo 20a – Location Map

20.1 NW, NE, SE and SW – The curb ramp improvements are scheduled to be completed by UUP 4J1 Project. Please confirm with the project manager.

21. 49th Street and Federal Boulevard:

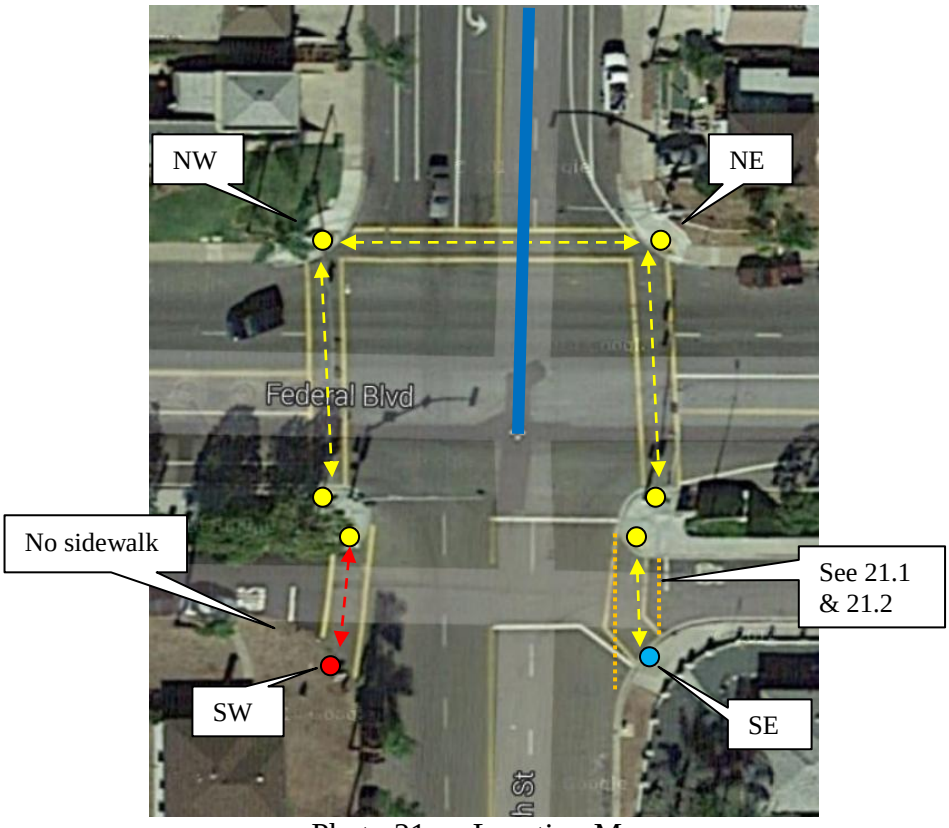


Photo 21a – Location Map

21.1 Restripe all school crosswalks (including the ones on the frontage road) at the intersection to meet the current "continental" standard (see photo 21a). Refer to comment #6.

21.2 Straighten the school crosswalk at the SE portion of the intersection. Adjust the limit line before the crosswalk. See photo 21a. Confirm with the project manager if this will be completed by UUP 4J1 Project.

21.3 SE – The curb ramp improvement is scheduled to be completed by UUP 4J1 Project. Please confirm with the project manager.

22. <u>50th Street and Date Place:</u>

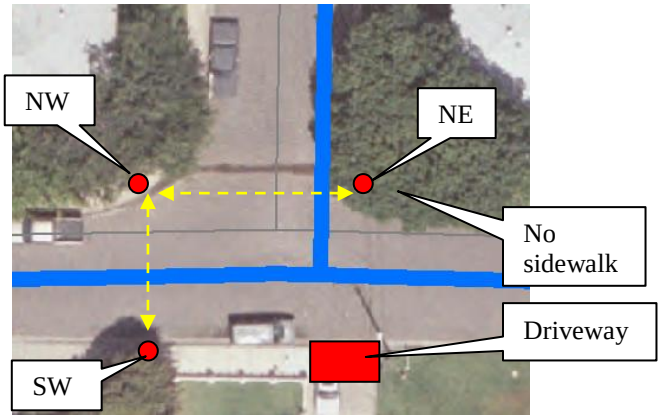


Photo 22a – Location Map

22.1 NW, NE and SW – The curb ramp improvements are scheduled to be completed by UUP 4J1 Project. Please confirm with the project manager.

23. <u>Altadena Avenue and Marilou Road:</u>

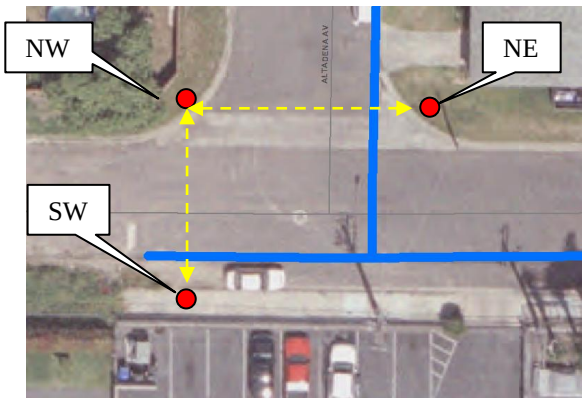


Photo 23a – Location Map

23.1 NW, NE and SW – The curb ramp improvements are scheduled to be completed by UUP 4J1 Project. Please confirm with the project manager.

24. Marilou Road and Euclid Avenue:

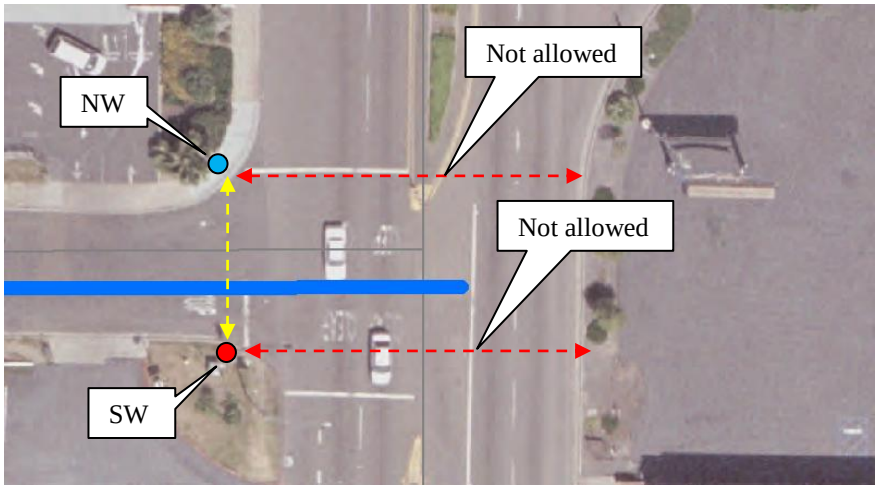


Photo 24a – Location Map

24.1 NW and SW – "Euclid and Federal Sidewalk Project" is scheduled to install and replace curb ramps at the corners. Confirm the curb ramp improvement and coordinate the alignment with Jeff Manchester, Project Manager.

25. 48th Street and Fir Street:

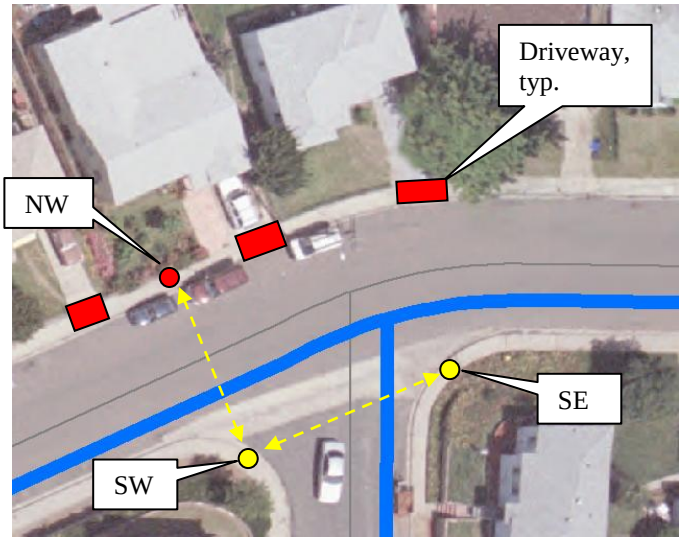


Photo 25a – Location Map

25.1 NW –The curb ramp improvement is scheduled to be completed by UUP 4J1 Project. Please confirm with the project manager.

26. Brookline Street and Fir Street:

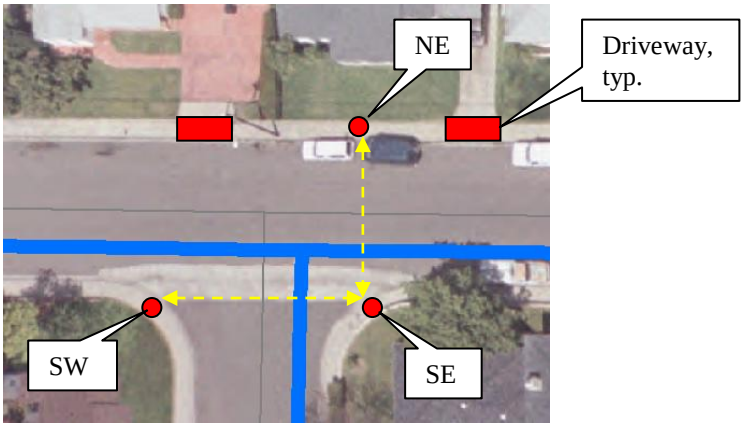


Photo 26a – Location Map

26.1 SW, SE and NE – The curb ramp improvements are scheduled to be completed by UUP 4J1 Project. Please confirm with the project manager.

27. Duval Street and Fir Street:

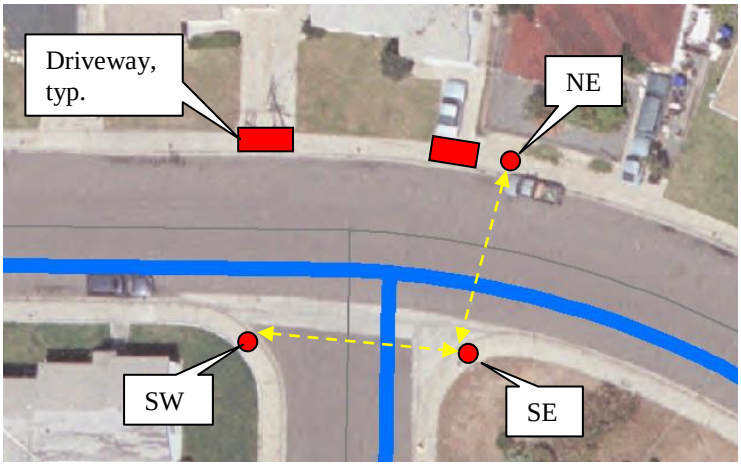


Photo 27a – Location Map

27.1 SW, SE and NE – The curb ramp improvements are scheduled to be completed by UUP 4J1 Project. Please confirm with the project manager.

28. Tilden Street and Elm Street:

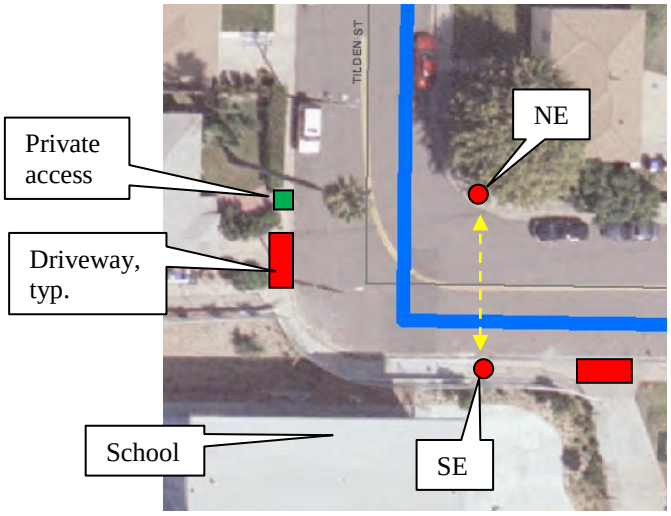


Photo 28a – Location Map

28.1 NE and SE – The curb ramp improvements are scheduled to be completed by UUP 4J1 Project. Please confirm with the project manager. See photo 28a.

29. 48th Street and Elm Street:

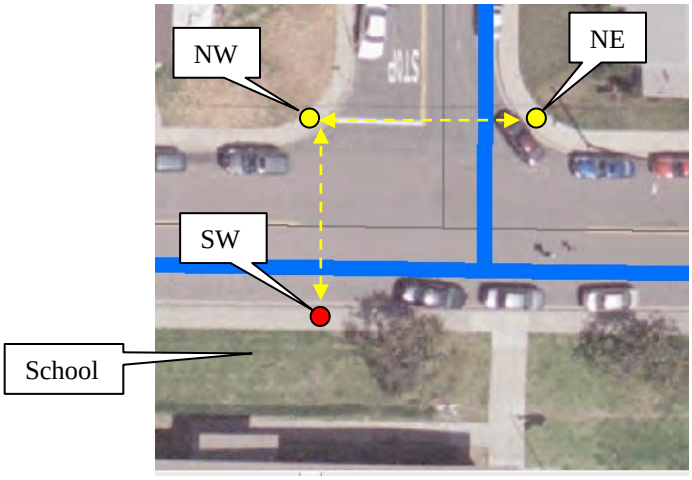


Photo 29a – Location Map

29.1 SW – The curb ramp improvement is scheduled to be completed by UUP 4J1 Project. Please confirm with the project manager.

30. Brookline Street and Elm Street:

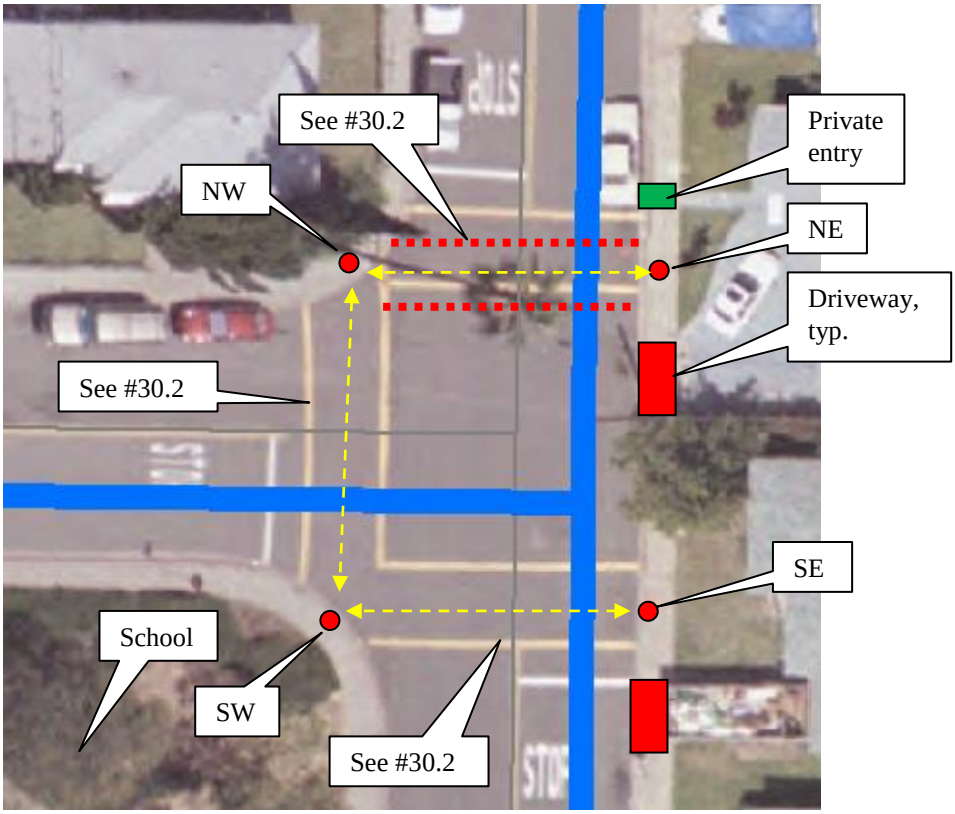


Photo 30a – Location Map

30.1 NW, SW, NE and SE – The curb ramp improvements and relocation of the crosswalk at the north side are scheduled to be completed by UUP 4J1 Project. Please confirm with the project manager.

30.2 Restripe all school crosswalks at the intersection to meet the current "continental" standard. Refer to comment #6.

31. Brookline Street and Date Street:

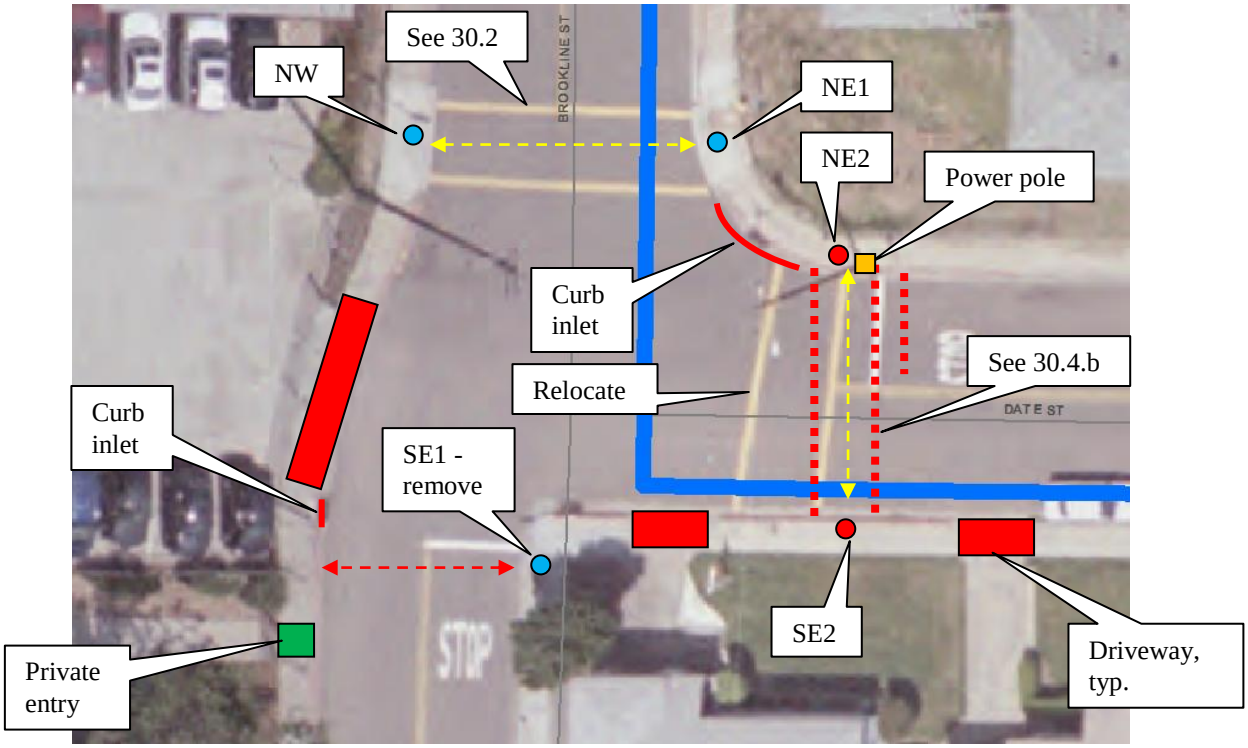


Photo 31a – Location Map

31.1 Restripe and re-align the school crosswalks at the intersection to meet the current "continental" standard. Refer to comment #6. See photo 31a.

31.2 NW, NE1, NE2, SE1 and SE2 – The curb ramp improvements (and removal) are scheduled to be completed by UUP 4J1 Project. Please confirm with the project manager. See photo 31a.

32. Date Street and Duval Street:

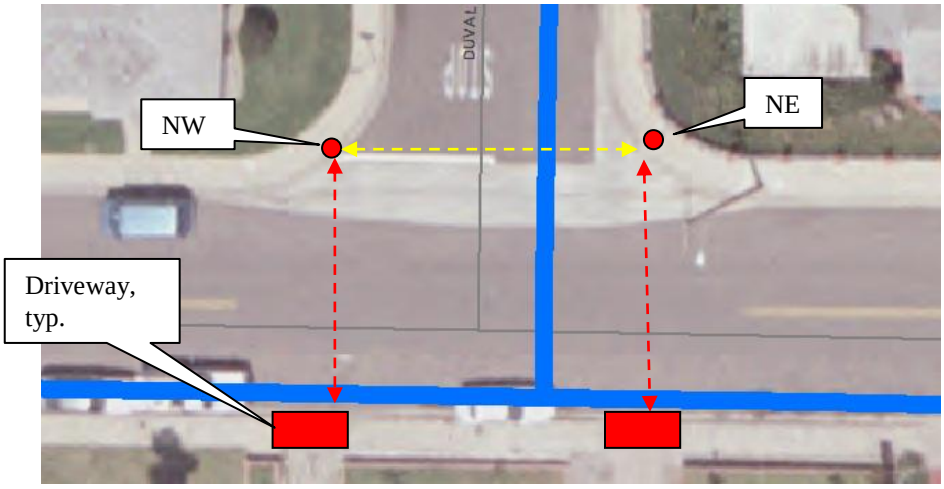


Photo 32a – Location Map

32.1 NW and NE – The curb ramp improvements are scheduled to be completed by UUP 4J1 Project. Please confirm with the project manager.

33. 48th Street and Marilou Road:

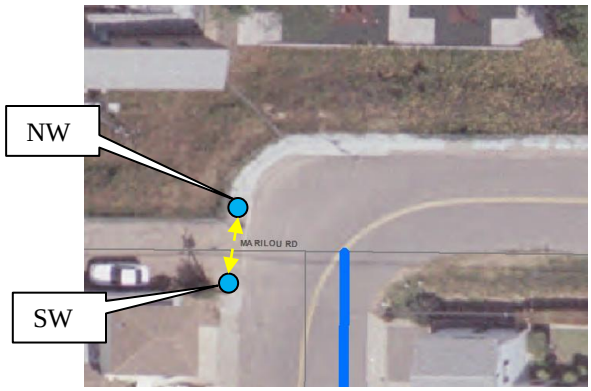


Photo 33a – Location Map

33.1 NW and SW – The curb ramp improvements are scheduled to be completed by UUP 4J1 Project. Please confirm with the project manager.

34. 48th Street and Federal Boulevard:

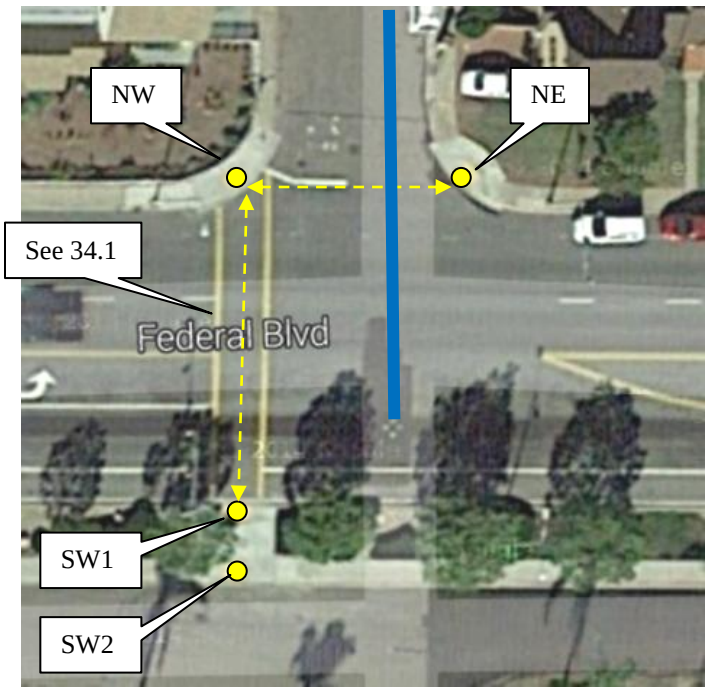


Photo 34a – Location Map (east side)

34.1 Restripe the school crosswalk at the intersection to meet the current "continental" standard. Refer to comment #6.

III. Design Standard References:

1. Curb Ramp Policy:

Diagram – Sample of a Utility Work within a Low-Medium Density Residential Neighborhood

Legend:
Work triggered curb ramp installation or replacement – ★
Path of travel/crosswalk area –
Alignment/trench work -

Diagram Analysis:

a. The curb ramp policy is triggered with this project due to the trench work along the unmarked crosswalk areas.

b. A minimum of three curb ramps are required at a T-intersection in a low to medium density residential neighborhood. Therefore; curb ramps must be installed at the southeast and southwest corners and one at the T-side as shown on the diagram above.

c. The ROW limits will dictate the type of curb ramp to be used on each corner/sidewalk. Refer to the most current City Standard Drawings.

d. Note that pedestrian crossing is not allowed across a road from an alley corner therefore, if trenching is restricted along a main road then alley corners along that road is not affected unless the road is to be resurfaced or overlaid.

e. Only specify detectable warning as required per zone and the brand as listed in the City's AML.

Diagram – Overlay or Resurfacing of a Street

Legend:
Area of overlay or resurfacing –
Path of travel/crosswalk area –
Curb ramp -

Diagram Analysis:

a. Note that pedestrian crossing is not allowed across a road from an alley corner.

b. The resurfacing or overlay of a road triggers the curb ramp requirements on all sidewalk and alley corners along that road.

2. **Pedestrian Pushbutton Location (PPB):**

Public ROW Accessibility Guidelines - Accessible Pedestrian Signals and Pedestrian Pushbuttons

R209.1 General. Where pedestrian signals are provided at pedestrian street crossings, they shall include accessible pedestrian signals and pedestrian pushbuttons complying with sections 4E.08 through 4E.13 of the MUTCD (incorporated by reference, see R104.2). Operable parts shall comply with R403.

Advisory R209 Accessible Pedestrian Signals and Pedestrian Pushbuttons. An accessible pedestrian signal and pedestrian pushbutton is an integrated device that communicates information about the WALK and DON'T WALK intervals at signalized intersections in non-visual formats (i.e., audible tones and vibrotactile surfaces) to pedestrians who are blind or have low vision.

R209.2 Alterations. Existing pedestrian signals shall comply with R209.1 when the signal controller and software are altered, or the signal head is replaced.

MUTCD Standards:
Guidance:
04 *If pedestrian pushbuttons are used, they should be capable of easy activation and conveniently located near each end of the crosswalks. Except as provided in Paragraphs 5 and 6, pedestrian pushbuttons should be located to meet all of the following criteria (see Figure 4E-3):*

A. Unobstructed and adjacent to a level all-weather surface to provide access from a wheelchair;
B. Where there is an all-weather surface, a wheelchair accessible route from the pushbutton to the ramp;
C. Between the edge of the crosswalk line (extended) farthest from the center of the intersection and the side of a curb ramp (if present), but not greater than 5 feet from said crosswalk line;
D. Between 1.5 and 6 feet from the edge of the curb, shoulder, or pavement;
E. With the face of the pushbutton parallel to the crosswalk to be used; and
F. At a mounting height of approximately 3.5 feet, but no more than 4 feet, above the sidewalk.
G. 05 *Where there are physical constraints that make it impractical to place the pedestrian pushbutton adjacent to a level all-weather surface, the surface should be as level as feasible.*
H. 06 *Where there are physical constraints that make it impractical to place the pedestrian pushbutton between 1.5 and 6 feet from the edge of the curb, shoulder, or pavement, it should not be farther than 10 feet from the edge of curb, shoulder, or pavement.*
I. 07 *Except as provided in Paragraph 8, where two pedestrian pushbuttons are provided on the same corner of a signalized location, the pushbuttons should be separated by a distance of at least 10 feet.*
J. Option:
08 Where there are physical constraints on a particular corner that make it impractical to provide the 10-foot separation between the two pedestrian pushbuttons, the pushbuttons may be placed closer together or on the same pole.

Pushbutton Location Area

This figure contains an example of pushbutton location area.
A legend at the bottom of the page shows a horizontal black arrow labeled "Downward Slope" and a diagonally striped shaded area labeled "Recommended Area for Pushbutton Locations."

The following notes are included:
1. Where there are constraints that make it impractical to place the pedestrian pushbutton between 1.5 feet and 6 feet from the edge of the curb, shoulder, or pavement, it should not be further than 10 feet from the edge of curb, shoulder, or pavement.
2. Two pedestrian pushbuttons on a corner should be separated by 10 feet.

3. This figure is not drawn to scale.
4. Figure 4E-4 shows typical pushbutton locations.

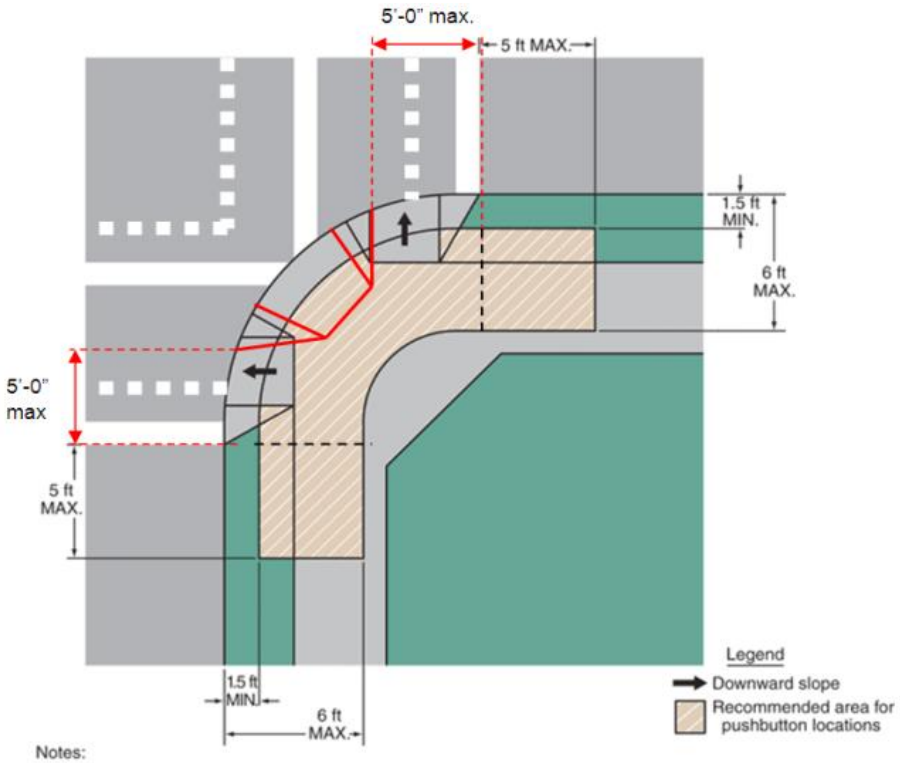


FIGURE 4E-3. PUSHBUTTON LOCATION AREA

The figure shows a plan view of one corner of a 90-degree intersection of two streets, each with a sidewalk that is separated from the street by a green strip. Two sets of parallel white lines denoting crosswalks are shown, one horizontal to the left of the corner, and one vertical above the corner. On the corner radius, two curb-cut ramps are shown, one aligned with the east-west crosswalk and one aligned with the north-south crosswalk. A left-pointing black arrow is shown in the center of the horizontal ramp, and an upward-pointing black arrow is shown in the center of the vertical ramp, both denoting the downward slope.

The recommended area marked for pushbutton locations over the sidewalk is shown as a dimensioned distance of 1.5 ft MIN. to 6 ft MAX from the edge of the curb and onto the sidewalk and 5 ft MAX. from the outside edge of each crosswalk.

Support:
09 Figure 4E-4 shows typical pedestrian pushbutton locations for a variety of situations.

Typical Pushbutton Locations

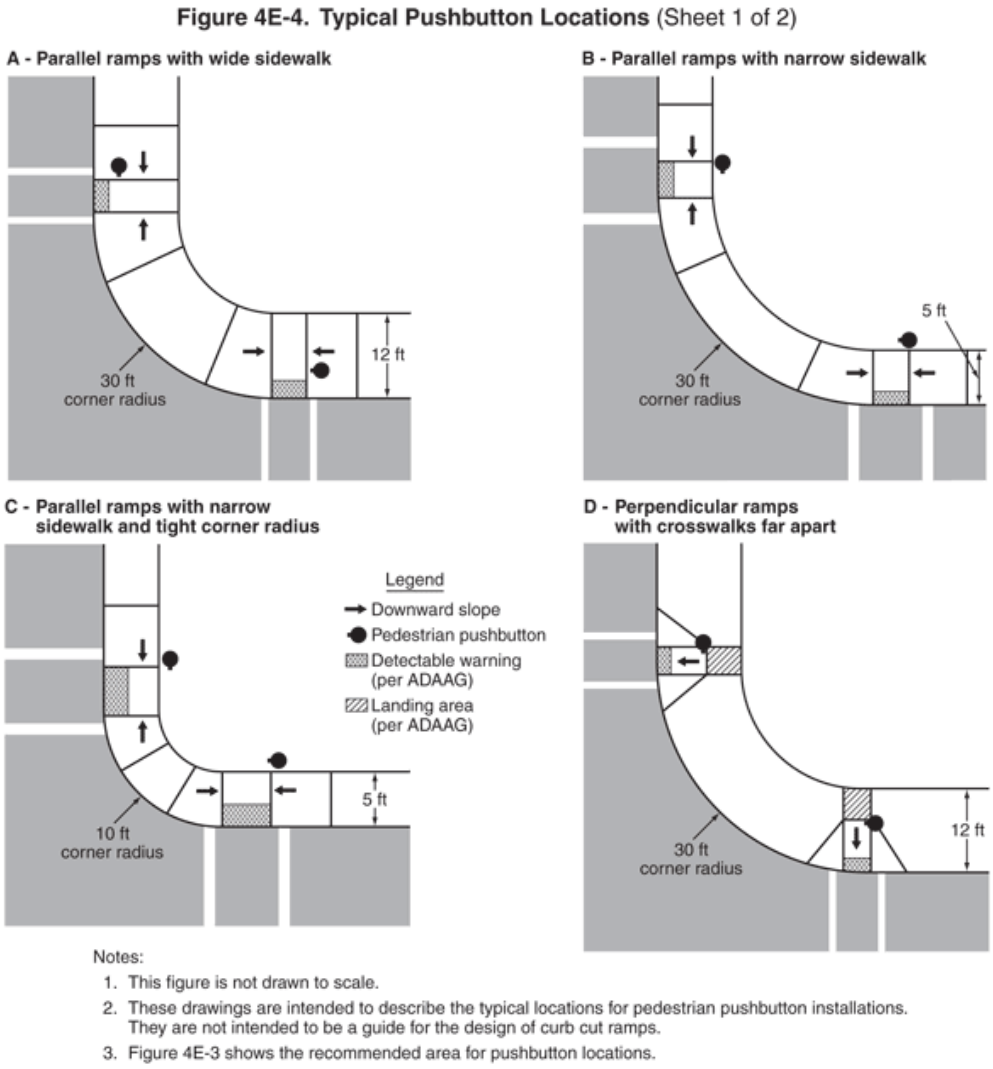


Figure 4E-4. Typical Pushbutton Locations (Sheet 1 of 2)

This figure contains eight examples of typical pushbutton locations on two sheets.

Sheet 1 shows four examples.
A legend shows a horizontal black arrow labeled "Downward Slope," a black disk with a short stem labeled "Pedestrian Pushbutton," a crosshatch area labeled "Detectable Warning (per ADAAG)," and a diagonally striped area labeled "Landing Area (per ADAAG)."

The following notes are included:

1. This figure is not drawn to scale.
2. These drawings are intended to describe the typical locations for pedestrian pushbutton installations. They are not intended to be a guide for the design of curb cut ramps.
3. Figure 4E-3 shows the recommended area for pushbutton locations.

Each example shows a plan view of one corner of a 90-degree intersection of two streets, each with a sidewalk. Midway on each section of street, two sets of parallel white lines denoting crosswalks are shown, one horizontal to the left of the corner, and one vertical below the corner. On the corner radius, two curb-cut ramps are shown, one aligned with the east-west crosswalk and one aligned with the north-south crosswalk.

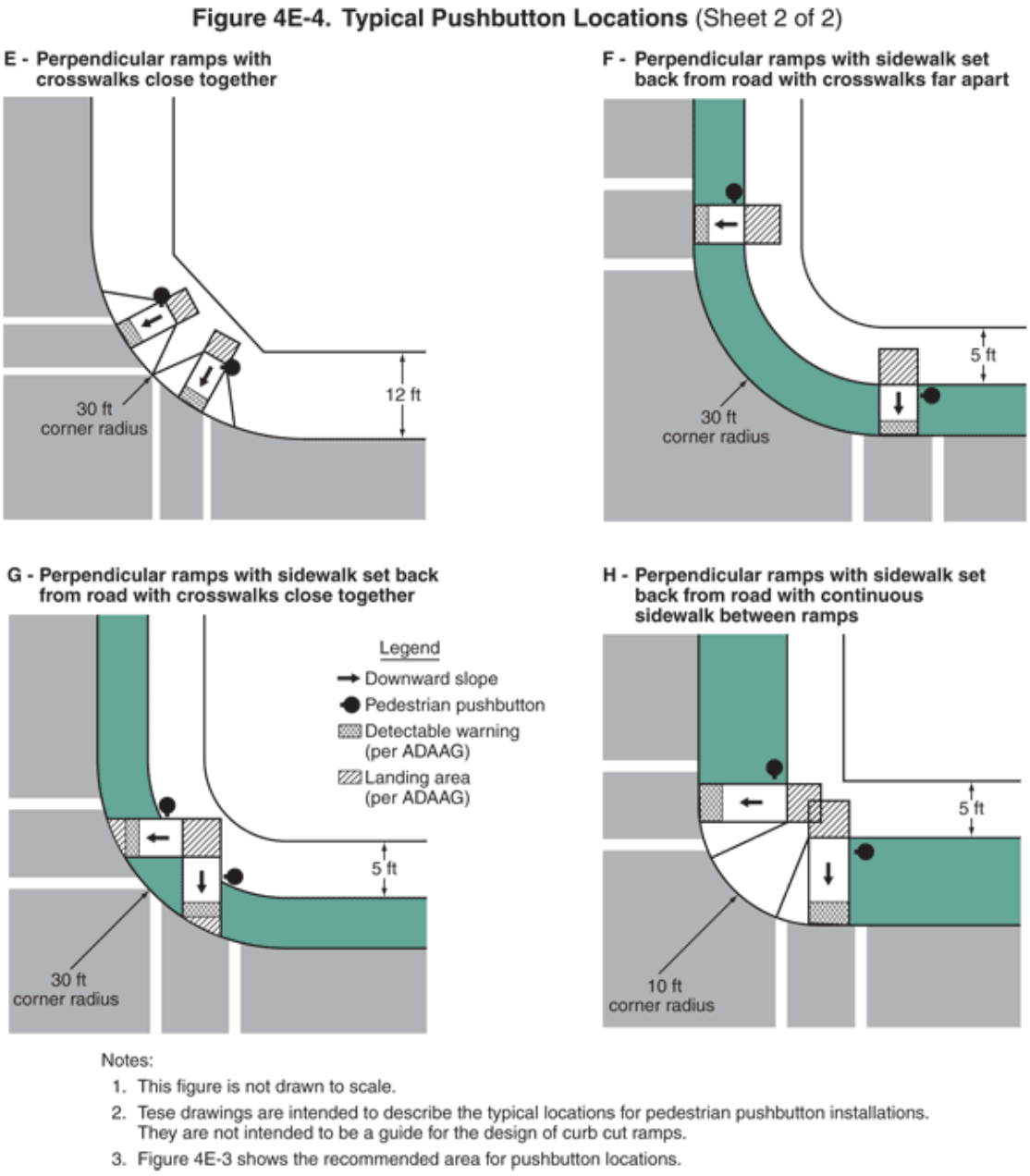
The first example is labeled **"A – Parallel Ramps with Wide Sidewalk."** It is shown with the corner denoted as a 30 ft corner radius and sidewalks as a dimension of 12 ft wide. Each sidewalk ramp leading to a crosswalk is shown with a horizontal black arrow on either side of it pointing to the center of the ramp, denoting a downward slope. The pedestrian pushbutton symbol is shown to the outside of each ramp and close to the street. A narrow strip of the ramp at the street edge is marked with crosshatching, denoting an area of detectable warning.

The second example is labeled **"B – Parallel Ramps with Narrow Sidewalk."** It is shown with the corner denoted as a 30 ft corner radius and sidewalks as a dimension of 5 ft wide. Each sidewalk ramp leading to a crosswalk is shown with a horizontal black arrow on either side of it pointing to the center of the ramp, denoting a downward slope. The pedestrian pushbutton symbol is shown at the end of each ramp away from the street. A narrow strip of the ramp at the street edge is marked with crosshatching, denoting an area of detectable warning.

The third example is labeled **"C – Parallel Ramps with Narrow Sidewalk and Tight Corner Radius."** It is shown with the corner denoted as a 10 ft corner radius and sidewalks as a dimension of 5 ft wide. Each sidewalk ramp leading to a crosswalk is shown with a horizontal black arrow on either side of it pointing to the center of the ramp, denoting a downward slope. The pedestrian pushbutton symbol is shown at the end of each ramp away from the street. A narrow strip of the ramp at the street edge is marked with crosshatching, denoting an area of detectable warning.

The fourth example is labeled "D – Perpendicular Ramps with Crosswalks Far Apart." It is shown with the corner denoted as a 30 ft corner radius and sidewalks as a dimension of 12 ft wide. The crosswalks are shown slightly farther away from the corner. Each sidewalk ramp leading to a crosswalk is shown with a vertical black arrow centered on each ramp and pointing toward the street, denoting a downward slope. The half of each ramp farthest from the street is shown marked with diagonal stripes, denoting a landing. The pedestrian pushbutton symbol is shown on the outside of each ramp at the point where the landing ends and the downward slope begins. A narrow strip of the ramp at the street edge is marked with crosshatching, denoting an area of detectable warning.

Edition Part 4 Figure 4E-4. Typical Pushbutton Locations (Sheet 2 of 2)



This figure contains eight examples of typical pushbutton locations on two sheets.

Sheet 2 shows four examples.
A legend shows a horizontal black arrow labeled "Downward Slope," a black disk with a short stem labeled "Pedestrian Pushbutton," a crosshatch area labeled "Detectable Warning (per ADAAG)," and a diagonally striped area labeled "Landing Area (per ADAAG)."

The following notes are included:

1. This figure is not drawn to scale.

2. These drawings are intended to describe the typical locations for pedestrian pushbutton installations. They are not intended to be a guide for the design of curb cut ramps.

3. Figure 4E-3 shows the recommended area for pushbutton locations.

   Each example shows a plan view of one corner of a 90-degree intersection of two streets, each with a sidewalk. On each section of street, two sets of parallel white lines denoting crosswalks are shown, one horizontal to the left of the corner, and one vertical below the corner. On the corner radius, two curb-cut ramps are shown, one aligned with the east-west crosswalk and one aligned with the north-south crosswalk.

   The first example is labeled **"E – Perpendicular Ramps with Crosswalks Close Together."** It is shown with the corner denoted as a 30 ft corner radius and sidewalks as a dimension of 12 ft wide. The crosswalks are shown close to the corner. Each sidewalk ramp leading to a crosswalk is shown with a vertical black arrow centered on each ramp and pointing toward the street, denoting a downward slope. The pedestrian pushbutton symbol is shown to the outside of each ramp and close to the street. The half of each ramp farthest from the street is shown marked with diagonal stripes, denoting a landing. The pedestrian pushbutton symbol is shown on the outside of each ramp at the point where the landing ends and the downward slope begins. A narrow strip of the ramp at the street edge is marked with crosshatching, denoting an area of detectable warning.

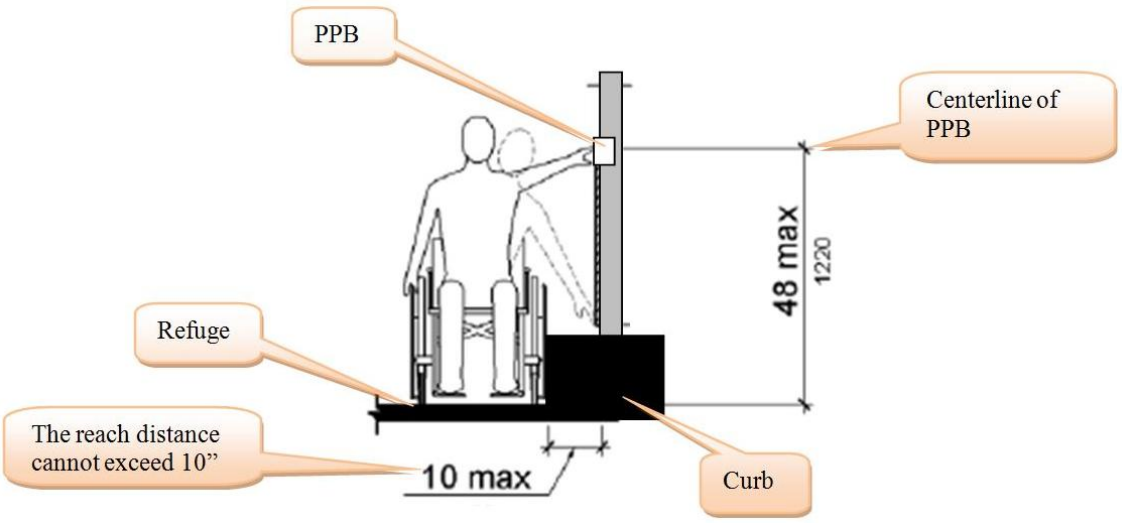
   The second example is labeled **"F – Perpendicular Ramps with Sidewalk Set Back from Road with Crosswalks Far Apart."** It is shown with the corner denoted as a 30 ft corner radius and sidewalks as a dimension of 5 ft wide. The crosswalks are shown slightly farther away from the corner. A green strip is shown between the sidewalk and street. Each sidewalk ramp leading to a crosswalk is shown with a vertical black arrow centered on each ramp and pointing toward the street, denoting a downward slope on the green strip. The half of each ramp farthest from the street is shown marked with diagonal stripes, denoting a landing. The pedestrian pushbutton symbol is shown on the outside of each ramp at the point where the landing ends and the downward slope begins. A narrow strip of the ramp at the street edge is marked with crosshatching, denoting an area of detectable warning.

   The third example is labeled **"G – Perpendicular Ramps with Sidewalk Set Back from Road with Crosswalks Close Together."** It is shown with the corner denoted as a 30 ft corner radius and sidewalks as a dimension of 5 ft wide. The crosswalks are shown very close to the corner. A green strip is shown between the sidewalk and street. Each sidewalk ramp leading to a crosswalk is shown with a vertical black arrow centered on each ramp and pointing toward the street, denoting a downward slope on the green strip. The half of each ramp farthest from the street is shown marked with diagonal stripes, denoting a landing. The ramps are shown at right angles to each other with the landing areas overlapping. The pedestrian pushbutton symbol is shown on the outside of each ramp at the point where the landing ends and the downward slope begins. Near the street, a narrow strip of the ramp is marked with crosshatching, denoting an area of detectable warning, and a strip next to the street is shown marked

with diagonal stripes, denoting a landing.

The fourth example is labeled **"H – Perpendicular Ramps with Sidewalk Set Back from Road with Continuous Sidewalk between Ramps."** It is shown with the corner denoted as a 10 ft corner radius and sidewalks as a dimension of 5 ft wide. The crosswalks are shown close to the corner. A green strip is shown between the sidewalk and street, but sidewalk is shown between the ramps on the green strip. Each sidewalk ramp leading to a crosswalk is shown with a vertical black arrow centered on each ramp and pointing toward the street, denoting a downward slope on the green strip. The half of each ramp farthest from the street is shown marked with diagonal stripes, denoting a landing. The ramps are shown at right angles to each other with a portion of each landing area overlapping the other. The pedestrian pushbutton symbol is shown on the outside of each ramp at the point where the landing ends and the downward slope begins. A narrow strip of the ramp at the street edge is marked with crosshatching, denoting an area of detectable warning.

Public ROW Accessibility Guidelines - Reach Range Requirements:



Reach Range Requirements

R406 Reach Ranges

- R406.1 General. Reach ranges shall comply with R406.

- R406.2 Unobstructed Forward Reach. Where a forward reach is unobstructed, the high forward reach shall be 4.0 ft. maximum and the low forward reach shall be 1.25 ft. minimum above the finish surface. Forward reach over an obstruction is not permitted.

- R406.3 Unobstructed Side Reach. Where a clear space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 4.0 ft. maximum and the low side reach shall be 1.25 ft. minimum above the finish surface. An obstruction shall be permitted between the clear space and the element where the depth of the obstruction is 10 inches maximum.