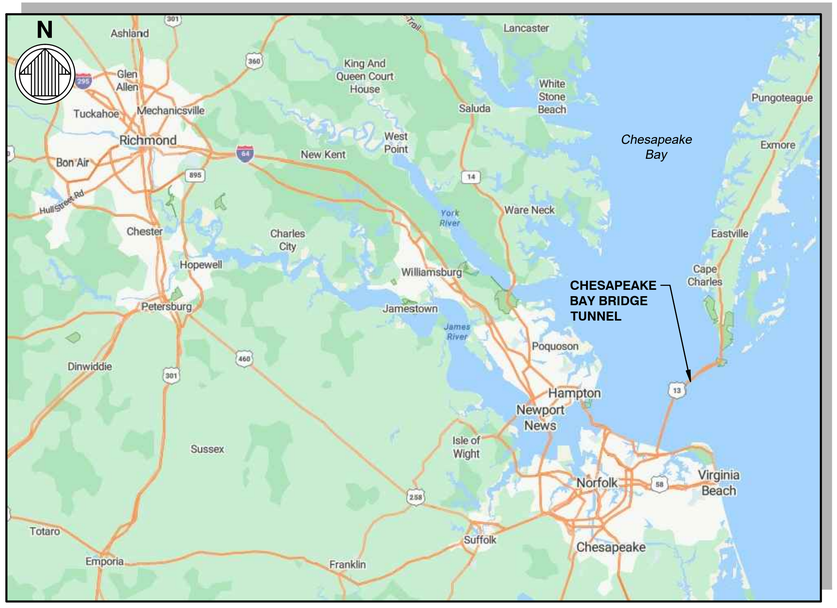
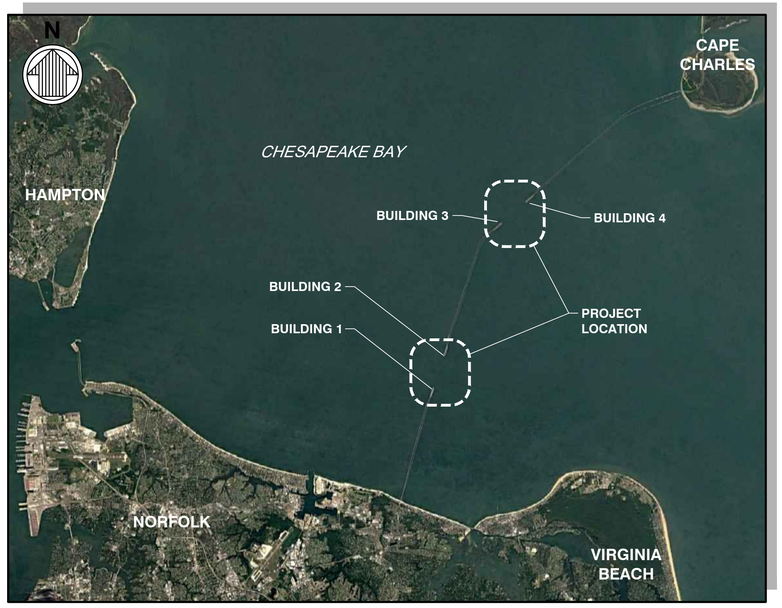
CHESAPEAKE BAY BRIDGE TUNNEL VENTILATION BUILDINGS FAN ROOM REPAIRS AND ELEVATOR REPLACEMENT

RMF #: 3076.3731



VICINITY MAP
SCALE: NTS



LOCATION PLAN
SCALE: NTS

GENERAL NOTES

THE PLAN SET WITHIN IS COMPRISED OF TWO SETS OF REPAIR DRAWINGS:

- MOFFATT AND NICHOL'S VENTILATION BUILDINGS FAN ROOM REPAIR DRAWINGS (INDEX OF DRAWINGS SHOWN ON G-001)
- HBA ARCHITECTURE'S ELEVATOR REPLACEMENT DRAWINGS (INDEX OF DRAWINGS SHOWN ON COVER SHEET G000)
- SEQUENCE OF CONSTRUCTION HAS BEEN SEPARATED FOR EACH SET OF REPAIR DRAWINGS. CONTRACTOR SHALL REVIEW EACH SET AND SUBMIT FOR THE DISTRICT'S REVIEW, AN OFFICIAL SEQUENCE OF CONSTRUCTION THAT ENCOMPASSES ALL WORK TO BE COMPLETED AS SPECIFIED WITH THE CONTRACT.

SCOPE OF WORK

THE PLAN SET WITHIN IS COMPRISED OF TWO SETS OF REPAIR DRAWINGS:

A. VENTILATION BUILDING FAN ROOM REPAIRS:
- INSTALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING FACILITIES.
- REMOVE EXISTING LOUVERS AND BIRD SCREEN.
- SAWCUT, DEMO, AND PERFORM ALL CONCRETE REPAIRS, AS PER THE DRAWINGS.
- FABRICATE AND INSTALL NEW LATERAL / HORIZONTAL LOUVER BRACING.
- INSTALL NEW BIRD SCREEN PANELS AND ANCHOR BRACKETS.
- RE-INSTALL EXISTING LOUVERS.

B. ELEVATOR REPLACEMENT:
- UPGRADE/MODERNIZE FOUR (4) EXISTING ELEVATORS, ONE EACH IN FOUR (4) VENTILATION BUILDINGS.
- REFURBISH EXISTING CABS, LEAVE EXISTING RAILS.
- REFURBISH DOOR FRAME ENTRANCES AND DOOR OPERATING EQUIPMENT.
- INSTALL ELEVATOR CONTROLS, MOTOR, BRAKE, GOVERNOR, ROPES, ETC.
- INSTALL NEW ELEVATOR LANDING.

Mark	Description	Date	Appr

CHESAPEAKE BAY BRIDGE TUNNEL VENTILATION BUILDINGS FAN ROOM REPAIRS AND ELEVATOR REPLACEMENT

TITLE SHEET

Rev: -
Date: 04/08/2025
M&N Project No. 222309-03
Drawing code:
Drawing Scale:
Plot scale: 1:1 (D SHEET)
Designed by: JSE/JMH
Drawn by: MWC
Cad by: JMH
Reviewed by: BRJ
Submitted by: JMH MOFFATT & NICHOL

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PREPARED FOR:
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

COMMONWEALTH OF VIRGINIA
BILLY R. JENKINS
Lic. No. 011126
04/08/2025
PROFESSIONAL ENGINEER
SEAL

Sheet No.
T-001
INDEX: 1 OF 1

File: Q:\WOR\222309-03\20 CADD_Active_CBBT_Vent_Bldg_Rpr\222309037-001 ; Plotted: 4/8/2025 3:41 PM by MEJDRECH, ISABELLA ; Saved: 4/8/2025 3:30 PM by IMEJDRECH

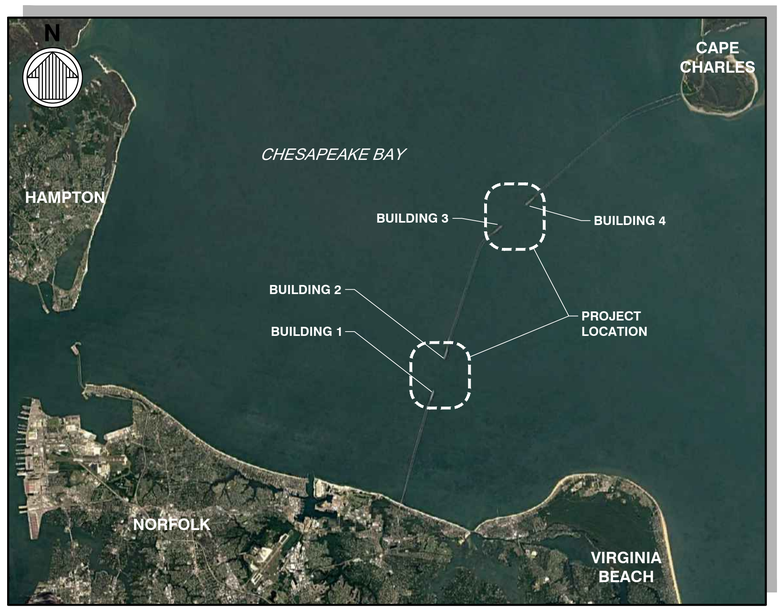
DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING

CHESAPEAKE BAY BRIDGE TUNNEL VENTILATION BUILDINGS FAN ROOM REPAIRS

RMF #: 3076.3731
BID NUMBER:

INDEX OF DRAWINGS	
SHEET NO.	SHEET TITLE
T-001	TITLE SHEET
G-001	COVER SHEET
G-002	GENERAL NOTES
G-003	ABBREVIATIONS
S-001	SECTION
S-002	SECTION
S-003	BUILDING 1 - FAN ROOM FLOOR PART PLAN
S-004	BUILDING 1 - ELECTRICAL EQUIPMENT FLOOR PART PLAN
S-005	BUILDING 1 - ROOF FRAMING PART PLAN
S-006	BUILDING 2 - FAN ROOM FLOOR PART PLAN
S-007	BUILDING 2 - ELECTRICAL EQUIPMENT FLOOR PART PLAN
S-008	BUILDING 2 - ROOF FRAMING PART PLAN
S-009	BUILDING 3 - FAN ROOM FLOOR PART PLAN
S-010	BUILDING 3 - ELECTRICAL EQUIPMENT FLOOR PART PLAN
S-011	BUILDING 3 - ROOF FRAMING PART PLAN
S-012	BUILDING 4 - FAN ROOM FLOOR PART PLAN
S-013	BUILDING 4 - ELECTRICAL EQUIPMENT FLOOR PART PLAN
S-014	BUILDING 4 - ROOF FRAMING PART PLAN
S-015	CONCRETE REPAIR DETAILS
S-016	LOUVER AND BIRD SCREEN REPAIR DETAILS

INDEX OF REFERENCE SHEETS	
SHEET NO.	SHEET TITLE
BT-410	VENTILATION BUILDINGS KEY PLANS
B-214	FAN FLOOR FRAMING PLAN
BT-411	PLAN OF FAN ROOM FLOOR EL. +17.00'
BT-428	ELECTRICAL EQUIPMENT FLOOR STRUCTURAL FRAMING PLAN
BT-413	PLAN OF ELECTRICAL EQUIPMENT FLOOR EL. +39.00'
BT-429	ROOF STRUCTURAL FRAMING PLAN
BT-430	STRUCTURAL DETAILS - SHEET 1
BT-431	STRUCTURAL DETAILS - SHEET 2
BT-415	SECTIONS & DETAILS - SHEET 1
BT-419	SECTIONS & DETAILS - SHEET 5
B-485	WINDOW & LOUVER DETAILS
BT-421	NORTH & SOUTH ELEVATIONS
BT-422	EAST & WEST ELEVATIONS



LOCATION PLAN
SCALE: NTS

Mark	Description	Date	Appr

CHESAPEAKE BAY BRIDGE TUNNEL VENTILATION BUILDINGS FAN ROOM REPAIRS

COVER SHEET

Designed by: JSE/JMH
Drawn by: MWC
Cad by: JMH
Reviewed by: BRJ
Submitted by: JMH MOFFATT & NICHOL
Date: 04/08/2025
M&N Project No. 222309-03
Drawing code:
Drawing Scale:
Plot scale: 1:1 (10 SHEET)
Rev. -

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Sheet Reference No.
G-001
INDEX: 1 OF 19

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DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING

GENERAL NOTES

1. SPECIFICATIONS UNLESS OTHERWISE NOTED:
   A. CONSTRUCTION: VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS, 2020.
   B. DESIGN: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, 2002, AND VDOT MODIFICATIONS, USING LOAD FACTOR DESIGN.
   C. STANDARDS: VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS, 2016; INCLUDING ALL CURRENT REVISIONS.
2. ALL ITEMS SHALL BE ASSUMED EXISTING (LIGHT LINE WEIGHT) UNLESS NOTED AS NEW (HEAVY LINE WEIGHT).
3. THESE PLANS ARE INCOMPLETE UNLESS ACCOMPANIED BY ALL CONTRACT DOCUMENTS.
4. CONSTRUCTION ACTIVITIES WITHIN VENTILATION BUILDINGS LIMITS SHALL ONLY BE ALLOWED BETWEEN OCTOBER 1 AND MAY 1 UNLESS OTHERWISE PERMITTED BY THE DISTRICT.
5. ALL REPAIR WORK SHALL BE PERFORMED AS DIRECTED BY THE DISTRICT/DISTRICT REPRESENTATIVE.
6. THE CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH THE PLANS AND THE EXISTING STRUCTURE AND SHALL FIELD VERIFY ALL EXISTING DIMENSIONS PRIOR TO THE START OF CONSTRUCTION. INTERFERENCES AND DISCREPANCIES BETWEEN FIELD CONDITIONS AND THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE DISTRICT BEFORE PROCEEDING WITH THE AFFECTED WORK.
7. EXISTING PLANS FROM THE DISTRICT PROVIDED AS A SEPARATE PACKAGE OF REFERENCE INFORMATION ONLY. THE CONTRACTOR SHALL REFER TO THE EXISTING PLANS FOR EXISTING CONSTRUCTION. THEIR ACCURACY AND/OR INFORMATION IS NOT GUARANTEED BY THE ENGINEER OR THE DISTRICT.
8. A BASELINE PROGRESS SCHEDULE SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL IN ACCORDANCE WITH CONTRACT REQUIREMENTS LISTED WITHIN THE SPECIAL PROVISIONS.
9. CONTRACTOR TO SUBMIT FOR THE DISTRICT'S APPROVAL A WORK PLAN FOR PROTECTING THE EXISTING FACILITY DURING CONSTRUCTION OPERATIONS AS STATED IN THE TECHNICAL SPECIFICATIONS.
10. UTILITIES SUCH AS TELEPHONE LINES, ELECTRICAL CONDUIT, WATER LINE OR OTHERS MAY BE IN OR ATTACHED TO THE BUILDING. CONTRACTOR TO FOLLOW GUIDELINES LISTED WITHIN THE TECHNICAL SPECIFICATIONS FOR WORKING WITHIN THE LIMITS OF THESE UTILITIES.
11. ESTIMATED LOCATIONS AND QUANTITIES TABULATED WITHIN THE CONTRACT AND PLANS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR IN THE PRESENCE OF THE DISTRICT. ACTUAL LOCATIONS AND QUANTITIES WILL BE AGREED TO IN THE FIELD BETWEEN THE CONTRACTOR AND THE DISTRICT.
12. FORMS SHALL BE CHAMFERED AT SHARP CORNERS TO MATCH EXISTING ELEMENTS OR ACCORDING TO THE TECHNICAL SPECIFICATIONS.
13. LONGITUDINAL AND TRANSVERSE CONSTRUCTION JOINTS WILL NOT BE PERMITTED.
14. COST OF REMOVING AND REINSTALLING EXISTING LOUVER SYSTEM SHALL BE INCIDENTAL AND SHALL INCLUDE BUT NOT BE LIMITED TO LABOR, EQUIPMENT, HARDWARE, ETC.
15. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGED SECTION OF THE LOUVER SYSTEM DURING REMOVAL, STORAGE, AND REINSTALLATION. IF THE DISTRICT SPECIFIES A SECTION OF THE LOUVER SYSTEM TO BE REPLACED, THE CONTRACTOR SHALL DO SO ACCORDING TO THE TECHNICAL SPECIFICATIONS LISTED WITHIN THE CONTRACT.

CONCRETE REPAIR NOTES:

1. LOCATIONS FOR THE REPLACEMENT OR REPAIR SHALL BE VERIFIED BY THE CONTRACTOR AND APPROVED BY THE DISTRICT. REPLACEMENT AND REPAIR LOCATIONS ARE PER MOFFATT & NICHOL VISUAL INSPECTION ON JULY 11, 2023 AND JULY 13, 2023.
2. TO PRESERVE STRUCTURAL INTEGRITY AND PREVENT UNSAFE CONDITIONS, THE CONTRACTOR SHALL BRING TO THE DISTRICT'S ATTENTION FOR DISCUSSION ANY CONCRETE REPAIR THAT ENCOMPASSES MORE THAN 30% OF A SINGLE ELEMENT (GIRDER, BEAM, COLUMN, WALL, ETC.)
3. CONCRETE REPAIRS SHALL BE PAID BY SQUARE FOOT AND WILL BE CLASSIFIED AS LISTED BELOW:
   A. TYPE 1 REPAIRS ARE NOT USED ON THIS PROJECT
   B. TYPE 2 CONCRETE REPAIR SHALL CONSIST OF THE REMOVAL OF UNSOUND CONCRETE TO 1" TO 3" BEHIND THE FIRST LAYER OF REINFORCING STEEL.
   C. TYPE 3 CONCRETE REPAIR SHALL CONSIST OF THE REMOVAL OF UNSOUND CONCRETE TO AT A MINIMUM 3" BEHIND THE FIRST LAYER OF REINFORCING STEEL.
4. REINFORCING STEEL THAT HAS LOST 1/4 OR MORE OF ITS ORIGINAL CROSS-SECTIONAL AREA SHALL BE LAPPED WITH NEW BARS OF THE SAME MATERIAL, SIZE AND SHAPE. NEW BARS SHALL LAP EXISTING BARS A LENGTH OF 30 DIAMETERS ON EACH SIDE OF THE DAMAGED PORTION IF A SUFFICIENT LENGTH OF THE EXISTING BAR IS EXPOSED. IF A SUFFICIENT LENGTH OF THE BAR IS NOT EXPOSED THE CONTRACTOR SHALL LAP THE BAR TO A FIELD DETERMINED LENGTH DISCUSSED WITH AND APPROVED BY THE DISTRICT'S FIELD PERSONNEL.
5. FORM WORK ANCHORS SHALL BE STAINLESS STEEL AND IF LEFT IN PLACE, WILL BE PATCHED OVER WITH MATERIAL APPROVED BY THE DISTRICT.

PRODUCT INFORMATION:

1. ALL PRODUCTS SHALL BE INSTALLED PER CONTRACT SPECIFICATIONS.
2. CONTRACTOR SHALL PROVIDE COMPRESSIVE STRENGTH TESTING FOR APPROVED CONCRETE REPAIR MATERIAL UTILIZING DIFFERENT AMOUNTS OF WATER ADDED TO THE MIXTURE TO ALLOW FOR "WORKABILITY". THE COMPRESSIVE STRENGTH TESTING SHALL BE REVIEWED AND APPROVED BY THE DISTRICT.
3. CONCRETE REPAIR MATERIAL SHALL BE MASTEREMACO S 440CI OR A SUPERIOR PRODUCT SUBMITTED TO AND APPROVED BY THE DISTRICT.
4. INTRALOCK BONDING AGENT OR A SUPERIOR PRODUCT SUBMITTED TO AND APPROVED BY THE DISTRICT SHALL BE APPLIED TO ALL CONCRETE REPAIR SURFACES PRIOR TO THE PLACEMENT OF ANY CONCRETE REPAIR PRODUCT.
5. MASTERKURE CC 1315WB CURING COMPOUND OR A SUPERIOR PRODUCT SUBMITTED TO AND APPROVED BY THE DISTRICT SHALL BE APPLIED TO ALL CONCRETE REPAIRS AS SOON AS THE FORM WORK IS REMOVED.
6. NEWLY INSTALLED LOUVER BRACING AND BIRD SCREEN MOUNTING HARDWARE SHALL BE PER ASTM A36 AND GALVANIZED PER ASTM A123. HARDWARE SHALL BE GALVANIZED PER ASTM A153.
7. BIRD SCREEN MATERIAL SHALL BE BY CONSTRUCTION SPECIALTIES INC. OR A SUPERIOR PRODUCT SUBMITTED TO AND APPROVED BY THE DISTRICT.

SUBMITTALS:

1. THE CONTRACTOR SHALL SUBMIT WORKING/SHOP DRAWINGS AS PER SPECIFICATIONS SECTION 105.10.(C) FOR APPROVAL BY THE DISTRICT. SUBMITTALS SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING:
   - CONCRETE REPAIR MATERIAL
   - CONCRETE BONDING AGENT
   - CONCRETE CURING COMPOUND
   - LATERAL BRACING SHOP DRAWINGS
   - BIRD SCREEN SHOP DRAWINGS
   - PROTECTION OF EXISTING FACILITY AND UTILIZATION PLAN
   - SEQUENCE OF CONSTRUCTION
   - CONCRETE ANCHORING MATERIALS AND INSTALLATION PROCEDURE
   - BASELINE PROGRESS SCHEDULE

SEQUENCE OF CONSTRUCTION:

1. CONTRACTOR SHALL CONDUCT CONSTRUCTION OPERATIONS AT ONLY ONE OF THE FOUR VENTILATION BUILDINGS AT A TIME. ALL WORK SHALL BE COMPLETE PRIOR TO MOVING TO THE NEXT VENTILATION BUILDING.
2. THE FOLLOWING SEQUENCE OF CONSTRUCTION SHALL APPLY TO EACH OF THE FOUR VENTILATION BUILDINGS:
   A. INSTALL INFRASTRUCTURE PROTECTION
   B. REMOVE EXISTING LOUVER SYSTEM AND BIRD SCREEN
   C. PERFORM ALL CONCRETE REPAIRS AS SHOWN ON THE DRAWINGS
   D. FABRICATE AND INSTALL NEW LOUVER LATERAL BRACING AND LOUVER HARDWARE AS SHOWN ON THE DRAWINGS
   E. INSTALL NEW BIRD SCREEN
   F. REINSTALL EXISTING LOUVER SYSTEM
   G. REMOVE INFRASTRUCTURE PROTECTION

Mark	Description	Date	Appr

CHESAPEAKE BAY BRIDGE TUNNEL
VENTILATION BUILDINGS
FAN ROOM REPAIRS

GENERAL NOTES

Designed by: JSE/JMH	Cad by: JMH	Rev: -	
Drawn by: MWC	Reviewed by: BRJ	Date: 04/08/2025	M&N Project No. 223309-03
Submitted by: JMH MOFFATT & NICHOL	Drawing code:	Drawing Scale: Plot scale: 1:1 (D SHEET)	

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PREPARED FOR:
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

COMMONWEALTH OF VIRGINIA
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04/08/2025
PROFESSIONAL ENGINEER
SEAL

Sheet Reference No.
G-002
INDEX: 2 OF 19

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DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING

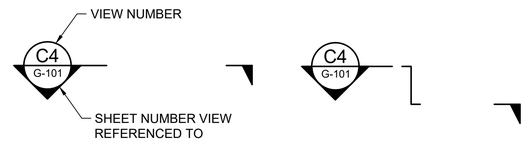
ABBREVIATIONS

AB	ANCHOR BOLT or AGGREGATE BASE
ABBR	ABBREVIATION
ABUT	ABUTMENT
ABV	ABOVE
A/C	AIR CONDITIONING
ACI	AMERICAN CONCRETE INSTITUTE
AFF	ABOVE FINISHED FLOOR
AGG	AGGREGATE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALUM	ALUMINUM
APPROX	APPROXIMATE
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
BD	BOARD
BL	BASELINE
BLDG	BUILDING
BLKG	BLOCKOUT
BOT	BOTTOM
BR	BRASS
CB#	CEILING BAY (NUMBER)
CF	CUBIC FEET
CJ	CONSTRUCTION JOINT
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
C#	COLUMN (NUMBER)
CONC	CONCRETE
CONN	CONNECTOR
CONST	CONSTRUCTION
CONT	CONTINUOUS or CONTINUE
COORD	COORDINATE
CU	CUBIC or COPPER
D	DELAMINATION
DACS	DRAWING AREA COORDINATE SYSTEM
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DWGS	DRAWINGS
EA	EACH
EB#	ELECTRICAL ROOM BEAM (NUMBER)
EG#	ELECTRICAL ROOM GIRDER (NUMBER)
EJ	EXPANSION JOINT
EL	ELEVATION
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EQUIP	EQUIPMENT
ES	EACH SIDE
EW	EACH WAY
EXIST.	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FF	FINISH FLOOR
FFE	FINISHED FLOOR ELEVATION
FG	FINISHED GRADE
FLR	FLOOR
FND	FOUNDATION
FS	FINISHED SURFACE
FT	FOOT or FEET
FTG	FOOTING
GALV	GALVANIZED
GB	GRADE BREAK
GND	GROUND
H	HEIGHT
HD	HEAD
HORIZ	HORIZONTAL
ID	INSIDE DIAMETER
IN.	INCHES
JT	JOINT
L	LENGTH
LAT	LATERAL
LB	POUND or LATERAL BRACING
LF	LINEAR or LINEAL FEET
LG	LONG
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MFTR	MANUFACTURER
MIN	MINIMUM
MTD	MOUNTED
NIC	NOT IN CONTRACT
NO.	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE
PCF	POUND PER CUBIC FOOT
PL	PLATE
PRTTN	PARTITION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT
PVMT	PAVEMENT
R	RADIUS
RB	ROOF BEAM
RG	ROOF GIRDER
RM	ROOM
RT	RIGHT
S	SPALL
SCH	SCHEDULE
SF	SQUARE FOOT or FEET
SHT	SHEET
SIM	SIMILAR
SPA	SPACE
SPECS	SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL
STA	STATION
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURE or STRUCTURAL
SYM	SYMMETRICAL
T&B	TOP AND BOTTOM
THD	THREAD
THRU	THROUGH
TOT	TOTAL
TW	TOP OF WALL
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UTIL	UTILITY
VAR	VARIES
VERT	VERTICAL
W#	WALL (NUMBER)
WD	WOOD
WP	WEATHERPROOF or WATERPROOF
WT	WEIGHT
Ø	DIAMETER
'	FOOT
"	INCH

LEGEND

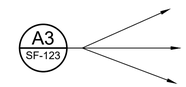
VIEW TITLE

DETAIL CALLOUT



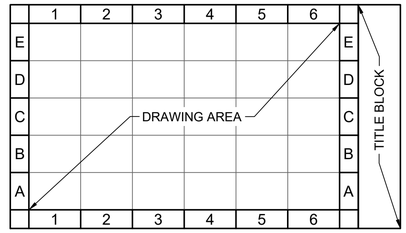
SECTION CALLOUT

SECTION CALLOUT WITH JOG



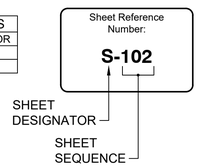
DETAIL CALLOUT WITH LEADERS

* VIEW NUMBER IS BASED ON THE (DACS) LOCATION OF THE LOWER-LEFT EXTENTS OF THE VIEW ON THE REFERENCED SHEET. WHEN REFERENCING DRAWING INFORMATION BETWEEN SHEETS, BOTH THE VIEW AND SHEET NUMBERS MUST BE QUOTED TOGETHER - EITHER IN A CALLOUT FORMAT AS SHOWN ABOVE OR IN THE FORM;
"VIEW NO./SHEET NO." (EG A1/CS-5001)



DRAWING AREA COORDINATE SYSTEM (DACS)

DISCIPLINE DESIGNATORS	
DISCIPLINE	DESIGNATOR
GENERAL	G
STRUCTURAL	S



SHEET NUMBERING

CHESAPEAKE BAY BRIDGE TUNNEL
VENTILATION BUILDINGS
FAN ROOM REPAIRS

ABBREVIATIONS

Rev.	Date	Description	Appr
-			

Date: 04/08/2025
M&N Project No. 223309-03
Drawing code:
Drawing Scale:
Plot scale: 1:1 (D SHEET)

Designed by: JSE/JMH
Dwn by: MWC
Ckd by: JMH
Reviewed by: BRJ
Submitted by: JMH MOFFATT & NICHOL

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04/08/2025
PROFESSIONAL ENGINEER
SEAL

Sheet Reference No.
G-003
INDEX: 3 OF 19

DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING

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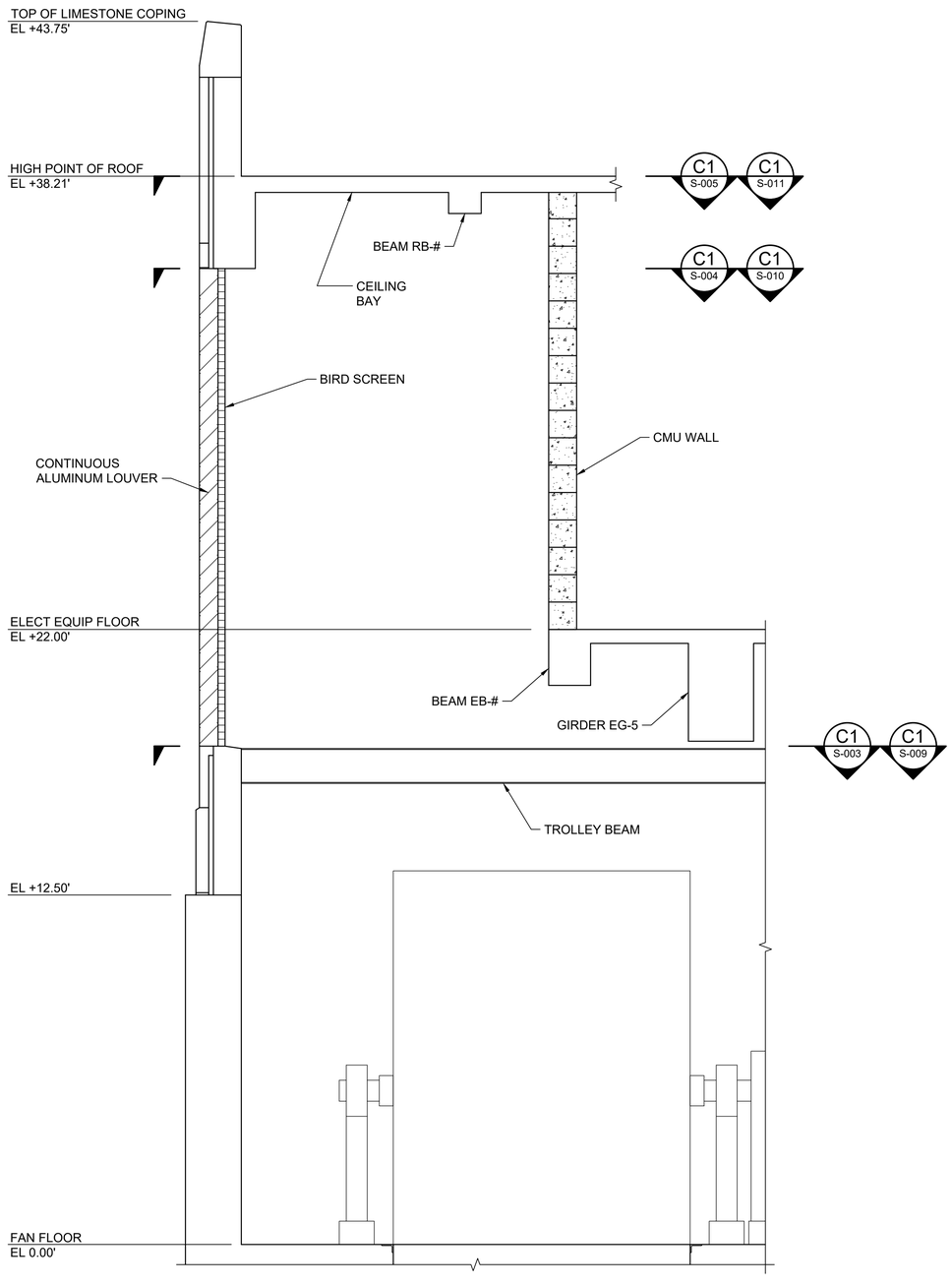

A1 / S-001 SECTION
SCALE: 3/8"=1'-0"

NOTE:

1. FAN FLOOR SET AS EL 0.00. FOR FAN ROOM REPAIR DRAWINGS ONLY. ALL ELEVATIONS SHOWN ARE FROM THIS REFERENCE UNLESS OTHERWISE NOTED, TYP.
2. SECTION A1 ON SHEET S-001 SHOWS SECTION VIEW OF BUILDINGS 1 AND 3. BUILDINGS 2 AND 4 SECTION VIEW TO BE MIRRORED.

4' 0'-0" 2' 4'
SCALE: 3/8"=1'-0"

Mark	Description	Date	Appr

CHESAPEAKE BAY BRIDGE TUNNEL VENTILATION BUILDINGS FAN ROOM REPAIRS

SECTION

Rev. -
Date: 04/08/2025
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S-001
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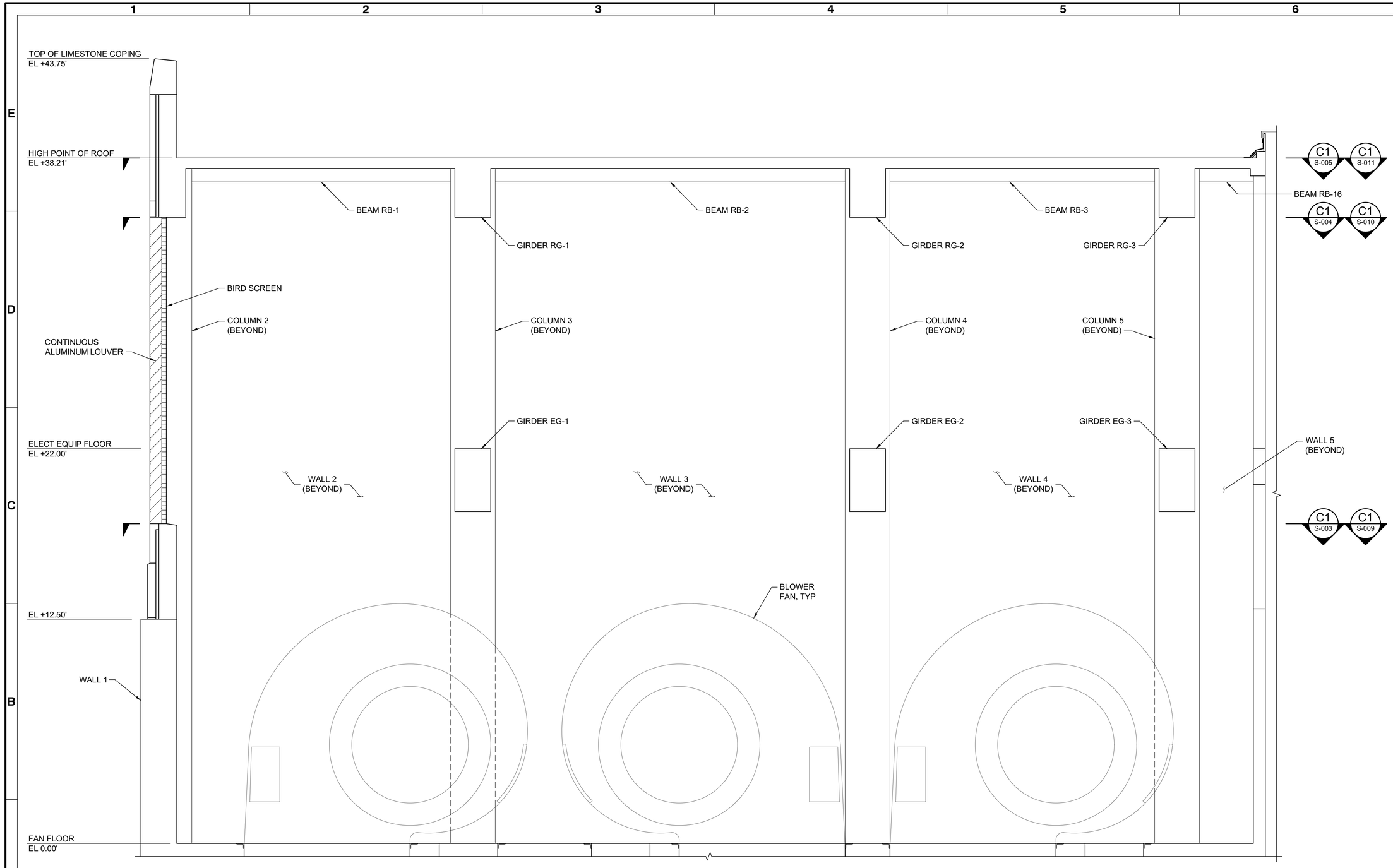
DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



A1 / S-002 SECTION
SCALE: 3/8"=1'-0"

NOTES:

1. SECTION A1 ON SHEET S-002 SHOWS SECTION VIEW OF BUILDINGS 1 AND 3. BUILDINGS 2 AND 4 SECTION VIEW TO BE MIRRORED.

4' 0'-0" 2' 4'
SCALE: 3/8"=1'-0"

CHESAPEAKE BAY BRIDGE TUNNEL
VENTILATION BUILDINGS
FAN ROOM REPAIRS

SECTION

Mark	Description	Date	Appr
-			

Designed by: JSE/JMH
Drawn by: MWC
Ckd by: JMH
Reviewed by: BRJ
Submitted by: JMH MOFFATT & NICHOL
Date: 04/08/2025
M&N Project No. 222309-03
Drawing code:
Drawing Scale:
Plot scale: 1:1 (D SHEET)

101 W. MAIN STREET
SUITE 3000
NORFOLK, VA 23510
(757) 628-8222
moffatt & nichol

PREPARED FOR:
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

COMMONWEALTH OF VIRGINIA
BILLY R. JENKINS
Lic. No.011126
04/08/2025
PROFESSIONAL ENGINEER
SEAL

Sheet
Reference No.
S-002
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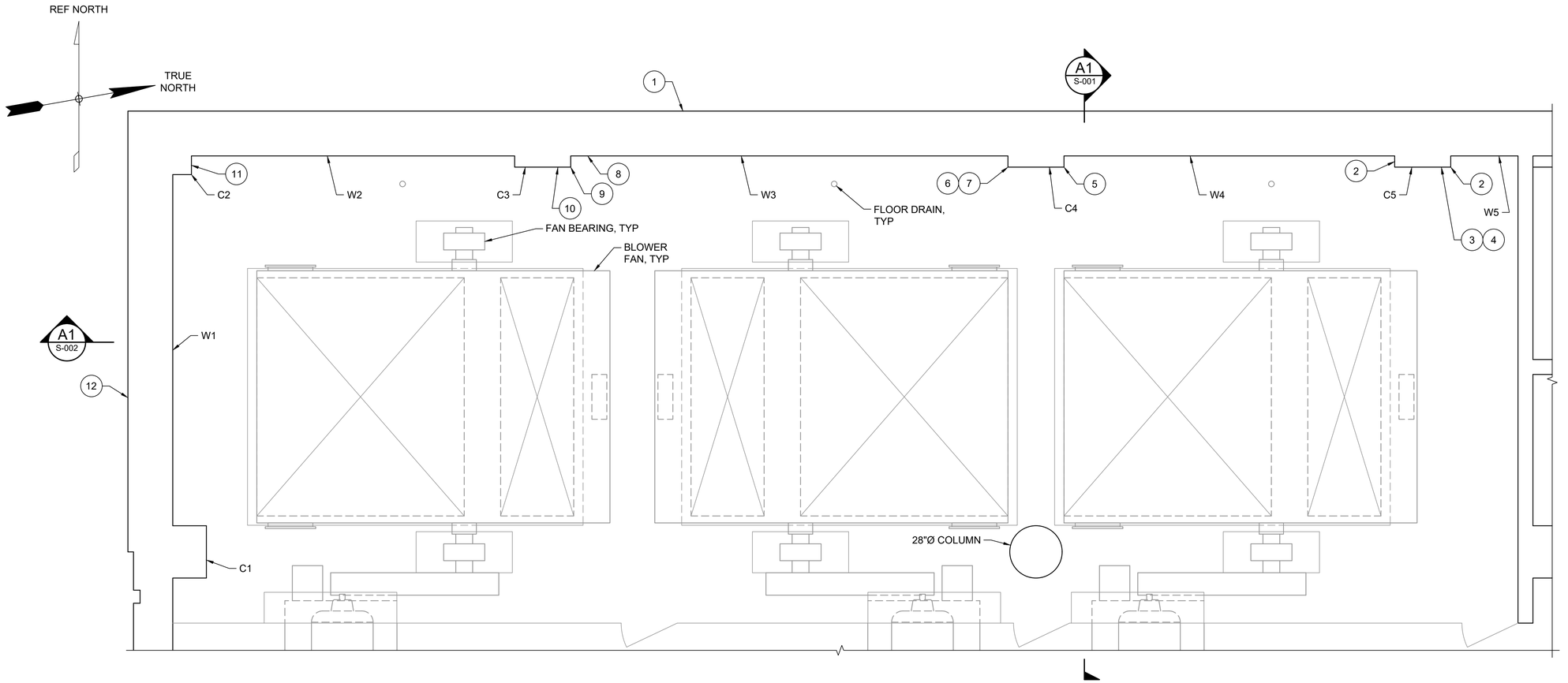
File: Q:\NOR\222309-03\20 CADD_Active_CBBT_Vent_Bldg_Rpr\222309S-002 - Plotted: 4/8/2025 3:41 PM by ME/DRECH_ISABELLA - Saved: 4/8/2025 3:39 PM by ME/DRECH_ISABELLA

DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



C1 S-002 FAN ROOM FLOOR PARTIAL PLAN
S-001 SCALE: 3/8"=1'-0"

BUILDING 1							
REPAIR #	ELEMENT	FACE OF REPAIR	LOCATION DESCRIPTION	DEFECT CODE	LENGTH (FT)	WIDTH (FT)	AREA (SF)
1	W2 TO W5	TOP	LOUVER SILL TO 1.5' BELOW LUVERS SILL	D	51.5	1.5	78
2	C5	EAST / SOUTH	10' TO 14' FROM ELEV 0	D	4.0	1.2	5
3	C5	SOUTH	7' FROM ELEV 0	D	1.0	2.5	3
4	C5	SOUTH	1' FROM ELEV 0	D	1.0	2.5	3
5	C4	EAST	15' FROM ELEV 0	D	2.7	0.5	2
6	C4	SOUTH/WEST	2' FROM ELEV 0	S	4.0	1.3	6
7	C4	SOUTH/WEST	7' FROM ELEV 0	S	3.0	1.0	3
8	W3	SOUTH	11' FROM ELEV 0, 19.5' WEST OF C4	D	19.5	3.0	59
9	C3	SOUTH/EAST	15' FROM ELEV 0	D	4.0	1.0	4
10	C3	SOUTH	1' FROM ELEV 0	D	1.0	2.5	3
11	C2	EAST	9.5' FROM ELEV 0	D	3.5	0.5	2
12	W1	EAST	LOUVER SILL,C2 TO CONCRETE BLOCK WALL, 1.5' BELOW ELEV 17.7'	D	16.8	1.5	26
						TOTAL	194

NOTES:

1. FACE OF REPAIR BASED ON REF NORTH.
2. FOR REPAIR DETAIL, SEE SHEET S-015.

LEGEND:

(#) CONCRETE REPAIR NUMBER

4' 0'-0" 2' 4'
SCALE: 3/8"=1'-0"

Mark	Description	Date	Appr

CHESAPEAKE BAY BRIDGE TUNNEL
VENTILATION BUILDINGS
FAN ROOM REPAIRS

BUILDING 1 - FAN ROOM
FLOOR PART PLAN

101 W. MAIN STREET
SUITE 3000
NORFOLK, VA 23510
(757) 628-8222
moffatt & nichol

PREPARED FOR:
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

COMMONWEALTH OF VIRGINIA
BILLY R. JENKINS
Lic. No.011126
04/08/2025
PROFESSIONAL ENGINEER
SEAL

Designed by:	JSE/JMH
Drawn by:	MWC
Checked by:	JMH
Reviewed by:	BRJ
Submitted by:	JMH MOFFATT & NICHOL
Date:	04/08/2025
M&N Project No.	222309-03
Drawing code:	
Drawing Scale:	
Plot scale:	1:1 (D SHEET)
Rev.	-

Sheet Reference No.
S-003
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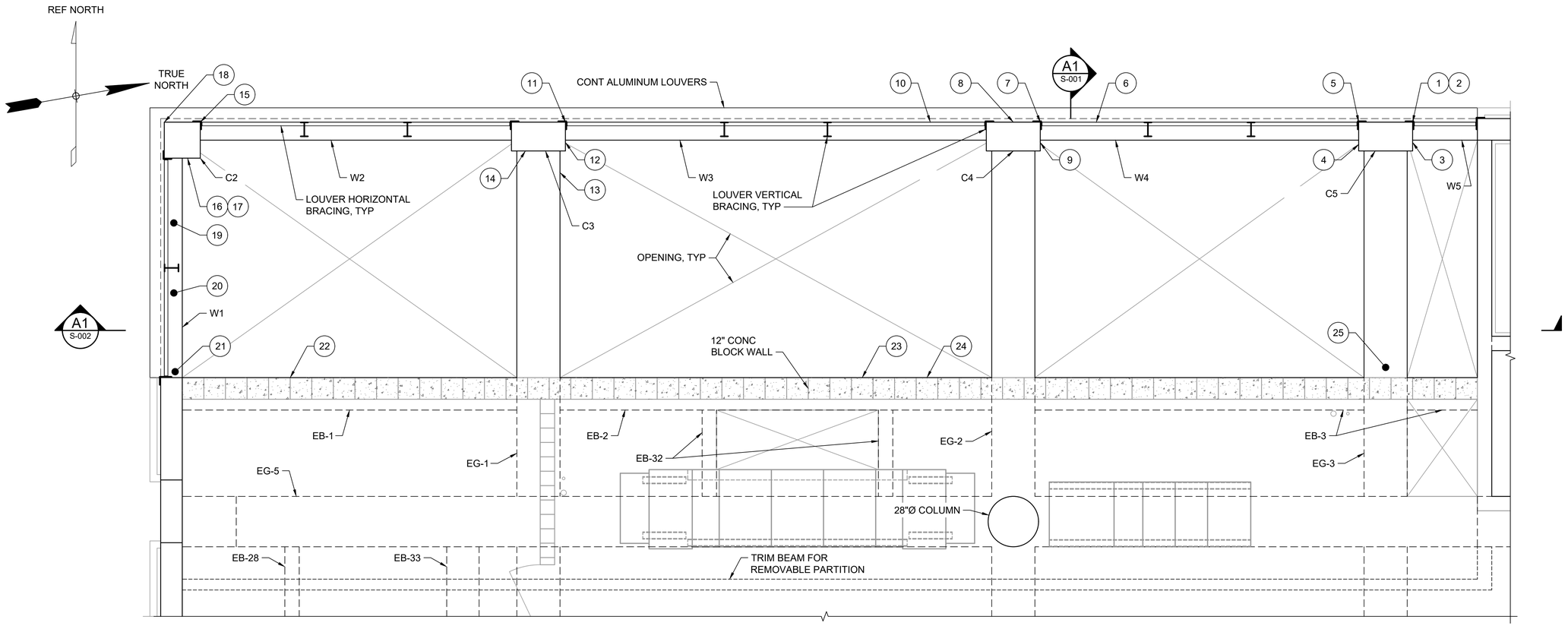
DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



C1 S-002 ELECTRICAL EQUIPMENT PARTIAL FLOOR PLAN
S-001
SCALE: 3/8"=1'-0"

BUILDING 1							
REPAIR #	ELEMENT	FACE OF REPAIR	LOCATION DESCRIPTION	DEFECT CODE	LENGTH (FT)	WIDTH (FT)	AREA (SF)
1	C5	NE CORNER	TOP OF COLUMN*	D	4.0	1.0	4
2	C5	NE CORNER	BOTTOM OF COLUMN*	D	10.0	1.0	10
3	C5	EAST	17.7' FROM ELEV 0	D	8.3	0.8	7
4	C5	WEST	27' FROM ELEV 0 *	D	8.0	0.5	4
5	C5	NW CORNER	BOTTOM OF COLUMN*	D	10.0	1.0	10
6	LB		LATERAL BRACING MISSING BETWEEN COLUMN 4 AND BEAM 2				0
7	C4	NE CORNER	EXPOSED NORTH FACE*	D	18.0	1.0	18
8	C4	NORTH	32" ABOVE START OF LOUVER SECTION	D	3.0	1.5	5
9	C4	EAST	17' FROM ELEV 0	D	18.0	1.0	18
10	LB		REPLACE LATERAL BRACE BETWEEN COLUMN 4 AND BEAM 3				0
11	C3	NE CORNER	STARTING AT TOP OF LOUVER SECTION*	D	12.0	0.5	6
12	C3	EAST	19' FROM ELEV 0 *	S	16.0	2.5	40
13	EG-1	EAST	1' FROM C3	S	1.0	1.0	1
14	C3	SOUTH	21' FROM ELVA 0	S	9.0	2.5	23

* DENOTES LOUVERS TO BE REMOVED

BUILDING 1							
REPAIR #	ELEMENT	FACE OF REPAIR	LOCATION DESCRIPTION	DEFECT CODE	LENGTH (FT)	WIDTH (FT)	AREA (SF)
15	C2	NE CORNER	STARTING AT BOTTOM OF LOUVER SECTION*	D	8.0	1.0	8
16	C2	SOUTH	19' FROM ELEV 0	D	5.0	0.8	5
17	C2	SOUTH	25' FROM ELEV 0 *	D	5.0	2.5	13
18	C2	NW CORNER	STARTING 48" FROM BOTTOM OF LOUVER SECTION*	D	3.0	0.5	2
19	W1	BOTTOM	BOTTOM OF TOP LOUVER SILL	S	0.8	1.5	2
20	W1	NORTH	24' FROM ELEV 0 AT CONCRETE BLOCK WALL *	D	1.0	1.0	1
21	W1	BOTTOM	BOTTOM OF TOP LOUVER SILL, 3' FROM C2 *	D	3.0	1.5	5
22	EB-1	NORTH	5' EAST OF W5	D	2.3	5.0	12
23	EB-2	NORTH	3' WEST OF EG-2	D	3.0	1.7	6
24	EB-2	NORTH	6' WEST OF EG-2	D	1.0	1.3	2
25	EG-3	BOTTOM	10' SOUTH OF C5	S	6.0	2.0	12
TOTAL							214

NOTES:

1. FACE OF REPAIR BASED ON REF NORTH.
2. FOR REPAIR DETAIL, SEE SHEET S-015.

LEGEND:

(#) CONCRETE REPAIR NUMBER

4' 0'-0" 2' 4'
SCALE: 3/8"=1'-0"

Mark	Description	Date	Appr

CHESAPEAKE BAY BRIDGE TUNNEL
VENTILATION BUILDINGS
FAN ROOM REPAIRS

BUILDING 1 - ELECTRICAL EQUIPMENT
FLOOR PART PLAN

101 W. MAIN STREET
SUITE 3000
NORFOLK, VA 23510
(757) 628-8222
moffatt & nichol

PREPARED FOR:
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

Designed by: JSE/JMH	Drawn by: MWC	Reviewed by: BRJ	Submitted by: JMH MOFFATT & NICHOL
Checked by: JMH		Drawing code:	Drawing Scale: Plot scale: 1:1 (D SHEET)
Date: 04/08/2025	M&N Project No. 222309-03		Rev. -

COMMONWEALTH OF VIRGINIA
BILLY R. JENKINS
Lic. No. 011126
04/08/2025
PROFESSIONAL ENGINEER
SEAL

Sheet Reference No.
S-004
INDEX: 7 OF 19

DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING

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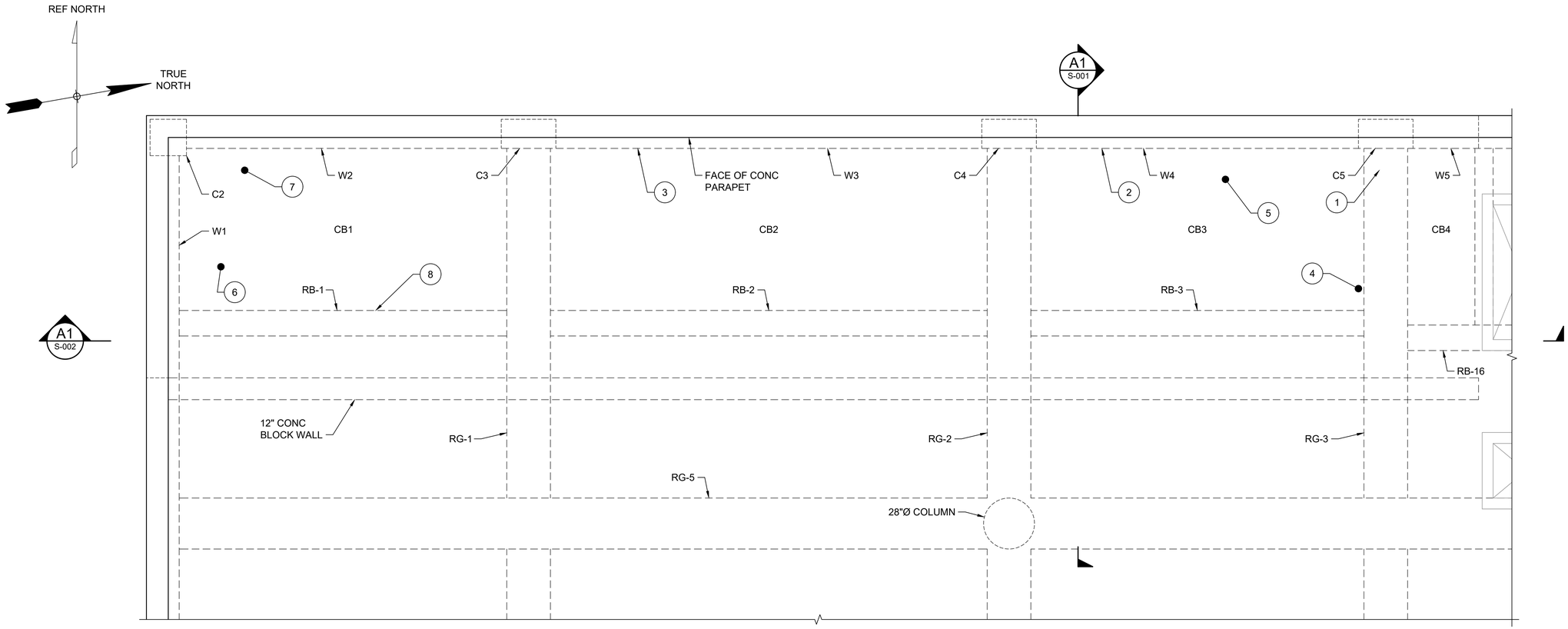

C1 S-002 ROOF FRAMING PARTIAL PLAN
S-001 SCALE: 3/8"=1'-0"

BUILDING 1							
REPAIR #	ELEMENT	FACE OF REPAIR	LOCATION DESCRIPTION	DEFECT CODE	LENGTH (FT)	WIDTH (FT)	AREA (SF)
1	RG-3	BOTTOM	1' FROM C5	S	1.0	1.7	2
2	W4	SOUTH	12' WEST OF C5	S	12.0	0.8	10
3	W3	SOUTH	4' EAST OF C3	S	4.0	1.3	6
4	CB3	CEILING	.83' FROM RG-3, 1' FROM RB-3	S	1.1	0.9	1
5	CB3	CEILING	8.91' FROM RG-2, 6' FROM RB-4	D	6.0	1.7	11
6	CB1	CEILING	1.91' FROM THE W1, 2' FROM RB-1	S	1.9	2.3	5
7	CB1	CEILING	3' FROM W1, 1' FROM W2	S	0.8	0.8	1
8	CB1	CEILING	AT RB-1, 6' FROM RG-1	S	0.5	0.8	1
						TOTAL	37

NOTES:

1. FACE OF REPAIR BASED ON REF NORTH.
2. FOR REPAIR DETAIL, SEE SHEET S-015.

LEGEND:

(#) CONCRETE REPAIR NUMBER

4' 0'-0" 2' 4'
SCALE: 3/8"=1'-0"

Mark	Description	Date	Appr

CHESAPEAKE BAY BRIDGE TUNNEL
VENTILATION BUILDINGS
FAN ROOM REPAIRS

BUILDING 1 - ROOF
FRAMING PART PLAN

Designed by: JSE/JMH
Dwn by: MWC
Ckd by: JMH
Reviewed by: BRJ
Submitted by: JMH MOFFATT & NICHOL
Date: 04/08/2025
M&N Project No. 222309-03
Drawing code:
Drawing Scale:
Plot scale: 1:1 (D SHEET)
Rev. -

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PREPARED FOR:
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

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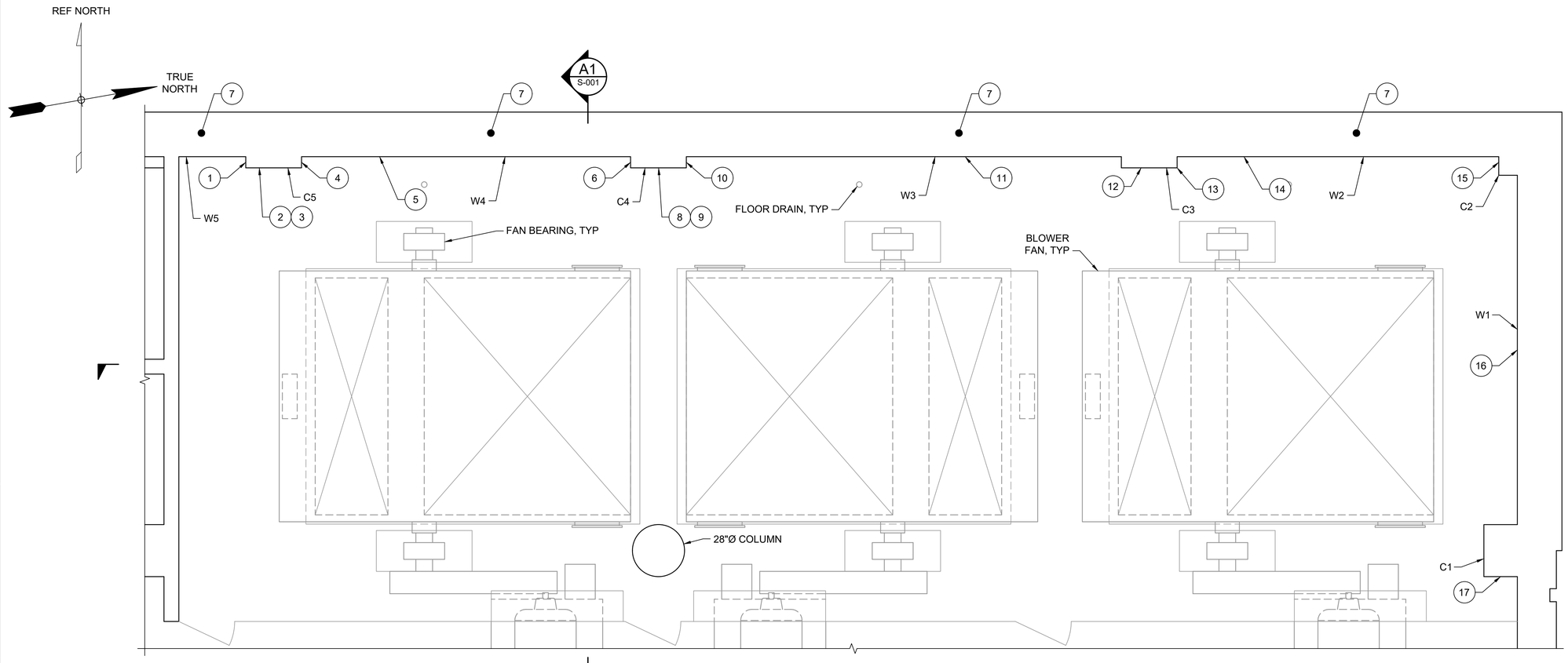
04/08/2025
PROFESSIONAL ENGINEER
SEAL

Sheet Reference No.
S-005
INDEX: 8 OF 19

DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



C1 / S-002 — FAN ROOM FLOOR PARTIAL PLAN

S-001

SCALE: 3/8"=1'-0"

BUILDING 2							
REPAIR #	ELEMENT	FACE OF REPAIR	LOCATION DESCRIPTION	DEFECT CODE	LENGTH (FT)	WIDTH (FT)	AREA (SF)
1	C5	WEST	16' FROM ELEV 0	D	1.7	0.5	1
2	C5	SOUTH	11' FROM ELEV 0	D	2.0	0.8	2
3	C5	SOUTH	7.5' FROM ELEV 0	D	1.0	0.5	1
4	C5	EAST	10' FROM ELEV 0	S	10.0	0.5	5
5	W4	SOUTH	3.5' WEST OF C5, 7' FROM ELEV 0	D	2.0	7.0	14
6	C4	WEST	16' FROM ELEV 0	D	1.7	0.5	1
7	W2 TO W5	TOP	TOP FACE OF BOTTOM LOUVER SILL	D	1.0	51.6	52
8	C4	SOUTH	3.5' FROM ELEV 0	S	1.0	0.5	1
9	C4	SOUTH	6' FROM ELEV 0	S	2.0	2.5	5
10	C4	EAST	1.5' FROM ELEV 0	D	1.5	0.5	1
11	W3	SOUTH	AT C3, 7' FROM ELEV 0	D	2.0	6.0	12
12	C3	SOUTH	11' FROM ELEV 0	S	1.0	2.0	2
13	C3	SOUTH/EAST	11' FROM ELEV 0	D	6.7	1.2	8
14	W2	SOUTH	3' FROM C3, 11' FROM ELEV 0	D	1.0	2.0	2
15	C2	WEST	6.5' FROM ELEV 0	D	6.0	0.5	3
16	W1	WEST	6.5' FROM ELEV 0	D	5.5	2.0	11
17	C1	SOUTH	4' FROM ELEV 0	D	1.0	1.0	1
						TOTAL	122

NOTES:

1. FACE OF REPAIR BASED ON REF NORTH.
2. FOR REPAIR DETAIL, SEE SHEET S-015.

LEGEND:

(#) CONCRETE REPAIR NUMBER

4' 0'-0" 2' 4'

SCALE: 3/8"=1'-0"

Mark	Description	Date	Appr

CHESAPEAKE BAY BRIDGE TUNNEL
VENTILATION BUILDINGS
FAN ROOM REPAIRS

BUILDING 2 - FAN ROOM
FLOOR PART PLAN

Date: 04/08/2025 | Rev: -
M&N Project No.: 222309-03
Drawing scale:
Drawing Scale:
Plot scale: 1:1 (D SHEET)
Designed by: JSE/JMH
Cad by: JMH
Dwn by: MVC
Reviewed by: BRJ
Submitted by: JMH MOFFATT & NICHOL

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PREPARED FOR:
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

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SEAL

Sheet Reference No.
S-006
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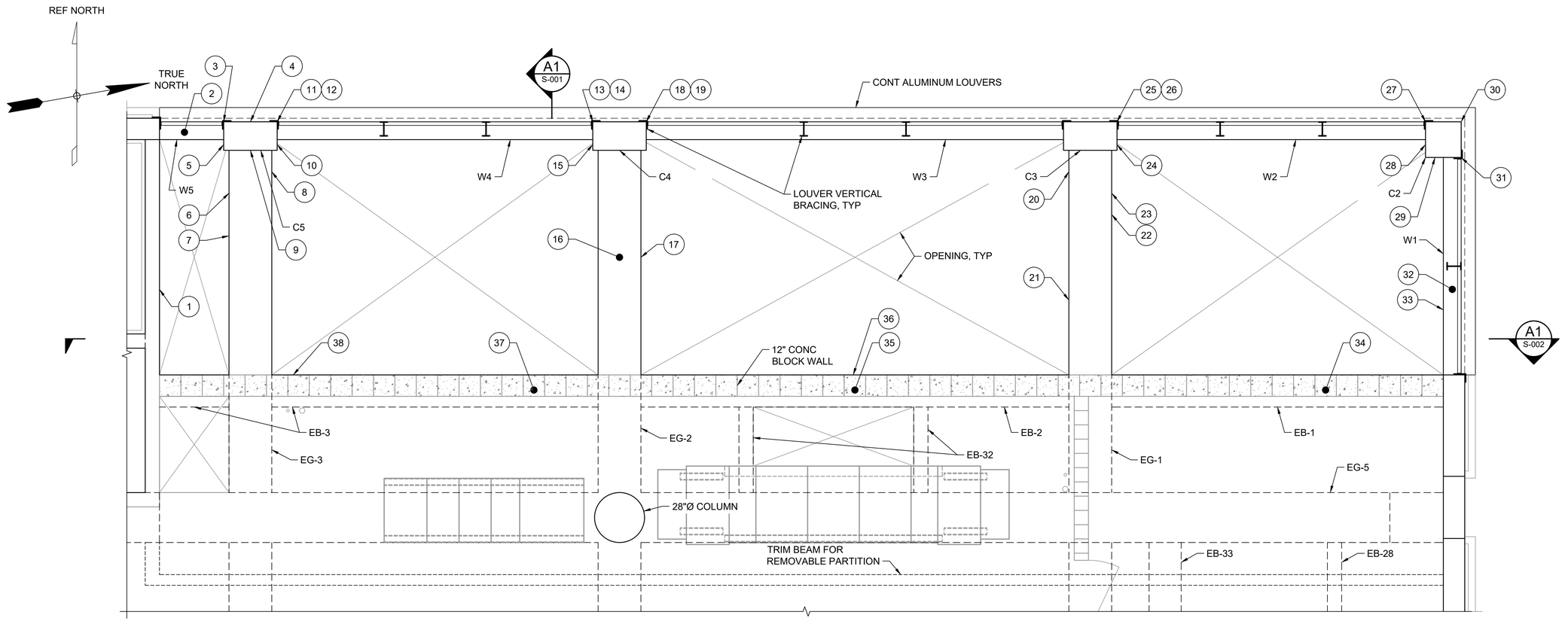

C1 / S-002 — S-001

ELECTRICAL EQUIPMENT FLOOR PARTIAL PLAN

SCALE: 3/8"=1'-0"

BUILDING 2							
REPAIR #	ELEMENT	FACE OF REPAIR	LOCATION DESCRIPTION	DEFECT CODE	LENGTH (FT)	WIDTH (FT)	AREA (SF)
1	W5	SOUTH	4' FROM CONCRETE BLOCK WALL, 19' FROM ELEV 0	S	2.0	4.0	8
2	W5	SOUTH	1.5' FROM LOUVERS, 25' FROM ELEV 0	S	10.0	1.5	15
3	C5	NW CORNER	STARTING AT BOTTOM OF LOUVER SECTION*	D	6.0	1.0	6
4	C5	NORTH	MIDDLE OF COLUMN	D	3.0	3.0	9
5	C5	WEST	17.7' FROM ELEV 0	D	1.0	12.3	13
6	EG-3	WEST	2' FROM C5	D	2.0	2.0	4
7	EG-3	WEST	4' FROM C5	D	1.5	1.0	2
8	EG-3	EAST	1' FROM C5	D	2.0	1.0	2
9	C5	SOUTH	25' FROM ELEV 0	D	2.0	0.8	2
10	C5	EAST	27' FROM ELEV 0	D	6.0	1.0	6
11	C5	NE CORNER	STARTING AT BOTTOM OF LOUVER SECTION*	D	10.0	1.0	10
12	C5	NE CORNER	TOP OF COLUM	D	1.0	1.0	1
13	C4	NW CORNER	STARTING AT BOTTOM OF LOUVER SECTION*	D	4.0	1.0	4
14	C4	NW CORNER	STARTING AT TOP OF LOUVER SECTION*	D	5.0	1.0	5
15	C4	WEST	17.7' FROM ELEV 0	D	7.3	0.5	4
16	EG-2	BOTTOM	5' FROM C4	D	1.0	1.0	1
17	EG-2	EAST	5' FROM C4	D	2.0	2.0	4
18	C4	NE CORNER	STARTING AT BOTTOM OF LOUVER SECTION*	D	3.0	0.5	2
19	C4	NE CORNER	MIDDLE OF COLUMN*	D	3.0	0.5	2
20	EG-1	WEST	1' FROM C3	D	1.3	4.0	6

BUILDING 2							
REPAIR #	ELEMENT	FACE OF REPAIR	LOCATION DESCRIPTION	DEFECT CODE	LENGTH (FT)	WIDTH (FT)	AREA (SF)
21	EG-1	WEST	7' FROM C3	D	3.0	2.2	7
22	EG-1	EAST	3' FROM CONCRETE BLOCK WALL	D	1.0	1.0	1
23	EG-1	EAST	2' FROM C3	D	1.7	2.0	4
24	C3	EAST	17.7' FROM ELEV 0	D	17.3	2.0	35
25	C3	NE CORNER	STARTING AT BOTTOM OF LOUVER SECTION*	D	4.0	1.0	4
26	C3	NE CORNER	STARTING 2' DOWN FROM TOP OF LOUVER SECTION*	D	6.0	1.0	6
27	C2	NW CORNER	STARTING AT TOP OF LOUVER SECTION*	D	10.0	0.5	5
28	C2	WEST	17.7' FROM ELEV 0	D	17.3	0.8	15
29	C2	SOUTH	17.7' FROM ELEV 0	D	17.3	2.5	44
30	C2	NE CORNER	FULL LENGTH OF COLUMN*	D	17.3	0.5	9
31	C2	SE CORNER	STARTING AT TOP OF LOUVER SECTION*	D	12.0	0.5	6
32	W1	BOTTOM	TOP LOUVER SILL, 4' FROM CONCRETE BLOCK WALL	S	4.0	1.0	4
33	W1	WEST	1.5' FROM LOUVERS, 20' FROM ELEV 0 *	S	10.0	1.5	15
34	EB-1	BOTTOM	10' FROM EG-1	S	10.0	0.8	9
35	EB-2	BOTTOM	10' FROM EG-2	D	0.8	10.0	9
36	EB-2	EAST	10' FROM EG-2	D	17.3	1.3	24
37	EB-3	BOTTOM	3' FROM EG-2	D	7.0	1.5	11
38	EB-3	EAST	1' FROM EG-3	D	2.0	1.0	2
			TOTAL				316

NOTES:

1. FACE OF REPAIR BASED ON REF NORTH.
2. FOR REPAIR DETAIL, SEE SHEET S-015.

LEGEND:

(#) CONCRETE REPAIR NUMBER

4' 0'-0" 2' 4'

SCALE: 3/8"=1'-0"

Mark	Description	Date	Appr

CHESAPEAKE BAY BRIDGE TUNNEL
VENTILATION BUILDINGS
FAN ROOM REPAIRS

BUILDING 2 - ELECTRICAL EQUIPMENT
FLOOR PART PLAN

101 W. MAIN STREET
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(757) 628-8222
moffatt & nichol

PREPARED FOR:
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

COMMONWEALTH OF VIRGINIA
BILLY R. JENKINS
Lic. No.011126
04/08/2025
PROFESSIONAL ENGINEER
SEAL

Designed by:	JSE/JMH
Drawn by:	MWC
Reviewed by:	BRJ
Submitted by:	JMH MOFFATT & NICHOL
Date:	04/08/2025
Ckd by:	JMH
M&N Project No.	222309-03
Drawing code:	
Drawing Scale:	
Plot scale:	1:1 (D SHEET)
Rev.	-

Sheet
Reference No.
S-007
INDEX: 10 OF 19

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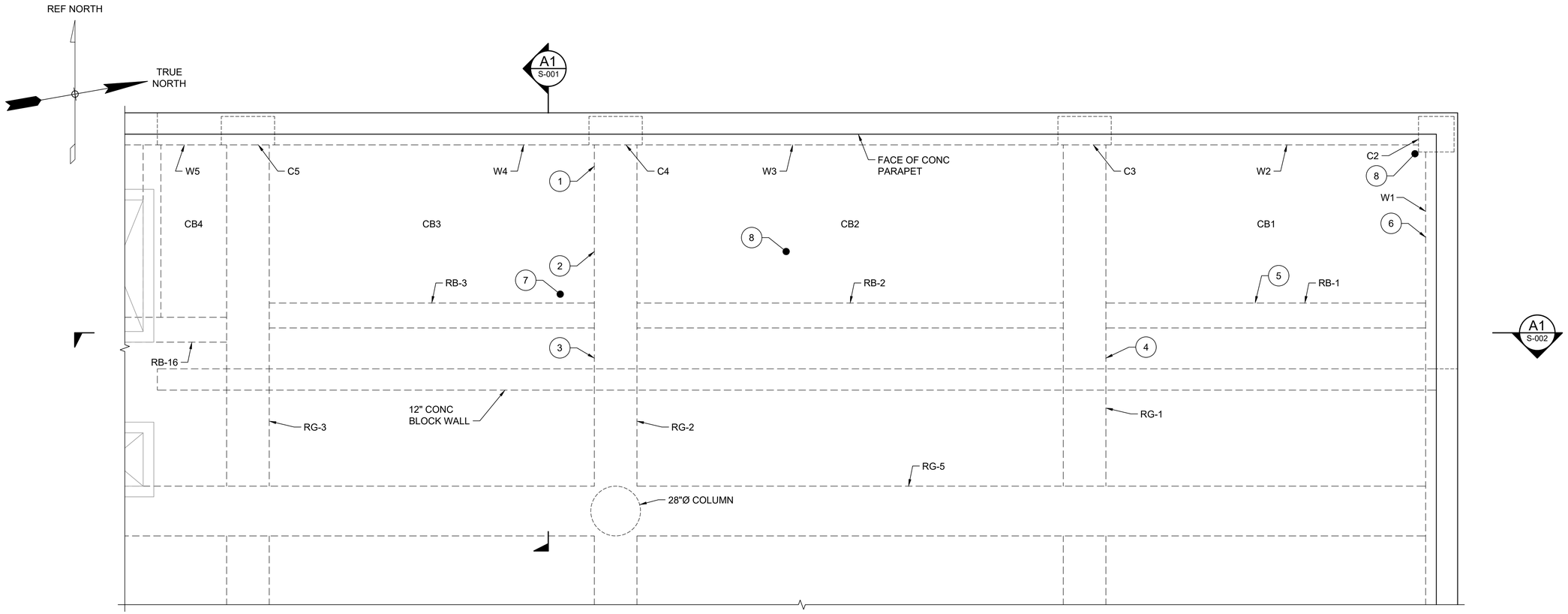
DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



C1 / S-002 — ROOF FRAMING PARTIAL PLAN

S-001

SCALE: 3/8"=1'-0"

BUILDING 2							
REPAIR #	ELEMENT	FACE OF REPAIR	LOCATION DESCRIPTION	DEFECT CODE	LENGTH (FT)	WIDTH (FT)	AREA (SF)
1	RG-2	WEST	1' FROM C4	D	1.0	1.0	1
2	RG-2	WEST	5' FROM C4	D	1.0	1.0	1
3	RG-2	WEST	10' FROM C4	S	1.0	1.3	2
4	RG-1	EAST	10 FROM C3	S	10.0	1.7	17
5	RB-1	NORTH	7' FROM RG-1	S	8.0	3.4	28
6	W-1	WEST	4' FROM C2	S	2.0	1.7	4
7	CB3	CEILING	1.6' FROM RG-2, 7' FROM NORTH WALL	S	1.2	0.8	1
8	CB2	CEILING	7' FROM RG-2, 5' FROM NORTH WALL	D	5.3	2.7	15
9	CB1	CEILING	.5' FROM W1, 7' FROM RB-1	D	2.8	4.0	11
						TOTAL	80

NOTES:

1. FACE OF REPAIR BASED ON REF NORTH.
2. FOR REPAIR DETAIL, SEE SHEET S-015.

LEGEND:

(#) CONCRETE REPAIR NUMBER

4' 0'-0" 2' 4'

SCALE: 3/8"=1'-0"

Mark	Description	Date	Appr

CHESAPEAKE BAY BRIDGE TUNNEL
VENTILATION BUILDINGS
FAN ROOM REPAIRS

BUILDING 2 - ROOF
FRAMING PART PLAN

Designed by: JSE/JMH
Drawn by: MWC
Reviewed by: BRJ
Submitted by: JMH
MOFFATT & NICHOL
Cad by: JMH
M&N Project No. 223309-03
Drawing code:
Drawing Scale:
Plot scale: 1:1 (0 SHEET)
Date: 04/08/2025
Rev: -

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moffatt & nichol

PREPARED FOR:
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

COMMONWEALTH OF VIRGINIA
BILLY R. JENKINS
Lic. No. 011126
04/08/2025
PROFESSIONAL ENGINEER
SEAL

Sheet Reference No.
S-008
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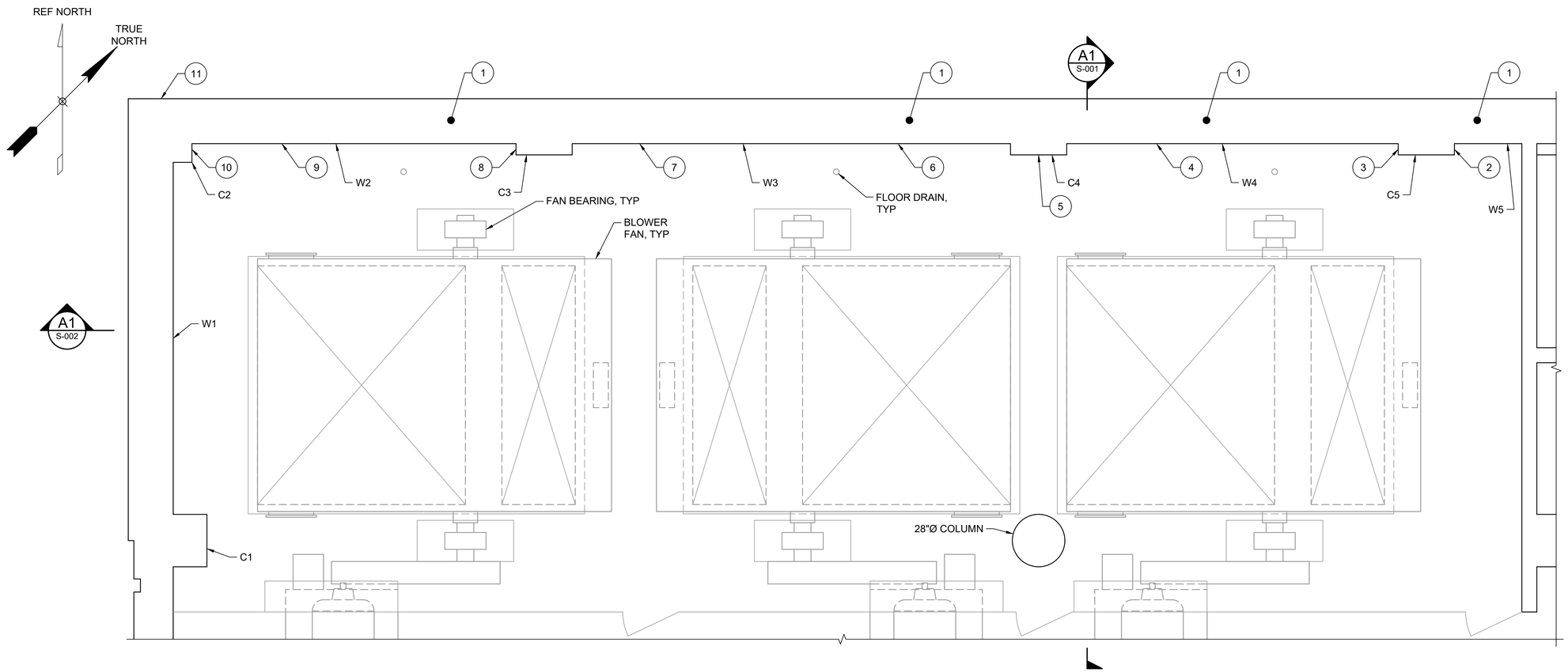
DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



C1 S-002 FAN ROOM FLOOR PARTIAL PLAN
S-001
SCALE: 3/8"=1'-0"

BUILDING 3							
REPAIR #	ELEMENT	FACE OF REPAIR	LOCATION DESCRIPTION	DEFECT CODE	LENGTH (FT)	WIDTH (FT)	AREA (SF)
1	W2 TO W5	TOP	FULL LENGTH OF NORTH WALL	D/S	51.4	1.0	52
2	C5	EAST	9.5' FROM ELEV 0	D	3.0	0.5	2
3	C5	WEST	9.5' FROM ELEV 0	D	3.0	0.5	2
4	W4	SOUTH	4' FROM C4, 2' FROM ELEV 0	D	2.0	4.0	8
5	C4	SOUTH	1.6' FROM ELEV 0	S	1.7	0.8	2
6	W3	SOUTH	5' FROM C4, 7.5' FROM ELEV 0	D	1.5	5.0	8
7	W3	SOUTH	3' FROM C3, 13' FROM ELEV 0	D	3.5	3.0	11
8	C3	WEST	AT ELEV 0	D	17.7	0.5	9
9	W2	SOUTH	4' FROM C2, 7' FROM ELEV 0	D	2.0	4.0	8
10	C1	EAST	16' FROM ELEV 0	D	16.0	2.5	40
11	C1	NORTH	4.5' FROM ELEV 0	S	4.5	0.7	4
						TOTAL	146

NOTES:

1. FACE OF REPAIR BASED ON REF NORTH.
2. FOR REPAIR DETAIL, SEE SHEET S-015.

LEGEND:

(#) CONCRETE REPAIR NUMBER

4' 0'-0" 2' 4'
SCALE: 3/8"=1'-0"

Mark	Description	Date	Appr

CHESAPEAKE BAY BRIDGE TUNNEL
VENTILATION BUILDINGS
FAN ROOM REPAIRS

BUILDING 3 - FAN ROOM
FLOOR PART PLAN

Designed by: JSE/JMH
Dwn by: MWC
Ckd by: JMH
Reviewed by: BRJ
Submitted by: JMH MOFFATT & NICHOL
Date: 04/08/2025
M&N Project No. 222309-03
Drawing code:
Drawing Scale:
Plot scale: 1:1 (D SHEET)
Rev. -

101 W. MAIN STREET
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(757) 628-8222
moffatt & nichol

PREPARED FOR:
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

COMMONWEALTH OF VIRGINIA
BILLY R. JENKINS
Lic. No.011126
04/08/2025
PROFESSIONAL ENGINEER
SEAL

Sheet Reference No.
S-009
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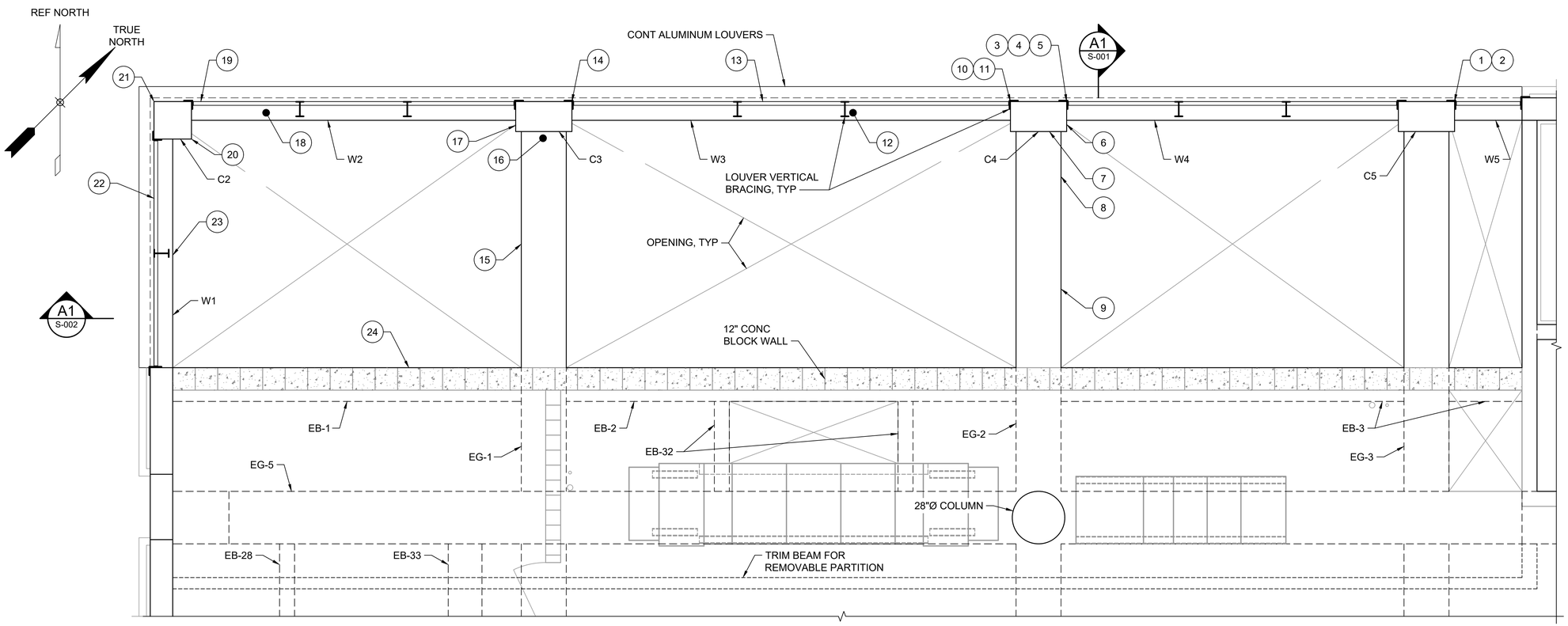
DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



C1 S-002 ELECTRICAL EQUIPMENT FLOOR PARTIAL PLAN
SCALE: 3/8"=1'-0"
S-001

BUILDING 3							
REPAIR #	ELEMENT	FACE OF REPAIR	LOCATION DESCRIPTION	DEFECT CODE	LENGTH (FT)	WIDTH (FT)	AREA (SF)
1	C5	NE CORNER	STARTING AT TOP OF LOUVER SECTION*	D	3.0	0.5	2
2	C5	NE CORNER	STARTING AT BOTTOM OF LOUVER SECTION*	D	4.0	0.5	2
3	C4	NE CORNER	STARTING AT BOTTOM OF LOUVER SECTION*	D	5.5	1.0	6
4	C4	NE CORNER	MIDDLE OF LOUVER SECTION*	D	7.0	0.5	4
5	C4	NE CORNER	TOP OF LOUVER SECTION*	D	2.0	0.5	1
6	C4	EAST	17.7' FROM ELEV 0	D	17.3	0.8	15
7	C4	SOUTH	30' FROM ELEV 0	D	3.0	2.5	8
8	EG-2	EAST	2' FROM C4	S	2.5	2.0	5
9	EG-2	EAST	7' FROM C4	D	2.3	2.0	5
10	C4	NW CORNER	STARTING AT BOTTOM OF LOUVER SECTION*	D	2.0	0.5	1
11	C4	NW CORNER	STARTING AT TOP OF LOUVER SECTION*	D	2.0	0.5	1
12	W3	BOTTOM	TOP LOUVER SILL 7' FROM C4	D	2.0	1.5	3
13	LB		REPLACE LATERAL BRACE BETWEEN BEAMS AT W3 SECTION				0
14	C3	NE CORNER	STARTING 1' ABOVE BOTTOM OF LOUVER SECTION*	D	3.0	1.0	3
15	EG-1	WEST	5' FROM C4	D	1.3	5.0	7
16	EG-1	BOTTOM	AT C4	D	16.2	2.0	33
17	C3	WEST	25' FROM ELEV 0	D	10.0	1.0	10
18	W2	BOTTOM	TOP LOUVER SILL ENTIRE W2 SECTION	D/S	14.3	1.5	22
19	C2	NE CORNER	STARTING AT BOTTOM OF LOUVER SECTION*	D	7.5	1.0	8
20	C2	SOUTH/EAST	17.7' FROM ELEV 0	D	17.3	2.7	47
21	C2	NW CORNER	STARTING 10' ABOVE BOTTOM OF LOUVER SECTION*	D	6.0	1.0	6
22	LB		REPLACE LATERAL BRACE BETWEEN COLUMN 2 AND BEAM IN SECTION W1				0
23	W1	BOTTOM	TOP LOUVER SILL 5' FROM CONCRETE BLOCK WALL	S	1.4	1.5	3
24	EB-1	BOTTOM	5' FROM EG-1	S	3.0	1.5	5
						TOTAL	197

NOTES:

1. FACE OF REPAIR BASED ON REF NORTH.
2. FOR REPAIR DETAIL, SEE SHEET S-015.

LEGEND:

(#) CONCRETE REPAIR NUMBER

4' 0'-0" 2' 4'
SCALE: 3/8"=1'-0"

Mark	Description	Date	Appr

CHESAPEAKE BAY BRIDGE TUNNEL
VENTILATION BUILDINGS
FAN ROOM REPAIRS

BUILDING 3 - ELECTRICAL EQUIPMENT
FLOOR PART PLAN

Designed by: JSE/JMH
Drawn by: MWC
Checked by: JMH
Reviewed by: BRJ
Submitted by: JMH
Date: 04/08/2025
M&N Project No. 222309-03
Drawing scale:
Drawing Scale:
Plot scale: 1:1 (D SHEET)
Rev. -

101 W. MAIN STREET
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PREPARED FOR:
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

COMMONWEALTH OF VIRGINIA
BILLY R. JENKINS
Lic. No. 011126
04/08/2025
PROFESSIONAL ENGINEER
SEAL

Sheet Reference No.
S-010
INDEX: 13 OF 19

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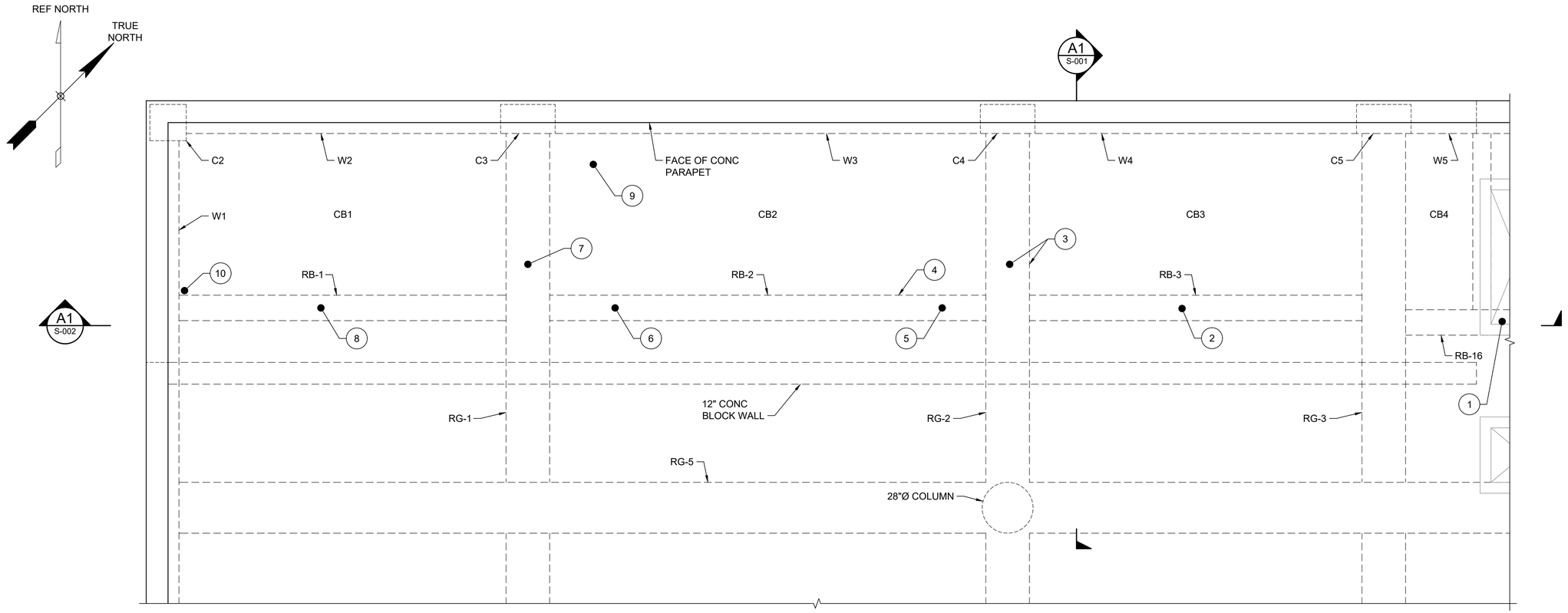

C1 S-002 — ROOF FRAMING PARTIAL PLAN
SCALE: 3/8"=1'-0"
S-001

BUILDING 3							
REPAIR #	ELEMENT	FACE OF REPAIR	LOCATION DESCRIPTION	DEFECT CODE	LENGTH (FT)	WIDTH (FT)	AREA (SF)
1	RB-16	BOTTOM	5' FROM RG-3	S	1.0	0.8	1
2	RB-3	BOTTOM	7' FROM RG-2	S	4.0	1.2	5
3	RG-2	EAST / BOTTOM	10' FROM CONCRETE BRICK WALL	S	10.0	2.7	27
4	RB-2	NORTH	4' FROM RG-2	D	10.0	0.8	9
5	RB-2	BOTTOM	2' FROM RG-2	S	1.0	1.0	1
6	RB-2	BOTTOM	3' FROM RG-1	S	3.0	1.2	4
7	RG-1	BOTTOM	6' FROM C3	S	6.0	1.5	9
8	RB-1	BOTTOM	FULL LENGTH OF RB-1	D	13.3	1.2	16
9	CB2	CEILING	6' FROM RB-2, 2' FROM RG-1	S	6.2	1.8	12
10	CB1	CEILING	AT RB-1, AT W1	S	4.0	1.3	5
						TOTAL	89

NOTES:

1. FACE OF REPAIR BASED ON REF NORTH.
2. FOR REPAIR DETAIL, SEE SHEET S-015.

LEGEND:

(#) CONCRETE REPAIR NUMBER

4' 0'-0" 2' 4'
SCALE: 3/8"=1'-0"

Mark	Description	Date	Appr

CHESAPEAKE BAY BRIDGE TUNNEL
VENTILATION BUILDINGS
FAN ROOM REPAIRS

BUILDING 3 - ROOF
FRAMING PART PLAN

101 W. MAIN STREET
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NORFOLK, VA 23510
(757) 628-8222
moffatt & nichol

PREPARED FOR:
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

COMMONWEALTH OF VIRGINIA
BILLY R. JENKINS
Lic. No.011126
04/08/2025
PROFESSIONAL ENGINEER
SEAL

Designed by: JSE/JMH
Drawn by: MWC
Checked by: JMH
Reviewed by: BRJ
Submitted by: JMH MOFFATT & NICHOL
Date: 04/08/2025
M&N Project No. 222309-03
Drawing code:
Drawing Scale:
Plot scale: 1:1 (D SHEET)
Rev. -

Sheet Reference No.
S-011
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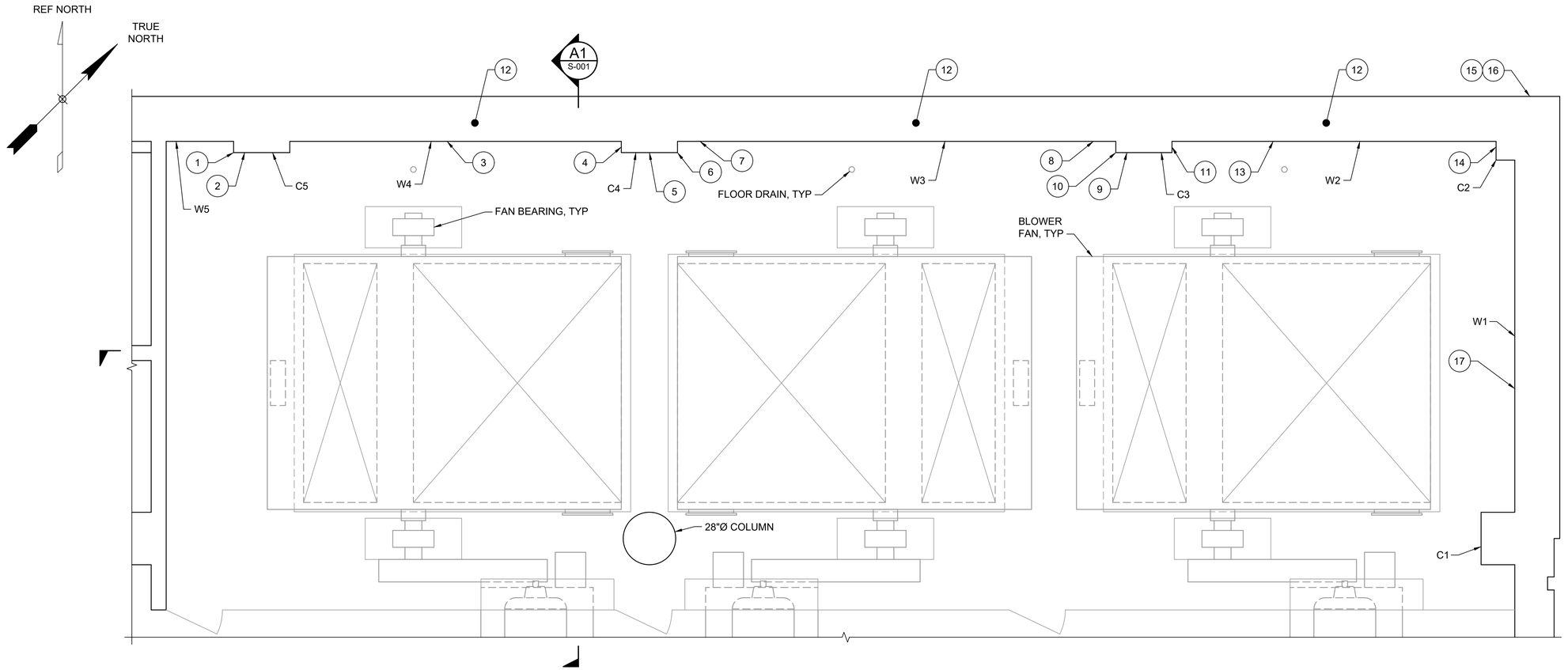

C1 / S-002 — FAN ROOM FLOOR PARTIAL PLAN
S-001
SCALE: 3/8"=1'-0"

BUILDING 4							
REPAIR #	ELEMENT	FACE OF REPAIR	LOCATION DESCRIPTION	DEFECT CODE	LENGTH (FT)	WIDTH (FT)	AREA (SF)
1	C5	SOUTH/ WEST	16' FROM ELEV 0	S	16.3	1.3	22
2	C5	SOUTH	5.5' FROM ELEV 0	D	13.0	0.7	9
3	W2	SOUTH	7' FROM C5, 7' FROM ELEV 0	D	1.0	1.0	1
4	C4	WEST	4' FROM ELEV 0	D	13.7	0.5	7
5	C4	SOUTH	9' FROM ELEV 0	D	8.7	0.5	5
6	C4	SOUTH/EAST	10' FROM ELEV 0	D	7.7	0.7	6
7	W3	SOUTH	1' FROM C4, 7' FROM ELEV 0	D	12.0	3.5	42
8	W3	SOUTH	1' FROM C3, 5' FROM ELEV 0	D	3.0	2.0	6
9	C3	SOUTH	1.5' FROM ELEV 0	D	1.5	2.5	4
10	C3	SOUTH/WEST	5' FROM ELEV 0	D	12.7	1.8	24
11	C3	EAST	15' FROM ELEV 0	D	1.9	0.5	1
12	W2 TO W4	TOP	BOTTOM LOUVER SILL	D	43.8	1.5	66
13	W2	SOUTH	4.5' FROM C3, 10.5' FROM ELEV 0	D	1.5	4.5	7
14	C2	WEST	START AT ELEV 0	D	17.7	0.9	17
15	C1	NORTH	8' FROM ELEV 0	D	1.5	1.5	3
16	C1	NORTH	11' FROM ELEV 0	D	1.0	1.0	1
17	W1	CURB FACE	FALSE WALL CURB	D/S	1.0	22.0	22
						TOTAL	243

NOTES:

1. FACE OF REPAIR BASED ON REF NORTH.
2. FOR REPAIR DETAIL, SEE SHEET S-015.

LEGEND:

(#) CONCRETE REPAIR NUMBER

4' 0'-0" 2' 4'
SCALE: 3/8"=1'-0"

Mark	Description	Date	Appr

CHESAPEAKE BAY BRIDGE TUNNEL
VENTILATION BUILDINGS
FAN ROOM REPAIRS

BUILDING 4 - FAN ROOM
FLOOR PART PLAN

Designed by: JSE/JMH
Dwn by: MWC
Ckd by: JMH
Reviewed by: BRJ
Submitted by: JMH MOFFATT & NICHOL
Date: 04/08/2025
M&N Project No. 222309-03
Drawing code:
Drawing Scale:
Plot scale: 1:1 (D SHEET)
Rev. -

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PREPARED FOR:
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

COMMONWEALTH OF VIRGINIA
BILLY R. JENKINS
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04/08/2025
PROFESSIONAL ENGINEER
SEAL

Sheet Reference No.
S-012
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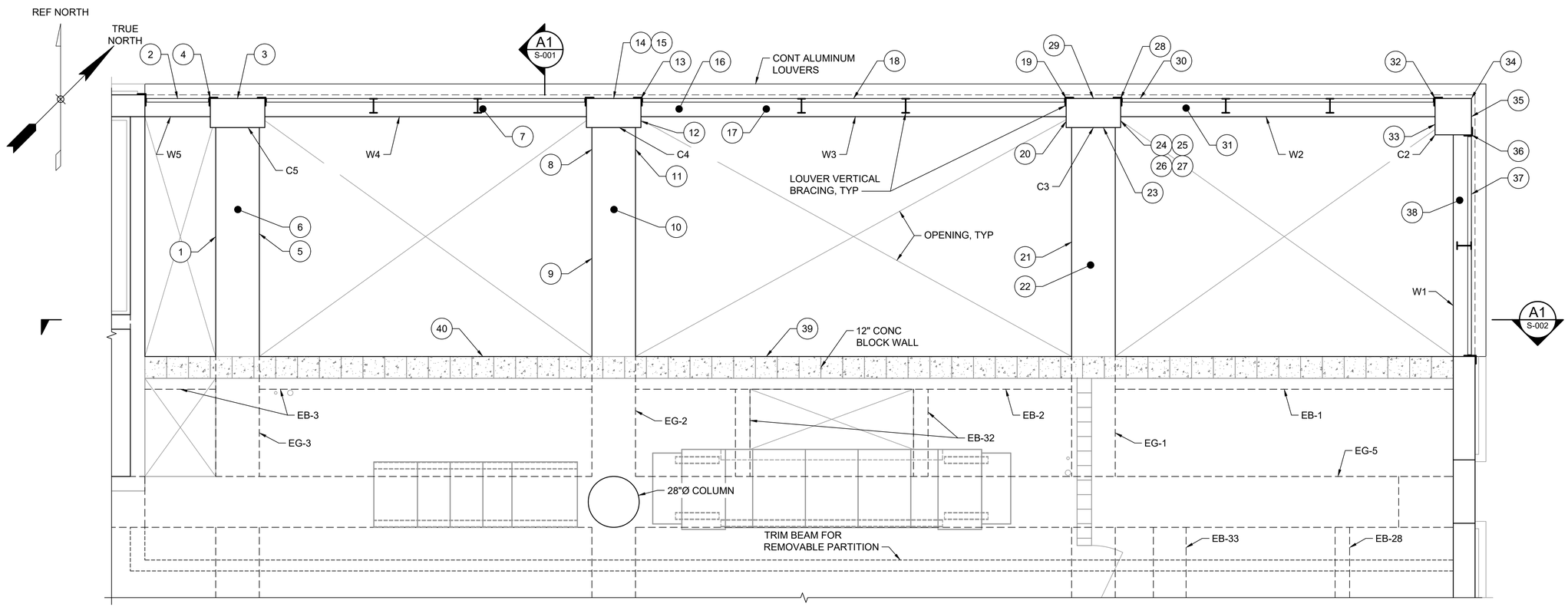

C1 S-002 — ELECTRICAL EQUIPMENT FLOOR PARTIAL PLAN

S-001

SCALE: 3/8"=1'-0"

BUILDING 4							
REPAIR #	ELEMENT	FACE OF REPAIR	LOCATION DESCRIPTION	DEFECT CODE	LENGTH (FT)	WIDTH (FT)	AREA (SF)
1	EG-3	WEST	5' FROM C5	D	1.7	10.7	18
2	LB		REPLACE LATERAL BRACE BETWEEN COLUMN 5 AND BEAM IN SECTION W5				0
3	C5	NORTH	STARTING AT BOTTOM OF LOUVER SECTION*	D	6.0	0.5	3
4	C5	NW CORNER	STARTING AT TOP OF LOUVER SECTION*	D	10.0	2.5	25
5	EG-3	EAST	FULL LENGTH	D/S	2.3	0.5	2
6	EG-3	TOP	FULL LENGTH	D	16.2	2.0	33
7	W4	BOTTOM	TOP LOUVER SILL 10' FROM C5	S	6.0	1.5	9
8	EG-2	WEST	1' FROM C4	D/S	1.7	4.0	7
9	EG-2	WEST	6' FROM C4	D	1.7	4.0	7
10	EG-2	TOP	FULL LENGTH	D	16.2	2.0	33
11	EG-2	EAST	1' FROM C4	D	1.7	15.2	26
12	C4	EAST	20' FROM ELEV 0 *	D	6.0	1.3	8
13	C4	NE CORNER	FULL LENGTH OF COLUMN*	D	16.2	0.5	9
14	C4	NORTH	TOP OF LOUVER SECTION*	D	2.0	4.0	8
15	C4	NORTH	MIDDLE OF LOUVER SECTION*	D	2.0	2.0	4
16	W3	BOTTOM	TOP LOUVER SILL 2' FROM EG-2	D	1.0	2.0	2
17	W3	BOTTOM	TOP LOUVER SILL 6' FROM C4	D/S	3.3	1.5	5
18	LB		REPLACE LATERAL BRACE BETWEEN TWO BEAMS IN SECTION W3				0
19	C3	NW CORNER	FULL LENGTH	D	16.2	1.0	17
20	C3	WEST	17.7' FROM ELEV 0	D	17.3	1.3	24

BUILDING 4							
REPAIR #	ELEMENT	FACE OF REPAIR	LOCATION DESCRIPTION	DEFECT CODE	LENGTH (FT)	WIDTH (FT)	AREA (SF)
21	EG-1	WEST	FULL LENGTH	D	16.2	1.0	17
22	EG-1	TOP	FULL LENGTH	D	16.2	2.0	33
23	C3	SOUTH	21' FROM ELEV 0	D	12.0	1.0	12
24	C3	EAST	17.7' - 23' FROM ELEV 0	D	5.3	0.7	4
25	C3	EAST	33' TO 35' FROM ELEV 0 *	D	2.0	1.3	3
26	C3	EAST	17.7' - 30' FROM ELEV 0 *	D	12.3	0.5	7
27	C3	EAST	17' FROM ELEV 0	D	15.0	1.3	20
28	C3	NE CORNER	FULL LENGTH*	D	16.2	1.0	17
29	C3	NORTH	MIDDLE OF LOUVER SECTION*	D	16.2		0
30	LB		REPLACE LATERAL BRACE BETWEEN C3 AND BEAM IN SECTION W2				0
31	W2	BOTTOM	TOP LOUVER SILL 3' FROM C3	S	2.0	1.5	3
32	C2	NW CORNER	FULL LENGTH	D	16.2	0.5	9
33	C2	WEST	17.7' FROM ELEV 0	D	17.3	0.7	12
34	C2	NE CORNER	FULL LENGTH*	D	16.2	1.0	17
35	C2	EAST	MIDDLE OF LOUVER SECTION*	D	2.0	2.0	4
36	C2	SE CORNER	MIDDLE OF LOUVER SECTION*	D	5.5	1.0	6
37	LB		REPLACE LATERAL BRACE BETWEEN C2 AND BEAM IN SECTION W1				0
38	W1	BOTTOM	TOP LOUVER SILL 3' FROM C2	D/S	7.0	0.7	5
39	EB-2	NORTH	6' FROM EG-2	D	1.5	6.0	9
40	EB-3	NORTH	5' FROM EG-2	D	0.5	5.0	3
TOTAL							421

NOTES:

1. FACE OF REPAIR BASED ON REF NORTH.
2. FOR REPAIR DETAIL, SEE SHEET S-015.

LEGEND:

(#) CONCRETE REPAIR NUMBER

4' 0'-0" 2' 4'

SCALE: 3/8"=1'-0"

Mark	Description	Date	Appr

CHESAPEAKE BAY BRIDGE TUNNEL VENTILATION BUILDINGS FAN ROOM REPAIRS

BUILDING 4 - ELECTRICAL EQUIPMENT FLOOR PART PLAN

Designed by: JSE/JMH	Drawn by: MWC	Reviewed by: BRJ	Submitted by: JMH
Date: 04/08/2025	Chd by: JMH	Drawing scale:	Drawing Scale:
M&N Project No. 222309-03			Plot scale: 1:1 (D SHEET)
Rev. -			

101 W. MAIN STREET SUITE 3000 NORFOLK, VA 23510 (757) 628-8222

moffatt & nichol

PREPARED FOR: CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

MOFFATT & NICHOL

COMMONWEALTH OF VIRGINIA
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Lic. No.011126
04/08/2025
PROFESSIONAL ENGINEER
SEAL

Sheet Reference No.

S-013

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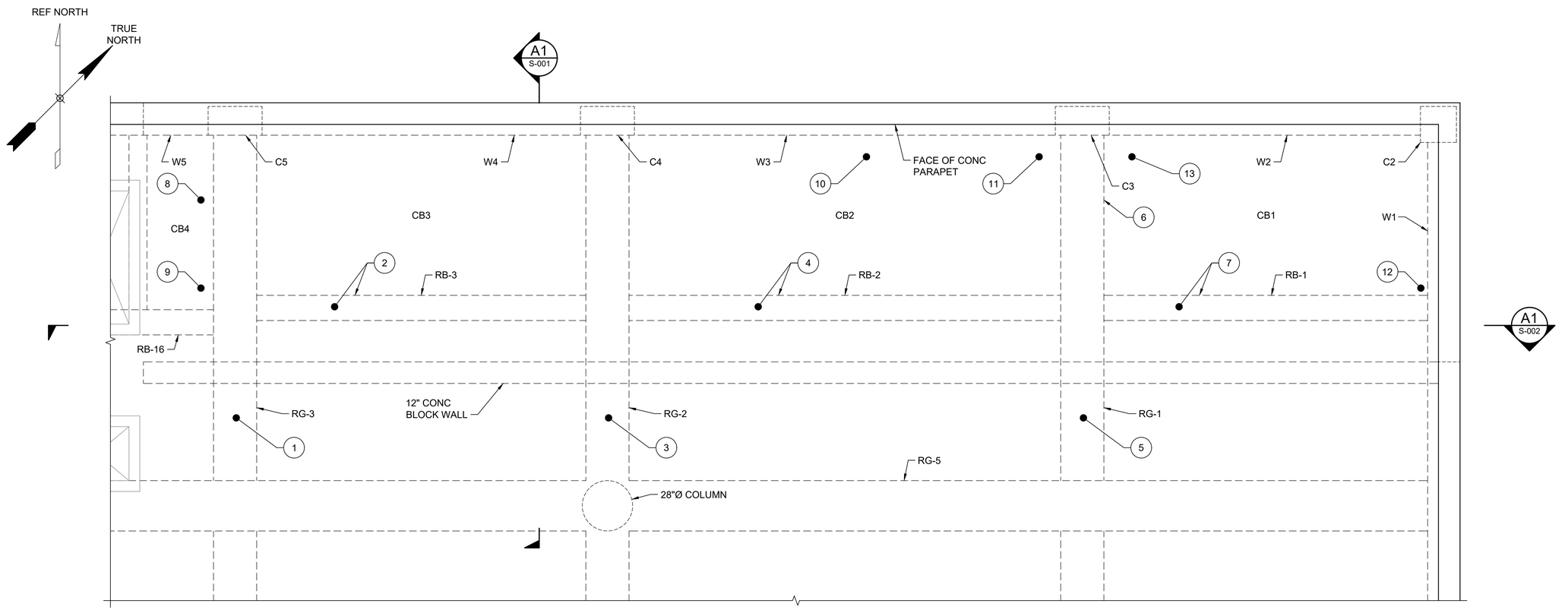

C1 S-002 — ROOF FRAMING PARTIAL PLAN

S-001

SCALE: 3/8"=1'-0"

BUILDING 4							
REPAIR #	ELEMENT	FACE OF REPAIR	LOCATION DESCRIPTION	DEFECT CODE	LENGTH (FT)	WIDTH (FT)	AREA (SF)
1	RG-3	BOTTOM	FULL LENGTH	D	10.3	2.0	21
2	RB-3	NORTH/BOTTOM	FULL LENGTH	S	14.3	1.0	15
3	RG-2	BOTTOM	FULL LENGTH	D	10.3	2.0	21
4	RB-2	NORTH/BOTTOM	FULL LENGTH	S	19.0	1.2	23
5	RG-1	BOTTOM	FULL LENGTH	S	10.3	2.0	21
6	RG-1	EAST	3' FROM C3	S	2.3	3.0	7
7	RB-1	NORTH/BOTTOM	FULL LENGTH	S	13.3	1.0	14
8	CB4	CEILING	3' FROM NORTH WALL, 2.5' FROM WEST WALL	S	0.7	0.2	1
9	CB4	CEILING	1' FROM RB-16, 2.5' FROM WEST WALL	S	0.7	0.2	1
10	CB2	CEILING	9' FROM RG-1, 1' FROM NORTH WALL	S	2.7	1.3	4
11	CB2	CEILING	1' FROM RG-1, 1' FROM NORTH WALL	S	0.7	0.7	1
12	CB1	CEILING	AT EAST WALL AND RB-1	S	1.2	3.3	4
13	CB1	CEILING	1.3' FROM RG-1, 1' FROM EAST WALL	S	1.1	1.3	2
						TOTAL	135

NOTES:

1. FACE OF REPAIR BASED ON REF NORTH.
2. FOR REPAIR DETAIL, SEE SHEET S-015.

LEGEND:

(#) CONCRETE REPAIR NUMBER

4' 0'-0" 2' 4'

SCALE: 3/8"=1'-0"

Mark	Description	Date	Appr

CHESAPEAKE BAY BRIDGE TUNNEL
VENTILATION BUILDINGS
FAN ROOM REPAIRS

BUILDING 4 - ROOF
FRAMING PART PLAN

Designed by: JSE/JMH
Drawn by: MWC
Reviewed by: BRJ
Submitted by: JMH
MOFFATT & NICHOL
Cad by: JMH
M&N Project No. 222309-03
Drawing code:
Drawing Scale:
Plot scale: 1:1 (D SHEET)
Date: 04/08/2025
Rev: -

101 W. MAIN STREET
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moffatt & nichol

PREPARED FOR:
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

COMMONWEALTH OF VIRGINIA
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PROFESSIONAL ENGINEER
SEAL

Sheet Reference No.
S-014
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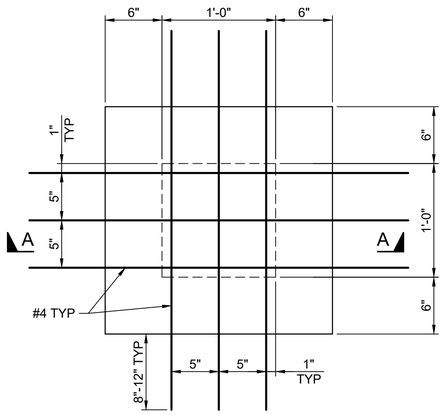
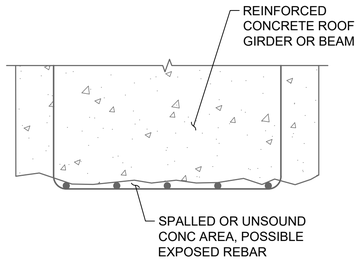


PLAN



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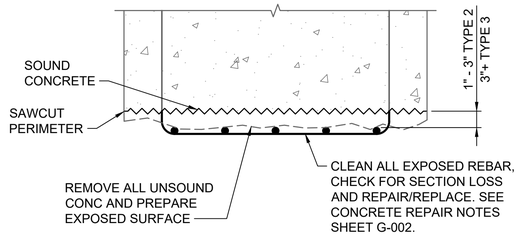
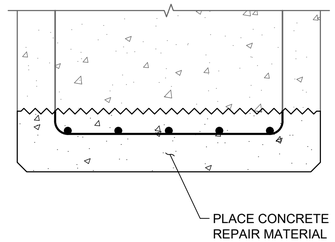


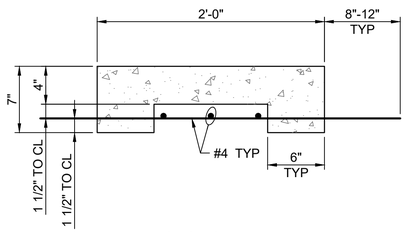
PREPARE



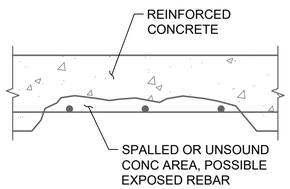
CONCRETE REPAIR

E3 S-015 CONCRETE BEAM AND GIRDER REPAIR DETAILS

SCALE: NTS



SECTION A-A



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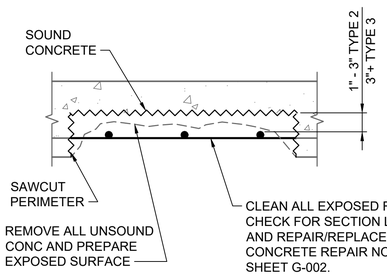

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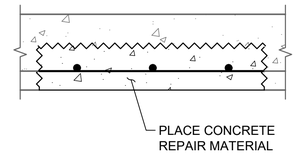


CONCRETE REPAIR

TEST PANEL NOTES:

1. PANEL REINFORCING STEEL SHALL BE STANDARD BLACK BAR.
2. PANEL TO BE CASTED WITH APPROVED CONCRETE REPAIR MATERIAL.
3. PLACE TEST MATERIAL PER CONTRACT DOCUMENTS.

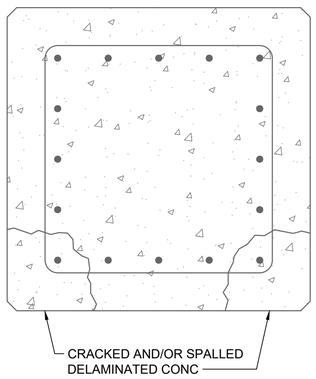
SECTION A-A EXISTING PREPARE CONCRETE REPAIR

C1 S-015 TEST PANEL

SCALE: NTS

C3 S-015 CONCRETE CEILING BAY AND WALL REPAIR DETAILS

SCALE: NTS



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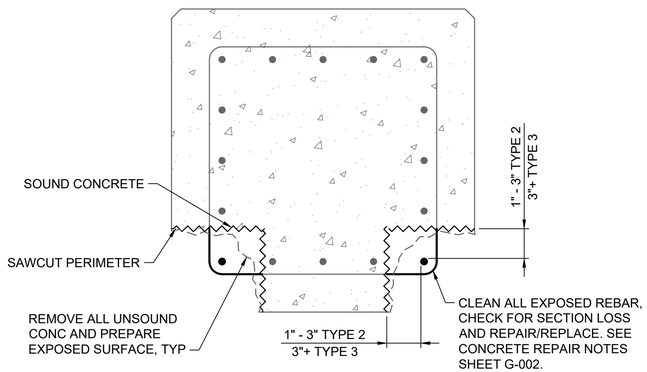

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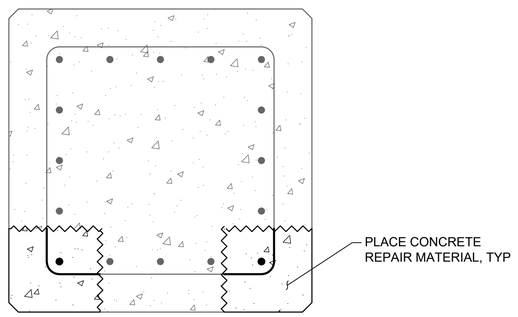

CONCRETE REPAIR

CONCRETE REPAIR NOTES:

1. TYPE 2 CONCRETE REPAIRS SHALL CONSIST OF THE REMOVAL OF UNSOUND CONCRETE TO 1" TO 3" BEHIND THE FIRST LAYER OF REINFORCING STEEL.
2. TYPE 3 CONCRETE REPAIRS SHALL CONSIST OF THE REMOVAL OF UNSOUND CONCRETE TO AT A MINIMUM OF 3" BEHIND THE FIRST LAYER OF REINFORCING STEEL.
3. REFERENCE TECHNICAL SPECIFICATIONS FOR ADDITIONAL NOTES.

A1 S-015 CONCRETE COLUMN REPAIR DETAILS

SCALE: NTS

CHESAPEAKE BAY BRIDGE TUNNEL
VENTILATION BUILDINGS
FAN ROOM REPAIRS

CONCRETE REPAIR DETAILS

Mark	Description	Date	Appr

Rev: -
Date: 04/08/2025
M&N Project No. 222309-03
Drawing code:
Drawing Scale:
Plot scale: 1:1 (0 SHEET)
Designed by: JSE/JMH
Drawn by: MWC
Cked by: JMH
Reviewed by: BRJ
Submitted by: JMH MOFFATT & NICHOL

101 W. MAIN STREET
SUITE 9000
NORFOLK, VA 23510
(757) 628-8222
moffatt & nichol

PREPARED FOR:
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

COMMONWEALTH OF VIRGINIA
BILLY R. JENKINS
Lic. No. 011126
04/08/2025
PROFESSIONAL ENGINEER
SEAL

Sheet Reference No.
S-015
INDEX: 18 OF 19

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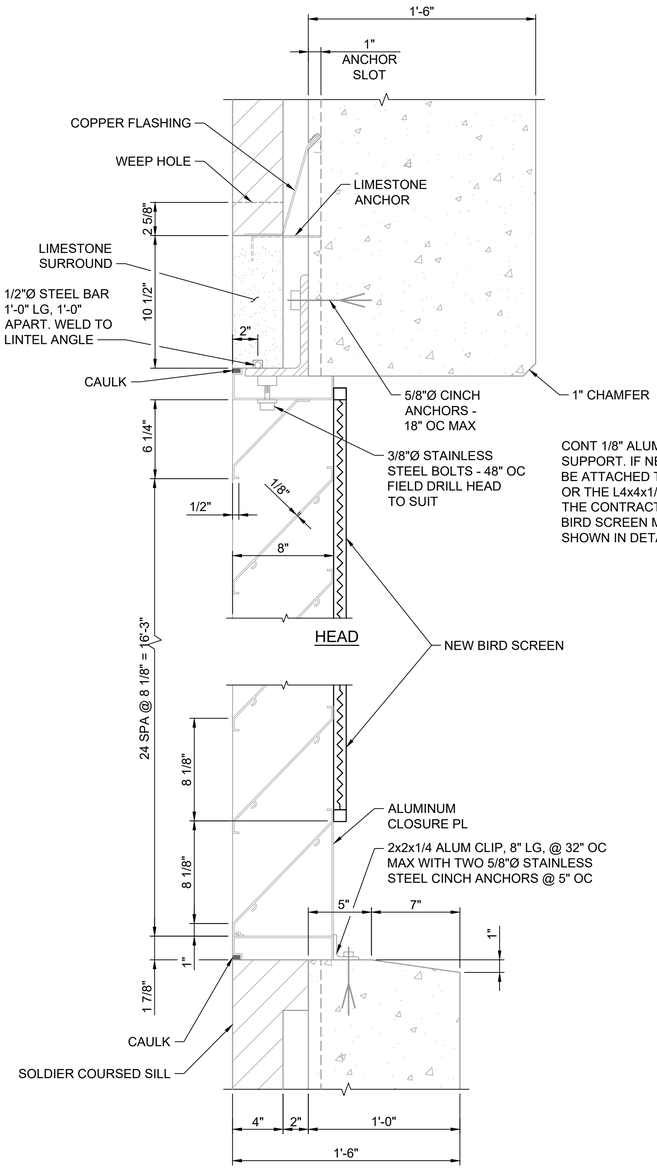
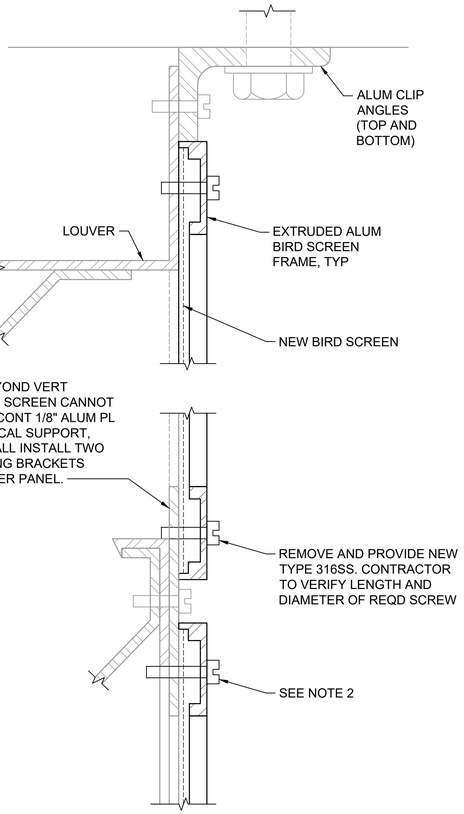
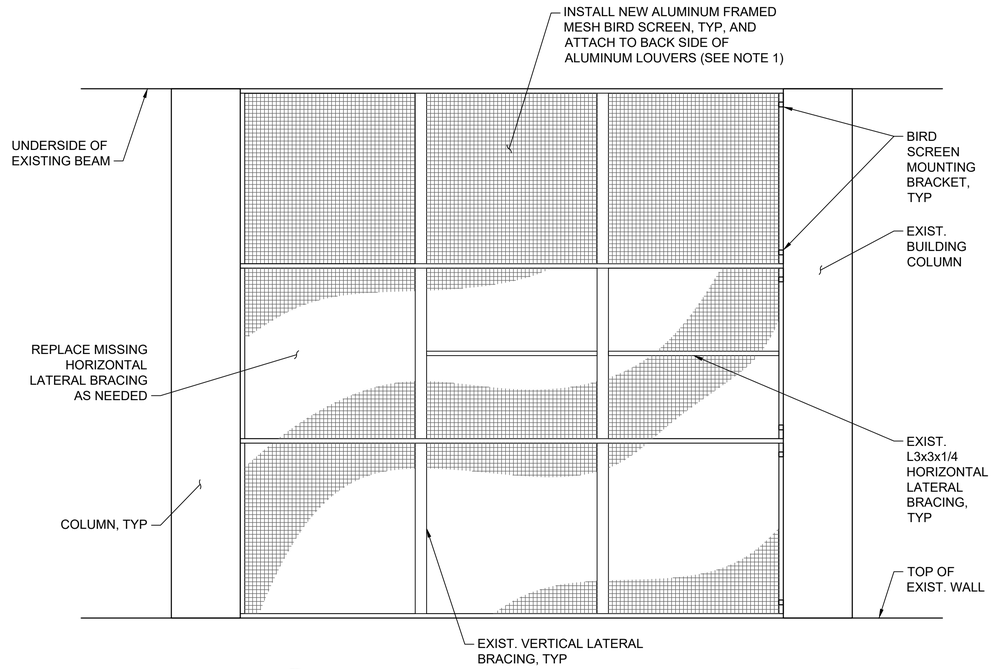
DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



B1 S-016 TYPICAL CONTINUOUS LOUVER DETAILS
SCALE: NTS



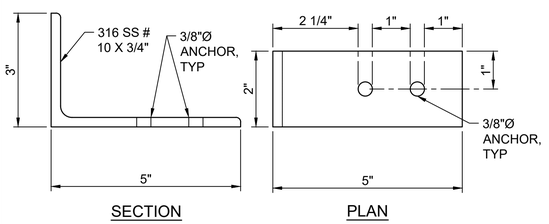
C3 S-016 VERTICAL SECTION SHOWING BIRD SCREEN
SCALE: NTS



C4 S-016 ELEVATION OF BIRD SCREEN PANELS
SCALE: NTS

NOTES:

1. BIRD SCREEN SHALL BE 1/2" INTERCRIMP MESH ALUMINUM SCREEN OF 0.063 IN DIAMETER WITH ALUMINUM FRAME. BIRD SCREEN SHALL MEET ASTM E2016-15. MESH MATERIAL SHALL BE ASTM B209 GRADE 5052 AND COATED WITH KYNAR 500 TWO-COAT FLUOROPOLYMER SYSTEM OF ALUMINUM COLOR TO BE APPROVED BY THE DISTRICT.
2. REPLACEMENT SCREWS SHALL BE 316 SS#10 x 3/4" HEX WASHER HEAD TEK WITH ISOLATION WASHER. HOLES FOR BIRD SCREEN FRAMING ATTACHMENTS MAY REQUIRE LARGER THAN ORIGINAL SCREW DIAMETER. CONTRACTOR SHALL FIELD VERIFY THE LENGTH AND DIAMETER OF SCREW REQUIRED TO PROVIDE RIGID ATTACHMENT OF SCREENS.
3. BIRD SCREEN PANEL SHALL BE FURNISHED AND INSTALLED UTLIZING THE CURRENT CONFIGURATION OF SIX UNIFORM SECTIONS OF BIRD SCREEN BETWEEN COLUMNS 1-2. NINE UNIFORM SECTIONS OF BIRD SCREEN BETWEEN COLUMNS 2-3, 3-4, 4-5. THREE UNIFORM SECTIONS OF BIRD SCREEN BETWEEN COLUMN 5 AND THE END WALL.

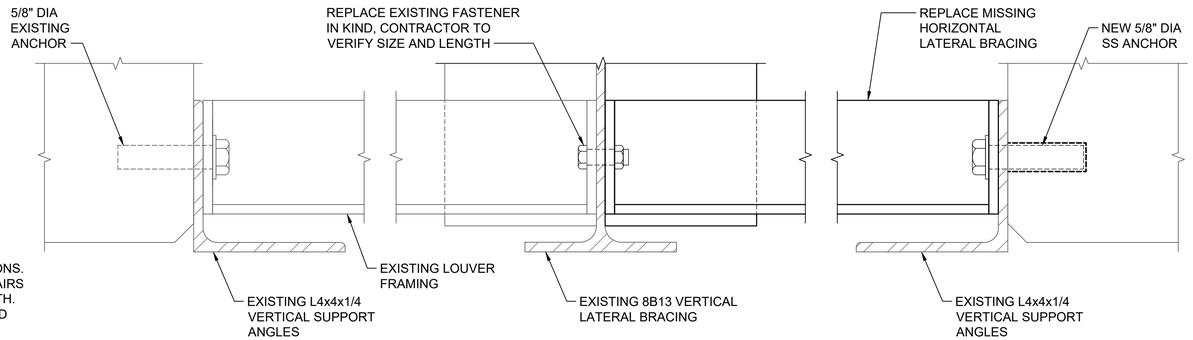


A1 S-016 BIRD SCREEN MOUNTING BRACKET DETAIL
SCALE: NTS

NOTES:

1. MOUNTING BRACKET SHALL BE 1/4" ASTM A36 STEEL.
2. BRACKET SHALL BE GALVANIZED PER TECHNICAL SPECIFICATIONS.
3. MOUNTING BRACKET TO BE INSTALLED AFTER CONCRETE REPAIRS HAVE BEEN COMPLETED AND ACHIEVED FULL DESIGN STRENGTH.
4. MOUNTING BRACKET TO BE INSTALLED 6" FROM THE UPPER AND LOWER END OF EACH BIRD SCREEN PANEL.
5. MOUNTING BRACKETS SHALL BE MOUNTED FLUSH WITH THE OUTSIDE FACE OF EACH COLUMN WITH ANCHORS INSTALLED A MINIMUM OF 2" FROM THE OUTSIDE FACE.
6. FOR MOUNTING LOCATIONS, SEE TABLE.

BUILDINGS 1-4		
COLUMN	FACE	QTY
3	WEST	6
4	EAST	6
5	EAST	6



A3 S-016 PART PLAN SHOWING REPLACEMENT OF MISSING HORIZONTAL LATERAL BRACING
SCALE: NTS

CHESAPEAKE BAY BRIDGE TUNNEL VENTILATION BUILDINGS FAN ROOM REPAIRS

LOUVER AND BIRD SCREEN REPAIR DETAILS

Mark	Description	Date	Appr

101 W. MAIN STREET
SUITE 3000
NORFOLK, VA 23510
(757) 628-8222

moffatt & nichol

PREPARED FOR:
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

Designed by: JSE/JMH
Drawn by: MWC
Checked by: JMH
Reviewed by: BRJ
Submitted by: JMH MOFFATT & NICHOL
Date: 04/08/2025
M&N Project No. 222309-03
Drawing scale:
Drawing Scale: 1:1 (D SHEET)
Plot scale: 1
Rev: -

COMMONWEALTH OF VIRGINIA
BILLY R. JENKINS
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04/08/2025
PROFESSIONAL ENGINEER
SEAL

Sheet Reference No.
S-016
INDEX: 19 OF 19

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DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING

REPLACE ELEVATOR IN FOUR VENTILATION BUILDINGS

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF: 3076.3731

BIDDING / CONSTRUCTION SET

SCHEDULE OF DRAWINGS:

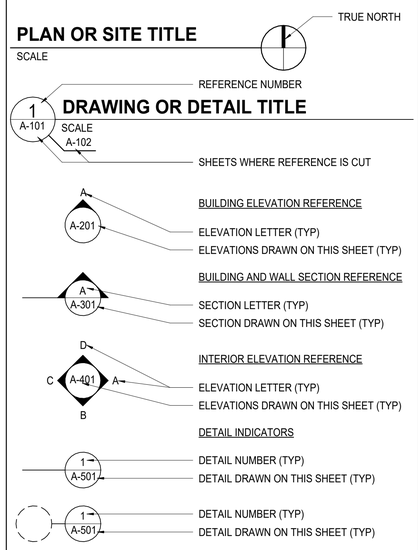
ABBREVIATIONS

ADA	AMERICANS W/ DISABILITIES ACT	JBE	JOIST BEARING ELEVATION
AFF	ABOVE FINISHED FLOOR	H	HEIGHT
ACOUS	ACOUSTICAL	HM	HOLLOW METAL
ACT	ACOUSTICAL CEILING TILE	HOR	HORIZONTAL
ALUM	ALUMINUM	LVT	LUXURY VINYL TILE
APPROX	APPROXIMATELY	MANUF	MANUFACTURER
BD	BOARD	MECH	MECHANICAL
BEJ	BUILDING EXPANSION JOINT	MIN	MINIMUM
BTM	BOTTOM	MO	MASONRY OPENING
CLR	CLEAR	MTL	METAL
CO	CLEAN OUT	NIC	NOT IN CONTRACT
CONC	CONCRETE	NTS	NOT TO SCALE
COORD	COORDINATE	OC	ON CENTER
CMU	CONCRETE MASONRY UNIT	OH	OPPOSITE HAND
CONT	CONTINUOUS	PLAM	PLASTIC LAMINATE
CJ	CONTROL JOINT	PNT	PAINT
D, DIA	DIAMETER	PREFAB	PREFABRICATED
DN	DOWN	REF	REFRIGERATOR
DS	DOWNSPOUT	REINF	REINFORCED
EA	EACH	RD	ROOF DRAIN
EWC	ELECTRIC WATER COOLER	RO	ROUGH OPENING
EJ	EXPANSION JOINT	SB	SPLASH BLOCK
EFS	EXTERIOR FINISH SYSTEM	SIM	SIMILAR
EIFS	EXTERIOR INSULATION FINISH SYSTEM	SQ	SQUARE
		SS	STAINLESS STEEL
EQ	EQUAL	STRUCT	STRUCTURAL
EQUIP	EQUIPMENT	TERM	TERMINATE
EXIST	EXISTING	TOS	TOP OF STEEL
EXT	EXTERIOR	TOM	TOP OF MASONRY
FD	FLOOR DRAIN	TYP	TYPICAL
FEC	FIRE EXTINGUISHER CABINET	UON	UNLESS OTHERWISE NOTED
FRP	FIBERGLASS REINFORCED POLYESTER	VERT	VERTICAL
		VCT	VINYL COMPOSITION TILE
FRT	FIRE RETARDANT TREATED		
GA	GAUGE	W	WIDTH
GC	GENERAL CONTRACTOR	WD	WOOD
GWB	GYPSUM WALL BOARD	WSC	WOOD, SOLID CORE
GYP	GYPSUM	WH	WATER HEATER
INSUL	INSULATION		

GENERAL NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING CONSTRUCTION AND SHALL COORDINATE THE WORK OF ALL TRADES. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT, IN WRITING, BEFORE CONTINUING WORK.

SYMBOL LEGEND



ROOM	ROOM NAME AND NUMBER REFERENCE	ROOM 103	ROOM NAME, NUMBER
101	DOOR NUMBER REFERENCE	#	NEW WORK NOTES
		#	DEMOLITION WORK NOTES
		88	REVISION MARKER

MATERIAL LEGEND

CONCRETE	GYPSUM BOARD OR SHEATHING
CONCRETE MASONRY UNITS	STEEL
CONTINUOUS BLOCKING	

REFERENCE DRAWINGS

REFERENCE	
BT-202	PLAN BELOW ROADWAY
BT-207	SECTIONS & DETAILS - SHEET 2
BT-208	SECTIONS & DETAILS - SHEET 3
BT-209	SECTIONS & DETAILS - SHEET 4
BT-210	SECTIONS & DETAILS - SHEET 5
BT-211	SECTIONS & DETAILS - SHEET 6
BT-212	SECTIONS & DETAILS - SHEET 7
BT-213	SECTIONS & DETAILS - SHEET 8
BT-249	ELECTRICAL CONDUITS & BOXES SECTIONS & DETAILS
BT-415	SECTIONS & DETAILS - SHEET 1
BT-425	STAIR & ELEVATOR PLANS - DETAILS
B-248	CONDUIT INSTALLATION
B-251	CONDUIT INSTALLATION
B-409	ELECTRICAL EQUIPTMENT INSTALLATION
B-470	FAN ROOM FLOOR EL +15.20'
B-471	MEZZANINE & GARAGE FLOOR EL +28.28'
B-472	ELECTRICAL EQUIPTMENT FLOOR EL +37.20'
B-473	ROOF PLAN
B-474	SECTIONS & DETAILS - SHEET 1
T-248	CONDUIT INSTALLATION
T-251	CONDUIT INSTALLATION
T-409	ELECTRICAL EQUIPTMENT INSTALLATION
ELE 13-56	POWER PLAN 13 OF 56
SD-1-3	ELEVATOR SHOP DRAWING 1 OF 3
SD-2-3	ELEVATOR SHOP DRAWING 2 OF 3
SD-3-3	ELEVATOR SHOP DRAWING 3 OF 3

VICINITY MAP N.T.S.

CODE DATA:

APPLICABLE CODE:
2018 VIRGINIA EXISTING BUILDING CODE

SECTION 601.2.2.1 ADVISES THE ADDITION OR ELIMINATION OF ANY DOOR OR WINDOW REQUIRES COMPLIANCE WITH SECTIONS 602 AND 603. THIS PROJECT INCLUDES THE ADDITION OF ONE DOOR AND CHANGING ONE LATTICE DOOR FROM TO A SOLID 2 HOUR RATED DOOR AT EACH BUILDING

SECTION 601.4.6 ADVISES LIGHTING ALTERATIONS SHALL COMPLY WITH 601.4.6.1 WHICH REQUIRES ALTERED COMMERCIAL LIGHTING SHALL COMPLY WITH SECTION .C405 OF THE VECC. THE LIGHTING DESIGN FOR THIS PROJECT IS IN COMPLIANCE WITH THIS REQUIREMENT.

SECTION 602.3.1 ADVISED ALL NEWLY INSTALLED INTERIOR AND TRIM MATERIALS AND WALL, FLOOR AND CEILING FINISHES SHALL COMPLY WITH CHAPTER 8 OF THE VCC. TABLE 8.03.1 FOR USE GROUP U PLACES NO RESTRICTIONS (NO REQUIREMENT FOR FIRE RESISTANCE CLASS). NOTE: THE ONLY FINISHES ADDED ARE NEW FLOOR TILE AND BASE IN THE ELEVATORS.

APPLICABLE CODE:
2018 VIRGINIA UNIFORM STATEWIDE BUILDING CODE.

NEW WORK SUCH AS CONSTRUCTION OF THE NEW ELEVATOR LANDING FLOOR, STAIR, REPLACEMENT DOORS, NEW DOORS AND NEW ACCESS PANELS COMPLY WITH THE APPLICABLE SECTIONS OF 2018 VCC.

BUILDING USE GROUP:
UTILITY AND MISCELLANEOUS GROUP U

CONSTRUCTION TYPE:
1B

ARCHITECT

HBA ARCHITECTURE & INTERIOR DESIGN
One Columbus Center, Suite 1000
Virginia Beach, Virginia 23462
Phone: (757) 490-9048 Fax: (757) 490-7081

STRUCTURAL ENGINEER

SPEIGHT, MARSHAL & FRANCIS (SMF)
1228 PERIMETER PKWY, SUITE 201
VIRGINIA BEACH, VA 23454
Phone: (757) 427-1020

PLUMBING - MECHANICAL - ELECTRICAL ENGINEER

PACE COLLABORATIVE
1277 PERIMETER PKWY
VIRGINIA BEACH, VA 23454
Phone: (757) 499-7223

ELEVATOR CONSULTANT

JAMES LAWRENCE & ASSOCIATES LLC
4214 COLES POINT WAY
GLEN ALLEN, VA 23060
Phone: (804) 747-0971

HBA
ARCHITECTURE
INTERIOR DESIGN

COMMONWEALTH OF VIRGINIA
MICHAEL J. WINNER
Lic No. 012518
02/4/2024
ARCHITECT

BID / CONSTRUCTION SET

REPLACE ELEVATOR IN FOUR VENTILATION BUILDINGS
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
RMF: 3076.3731

COVER SHEET

BID / CONSTRUCTION SET 02-14-2024

23040

G000

Designer: ABC Project Manager: DEF Drawn: GHI 2/14/2024 4:53:26 PM C:\Users\jarodd\Documents\23040_CBBT_ELEVATOR REPLACEMENT_(R2G)_JarodLSLE69.rvt

GENERAL NOTES:

1. THE STRUCTURAL DRAWINGS MUST BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS. THE CONTRACTOR MUST VERIFY THE REQUIREMENTS OF OTHER TRADES FOR ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.

2. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE PROVISIONS OF THE INTERNATIONAL BUILDING CODE, 2018 EDITION, AS ADOPTED BY THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE, 2018 EDITION:

3. THE CONTRACTOR MUST BE RESPONSIBLE FOR TEMPORARY SHORING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL PERMANENT SUPPORTS AND LATERAL BRACING ARE IN PLACE.

4. BEFORE PROCEEDING WITH WORK WITHIN OR NEAR THE EXISTING STRUCTURE, THE CONTRACTOR MUST BECOME FAMILIAR WITH THE EXISTING STRUCTURAL CONDITIONS. THE SHORING AND BRACING SHOWN IS A PARTIAL AND SCHEMATIC REPRESENTATION OF THAT REQUIRED. THE CONTRACTOR MUST BE RESPONSIBLE FOR THE DESIGN AND ERECTION OF ALL SAFEGUARDS NECESSARY TO PROTECT THE EXISTING STRUCTURE FROM DAMAGE.

5. THE CONTRACTOR MUST FIELD VERIFY THE DIMENSIONS, ELEVATIONS AND OTHER REQUIREMENTS NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE STRUCTURE TO THE EXISTING. THE CONTRACTOR MUST MAKE ALL MEASUREMENTS NECESSARY FOR FABRICATION AND ERECTION OF STRUCTURAL MEMBERS.

6. SPECIFIC NOTES AND DETAILS ON THE DRAWINGS MUST TAKE PRECEDENCE OVER STRUCTURAL NOTES AND TYPICAL DETAILS.

7. CONSULTANTS' DRAWINGS, INCLUDING STRUCTURAL DRAWINGS, ARE CONSIDERED SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. ANY OMISSIONS OR CONFLICTS, INCLUDING DIMENSIONS, BETWEEN VARIOUS ELEMENTS OF THE CONSULTANTS' DRAWINGS MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.

8. THE DOCUMENTS DEFINING THE STRUCTURE ARE INSTRUMENTS OF SERVICE PREPARED BY SPEIGHT, MARSHALL AND FRANCIS, PLLC. FOR ONE USE ONLY. THE STRUCTURAL DOCUMENTS MUST NOT BE REPRODUCED, OR COPIED IN WHOLE OR IN PART BY THE CONTRACTOR OR SUBCONTRACTORS FOR PREPARATION OF SHOP DRAWINGS OR OTHER SUBMITTALS WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT.

9. LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:
   A. LIVE LOAD:
      1. SLAB-ON-GRADE 100 PSF

CAST-IN-PLACE CONCRETE NOTES:

1. CAST-IN-PLACE CONCRETE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE (ACI) "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14) AND COMMENTARY (ACI 318R-14)".

2. CONCRETE MUST BE VDOT CLASS A4 GENERAL, UNLESS OTHERWISE NOTED.

3. REINFORCING MATERIALS MUST BE AS FOLLOWS:
   A. REINFORCING BARS - ASTM A615, GRADE 60, DEFORMED
   B. WELDED WIRE FABRIC - ASTM A1064, WELDED STEEL WIRE FABRIC, SHEET TYPE - ROLLED TYPE NOT ACCEPTABLE
   C. FIBER REINFORCING - SYNTHETIC - ASTM C1116, TYPE III

4. ALL REINFORCING STEEL AND EMBEDDED ITEMS MUST BE ACCURATELY PLACED IN THE POSITIONS SHOWN AND ADEQUATELY TIED AND SUPPORTED BEFORE CONCRETE IS PLACED TO PREVENT DISPLACEMENT BEYOND PERMITTED TOLERANCES.

5. MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS INDICATED ON THE DRAWINGS MUST GOVERN WHEN IN CONFLICT WITH ACI 318-14.

6. NEW CONCRETE SLABS MUST RECEIVE A SEVEN DAY WET CURE. CONCRETE REPAIRS MUST USE AN APPROVED CURING COMPOUND.

CONCRETE MASONRY NOTES:

1. CONCRETE MASONRY HAS BEEN DESIGNED IN ACCORDANCE WITH THE MASONRY SOCIETY (TMS) "BUILDING CODE FOR MASONRY STRUCTURES" TMS 402-16.

2. CONCRETE MASONRY CONSTRUCTION MUST CONFORM TO THE MASONRY SOCIETY (TMS) "SPECIFICATIONS FOR MASONRY STRUCTURES" TMS 602-16.

3. CONCRETE MASONRY UNITS MUST CONFORM TO ASTM C90 AND BE MADE WITH LIGHTWEIGHT AGGREGATE. THE COMPRESSIVE STRENGTH OF MASONRY, F'm, EXPRESSED AS FORCE PER UNIT OF NET CROSS-SECTIONAL AREA, MUST BE 2,000 PSI AT 28 DAYS.

4. REINFORCING STEEL MUST COMPLY WITH ASTM A615, GRADE 60. SHOP FABRICATE REINFORCING BARS SHOWN TO BE BENT OR HOOKED.

5. GROUT MUST COMPLY WITH ASTM C476 OR IBC SECTION 2103.3, AND MUST BE PROPORTIONED TO OBTAIN A 28 DAY COMPRESSIVE STRENGTH OF 2,500 PSI.

CONCRETE MASONRY NOTES (CONTINUED):

6. MORTAR MUST COMPLY WITH ASTM C270, TYPE S OR M. AGGREGATE FOR MORTAR MUST COMPLY WITH ASTM C144. AGGREGATE FAILING TO COMPLY WITH ASTM C144 GRADATION REQUIREMENTS MAY BE USED PROVIDED THE MORTAR CAN BE PREPARED TO COMPLY WITHY THE AGGREGATE RATIO, WATER RETENTION AND COMPRESSIVE STRENGTH REQUIREMENTS OF THE PROPERTY SPECIFICATIONS OF ASTM C270.

7. VERTICAL REINFORCING BARS MUST BE THE GIVEN SIZE AND SPACING SHOWN. LAP REINFORCING AT ALL SPLICES AS FOLLOWS:

A.	#3 - 19"	D.	#6 - 52"	G.	#9 - 119"
B.	#4 - 25"	E.	#7 - 67"	H.	#10 OR LARGER -
C.	#5 - 31"	F.	#8 - 93"		'MECHANICALLY SPLICED'

8. REBAR DOWELS MUST BE THE SAME SIZE AND SPACING AS VERTICAL REINFORCING FROM FOUNDATION.

9. HORIZONTAL JOINT REINFORCING MUST BE STANDARD 9 GAGE LADDER TYPE IN CMU WALLS AT 16" ON-CENTER. JOINT REINFORCING MUST COMPLY WITH ASTM A951.

10. VERTICAL REINFORCING MUST HAVE BAR POSITIONERS AT SPACING NOT TO EXCEED 200 BAR DIAMETERS, AT GROUT LIFT HEIGHTS OR BAR SPLICE LOCATIONS, WHICHEVER IS LESS.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL HAS BEEN DESIGNED IN ACCORDANCE WITH THE FOURTEENTH EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC 360-16) "STEEL CONSTRUCTION MANUAL" - ALLOWABLE STRESS DESIGN.

2. STRUCTURAL STEEL MUST COMPLY WITH THE FOLLOWING SPECIFICATIONS:
   A. RECTANGULAR AND SQUARE HSS - ASTM A500, GRADE C, Fy=50 KSI
   B. ANCHOR RODS - ASTM F1554, GRADE 36
   C. ALL OTHER STRUCTURAL STEEL SHAPES, PLATES AND BARS - ASTM A36, Fy=36 KSI (UNLESS OTHERWISE NOTED)

3. WELDING MUST BE IN ACCORDANCE WITH AWS D1.1, "STRUCTURAL WELDING CODE - STEEL". WELD ELECTRODES MUST BE E70XX. CONTINUOUS 3/16" FILLET WELDS ARE REQUIRED UNLESS OTHERWISE NOTED.

4. SEE THE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL STEEL (IF ANY) NOT SHOWN ON THE STRUCTURAL DRAWINGS.

5. STRUCTURAL STEEL NOTED TO BE GALVANIZED MUST CONFORM TO ASTM A123 OR ASTM A153. GALVANIZE STRUCTURAL STEEL AFTER FABRICATION WHERE PRACTICAL. REPAIR DAMAGED GALVANIZED COATING USING ASTM A780 ZINC-RICH PAINT.

POST-INSTALLED ANCHOR NOTES:

1. POST-INSTALLED ANCHORS MUST CONSIST OF THE FOLLOWING ANCHOR TYPES (OR APPROVED EQUIVALENT) UNLESS NOTED OTHERWISE:
   A. ANCHORAGE TO CRACKED AND/OR UNCRACKED CONCRETE:
      1. ADHESIVE ANCHORS:
         A. HILTI HIT-HY 200 V3, SAFE SET SYSTEM WITH HILTI HIT-Z ROD OR HILTI HOLLOW DRILL BIT SYSTEM WITH HAS-E THREADED ROD AT CONTRACTOR'S OPTION
      2. MECHANICAL ANCHORS:
         A. HILTI KWIK BOLT-TZ2 EXPANSION ANCHORS
         B. HILTI KWIK HUS-EZ SCREW ANCHORS
   B. REBAR DOWELING INTO CRACKED AND/OR UNCRACKED CONCRETE:
      1. ADHESIVE ANCHORS:
         A. HILTI HIT-HY 200 V3 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT SYSTEM WITH CONTINUOUSLY DEFORMED REBAR
   C. ANCHORAGE TO SOLID GROUTED MASONRY:
      1. MECHANICAL ANCHORS:
         A. HILTI KWIK BOLT-TZ2 EXPANSION ANCHORS
         B. HILTI KWIK HUS-EZ SCREW ANCHOR

2. REQUESTS FOR ANCHOR SUBSTITUTIONS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD. CONTRACTOR MUST SUBMIT TECHNICAL DATA DEMONSTRATING THE PROPOSED ANCHOR SUBSTITUTIONS MEET OR EXCEED THE STRENGTH AND PERFORMANCE VALUES OF THE SPECIFIED ANCHORS.

3. INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS INCLUDED IN THE ANCHOR PACKAGING.

4. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED.

5. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS OTHERWISE NOTED, EXISTING REINFORCING BARS CANNOT BE CUT. THE CONTRACTOR MUST REVIEW THE EXISTING STRUCTURAL DRAWINGS AND MUST LOCATE THE POSITION OF THE REINFORCING BARS AT THE LOCATIONS OF THE CONCRETE ANCHORS BY HILTI FERROSCAN, GPR, X-RAY OR OTHER MEANS.

STRUCTURAL TESTING:

1. THE FOLLOWING MATERIALS MUST BE TESTED ACCORDING TO IBC SECTION 1705. ANY ITEMS FOUND TO BE DEFICIENT MUST BE CORRECTED AND RE-TESTED AT NO ADDITIONAL COST TO THE OWNER.

2. CONCRETE STRENGTH VERIFICATION AND TESTING: ALL CONCRETE MUST BE TESTED AT THE POINT OF THE POUR TO VERIFY STRENGTH, SLUMP, UNIT WEIGHT, AIR CONTENT AND TEMPERATURE. SEE BELOW FOR TESTING CRITERIA, FREQUENCY AND ACCEPTABILITY CRITERIA:
   A. TESTING FREQUENCY: ONE COMPOSITE SAMPLE FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE EXCEEDING 5 CY, BUT NOT LESS THAN 25 CY, PLUS ONE SET FOR EACH ADDITIONAL 50 CY
   B. SLUMP: ASTM C143; ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE
   C. AIR CONTENT: ASTM C231, PRESSURE METHOD FOR NORMAL WEIGHT CONCRETE; ONE TEST FOR EACH COMPOSITE SAMPLE
   D. TEMPERATURE: ASTM C1064; ONE TEST FOR EACH COMPOSITE SAMPLE (TEST HOURLY WHEN TEMPERATURE IS BELOW 40, OR ABOVE 80 DEGREES F)
   E. COMPRESSION TEST SPECIMENS: ASTM C31, CAST AND FIELD CURE TWO SETS OF TWO STANDARD CYLINDER SPECIMENS, AND ONE SPARE, FOR EACH COMPOSITE SAMPLE
   F. COMPRESSIVE STRENGTH TESTS: ASTM C39, TEST ONE SET OF TWO SPECIMENS AT 7 DAYS AND ONE SET OF TWO SPECIMENS AT 28 DAYS

3. STRUCTURAL STEEL: WELDED CONNECTIONS MUST BE TESTED FOR COMPLIANCE WITH AWS D.1.1 AND THE CONTRACT DOCUMENTS.

4. SEE THE IBC FOR NON-STRUCTURAL ITEMS REQUIRED TO BE TESTED.

STRUCTURAL ABBREVIATION LIST:

w/	WITH	K	KIPS
±	PLUS/MINUS	K.S.F.	KIPS PER SQUARE FOOT
Ø	DIAMETER	K.S.I.	KIPS PER SQUARE INCH
CL	CENTERLINE		
o/c	ON CENTER	LG.	LONG
		LLH	LONG LEG HORIZONTAL
A.B.	ANCHOR BOLT	LLO	LONG LEG OUTSTANDING
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL	LLV	LONG LEG VERTICAL
		LSH	LONG SIDE HORIZONTAL
ACI	AMERICAN CONCRETE INSTITUTE	LSV	LONG SIDE VERTICAL
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION		
		M.O.S.	MIDDLE OF SLAB
A.R.	ANCHOR ROD	M.O.W.	MIDDLE OF WALL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MANUF.	MANUFACTURER or MANUFACTURER'S
ADJ.	ADJACENT	MAS.	MASONRY
ARCH.	ARCHITECT or ARCHITECTURAL	MATL.	MATERIAL
		MAX.	MAXIMUM
B.	BOTTOM	MECH.	MECHANICAL
B.E.J.	BUILDING EXPANSION JOINT	MIN.	MINIMUM
B.D.	BAR DIAMETER	MTL.	METAL
BLDG.	BUILDING		
BM.	BEAM	N.T.S.	NOT TO SCALE
BRCG.	BRACING		
BRDG.	BRIDGING	OSB	ORIENTED STRAND BOARD
BRG.	BEARING	OPP.	OPPOSITE
BTWN.	BETWEEN		
		P/T	POST-TENSIONED
C.G.	CENTER OF GRAVITY	PAF	POWDER ACTUATED FASTENER
C.I.P.	CAST IN PLACE	P.C.	PRECAST
C.J.P.	COMPLETE JOINT PENETRATION	P.E.B.	PRE-ENGINEERED BUILDING
CANT.	CANTILEVER	PLF	POUNDS PER LINEAR FOOT
CLR.	CLEAR	P.S.	PRE-STRESSED
CMU	CONCRETE MASONRY UNIT	PSF	POUNDS PER SQUARE FOOT
COL.	COLUMN	PSI	POUNDS PER SQUARE INCH
CONC.	CONCRETE	P.T.	PRESSURE TREATED
CONN.	CONNECT or CONNECTION	Pc	PIECE
CONT.	CONTINUOUS	PLUMB.	PLUMBING
COORD.	COORDINATE	PROJ.	PROJECTION
D.	DEEP or DEPTH	R.	RADIUS
DBL.	DOUBLE	REF.	REFERENCE
DET.	DETAIL	REINF.	REINFORCED or REINFORCING
DIA.	DIAMETER	REQD.	REQUIRED
DIAG.	DIAGONAL	REV.	REVISION
DWG.	DRAWING		
DWL.	DOWEL	SLO	SHORT LEG OUTSTANDING
		S.D.I.	STEEL DECK INSTITUTE
E.F.	EACH FACE	S.E.J.	SEISMIC EXPANSION JOINT
E.O.	EDGE OF	S.J.I.	STEEL JOIST INSTITUTE
E.W.	EACH WAY	S.O.G.	SLAB-ON-GRADE
EA.	EACH	S.F.	STEPPED FOOTING
EL.	ELEVATION	SCHED.	SCHEDULE
ELEC.	ELECTRICAL	SECT.	SECTION
ELEV.	ELEVATOR or ELEVATION	SHT.	SHEET
EMB.	EMBED or EMBEDMENT	SIM.	SIMILAR
ENG.	ENGINEER	S.I.R.D.A.	SLOPED INTEGRAL ROOF DECK ASSEMBLY
EQ.	EQUAL		
EQUIV.	EQUIVALENT	SL	SLOPE
EXIST.	EXISTING	SPA.	SPACE
EXP.	EXPANSION	STD.	STANDARD
		STIFF.	STIFFENER
F.L.	FULL LENGTH	STIR.	STIRRUP
F.O.	FACE OF	STL.	STEEL
F.R.	FIRST RISER	STRUCT.	STRUCTURAL
FIN.	FINISH or FINISHED	SQ.	SQUARE
FLR.	FLOOR		
FTG.	FOOTING	T.	TOP
		T.O.S.	TOP OF STEEL
G.C.	GENERAL CONTRACTOR	TEMP.	TEMPERATURE
ga	GAGE	TYP.	TYPICAL
GALV.	GALVANIZED		
GD.	GRADE	U.O.N.	UNLESS OTHERWISE NOTED
H.C.	HOLLOW CORE	VERT.	VERTICAL
HK.	HOOK		
HORIZ.	HORIZONTAL	W.	WIDE or WIDTH
		W.P.	WORKING POINT
J.B.E.	JOIST BEARING ELEVATION	W.W.F.	WELDED WIRE FABRIC
JT.	JOINT		

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BID / CONSTRUCTION SET

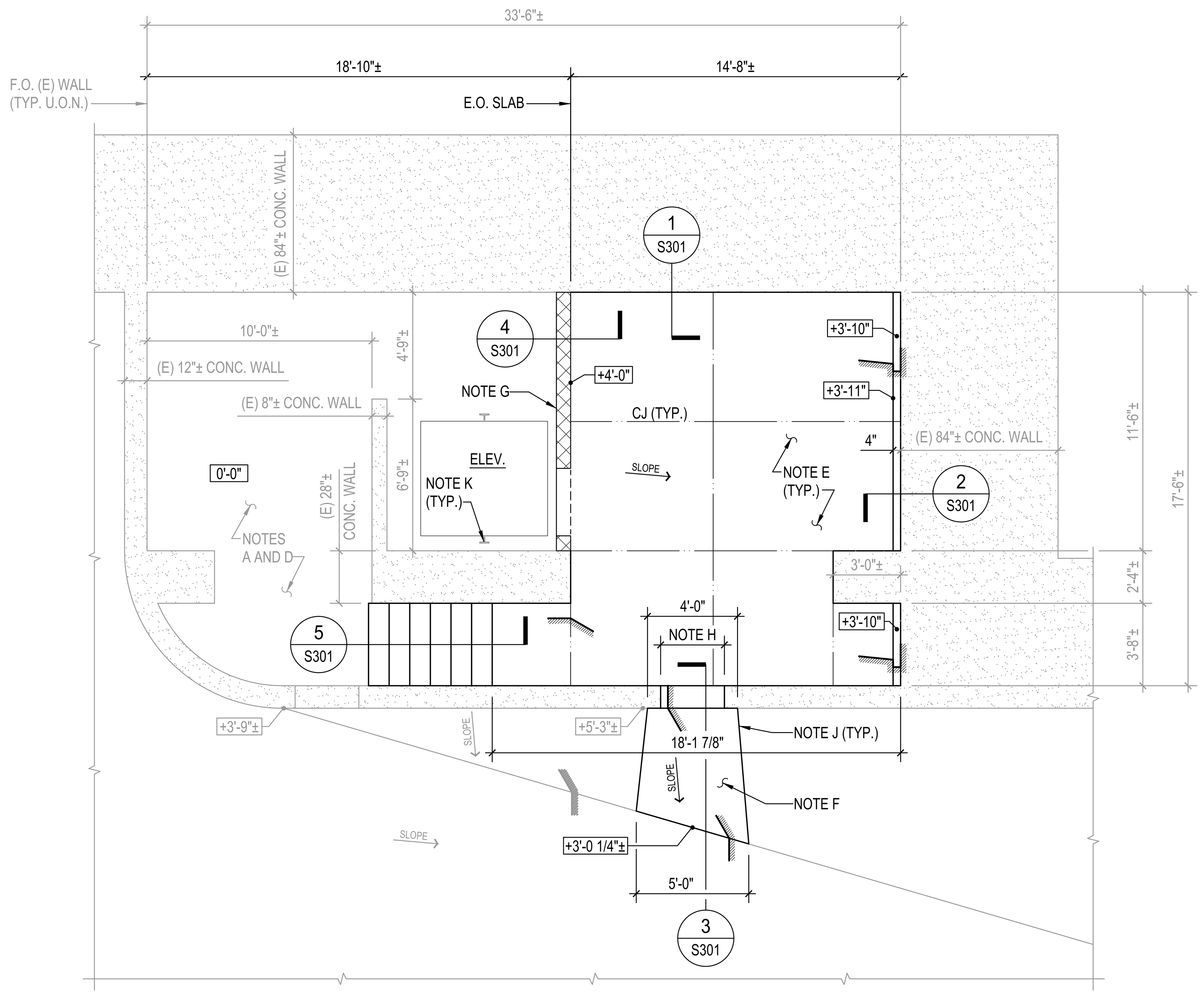
REPLACE ELEVATOR IN FOUR VENTILATION BUILDINGS
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
RMF: 3076.3731

STRUCTURAL NOTES AND ABBREVIATION

BID / CONSTRUCTION SET 02-14-2024

23040

S001



FOUNDATION PLAN

1/4" = 1'-0"

FOUNDATION PLAN NOTES :

A. TOP OF EXISTING ELEVATOR MOTOR ROOM FLOOR MUST SERVE AS THE REFERENCE ELEVATION 0'-0".

B. FOR THE STRUCTURAL NOTES AND ABBREVIATIONS SEE SHEET S001.

C. FOR DIMENSIONS NOT SHOWN SEE THE ARCHITECTURAL DRAWINGS.

D. EXISTING 8'-0"± CONCRETE MAT SLAB.

E. NEW MEZZANINE FLOOR MUST BE A 6" THICK FIBRILLATED SYNTHETIC FIBER REINFORCED CONCRETE SLAB, OVER 10 MIL. VAPOR RETARDER MINIMUM, OVER GEOFOAM SYSTEM SUPPLIED BY UNIVERSAL CONSTRUCTION FOAM. FIBERS MUST BE TUF-STRAND SF AS MANUFACTURED BY EUCLID CHEMICAL AT A DOSAGE RATE OF 3 POUNDS PER CUBIC YARD.

F. NEW RAMP SLAB MUST BE A 4" THICK CONCRETE SLAB-ON-GRADE, REINFORCED WITH W.W.F. 6x6-W2.1xW2.1 SET 1" CLEAR FROM TOP OF SLAB. RAMP SLOPES IN PLAN NORTH-SOUTH DIRECTION ONLY, NO CROSS SLOPE.

G. ALIGN FACE OF NEW CMU WALL WITH FACE OF EXISTING SHAFT WALL ABOVE.

H. NEW OPENING IN EXISTING WALL - SEE RELEVANT SECTION.

J. SAW CUT INTO EXISTING LIGHTWEIGHT CONCRETE FILL AND CHIP TO AN ELEVATION 4" (MINIMUM) BELOW TOP OF NEW RAMP SLAB FINISHED ELEVATION.

K. EXISTING ELEVATOR GUIDE RAIL - SEE GUIDE RAIL BRACKET DETAILS ON SHEET S501 AND THE ELEVATOR MANUFACTURER'S DRAWINGS.

FOUNDATION PLAN LEGEND :

CJ	=	SLAB-ON-GRADE CONTROL JOINT - SEE TYPICAL DETAIL ON SHEET S501
	=	SLAB-ON-GRADE JOINT
+X'-XX"	=	TOP OF SLAB ELEVATION - MEASURED FROM REFERENCE ELEVATION 0'-0"
	=	CHANGE IN SLAB ELEVATION - SEE THE ARCHITECTURAL DRAWINGS FOR EXACT SIZE AND LOCATION
	=	EXTENT OF SLAB SLOPE - SEE THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION
±	=	APPROXIMATE DIMENSION OR ELEVATION (FIELD VERIFY)
(E)	=	EXISTING
±	=	EXISTING DIMENSION OR ELEVATION (FIELD VERIFY)

THE INFORMATION REGARDING THE EXISTING CONSTRUCTION WAS OBTAINED FROM THE RECORD DRAWINGS PREPARED BY SVERDRUP & PARCEL DATED JULY 27, 1964 AND BY FIELD INVESTIGATION. ALL INFORMATION SPECIFYING EXISTING CONDITIONS MUST BE VERIFIED BY THE GENERAL CONTRACTOR.

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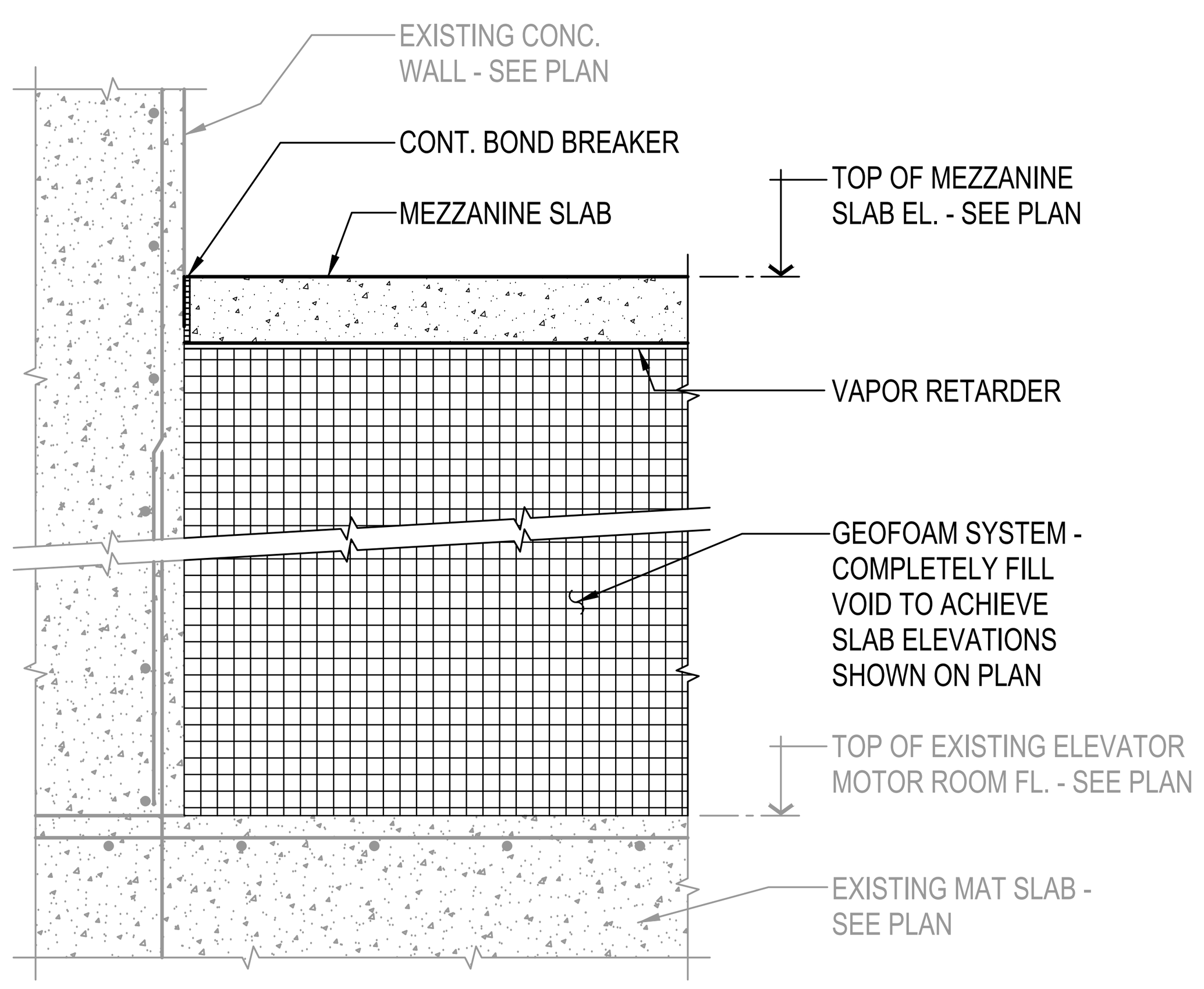
FOUNDATION PLAN

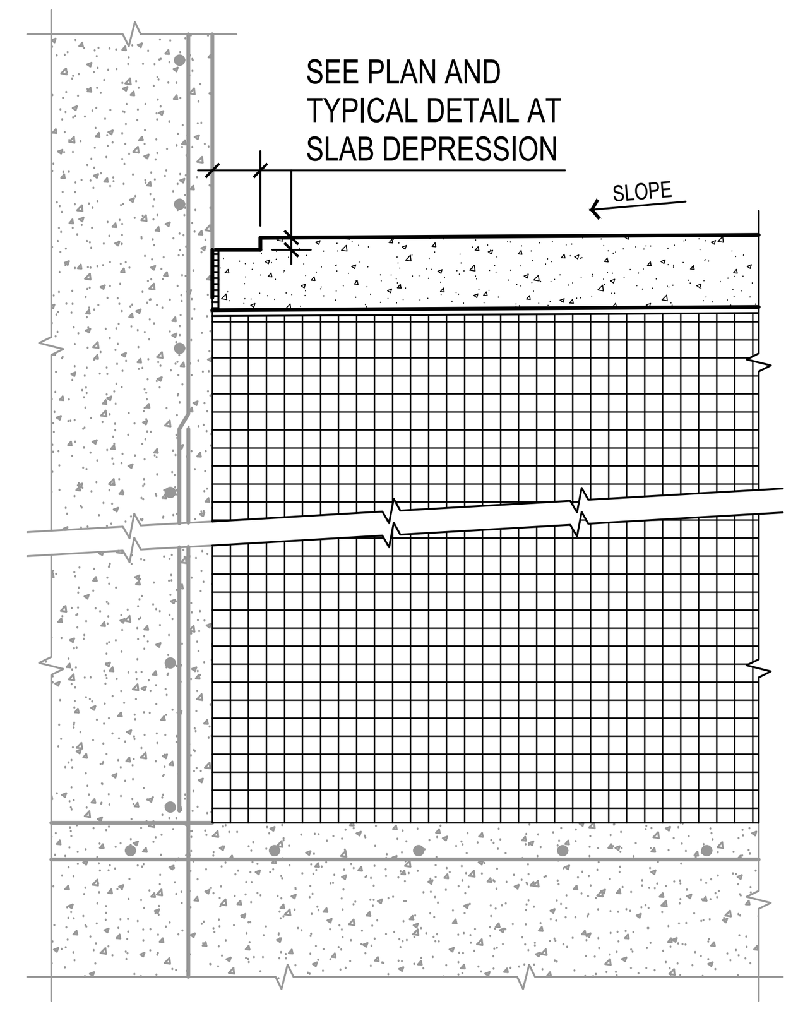
BID / CONSTRUCTION SET	02-14-2024

23040

S101

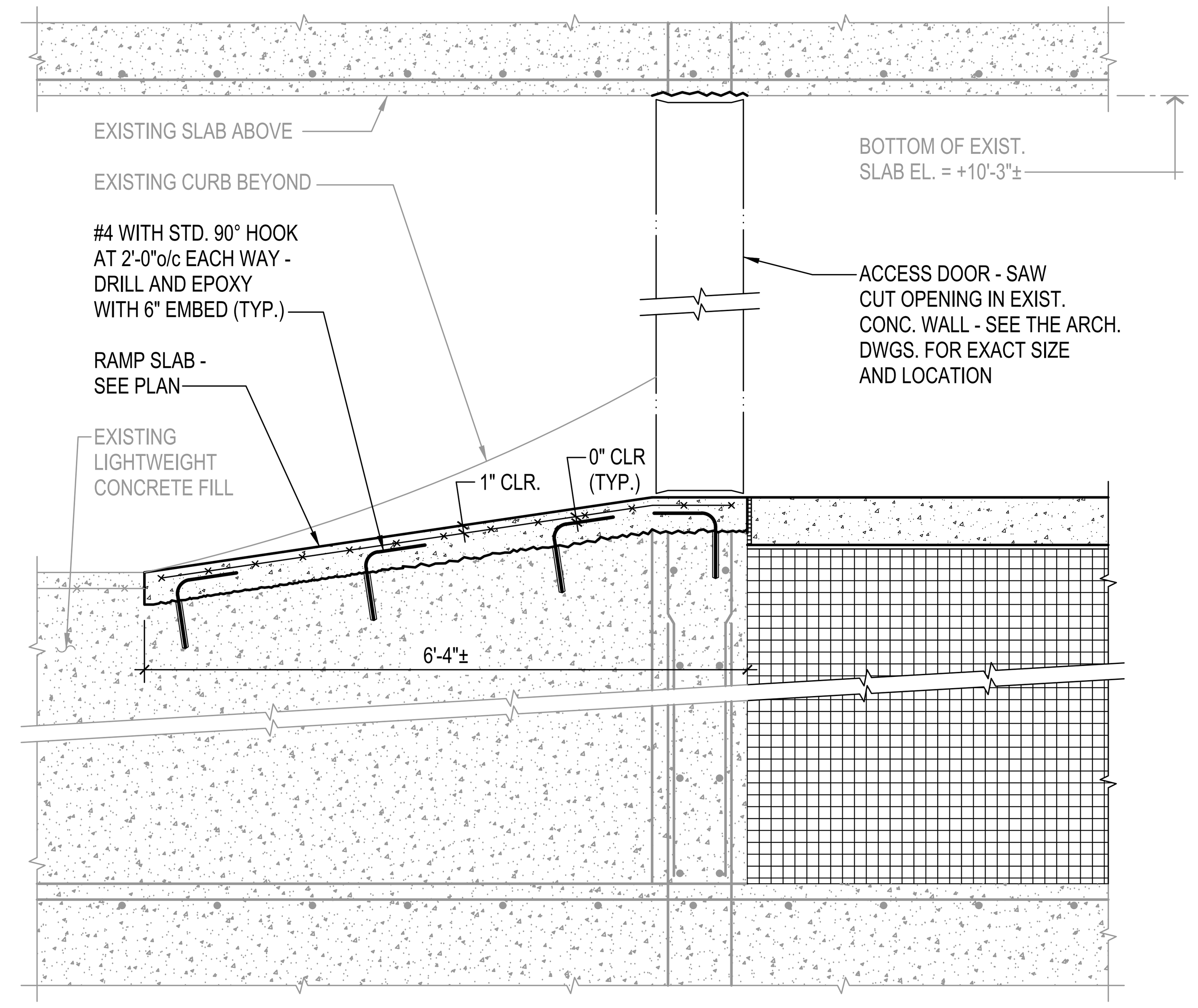


1 S301 **SECTION**
3/4" = 1'-0"



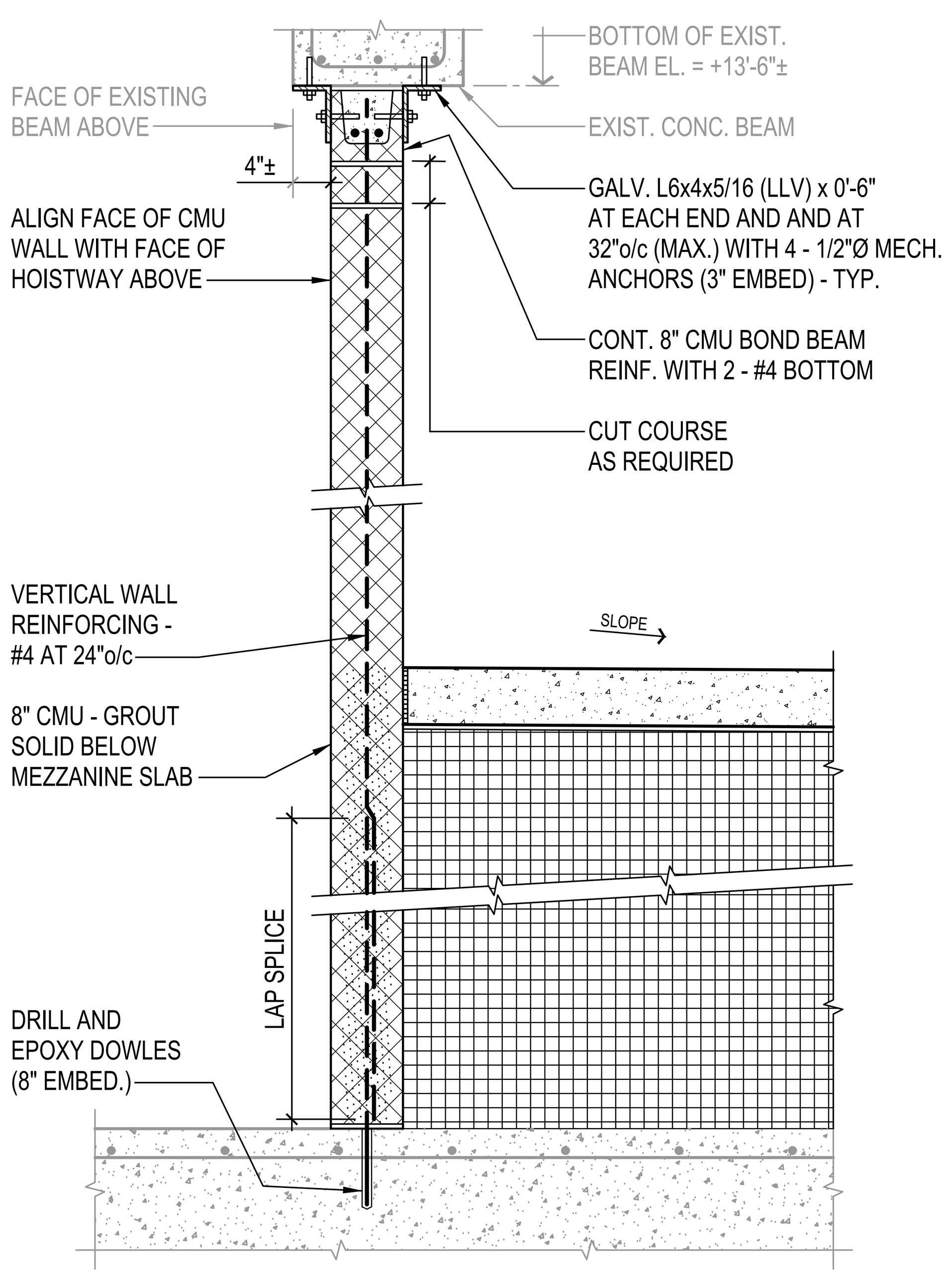
2 S301 **SECTION**
3/4" = 1'-0"

FOR DETAILS NOT NOTED SEE SECTION 1/S301



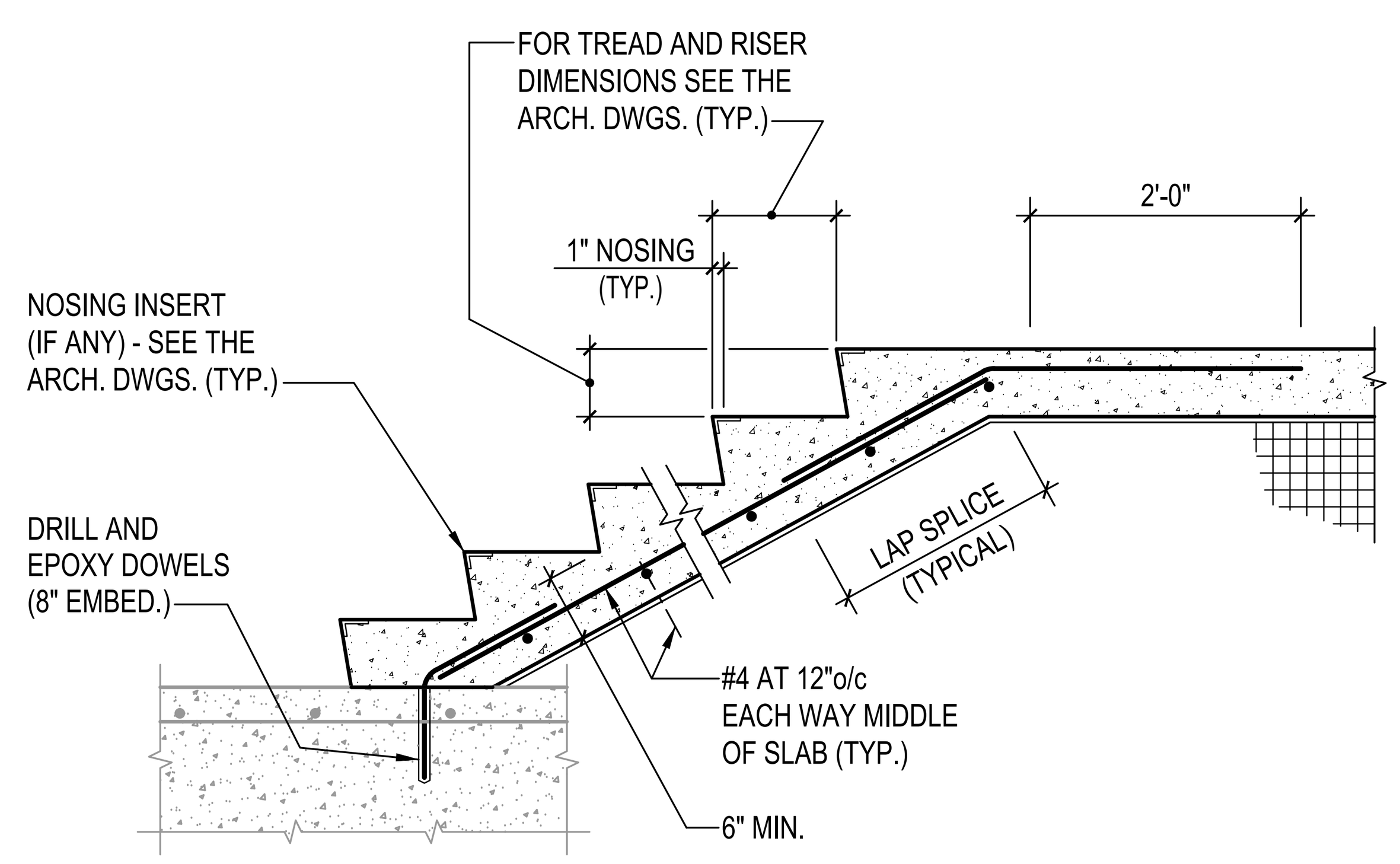
3 S301 **SECTION**
3/4" = 1'-0"

FOR DETAILS NOT NOTED SEE SECTION 1/S301



4 S301 **SECTION**
3/4" = 1'-0"

FOR DETAILS NOT NOTED SEE SECTION 1/S301



5 S301 **SECTION**
3/4" = 1'-0"

FOR DETAILS NOT NOTED SEE SECTION 1/S301

THE INFORMATION REGARDING THE EXISTING CONSTRUCTION WAS OBTAINED FROM THE RECORD DRAWINGS PREPARED BY SVERDRUP & PARCEL DATED JULY 27, 1964 AND BY FIELD INVESTIGATION. ALL INFORMATION SPECIFYING EXISTING CONDITIONS MUST BE VERIFIED BY THE GENERAL CONTRACTOR.

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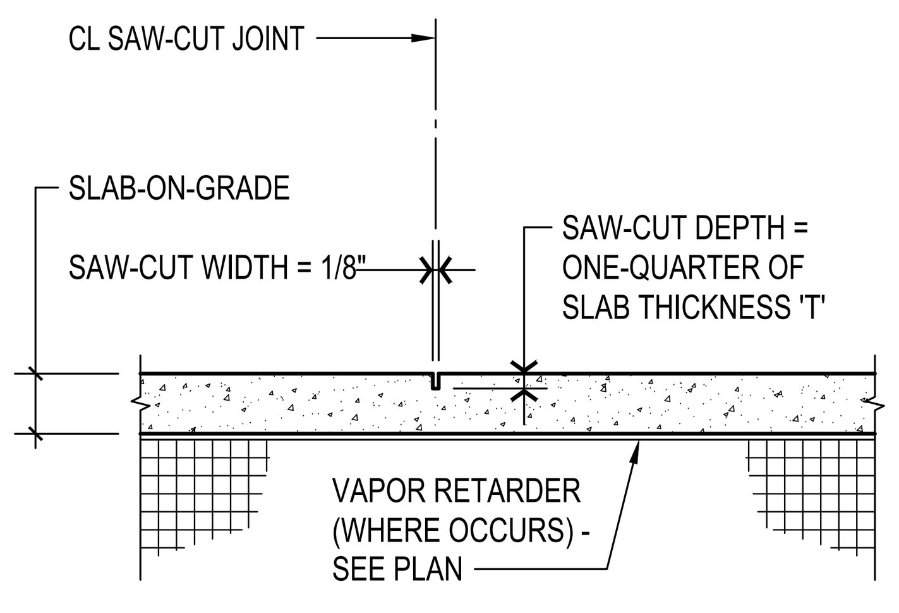
SECTIONS

BID / CONSTRUCTION SET	02-14-2024

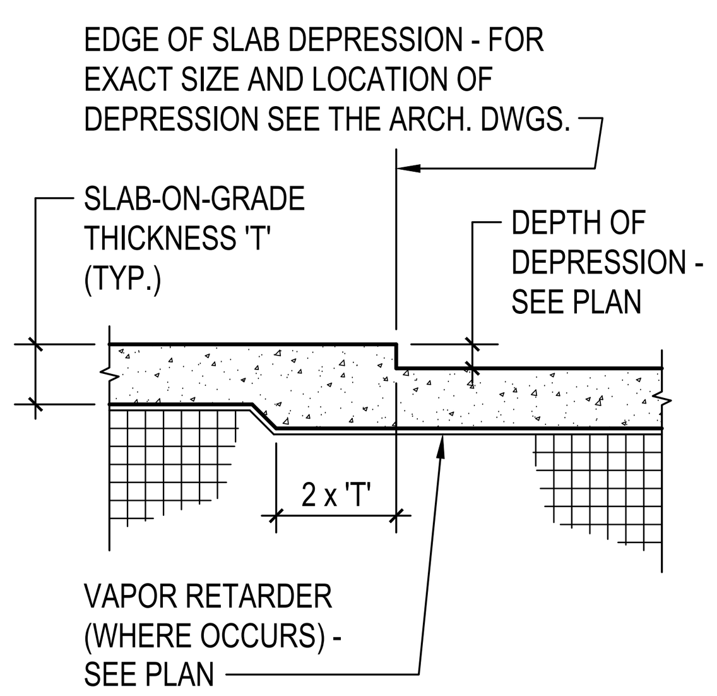
23040

S301

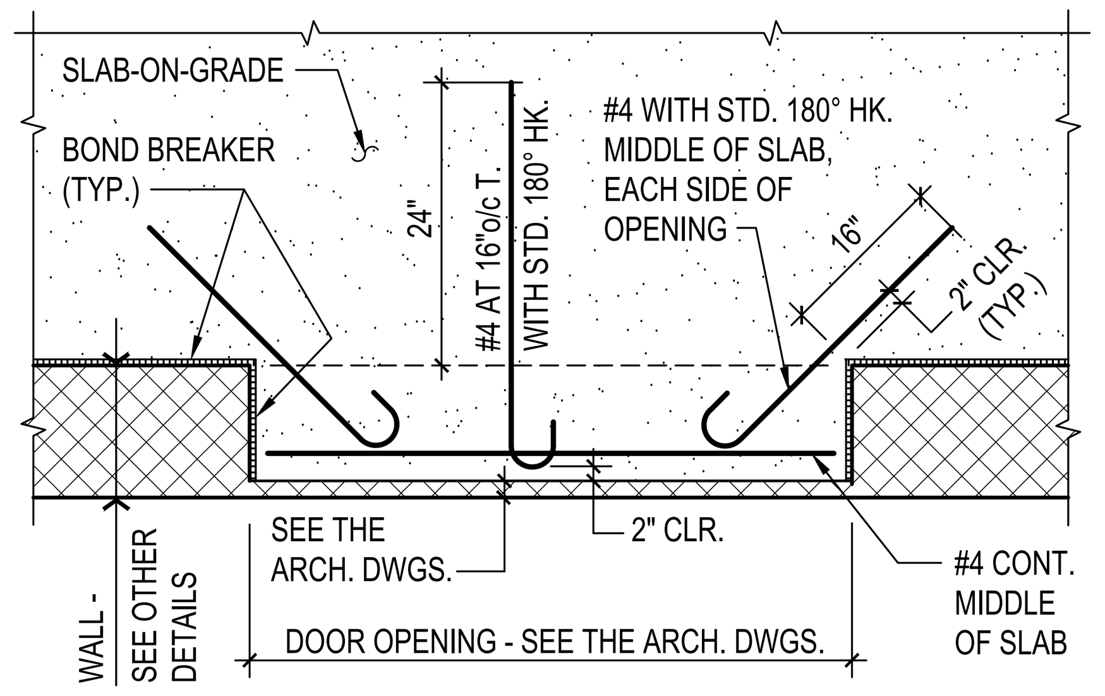


CONTRACTOR HAS THE OPTION TO FORM CONTROL JOINTS USING PREMOLDED PLASTIC, HARDBOARD OR FIBERBOARD STRIPS.

CONTROL JOINT (CJ)



DEPRESSION

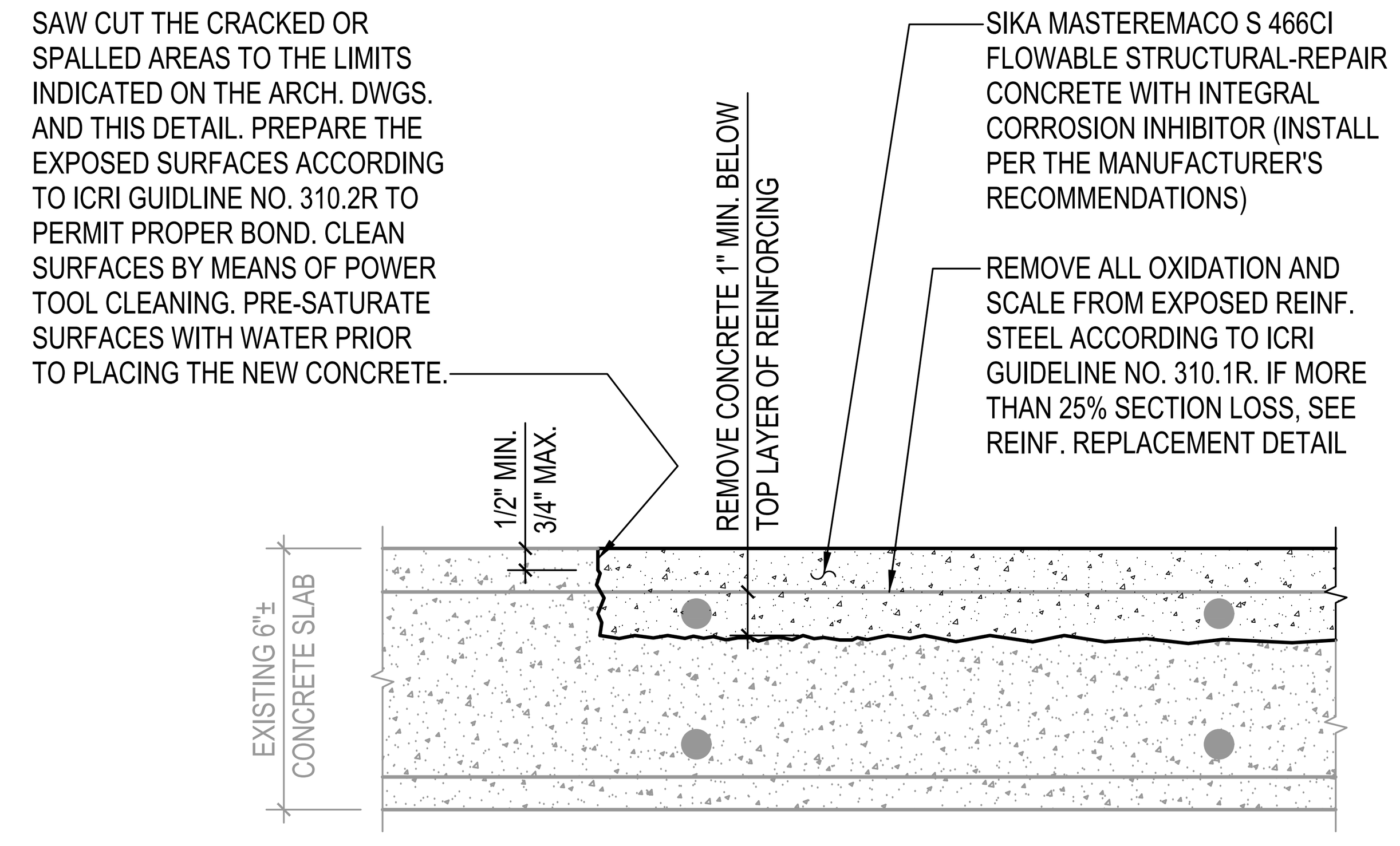


PLAN VIEW

ADDED SLAB REINFORCING AT ELEVATOR DOOR

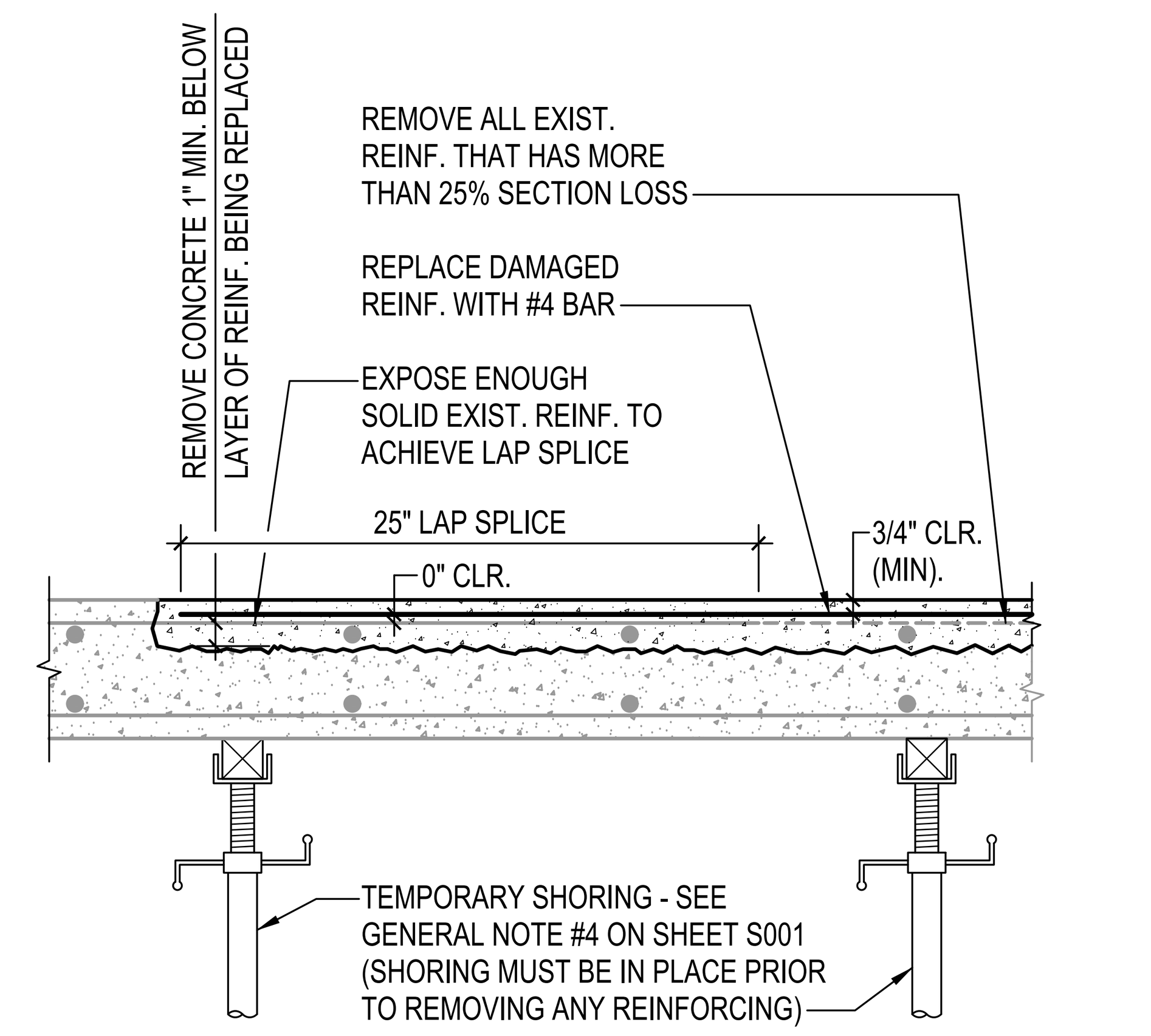
TYPICAL FIBER REINFORCED SLAB-ON-GRADE DETAILS

NOT TO SCALE



TYPICAL CONCRETE SLAB REPAIR DETAIL

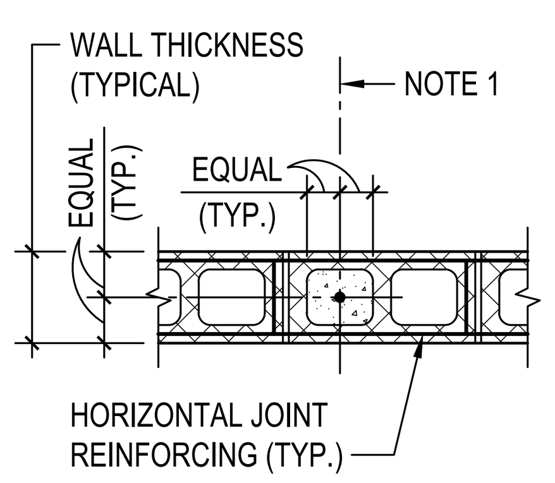
NOT TO SCALE



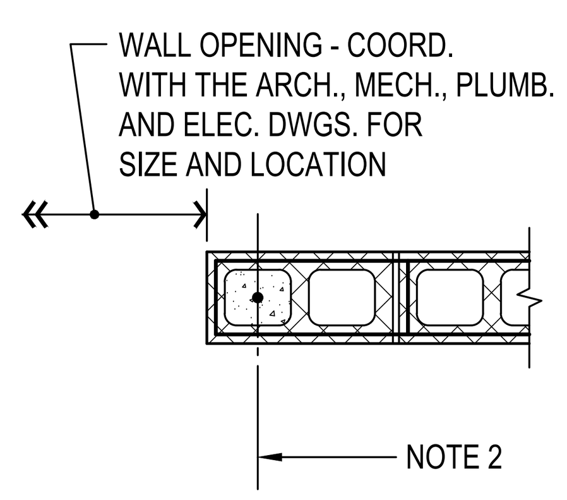
REPAIR SLAB IN ACCORDANCE WITH 'TYPICAL SLAB REPAIR DETAIL' ON THIS SHEET.

TYPICAL SLAB REINF. REPLACEMENT DETAIL

NOT TO SCALE



TYPICAL BAR



OPENING

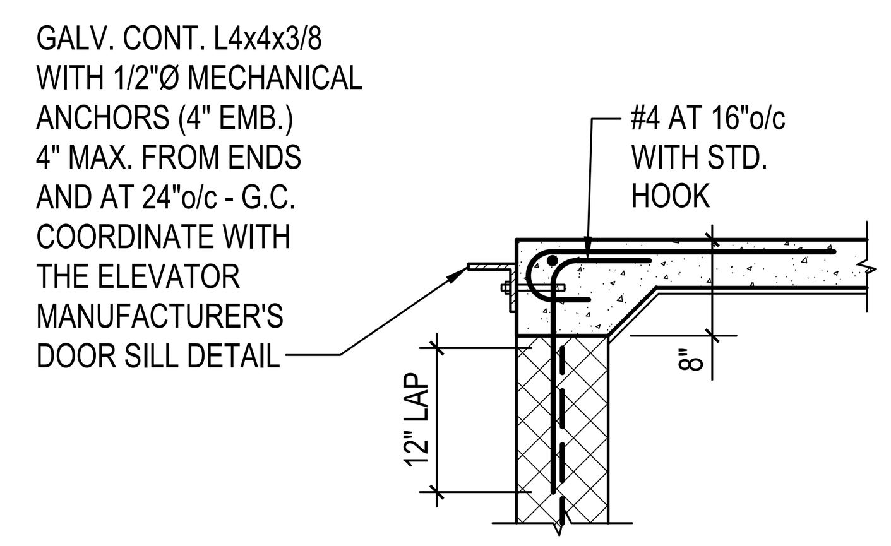
CONCRETE MASONRY VERTICAL WALL REINFORCING DETAIL NOTES:

1. VERTICAL WALL REINFORCING BAR AS SPECIFIED. SEE OTHER DETAILS AND SECTIONS FOR SIZE AND SPACING.
2. VERTICAL WALL REINFORCING BAR AS SPECIFIED (#4 BAR WHERE NOT OTHERWISE SPECIFIED).

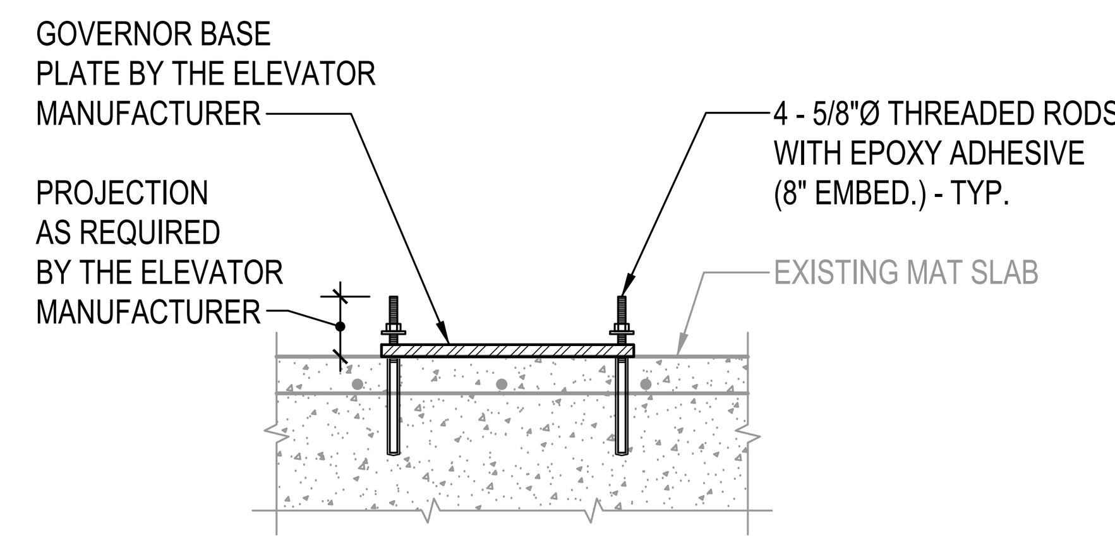
TYPICAL CONCRETE MASONRY VERTICAL WALL REINFORCING DETAILS

NOT TO SCALE

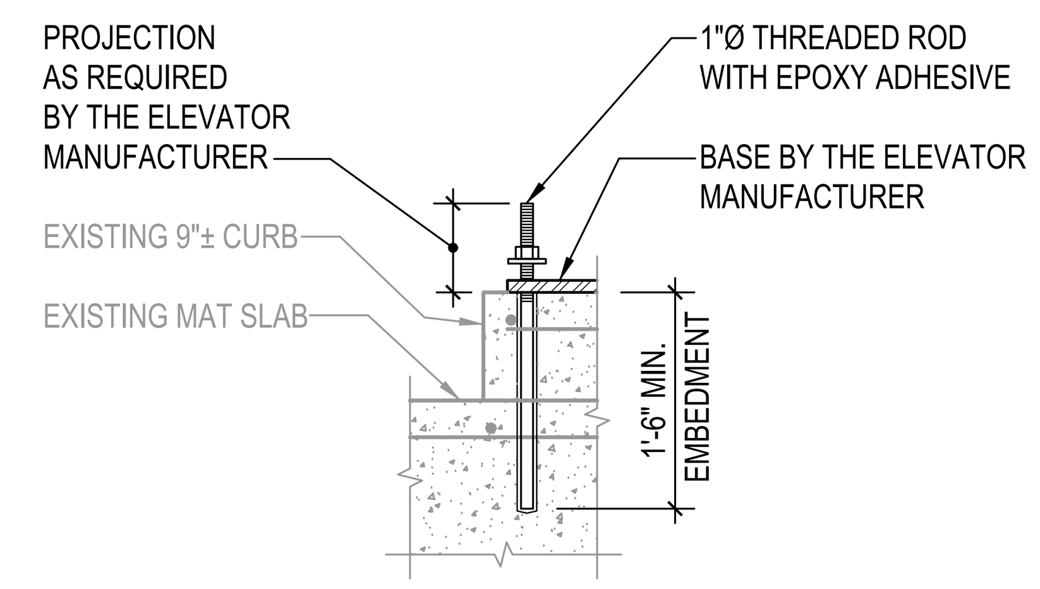
SEE 'ADDED SLAB REINFORCING AT ELEVATOR DOOR' DETAIL FOR REINFORCING NOT SPECIFIED



ELEVATOR SILL



GOVERNOR BASE

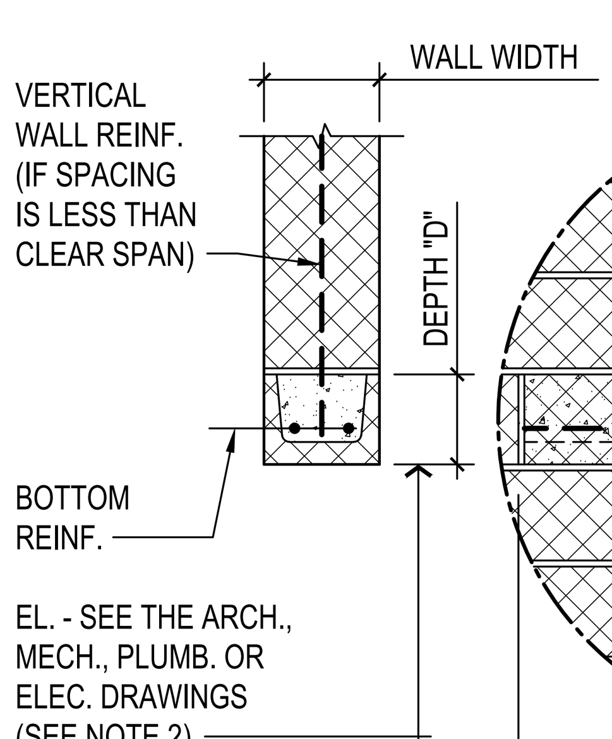


TRACTION MACHINE ANCHOR BOLT

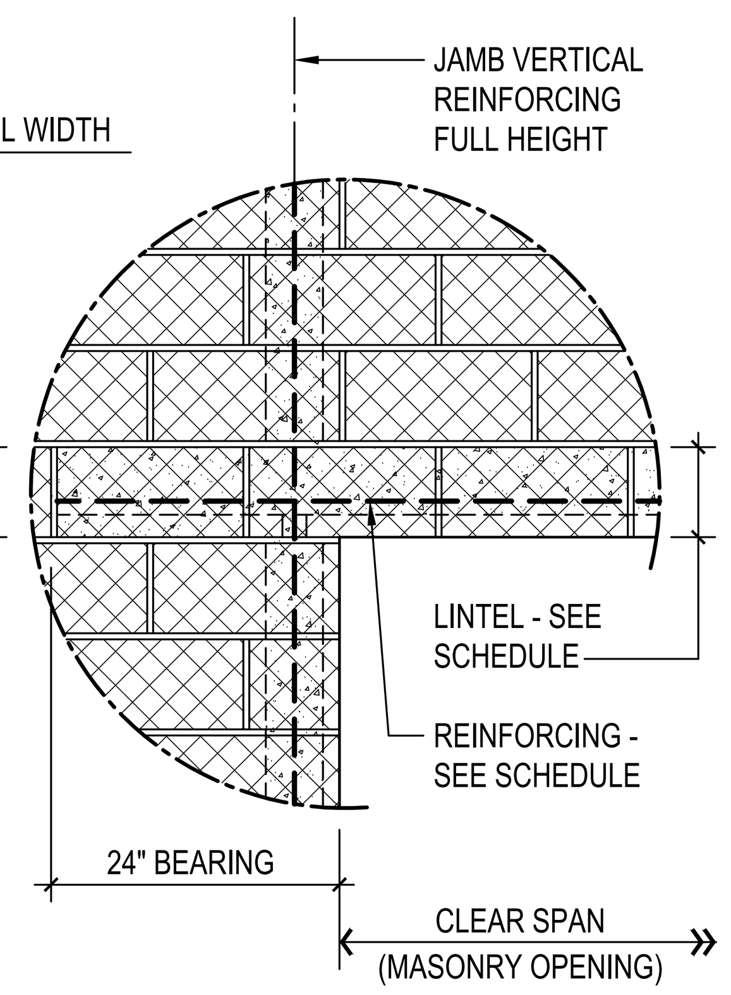
BOND BEAM LINTEL SCHEDULE		
CLEAR SPAN	DEPTH "D"	REINFORCING
		8" WIDE
0 TO 5'-0"	8"	2 - #4 BOTTOM

BOND BEAM LINTEL SCHEDULE NOTES:

1. PROVIDE 24" BEARING EACH END OF LINTEL. IF 24" BEARING NOT AVAILABLE, BOND BEAM REINFORCING MUST BE DOWELED INTO EXISTING CONCRETE WALL USING EPOXY ADHESIVE (6" EMBED.)
2. FOR EXACT SIZE AND LOCATION OF ALL WALL OPENINGS COORDINATE WITH THE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.



TYPICAL SECTION

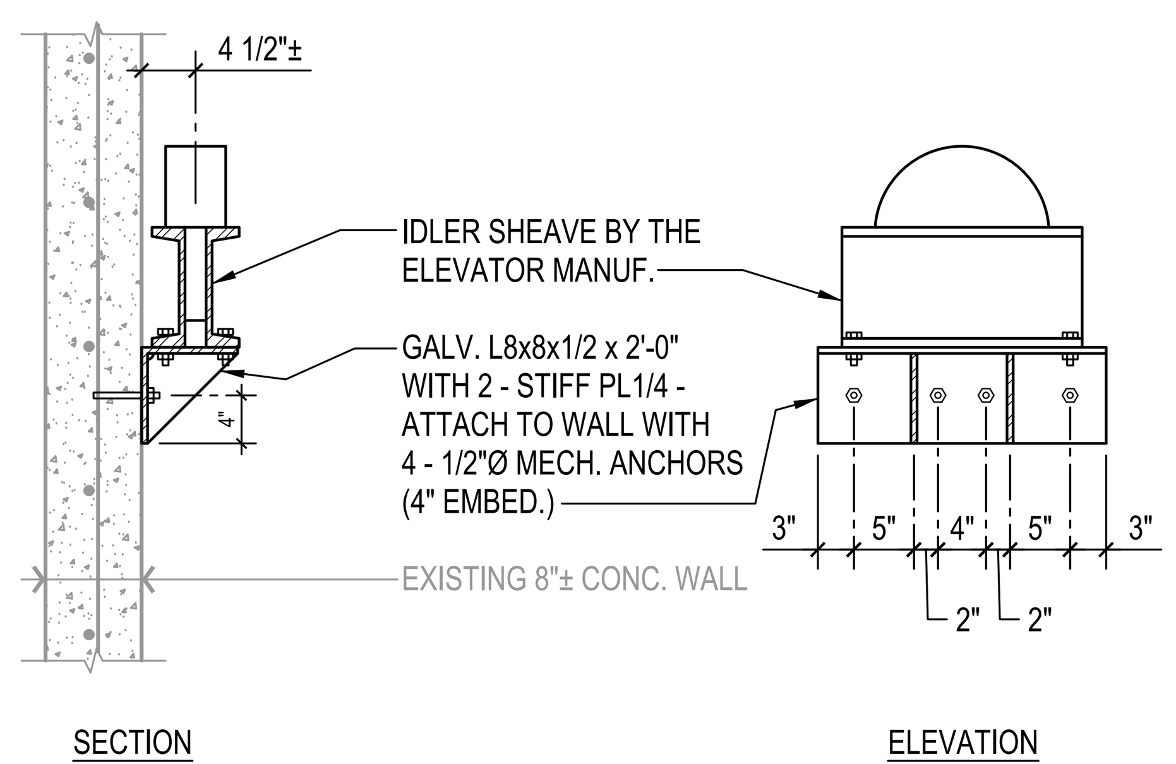


TYPICAL JAMB ELEVATION

TYPICAL BOND BEAM LINTEL DETAILS

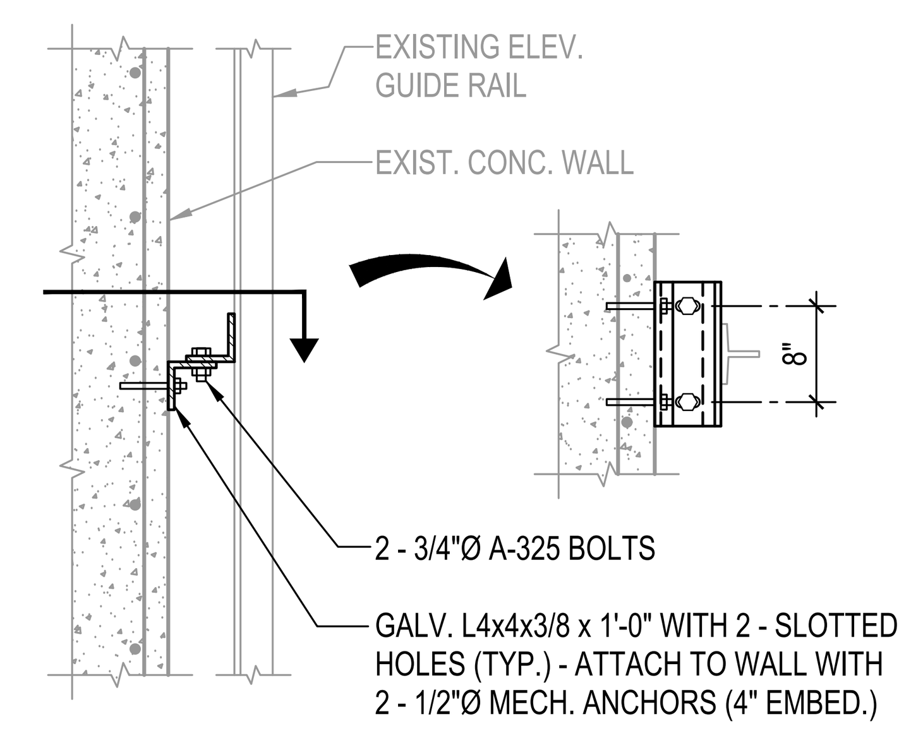
NOT TO SCALE

G.C. MUST COORDINATE MOUNTING LOCATION, MOUNTING ELEVATION, IDLER SHEAVE BOLT HOLES AND HOLES FOR GOVERNOR CABLES WITH THE ELEVATOR MANUFACTURER.

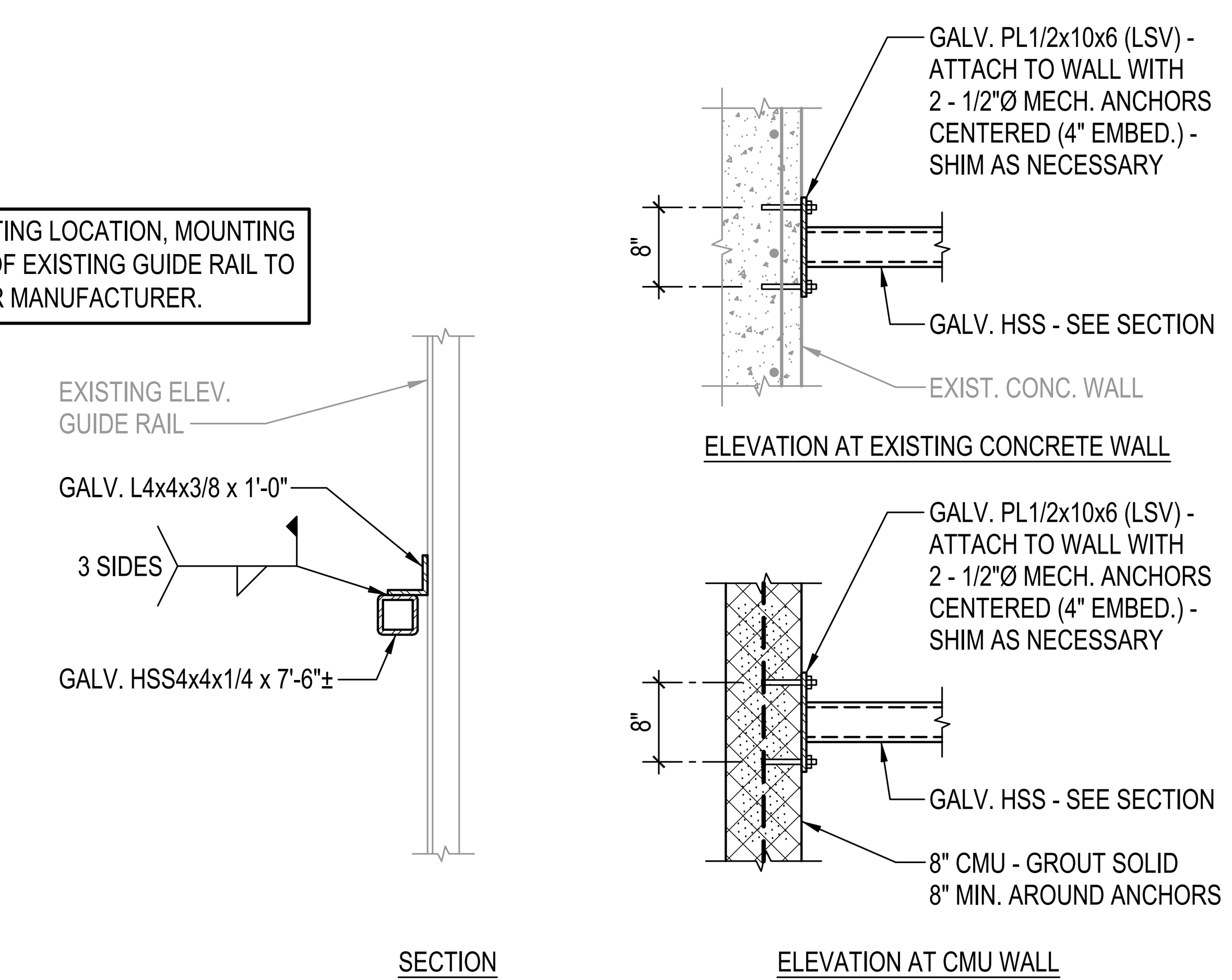


IDLER SHEAVE MOUNT

G.C. MUST COORDINATE MOUNTING LOCATION, MOUNTING ELEVATION AND CONNECTION OF EXISTING GUIDE RAIL TO BRACKETS WITH THE ELEVATOR MANUFACTURER.



GUIDE RAIL BRACKET TO EXISTING CONCRETE WALL



GUIDE RAIL BRACKET TO NEW STEEL GIRT

FOR DETAILS NOT SHOWN SEE THE ELEVATOR MANUFACTURER'S DRAWINGS.

TYPICAL ELEVATOR DETAILS

NOT TO SCALE

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ARCHITECTURE INTERIOR DESIGN
COMMONWEALTH OF VIRGINIA
MICHAEL J. RIDGE
Lic. No. 054288
02/14/24
PROFESSIONAL ENGINEER

BID / CONSTRUCTION SET

REPLACE ELEVATOR IN FOUR VENTILATION BUILDINGS

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

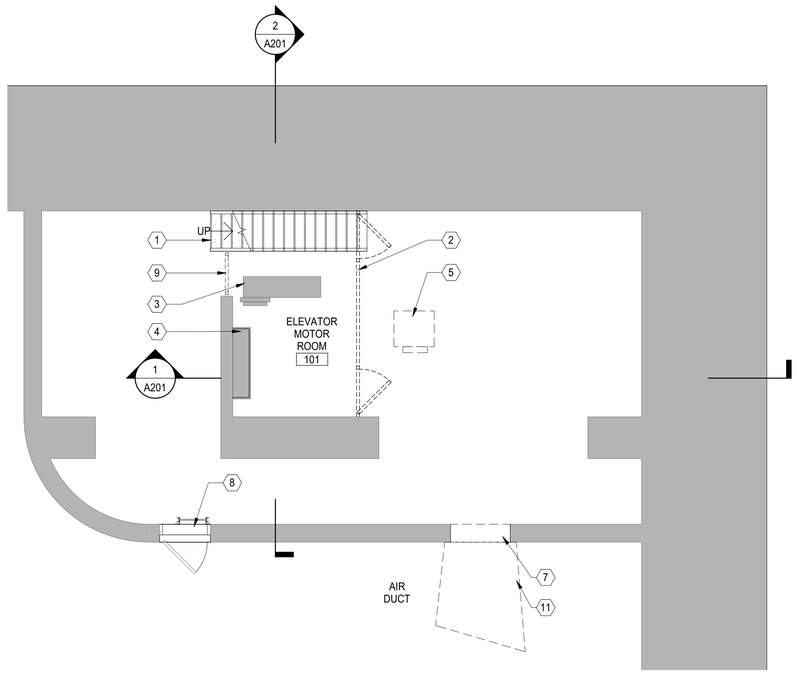
RMF: 3076.3731

TYPICAL DETAILS

BID / CONSTRUCTION SET 02-14-2024

23040

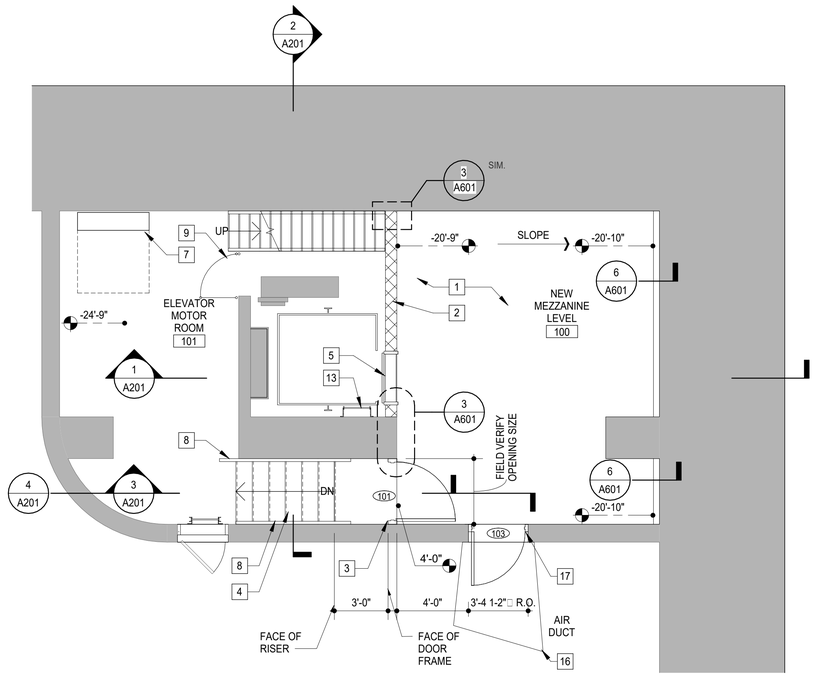
S501



BUILDING 4 - AS SHOWN
BUILDING 3 - OPPOSITE HAND
BUILDING 2 - AS SHOWN
BUILDING 1 - OPPOSITE HAND

1 ELEVATOR DEMOLITION PLAN @ -24'-9"

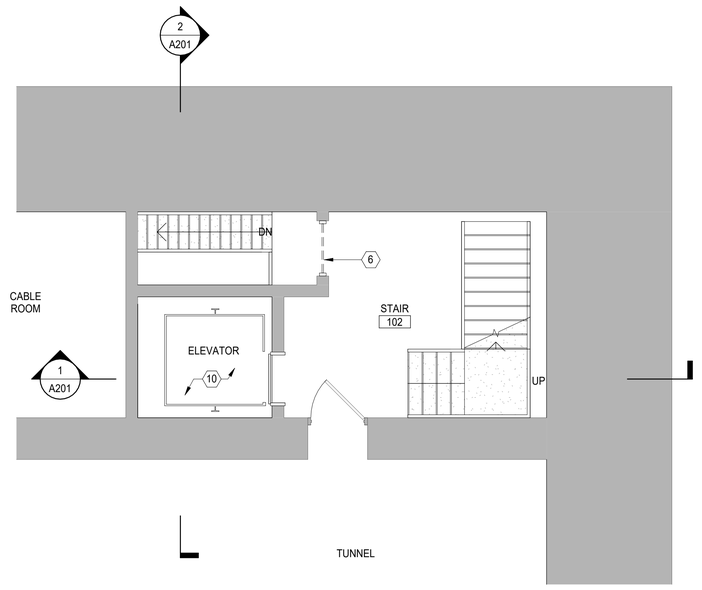
A201 A101 1/4" = 1'-0"



BUILDING 4 - AS SHOWN
BUILDING 3 - OPPOSITE HAND
BUILDING 2 - AS SHOWN
BUILDING 1 - OPPOSITE HAND

2 ELEVATOR NEW WORK PLAN @ -24'-9"

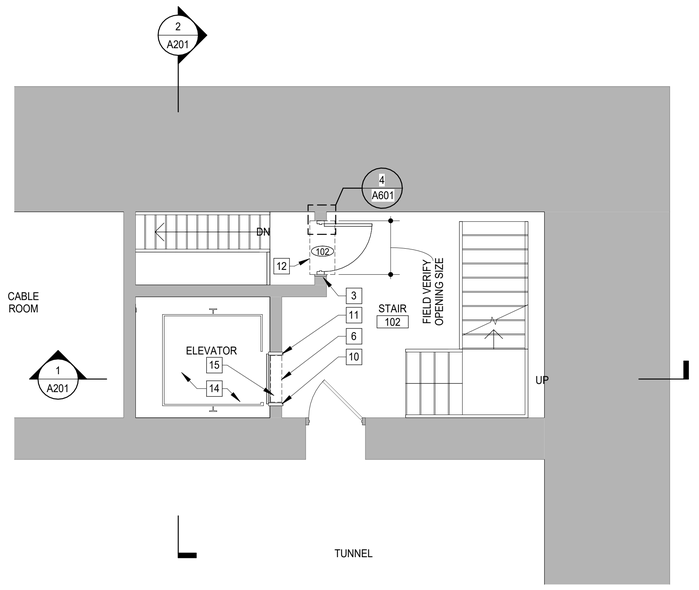
A201 A101 1/4" = 1'-0"



BUILDING 4 - AS SHOWN
BUILDING 3 - OPPOSITE HAND
BUILDING 2 - AS SHOWN
BUILDING 1 - OPPOSITE HAND

3 ELEVATOR DEMOLITION PLAN @ -9'-6 7/8"

A201 A101 1/4" = 1'-0"

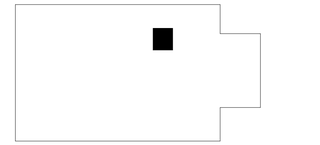


BUILDING 4 - AS SHOWN
BUILDING 3 - OPPOSITE HAND
BUILDING 2 - AS SHOWN
BUILDING 1 - OPPOSITE HAND

4 ELEVATOR NEW WORK PLAN @ -9'-6 7/8"

A201 A101 1/4" = 1'-0"

KEY PLAN



SCALE: 1/4" = 1'-0" (0, 2', 4', 8')

DEMOLITION NOTES:

#	Note Description
1	EXISTING SHIPS LADDER TO REMAIN.
2	REMOVE EXISTING METAL FENCE AND GATE COMPLETE. PATCH AND REPAIR EXISTING CONCRETE RESULTING FROM DEMOLITION. FINISH TO MATCH EXISTING CONCRETE.
3	EXISTING ELEVATOR MACHINE PAD TO REMAIN.
4	EXISTING COUNTER WEIGHT ENCLOSURE TO REMAIN.
5	EXISTING ELEVATOR CONTROLLER TO BE REMOVED COMPLETE. PATCH AND REPAIR EXISTING CONCRETE RESULTING FROM DEMOLITION. FINISH TO MATCH EXISTING CONCRETE.
6	REMOVE EXISTING LATTICE GATE ASSEMBLY COMPLETE. PATCH AND REPAIR EXISTING CONCRETE RESULTING FROM DEMOLITION. FINISH TO MATCH EXISTING CONCRETE.
7	SAW CUT AND REMOVE EXISTING CONCRETE WALL FOR NEW DOOR. REFER TO REFERENCED DETAILS FOR ADDITIONAL INFORMATION.
8	EXISTING ACCESS DOOR AND LADDER TO REMAIN.
9	REMOVE EXISTING LINK FENCE AND SAVAGE FOR REINSTALLATION.
10	REMOVE EXISTING FLOOR TILE AND BASE COMPLETELY INSIDE ELEVATOR. PREPARE SUBSTRATE FOR INSTALLATION OF NEW FLOOR TILE AND BASE.
11	SAW CUT AND REMOVE PART OF EXISTING CONCRETE AND LIGHT WEIGHT FILL FOR NEW CONCRETE RAMP. REFER TO STRUCTURAL DETAILS FOR ADDITIONAL INFORMATION.

NEW WORK NOTES:

#	Note Description
1	NEW CONCRETE FLOOR SLAB, SLOPED AS INDICATED.
2	NEW MASONRY WALL, ALIGN FACE OF NEW CMU WALL WITH FACE OF EXISTING ELEVATOR SHAFT WALL ABOVE.
3	NEW DOOR AND FRAME, REFER TO DOOR SCHEDULE.
4	NEW CONCRETE STAIR.
5	NEW ELEVATOR HOISTWAY DOOR.
6	PATCH CONCRETE FLOOR SLAB, REFER TO DETAIL A/A602. REFER TO STRUCTURAL DRAWINGS FOR REQUIREMENTS.
7	NEW ELEVATOR CONTROLLER.
8	ALUMINUM HANDRAIL.
9	CHAIN LINK DOOR, REFER TO DETAIL 3/A602.
10	REPAIR ELEVATOR HOISTWAY DOOR JAMB. REFER TO DETAIL B/A602.
11	REPAIR ELEVATOR HOISTWAY DOOR JAMB. REFER TO DETAIL C/A602.
12	BUILDING 3 - PATCH CONCRETE FLOOR SLAB, REFER TO DETAIL D/A602. REFER TO STRUCTURAL DRAWINGS FOR REQUIREMENTS.
13	ELEVATOR PIT LADDER. REFER TO DETAIL 1/A602.
14	INSTALL NEW FLOOR TILE AND BASE. REFER TO SPECIFICATIONS FOR REQUIREMENTS.
15	BUILDING 3 - REPAIR ELEVATOR HOISTWAY DOOR HEAD. REFER TO DETAIL E/A602.
16	CONCRETE SLAB. REFER TO STRUCTURAL DRAWING.
17	INSTALL CONCRETE LEVEL AT DOOR SILL.

DEMOLIATION PLAN LEGEND:

- EXISTING DOOR TO BE DEMOLISHED
- EXISTING WALL TO REMAIN
- EXISTING DOOR TO REMAIN

NEW WORK PLAN LEGEND:

- EXISTING WALL TO REMAIN
- EXISTING DOOR TO REMAIN
- NEW CMU WALL
- NEW DOOR

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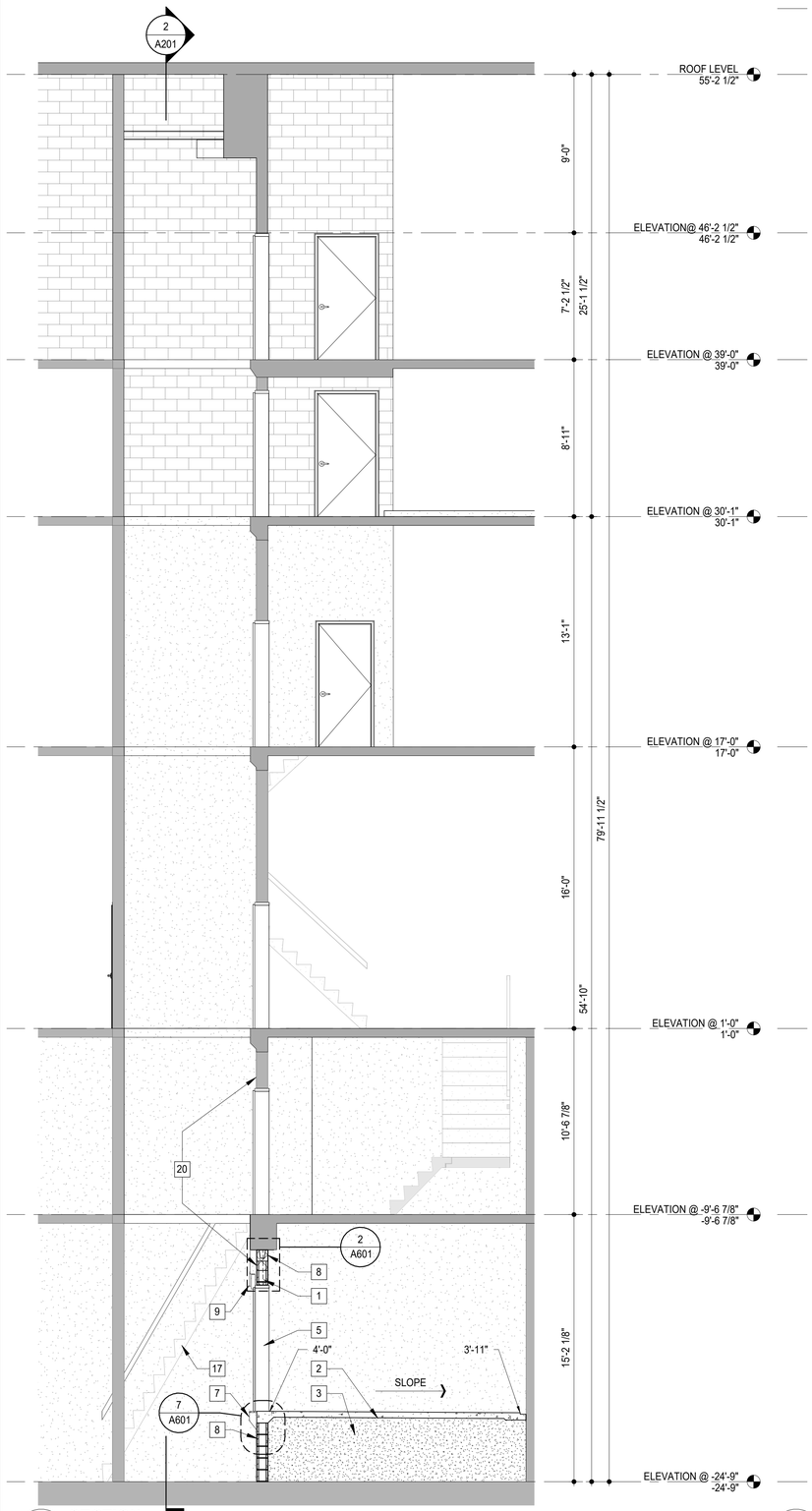
DEMO & NEW WORK PLAN-1

BID / CONSTRUCTION SET 02-14-2024

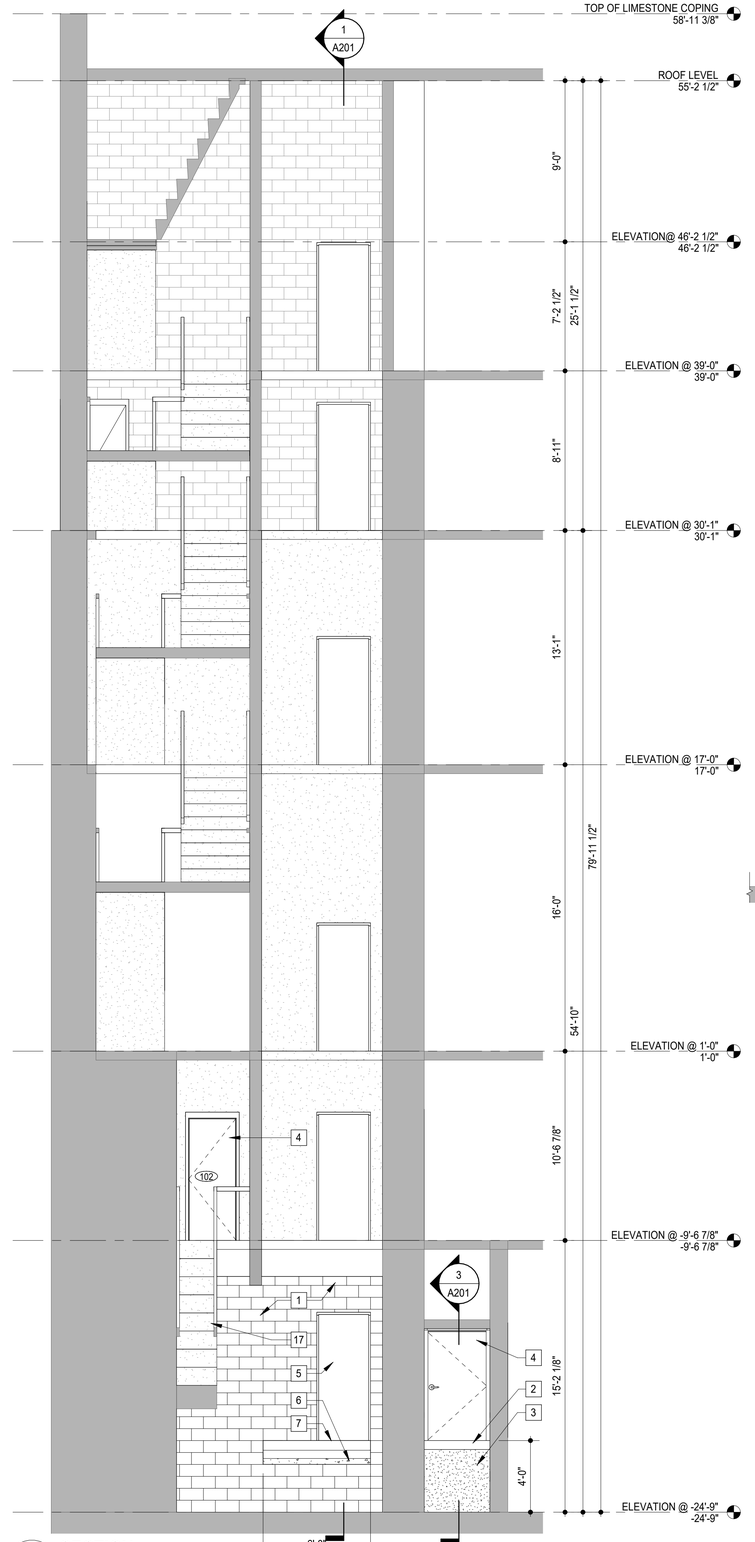
23040

A101

Designer: DSG Project Manager: PRM Drawn: DRW 2/14/2024 4:53:28 PM C:\Users\jacobf\Documents\23040_CBBT_ELEVATOR REPLACEMENT_(R23)_JacobLSLE68.rvt



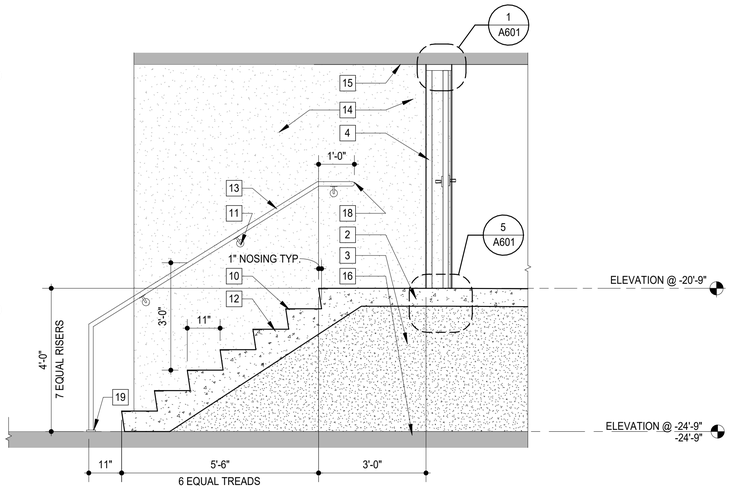
1 SECTION
A101 A201 1/4" = 1'-0"



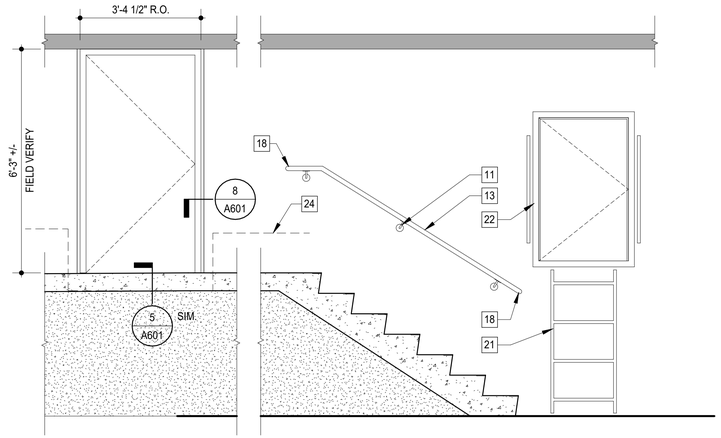
2 SECTION
A101 A201 1/4" = 1'-0"

WORK NOTES:

#	Note Description
1	NEW 8" MASONRY WALL.
2	CONCRETE SLAB REFER TO STRUCTURAL DRAWINGS.
3	FILL MATERIAL REFER TO STRUCTURAL DRAWINGS.
4	NEW DOOR AND FRAME, REFER TO DOOR SCHEDULE.
5	NEW ELEVATOR HOISTWAY DOOR.
6	CONCRETE BEAM UNDER NEW HOISTWAY DOOR. REFER TO STRUCTURAL DRAWINGS.
7	GALVANIZED TOE GUARD AND ALUMINUM DOOR SADDLE, COORDINATE WITH ELEVATOR CONTRACTOR.
8	CONTINUOUS 8" CMU BOND BEAM REFER TO STRUCTURAL DRAWINGS.
9	ELEVATOR DOOR HEADER ASSEMBLY, COORDINATE WITH ELEVATOR CONTRACTOR.
10	STAIR NOSING TYPICAL AT EACH TREAD AND LANDING.
11	HANDRAIL WALL BRACING BRACKET.
12	CONCRETE STAIR.
13	ALUMINUM HANDRAIL.
14	EXISTING CONCRETE WALL BEYOND TO REMAIN.
15	EXISTING CONCRETE DECK TO REMAIN.
16	EXISTING FLOOR TO REMAIN.
17	EXISTING SHIPS LADDER ASSEMBLY TO REMAIN.
18	RETURN HANDRAIL TO WALL.
19	HANDRAIL FLOOR FLANGE.
20	ALIGN NEW MASONRY WALL WITH EXISTING WALL ABOVE..
21	EXISTING LADDER TO REMAIN.
22	EXISTING ACCESS DOOR TO REMAIN.
24	EXISTING TOP OF CONCRETE SLOPED SLAB TO BE SAW CUT ON THE OTHER SIDE OF NEW DOOR. REFER TO STRUCTURAL DRAWING.



3 SECTION @ STAIR
A101 A201 1/2" = 1'-0"



4 STAIR HANDRAIL DETAIL
A101 A201 1/2" = 1'-0"

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SECTIONS

BID / CONSTRUCTION SET 02-14-2024

23040

A201

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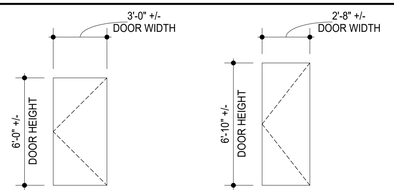
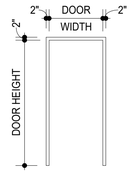
DOOR TYPES

NOTE: CONTRACTORS MUST FIELD VERIFY ALL DIMENSIONS



FRAME TYPES



DOOR SCHEDULE

DOOR NUMBER	SINGLE OR PAIR	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	DOOR SIZE THICKNESS	DOOR TYPE	DOOR MATERIAL	DOOR GLAZING	FRAME TYPE	FRAME MATERIAL	FRAME DETAILS HEAD	FRAME DETAILS JAMB	FRAME DETAILS SILL	FIRE RATING	HARDWARE SET	REMARKS
101	S	3'-4" +/-	6'-1" +/-	1 3/4"	A	HM	-	F1	HM	1/A601	3/A601	5/A601	2HR	GROUP 1	1
102	S	2'-8" +/-	6'-10" +/-	1 3/4"	B	HM	-	F1	HM	1/A601	4/A601	OK AS IS	2HR	GROUP 1	1
103	S	3'-0" +/-	6'-1" +/-	1 3/4"	A	HM	-	F1	HM	8/A601	8/A601	5/A601 SIM.	2HR	GROUP 2	2

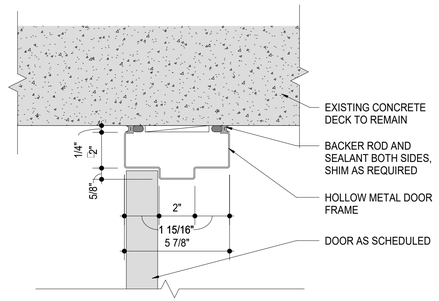
DOOR SCHEDULE ABBREVIATIONS

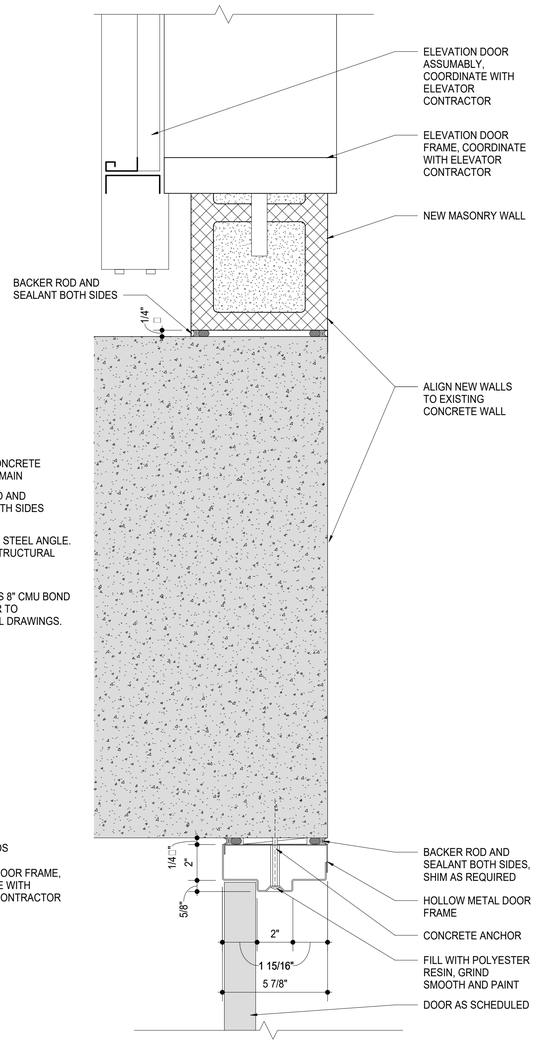
S SINGLE
HM HOLLOW METAL

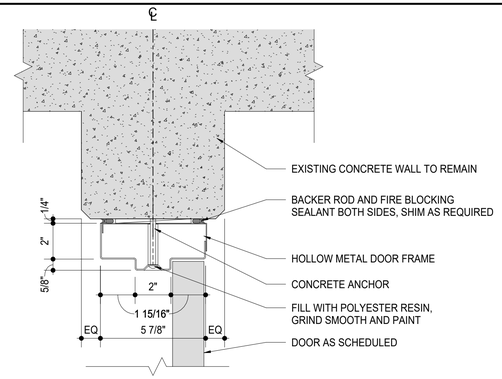
DOOR SCHEDULE NOTES:

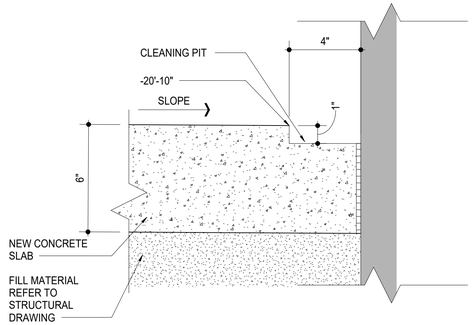
1. PAINT DOOR AND FRAME
2. CUSTOM SIZE STAINLESS STEEL DOOR ND FRAME

DETAILS

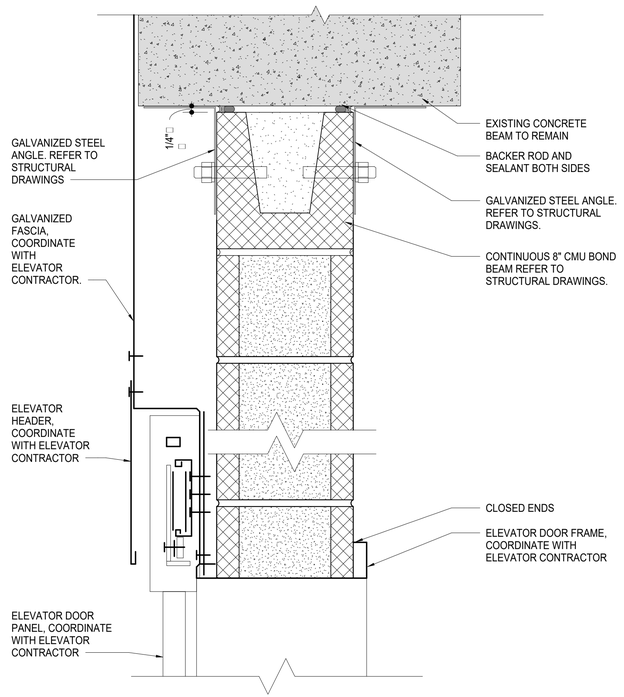








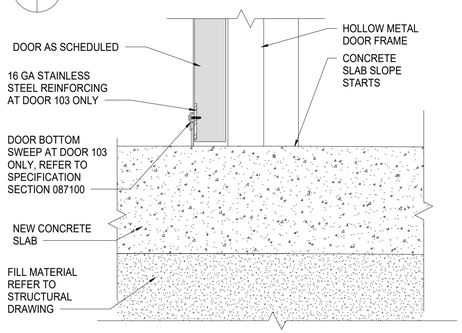
1 DOOR DETAIL @ HEAD
A201 A601 3" = 1'-0"



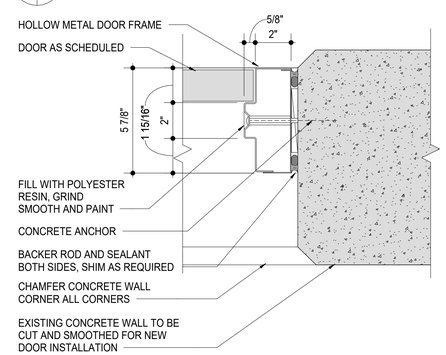
2 WALL DETAIL @ ELEVATOR HEAD
A201 A601 3" = 1'-0"

3 WALL AND DOOR DETAIL @ JAMB
A101 A601 3" = 1'-0"

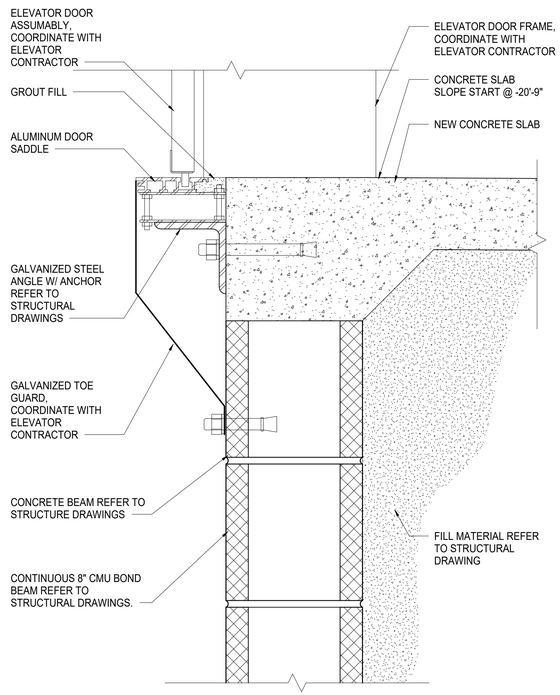
4 DOOR DETAIL @ JAMB
A101 A601 3" = 1'-0"



5 DOOR DETAIL @ SILL
A201 A601 3" = 1'-0"



6 DETAIL @ CONCRETE END
A101 A601 3" = 1'-0"



7 ELEVATOR DETAIL @ SILL
A201 A601 3" = 1'-0"

8 DOOR DETAIL @ HEAD / JAMB
A201 A601 3" = 1'-0"

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02.14.2024
ARCHITECT

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REPLACE ELEVATOR IN FOUR VENTILATION BUILDINGS
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
RMF: 3076.3731

DETAILS & SECTIONS

BID / CONSTRUCTION SET 02-14-2024

23040

A601

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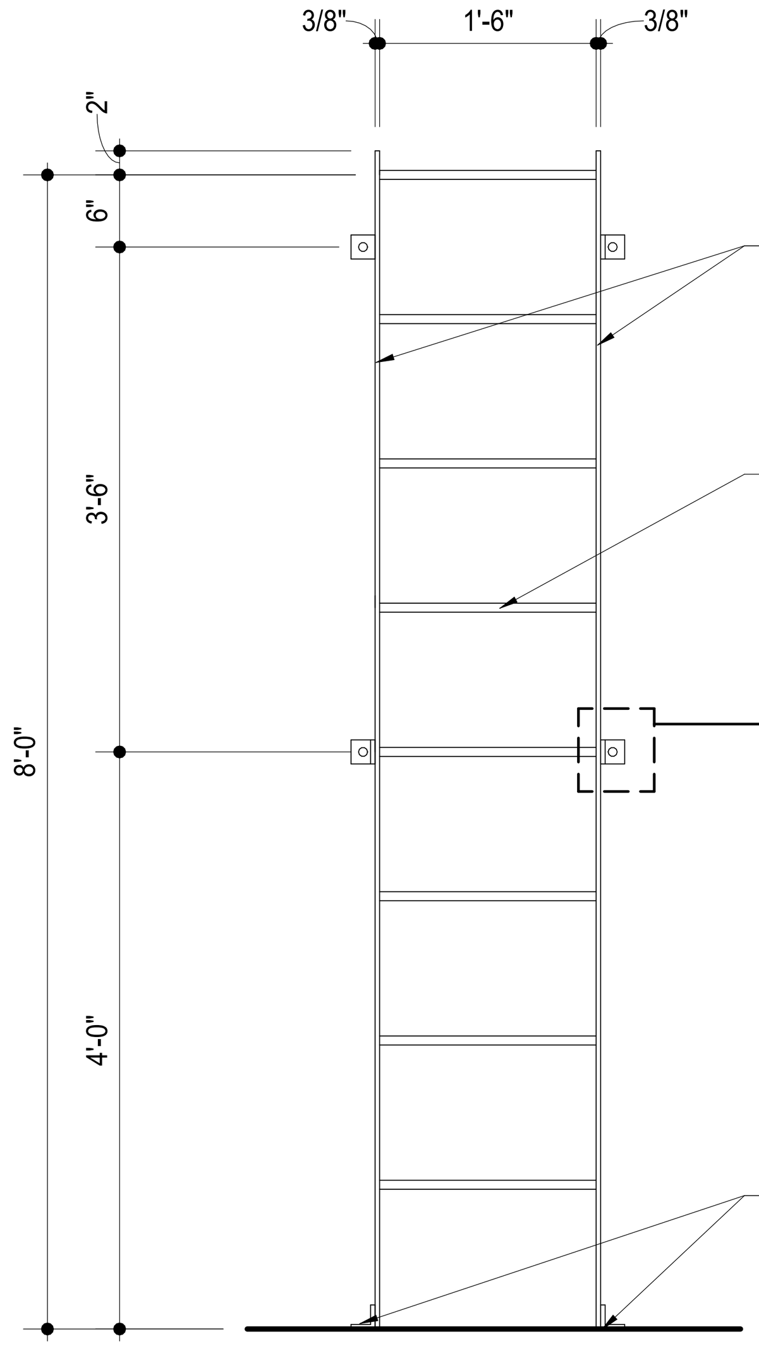
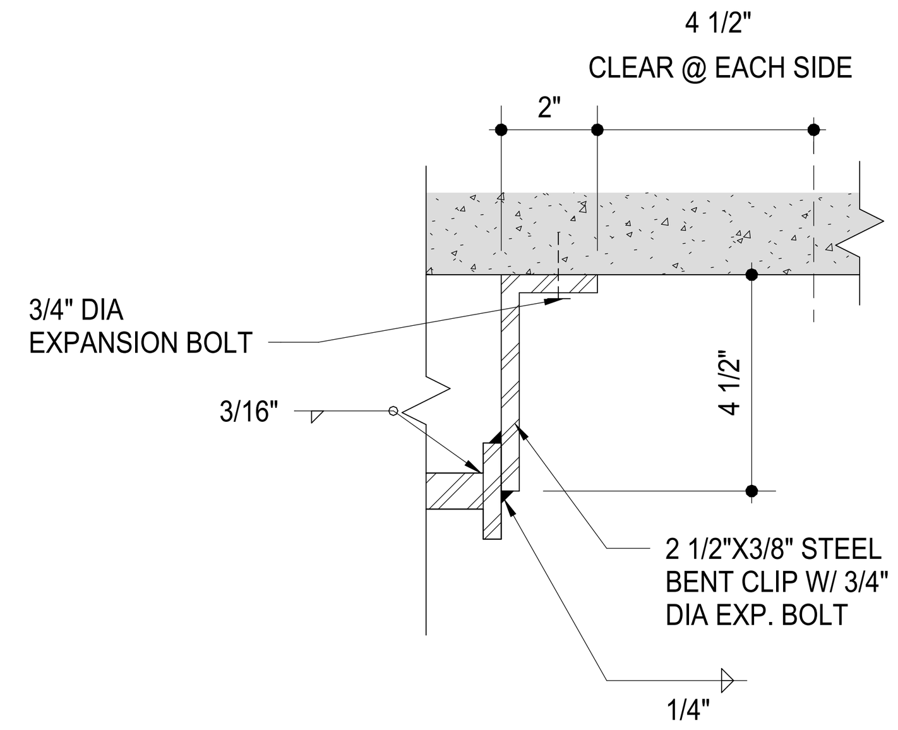
GENERAL LADDER NOTES:
1. ALL JOINTS SHALL BE WELDED.
2. LADDER ASSEMBLY SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.



1 **LADDER DETAIL**
A602 3/4" = 1'-0"

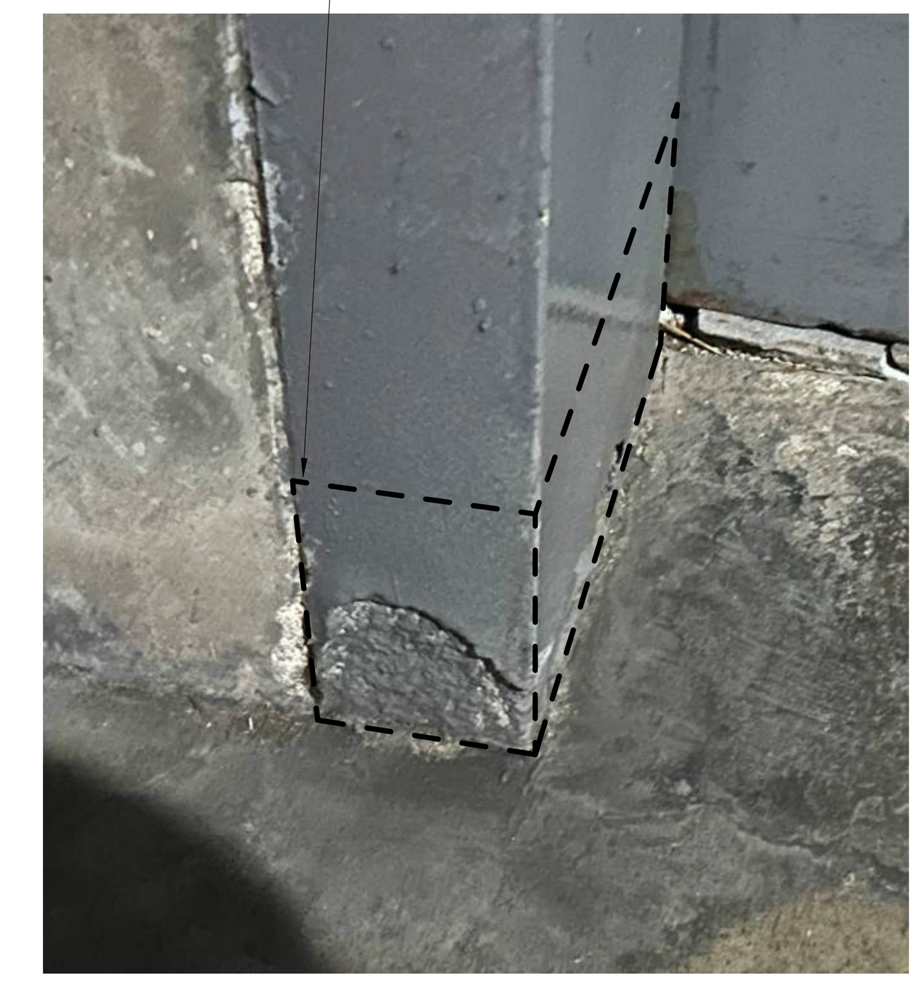


2 **LADDER CLIP DETAIL TYPICAL**
A602 A602 3" = 1'-0"

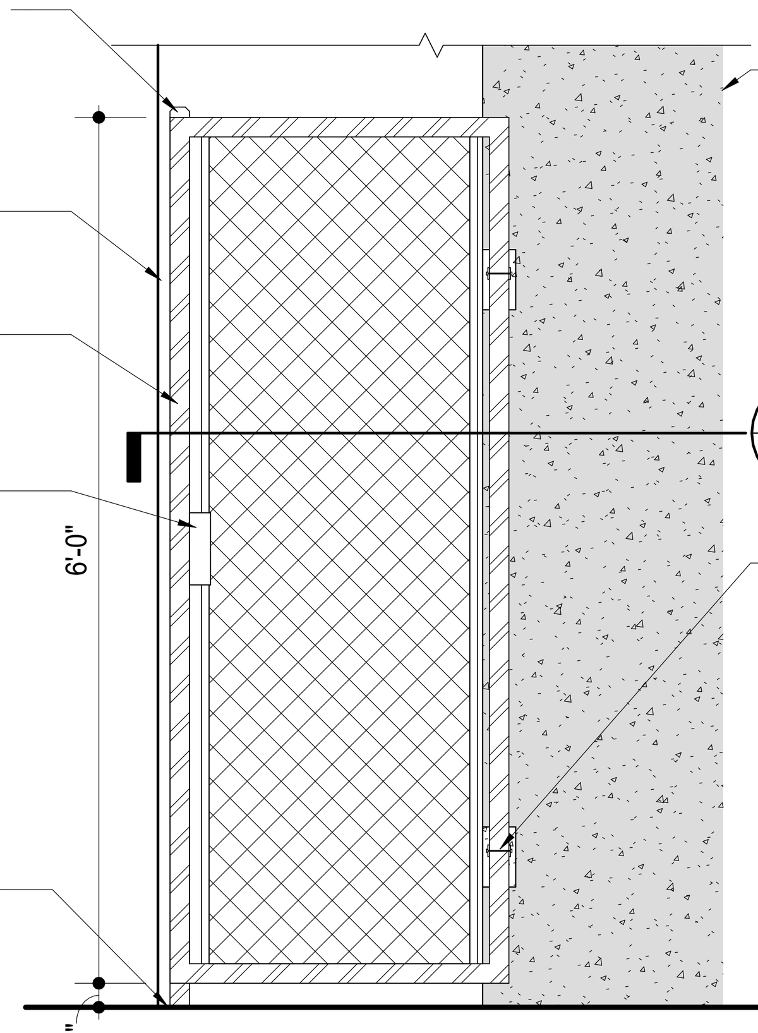
REFER TO STRUCTURAL DRAWINGS FOR CONCRETE REPAIR REQUIREMENTS.

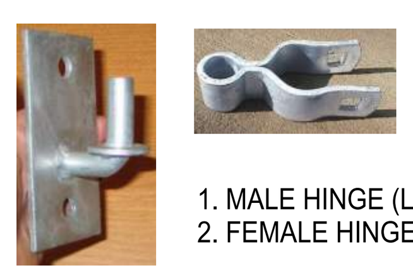
A **IMAGE**
A602 N.T.S.

SAW CUT AND REMOVE CORRODED PORTION OF EXISTING ELEVATOR DOOR FRAME JAMB. FABRICATE NEW PATCH PIECE TO MATCH PROFILE OF EXISTING JAMB. WELD NEW PATCH PIECE IN PLACE AND GRIND WELD SMOOTH. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



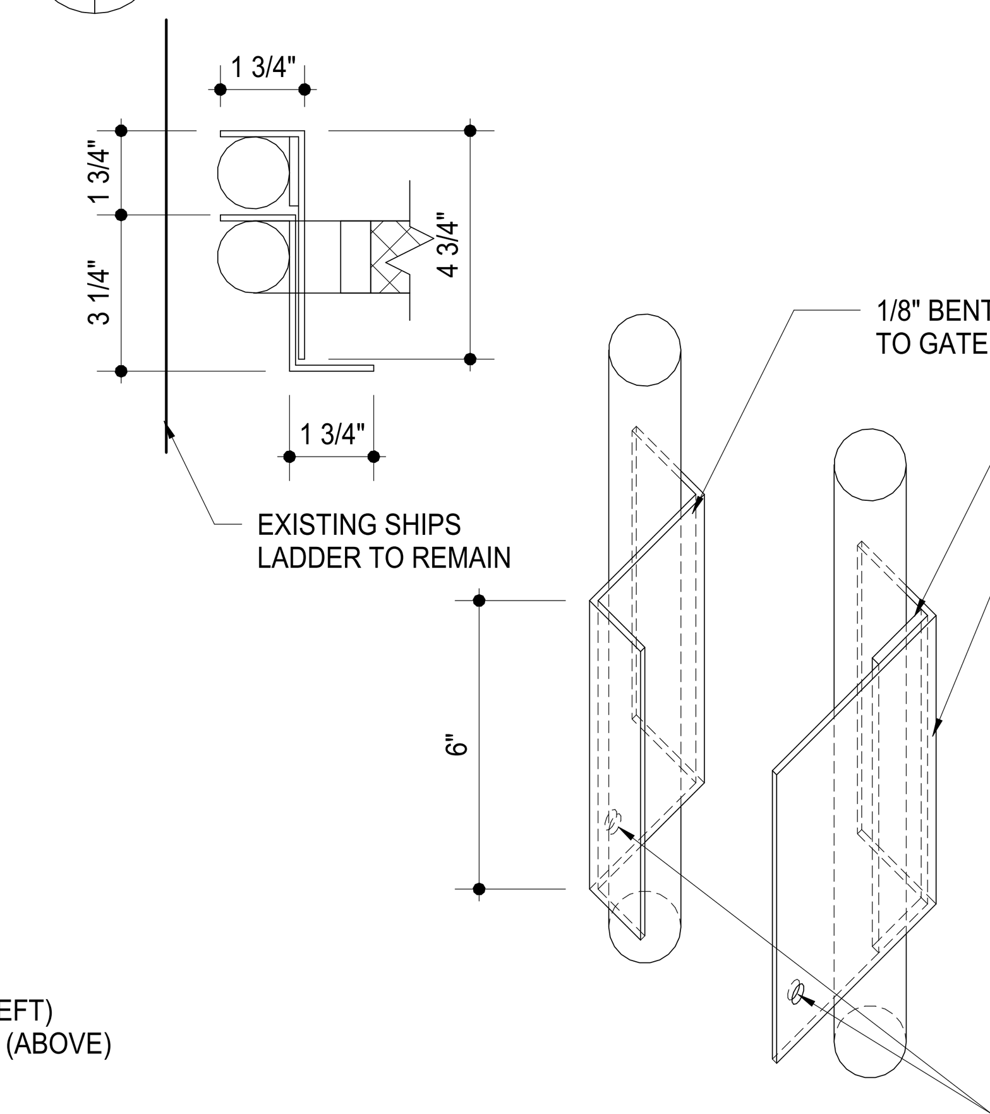
B **IMAGE**
A602 N.T.S.



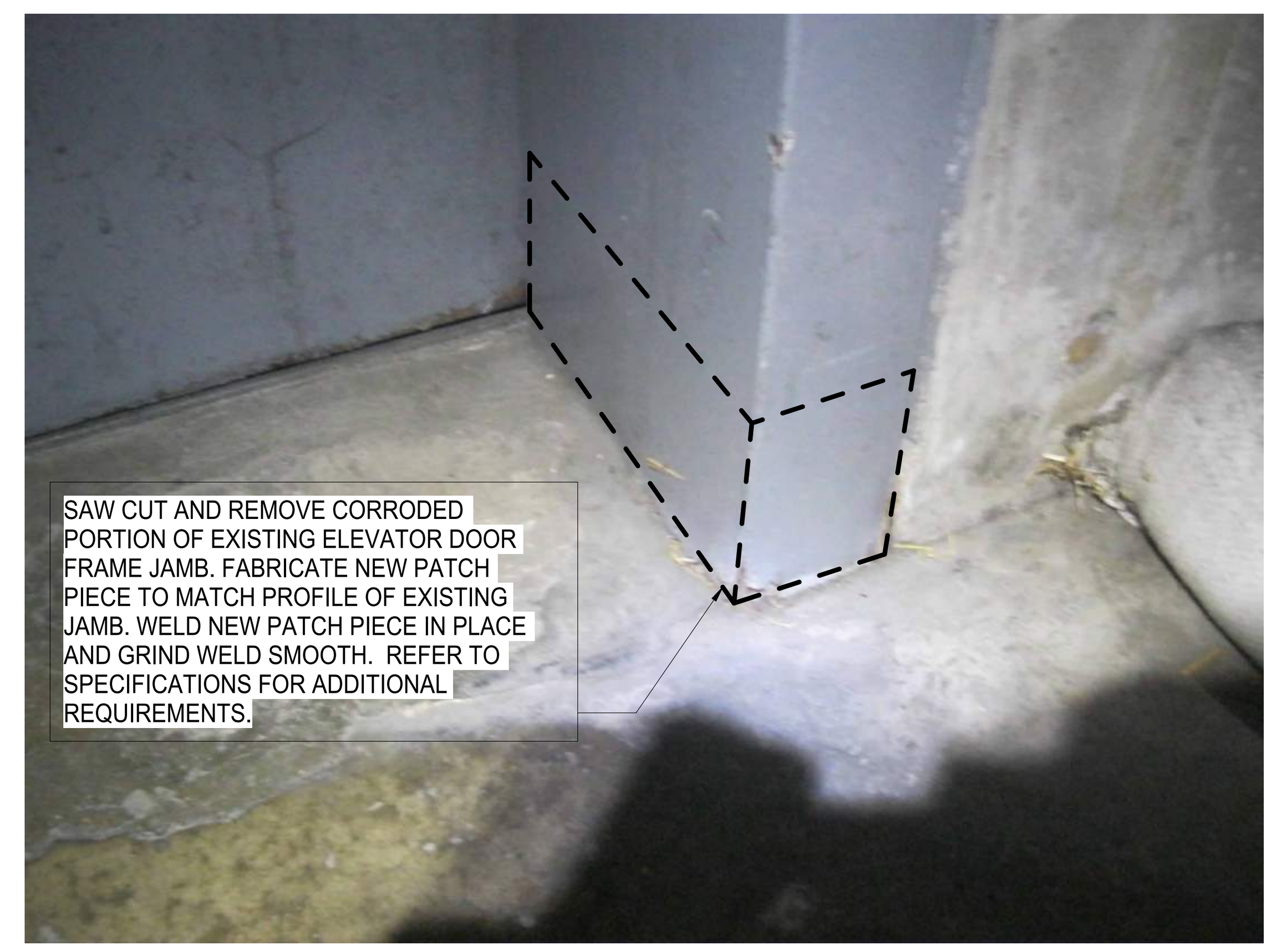


1. MALE HINGE (LEFT)
2. FEMALE HINGE (ABOVE)

3 **CHAINLINK GATE**
A602 3/4" = 1'-0"

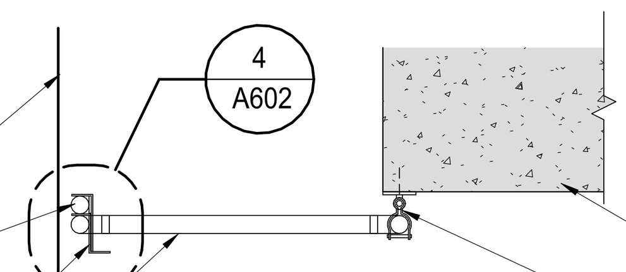


4 **CHAIN LINK ISOMETRIC DETAIL**
A602 A602 3" = 1'-0"



C **IMAGE**
A602 N.T.S.

D **IMAGE**
A602 N.T.S.



NOTE:
ALL WELDED COMPONENTS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.

5 **CHAINLINK GATE SECTION**
A602 A602 3/4" = 1'-0"

SAW CUT AND REMOVE CORRODED EXISTING ELEVATOR DOOR FRAME HEAD FROM JAMB TO JAMB. FABRICATE NEW PATCH PIECE TO MATCH PROFILE OF EXISTING HEAD. WELD NEW PATCH PIECE IN PLACE AND GRIND WELD SMOOTH. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

E **IMAGE**
A602 N.T.S.

NOTE: THIS SHEET TO BE PRINTED IN COLOR

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DETAIL & IMAGES

BID / CONSTRUCTION SET 02-14-2024

23040

A602

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Project Manager: Checker Drawn: Author
Designer: Designer

GENERAL ELECTRICAL NOTES

GENERAL: UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL WORK SHOWN ON ELECTRICAL DRAWINGS IS NEW WORK TO BE PROVIDED UNDER THIS CONTRACT.

COORDINATION: CONTRACTOR SHALL COORDINATE AND COOPERATE WITH ALL TRADES ON THE PROJECT. THE CONTRACTOR SHALL REVIEW ALL CONTRACT DOCUMENTS INCLUDING DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE AND ADJUST ACCORDINGLY AS DIRECTED BY THE ENGINEER/OWNER.

AS-BUILT DRAWINGS: CONTRACTOR SHALL SECURE AN EXTRA SET OF ELECTRICAL DRAWINGS TO BE KEPT ON SITE AND MARK, DAILY, THE DRAWINGS IN RED AS THE PROJECT PROGRESSES IN ORDER TO KEEP AN ACCURATE RECORD OF ALL DEVIATIONS BETWEEN THE WORK SHOWN ON THE DRAWINGS AND THE WORK WHICH IS ACTUALLY INSTALLED. THESE MARKED DRAWINGS SHALL REFLECT ANY AND ALL CHANGES AND REVISIONS TO THE ORIGINAL DESIGN WHICH EXISTS IN THE COMPLETED WORK. CONTRACTOR SHALL DELIVER THE MARKED DRAWINGS TO THE OWNER AT PROJECT CLOSE-OUT.

TESTS: CONTRACTOR SHALL TEST ALL WIRING FOR CONTINUITY AND GROUNDS BEFORE CONNECTING ANY FIXTURES OR DEVICES. CONTRACTOR SHALL PERFORM INSULATION RESISTANCE TESTS ON ALL WIRING #6 OR LARGER TO ENSURE THAT ALL PORTIONS ARE FREE FROM SHORT-CIRCUITS AND GROUNDS.

INSPECTIONS: CONTRACTOR SHALL ARRANGE ALL NECESSARY INSPECTIONS. DELIVER ALL REQUIRED INSPECTION CERTIFICATES TO THE OWNER.

GROUNDING: CONTRACTOR SHALL PROVIDE GROUNDING IN ACCORDANCE WITH THE NEC FOR THE ENTIRE ELECTRICAL SYSTEM INCLUDING EQUIPMENT FRAMES CONDUITS, SWITCHES, CONTROLLERS, WIRE-WAYS, NEUTRAL CONDUCTORS, AND OTHER EQUIPMENT. CONTRACTOR SHALL PROVIDE A GROUNDING CONDUCTOR IN ALL POWER CONDUITS.

LABELS: CONTRACTOR SHALL PROVIDE LABELS FOR ALL ENCLOSED CIRCUIT BREAKERS, PANELBOARDS, SAFETY SWITCHES AND ELEVATOR CONTROLLERS. LABELS SHALL BE MACHINE ENGRAVED, LAMINATED PLASTIC, PERMANENTLY ATTACHED WITH SELF-TAPPING SCREWS OR RIVETS. DO NOT USE SELF-ADHESIVE LABELS. LABEL SHALL INDICATE EQUIPMENT DESIGNATION AND ASSOCIATED PANEL AND CIRCUIT THAT SERVES IT.

J-BOX LABELING: CONTRACTOR SHALL LABEL ALL JUNCTION BOXES WITH PERMANENT MARKER IDENTIFYING CIRCUIT NUMBER AND PANELBOARD OF CIRCUITS WITHIN.

WIRING DEVICES: LABEL ALL WIRING DEVICES WITH PANELBOARD AND CIRCUIT DESIGNATION PERMANENTLY ATTACHED WITH BLACK TYPED DESIGNATION ON CLEAR TAPE.

PANEL DIRECTORY: CONTRACTOR SHALL PROVIDE TYPEWRITTEN PANELBOARD DIRECTORY CARD IN EACH PANELBOARD ADDED OR MODIFIED WITH CIRCUIT LOAD INFORMATION AND ROOM NUMBER CLEARLY IDENTIFIED. CONTRACTOR SHALL USE ACTUAL ROOM NUMBERS IN THE BUILDING, NOT THE ROOM NUMBERS SHOWN ON THE CONTRACT DRAWINGS, AS THEY ARE OFTEN DIFFERENT.

CONDUCTORS AND MATCHING LUGS: IN SITUATIONS WHERE CONDUCTOR SIZES AND/OR QUANTITIES OF PARALLEL SETS HAVE BEEN INCREASED DUE TO VOLTAGE DROP OR FOR OTHER REASONS, CONTRACTOR SHALL PROVIDE THE APPROPRIATE LUG SIZES/QUANTITIES WITHIN THE EQUIPMENT CONNECTED TO PERMIT SATISFACTORY CONNECTION OF THE INDICATED CONDUCTORS. WHERE SUFFICIENT LUG SIZES AND/OR QUANTITIES CANNOT BE PROVIDED TO ACCOMMODATE THE CONDUCTORS INDICATED, THEN PROVIDE REDUCING ADAPTERS, PIN TERMINALS, OR A JUNCTION BOX TO SPLICE LARGER CONDUCTORS TO APPROPRIATELY SIZED SMALLER CONDUCTORS TO FIT INTO THE LUGS PROVIDED. ALL CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH THE NEC.

WORKING CLEARANCE: CONTRACTOR SHALL COORDINATE FINAL LOCATIONS OF ELECTRICAL EQUIPMENT WITH MECHANICAL DUCTWORK, PIPING ETC. AND ASSURE WORKING CLEARANCE REQUIRED BY NEC WILL BE MET. SUFFICIENT ACCESS AND WORKING SPACE SHALL BE PROVIDED AND MAINTAINED AROUND ELECTRICAL EQUIPMENT AS REQUIRED BY THE NATIONAL ELECTRICAL CODE. CONTRACTOR SHALL COORDINATE FINAL LOCATION OF EQUIPMENT PROVIDED AND INSTALLED BY OTHER TRADES.

MATERIAL COORDINATION: CONTRACTOR SHALL VERIFY CEILING AND WALL CONSTRUCTION AND MATERIAL PRIOR TO ORDERING EQUIPMENT OR OTHER DEVICES TO INSURE PROPER EQUIPMENT OR DEVICE IS FURNISHED TO MATCH CONSTRUCTION.

BARRIERS: WHERE A MULTIPLE-GANG BOX HAS CIRCUITS OF DIFFERENT VOLTAGES OR SYSTEMS WHICH ARE REQUIRED TO BE SEPARATED, CONTRACTOR SHALL PROVIDE THE CODE-REQUIRED SEPARATION USING A FULL HEIGHT AND DEPTH BARRIER PLATE.

CLEAN UP: ON PROJECT CLOSE-OUT, CONTRACTOR SHALL CLEAN ALL ELECTRICAL DEVICES, AND EQUIPMENT AND REMOVE ALL PAINT SPATTERS.

PHASE ROTATION: CONTRACTOR SHALL ENSURE PROPER PHASE ROTATION PRIOR TO ENERGIZING LOADS.

ELECTRICAL DEMOLITION NOTES

GENERAL: DEMOLITION DRAWINGS ARE BASED ON EXISTING PLANS AND FIELD INVESTIGATION PRIOR TO DEMOLITION. PROPOSED BIDDERS SHALL VISIT THE EXISTING BUILDING PRIOR TO BID IN ORDER TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND IN ORDER TO AVOID CONFLICTS.

DASHED ITEMS: ALL ITEMS SHOWN DASHED ON DEMOLITION PLANS ARE EXISTING AND SHALL BE REMOVED BY THE CONTRACTOR.

SOLID ITEMS: ALL ITEMS SHOWN SOLID ON DEMOLITION PLANS ARE EXISTING TO REMAIN.

CIRCUITING TO REMAIN: EXISTING CIRCUITING TO REMAIN SHALL BE REROUTED OR RECONNECTED BY THE CONTRACTOR, AS REQUIRED, WHERE AFFECTED BY NEW WORK IN ORDER TO MAINTAIN CONTINUITY OF THE CIRCUIT.

EXISTING CONDUIT: ALL EXISTING CONDUITS AND WIRING THAT WILL NOT BE REUSED SHALL BE REMOVED BY THE CONTRACTOR WHERE THEY WILL BE EXPOSED UPON COMPLETION OF NEW WORK. EXISTING CONDUIT TO REMAIN CONCEALED IN WALLS SHALL BE ABANDONED. EXISTING CONDUIT TO REMAIN BELOW FLOOR SLAB SHALL BE CUT OFF ONE INCH BELOW ROUGH FLOOR AND GROUTED FLUSH BY THE CONTRACTOR. ALL EXISTING WIRING IN CONDUITS TO BE ABANDONED SHALL BE DISCONNECTED FROM POWER SOURCE AND REMOVED BY THE CONTRACTOR.

REPAIR DAMAGE: CONTRACTOR SHALL EXERCISE CARE IN REMOVAL OF DEMOLITION ITEMS. CONTRACTOR SHALL REPAIR, AT NO ADDITIONAL COST TO THE OWNER, ANY DAMAGE CAUSED TO EXISTING CONSTRUCTION AND/OR EQUIPMENT TO REMAIN.

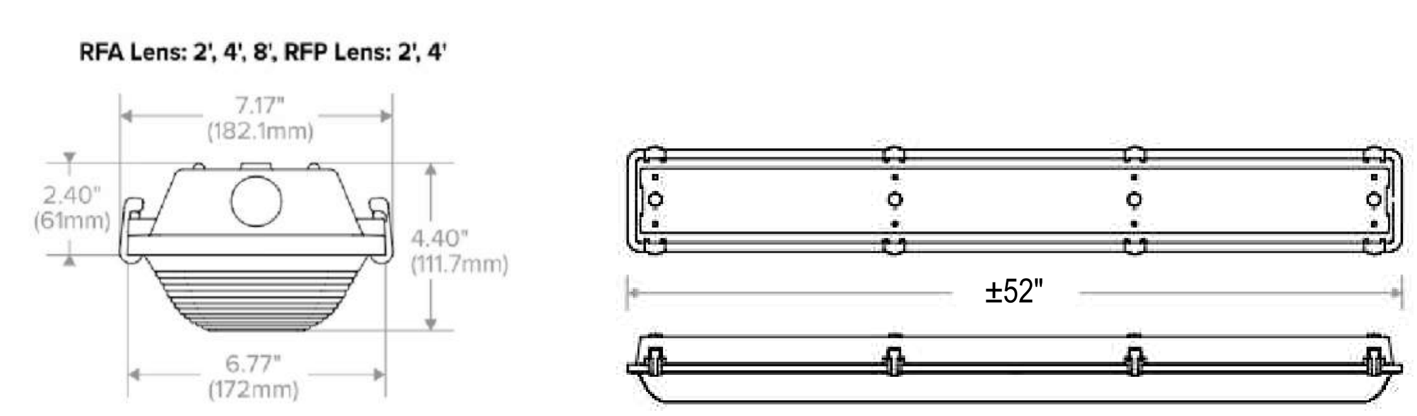
ASSOCIATED APPURTENANCES: CONTRACTOR SHALL REMOVE ALL ELECTRICAL APPURTENANCES (DISCONNECTS, STARTERS, WIRING, CONDUIT, ETC.) ASSOCIATED WITH ITEMS TO BE REMOVED.

KNOCKOUT PLUGS AND COVERS: ALL CONDUIT REMOVED SHALL BE REMOVED IN ITS ENTIRETY BY THE CONTRACTOR, INCLUDING FITTINGS, MOUNTING DEVICES, MOUNTING HARDWARE, ETC. CONTRACTOR SHALL PROVIDE CONDUIT PLUGS AND BLANKS FOR ALL OPENINGS CREATED BY THE REMOVAL OF CONDUIT. CONTRACTOR SHALL PROVIDE BLANK COVER PLATES FOR ALL OPENED OUTLET BOXES CREATED BY THE REMOVAL OF EQUIPMENT AND/OR DEVICES

DEMOLISHED MATERIALS: ALL MATERIALS REMOVED UNDER DEMOLITION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED COMPLETELY FROM THE SITE BY THE CONTRACTOR.

SCHEDULE OUTAGES: CONTRACTOR SHALL SCHEDULE ALL WORK AND ALL POWER OUTAGES IN THE EXISTING BUILDINGS AT TIMES CONVENIENT TO THE OWNER WITH A MINIMUM OF 48 HOURS NOTICE.

NOTIFICATION: CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO TURNING OFF ANY CIRCUITS.



LUMINAIRE DESCRIPTION:

1. HOUSING SHALL BE NEMA 4X FIBERGLASS WITH STAINLESS STEEL MOUNTING BRACKETS.
2. FINISH SHALL BE WHITE.
3. LENS SHALL BE RIBBED FROSTED POLYCARBONATE.
4. HIGH EFFICIENCY, INTEGRAL ELECTRONIC LED DRIVERS.
5. UL LISTED FOR DAMP LOCATIONS AND TESTED IN ACCORDANCE WITH IESNA LM-79 AND LM-80 STANDARDS.
6. PROVIDE FIXTURE WITH 0-10V DIMMING DOWN TO 10%.

DETAIL BASED ON COLUMBIA LIGHTING, "LXEM4" SERIES

TYPE	LUMENS	LAMP TYPE	INPUT WATTS	VOLTAGE	MOUNTING
A	5,721	4000K LED	47	120-277V	SURFACE, CEILING/WALL

4' LED INDUSTRIAL STRIP

ELECTRICAL LEGEND

LIGHTING

- (A) LIGHTING FIXTURE TYPE SYMBOL. SEE LIGHTING FIXTURE DETAIL
- S SINGLE POLE SWITCH, 20A, 120/277V, 46" AFF UON
- S_3 THREE-WAY SWITCH, 20A, 120/277V, 46" AFF UON
- NL LIGHTING FIXTURE, SUBSCRIPT "NL", WHERE USED, INDICATES A NIGHT LIGHT (ALL DRIVERS UNSWITCHED)
- EXISTING SURFACE MOUNTED LIGHTING FIXTURE
- EXISTING WALL MOUNTED LIGHTING FIXTURE

POWER

THE FOLLOWING SUBSCRIPTS SHALL APPLY TO RECEPTACLES WHERE USED:

- WP: WEATHER RESISTANT GFI RECEPTACLE WITH WEATHERPROOF WHILE-IN-USE COVER.

- SINGLE RECEPTACLE 20A, 120V, 18" AFF, UON
- DUPLEX CONVENIENCE RECEPTACLE 20A, 120V, 18" AFF, UON
- J JUNCTION BOX
- MOTOR CONNECTION
- SAFETY SWITCH, 60A-3P, FU @ 30A, 3R
  - SWITCH RATING
  - NUMBER OF POLES
  - FUSE RATING (NF INDICATES NON-FUSED)
  - NEMA ENCLOSURE IF OTHER THAN NEMA 1
- ENCLOSED CIRCUIT BREAKER, 60A-3P, 3R
  - BREAKER TRIP RATING
  - NUMBER OF POLES
  - NEMA ENCLOSURE IF OTHER THAN NEMA 1
- ELECTRICAL PANELBOARD
- T DRY-TYPE TRANSFORMER
- AND ELECTRICAL CIRCUIT RUN IN CONDUIT AND CIRCUIT HOMERUN TO PANELBOARD (PANEL AND CIRCUIT DESIGNATION AS INDICATED). AS A MINIMUM CONDITION, EACH SINGLE PHASE CIRCUIT SHALL HAVE 1 #12 PHASE CONDUCTOR, 1 #12 NEUTRAL CONDUCTOR AND 1 #12 GROUNDING CONDUCTOR IN 3/4" CONDUIT. PROVIDE ADDITIONAL PHASE CONDUCTORS AS REQUIRED FOR "MULTIPLE PHASED" ELECTRICAL LOADS. PROVIDE NEUTRAL CONDUCTOR TO ALL WALL SWITCH OUTLET BOXES WHETHER REQUIRED OR NOT. PROVIDE ADDITIONAL "SWITCH LEG" CONDUCTORS TO PROVIDE THE LIGHT FIXTURE CONTROL INDICATED. MULTIPLE SINGLE PHASE CONDUCTORS MAY BE GROUPED TOGETHER IN A COMMON CONDUIT IN ACCORDANCE WITH THE NEC AND AT THE CONTRACTOR'S DISCRETION. GROUNDING CONDUCTORS MAY BE SHARED AS ALLOWED BY THE NEC. NEUTRAL CONDUCTORS SHALL NOT BE SHARED. MULTI-POLE BREAKERS SHALL BE PROVIDED IN ACCORDANCE WITH THE NEC WHERE MULTI-WIRE BRANCH CIRCUITS ARE REQUIRED. CONDUIT LARGER THAN 3/4" AND CONDUCTORS LARGER THAN #12 SHALL BE AS INDICATED.

GENERAL

- [1] NEW WORK NOTE SYMBOL
- ⟨1⟩ DEMOLITION NOTE SYMBOL

ABBREVIATIONS

A	AMPERE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTING CAPACITY
C	CONDUIT
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CKT	CIRCUIT
CB	CIRCUIT BREAKER
DE	DOMINION ENERGY
EC	EMPTY CONDUIT
ECB	ENCLOSED CIRCUIT BREAKER
EF	EXHAUST FAN
ETR	EXISTING TO REMAIN
FLA	FULL LOAD AMPS
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
HP	HORSE POWER
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KVA	KILO-VOLT-AMPERES
KW	KILO-WATTS
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
NF	NON-FUSED
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
P	POLE
PF	POWER FACTOR
PNL	PANEL
PNLBD	PANELBOARD
Ø	PHASE
PTST	PARALLEL THIMBLE SHOAL TUNNEL
RECEPT	RECEPTACLE
REQ'D	REQUIRED
SPD	SURGE PROTECTION DEVICE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLT
W	WATTS/WIRE
WP	WEATHERPROOF

EXISTING CONDITIONS NOTE:

THE CONTRACTOR SHALL VISIT THE EXISTING SITES PRIOR TO BID IN ORDER TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND IN ORDER TO AVOID CONFLICTS. LACK OF KNOWLEDGE OF EXISTING CONDITIONS SHALL NOT BE A BASIS FOR CHANGE ORDERS.

GENERAL NOTE:

WORK SHOWN IN THIS SET OF CONTRACT DOCUMENTS IS BASED ON PORTAL ISLAND BUILDING #3. THIS WORK IS TYPICAL FOR PORTAL ISLAND BUILDINGS #1, #2, AND #4.

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REPLACE ELEVATOR IN FOUR VENTILATION BUILDINGS
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
RMF: 3076.3731

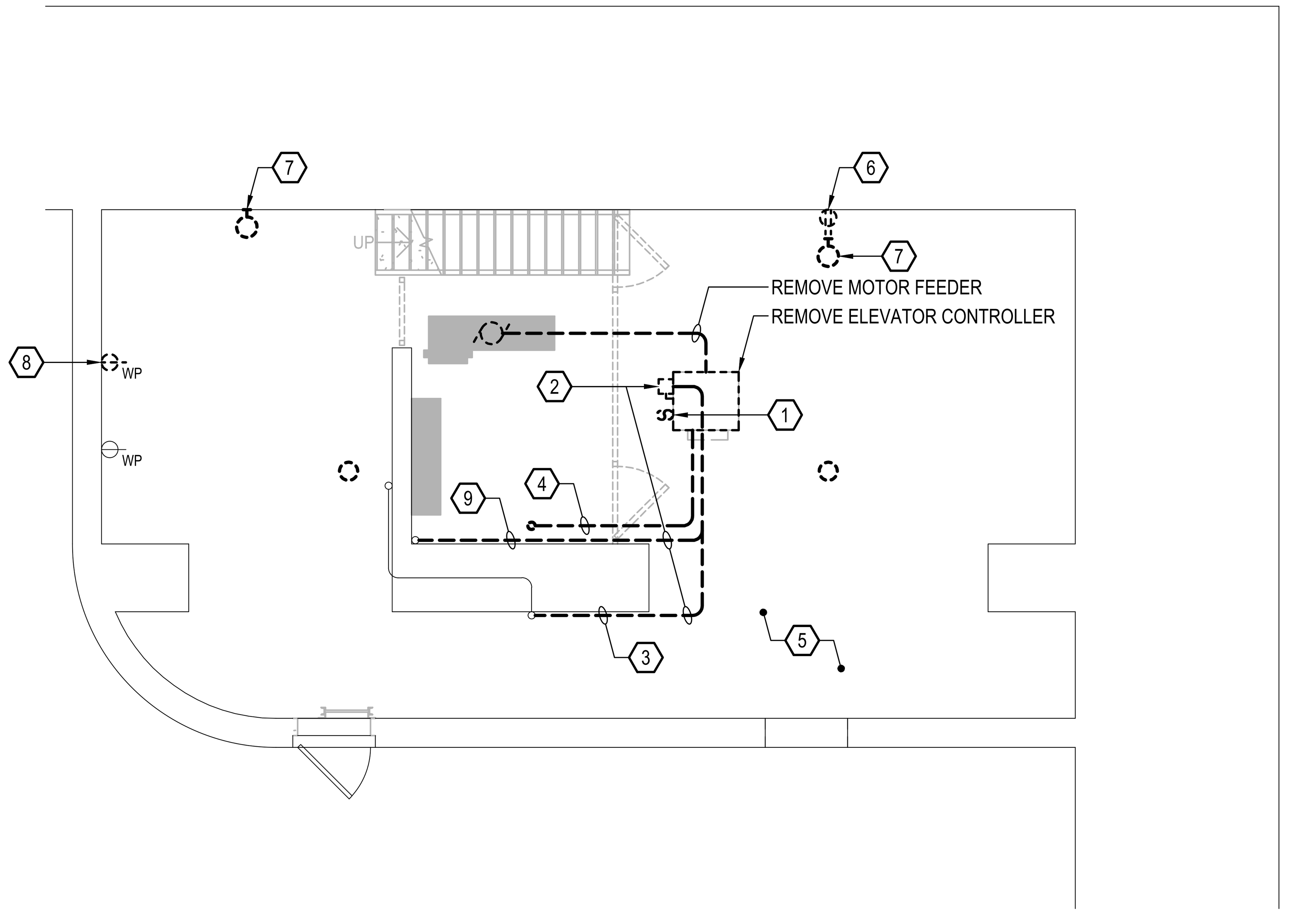
LEGEND, NOTES AND ABBREVIATIONS

BID / CONSTRUCTION SET 02-14-2024

23040

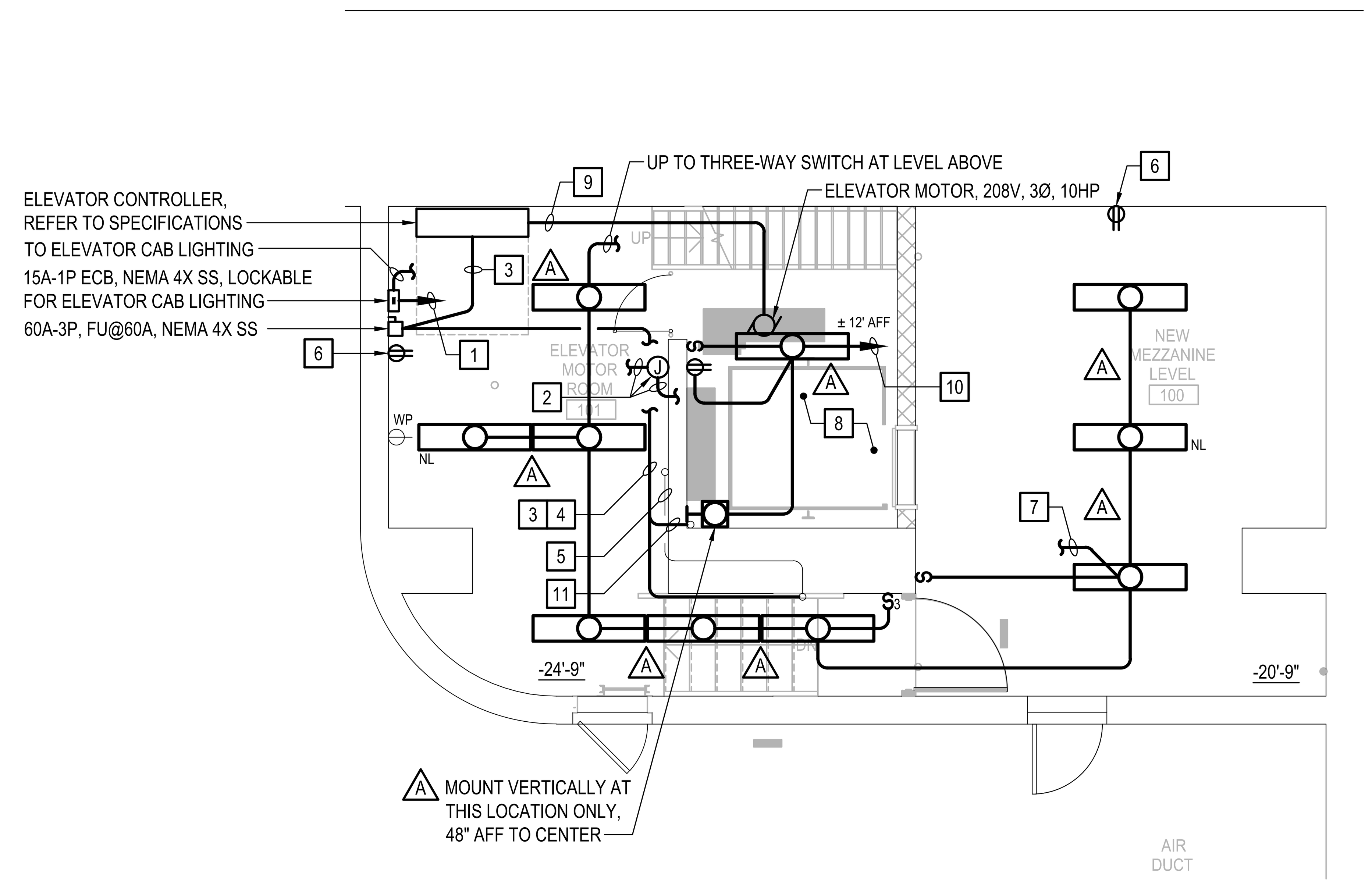
E001

Designer: Project Manager: Drawn: 9/14/2023 10:01:16 AM rs\jacob\Documents\23040_CBBT_ELEVATOR REPLACEMENT_(R23)_JacobL5LE68.rvt



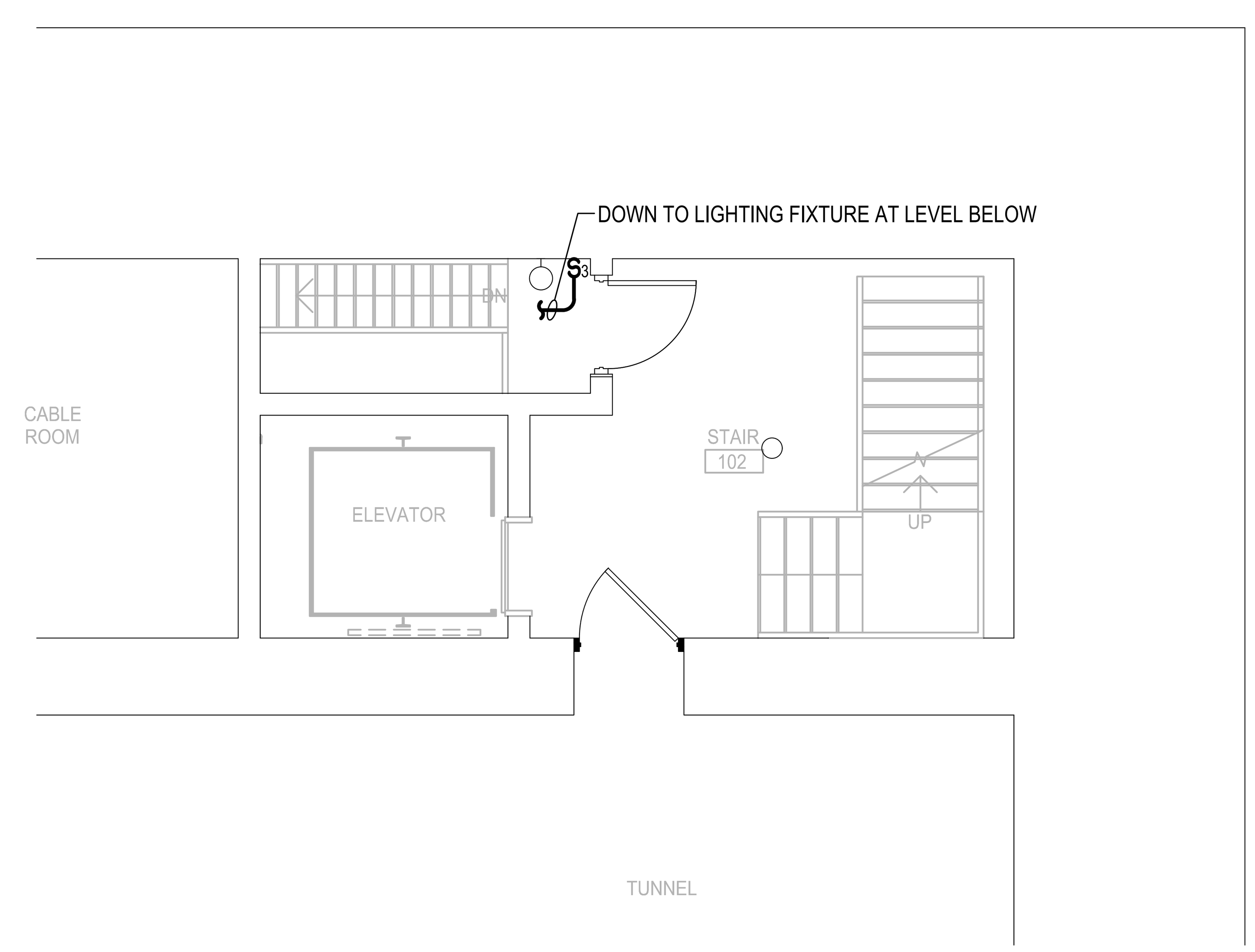
ELEVATOR DEMOLITION PLAN @ -24'-9"

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



ELEVATOR NEW WORK PLAN @ -20'-9" AND -24'-9"

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



ELEVATOR NEW WORK PLAN @ -9'-6 7/8"

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

NOTES THIS SHEET - DEMOLITION

1. REMOVE ELEVATOR CAB LIGHTING SWITCH. SAVE EXISTING CIRCUIT FOR REUSE PER NEW WORK PLANS.
2. REMOVE ELEVATOR CONTROLLER DISCONNECT SWITCH AND REMOVE ASSOCIATED WIRING BACK TO EXISTING "HOUSE-BUS-2" ON ELECTRICAL EQUIPMENT ROOM FLOOR. REMOVE EXISTING CONDUIT TO A CONVENIENT POINT FOR REUSE PER NEW WORK PLANS.
3. AT PORTAL ISLAND #1, #2, AND #4 ONLY - CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN CONCEALED WITHIN CONCRETE AND TURNING UP AT CONDUIT BANK ALONG ELEVATOR SHAFT TO ABOVE).
4. REMOVE EXISTING ELEVATOR CONTROL WIRING AND CONDUIT COMPLETE.
5. AT PORTAL ISLAND #1 ONLY - THE DISTRICT'S CONTRACTOR SHALL RELOCATE EXISTING TUNNEL INSTALLATION/MONITORING EQUIPMENT AS REQUIRED TO ACCOMMODATE NEW WORK. COORDINATE WITH THE DISTRICT.
6. REMOVE EXISTING RECEPTACLE TO ACCOMMODATE MEZZANINE FLOOR INSTALLATION. SAVE CIRCUIT FOR REUSE.
7. DEVICE/FIXTURE LOCATED AT PORTAL ISLAND #1 ONLY.
8. REMOVE EXISTING RECEPTACLE AND BOX. SAVE CIRCUIT FOR REUSE.
9. AT PORTAL ISLAND #3 ONLY - CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN EXPOSED WITHIN ELEVATOR SHAFT).

FEEDER ROUTING NOTE:

FEEDER ROUTING IS BASED ON REFERENCE DRAWINGS AND LIMITED FIELD INVESTIGATION. CONTRACTOR SHALL FIELD VERIFY EXISTING ROUTING FOR EACH PORTAL ISLAND BUILDING. NOTE THAT EXACT ROUTING AND LOCATION OF PULL BOX, PULLING ELBOWS, ETC. MAY VARY IN EACH BUILDING.

NOTES THIS SHEET - NEW WORK

1. CONNECT TO EXISTING PANEL "ESP" (TUNNEL LIGHTING CONTROL ROOM FLOOR PLAN - SEE E102).
2. JUNCTION BOX FOR ELEVATOR CAB PHONE AND CAT-6 CABLING TO OWNER FURNISHED IP PHONE IN ELEVATOR (COORDINATE WITH ELEVATOR SPECIFICATIONS). PROVIDE (1) 3/4"C WITH CAT-6 CABLING TO EXISTING CNC CABINET ON TUNNEL LIGHTING CONTROL ROOM FLOOR - SEE E102.
3. 3 #4, 1 #4 GND - 1-1/2"C.
4. UTILIZE EXISTING CONDUIT TO THE FULLEST EXTENT POSSIBLE. EXTEND 1-1/2"C AS REQUIRED.
5. AT PORTAL ISLAND #1, #2, AND #4 ONLY - CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN CONCEALED WITHIN CONCRETE AND TURNING UP AT CONDUIT BANK ALONG ELEVATOR SHAFT TO ABOVE).
6. CONNECT RECEPTACLE TO EXISTING CIRCUIT SAVED DURING DEMOLITION. EXTEND 2 #12, 1 #12 GND - 3/4"C AS REQUIRED.
7. CONNECT TO EXISTING CIRCUIT SAVED DURING DEMOLITION (PREVIOUSLY SERVING ELEVATOR CAB LIGHTING). EXTEND 2 #12, 1 #12 GND - 3/4"C AS REQUIRED.
8. SUPPORTS FOR CABLES AND RACEWAYS LOCATED IN HOISTWAY SHALL BE SECURELY FASTENED TO THE GUIDE RAILS OR HOISTWAY IN ACCORDANCE WITH NEC ARTICLE 620.34.
9. 3 #6, 1 #10 GND - 3/4"C.
10. CONNECT TO SPARE 20A-1P CIRCUIT BREAKER IN EXISTING PANEL "LP2" (TUNNEL LIGHTING CONTROL ROOM FLOOR - SEE E102). CORE DRILL EXISTING FLOOR AS REQUIRED.
11. AT PORTAL ISLAND #3 ONLY - CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN EXPOSED WITHIN ELEVATOR SHAFT).

GRAPHIC SCALE:

1/4" = 1'-0" — 5' 0' 5' 10'

GENERAL NOTE:

WORK SHOWN IN THIS SET OF CONTRACT DOCUMENTS IS BASED ON PORTAL ISLAND BUILDING #3. THIS WORK IS TYPICAL FOR PORTAL ISLAND BUILDINGS #1, #2, AND #4.

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BID / CONSTRUCTION SET

REPLACE ELEVATOR IN FOUR VENTILATION BUILDINGS

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF: 3076.3731

FLOOR PLANS

02-14-2024 BID / CONSTRUCTION SET

23040

E101

Designer: Project Manager: Drawn: 9/14/2023 10:01:16 AM rs\jacob\Documents\23040_CBBT_ELEVATOR REPLACEMENT_(R23)_JacobL5LE68.rvt

FEEDER ROUTING NOTE:

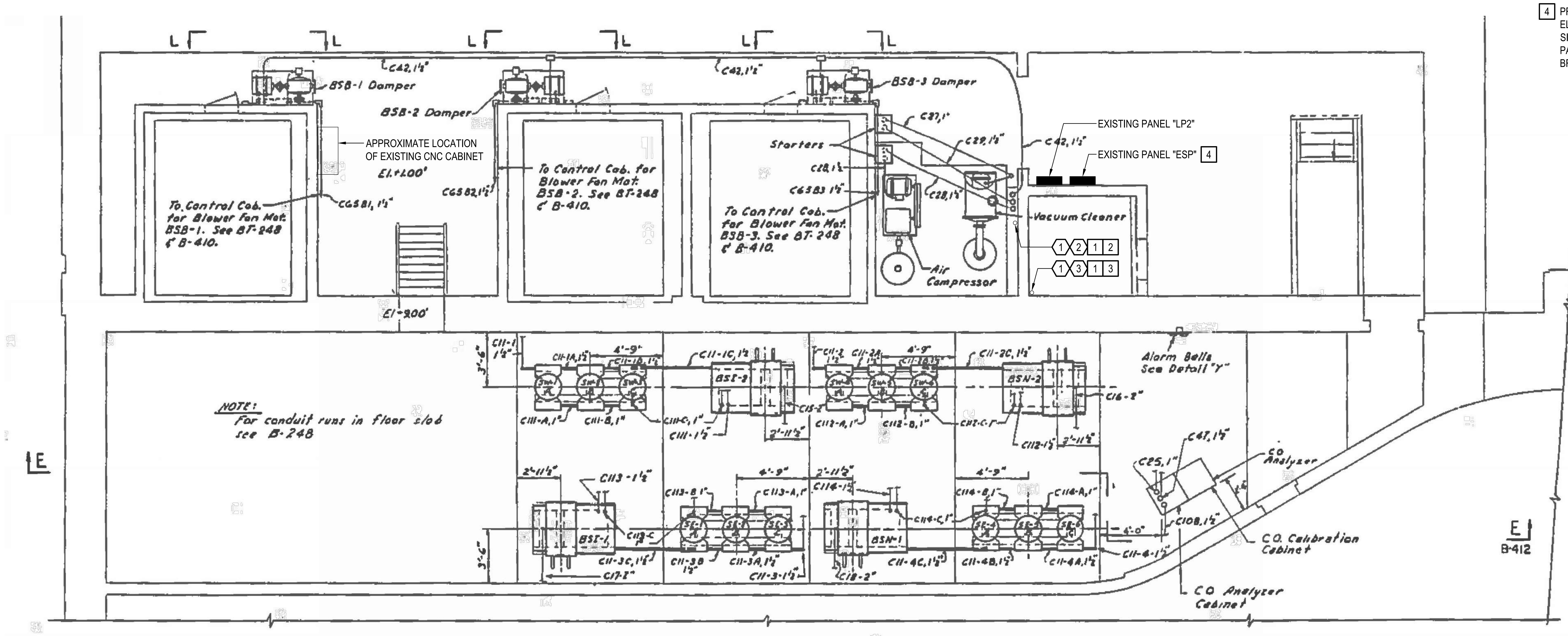
FEEDER ROUTING IS BASED ON REFERENCE DRAWINGS AND LIMITED FIELD INVESTIGATION. CONTRACTOR SHALL FIELD VERIFY EXISTING ROUTING FOR EACH PORTAL ISLAND BUILDING. NOTE THAT EXACT ROUTING AND LOCATION OF PULL BOX, PULLING ELBOWS, ETC. MAY VARY IN EACH BUILDING.

NOTES THIS SHEET - DEMOLITION

1. REMOVE ELEVATOR FEEDER WIRING FROM ELEVATOR CONTROLLER DISCONNECT BACK TO EXISTING 70A-3P CIRCUIT BREAKER IN "HOUSE-BUS-2" - SAVE CONDUIT FOR REUSE.
2. AT PORTAL ISLAND #1, #2, AND #4 ONLY - CONDUITS ROUTED AS SHOWN (CONDUIT RUN UP BANK ALONG ELEVATOR SHAFT TO IN-SLAB PULLBOX ABOVE).
3. AT PORTAL ISLAND #3 ONLY - CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN EXPOSED WITHIN ELEVATOR SHAFT).

NOTES THIS SHEET - NEW WORK

1. 3 #4, 1 #4 GND - 1-1/2"C. UTILIZE EXISTING CONDUIT TO THE FULLEST EXTENT POSSIBLE. EXTEND 1-1/2"C AS REQUIRED.
2. AT PORTAL ISLAND #1, #2, AND #4 ONLY - CONDUITS ROUTED AS SHOWN (CONDUIT RUN UP BANK ALONG ELEVATOR SHAFT TO IN-SLAB PULLBOX ABOVE).
3. AT PORTAL ISLAND #3 ONLY - CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN EXPOSED WITHIN ELEVATOR SHAFT).
4. PROVIDE (1) 20A-1P CIRCUIT BREAKER IN EXISTING SPACE TO SERVE ELEVATOR CAB LIGHTING. EXISTING PANEL IS MANUFACTURED BY SIEMENS "S1" SERIES. CONTRACTOR TO FIELD VERIFY EXISTING PANEL MANUFACTURER/SERIES PRIOR TO ORDERING CIRCUIT BREAKER TO ENSURE COMPATIBILITY.



TUNNEL LIGHTING CONTROL ROOM FLOOR PLAN (ELEVATION +1.0')

SCALE: APPROXIMATELY 1/4" = 1'-0" (CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS)

GRAPHIC SCALE:

1/4" = 1'-0" 5' 0' 5' 10'

GENERAL NOTE:

WORK SHOWN IN THIS SET OF CONTRACT DOCUMENTS IS BASED ON PORTAL ISLAND BUILDING #3. THIS WORK IS TYPICAL FOR PORTAL ISLAND BUILDINGS #1, #2, AND #4.

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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
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TUNNEL LIGHTING CONTROL ROOM FLOOR PLAN

BID / CONSTRUCTION SET 02-14-2024

23040

E102

Designer: Project Manager: Drawn: 9/14/2023 10:01:16 AM rs\jacob\Documents\23040_CBBT_ELEVATOR REPLACEMENT_(R23)_Jacob.5LE68.rvt

FEEDER ROUTING NOTE:

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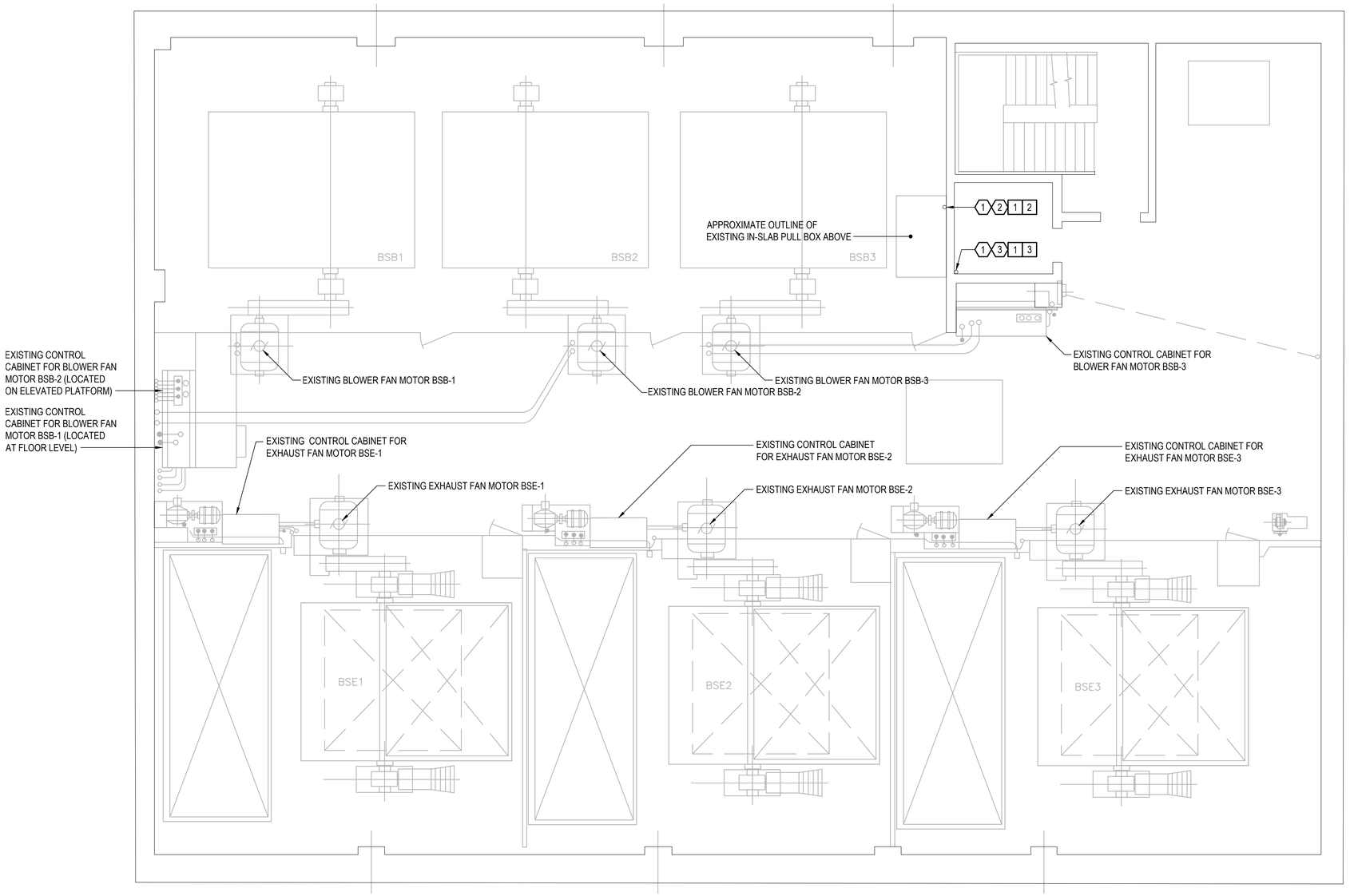

FAN ROOM FLOOR PLAN (ELEVATION +17.0')

SCALE: APPROXIMATELY 1/4" = 1'-0" (CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS)

NOTES THIS SHEET - DEMOLITION

1. REMOVE ELEVATOR FEEDER WIRING FROM ELEVATOR CONTROLLER DISCONNECT BACK TO EXISTING 70A-3P CIRCUIT BREAKER IN "HOUSE-BUS-2" - SAVE CONDUIT FOR REUSE.
2. AT PORTAL ISLAND #1, #2, AND #4 ONLY - CONDUITS ROUTED AS SHOWN (CONDUIT RUN UP BANK ALONG ELEVATOR SHAFT TO IN-SLAB PULLBOX ABOVE).
3. AT PORTAL ISLAND #3 ONLY - CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN EXPOSED WITHIN ELEVATOR SHAFT).

NOTES THIS SHEET - NEW WORK

1. 3 #4, 1 #4 GND - 1-1/2"C. UTILIZE EXISTING CONDUIT TO THE FULLEST EXTENT POSSIBLE. EXTEND 1-1/2"C AS REQUIRED.
2. AT PORTAL ISLAND #1, #2, AND #4 ONLY - CONDUITS ROUTED AS SHOWN (CONDUIT RUN UP BANK ALONG ELEVATOR SHAFT TO IN-SLAB PULLBOX ABOVE).
3. AT PORTAL ISLAND #3 ONLY - CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN EXPOSED WITHIN ELEVATOR SHAFT).

GRAPHIC SCALE:

1/4" = 1'-0" 5' 0' 5' 10'

GENERAL NOTE:

WORK SHOWN IN THIS SET OF CONTRACT DOCUMENTS IS BASED ON PORTAL ISLAND BUILDING #3. THIS WORK IS TYPICAL FOR PORTAL ISLAND BUILDINGS #1, #2, AND #4.

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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
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FAN ROOM FLOOR PLAN

BID / CONSTRUCTION SET	02-14-2024

23040

E103

Designer: Project Manager: Drawn: 9/14/2023 10:01:16 AM r:\jacobs\Documents\23040_CBBT_ELEVATOR REPLACEMENT_(R23)_Jacobs.ELE68.rvt

FEEDER ROUTING NOTE:

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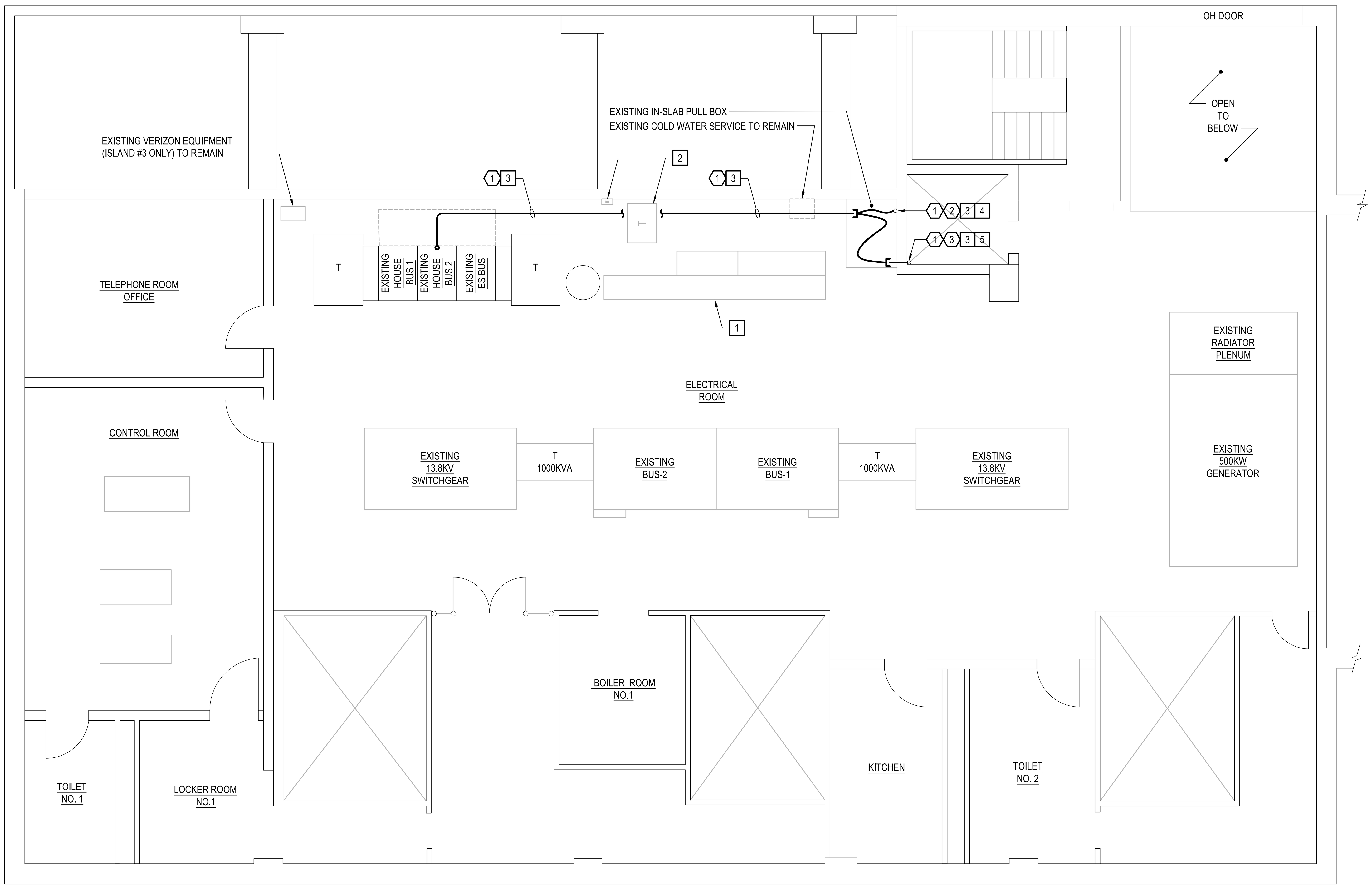
NOTES THIS SHEET - DEMOLITION

1. REMOVE ELEVATOR FEEDER WIRING FROM ELEVATOR CONTROLLER DISCONNECT BACK TO EXISTING 70A-3P CIRCUIT BREAKER IN "HOUSE-BUS-2" - SAVE CONDUIT FOR REUSE.
2. AT PORTAL ISLAND #1, #2, AND #4 ONLY - CONDUITS ROUTED AS SHOWN (CONDUIT RUN UP BANK ALONG ELEVATOR SHAFT TO IN-SLAB PULLBOX).
3. AT PORTAL ISLAND #3 ONLY - CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN EXPOSED WITHIN ELEVATOR SHAFT).

NOTES THIS SHEET - NEW WORK

1. APPROXIMATE OUTLINE OF FUTURE "EMCC" TO BE INSTALLED UNDER A SEPARATE CONTRACT.
2. APPROXIMATE LOCATION OF SUSPENDED DRY-TYPE XFMR AND ECB SERVING ESSENTIAL BUS TO BE INSTALLED UNDER A SEPARATE CONTRACT, BOTTOM OF XFMR MINIMUM 7'-0" AFF.
3. 3 #4, 1 #4 GND - 1-1/2"C. UTILIZE EXISTING CONDUIT TO THE FULLEST EXTENT POSSIBLE. EXTEND 1-1/2"C AS REQUIRED.
4. AT PORTAL ISLAND #1, #2, AND #4 ONLY - CONDUITS ROUTED AS SHOWN (CONDUIT RUN UP BANK ALONG ELEVATOR SHAFT TO IN-SLAB PULLBOX).
5. AT PORTAL ISLAND #3 ONLY - CONDUITS ROUTED AS SHOWN (EXISTING CONDUIT RUN EXPOSED WITHIN ELEVATOR SHAFT).



ELECTRICAL EQUIPMENT ROOM FLOOR PLAN (ELEVATION +39.0')

SCALE: APPROXIMATELY 1/4" = 1'-0" (CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS)

GRAPHIC SCALE:

1/4" = 1'-0" 5' 0' 5' 10'

GENERAL NOTE:

WORK SHOWN IN THIS SET OF CONTRACT DOCUMENTS IS BASED ON PORTAL ISLAND BUILDING #3. THIS WORK IS TYPICAL FOR PORTAL ISLAND BUILDINGS #1, #2, AND #4.

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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
RMF: 3076.3731

ELECTRICAL EQUIPMENT ROOM FLOOR PLAN

BID / CONSTRUCTION SET 02-14-2024

23040

E104

9/14/2023 10:01:16 AM
Drawn:
Project Manager:
Designer:

ELECTRICAL SPECIFICATIONS

SECTION 260500 - GENERAL PROVISIONS

PART 1 - GENERAL

1.1 Codes and standards - the latest effective publications of all applicable standards, codes, etc., as they apply, form part of these specifications as if were written fully herein and constitute minimum requirements. The following will be referred to throughout in abbreviated forms.

A. National Electrical Code, (NFPA 70) (NEC).

B. Institute of Electrical and Electronic Engineers (IEEE).

C. Rules and regulations of local electric utility company.

D. National Electrical Manufacturer's Association (NEMA).

E. American National Standards Institute (ANSI).

F. Applicable local codes.

G. Underwriter's Laboratories, Inc. (UL).

H. National Fire Protection Association (NFPA).

I. Virginia Uniform Statewide Building Code

1.2 Scope of work - provide all work required for this division including all labor, materials, equipment, appurtenances and services to provide complete electrical systems as shown on the drawings and specified in this division of the specifications. The word "provide" shall mean "furnish and install complete and ready for use".

1.3 The Contractor shall visit the site prior to bid to determine the extent of the work. Lack of knowledge of existing conditions will not be considered a basis for change orders. Prior to ordering equipment, verify that equipment to be provided under this contract is acceptable and can fit into bldg. and room. Expense incurred by the Contractor, which in the Engineer's opinion could have been avoided by this step, shall not be a basis for change orders.

1.4 Drawings and specifications - the drawings are diagrammatic and indicate the general extent, character and arrangement of equipment, fixtures and conduit and wiring systems. It is the intention of these specifications and drawings to fully cover all work and materials for a complete, first-class electrical installation, and any devices such as pull boxes and disconnect switches, usually employed in this class of work, though not specifically mentioned or shown on the drawings or in this specification, but which may be necessary for the satisfactory completion of the work, shall be furnished and installed by the Contractor as a part of his total work under this Division. Consult the specifications and drawings of all other trades and perform all electrical work required therein. Cooperate with all other Contractors or Subcontractors to furnish complete workable systems.

1.5 During construction, keep an accurate record of all deviations between the work as shown on the contract drawings and that which is actually installed on a set of blue line prints of the electrical drawings, and note changes thereon with red marks, in a neat and accurate manner. When all revisions have been shown on these prints to indicate the work as finally installed, the prints shall be delivered to the owner, before final payment.

1.6 Permits, inspection and tests - the right is reserved to inspect and test any portion of the installation/equipment during the progress of its installation. This Contractor shall test all wiring for continuity and grounds before connecting any fixtures or devices. This Contractor shall test the entire system when the work is finally completed to ensure that all portions are free from short circuits and grounds.

1.7 Secure and pay for all required permits and inspections. Inspection certificates from local authorities having jurisdiction shall be delivered to the Owner before final payment.

1.8 Submittals - submit shop drawings, product data and samples within thirty (30) days of award of contract and in accordance with the general conditions and supplementary conditions. Submittals are required for all items provided under this specification. Review of submittals by the Engineer and any associated action taken by the Engineer does not relieve the Contractor of any requirements set forth by the contract documents.

PART 2 - PRODUCTS

2.1 Manufacturing standards - materials shall be new and approved and labeled by UL wherever standards have been established by that agency. Defective equipment or equipment damaged in the course of installation or test shall be replaced or repaired in a manner meeting the approval of the Owner. All items of the same type and rating shall be identical.

2.2 Disconnect switches and power wiring up to and including motor connections for all equipment provided under other divisions of this specification shall be included in this division. Motor controllers and motor starters furnished under other divisions shall be set in place and connected to source and load under this division. In general, motors will be provided with the equipment they drive and are not part of this work under this division, except that they shall be connected hereunder.

2.3 Obtain approved shop drawings showing wiring diagrams, connection diagrams, roughing-in and hookup details, from other involved Contractors for all equipment and comply therewith.

2.4 Control, interlock, and internal equipment wiring regardless of voltage will be provided under the respective division where the equipment is shown unless specifically shown here.

2.5 Reasonable amounts of electricity will be made available to the Contractor for the project. The Contractor shall be responsible for extending the electricity to the specific required locations within the project.

2.6 Grounding - the entire electrical system, including equipment frames, conduit, switches, controllers, wireways, neutral conductors, and all other such equipment shall be permanently and effectively grounded in accordance with the NEC. Provide a separate ground conductor in all branch circuit conduits sized in accordance with the NEC.

2.7 Schedule of work - the schedule of the electrical work shall be arranged to suit the progress of work by the other trades and shall in no way retard progress of construction of the project.

2.8 Work under this division shall proceed in advance of the work of others whenever possible, eliminating all cutting and patching. When such procedure is impossible, cutting and patching shall be done in an approved manner. Cutting shall not endanger structural integrity in any way. Patching shall exactly match contiguous work. Actual work of cutting and patching of existing surfaces shall be performed by the Subcontractor who originally prepared these surfaces, e.g., cutting and patching of masonry wall will be performed by the masonry Subcontractor. Costs of such cutting and patching shall be borne by the electrical Subcontractor. Cutting shall be carefully done and damage to building, piping, wiring or equipment as a result of cutting shall be repaired by skilled mechanics of trade involved.

2.9 Storage and materials - space will be assigned to the Contractor by the Owner for the storage of materials. This Contractor will be responsible for the protection and safekeeping of materials, tools, and equipment. All materials and equipment shall be kept in its assigned place until the time of its installation. Excess materials and refuse shall be promptly removed from the work site. The space provided by the Owner may or may not be a conditioned space. Contractor shall take the appropriate measures to store materials in accordance with the manufacturer's recommendations.

2.10 Labeling of equipment

A. All cabinets, safety switches shall be identified by machine engraved laminated plastic designation plates permanently attached thereto with self-tapping screws or rivets. All component parts of each item of equipment or device shall bear the manufacturer's nameplate, giving name of manufacturer, description, size, type, serial and model number and electrical characteristics in order to facilitate maintenance or replacement.

B. All industrial control panels shall be field marked to warn personnel of the potential for Arc Flash. Labels shall state "WARNING - ARC FLASH AND SHOCK HAZARD APPROPRIATE PPE REQUIRED".

2.11 Coordination - cooperate and coordinate efforts with all Contractors on the project. This is especially important in determining exact locations of all switches, receptacles and lighting fixtures. Arrange lighting fixtures in accordance with the architectural reflected ceiling plans unless otherwise indicated. Coordinate lighting fixture locations with grilles, diffusers, access panels, etc. Verify ceiling and wall construction and material prior to ordering lighting fixtures or other devices to ensure proper fixture or device is furnished to match construction. This verification must be executed regardless of information placed on the drawings. Any cost incurred which in the opinion of the Owner, could have been avoided by this step shall be the responsibility of the electrical Contractor.

2.12 Guarantee of work - Contractor guarantees by his acceptance of the contract that all work installed is free from any and all defects in workmanship and/or materials, and that the apparatus will develop capacities and characteristics specified, and that if, during the period of one year or as otherwise specified, from date of certificate of completion and acceptance of the work any such defects in workmanship, material or performance appear, he will, without cost to the Owner, remedy such defects within a reasonable time to be specified in notice. In default thereof, the Owner may have such work done and charge cost to Contractor. Equipment guarantees from date of "start-up" will not be recognized.

PART 3 – EXECUTION

3.1 The installation shall be complete including but not limited to the requirements indicated on the drawings and in these specifications.

3.2 Contractor shall thoroughly coordinate and comply with the manufacturer's requirements. Coordination shall be accomplished prior to commencing work.

3.3 All work shall be accomplished in a neat and workmanlike manner consistent with commercial construction practices, code requirements and the local authority having jurisdiction.

SECTION 260519 - CONDUCTORS

A. Conductors and insulation - wire and cable shall be soft drawn, annealed copper with 600 volt color coded insulation. Minimum wire size shall be #12 awg. Insulation for branch circuits and feeders shall be type XHHW-2. Conductors No. 8 AWG and larger diameter shall be stranded. Conductors No. 10 AWG and smaller diameter shall be solid, except that conductors for remote-control and signal circuits, classes 1, 2, and 3, may be stranded.

B. Provide a separate ground conductor in all raceways sized in accordance with the NEC.

C. Joints and terminations - for conductors #12 and #10 all fixture and branch circuits joints in junction and outlet boxes shall be made with UL listed pressure type connectors rated at 600 volts and 105 degrees C. Connectors shall be Ideal Industries "Wing-Nut" or Buchannan "B-Cap", 3M "Scotch-Lok" connectors or approved equal. Wire #8 and larger shall be joined or terminated with solderless pressure connectors properly taped in layers to form a moisture-tight joint.

D. All wiring shall be in conduit unless otherwise noted.

SECTION 260533 - RACEWAY, FITTINGS AND BOXES

A. Raceways - conduit shall be hot-dipped, zinc coated or sherardized rigid steel (RS). Minimum size raceway shall be 3/4".

B. Flexible conduit shall be galvanized, continuous spiral, single strip type. Flexible conduit shall be covered with PVC jacket. Provide suitable fittings with ground connector.

C. Fittings - all conduit entering or leaving outlet, junction or pull boxes, and cabinets and all conduit stubs shall have bushings. Provide insulating bushings where required by NEC. Provide expansion fittings with bonding jumper where conduits cross expansion joints.

1. Fittings for RS shall be threaded type.

D. Outlet boxes shall be cast-metal, threaded hub-type with gaskets.

E. Junction or pull boxes not over 100 cubic inches in volume shall be standard outlet boxes. Junction boxes over 100 cubic inches in volume shall be constructed of code gage, galvanized sheet steel. Junction boxes shall have removable covers and shall be accessible after completion of work.

F. Raceway and fitting installation - run exposed conduit parallel or perpendicular to walls, structural members, or intersections of vertical planes and ceiling.

G. Support conduits by pipe straps, wall brackets, strap hangers, or ceiling trapeze.

H. Sleeves - All electrical system conduit shall have sleeves where conduit passes through concrete slabs except concrete slabs in contact with grade. All conduit 1 1/4 inch and larger running concealed above ceiling shall have sleeves where the conduit passes through masonry, tile and gypsum wall construction. Sleeves shall be constructed of galvanized steel pipe, Schedule 40. Provide escutcheon plates for all exposed conduit passing through walls, floors and ceilings. Where plates are provided for conduits passing through sleeves, which extend above the floor surface, provide deep recessed plates to conceal the sleeves. Terminate sleeves flush with wall, partitions and ceilings. In areas where conduits are concealed, as in chases, terminate sleeves flush with floor. In finished areas, where conduits are exposed, extend sleeves 1/2 inch above finished floor, except in rooms having floor drains extend sleeves 1 inch above floor. Fasten sleeves securely in floors, walls, so that they will not become displaced when concrete is poured or when other construction is built around them. Where sleeves pass through floors or fire rated walls provide proper sealant around conduit to maintain fire rating.

SECTION 262416 – CIRCUIT BREAKERS

A. Circuit breakers shall be provided as indicated on drawings and be fully compatible with panelboards. Circuit breakers shall conform to latest UL and NEMA standards and shall bear UL labels.

1. Circuit breakers shall be single, double pole, or three pole thermalmagnetic quick-make, quick-break trip-free on overload or short circuit alternating current circuit breakers with trip ratings and frame size as shown on the drawings. Branch circuit breakers shall provide inverse time delayed tripping on overloads and instantaneous tripping on short circuits. Trip indication shall be clearly shown by the breaker handle taking position between ON and OFF when the breaker is tripped. Double and three-pole breakers shall be common trip type. Sub-feed breakers are not acceptable.

2. Circuit breakers shall be fully rated for the available fault current, series ratings are not acceptable, unless stated otherwise on drawings.

3. Circuit breakers shall be installed in conformance with panelboard manufacturer's recommendations.

SECTION 262726 - WIRING DEVICES

A. Wiring devices shall be "specification grade" as manufactured by General Electric, Slater (Medalist), Arrow-Hart, Bryant, Hubbell or Pass & Seymour. Device finishes shall be white.

B. Provide samples of each device type and cover plate specified herein for Owner/Architect approval.

C. Local switches shall be single pole, double pole, three way and four way as shown on the drawings, black plastic cup with red plastic cover, plastic handle, back or side wired, 20 ampere, 120/277 volts.

D. Duplex convenience receptacles shall be plastic, 20 ampere, 125 volts, 2 pole, 3 wire NEMA and ASA standard, grounding type.

E. Weatherproof receptacles shall be in cast metal box with gasketed, weatherproof, cast-metal cover plate and gasketed "while in use" cover.

F. Ground fault circuit interrupting receptacles shall conform to NEC, shall be UL listed, plastic, shall have a "push-to-test" button and visible indication of a tripped condition.

G. Device plates shall be zinc-coated sheet steel having rounded or beveled edges.

SECTION 262810 – SAFETY SWITCHES

A. Safety switches - safety switches shall be rated at 600 or 240 volts with number of poles and current rating as indicated. Switches shall be fused or non-fused type as indicated, NEMA type GD or HD as required, with full cover interlocks and quick-make, quick-break mechanism.

SECTION 265100 - LIGHTING FIXTURES

A. Fixtures - fixtures shall be as indicated in schedule.

B. LED DRIVERS

1. LED Electronic Drivers shall be UL approved and shall have the following characteristics:

a. Electronic with Input Voltage range as shown on the drawings ±10%, 50/60 Hz, with primary fusing.
b. Output Drive Current shall be 350mA maximum, +/- 5%.
c. Power Factor shall be >90% at full load with THD <20% at full load
d. Load regulation shall be +/- 1% from no load to full load
e. Output shall be isolated
f. Case temperature shall be rated for -40°C through +80°C and provided with thermal protection and self-limited short circuit and overload protection.
g. Driver Life Rating shall have less than 0.5% failure rate at the LED module's maximum L70 rated life.
h. Dimming Range: 100 to 10 percent of rated lamp lumens.

2. Driver Manufacturer

Drivers shall be considered acceptable for approval as manufactured by the following LED Driver manufacturers.

a. Advance Transformer Co.
b. Magtech
c. Thomas Research Products (TRP)
d. Osram/Sylvania

C. LED FIXTURES

1. Life Rating (L70) – Provide L70 documentation, defined as time of operation (in hours) to 30% lumen depreciation (70% lumen maintenance), derived from temperature measurement testing under UL1598 environments and directly correlated to LED package manufacturers IESNA LM-80-08 data.

2. Mechanical – Housing shall be designed specifically for use with LED components and incorporate high performance Thermal Management methods, i.e. heat sink(s). No active thermal management/cooling features (i.e. fans), etc. will be allowed. Luminaire configuration shall allow for modular replacement and/or field repair of all electrical components (i.e. LED modules, Drivers, etc.).

3. LED Module Manufacturers

LED modules considered acceptable for approval are as manufactured by the following LED component (chip) manufacturers.

a. Nichia Corporation.
b. Cree, Inc
c. Philips LumiLED
d. Osram Opto Semiconductors

D. Ballasts which are not quiet and hum-free will be rejected and shall be replaced.

E. Ballasts in unconditioned spaces or outdoors shall be rated for operation in high or low temperature environments.

I. No fixtures shall be hung with zip-clips.

GENERAL NOTE:

WORK SHOWN IN THIS SET OF CONTRACT DOCUMENTS IS BASED ON PORTAL ISLAND BUILDING #3. THIS WORK IS TYPICAL FOR PORTAL ISLAND BUILDINGS #1, #2, AND #4.

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MECHANICAL ELECTRICAL ENGINEERS
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ARCHITECTURE
INTERIOR DESIGN

COMMONWEALTH OF VIRGINIA
ROBERT T. WEISE
Lic. No. 054492
02-14-2024
PROFESSIONAL ENGINEER

23124

BID / CONSTRUCTION SET

REPLACE ELEVATOR IN FOUR VENTILATION BUILDINGS
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
RMF: 3076.3731

SPECIFICATIONS

BID / CONSTRUCTION SET 02-14-2024

23040

E901

Designer: Project Manager: Drawn: 9/14/2023 10:01:16 AM \\rs\jacob\Documents\23040_CBBT_ELEVATOR REPLACEMENT_(R23)_JacobL5LE68.rvt

PLAN BELOW ROADWAY (FRESH AIR DUCT)

For size & spacing of reinf. shown on plan for outside shaft walls see dwgs BT-206, BT-216 & BT-218

For General Notes see BT-200.

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

APPR	NO.	REVISION
	5	27 JULY 64 - AS BUILT
	4	11-2-62
	3	7-5-62
	2	6-19-62
	1	JAN. 29, 1962

COMMONWEALTH OF VIRGINIA
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N.Y.–ST. LOUIS, MO.–NORFOLK, VA.

CHESAPEAKE BAY BRIDGE–TUNNEL CROSSING
SOUTH SHAFT
PLAN BELOW ROADWAY

RECOMMENDED: F. C. Lowry

APPROVED: [signature]

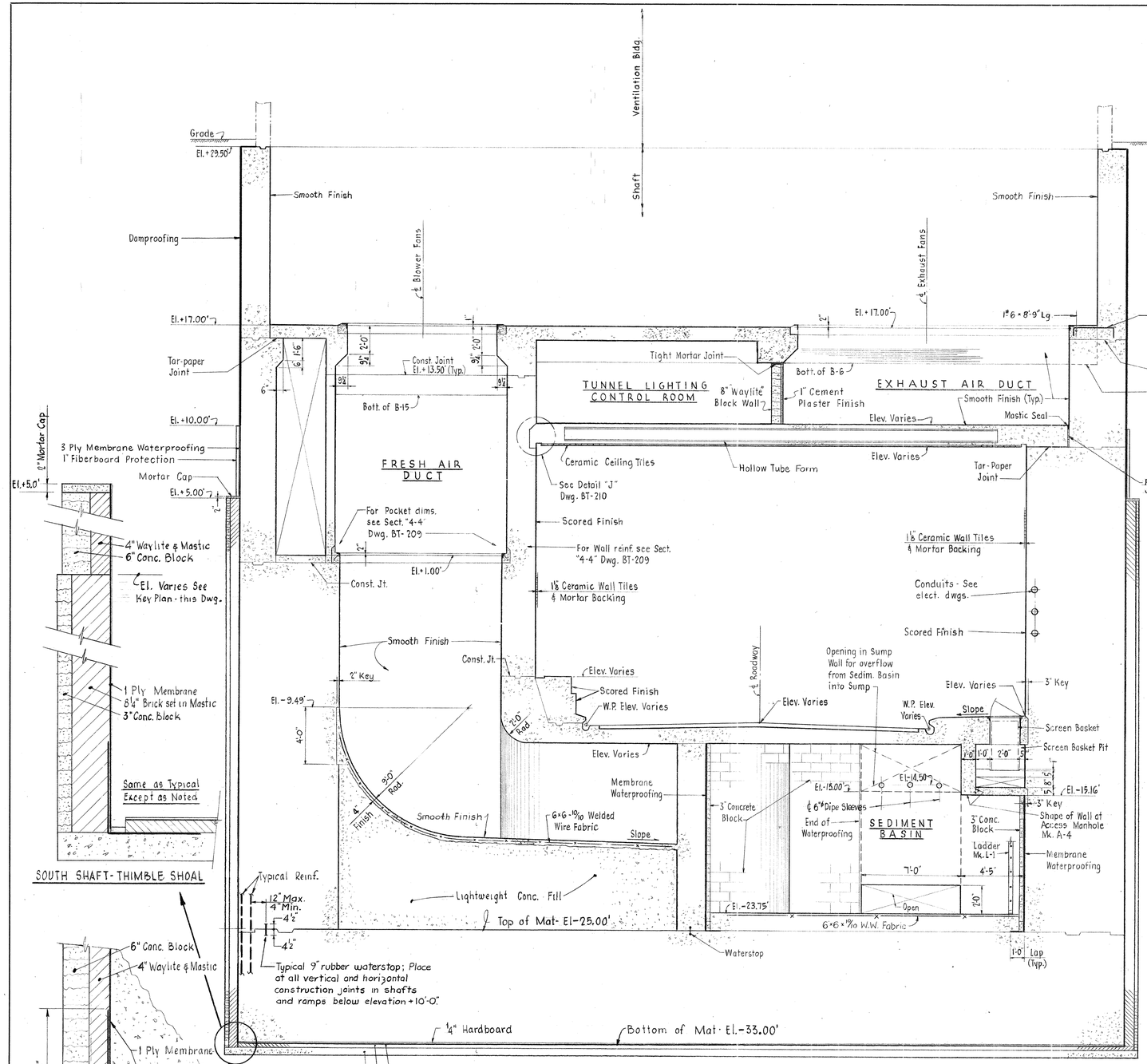
DRAWN BY: Chiavetta | SCALE: 1/4" = 1'-0" UNLESS NOTED
CHECKED BY: Donato | DATE: 11-24-61
DWG. NO. BT-202
SECTION NO. TS-1 BC-1

AS BUILT

1555
61N56

SLAB SCHEDULE

SLAB MK	DEPTH	REINFORCEMENT				REMARKS
		NORTH-SOUTH DIRECTION		EAST-WEST DIRECTION		
		TOP	BOTTOM	TOP	BOTTOM	
S1	6"	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"	
S3	12"	#5 @ 6"	#5 @ 6"	#4 @ 12"	#4 @ 12"	
S4	12"	#7 @ 12"	#7 @ 12"	#6 @ 6"	#6 @ 6"	See Dets. of Bms. B-22, 23, 24 - BT-219
S5	30"	See	Detail			
S6	18"	"	"			
S7	30"	"	"			
S8	18"	"	"			
S9	12"	#5 @ 12"	#5 @ 12"	#4 @ 12"	#4 @ 12"	See Det. of B-14 - BT-219
S10	6"	#4 @ 12"	#4 @ 12"	#6 @ 12"	#6 @ 12"	



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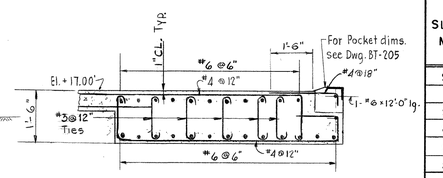
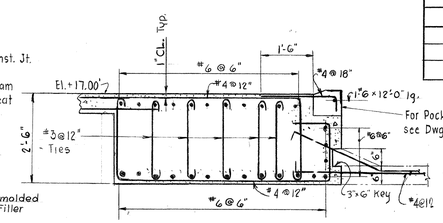


SLAB MK S6
Scale : ½" = 1'-0"
(BT-205)



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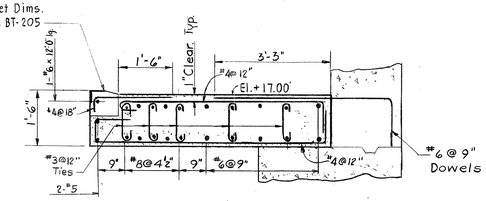
(BT-205)



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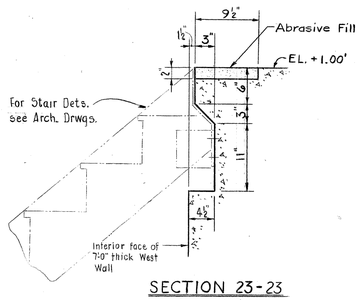
(BT-205)



SECTION 23-23
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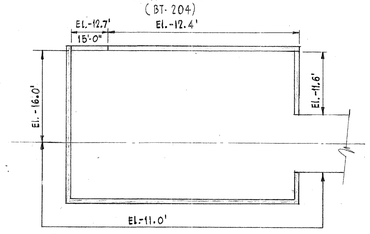
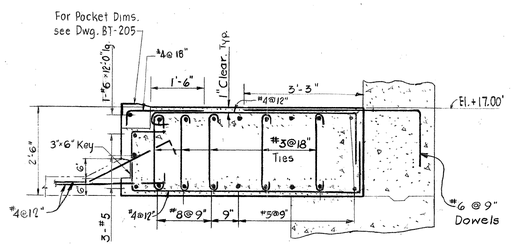
(BT-204)



KEY PLAN - SHOWING LIMITS OF BRICK & BLOCK WATERPROOFING @ SOUTH SHAFT THIMBLE SHOAL



SLAB MK S7
Scale : ½" = 1'-0"
(BT-205)

APPR	NO.	REVISION
MR	5	27 JULY 64 - AS BUILT
FCL	4	7-5-62
FCL	3	6-19-62
FCL	2	April 12, 1962
FCL	1	JAN. 29, 1962

COMMONWEALTH OF VIRGINIA
CHARLES H. METCALF
CIVIL ENGINEER
No. 2203
DULY REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF VIRGINIA
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N. Y. — ST. LOUIS, MO. — NORFOLK, VA.

CHESAPEAKE BAY BRIDGE — TUNNEL CROSSING
SOUTH SHAFT
SECTIONS & DETAILS
SHEET NO. 2

RECOMMENDED: F C Lang
APPROVED: C H Metcalf

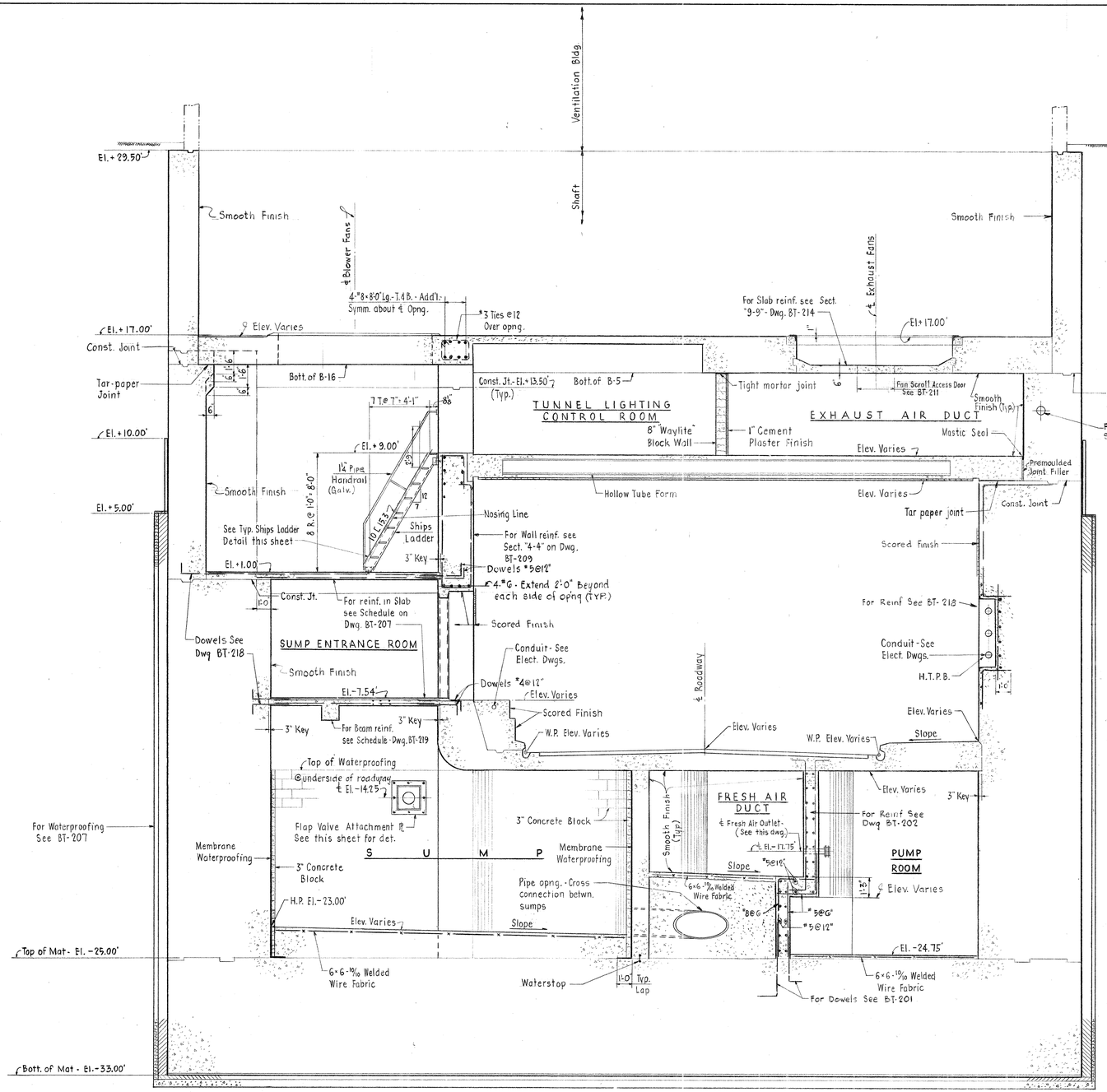
DRAWN BY: Netter₂ | SCALE: AS NOTED
CHECKED BY: Chiswell | DATE: 11-24-61
DWG. NO. BT-207
SECTION NO. TS-1 BC-1

1555 GINGI

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

AS BUILT

22x36 TRIM



MAIN REINFORCEMENT NOT SHOWN SEE BT 209

SECTION "3-3"

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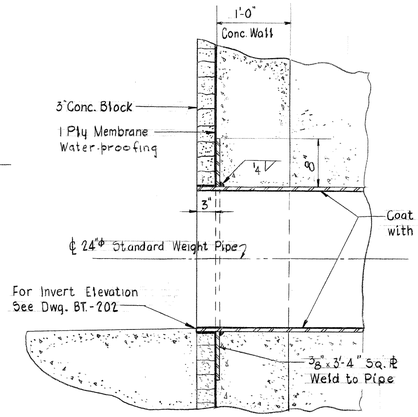

SECTION 19-19

Sump Cross Connection (BT-202)

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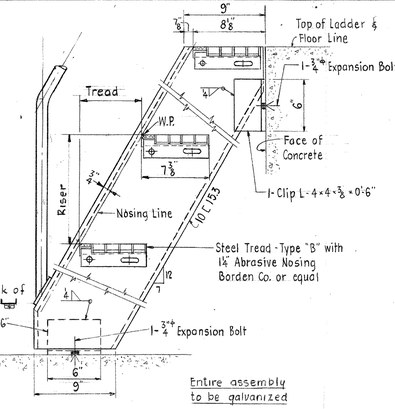
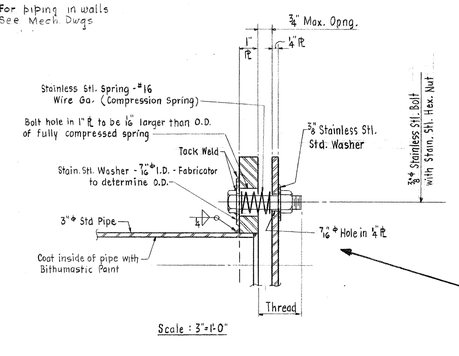


TYPICAL DETAIL OF SHIPS LADDER

For location see Dwgs. BT-203 & BT-204

Scale : 1½" = 1'-0"



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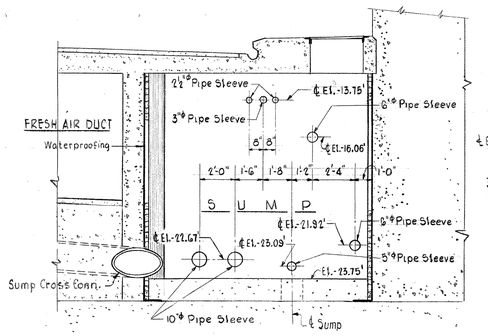

SECTION 18-18

(BT-202)

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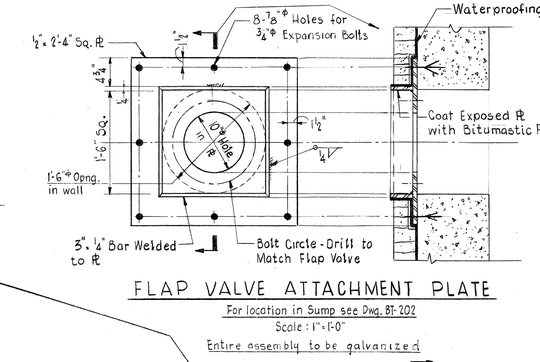
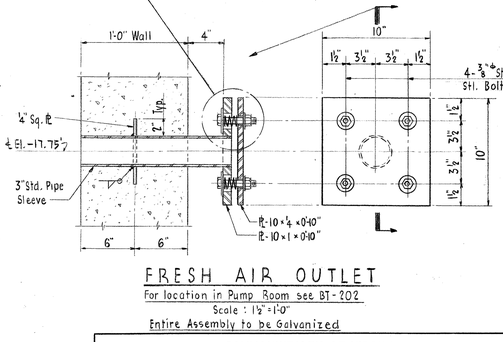


FLAP VALVE ATTACHMENT PLATE

For location in Sump see Dwg. BT-202

Scale : 1" = 1'-0"

Entire assembly to be galvanized



FRESH AIR OUTLET

For location in Pump Room see BT-202

Scale : 1½" = 1'-0"

Entire Assembly to be Galvanized

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

COMMONWEALTH OF VIRGINIA
CHARLES M. DETCAF
CIVIL ENGINEER
No. 2203
REGISTERED PROFESSIONAL ENGINEER

T.N.	3	27 JULY 66 - AS BUILT	
F.E	2	6-19-62	
F.E	1	JAN. 29, 1962	
APPR	NO.	REVISION	

COMMONWEALTH OF VIRGINIA

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N. Y. – ST. LOUIS, MO. – NORFOLK, VA.

CHESAPEAKE BAY BRIDGE – TUNNEL CROSSING

SOUTH SHAFT

SECTIONS & DETAILS

SHEET No. 3

RECOMMENDED: F C Lowy

APPROVED: C M Detcaf

DRAWN BY: Norter | SCALE: AS NOTED

CHECKED BY: Chiavetta | DATE: 11-24-61

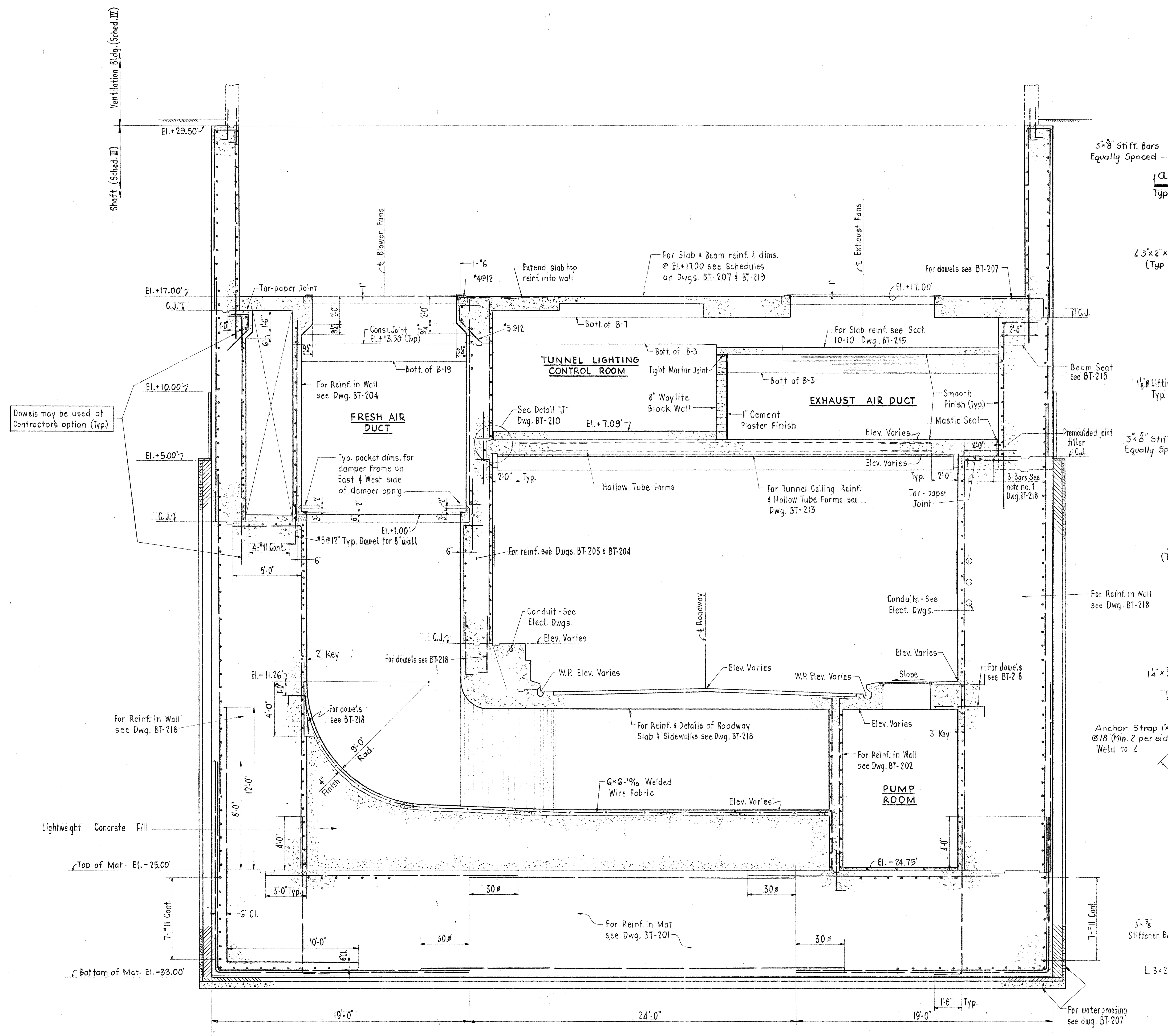
DWG. NO. BT-208

SECTION NO. TS-1 BC-1

AS BUILT

22N19 1555

22x36 TRIM



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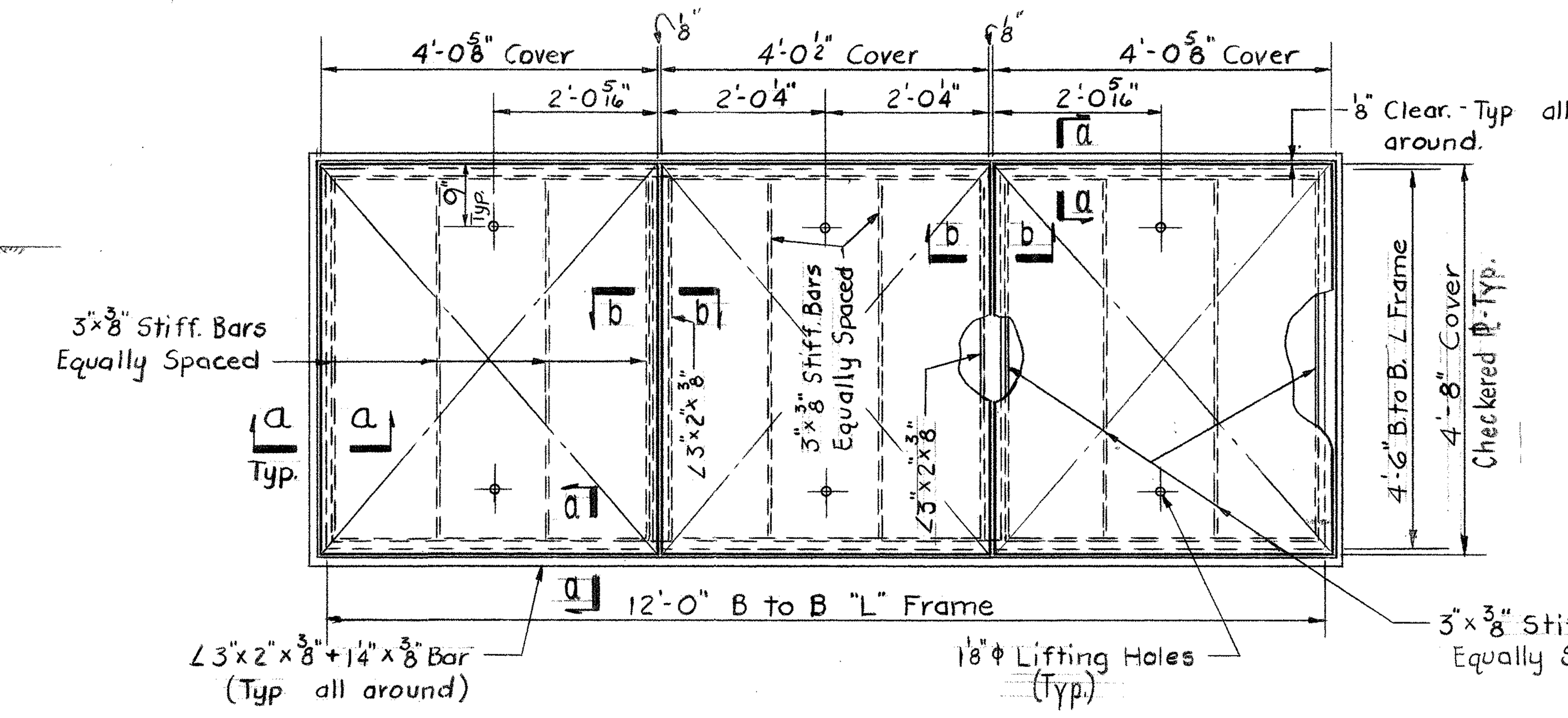
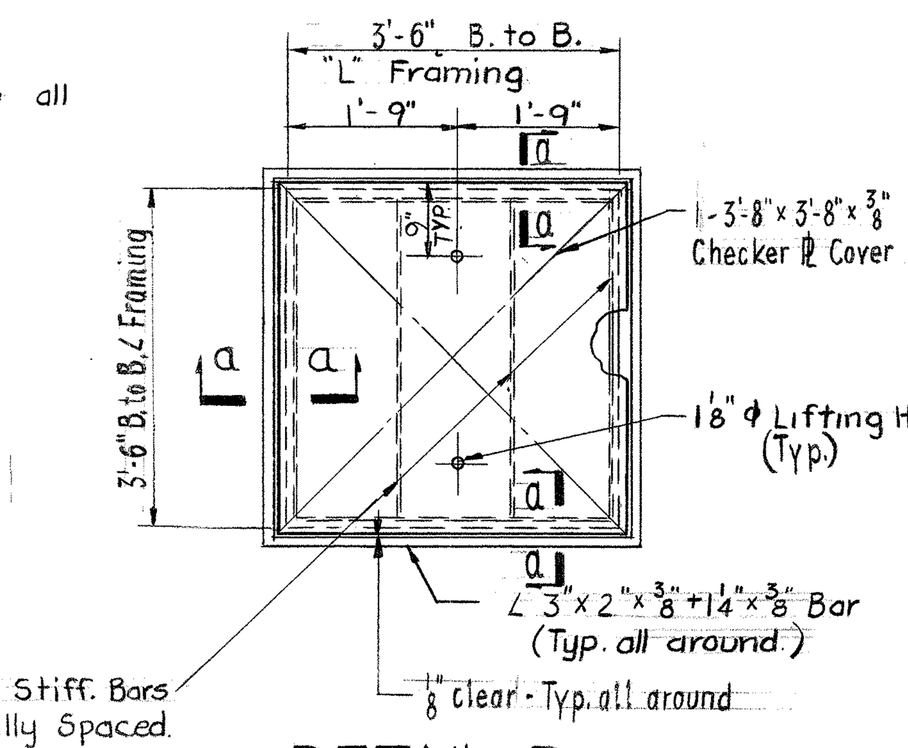
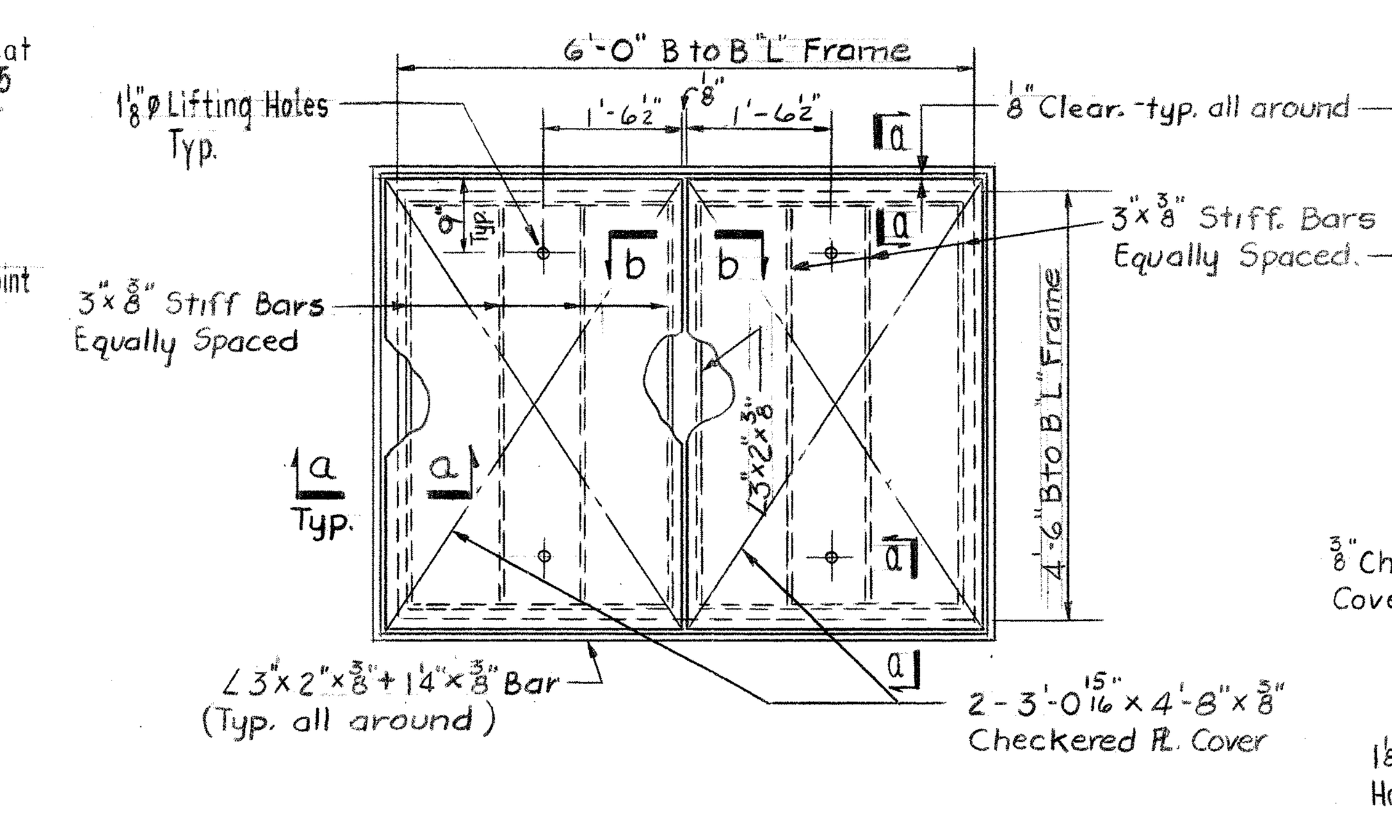


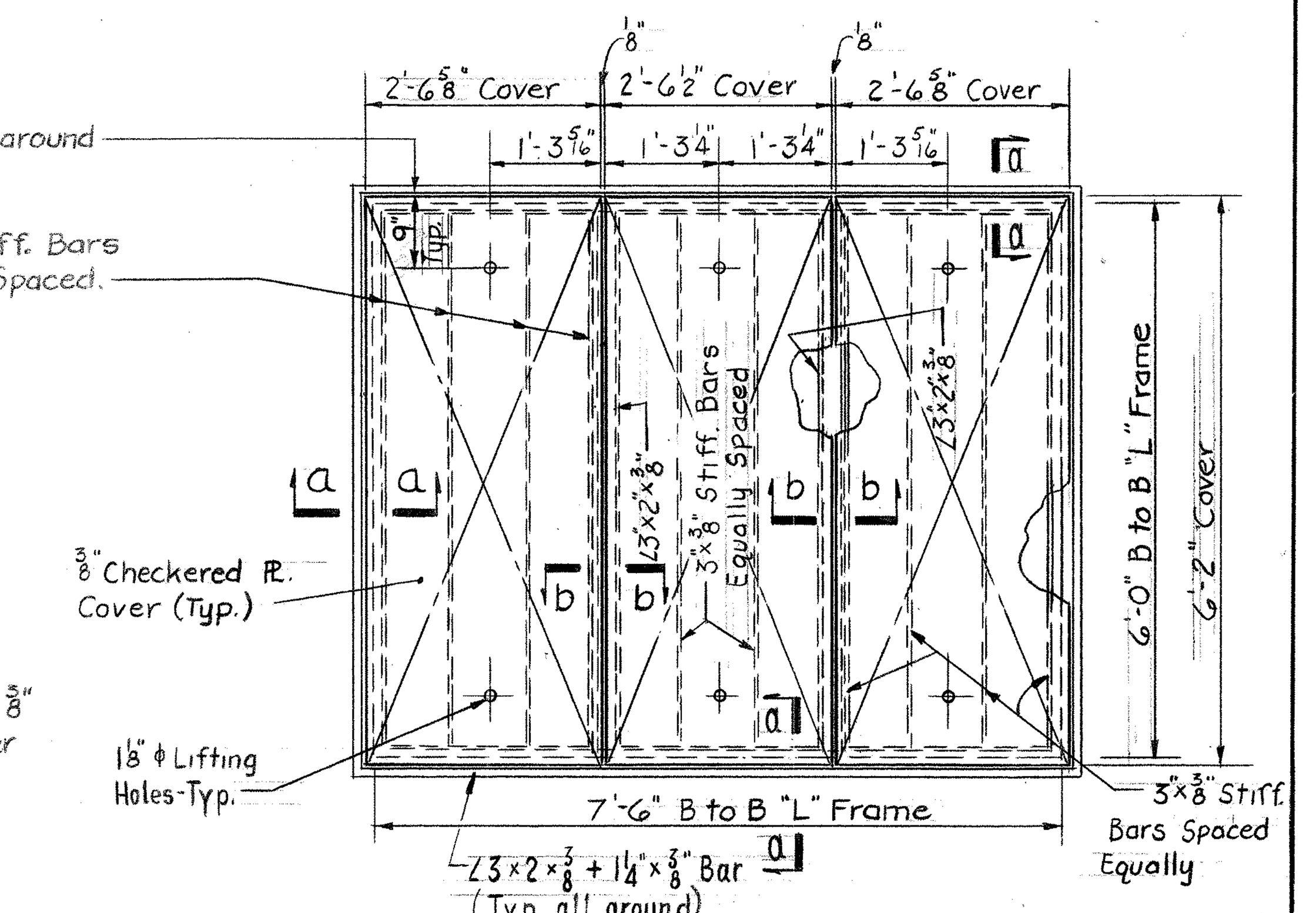
DETAIL C
Hatch Mk. H-3
Scale = ½" = 1'-0"
(BT-203)



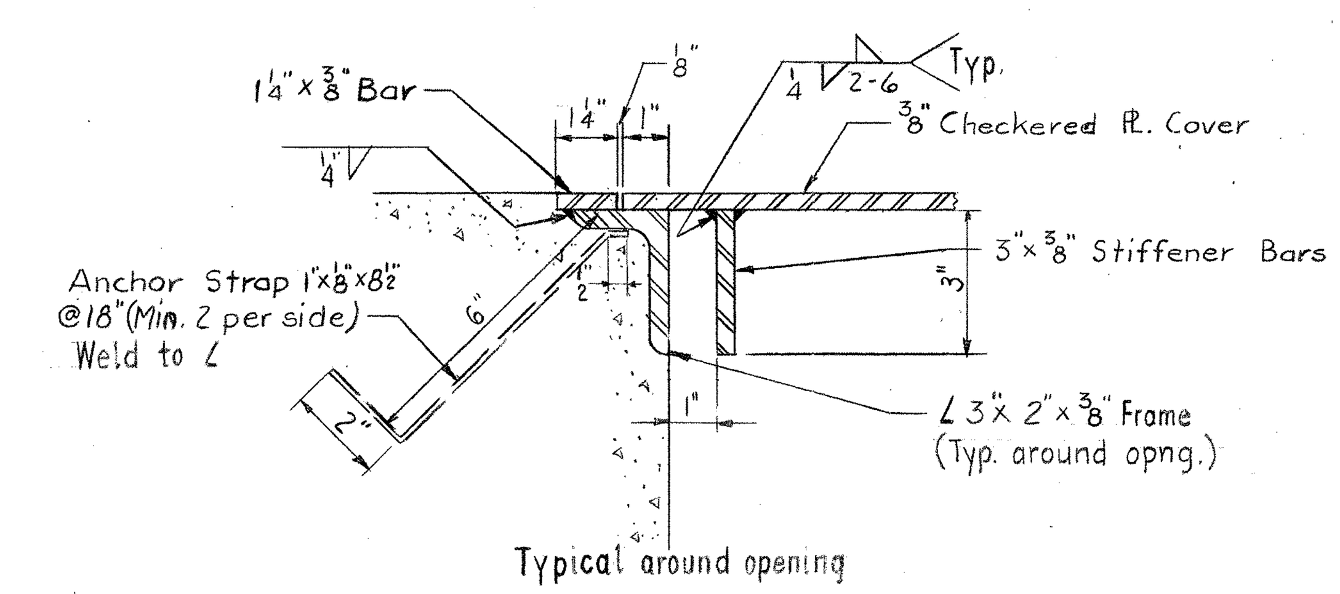
DETAIL D
Hatch Mk. H-4,5,6
Scale = ½" = 1'-0"
(BT-203)



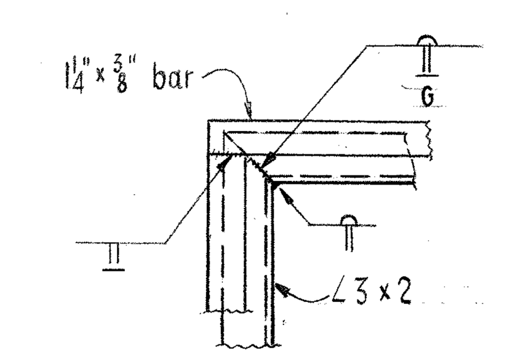
DETAIL B
Hatch Mk. H-2
Scale = ½" = 1'-0"
(BT-205)



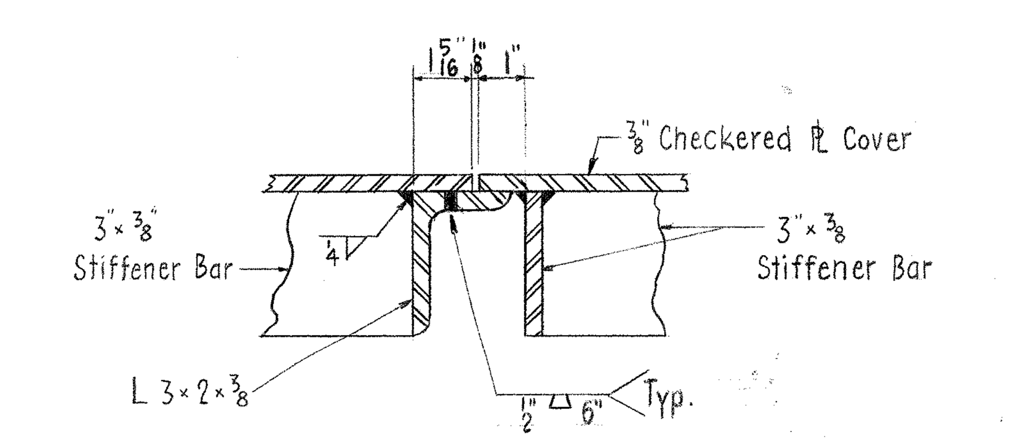
DETAIL A
Hatch Mk. H-1
Scale = ½" = 1'-0"
(BT-205)



SECTION "a-a"
Scale = 3" = 1'-0"
(See This Dwg.)



TYPICAL CORNER WELD FOR ∠ FRAME
Scale: 1½" = 1'-0"



SECTION "b-b"
Scale: 3" = 1'-0"
(See This Dwg.)

COMMONWEALTH OF VIRGINIA
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N. Y.–ST. LOUIS, MO.–NORFOLK, VA.

CHESAPEAKE BAY BRIDGE–TUNNEL CROSSING
SOUTH SHAFT
SECTIONS & DETAILS
SHEET NO. 4

APPR	NO.	REVISION
MSL	3	27 JULY 64 - AS BUILT
FCL	2	JUNE 25, 1962
FCL	1	JAN. 29, 1962

RECOMMENDED: F C Lowy
APPROVED: C. Metcalf

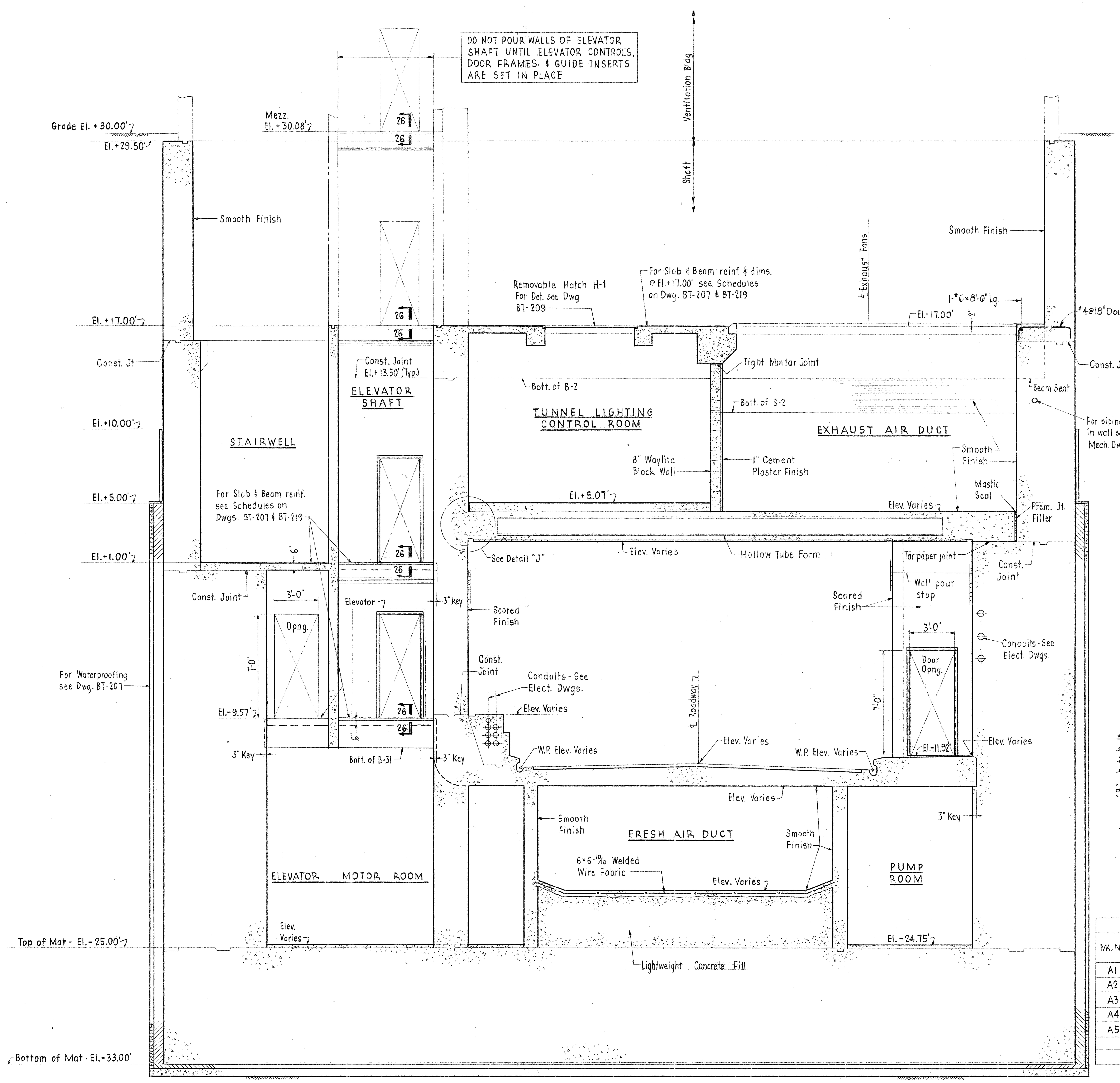
DRAWN BY: Netter | SCALE: AS NOTED
CHECKED BY: I.S. Toporoff | DATE: 11-24-61
DWG. NO. BT-209
SECTION NO. TS-1 BC-1

COMMONWEALTH OF VIRGINIA — CHARLES H. METCALF — CIVIL ENGINEER — No. 2203 — CERTIFIED PROFESSIONAL ENGINEER

1555
61N63

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

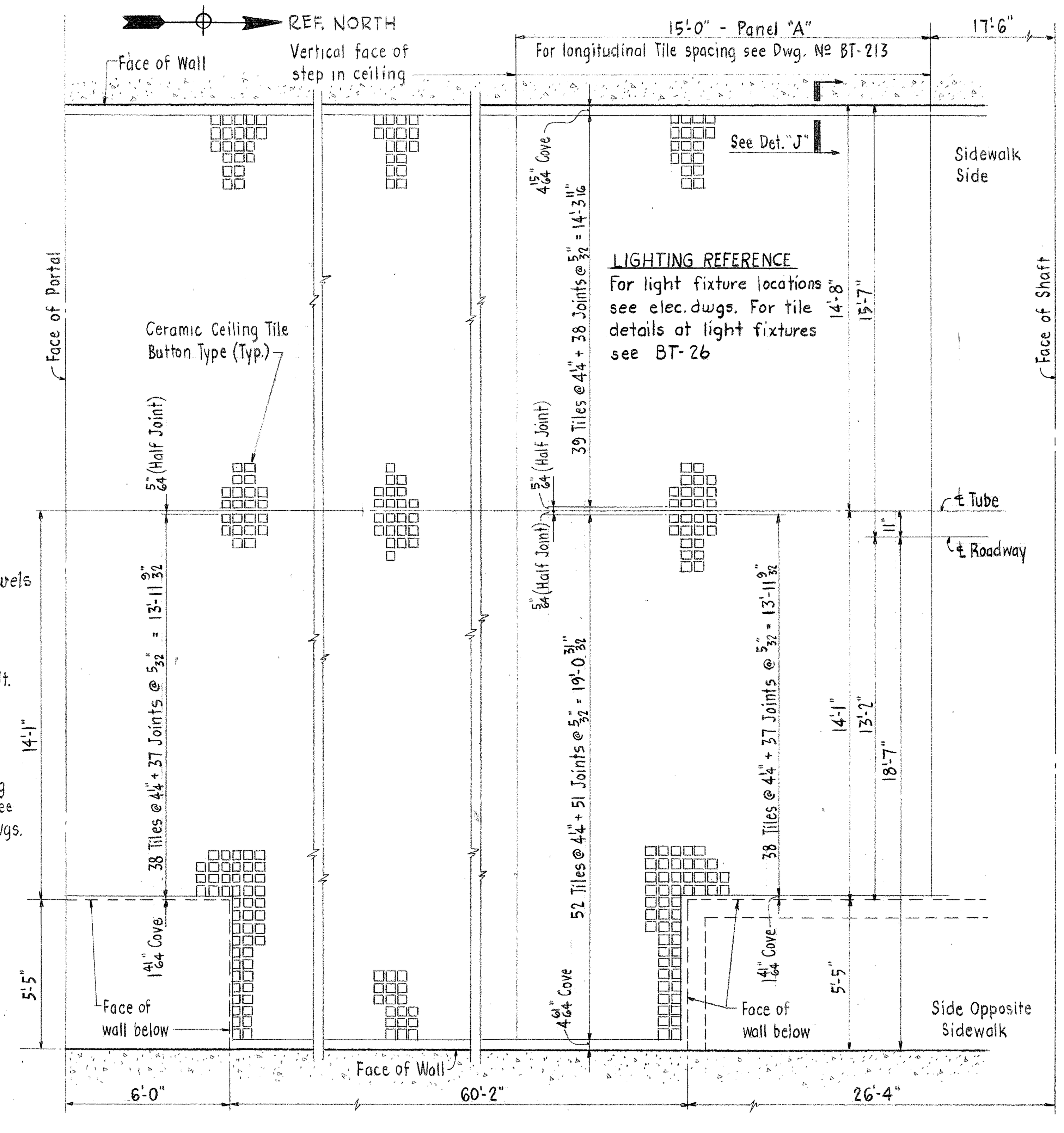
AS BUILT



MAIN REINFORCEMENT NOT SHOWN SEE BT-209

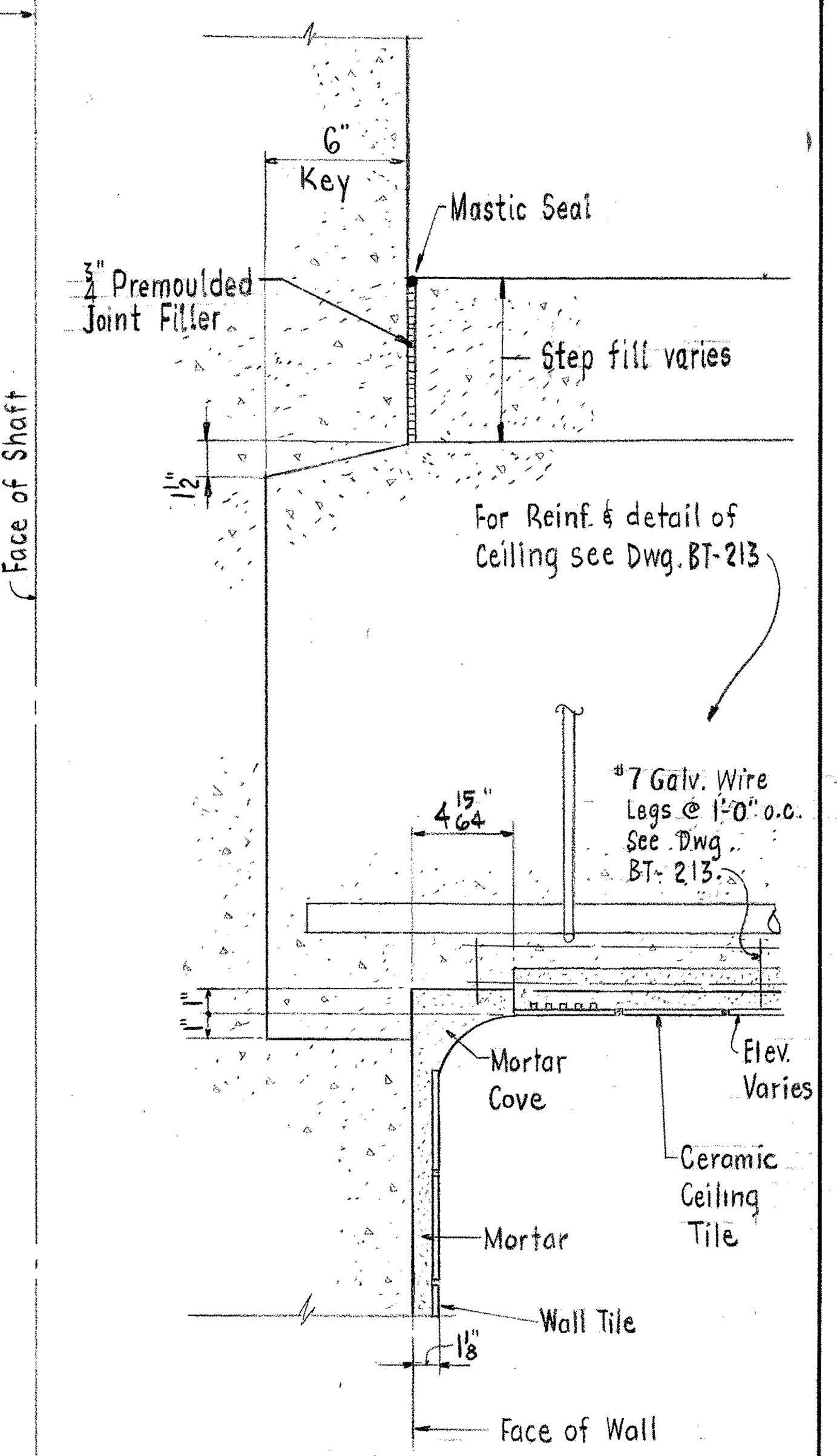
SECTION "5-5"

Scale: ¼" = 1'-0"



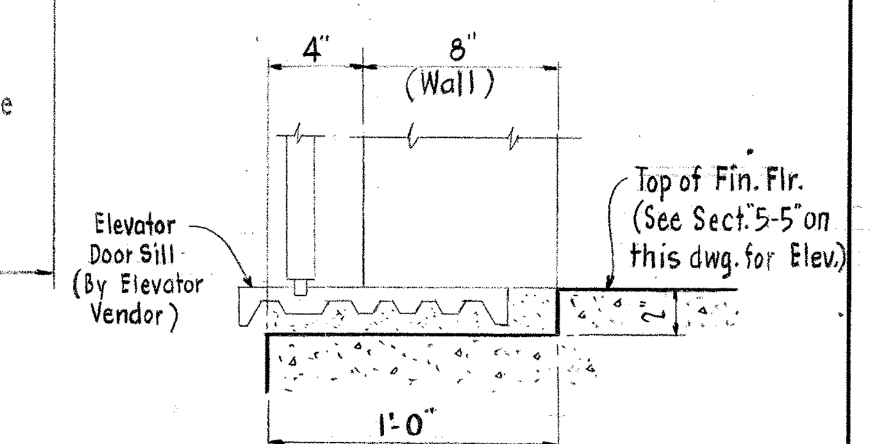
PLAN - TYP. TRANSVERSE TUNNEL CEILING TILE SPACING

Scale: ⅛" = 1'-0"



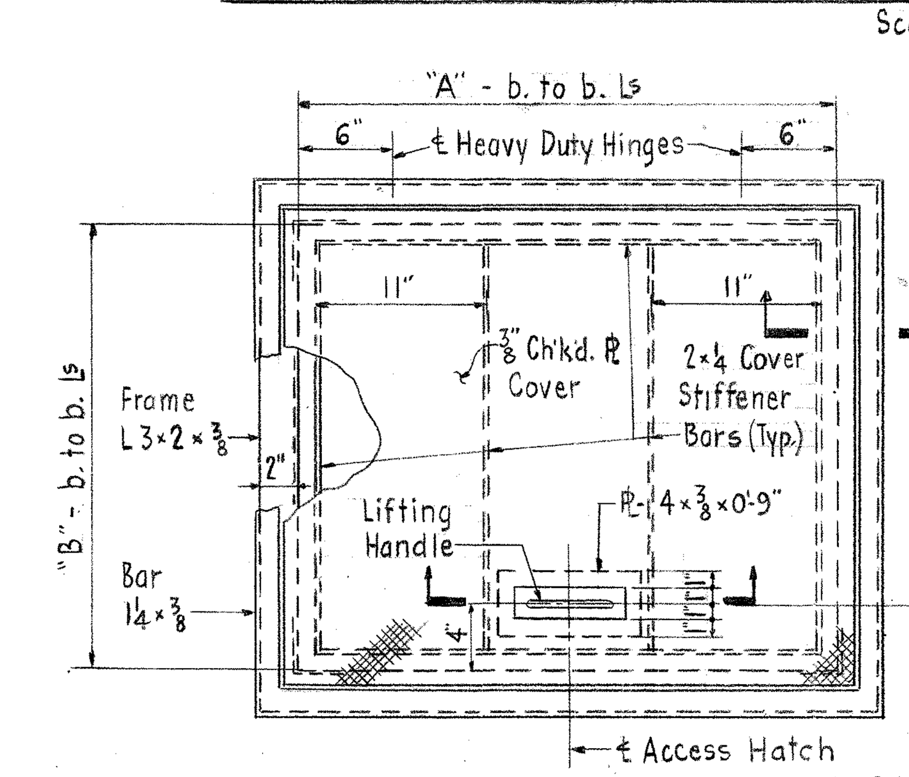
DETAIL "J"

Scale: 1½" = 1'-0"



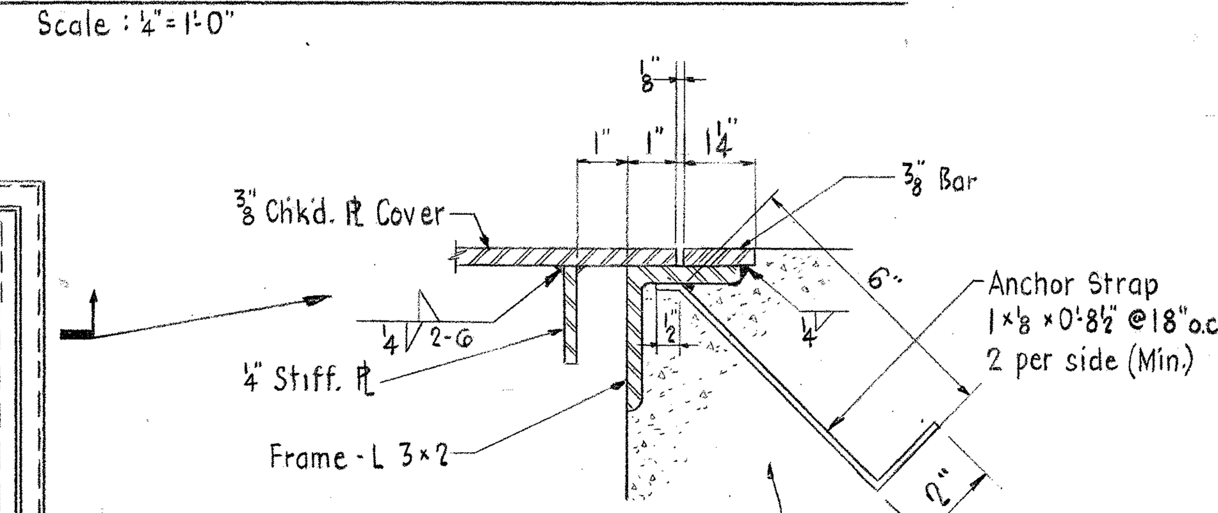
SECTION "26-26"

Scale: 1½" = 1'-0"
(See this dwg.)



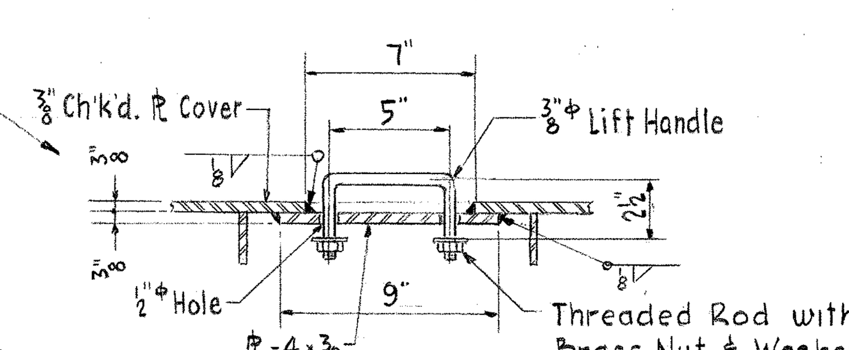
DETAIL OF ACCESS HATCH

Scale: None



Section typ. all around hatch

Scale: 3" = 1'-0"



LIFTING HANDLE

Scale: 1½" = 1'-0"

NOTE: ALL COVERS TO SWING TOWARD WALL

ACCESS HATCH SCHEDULE

MK. №	ACCESS FROM	ACCESS TO	"A"	"B"	REMARKS
A1	Elect. Equip. Room	Sump	3'-0"	3'-0"	
A2	"	Elev. Equip. Area	4'-0"	5'-0"	
A3	Sidewalk	Sedim. Basin Screen	3'-0"	2'-0"	
A4	"	Sedim. Basin	3'-0"	3'-0"	
A5	"	Aux. Sump	3'-0"	3'-0"	

COMMONWEALTH OF VIRGINIA
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N. Y.—ST. LOUIS, MO.—NORFOLK, VA.

CHESAPEAKE BAY BRIDGE—TUNNEL CROSSING
SOUTH SHAFT
SECTIONS & DETAILS
SHEET № 5

APPR	NO.	REVISION
	4	27 JULY 64 - AS BUILT
	3	11-2-62 DELETED L POST & 8' B. IN ELEVATOR MOTOR ROOM
FCL	2	6-19-62
FCL	1	JAN. 29, 1962

RECOMMENDED: FC Lowy
APPROVED: Chas. Metcalf

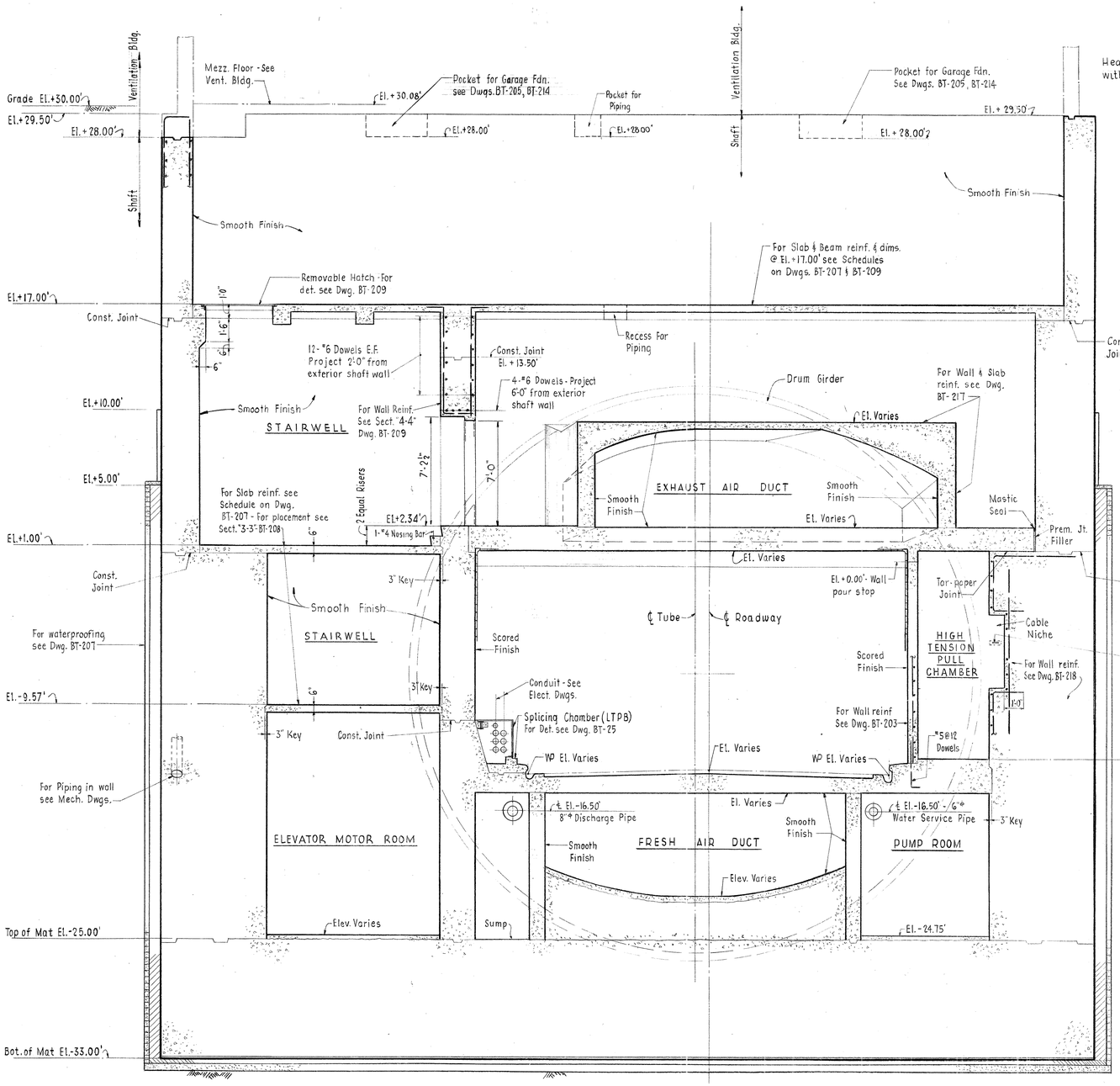
DRAWN BY: Natter — SCALE: AS NOTED
CHECKED BY: Chiovetta — DATE: 11-24-61
DWG. NO. BT-210
SECTION NO. TS-1 BC-1

COMMONWEALTH OF VIRGINIA — CHARLES M. METCALF — CIVIL ENGINEER — No. 2203 — CERTIFIED PROFESSIONAL ENGINEER

1555
61N87

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

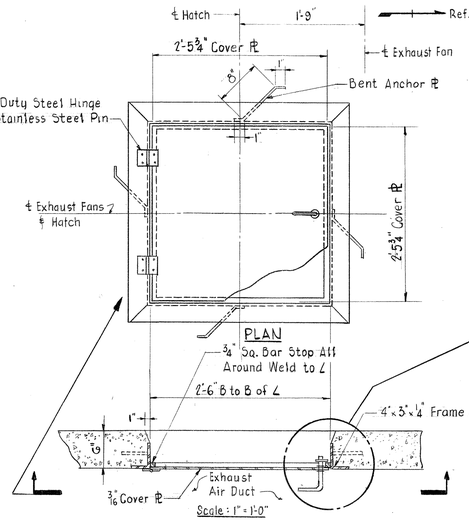
AS BUILT



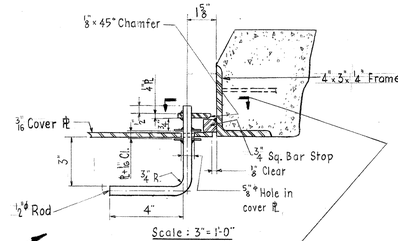
MAIN REINFORCEMENT NOT SHOWN - SEE BT-209

SECTION 6 - 6

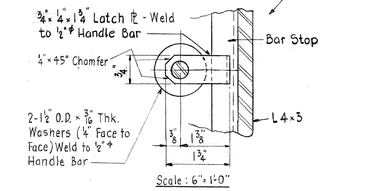
Scale : ¼" = 1'-0"



Scale : 1" = 1'-0"

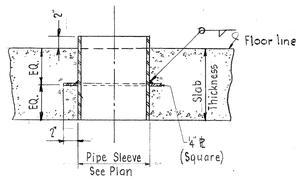


Scale : 3" = 1'-0"

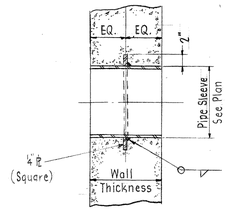


Scale : 6" = 1'-0"

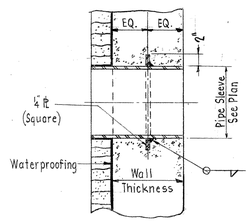
ACCESS HATCH TO FAN SCROLL



THRU SLAB



THRU WALL



THRU WALL WITH WATERPROOFING

All pipe sleeves to be galv. iron pipe

TYPICAL PIPE SLEEVES

Scale : 1" = 1'-0"

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

COMMONWEALTH OF VIRGINIA
CHARLES B. BEECHE
CIVIL ENGINEER
No. 2203

MJL	3	27 JULY 64 - AS BUILT
FCL	2	6-19-62
FCL	1	JAN. 29, 1962
APPR	NO.	— REVISION

COMMONWEALTH OF VIRGINIA

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N. Y. — ST. LOUIS, MO. — NORFOLK, VA.

CHESAPEAKE BAY BRIDGE—TUNNEL CROSSING

SOUTH SHAFT

SECTIONS & DETAILS

SHEET No 6

RECOMMENDED: FC Lowry

APPROVED: C M Mitchell

DRAWN BY: Chinnette | SCALE: AS NOTED

CHECKED BY: NATTER | DATE: 11-24-61

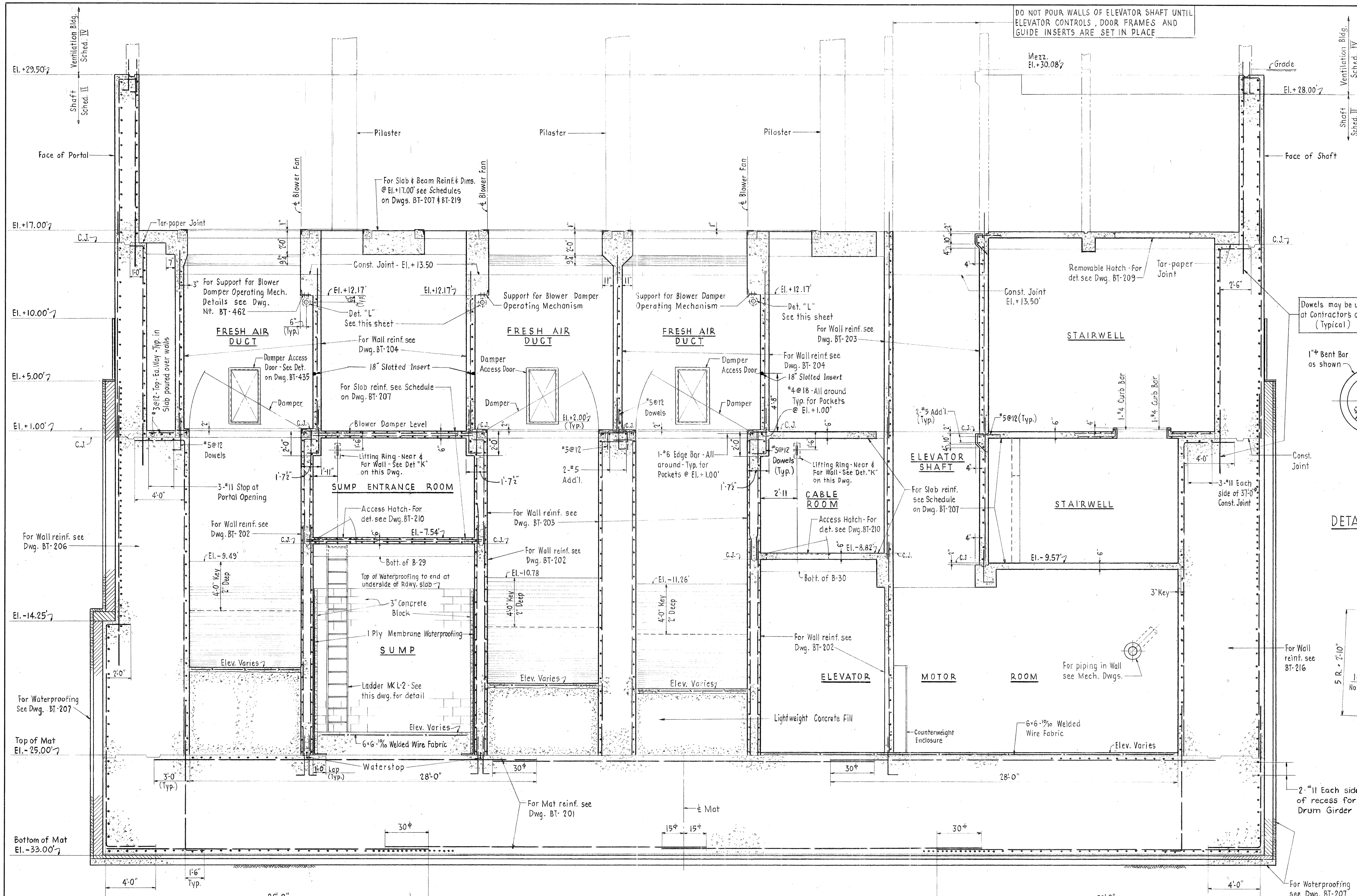
DWG. NO. BT-211

SECTION NO. TS-1 BC-1

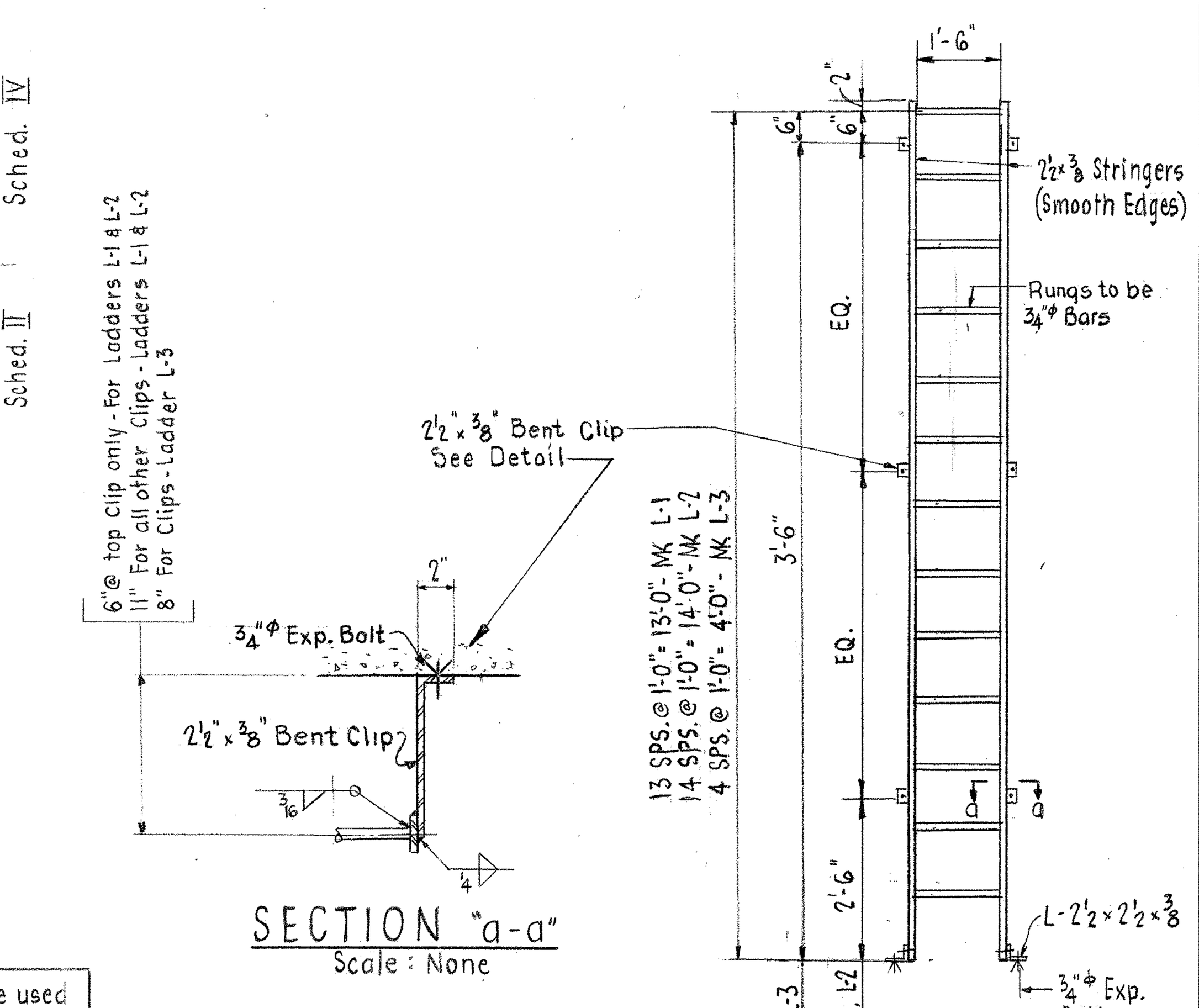
1555
GIN 88

AS BUILT

22x36 TRIM

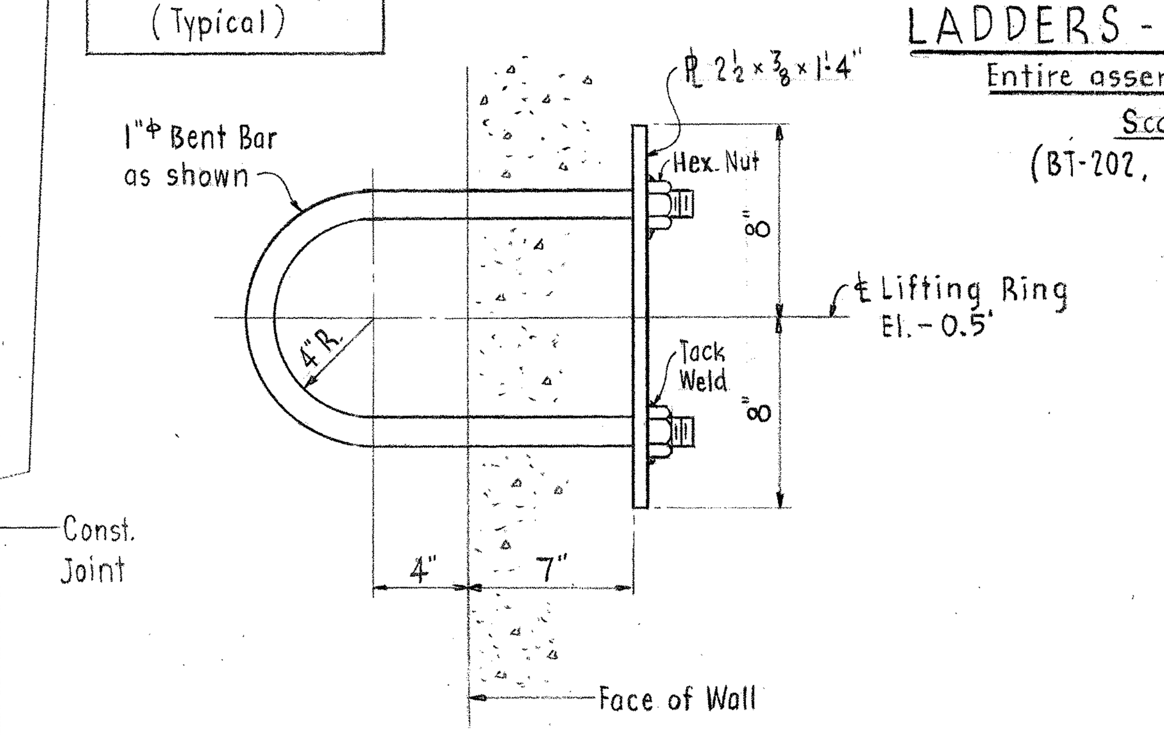


SECTION "7-7"
Scale : 1/4" = 1'-0"

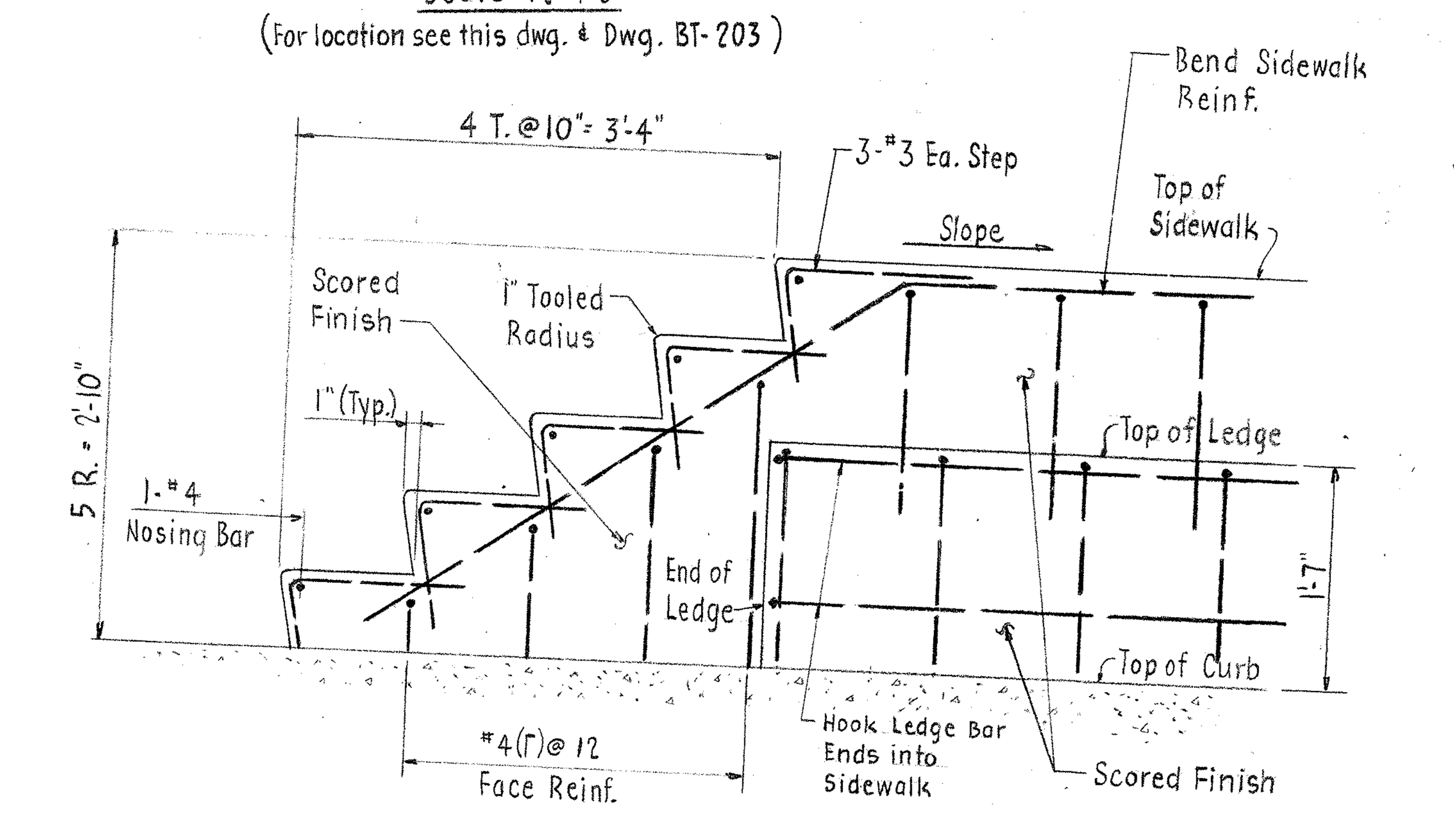


SECTION "a-a"
Scale : None

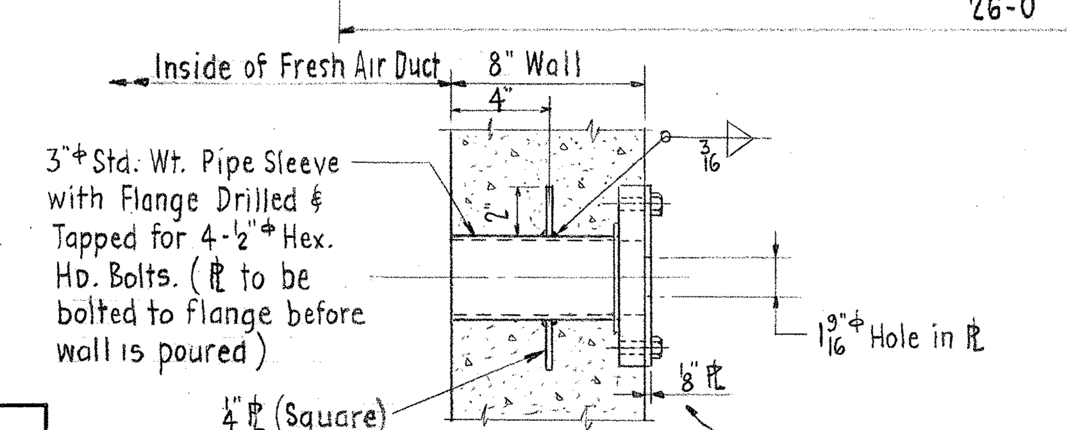
LADDERS - MK. L-1, L-2 & L-3
Entire assembly to be Galvanized
Scale : None
(BT-202, BT-203 & BT-215)



DETAIL "K" - LIFTING RING (4 REQ'D.)
Entire assembly to be Galvanized
Scale : 1 1/2" = 1'-0"
(For location see this dwg. & Dwg. BT-203)



SECTION "25-25"
Scale : 3/4" = 1'-0"
(BT-203)



DETAIL "L"
Scale : 1 1/2" = 1'-0"
(For location see this Dwg.) All Threading to be Greased.

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

APPR	NO.	REVISION
MSL	5	27 JULY 64 - AS BUILT
	4	11-2-62 DELETED L POST & 8" G IN ELEVATOR MOTOR ROOM
FCL	3	8-15-62
FCL	2	6-19-62
FCL	1	JAN. 29, 1962

COMMONWEALTH OF VIRGINIA
CHARLES H. METCALF
CIVIL ENGINEER
No. 2203
CERTIFIED PROFESSIONAL ENGINEER

COMMONWEALTH OF VIRGINIA
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N. Y.—ST. LOUIS, MO.—NORFOLK, VA.

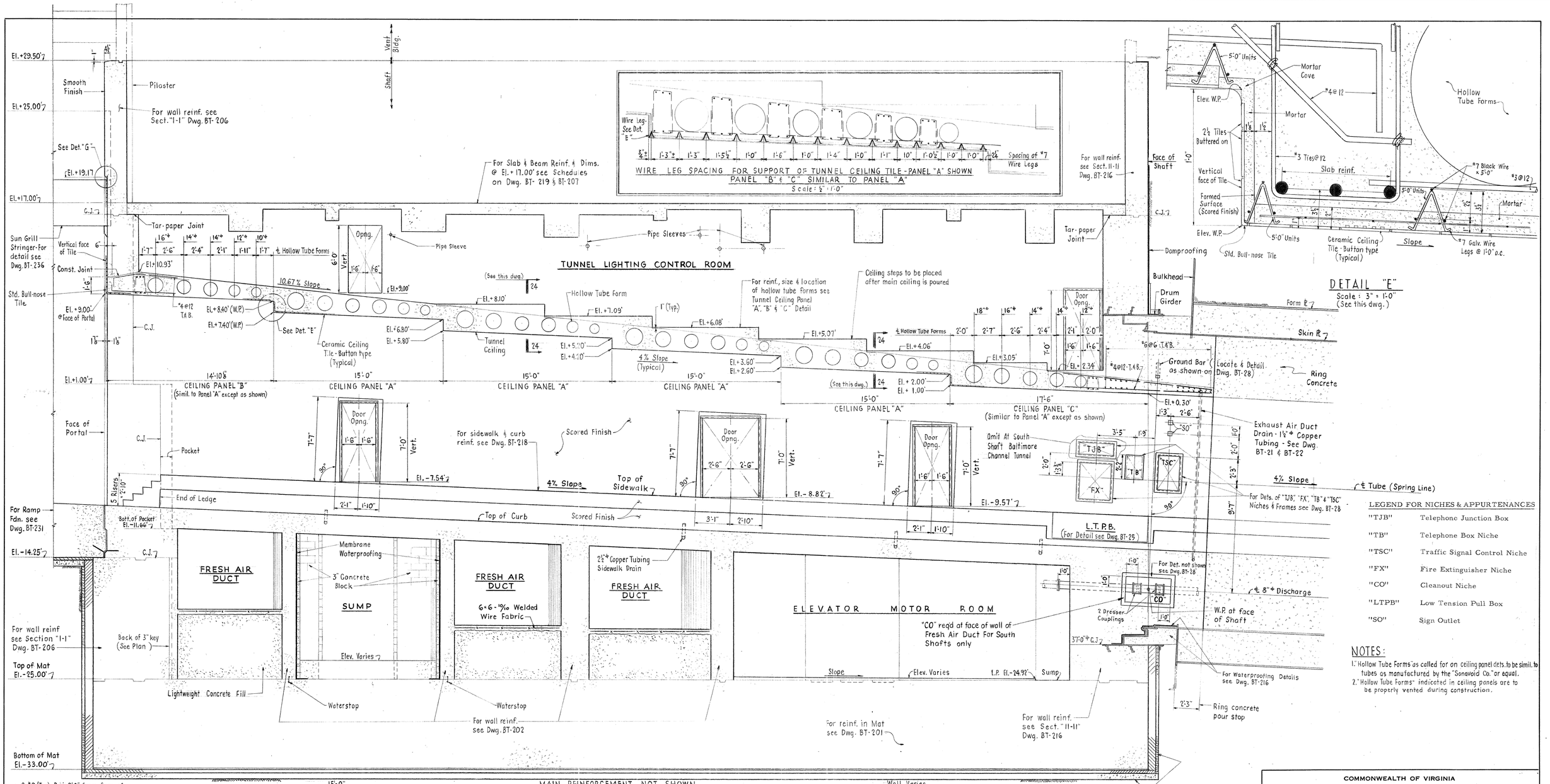
CHESAPEAKE BAY BRIDGE—TUNNEL CROSSING
SOUTH SHAFT
SECTIONS & DETAILS
SHEET No. 7

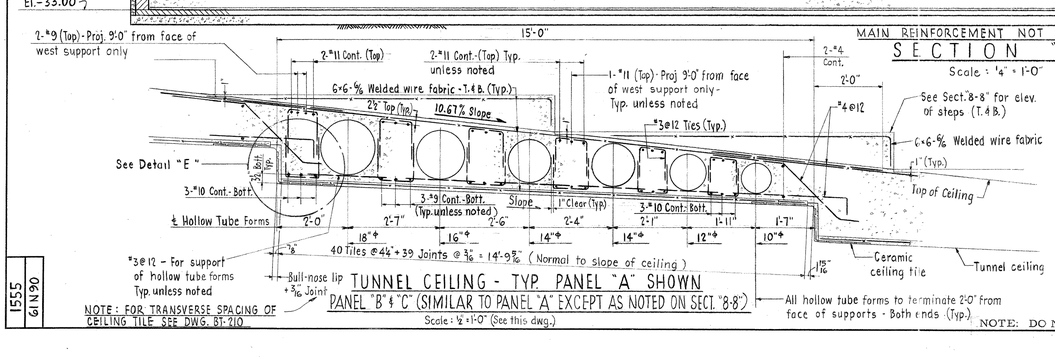
RECOMMENDED: F C Lowry
APPROVED: C. W. Metcalf

DRAWN BY: Natter | SCALE: AS NOTED
CHECKED BY: I.S. Tyoroff | DATE: 11-24-61
DWG. NO. BT-212
SECTION NO. TS-1 BC-1

1555 GIN89

AS BUILT





NOTE: DO NOT SCALE THIS DRAWING, FOLLOW DIMENSIONS.

LEGEND FOR NICHES & APPURTENANCES

"TJB"	Telephone Junction Box
"TB"	Telephone Box Niche
"TSC"	Traffic Signal Control Niche
"FX"	Fire Extinguisher Niche
"CO"	Cleanout Niche
"LTPB"	Low Tension Pull Box
"SO"	Sign Outlet

NOTES:

1. Hollow Tube Forms as called for on ceiling panel dets. to be simil. to tubes as manufactured by the "Sonavoid Co." or equal.
2. "Hollow Tube Forms" indicated in ceiling panels are to be properly vented during construction.

APPR	NO.	REVISION
M.S.L.	3	27 JULY 64 - AS BUILT
F.A.	2	6-19-62
F.C.B.	1	JAN. 29, 1962

COMMONWEALTH OF VIRGINIA

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N.Y.—ST. LOUIS, MO.—NORFOLK, VA.

CHESAPEAKE BAY BRIDGE—TUNNEL CROSSING

SOUTH SHAFT

SECTIONS & DETAILS

SHEET Nº 8

COMMONWEALTH OF VIRGINIA
CHARLES M. METCALF
CIVIL ENGINEER
No. 2203
REGISTERED PROFESSIONAL ENGINEER

RECOMMENDED: F C Lowry

APPROVED: C M Metcalf

DRAWN BY: M.S.L. | SCALE: AS NOTED
CHECKED BY: C.M.M. | DATE: 11-24-61
DWG. NO. BT-213
SECTION NO. TS-1 BC-1

1555
61 N 90

AS BUILT

22x36 TRIM

APPR	NO.	REVISION
AEW	4	July 23, 1962
AEW	3	June 12, 1962
AEW	2	March 6, 1962
AEW	1	Nov. 28, 1961

COMMONWEALTH OF VIRGINIA

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

NORFOLK 1, VIRGINIA

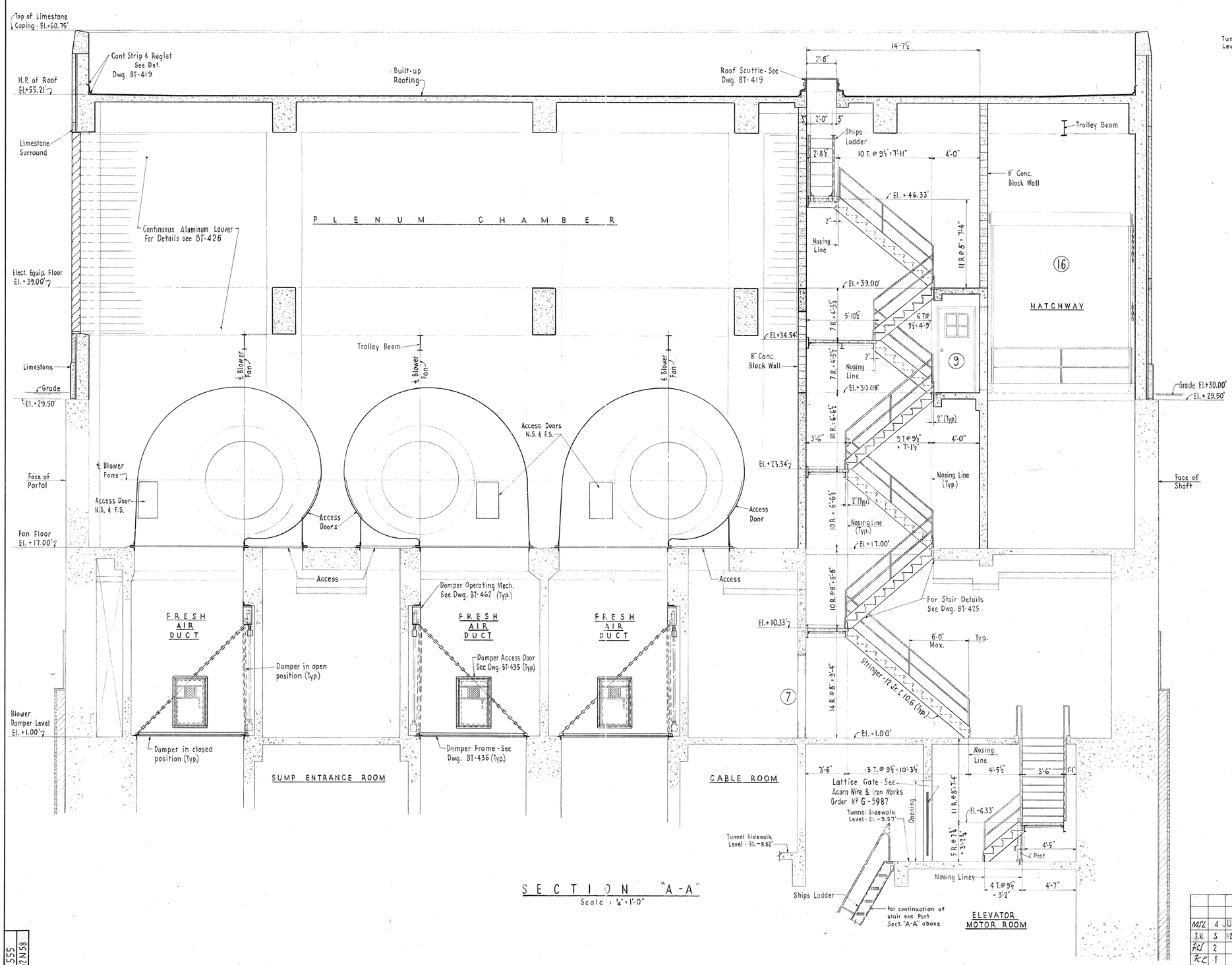
SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N. Y.—ST. LOUIS, MO.—NORFOLK, VA.

CHESAPEAKE BAY BRIDGE-TUNNEL CROSSING
SOUTH SHAFTS
ELECTRICAL CONDUITS & BOXES
SECTIONS & DETAILS

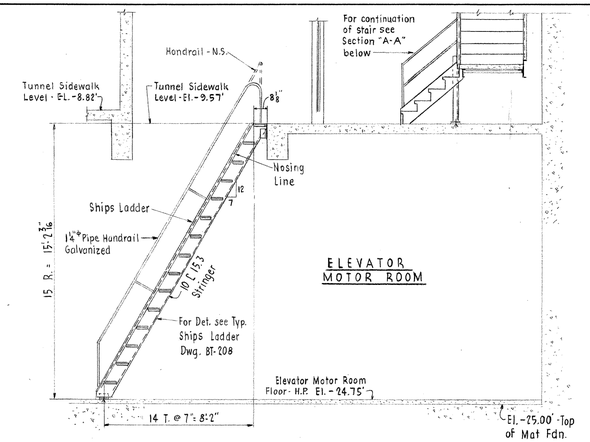
RECOMMENDED:
APPROVED:

DRAWN BY: JAR — SCALE: AS SHOWN
CHECKED BY: A.E.W. — DATE: OCT. 16, 1961
DWG. NO. BT-249
SECTION NO. TS-1 BC-1

1555
GIN 207



S E C T I O N "A-A"
Scale : ¼" = 1'-0"



PART SECTION "A-A"
Scale : ¼" = 1'-0"

COMMONWEALTH OF VIRGINIA
CHARLES M. METCALF
CIVIL ENGINEER
No. 2203
REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF VIRGINIA
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N. Y.—ST. LOUIS, MO.—NORFOLK, VA.

CHESAPEAKE BAY BRIDGE—TUNNEL CROSSING
SOUTH VENTILATION BUILDING
ARCHITECTURAL
SECTIONS & DETAILS - SHEET 1

APPR	NO.	REVISION
MSL	4	JUL. 2 7 1964 AS BUILT
J.N.	3	9-2-63 DELETED PASS DOOR IN ROLL-UP DOOR & ADDED DOOR IN STAIRWAY WALL - 1962
FCL	2	8-13-62
FC	1	6-27-62

RECOMMENDED: F C Lang
APPROVED: C M Metcalf

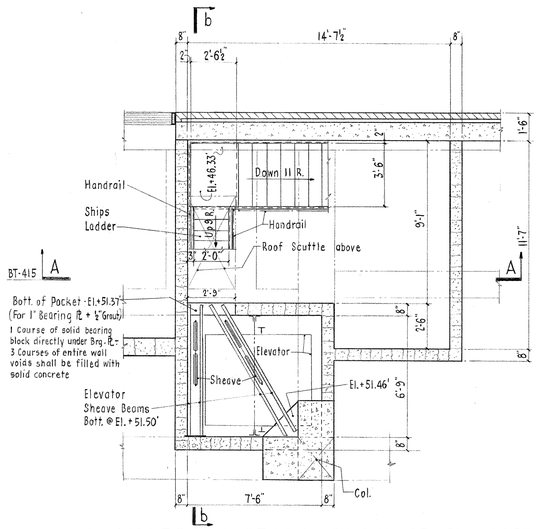
DRAWN BY: NATTER | SCALE: AS NOTED
CHECKED BY: Charnetta | DATE: 4-3-62
DWG. NO. BT-415
SECTION NO. TS-1 BC-1

1555
62 N 58

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

AS BUILT

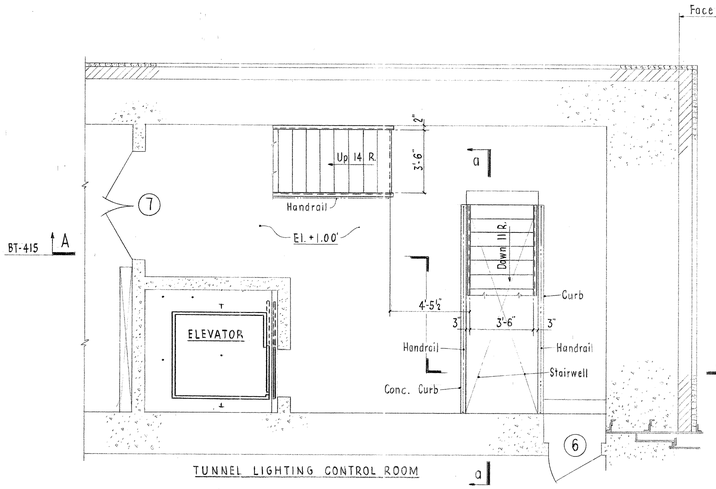
22x36 TRIM



ELEVATOR & STAIR PLAN AT EL. +46.33'

Lines shown thus ——— --- ——— indicate Roof Beams & Girders above.

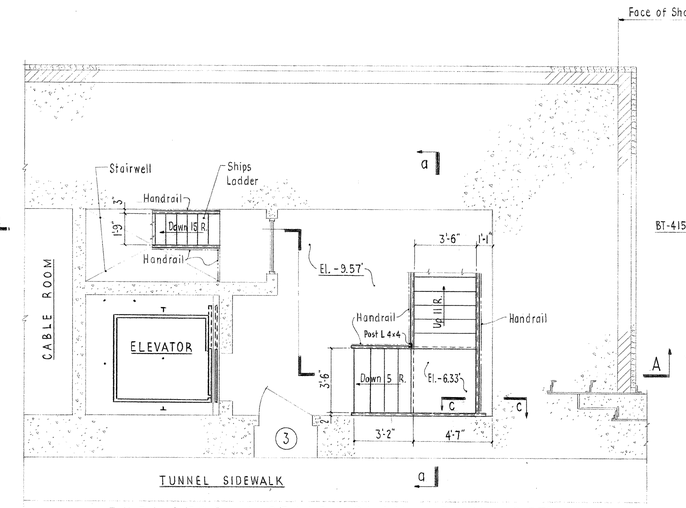
Scale : ¼" = 1'-0"



ELEVATOR & STAIR PLAN AT EL. +1.00'

For masonry dims. see Dwg. BT-204

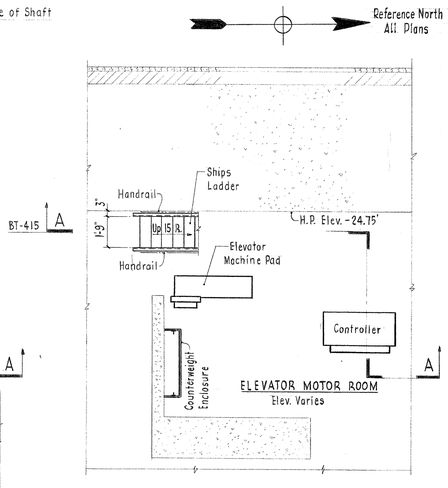
Scale : ¼" = 1'-0"



ELEVATOR & STAIR PLAN AT EL. -9.57'

For masonry dims. see Dwg. BT-203

Scale : ¼" = 1'-0"

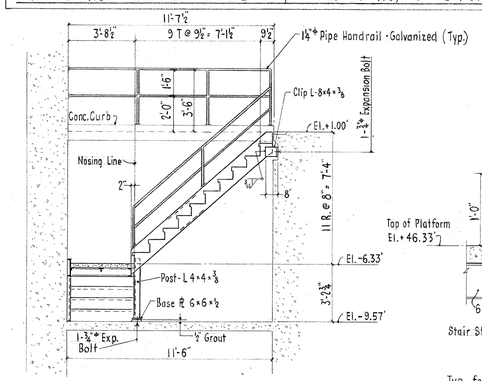


ELEVATOR & STAIR PLAN AT EL. -24.75'

For masonry dims see Dwg. BT-202

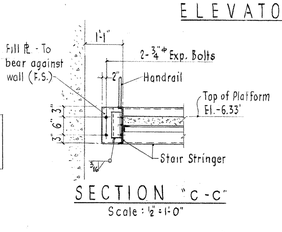
Scale : ¼" = 1'-0"

NOTE : FOR ELEVATOR & STAIR PLANS AT ELEVS. +39.00', +30.08' & +17.00' SEE MAIN PLANS, DWGS. BT-413, BT-412 & BT-411



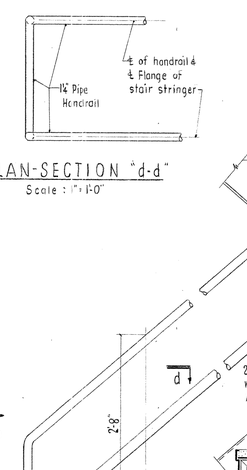
SECTION "a-a"

Scale : ¼" = 1'-0"



SECTION "c-c"

Scale : ½" = 1'-0"



TYP. FRAMING PLAN AT INTERMEDIATE STAIR PLATFORMS

Scale : None

(See "Typical Stair Details" for elevations of steel)

DETAIL "1"

Typ. for opp. hand Ship Ladder Stringer

Scale : 1" = 1'-0"

SECTION "e-e"

Scale : 1" = 1'-0"

DETAIL "2"

Scale : 1" = 1'-0"

Showing method of attaching 12 Jr ⊐ to concrete wall

SECTION "e-e"

Scale : 1" = 1'-0"

PLAN-SECTION "d-d"

Scale : 1" = 1'-0"

TYPICAL STAIR DETAILS

Scale : 1" = 1'-0"

SECTION "f-f"

Scale : 1" = 1'-0"

SECTION "b-b"

Scale : ¼" = 1'-0"

1555
62N68

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

COMMONWEALTH OF VIRGINIA
CHARLES H. METCALF
CIVIL ENGINEER
No. 2203
REGISTERED PROFESSIONAL ENGINEER

APPR	NO.	REVISION
MSL	3	JUL 27 1964 AS BUILT
CHM	2	11-2-62 DELETED L POST IN ELEVATOR MOTOR ROOM
FCL	1	6-27-62

COMMONWEALTH OF VIRGINIA

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N. Y.—ST. LOUIS, MO.—NORFOLK, VA.

CHESAPEAKE BAY BRIDGE—TUNNEL CROSSING

SOUTH VENTILATION BUILDING

ARCHITECTURAL

STAIR & ELEVATOR PLANS — DETAILS

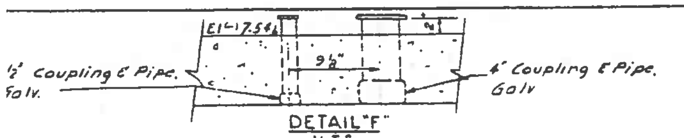
RECOMMENDED: F C Lowy

APPROVED: C H Metcalf

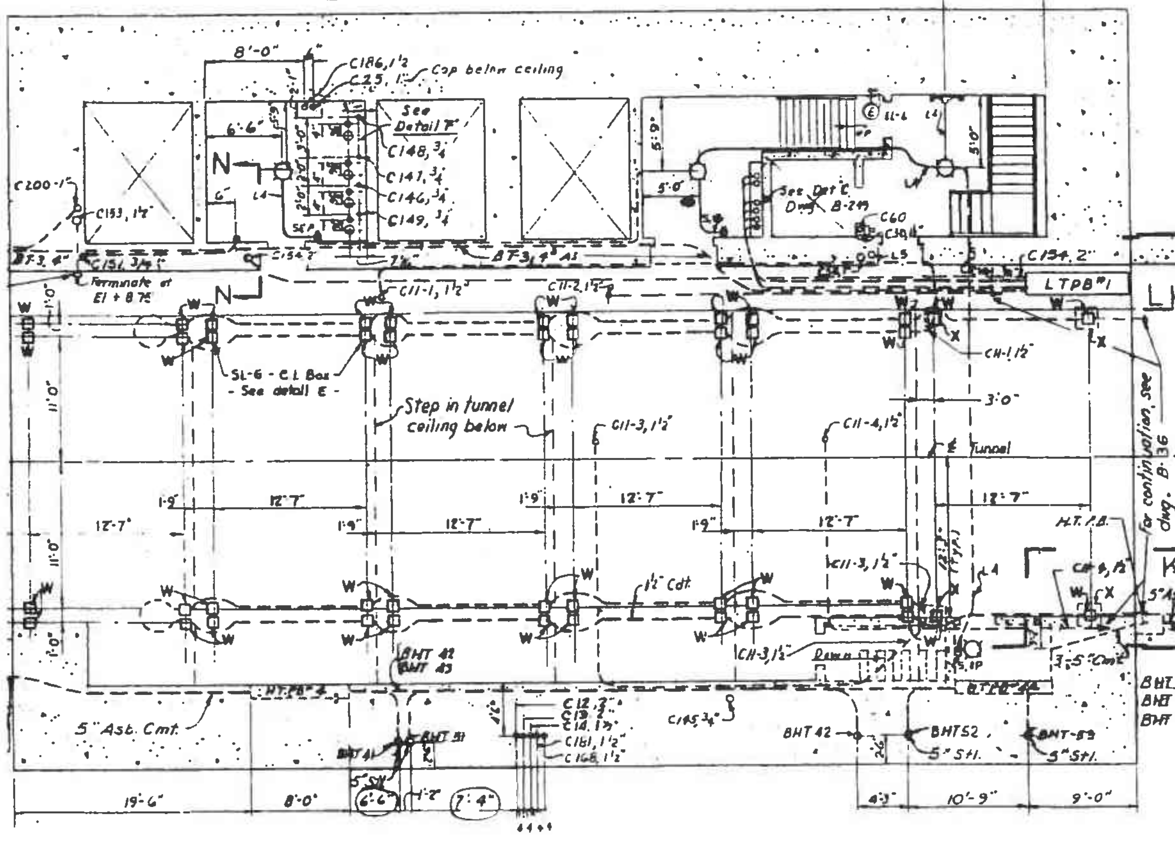
DRAWN BY: Norter | SCALE: As Noted
CHECKED BY: Chiarotta | DATE: 4-3-62
DWG. NO. BT-425
SECTION NO. TS-1 BC-1

AS BUILT

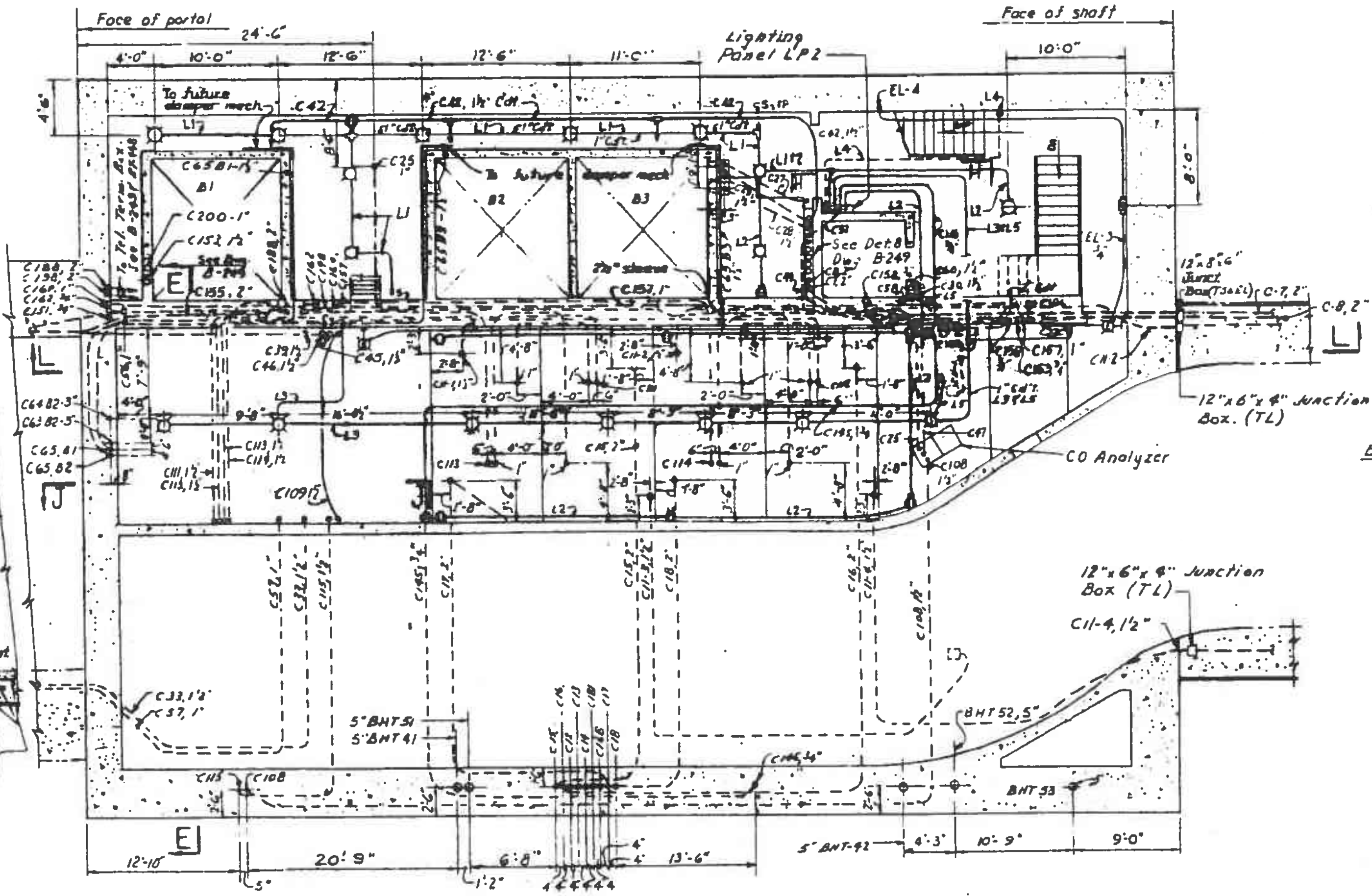
22x36 TRIM



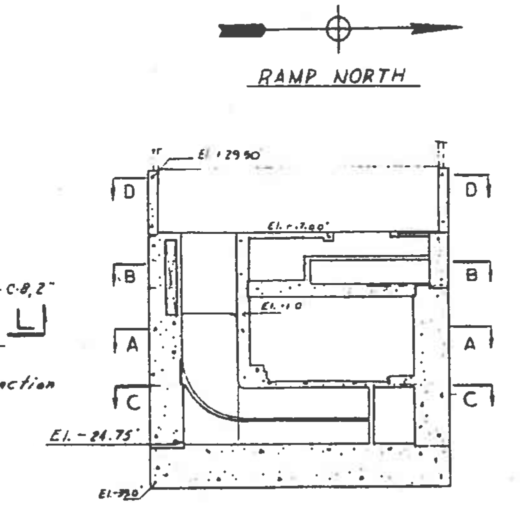
DETAIL "F"
N.T.S.



PLAN ABOVE ROADWAY (SECT. A-A)



PLAN ABOVE TUNNEL CEILING (SECT. B-B)



KEY SECTION
LOOKING NORTH

REFERENCE ONLY

LEGEND

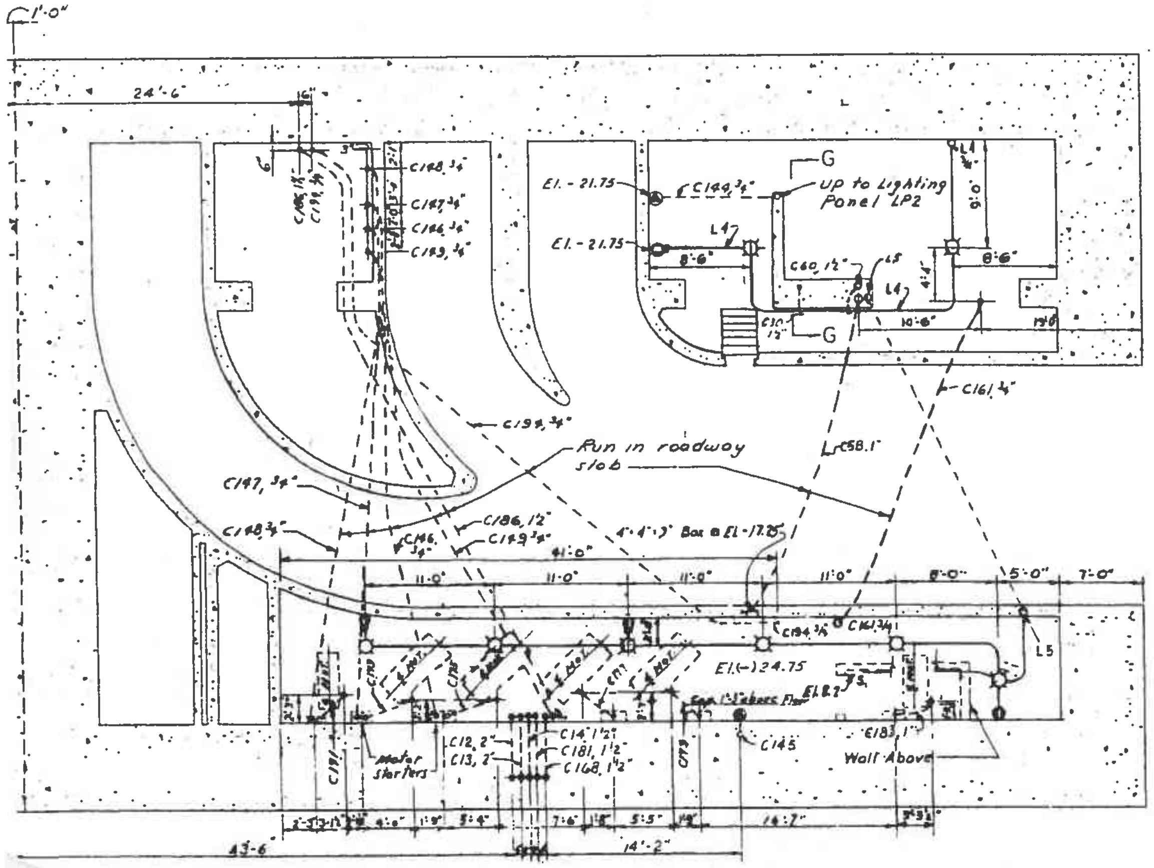
Ground cable
Embedded conduit
Exposed conduit

- Plug receptacle outlet. Russell & Stoll box
- 4"×4"×3" C.I. box for telephone outlet,
- 4"×4"×3" C.I. box for Bell outlet, 8'-0" above
- 4"×1¾" C.I. box Spring City Cat. No. RB-8 or eq
- S&P Russell & Stoll 2 Gang FD Box #3712 or equal.
- Russell & Stoll F.D. Box #3711 or equal.
- $S_A S_3$ Russell & Stoll F.D. Box #3711 or equal.
- 4"×1⅜" C.I. box, Spring City RB-7 or equal. Locate on wall, 8'-0" above floor or landing.
- Elevator push button. Locate 4'-0" above fl of each landing.

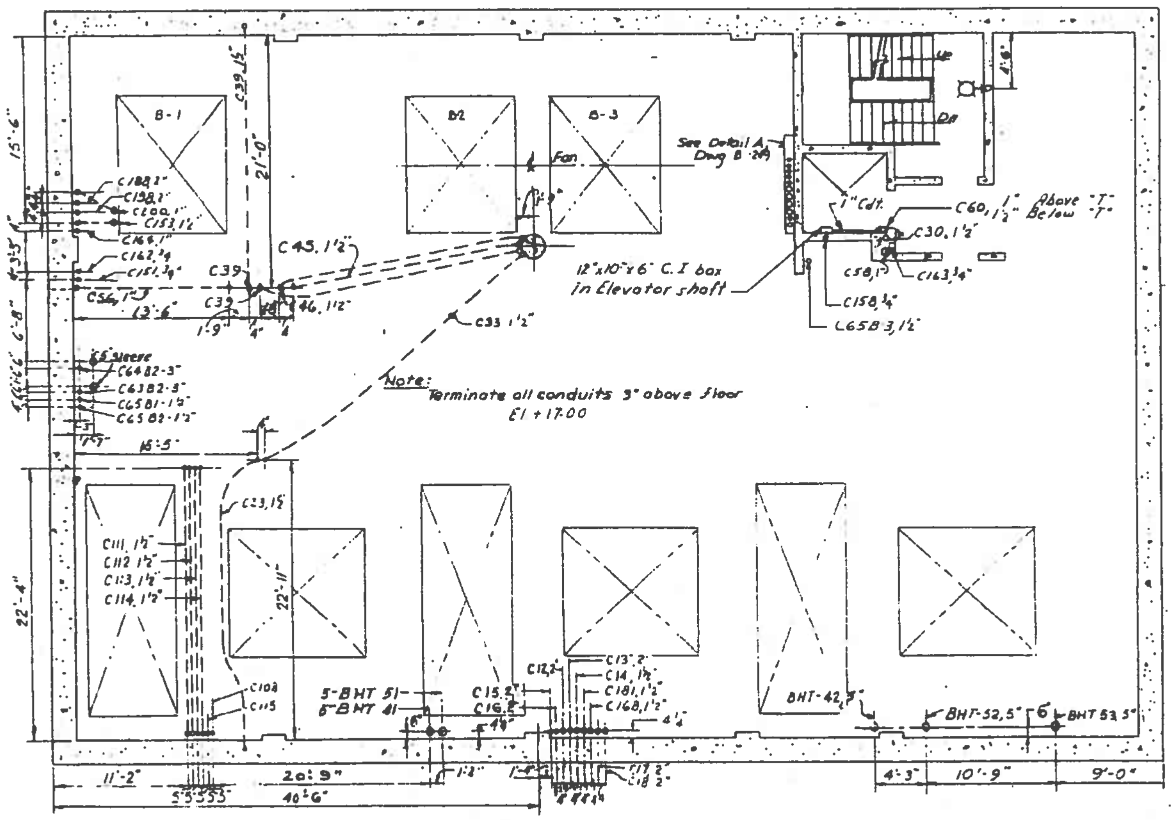
Switch & Plug Receptacle Outlets - 4'-6" abov

Notes:
1. All conduits to be grounded.
2. Ends of all conduit runs to be closed with ca bushings with metal discs.
3. SL-6 boxes for Tunnel Lighting to be spaced 12' ±½" o.c. measured along the tunnel ceiling.
4. Conduits to be tagged with metal tags as ino
5. Exposed conduits in pump room to be silicon
6. Lighting conduit & boxes to be run exposed. Pipe s to be provided in masonry walls & slabs where nece Conduits to be ¾" unless otherwise noted.
7. Tunnel light boxes marked "X" to be depressed int tunnel ceiling as shown on dwg's., B-36
8. Tunnel light boxes marked "W" to be placed with the ed end facing the North Portal.
9. Tunnel light boxes marked "V" to be placed with the grounded end facing the South Portal.

Reference Drawings
Dwg. No. B-249 - Sections & Details.
Dwg. No. BT-250 - Ground cable installation.



PLAN BELOW ROADWAY (SECT. C-C)



PLAN AT FAN FLOOR (SECT. D-D)

APPR	NO.	REVISION
DPS	2	July 9, 19
RLK	1	May 20, 19

COMMONWEALTH OF VIRGINIA
CHESAPEAKE BAY BRIDGE AND TUNNEL DIS
NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N. Y.–ST. LOUIS, MO.–NORFOLK, VA.

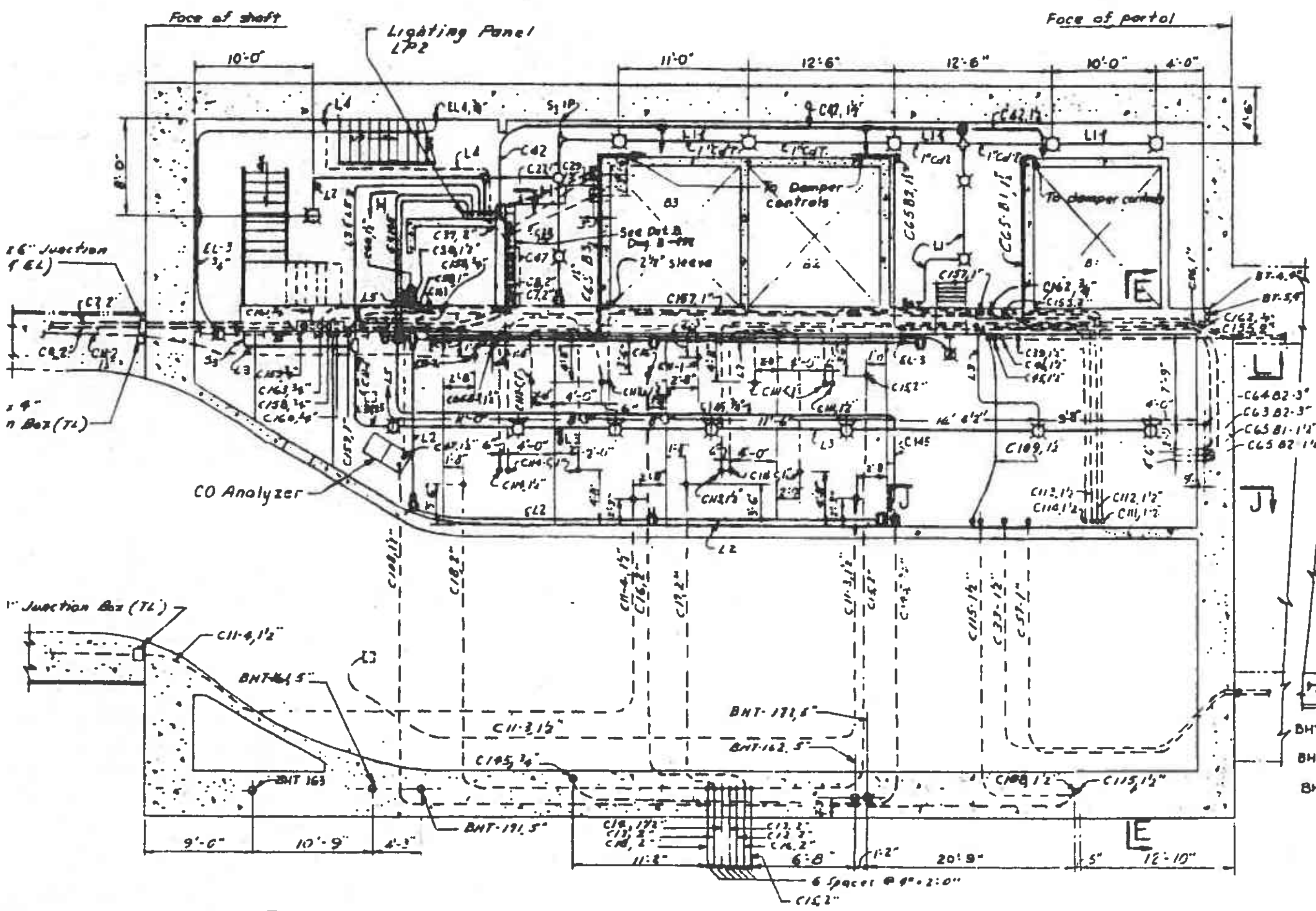
CHESAPEAKE BAY BRIDGE–TUNNEL CROS

BALTIMORE CHANNEL TUNNEL
SOUTH SHAFT PLANS
CONDUIT INSTALLATION

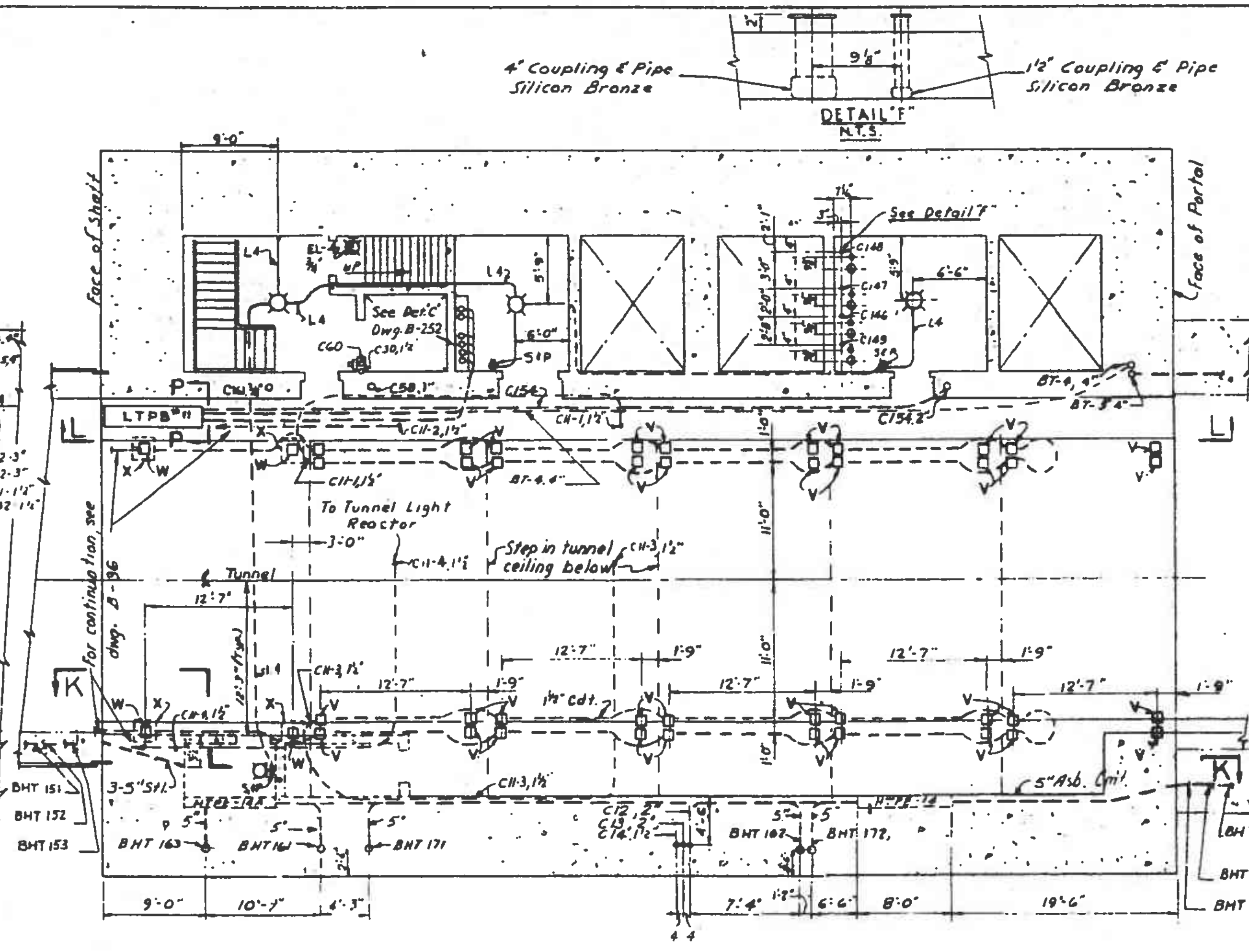
RECOMMENDED: [signature]
APPROVED: [signature]

DRAWN BY: JAR — SCALE: ⅛
CHECKED BY: APJ — DATE: 4-
DWG. NO. B-248
SECTION NO. B

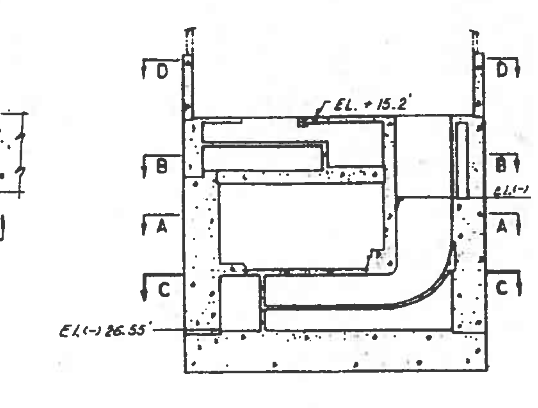
DWG No. SECTION EG17 OF EG



PLAN ABOVE TUNNEL CEILING (SECT B-B)



PLAN ABOVE ROADWAY (SECT A-A)



KEY SECTION

LOOKING SOUTH

REFERENCE ONLY

LEGEND

Ground cable
Embedded conduit
Exposed conduit
● – Plug receptacle outlet. Russell & Stoll bo...
– 4"x4"x3" C.I. box for telephone outlet
– 4"x4"x3" C.I. box for Bell outlet
– 4"x1 3/4" C.I. box, Spring City Cat. No. RB-E...
– Russell & Stoll F.D. box #3711 or equal.
S_1S – Russell & Stoll F.D box #3711 or equal.
– 4"x1 3/8" C.I. box, Spring City Type RB-7, or...
Elevator push button-Locate 4'-0" above ...
– at each landing.
S_1 & P, Russell & Stoll 2 Gang FD Box Cat No. 37...
Switch & Plug Receptacle Outlets-4'-6" abov...

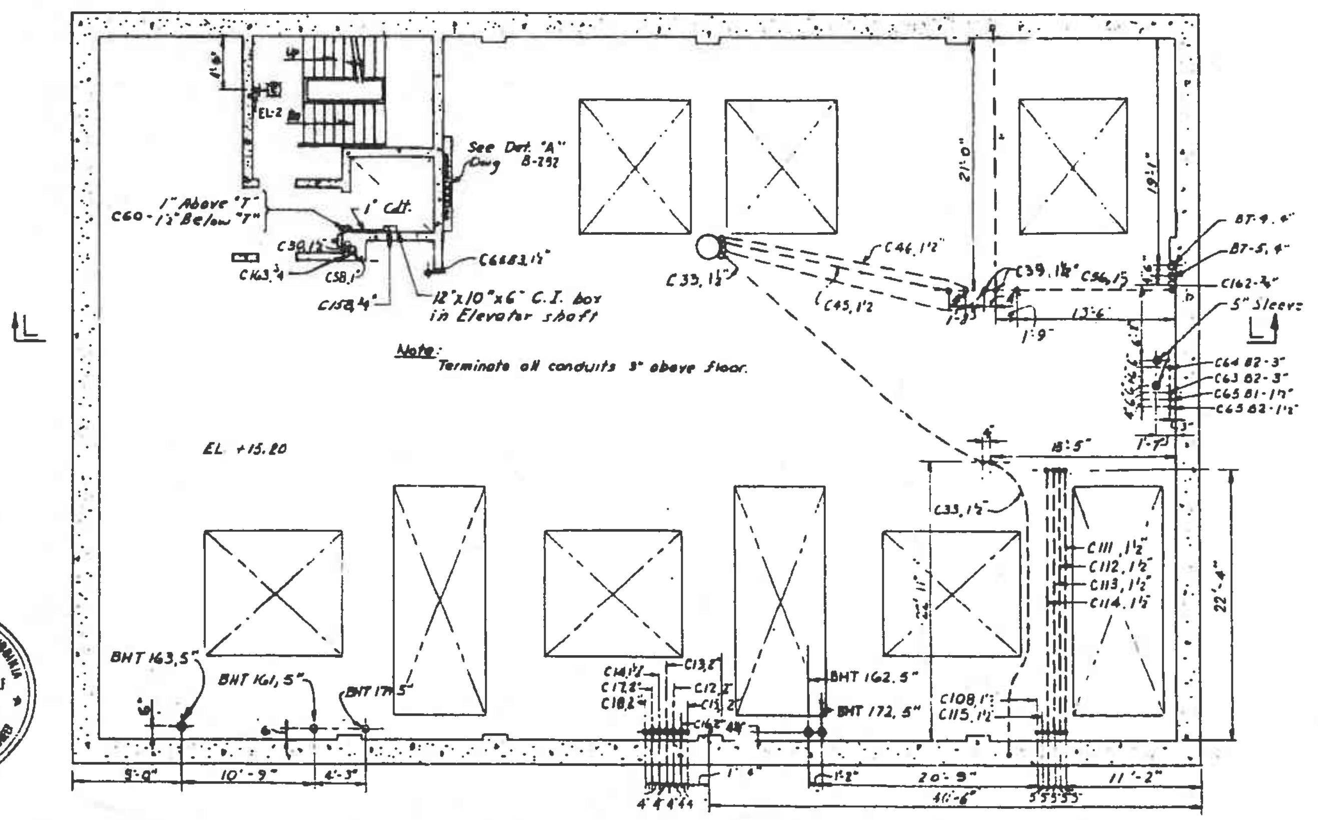
Notes:

1. All conduits to be grounded.
2. Ends of all conduit runs to be closed wit... or bushings with metal discs.
3. SL-6 boxes for Tunnel Lighting to be spac... 12'-7" ± 1/4" o.c. measured along the tunne... ceiling.
4. Conduits to be tagged with metal tags as in...
5. Exposed conduits in pump room to be silic... bronze.
6. Lighting conduit & boxes to be run exposed. Pip... sleeves to be provided in masonry walls & ... where necessary.
7. Tunnel light boxes marked "X" to be depressed i... tunnel ceiling as shown on dwgs. B-36
8. Tunnel light boxes marked "W" to be placed ... the grounded end facing the North Portal.
9. Tunnel light boxes marked "V" to be placed wi... grounded end facing the South Portal.

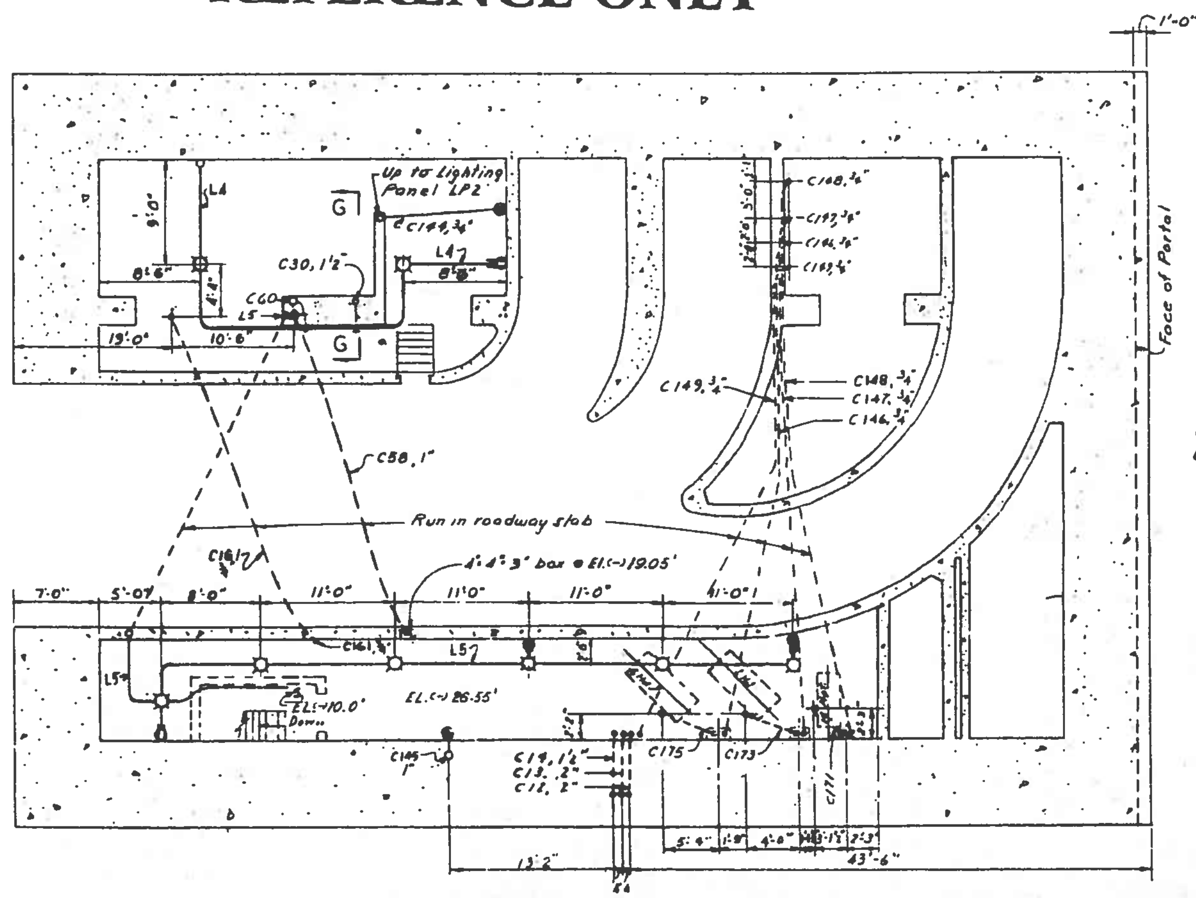
Reference Drawings

Dwg No. B-252 - Sections & Details

Dwg No. BT-253 - Ground cable installation.



PLAN AT FAN FLOOR (SECT D-D)



PLAN BELOW ROADWAY (SECT C-C)

DJS	1	AS BUILT JUL...
APPR	NO.	REVISI...

COMMONWEALTH OF VIRGINIA

CHESAPEAKE BAY BRIDGE AND TUNNEL DIS...

NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS

NEW YORK, N. Y.-ST. LOUIS, MO.-NORFOLK, VA.

CHESAPEAKE BAY BRIDGE-TUNNEL CROS...

BALTIMORE CHANNEL TUNNEL

NORTH SHAFT PLANS

CONDUIT INSTALLATION

RECOMMENDED: George T. Riley

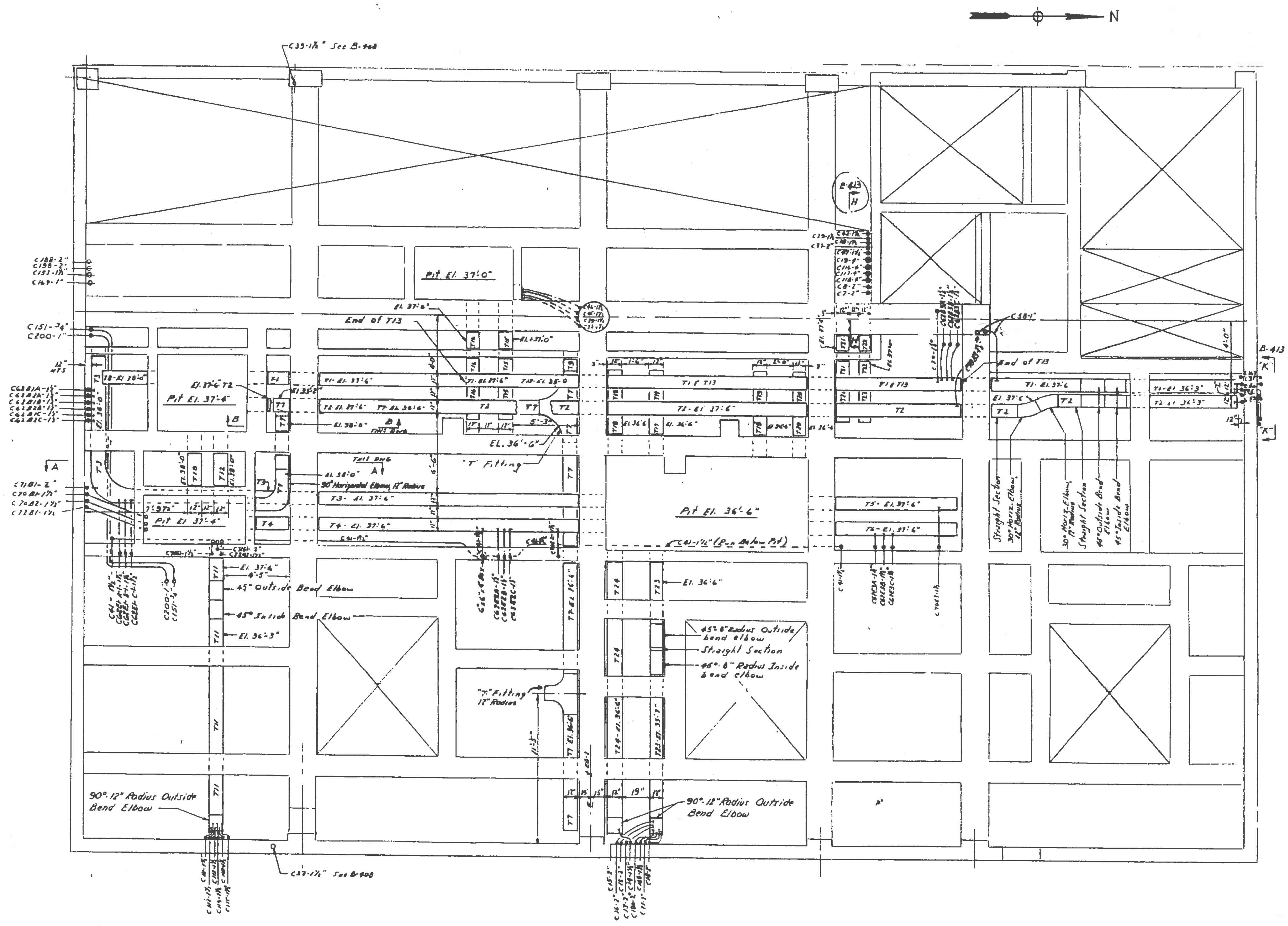
APPROVED: C. M...

DRAWN BY: JAR

CHECKED BY:

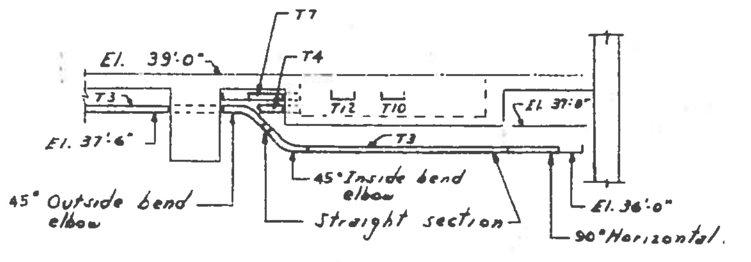
DWG. NO. B-251

SECTION NO. B...



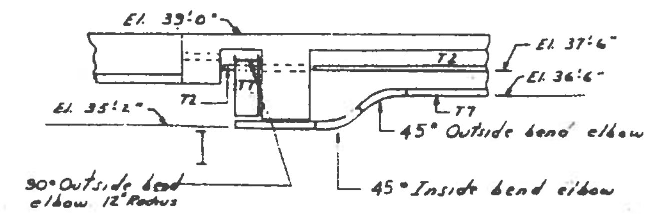
PLAN AT ELEVATION +38'-4"

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



SECTION A-A

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



SECTION B-B

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

REFERENCE ONLY

NOTES

1. All trays & fittings to be 12" wide Husky Products "Ventrib", all aluminum, or equ
2. Tray Elevations given in Plan are to bottom of trays.
3. All tray fittings to be 24" Radius bends unless otherwise noted.
4. For continuation of conduits shown on this drawing & other conduits not shown see B-408 & B-410.
5. Openings to be field cut in bottom of trays where cables are require pass to lowers trays or conduits. Each opening to be provided with drop out fittings. Husky AVDE-12.
6. Cable trays to be bonded to each other and to building ground sy to form continuous ground system.
7. High Tension conduits passing exposed thru the exhaust fan rooms shall fireproofed with Johns-Manville "Niagrite B" Asbestoment tape. The tape be 1/2" thick, wrapped in three (3) layers. Over the tape, Asbestoment "T shall be applied 1/2" (minimum) thick.
8. Cable tray supports shall be spaced 10'-0" maximum.

COMMONWEALTH OF VIRGINIA

CHESAPEAKE BAY BRIDGE AND TUNNEL DIS

NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS

NEW YORK, N. Y.–ST. LOUIS, MO.–NORFOLK, VA.

CHESAPEAKE BAY BRIDGE–TUNNEL CROS

BALTIMORE CHANNEL TUNNEL

SOUTH VENTILATION BUILDING

BELOW ELECTRICAL EQUIPMENT FLOO

ELECTRICAL EQUIPMENT INSTALLATION

APPR	NO.	REVISION
AEN	2	10-14-63 AS BUILT
DWK	1	November 27, 1962

COMMONWEALTH OF VIRGINIA · CHARLES M. METCALF · CIVIL ENGINEER

RECOMMENDED: [signature]

APPROVED: C. M. Metcalf

DRAWN BY: DPS

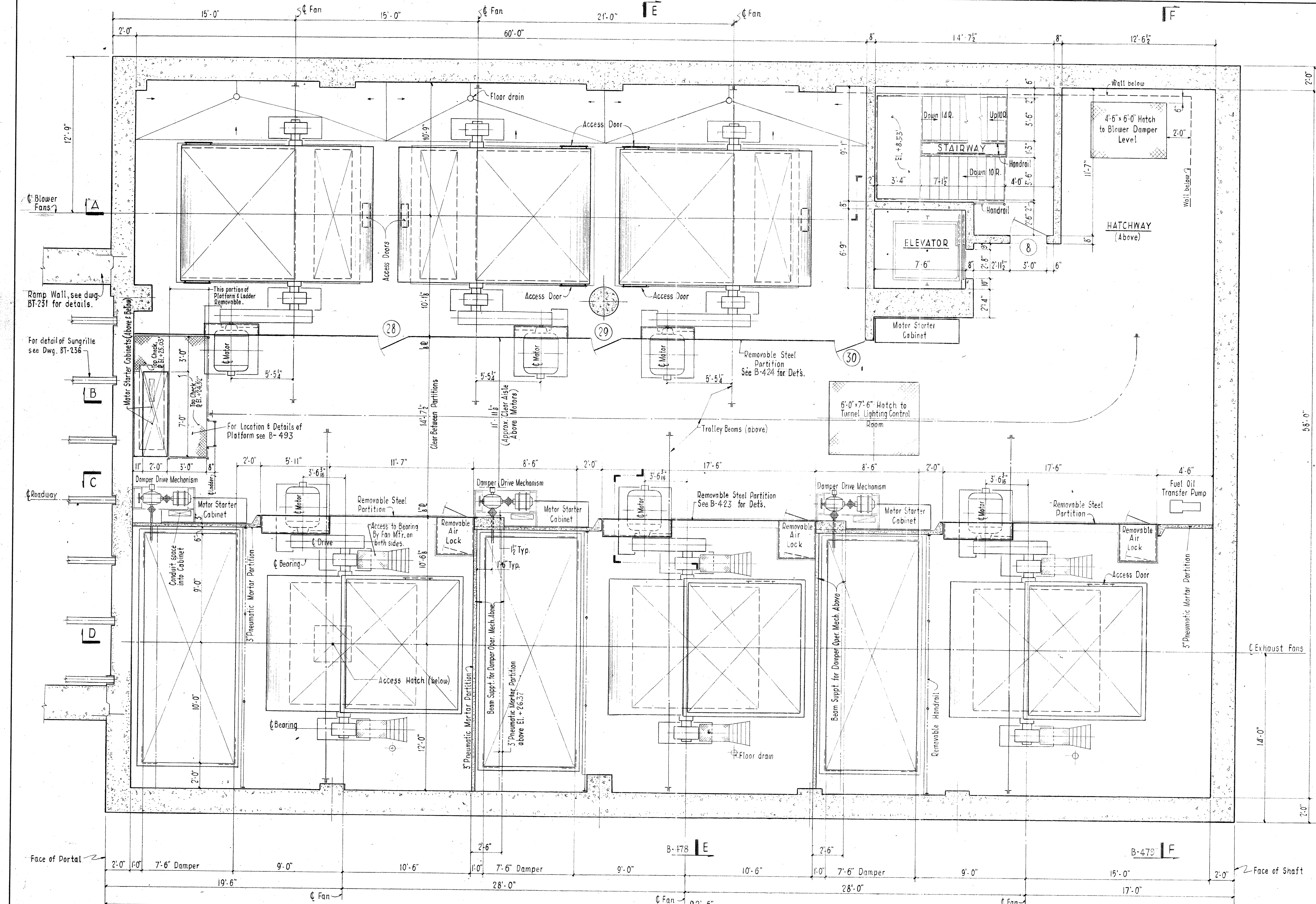
CHECKED BY: DPS

SCALE: A

DATE: C

DWG. NO. B-409

SECTION NO. B



Reference North

THIS DWG. IS SHOWN "OPPOSITE HAND"

FOR TRUE ORIENTATION SEE DWG BT-200

PLAN OF FAN ROOM FLOOR EL.+ 15.20'

COMMONWEALTH OF VIRGINIA

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N.Y.–ST. LOUIS, MO.–NORFOLK, VA.

CHESAPEAKE BAY BRIDGE–TUNNEL CROSSING

NORTH VENTILATION BUILDING

BALTIMORE CHANNEL – ARCHITECTURAL

PLAN OF FAN ROOM FLOOR EL.+ 15.20'

APPR	NO.	REVISION
	3	7-31-64 AS BUILT
	2	8-13-62
	1	General Revision 6-27-62

RECOMMENDED: F C Lowy

APPROVED: C. W. Metcalf

DRAWN BY: | SCALE: ¼" = 1'-0"

CHECKED BY: | DATE: 4-3-62

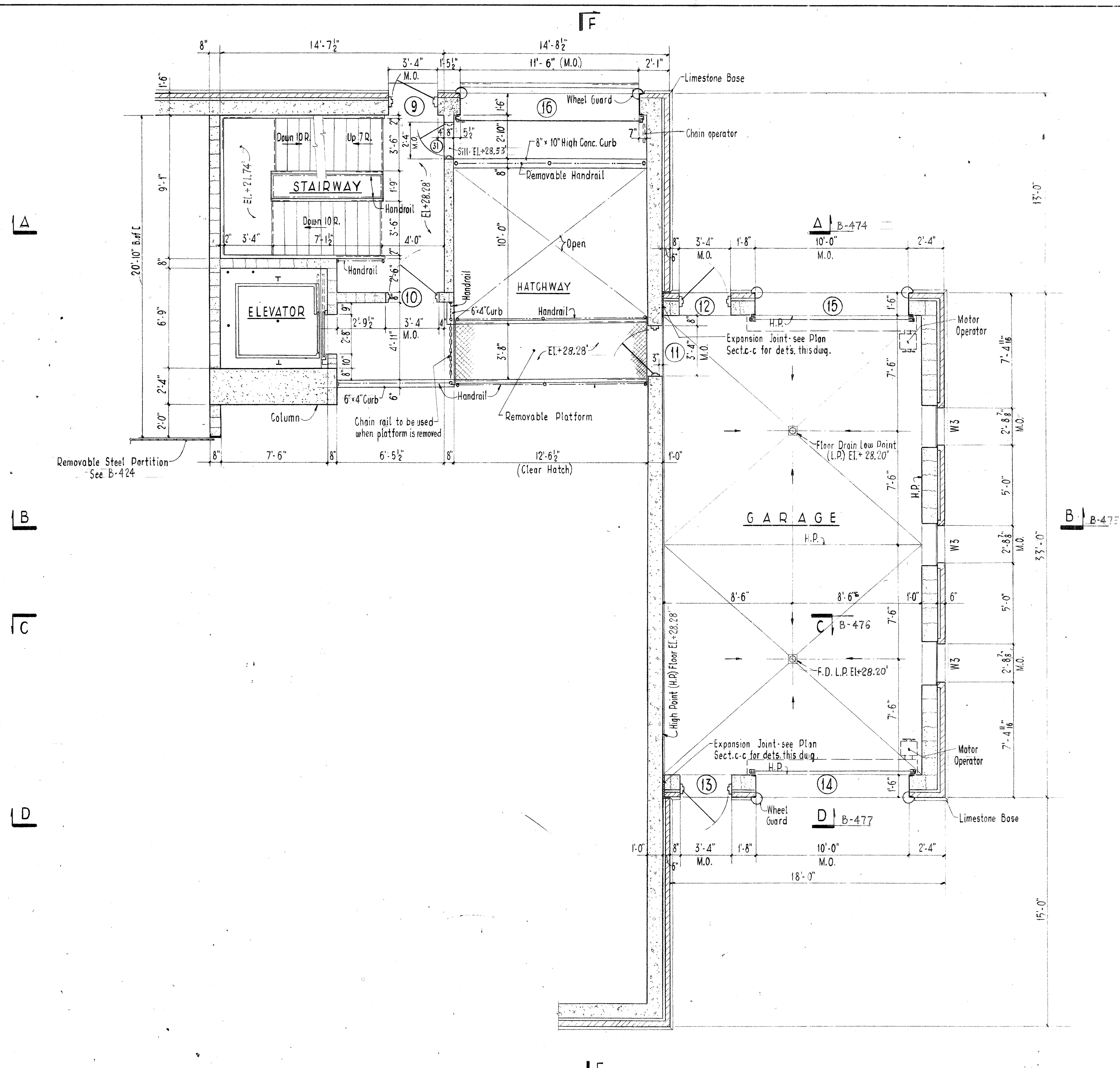
DWG. NO. B-470 ~~BT-411~~

SECTION NO. ~~TS-1~~ BC-1

1555 ~~64N54~~ 64N61

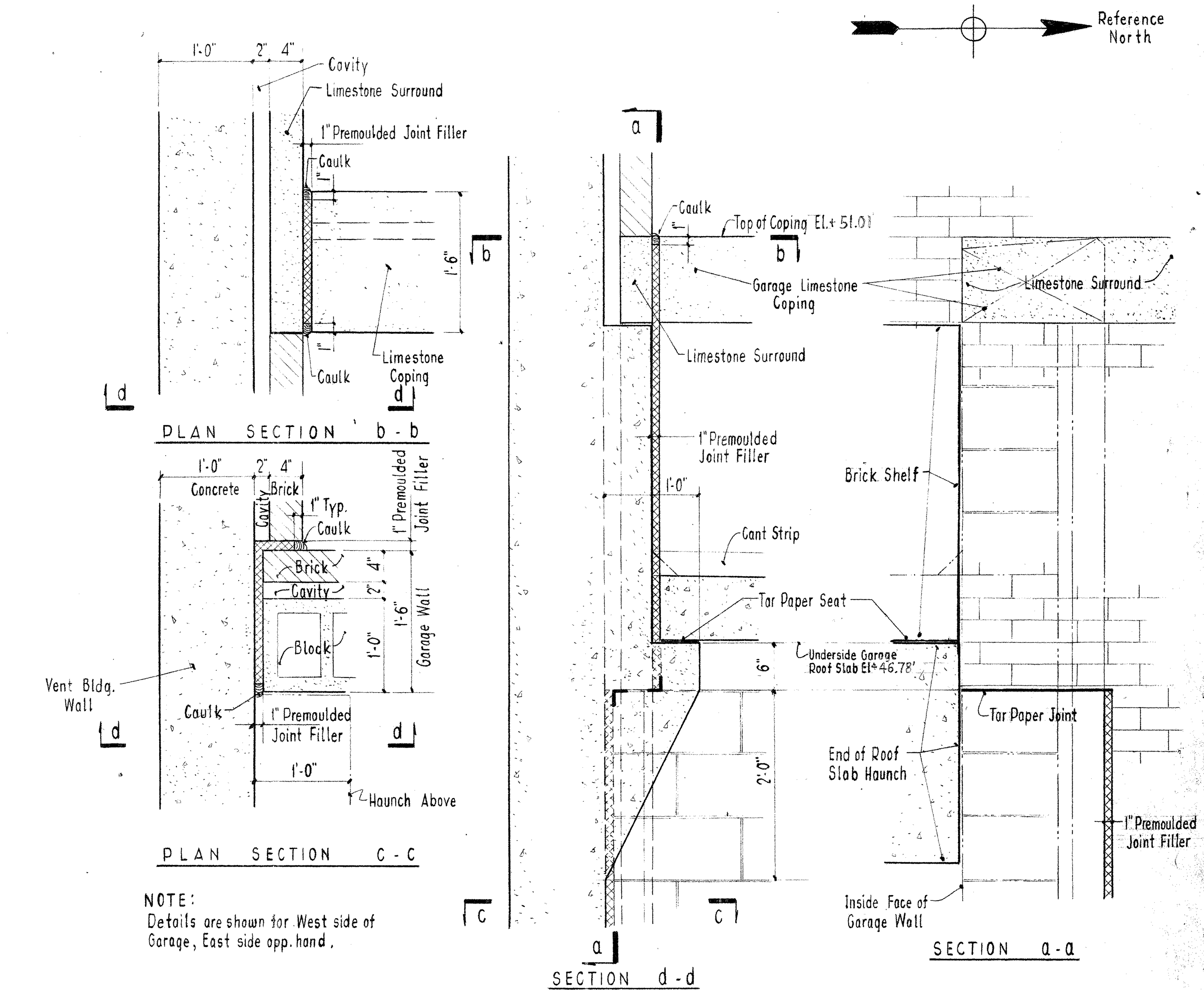
NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

AS BUILT



PLAN OF MEZZANINE & GARAGE FLOOR ELEV.+ 28.28'

Scale: ¼" = 1'-0"



NOTE: Details are shown for West side of Garage, East side opp. hand.

EXPANSION JOINT DETAILS BETWEEN GARAGE & VENT BLDG.

Scale: 1" = 1'-0"

THESE PLANS ARE SHOWN "OPPOSITE HAND"

FOR TRUE ORIENTATION SEE DWG. BT-200

COMMONWEALTH OF VIRGINIA

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N. Y.–ST. LOUIS, MO.–NORFOLK, VA.

CHESAPEAKE BAY BRIDGE–TUNNEL CROSSING
NORTH VENTILATION BUILDING
BALTIMORE CHANNEL – ARCHITECTURAL
PLAN OF MEZZANINE & GARAGE FLOOR EL.+ 28.28'

APPR	NO.	REVISION
	4	7-31-64 AS BUILT
T.N.	3	1-2-63 DELETED PASS DOOR IN ROLL-UP DOOR & ADDED DOOR IN STAIRWAY-MEZZ.
	2	8-13-62
	1	6-27-62

RECOMMENDED: F. Lowry

APPROVED:

DRAWN BY: | SCALE: As Noted

CHECKED BY: | DATE: 4-3-62

DWG. NO. B-471 ~~BT-412~~

SECTION NO. ~~T5-1~~ BC-1

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

AS BUILT

1555 64N62

Reference North

Continuous Aluminum Louvers

PLENUM CHAMBER

Concrete Girder

12" Concrete Block Wall

STORAGE ROOM

CONTROL ROOM

Master Control Board

Desk

Base Board Radiator

Radiator

Asbestos Ebony Cover

208-120 Distribution Board

Diesel Generator Board

Column

Asbestos Ebony Cover

ELEVATOR

Hose Rack

1'-6" x 2'-0" x 6'-7" high Cabinet

Column

STAIRWAY

Down 7 R.

Up 11 R.

Handrail

El. + 32.74'

Down 7 R.

Handrail

HATCHWAY

Door Hood Above

Open

Removable Handrail & Toe Bd.

Removable Steel Panels

Exhaust Duct to Roof Ventilator

POWER DISTRIBUTION ROOM

600 Volt Distribution Board

Asbestos Ebony Cover

Trolley Beam Above

Engine

Diesel Engine

Fuel Oil Day Tank (Above)

Garage wall see B-471

1½ Diamond Mesh Partition "Acorn Wire & Iron Works" or equal.

Pneumatic Mortar Partition

Exhaust Air Duct

BOILER ROOM

Compression Tank (Above)

Boiler

DC Distribution Board

M.G. Set #1

M.G. Set #2

3-2"ø Weep Holes

Sloped Wall

Main Control Battery Racks

BATTERY ROOM

Exhaust Air Duct

Sloped Wall

Main Control Battery Racks

Drinking Fountain

KITCHEN

Pipe Chase

Kitchenette

Ceramic Wall Tile

TOILET Nº2

Exhaust Air Duct

Lockers 18"x18"x6'-6" High

Sloped Wall

LOCKER ROOM Nº2

Radiator

Drinking Fountain

Ceramic Wall Tile

TOILET Nº1

Pipe Chase

Kitchenette

LOCKER ROOM Nº1

2" Air Space

This face of Sloped Wall to be waterproofed with a coating of "Irontox" (typical)

Radiator

B-474 A

B-475 B

B-476 C

B-477 D

B-478 E

B-479 F

THIS DWG. IS SHOWN "OPPOSITE HAND"

FOR TRUE ORIENTATION SEE DWG. BT-200

PLAN OF ELECTRICAL EQUIPMENT FLOOR ELEV. +37.20'

For location of Electrical Equipment see Electrical Dwgs.
For Mechanical Equipment see Mechanical Dwgs.

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

COMMONWEALTH OF VIRGINIA

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N. Y.—ST. LOUIS, MO.—NORFOLK, VA.

CHESAPEAKE BAY BRIDGE—TUNNEL CROSSING

NORTH VENTILATION BUILDING

BALTIMORE CHANNEL - ARCHITECTURAL

PLAN OF ELECTRICAL EQUIPMENT FLOOR EL. +37.20'

MPL	4	7-31-64 - AS BUILT	
T.N.	3	12-27-62 ADDED PARTITION DIMS-TOILETS #1 & #2 - ADDED RADIATOR-TOILET #2	
HCL	2	8-13-62	
HC	1	6-27-62	
APPR	NO.	REVISION	

RECOMMENDED: H C Lang

APPROVED: C M Mitchell

DRAWN BY: Chiavetta | SCALE: 1/4" = 1'-0"

CHECKED BY: Nutter | DATE: 4-3-62

DWG. NO. B-472 ~~BT-413~~

SECTION NO. ~~TS-1~~ BC-1

1555
~~62A136~~
64A163

AS BUILT

B-473 E

ROOF PLAN

THIS DWG IS SHOWN "OPPOSITE HAND"
FOR TRUE ORIENTATION SEE DWG. BT-200

COMMONWEALTH OF VIRGINIA
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N.Y.-ST. LOUIS, MO.-NORFOLK, VA.

CHESAPEAKE BAY BRIDGE-TUNNEL CROSSING
NORTH VENTILATION BUILDING
BALTIMORE CHANNEL - ARCHITECTURAL
ROOF PLAN

APPR	NO.	REVISION
M.L.	4	7-31-64 AS BUILT
T.N.	3	12-27-62 REVISED DIESEL EXHAUST STACK LOCATION
G.C.	2	11-29-62 Scuppers Located
F.C.L.	1	6-27-62

RECOMMENDED: F.C. Lowry
APPROVED: [signature]

DRAWN BY: Chiwetta | SCALE: 1/4" = 1'-0"
CHECKED BY: Nafee | DATE: 4-3-62
DWG. NO. B-473 ~~BT-414~~
SECTION NO. ~~TS-1~~ BC-1

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

AS BUILT

1555 ~~62N57~~ 64N64

Top of Limestone Coping - El.+58.95

Cont Strip & Reglet - See Det. Dwg. B-478

H.P. of Roof El.+53.41½

Built-up Roofing

Roof Scuttle - See Dwg. B-478

Limestone Surround

Continuous Aluminum Louver For Details see B-485

P L E N U M C H A M B E R

Elect. Equip. Floor El.+37.20'

Limestone

Grade El.+27.70'

Face of Portal

Fan Floor El.+15.20'

Blower Damper Level El.-0.80'

℄ Blower Fans

Access Door N.S. & F.S.

Access Doors

Trolley Beam

℄ Blower Fan

Access Doors N.S. & F.S.

Access Door

Access

Damper Operating Mech. See Dwg. B-462 (Typ.)

Damper Access Door See Dwg. B-494 (Typ)

Damper in open position (Typ.)

Damper in closed position (Typ.)

Damper Frame - See Dwg. B-495 (Typ.)

F R E S H A I R D U C T

F R E S H A I R D U C T

F R E S H A I R D U C T

SUMP ENTRANCE ROOM

CABLE ROOM

14'-7½"

2'-6"

2'-0" 5"

Ships Ladder

2'-8½"

10 T. @ 9½" = 7'-11"

4'-0"

Trolley Beam

8" Conc. Block Wall

El.+44.53'

2"

Nosing Line

11 R. @ 8" = 7'-4"

16

HATCHWAY

El.+37.20'

7 R. @ 4'-5½"

5'-10½"

6 T. @ 9½" = 4'-9"

El.+32.74'

8" Conc. Block Wall

2"

Nosing Line

9

7 R. @ 4'-5½"

El.+28.26'

Grade El.+28.20'

El.+27.70'

2" (Typ)

10 R. @ 6'-6½"

3'-6"

9 T. @ 9½" = 7'-1½"

4'-0"

El.+21.74'

Nosing Line (Typ.)

2" (Typ)

Nosing Line (Typ.)

10 R. @ 6'-6½"

El.+15.20'

Face of Shaft

10 R. @ 6'-6⅝"

For Stair Details See Dwg B-484

El.+8.53'

6'-0" Max.

Typ.

Stringer - 12 Jr. E 10.6 (Typ.)

14 R. @ 8" = 9'-4"

7

El.-0.80'

3'-6"

13 T. @ 9½" = 10'-3½"

Nosing Line

4'-5½"

3'-6"

1'-1"

Lattice Gate - See Acorn Wire & Iron Works Order № G-5987

Tunnel Sidewalk Level - El.-11.37'

Opening

El.-8.13'

11 R. @ 8" = 7'-4"

5 R. @ 7¾" = 3'-2¾"

4'-5"

Post

Tunnel Sidewalk Level - El.-10.62'

Nosing Lines

4 T. @ 9½" = 3'-2"

4'-7"

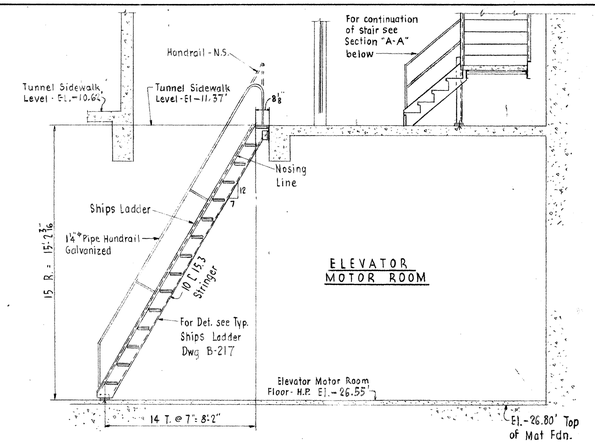
Ships Ladder

For continuation of stair see Part Sect. "A-A" above

ELEVATOR MOTOR ROOM

S E C T I O N "A-A"

Scale : ¼"=1'-0"



P A R T S E C T I O N "A-A"

Scale : ¼"=1'-0"

COMMONWEALTH OF VIRGINIA
CHARLES M. METCALF
CIVIL ENGINEER
No. 2203
REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF VIRGINIA

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N. Y.—ST. LOUIS, MO.—NORFOLK, VA.

CHESAPEAKE BAY BRIDGE—TUNNEL CROSSING

NORTH VENTILATION BUILDING
BALTIMORE CHANNEL - ARCHITECTURAL
SECTIONS & DETAILS - SHEET 1

RECOMMENDED:

APPROVED:

DRAWN BY: Nimier | SCALE: As Noted
CHECKED BY: Chiarotta | DATE: 4-3-62
DWG. NO. B-474 ~~B-415~~
SECTION NO. ~~B-1~~ BC-1

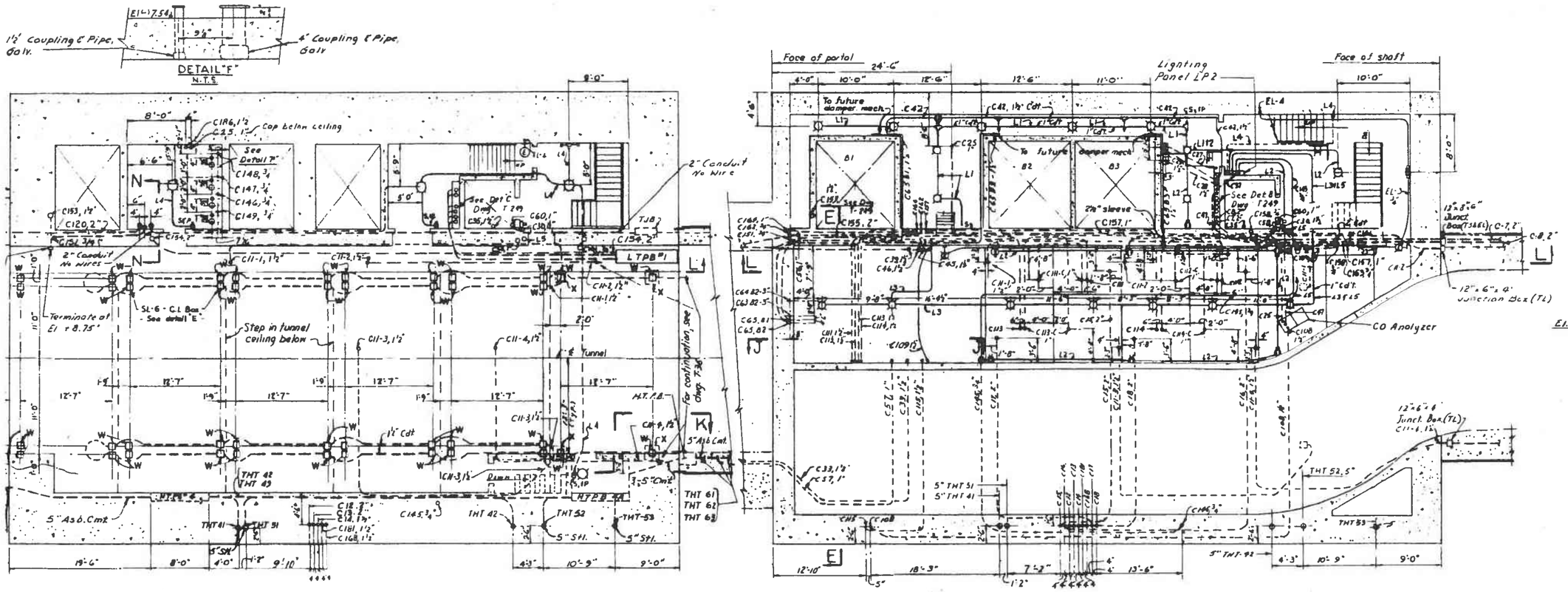
APPR	NO.	REVISION
MSL	4	7-31-64 - AS BUILT
T.N.	3	12-63 DELETED PASS DOOR IN ROLL-UP DOOR & ADDED DOOR IN STAIRWAY WALL - MEZZ
FCL	2	8-13-62
FCL	1	6-27-62

1555
~~6444~~
64N65

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

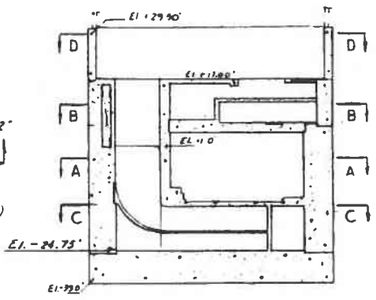
AS BUILT

22x36 TRIM



REFERENCE ONLY

RAMP NORTH



KEY SECTION
LOOKING NORTH

LEGEND

Ground cable
Embedded conduit
Exposed conduit

- ⏚ – Plug receptacle outlet. Russell & Stoll box
- – 4"x4"x3" C.I. box for telephone outlet;
- – 4"x4"x3" C.I. box for Bell outlet, 8'-0" above
- & – 4"x1⅞" C.I. box Spring City Cat. No. RB-8 or eq
- S&P Russell & Stoll 2 Gang F.D. Box "3712 or equal.
- – Russell & Stoll F.D. Box "3711 or equal.
- S, S, S – Russell & Stoll F.D. Box "3711 or equal.
- – 4"x1⅞" C.I. box. Spring City RB-7 or equal. Locate on wall, 8'-0" above floor or landing.
- – Elevator push button. Locate 4'-0" above fl of each landing.

Turning or ow
Turning Forwa

Notes:
1. All conduits to be grounded.
2. Ends of all conduit runs to be closed with co bushings with metal discs.
3. SL-6 boxes for Tunnel Lighting to be spaced 12' ± ⅛" o.c. measured along the tunnel ceiling.
4. Conduits to be tagged with metal tags as ind.
5. Exposed conduits in pump room to be silicon
6. Lighting conduit & boxes to be run exposed. Pipe s to be provided in masonry walls & slabs where neces Conduits to be ¾" unless otherwise noted.
7. Tunnel light boxes marked 'X' to be depressed into tunnel ceiling as shown on dwg. T-36
8. Tunnel light boxes marked 'W' to be placed with the ed end facing the North Portal.
9. Tunnel light boxes marked 'V' to be placed with the grounded end facing the South Portal.

Switch & Plug Receptacle Outlets - 4'-6" abov

Reference Drawings
Dwg. No. T-249 - Sections & Details.
Dwg. No. BT-250 - Ground cable installation.

APPR	NO.	REVISION

COMMONWEALTH OF VIRGINIA
CHESAPEAKE BAY BRIDGE AND TUNNEL DIS
NORFOLK 1, VIRGINIA

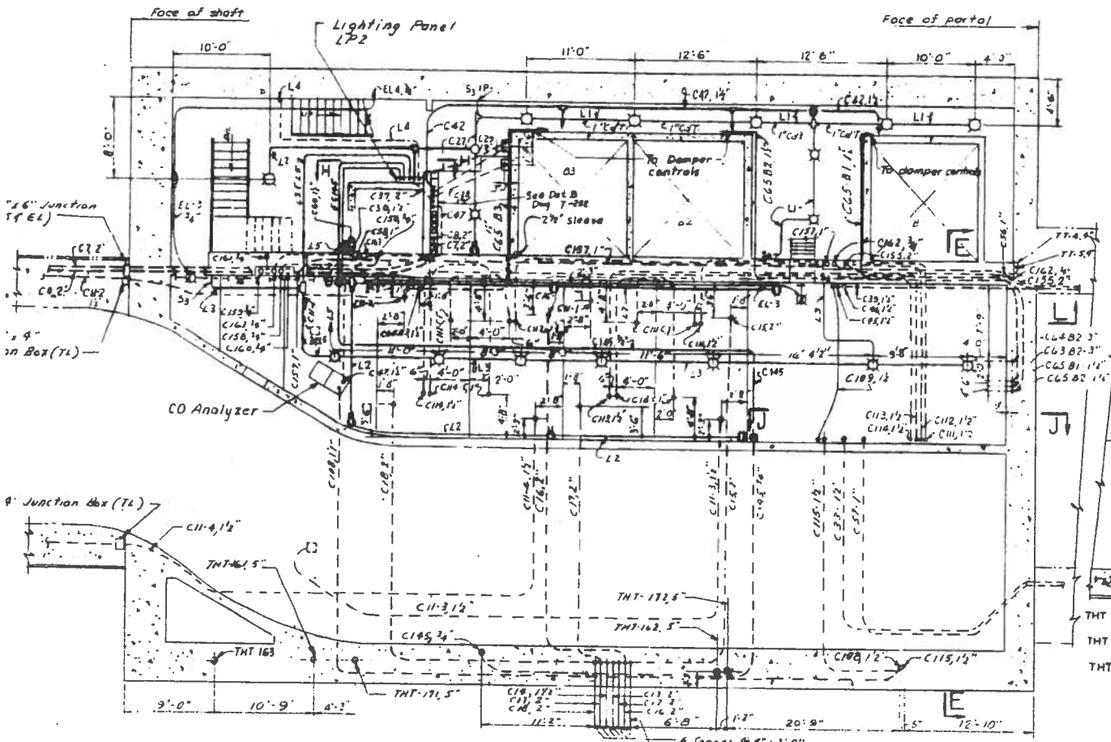
SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N.Y.–ST. LOUIS, MO.–NORFOLK, VA.

CHESAPEAKE BAY BRIDGE–TUNNEL CROSS
THIMBLE SHOAL TUNNEL
SOUTH SHAFT PLANS
CONDUIT INSTALLATION

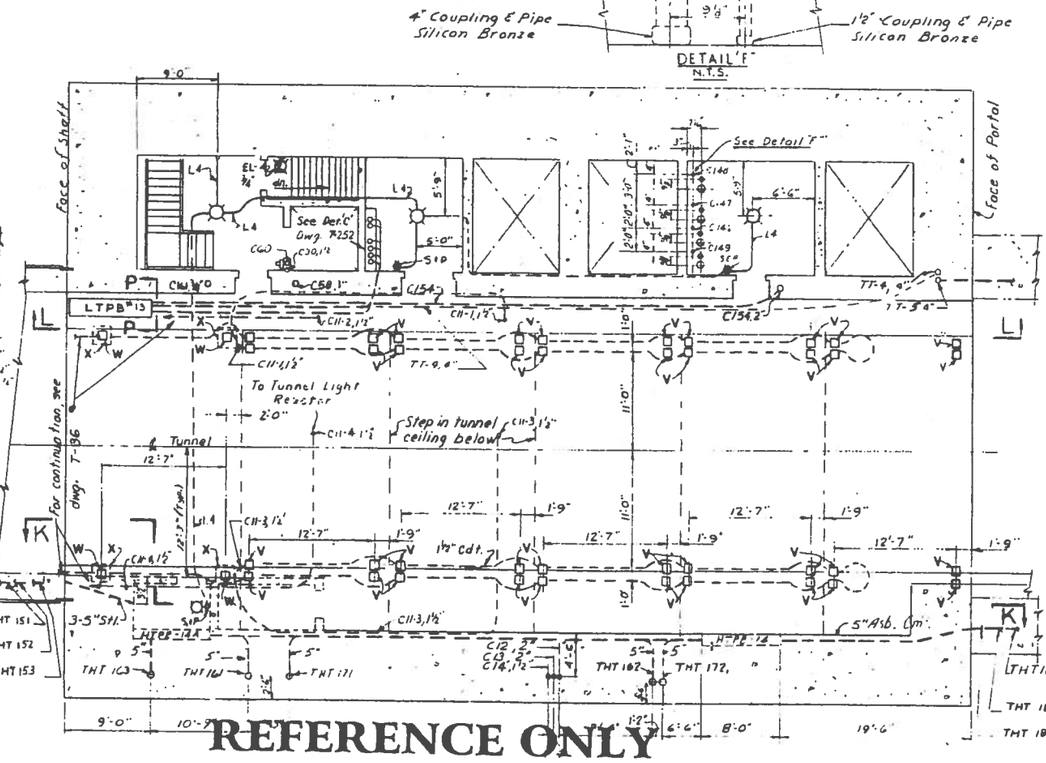
RECOMMENDED: George P. Kelly
APPROVED: Chr. Mitchell

DRAWN BY: JAR | SCALE: ⅛"
CHECKED BY: GPK | DATE: 6-2
DWG. NO. T-248
SECTION NO. T

DWG No. SECTION EG18 OF EG__

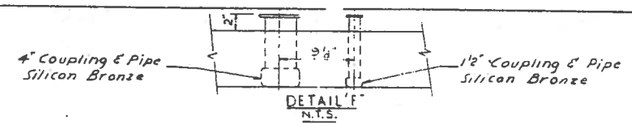


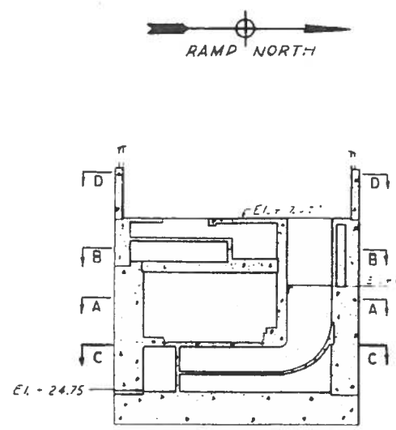
PLAN ABOVE TUNNEL CEILING (SECT B-B)



REFERENCE ONLY

PLAN ABOVE ROADWAY (SECT A-A)

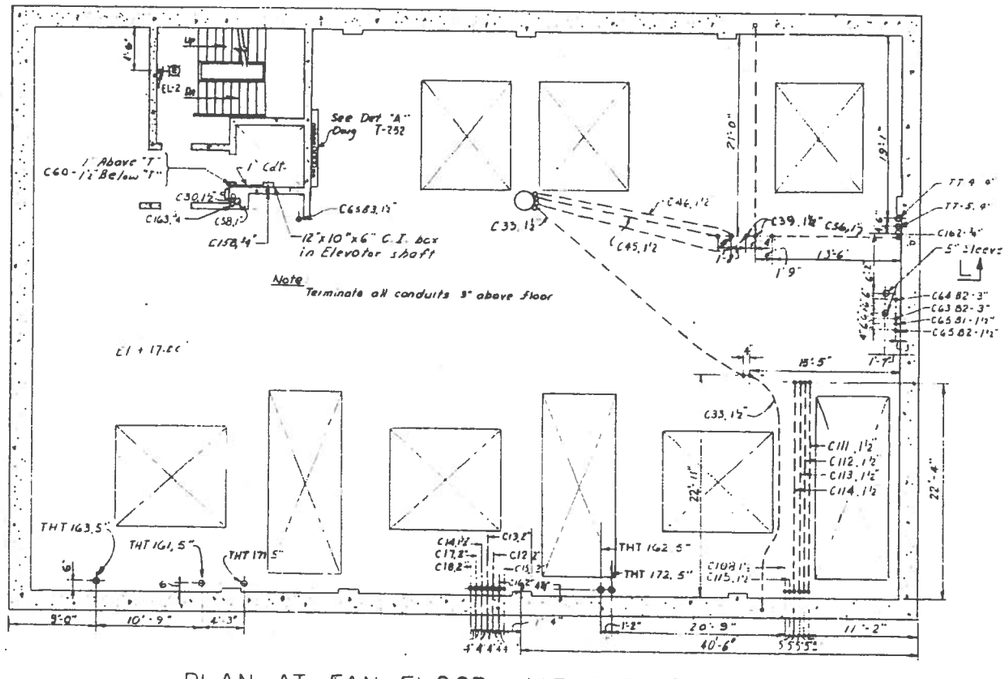




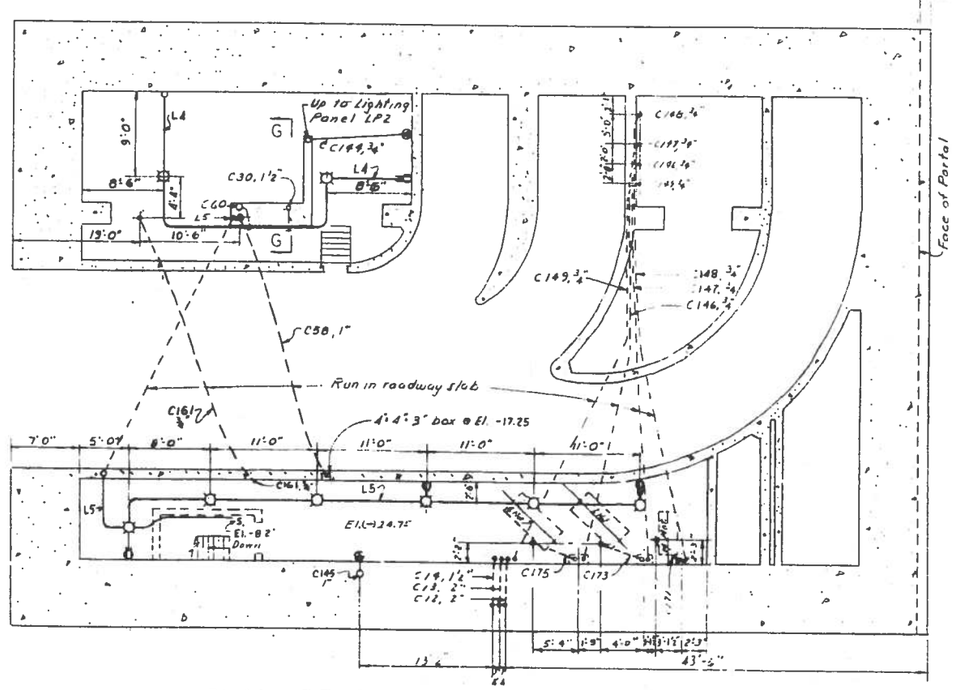
KEY SECTION
LOOKING SOUTH

LEGEND

- Ground cable — 4/0
- Embedded conduit
- Exposed conduit
- ● – Plug receptacle outlet Russell & Stoll bo.
- ▯K – 4"×4"×3" C.I. box for telephone outlet
- ▯D – 4"×4"×3" C.I. box for Bell outlet
- ▯E – 4"×4"×1⅜" C.I. box, Spring City Cat. No. RB-8
- ⊖ – Russell & Stoll F.D. box "3711 or equal.
- S,S – Russell & Stoll F.D. box "3711 or equal
- ▯ – 4"×4"×1⅜" C.I. box, Spring City Type RB-7, or e
- ▯ – Elevator push button. Locate 4'-0" above l of each landing.
- S, & P. Russell & Stoll 2 Gong FD Box Cat No. 371
- Switch & Plug Receptacle Outlets - 4'-6" above
- Turnir or on
- Turnir form



PLAN AT FAN FLOOR (SECT D-D)



PLAN BELOW ROADWAY (SECT C-C)

Notes:

1. All conduits to be grounded.
2. Ends of all conduit runs to be closed with or bushings with metal discs.
3. SL-6 boxes for Tunnel Lighting to be space 12'-7" ± ¼" o.c. measured along the tunnel ceiling
4. Conduits to be tagged with metal tags as inc
5. Exposed conduits in pump room to be silico bronze.
6. Lighting conduit & boxes to be run exposed. Pipe sleeves to be provided in masonry walls & sla where necessary.
7. Tunnel light boxes marked "X" to be depressed in tunnel ceiling as shown on dwg's, T-96
8. Tunnel light boxes marked "W" to be placed w the grounded end facing the North Portal
9. Tunnel light boxes marked "V" to be placed with grounded end facing the South Portal

Reference Drawings
Dwg No. T-252 - Sections & Details
Dwg No BT-253 - Ground cable installation.

APPR	NO.	REVISION

COMMONWEALTH OF VIRGINIA
CHESAPEAKE BAY BRIDGE AND TUNNEL DIST
NORFOLK 1, VIRGINIA

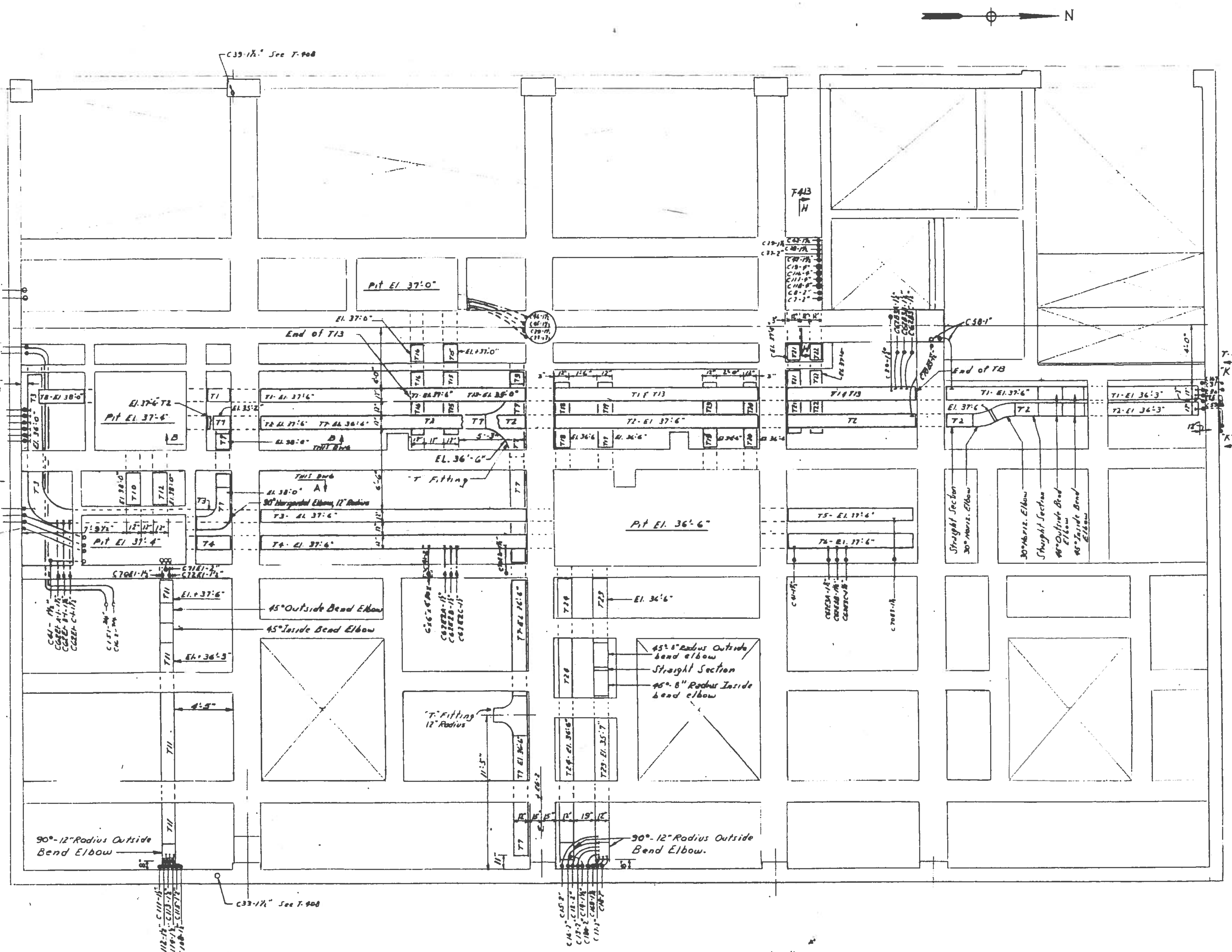
SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N. Y. – ST. LOUIS, MO. – NORFOLK, VA.

CHESAPEAKE BAY BRIDGE – TUNNEL CROSS
THIMBLE SHOAL TUNNEL
NORTH SHAFT PLANS
CONDUIT INSTALLATION

RECOMMENDED: George F. Kelly
APPROVED: [illegible]

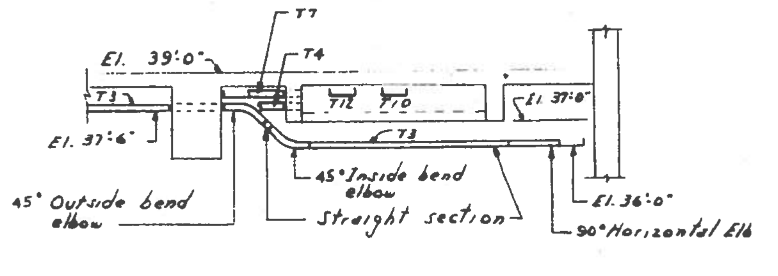
DRAWN BY: JAR | SCALE: ⅛"
CHECKED BY: G.P.P | DATE: 7-5
DWG. NO. T 251
SECTION NO. TS

DWG No. SECTION EG19 OF EG



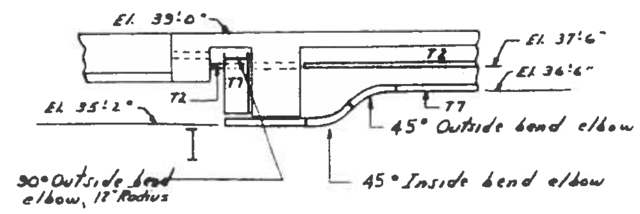
PLAN AT ELEVATION +38'-4"

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



SECTION A-A

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



SECTION B-B

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

REFERENCE ONLY

NOTES

1. All trays & fittings to be 12" wide Husky Products "Ventrib", all aluminum, or equal
2. Tray Elevations given in Plan are to bottom of trays.
3. All tray fittings to be 24" Radius bends unless otherwise noted.
4. For continuation of conduits shown on this drawing & other conduits not shown see T-408 & T-410.
5. Openings to be field cut in bottom of trays where cables are required to p lower trays. Each opening to be provided with two drop-out fittings, Husky Products AV
6. Cable trays to be bonded to each other and to building ground sys to form continuous ground system.
7. High Tension conduits passing exposed thru the exhaust fan rooms shall be fireproofed with Johns-Manville "Niagrite B" Asbestoment tape. The tape sh be 1/8" thick, wrapped in three (3) layers. Over the tape, Asbestoment "Typ shall be applied 1/2" (minimum) thick.
8. Cable tray supports shall be spaced 10'-0" maximum.

COMMONWEALTH OF VIRGINIA

CHESAPEAKE BAY BRIDGE AND TUNNEL DIST

NORFOLK 1, VIRGINIA

SVERDRUP & PARCEL, CONSULTING ENGINEERS
NEW YORK, N. Y.–ST. LOUIS, MO.–NORFOLK, VA.

CHESAPEAKE BAY BRIDGE–TUNNEL CROSS
THIMBLE SHOAL TUNNEL
SOUTH VENTILATION BUILDING
BELOW ELECTRICAL EQUIPMENT FLOOR
ELECTRICAL EQUIPMENT INSTALLATION

APP'D	NO.	REVISION
	2	MAY 28, 1963
	1	NOV. 23, 1962

RECOMMENDED: [signature]

APPROVED: [signature]

DRAWN BY: DPS

CHECKED BY:

SCALE: AS

DATE: 7-

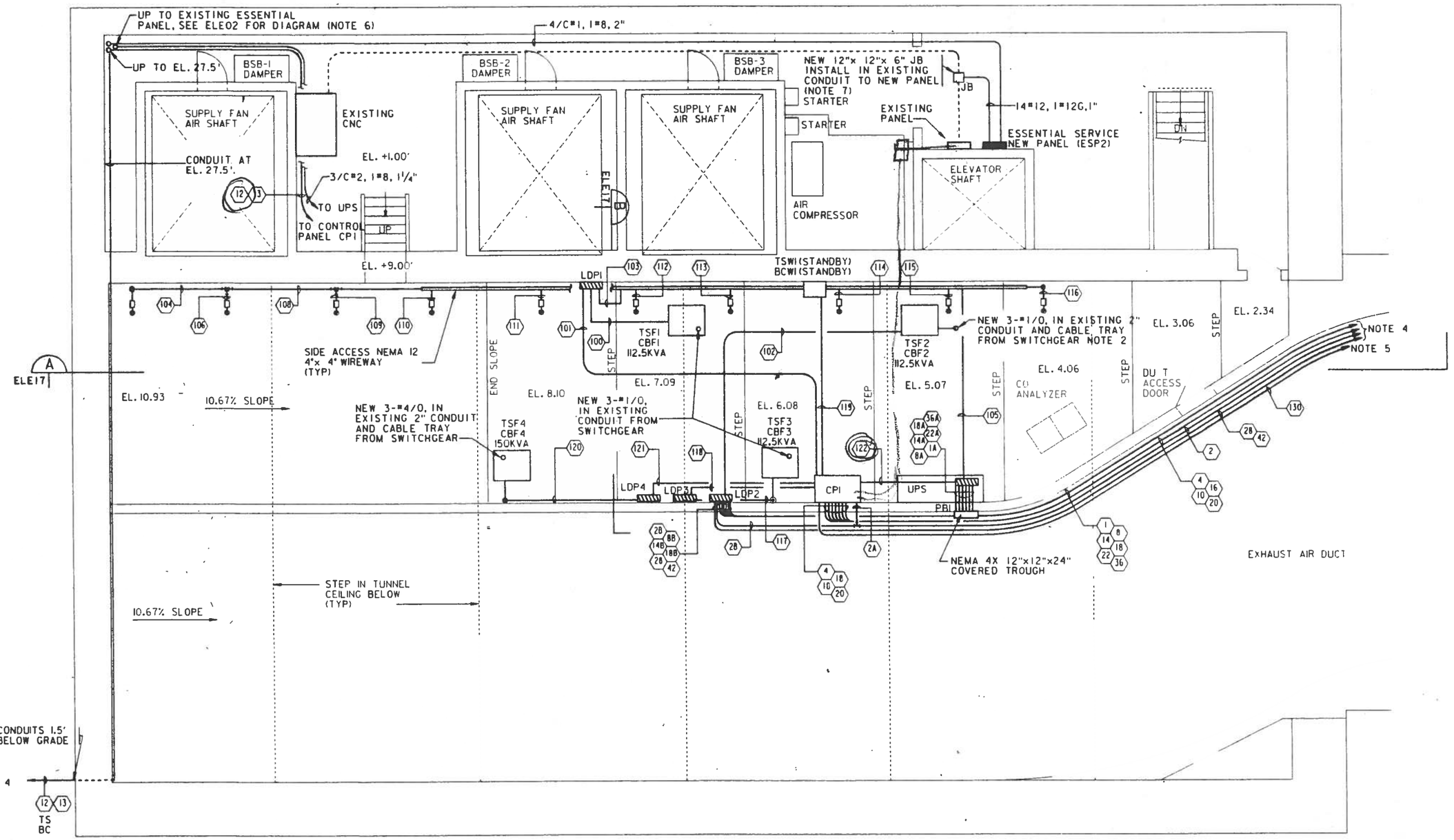
DWG. NO. T 409

SECTION NO. TS-

COMMONWEALTH OF VIRGINIA — CHARLES H. METCALF — CIVIL ENGINEER — No. 2203

DWG No

SECTION EG12 OF EG



PLAN - ELECTRICAL LIGHTING CONTROL ROOM

SCALE: ¼" = 1'-0"

NOTES:

1. FOR GENERAL NOTES AND SYMBOLS SEE SECTION ELE01.
2. EXTEND CONDUIT AS REQUIRED FROM EXISTING STUB-UP TO NEW TRANSFORMER LOCATIONS.
3. FOR LDP's CIRCUITS ,SEE LIGHTING DISTRIBUTION SCHEDULES.
4. FOR CONTINUATION SEE SECTION ELE03 AND ELE08.
5. EXTEND CONDUIT AS REQUIRED TO CP1 LOCATED IN NORTH VENTILATION BUILDING CONTROL ROOM VIA EXHAUST AIR DUCT. PROVIDE AND INSTALL 8"x8"x4" PULLBOX EVERY 350-FEET OF RUN.
6. CONDUIT AND WIRE SHALL BE ROUTED TO ESSENTIAL SERVICE PANEL VIA EXISTING CABLE TRAY SYSTEM ON THE NEXT LEVEL. CONTRACTOR SHALL VERIFY ROUTING OF CONDUIT TO CABLE TRAY.
7. DISCONNECT CIRCUITS SUPPLYING CNC FROM EXISTING PANEL. EXTEND AND CONNECT NEW CIRCUIT CONDUCTORS FROM ESP2 TO EXISTING CONDUCTORS IN BOX.

NO.	DATE	BY	APP.	DESCRIPTION

COMMONWEALTH OF VIRGINIA
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT
CAPE CHARLES, VIRGINIA 23310-0111

TUNNEL LIGHTING REPLACEMENT INSTALLATION CONTRACT

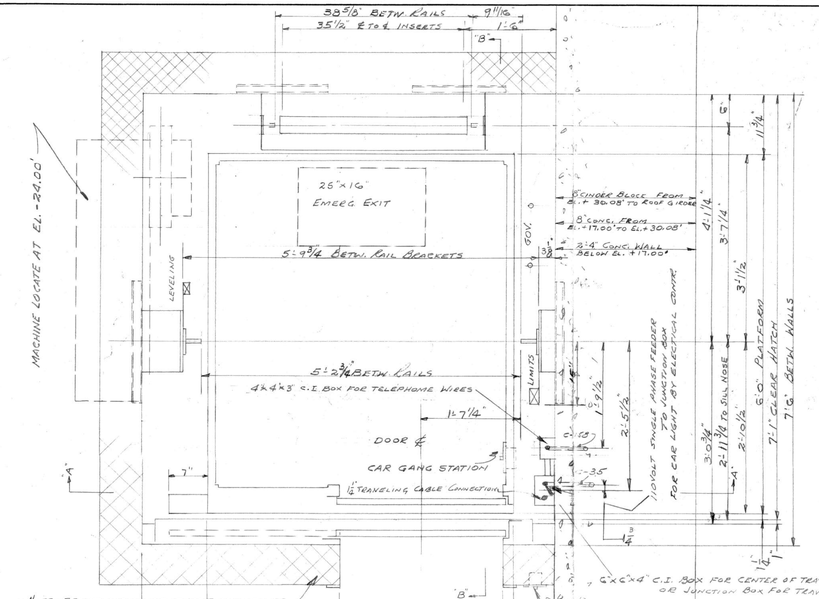
SVERDRUP CIVIL, INC.

POWER PLAN
PORTAL ISLAND 1 AND 3
VENTILATION BUILDINGS

Approved:

DRAWN BY: RSM	SCALE: AS NOT
CHECKED BY: WWL	DATE: NOV 19
DWG. NO.	56
SECTION NO.	ELE13 OF

FILENAME 96E13.DGN
JOB NO. 13962



ELEVATOR DATA

CAP. 2000 LBS. AT 100 F. P. M.; TRAVEL 48'-6 7/8"
SERVICE PASSENGER LANDINGS 5 OPENINGS 5
CONTROL FULL AUTOMATIC P.B.
LEVELING
POWER SUPPLY: VOLTS 208 PHASE 3 CYCLE 60
MACHINE BASEMENT
MODEL 43 T.W. DIA. 20" CABLES 4-½"
MOTOR 200 H.P. 10 VOLTS 208 PH. 3 CYCLE 60
PUMP UNIT
VALVES: DOWN DN. LEVEL UP LEVEL BY-PASS
PLUNGER: DIA. WALL CYL. DIA. WALL
WORKING PRESSURE PIPE SIZE
CAB: TMP SERIES 500 BY V.E.Co.
TYPE
DOOR/~~GATE~~ SGL. SPEED SIZE: 32"x84"
DOOR/~~GATE~~ HANGER GAL BY V.E.Co.
SAFETY EDGE GAL V.E.Co ELECT. EYE
LIGHT FAN
PANELS COLOR
CANOPY COLOR
PLATFORM FLOOR
CAR P.B. STATION GAL BY V.E.Co.
HATCH ENTRANCES TMP BY V.E.Co.
TYPE SIZE 4-32x84", 1-32"x80"
COLOR: DOORS
FRAMES
DOOR HANGERS GAL BY V.E.Co.
INTERLOCKS GAL-V.E.Co CAM
CORR. P.B. STATION GAL BY V.E.Co.
DOOR/~~GATE~~ OPERATOR GAL V.E.Co TYPE
GUIDE RAILS: CAR 15# V.E.Co CWTS. 8# V.E.Co.
GUIDE SHOES: TOP RIGID BOTTOM RIGID
SAFETY QUICK ACTING N° 60-A
BUFFERS SPRING GOVERNOR 1400-A
BEAMS 10" 20# CHANNELS SHEAVES 20 Dia. (4)
SPECIAL FEATURES

NOTES:

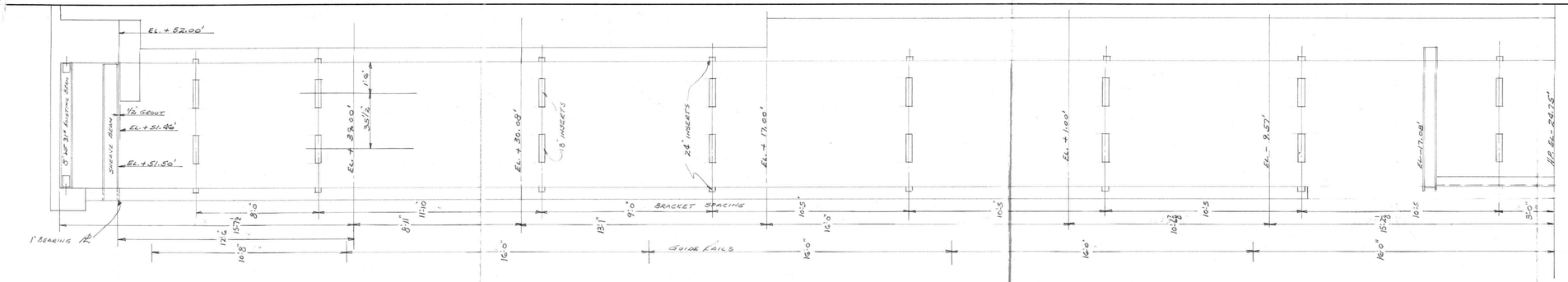
1. IF PIT IS POURED BEFORE JACK IS SET, LEAVE 2'-0" X 2'-0" OPENING IN PIT FLOOR AS SHOWN.
2. FRONT WALLS OF HATCH NOT TO BE CONSTRUCTED UNTIL DOOR FRAMES ARE SET IN PLACE.
3. GENERAL CONTRACTOR TO PROVIDE SILL CUTOUT AS SHOWN IN DETAIL, FULL WIDTH OF HATCH.
4. GENERAL CONTRACTOR TO PROVIDE ADEQUATE GUIDE RAIL BRACKET SUPPORTS AT LEVELS SHOWN ON SECTION "A"-"A".

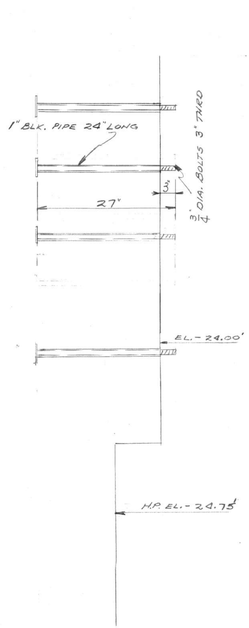
DATE	NO.	ISSUED TO	REMARKS

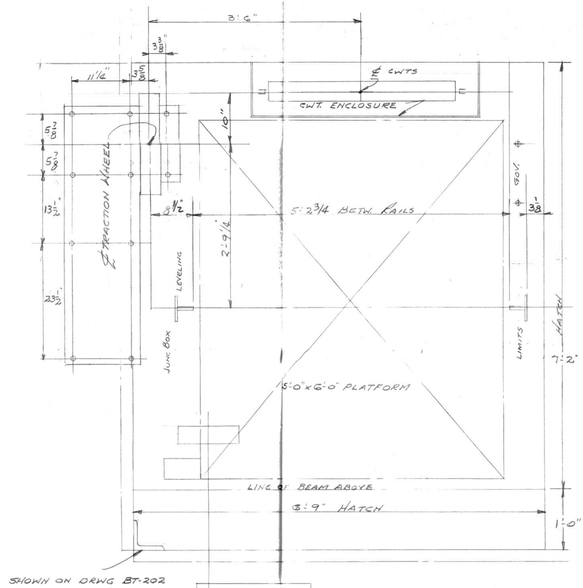
REV.	DATE	REVISION	CHK'D.
D	11/28/62	STEEL FRAMING REMOVED EL.+17.08	
C	8/24/62	HOIST BEAM LOCATED, SMOKE HATCH ADDED	
B	4/5/62	SHEAVE BEAM NOS. PLATE ADDED	
A	3/6/62	SLAB ADDED AT EL.+51.46'	

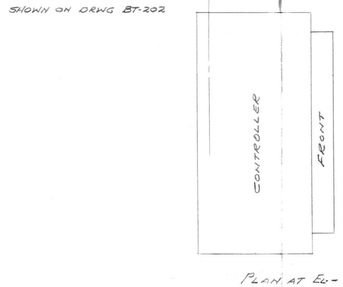
HOLLISTER-WHITNEY ELEVATOR CO.
QUINCY ILLINOIS

FOR CHESAPEAKE BAY FERRY DISTRICT
LOCATION NORFOLK, VIRGINIA
CONTRACT WITH VIRGINIA ELEVATOR CO.
ARCHITECT SVERDRUP-PARCELL: CONSULT. ENGINEERS
GENERAL CONTRACTOR TIDEWATER-RAYMOND-KIEWIT
DATE MAY 4, 1962 DRAWN BY L CHK'D. BY B
DRAWING NO. G2130 Rev D CONTRACT NO. 29441
APPROVED BY Lindsay V. Parcell DATE 6/25/62
SHEET 1 OF 3

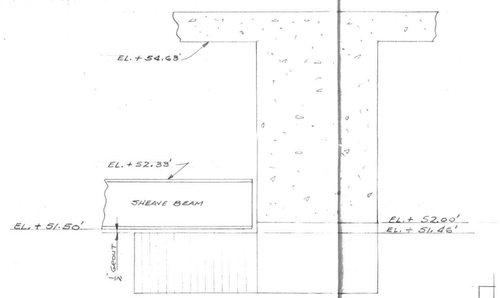




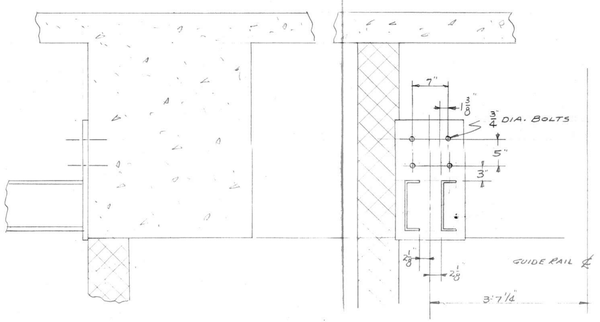




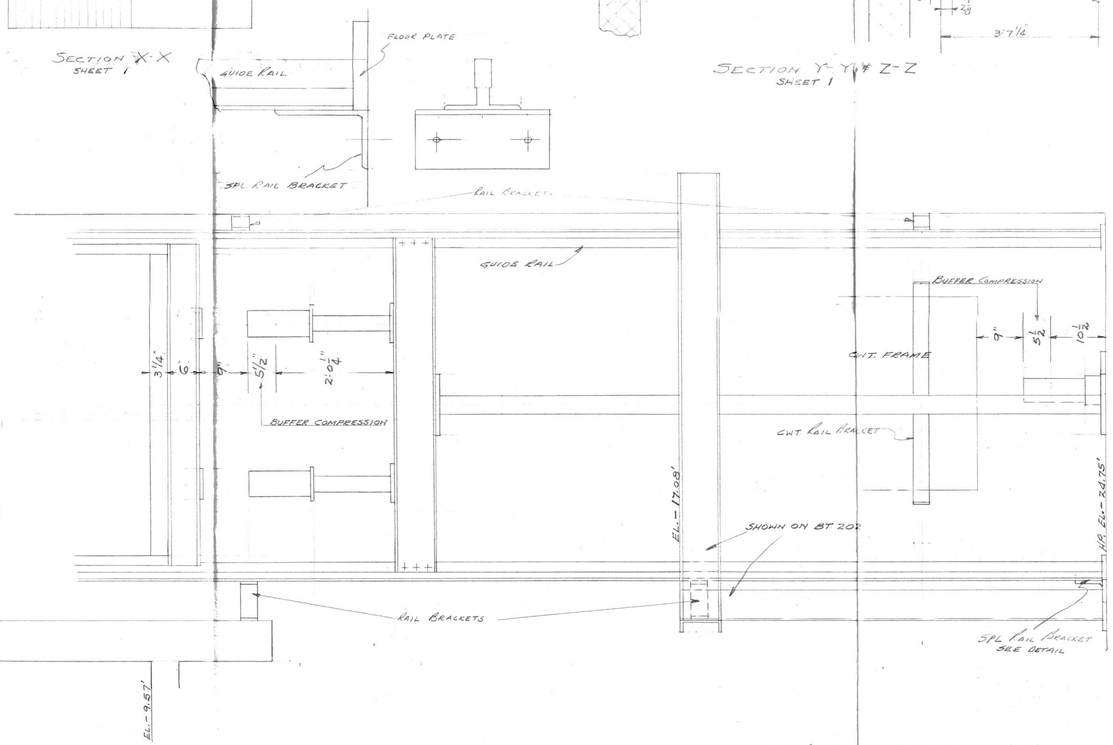
Plan at El. - 24.75'



Section X-X
Sheet 1



Section Y-Y & Z-Z
Sheet 1



Ref. North

For North Shafts Thimble Shoal & Baltimore Tunnels

ELEVATOR DATA

CAP. _____ LBS. AT _____ F. P. M.: TRAVEL _____
SERVICE _____ LANDINGS _____ OPENINGS _____
CONTROL _____
LEVELING _____
POWER SUPPLY: VOLTS _____ PHASE _____ CYCLE _____
MACHINE _____
MODEL _____ T.W. DIA. _____ CABLES _____
MOTOR _____ H.P. _____ VOLTS _____ PH. _____ CYCLE _____
PUMP UNIT _____
VALVES: DOWN _____ DN. LEVEL _____ UP LEVEL _____ BY-PASS _____
PLUNGER: DIA. _____ WALL _____ CYL. DIA. _____ WALL _____
WORKING PRESSURE _____ PIPE SIZE _____
CAB: _____
TYPE _____
DOOR/GATE _____ SIZE _____
DOOR/GATE HANGER _____
SAFETY EDGE _____ ELECT. EYE _____
LIGHT _____ FAN _____
PANELS _____ COLOR _____
CANOPY _____ COLOR _____
PLATFORM _____ FLOOR _____
CAR P.B. STATION _____
HATCH ENTRANCES _____
TYPE _____ SIZE _____
COLOR: DOORS _____
FRAMES _____
DOOR HANGERS _____
INTERLOCKS _____ CAM _____
CORR. P.B. STATION _____
DOOR/GATE OPERATOR _____ TYPE _____
GUIDE RAILS: CAR _____ CWTS. _____
GUIDE SHOES: TOP _____ BOTTOM _____
SAFETY _____
BUFFERS _____ GOVERNOR _____
BEAMS _____ SHEAVES _____
SPECIAL FEATURES _____

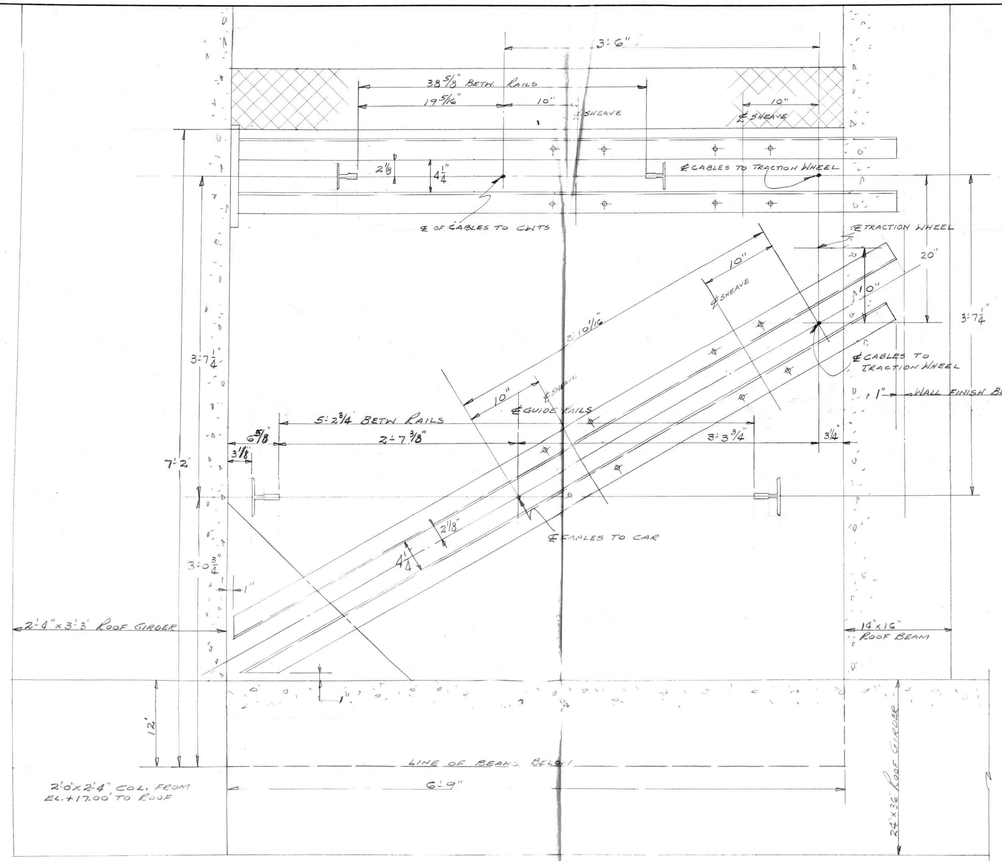
NOTES:

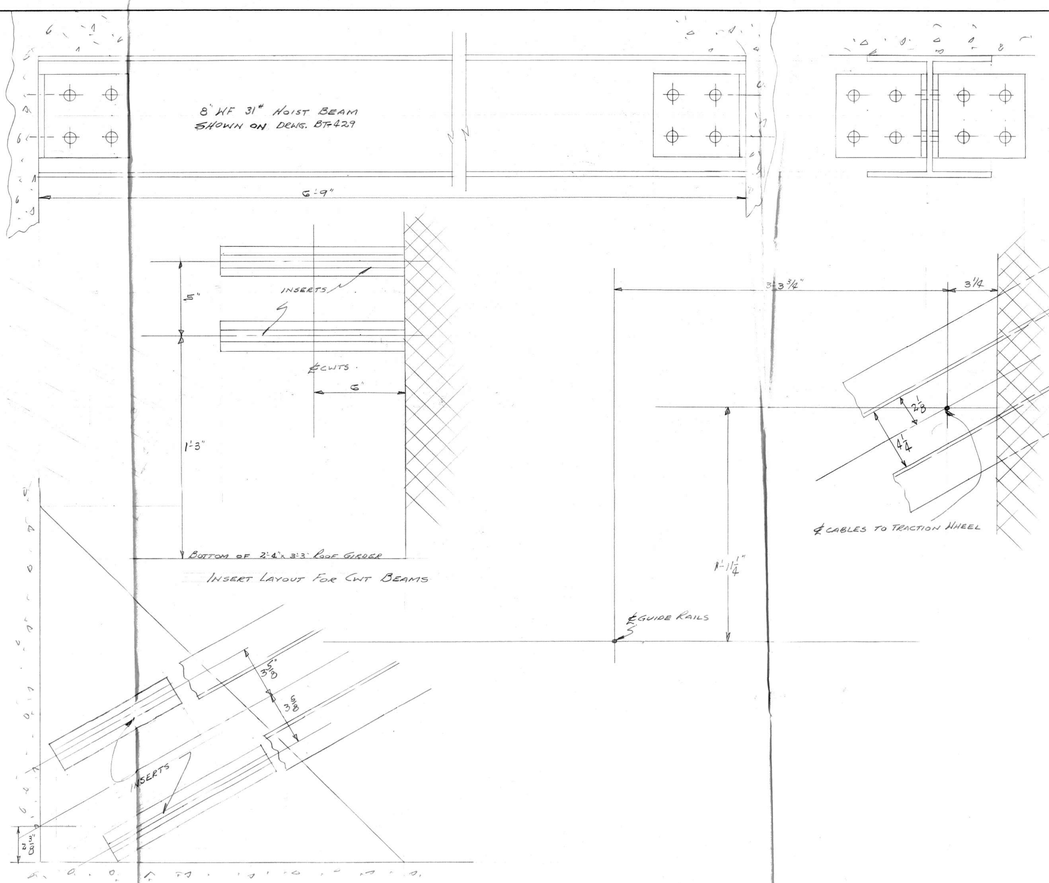
1. IF PIT IS POURED BEFORE JACK IS SET, LEAVE 2'-0" X 2'-0" OPENING IN PIT FLOOR AS SHOWN.
2. FRONT WALLS OF HATCH NOT TO BE CONSTRUCTED UNTIL DOOR FRAMES ARE SET IN PLACE.
3. GENERAL CONTRACTOR TO PROVIDE SILL CUTOUT AS SHOWN IN DETAIL, FULL WIDTH OF HATCH.
4. GENERAL CONTRACTOR TO PROVIDE ADEQUATE GUIDE RAIL BRACKET SUPPORTS AT LEVELS SHOWN ON SECTION "A"-"A".

DATE	NO.	ISSUED TO	REMARKS

REV.	DATE	REVISION	CHK'D.

HOLLISTER-WHITNEY ELEVATOR CORP.
QUINCY ILLINOIS
FOR Chesapeake Bay Ferry District
LOCATION Norfolk, Virginia
CONTRACT WITH Virginia Elevator Co.
ARCHITECT Sverdrup-Parcell - Consult. Engineers
GENERAL CONTRACTOR Fortnatter-Raymond & Kiewit
DATE May 7, 1962 DRAWN BY _____ CHK'D. BY _____
DRAWING NO. 62130 Rev C CONTRACT NO. 29441
APPROVED BY _____ DATE _____
SHEET 2 OF 3





ELEVATOR DATA

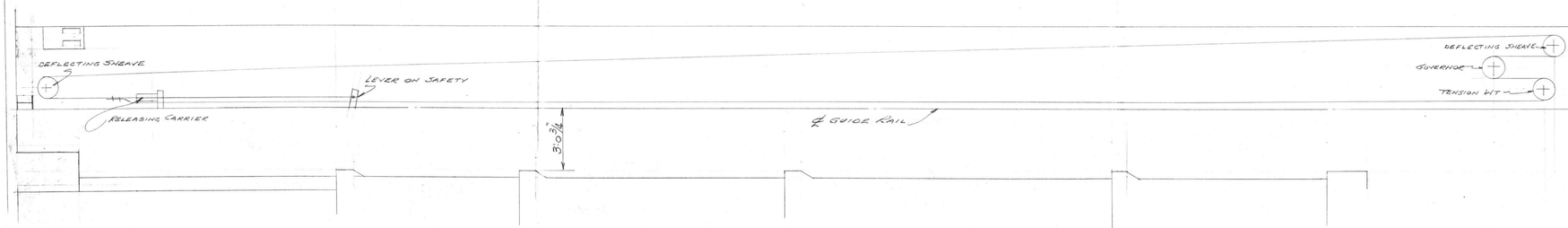
CAP. _____ LBS. AT _____ F. P. M.: TRAVEL _____
SERVICE _____ LANDINGS _____ OPENINGS _____
CONTROL _____
LEVELING _____
POWER SUPPLY: VOLTS _____ PHASE _____ CYCLE _____
MACHINE _____
MODEL _____ T.W. DIA. _____ CABLES _____
MOTOR _____ H.P. _____ VOLTS _____ PH. _____ CYCLE _____
PUMP UNIT _____
VALVES: DOWN _____ DN. LEVEL _____ UP LEVEL _____ BY-PASS _____
PLUNGER: DIA. _____ WALL _____ CYL. DIA. _____ WALL _____
WORKING PRESSURE _____ PIPE SIZE _____
CAB: _____
TYPE _____
DOOR/GATE _____ SIZE _____
DOOR/GATE HANGER _____
SAFETY EDGE _____ ELECT. EYE _____
LIGHT _____ FAN _____
PANELS _____ COLOR _____
CANOPY _____ COLOR _____
PLATFORM _____ FLOOR _____
CAR P.B. STATION _____
HATCH ENTRANCES _____
TYPE _____ SIZE _____
COLOR: DOORS _____
FRAMES _____
DOOR HANGERS _____
INTERLOCKS _____ CAM _____
CORR. P.B. STATION _____
DOOR/GATE OPERATOR _____ TYPE _____
GUIDE RAILS: CAR _____ CWTS. _____
GUIDE SHOES: TOP _____ BOTTOM _____
SAFETY _____
BUFFERS _____ GOVERNOR _____
BEAMS _____ SHEAVES _____
SPECIAL FEATURES _____

NOTES:

1. IF PIT IS POURED BEFORE JACK IS SET, LEAVE 2'-0" X 2'-0" OPENING IN PIT FLOOR AS SHOWN.
2. FRONT WALLS OF HATCH NOT TO BE CONSTRUCTED UNTIL DOOR FRAMES ARE SET IN PLACE.
3. GENERAL CONTRACTOR TO PROVIDE SILL CUTOUT AS SHOWN IN DETAIL. FULL WIDTH OF HATCH.
4. GENERAL CONTRACTOR TO PROVIDE ADEQUATE GUIDE RAIL BRACKET SUPPORTS AT LEVELS SHOWN ON SECTION "A"-"A".

DATE	NO.	ISSUED TO	REMARKS

REV.	DATE	REVISION	CHK'D.



HOLLISTER-WHITNEY ELEVATOR CORP.
QUINCY ILLINOIS

FOR Chesapeake Bay Ferry District
LOCATION Norfolk, Virginia
CONTRACT WITH Virginia Elevator Co
ARCHITECT Sverdrup-Parcell-Consult. Engineers
GENERAL CONTRACTOR Tidewater-Raymond-Kenit
DATE May 10, 1962 DRAWN BY L CHK'D. BY B
DRAWING NO. G2179 Rev C CONTRACT NO. 29441
APPROVED BY Sverdrup Parcell DATE 6/21/62
SHEET 3 OF 3

For South Shaft Thimble Shoal & Rattimore Tunnel