

# Warehouse Dock Expansion

800 LINCOLN WAY  
AMES, IA 50010

Project: BG-2A12(022)-80-85



OFFICE OF FACILITIES SUPPORT  
800 LINCOLN WAY, AMES, IOWA 50010

FOR CONSTRUCTION QUESTIONS CALL:  
JERRY BURNES (515) 239-1443

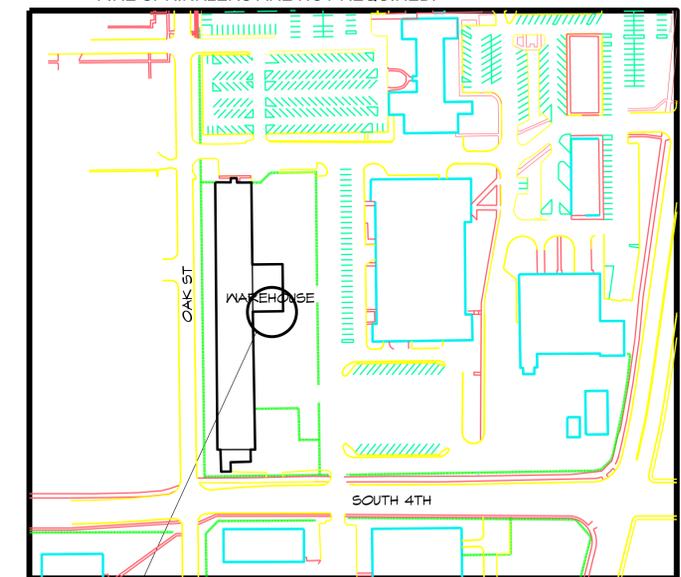
FOR CONTRACT DOCUMENT QUESTIONS CALL:  
RENEE SHIRLEY (515) 239-1298

OFFICE OF SUPPORT SERVICES		
FACILITIES ENGINEER	DATE	TELEPHONE: (515) 239-1443
FIELD FACILITIES MANAGER	DATE	TELEPHONE: (515) 239-1627
FACILITIES DIRECTOR	DATE	TELEPHONE: (515) 239-1327

I hereby certify that the portion of this technical submission described below was prepared by me or under my direct supervision and responsible charge. I am a duly registered architect under the laws of the state of Iowa.	
Jerry L. Burnes	Iowa Registration No: 06423
Printed or typed name	
Signature	Date
30 Jun 2016	30 Aug 2010
Registration expires	Date issued
Pages or sheets covered by this seal: A-1, A-2, A-3, A-4, A-5	

APPLICABLE BUILDING CODE SCHEDULE  
2009 INTERNATIONAL BUILDING CODE  
2009 INTERNATIONAL MECHANICAL CODE  
2011 NATIONAL ELECTRICAL CODE  
2009 INTERNATIONAL FIRE CODE  
2009 IBC  
SECTION 304: OCCUPANCY  
GROUP S  
CONSTRUCTION TYPE: TABLE 601  
CONSTRUCTION TYPE: IIIB  
EXISTING BUILDING AREA: 5016 SF, OCCUPANT LOAD: 10  
AREA OF ADDITION: 456 SF, OCCUPANT LOAD 1  
ALLOWABLE AREA PER CONSTRUCTION TYPE -TABLE 503  
ALLOWABLE AREA: 17,500 SF  
ALLOWABLE HEIGHT: 2 STORIES  
ACTUAL HEIGHT: 1 STORY, 18.3 FEET WITH NO MEZZANINE  
AUTOMATIC SPRINKLER SYSTEMS SECTION 903  
SPRINKLERS ARE NOT REQUIRED FOR GROUP S  
OCCUPANT LOAD: SECTION 1004  
EXISTING BUILDING AREA: 5016 SF / 500 SF = 10.03 OR 10 OCCUPANTS  
AREA OF ADDITION: 456 SF / 500 SF = 0.912 OR 1 OCCUPANT  
TOTAL CALCULATED OCCUPANT LOAD IS 11 OCCUPANTS  
EGRESS WIDTH: SECTION 1005  
EGRESS WIDTH: .2 X OCCUPANT LOAD = 2.2 INCHES  
ACTUAL EGRESS WIDTH IS TWO EXIT DOORS AT 48" AND 44".  
EXIT ACCESS: SECTION 1014 & 1015  
EXIT ACCESS: ACCESS SHALL NOT EGRESS THROUGH ACCESSORY SPACES SUCH AS INTERVENING ROOMS OR AREAS, EXCEPT WHERE ADJOINING ROOMS OR AREAS ARE ACCESSORY TO THE AREA SERVED.  
EXCEPTION: MEANS OF EGRESS ARE NOT PROHIBITED IN GROUP H, S, AND F OCCUPANCIES WHEN THE ADJOINING OR INTERVENING ROOMS OR SPACES ARE THE SAME OR LESSER HAZARD OCCUPANCY GROUP.

THE WAREHOUSE ADJACENT TO THE LOADING DOCK IS GROUP S WHICH IS THE SAME HAZARD GROUP SO EGRESS CAN GO THROUGH WAREHOUSE IF NECESSARY. THERE ARE EXIT ACCESS DOORWAYS ON THE SOUTH WALL, EAST WALL, AND 8' WIDE EXIT OPENINGS INTO THE WAREHOUSE ON THE WEST WALL. COMMON PATH OF EGRESS TO ANY EXIT IS LESS THAN 75 FEET.  
EXIT TRAVEL DISTANCE: SECTION 1016  
ACTUAL EXIT TRAVEL DISTANCE IS LESS THAN 200 FEET. THEREFORE FIRE SPRINKLERS ARE NOT REQUIRED.



PROJECT LOCATION  
SCALE: 1"=1 MILE



## INDEX OF DRAWINGS:

### ARCHITECTURAL:

SHEET NO.	SHEET NAME
01 A-1	EXISTING FLOOR PLAN/DEMOLITION
02 A-2	FLOOR PLAN
03 A-3	EXTERIOR ELEVATIONS
04 A-4	ROOF REPLACEMENT PLAN
05 A-5	DETAILS

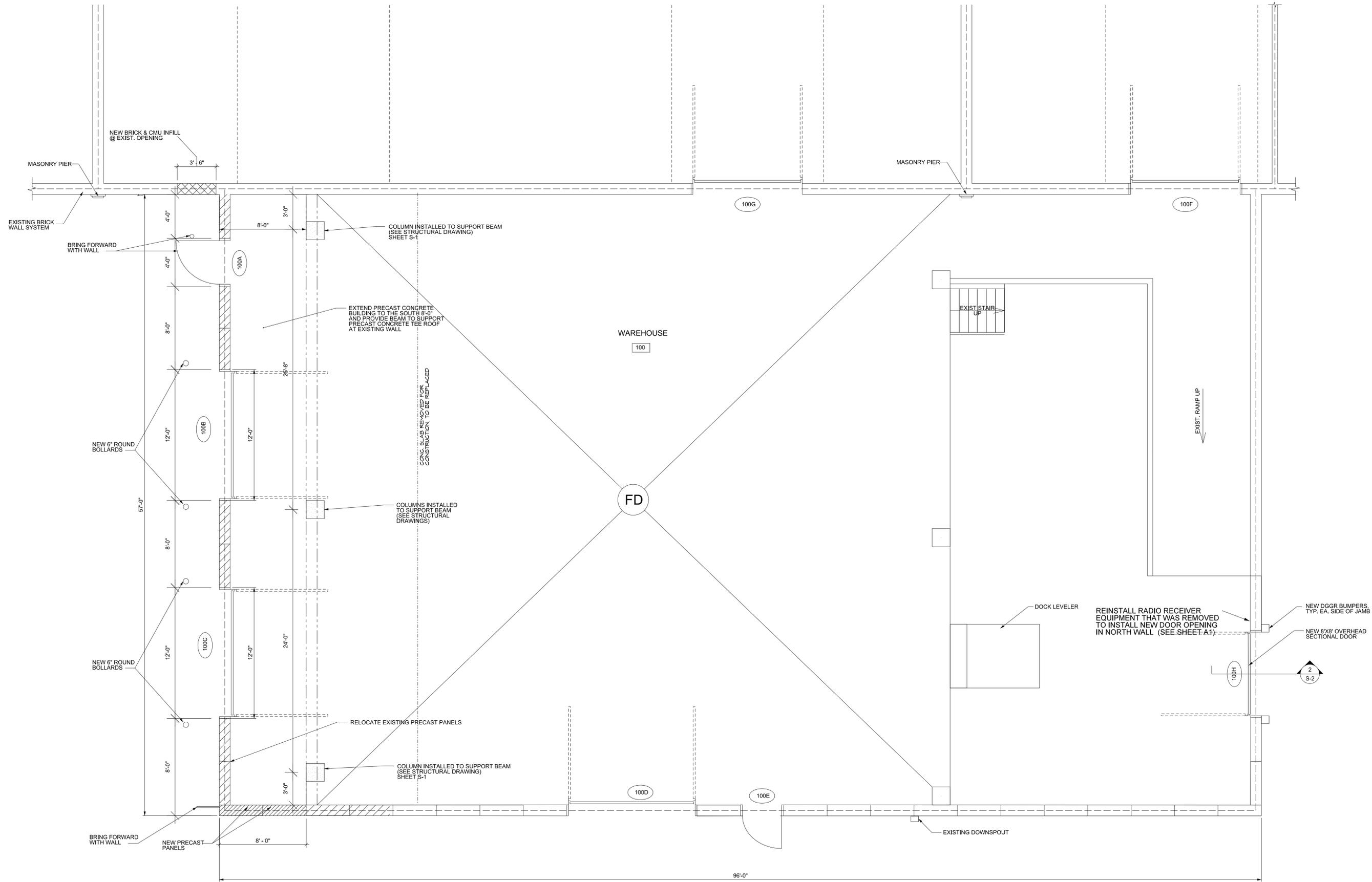
### STRUCTURAL:

06 S-0	NOTES
07 S-1	FOUNDATION / ROOF PLAN
08 S-2	DETAILS

### CONSULTANT:

STRUCTURAL ENGINEER  
JOE STANISZ  
SHUCK-BRITSON, INC.  
400 EAST COURT AVENUE  
SUITE 140  
DES MOINES, IOWA 50309  
PHONE: 515-243-447 EXT. 2204



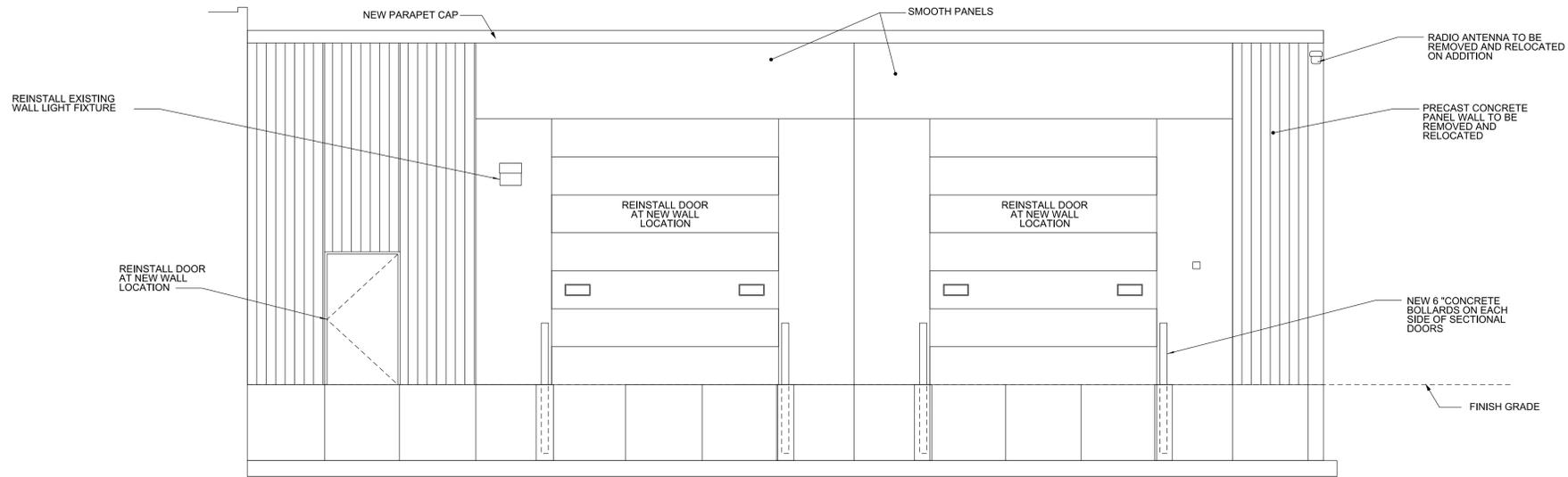


- NOTES:
- AFTER SOUTH WALL IS RELOCATED AND PRECAST ROOF TEES IS ERECTED:
    - REINSTALL OVERHEAD DOORS, HOLLOW METAL DOOR, ELECTRICAL CONDUIT, NATURAL GAS PIPING, OUTLETS, SWITCHES, EXIT LIGHTS, RADIO RECEIVER EQUIPMENT, ETC. THAT WAS REMOVED TO RELOCATE THE SOUTH WALL (SEE SHEET A-1)
    - REINSTALL CEILING MOUNTED LIGHTS, RADIANT HEATERS, NATURAL GAS PIPING, CONDUIT, OVERHEAD DOOR OPERATORS, AND MISCELLANEOUS EQUIPMENT THAT WAS REMOVED TO ERECT THE NEW PRECAST CEILING (SEE SHEET A-1).

**FLOOR PLAN**  
 SCALE: 1/4"=1'-0"

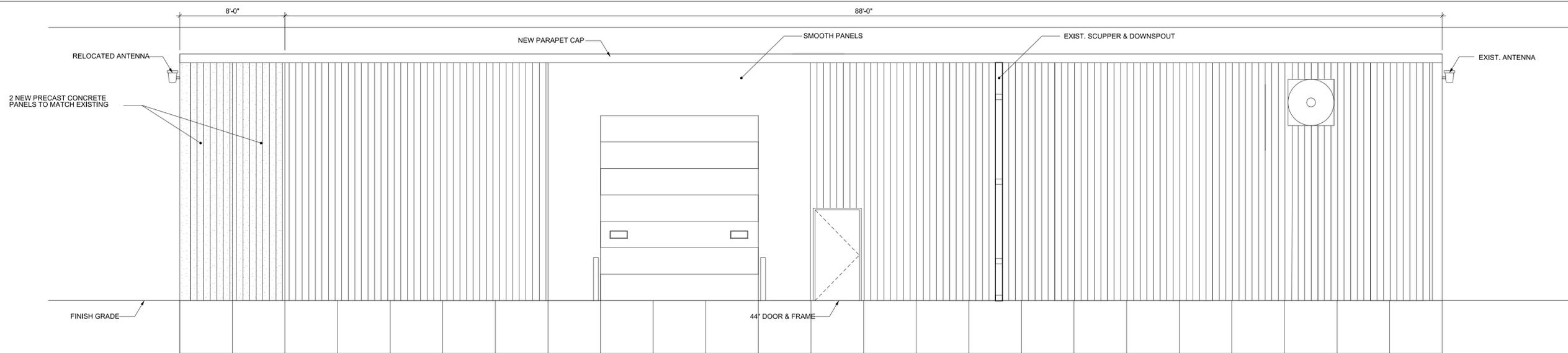
<b>IOWADOT</b> <small>SMARTER   SIMPLER   CUSTOMER DRIVEN</small> <small>OFFICE OF SUPPORT SERVICES</small> <small>800 LINCOLN WAY</small> <small>AMES, IOWA 50010 (515)238-1299</small>	<b>WAREHOUSE DOCK EXPANSION</b> <b>FLOOR PLAN WITH ADDITION</b>	<b>AMES, IOWA</b>	COUNTY: <b>STORY</b> DISTRICT: <b>01</b> PROJECT NUMBER: <b>BG-2A12(022)-80-85</b>
DATE: 8 APR 2015		DRAWN BY: DESIGN TEAM	
APPROVED: J. BURNES		REVISIONS:	
SHEET <b>02 OF 05</b>		<b>A-2</b>	

DGN:LOC



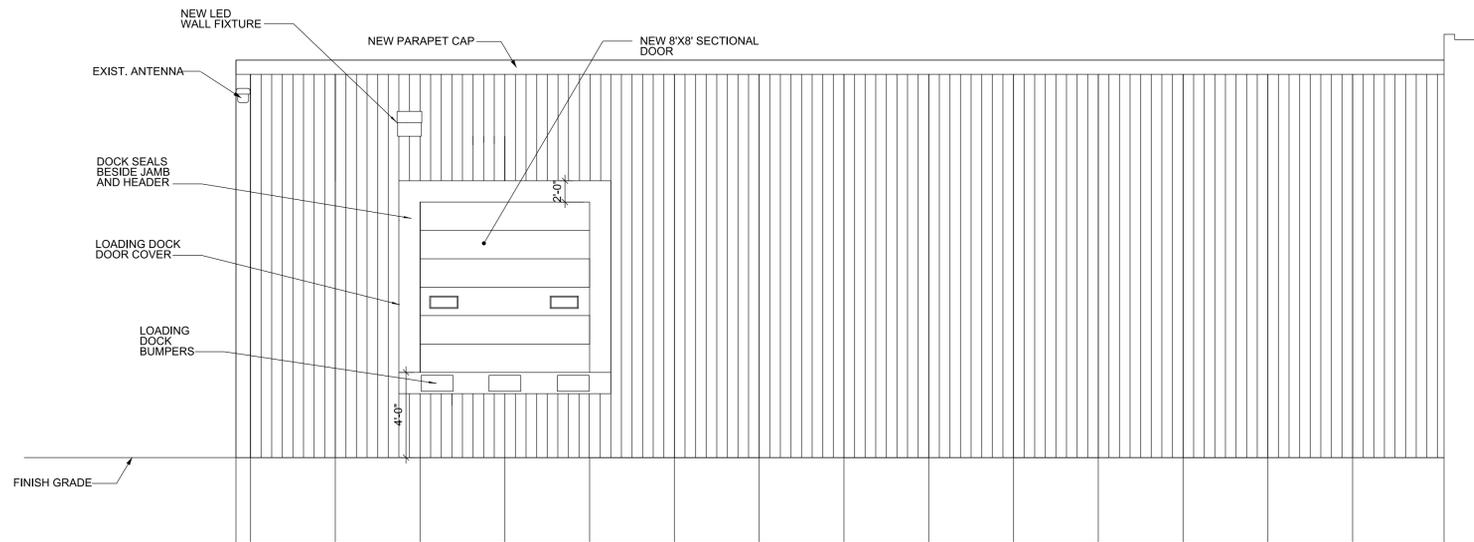
**SOUTH ELEVATION**

SCALE: 1/8"=1'-0"



**EAST ELEVATION**

SCALE: 1/8"=1'-0"



**NORTH ELEVATION**

SCALE: 1/8"=1'-0"

# NOTES:

1. REMOVE EXISTING BALLAST, EPDM ROOF MEMBRANE, AND INSULATION FROM EXISTING ROOF
2. INSTALL NEW FULLY ADHERED MIN. R-38 POLYISOCYANURATE RIGID INSULATION ON PRE-CAST CONCRETE DBL. TEE ROOF SYSTEM
3. INSTALL FULLY ADHERED EPDM ROOF SYSTEM

DISTRICT: 01  
 COUNTY: STORY  
 PROJECT NUMBER: BG-2A12(022)--80-85

AMES, IOWA

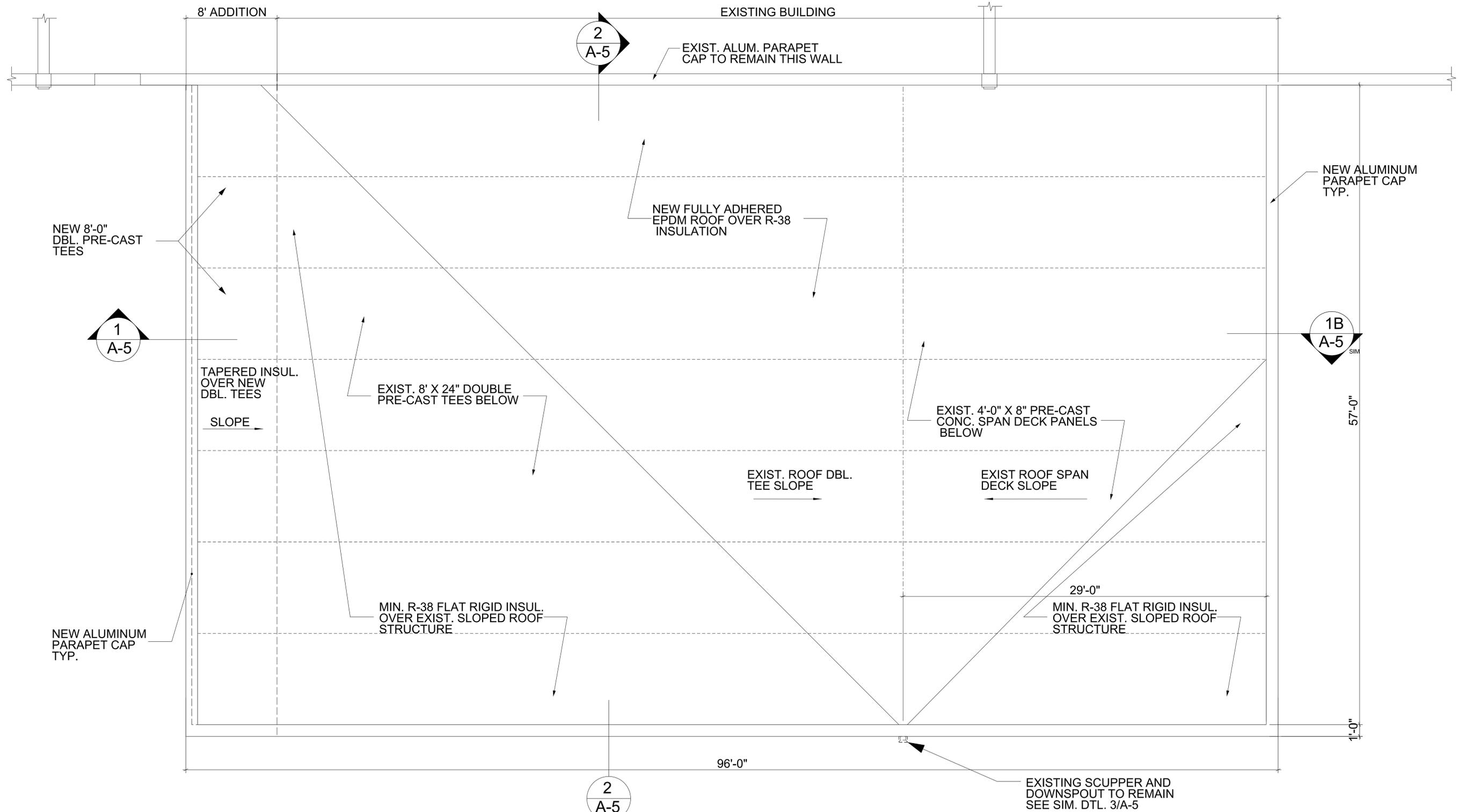
WAREHOUSE DOCK EXPANSION  
 ROOF PLAN

**IOWADOT**  
 SMARTER · SIMPLER · CUSTOMER DRIVEN  
 OFFICE OF SUPPORT SERVICES  
 800 LINCOLN WAY  
 AMES, IOWA 50010 6515238-1299

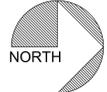
DATE: 8 APR 2015  
 DRAWN BY: DESIGN TEAM  
 APPROVED: J. BURNES  
 REVISIONS:

04 SHEETS OF 05

A-4



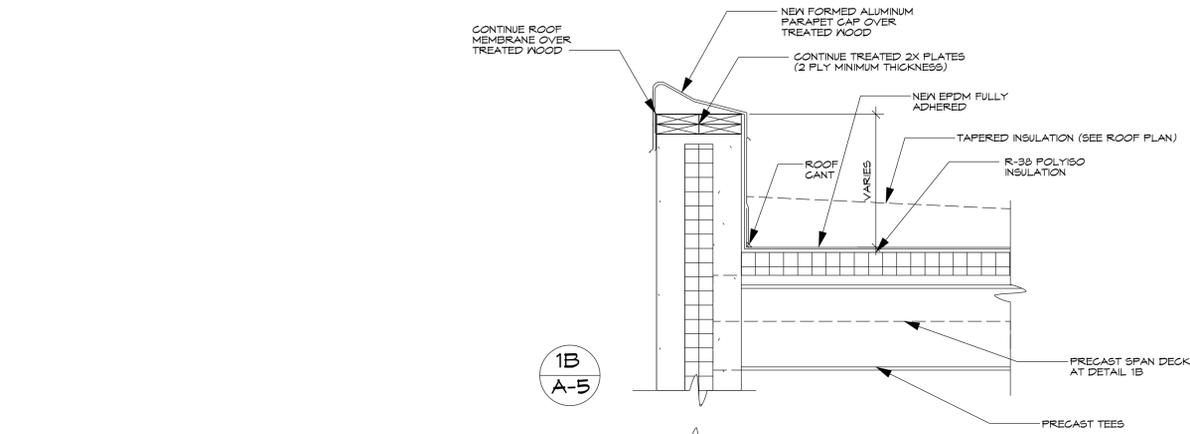
2  
A-5



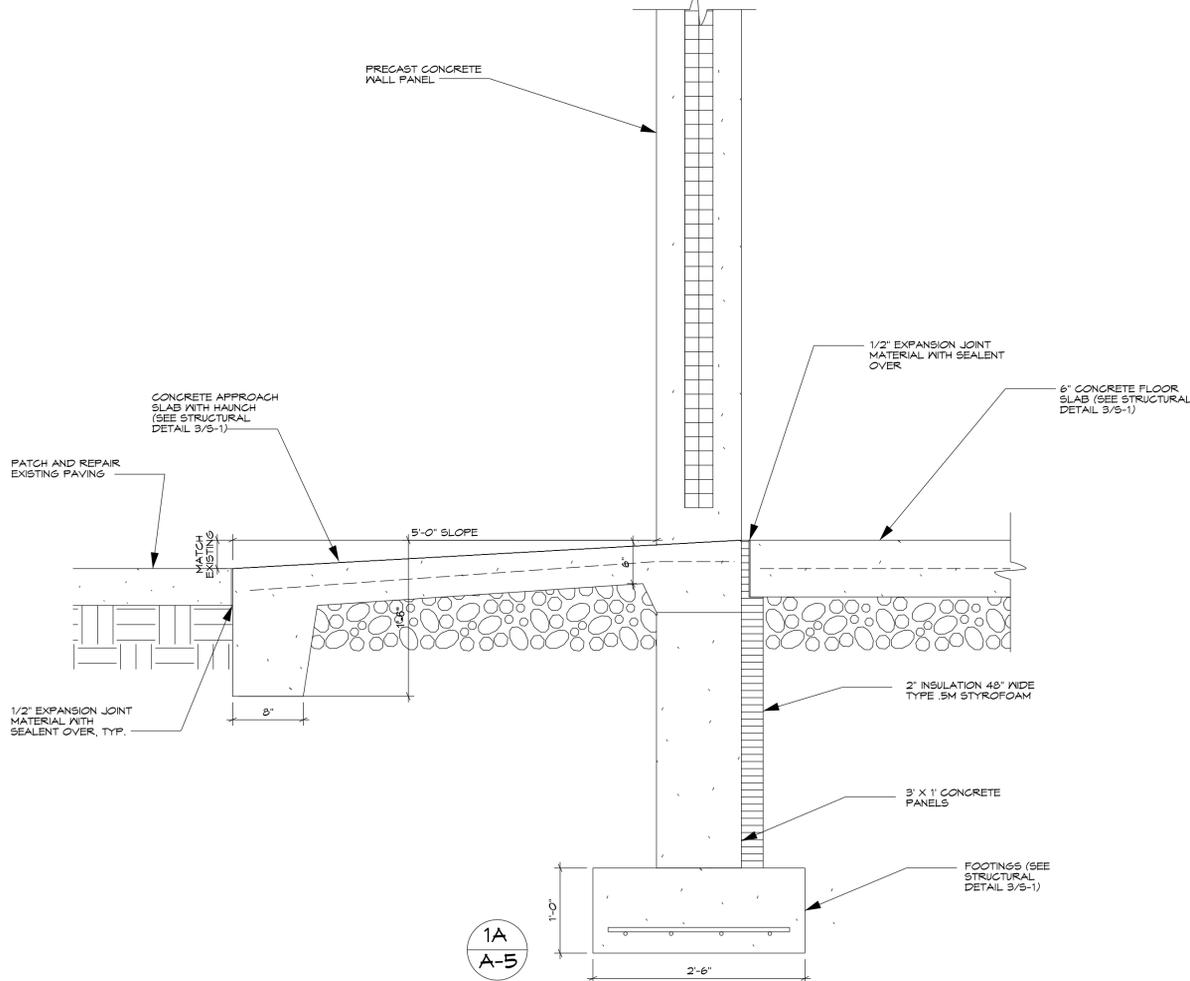
## ROOF PLAN

SCALE: 1/4"=1'-0"

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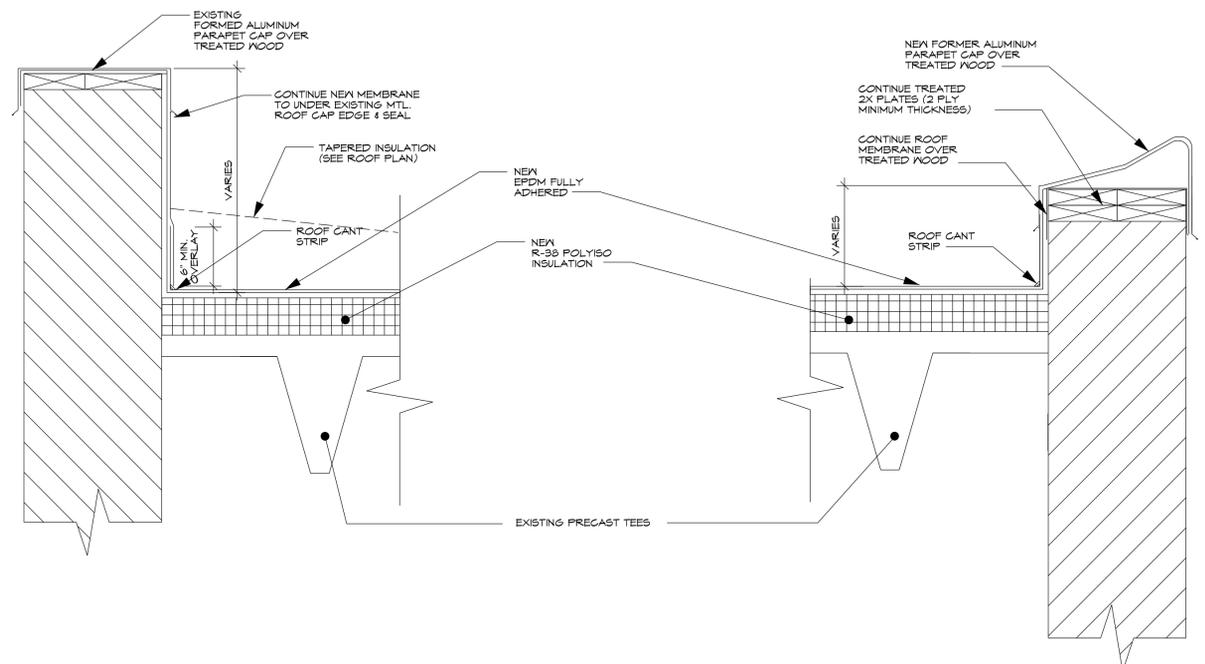


1B  
A-5

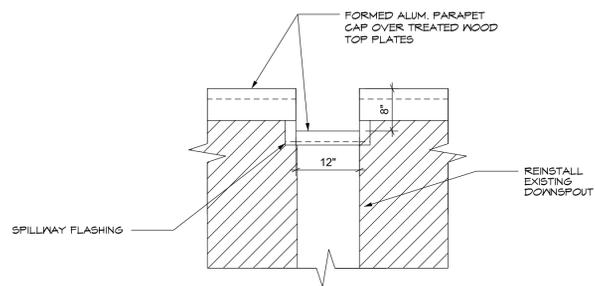


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A-5

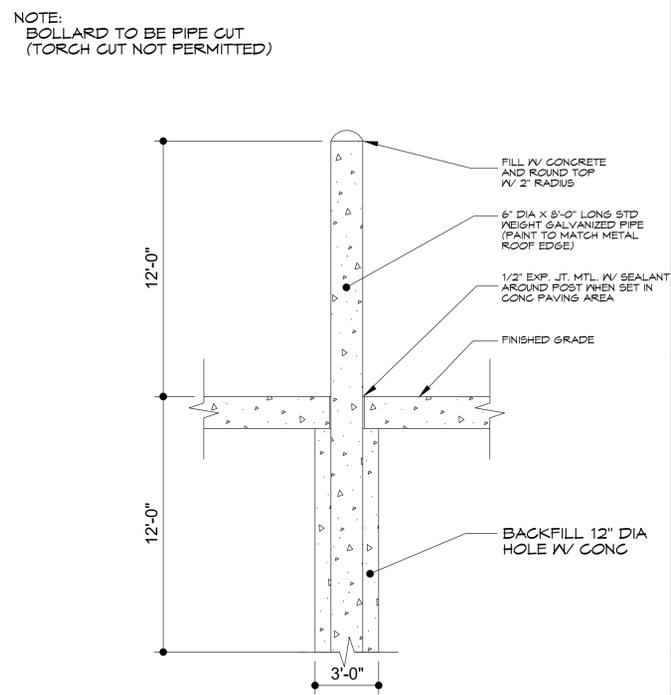
1 APPROACH/WALL DETAIL  
SCALE: NTS



2 ROOF DETAIL  
SCALE: NTS



3 SCUPPER DETAIL  
SCALE: NTS



4 BOLLARD DETAIL  
SCALE: NTS

DGN\_LOC

**GENERAL**

- ALL ELEVATIONS REFERENCED TO FINISHED FIRST FLOOR (+0'-0") = 100.00.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
- ALL OF THE WORK TO BE DONE UNDER THIS CONTRACT SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE DRAWINGS, THE GENERAL REQUIREMENTS OF DIVISION ONE, THE GENERAL CONDITIONS, THE SPECIFICATIONS, AND ANY ADDENDA THERETO.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ACQUAINT THEMSELVES AND ALL SUPERVISORY PERSONNEL WITH THE ABOVE-NAMED DRAWINGS AND DOCUMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTING THE SITE OF THE PROPOSED WORK TO SATISFY THEMSELVES AS TO THE EXISTING CONDITIONS RELATIVE TO THE CONTRACT.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL TEMPORARY SHORING/BRACING OF COLUMNS, BEAMS, JOISTS, ETC., AS REQUIRED BY ALL FEDERAL, STATE AND LOCAL AGENCIES HAVING JURISDICTION, UNTIL ALL PERMANENT FRAMING IS INSTALLED.
- DRAWINGS OF THE EXISTING BUILDING ARE AVAILABLE. THE CONTRACTOR MAY MAKE COPIES OF THESE EXISTING DRAWINGS FOR THEIR REFERENCE.
- UTILITY LOCATIONS ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. SHOULD ANY UTILITIES BE FOUND DIFFERENT THAN LOCATED OR SHOWN ON THE DRAWINGS, THEY SHALL BE PROTECTED IN PLACE AND THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.
- ALL CONSTRUCTION SHALL CONFORM TO INTERNATIONAL BUILDING CODE 2012 UNLESS NOTED OTHERWISE.
 

SNOW: SNOW DRIFT PER IBC 2012  
GROUND SNOW LOAD  $P_g = 25$  PSF  
FLAT ROOF SNOW LOAD  $P_f = 20$  PSF  
 $I_s = 1.00$   
 $C_e = 1.00$   
 $C_t = 1.00$
- ULTIMATE DESIGN WIND SPEED (3 sec gust)  $V_{ult} = 115$  MPH  
NOMINAL DESIGN WIND SPEED (3 sec gust)  $V_{asd} = 90$  MPH  
RISK CATEGORY II  
EXPOSURE B  
 $G_{CPI} = +/- 0.18$
- RISK CATEGORY II  
 $I_e = 1.00$   
SITE CLASS D  
 $S_s = 0.060$   $S_Ms = 0.097$   $S_Ds = 0.064$   
 $S_1 = 0.043$   $S_M1 = 0.104$   $S_D1 = 0.069$   
SEISMIC DESIGN CATEGORY B
- DRAWINGS OF EXISTING BUILDING ARE AVAILABLE FROM THE ARCHITECT FOR USE BY THE CONTRACTOR.
- DIMENSIONS MARKED +/- REQUIRE VERIFICATION BY THE CONTRACTOR.
- IF CONFLICTS ARE FOUND BETWEEN DETAILS OR DIMENSIONS SHOWN ON STRUCTURAL PLANS AND THOSE SHOWN ON ARCHITECTURAL OR OTHER DISCIPLINES' PLANS, NOTIFY ARCHITECT AND ENGINEER IMMEDIATELY FOR CLARIFICATION PRIOR TO PERFORMING WORK.
- IN ANY CASE OF CONFLICT BETWEEN THE NOTES, DETAILS AND SPECIFICATIONS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN. CONTRACTOR SHALL MAKE NO DEVIATION FROM DESIGN DRAWINGS WITHOUT WRITTEN APPROVAL OF THE ENGINEER.

**FOUNDATION NOTES**

- ALL PIERS AND COLUMNS ARE CENTERED ON PADS U.N.O. WALLS CENTERED ON FOOTINGS U.N.O.
- ALL FOOTINGS SHALL REST ON UNDISTURBED SOIL OR CONTROLLED COMPACTED FILL. IF UNUSUAL OR QUESTIONABLE CONDITIONS ARE ENCOUNTERED, DO NOT PROCEED UNTIL THE ARCHITECT AND ENGINEER HAVE BEEN NOTIFIED.
- POUR PIERS MONOLITHICALLY WITH CONCRETE WALLS.
- PROVIDE KEYWAY AT TOP OF ALL FOOTINGS, END OF WALL POURS, SLAB POURS AND END OF FOOTING POURS.
- PROVIDE DOWELS FROM FOOTINGS TO WALLS. USE SAME NUMBER AND SPACING AS VERTICAL WALL BARS, U.N.O.
- PROVIDE BENT BARS 2'-0" X 2'-0" AT ALL CORNERS AND INTERSECTIONS IN WALLS AND FOOTINGS. USE SAME NUMBER AND SPACING AS HORIZONTAL BARS.
- BACKFILL EACH SIDE OF WALL SIMULTANEOUSLY.
- WALLS BACKFILLED ON ONE SIDE ONLY ARE TO BE ADEQUATELY BRACED UNTIL SLABS ARE POURED AND CURED.
- HAND EXCAVATE THE LAST 6" OF ALL FOOTINGS AND PADS JUST PRIOR TO MAKING POUR.
- FORM TOPS OF ALL FOOTINGS, PADS AND GRADE BEAMS TO ENSURE CORRECT LINE AND GRADE.
- BOTTOM OF EXTERIOR FOOTINGS AND WALLS TO BE AT LEAST 3'-6" BELOW FINAL GROUND LINE.
- THE OWNER SHALL HIRE A SOIL TESTING LABORATORY TO VERIFY SOIL BEARING CAPACITY OF EACH FOOTING PRIOR TO PLACING CONCRETE.
- SHOULD THE SOILS BECOME DISTURBED OR SATURATED PRIOR TO CONCRETE PLACEMENT, AFFECTED SOIL SHALL BE REMOVED AND REPLACED WITH CONTROLLED COMPACTED ENGINEERED FILL.
- IF UNSUITABLE SUPPORT MATERIALS ARE ENCOUNTERED, SOIL SHALL BE EXCAVATED UNTIL SUITABLE SOIL IS ENCOUNTERED. BACKFILL SHALL BE WITH CONTROLLED COMPACTED ENGINEERED FILL ACCORDING TO GEOTECHNICAL ENGINEER.
- ASSUMED NET ALLOWABLE FOUNDATION BEARING PRESSURE ON UNDISTURBED SOIL = 1,500 PSF.
- THE CONTRACTOR IS REQUIRED TO SUBMIT A CONTROL/COLD JOINT LAYOUT FOR ALL CAST-IN-PLACE ARCHITECTURAL CONCRETE (EXPOSED CONCRETE) TO THE ARCHITECT FOR APPROVAL PRIOR TO PERFORMING THE WORK. ANY WORK REQUIRING DEMOLITION DUE TO IMPROPERLY PLACED JOINTS WILL BE DONE AT NO ADDITIONAL COST TO THE OWNER. THE JOINT LOCATIONS SHOWN ON THE STRUCTURAL PLANS ARE FOR SCHEMATIC PURPOSES ONLY.
- PROVIDE 1/8" THICK BOND BREAK BETWEEN ADJOINING FOOTING PADS.
- CONTRACTOR SHALL BE RESPONSIBLE TO ADEQUATELY PROTECT ALL EXCAVATION SLOPES. WHERE NECESSARY, SHEETING AND SHORING OF EXCAVATION SHALL BE PROVIDED WITH ALL REQUIRED tie-backs AND BRACING.
- CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION TO ALL FOOTINGS DURING CONSTRUCTION TO PREVENT SUPPORTING SOIL FROM FREEZING, USING ADDITIONAL TEMPORARY SOIL COVER OR OTHER MEANS. BOTTOM OF FOOTINGS SHALL BE A MINIMUM OF 3'-6" BELOW TOP OF TEMPORARY SOIL COVER.

**CONCRETE**

- CONCRETE TO BE IN ACCORDANCE WITH "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301 CURRENT EDITION)".
- REINFORCING STEEL TO BE BENT AND PLACED IN ACCORDANCE WITH "MANUAL OF STD. PRACTICE FOR DETAILING CONCRETE STRUCTURES (ACI 315 CURRENT EDITION)".
- ALL CONCRETE SHALL BE 4000 PSI AT 28 DAYS.
- CONCRETE EXPOSED TO FREEZE/THAW CONDITIONS SHALL BE AIR ENTRAINED.
- COARSE AGGREGATE FOR FOOTINGS AND UNEXPOSED WALLS MAY BE GRAVEL.
- COARSE AGGREGATE FOR SLABS AND EXPOSED WALLS TO BE CRUSHED LIMESTONE.
- MAXIMUM AGGREGATE SIZE TO BE 1" - U.N.O.
- ALL AGGREGATE IN ACCORDANCE WITH ASTM C33. LIMIT SHALE, CHERT, COAL AND IRON OXIDE.
- 4000 PSI CONCRETE TO HAVE A MIN. 6 SACKS CEMENT/MAX. 5 GAL. OF WATER/SACK.
- WATER REDUCER REQUIRED FOR ALL BEAMS, WALLS AND SLABS.
- CONCRETE WATER-CEMENT RATIO INDICATED FOR DESIGN MIXES TO HAVE CEMENT CONTENT ADJUSTED TO PROVIDE A WORKABLE MIX.
- USE OF CALCIUM CHLORIDES PROHIBITED.
- ALL REINFORCING STEEL TO BE ASTM A615 - GRADE 60.
- ALL WELDED WIRE FABRIC IN ACCORDANCE WITH ASTM A185.
- CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR TO BE:
  - 3" CAST AGAINST EARTH.
  - 2" ALL OTHER LOCATIONS U.N.O.
- ALL REINFORCING STEEL SHALL BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS PLACED.
- MAXIMUM SPACING OF BAR SUPPORTS TO BE 3'-0" O.C. EACH WAY.
- PROVIDE 2-#5 BARS AROUND ALL SIDES OF HOLES THROUGH CONCRETE WALLS AND SLABS. AT WALLS AND SLABS WITH MULTIPLE MATS OF REINFORCING, PROVIDE SUPPLEMENTAL REINFORCING BARS IN EACH FACE OF MEMBER. BARS TO EXTEND 2'-0" BEYOND EDGES OF OPENINGS.
- PROVIDE CLASS B TENSION SPLICES FOR CONTINUOUS BARS UNLESS OTHERWISE SHOWN.
- LAP WELDED WIRE FABRIC MESH A MINIMUM OF 6 INCHES OR ONE SPACE.
- PROVIDE CONTINUOUS KEYWAYS AT ALL UNREINFORCED AND FIBER REINFORCED SLAB CONSTRUCTION JOINTS.
- ALL SLAB REINFORCING STEEL SHALL CONTINUE THROUGH SLAB CONSTRUCTION JOINTS.
- ISOLATE ALL WALLS AND COLUMNS FROM SLAB ON GRADE. USE PREFORMED JOINT MATERIAL.
- CONCRETE CONTRACTOR SHALL SUBMIT A PLAN SHOWING PROPOSED JOINTING LOCATIONS AND JOINT DETAILS FOR ARCHITECTS APPROVAL PRIOR TO PLACING SLAB. SLAB-ON-GRADE SHALL BE JOINTED SO THAT EACH AREA BOUNDED BY JOINTS DOES NOT EXTEND MORE THAN 48X SLAB THICKNESS IN ANY DIRECTION. JOINTING SHALL BE OF A REGULAR GRID PATTERN WITH INTERSECTING JOINTS AT 90 DEGREES AND SHALL INTERSECT AT COLUMNS WHERE POSSIBLE.
- DO NOT SAWCUT STRUCTURAL SLABS, STOODS, OR SLABS ON METAL DECK WITHOUT PRIOR APPROVAL OF ENGINEER.
- THE CONTRACTOR SHALL COORDINATE LOCATIONS OF ALL OPENINGS IN WALLS, SLABS AND FOUNDATIONS FOR DUCTS, PIPES, UTILITY LINES AND OTHER PENETRATIONS WITH THE RESPECTIVE TRADES. ALL SUCH PENETRATIONS SHALL BE FORMED OR SLEEVED IN CONCRETE AND STEEL LINTELS IN MASONRY WALLS.
- UNLESS OTHERWISE DETAILED ON PLANS, NO OTHER OBJECTS SHALL BE PLACED IN STRUCTURAL SLABS WITHOUT PRIOR APPROVAL OF ARCHITECT (I.E. CONDUIT, MECHANICAL LINES, PLUMBING LINES, ETC.).
- ALL CONCRETE SLABS SHALL BE POURED TO UNIFORM THICKNESS AS INDICATED ON PLANS.
- SEE ARCHITECTURAL PLANS FOR CONCRETE STOOP LOCATIONS AND DIMENSIONS.
- CONTRACTOR SHALL USE RIGID TEMPLATES TO INSTALL ANCHOR BOLTS. ANCHOR BOLTS SHALL BE TIED IN PLACE PRIOR TO POURING CONCRETE. NO WET STICKING OF ANCHOR BOLTS WILL BE ALLOWED.
- PIPES OR CONDUITS PLACED IN SLAB ON GRADE SHALL NOT BE SPACED CLOSER THAN 3 TIMES THE DIAMETER ON CENTER. PIPES AND CONDUITS PLACED IN SLAB ON GRADE SHALL NOT HAVE AN OUTSIDE DIAMETER LARGER THAN 1/3 THE SLAB THICKNESS. NO CONDUITS SHALL BE PLACED WITHIN 12 INCHES OF ANY COLUMN FACE. ALUMINUM CONDUIT SHALL NOT BE PLACED IN SLABS.
- PROVIDE CONSTRUCTION JOINTS IN ACCORDANCE WITH ACI 318, CHAPTER 6.4. SUBMIT SHOP DRAWINGS SHOWING CONSTRUCTION JOINT LOCATIONS ALONG WITH THE SEQUENCE OF POURS FOR REVIEW.

**DEMOLITION AND REMODELING**

- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO ENSURE THAT PARTS OF THE STRUCTURE TO BE PRESERVED ARE NOT DAMAGED BY THE APPLICATION OF EXCESSIVE LOADS OR BY ANY OTHER MEANS, AND THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE CAUSED.
- ENSURE SAFE PASSAGE OF PERSONS AROUND AREA OF DEMOLITION AND CONSTRUCTION. CONDUCT OPERATIONS TO PREVENT INJURY TO ADJACENT BUILDINGS, STRUCTURES, EQUIPMENT AND OTHER FACILITIES AND PERSONS.
- EXISTING STRUCTURE SHALL BE TEMPORARILY SHORED AS REQUIRED TO PERFORM CONSTRUCTION SHOWN HEREIN. MEMBERS SHALL BE REMOVED IN SUCH A MANNER AS NOT TO DAMAGE EXISTING STRUCTURE.
- ALL REMOVALS OF EXISTING CONCRETE SHALL BE INITIATED WITH A NEAT, 1/2" DEEP STRAIGHT SAW CUT.
- PROTECT EXISTING REINFORCING STEEL IN PLACE. EXERCISE EXTREME CARE TO AVOID DAMAGING EXISTING REINFORCEMENT.
- EXACT LOCATION OF EXISTING REINFORCEMENT IS TO BE DETERMINED BY THE CONTRACTOR USING A REBAR LOCATOR OR SIMILAR METHOD.
- LOCATE HOLES FOR BOLTS AND DOWELS TO AVOID EXISTING REINFORCEMENT.
- CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR DAMAGED EXISTING REINFORCEMENT TO THE SATISFACTION OF THE ENGINEER/OWNER. CONTRACTOR RESPONSIBLE FOR ALL COSTS AND DELAYS ASSOCIATED WITH THE REPAIR.
- IN THE EVENT OF CONFLICTS, NOTIFY ENGINEER PRIOR TO FIELD MODIFICATIONS OF DETAILS, CONNECTIONS, OR DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS.

**STEEL**

- STRUCTURAL STEEL TO BE FABRICATED AND ERECTED IN ACCORDANCE WITH "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (AISC 360, CURRENT EDITION) AND "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC 303, CURRENT EDITION).
- STRUCTURAL STEEL WIDE FLANGE AND WT SECTIONS IN ACCORDANCE WITH ASTM A992.
- STEEL CHANNELS, PLATES AND ANGLES IN ACCORDANCE WITH ASTM A36.
- STEEL TUBES IN ACCORDANCE WITH ASTM A500 GRADE B ( $F_y = 46$  ksi).
- ALL ELECTRODES E70 SERIES.
- EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT 3 OR APPROVED EQUAL.GROUT MASONRY SOLID AT EXPANSION BOLTS.
- ADHESIVE FOR ANCHORS SHALL BE HILTI HIT HY-200 OR APPROVED EQUAL.THREADED RODS SHALL BE HILTI HAS-E STANDARD RODS UNLESS NOTED OTHERWISE.
- CUTS, HOLES, COPING, ETC. REQUIRED FOR WORK OF OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWINGS AND MADE IN THE SHOP. CUTS OR BURNING OF HOLES IN STRUCTURAL STEEL MEMBERS IN THE FIELD WILL NOT BE PERMITTED.
- ALL ENDS OF TUBES OR PIPES SHALL BE SEALED WITH A 1/4" CAP PLATE UNLESS NOTED OTHERWISE.
- NO HOLES ALLOWED IN BEAMS, JOISTS OR COLUMNS UNLESS SPECIFICALLY NOTED OR DETAILED ON STRUCTURAL DRAWINGS.

**PRECAST PRESTRESSED CONCRETE WALL PANELS**

- ALL CONSTRUCTION SHALL CONFORM TO CURRENT ACI 318, CURRENT IBC, AND DESIGNER'S REQUIREMENTS.
- ALL CONCRETE SHALL BE 5000 PSI @ 28 DAYS MINIMUM.
- ALL COARSE AGGREGATE SHALL BE LIMESTONE.
- NON-PRESTRESSED REINFORCING STEEL SHALL BE ASTM A615 - GRADE 60 OR ASTM A706 - GRADE 60.
- ALL WELDED WIRE FABRIC ASTM A185.
- ALL STEEL ASTM A36.
- WELDED STUDS - AWS D1.1.
- MANUFACTURE IN ACCORDANCE WITH PCI MNL-116.
- TOLERANCES OF MANUFACTURE SHALL COMPLY WITH PCI MNL-116.
- NO MECHANICAL EQUIPMENT OR PIPING TO BE SUPPORTED FROM PRECAST WALL PANELS, UNLESS APPROVED BY MANUFACTURER.
- PROVIDE TEMPORARY SHORING OR BRACING AS REQUIRED TO MAINTAIN PRECAST IN A SAFE AND STABLE CONDITION DURING ERECTION. REMOVE TEMPORARY MEMBERS AND CONNECTIONS WHEN PERMANENT MEMBERS ARE IN PLACE AND FINAL CONNECTIONS ARE MADE.
- FIELD DEVIATIONS FROM APPROVED SHOP DRAWINGS OR FIELD MODIFICATIONS TO PRECAST PANELS OR CONNECTIONS MUST BE APPROVED IN WRITING BY THE PRECAST FABRICATOR AND ARCHITECT/ENGINEER.
- PANELS DAMAGED BY HANDLING OR ERECTION WILL BE REJECTED.
- NO FIELD INSERTS OR HOLES ALLOWED IN PRECAST PANELS, UNLESS SPECIFICALLY NOTED OR SHOWN ON THE DRAWINGS, OR APPROVED BY PRECAST FABRICATOR AND ARCHITECT/ENGINEER.
- NON-METALLIC SHRINKAGE - RESISTANCE GROUT TO BE MASTERFLOW 713 BY BASF, CRYSTEX BY L & M CONSTRUCTION CHEMICALS, OR APPROVED EQUAL.
- FABRICATOR SHALL FURNISH CERTIFIED CALCULATIONS AND SHOP DRAWINGS BY AN IOWA REGISTERED PROFESSIONAL ENGINEER FOR PANELS AND CONNECTIONS.
- PROVIDE RECESSED/HIDDEN SHEAR CONNECTIONS AT PANEL JOINTS.

**PRECAST CONCRETE DOUBLE TEES**

- ALL CONSTRUCTION SHALL CONFORM TO CURRENT ACI 318, CURRENT IBC, AND DESIGNER'S REQUIREMENTS.
- ALL CONCRETE SHALL BE 5000 PSI @ 28 DAYS MINIMUM.
- ALL COARSE AGGREGATE SHALL BE LIMESTONE.
- ALL REINFORCING STEEL ASTM A615 - GR 60.
- ALL WELDED WIRE FABRIC ASTM A185.
- ALL STEEL ASTM A36 (MIN.)
- WELDED STUDS - AWS D1.1.
- MANUFACTURE IN ACCORDANCE WITH PCI MNL-116.
- TOLERANCES OF MANUFACTURE SHALL COMPLY WITH PCI MNL-116.
- FABRICATOR SHALL PROVIDE FOR ALL OPENINGS 10 INCHES IN DIAMETER OR LARGER. SEE MECH/ELECT. PLANS FOR EXACT LOCATIONS AND SIZES OF OPENINGS FOR UTILITIES.
- NO FIELD INSERTS SHALL BE ALLOWED IN WEBS OF PRECAST PRESTRESSED SLABS.
- AFTER PRECAST CONCRETE UNITS HAVE BEEN PLACED AND SECURED, LEVEL AND GROUT SOLID ALL OPENINGS AT CONNECTIONS AND ALL KEYWAYS AT JOINTS.
- KEYWAY GROUT TO BE 3 PARTS SAND, ONE PART PORTLAND CEMENT -MINIMAL WATER. TAMP TIGHTLY INTO JOINT.
- NO FIELD WELD SHALL BE ALLOWED IN WEBS OF PRECAST PRESTRESSED SLABS.
- NO FIELD INSERTS ALLOWED IN BOTTOM OF PRECAST SLABS. INSERTS MAY BE PLACED IN JOINTS (4'-0" O.C.) PRIOR TO GROUTING.
- HANG ALL MECHANICAL EQUIPMENT FROM JOINTS.
- ALL DRILLING THROUGH PRECAST SLABS TO BE DONE USING A HIGH SPEED DRILL. DRILL VERTICALLY UPWARD FROM BOTTOM OF SLAB TO PREVENT SPALLING.
- PROVIDE TEMPORARY SHORING OR BRACING AS REQUIRED TO MAINTAIN PRECAST IN A SAFE AND STABLE CONDITION DURING ERECTION. REMOVE TEMPORARY MEMBERS AND CONNECTIONS WHEN PERMANENT MEMBERS ARE IN PLACE AND FINAL CONNECTIONS ARE MADE.
- PROVIDE RECESSED/HIDDEN CONNECTIONS AT PANEL JOINTS. FIELD INSERTS OR HOLES IN SLABS/PANELS NOT ALLOWED UNLESS SPECIFICALLY SHOWN ON DRAWINGS/SHOP DRAWINGS, OR APPROVED BY PRECAST FABRICATOR AND ARCHITECT/ENGINEER. PANELS/SLABS DAMAGED BY HANDLING WILL BE REJECTED. FIELD DEVIATIONS FROM APPROVED SHOP DRAWINGS MUST BE APPROVED IN WRITING BY PRECAST FABRICATOR AND ARCHITECT / ENGINEER.
- FABRICATOR SHALL FURNISH CERTIFIED CALCULATIONS AND SHOP DRAWINGS BY AN IOWA REGISTERED PROFESSIONAL ENGINEER FOR PANELS AND CONNECTIONS.

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DISTRICT: 01	COUNTY: STORY	PROJECT NUMBER: BG-2A12(022)-80-85
AMES, IOWA		NOTES
AMES WAREHOUSE EXPANSION		DATE: 04/01/15
DRAWN BY: DESIGN TEAM		APPROVED:
REVISIONS:		SHEET 01 OF 03
S-0		

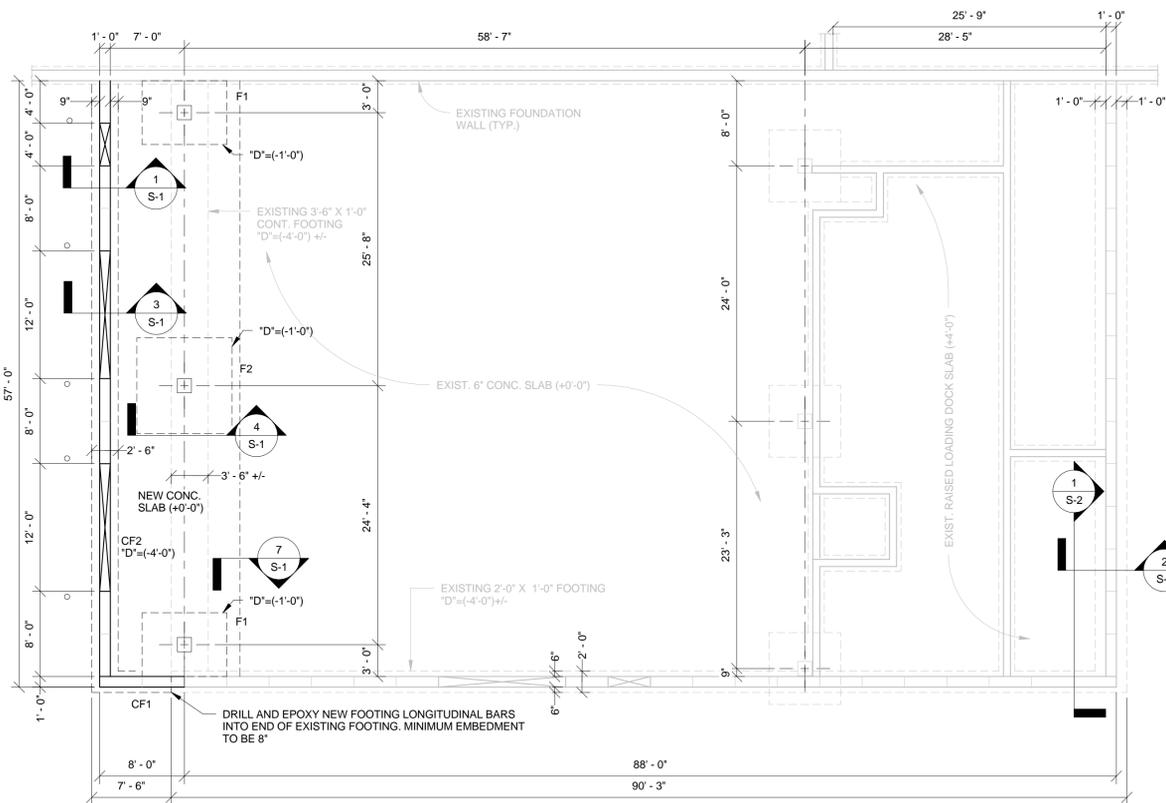
I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA

*Joseph W. Stanisz*

JOSEPH W. STANISZ, P.E. IOWA REG. NO. 16329

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2015

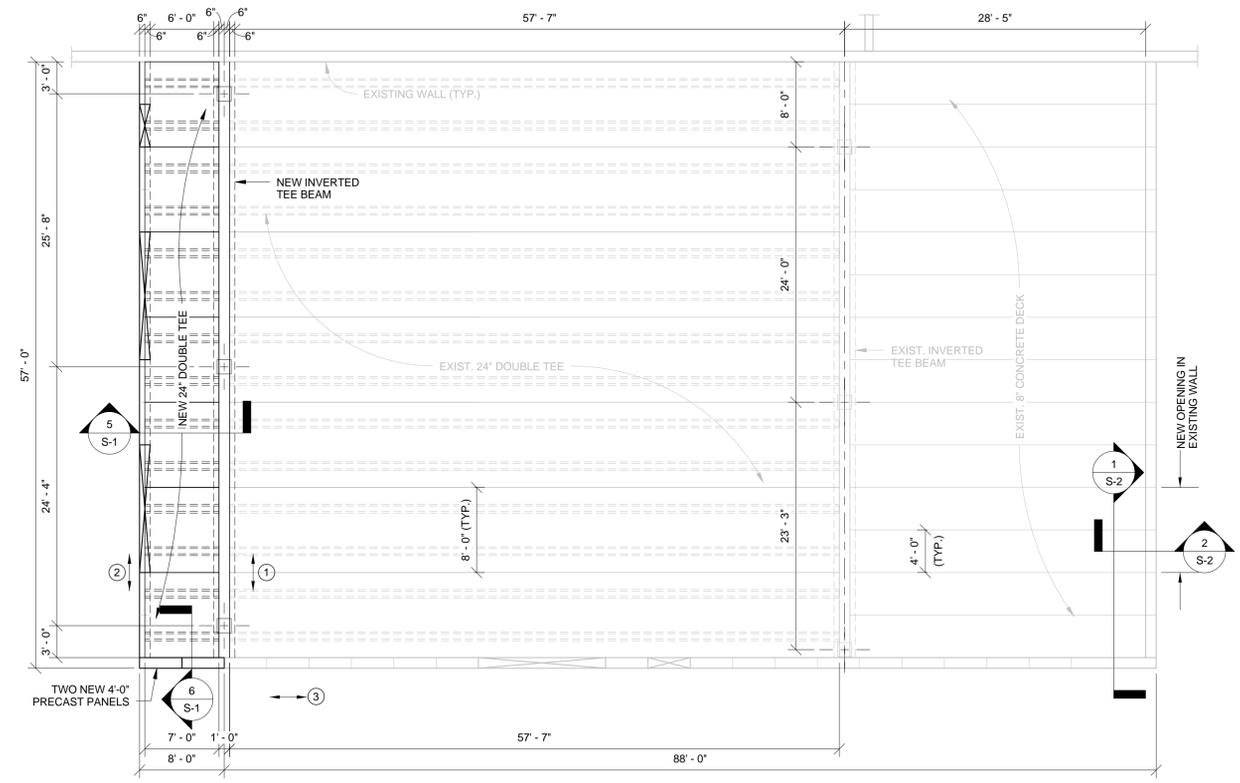
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**FOUNDATION PLAN**  
1/8" = 1'-0"

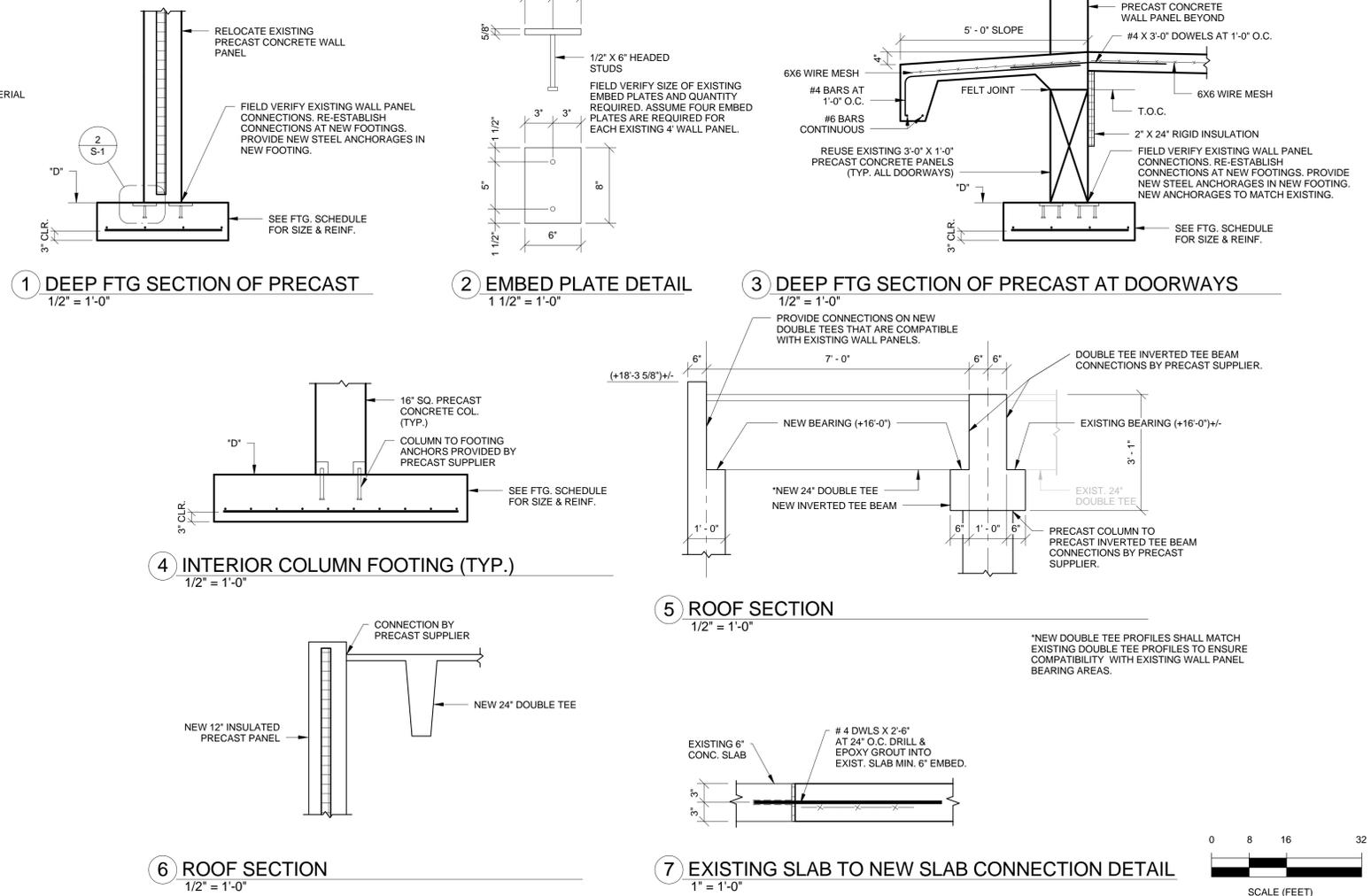
FOOTING SCHEDULE		
TYPE MARK	TYPE	REINFORCING
CF1	2'-0" X 1'-0"	3 - #5 BARS CONT. / #5 BARS TRANS. AT 1'-0" O.C.
CF2	2'-6" X 1'-0"	4 - #5 BARS CONT. / #5 BARS TRANS. AT 1'-0" O.C.
F1	6'-0" X 8'-6" X 1'-0"	#5 AT 6" O.C. LONG DIR. #5 AT 12" O.C. SHORT DIR.
F2	9'-0" X 9'-0" X 1'-0"	#5 AT 6" O.C. E.W.

**NOTES:**  
 ALL ELEVATIONS REFERENCED TO FINISHED FIRST FLOOR LINE (+0'-0")  
 "D" DENOTES DISTANCE FROM FINISHED FIRST FLOOR LINE TO TOP OF FOOTING.  
 "D" = (-1'-0") INTERIOR COLUMNS (U.N.O.)  
 "D" = (-4'-0") EXTERIOR WALL FOOTINGS (U.N.O.)  
 SLAB ON GRADE: 6" CONCRETE SLAB ON MINIMUM OF 2'-0" FREE DRAINING GRANULAR MATERIAL (IOWA DOT GRADATION 1(4110) OR 12a (4121) REINFORCE: 6X6-W1.4XW1.4 W.W.F.  
 FOR DIMENSIONS AND ELEVATIONS NOT SHOWN SEE ARCHITECTURAL SLOPE ALL EXTERIOR STOOP SLABS PER ARCHITECTURAL DRAWINGS



**ROOF PLAN**  
1/8" = 1'-0"

PROVIDE TEMPORARY SHORING AT SOUTH END OF EXISTING 24" DOUBLE TEE MEMBERS TO ALLOW INSTALLATION OF NEW COLUMN FOOTINGS, PRECAST COLUMNS, AND INVERTED TEE BEAM.



**1 DEEP FTG SECTION OF PRECAST**  
1/2" = 1'-0"

**2 EMBED PLATE DETAIL**  
1 1/2" = 1'-0"

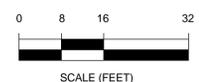
**3 DEEP FTG SECTION OF PRECAST AT DOORWAYS**  
1/2" = 1'-0"

**4 INTERIOR COLUMN FOOTING (TYP.)**  
1/2" = 1'-0"

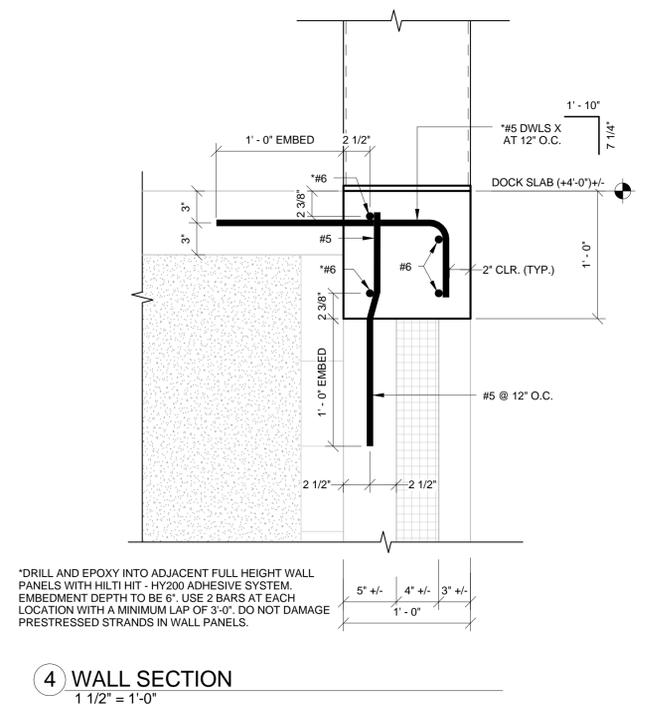
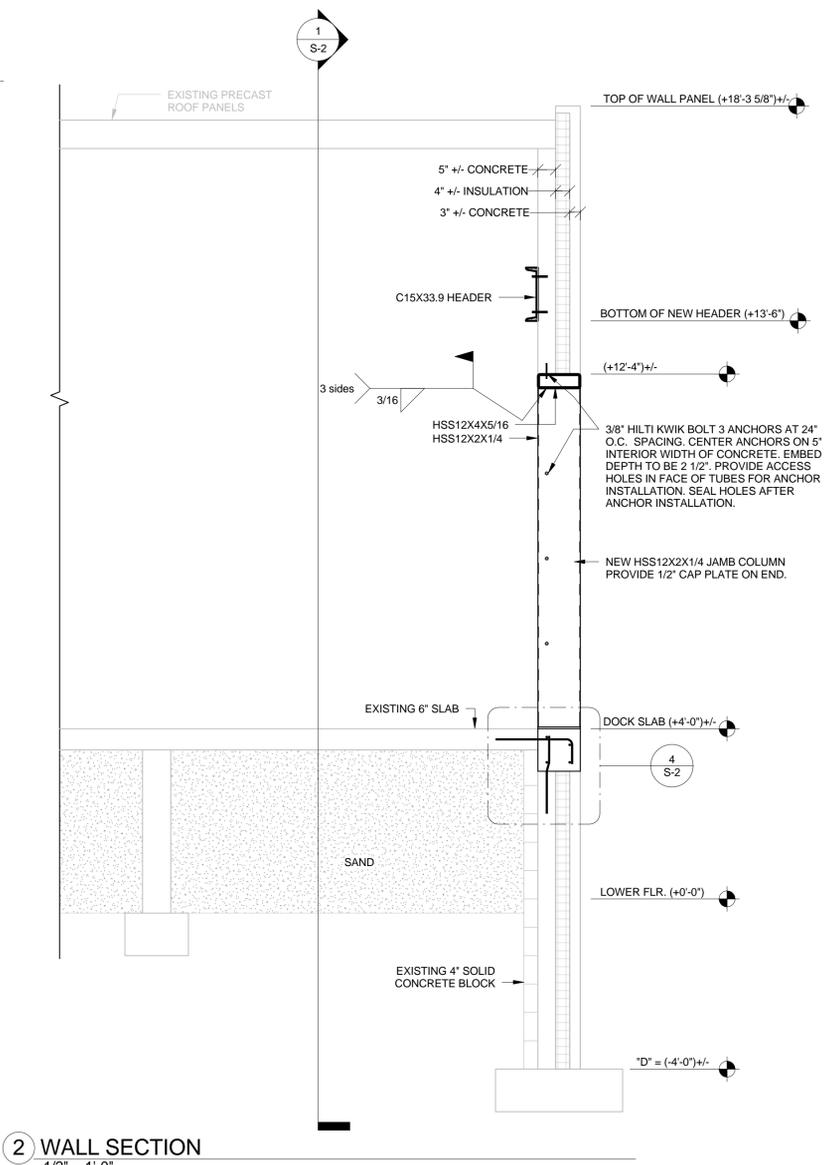
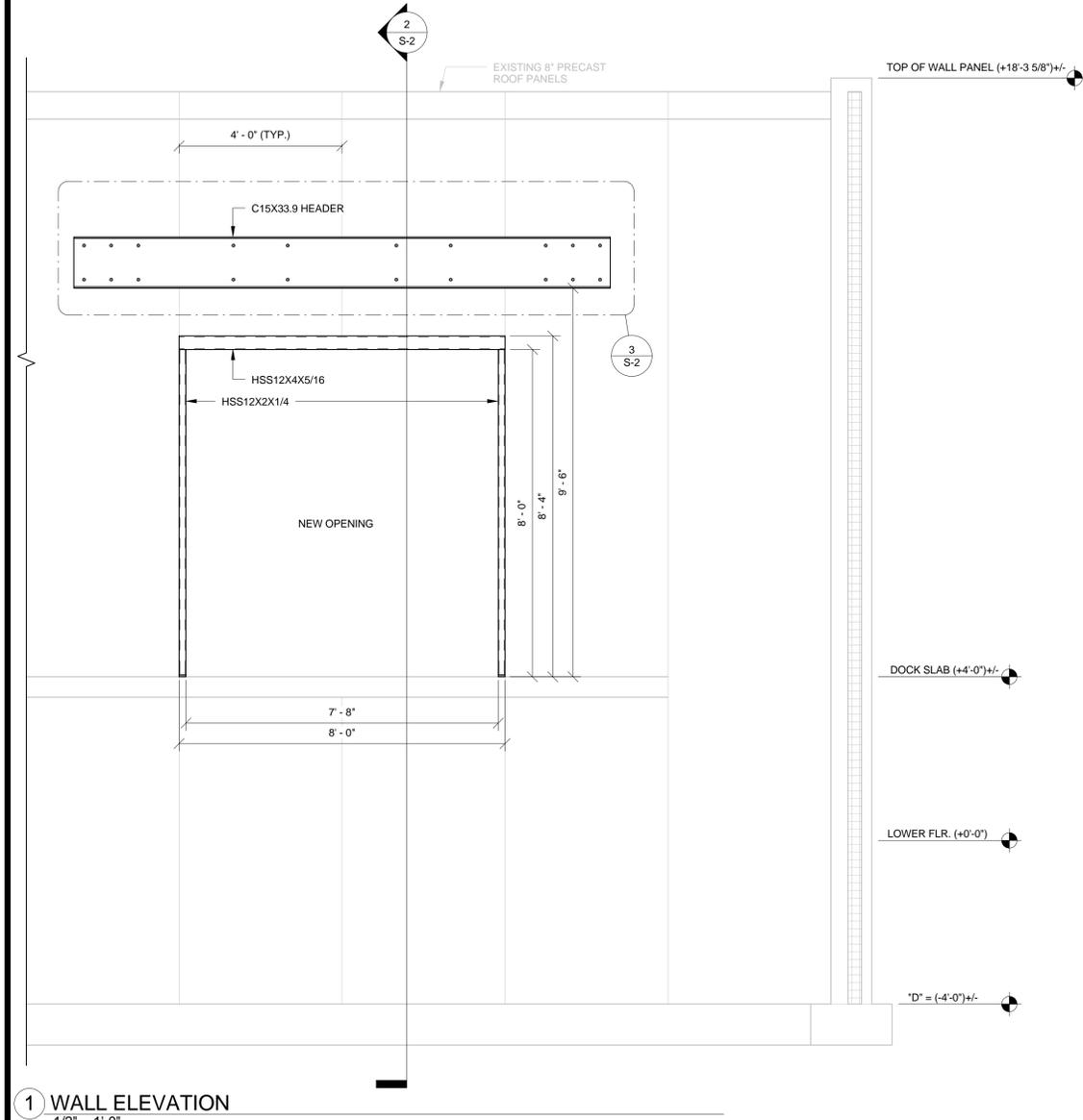
**5 ROOF SECTION**  
1/2" = 1'-0"

**6 ROOF SECTION**  
1/2" = 1'-0"

**7 EXISTING SLAB TO NEW SLAB CONNECTION DETAIL**  
1" = 1'-0"



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**1 WALL ELEVATION**  
1/2" = 1'-0"

**2 WALL SECTION**  
1/2" = 1'-0"

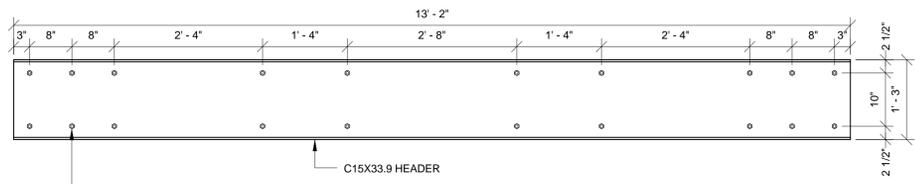
**4 WALL SECTION**  
1 1/2" = 1'-0"

**NEW WALL OPENING INSTALLATION NOTES:**

1. PRIOR TO STARTING MODIFICATIONS, THE LOCATION OF THE VERTICAL PRESTRESSING STRANDS SHALL BE LOCATED IN THE WALL PANELS THAT WILL HAVE NEW ANCHORS INSTALLED INTO THEM. IF PRESTRESSING STRANDS ARE IN CONFLICT WITH ANCHORS IN THE NEW HEADER CHANNEL, NOTIFY ENGINEER FOR ANCHOR LOCATION MODIFICATIONS.
2. INITIATE ALL CONCRETE REMOVALS WITH SAW CUTS. DO NOT SAW CUT INTO ADJACENT FULL HEIGHT PANELS THAT REMAIN.
3. ALL ADHESIVE ANCHORS SHALL USE HILTI HIT-HY 200 ADHESIVE SYSTEM OR APPROVED EQUAL. FOLLOW ALL MANUFACTURER REQUIREMENTS FOR CLEANING HOLES PRIOR TO INSTALLING ADHESIVE.
4. ALL EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT 3 OR APPROVED EQUAL.
5. ALL STEEL CHANNELS AND PLATE IN ACCORDANCE WITH ASTM A36. ALL STEEL TUBES IN ACCORDANCE WITH ASTM A500 GRADE B (FY=46KSI) OR ASTM A1085. ALL WELDING ELECTRODES E70 SERIES.

**SUGGESTED CONSTRUCTION SEQUENCE:**

- VERIFY LOCATION OF PRESTRESSING STRANDS IN PRECAST WALL PANELS.
- VERIFY HEADER CHANNEL ANCHORS WILL NOT CONFLICT WITH PRESTRESSING STRANDS.
- INSTALL NEW HEADER CHANNEL ON INTERIOR OF BUILDING.
- INSTALL TEMPORARY BRACING ON EXTERIOR OF BUILDING TO SUPPORT THE TOP OF THE LOWER PIECE OF WALL PANEL THAT IS TO REMAIN IN PLACE. BRACING TO ATTACH JUST BELOW LOWER REMOVAL LINE AND TO EXTERIOR PAVING.
- SAW CUT EXTERIOR LAYER OF CONCRETE IN WALL PANELS THAT ARE GOING TO BE REMOVED. PROVIDE TEMPORARY SHORING TO EXTERIOR LAYER OF CONCRETE.
- SAW CUT INTERIOR LAYER OF CONCRETE IN WALL PANELS.
- REMOVE PIECES OF EXISTING WALL PANELS FROM NEW OPENING AREA.
- INSTALL NEW POURED IN PLACE SECTION OF CONCRETE ON TOP OF LOWER PIECES OF REMAINING WALL PANELS.
- INSTALL NEW TUBE STEEL AT HEAD AND JAMBS OF NEW OPENING.
- REMOVE TEMPORARY SHORING/BRACING AFTER NEW CONCRETE HAS ACHIEVED FULL DESIGN STRENGTH.



**3 ELEVATION OF NEW HEADER CHANNEL**  
3/4" = 1'-0"

ATTACH CHANNEL TO EXISTING PRECAST PANELS WITH HILTI HIT - HY200 ADHESIVE SYSTEM. ANCHORS 5/8" DIA. HAS B7 THREADED ROD (ASTM A193 GRADE B7) EMBEDMENT DEPTH TO BE 3-1/8" ENSURE HOLES ARE CLEANED PER HILTI REQUIREMENTS BEFORE INSTALLING ADHESIVE.

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