



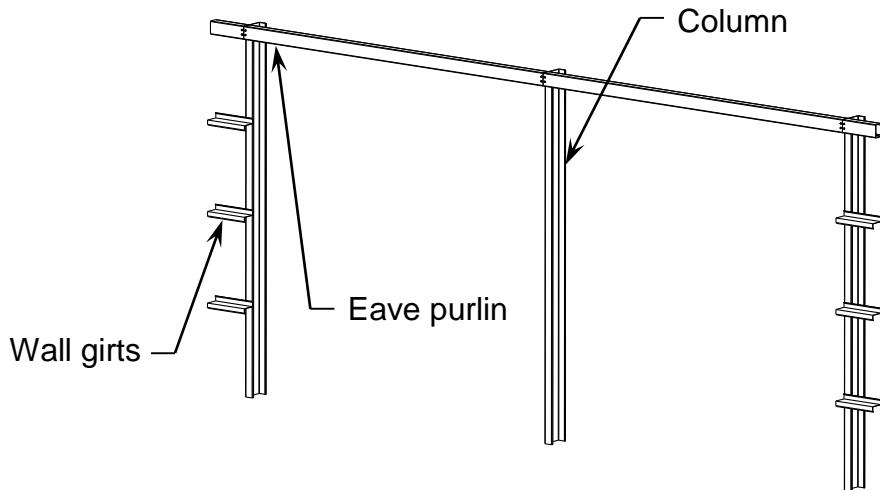
## Appendix A – Door and Window Framing

Last updated 4/30/2015

### 1. First complete all previous framing for bay.

Install all applicable columns, rafters, and/or eave purlins for the bay in which you are going to install framing. Ensure that all components are plumb and level before continuing with door framing.

Note that the illustration below depicts two sidewall bays side by side, each of which has doors. In this typical illustration, wall girts from surrounding bays are also shown. On your building, components will vary depending on bay location and whether door is being installed on the sidewall or endwall. Please see engineering plans for exact details and location of framing components.



### 2. Install header girt and bottom girt (if installing window).

If installing a door, start by installing header girt, which is simply a wall girt to which the door jamb connects. For specific instructions on installing wall girts please see Appendix B. Exact location can be found on engineering plans and the girt layout of the construction package.

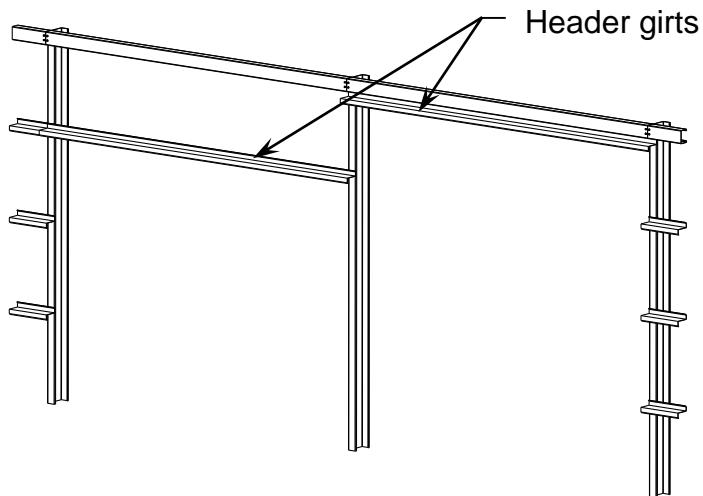
Note that in most cases, doors jambs will extend from the slab to the next wall girt above where the top of the door will be. However, per engineering plans, door jambs cannot be connected to the eave purlin. In some cases, the top of the door will be above the highest wall girt. To ensure that the door jamb does not connect to the eave purlin, an extra wall girt must be added in the bay just below the eave purlin. For a typical illustration of this, please see the illustration on the following page.

Note that some header girts are to be installed as double header girts (as specified on the door schedule, located on the engineering plans). A double header girt simply consists



of installing two interlocked LGSI or ZEE sections together where there would normally only be a single LGSI or ZEE.

If installing a window, install header girt and, if necessary, also install a bottom girt, the wall girt to which the window jamb connects on its bottom end. If two wall girts cannot span the entire bay due to window size, both header girt and bottom girt need to be installed as double girts. Also, install all wall girts that are to be installed above the header girt and below the bottom girt. For exact details on installation of wall girts, see wall girts section in Appendix B.



### **3. Install door jambs.**

If door jambs are CEE sections, before installing jambs, install wall girt clips to door jamb, which will be used to install wall girts after door framing is installed. Clips are installed at same height as wall girts. Exact location of clips and wall girts can be found on engineering plans. If Channel will be used for door jambs, girt clips will not be required. The type of door jamb required for each opening will be noted on your engineering plans. See part 5 (“Install Remaining Wall Girts”) of this appendix for more information on installing girt clips if necessary.

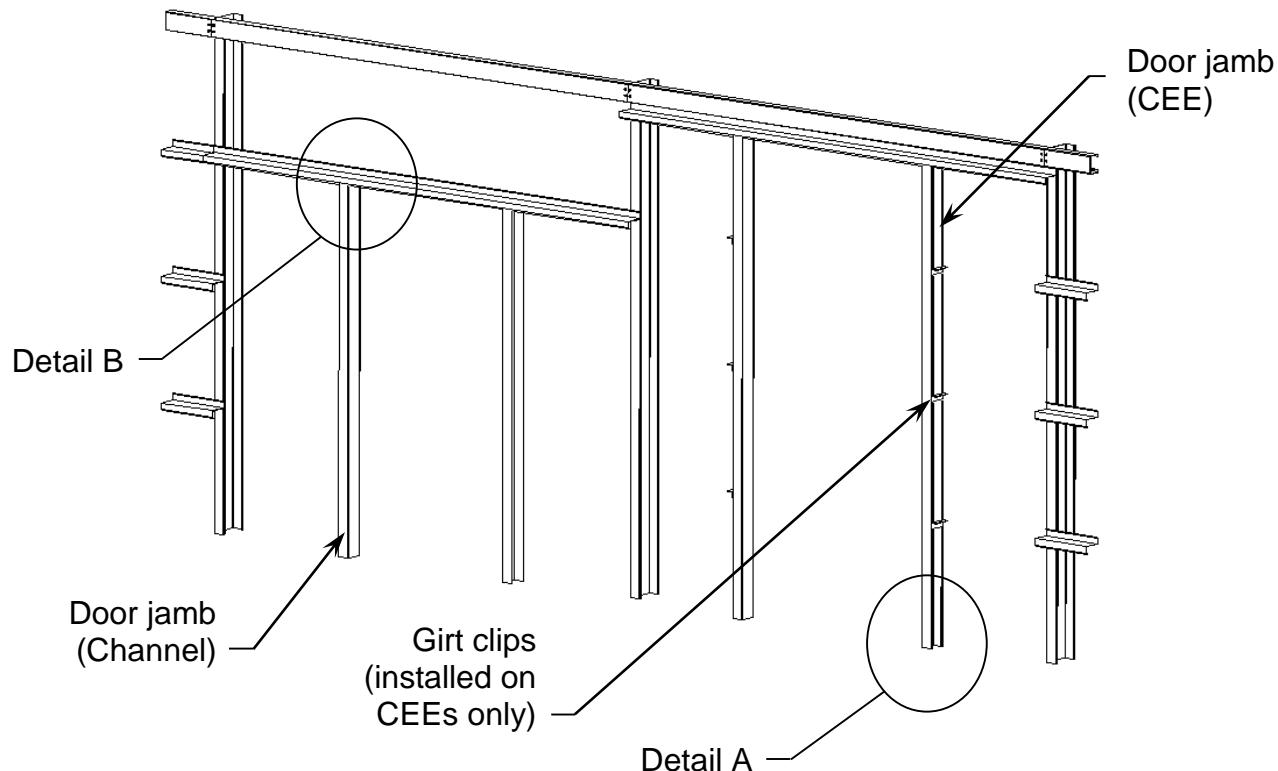
Next, mark the location of the door jambs and the exact location of the anchor bolt. Note that the door jambs will be installed with their web side towards the opening with the flanges of the CEE or Channel pointing away from the opening.

The distance between the webs of the two jambs is the rough opening width of the door, which is found on the engineering plans. Note that the rough opening width can vary from the nominal width of the door to be installed. Please consult any instructions that come from your door manufacturer as well as the engineering plans to establish the exact opening width between door jambs. The door jamb must also be installed against the edge of the slab.

After exact locations are determined, drill the anchor bolt hole. Note that when installing a Powers “wedge-bolt” anchor to secure the base of the door jamb to the slab, a hole must first be drilled through the correct sized girt clip and into the concrete. Note that you must drill the hole in the concrete with a Powers “wedge-bit” the same size as the bolt. This bolt hole should be 1” deeper than the bolt is long so the bolt securely attaches to the slab. Before inserting the bolt, clear the hole of concrete dust by using compressed air. If no water is present in the hole, using an air puffer to clean the hole of dust will suffice.

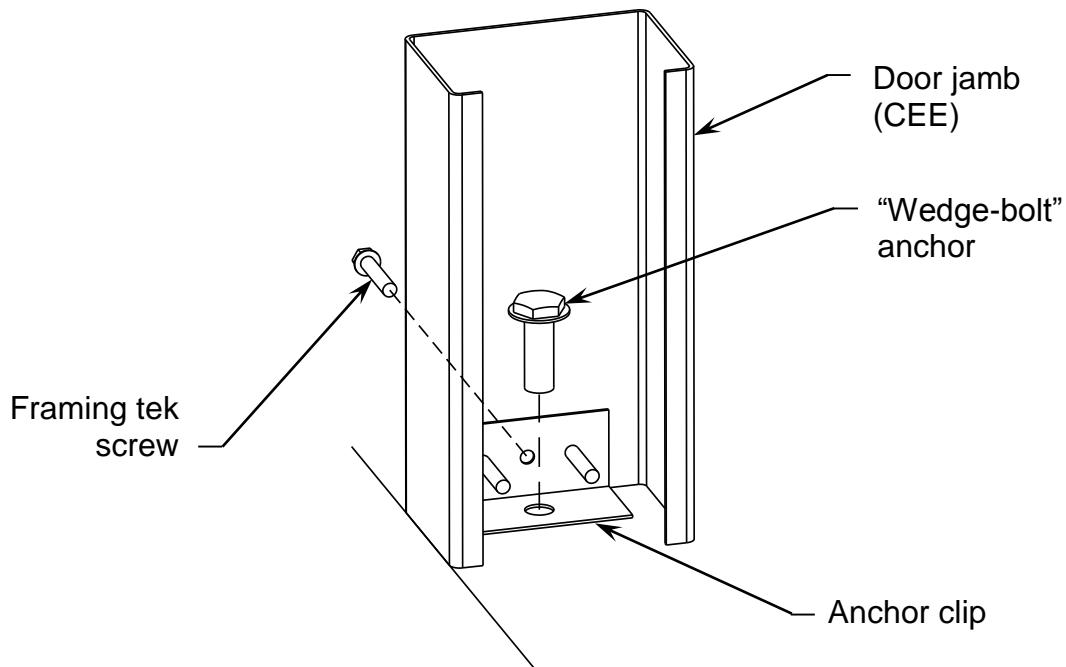
Once the bolt hole is drilled, install the door jamb anchor clip to the slab. This must be installed before the door jamb due to size constraints. Before tightening anchor clip, ensure that it is perpendicular to the slab edge and that the upper leg of the clip is toward the opening. Then, install the door jambs, fitting the door jamb into place and connecting the installed anchor clip and the header girt. Note that the anchor clip must attach to the web of the door jamb. For detailed typical views on these connections, please see Detail A and Detail B on the following page. For exact installation details, please see the engineering plans. Before securing door jambs, ensure that both door jambs are plumb when they are installed.

Also note that it is recommended that the stiffener lip of the header girt be bent out where the door jamb meets the header so that the door jamb is plumb. This bend is illustrated in Detail B on the following page.

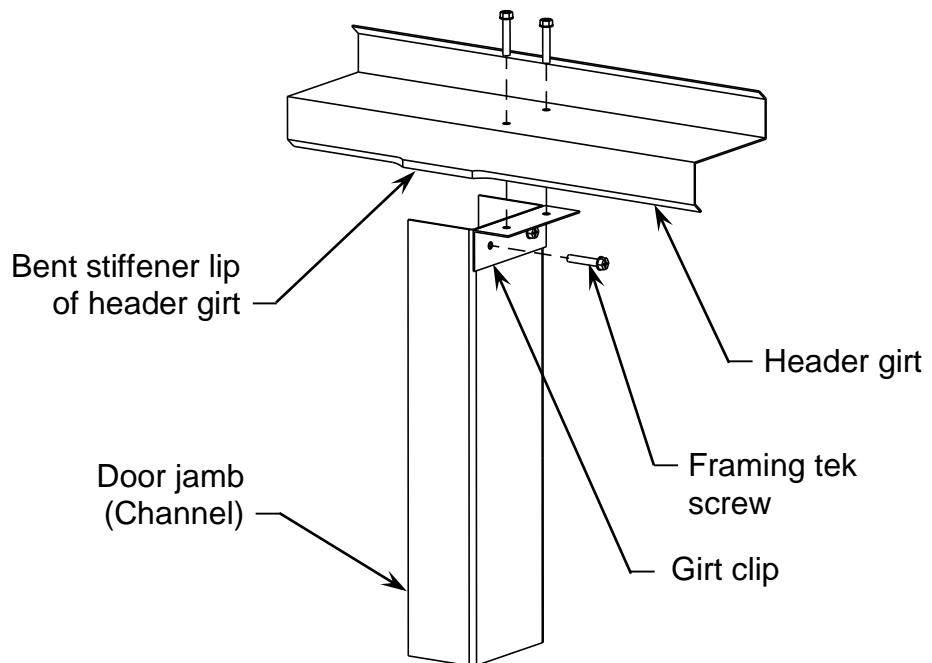




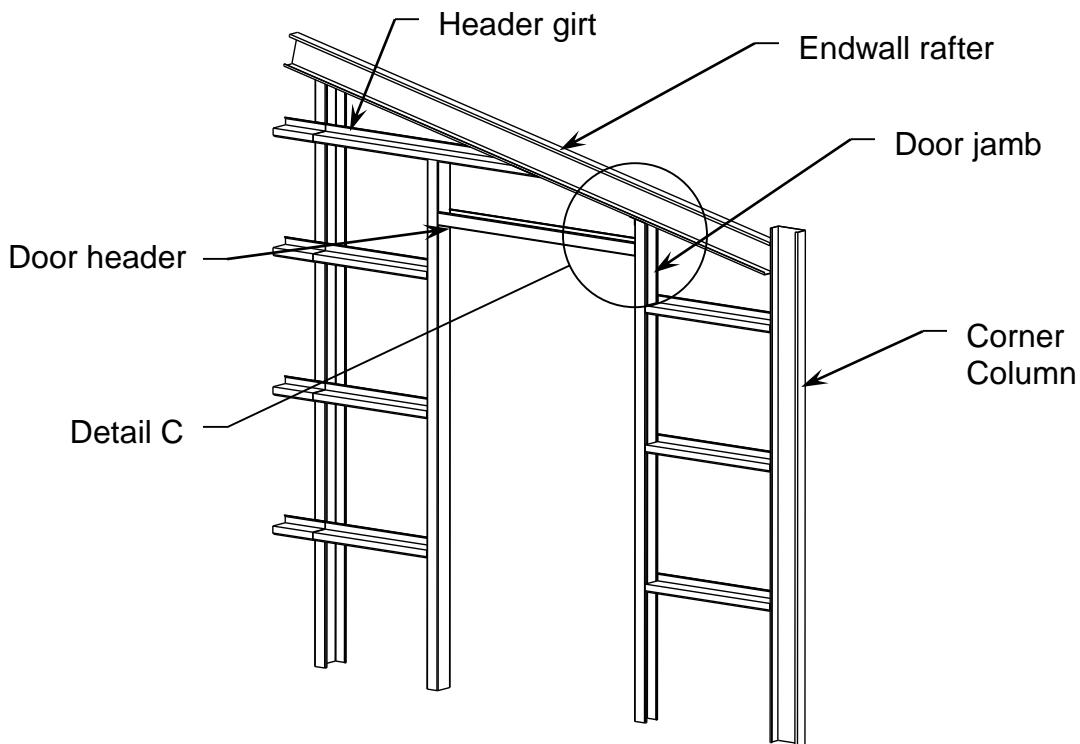
**Detail A**



**Detail B**

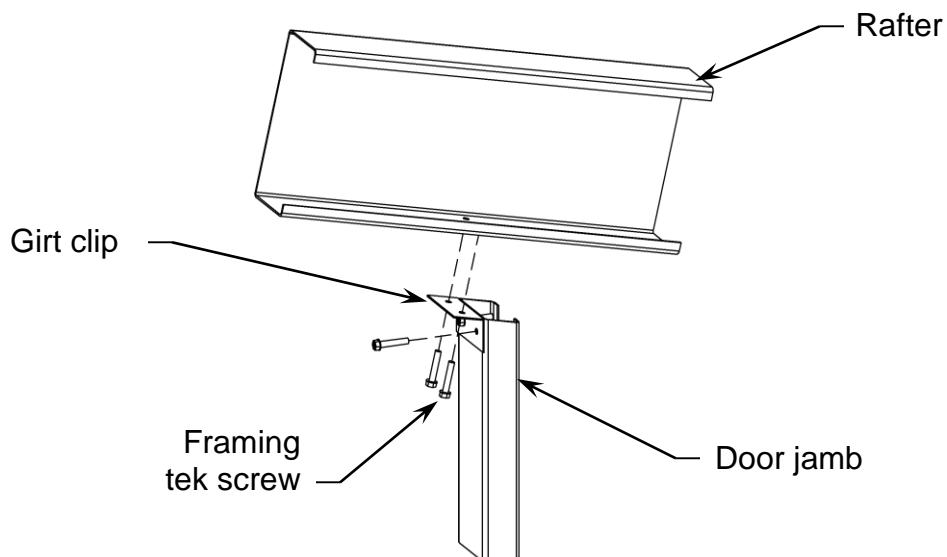


The only variation in the installation of the door jamb will occur in some instances where door framing is installed on the endwall. In some cases, the door jamb has no header girt to attach to and must attach directly to the endwall rafter. This is illustrated below.

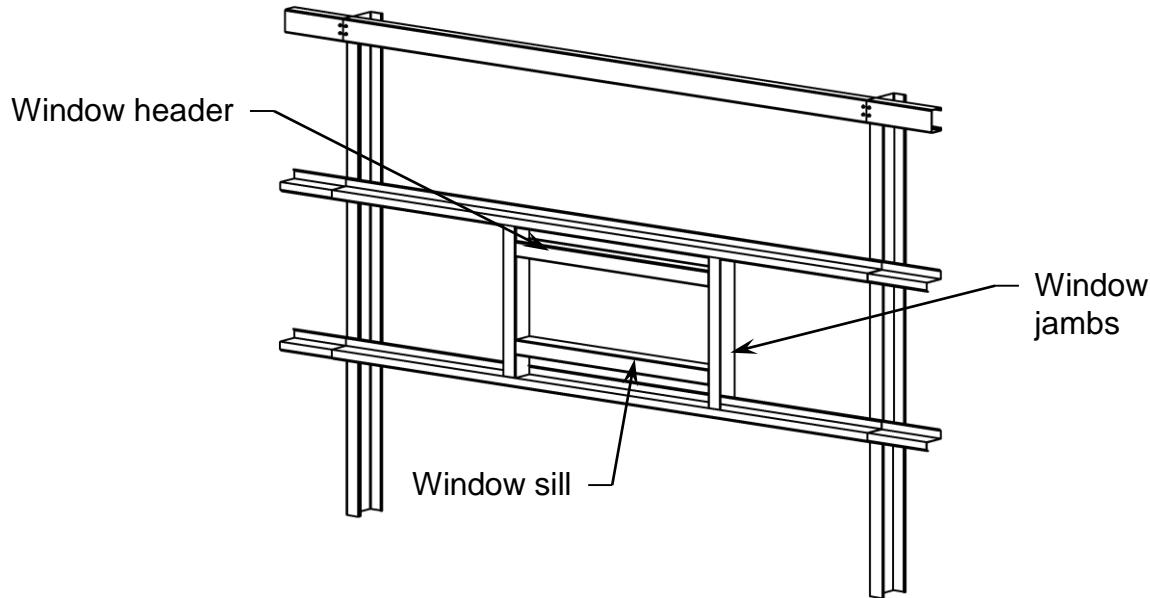


When this is the case, the door jamb will be installed as shown below in Detail C. Note that the top of the door jamb will need to be coped to fit the bottom of the rafter, and the correct sized girt clip that connects the door jamb to the rafter will need to be bent to fit as well. Note that the door jamb base will be installed as shown and described above, as per engineering plans.

**Detail C**



When installing jambs for a window opening, the procedure is almost exactly the same. However, in some cases the jamb will extend all the way down to the slab, while in others the jamb will connect to a lower girt. The latter method is illustrated below. In this case, the jamb connects to the lower girt in the exact same method as it is connected to the header girt. This connection is shown in Detail B on page Appendix A – 4. For exact details on your door and window jambs, please see the engineering plans.



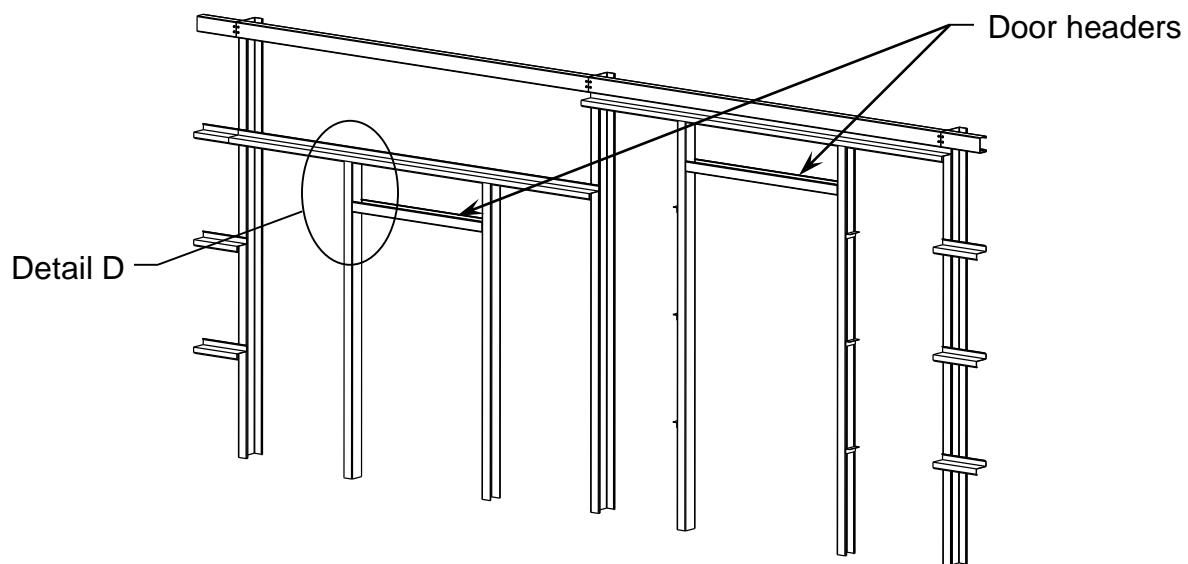
#### **4. Install door header and window sill (if installing window).**

After installing the door jambs, install the door header. This will be installed using girt clips and framing tek screws. Please see the Detail D below and the engineering plans for exact details on installing door header.

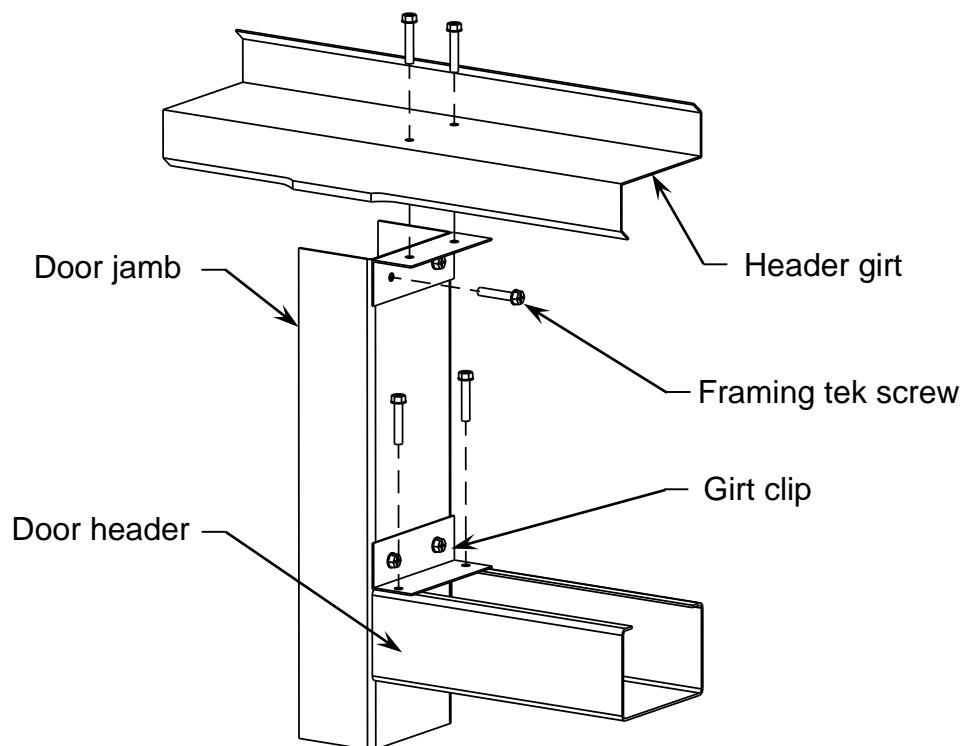
Before securing a header, make sure it is installed at the correct height. The engineering plans note the rough opening height, and the header should be installed at the height noted on the engineering plans. Note that the rough opening height can vary from the nominal height of the door to be installed. Please consult any instructions that come from your door manufacturer as well as the engineering plans to establish the exact height of the opening header and sill.

If installing a window, you will need to install not only a window header but also a window sill. This is exactly like the header except it is installed at the bottom of where the window will be. This is illustrated on the two previous pages. Note that the installation of the window sill is exactly the same as the window header, except upside down.

Please see the following page for illustrations of the installation of the door headers.



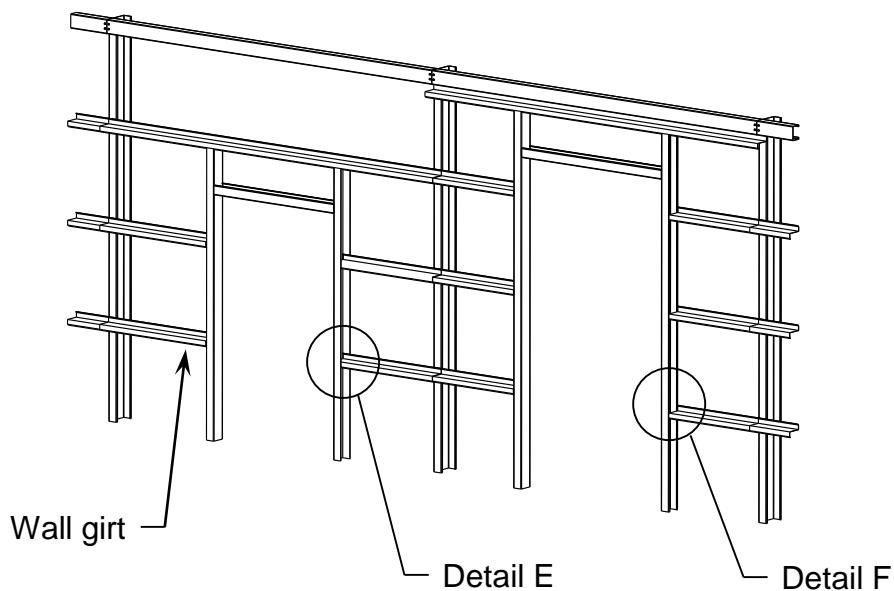
**Detail D**



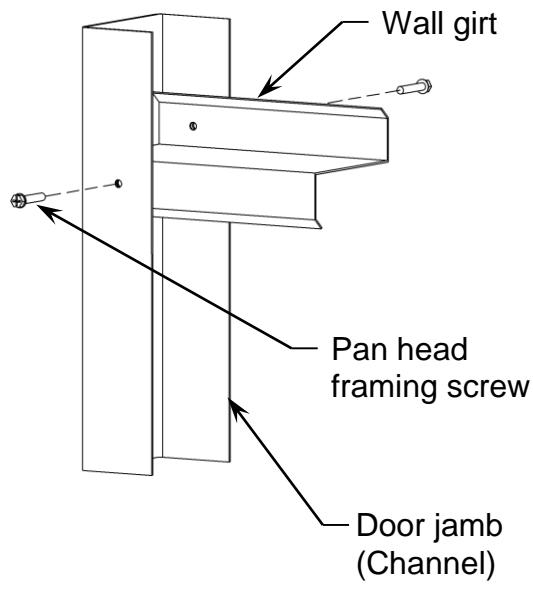
## 5. Install Remaining wall girts.

Once you are done with the door jambs and headers, install all remaining wall girts. Note that if the door jambs are Channels, you will use Detail E to install the wall girts to the door jambs. If CEE Section is used for the door jambs, you will use Detail F. The material used in your building will be noted on the engineering plans.

In Detail E, the wall girts will fit inside the door jamb flanges, and the flanges of the wall girts will attach directly to the flanges of the door jamb. In Detail F, you will install the wall girts to the previously installed girt clips that attach to the stiffener lips of the door jambs. For further information on installation of wall girts, see wall girts section in Appendix B.



**Detail E**



**Detail F**

