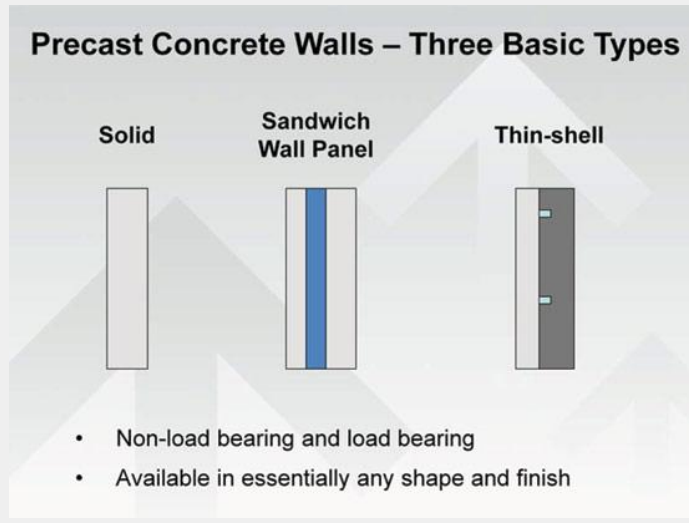


Precast Concrete Panels Facade

Examples of Facade and Construction Details



Grzegorz Kosieradzki Research
City Tech Prof. Paul King
Build Tech 3

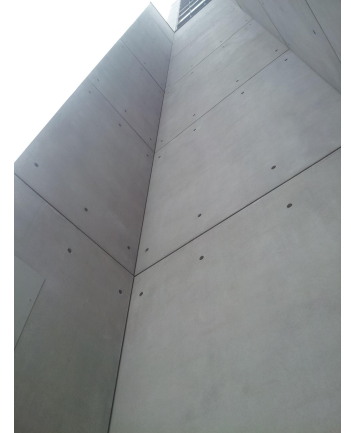




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<http://www.lafargeprecastedmonton.com/wp-content/uploads/2016/04/Lafarge-Precast-concrete-wall-panel-system.jpg>

<https://s-media-cache-ak0.pinning.com/236x/df/84/99/df849920354ea1aaeebfaa76777a1ad4.jpg>



http://www.pcdesignawards.org/pages/PS_02/links/full/75_file_image3.jpg

Whitney Museum Precast Details (Author)

Isolated Precast Panels



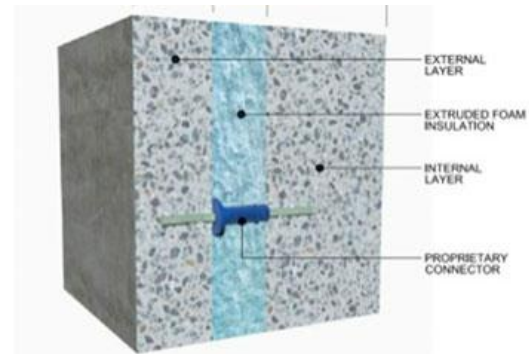
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<http://designbuildexpo.com.au/wp-content/uploads/2015/01/Concrete-Sandwich-edit.png>



http://polymoldingllc.com/wp-content/uploads/2017/02/M-PreC-InsulPrecastSands_fmt.png

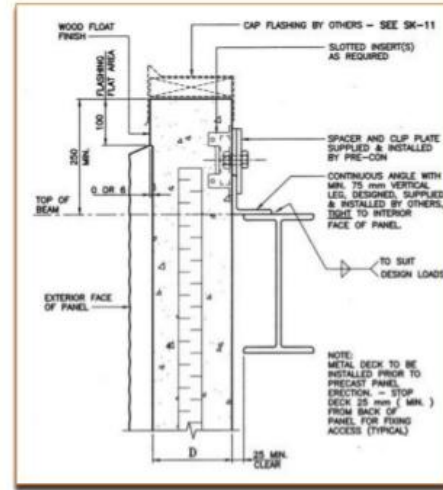


http://www.citywideprecast.com/wp-content/uploads/2015/06/citywide_precast_new_products_news_02.jpg



<http://precast.org/wp-content/uploads/2014/08/Precast-Concrete-Wall-Panel-Install.jpg>

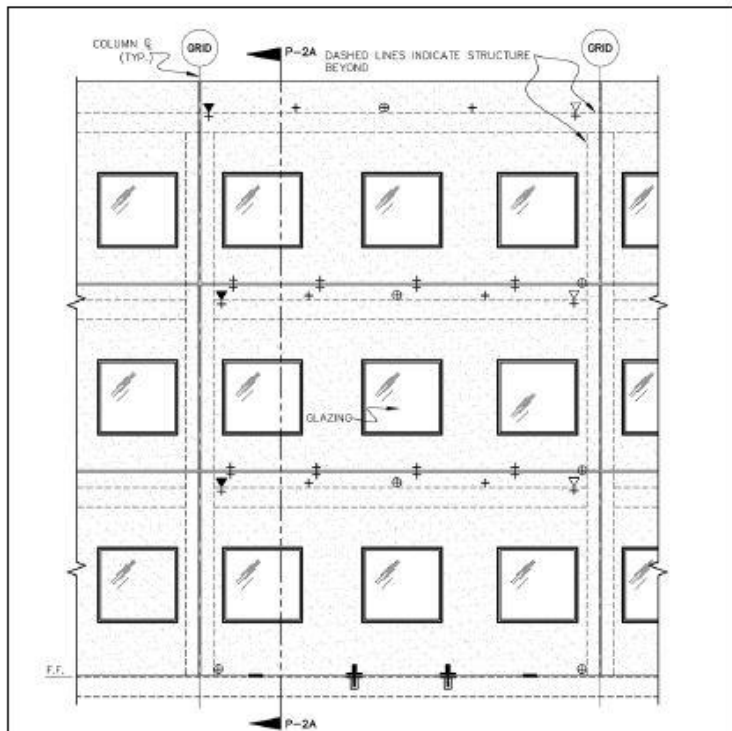
NON-LOAD BEARING



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<https://image.slidesharecdn.com/armtec-insulated-precast-shane-sherar-2014-10-15jc-141031143819-conversion-gate02/95/armtec-precast-insulated-wall-panels-webinar-51-638.jpg?cb=1414766561>



NOTES:

1. SEE P-0 FOR LEGEND.
2. SEE CONNECTION DETAILS FOR MORE INFORMATION.
3. CONNECTION QUANTITIES AND SPACING AS DETERMINED BY DESIGN.
4. MAXIMUM PANEL HEIGHT XX'-X".
5. MAXIMUM PANEL LENGTH XX'-X".

PANELIZATION OPTION 2 - HORIZONTAL WINDOW UNITS

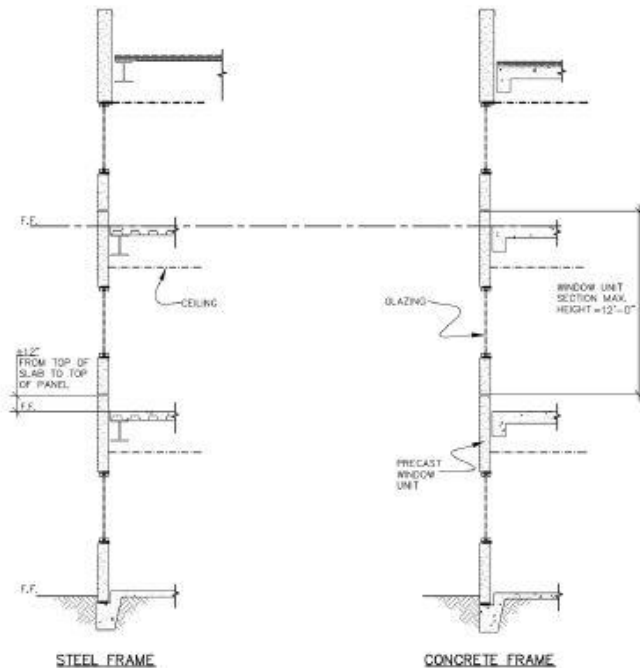


<http://precast.org>

P-2

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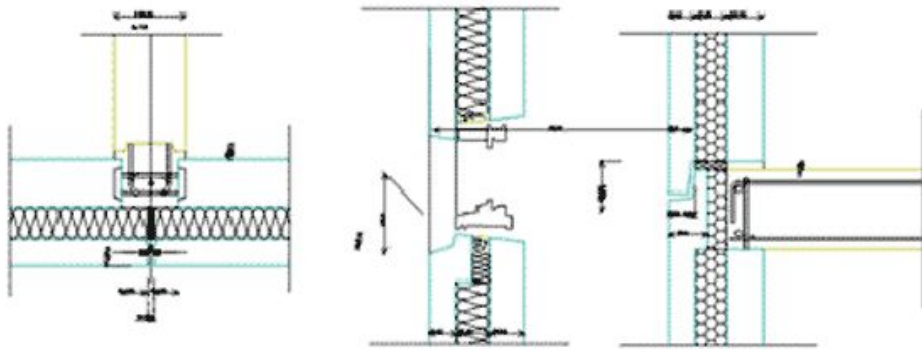
PANELIZATION OPTION 2 - BUILDING SECTION



<http://precast.org>

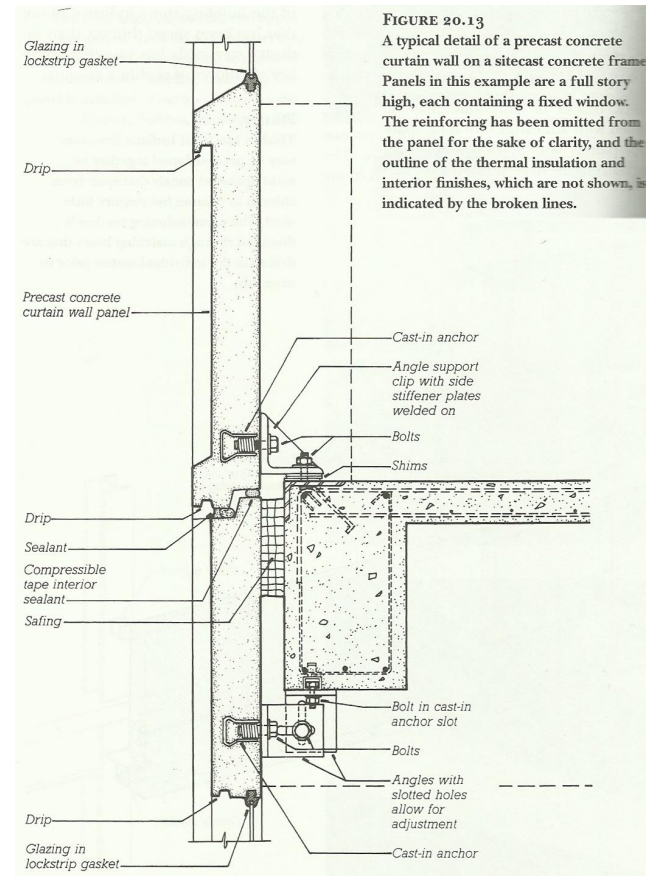
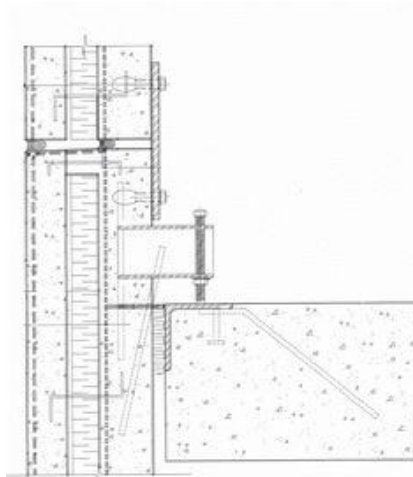
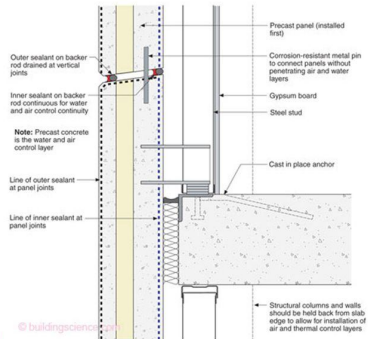
P-2A

SCALE	DN.BY	DATE
NTS	WCR	06/29/11



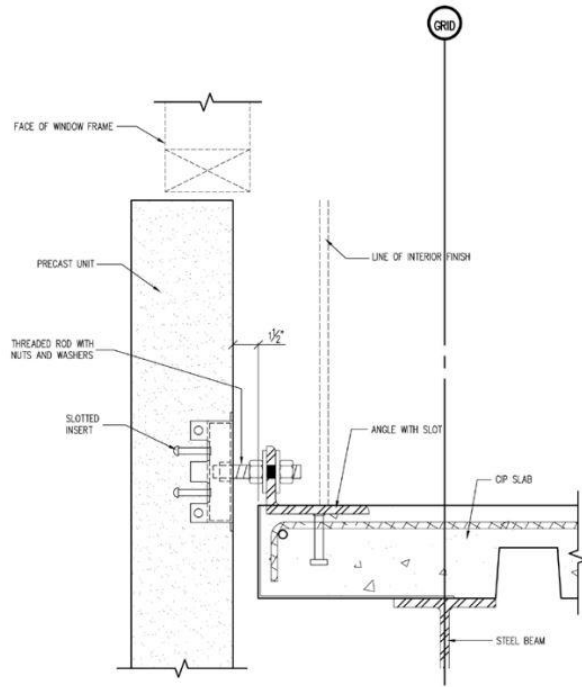
https://www.new-learn.info/packages/cdres/projects/p10/images/t15/p10_t15_8.png

Precast Concrete Panels Air Barriers & Sealants



<http://trantor.sheridanc.on.ca/webct/arct4001/images/Curtain%20Wall%20-%20PreCast%20Conc-conc%20strctr.jpg>

PRECAST REINFORCING NOT SHOWN FOR CLARITY



CONNECTION DETAIL - ADJUSTABLE TIE BACK



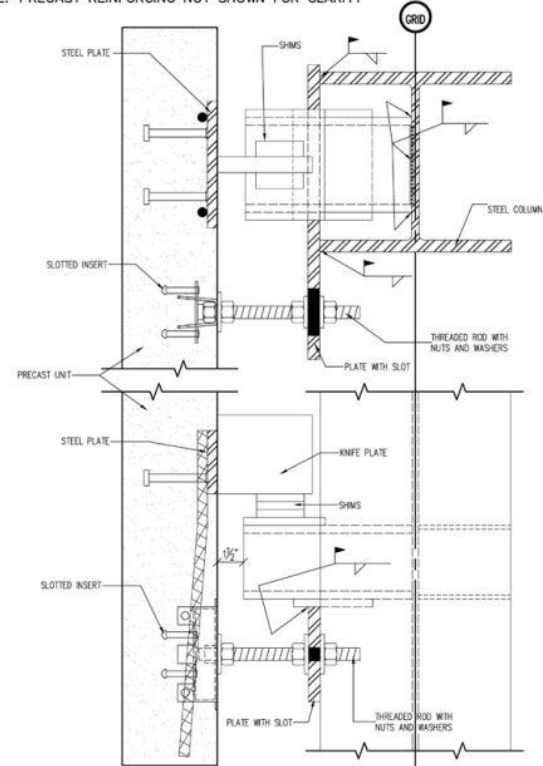
S-3.10

SCALE	DN.BY	DATE
NTS	WCR	06/29/11



<http://precast.org>

NOTE: PRECAST REINFORCING NOT SHOWN FOR CLARITY



CONNECTION DETAIL - BEARING PLUS ADJ. TIE BACK



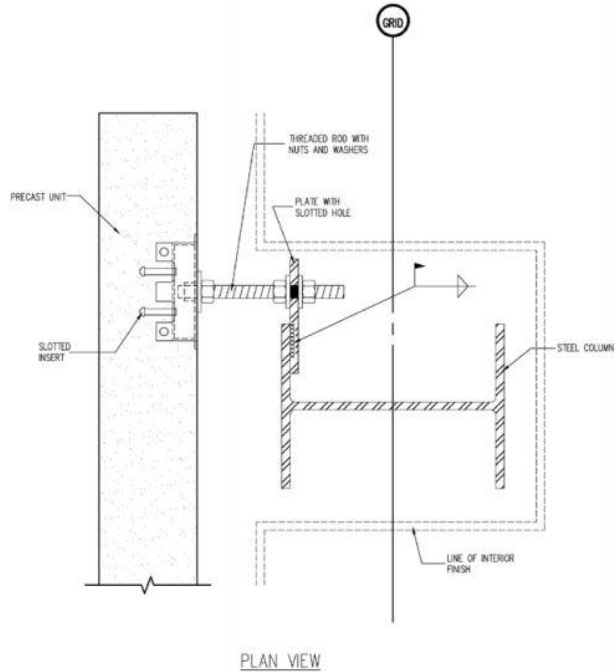
S-6.15

SCALE	DN.BY	DATE
NTS	WCR	06/29/11



<http://precast.org>

NOTE: PRECAST REINFORCING NOT SHOWN FOR CLARITY



CONNECTION DETAIL - ADJUSTABLE TIE BACK



S-3.12

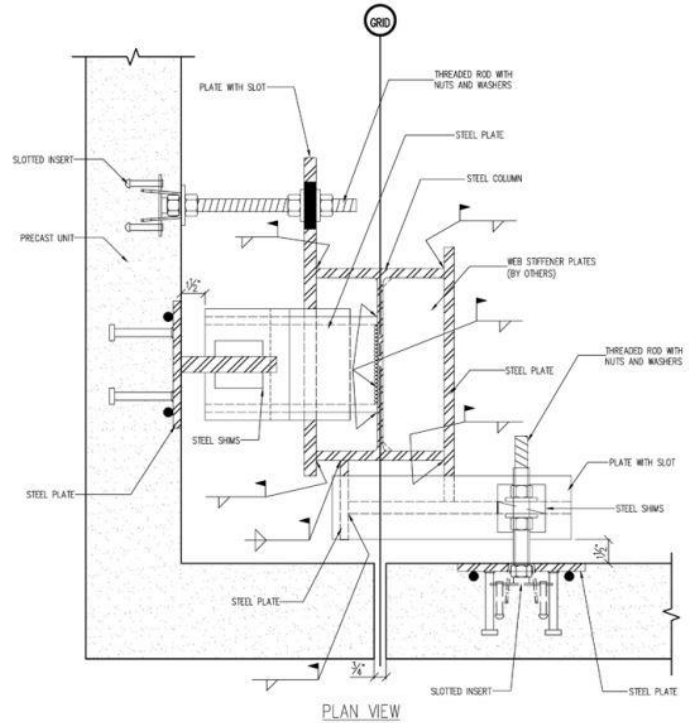
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NTS	WCR	06/29/11



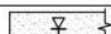
<http://precast.org>

NPCA ARCHITECTURAL PRECAST CONNECTION GUIDE

NOTE: PRECAST REINFORCING NOT SHOWN FOR CLARITY



CONNECTION DETAIL - BEARING + TIE BACK



S-3.14

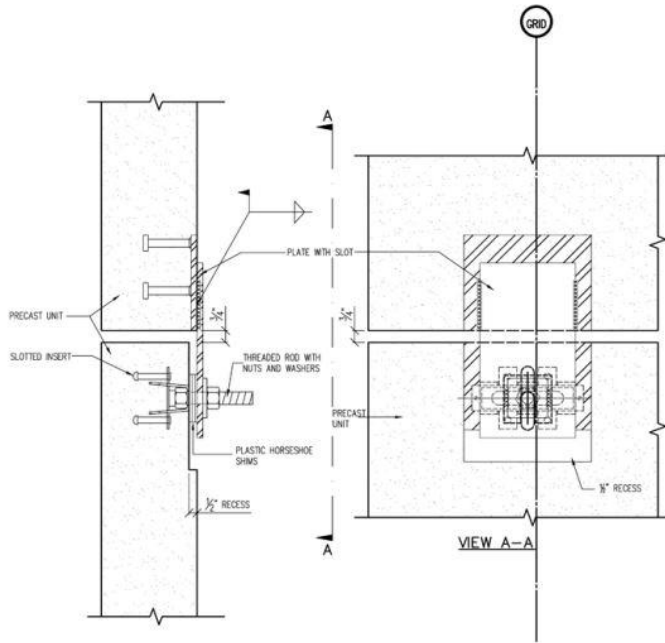
SCALE	DN.BY	DATE
NTS	WCR	06/29/11



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NPCA ARCHITECTURAL PRECAST CONNECTION GUIDE

NOTE: PRECAST REINFORCING NOT SHOWN FOR CLARITY



CONNECTION DETAIL – PANEL TO PANEL



S-5.1

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Bolted Connections

Bolted connections simplify and speed-up the erection operation, because the connection is positive immediately. Final alignment and adjustment can be made later without tying up crane time. Bolting should be in accordance with the erection drawings, using material specified by the designer.

Threaded anchor bolts and rebar anchor dowels that protrude from the foundation are the critical first connection to precast members. Usually, this work is performed by a subcontractor not responsible to the erector. It is important that these items be placed accurately in both plan and vertical alignment.

Welded Connections

Welded connections are the most common and typical connection used in the erection of precast concrete. These connections are structurally efficient and adjust easily to varying field conditions.

Notes

The connections described in this guide are generic connections. Please contact the NPCA technical staff or your local NPCA architectural precast concrete producer to discuss the connections for your specific project.

The connections are usually made by placing a loose plate between two structural steel plates that are embedded both in the cast-in-place or the precast concrete panel and welded together. Some connections are designed to bend and yield in one direction while remaining rigid in all other directions. Welded connections should be installed exactly as shown on the erection drawings and details.

This manual does not claim or imply that it addresses all safety-related issues, if any, associated with its use.

The manufacture of concrete products may involve the use of hazardous materials, operations and equipment. It is the user's responsibility to determine appropriate safety, health and environmental practices and applicable regulatory requirements associated with the use of this manual and the manufacture of concrete products.

Dowel/Anchor Bolt Connections

In a dowel connection, the strength of dowels in tension or shear depends on dowel diameter, embedded length and the bond developed. Good practice is to provide sufficient embedment to develop the full dowel strength.

Use of this manual does not guarantee the proper function or performance of any product manufactured in accordance with the requirements contained in the manual. Routine conformance to the requirements of this manual should result in products of an acceptable quality according to current industry standards.

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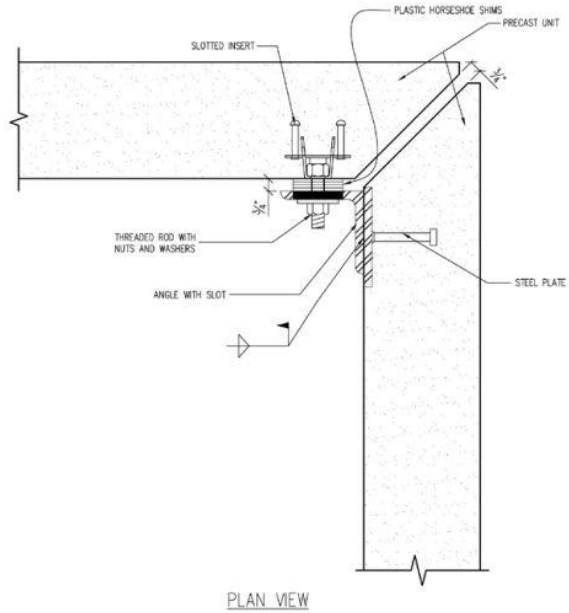
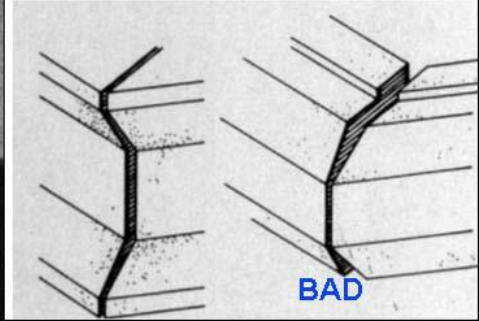
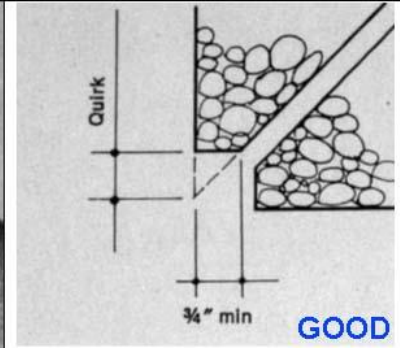
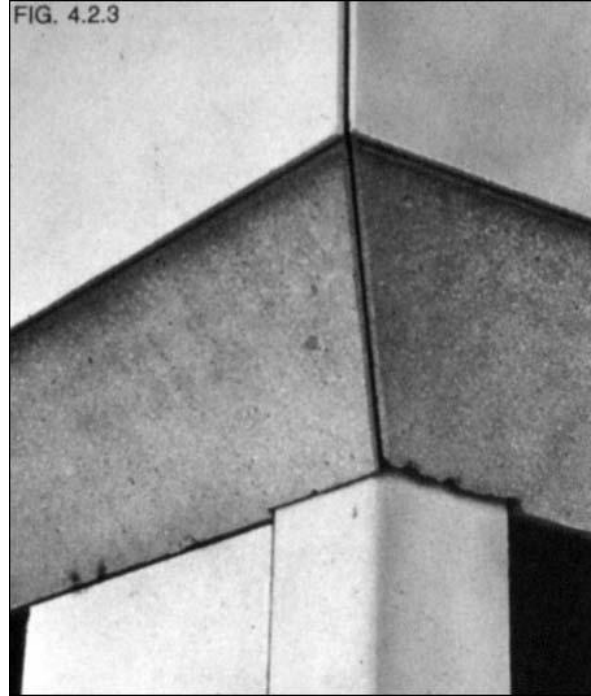


FIG. 4.2.3



CONNECTION DETAIL - PANEL TO PANEL



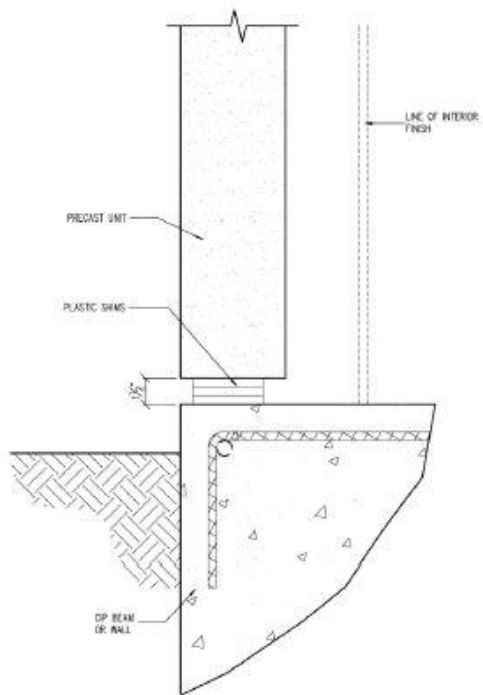
S-5.4



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NOTE: PRECAST REINFORCING NOT SHOWN FOR CLARITY



CONNECTION DETAIL - SHIM BEARING



S-1.2

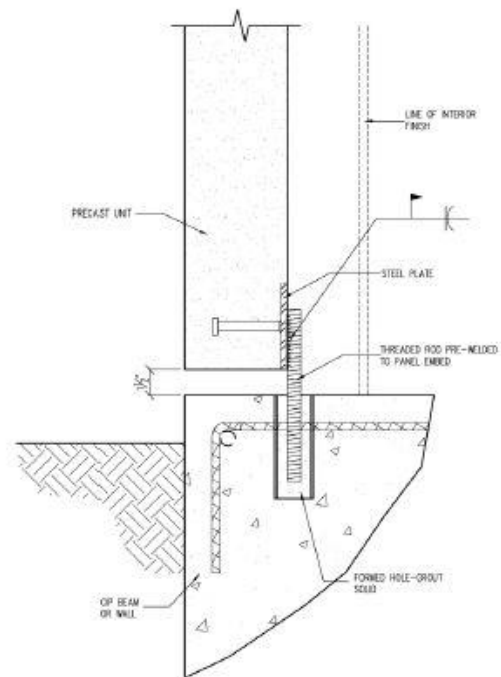


NPCA
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NOTE: PRECAST REINFORCING NOT SHOWN FOR CLARITY



CONNECTION DETAIL - DOWEL PIN



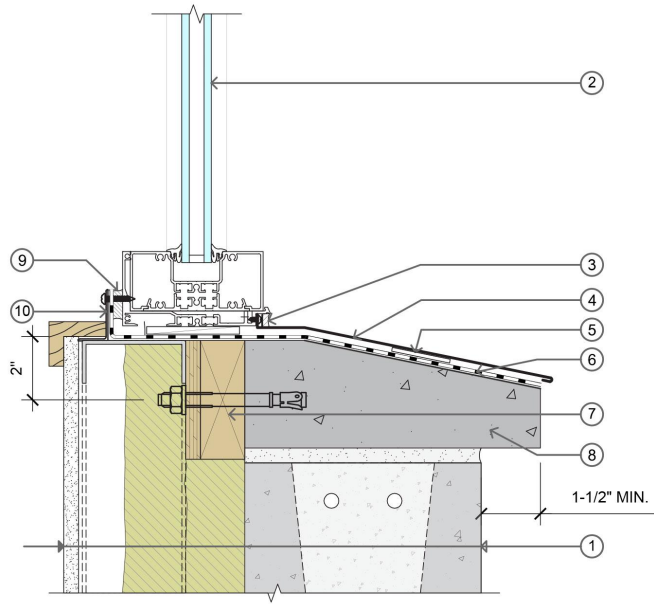
S-2.3



NPCA
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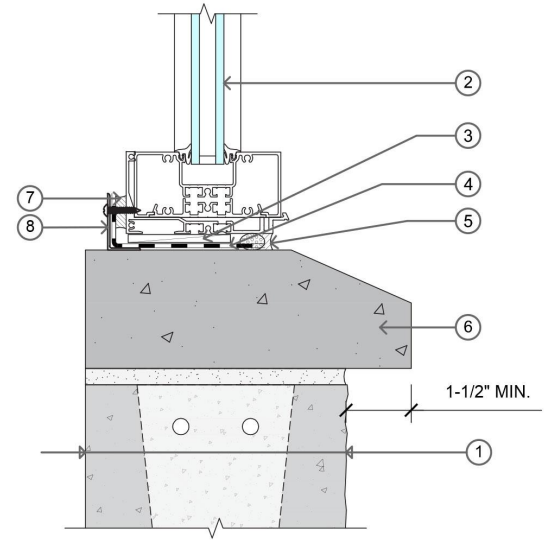
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SCALE	DN.BY	DATE
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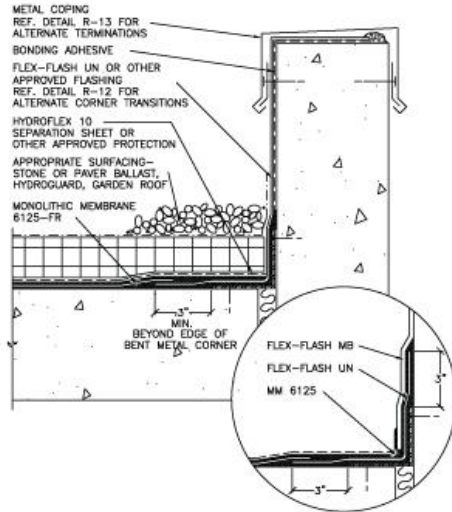
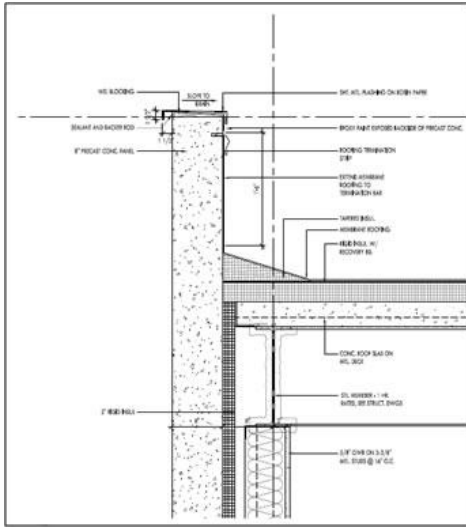
Precast Window Sill
Detail 5-B

<http://www.masonrysystemsguide.com/wp-content/uploads/Assembly-5-Detail-5B.jpg>



Precast Window Sill
Detail 4-B

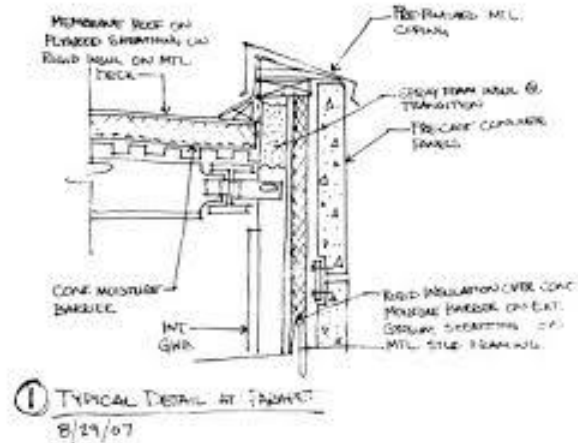
<http://www.masonrysystemsguide.com/wp-content/uploads/Assembly-4-Detail-4B.jpg>



NOTES: BENT SHEET METAL CORNER MUST BE OF SUFFICIENT GAUGE AND SECURED TO THE DECK AND WALL SUFFICIENTLY TO PREVENT BUCKLING.

FLEX-FLASH UN MUST BE USED TO REINFORCE THE MM 6125 OVER THE BENT METAL CORNER.

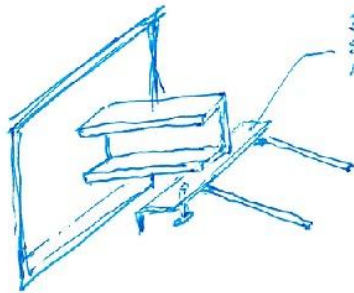
DWG | R-11D



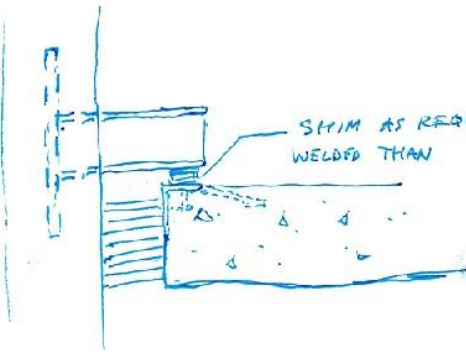
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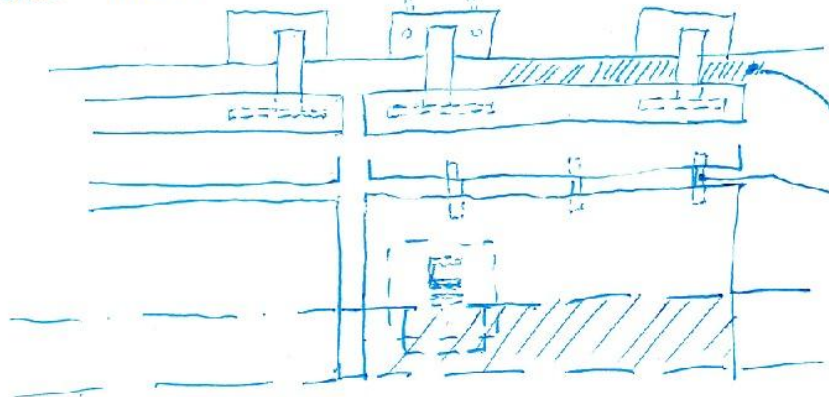


3x3x6
STEEL BEARING
ANGLE (TYP)



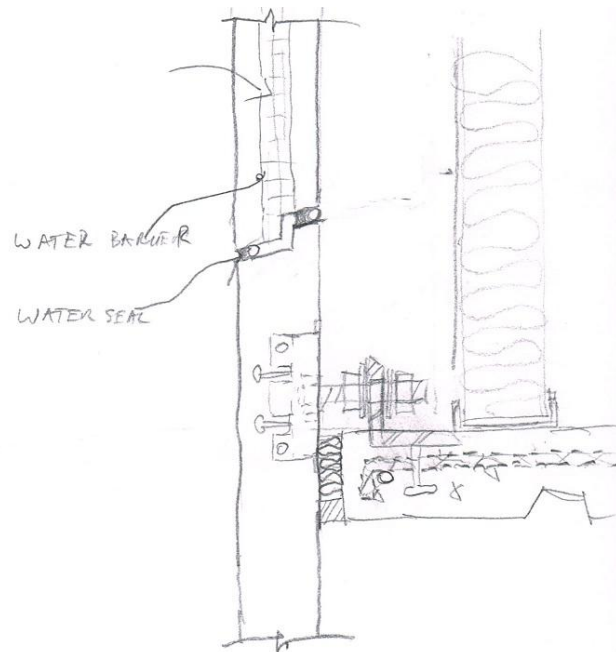
SHIM AS REQUIRED
WELDED THAN

STEEL PARTS EMBEDDED INTO CONCRETE PANEL AND CONCRETE SLAB



SMOKE SEAL

PIW AS REQ'D



WATER BARRIER

WATER SEAL

○ PRECAST PANEL AS A PARAPET WALL

