#### **APPENDIX "A" to ENGINEERING GUIDE**



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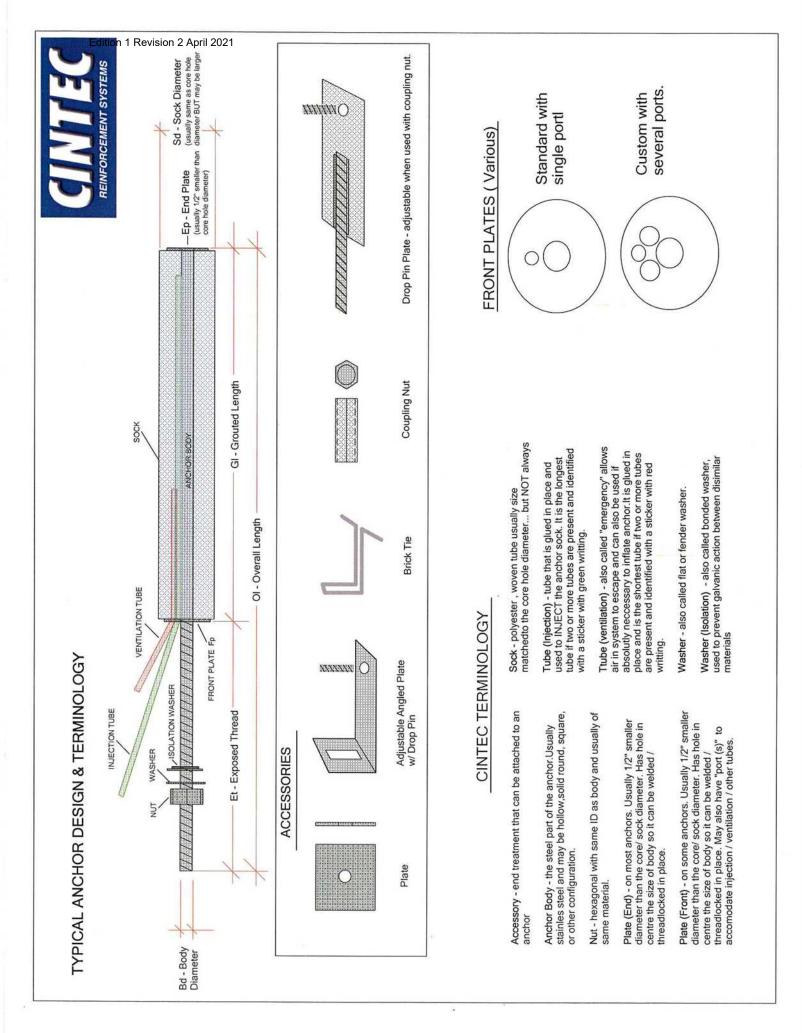


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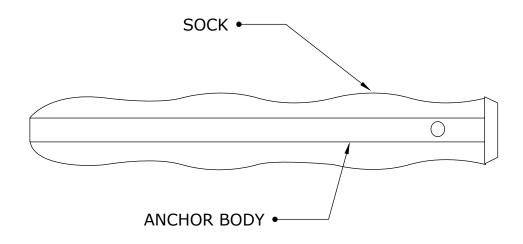
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TEC



# **CINTEC ANCHOR TYPE RAC STAINLESS STEEL**



ANCHOR BODY	SOCK	END CONDITION
SS TYPE 304 3/8" (10mm) DIA. CHS HOLLOW ROUND	FULL LENGTH OF ANCHOR BODY 3/4" (20mm) DIAMETER SOCK	PLAIN ENDS

ANCHOR LENGTH TO SUIT SITE CONDITIONS Client to confirm ALL lengths before ordering.

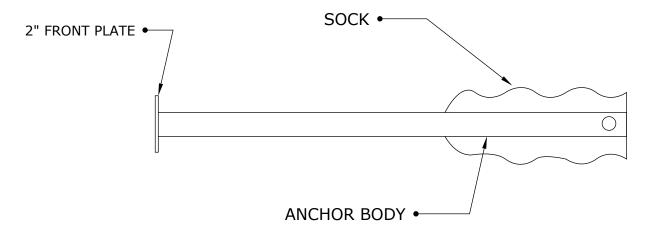


Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

CINTEC ANCHOR TYPE RAC, STITCHING ANCHOR



### **CINTEC ANCHOR TYPE RAC STAINLESS STEEL**



ANCHOR BODY	SOCK	END CONDITION
SS TYPE 304 3/8" (10mm) DIA. CHS HOLLOW ROUND	Sock length to suit site conditions 3/4" (20mm) DIAMETER SOCK	2" (50mm) Front Plate

ANCHOR LENGTH TO SUIT SITE CONDITIONS Client to confirm ALL lengths before ordering.

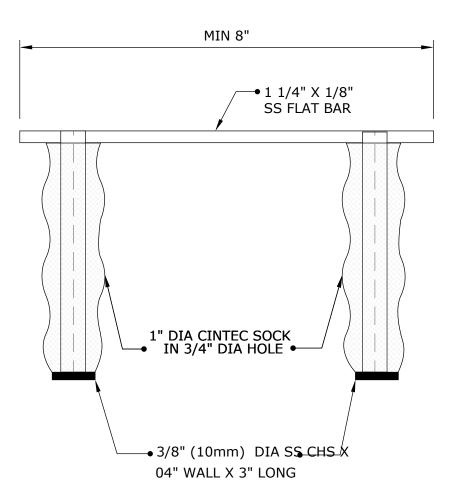


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CINTEC ANCHOR TYPE RAC



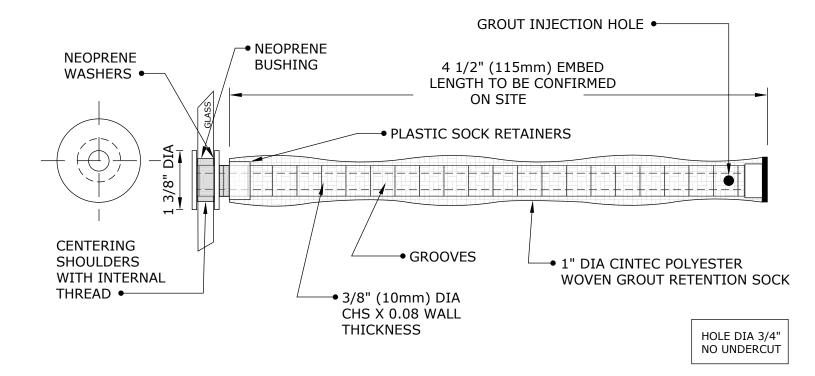
# CINTEC TERRA-COTTA CRACK STAPLING ANCHOR 3/8" 10mm Anchor Body







#### CINTEC ANCHOR FOR ATTACHING THIN VENEER/MARBLE PANNELS TO MASONRY/STEEL FRAME BACK UP

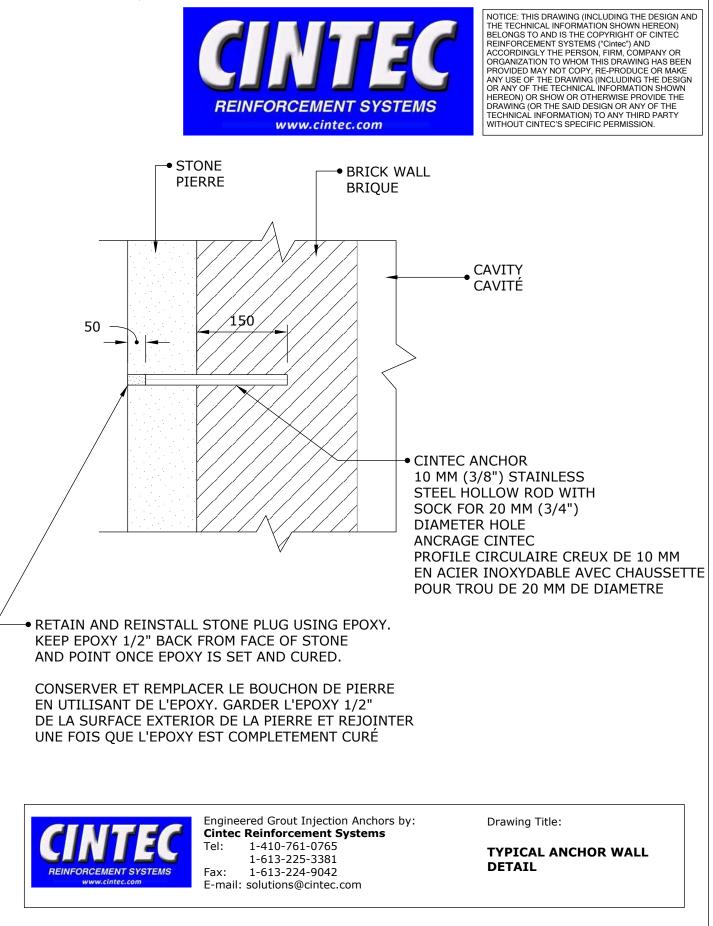


PROJECT NAME: MOSAIC ANCHORS CLIENT: NEW YORK CITY SUBWAY LOCATION: NEW YORK CITY - VARIOUS SUBWAY STATIONS TYPE: MOSAIC ANCHORS NYC SUBWAY



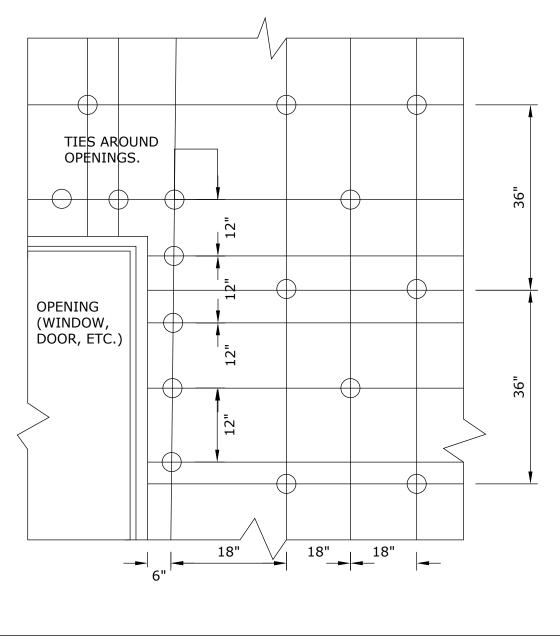
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CINTEC ANCHOR FOR ATTACHING THIN VENEER/MARBEL PANNELS TO MASONRY/STEEL FRAME BACK-UP



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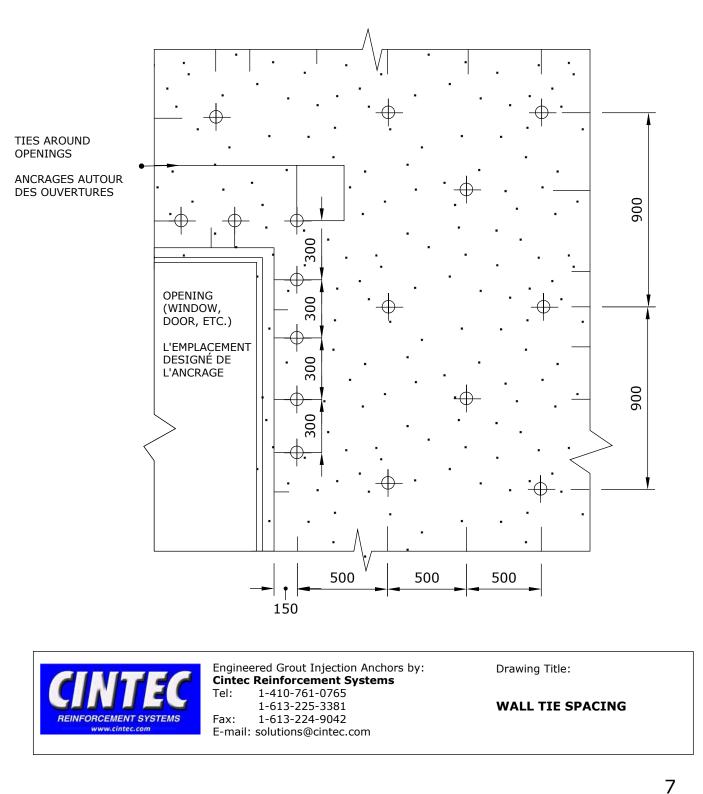


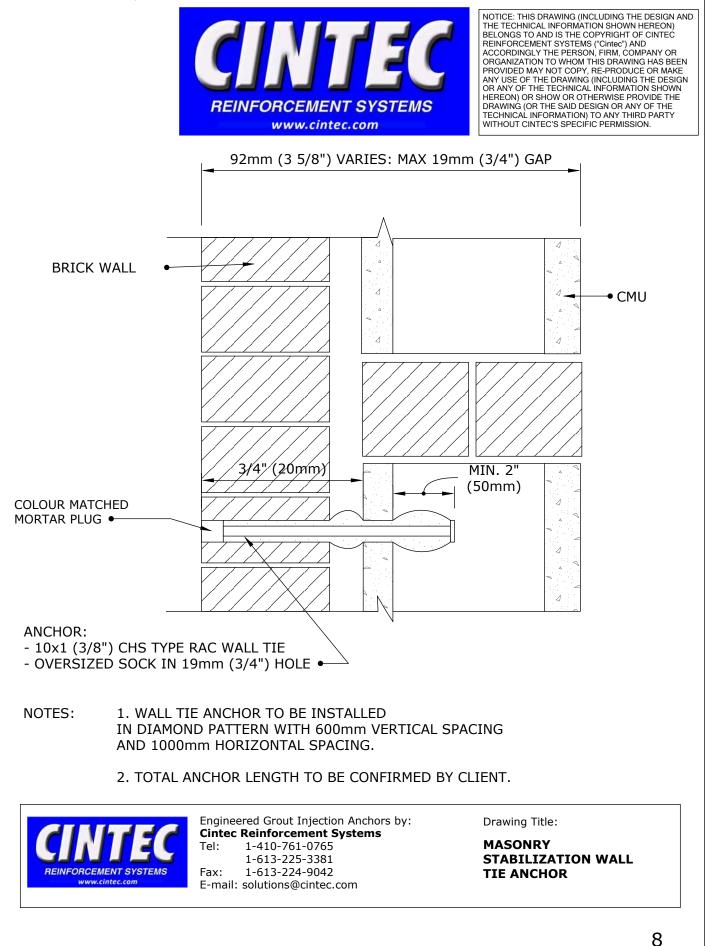
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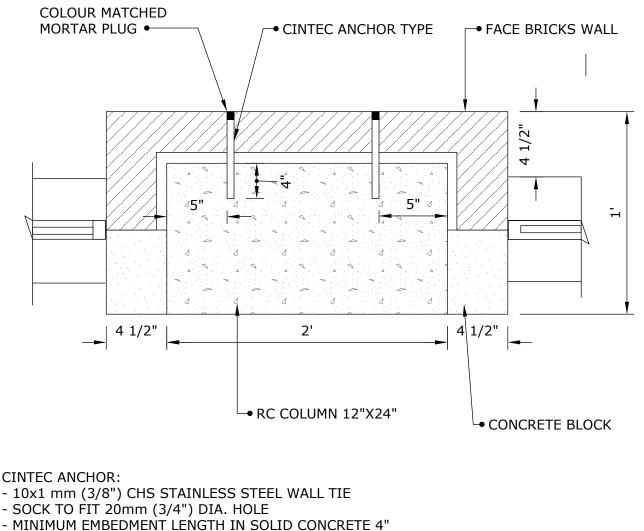
WALL TIE SPACING











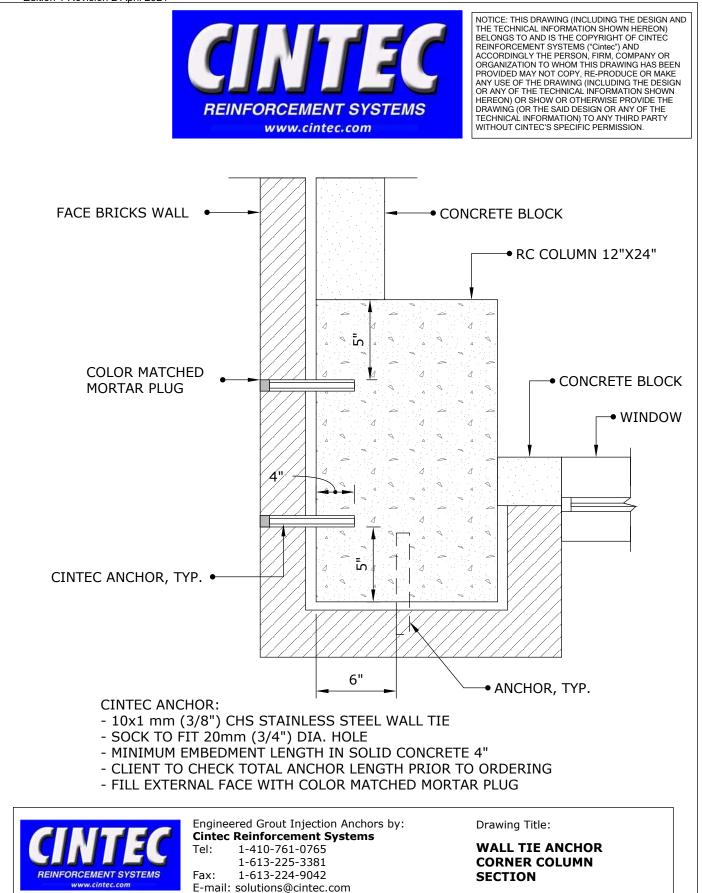
- CLIENT TO CHECK TOTAL ANCHOR LENGTH PRIOR TO ORDERING
- FILL EXTERNAL FACE WITH COLOR MATCHED MORTAR PLUG

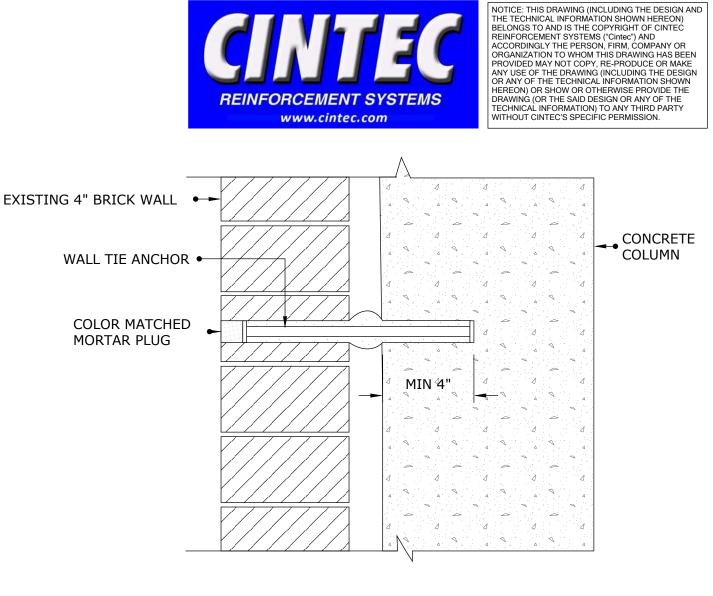


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Drawing Title:

WALL TIE ANCHOR **TYPICAL COLUMN** SECTION





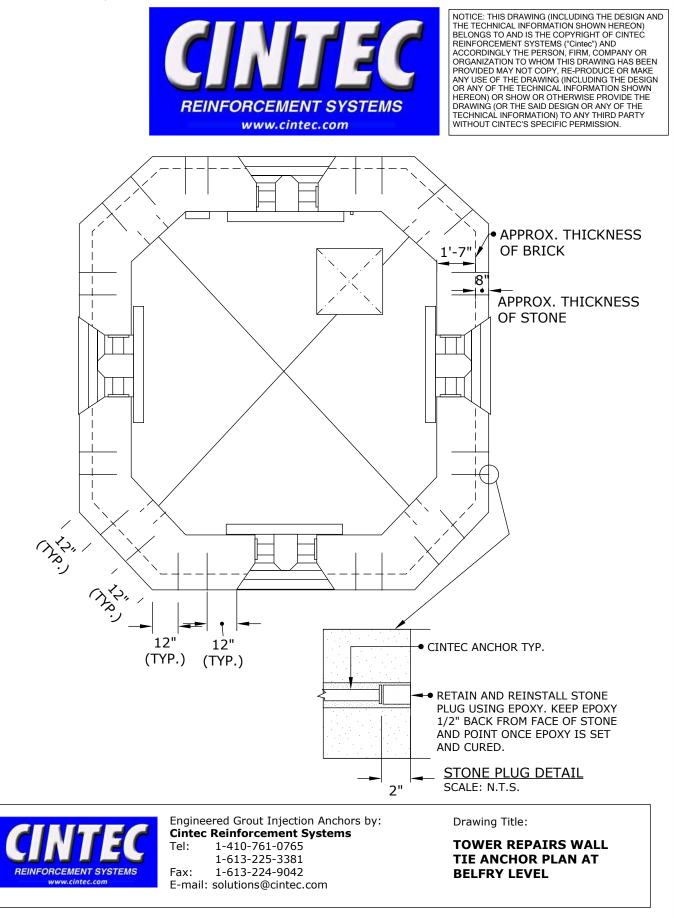
CINTEC ANCHOR:

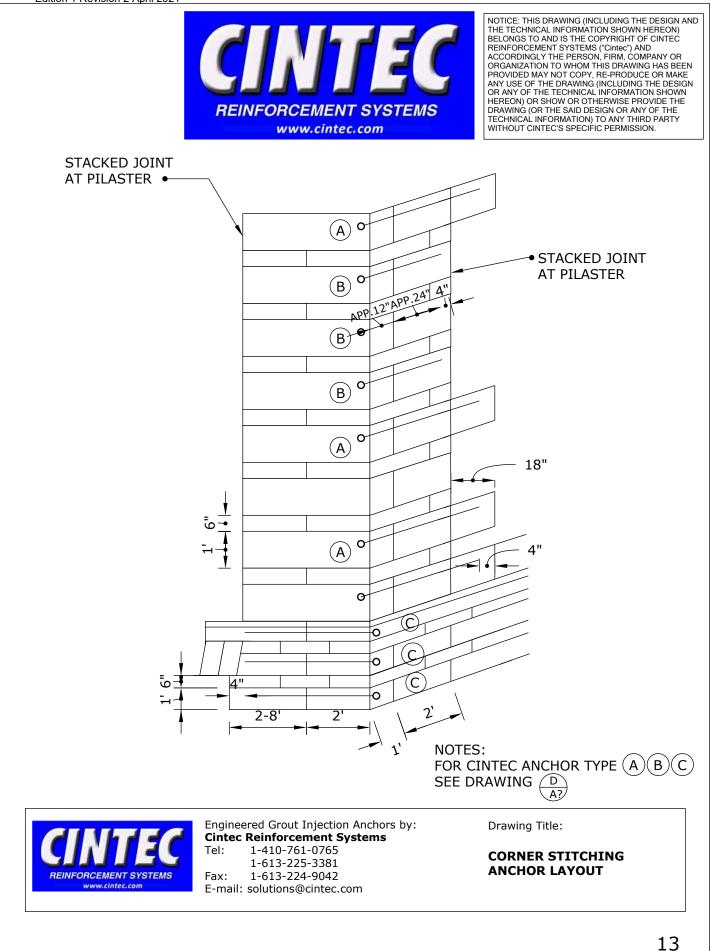
- 10x1 mm (3/8") CHS STAINLESS STEEL WALL TIE, IN DIAMOND PATTERN
- SOCK TO FIT 20mm (3/4") DIA. HOLE
- MINIMUM EMBEDMENT LENGTH IN SOLID CONCRETE 4"
- CLIENT TO CHECK TOTAL ANCHOR LENGTH PRIOR TO ORDERING
- FILL EXTERNAL FACE WITH COLOR MATCHED MORTAR PLUG



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WALL TIE ANCHOR BRICK STABILIZATION

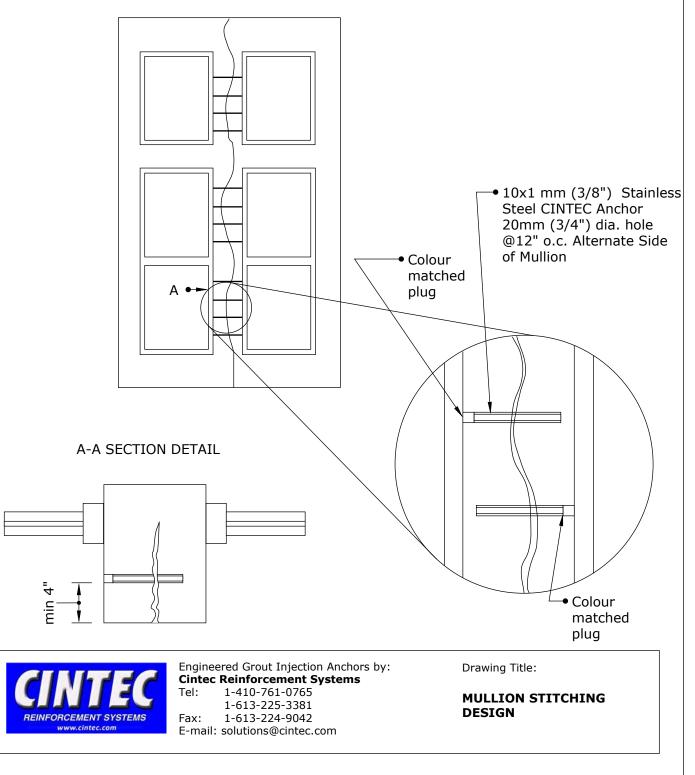


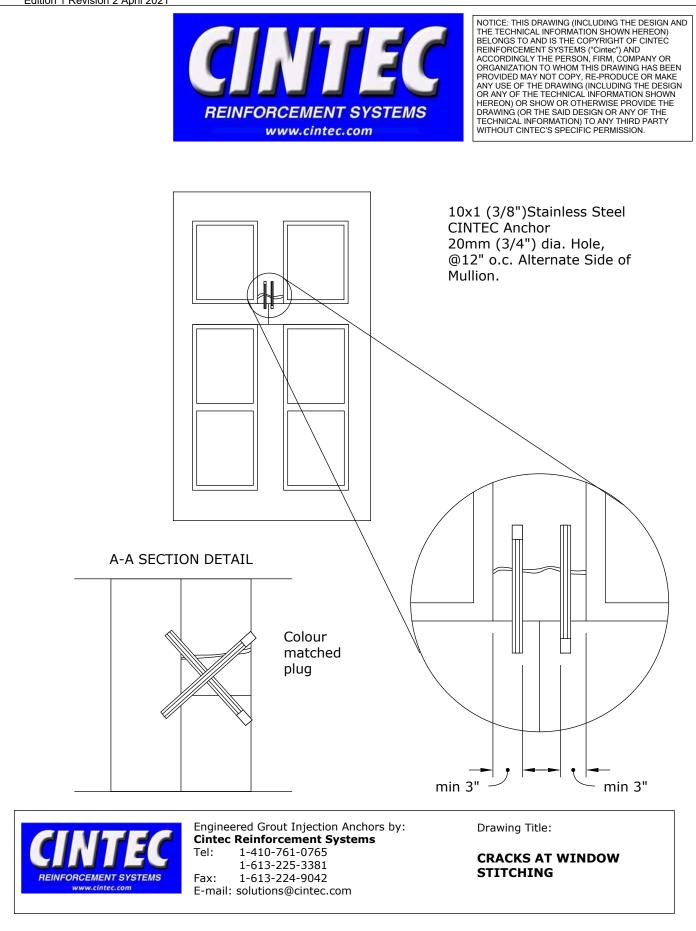


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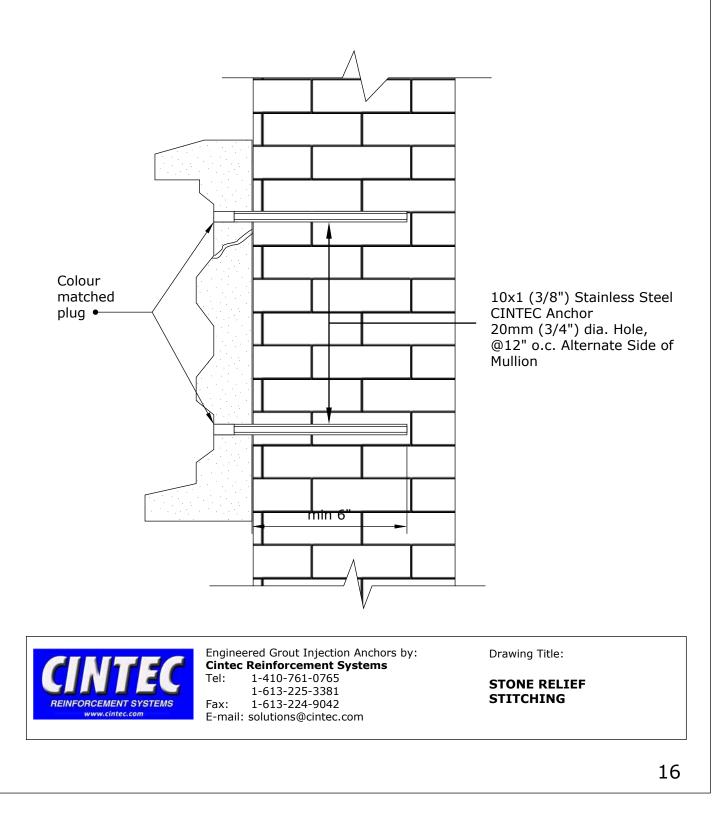


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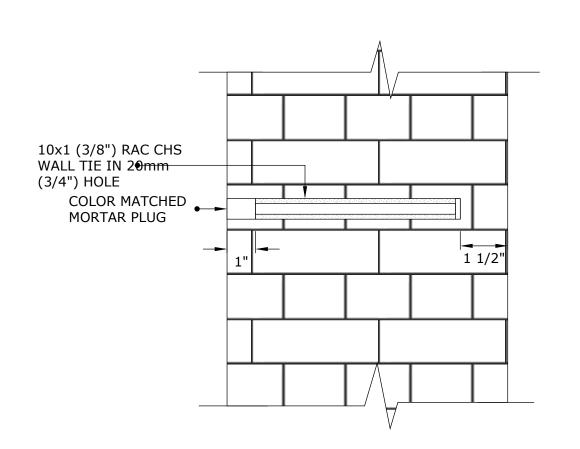




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**CINTEC RAC CHS STAINLESS STEEL ANCHOR** 

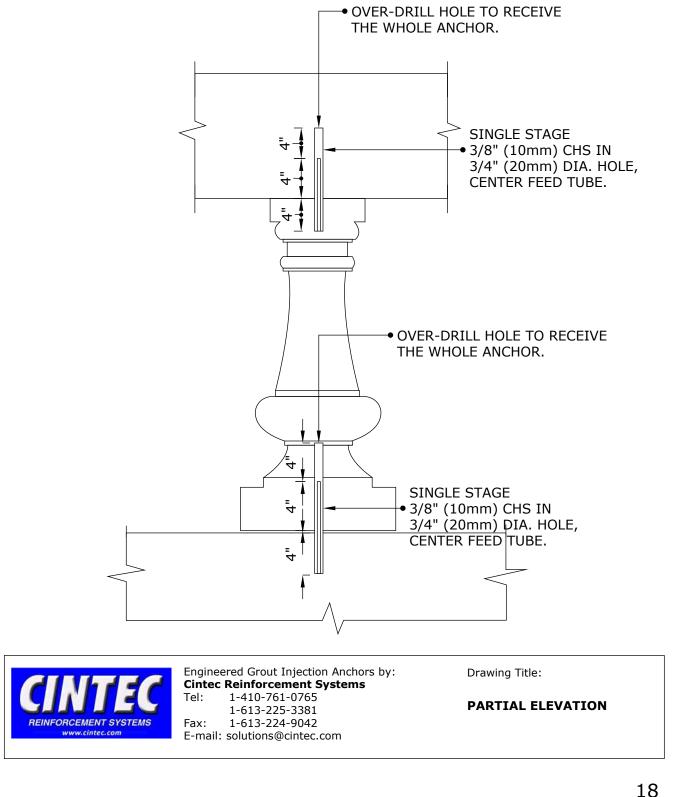




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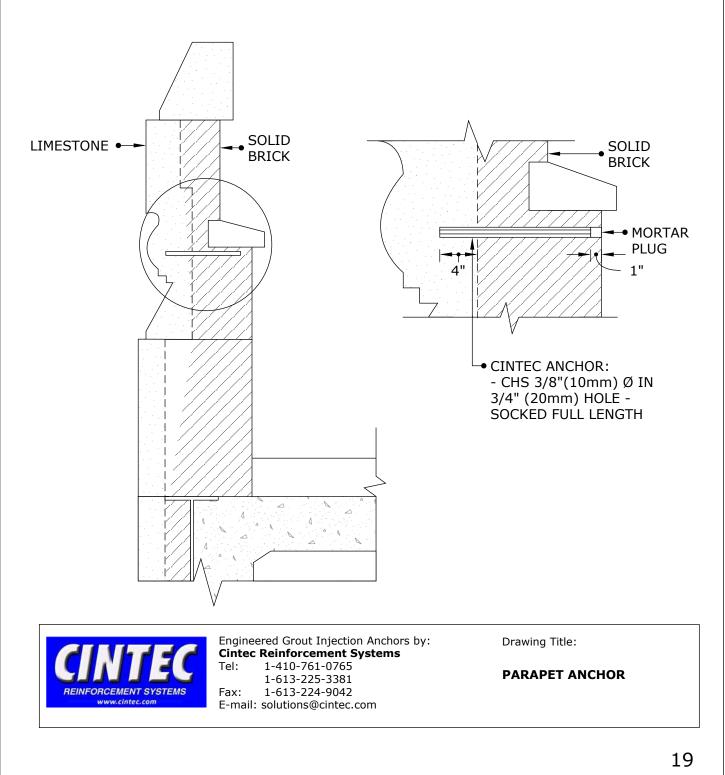
#### BRICK WALL STABILIZATION



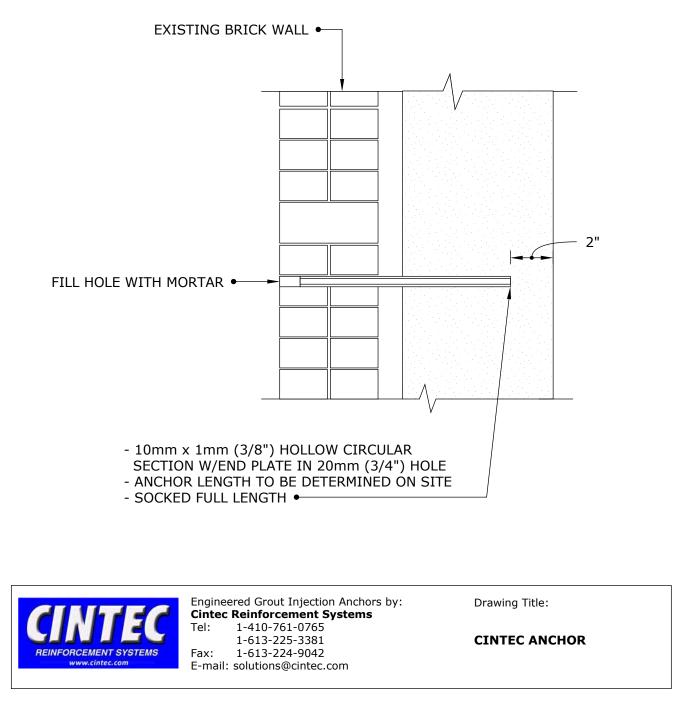




### **CINTEC RAC CHS STAINLESS STEEL ANCHOR**

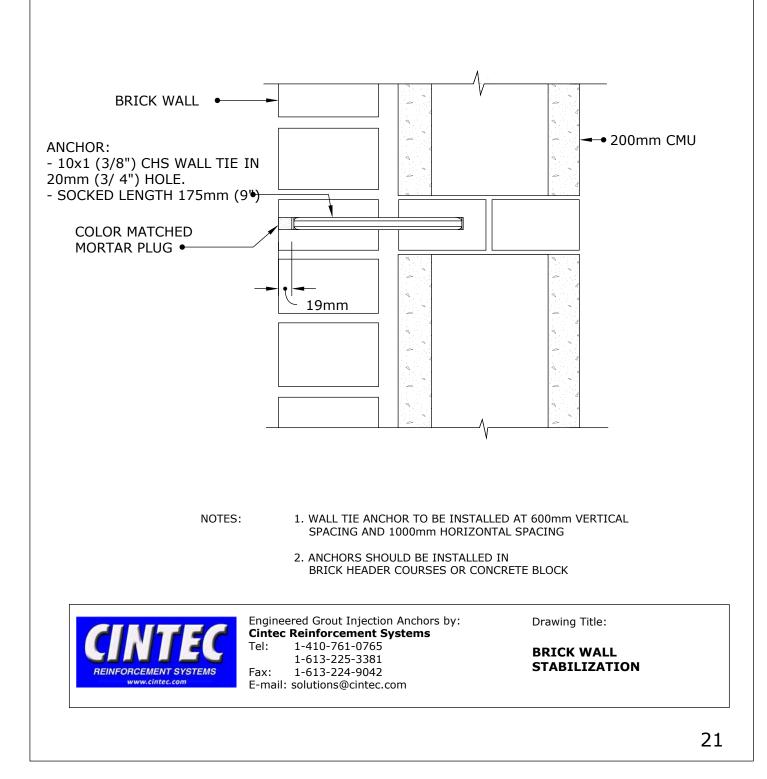






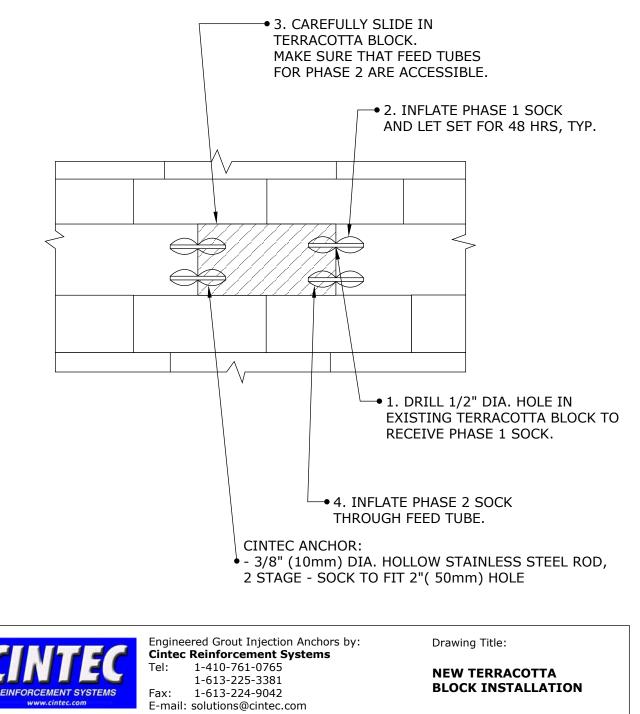


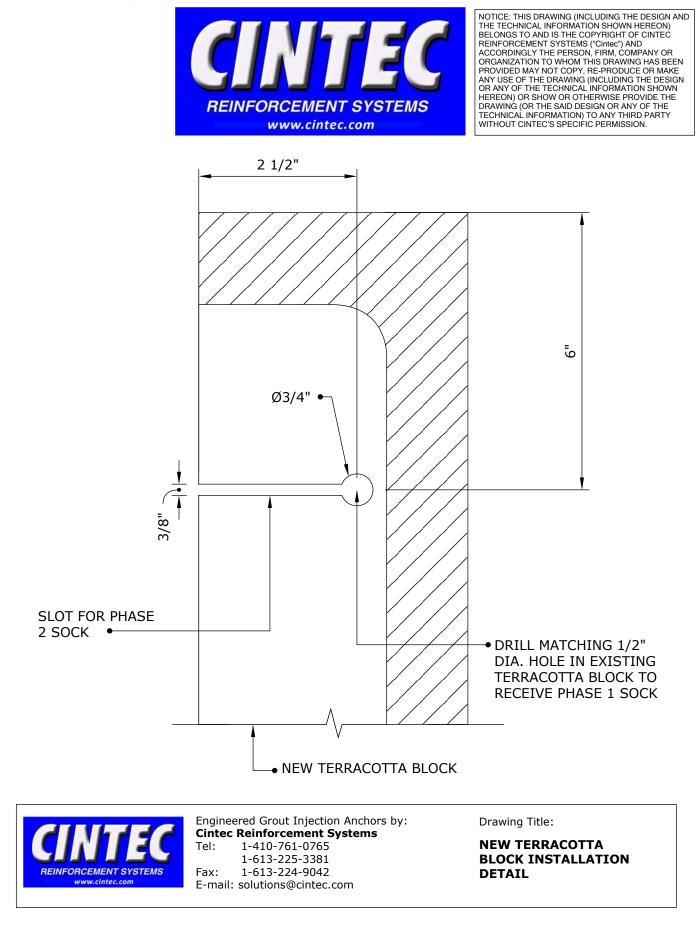
# **CINTEC RAC CHS STAINLESS STEEL ANCHOR**



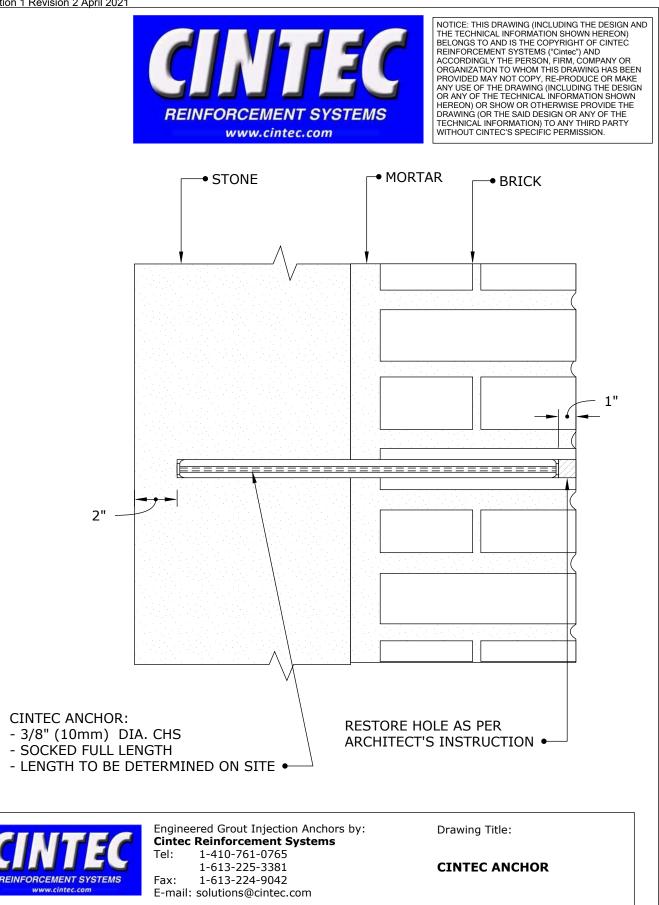


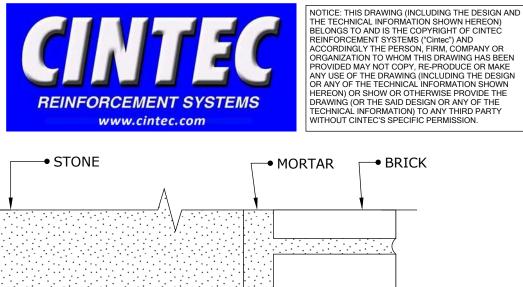
#### **CINTEC RAC CHS STAINLESS STEEL ANCHOR**

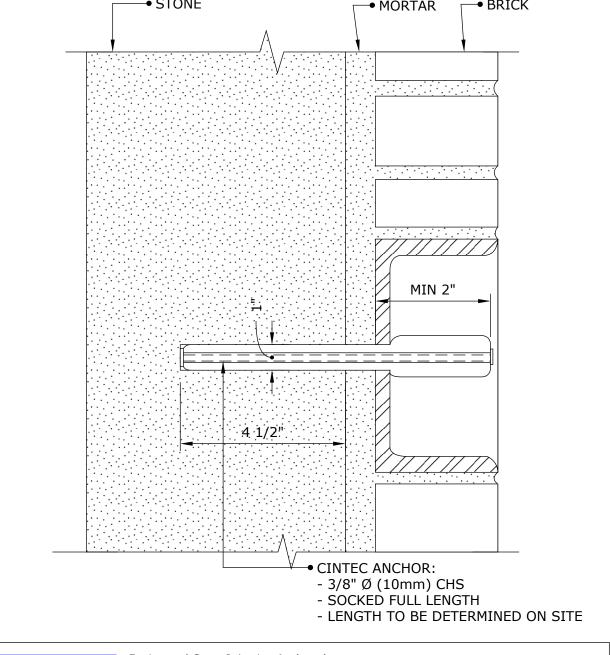




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1-613-224-9042

E-mail: solutions@cintec.com

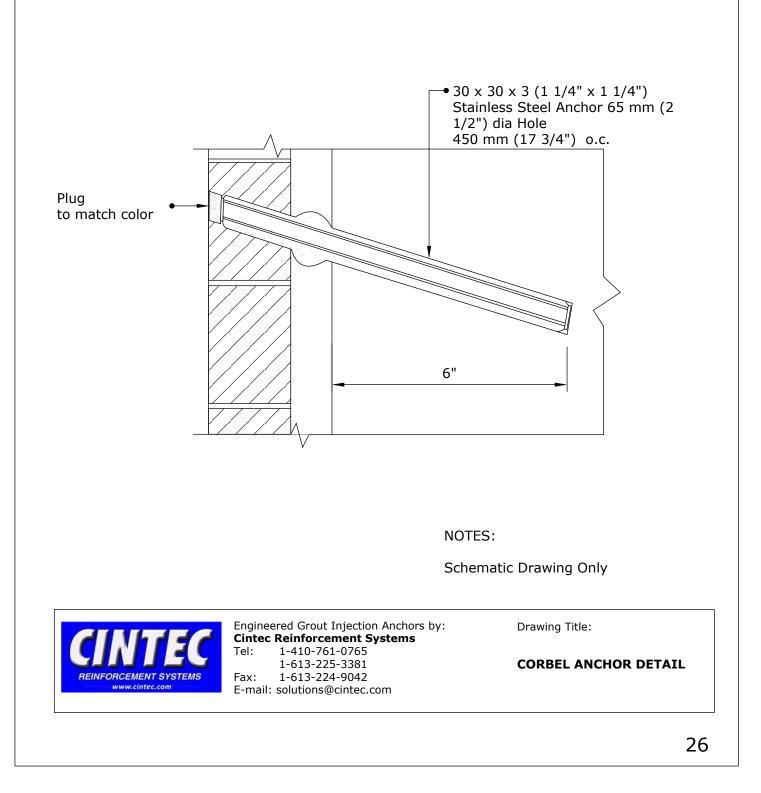
Fax:

Drawing Title:

#### **CINTEC ANCHOR**

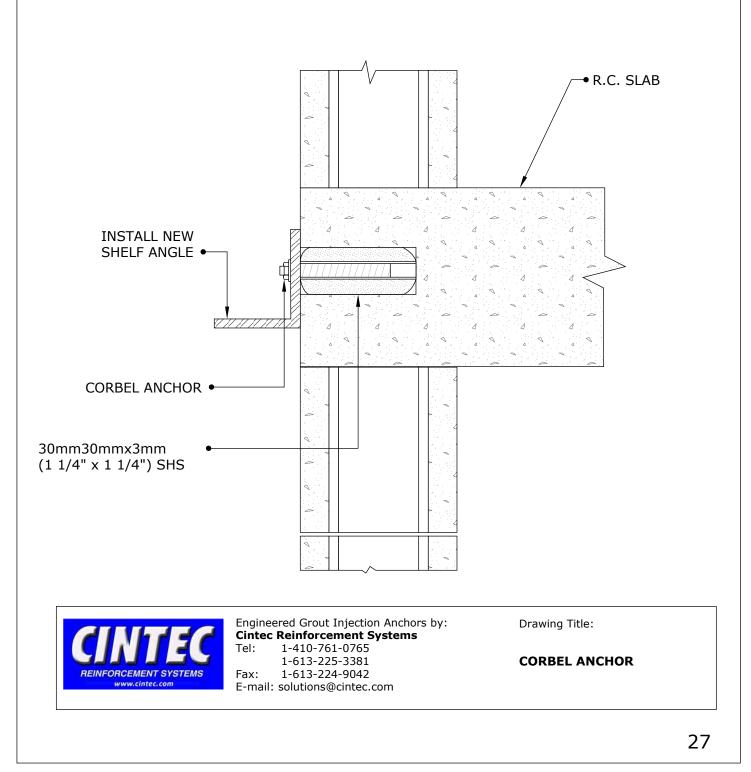


## **CINTEC SHS STAINLESS STEEL ANCHOR**



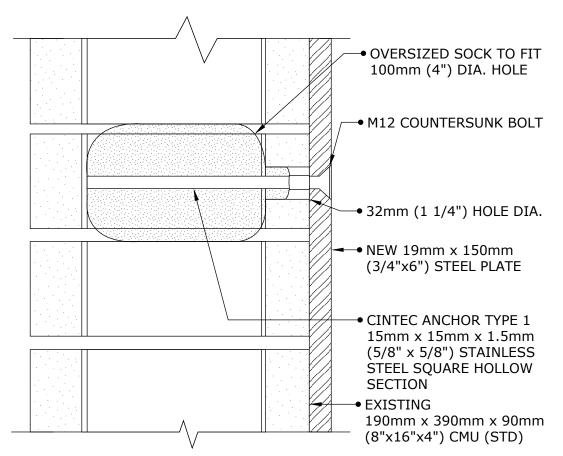


## **CINTEC SHS STAINLESS STEEL ANCHOR**





#### **CINTEC SHS STAINLESS STEEL ANCHOR**



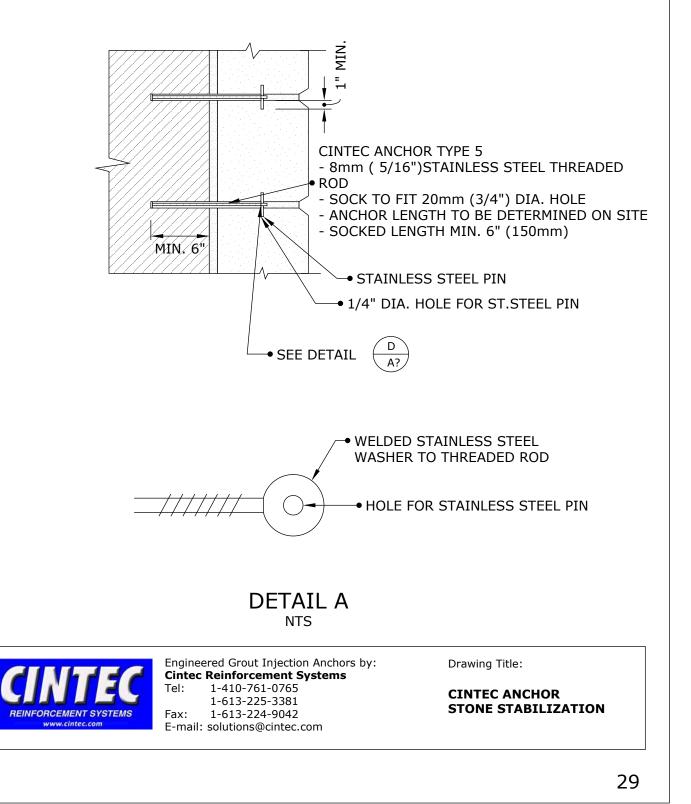


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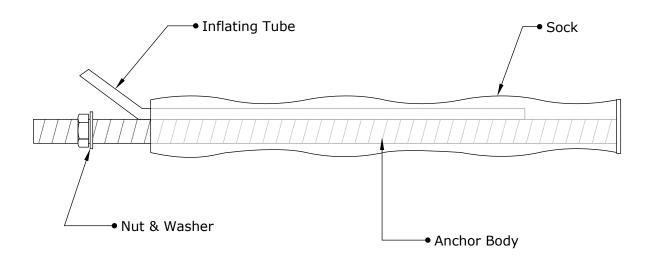
**CINTEC ANCHOR** 







# CINTEC M10 (3/8") SRT STAINLESS STEEL ANCHOR

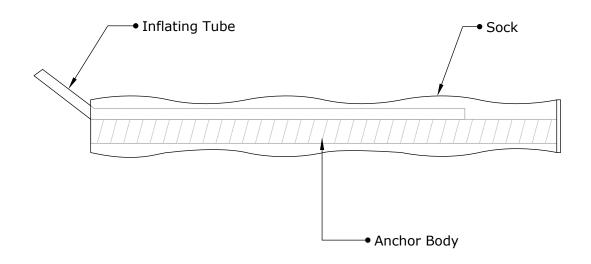


ANCHOR BODY	SOCK	WASHER
SS 304 M10 (3/8") Solid Threaded Rod	1 1/4" (32mm) Dia Full length LESS amount of exposed thread as specified by Engineer/ Architec of record	SS 304





# CINTEC M10 (3/8") SRT STAINLESS STEEL ANCHOR



ANCHOR BODY	SOCK	END CONDITION
SS TYPE 304 - M10 (3/8") Solid Round Threaded	Full length of Anchor Body 1 1/4" (32mm) Dia	PLAIN ENDS

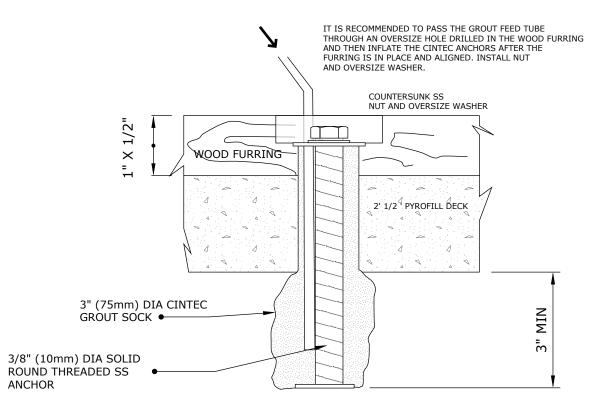


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#### CINTEC M10 (3/8") STAINLESS STEEL ANCHOR



## CINTEC M10 (3/8") SRT STAINLESS STEEL ROOF ANCHOR



#### ANCHOR LENGTH TO SUIT SITE CONDITIONS Client to confirm ALL lengths before ordering.



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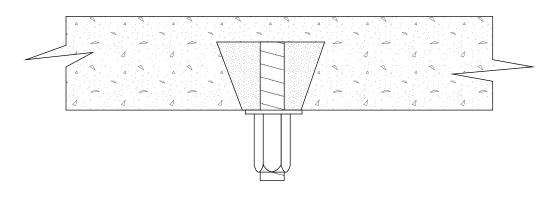
CINTEC 3/8" M10 STAINLESS STEEL ROOF ANCHOR

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## CINTEC M10 (3/8") SRT STAINLESS STEEL ANCHOR

3/8" (10mm) SOLID THREADED CINTEC CEILING SUPPORT ANCHOR WITH 1 1/4" (32mm) DIA SOCK IN 1 1/4" (32mm) DIA. HOLE -SOCKED LENGTH 3" (75mm) UNDERCUT HOLE OUTER END - COUPLER NUT



VERTICAL WALL SECTION OPTION 1

PROJECT: Ceiling Supports CONSULTANT: LOCATION: NYNY



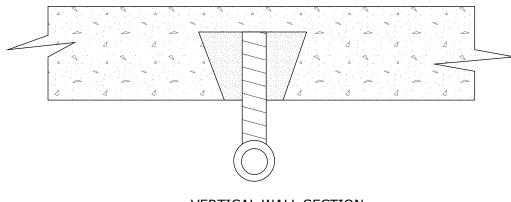
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**CEILING SUPPORTS** 



## CINTEC M10 (3/8") SRT STAINLESS STEEL ANCHOR

3/8" (10mm) SOLID THREADED CINTEC CEILING SUPPORT ANCHOR WITH 1 1/4" (32mm) DIA SOCK IN 1 1/4" (32mm) DIA. HOLE -SOCKED LENGTH 3" (75mm) UNDERCUT HOLE OUTER END - EYE BOLT



VERTICAL WALL SECTION OPTION 2

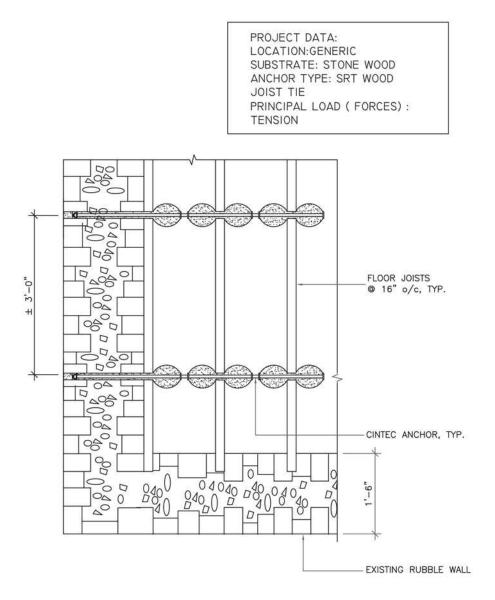
**PROJECT:** Ceiling Supports CONSULTANT: LOCATION: NYNY



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**CEILING SUPPORTS** 





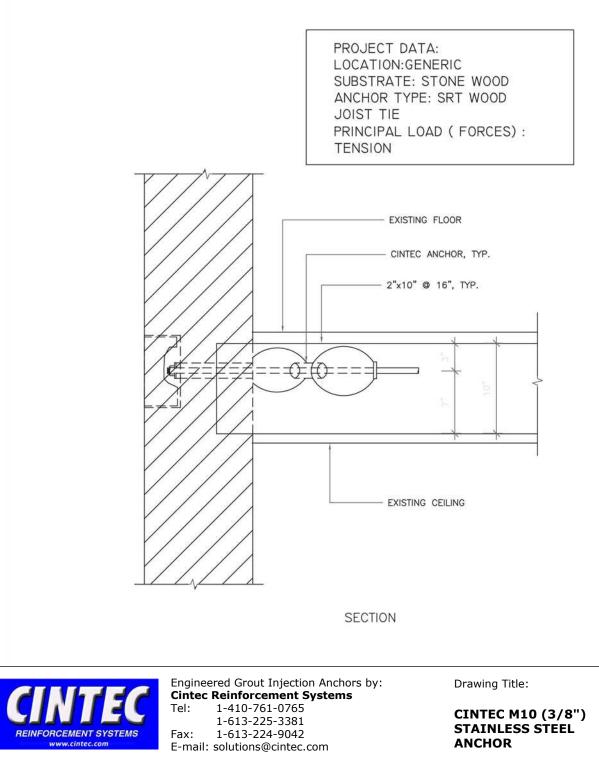
FLOOR JOIST PARTIAL PLAN

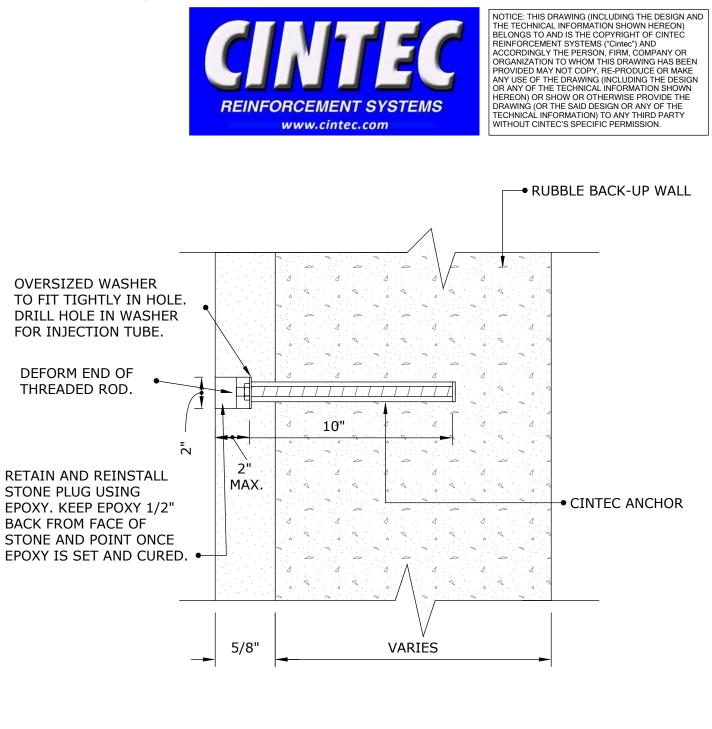


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#### CINTEC M10 (3/8") STAINLESS STEEL ANCHOR







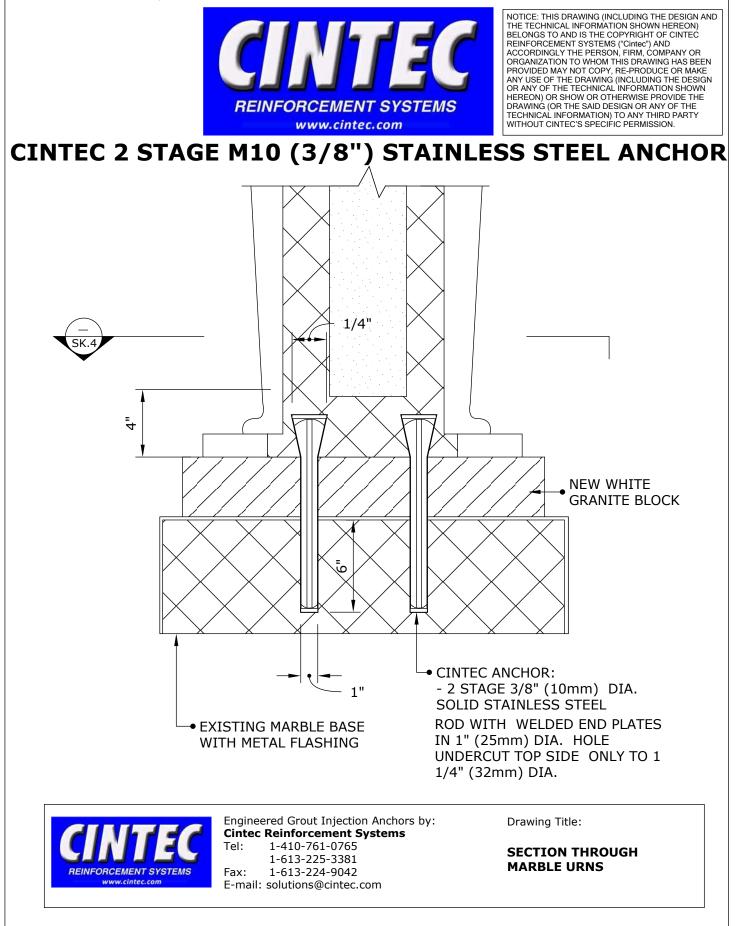
NOTES:

1. CLIENT TO CHECK TOTAL ANCHOR LENGTH PRIOR TO ORDERING.

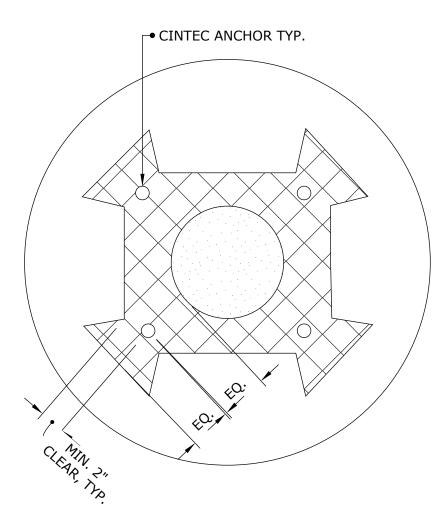


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WALL TIE ANCHOR BRICK STABILIZATION



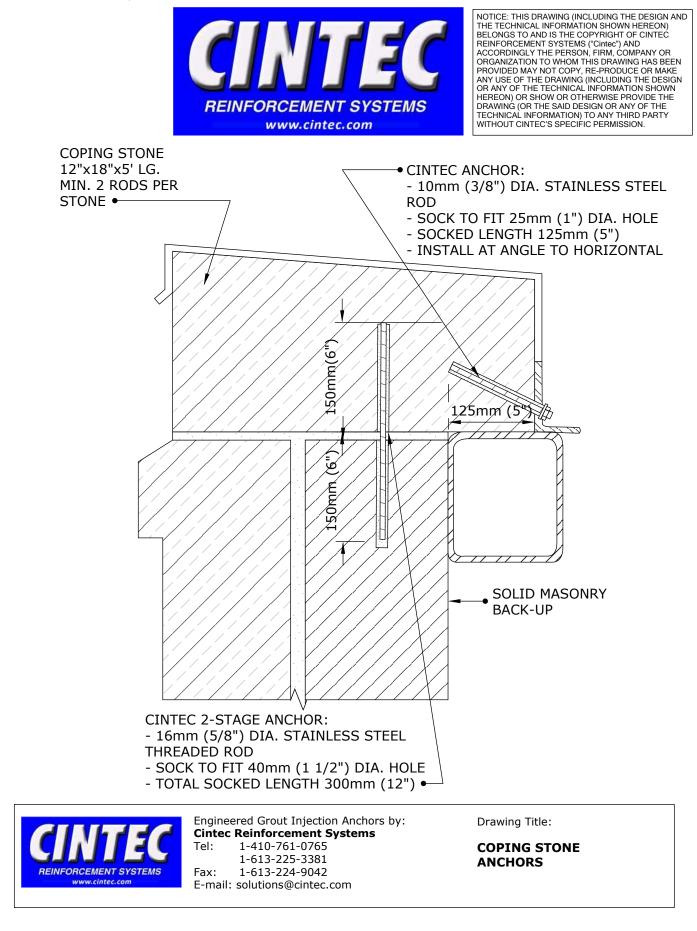






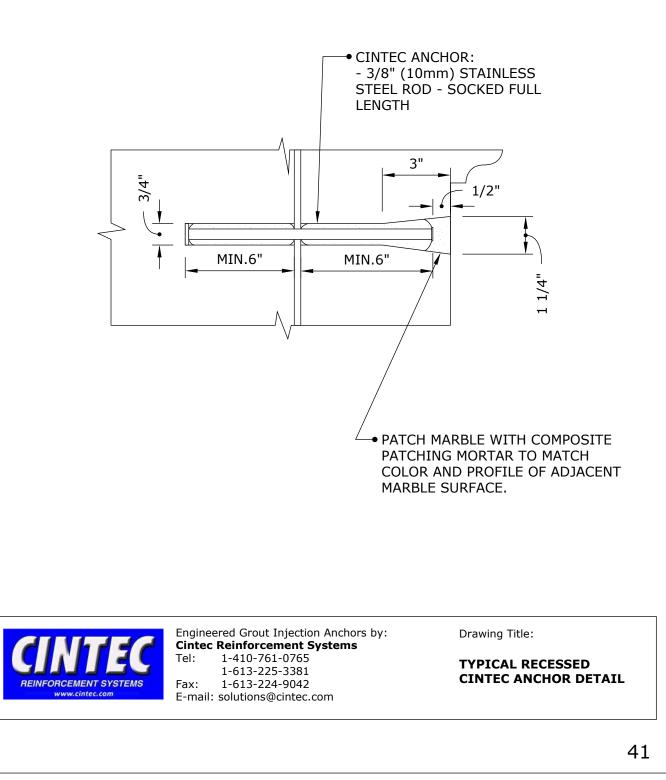
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#### SECTION THROUGH MARBLE URNS PLAN

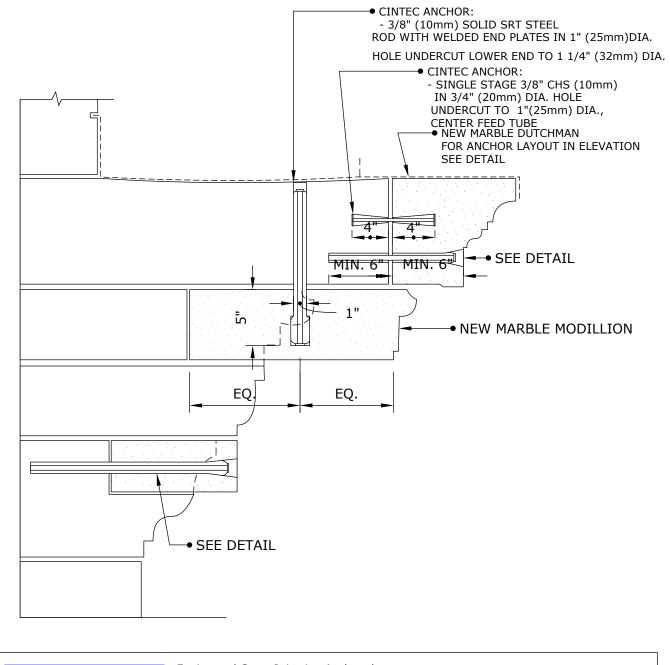




# CINTEC M10 (3/8") STAINLESS STEEL ANCHOR







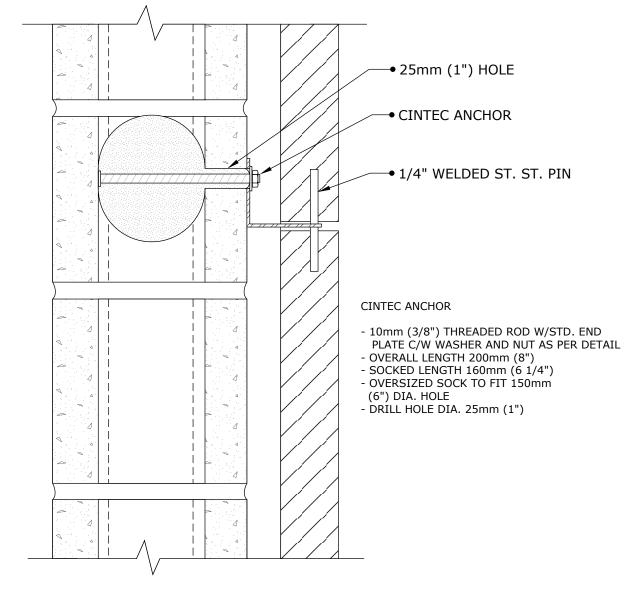


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CORNICE SECTION CINTEC ANCHOR LAYOUT



# CINTEC M10 (3/8") STAINLESS STEEL ANCHOR



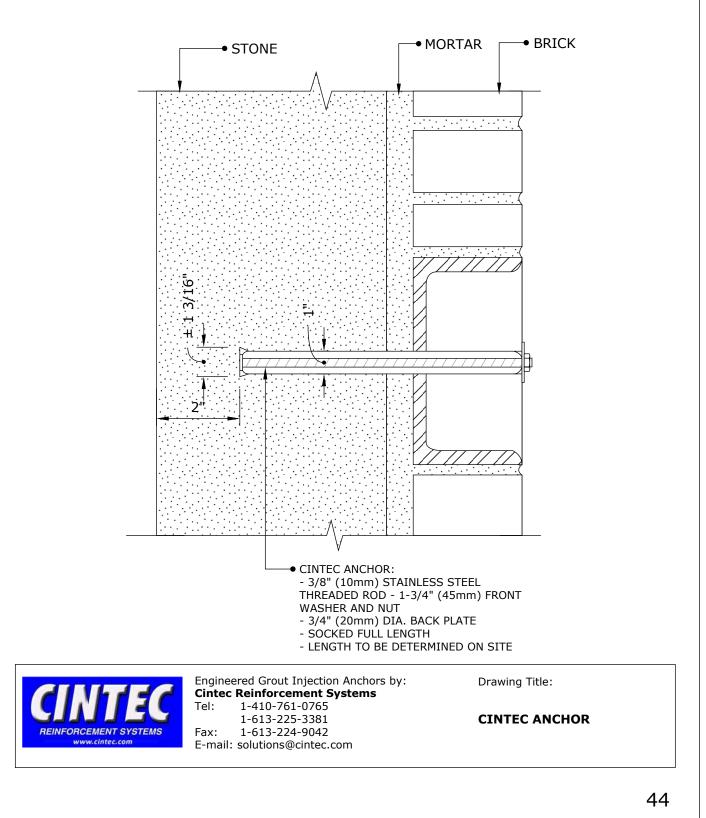


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Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

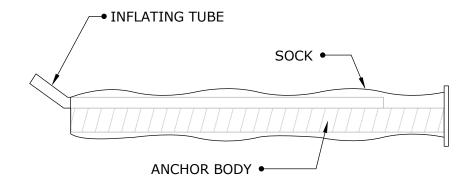
STONE ANCHORING DETAIL







### CINTEC M12 (1/2") SRT STAINLESS STEEL ANCHOR FULLY SOCKED



ANCHOR BODY	SOCK	END CONDITION
S/S Grade 304 M12 (1/2") Dia Solid threaded	Full length of Anchor Body 1 1/4" (32mm) Dia	PLAIN ENDS

### **Client to confirm ALL lengths before ordering.**

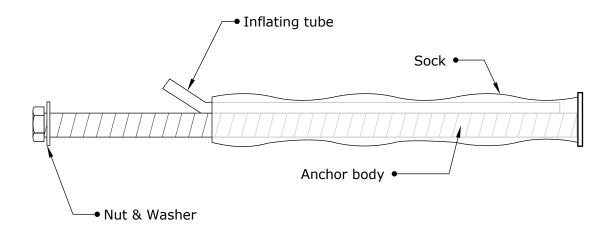


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CINTEC M12 / 1/2" ANCHOR



CINTEC M12 (1/2") SRT STAINLESS STEEL ANCHOR



ANCHOR BODY	SOCK	WASHER
S/S Grade 304 M12 (1/2") Solid threaded rod	Sock length to suit site conditions	SS 304

### **Client to confirm ALL lengths before ordering.**

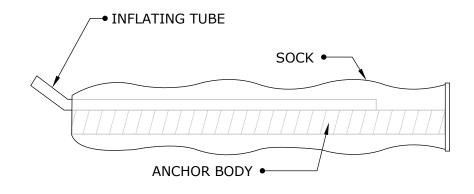


Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

CINTEC M12 1/2" STAINLESS STEEL ANCHOR



### CINTEC M12 (1/2") SRT STAINLESS STEEL ANCHOR WITH OVERSIZED SOCK FOR TERRA-COTTA



ANCHOR BODY	SOCK	END CONDITION
S/S Grade 304 M12 (1/2") Dia Solid threaded	Full length of Anchor Body 2" ( 50mm) Dia Sock	PLAIN ENDS

#### **CLIENT TO CONFIRM ALL ANCHOR LENGTHS BY SITE MEASUREMENTS**

NB Drill hole size 1 1/4" (32mm)

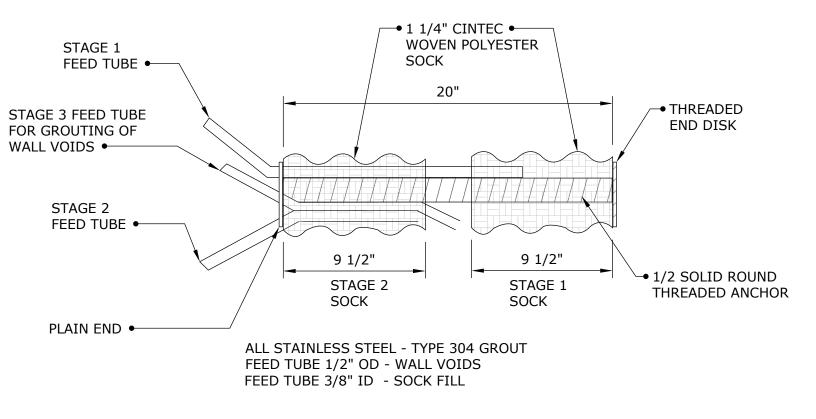


Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

CINTEC M12 1/2" STAINLESS STEEL ANCHOR



## CINTEC 2 STAGE M12 (1/2") STAINLESS STEEL ANCHOR



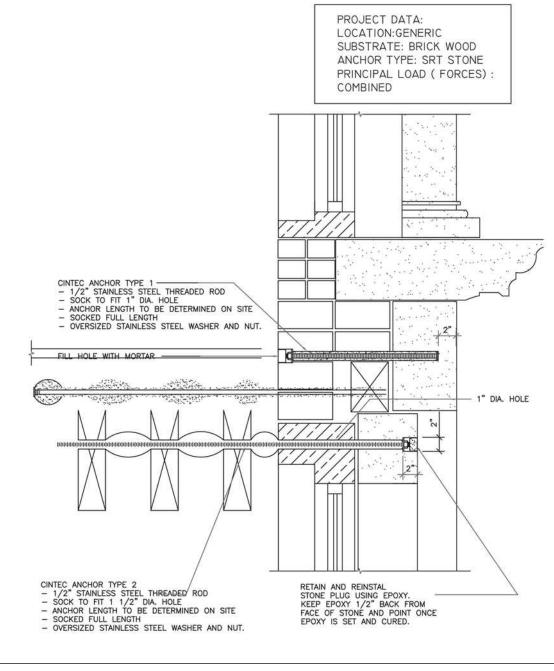
#### **ANCHOR LENGTH TO SUIT SITE CONDITIONS** Client to confirm ALL lengths before ordering.



Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

CINTEC M12 1/2" STAINLESS STEEL ANCHOR





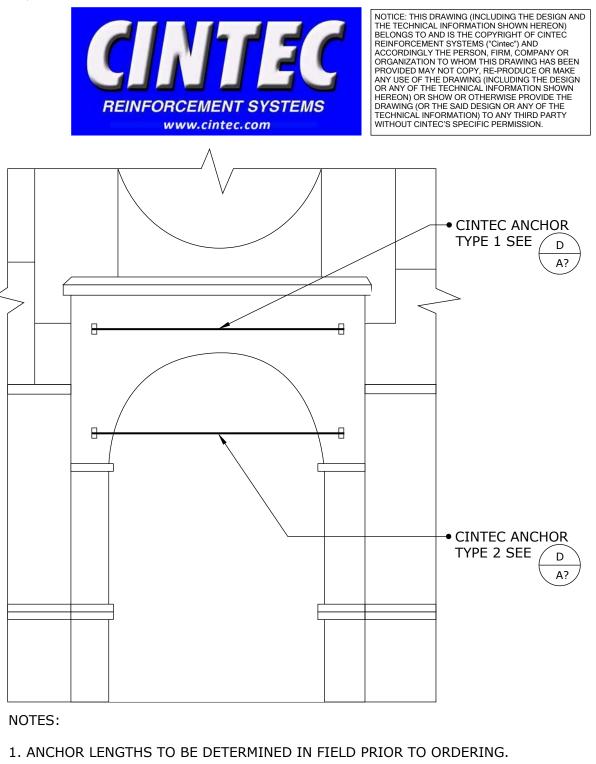


Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042

E-mail: solutions@cintec.com

Drawing Title:

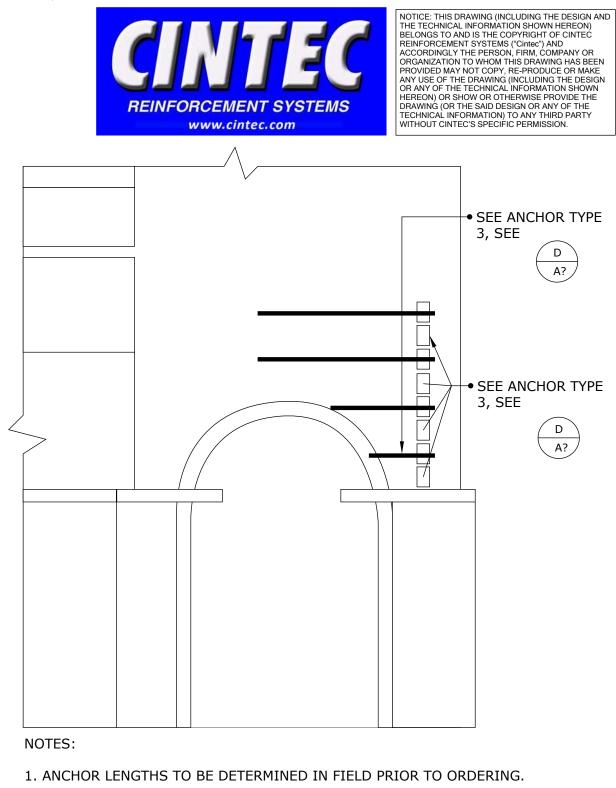
CINTEC M10 ( 3/8") STAINLESS STEEL ANCHOR





Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

PARTIAL EAST ELEVATION

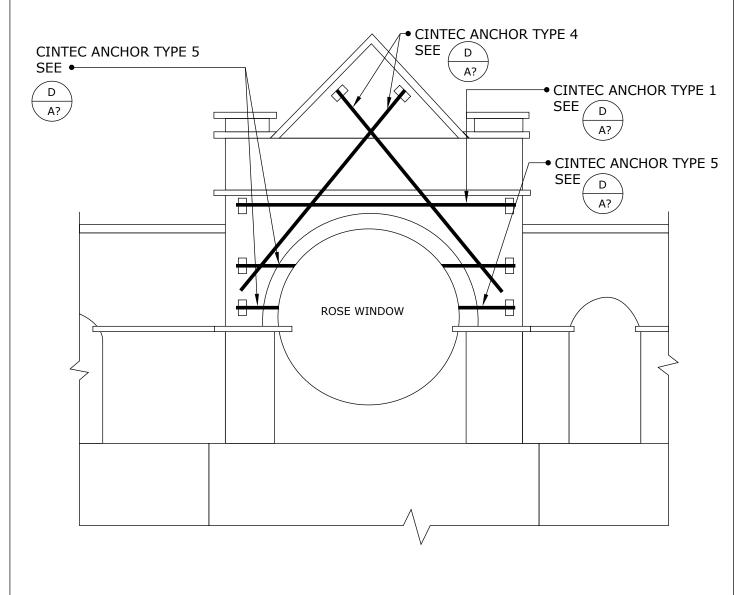




Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

PARTIAL EAST ELEVATION





NOTES:

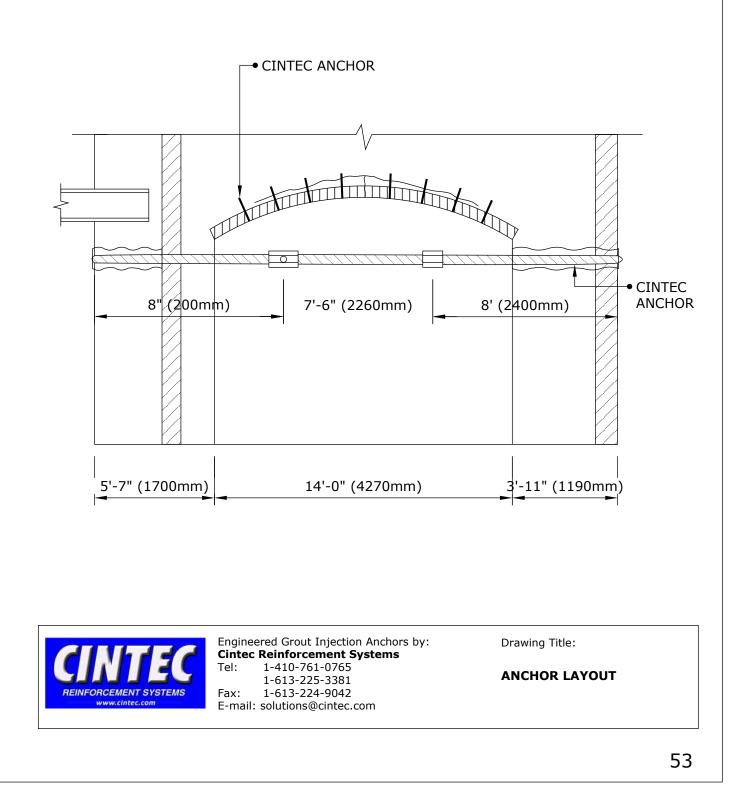
1. ANCHOR LENGTHS TO BE DETERMINED IN FIELD PRIOR TO ORDERING.

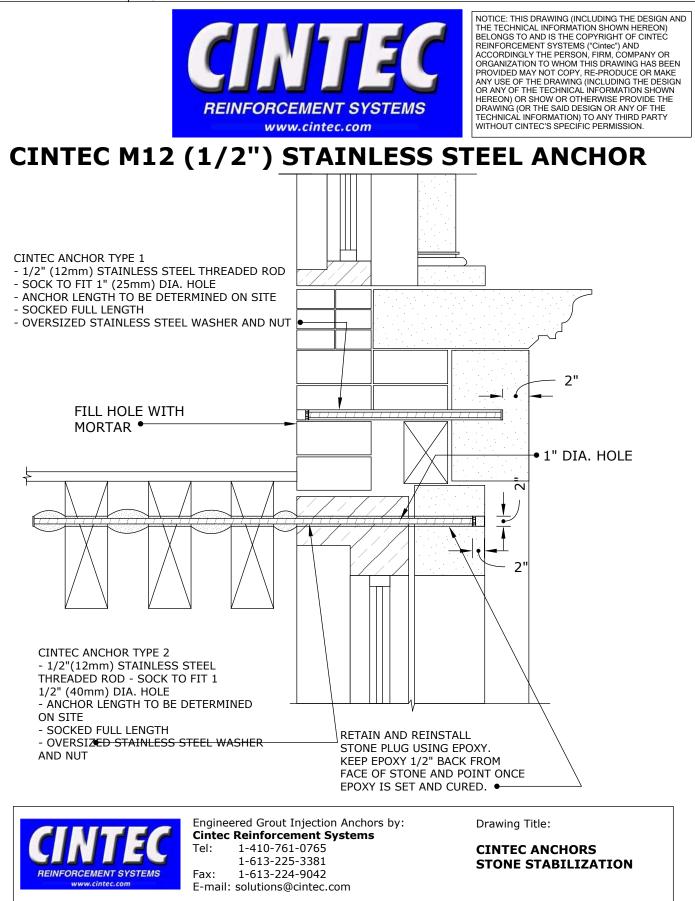


Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

PARTIAL ELEVATION

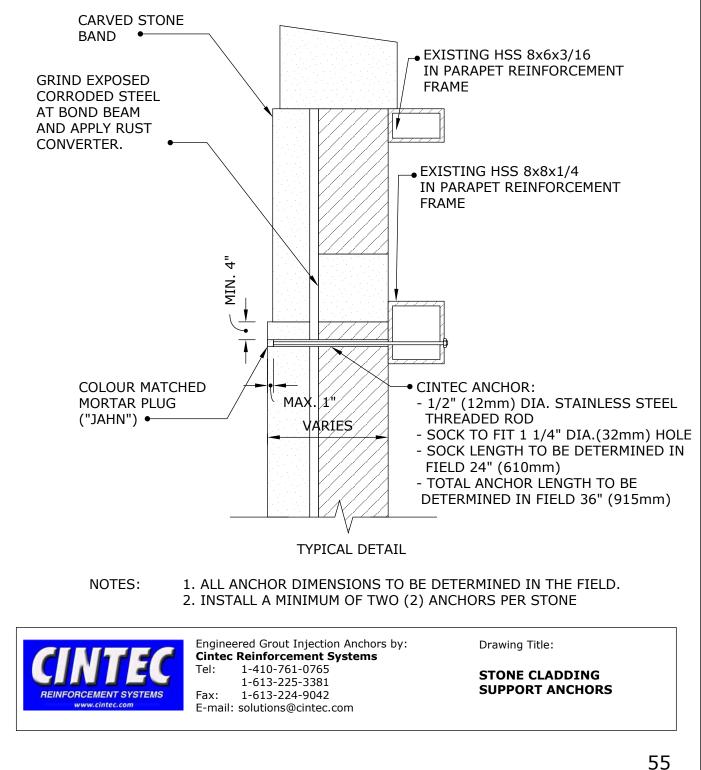


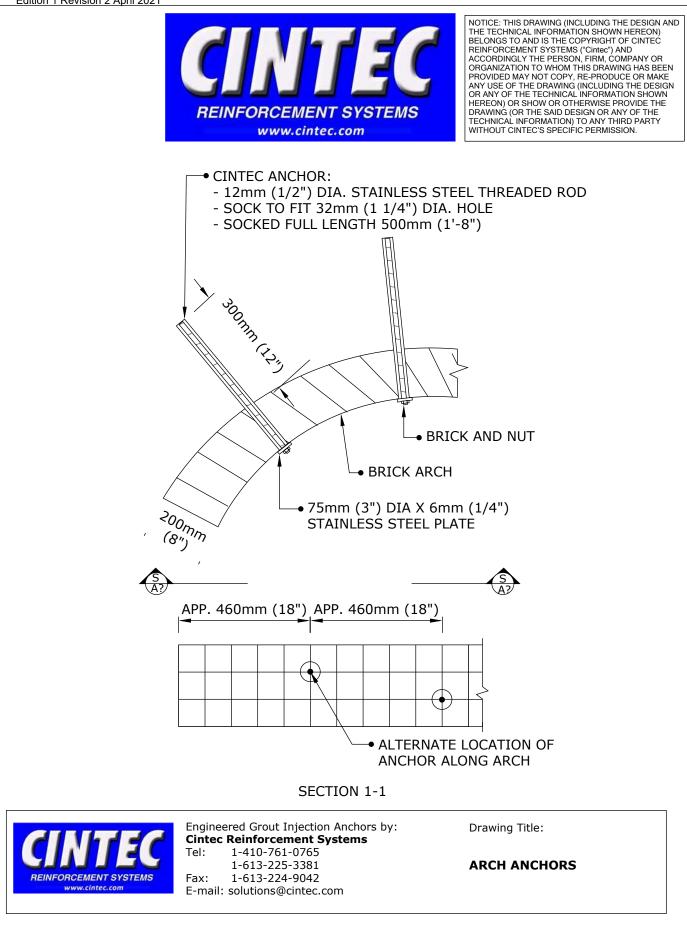






## CINTEC M12 (1/2") STAINLESS STEEL ANCHOR







### CINTEC M16 (5/8") SRT STAINLESS STEEL ANCHOR FULLY SOCKED

/	INFLATING TUBE
	SOCK •
	ANCHOR BODY •

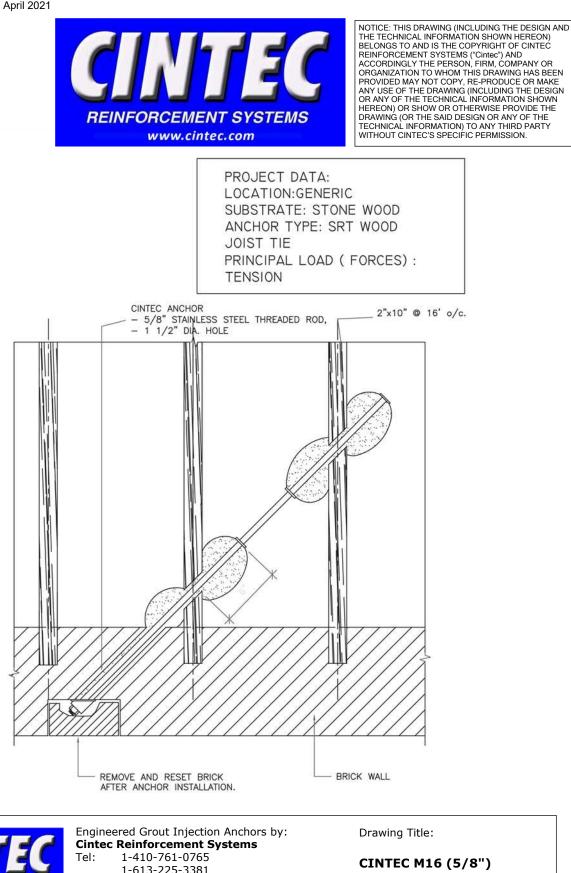
ANCHOR BODY	SOCK	END CONDITION
SS TYPE 304 M16 (5/8") SOLID ROUND THREADED ROD	FULL LENGTH OF ANCHOR BODY DIA 1 1/2" (40mm)	PLAIN ENDS

#### **ANCHOR LENGTH TO SUIT SITE CONDITIONS** Client to confirm ALL lengths before ordering.



Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

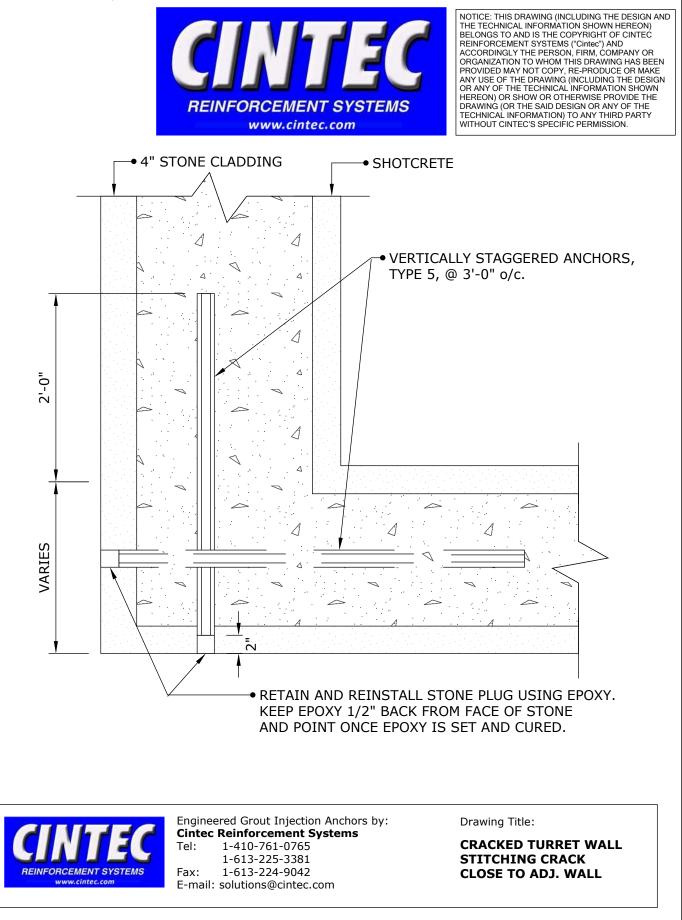
CINTEC M16 5/8" STAINLESS STEEL ANCHOR

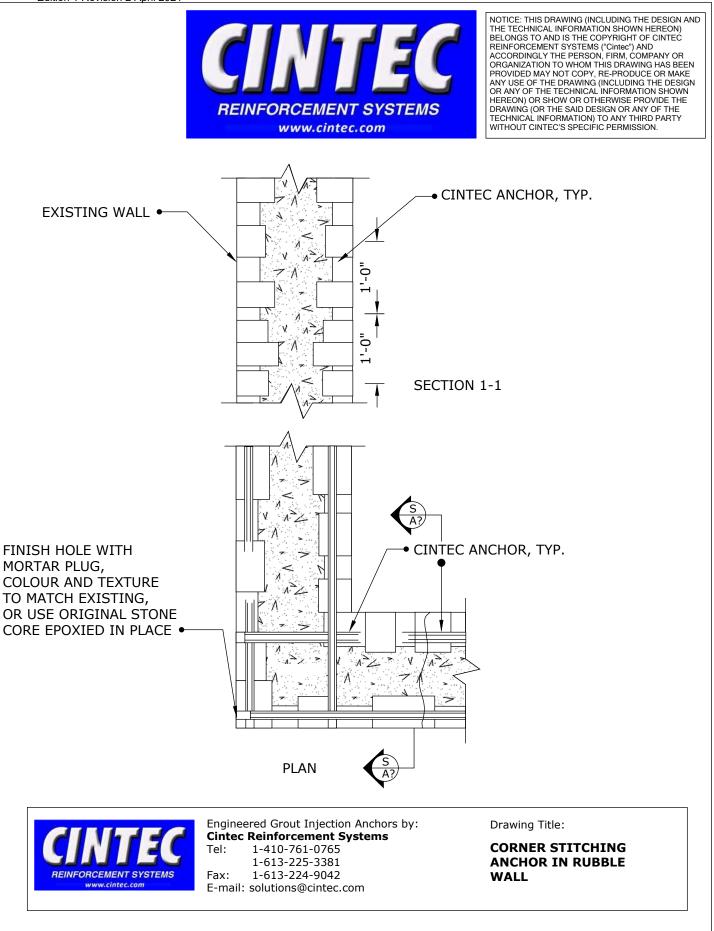


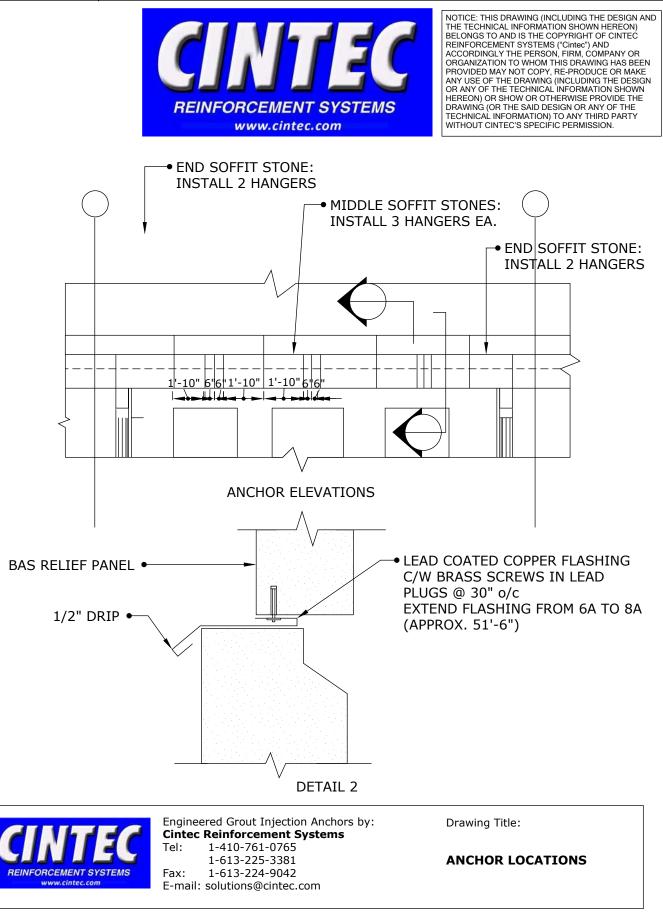
1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com CINTEC M16 (5/8") STAINLESS STEEL ANCHOR

REINFORCEMENT SYSTEMS

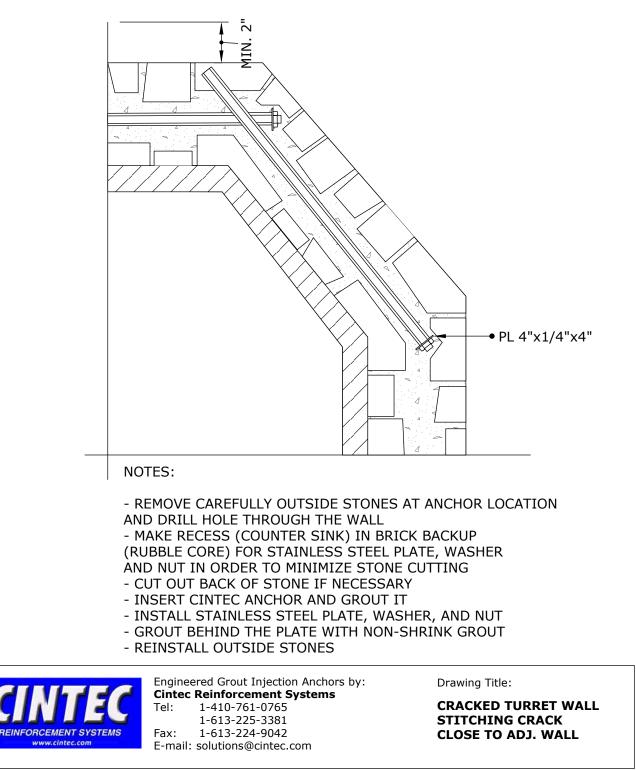
www.cintec.com





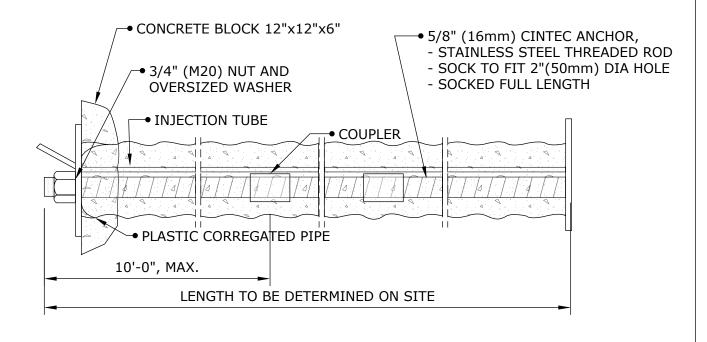








# CINTEC M16 (5/8") STAINLESS STEEL ANCHOR



NOTE:

ALL STEEL TO BE STAINLESS

S304

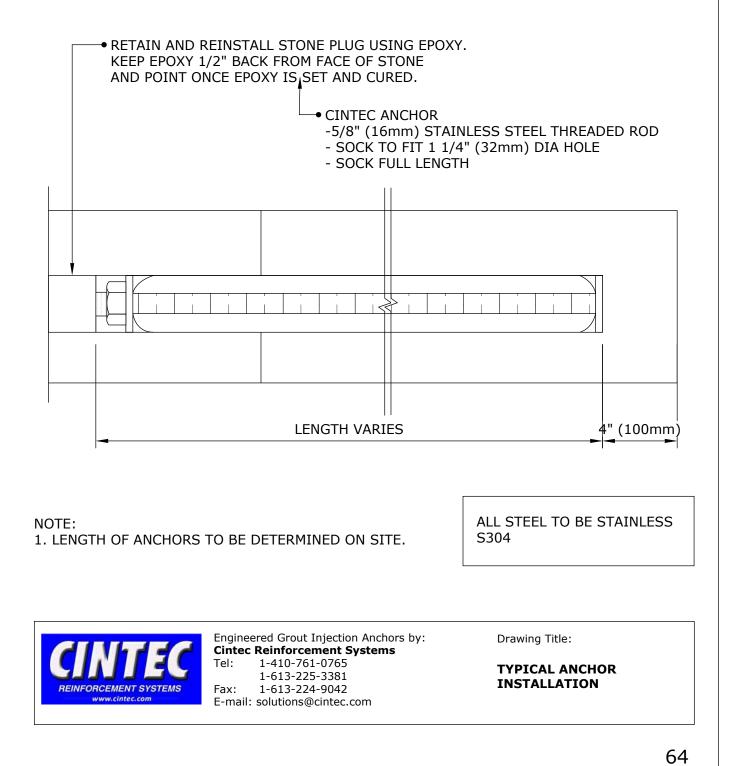


Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

**CINTEC ANCHOR** 

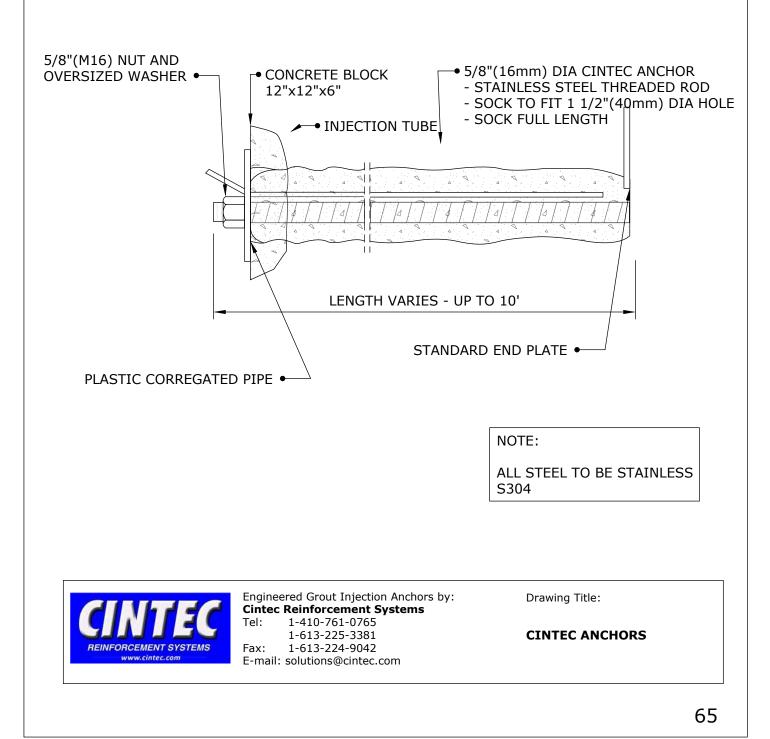


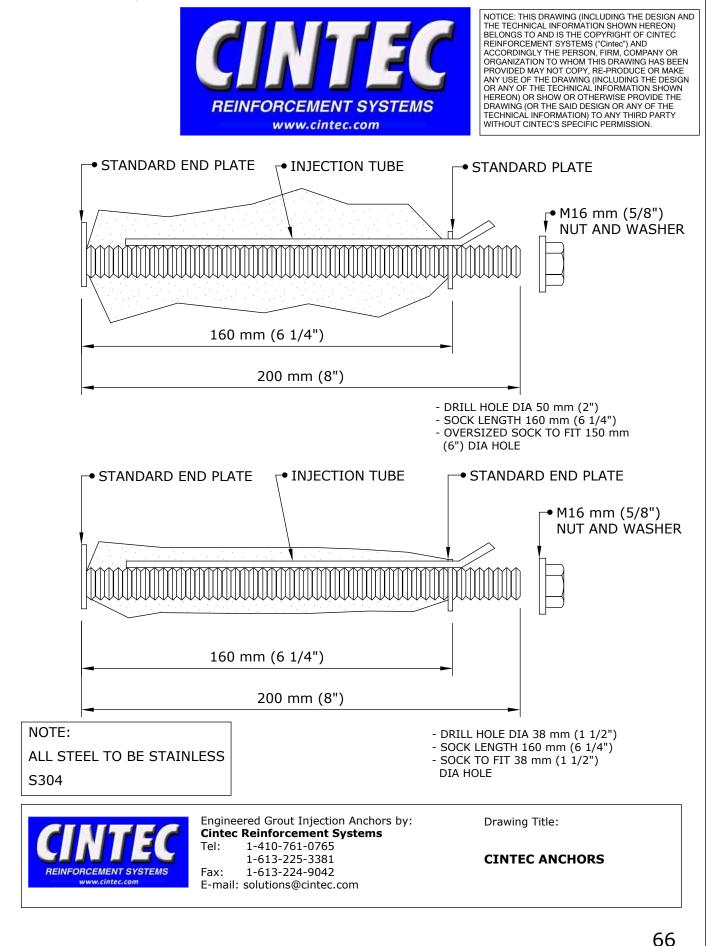
## CINTEC M16 (5/8") STAINLESS STEEL ANCHOR

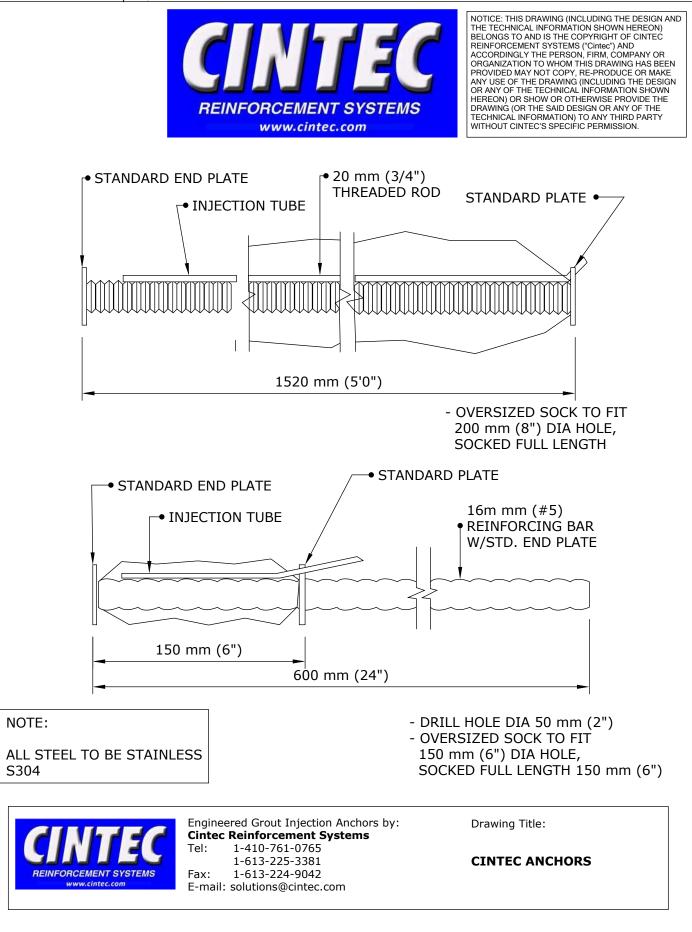


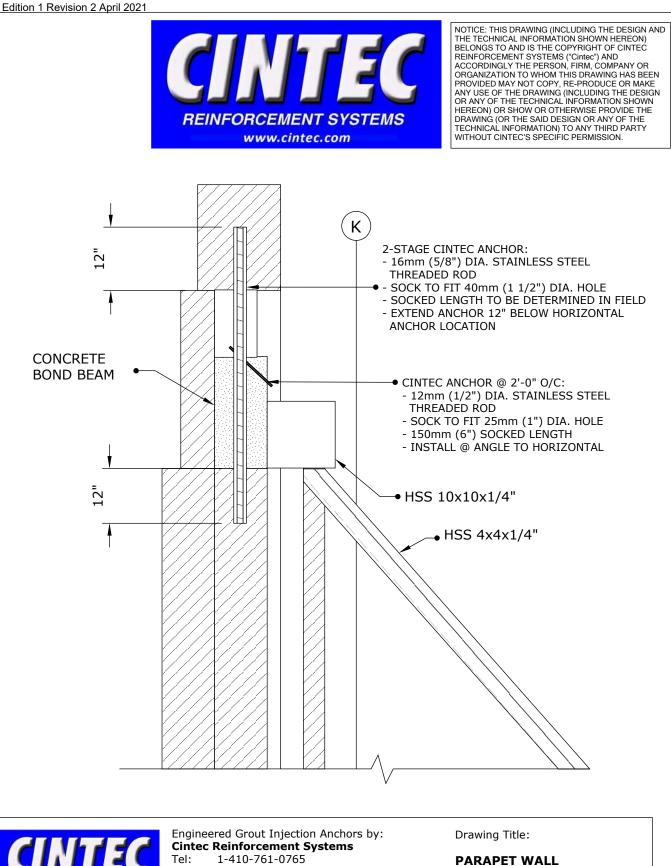


CINTEC M16 (5/8")STAINLESS STEEL ANCHOR









1-613-225-3381

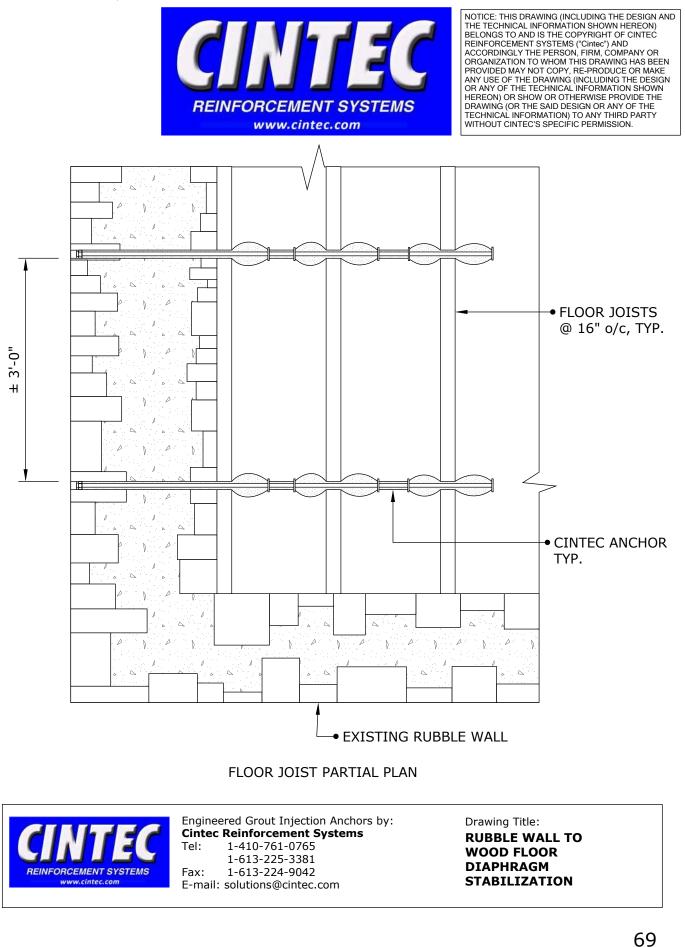
1-613-224-9042

E-mail: solutions@cintec.com

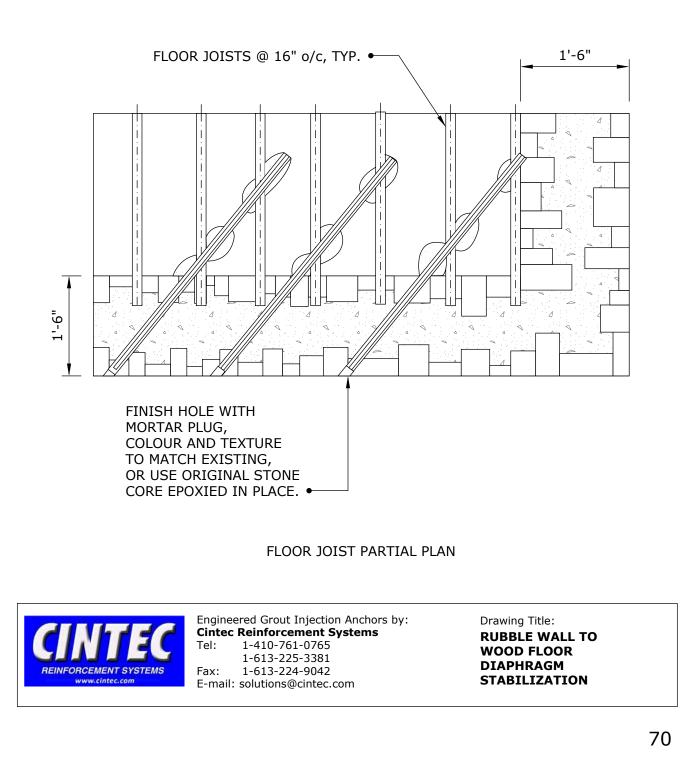
Fax:

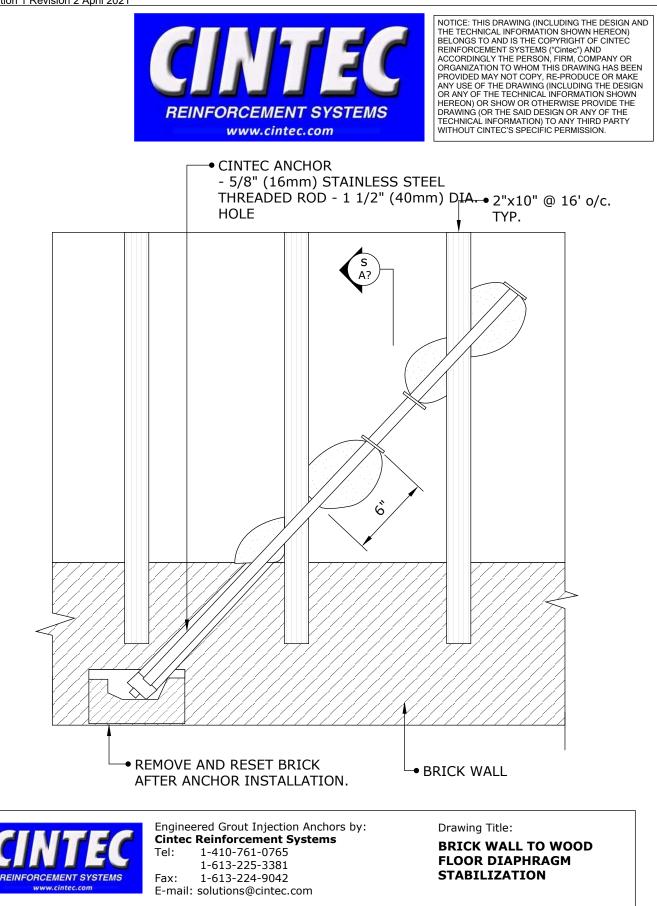
SUPPORT ANCHORS

REINFORCEMENT SYSTEMS

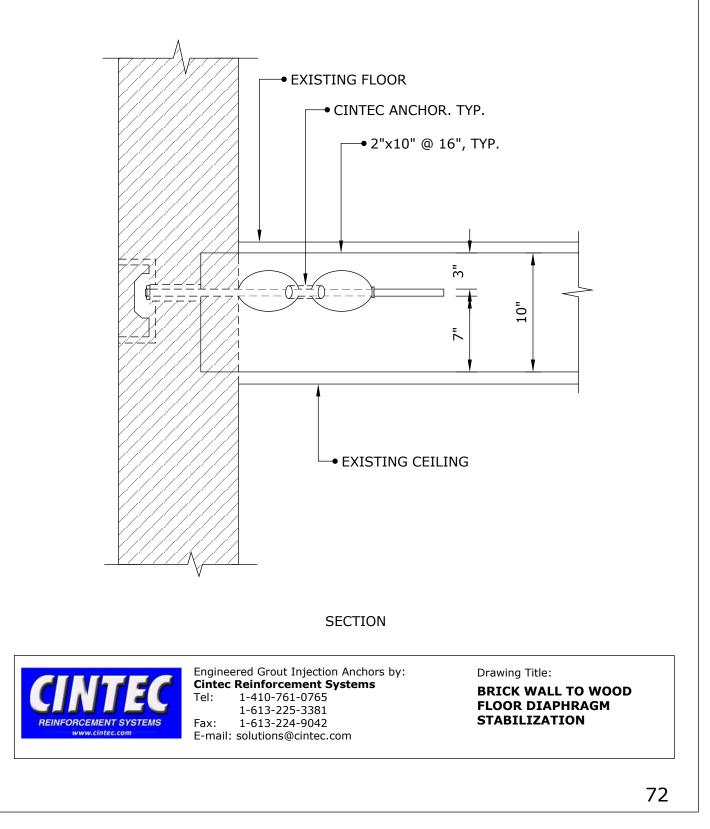




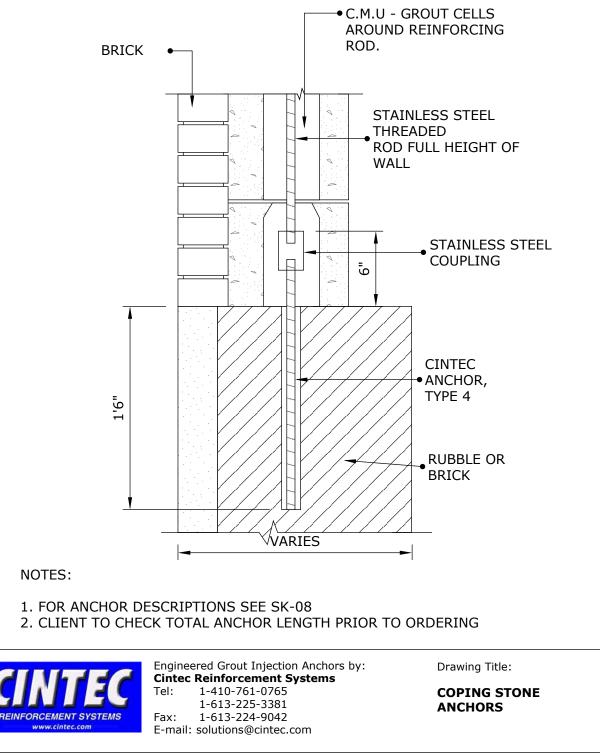




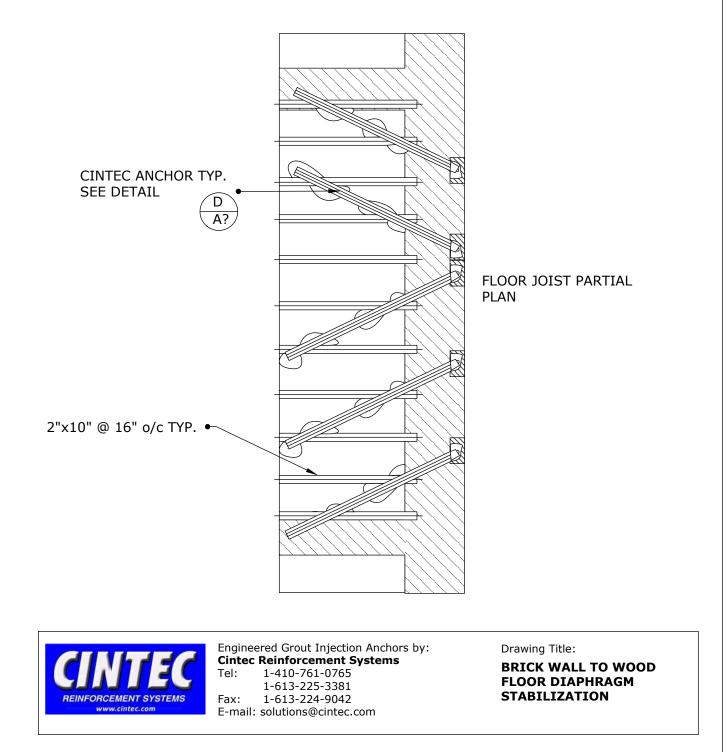




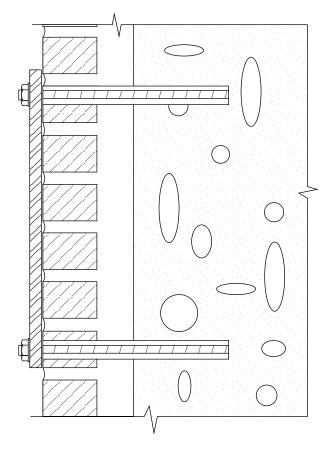










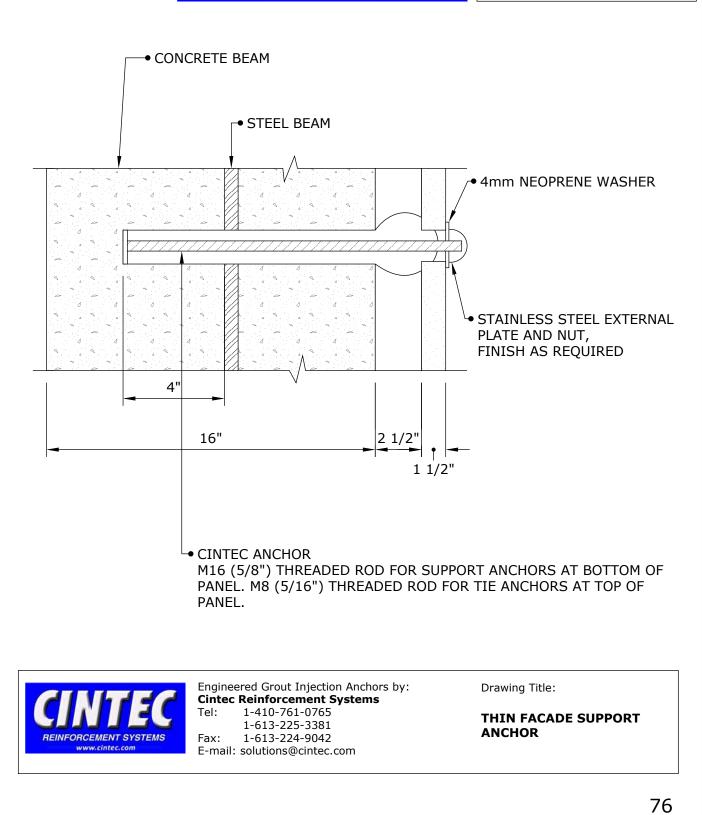


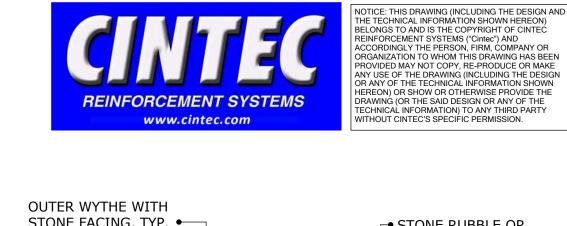


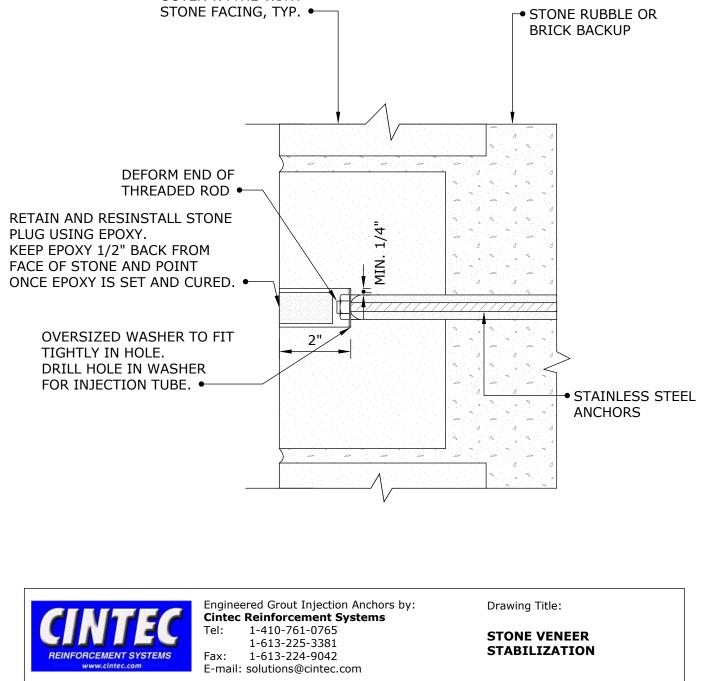
Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

**BRICK STABILIZATION** 









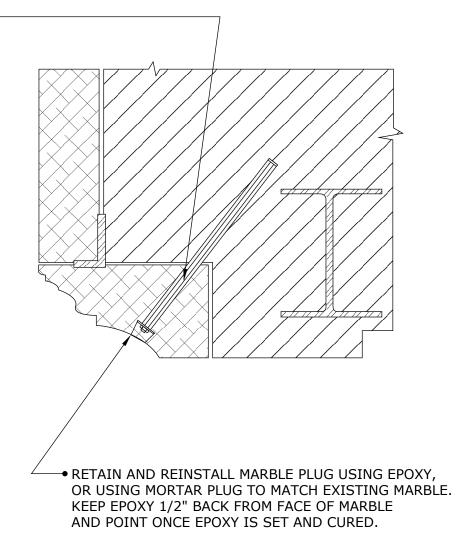


RETAIN AND REINSTALL MARBLE PLUG USING EPOXY, OR USING MORTAR PLUG TO MATCH EXISTING MARBLE. KEEP EPOXY 1/2" BACK FROM FACE OF MARBLE AND POINT ONCE EPOXY IS SET AND CURED. • CINTEC ANCHOR: - STAINLESS STEEL THREADED ROD - SOCK TO FIT - SOCK FULL LENGTH - OVERSIZED WASHER • Engineered Grout Injection Anchors by: Drawing Title: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 LINTEL ANCHORS REINFORCEMENT SYSTEMS Fax: 1-613-224-9042 E-mail: solutions@cintec.com



CINTEC ANCHOR:

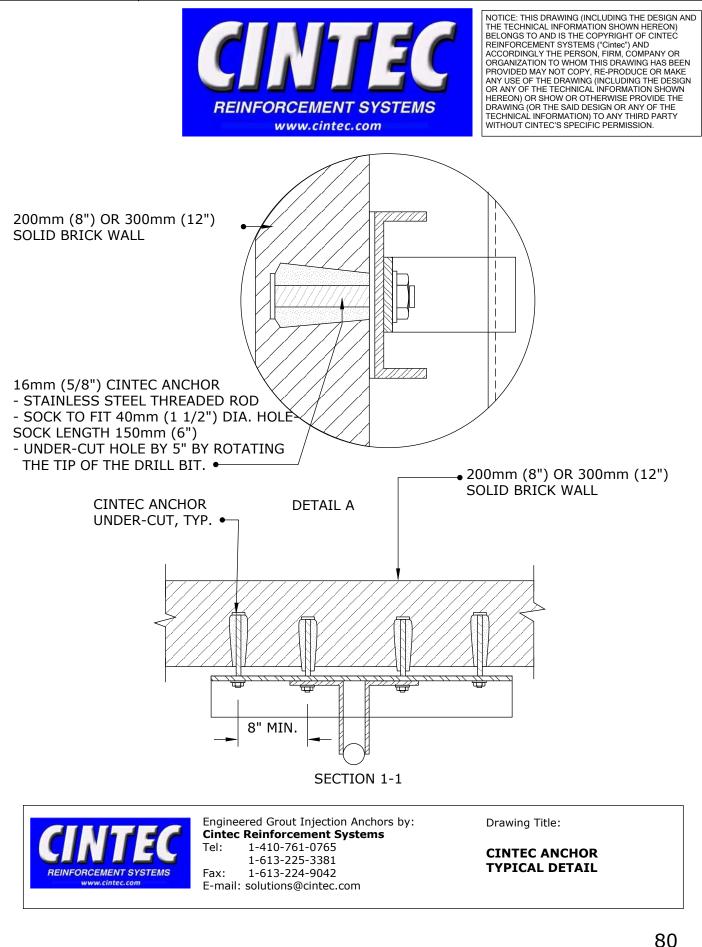
- STAINLESS STEEL THREADED ROD
- SOCK TO FIT
- SOCK FULL LENGTH
- OVERSIZED WASHER ►





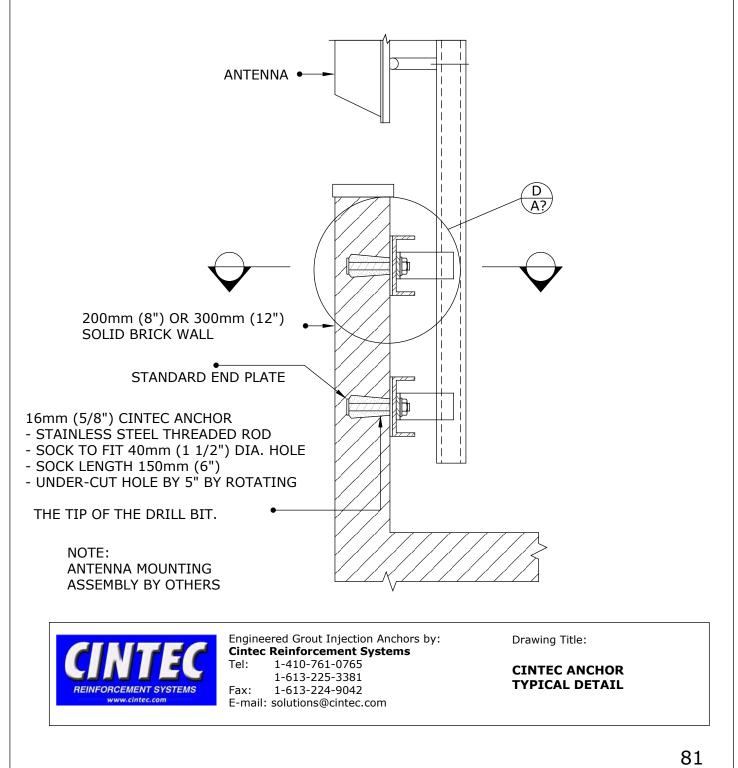
Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

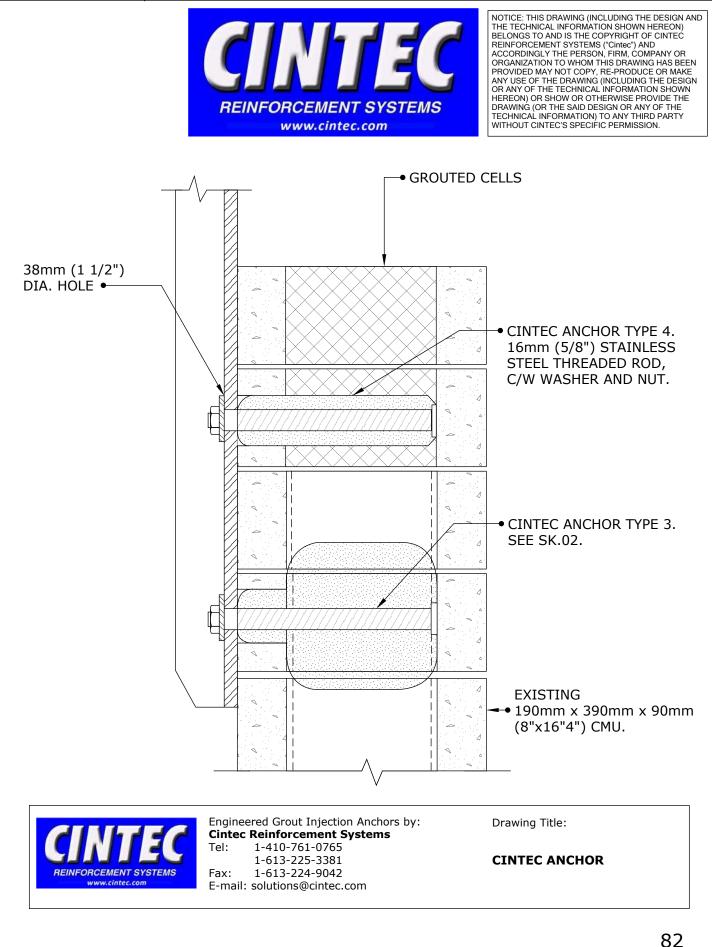
LINTEL ANCHORS



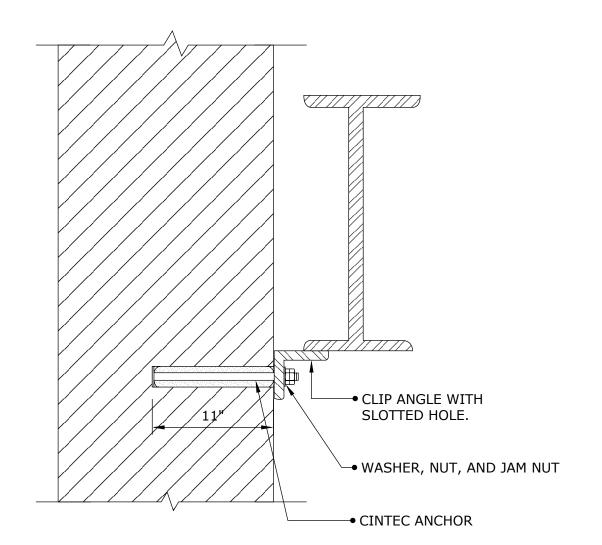


# CINTEC M16 (5/8") STAINLESS STEEL ANCHOR









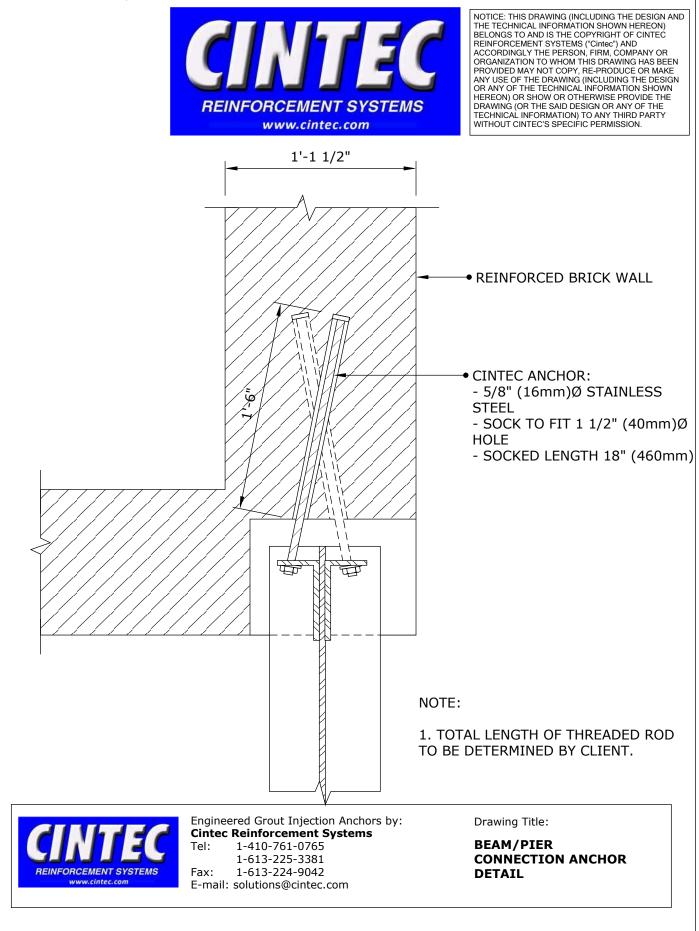
#### NOTES:

- 1. FOR ANCHOR DESCRIPTIONS SEE SK-
- 2. FOR SPACING OF ANCHORS SEE SK-
- 3. CLIENT TO CHECK TOTAL ANCHOR LENGTH PRIOR TO ORDERING.



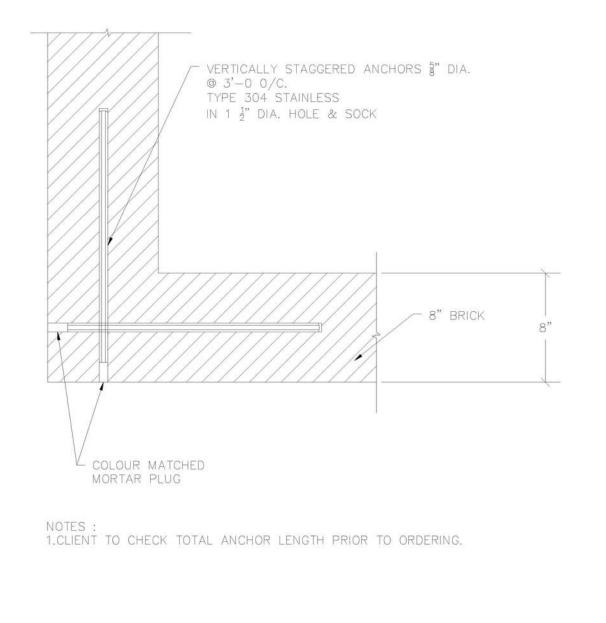
Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

CINTEC ANCHOR DETAIL AT GABLED ROOF





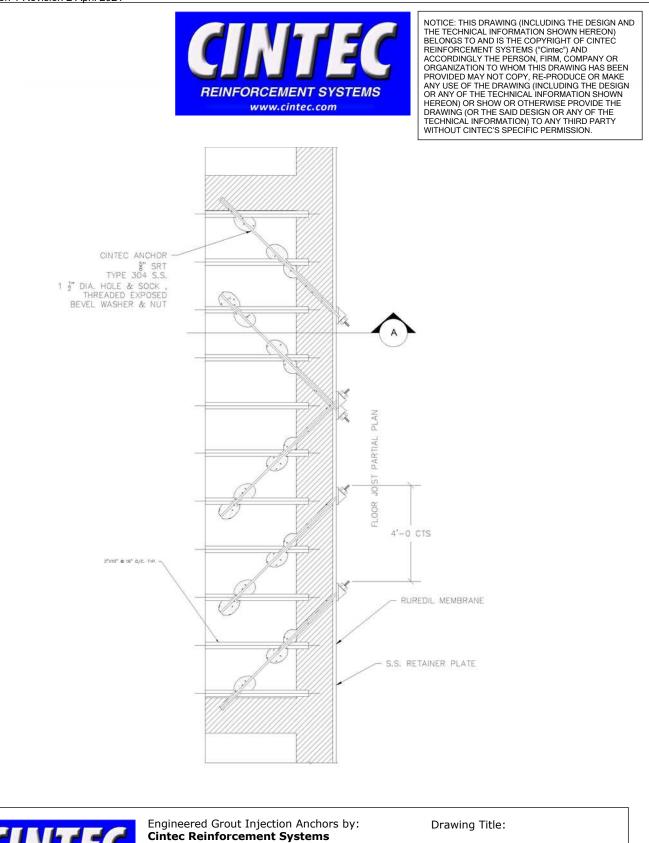
## CINTEC M16 (5/8") STAINLESS STEEL ANCHOR





Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

STITCHING ANCHORS AT CORNER



 Cintec Reinforcement System

 Tel:
 1-410-761-0765

 1-613-225-3381

 Fax:
 1-613-224-9042

 E-mail:
 solutions@cintec.com

#### BRICK WALL TO WOOD FLOOR DIAPHRAGM STABILIZATION

REINFORCEMENT SYSTEMS

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# CINTEC M20 (3/4") SRT STAINLESS STEEL ANCHOR

	<ul> <li>Inflating Tube</li> </ul>
	Sock •
Anch	or Body •/

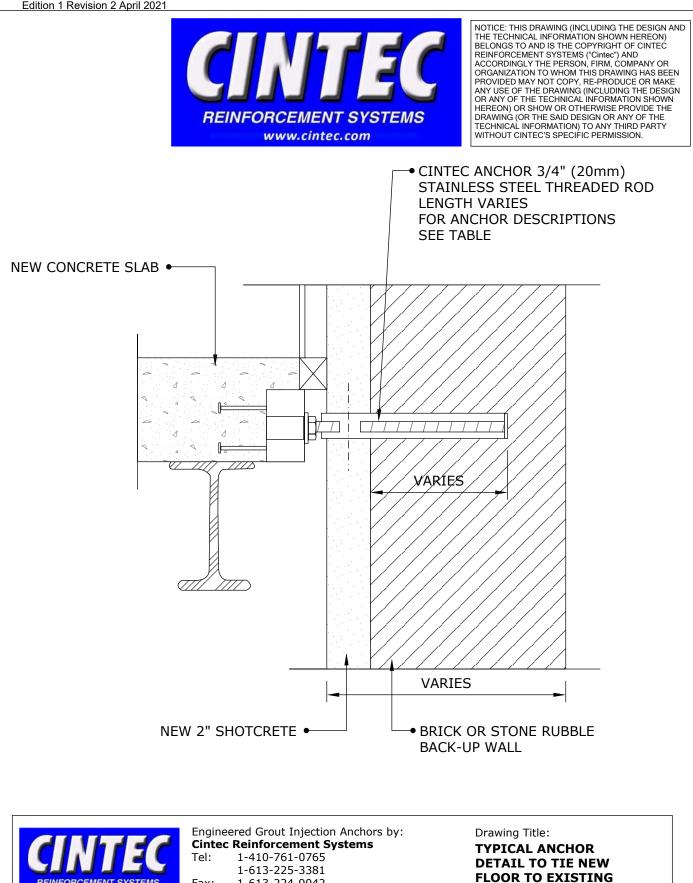
ANCHOR BODY	SOCK	END CONDITION
	2" (50mm) or larger to suit site conditions as directed by project Engineer/Architect	

### **ANCHOR LENGTH TO SUIT SITE CONDITIONS** Client to confirm ALL lengths before ordering.



Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

M20 3/4" STAINLESS STEEL CINTEC ANCHOR



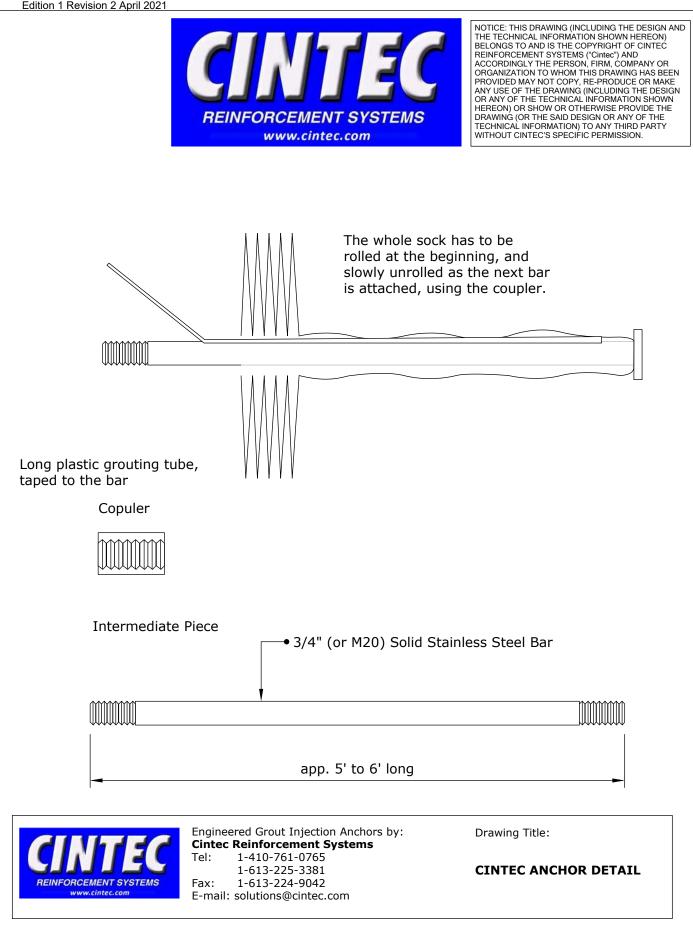
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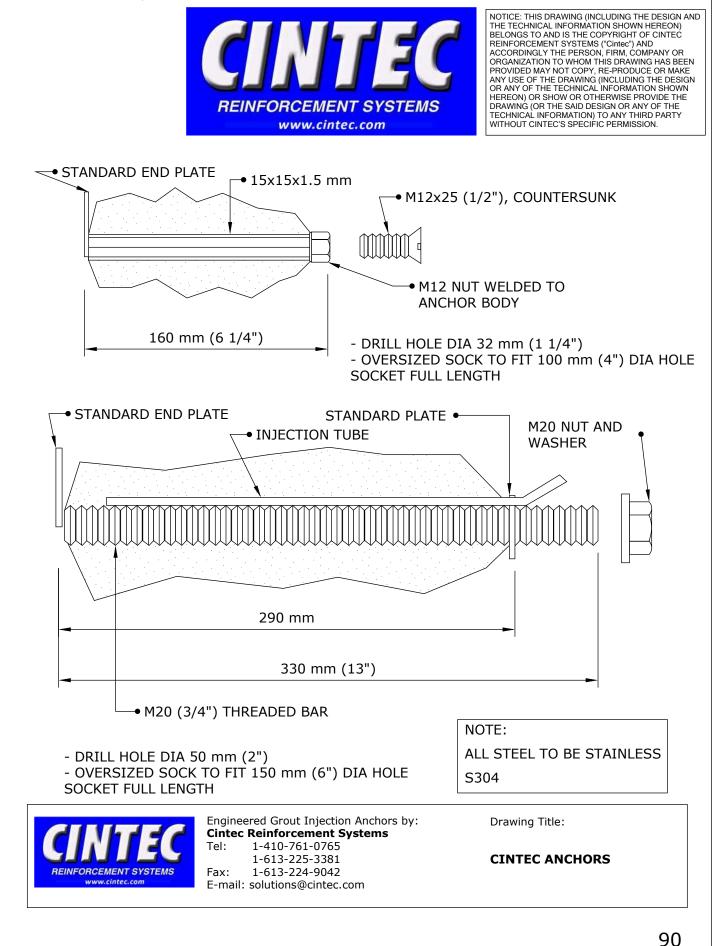
E-mail: solutions@cintec.com

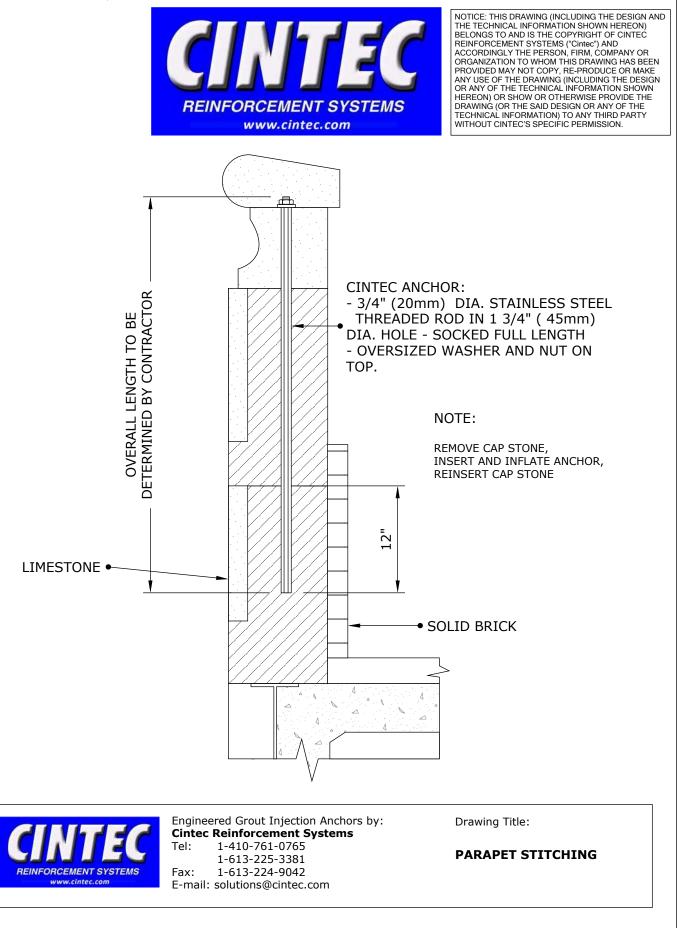
Fax:

WALL

REINFORCEMENT SYSTEMS



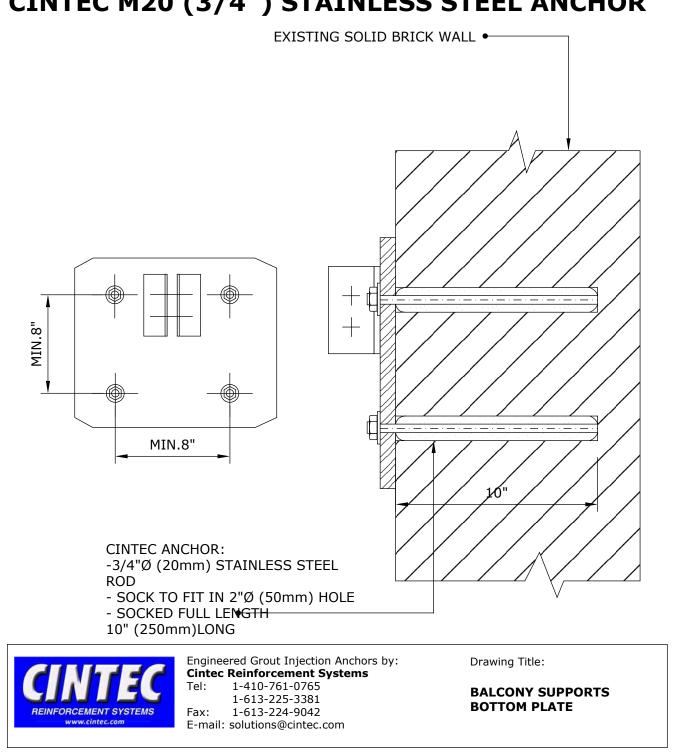






92

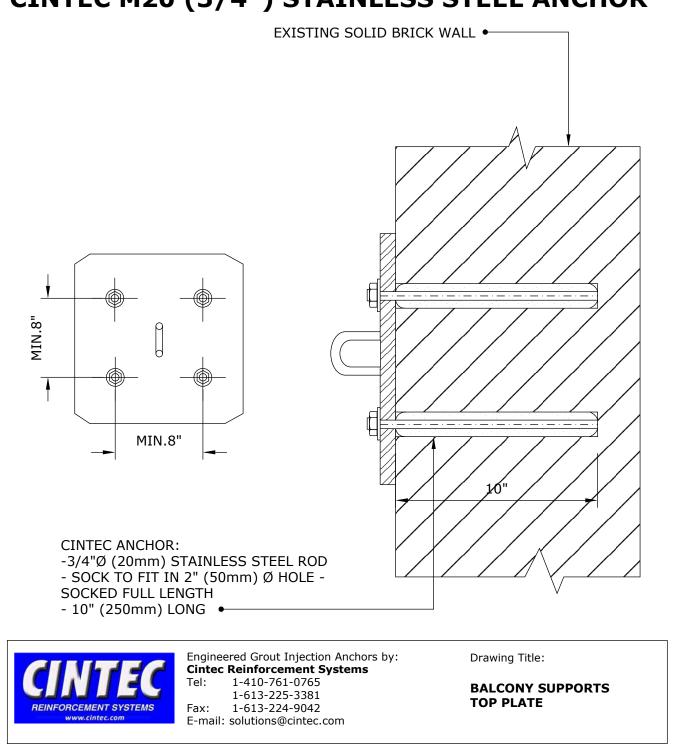
## **CINTEC M20 (3/4") STAINLESS STEEL ANCHOR**



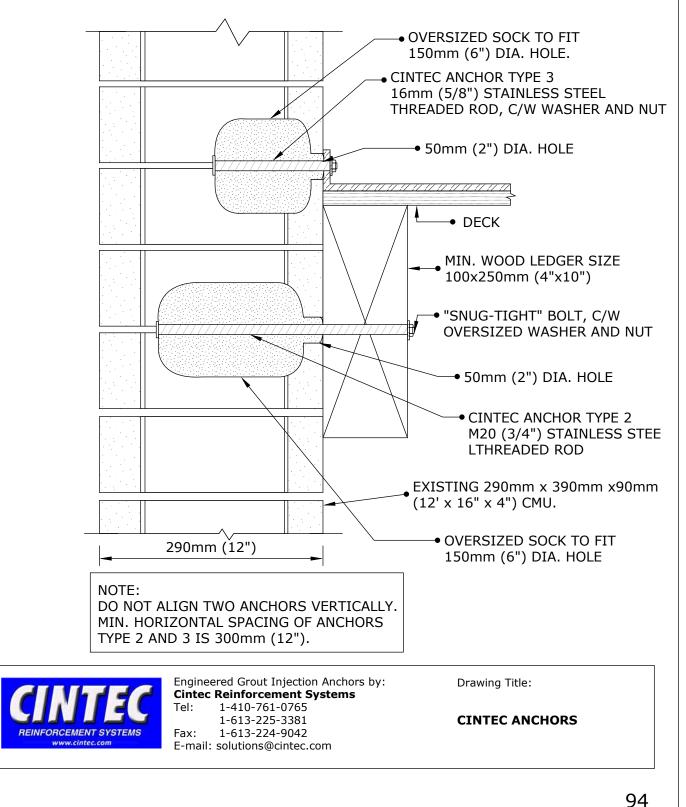


93

## CINTEC M20 (3/4") STAINLESS STEEL ANCHOR

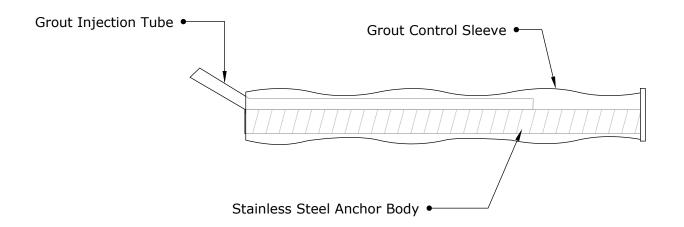








### CINTEC REINFORCEMENT ANCHOR M25 (1") STAINLESS STEEL ANCHOR



ANCHOR BODY	SOCK	CORE HOLE SIZE
SS Type 304 M25 (1") Dia Anchor Body	Full length of Anchor Body	To suit site conditions

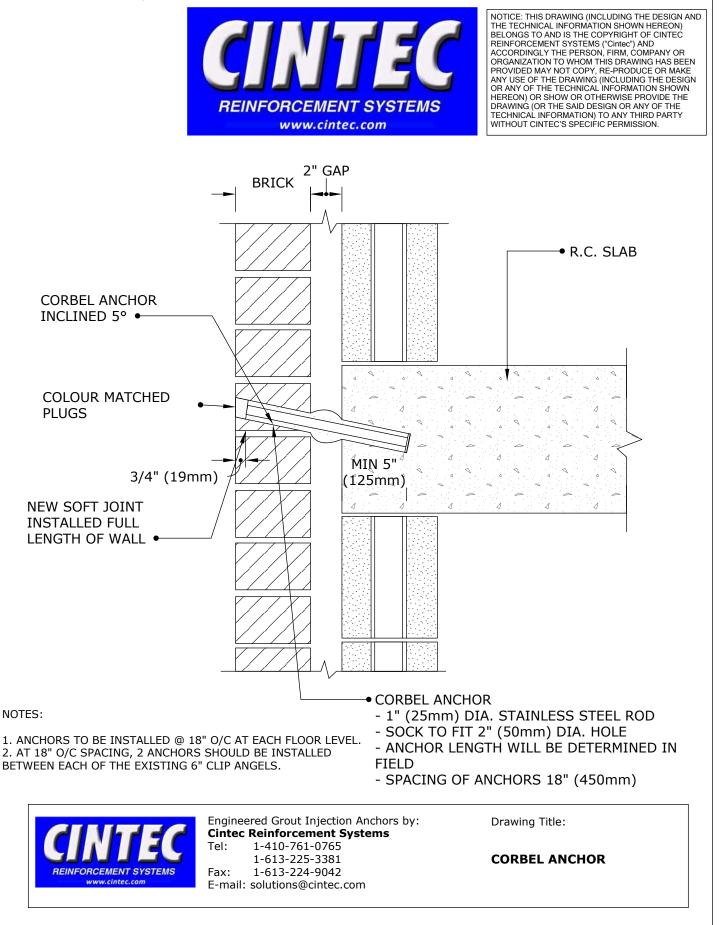
All CINTEC anchors are comprised of a structural member surrounded by a fabric sleeve into which Presstec grout is injected. Stainless steel sizes/sections & lengths, sleeve sizes & end conditions vary in accordance with specific design.

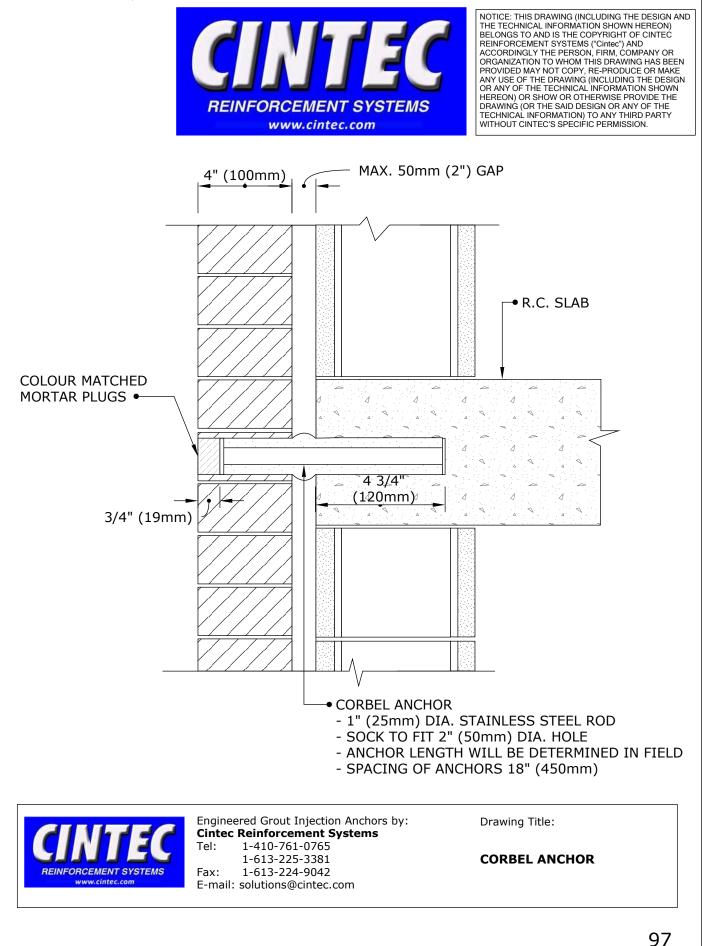
#### **ANCHOR LENGTH TO SUIT SITE CONDITIONS Client to confirm ALL lengths before ordering.**

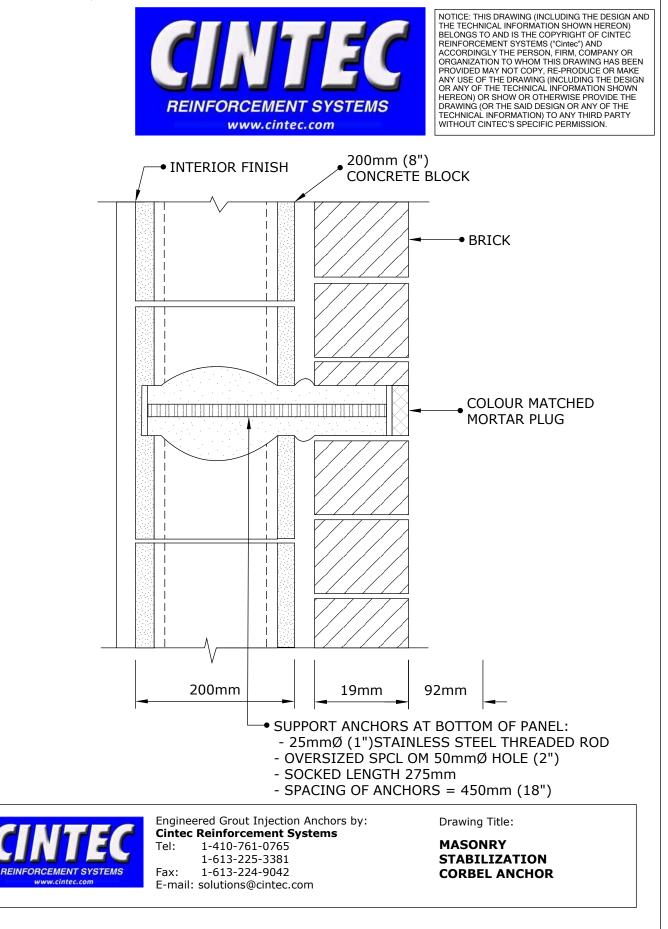


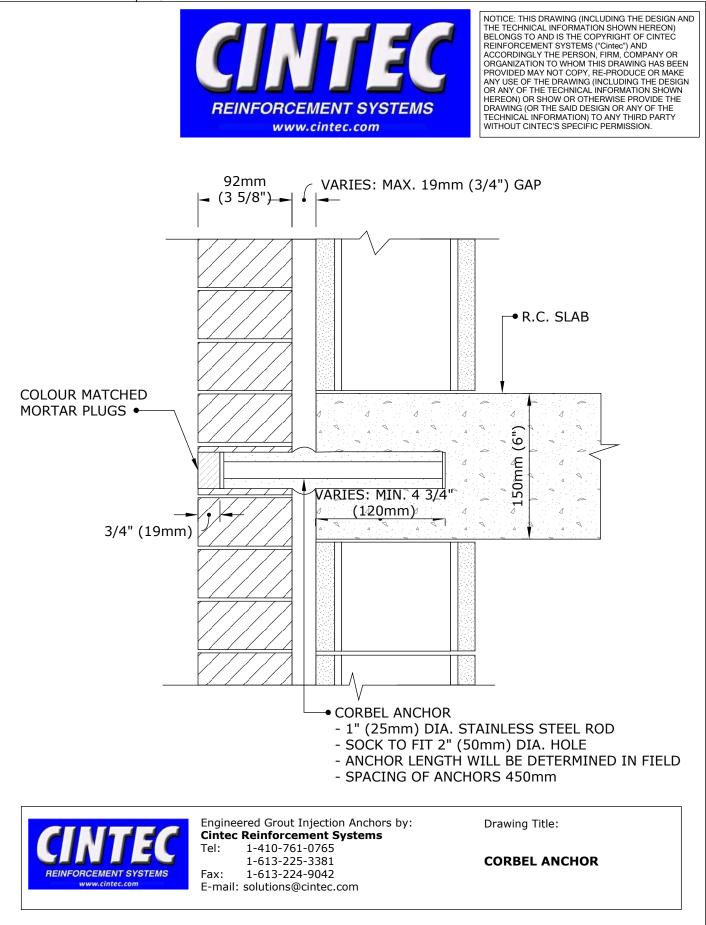
Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

#### CINTEC M25 (1") STAINLESS STEEL ANCHOR





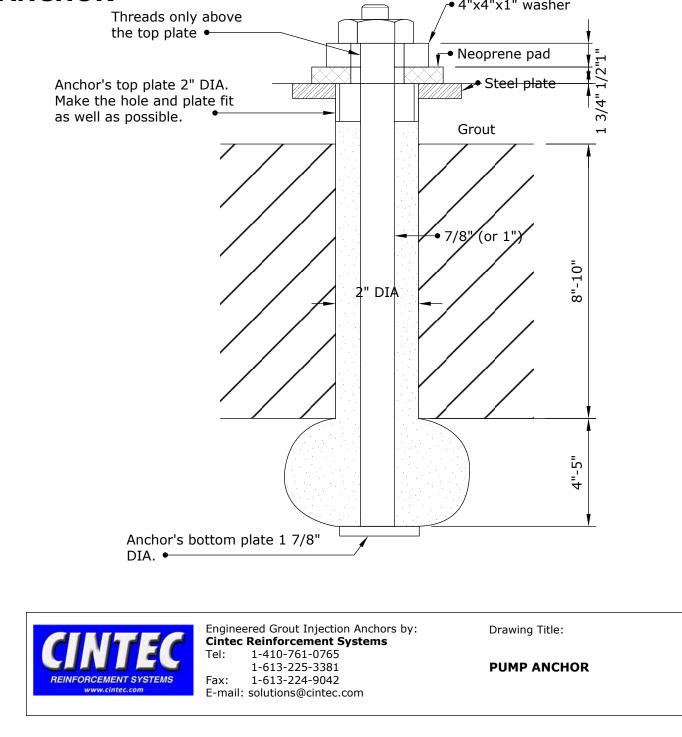


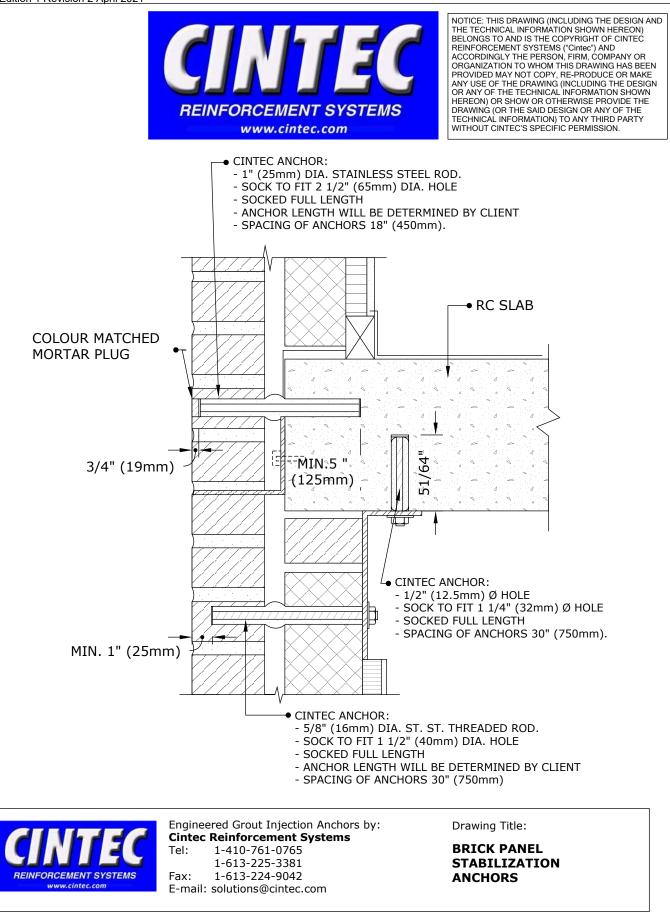


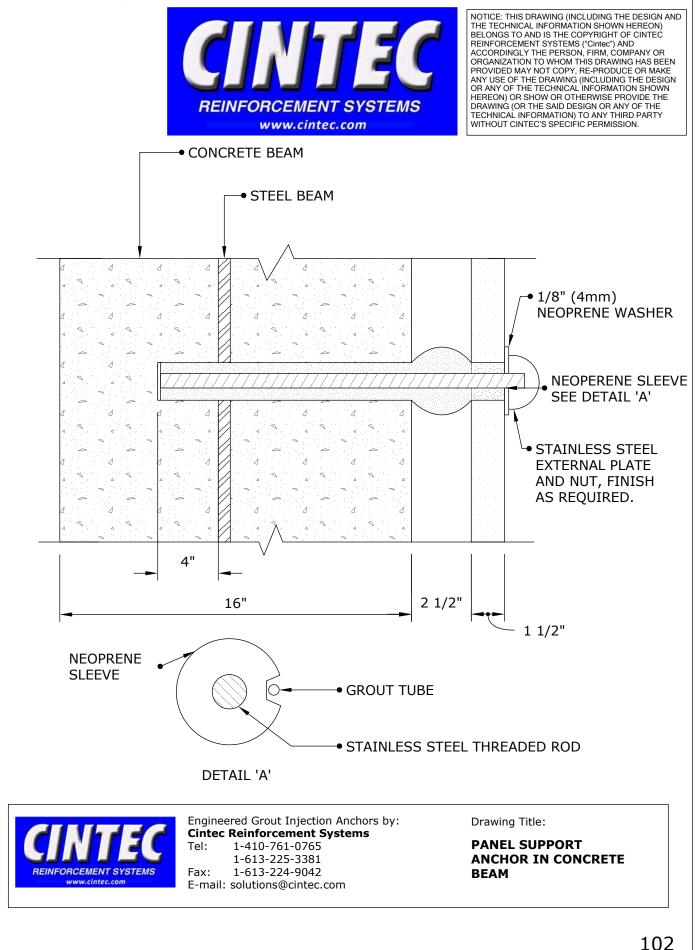


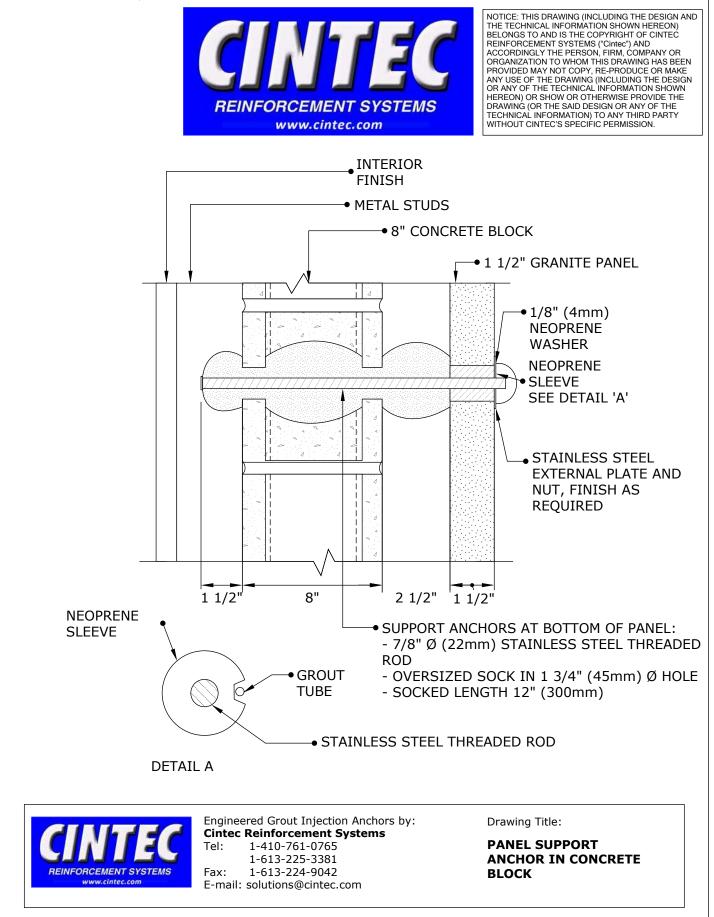
100

# CINTEC M25 (1") / M22 (7/8") STAINLESS STEEL ANCHOR

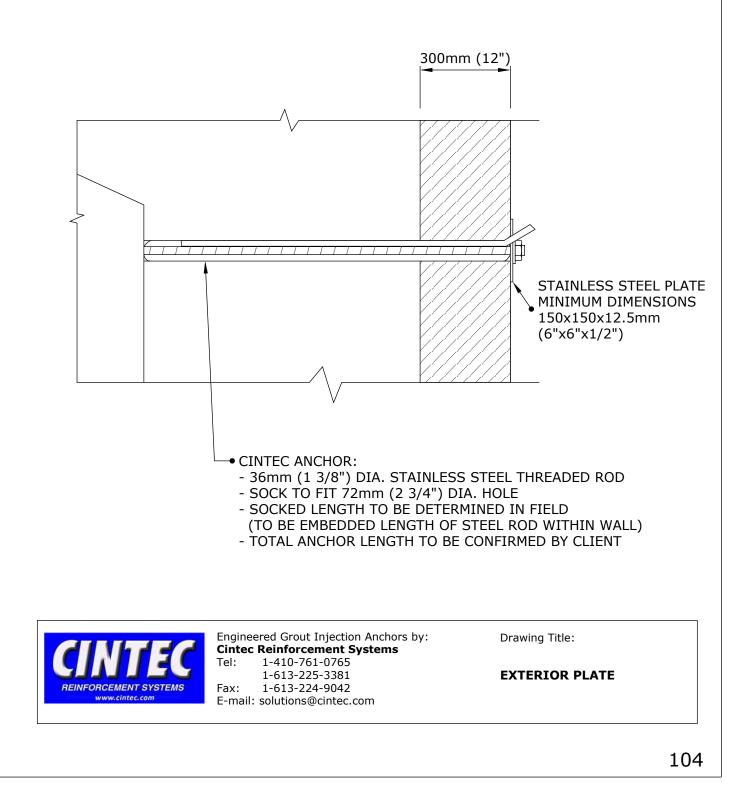




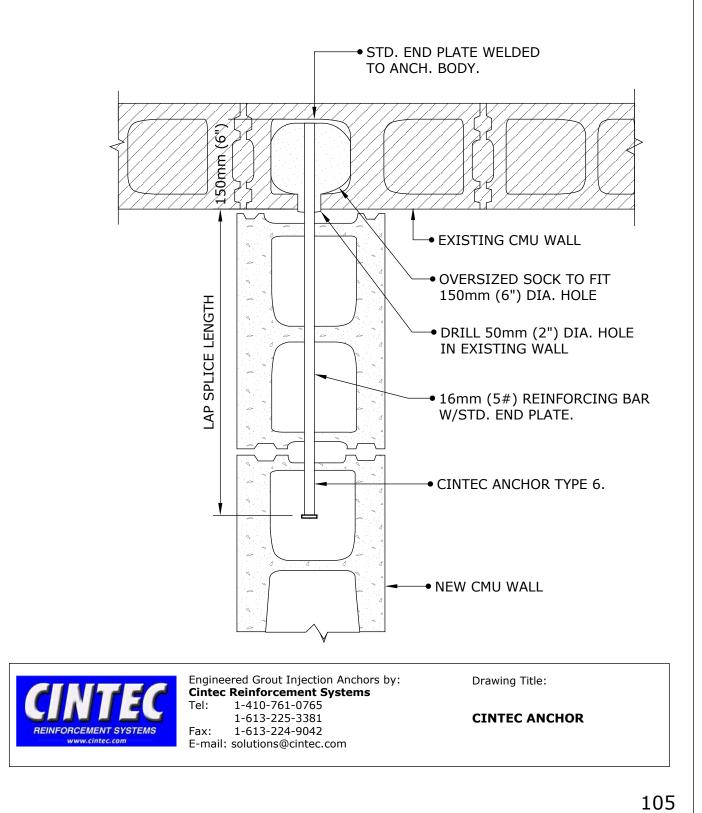


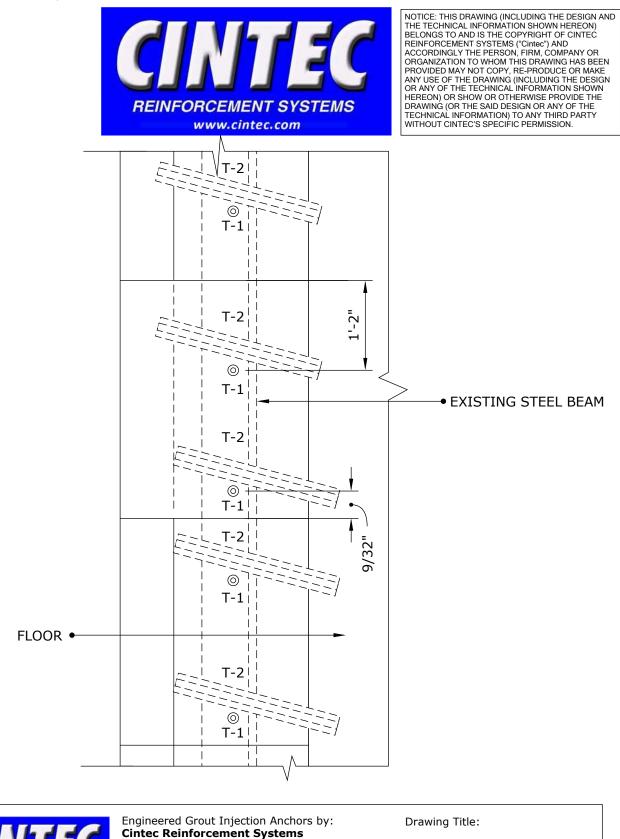












CORNER STONE ANCHORAGE

REINFORCEMENT SYSTEMS

.cintec.com

Tel:

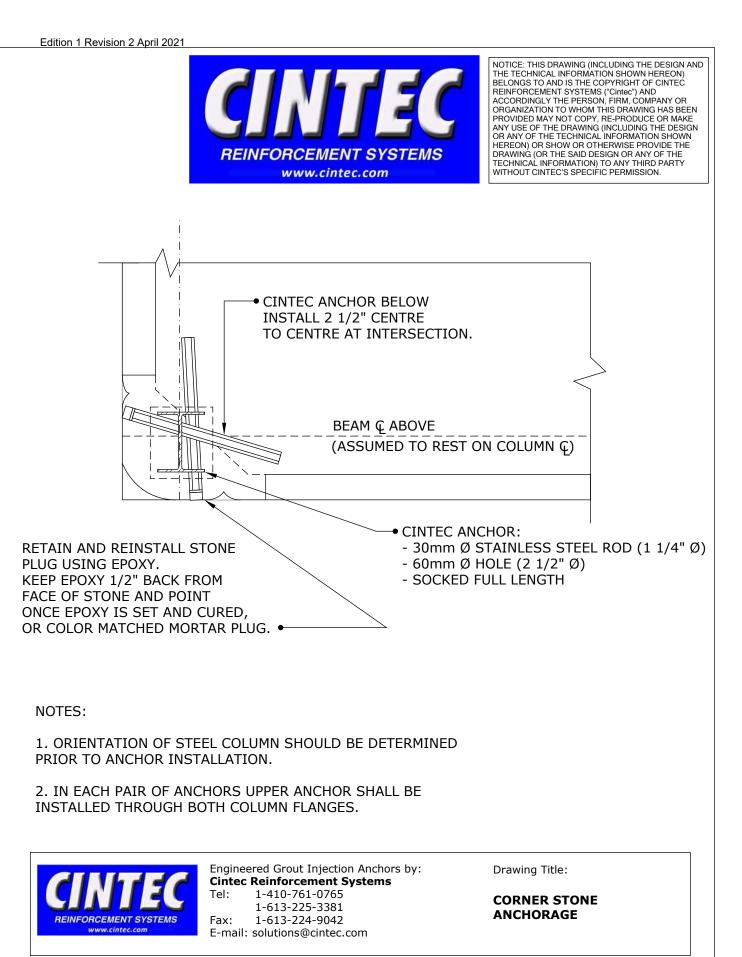
Fax:

1-410-761-0765

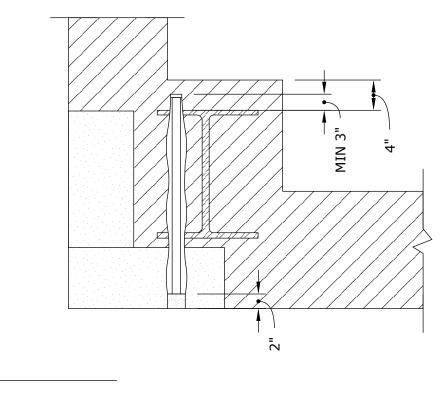
1-613-225-3381

1-613-224-9042

E-mail: solutions@cintec.com





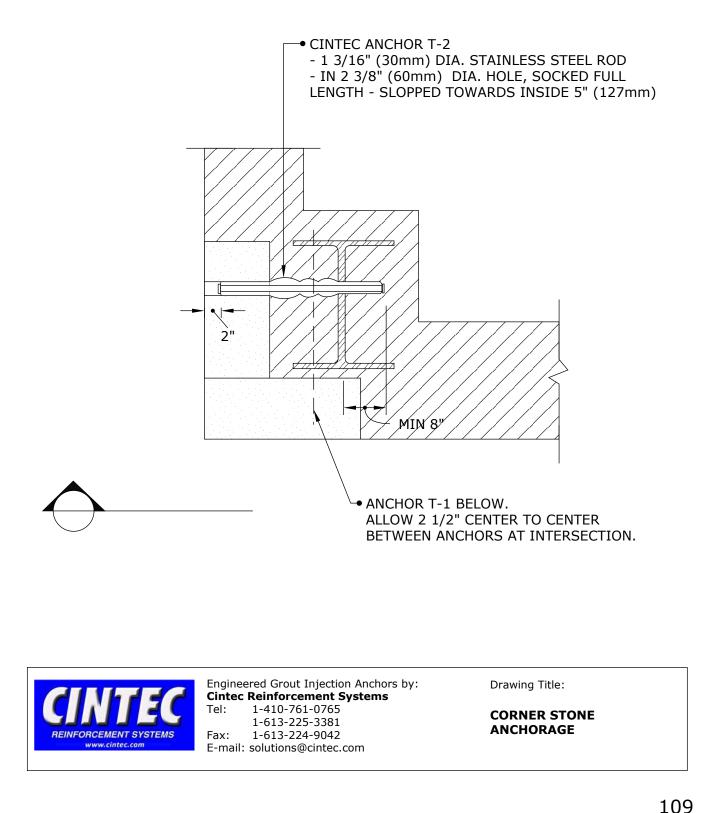




Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

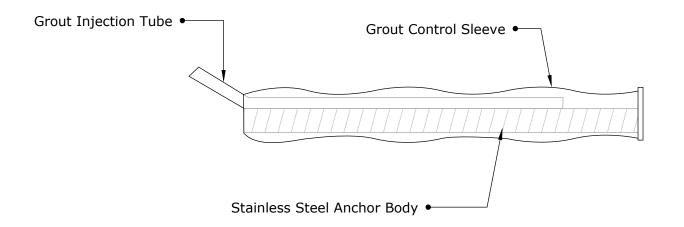
#### CORNER STONE ANCHORAGE







# TYPICAL CINTEC REINFORCEMENT ANCHOR Cintec Stainless steel Anchor #7 Rebar



ANCHOR BODY	SOCK	CORE HOLE SIZE
SS Type 2205 #7 Rebar Anchor Body	Full length of Anchor Body	To suit site conditions

All CINTEC anchors are comprised of a structural member surrounded by a fabric sleeve into which Presstec grout is injected. Stainless steel sizes/sections & lengths, sleeve sizes & end conditions vary in accordance with specific design.

## **ANCHOR LENGTH TO SUIT SITE CONDITIONS Client to confirm ALL lengths before ordering.**



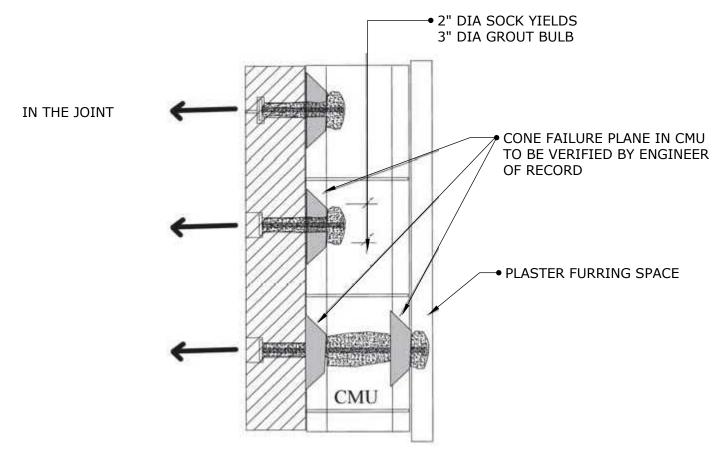
Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

CINTEC STAINLESS STEEL ANCHOR #7

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# CINTEC ANCHOR TO ATTACH BRICK/STONE TO HOLLOW MASONRY UNIT (CMU)



## **ANCHOR LENGTH TO SUIT SITE CONDITIONS Client to confirm ALL lengths before ordering.**

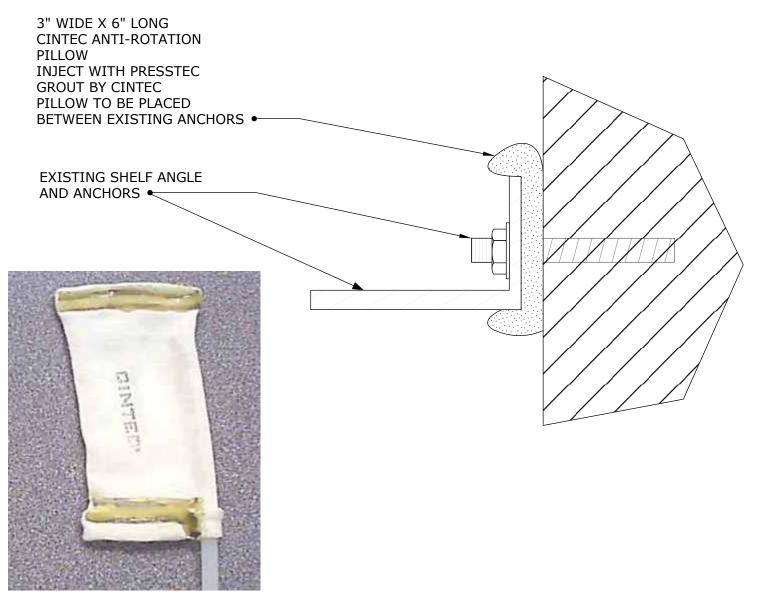


Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

CINTEC ANCHOR TO ATTACH BRICK/STONE TO HOLLOW MASONRY UNIT



# **CINTEC ANTI ROTATION PILLOW**





Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

CINTEC ANTI ROTATION PILLOW











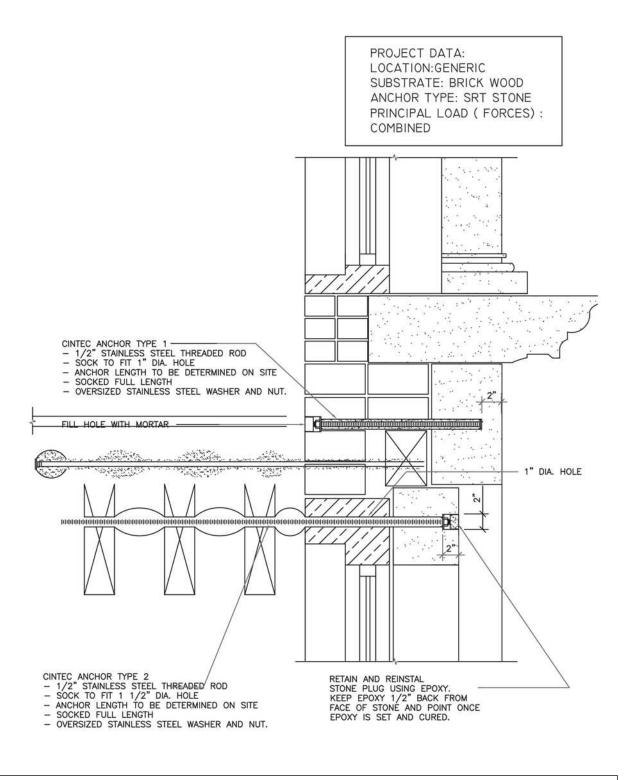


# Facade of Building to wood floor diaphragm stabilization



# **Prince Street - Manhattan**

This five storey apartment block required the securement of its brick walls to each of its wooden floors. Cintec 5/8 inch diameter M16 solid bar anchors of 4ft 3inch in length were installed at an angle of 45°. Protruding beyond the underside of the wooden floor beams enabled the inflated anchor to expand beyond the width of the drill hole to form a highly secure stopper locking together the various structural elements.



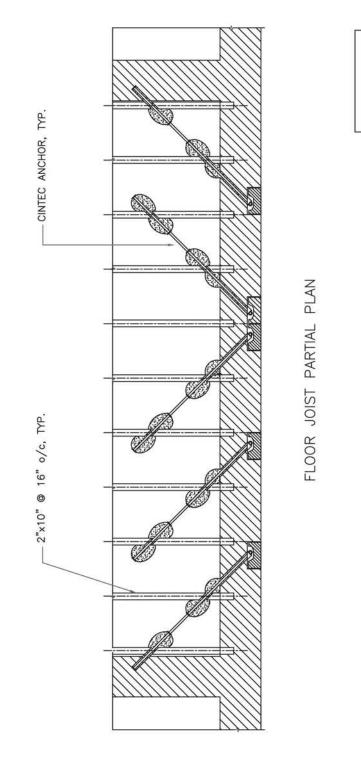


Engineered Grout Injection Anchors by: **CINTEC Structural Solutions** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042

E-mail: solutions@cintec.com

Drawing Title:

CINTEC M10 STAINLESS STEEL ANCHOR

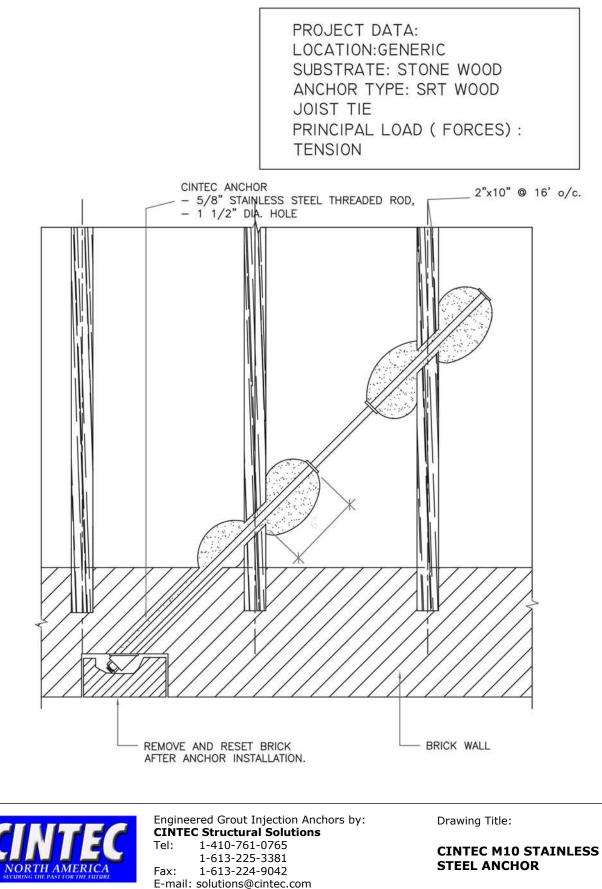


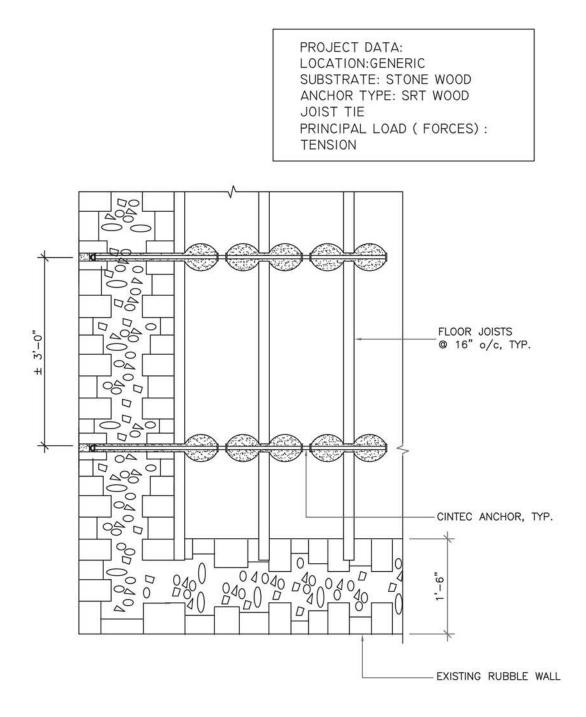
PROJECT DATA: LOCATION:GENERIC SUBSTRATE: STONE WOOD ANCHOR TYPE: SRT WOOD JOIST TIE PRINCIPAL LOAD (FORCES) : TENSION



Engineered Grout Injection Anchors by: **CINTEC Structural Solutions** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

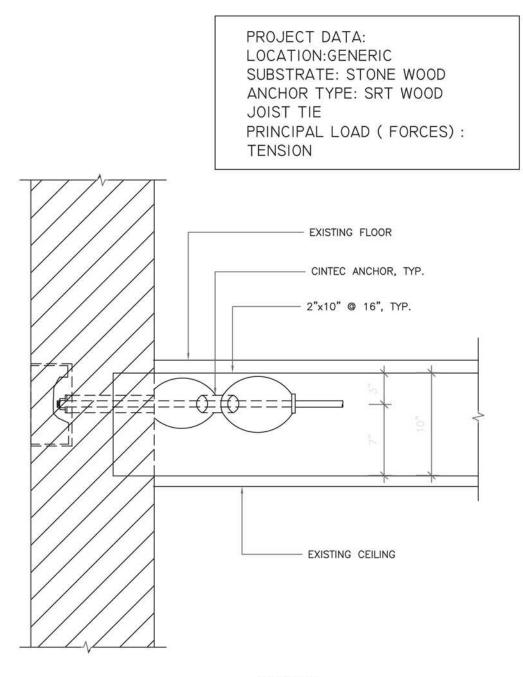
#### CINTEC M10 STAINLESS STEEL ANCHOR





FLOOR JOIST PARTIAL PLAN





SECTION



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Drawing Title:

CINTEC M10 STAINLESS STEEL ANCHOR



# Cintec's approach to stabilizing a typical Historic Masonry Arch



# **Terms of Reference**

CINTEC was requested by the Client to recommend a solution for structural deficiencies in the Arch.

The Client provided photos of the arch in its as-found condition, taken September 09, 2001..

# The Problem

The load bearing structure of the arch displays typical symptoms of masonry deterioration. This includes visible cracking in main elements.

This damage was likely caused by deterioration of mortar joints, water infiltration, movements in foundations and settlement in the masonry core of the structure.

A large-scale restoration of the Arc de Triomphe in Paris was carried out recently, to address similar problems.

# The Standard Solution

Standard conservation practice would require dismantling of damaged elements of the structure and replacement with new material. In this case this may require dismantling fairly large areas of the facing of the arch.

This is a costly process and very intrusive to the historic fabric of the structure. The new materials will not match exactly the original materials, and will be quite visible for sometime after the repairs until atmospheric pollution creates a patina on the surface of the new material.



Good heritage conservation practice requires that minimum intervention in the structure should be the first guiding principle in selecting a preservation approach.

CINTEC proposes a solution that requires no or very limited replacement of the original masonry.

The solution involves stitching together of the deteriorated elements with stainless steel anchors encased in an injected grout retained in a fabric sock.

Dry diamond air-cooled drilling is used to create the holes for anchor insertion. This eliminates the need to pump additional water into the structure, which typically occurs with wet diamond drilling.

The grout is a natural product, with high resistance to fire and freeze-thaw damage.





Photo 020 - Sept 09, 2001

#### Case 1: Cross Wythe Stitching Repair

Anchor specification 3/8" (10mm) Ø hollow circular stainless steel CINTEC anchors with 3/4" (20mm) Ø sock in 3/4" (20mm) Ø hole. Plain ends. Anchor spacing: 12" cts. Around opening. Diamond 5 pattern elsewhere @ 36" cts.



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CROSS WYTHE STITCHING REPAIR





Photo 001 - Sept. 09, 2001

#### Case 2: Brick Stitching Repair

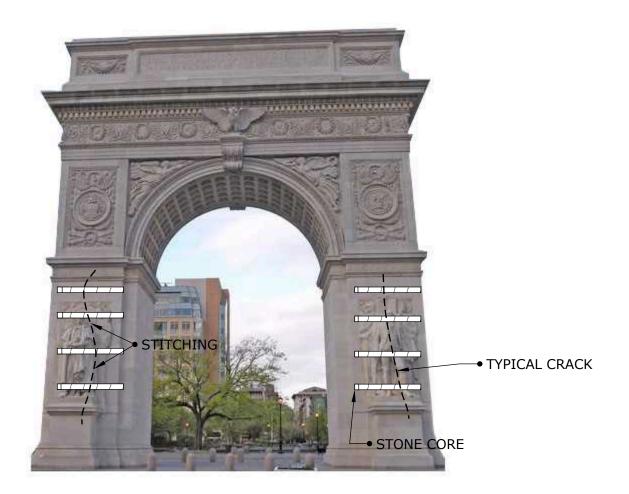
Anchor specification 3/8" (10mm) Ø hollow circular stainless steel CINTEC anchors with 3/4" (20mm) Ø sock in 3/4" (20mm) Ø hole. Plain ends. Anchor spacing: 16" cts.



Engineered Grout Injection Anchors by: **Cintec Reinforcement Systems** Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

BRICK STITCHING REPAIR





#### Case 3: Stone Corner Stitching Repair Anchor specification: 3/4" (20mm) Ø solid threaded steel CINTEC anchors with 2 1/2" (65mm) Ø sock in 2 1/2"(65mm) Ø hole 30" past crack. Plain ends. Anchor spacing: 48" cts. vertical.



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STONE CORNER STITCHING REPAIR



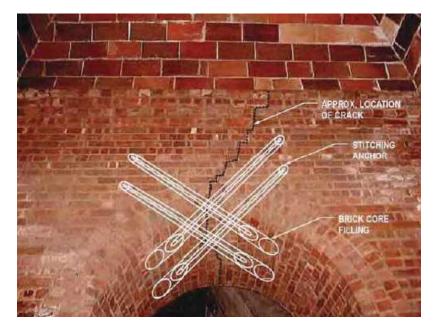


Photo 006 - Sept. 09, 2001

Case 4:

#### Arch stitching

Anchor specification: 5/8" (16mm) Ø solid threaded stainless steel CINTEC anchors with 2" (50mm)Ø sock in 2" (50mm)Ø hole. Plain ends. 4 anchors per arch.



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ARCH STITCHING



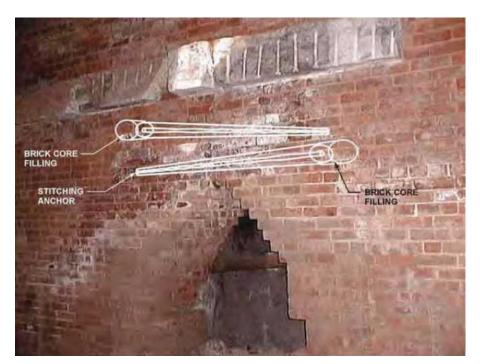


Photo 004 - Sept. 09, 2001

Case 5:

#### Arch Cross Stitching

Anchor specification: 5/8" (16mm) Ø solid threaded stainless steel CINTEC anchors with 2" (50mm) Ø sock in 2" (50mm) Ø hole. Install horizontally @ 20° to wall face. 2 or 4 anchors per arch.



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**ARCH CROSS STITCHING** 





Case 6:

#### **Stone Repair**

Anchor specification: 3/8" (10mm) Ø hollow circular stainless steel CINTEC anchors with 3/4" (20mm) Ø sock in 3/4" (20mm) Ø hole. Install horizontally @ 20° to wall face. 2 anchors per crack.



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**STONE REPAIR** 

# Structural Reinforcement Anchor Systems



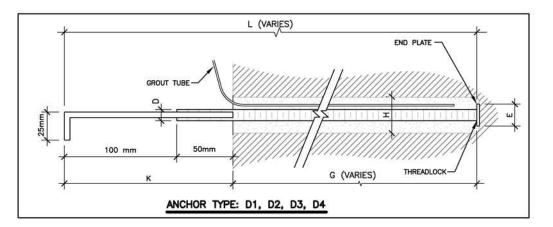
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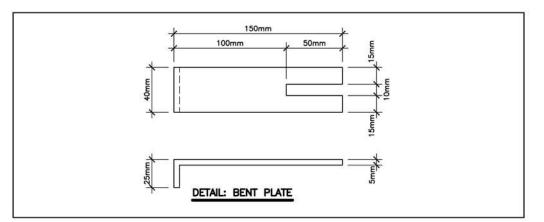
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Anchor Type	Anchor Dia	Description	Hole Dia	Sock Dia	Overall Anchor Length	Anchor Socked Length	Exposed with Plate	End Plate	Hardware	Load	Qty
D1	10 mm	S/S Threaded Rod	11/2"	40 mm	1200mm	1050 mm	150 mm	25mm OD	Bent Plate	3 Kn	8
D2	10 mm	S/S Threaded Rod	11/2"	40 mm	1450mm	1300 mm	150 mm	25mm OD	Bent Plate	3 Kn	118
D3	10 mm	S/S Threaded Rod	11/4*	32 mm	500mm	350 mm	150 mm	20mm OD	Bent Plate	3 Kn	1220
D4	10 mm	S/S Threaded Rod	11/4*	32 mm	850mm	700 mm	150 mm	20mm OD	Bent Plate	3 Kn	54

ALL METAL: STAINLESS STEEL TO ANSI TYPE S 304 CONFIRM DIMENSIONS ON SITE PRIOR TO FABRICATION



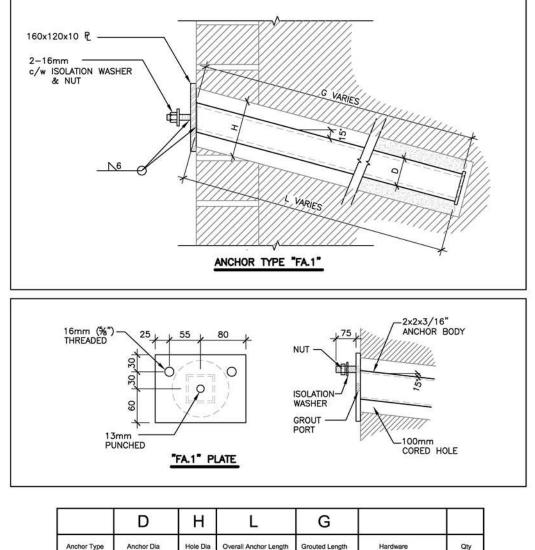
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E-mail: solutions@cintec.com

Drawing Title:

Parliament Buildings





	D	н	L	G	2	
Anchor Type	Anchor Dia	Hole Dia	Overall Anchor Length	Grouted Length	Hardware	Qty
FA.1	HSS 2x2x3/16"	4"	600 mm	600 mm	PI 160 x120 x10	TBD

ALL METAL:

STAINLESS STEEL TO ANSI TYPE S 304 CONFIRM DIMENSIONS ON SITE PRIOR TO FABRICATION

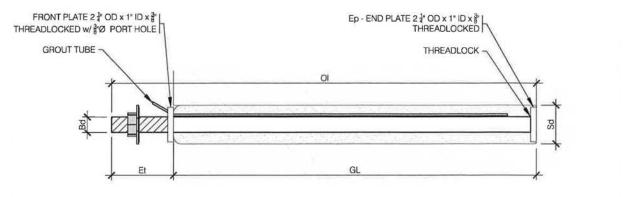


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Fax: 1-613-224-9042 E-mail: solutions@cintec.com Drawing Title:

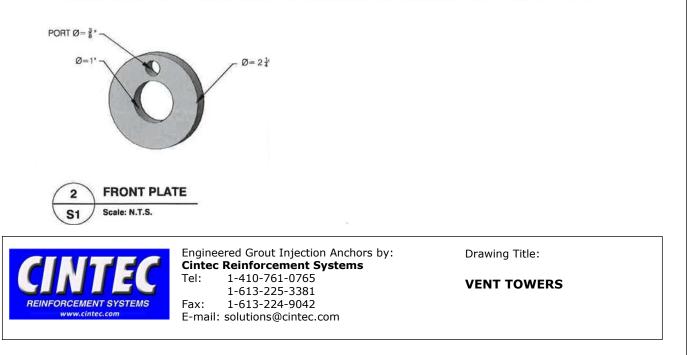
Parliament Buildings



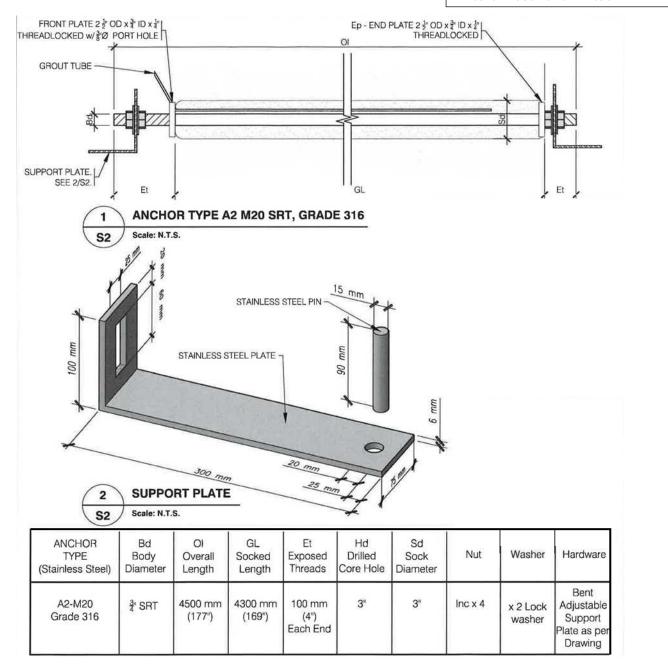


(1)	ANCHOR TYPE A1 M25 SRT, GRADE 316
S1	Scale: N.T.S.

ANCHOR TYPE (Stainless Steel)	Bd Body Diameter	OI Overall Length	GL Socked Length	Et Exposed Threads	Hd Drilled Core Hole	Sd Sock Diameter	Nut	Washer	Hardware
A1-M25 Grade 316	1" SRT	700 mm (27 ½)	600 mm (23 ½)	100 mm (4")	2 1ª	2 <u>1</u> "	Inc	Isolation & Lock washer	Threadlocked front plate per 2/S1









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1-613-224-9042

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Fax:

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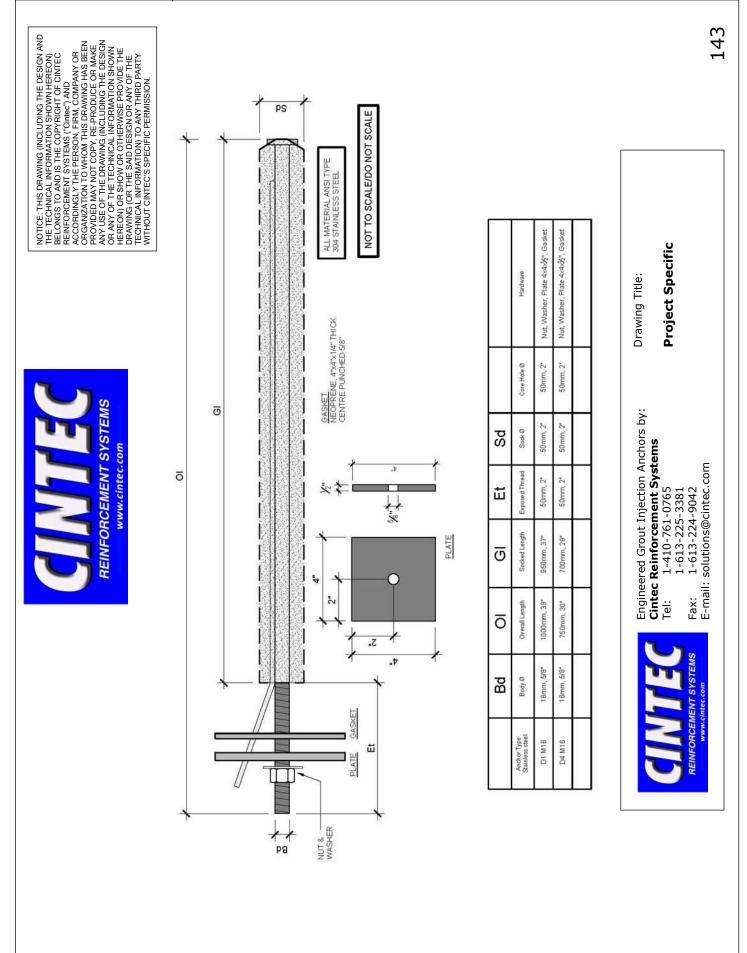
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			i	Exposed	600mm , 24"	600mm , 24" 75mm 3"	75mm . 3"	75mm , 3"	600mm , 24" 600mm , 24"	300mm , 12"	600mm, 24"	75mm , 3"	by:	
			i	Socked	300mm , 12"	300mm , 12" 300mm , 12"	300mm , 12"	300mm , 12"	300mm , 12" 300mm , 12"	300mm , 12"	300mm , 12"	300mm , 12"	אחchors ר <b>ystems</b>	шо
COLORIGACIÓN COLORIZACIÓN REINFORCEMENT SYSTEMS www.cintec.com			i	Overal	900mm , 36°	900mm , 36" 375mm , 15"	375mm , 15°	375mm , 15*	900mm , 36" 900mm , 36"	600mm, 24"	900mm, 36°	375mm , 15"	ed Grout Injection Reinforcement S 1-410-761-0765 1-613-225-3381	1-613-224-9042 solutions@cintec.c
BEINFO	LOCK WASHER IF SPECIFIED -ISOLATION WASHER IF SPECIFIED	BEVELED WASHER	ABLE)	Description	Stainless Steel Threaded Rod Grade 304	Stainless Steel Threaded Rod Grade 304 Stainless Steel Threaded Rod Grade 304	Stainless Steel Threaded Rod Grade 304	Stainless Steel Threaded Rod Grade 304	Stainless Steel Threaded Rod Grade 304 Stainless Steel Threaded Rod Grade 304	Stainless Steel Threaded Rod Grade 304	Stainless Steel Threaded Rod Grade 304	Stainless Steel Threaded Rod Grade 304	Engineer Cintec F	Fax: E-mail: s
	L SPL		et (variable) 	Bd <sup>Body Dia</sup>	20mm , 3/4"	20mm , 3/4" 20mm 3/4"	20mm , 3/4"	20mm , 3/4"	20mm , 3/4" 20mm , 3/4"	20mm , 3/4"	20mm, 3/4"	25mm , 1"		HEINFORCEMENT SYSTEMS www.cintec.com
		- 5N		Anchor Type	M20-DP05	M20-DP05 M20 S106B Roof to Wall	· · · ·		M20 S507 Section 7 M20 S505 Section 5.6 & 11	M20 S502 Section 9	M20 S402,5,6,7 Foundation	M25-DP05	CI	

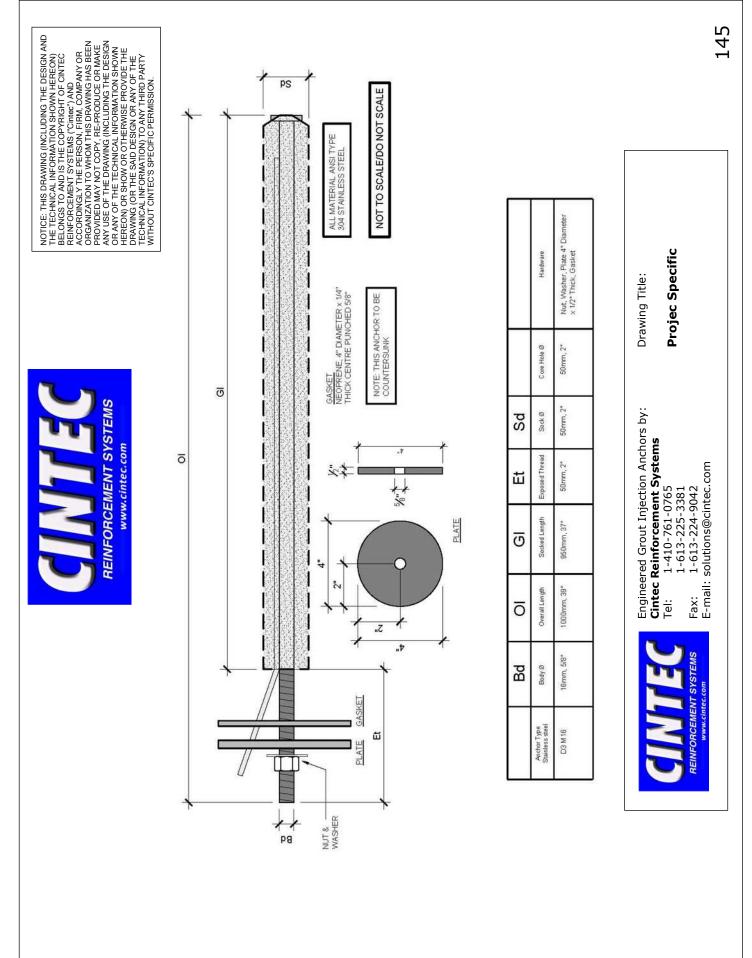
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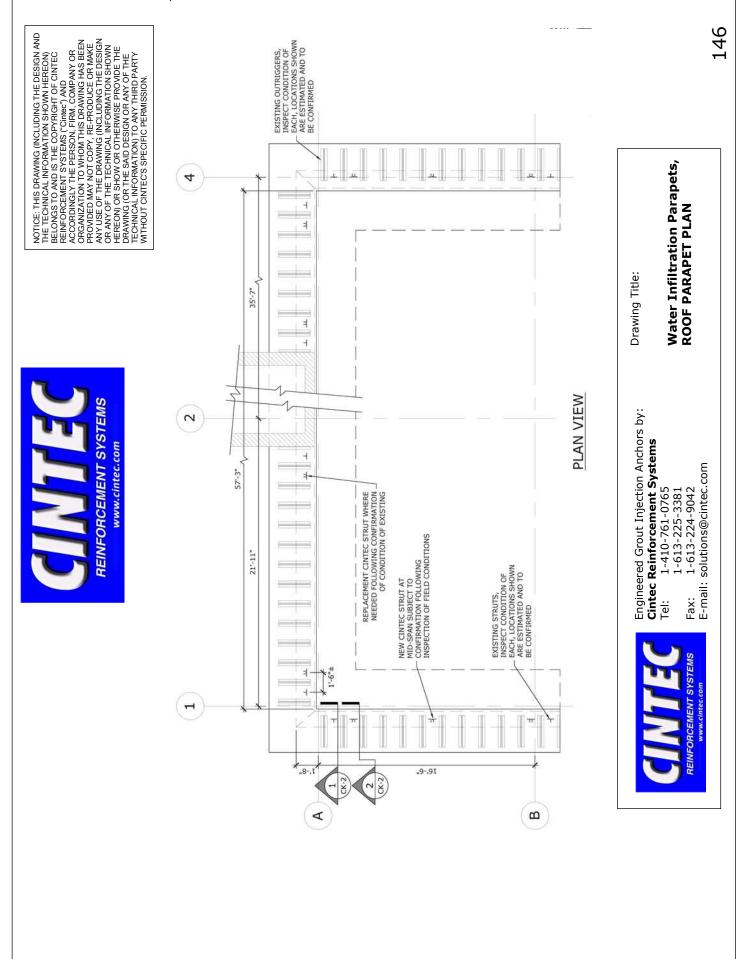
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Engineered Grout Injection Anchors by: <b>Cintec Reinforcement Systems</b> Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com		300mm - 12"	SOCKED LENGTH GI	+	ō	<b>GUMUTER</b> REINFORCEMENT SYSTEMS www.cintec.com
		500mm -20"	OVERALL LENGTH OI	oupler		<b>V</b> <sup>a</sup>
CLINITIES REINFORCEMENT SYSTEMS WWW.CINTEC.COM		20mm -3/4"	BODY Ø Bd	Welded Coupler		
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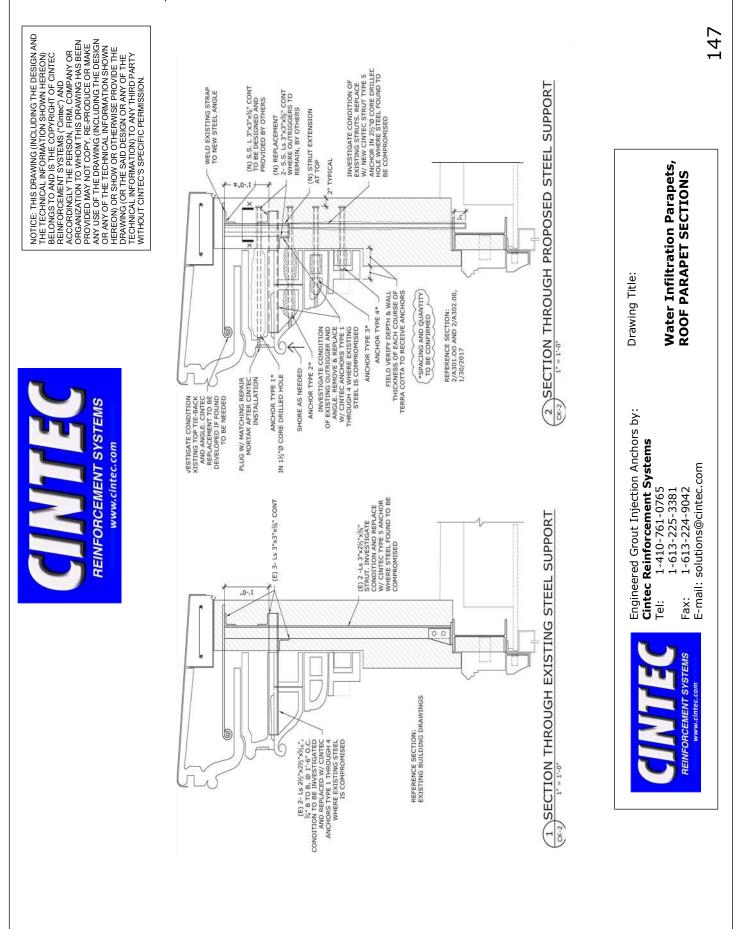
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CUMPER A COMPANY		GI Et Societ Limph Exposed Thread 375mm, 15* 0mm, 0* 280mm, 11* 0mm, 0*	Engineered Grout Injection Anchors by: <b>Cintec Reinforcement Systems</b> Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com
	PB	Bd         OI           Anchor Type Samines steel         Body Ø         Orerail Langh           Samines steel         Budy Ø         Orerail Langh           M12 Type A & D         12mm, 1/2*         376mm, 1/1*           M12 Type A4         12mm, 1/2*         280mm, 1/1*	CUNTECCOM REINFORCEMENT SYSTEMS WWW.GITTEC.COM
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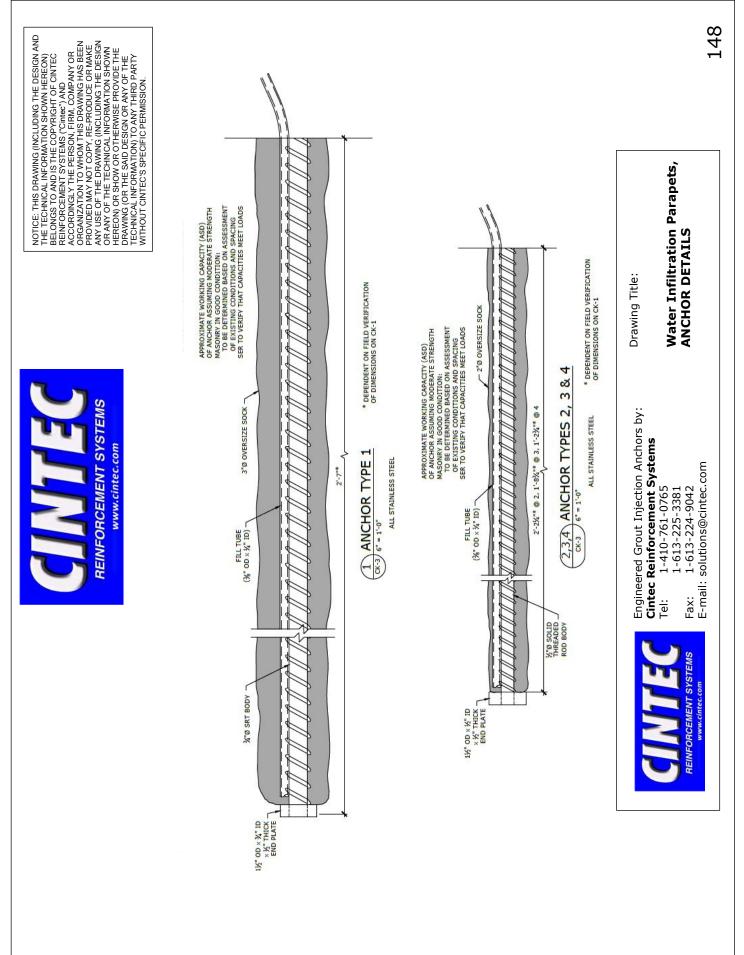


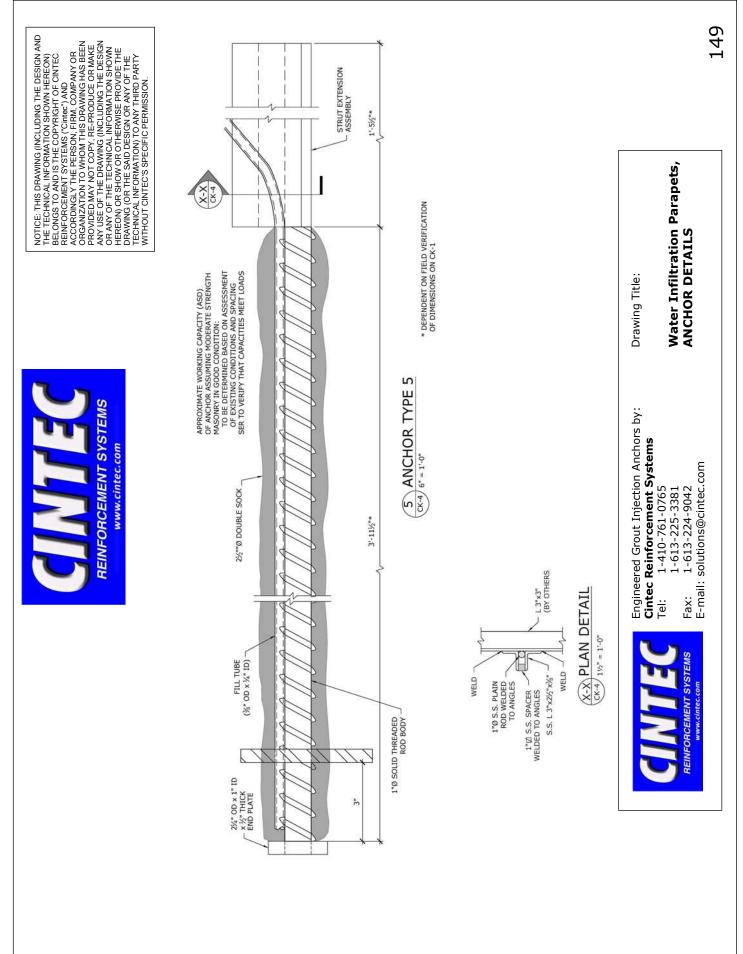
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RCEMENT SY www.cintec.com	ō		T OR PLATE ANCHOR IS	ì	缸	Exposed Thread	50mm, 2"	50mm, 2" 100mm, 4"	jection Anc ent Systei 3765 3381 9042 ntec.com
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			NOTE ANY SHOWN OF TO BE SUF	3	ō	Overall Length	1000mm, 39*	850mm, 34* 400mm, 16*	Enginee <b>Cintec</b> Tel: Fax: F-mail:
				-	Bd	Body Ø	18mm, 5/8*	16mm, 5/8" 16mm, 5/8"	LECOM COMPACT
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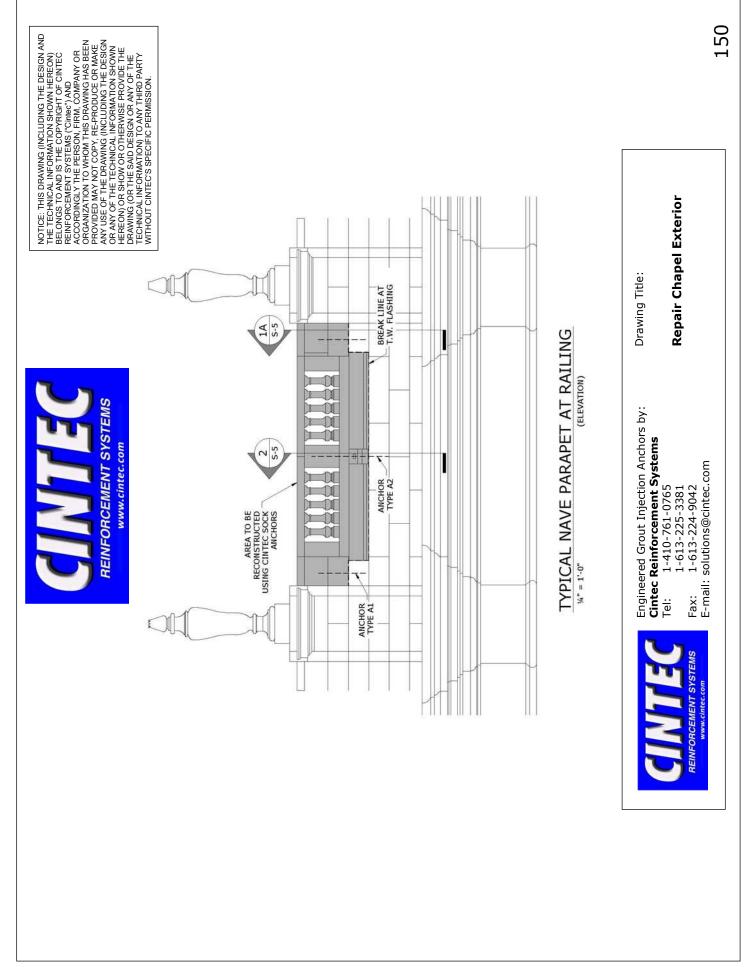




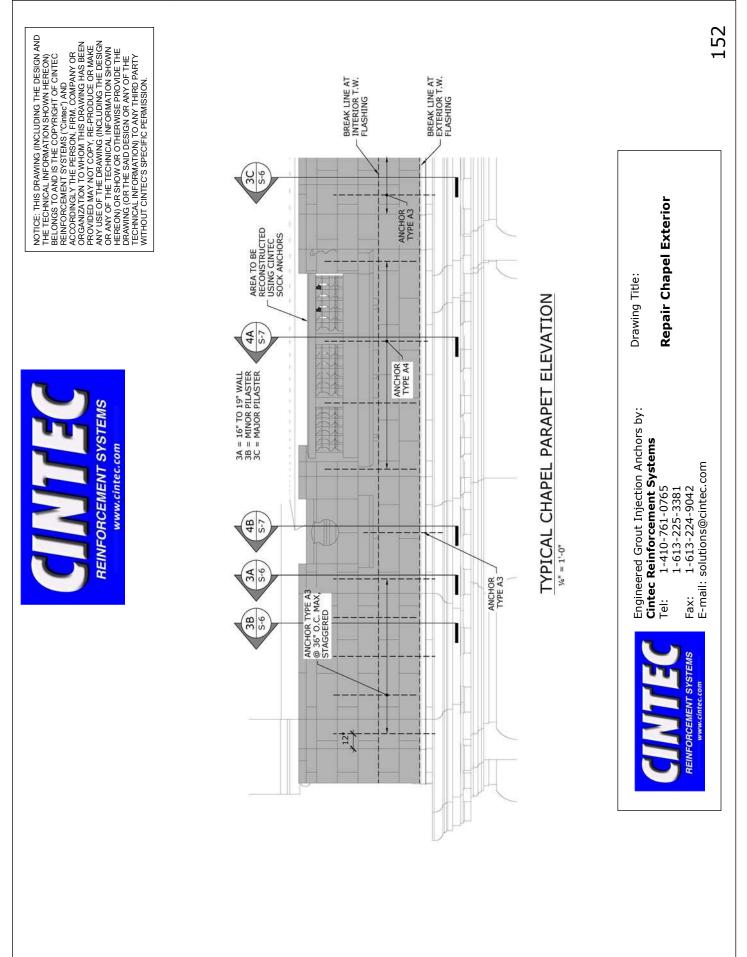








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REINFORCEMENT SYSTEMS www.cintec.com	AREA TO BE RECONSTRUCTED 12 <sup>4</sup> MIN 12 <sup>4</sup>	TYPICAL NAVE PARAPET AT CORNERS	W <sup>a</sup> = 1-0 <sup>a</sup> (ELEVATION)         M <sup>a</sup> = 1-0 <sup>a</sup> End of the content of



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NOTICE: THIS DRAWING (INCLUDING THE DESIGN AND THE TECHNICAL INFORMATION SHOWN HEREON) BELONGS TO AND IS THE COPYRIGHT OF CINTEC REINFORCEMENT SYSTEMS ("Cintee") AND ACCORDINGLY THE PERSON, FIRM, CONNENY OR ORGANIZATION TO WHOM THIS DRAWING HAS BEEN PROVIDED MAY NOT COPY, RE-PRODUCE OR MAKE ANY USE OF THE DRAWING (INCLUDING THE DESIGN OR ANY OF THE TECHNICAL INFORMATION SHOWN HEREON) OR SHOW OR OTHERWISE PROVIDE THE DRAWING (OR THE SAID DESIGN OR ANY OF THE TECHNICAL INFORMATION) TO ANY THIRD PARTY WITHOUT CINTECS SPECIFIC PERMISSION.		KEY PLAN	Drawing Title: <b>Repair Chapel Exterior</b>
			Drawing Title: <b>Repair Cha</b> l
COMPACEMENT SYSTEMS WWW.cintec.com	A3 A3 A3 A3 A3 A3 A3 A3 A3 A3	PARTIAL PLAN	Engineered Grout Injection Anchors by: <b>Cintec Reinforcement Systems</b> Tel: 1-410-761-0765 1-613-225-3381 Fax: 1-613-224-9042 E-mail: solutions@cintec.com
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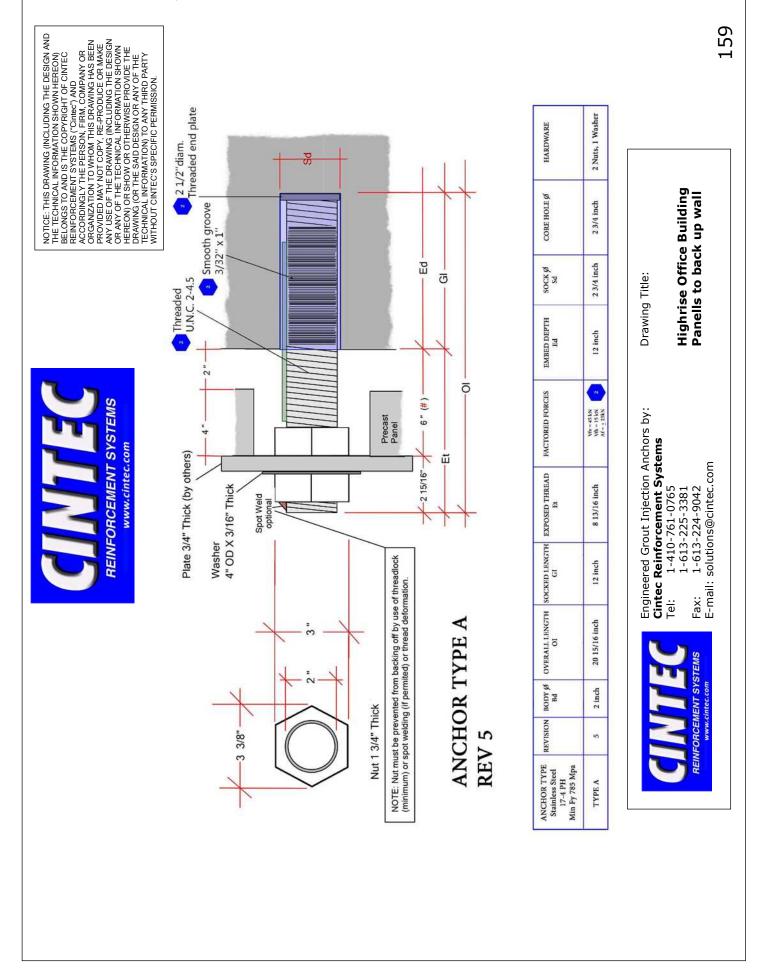
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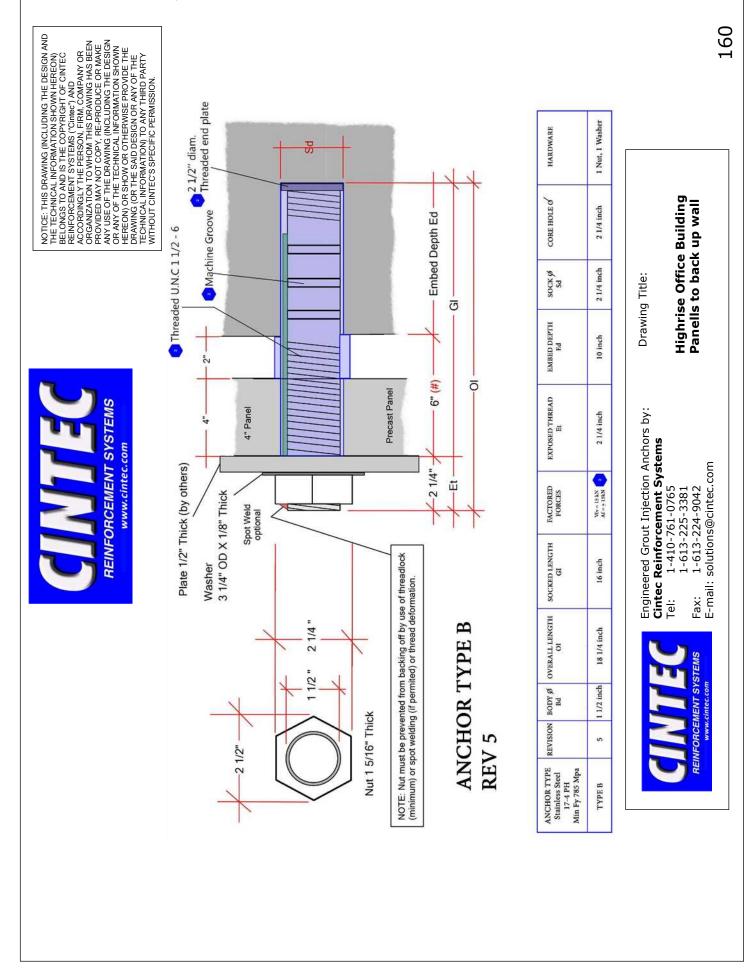
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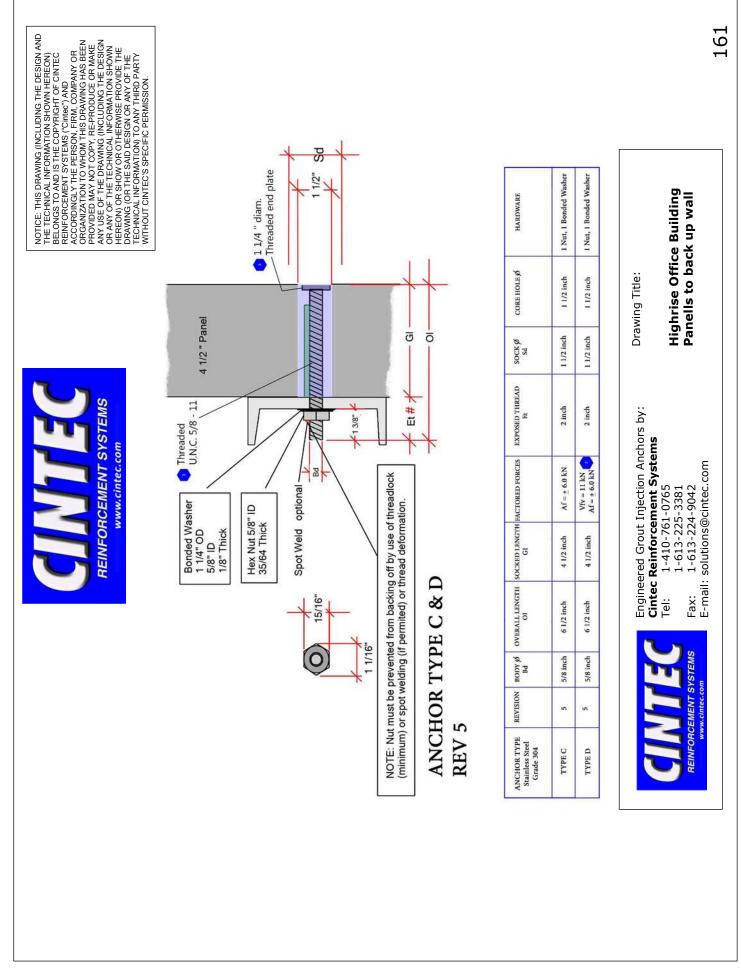
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