Instructions for Completion of ADA Feature As-Built Measurement Records – For Contractor and Design/Builder

I. Basic Information

The instructions below are to be used by a Contractor when an ADA feature is constructed (project construction using either the typical design-bid-build or a Design/Build project).

A. Requirements of the Contractor

Per the contract specifications, "*Contractor Surveying – ADA Features*" requires the Contractor to stake, measure, record the information on WSDOT provided forms, and transmit the as-built information to the Project Engineer.

(April 2, 2018)
Contractor Surveying – ADA Features

ADA Feature Staking Requirements

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, and grades necessary for the construction of the ADA features. Calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor's responsibility. The Contractor shall build the ADA features within the specifications in the Standard Plans and contract documents.

ADA Feature As-Built Measurements

The Contractor shall be responsible for providing electronic As-Built records of all ADA feature improvements completed in the Contract.

The survey work shall include but not be limited to completing the measurements, recording the required measurements and completing other data fill-ins found on the ADA Measurement Forms, and transmitting the electronic Forms to the Engineer. The ADA Measurement Forms are found at the following website location:

http://www.wsdot.wa.gov/Design/ADAGuidance.htm

In the instance where an ADA Feature does not meet accessibility requirements, all work to replace non-conforming work and then to measure, record the as-built measurements, and transmit the electronic Forms to the Engineer shall be completed at no additional cost to the Contracting Agency, as ordered by the Engineer.

Payment

Payment will be made for the following bid item that is included in the Proposal:

"ADA Features Surveying", lump sum.

The unit Contract price per lump sum for "ADA Features Surveying" shall be full pay for all the Work as specified.

B. Types of ADA Features to be Collected

The following ADA Features may be included in a project and measurements are to be recorded and transmitted to WSDOT:

- Curb Ramps
  - Perpendicular
  - Parallel
  - Combination
  - Parallel One-Direction
- Median and Traffic Island Cut-Through (Added July 2018)
- Sidewalk
- Independent Shared Use Path (Added July 2018)
- Driveway
- End Ramps for a Sidewalk or Bridge End
- APS Button and Signal

1. Equipment Needed for Measurements

   The Contractor can use any method to collect the measurements. Past practice has been to use the tools below to complete the required measurements:

   Smart Level – Slope Measurement
   - Minimum of 2.0 feet in length
   - Inclinometer capable of slope accuracy measurements of maximum of 1/16" per foot
   - Display slope measurements up to two-significant figures
   - Display slope in percent
   - Calibrate the level per the manufacturers' recommendations, not less than once per day.

   Steel Tape Measure – Dimension Measurements
   - Capable of measuring to 0.01 foot

2. Forms

   Record the measurements for the ADA Features identified above using the Excel spreadsheet, **ADA_Measurements.xlsm**, which can be downloaded from the ADA Guidance website located at:

   http://www.wsdot.wa.gov/Design/ADAGuidance.htm.

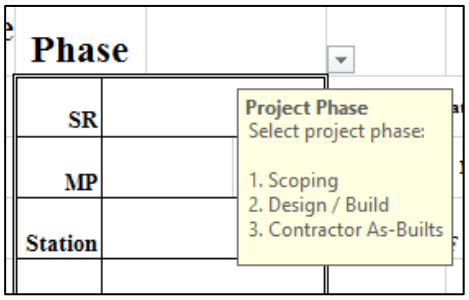
   When you follow the above link and open the 'ADA Measurement Forms' link, a dialog box will open asking you "What do you want to do with ADA_Measurements.xlsm?' You will want to 'Save As' in your own folder. You can then make as many copies as needed for your project.

   HINT: Check the webpage often for the most current form. For your convenience, the form is being updated to help you in the completion of measurements and transmitting data more intuitive.

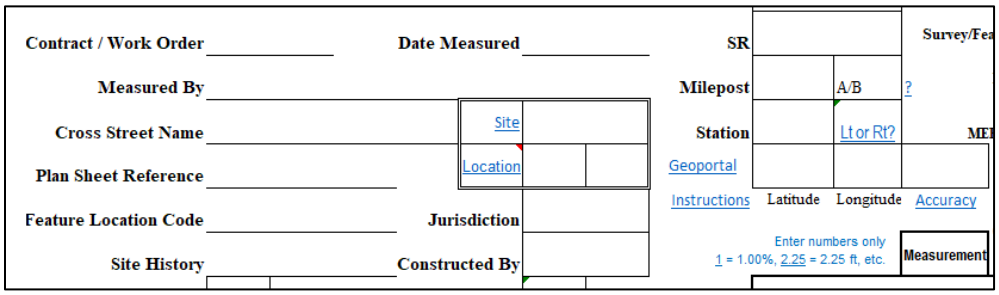
   <u>Form Design</u>

   - Each form is a separate tab (worksheet) in the spreadsheet. When opening up the spreadsheet, the READ-ME tab is the default tab that it opens up to, to inform the user that there are a number of forms contained in the Excel spreadsheet that are to be used to record measurements.
   - The forms are designed to only include those measurement fields or information that are identified with the specific project phase. Select the **Phase** from the drop-down list that the data is being collected for:

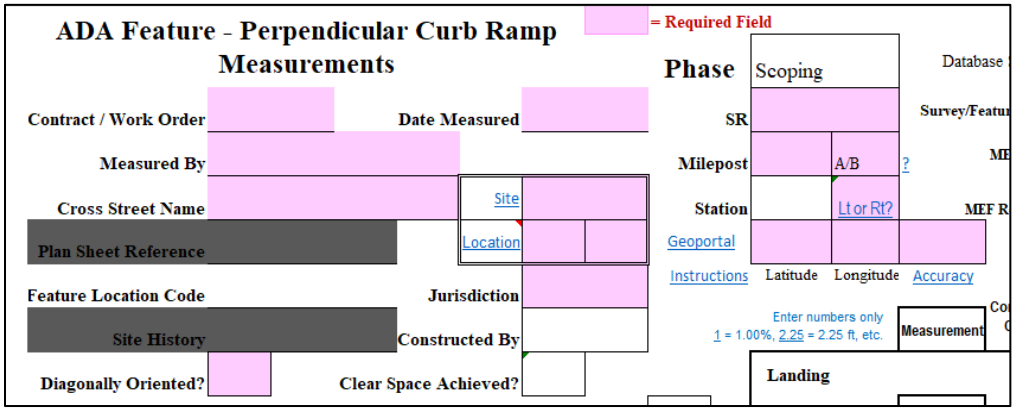
- Scoping
- Design/Build
- Contractor As-Builts



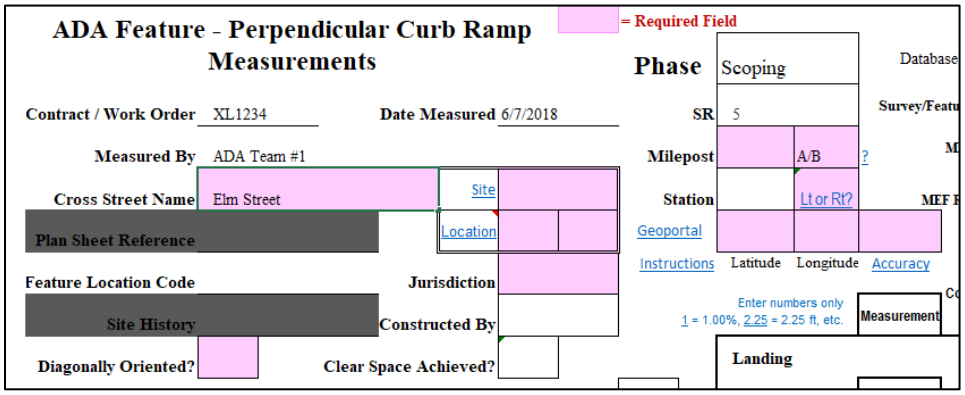
✐ The forms are designed to record the basic project information in the upper portion of the worksheet.



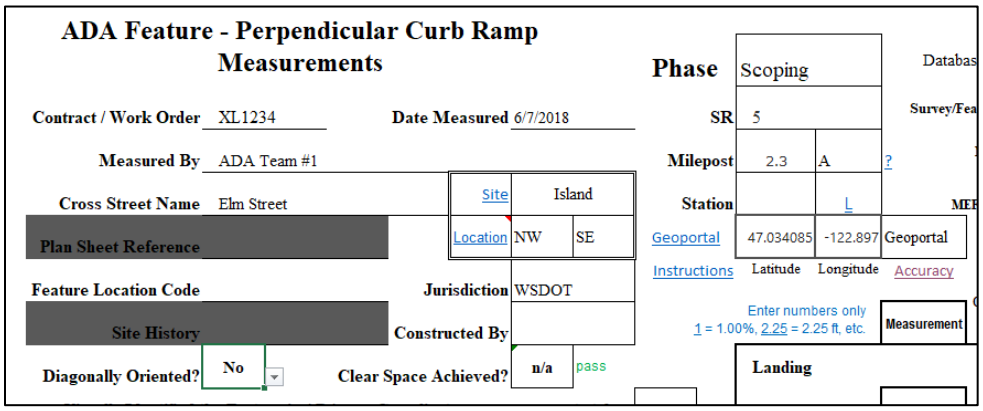
Each form has “Required Field” (Fuchsia color shaded cells) that need to be completed in order for the form to be submitted



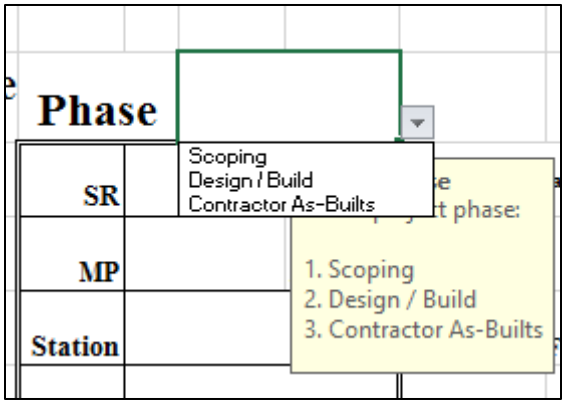
As the form is filled-in, the shading disappears



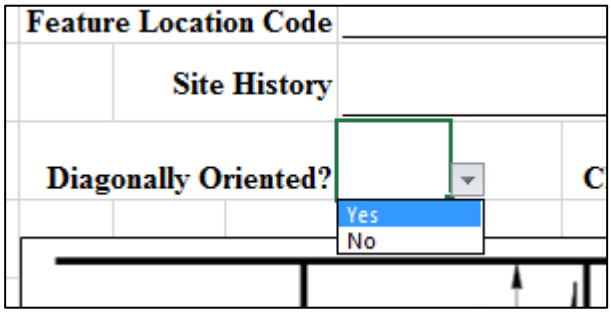
Until there is no shading shown on the form



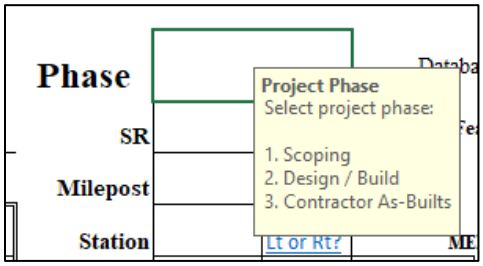
✐ The forms have been designed for the recorder to select information found in a drop-down menu.



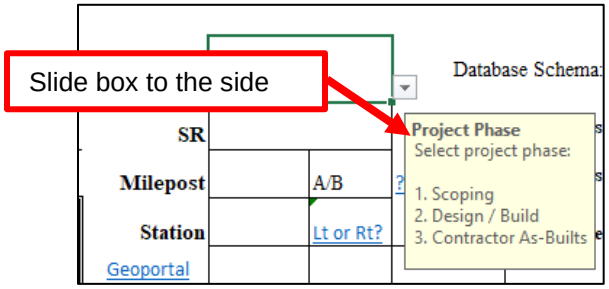
OR:



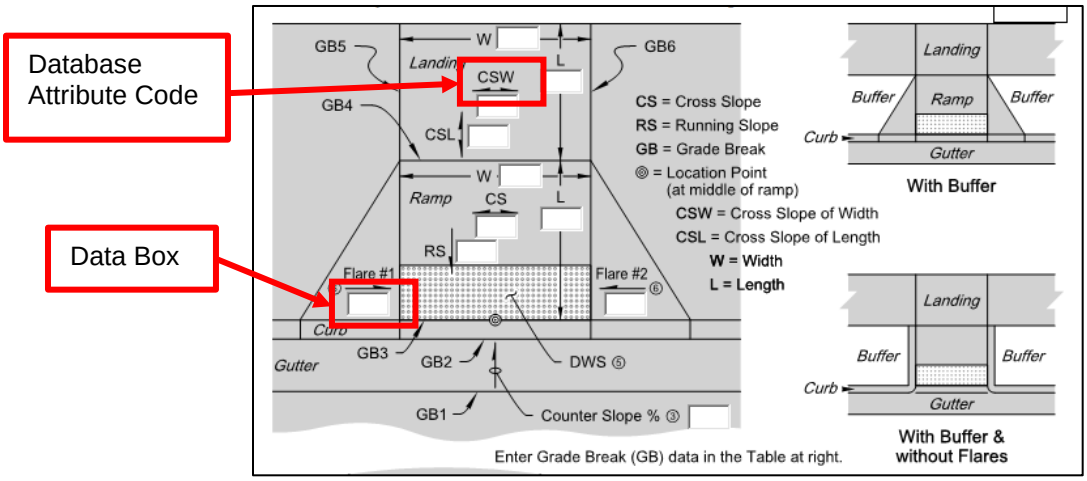
✐ Information boxes are included in many of the drop-down lists to help the recorder input the correct information.



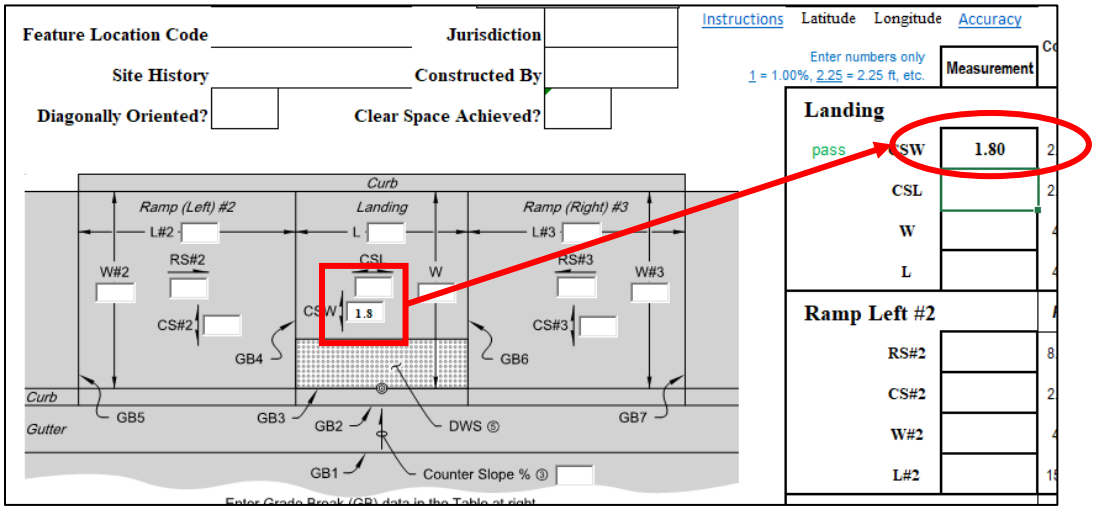
HINT: Sometimes the Information box may cover a portion of the drop-down cell. To move the Information box, just click on it, and using the mouse, drag the Information box to a new location.



✎ Diagram(s) are provided to identify what and where the different measurements are found. The diagrams have a data box beside the database attribute code to help in completing the form correctly.

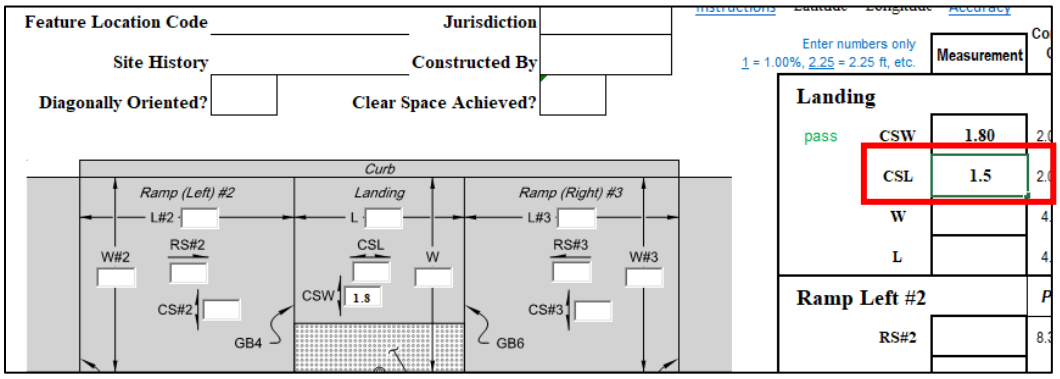


A measurement may be entered into the data box on the diagram and the information will be automatically populated onto the right side of the form.

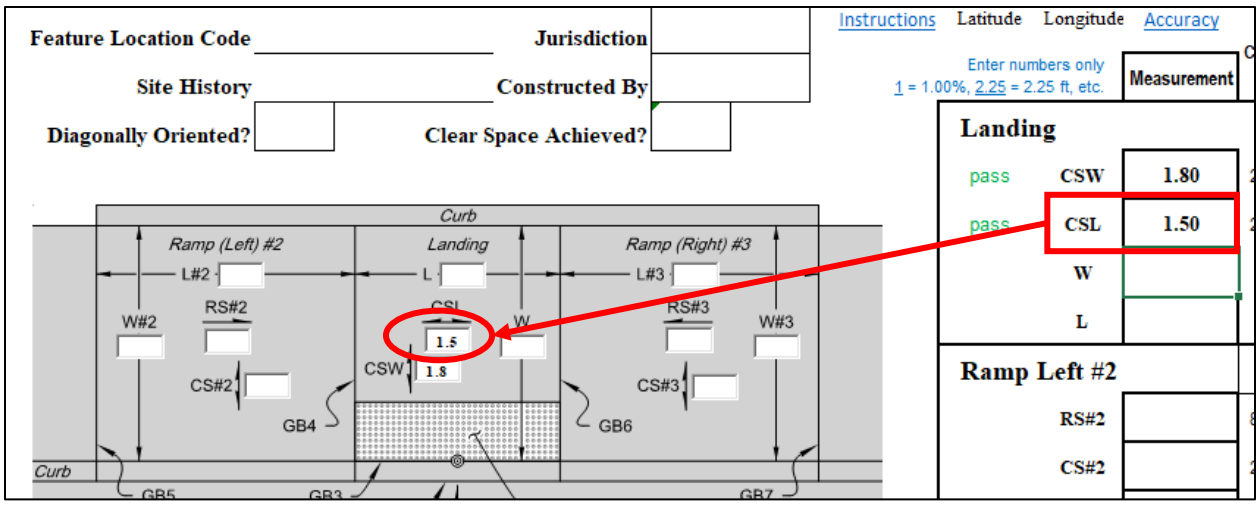


OR

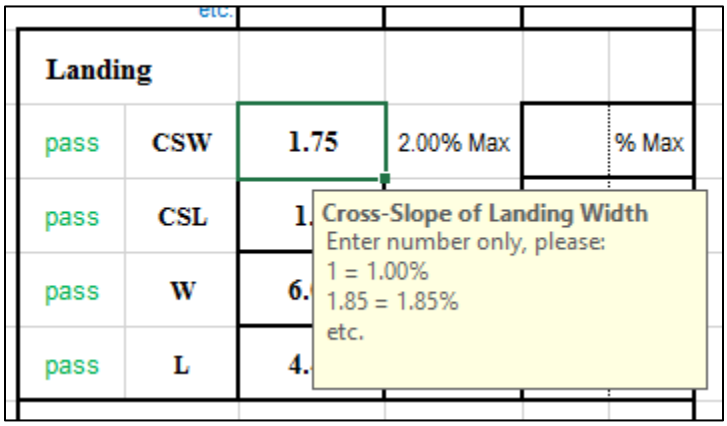
The measurement may be entered into the right side of the form



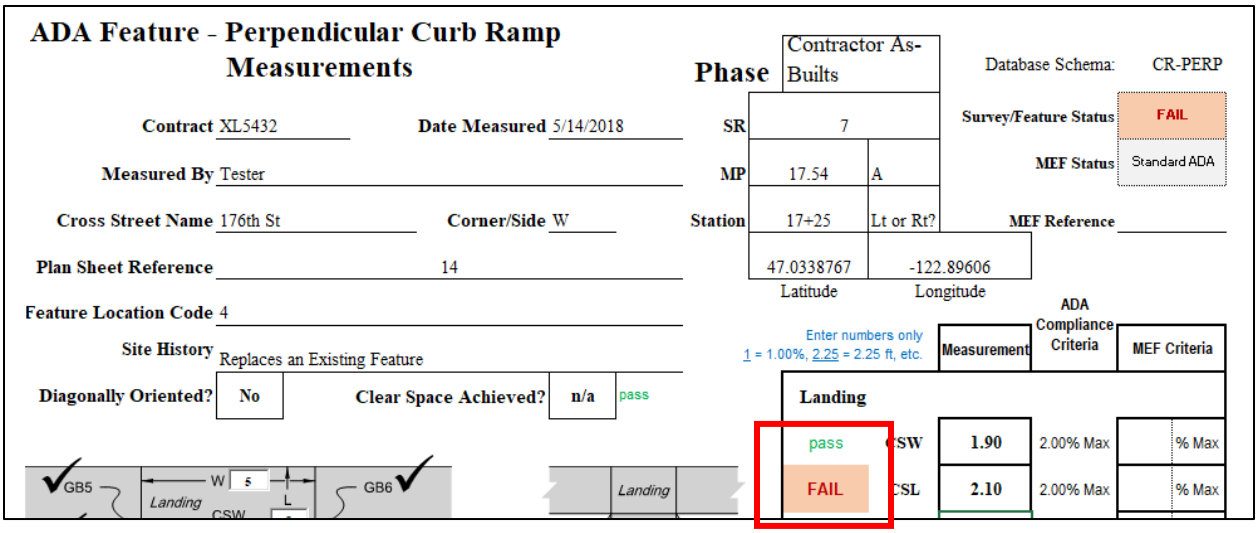
And after hitting the Enter button the measurement will automatically populate into the data box on the diagram.



✎ The forms have been designed to provide sufficient information to the recorder so the correct format of information is placed onto the form.

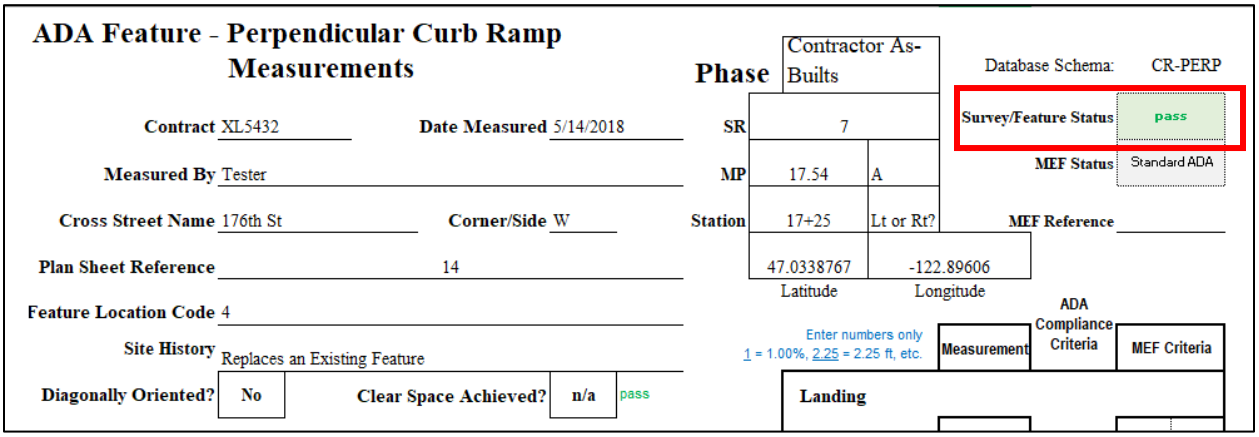


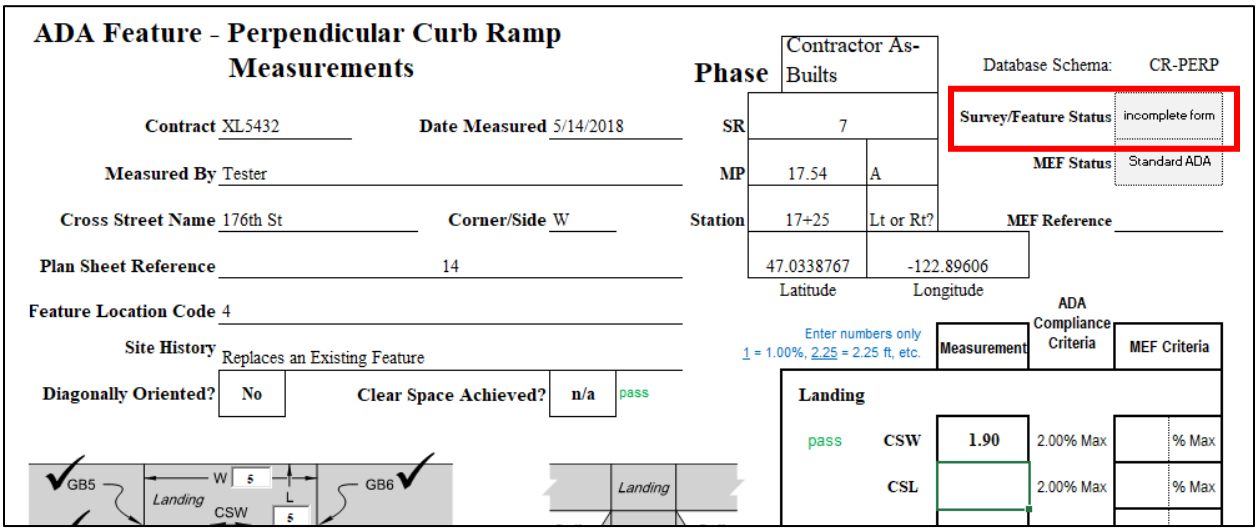
- As the measurements are performed and recorded into the form, the form will automatically identify if the measurement "Passes" or "Fails" the ADA Compliance Criteria.



- The *Survey/Feature Status* of the feature will be identified as either "Pass", "Fail", or "Incomplete Form".

  The "Incomplete Form" message is displayed when required data is missing.





✎ Each form has the ability to document a measurement(s) that does not meet ADA compliance criteria but has been processed and received approval allowing the use of that dimension.

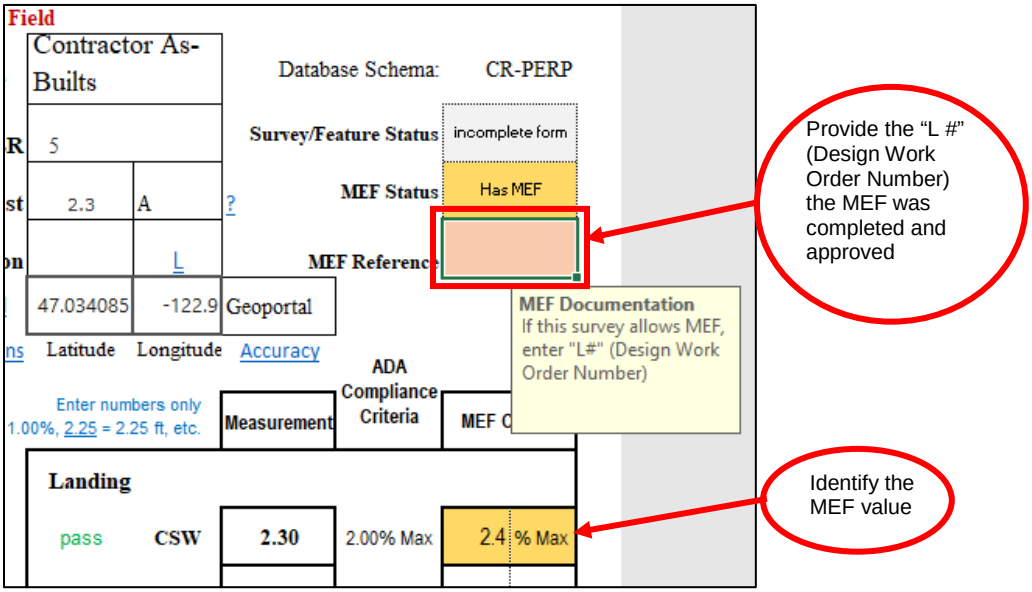
Maximum Extent Feasible (MEF) - The forms have been designed to include the tracking of a MEF dimension, slope, or other ADA compliance criteria that has been approved by the region's Assistant State Design Engineer and ADA Compliance Manager or Assistant State Construction Engineer.

It is intended that during the Design Phase, designers are to identify on the form where a value does not meet ADA compliance, obtain MEF approval, and provide the completed forms to the WSDOT Construction Project Engineer.

Contractors will need to coordinate with the Construction Project Engineer to obtain MEF information in order for the form to be completed properly. If not the Survey/Feature Status will show the feature as "FAIL".

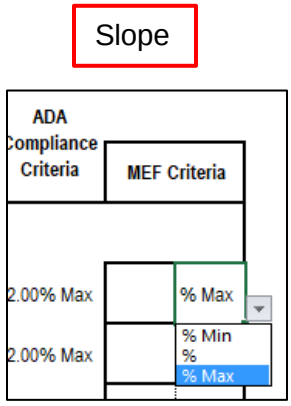
The approved MEF document needs to be referenced on the form. Provide the "L #" (Design Work Order Number) in the MEF Reference box.

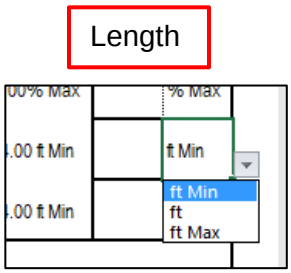
If there is an approved MEF, the form tests the recorded measurement against the MEF dimension or slope to determine "Pass" or "Fail".



Note: The MEF criteria can be set to be evaluated to the following parameters:

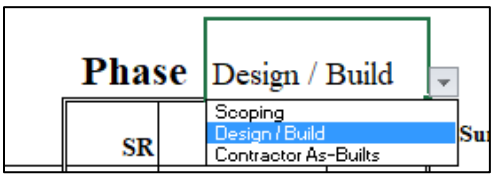
- Min
- Equal to
- Max





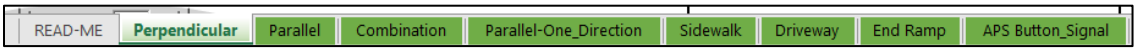
II. General Information for Completing a Form

A. First, identify the Phase – "Design/Build" or "Contractor As-Builts".

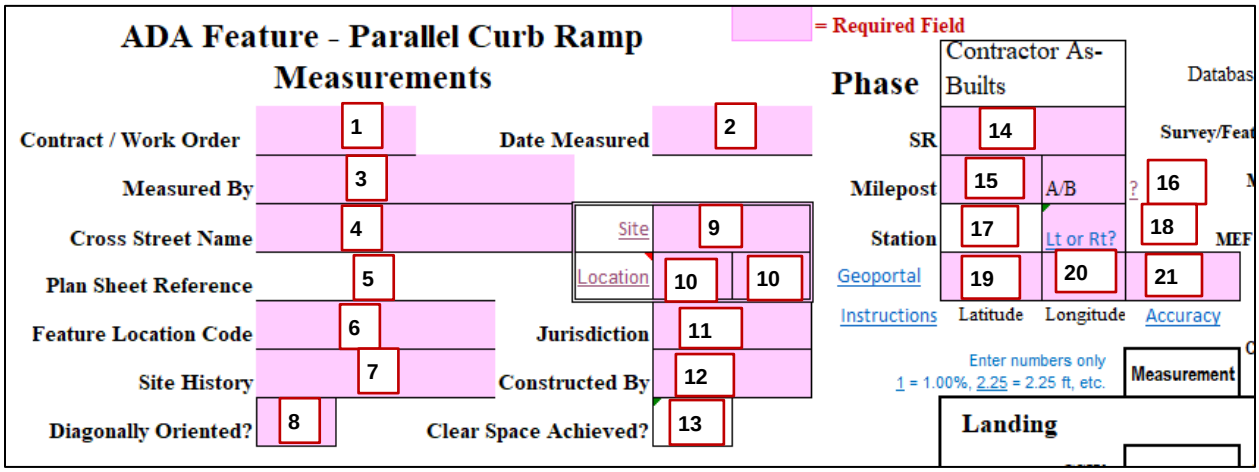


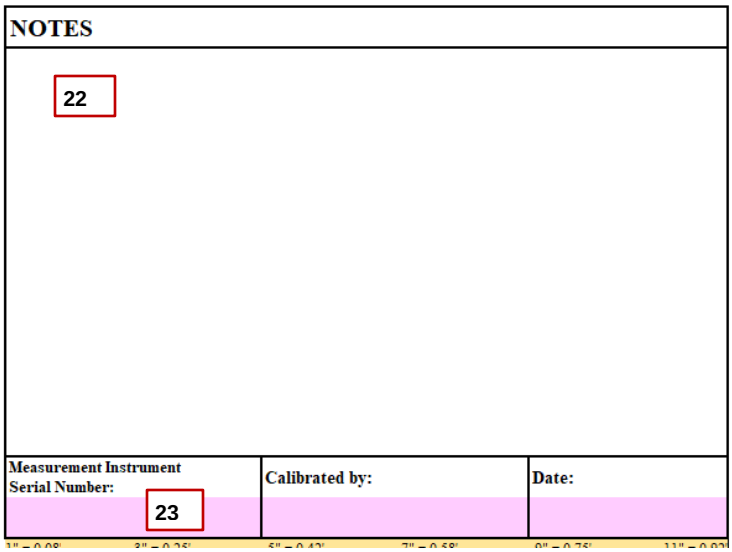
B. Basic information required for each Feature measured includes:

1. Some of the forms are site specific, and will need to be completed separately for <u>each</u> ADA Feature constructed (the various Curb Ramps, Sidewalk End Ramps, Cut Thru, Driveway, and APS Button/Signal), while other forms provide the capability to record more than one ADA Feature location on the same form (Sidewalk and Independent Shared Use Path).

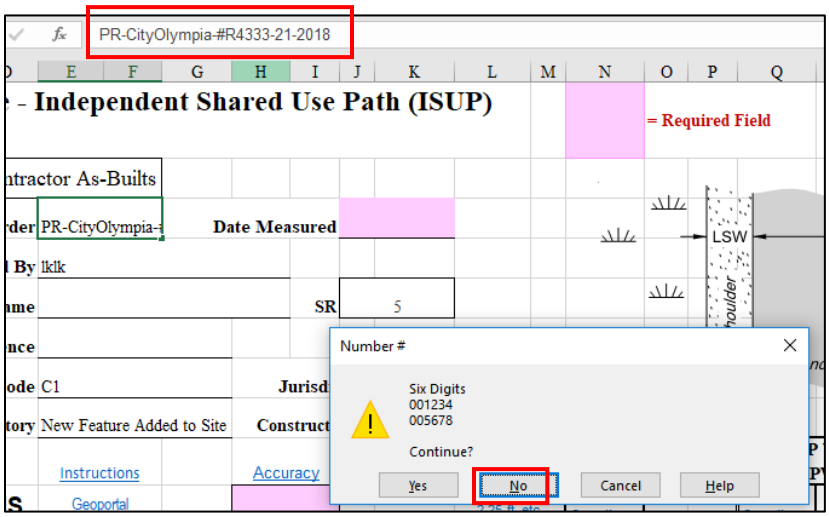


2. All the forms require basic information to be filled-out:
   - As noted above, each form has "Required Field" (Fuchsia color shaded cells) that need to be completed in order for the form to be submitted.





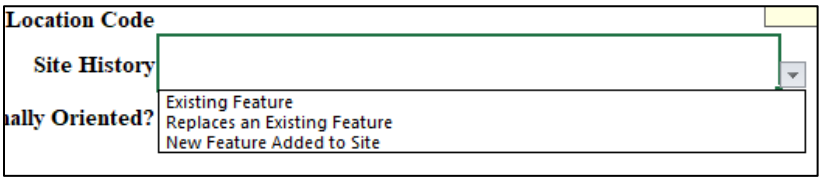
3. Field Descriptions:
    1. **Contract** – Enter the contract number; six digits. “001234” (For non-WSDOT construction projects, enter the entire project number and when the reminder box pops up, select “Yes” to continue, which will allow the entire project number to be entered)



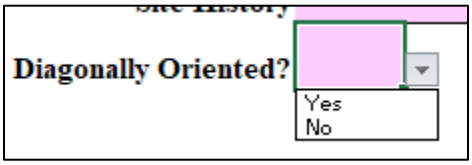
    2. **Date Measured** – Enter the date measured.
    3. **Measured By** – Enter the name/title of person completing the measurements.
    4. **Cross Street Name** – Enter the name of the cross street, if available.
    5. **Plan Sheet Reference** (if this is applicable) – Enter the contract plan sheet number the feature is found on.
    6. **Feature Location Code** - Identify each feature by a Feature Location Code schema.

    Provide a schematic plan that shows each ADA Feature and the associated unique Feature Location Code (this can be the designation from the contract plans, or any system to identify each location separately (sequentially, alphabetically, etc)).

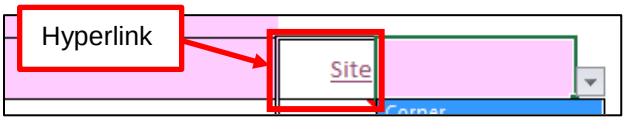
7. **Site History** – Select from the drop-down list to identify what this feature is addressing.

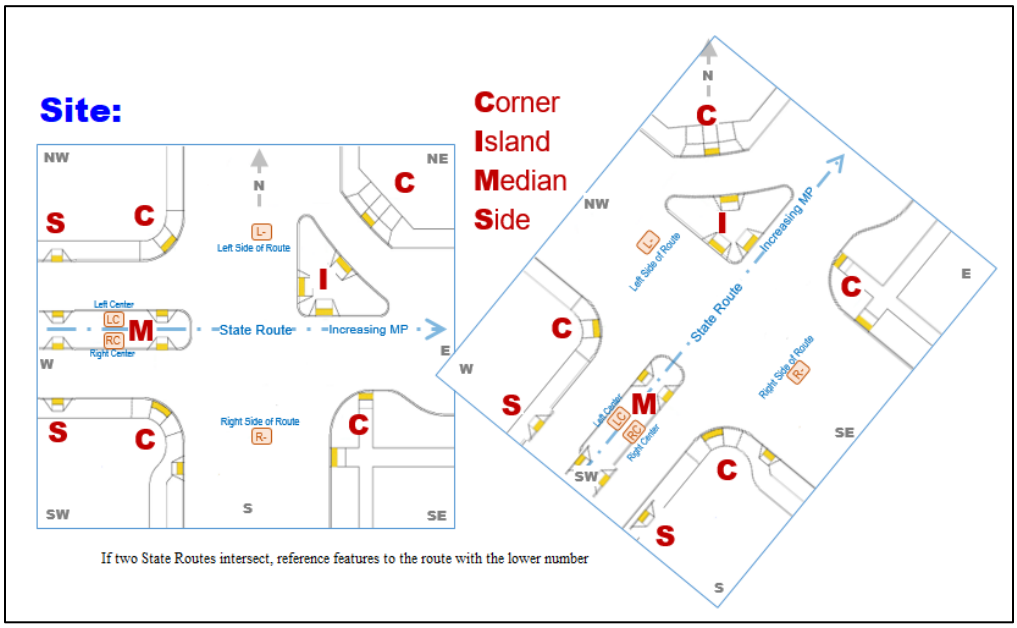


8. **Diagonally Orientated** – Identify whether or not the curb ramp points into the center of the intersection (diagonal).

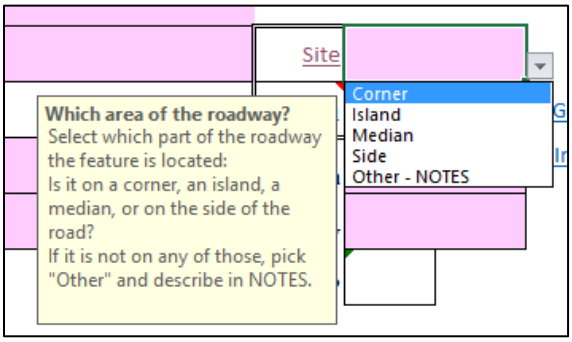


9. **Site** – Identify where the feature is located. Click on the hyperlink and the diagram (shown below) will provide more information about the Site.

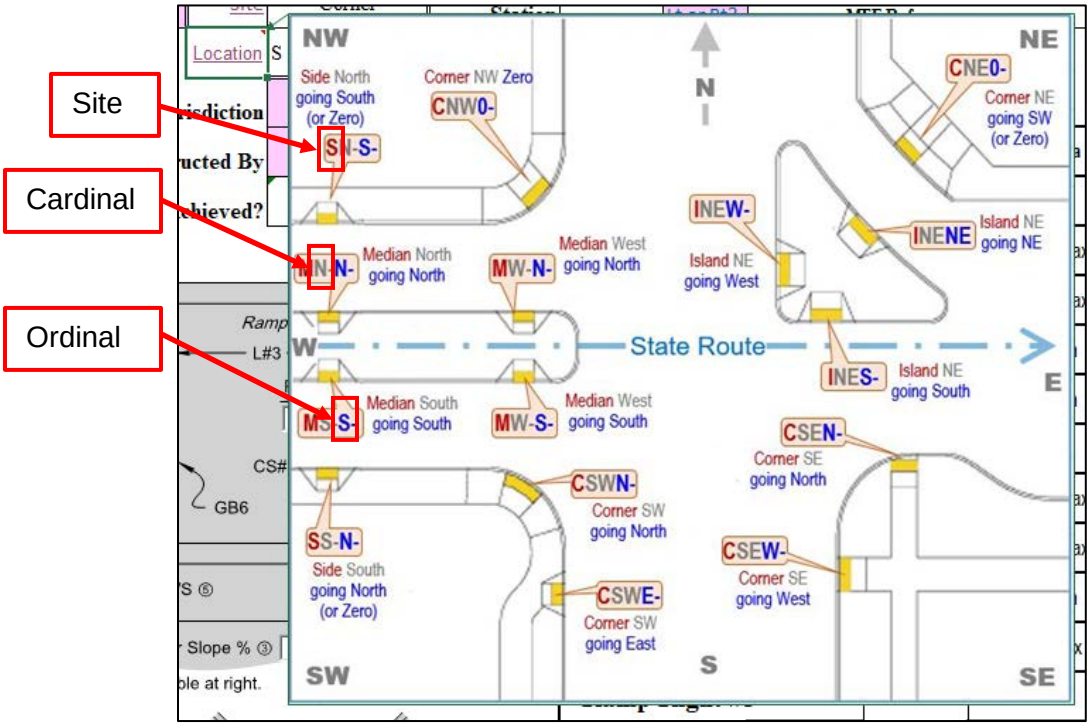




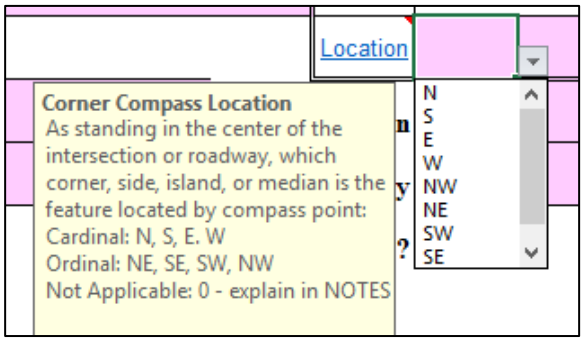
Select from the dropdown list the general location where the feature is located.



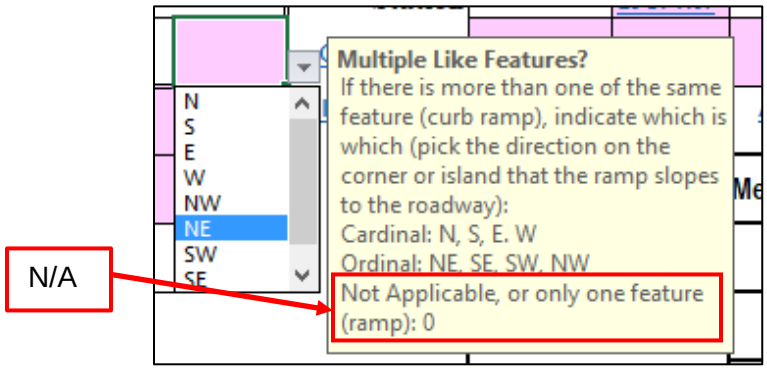
10. **Location** – This is used provide more specific location detail to distinguish the feature's location (especially when there are other similar features on the same corner). Move the mouse button over the "Location" cell and a schematic drawing (below) will pop up showing the naming convention used to identify the location of the feature.



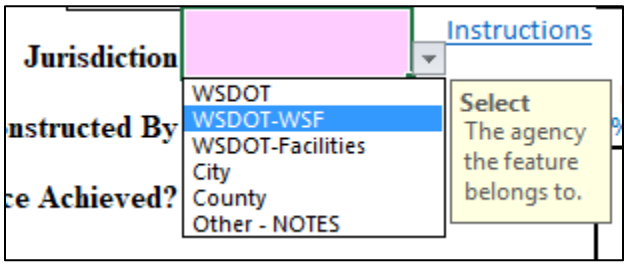
10a – **Corner Compass Location**: From the dropdown list identify the "Cardinal" Corner Compass Location for where the feature is located.



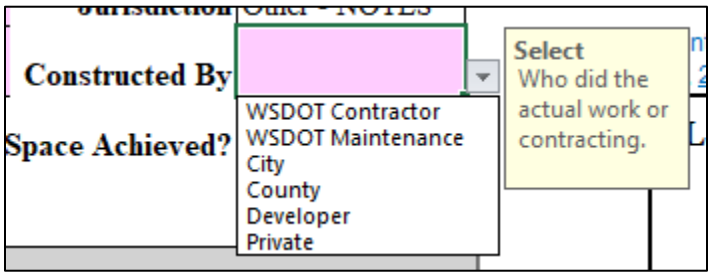
10b –**Compass Location**: From the dropdown list identify the "Ordinal" Corner Compass Location where the feature is located.



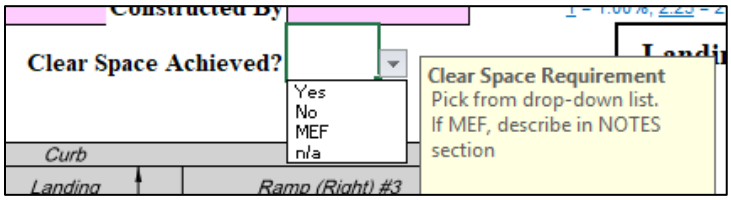
11. **Jurisdiction** – Identify who has jurisdiction of the feature from the dropdown list



12. **Constructed By** – Identify who constructed the feature from the dropdown list



13. **Clear Space Achieved** (*Does not apply to all ramps*) See details in the Section 4 below.



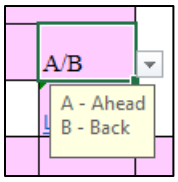
14. **SR** – Enter the State Route identification (number only).

15. **Mile Post** (MP) - Provide the State Route mile post for the feature.

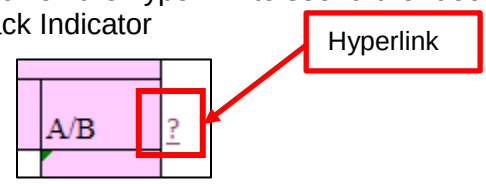
    The MP can be calculated possibly using the contract plan information found on the vicinity map.

16. **Ahead/Back** Indicators (A/B) – Identify if the feature's MP is ahead or back. For most State Routes this will typically be identified as "Ahead".

    The State Route Milepost Back (B) indicator designates whether the milepost value is the 'back' duplicate of a milepost value 'ahead' on the route.



Click on the hyperlink to see further documentation pertaining to Milepost Back Indicator



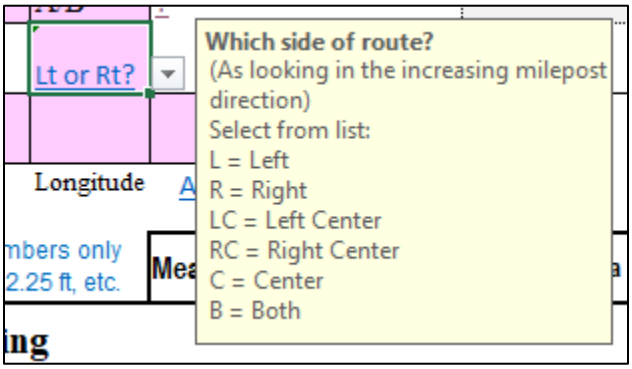
STATE ROUTE MILEPOST BACK (B) INDICATOR

The State Route Milepost Back (B) indicator designates whether the milepost value is the 'back' duplicate of a milepost value 'ahead' on the route. Ahead values have an implied 'A' (blank).

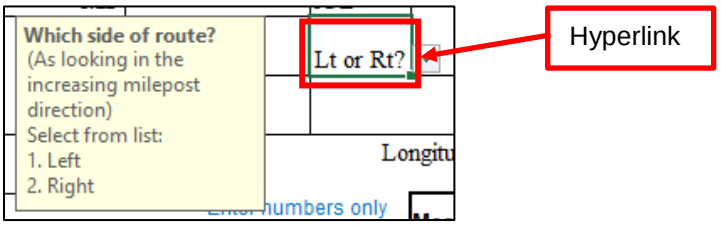
A back SRMP occurs as a result of:

- A realignment that lengthens a section of an SR other than at the end of the route.
- Adding mileage to the beginning of an SR.

17. **Project stationing** - Enter the Project station of the feature, if known.
18. **Lt or Rt** - Identify where the feature is located in relationship to the State Route centerline (while being oriented and facing in the Increasing MP direction on the SR) from the drop-down list.



For more information click on the hyperlink



LEFT/RIGHT INDICATOR

Features that get tagged with this code occur ALONG SIDE the main traveled way. All Left Right Indicators are assigned based on the INCREASING direction of travel, starting from the left and working to the right.

L = LEFT Represents features located along side the decreasing traveled way.

LC = LEFT CENTER Represents features located along side the median side of the decreasing traveled way.

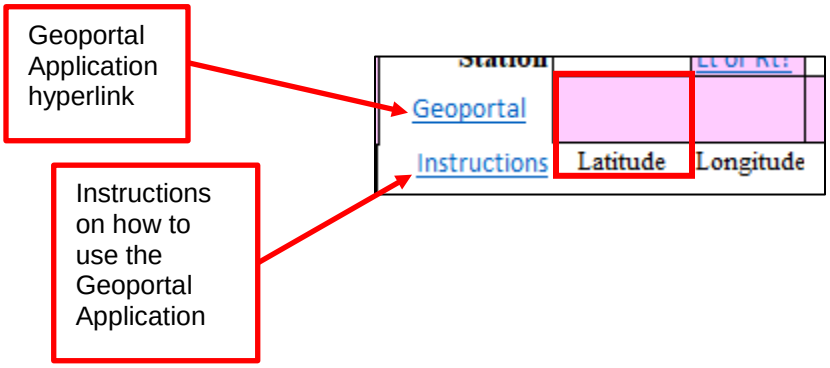
C = CENTER Represents a feature that occurs between the increasing and decreasing traveled way.
RC = RIGHT CENTER Represents features located along side the median side of the increasing traveled way.

R = RIGHT Represents features located along side the increasing traveled way.

B = BOTH The feature occurs along side both the increasing and decreasing traveled way.

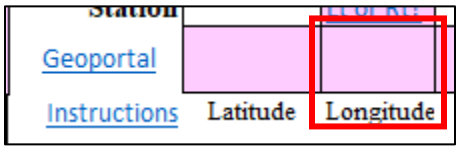
19. **Latitude**– Provide the latitude coordinate for the feature.

    If the coordinate is not obtainable from a collection device, use the WSDOT Geoportal application to identify the coordinate. Instructions for using the Geoportal application can be found by click on the Instructions hyperlink.

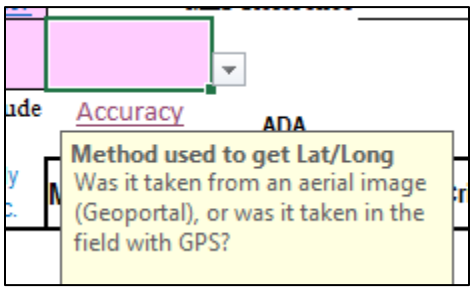


20. **Longitude** – Provide the longitude coordinate for the feature.

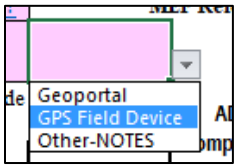
    If the coordinate is not obtainable from a collection device, use the WSDOT Geoportal application to identify the coordinate Instructions for using the Geoportal application can be found by click on the Instructions hyperlink.



21. **Accuracy** – Identify the method used to obtain the Lat/Long coordinates.



    Select from the drop-down list



22. **NOTES** - Each form has a “Notes” block to provide additional details on a measurement or details about the feature.

23. **Measurement tool information and calibration** – Provide the following information pertaining to the measurement tool used to measure slopes.

    a) The serial number of the equipment used for measuring slopes

    b) The name of the person who did the calibration

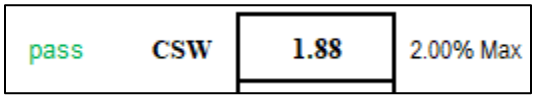
    c) T*he date the tool was calibrated.* At a minimum, the tool is to be calibrated daily.

III. Status of a Feature

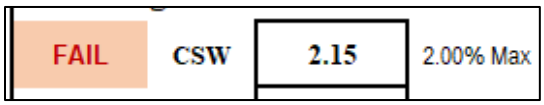
The forms have been designed to provide immediate feedback.

A. Additional measurement or information data is needed to complete the form

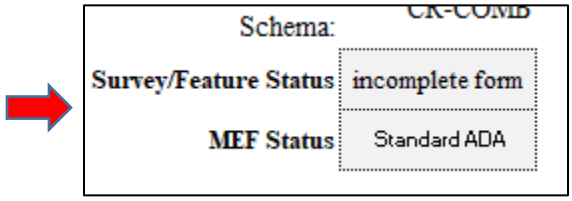
B. For each measurement recorded, the status of ADA compliancy is provided for immediate feedback

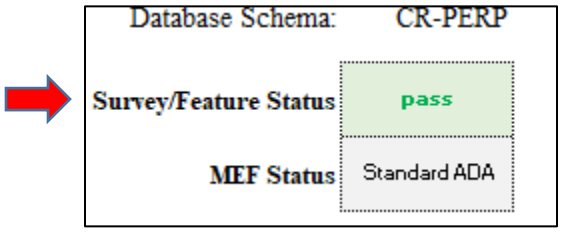


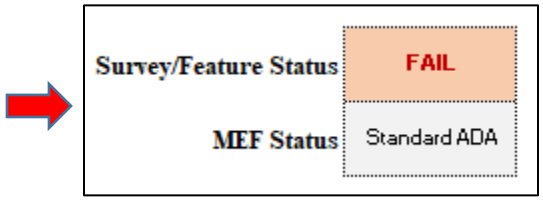
Or

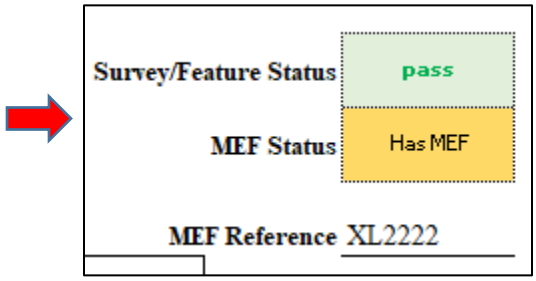


C. In addition, as measurements are recorded, the running and then Final status of the feature will be shown on the form.









D. Acceptance

If, as measurements are being recorded, any of the measurements result in a "FAIL" to meet the compliance criteria, there is a problem. If there is no MEF information attributed to the measurement, the Feature Status will show "FAIL" and is considered non-compliant and will not be accepted by WSDOT.

IV. ADA Features

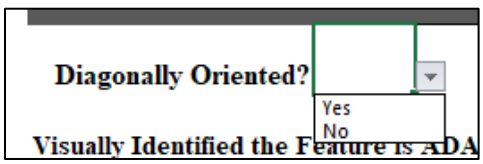
Each Feature has a different set of required measurements. Below is detailed information or an explanation of various data fields found on the various forms.

A. Curb Ramps

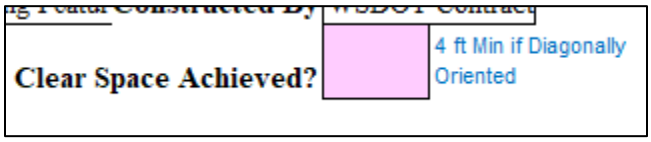
1. Forms to Record Data:
   - Perpendicular
   - Parallel Curb Ramp
   - Parallel 1-Direction
   - Combination
2. Data Fields Explanation:

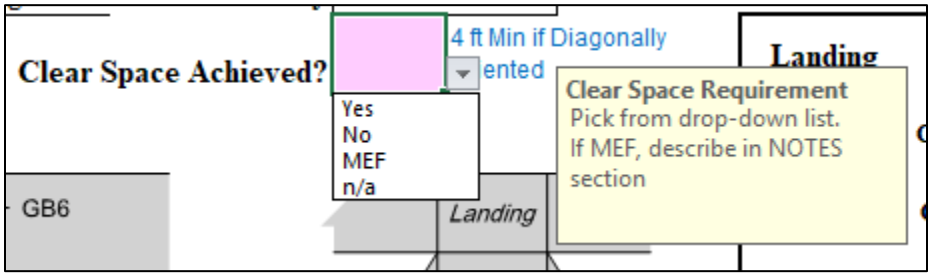
   a) For each of the fields listed below select whether or not the attribute applies:

   i) ***Diagonally Orientated*** – Identify whether or not the ramp points into the center of the intersection.



   ii) ***Clear Space Achieved*** – Identify whether or not a clear space is provided at the bottom of the curb ramp.





1510.09(2)(j) Clear Space

- Beyond the curb face where the bottom of a curb ramp or landing meets the gutter, a clear space of 4 feet minimum by 4 feet minimum shall be provided in the roadway that is contained within the width of the crosswalk and located wholly outside the parallel vehicle travel lane.

Note: Clear space is easily achieved when a separate curb ramp is provided, oriented in each direction of pedestrian travel within the width of the crosswalk it serves.

b) ***Landing*** *– Provide measurements*

Enter numbers only 1 = 1.00%, 2.25 = 2.25 ft, etc.	Measurement	Compliance Criteria	MEF Criteria
Landing			
CSW		2.00% Max	% Max
CSL		2.00% Max	% Max
W		4.00 ft Min	ft Min
L		4.00 ft Min	ft Min

1510.09(2)(d) Landing

A level landing is required either at the top of a perpendicular ramp or the bottom of a parallel curb ramp, as noted in 1510.09(1)(a) and (b) for the type of curb ramp used.

- Provide a landing that is at least 4 feet minimum length by 4 feet minimum width.
- The running and cross slopes of a curb ramp landing shall be 2% maximum.

Note: It is recommended that cross slopes be designed to be less than the allowed maximum to allow for some tolerance in construction. For example, design for a maximum 1.5% cross slope (rather than 2% maximum).

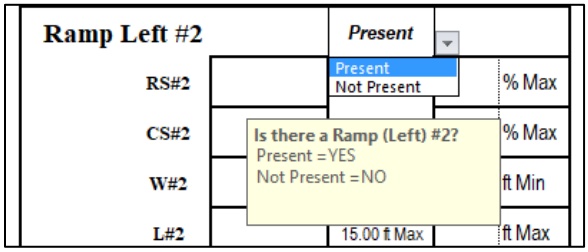
Exception: The running and cross slopes of landings for curb ramps at midblock crossings are permitted to match the street or highway grade.

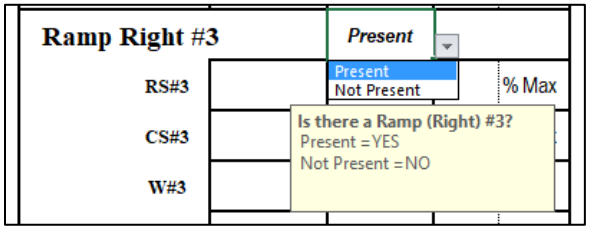
c) ***Ramp*** *– Provide measurements*

Ramp			
RS		8.30% Max	% Max
CS		2.00% Max	% Max
W		4.00 ft Min	ft Min
L		15.00 ft Max	ft Max

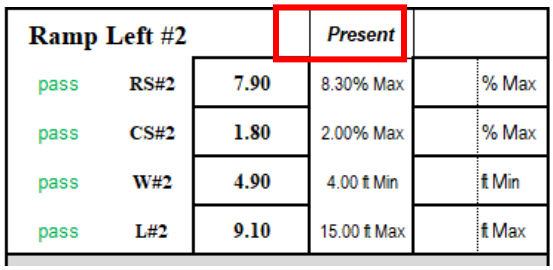
☞ **Special Note:**

For Curb Ramp types Parallel and Combination, the feature may have or may not have a Ramp Left or Right associated it and requires the recorder to identify if the Ramp is Present or not.

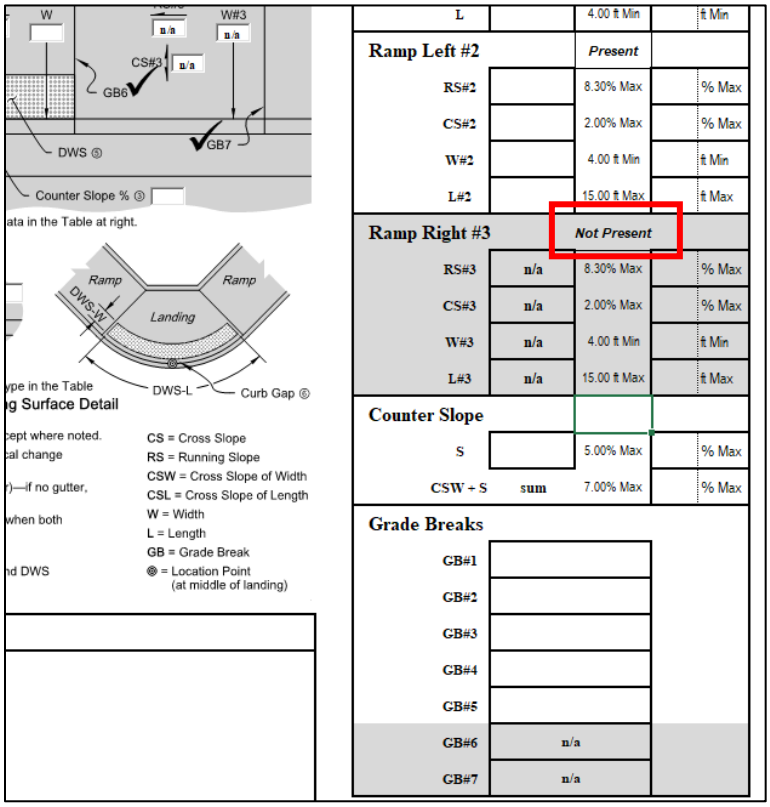




(1) If the Ramp is present select **Present** from the drop-down list and record the information required.



(2) If a ramp is not present, select **Not Present** and notice that the associated data cells and ramp Grade Breaks are shaded and auto-filled with "n/a".



1510.09(2)(a) Clear Width

- The clear width of curb ramps and their landings shall be 4 feet minimum, excluding flares.

1510.09(2)(b) Running Slope

- The running slope of curb ramps shall not exceed 8.3% maximum.

  Note: It is recommended that running slopes be designed to be less than the allowed maximum to allow for some tolerance in construction. For example, design for a maximum 7.5% curb ramp running slope (rather than the 8.3% maximum).

- The running slope of a perpendicular curb ramp shall intersect the gutter grade break at a right angle at the back of curb.
- The curb ramp maximum running slope shall not require the ramp length to exceed 15 feet.

1510.09(2)(c) Cross Slope

- The cross slope of curb ramp shall not be greater than 2%, measured perpendicular to the direction of travel.

  Note: It is recommended that cross slopes be designed to be less than the allowed maximum to allow for some tolerance in construction. For example, design for a maximum 1.5% cross slope (rather than the 2% maximum).

  Exception: The cross slopes of curb ramps at midblock crossings are permitted to match the street or highway grade.

d) ***Flare Slope*** *– Provide measurements*

Flare Slope				
FS#1		10% Max		% Max
FL#2		10% Max		% Max

1510.09(2)(e) Flares

- Flared sides are to be used only where a pedestrian circulation path crosses the curb ramp from the side.
- Flared sides are to have a slope of 10% maximum, measured parallel to the back of curb.

e) ***Counter Slope*** *– Provide measurement.*

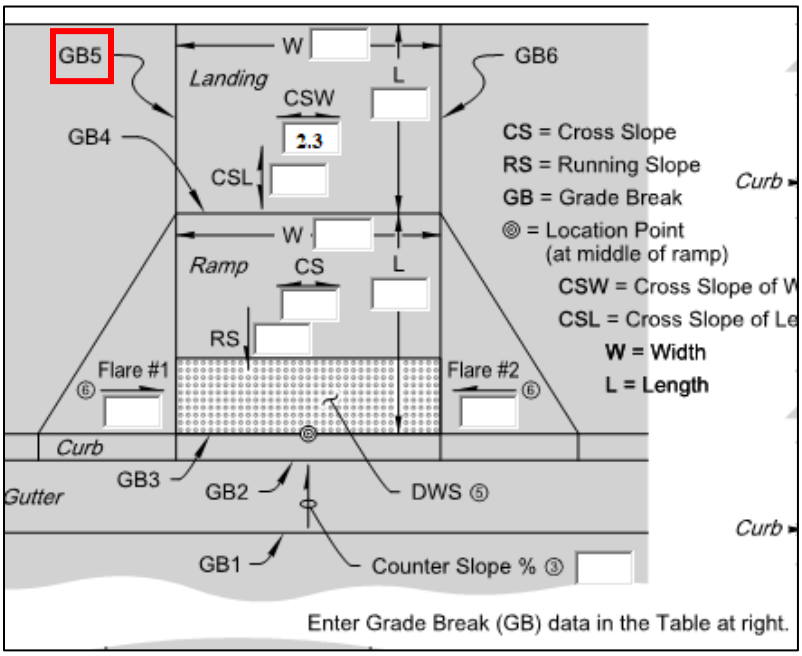
The form calculates the algebraic difference with the ramp slope to determine compliance.

Counter Slope				
S		5.00% Max		% Max
RS + S	sum	11.00% Max		% Max

1510.09(2)(f) Counter Slope

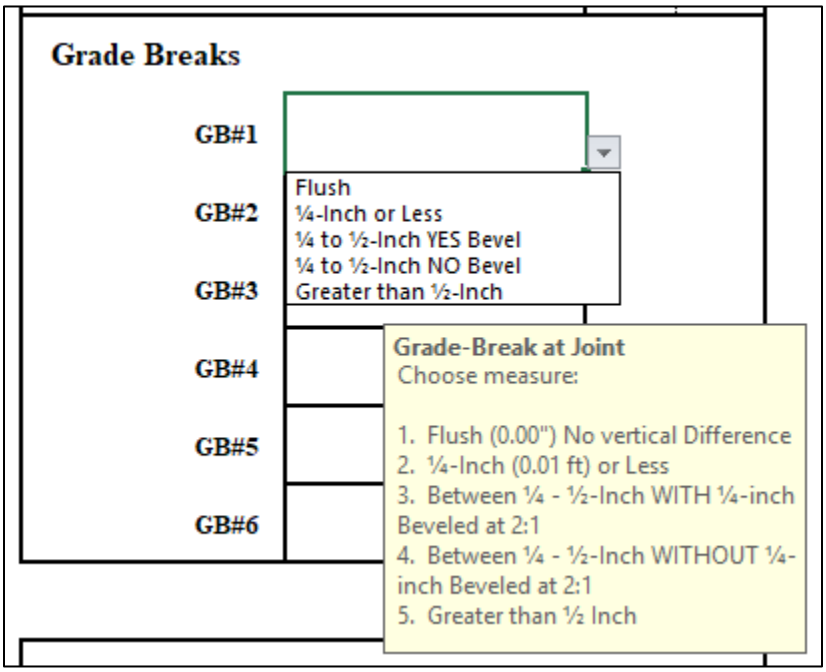
- The counter slope of the gutter or street at the foot of a curb ramp or landing shall be 5% maximum.

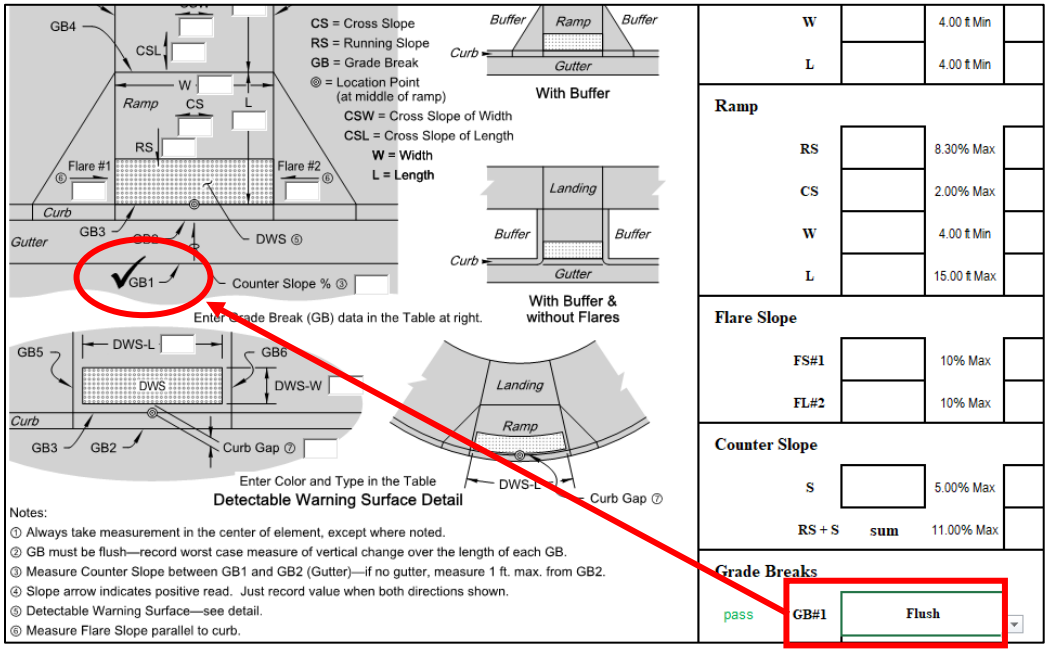
f) ***Grade Breaks*** *– Grade breaks (GB) are shown on the drawings.*



☞ **Special Note:**

Be aware that the diagram does not provide sufficient space for a data box, therefore, select the type of Grade Break from the drop-down list. Notice that a large check will show up on the diagram showing that the measurement was completed.





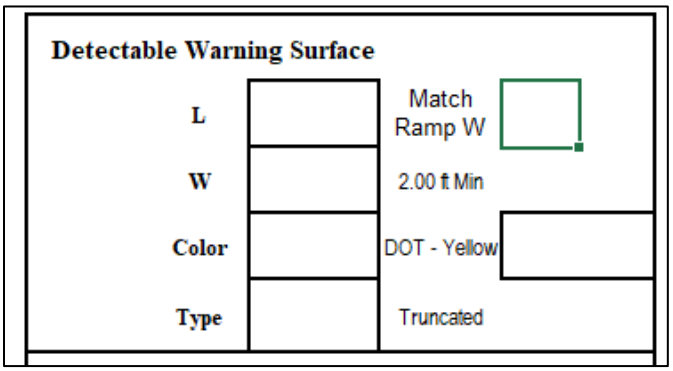
Special Note:

If the form is being filled out in the field by hand first, record the measurement between the two surfaces so that the correct drop-down selection can be selected on the electronic form.

1510.09(2)(i) Grade Breaks

- Vertical alignment shall be planar within curb ramp runs, landings, and gutter areas within the pedestrian access route.
- Grade breaks at the top and bottom of curb ramps shall be perpendicular to the direction of travel on the ramp run.
- Surface slopes that meet at grade breaks shall be flush.

*g) **Type of DWS** – Provide measurements. Also identify the type of DWS found (Select from the drop-down list)*

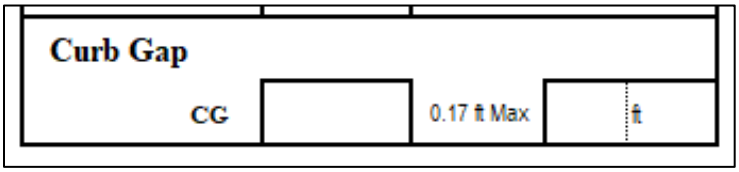


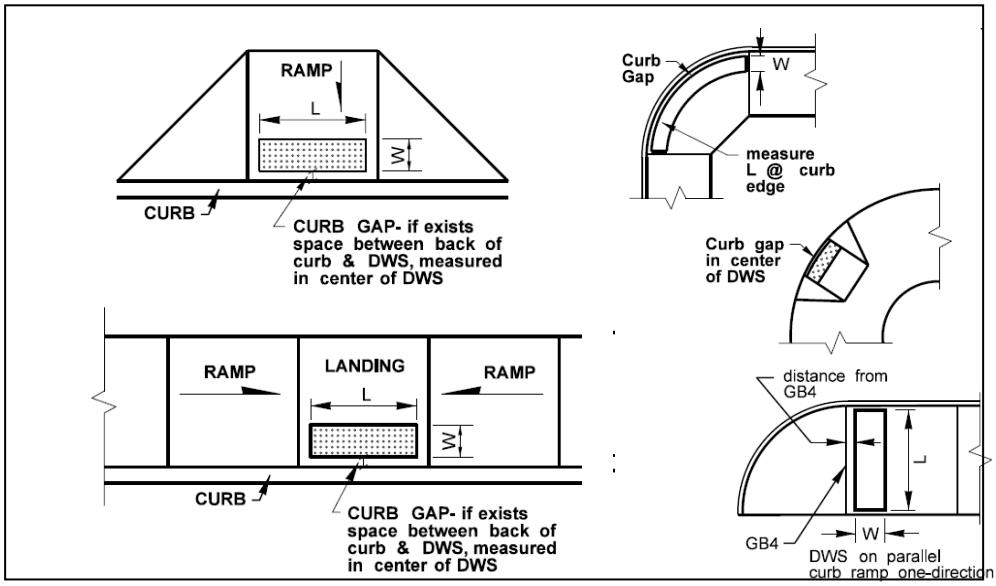
1510.09(2)(g) Detectable Warning Surfaces

- Detectable warning surfaces are required where curb ramps or landings connect to a roadway. (See the *Standard Plans* for placement details and other applications.)
- Detectable warning surfaces shall contrast visually (either light-on-dark or dark-on-light) with the adjacent walkway surface, gutter, street, or highway.

  Note: Federal yellow is the color used to achieve visual contrast on WSDOT projects. Within cities, other contrasting colors may be used if requested by the city.

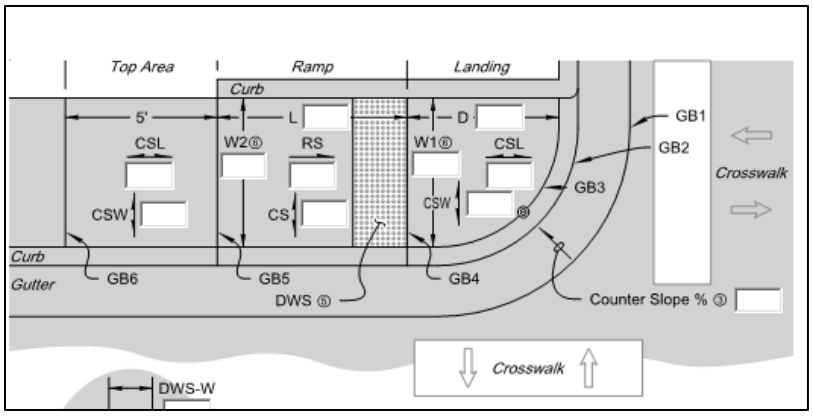
h) ***Curb Gap*** *– Provide measurement.*





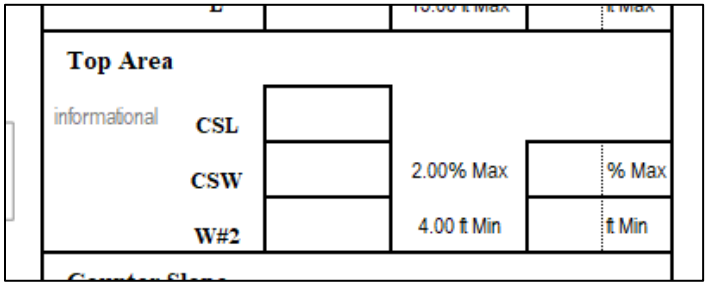
i) ***Top Area*** *– Parallel 1-Direction Ramp* ***only***

Provide measurements.



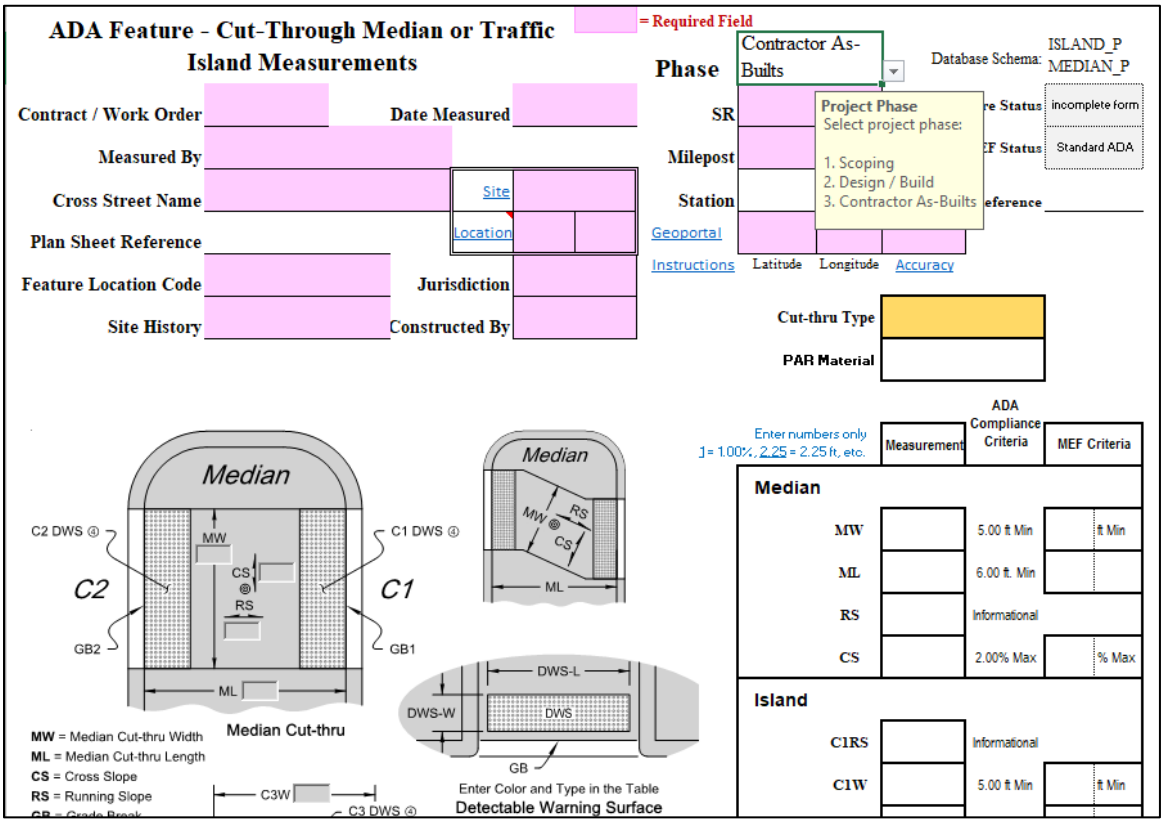
☞ **Special Note: CSL Measurement**

CSL Measurement is informational only as it can follow the grade of the road.



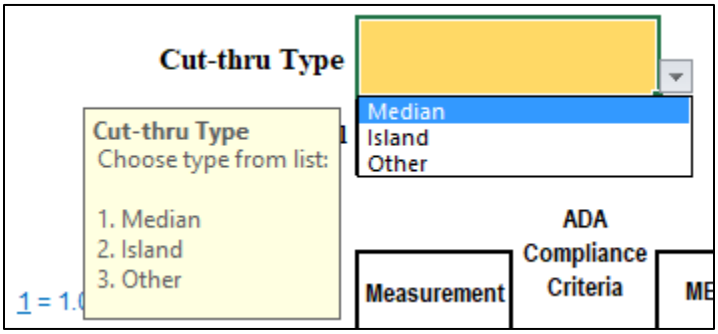
B. Median and Island Cut Thru

1. Forms to Record Data:
   - CutThru

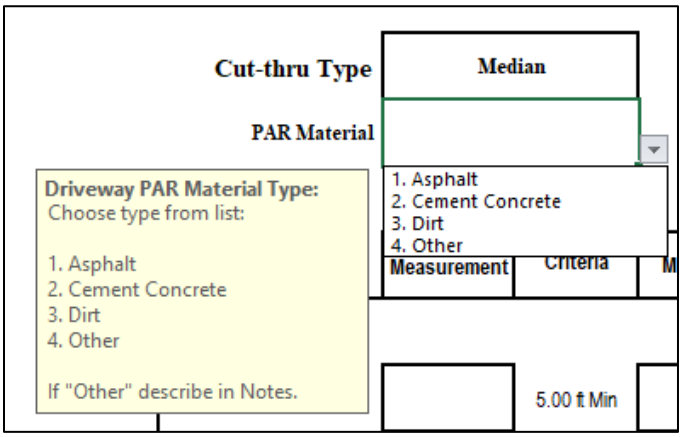


2. Data Fields Explanation:

   a) ***Cut-Thru – Type:*** *Select the type of roadway feature from the drop-down list.*



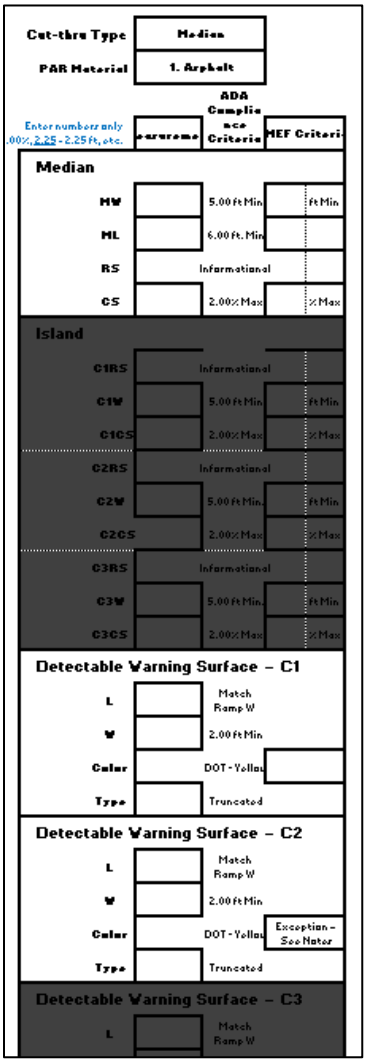
b) ***PAR Material:*** *Select the material type the PAR thru the roadway feature is constructed of from the drop-down list.*



Special Note:

Depending on the type of Cut-thru selected, portions of the form that are not relevant are shaded.

(1) For a Median



(a) Record the measurements for MW, ML, RS, CS

Enter numbers only 1 = 1.00%, 2.25 = 2.25 ft, etc.	Measurement	ADA Compliance Criteria	MEF Criteria
Median			
MW		5.00 ft Min	ft Min
ML		6.00 ft. Min	
RS		Informational	
CS		2.00% Max	% Max

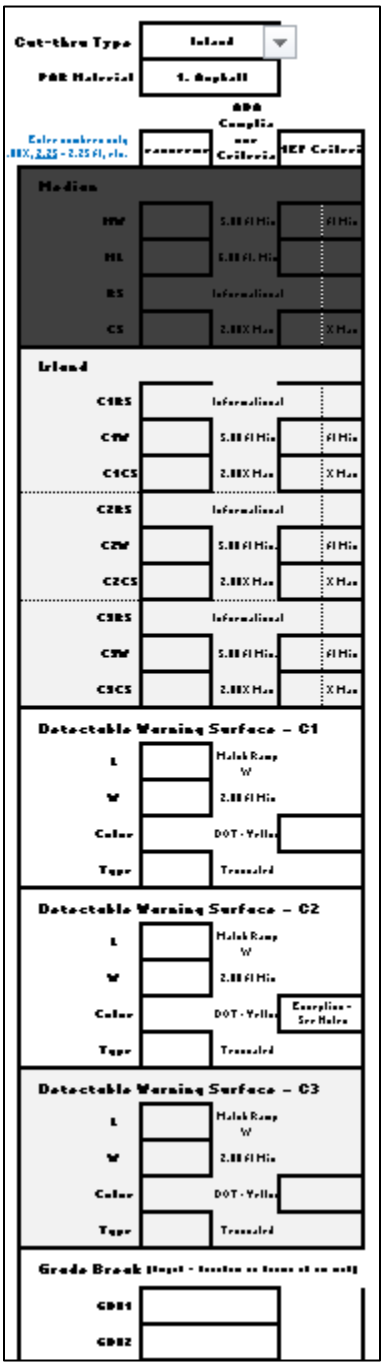
(b) Record the measurements for C1 and C2

Detectable Warning Surface – C1			
L		Match Ramp W	
W		2.00 ft Min	
Color		DOT - Yellow	
Type		Truncated	
Detectable Warning Surface – C2			
L		Match Ramp W	
W		2.00 ft Min	
Color		DOT - Yellow	Exception – See Notes
Type		Truncated	

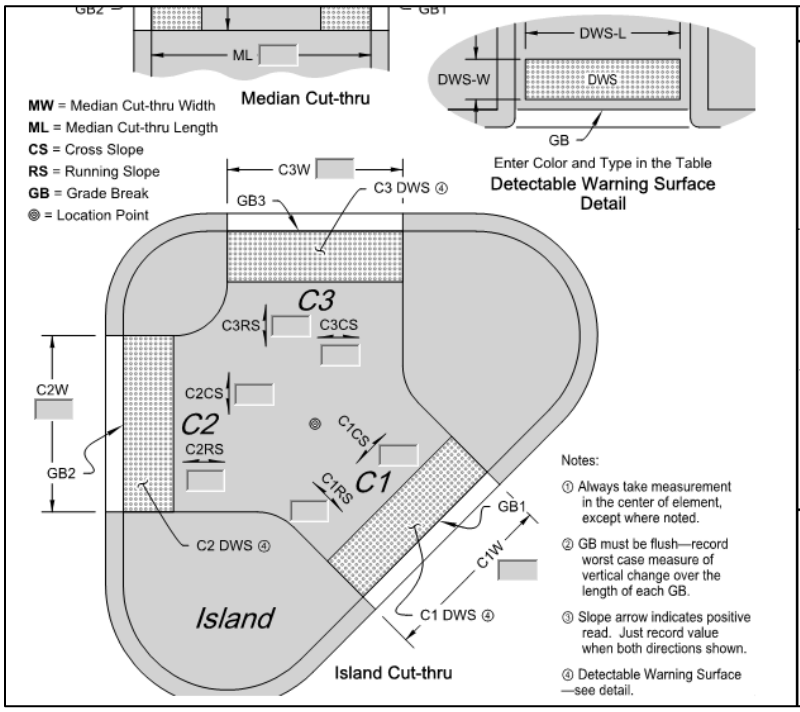
a. Record the measurements for grade breaks

Type		Truncated
Grade Breaks	(Input - fraction or decimal of an inch)	
GB#1		
GB#2		

(2) For an Island



(a) Record the measurements for CRS,C1W , C1CS, C2RS,C2W, C2CS, C3RS,C3W , C3CS

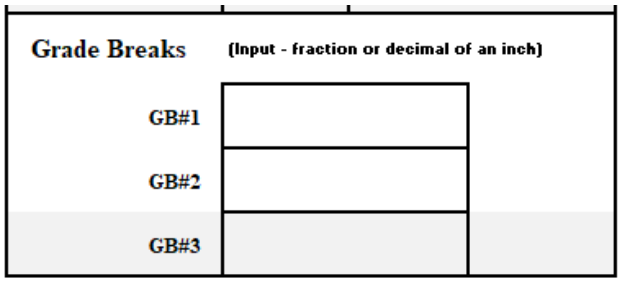


CS		2.00% Max		% Max
Island				
C1RS		Informational		
C1W		5.00 ft Min		ft Min
C1CS		2.00% Max		% Max
C2RS		Informational		
C2W		5.00 ft Min.		ft Min
C2CS		2.00% Max		% Max
C3RS		Informational		
C3W		5.00 ft Min.		ft Min
C3CS		2.00% Max		% Max
Detectable Warning Surface – C1				
L		Match Ramp W		
W		2.00 ft Min		
Color		DOT - Yellow		

(b) Record the measurements for C1, C2, and C3

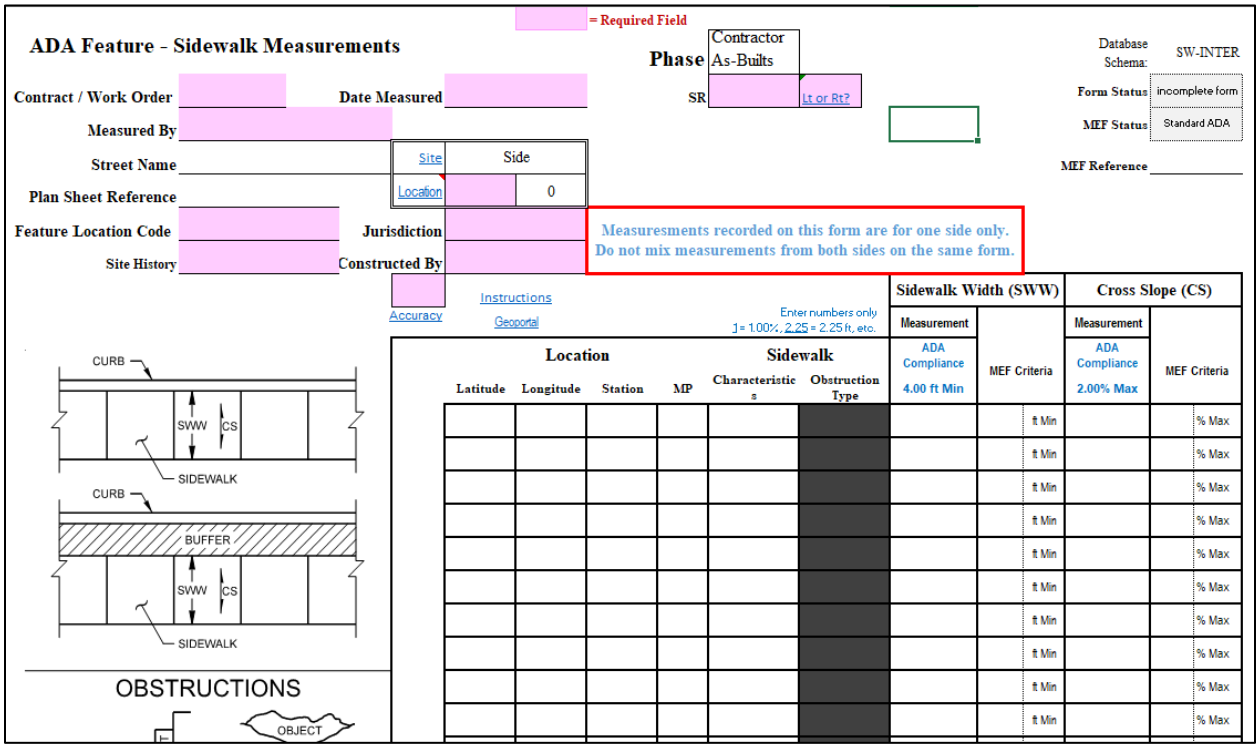
Detectable Warning Surface – C1			
L		Match Ramp W	
W		2.00 ft Min	
Color		DOT - Yellow	
Type		Truncated	
Detectable Warning Surface – C2			
L		Match Ramp W	
W		2.00 ft Min	
Color		DOT - Yellow	Exception – See Notes
Type		Truncated	
Detectable Warning Surface – C3			
L		Match Ramp W	
W		2.00 ft Min	
Color		DOT - Yellow	
Type		Truncated	

(c) Record the measurements for grade breaks



C. Sidewalk

1. Forms to Record Data:
   - Sidewalk



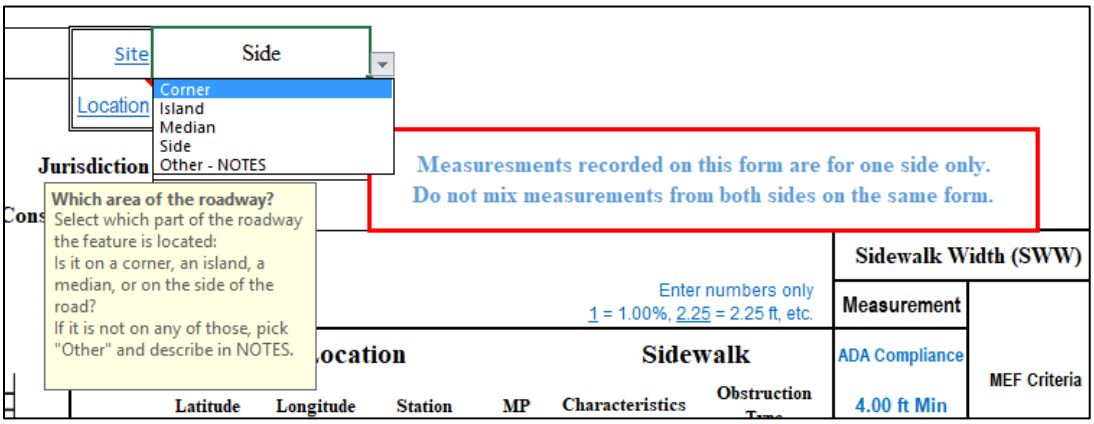
This form allows multiple measurements to be recorded (on the same form) along one length of sidewalk. The limits of the sidewalk are from the edge of the curb ramp at one intersection to the edge of the curb ramp at the other end of the block.

Where the sidewalk is not interrupted by street intersections with curb ramps, it may begin and end with sidewalk end ramps. Use multiple forms to account for longer lengths of uninterrupted, paved sidewalk.

Special Note:

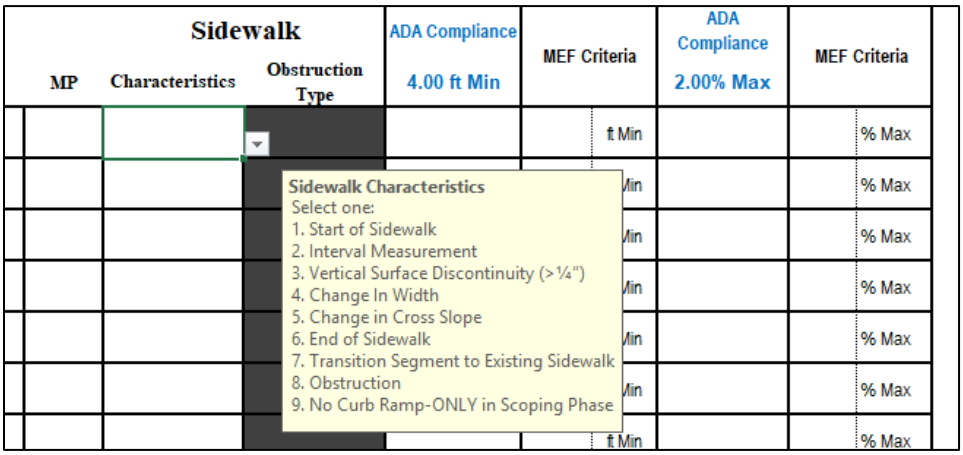
Note, if there is sidewalk on each side of the road, use separate forms for measurement collection; a form for the right side and a separate form for the left side.

For Sidewalk the “Site” location defaults to “Side”



2. Data Fields Explanation:
   a) ***Latitude***– *Provide the latitude coordinate for the feature.*
   b) ***Longitude*** – *Provide the longitude coordinate for the feature.*
   c) *Provide the **Station** if used*
   d) *Provide the **MP***
   e) ***Sidewalk Characteristics*** *- There are eight choices that apply to construction*

   Select from the drop-down list to identify the context for the measurement.



(1) *Start of Sidewalk* – This identifies where the sidewalk begins. Could be where the curb ramp adjoins the sidewalk. Record the width and cross slope at that location.

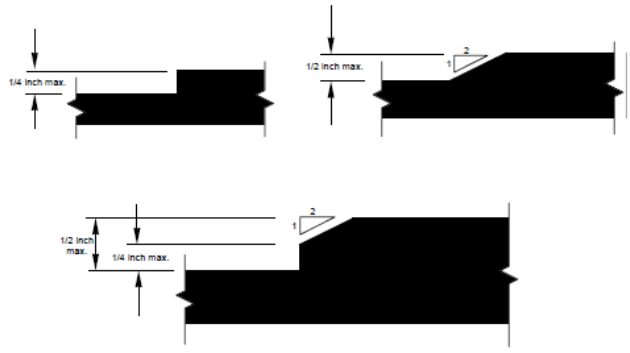
(2) *Interval Measurement* – At approx.. 50-ft intervals along the sidewalk record the width and cross slope.

(3) *Vertical Surface Discontinuity* - Record any location where there is a vertical difference in sidewalk surfaces of more than ¼ inch.

1510.07(1)(c) Surface

- The surface of the pedestrian access route shall be firm, stable, and slip resistant. Use hard surfaces like cement or asphalt concrete; crushed gravel is not considered to be a stable, firm surface.
- Vertical alignment shall be planar within curb ramps, landings, and gutter areas within the pedestrian access route and within clear spaces for accessible pedestrian signals, street furniture, and operable parts.
- Grade breaks shall be flush.
- Surface discontinuities (see Exhibits 1510-4 and 1510-5) on existing surfaces in the pedestrian access route (such as at the joints of settled or upheaved sidewalk panels) may not exceed ½ inch maximum. Vertical discontinuities between ¼ inch and ½ inch maximum shall be beveled at 2H:1V or flatter. Apply the bevel across the entire level change.

  Exception: No surface discontinuity is allowed at the connection between an existing curb ramp or landing and the gutter. This grade break must be flush.



Beveling Options
Exhibit 1510-4

(4) *Change In Width* - Record any locations where there is a change in the sidewalk width. Record the width and cross slope at that location.

(5) *Change In Cross Slope* - Record any location where the cross slope changes. Record the width and cross slope at that location.

(6) *End of Sidewalk* – This identifies where the sidewalk section ends, or where a transition segment begins, or where the sidewalk adjoins a curb ramp. Record the width and cross slope at that location.

(7) *Transition Segment to Existing Sidewalk* – If the sidewalk transitions back to an existing sidewalk, record measurements at the match line with the existing sidewalk.

(8) *Obstruction* – An obstruction is any object within the sidewalk that reduces the **clear width** to less than 4-ft. Record any location where these are found.

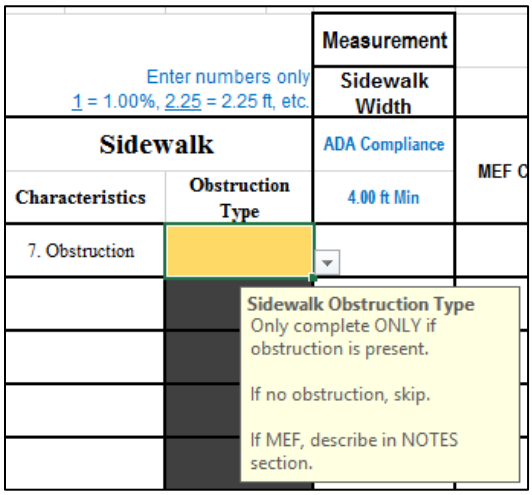
1510.07(1)(a) Clear Width

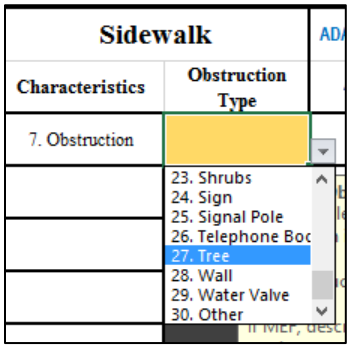
- The minimum continuous and unobstructed clear width of a pedestrian access route shall be 4 feet, exclusive of the width of the curb.
- Pedestrian access routes that are less than 5 feet in clear width, exclusive of the width of the curb, shall provide passing spaces at intervals no farther apart than 200 feet. Passing spaces shall be 5 feet wide minimum, for a minimum distance of 5 feet.

☞ **Special Note:**

If the reason for the measurement is related to an Obstruction, complete the Obstruction Type.

f) ***Obstruction Type*** *- Select from the drop-down list to identify the obstruction type.*



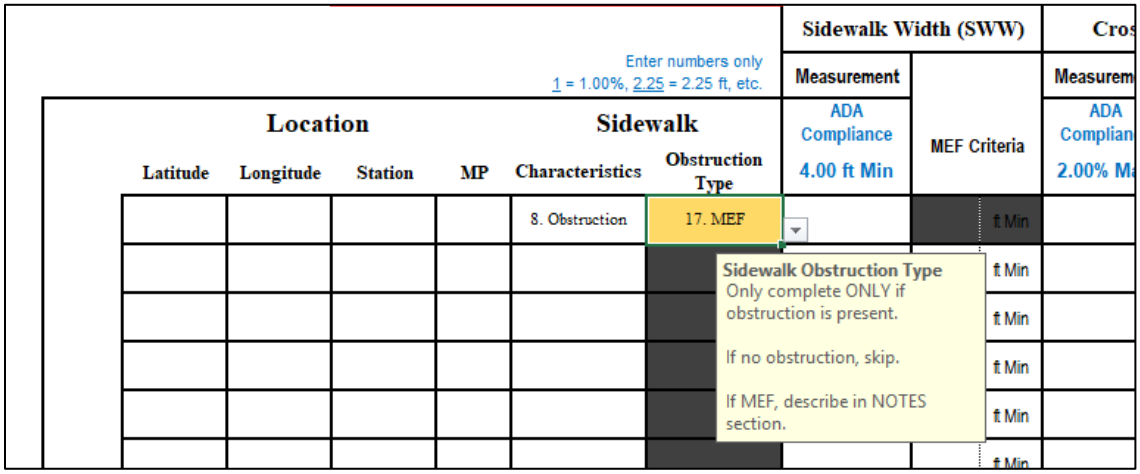


Obstructions might include:

Bench	Branch	Bridge Expansion Joint
Building	Catch Basin	Fence
Fire Hydrant	Grate Inlet	Ground Cover
Guardrail	Guy Anchor	Guy Wire
Junction Box	Large Vault -Electric	Large Vault -Utility
Manhole	Newspaper Stand	Parking Meter
Parked Vehicle	Portable Sign Board	Power Pole
Shrubs	Sign	Signal Pole
Tree	Telephone Booth	Wall
Water Valve	Other	MEF

☞ **Special Note:**

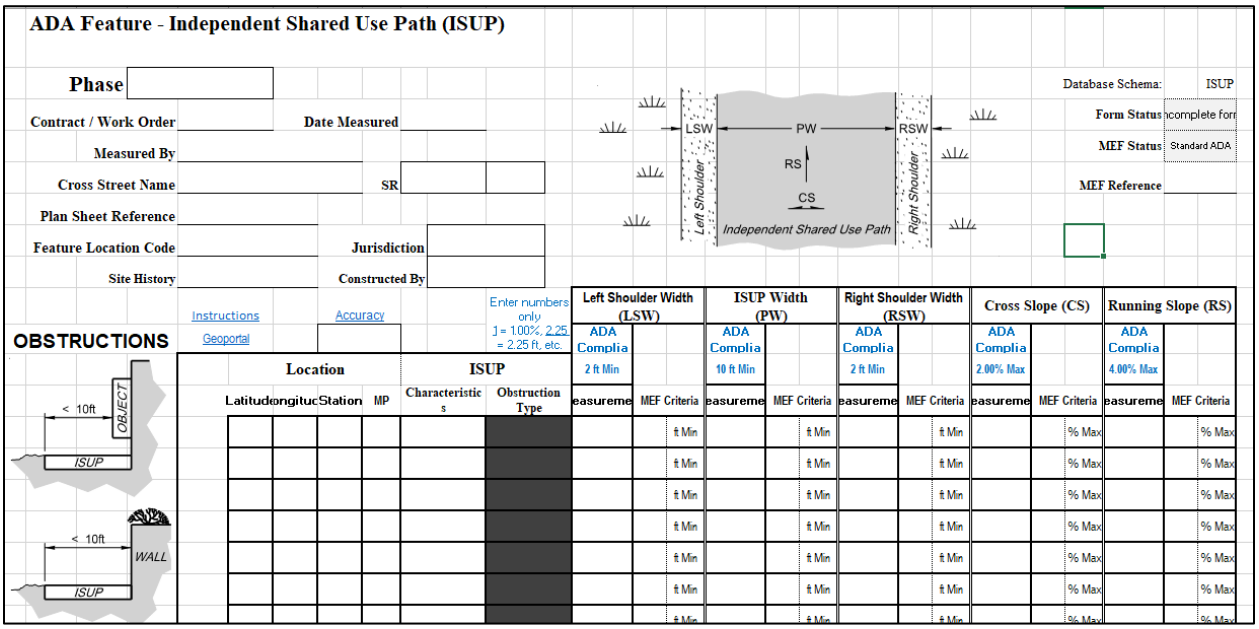
If an obstruction has been documented as a MEF, select MEF from the drop-down list, record the measurements, and in the NOTES box on the form add any additional pertinent information.



*g) **Sidewalk Width** – Record the sidewalk width at that location.**Cross Slope** – Record the cross slope of the sidewalk at that location.*

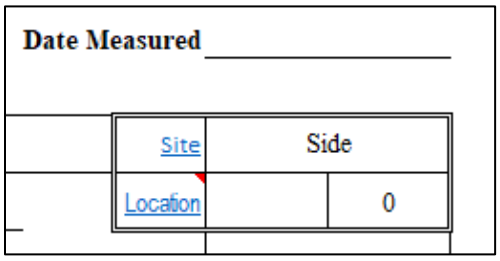
D. Independent Shared Use Paths (ISUP)

1. Forms to Record Data:
   - ISUP



This form allows multiple measurements to be recorded on the same form along a shared use path.

For ISUP the “Site” location defaults to “Side”



2. Data Fields Explanation:

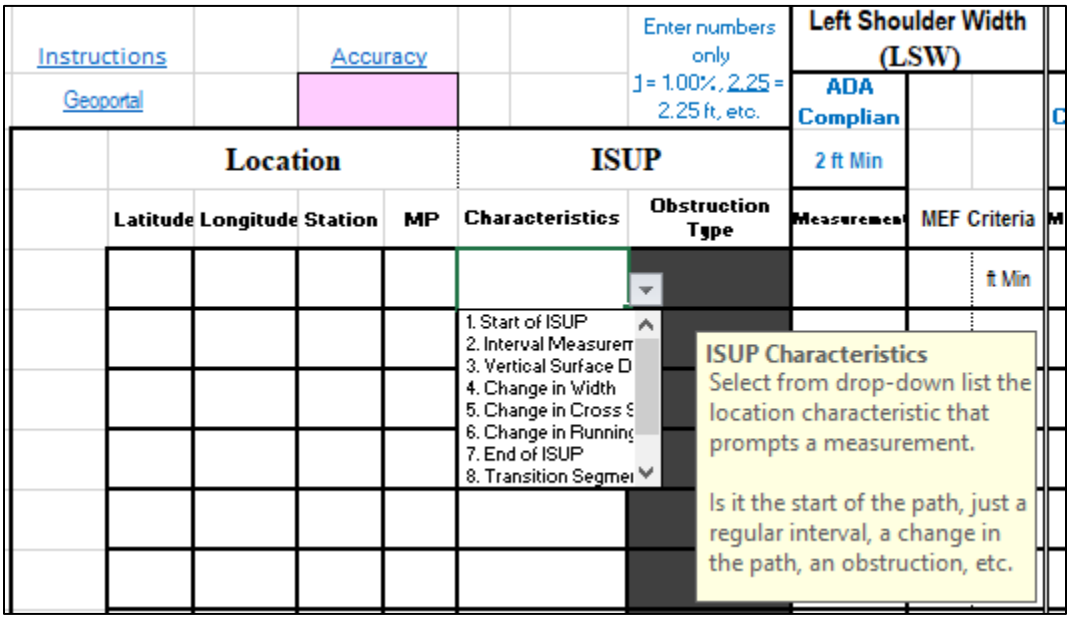
   a) ***Latitude***– *Provide the latitude coordinate for the feature.*

   b) ***Longitude*** – *Provide the longitude coordinate for the feature.*

   c) *Provide the* ***Station*** *if used*

   d) *Provide the* ***MP*** *for each measurement, if available.*

   e) ***Characteristics*** *- There are nine choices, select from the drop-down list to identify the reason for the measurement. Enter the measurements made.*



(1) *Start of ISUP* – This identifies where the ISUP begins. Record the width and cross slope at that location.

(2) *Interval Measurement* – At approx.. 50-ft intervals along the ISUP record the width and cross slope.

(3) *Vertical Surface Discontinuity* - Record any locations where there is a vertical difference in surfaces of more than ¼ inch.

(4) *Change In Width* - Record any locations where there is a change in the ISUP width. Record the width and cross slope at that location.

(5) *Change In Cross Slope* - Record any location where the cross slope changes. Record the width and cross slope at that location.

(6) *Change in Running Slope* – Record location where the running slope changes.

(7) *End of ISUP* – This identifies where the ISUP section ends, or where a transition segment begins, or where the ISUP adjoins another feature. Record the width and cross slope at that location.

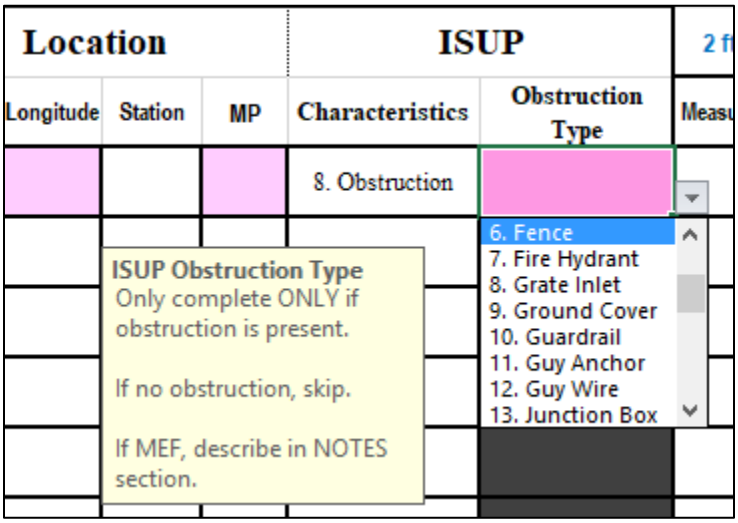
(8) *Transition Segment to Existing ISUP* – If the ISUP transitions back to an existing ISUP, record measurements at the match line with the existing ISUP.

(9) *Obstruction* – An obstruction is any object within the ISUP that reduces the **clear width** to less than 10-ft. Record any location where these are found.

Special Note:

If the reason for the measurement is related to an Obstruction, complete the Obstruction Type.

f) ***Obstruction Type*** *- Select from the drop-down list to identify the obstruction type.*



Obstructions might include:

Bench	Branch	Bridge Expansion Joint
Building	Catch Basin	Fence
Fire Hydrant	Grate Inlet	Ground Cover
Guardrail	Guy Anchor	Guy Wire
Junction Box	Large Vault -Electric	Large Vault -Utility
Manhole	Newspaper Stand	Parking Meter
Parked Vehicle	Portable Sign Board	Power Pole
Shrubs	Sign	Signal Pole
Tree	Telephone Booth	Wall
Water Valve	Other	MEF

Special Note:

If an obstruction has been documented as a MEF, select MEF from the drop-down list, record the measurements, and in the NOTES box on the form add any additional pertinent information.

g) ***Left Shoulder Width (LSW)*** *– Record the measurement.*

Left Shoulder Width (LSW)		
ADA Compliance 2 ft Min		
Measurement	MEF Criteria	
3.00		ft Min

h) ***ISUP Width (PW)*** *– Record the measurement.*

ISUP Width (PW)		
ADA Compliance 10 ft Min		
Measurement	MEF Criteria	
12.00		ft Min

i) ***Right Shoulder Width (RSW)*** *– Record the measurement.*

Right Shoulder Width (RSW)		
ADA Compliance 2 ft Min		
Measurement	MEF Criteria	
2.00		ft Min

j) ***Cross Slope (CS)*** *– Record the measurement.*

Cross Slope (CS)		
ADA Compliance 2.00% Max		
Measurement	MEF Criteria	
1.85		% Max

k) ***Running Slope (RS)*** *– Record the measurement.*

Running Slope (RS)	
ADA Compliance 5.00% Max	
Measurement	MEF Criteria
4.20	% Max

(a) **Shared-Use Path Widths**

The appropriate paved width for a shared-use path is dependent on the context, volume, and mix of users. The desirable paved width of a shared-use path, excluding the shoulders on either side, is 12 feet. The minimum paved width, excluding the shoulders on either side, is 10 feet.

A paved width of more than 12 feet, excluding the shoulders on either side, may be appropriate when substantial use by both pedestrians and bicyclists is expected or maintenance vehicles are anticipated.

Shared-use path shoulders are typically unpaved and 2 feet wide on either side. Exhibits 1515-3 through 1515-5 provide additional information and cross-sectional elements.

On bridges or tunnels, it is common to pave the entire shared-use path, including shoulders. This usable width can be advantageous for emergency, patrol, and maintenance vehicles and allows for maneuvering around pedestrians and bicyclists who may have stopped. It also keeps the structure uncluttered of any loose gravel shoulder material.

1. **Exceptions to Minimum Path Widths**

A reduced path width of 8 feet may be designed at spot locations that present a physical constraint such as an environmental feature or other obstacle. Refer to the MUTCD for signing and pavement markings for such conditions.

In very rare circumstances, a reduced width of 8 feet may be used where the following conditions prevail:

- Bicycle traffic is expected to be low, even on peak days or during peak hours.
- Pedestrian use of the facility is not expected to be more than occasional.
- Horizontal and vertical alignments provide frequent, well-designed passing and resting opportunities.
- The shared-use path will not be regularly subjected to maintenance vehicle loading conditions that would cause pavement edge damage.
- The share-use path is for a short distance such as a spur connection to a neighborhood.

(e) **Clearances**

The minimum horizontal clearance from the edge of pavement to an obstruction (such as bridge piers or guardrail) is 2 feet. Provide a minimum vertical clearance of 10 feet from the pavement surface to overhead obstructions to accommodate maintenance vehicles, bicyclists, and equestrians.

(a) **Running Slopes**

Design running slopes (grades) on shared-use paths less than or equal to 5% to accommodate all user types, including pedestrians with disabilities.

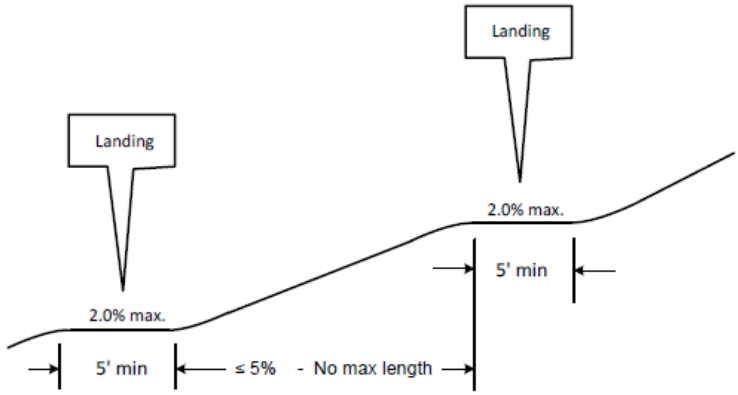
When the path is within the highway right of way, its running slope can match the general grade established for the adjacent roadway.

(b) **Landings**

Shared-use path landings provide users a level place to rest on extended grades. Exhibits 1515-6 and 1515-7 show these features.

Design landings to:

- Permit users to stop periodically and rest.
- Not exceed maximum running slopes and cross slopes of 2%.
- Be in line and as wide as the shared-use path. Landings are to be at least 5 feet long.
- Avoid abrupt grade changes or angle points. Design transitions to landings using vertical curves.



Notes:

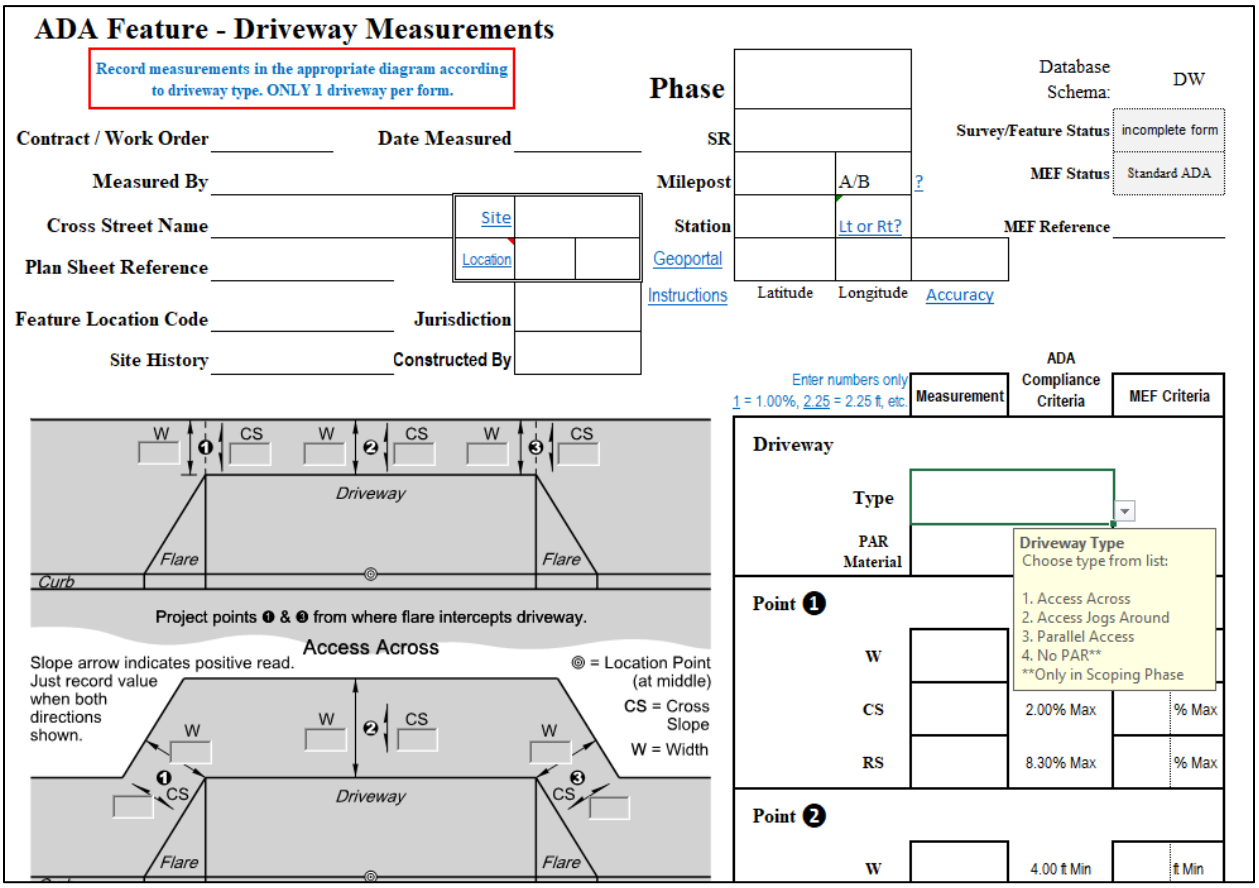
- Landings are desirable on extended grades.
- Design vertical curves to transition from the grade to the landing.
- Exhibit 1515-7 illustrates a landing and a rest area.

Shared-Use Path Landing Profile

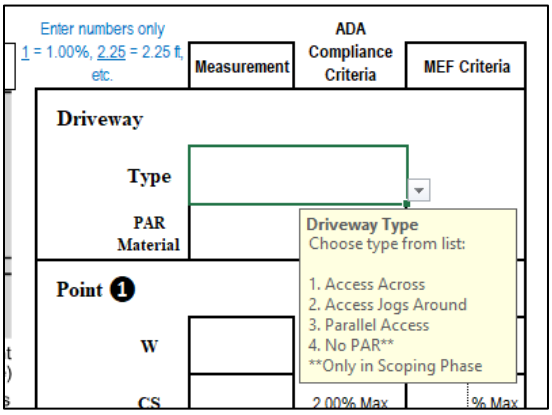
Exhibit 1515-6

E. Driveways

1. Forms to Record Data:
   - Driveway

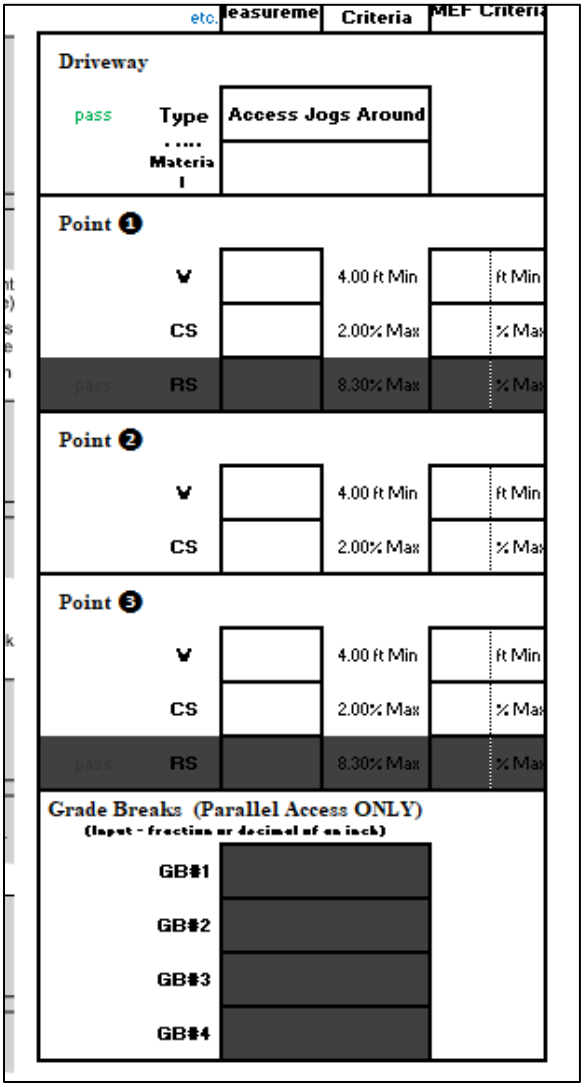


2. Data Fields Explanation:
   a) ***Driveway – Type:*** *Select the type of driveway from the drop-down list.*

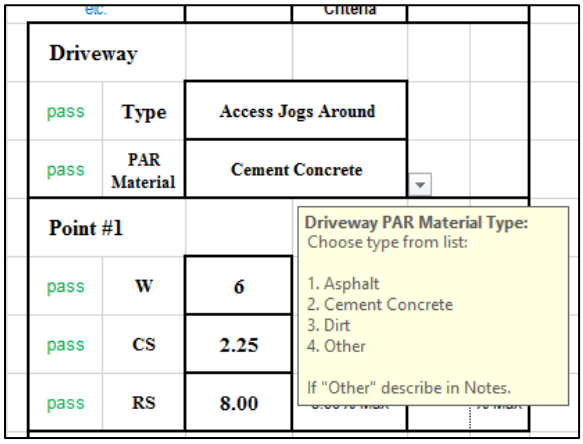


Special Note:

Depending on which type of driveway was selected, some measurements are shaded out and are not measured.



b) ***Driveway – PAR Material*** *– Select the type of material the driveway is constructed of.*

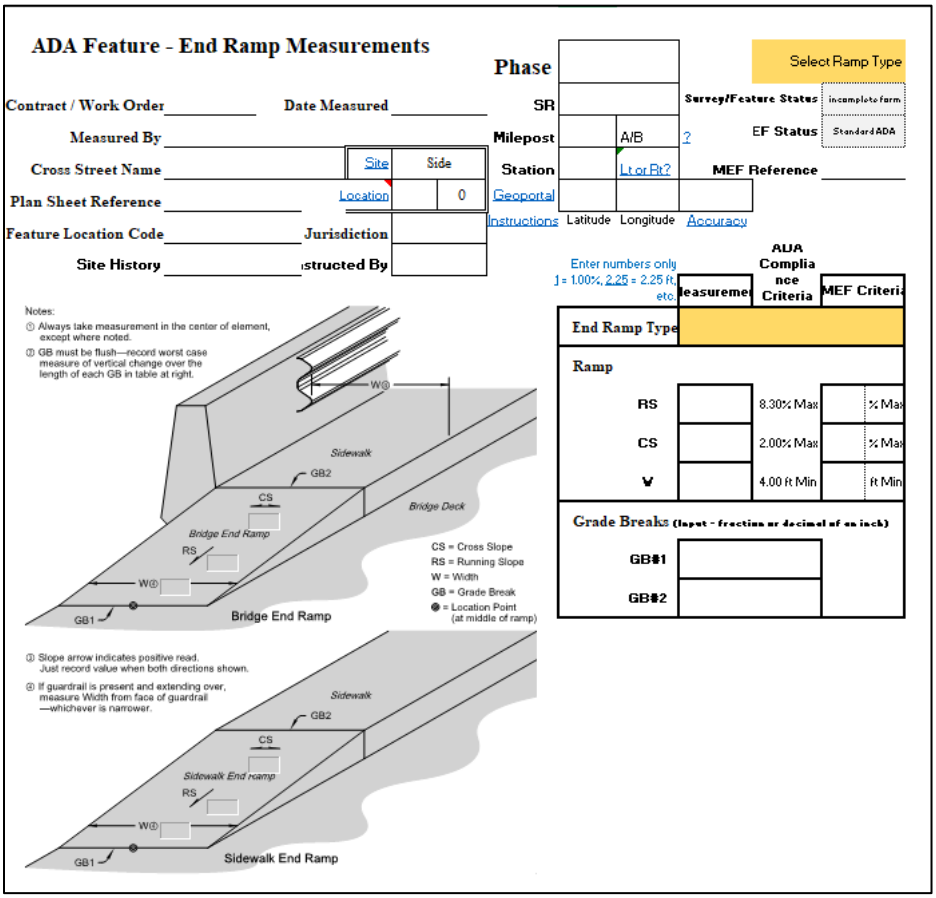


*c) **Points #1, #2, and #3** – Using the pictures on the form, identify where the Point #'s are located, and record the width "W", cross slope "CS", and run slope "RS" measurements on the form.*

*d) **Grade Breaks** – Provide measurements where shown on the drawings.*

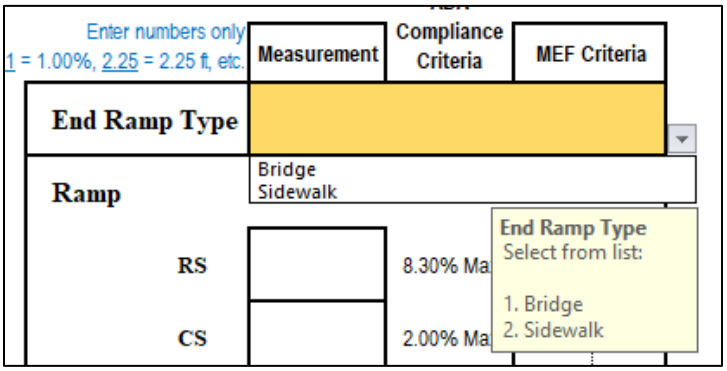
F. Ramp for Sidewalk or Bridge Ends

1. Forms to Record Data:
   - End Ramp

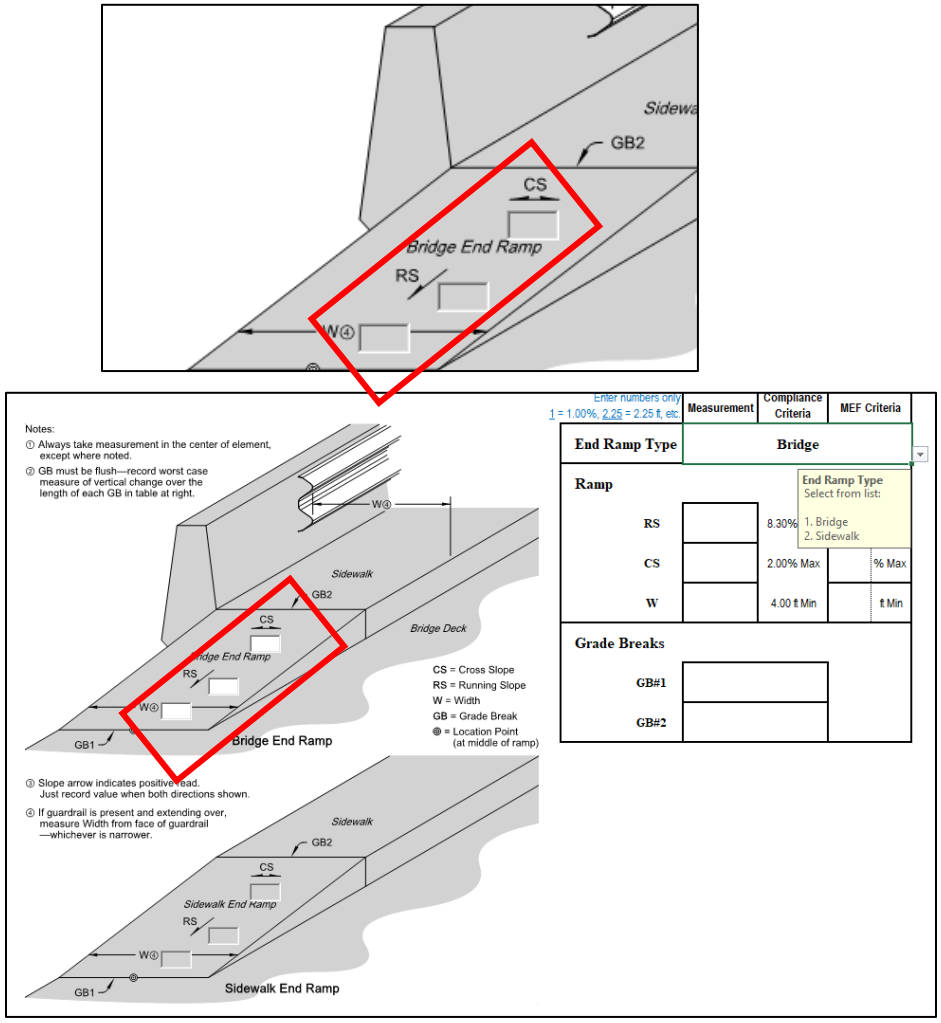


2. Data Fields Explanation:

*a) **Location of Ramp** – Select from the drop-down list where the end ramp is located.*



Once the type is selected the data box are unshaded to record the measurement on the drawing or in the form.

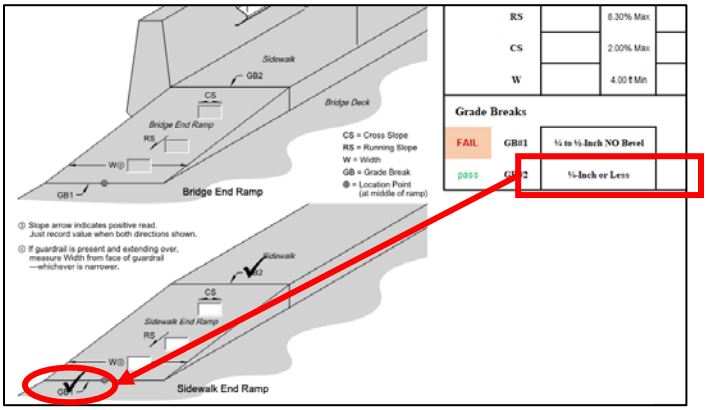


b) ***Ramp*** *– Record measurements for run slope "RS", cross slope "CS", and width "W" on the form.*

c) ***Grade Breaks*** *– Provide measurements where shown on the drawings.*

☞ **Special Note:**

The diagram does not provide sufficient space for a data box so select the proper Grade Break in the measurement box and a large check will show up on the diagram showing that the measurement was completed.

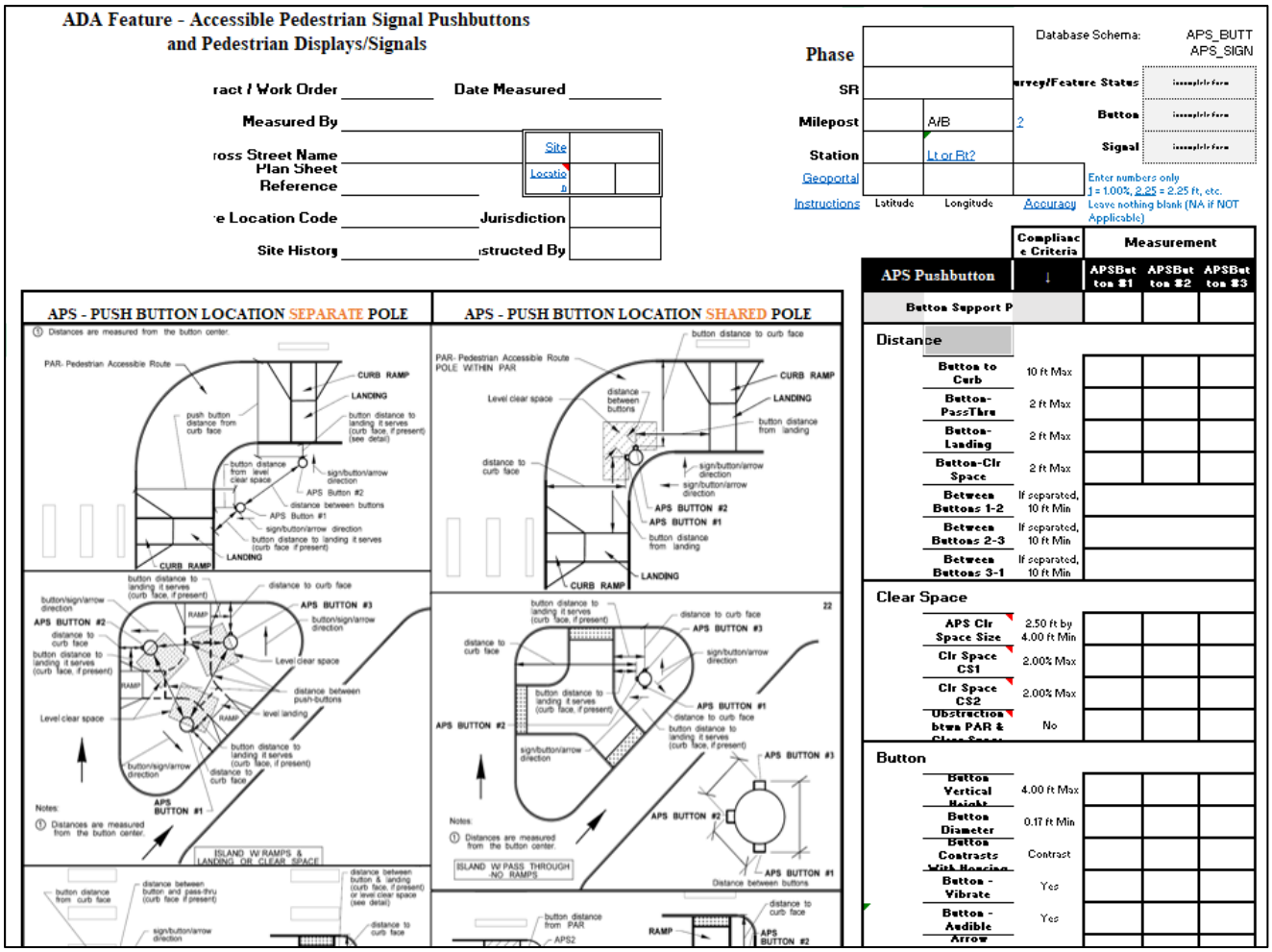


Special Note:

If the form is being filled out in the field by hand first, record the measurement between the two surfaces so that the correct drop-down selection can be completed on the electronic form correctly.

G. APS Button and Signals

1. Forms to Record Data:
   - APS Button-Signal



2. Data Fields Explanation:

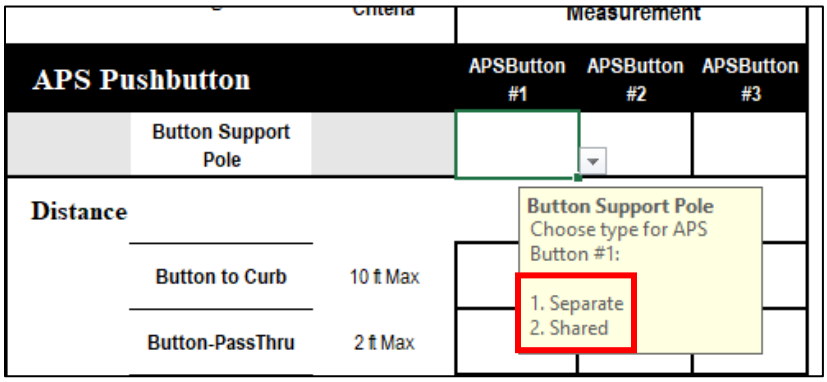
   a) APS Pushbutton

   Depending on the location, there may be up to three button locations that information is needed. Using the picture on the form, determine the pole number orientation.

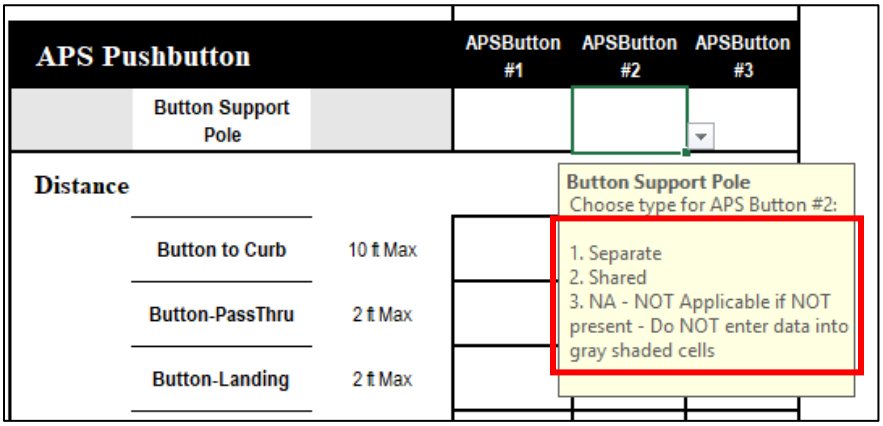
   (1) Button Support Pole

   For each button, identify whether the button is located on a separate pole or co-located (shared) on a single pole.

A. ***Pushbutton #1** – two options*



B. **Pushbutton #2 & #3** – *three options*

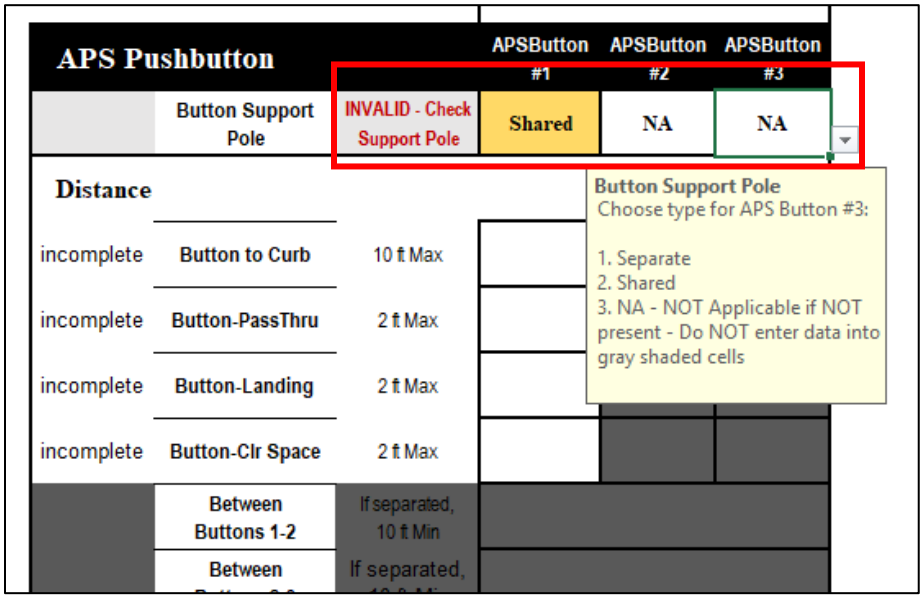


- If there is no button, select N/A, and the data cells are shaded and no further information is required.

☞ **Special Note:**

Error messages will occur when combinations do not match:

A. Only one pushbutton provided:



I. In the case where there is only One pushbutton present, select “Separate” and select “N/A” for pushbuttons #2 and #3.

II. Make a note in the NOTES box that there is only one pushbutton.

APS Pushbutton		APSButton #1	APSButton #2	APSButton #3
	Button Support Pole	Separate	NA	NA
Distance				

B. Cannot have a Shared, with a Separate, and N/A. If the pushbutton is shared then both have to be “shared”.

APS Pushbutton			APSButton #1	APSButton #2	APSButton #3
	Button Support Pole	INVALID - Check Support Pole	Shared	Separate	NA
Distance					

C. Cannot have a Shared, with a Separate, and N/A. If the pushbutton is shared then both have to be “shared”.

APS Pushbutton			APSButton #1	APSButton #2	APSButton #3
	Button Support Pole	INVALID - Check Support Pole	Separate	Shared	NA
Distance					

(2) ***Distance***

Using the pictures on the form, address the following:

A. *Button to Curb* – Record the distance from curb to button

B. Button-PassThru – If the button is located in a pass thru island, record the distance; otherwise leave blank.

C. *Button-Landing* - Distance from landing to button

D. *Button-Clr Space* - Distance from the button clear space to the button

E. *Between Buttons 1-2* - If the buttons are separated, record the distance.

F. *Between Buttons 2-3* - If the buttons are separated, record the distance.

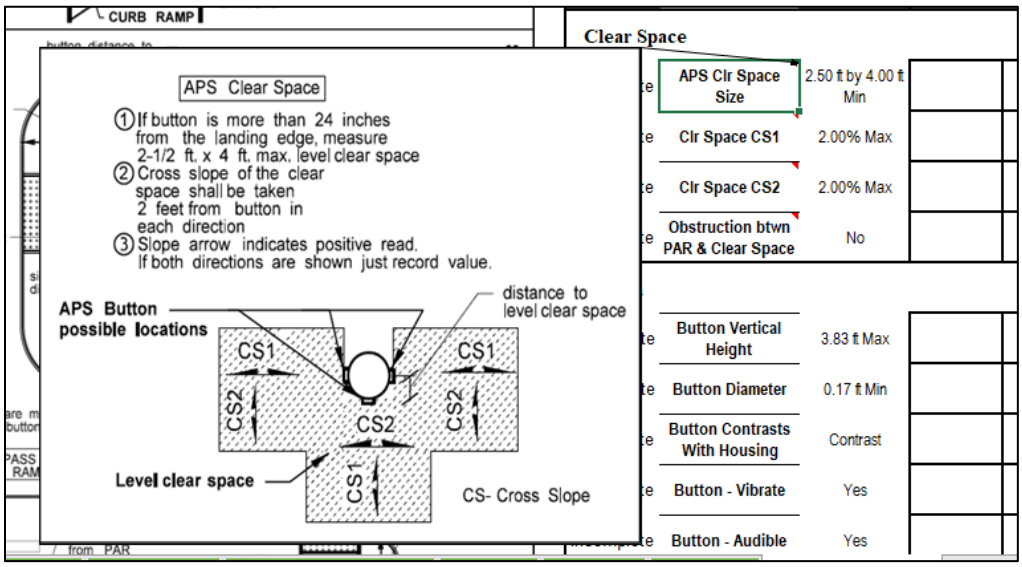
G. *Between Buttons 3-1* - If the buttons are separated, record the distance.

(3) ***Clear Space***

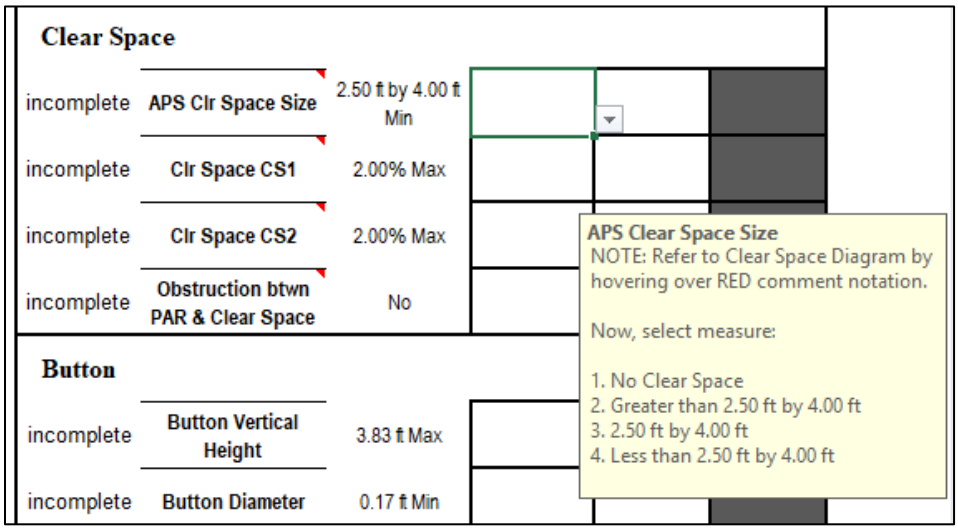
Record the following measurements:

Special Note:

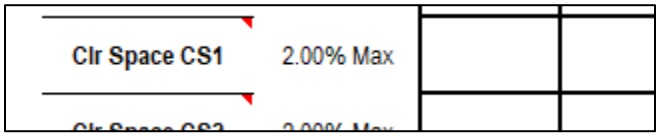
There are additional diagrams for clear space to help with identifying the attribute. A diagram will appear when the mouse pointer is over the cell (or the cell with a red marker in the upper right corner is clicked)



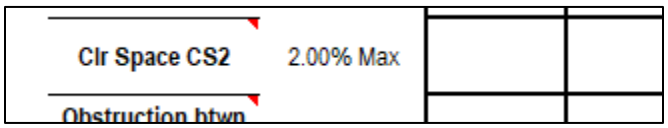
A. *APS Clr Space Size* – Select from the drop-down list



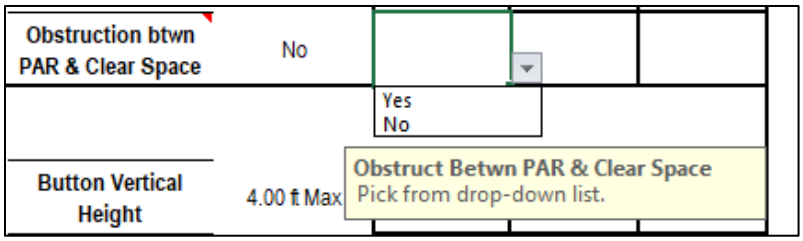
B. *Clr Space CS1* – Record the cross slope CS1



C. *Clr Space CS2* – Record the cross slope CS2



D. *Obstruction btwn PAR & Clear Space* – Is there an obstruction between the PAR and the clear space that will hinder access? Select from drop-down.



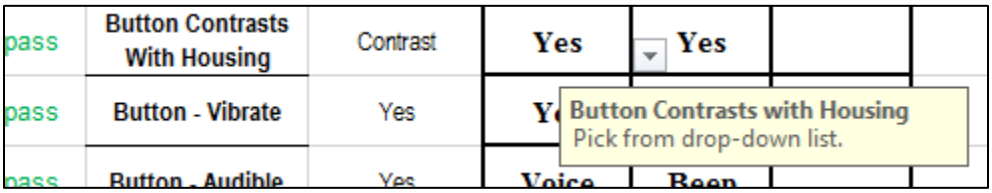
(4) ***Button***

Using the pictures on the form, address the following:

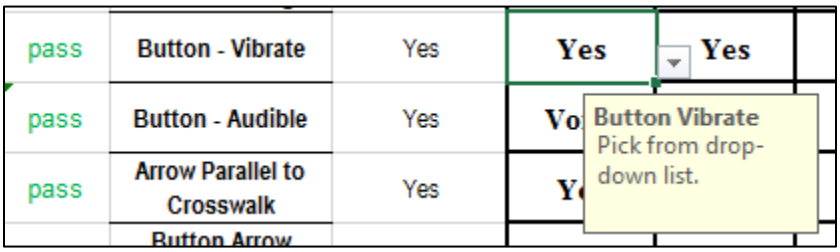
A. *Button Vertical Height* - Record the measured distance between the surface of the sidewalk to the center of the button.

B. *Button Diameter* – Record the diameter of the button

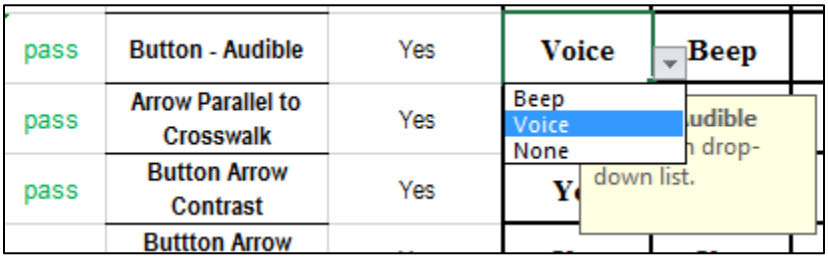
C. *Button Contrasts With Housing* – Select response from the drop-down list.



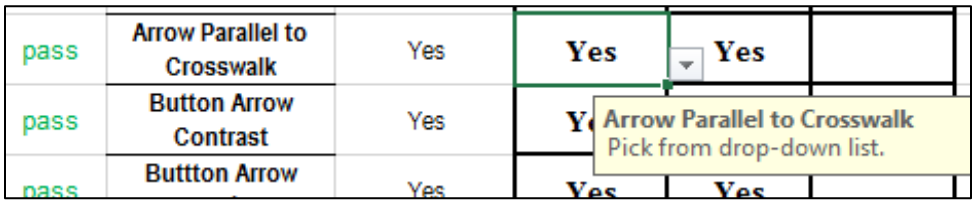
D. *Button – Vibrate* – Select response from the drop-down list



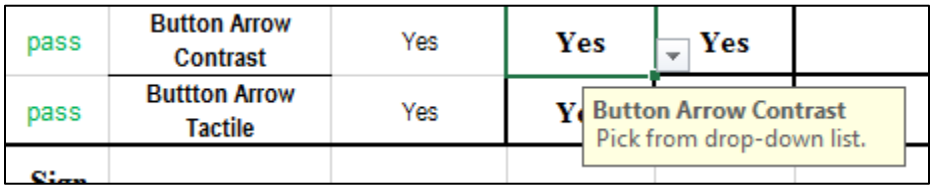
E. *Button – Audible* – Select response from the drop-down list



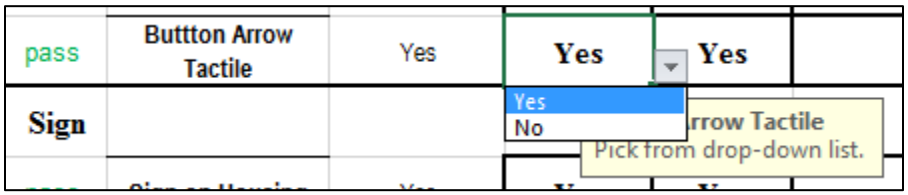
F. *Arrow Parallel to Crosswalk* – Select response from the drop-down list.



G. *Button Arrow Contrast* – Select response from the drop-down list.



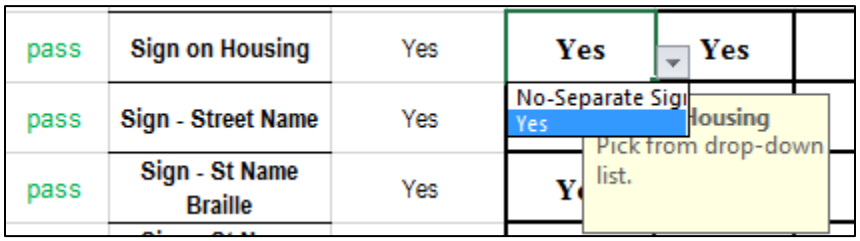
H. *Button Arrow Tactile* – Select response from the drop-down list.



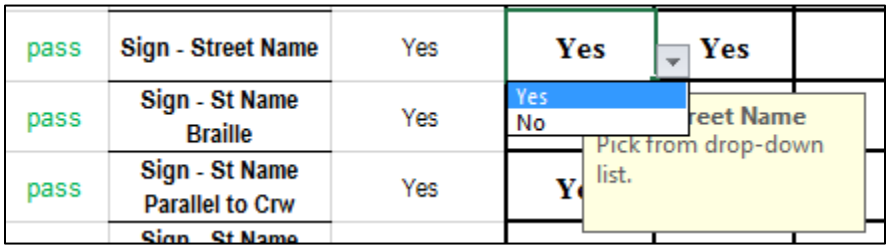
(5) ***Sign***

The information in this section is **INFORMATIONAL ONLY**.

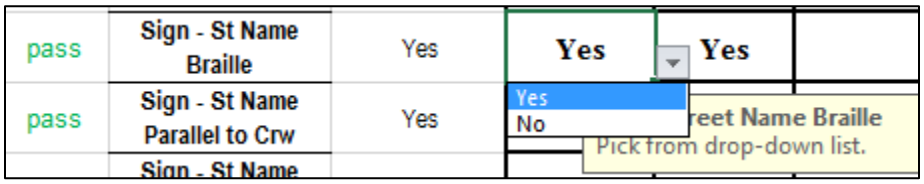
A. *Sign on Housing* – Select response from the drop-down list.



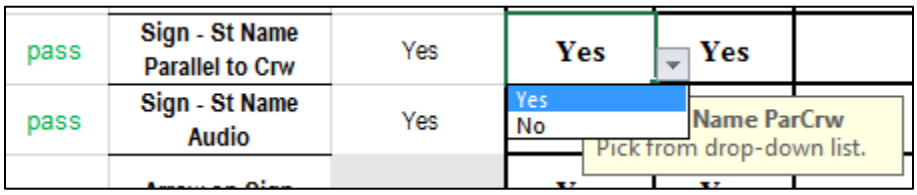
B. *Sign - Street Name* - Select response from the drop-down list.



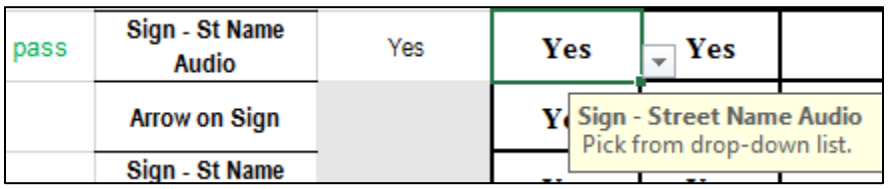
C. *Sign - St Name Braille* - Select response from the drop-down list.



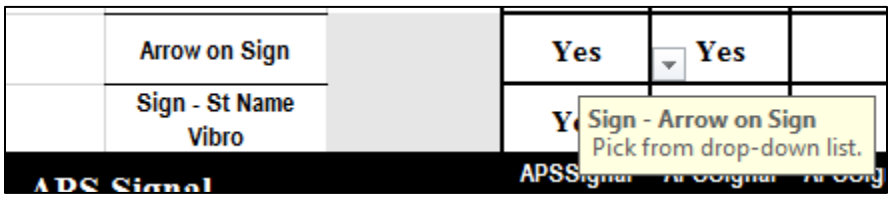
D. *Sign - St Name Parallel to Crw* - Select response from the drop-down list.



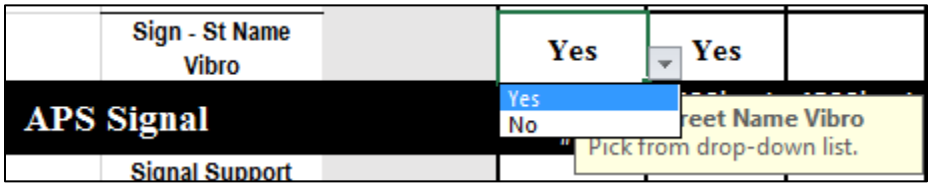
E. *Sign - St Name Audio* - Select response from the drop-down list.



F. *Arrow on Sign* - Select response from the drop-down list.



G. *Sign - St Name Vibro* – Is the street name vibrotactile? Select response from the drop-down list.

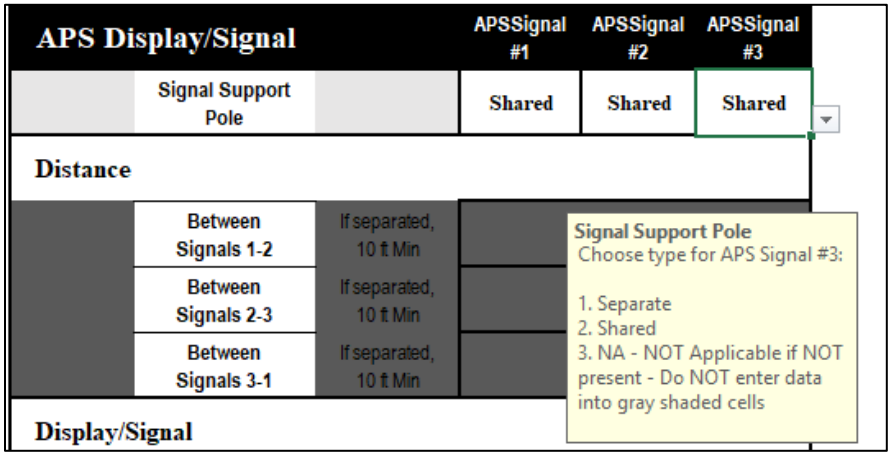


b) *APS Display/Signal*

Depending on the location, there may be three signals that information is needed. Using the picture on the form, determine the pole number orientation.

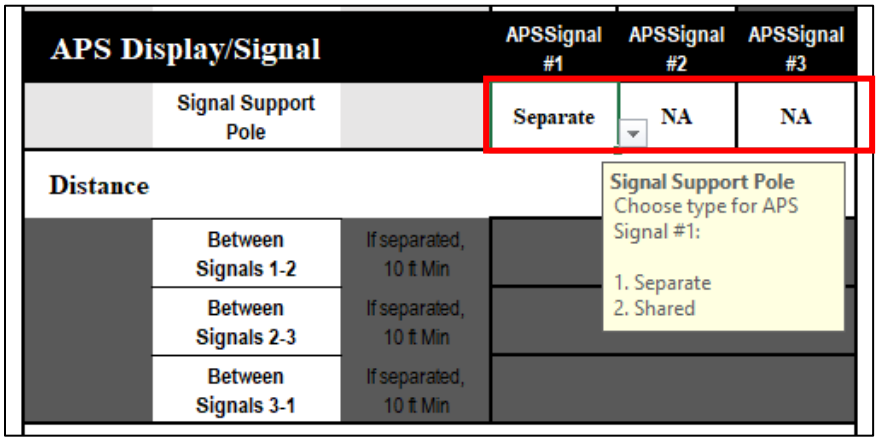
(1) ***Signal Support Pole***

For each signal, identify whether the signal is located on a separate pole or shared (co-located) on a single pole.



(a) In the case where there is only One display/signal present select "Separate" and select "N/A" for display/signals #2 and #3.

(b) Make a note in the NOTES box that there is only one display/signal.

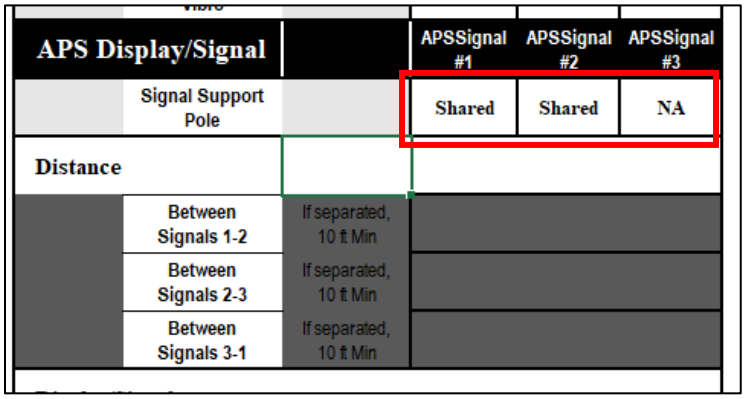


(2) ***Distance***

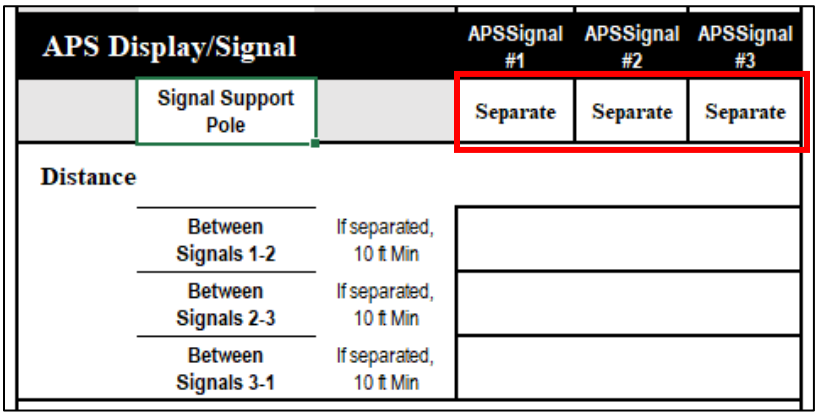
Using the pictures on the form, record the following measurements:

☞ **Special Note:**

(a) If the signal is on the same pole "Shared", then no measurement is needed. The measurement boxes are shaded.

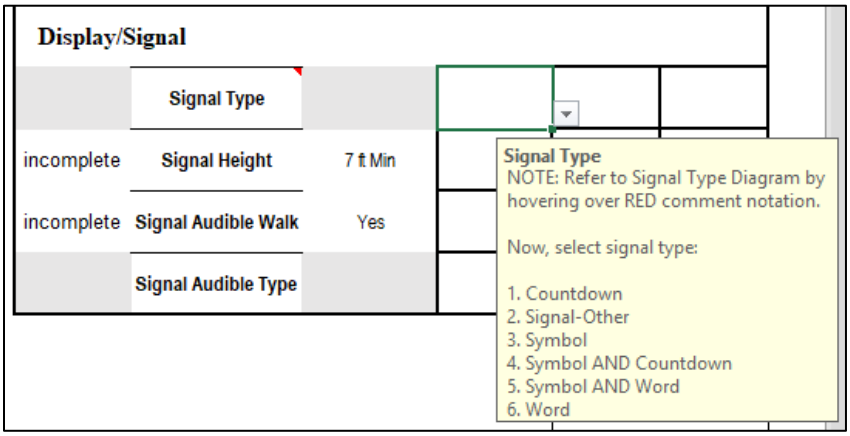


(b) If the signal are on "Separate" poles, then measurements are required. Record the measurements.

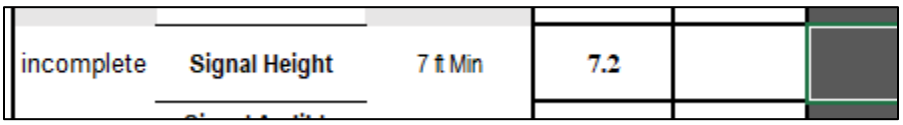


(3) **Display/Signal**

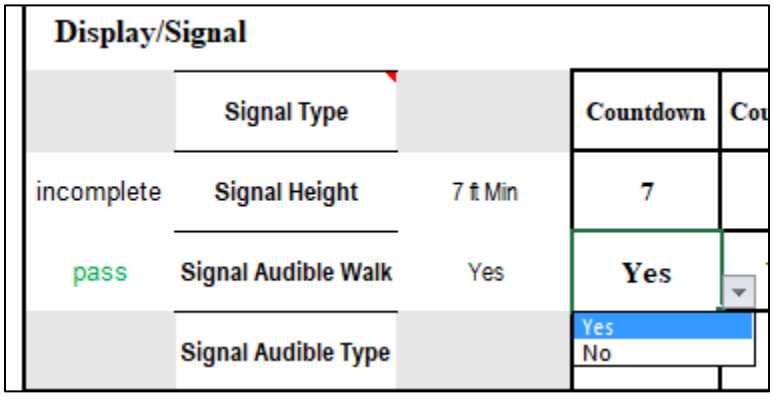
(a) Signal Type - Select from the drop-down list



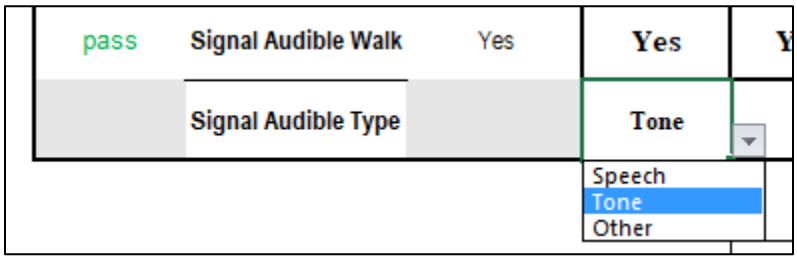
(b) Signal Height – Record the measurement from the sidewalk surface to the bottom of the display/signal box.



(c) Signal Audible Walk – Identify if the signal has an audible walk message. Select from the drop-down list



A. *Signal Audible Type* – Identify if the type of audible walk message. Select from the drop-down list



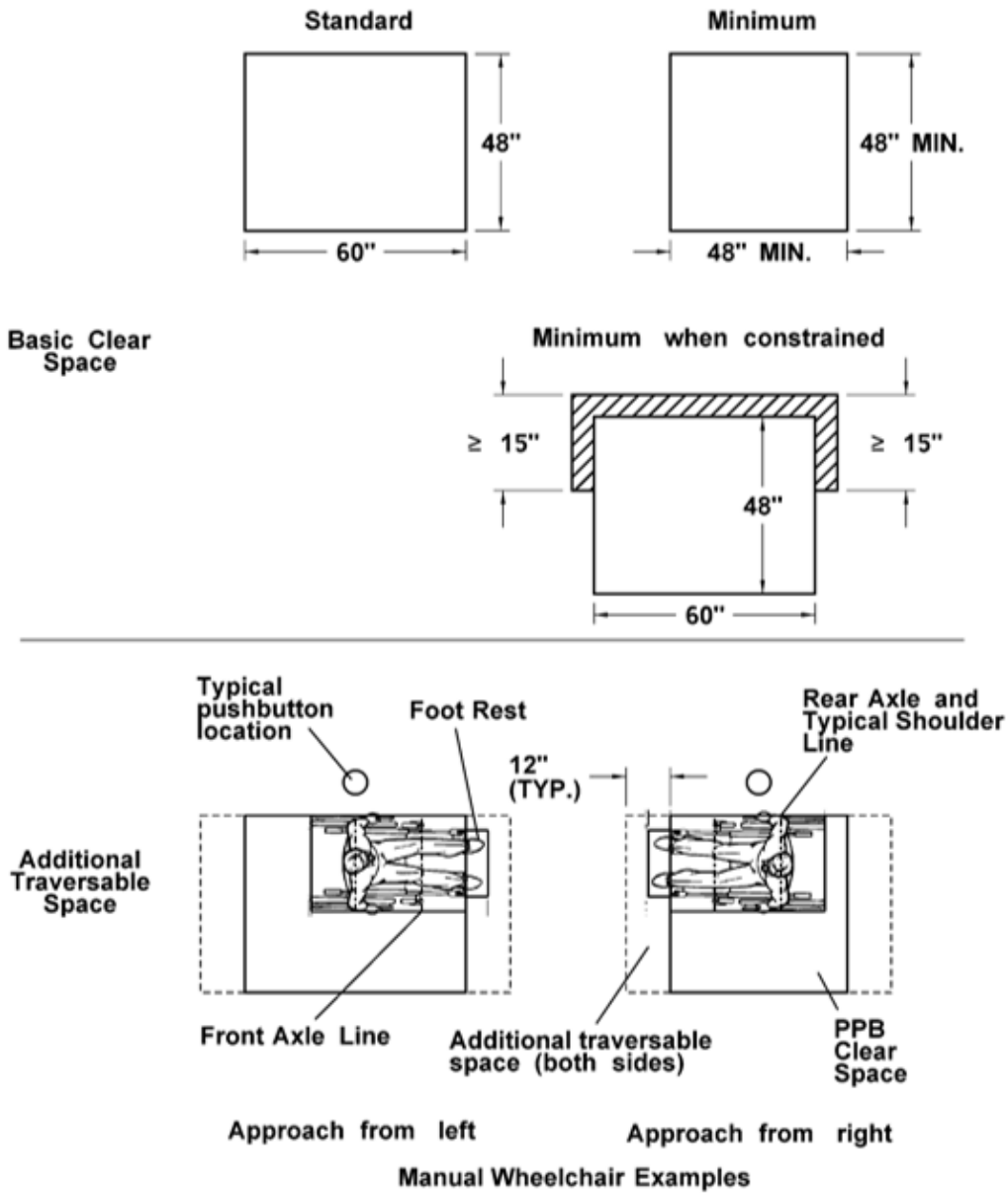
1510.12(1) ° Accessibility Criteria for All Pedestrian Pushbuttons (including APS)

1510.12(1)(a) ° Location Requirements

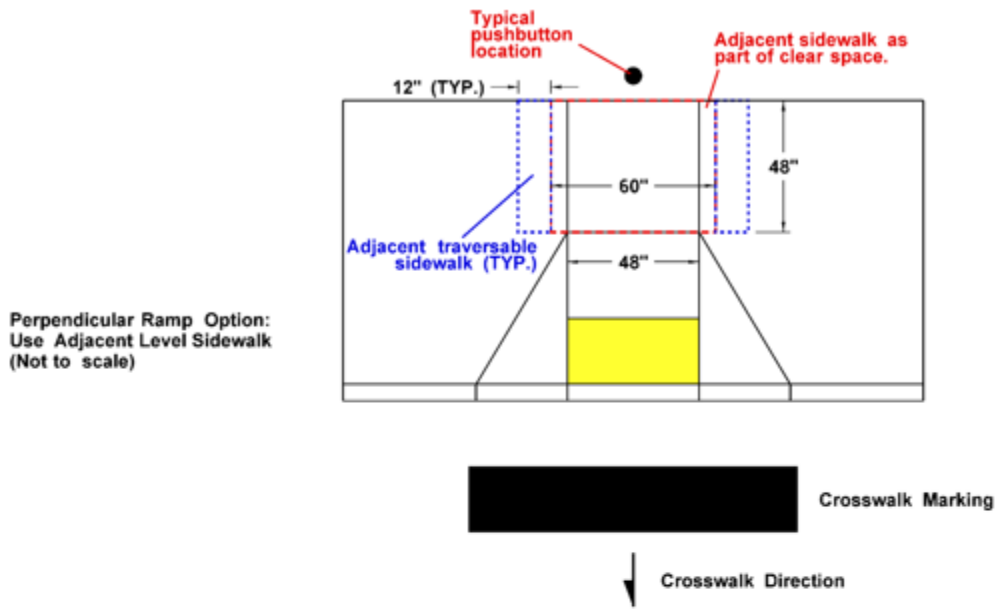
- See 1330.04(4) for pushbutton location requirements. These location requirements limit the potential locations for the pedestrian pushbutton clear space.

1510.12(1)(b) ° Clear Space Requirements

- Grade: 2% maximum running and cross slopes.
- Clear space dimensions:
  a. Standard: 48 inches in width by 60 inches in length, with the pushbutton located along one of the long sides of the clear space.
  b. Minimum: 48 inches minimum width by 48 inches minimum length. Although the ADA minimum required clear space for an operational control is 30 inches by 48 inches, the narrow dimension is increased to 48 inches to allow for maneuvering, similar to a curb ramp landing (see Exhibit 1510-23). If the clear space is constrained on three sides, such that the clear space is set back 15 inches or more from the PAR, then the clear space shall be 48 inches minimum width by 60 inches minimum length, to allow for maneuvering within the constrained space. (see Exhibit 1510-23).
- Additional unobstructed or traversable space of 12 inches on either end of the clear space should be provided if possible, to allow for protruding equipment such as foot rests to extend beyond the clear space. This helps mobility assistance device users get their shoulder line closer to the pushbutton (see Exhibit 1510-23).
- Clear space is allowed to overlap other PAR elements (i.e., sidewalk/curb ramp landing) (see Exhibits 1510-24a and 1510-24b).
- Clear space must be connected to the crosswalk served by the pedestrian pushbutton with a PAR.



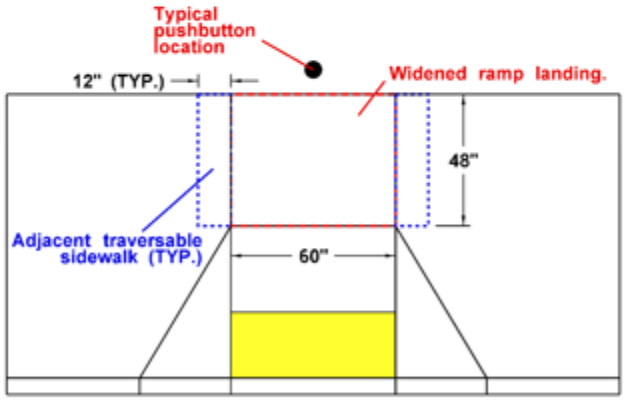
Clear·Space·for·Pedestrian·Pushbutton¶
Exhibit·1510-23¶



Perpendicular Ramp Option:
Use Adjacent Level Sidewalk
(Not to scale)

Crosswalk Marking

Crosswalk Direction

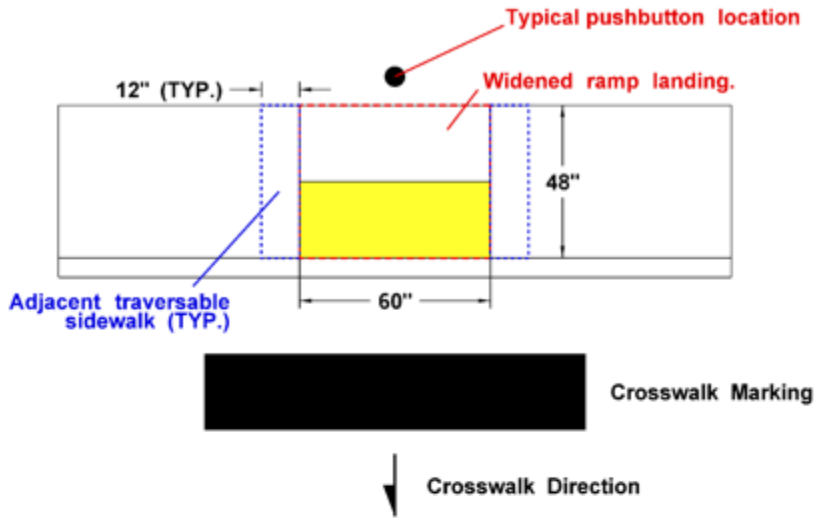


Perpendicular Ramp Option:
Widen Ramp and Landing
(Not to scale)

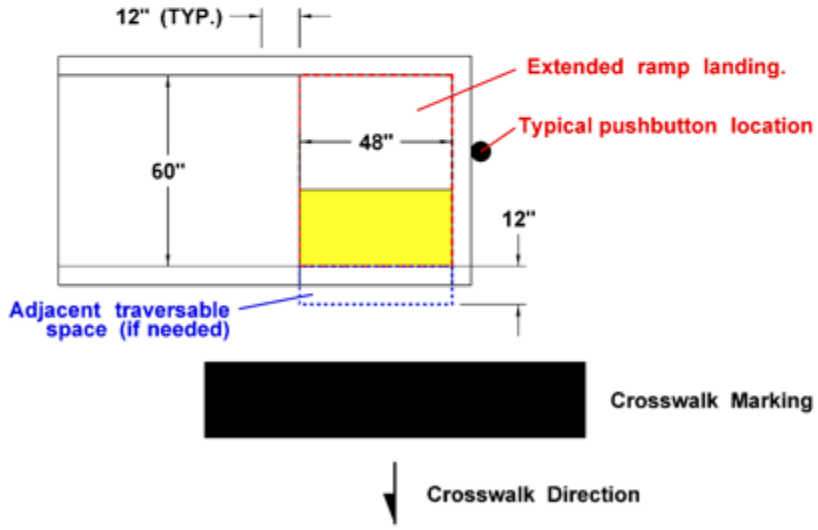
Crosswalk Marking

Crosswalk Direction

Perpendicular·Ramp·Concurrent·Clear·Space·Examples¶
Exhibit·1510-24a¶



Parallel Ramp Mid-Sidewalk Option: Widen Ramp Landing to 60"



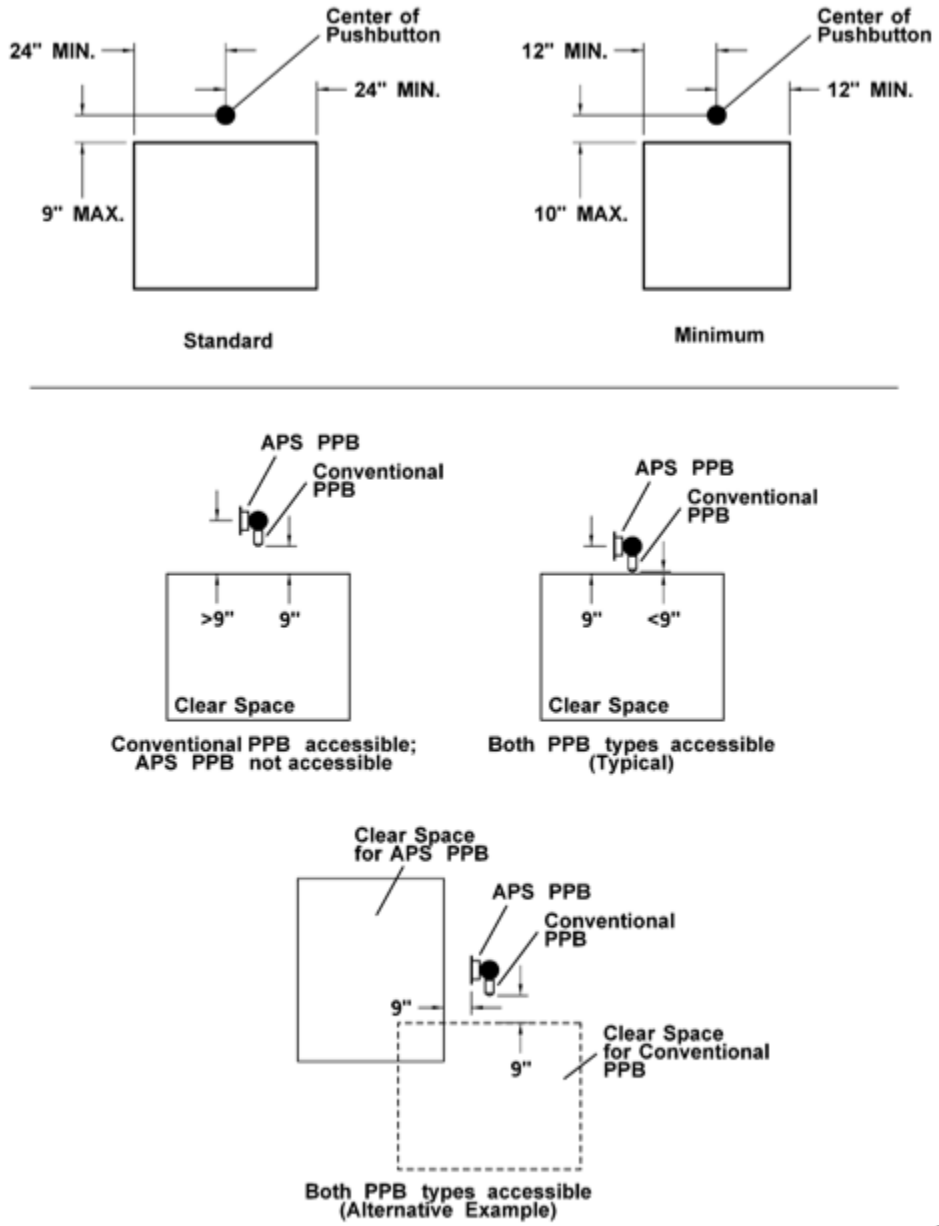
Parallel Ramp End of Sidewalk Option: Extend Ramp Landing to 60"

Parallel·Ramp·Concurrent·Clear·Space·Examples¶
Exhibit·1510-24b¶

▪ 1510.12(1)(c) ° Reach·Range·Requirements·¶

Pushbuttons·are·in·locations·considered·unobstructed,·and·follow·the·allowable·unobstructed·reach·distance·requirements·of·the·ADA·accessibility·requirements.·This·manual·designs·clear·space·for·pushbuttons·based·on·a·parallel·approach,·due·to·difficulties·in·both·accessibility·and·design·when·attempting·to·accommodate·a·forward·reach.¶

- The·provided·clear·space·must·be·within·reach·range·of·the·pedestrian·pushbutton.¶
- The·reach·range·is·10·inches·maximum,·as·measured·from·the·edge·of·the·clear·space·to·the·center·of·the·physical·pushbutton·(not·just·the·housing).¶
- For·new·construction,·the·center·of·the·physical·pushbutton·shall·be·no·more·than·9·inches·from·the·edge·of·the·clear·space.·It·is·preferable·to·locate·the·pushbutton·as·close·to·the·edge·of·the·clear·space·as·possible.¶
- Different·types·of·pushbuttons·(front·mount·H-frame·type·versus·side·mount·Accessible·Pedestrian·Signal·type)·will·have·different·reach·ranges·on·the·same·pole.·Generally,·designing·for·a·side·mount·pushbutton·will·result·in·a·front·mount·pushbutton·also·being·within·the·required·reach·range.·This·is·generally·not·true·the·other·way·around.·(see·Exhibit·1510-25)¶
- The·center·of·the·physical·pushbutton·shall·be·42·inches·above·the·surface·of·the·clear·space.·Existing·installations·may·remain·if·they·are·within·a·range·of·36·inches·minimum·to·48·inches·maximum·above·the·surface·of·the·clear·space.¶
- The·pushbutton·shall·be·a·minimum·of·12·inches·in·from·both·ends·of·the·clear·space,·and·should·be·at·least·24·inches·in·from·both·ends·of·the·clear·space.·Ideally,·the·pushbutton·should·be·centered·along·one·side·of·the·clear·space.·If·the·clear·space·is·rectangular,·the·pushbutton·shall·be·located·along·one·of·the·long·sides·of·the·clear·space.¶



NOTE: See Exhibits 1330-14a and 1330-14b for pole setback limits

Reach Range for Pedestrian Pushbuttons

Exhibit 1510-25

V. Transmitting Collected Data to the WSDOT Project Office

After completing the feature measurements, the Contractor shall transmit the completed electronic Excel “Passed” forms to the Project Engineer administering the contract.

Include the following information in the transmittal:

1. Contract Number
2. Date Measurements Completed
3. Name of Individual who completed the Measurement forms
4. A statement from the Prime Contractor certifying that the measurements in the electronic file are accurate and reflect ADA compliance.