

GENERAL NOTES

- CONTRACTOR SHALL VERIFY ALL FIELD DIMENSIONS AND CONDITIONS PRIOR TO STARTING WORK. DISCREPANCIES SHALL BE PROMPTLY REPORTED IN WRITING TO THE KAUAI REGION REPRESENTATIVE FOR RESOLUTION OR CLARIFICATION.
- OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE KAUAI REGION REPRESENTATIVE BEFORE PROCEEDING WITH ANY WORK SO INVOLVED.
- CONTRACTOR SHALL COORDINATE WORK WITH ALL TRADES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERECTING SAFETY BARRIERS, WARNING SIGNS, CONTROLLING TRAFFIC, AND ALL OTHER ISSUES RELATED TO JOBSITE SAFETY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND PROVISION OF ALL FORM WORK, TEMPORARY BRACING, SHORING, GUYS, ETC.

CONCRETE REPAIR NOTES:

1. CONCRETE REPAIR MATERIAL (ASSUMING SITE MIX CONCRETE):

- USE PRODUCTS FOR CONCRETE SPALL REPAIR THAT ARE SPECIFICALLY DESIGNED FOR THE STRUCTURAL REPAIR OF DAMAGED CONCRETE. SUBMIT ALL PRODUCTS FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIAL.
- CONCRETE REPAIR MATERIAL SHALL BE A FACTORY BLENDED PATCHING MATERIAL CONTAINING LATEX POLYMER TYPE ADMIXTURE, SYNTHETIC FIBER AND CORROSION INHIBITOR, HAVING A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS AND MAXIMUM WATER/CEMENT RATIO OF 0.40.
- STRICTLY FOLLOW THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS ON THE AMOUNT OF WATER TO BE ADDED.
- WHEN RECOMMENDED BY THE MANUFACTURER FOR LARGER REPAIRS, ADD AGGREGATE TO THE MIX. THE APPROPRIATE AGGREGATE SIZE SHALL BE SPECIFIED BY THE MANUFACTURER.
- PATCHING CONCRETE SHALL HAVE THE APPROPRIATE WORKABILITY FOR NO FORMING CONDITIONS OR WHERE FORMING IS REQUIRED. SUPERPLASTICIZER ADMIXTURE SHALL NOT BE ADDED UNLESS SPECIFICALLY ALLOWED BY PATCHING MORTAR MANUFACTURER.

2. REINFORCING STEEL:

- NEW STEEL REINFORCEMENT USED IN CONCRETE REPAIRS SHALL BE DEFORMED BAR CONFORMING TO ASTM A706, GRADE 60.
- WELDING OF REINFORCING BARS SHALL IN ACCORDANCE WITH AWS D1.4 "STRUCTURAL WELDING CODE-REINFORCING STEEL".
- CHEMICAL COMPOSITION OF THE EXISTING CONCRETE REINFORCEMENT IS NOT KNOWN. WHEN WELDING TO EXISTING REINFORCEMENT IS REQUIRED, STRICTLY FOLLOW AWS D1.4 FOR PREHEAT AND INTERPASS TEMPERATURE FOR THE SIZE OF EXISTING REINFORCEMENT.

3. CONCRETE REPAIR PROCEDURE:

- CONTRACTOR SHALL RETAIN MATERIAL SUPPLIERS AND EXPERIENCED PERSONNEL FAMILIAR IN CONCRETE REPAIR AND RESTORATION WORK.
- PRIOR TO STARTING ANY DEMOLITION WORK, SURVEY THE PROJECT AREA FOR DELAMINATED OR SPALLED CONCRETE, AND FOR CRACKS IN CONCRETE WIDER THAN 0.03-IN. CONTRACTOR'S SURVEY SHALL BE SUBMITTED TO THE KAUAI REGION REPRESENTATIVE. IDENTIFY DAMAGES ON CONTRACTOR'S SURVEY THAT DIFFER FROM THE SCHEDULE IN THESE DRAWINGS. ADDITIONAL ITEMS WILL ONLY BECOME A PART OF THE WORK UPON APPROVAL BY THE KAUAI REGION REPRESENTATIVE.
- ON-SITE OBSERVATION BY THE CONTRACTOR AND MATERIAL MANUFACTURER'S REPRESENTATIVE SHALL ALSO BE INCLUDED AS NEEDED. ANY REVISIONS OR RECOMMENDATIONS TO IMPROVE REPAIR MATERIALS OR METHODS SHALL BE SUBMITTED IN WRITING TO THE KAUAI REGION REPRESENTATIVE.
- BEFORE ANY DEMOLITION, CHIPPING, JACK HAMMERING, DRILLING, CORING, OR ANY OTHER DESTRUCTIVE REMOVAL WORK BEGINS, CONTRACTOR SHALL VERIFY THAT THE OPERATION WILL NOT INJURE, OVERSTRESS, CRACK AND BREAK OR OTHERWISE DAMAGE EXISTING WORK TO REMAIN. PROVIDE SHORING, AS NEEDED, TO STRUCTURAL BEAMS AND SLABS PRIOR TO DEMOLITION WORK, AND LEAVE IN PLACE UNTIL REPAIR MATERIAL HAS PROPERLY CURED.
- ALL DAMAGED, DETERIORATED, LOOSENED (DELAMINATED), OR UNBONDED PORTIONS OF EXISTING CONCRETE UNTIL SOUND CONCRETE IS ENCOUNTERED. SOUND CONCRETE IS THE CONDITION WHERE THE EXPOSED SURFACE IS FIRMLY BONDED TO THE SURROUNDING CONCRETE AND DEVOID OF LOOSE PIECES, CRACKS, AND DELAMINATIONS (UNBONDED CONDITION BELOW THE SURFACE.) WHEN STRUCK WITH A HAMMER, SOUND CONCRETE WILL NOT PRODUCE A HOLLOW SOUND. IF A HOLLOW SOUND IS HEARD WHEN THE SURFACE IS STRUCK WITH A HAMMER, THE SURFACE CONCRETE IS NOT BONDED TO THE CONCRETE BELOW.
- CHIPPED OUT REPAIR AREA SHALL NOT BE LESS THAN 3/4" INCH CLEAR BELOW, ABOVE, AND BEHIND ALL EXPOSED, OXIDIZED REINFORCING BAR.
- EDGES OF THE CHIPPED OUT AREA SHALL BE SAW CUT PERPENDICULAR TO THE CONCRETE SURFACE FOR A MINIMUM DEPTH OF AT LEAST 3/4" INCH OR TO THE MINIMUM THICKNESS REPAIR MATERIAL MAY BE APPLIED, WHICHEVER IS GREATER. DO NOT SAW CUT THROUGH EXISTING REINFORCING BARS. DO NOT FEATHEREDGE THE REPAIR MATERIAL.
- EXPOSED EXISTING STEEL REINFORCEMENT SHALL BE CLEANED OF ALL SCALE, RUST, DIRT, OIL OR ANY OTHER DELETERIOUS MATERIAL. HYDROBLASTING IS PROHIBITED.
- AFTER THE BAR HAS BEEN CLEANED BY HAND TOOLS OR WIRE BRUSH, MEASURE THE DIAMETER OF THE EXPOSED REINFORCING BARS AT THE EDGE OF THE CHIPPED OUT AREA TO DETERMINE THE ORIGINAL BAR SIZE. COMPARE THE BAR DIAMETERS WITHIN THE CHIPPED OUT AREA WITH DETAIL A/S-1 AND REPLACE BARS AS REQUIRED.
- IF NEEDED, MECHANICALLY ROUGHEN CONCRETE SURFACE TO PROMOTE BONDING OF THE REPAIR MATERIAL. THOROUGHLY CLEAN THE REPAIR AREA OF ALL DUST AND DEBRIS FROM THE CONCRETE AND STEEL SURFACES.
- SPALL REPAIRS 2 SQ. FT. OR LESS, AND THE MAXIMUM REPAIR THICKNESS OF 2 INCHES OR LESS, MAY BE ACCOMPLISHED WITHOUT FORM WORK BY USING A PATCHING MORTAR.
- APPLY LATEX POLYMER BONDING AGENT TO SURFACE OF EXISTING CONCRETE PRIOR TO PLACING CONCRETE REPAIR MATERIAL. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR SURFACE PREPARATION AND USAGE OF THE BONDING AGENT. APPLY CORROSION INHIBITOR SUCH AS "DURALPREP A.C. BY EUCLID CHEMICAL", "MCI 2022 BY CORTEC CORPORATION", OR "MAPEFER 1K BY MAPE", DIRECTLY TO ALL REINFORCING PRIOR TO POURING OF CONCRETE. PLACE REPAIR MATERIAL WITHIN THE OPEN TIME OF THE BONDING AGENT.
- FINISH SURFACE OF CONCRETE REPAIRS TO MATCH EXISTING PROFILE OF IMMEDIATELY ADJACENT SURFACES. IF A RADIUS, CHAMFER OR GROOVE IS ENCOUNTERED IN THE WORK AND CONTIGUES THROUGH THE AREA TO BE REPAIRED, THE RADIUS, CHAMFER OR GROOVE SHALL BE REPRODUCED IN THE REPAIRS.
- FOLLOW MANUFACTURER'S INSTRUCTIONS FOR CURING OF THE REPAIR MATERIAL. AFTER REPAIRS HAVE BEEN CURED FOR THE RECOMMENDED LENGTH OF TIME, CLEAN THE REPAIR SURFACE TO RECEIVE SURFACE TREATMENT.
- AT LOCATIONS THAT ARE NOT SCHEDULED TO RECEIVE PAINT, APPLY A CONCRETE SEALER TO THE SURFACE. THE COATED AREA SHALL EXTEND A MINIMUM OF 6 INCHES ALL AROUND THE REPAIR AREA.
- AT LOCATIONS SCHEDULED TO RECEIVE PAINT, APPLY PRIMER, INTERMEDIATE, AND FINAL COAT. SEE PROJECT SPECIFICATIONS FOR PAINTS AND PROCEDURES.

STRUCTURAL STEEL DEMOLITION:

- PRIOR TO REMOVAL, SURVEY STEEL FRAMING AND MISCELLANEOUS STEEL PLATES, BOLTS, ETC., TO ENSURE REPLACEMENT IN-KIND. NOTIFY KAUAI REGION REPRESENTATIVE OF ANY DISCREPANCIES.
- PROVIDE TEMPORARY SHORING FOR THE EXISTING CONCRETE FLOOR SLAB. SHORING SHALL PREVENT SLAB DEFLECTION AT THE LOCATIONS OF THE STEEL BEAMS. COORDINATE WITH STEEL INSTALLER SO AS NOT TO IMPEDE THE NEW WORK.
- REMOVE STEEL FRAMING IN AREA NOTED ON THE DRAWINGS. WHERE POSSIBLE REMOVE NUTS AND BOLTS TO REMOVE FRAMING. USE TORCH, PLASMA CUTTER, OR GRINDER TO CUT EXISTING STEEL ONLY WHEN NECESSARY AND WITH EXTREME CAUTION. TAKE NECESSARY FIRE PREVENTION MEASURES.
- ANCHORS IN CONCRETE SHALL BE CUT BELOW THE SURFACE AND THEN THE SURFACE REPAIRED. SEE TYPICAL DETAIL FOR TREATMENT OF EXISTING ANCHORS IN CONCRETE.
- LEAVE TEMPORARY SHORING IN PLACE UNTIL NEW FRAMING IS INSTALLED.

NEW STRUCTURAL STEEL:

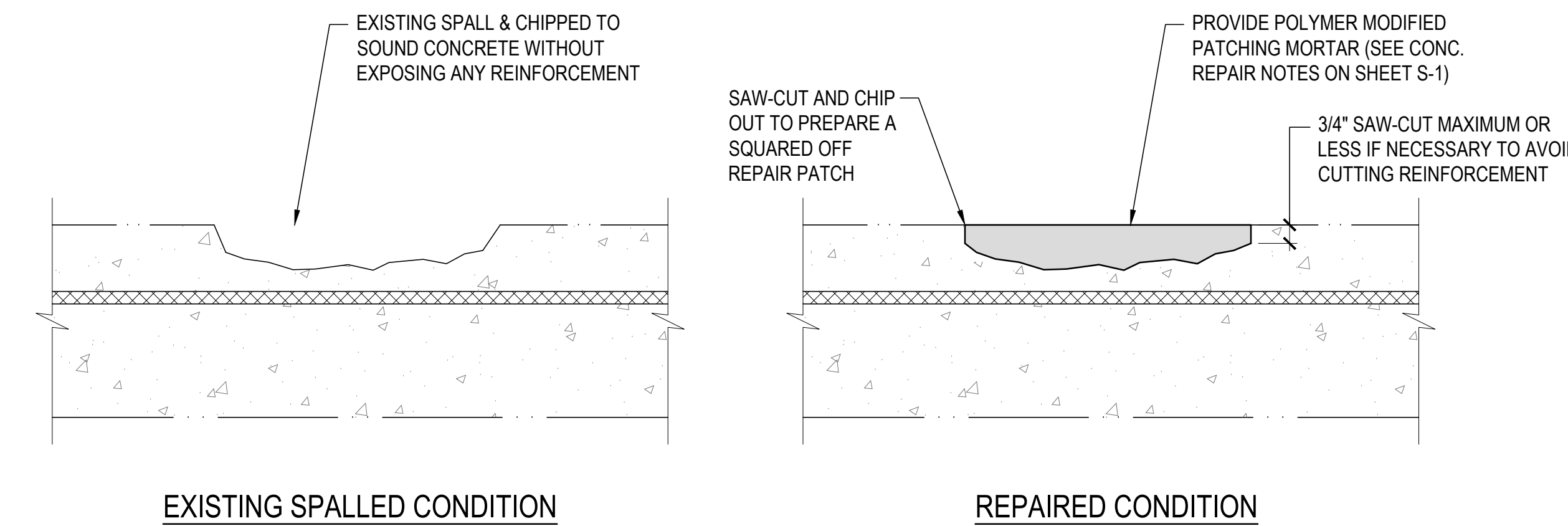
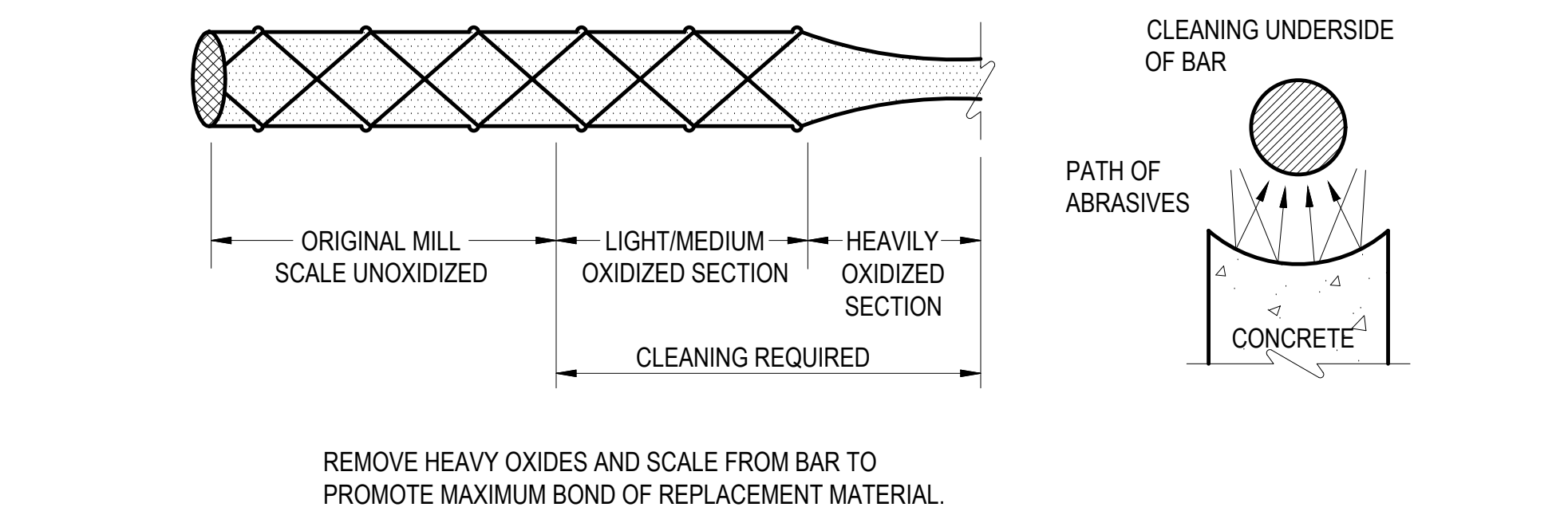
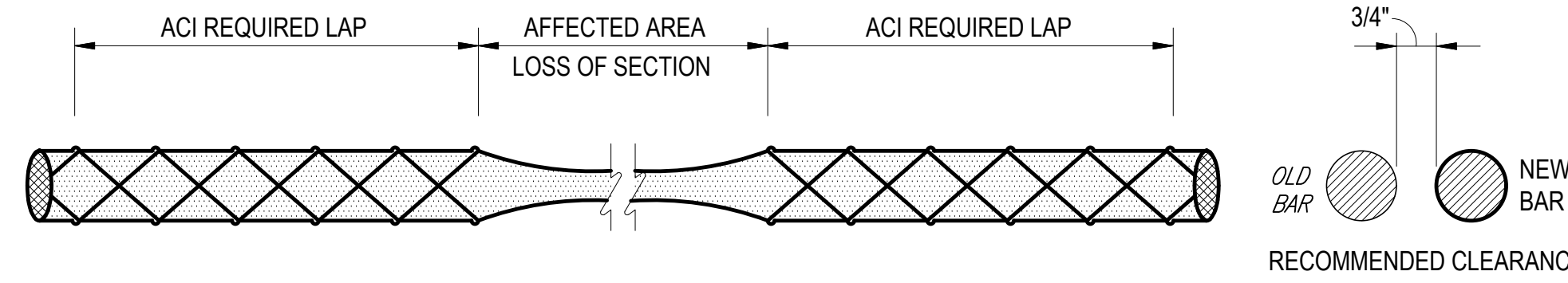
- STEEL WORK SHALL CONFORM TO THE "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" AS PUBLISHED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).
- WIDE FLANGE MEMBERS SHALL CONFORM TO ASTM A992.
- STEEL PIPE SHALL CONFORM TO ASTM A53, GR. B, SCHEDULE 40 (STANDARD).
- ALL OTHER PLATES AND SHAPES SHALL CONFORM TO ASTM A36.
- BOLTS CONNECTING MEMBERS TO PLATES SHALL BE ASTM A325.
- ANCHORS INTO CONCRETE SHALL BE CONCRETE SCREW ANCHORS. ACCEPTABLE ANCHORS ARE "TITEN HD" BY SIMPSON STRONG-TIE, "KH-EZ CRC" BY HILTI, "SCREW-BOLT+" BY DEWALT. CONCRETE SCREW ANCHORS SHALL BE MECHANICALLY GALVANIZED.
- ALL STEEL PLATES, SHAPES AND BOLTS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
- PRIOR TO FABRICATION, SUBMIT SHOP DRAWINGS FOR REVIEW.
- WELD SHALL BE MADE USING E70 ELECTRODES AND BE PERFORMED BY AWS CERTIFIED WELDERS. ALL PROVISIONS OF AWS D1.1 SHALL BE FOLLOWED.
- FIELD WELD SHALL BE TOUCHED UP WITH A ZINC RICH PAINT.

NOTES:

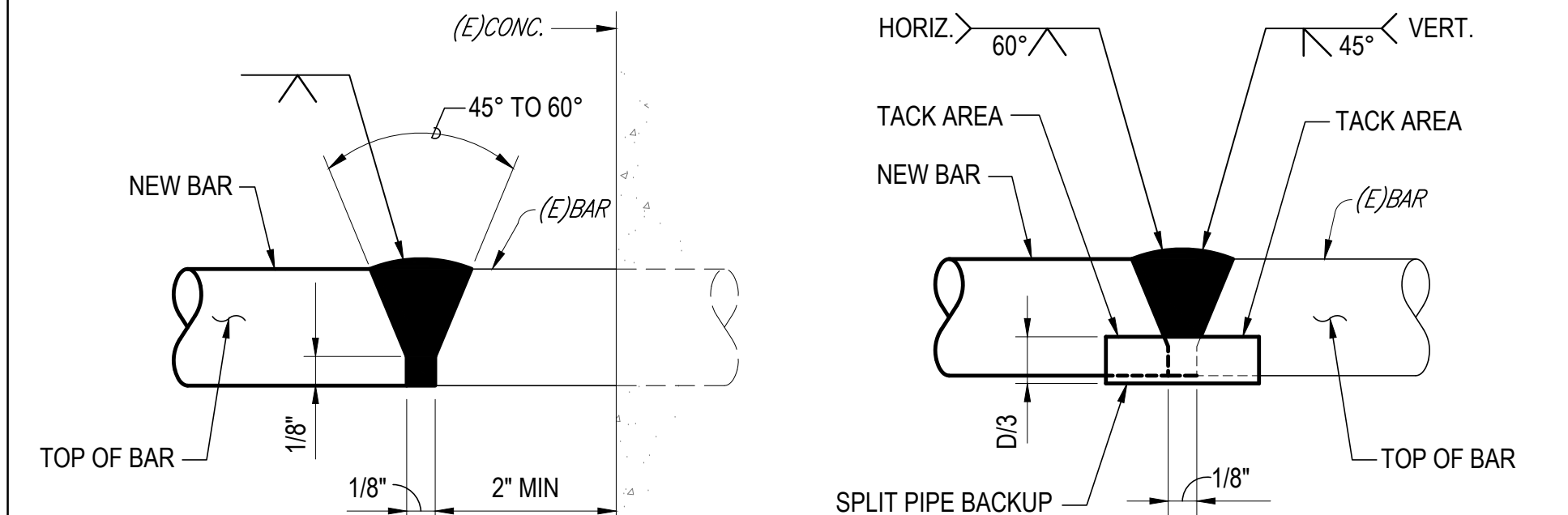
- REMOVE ALL HEAVY CORROSION AND SCALE FROM REINFORCING BARS.
- IF REINFORCING BAR SIZE, AFTER CLEANING, IS LESS THAN THE MINIMUM SHOWN IN THE ALLOWABLE BAR SIZE CHART, USE ONE OF THE FOLLOWING REPAIR METHODS:
 - COMPLETE BAR REPLACEMENT, OR
 - ADDITION OF SUPPLEMENTAL BAR OVER AFFECTED SECTION. NEW BAR MAY BE MECHANICALLY SPLICED TO THE OLD BAR OR PLACED PARALLEL TO AND APPROXIMATELY 3/4" FROM EXISTING BAR.
 - WELD SPLICE PER 3/S-1.

ALLOWABLE BAR SIZE CHART (BAR REPAIR NOT REQUIRED)

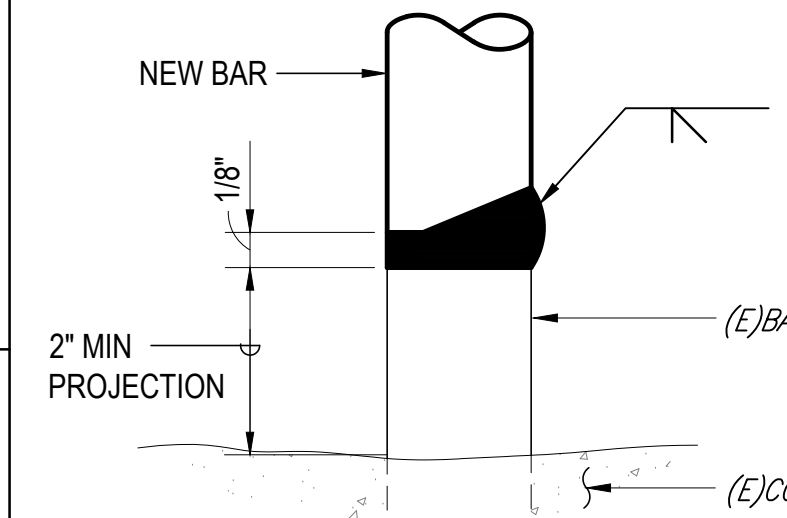
(E) BAR SIZE (ASTM A615)	ORIGINAL BAR DIA.	MINIMUM DIA. OF (E) BAR AFTER CLEANING
#3	3/8"ø	5/16"ø
#4	1/2"ø	7/16"ø
#5	5/8"ø	1/2"ø
#6	3/4"ø	5/8"ø
#7	7/8"ø	3/4"ø
#9	1"ø	7/8"ø
#10	1 1/8"ø	1"ø
#11	1 1/4"ø	1"ø



4 TYPE III SPALL REPAIRS (COND. AT SPALLS WITH NO REBAR EXPOSED OR REBAR CORROSION)



A HORIZONTAL



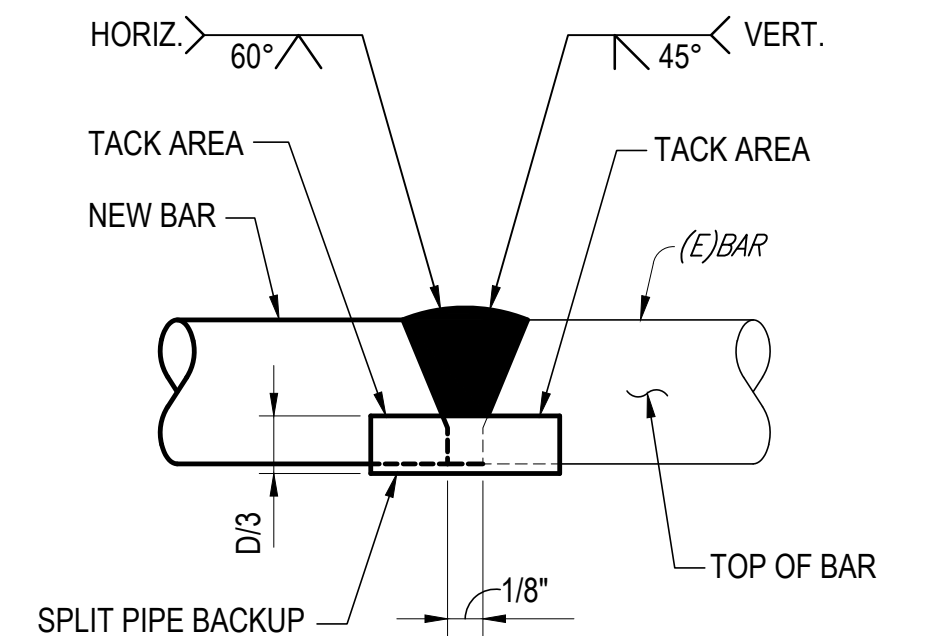
C VERTICAL

REINFORCING WELDING NOTES:

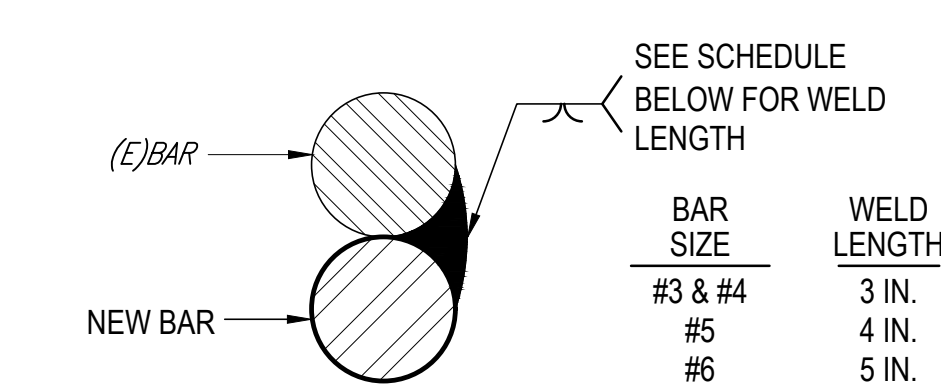
- CHIP, GRIND, OR GOUGE TO SOUND METAL BEFORE WELDING.
- USE DETAIL A AND C FOR #9 BAR AND LARGER, DETAIL B FOR #8 AND #7 BARS, DETAIL D FOR #6 BAR AND SMALLER.
- USE E70 ELECTRODES FOR STIRRUPS, E90 ELECTRODES FOR ALL OTHERS.
- SEE AWS D1.4 FOR WELDING PROCESS PREHEATING, COOLING CONTROLS, AND OTHER DETAILS, FOR WELDING EXISTING REBAR WHICH IS NOT ASTM A706.

3 TYP. REINFORCING BAR WELDED SPLICE DETAIL

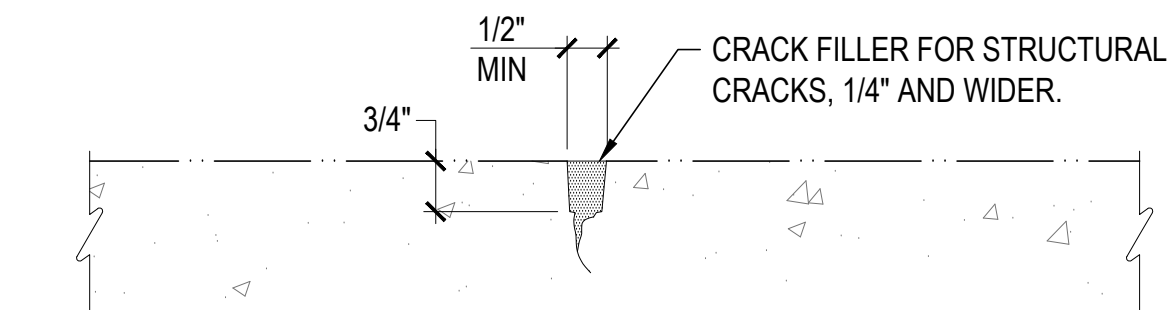
3 S-1 NOT TO SCALE



B HORIZONTAL AND VERTICAL

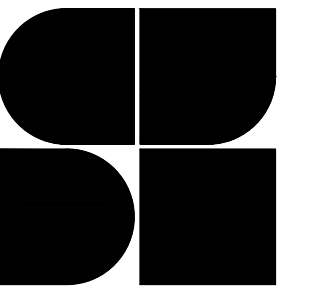


D WELDED LAP SPLICE

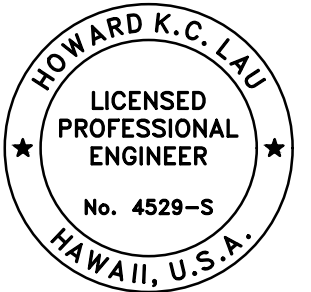


5 STRUCTURAL NOTCH AND TYPE V CRACK SEALING REPAIR DETAIL

5 S-1 NOT TO SCALE



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4-30-2024
License Expiration Date

PROJECT NAME:

**SAMUEL MAHELONA MEMORIAL HOSPITAL
MAIN BUILDING STRUCTURAL REPAIRS**
HAWAII HEALTH SYSTEMS CORPORATION - KAUAI REGION
4800 KAWAIHAU, KAPAA, HAWAII 96746
TAX MAP KEY: 4-6-014:030

REVISIONS:

NO.	DESCRIPTION	DATE

DRAWN BY: MTM CHECKED BY: MWM

DATE: EVENT:

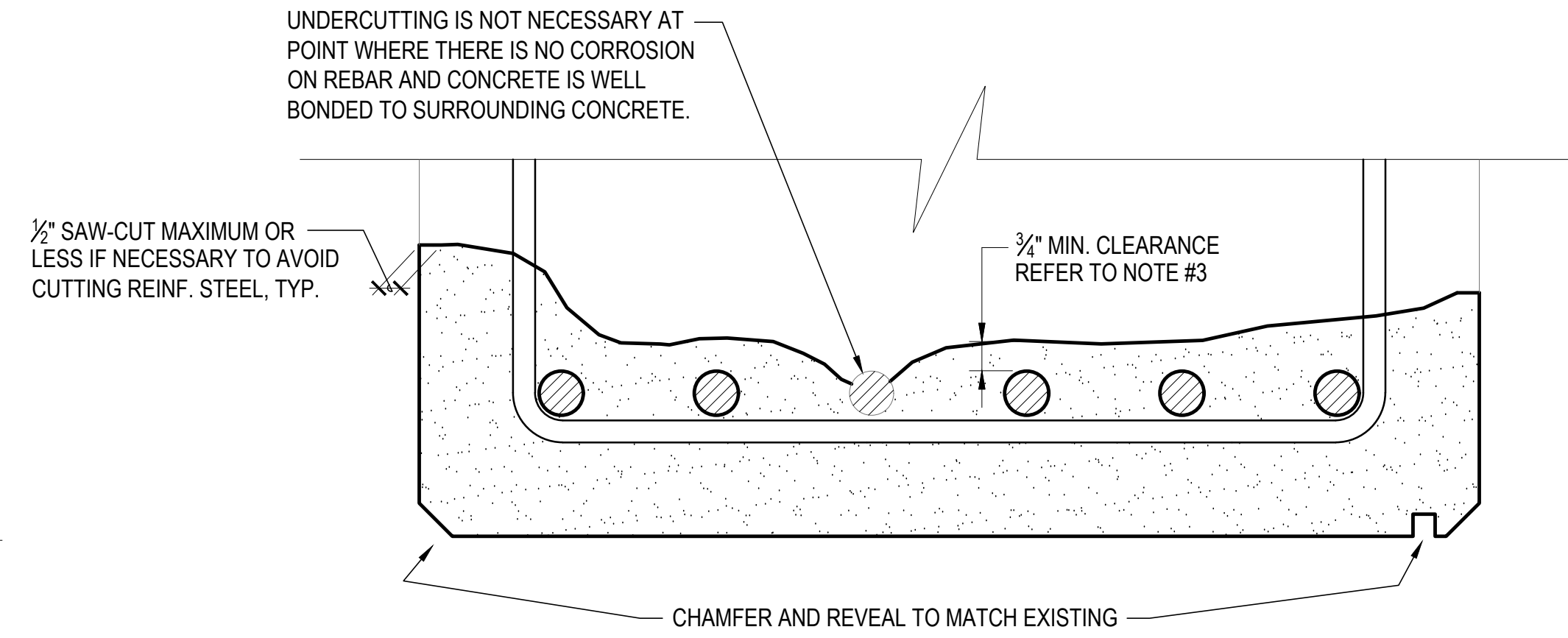
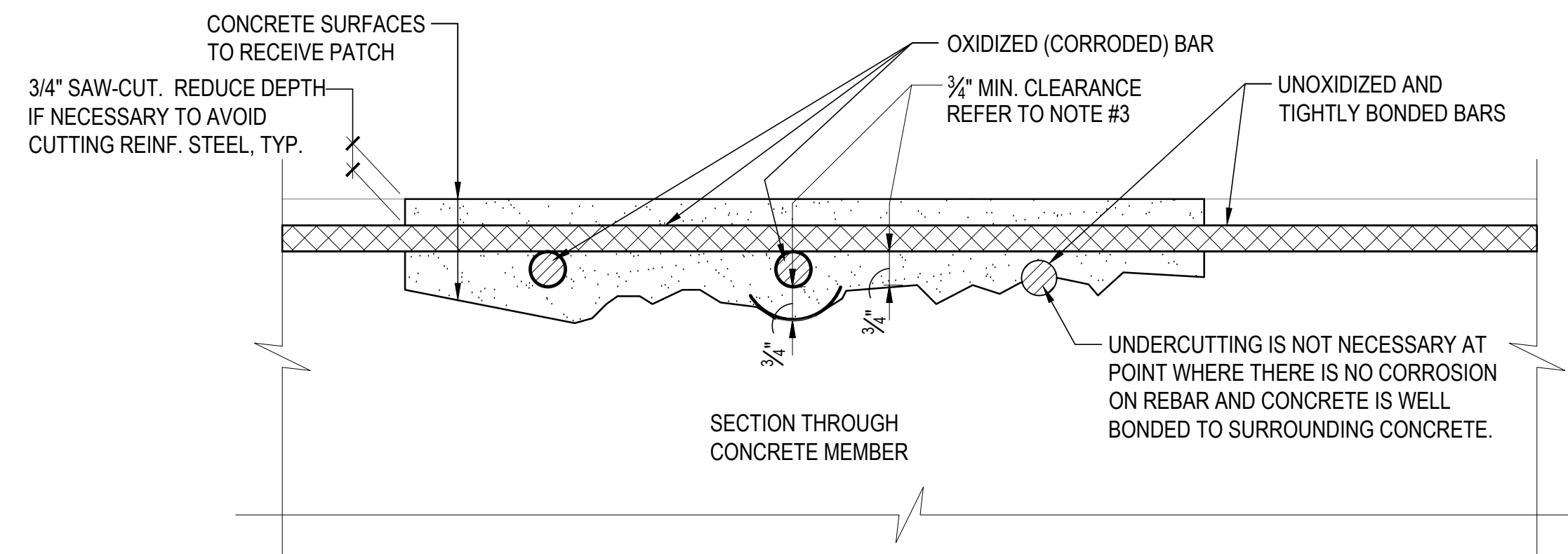
SHEET TITLE:
GENERAL NOTES AND
TYPICAL DETAILS

SHEET NO.:

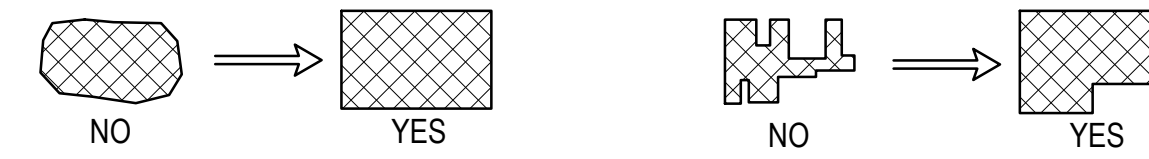
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PROJ. NO.: 21S031

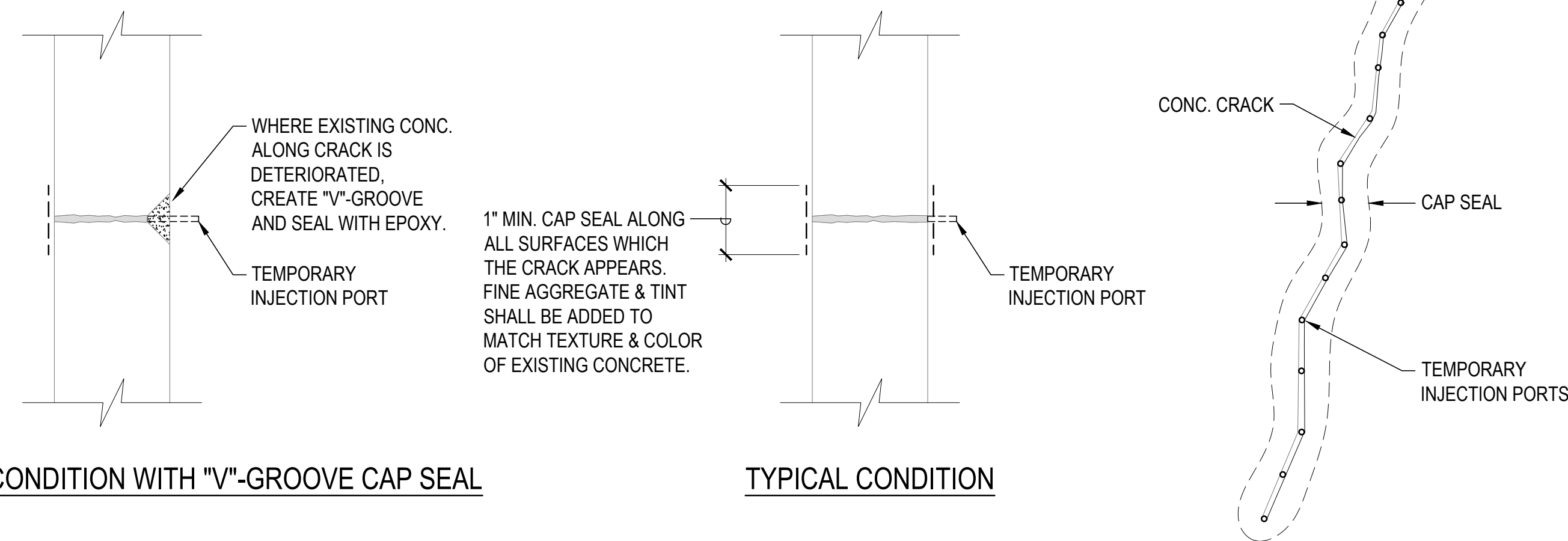
OF



1. REMOVE LOOSE OR DELAMINATED CONCRETE DOWN TO SOUND CONCRETE.
2. ALONG SURFACE PERIMETER OF SPALL, PROVIDE 3/4" DEEP SAW-CUTS PERPENDICULAR TO THE SURFACE. HOWEVER AVOID CUTTING ANY REINFORCEMENT THAT MAY LOCATED TOO CLOSE TO THE SURFACE. SHAPE CIRCUMSCRIBING THE SURFACE PERIMETER SHALL BE RECTANGULAR AND AS SIMPLE AS POSSIBLE.
3. ONCE REMOVAL OF LOOSE OR DELAMINATED CONCRETE IS MADE, OBSERVE WHETHER CORROSION IS PRESENT THE REINFORCING. IF SUCH IS THE CASE, UNDERCUT THE EXISTING CONCRETE ON THE BACK SIDE OF THE REINFORCING IN ORDER TO CLEAN THE OXIDATION FROM REINFORCING. PROVIDE MINIMUM 3/4" CLEARANCE BETWEEN REINFORCING AND SURROUNDING CONCRETE OR 1/4" LARGER THAN LARGEST AGGREGATE IN REPAIR CONCRETE, WHICHEVER IS GREATER.
4. ALL EXPOSED SURFACE OF REINFORCING SHALL BE THOROUGHLY CLEANED OF ALL CORROSION, LOOSE MORTAR, DUST AND OTHER CONTAMINANTS. EXAMINE THE REINFORCING TO DETERMINE THE ORIGINAL BAR SIZE(S) AT THE EDGE OF THE CHIPPED OUT AREA. COMPARE BAR(S) DIAMETER TO THE MINIMUM IN THE CHIPPED OUT AREA AS SHOWN IN DETAIL B/S-1 AND REPLACE BAR(S) AS REQUIRED. SECURE REINFORCING WHICH IS LOOSE IN PLACE BY TYING TO OTHER SECURED REINFORCING OR BY OTHER APPROVED METHODS.
5. APPLY LATEX POLYMER BONDING AGENT TO EXISTING CONCRETE INTERFACE PRIOR TO APPLYING CONCRETE REPAIR MATERIAL. APPLY CORROSION INHIBITOR SUCH AS "DURALPREP A.C. BY EUCLID CHEMICAL", "MCI 2022 BY CORTEC CORPORATION", OR "MAPEFER 1K BY MAPE", DIRECTLY TO ALL REINFORCING PRIOR TO POURING OF CONCRETE.
6. APPLY CONCRETE REPAIR MATERIAL, BEING CAREFUL TO MAKE SURE NO VOIDS EXISTS. FINISH SHALL MATCH EXISTING SURROUNDING SURFACE.
7. CAUTION: BEFORE STARTING REMOVALS, REVIEW EFFECT OF REMOVALS ON STRUCTURAL INTEGRITY. PROVIDE SHORING OF MEMBERS AS REQUIRED. PROVIDE TEMPORARY BARRICADE(S) TO PREVENT AREAS ABOVE REPAIRS FROM BEING LOADED AND AROUND TEMPORARY VERTICAL SHORING. EXERCISE PARTICULAR CARE AT ALL HOLLOW CORE BEARING CONDITIONS.



1 TYP. SPALL REPAIR FOR CONCRETE COLUMNS, BEAMS AND RAMPS
S-3 NOT TO SCALE



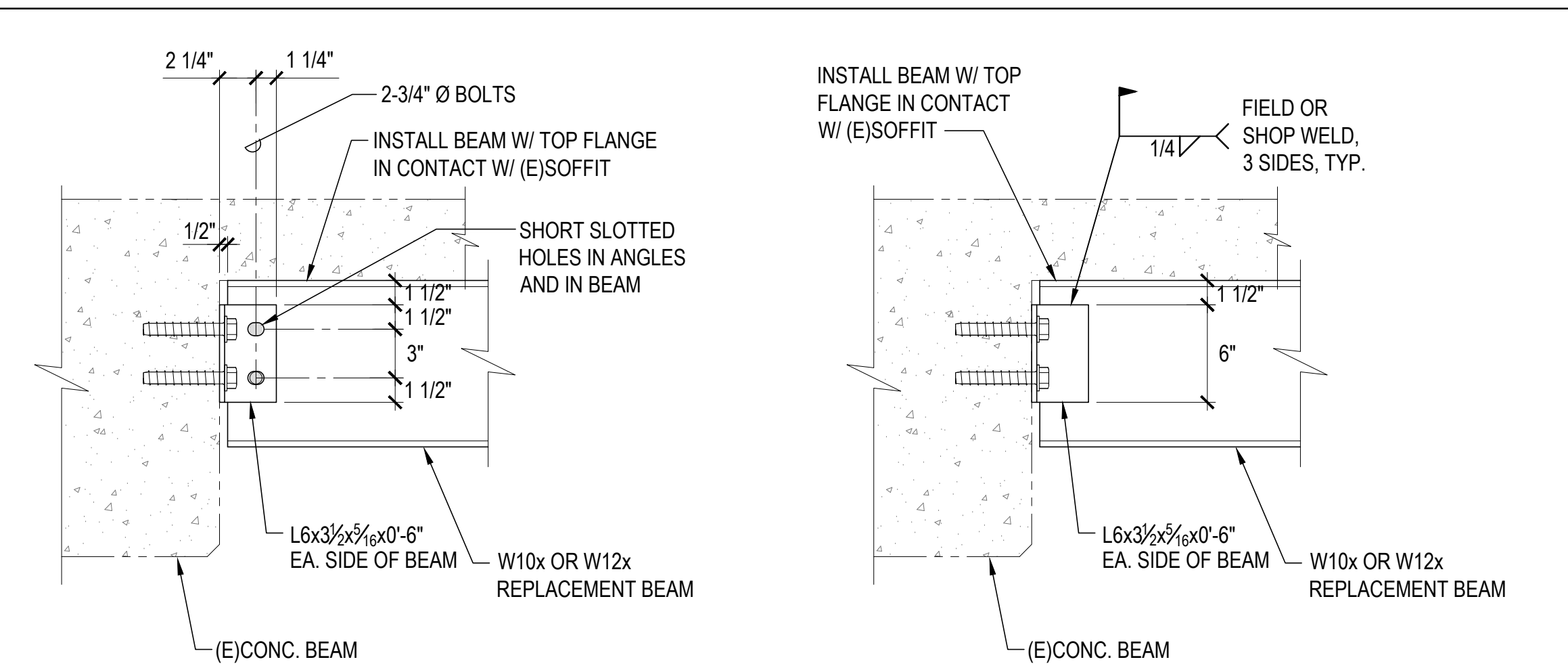
CONDITION WITH "V"-GROOVE CAP SEAL

TYPICAL CONDITION

GENERAL PROCEDURE FOR EPOXY INJECTION OF CRACKS

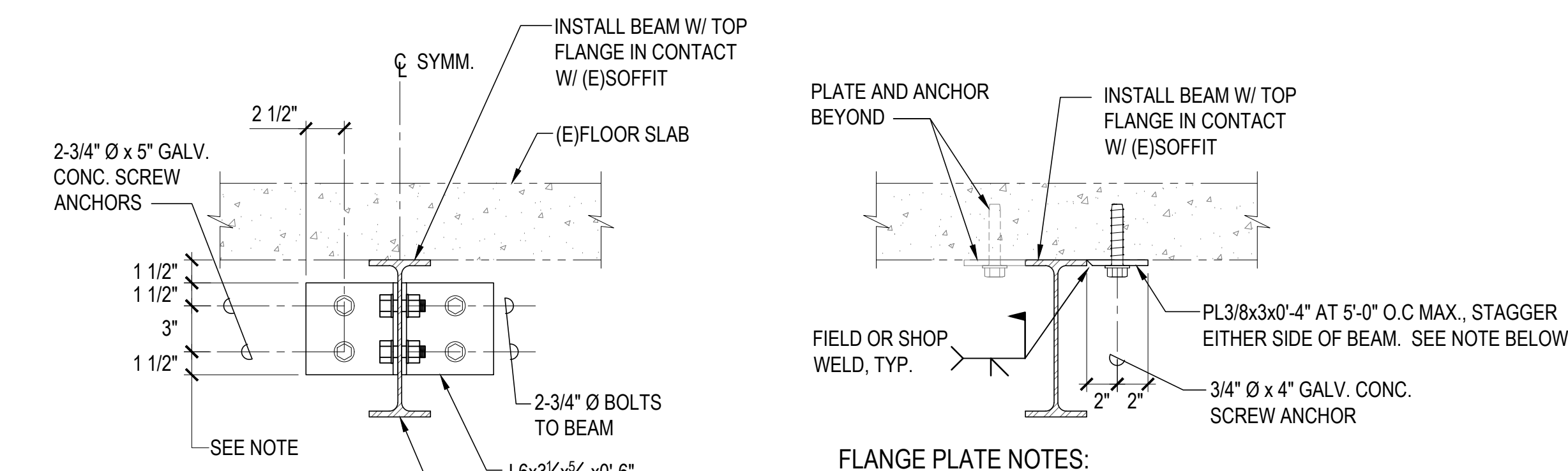
1. THE INJECTION PROCEDURE VARY, SUBJECT TO THE APPLICATION AND LOCATIONS OF CRACK(S), WITH HORIZONTAL, VERTICAL AND OVERHEAD CONDITIONS, THE TYPE OF INJECTION EQUIPMENT USED, AND THE SIZE OF THE CRACK.
2. THE GOAL OF THE EPOXY INJECTION IS TO RESTORE THE STRUCTURAL INTEGRITY AND RESISTANCE TO MOISTURE PENETRATION OF THE CONCRETE ELEMENT.
3. WHERE THE CONCRETE SURFACE ADJACENT TO THE CRACK IS DETERIORATED, "V" GROOVE THE CRACK UNTIL SOUND CONCRETE IS REACHED. PATCH WITH EPOXY MIXED WITH FINE AGGREGATE. THE "V" GROOVE CAN ALSO BE USED WHEN HIGH INJECTION PRESSURES REQUIRE A STRONGER CAP SEAL.
4. IF NO "V" GROOVE IS REQUIRED, THE SURFACE AREA ABOUT 1/4 INCHES WIDE ON EACH SIDE OF THE CRACK SHALL BE CLEANED. TAKE PRECAUTION THAT DUST FROM THE CLEANING PROCESS DOES NOT FILL THE CRACK. CLEANING WILL ENSURE A PROPER BOND FOR EPOXY CAP SEAL.
5. EPOXY RESINS ARE HAZARDOUS MATERIAL AND MUST BE TREATED AS SUCH. JOB-SITE SAFETY PRACTICES AS REQUIRED BY OSHA SHALL BE FOLLOWED.
6. INSTALL TEMPORARY ENTRY PORTS, TYPICALLY AT 8 INCHES ON CENTERS. HOWEVER MAY BE ADJUSTED AS REQUIRED.
7. INSTALL CAP SEAL. TYPICALLY CAP SEAL ARE INSTALLED ALONG ALL SURFACES ON WHICH THE CRACK APPEARS.
8. INJECT EPOXY IN ACCORDANCE WITH EQUIPMENT AND EPOXY MANUFACTURER'S RECOMMENDATION.
9. UPON COMPLETION OF INJECTION, REMOVE CAP SEAL BY HEAT, CHIPPING, OR GRINDING. THE APPEARANCE AND TEXTURE OF THE SURFACE SHALL MATCH THE EXISTING SURROUNDING SURFACE. CONTRACTOR SHALL SELECT THE APPROPRIATE COSMETIC COATING AS REQUIRED.

2 TYPICAL EPOXY INJECTION OF CRACK
S-3 NOT TO SCALE



C DOUBLE ANGLE CONNECTION - SECTION

D ALTERNATE DOUBLE ANGLE CONNECTION TO BEAM



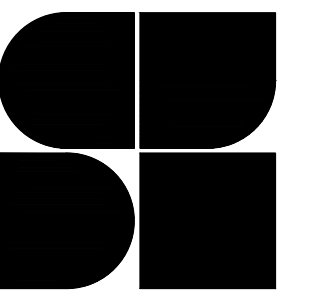
A DOUBLE ANGLE CONNECTION TO (E)CONC.

B BEAM FLANGE PLATE DETAIL

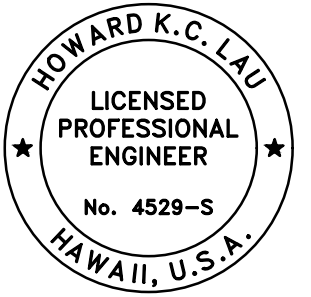
3 TYPICAL STEEL BEAM CONNECTION TO (E)CONCRETE BEAM AND SOFFIT
S-3 SCALE: 1 1/2" = 1'-0"

FLANGE PLATE NOTES:

1. WHERE BEAM IS SUPPORTED BY A POST, PROVIDE FLANGE PLATE WITHIN 8" OF THE CENTERLINE OF THE POST.
2. WHERE END OF BEAM IS SUPPORTED BY FLUSH CONNECTION TO EXISTING CONCRETE, PROVIDE FLANGE PLATE WITHIN 5'-0" OF THE END OF THE BEAM.
3. WHERE THERE IS EXISTING UTILITIES, HANGERS, OR ANYTHING THAT PREVENTS INSTALLING THE PLATE ON ALTERNATING SIDES, THE PLATES MAY BE PLACED ON ONE SIDE.



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4-30-2024
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PROJECT NAME:

**SAMUEL MAHELONA MEMORIAL HOSPITAL
MAIN BUILDING STRUCTURAL REPAIRS**
HAWAII HEALTH SYSTEMS CORPORATION - KAUAI REGION
4800 KAWAIHAU, KAPAA, HAWAII 96746
TAX MAP KEY: 4-6-014:030

REVISIONS:

NO.	DATE	BY	REVISION

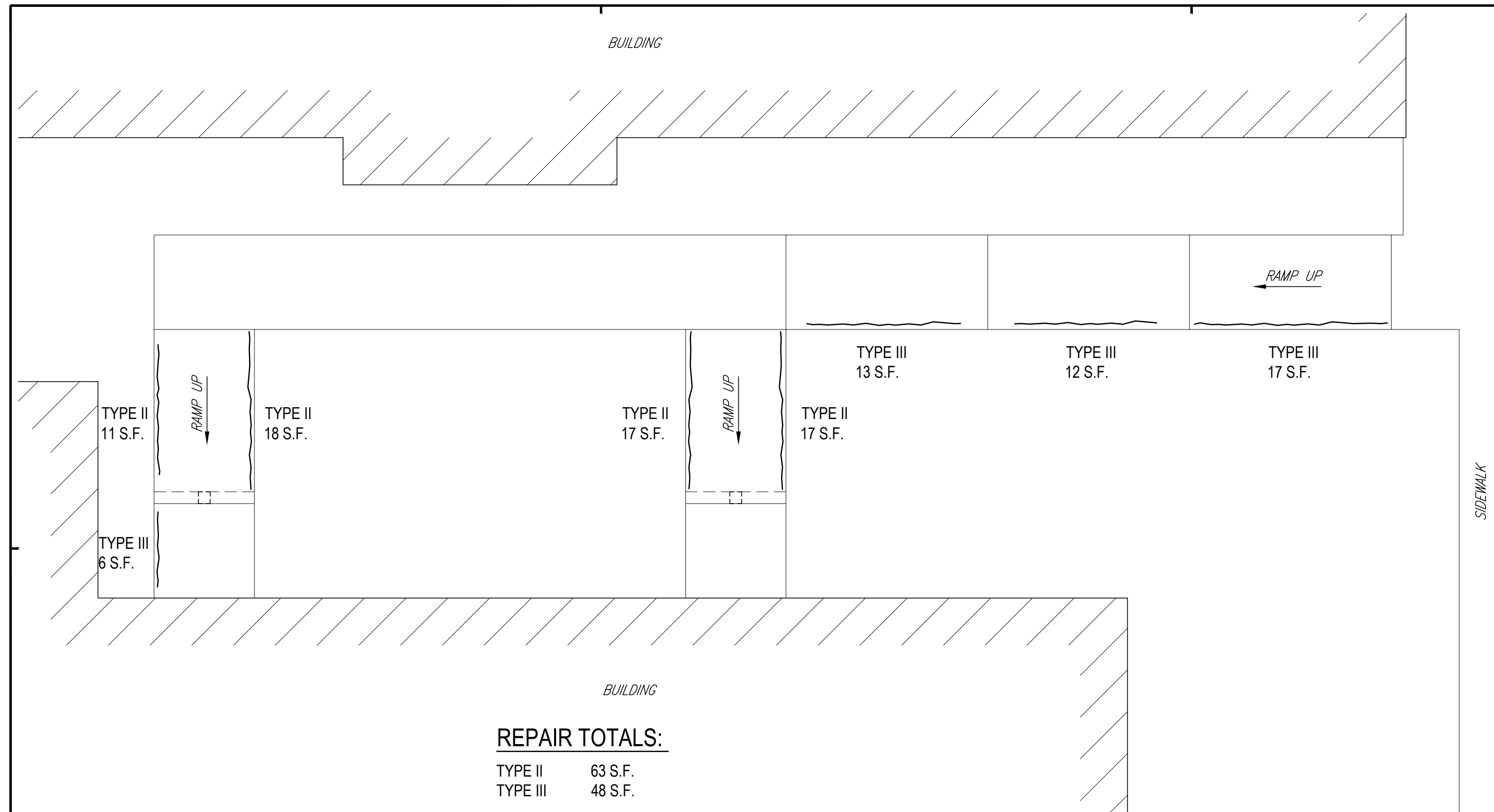
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TYPICAL CONCRETE REPAIR DETAILS AND STEEL BEAM DETAILS

SHEET NO.:

S-3

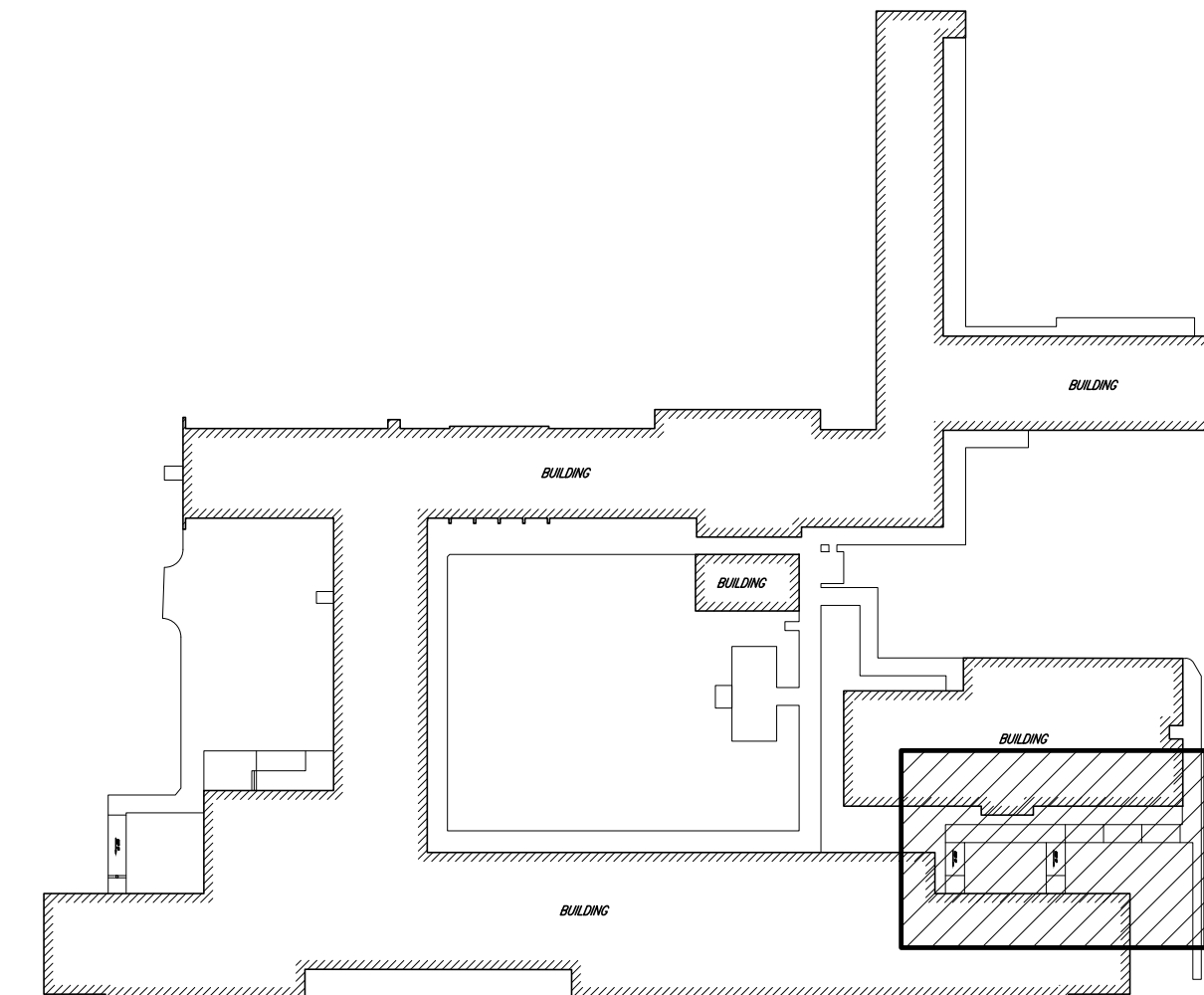
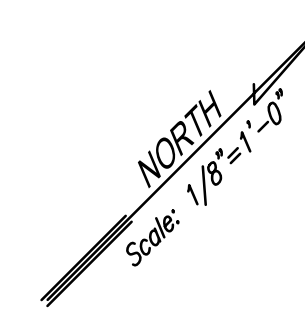
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OF



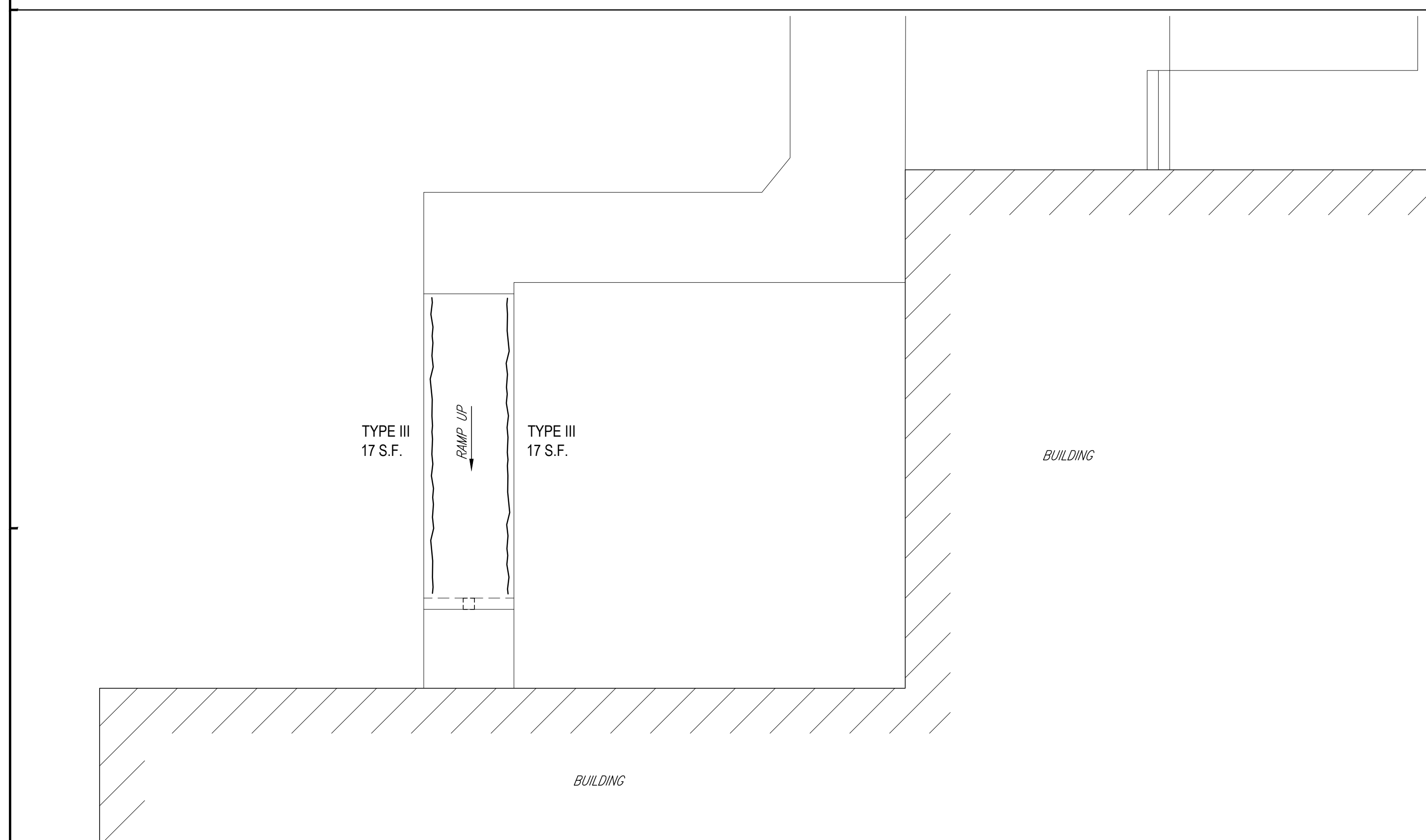
REPAIR TOTALS:
 TYPE II 63 S.F.
 TYPE III 48 S.F.

1 EAST RAMP DAMAGE
 S-6 SCALE: 1/8" = 1'-0"



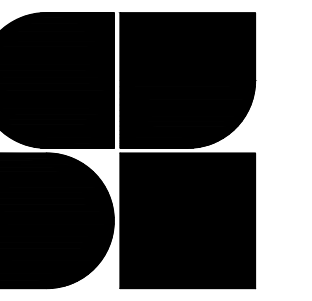
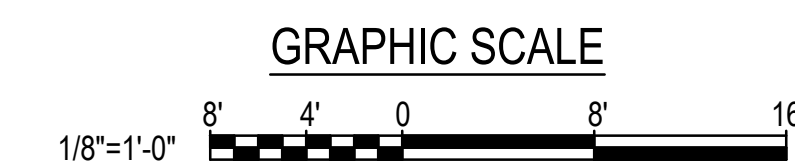
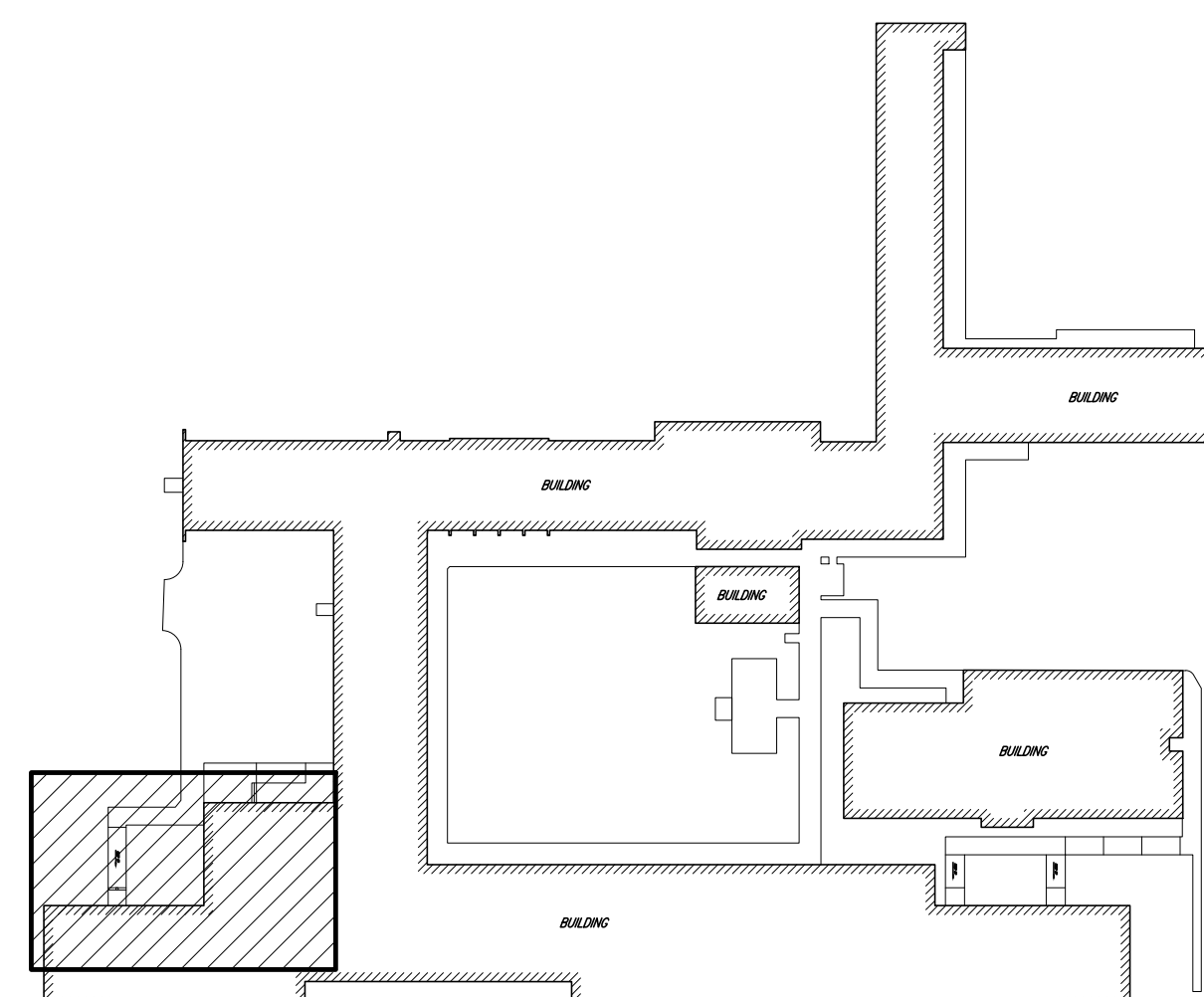
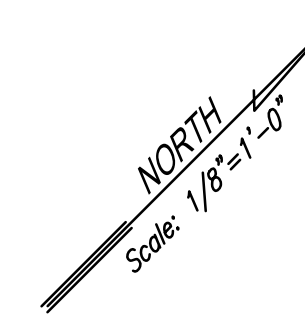
REPAIR NOTES:

1. THE REPAIRS ARE CATEGORIZED INTO TYPES I, II, III AND V.
2. TYPE I ARE SPALLS WHERE THE REBAR HAS CORRODED BEYOND USEFULNESS AND NEEDS REPLACEMENT (SEE 3/S-2 FOR REPAIR DETAILS).
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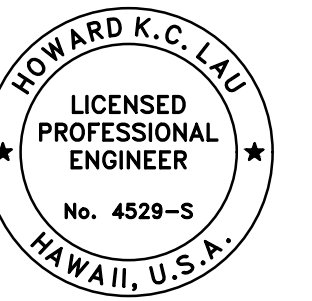


REPAIR TOTALS:
 TYPE III 34 S.F.

2 WEST RAMP DAMAGE
 S-6 SCALE: 1/8" = 1'-0"



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4-30-2024
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PROJECT NAME:

**SAMUEL MAHELONA MEMORIAL HOSPITAL
 MAIN BUILDING STRUCTURAL REPAIRS**

HAWAII HEALTH SYSTEMS CORPORATION - KAUAI REGION
 4800 KAWAIHAU, KAPAA, HAWAII 96746
 TAX MAP KEY: 4-6-014:030

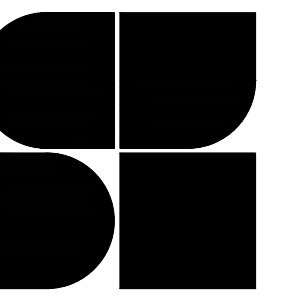
REVISIONS:

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DATE:	EVENT:

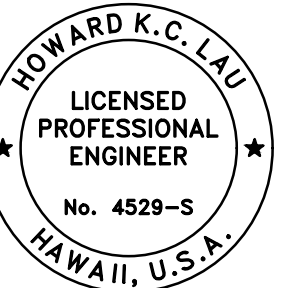
SHEET TITLE:
 EXISTING CONC. RAMP
 DAMAGE PLANS

SHEET NO.:
S-6

PROJ NO.: 21S031
 OF



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TAX MAP KEY: 4-6-014:030

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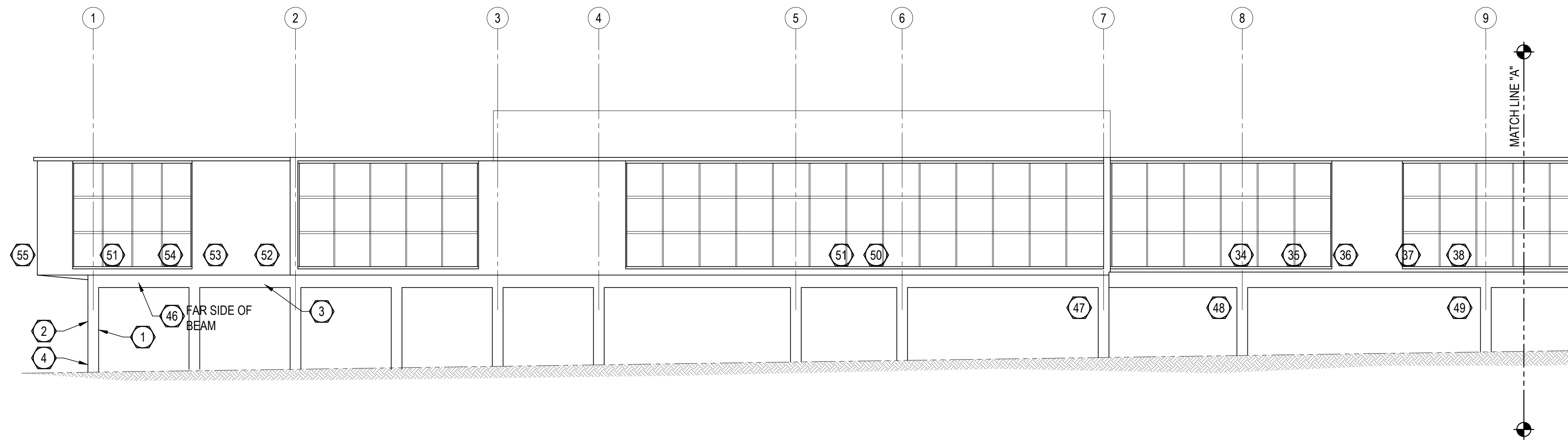
SHEET TITLE:
EXISTING BUILDING
SOFFIT ELEVATIONS

SHEET NO.:

S-7

PROJ NO.: 21S031

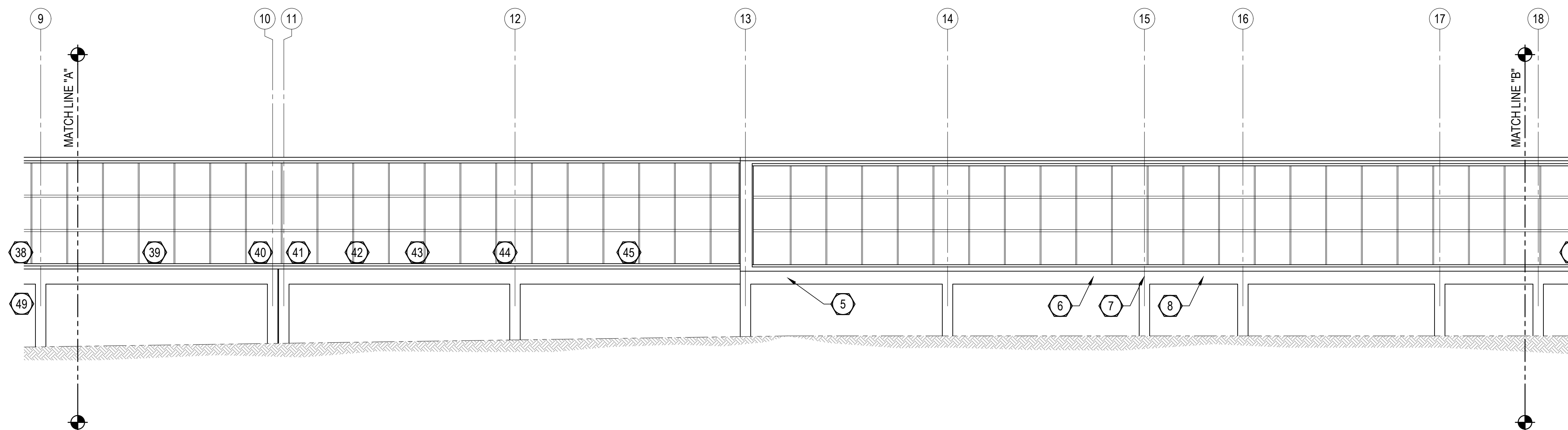
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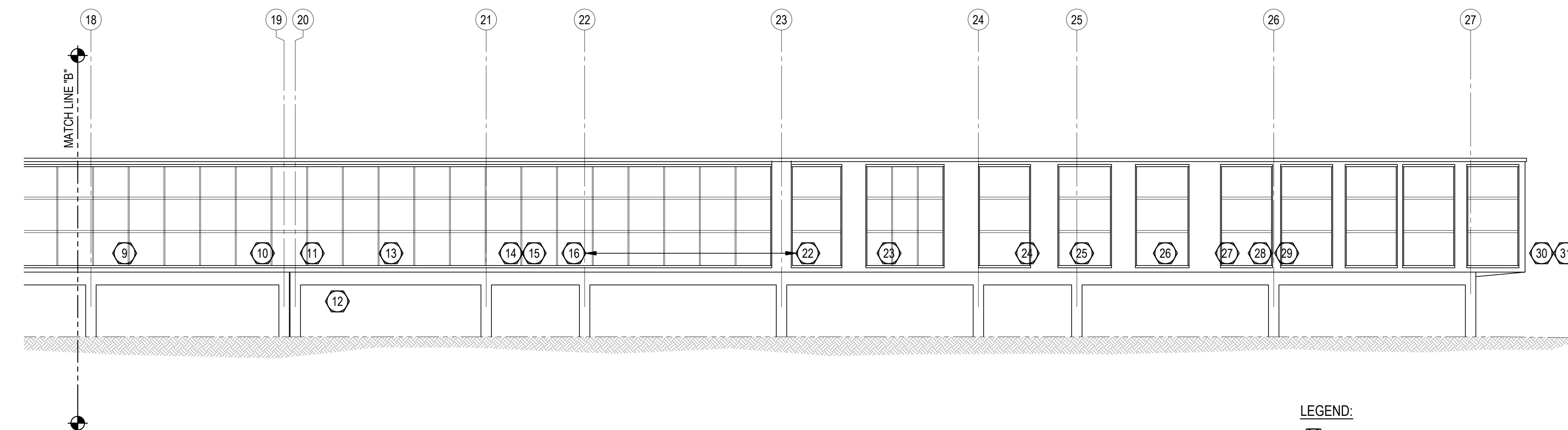
SOUTH ELEVATION
NOT TO SCALE

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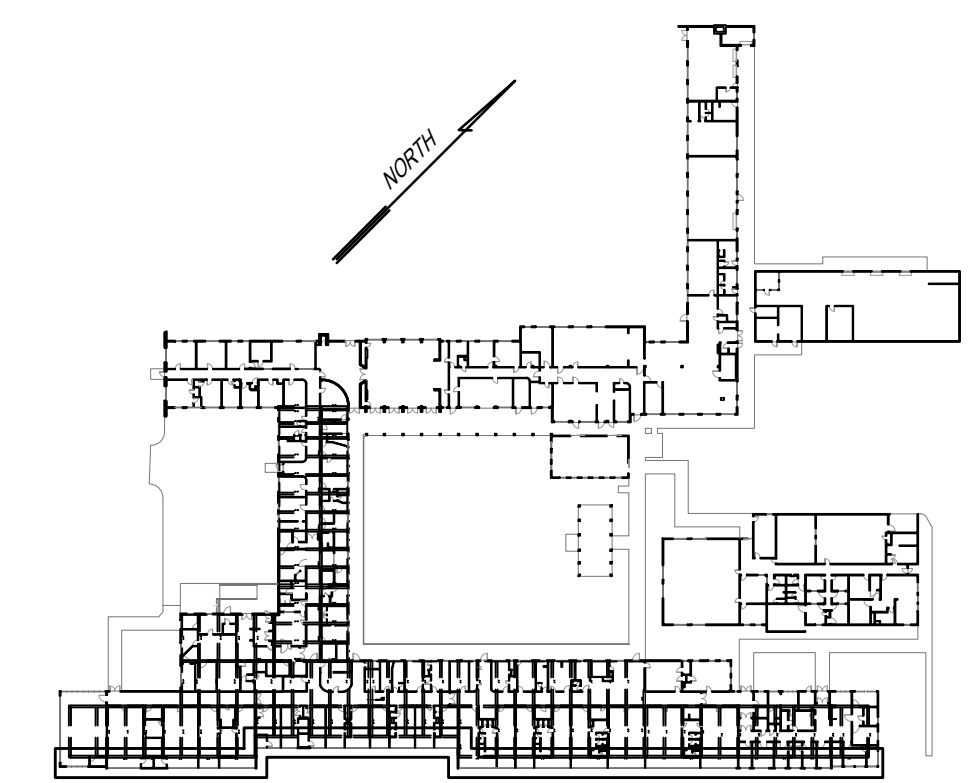
SOUTH ELEVATION
NOT TO SCALE



SOUTH ELEVATION
NOT TO SCALE

LEGEND:

- # CONCRETE DAMAGE. SEE SHEET S-8 FOR DAMAGE SCHEDULE AND REPAIR TYPE.



KEY PLAN
NOT TO SCALE

CONCRETE DAMAGE SCHEDULE

MARK	LOCATION	b (IN)	d (IN)	A (S.F.)	DAMAGE	REPAIR TYPE
1	COLUMN	48	10	3.33	SPALL	I
2	COLUMN	36	10	2.50	DELAMINATION	II
3	BEAM	6	6	0.25	SPALL	III
4	COLUMN	24	36	6.00	SPALL / DELAMINATION	II
5	SOFFIT	24	10	1.67	SPALL / DELAMINATION	II
6	SOFFIT	10	6	0.42	DELAMINATION	III
7	SOFFIT	10	10	0.69	DELAMINATION	II
8	SOFFIT	48	12	4.00	DELAMINATION	III
9	SOFFIT	12	12	1.00	DELAMINATION	II
10	SOFFIT	12	10	0.83	SPALL	II
11	SOFFIT	16	12	1.33	DELAMINATION	III
12	SOFFIT	8	6	0.33	DELAMINATION	III
13	SOFFIT	6	6	0.25	SPALL / DELAMINATION	II
14	SOFFIT	30	12	2.50	SPALL	II
15	SOFFIT	36	10	2.50	SPALL	II
16	SOFFIT	18	10	1.25	SPALL	III
17	SOFFIT	12	10	0.83	SPALL	III
18	SOFFIT	48	18	6.00	SPALL / DELAMINATION	II
19	SOFFIT	72	16	8.00	SPALL	I
20	SOFFIT	72	16	8.00	SPALL / DELAMINATION	II
21	SOFFIT	72	16	8.00	SPALL / DELAMINATION	II
22	SOFFIT	96	18	12.00	SPALL / DELAMINATION	II
23	SOFFIT	48	12	4.00	DELAMINATION	III
24	SOFFIT	72	16	8.00	SPALL / DELAMINATION	II
25	SOFFIT	24	10	1.67	DELAMINATION	II
26	SOFFIT	24	12	2.00	DELAMINATION	II
27	SOFFIT	10	10	0.69	DELAMINATION	II
28	SOFFIT	60	10	4.17	DELAMINATION	III
29	SOFFIT	18	10	1.25	SPALL / DELAMINATION	II
30	SOFFIT	6	6	0.25	SPALL	II
31	SOFFIT	6	6	0.25	SPALL	II
32	SOFFIT	24	12	2.00	SPALL / DELAMINATION	II
33	COLUMN	24	10	1.67	DELAMINATION	III
34	SOFFIT	36	16	4.00	SPALL / DELAMINATION	II
35	SOFFIT	24	12	2.00	SPALL / DELAMINATION	II
36	SOFFIT	24	12	2.00	SPALL / DELAMINATION	II
37	SOFFIT	18	12	1.50	SPALL / DELAMINATION	II
38	SOFFIT	12	12	1.00	SPALL / DELAMINATION	III
39	SOFFIT	16	12	1.33	DELAMINATION	II

CONCRETE DAMAGE SCHEDULE

MARK	LOCATION	b (IN)	d (IN)	A (S.F.)	DAMAGE	REPAIR TYPE
40	SOFFIT	36	12	3.00	DELAMINATION	II
41	SOFFIT	36	24	6.00	DELAMINATION	II
42	SOFFIT	12	12	1.00	SPALL	II
43	SOFFIT	48	12	4.00	SPALL / DELAMINATION	II
44	SOFFIT	18	12	1.50	SPALL / DELAMINATION	II
45	SOFFIT	36	12	3.00	SPALL / DELAMINATION	II
46	BEAM	6	6	0.25	SPALL / DELAMINATION	II
47	COLUMN	12	18	1.50	SPALL / DELAMINATION	II
	COLUMN	18	10	1.25	SPALL / DELAMINATION	II
	COLUMN	24	10	1.67	SPALL / DELAMINATION	II
48	COLUMN	36	36	9.00	SPALL / DELAMINATION	I
49	SOFFIT	24	10	1.67	SPALL / DELAMINATION	II
50	SOFFIT	18	12	1.50	SPALL / DELAMINATION	II
51	SOFFIT	42	12	3.50	SPALL / DELAMINATION	II
52	SOFFIT	12	10	0.83	SPALL / DELAMINATION	II
53	SOFFIT	36	12	3.00	SPALL / DELAMINATION	II
54	SOFFIT	36	16	4.00	SPALL / DELAMINATION	II
55	SOFFIT	12	18	1.50	SPALL / DELAMINATION	II
56	COLUMN	6	18	0.75	SPALL / DELAMINATION	II
57	COLUMN	8	10	0.56	SPALL / DELAMINATION	III
58	COLUMN	6	12	0.50	SPALL / DELAMINATION	II
59	BEAM	8	12	0.67	SPALL	II
60	BEAM	12	72	6.00	SPALL	I
61	BEAM	8	12	0.17	SPALL	III
62	SLAB	5	5	0.50	SPALL	III
63	SLAB	12	18	1.50	SPALL	II
64	EDGE OF CONC. & STEEL DECK TRANSITION	4	16	0.44	SPALL / HONEYCOMB	II

CONCRETE CRACK SCHEDULE

MARK	LOCATION	t (IN)	L (FT)	DAMAGE	REPAIR TYPE
C1	FACE OF WALL	0.25	10.0	SURFACE CRACK	V
C2	CORNER	HAIRLINE	8.0	SURFACE CRACK	V
C3	SLAB/WALL JOINT	HAIRLINE	10.0	SURFACE CRACK	V
C4	FACE OF WALL	-	2.5	SURFACE CRACK	V
C5	FACE OF WALL	-	3.5	SURFACE CRACK	V
C6	SLAB/WALL JOINT	-	3.0	SURFACE CRACK	V
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

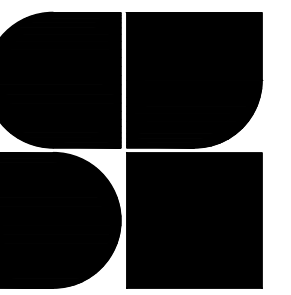
TOTAL LENGTH OF CRACKS = 37.0 FT.

NOTE:
 BID OFFERS SHALL BE BASED ON THE "BID QUANTITY" COLUMN IN THE SCHEDULE BELOW.

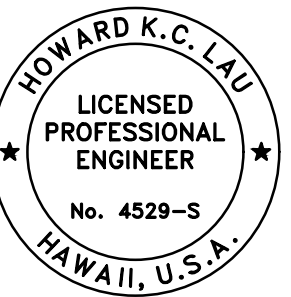
BID QUANTITY SCHEDULE

REPAIR TYPE	SURVEYED QUANTITY	15% CONTINGENCY	BID QUANTITY
I	26.33 S.F.	3.95 S.F.	30 S.F.
II	121.92 S.F.	18.29 S.F.	140 S.F.
III	20.65 S.F.	3.10 S.F.	24 S.F.
V	37.0 L.F.	5.55 L.F.	43 L.F.

UNIT ABBREVIATIONS
 S.F. SQUARE FEET (ESTIMATE OF DAMAGED SURFACE AREA OF CONCRETE)
 L.F. LINEAR FEET (ESTIMATE OF LENGTH ALONG THE CRACK)



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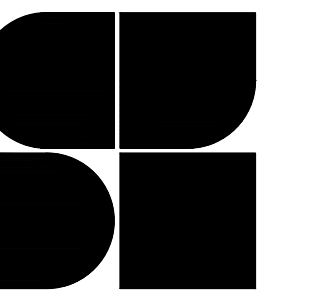
SHEET TITLE:
 CONCRETE DAMAGE SCHEDULE

SHEET NO.:

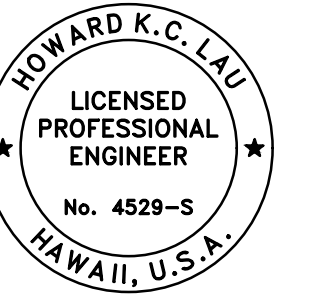
S-8

PROJ. NO.: 21S031

OF



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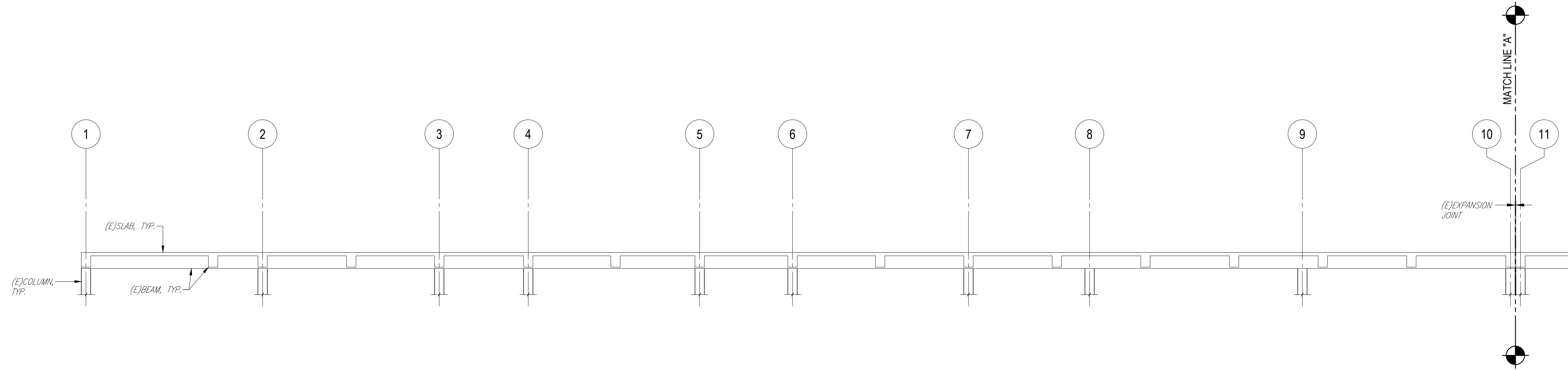
SHEET TITLE:
EXISTING CONCRETE BEAM
ELEVATION ALONG GRID LINE "B"

SHEET NO.:

S-9

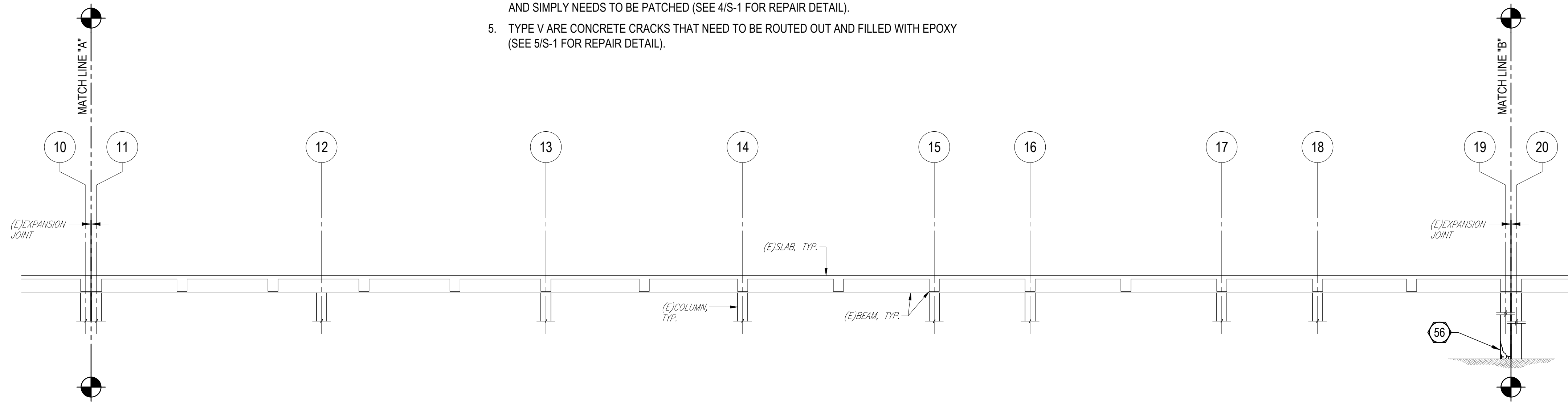
PROJ NO.: 21S031

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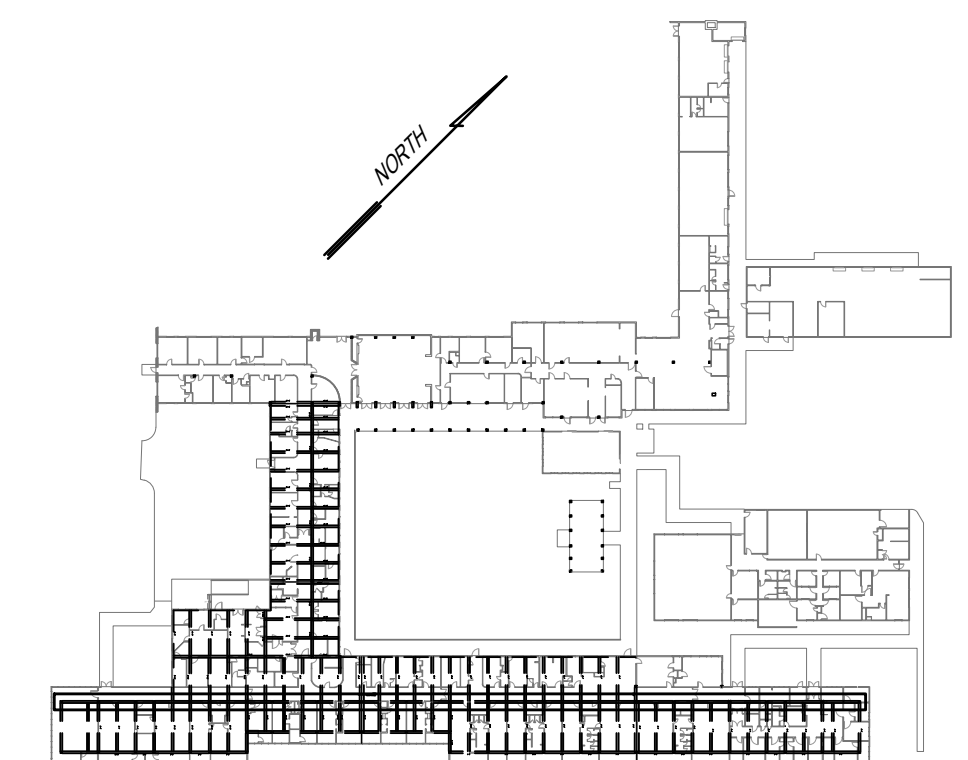
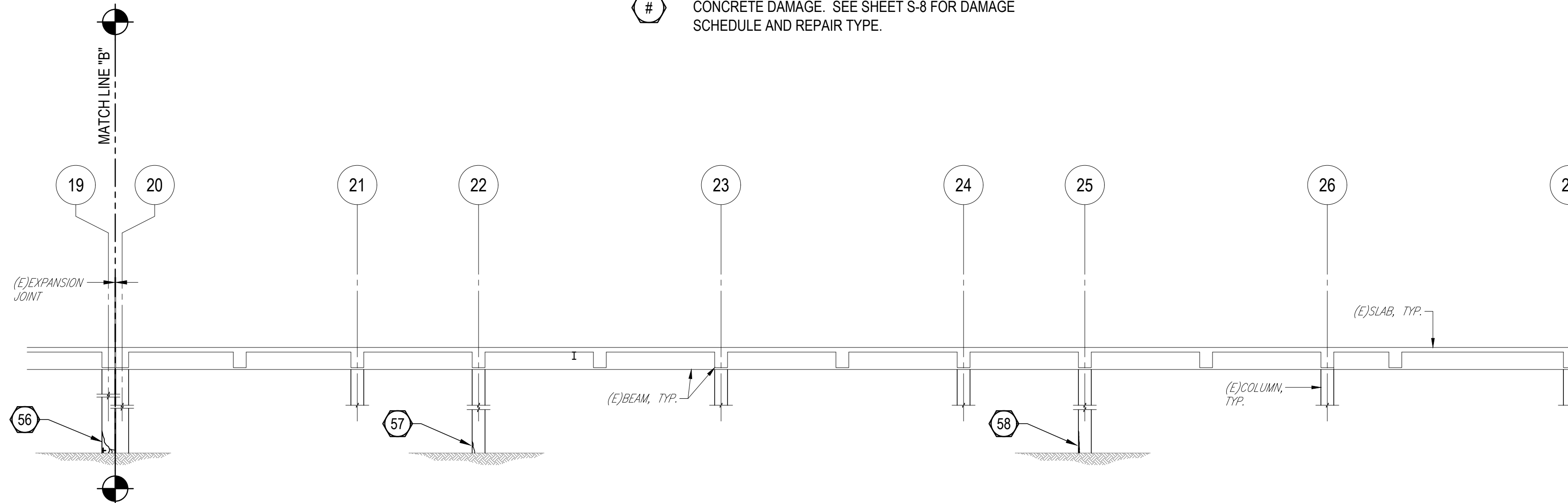
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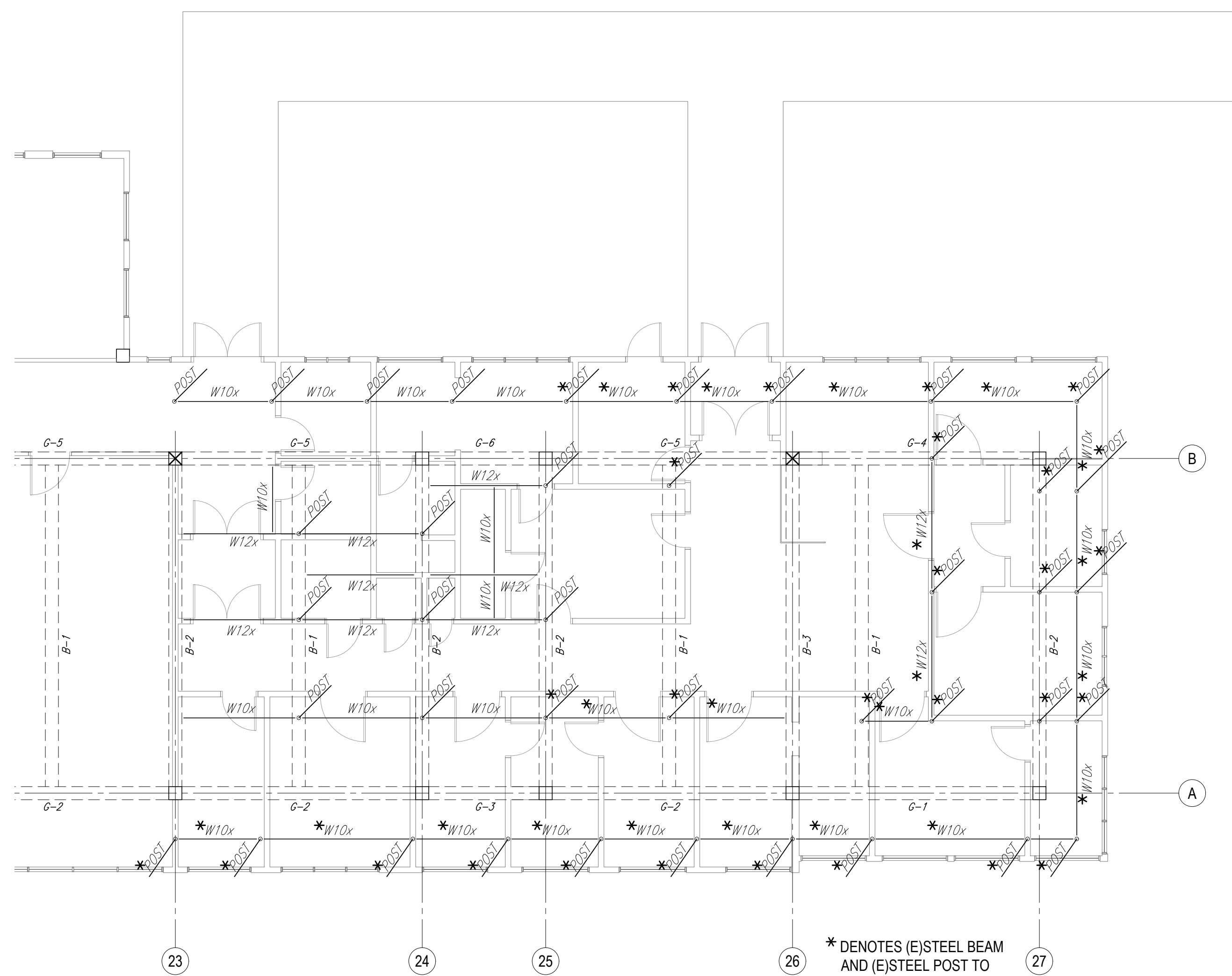
LEGEND:

- # CONCRETE DAMAGE. SEE SHEET S-8 FOR DAMAGE SCHEDULE AND REPAIR TYPE.

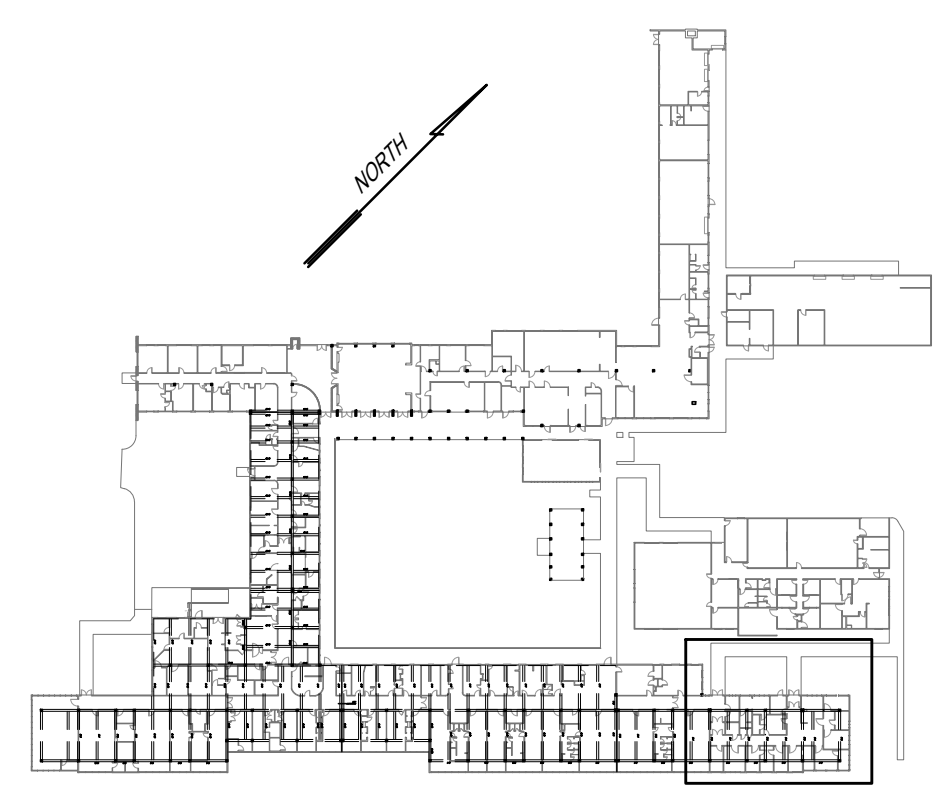


VIEW
KEY PLAN
NOT TO SCALE

EXISTING CONCRETE BEAM ELEVATION ALONG GRID LINE "B"
NOT TO SCALE

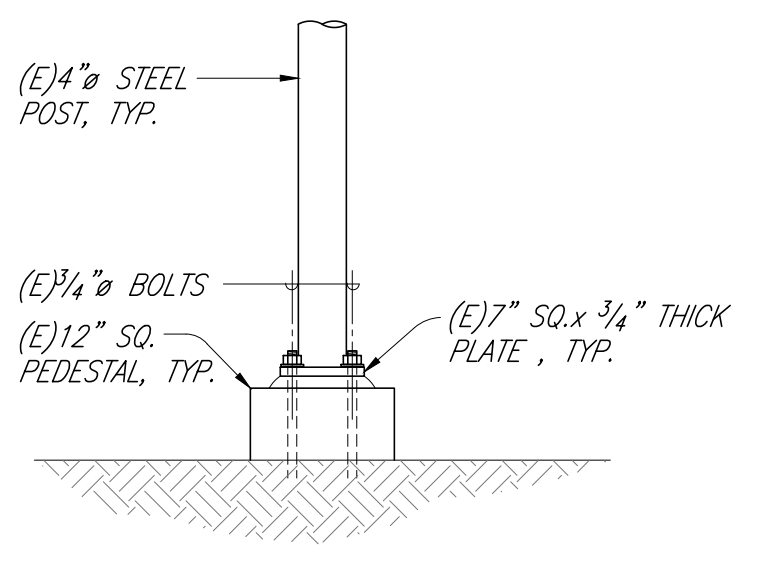


1 EXISTING STEEL BEAM AND POST FRAMING PLAN
S-10 SCALE: 1/8" = 1'-0"

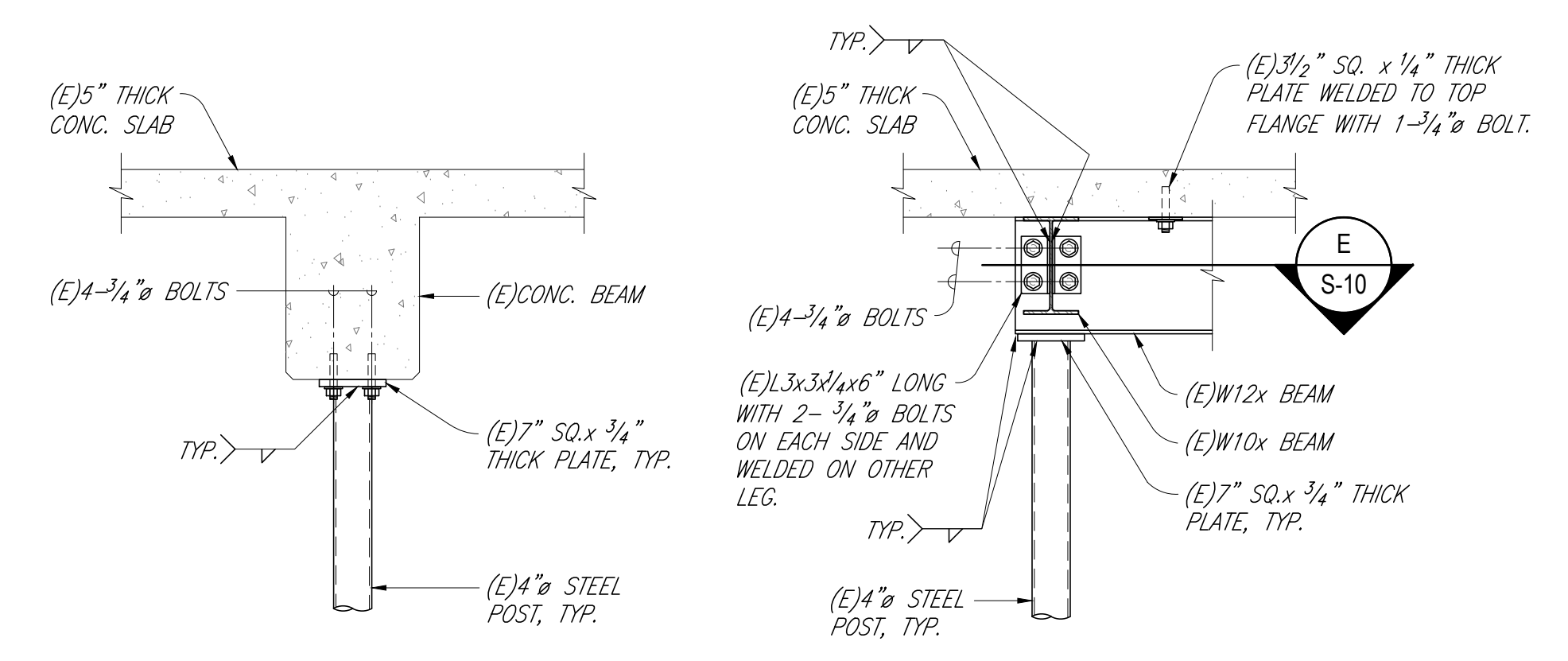


KEY PLAN
NOT TO SCALE

- STEEL DEMOLITION NOTES:**
- SEE NOTES ON SHEET S-1 AND THE PROJECT SPECIFICATIONS FOR REQUIREMENTS FOR REMOVAL OF EXISTING STRUCTURAL STEEL..
 - EXISTING BEAMS AND POSTS WITH AN * INDICATES THAT MEMBER IS TO BE REPLACED. REMOVE MEMBER IN ITS ENTIRETY.
 - CUT EXISTING ANCHOR EMBEDDED IN EXISTING CONCRETE BEAMS BELOW THE SURFACE OF THE BEAMS. SEE DETAIL 4/S-2.
 - REMOVE EXISTING ANCHOR BOLTS AT THE BASE OF EXISTING POSTS TO BE REMOVED BY DEMOLISHING A PORTION OF THE EXISTING CONCRETE PEDESTAL. SEE DETAIL 6/S-2.
 - CLEAN AND PAINT THE BALANCE OF THE EXISTING STEEL FRAMING, (STEEL NOT SCHEDULED TO BE REPLACED.)

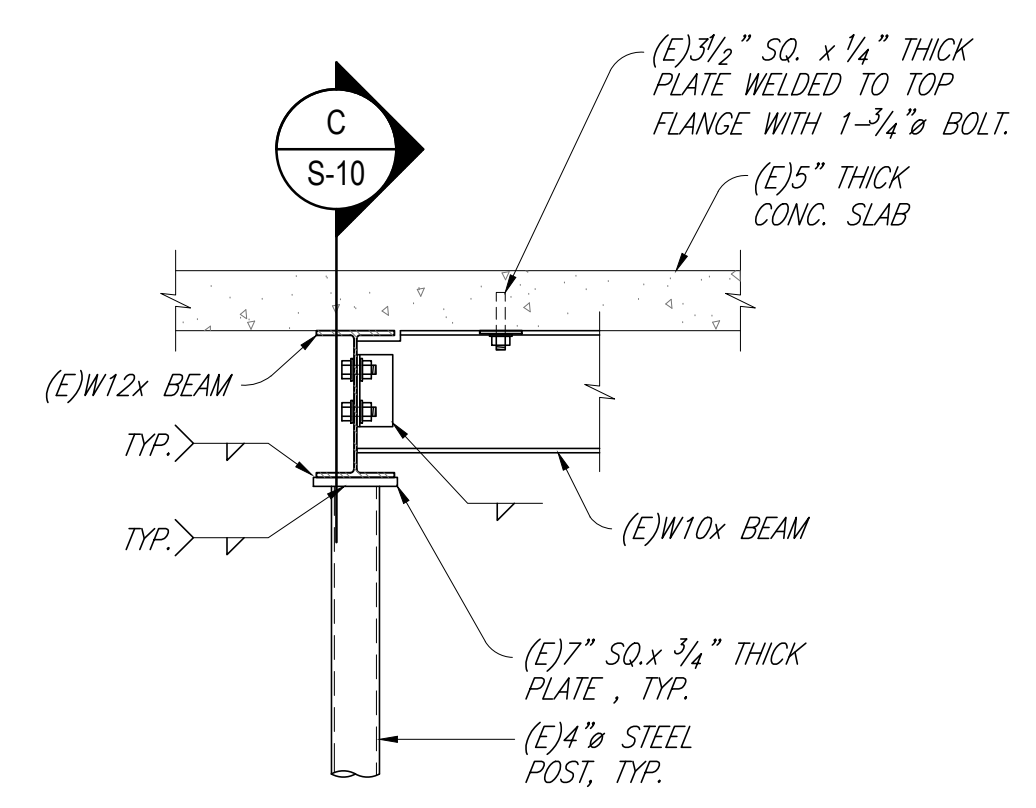


A SECTION
S-10 SCALE: 3/4" = 1'-0"

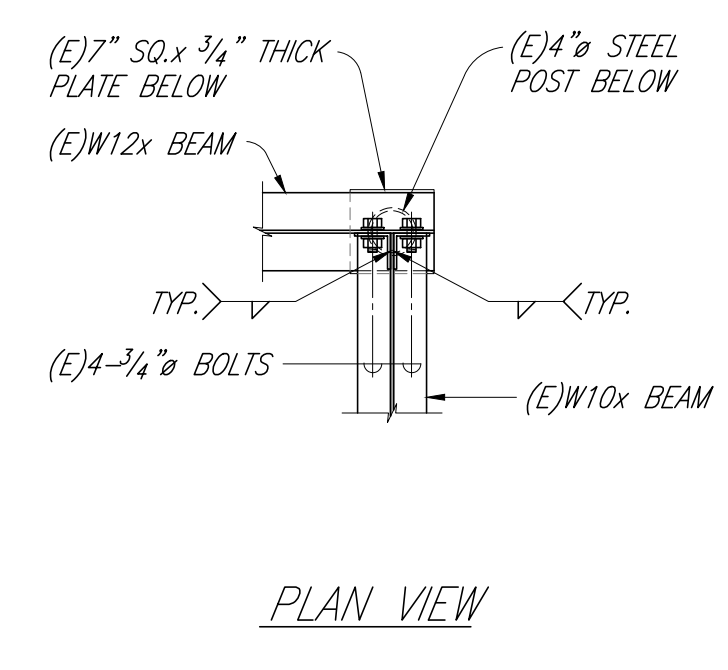


B SECTION
S-10 SCALE: 3/4" = 1'-0"

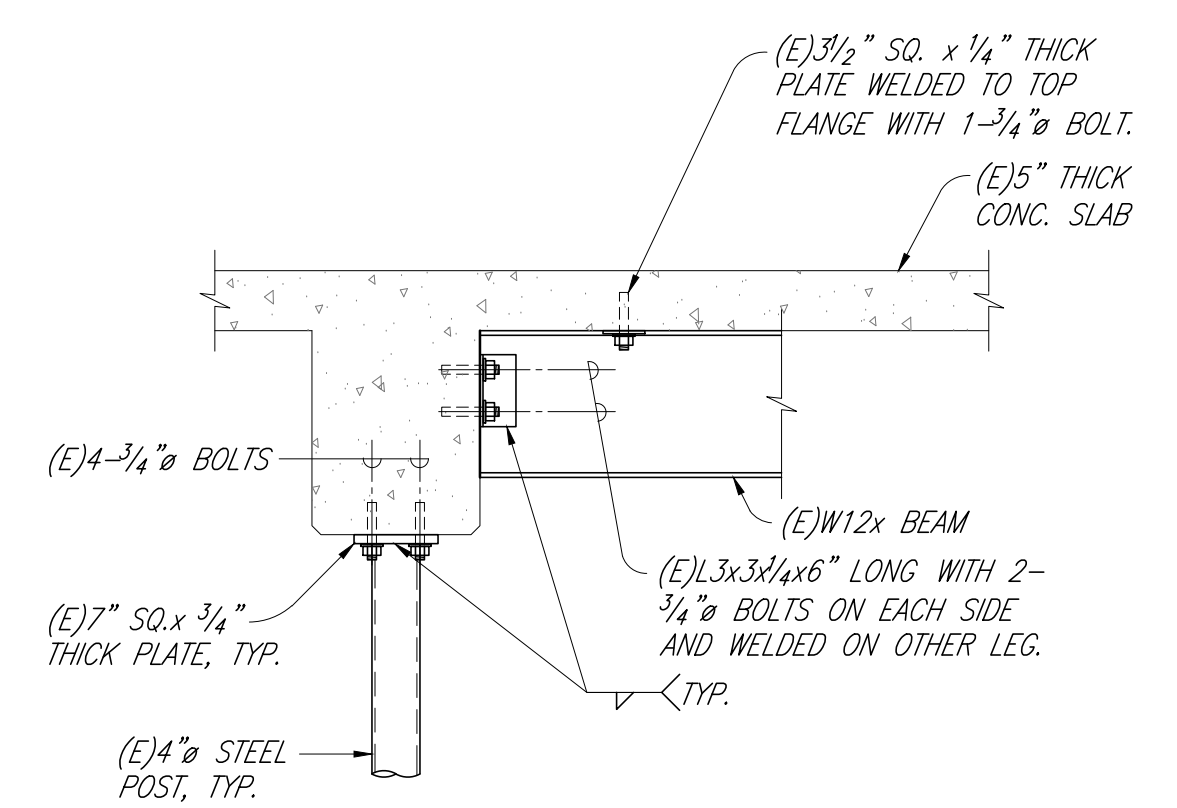
C SECTION
S-10 SCALE: 3/4" = 1'-0"



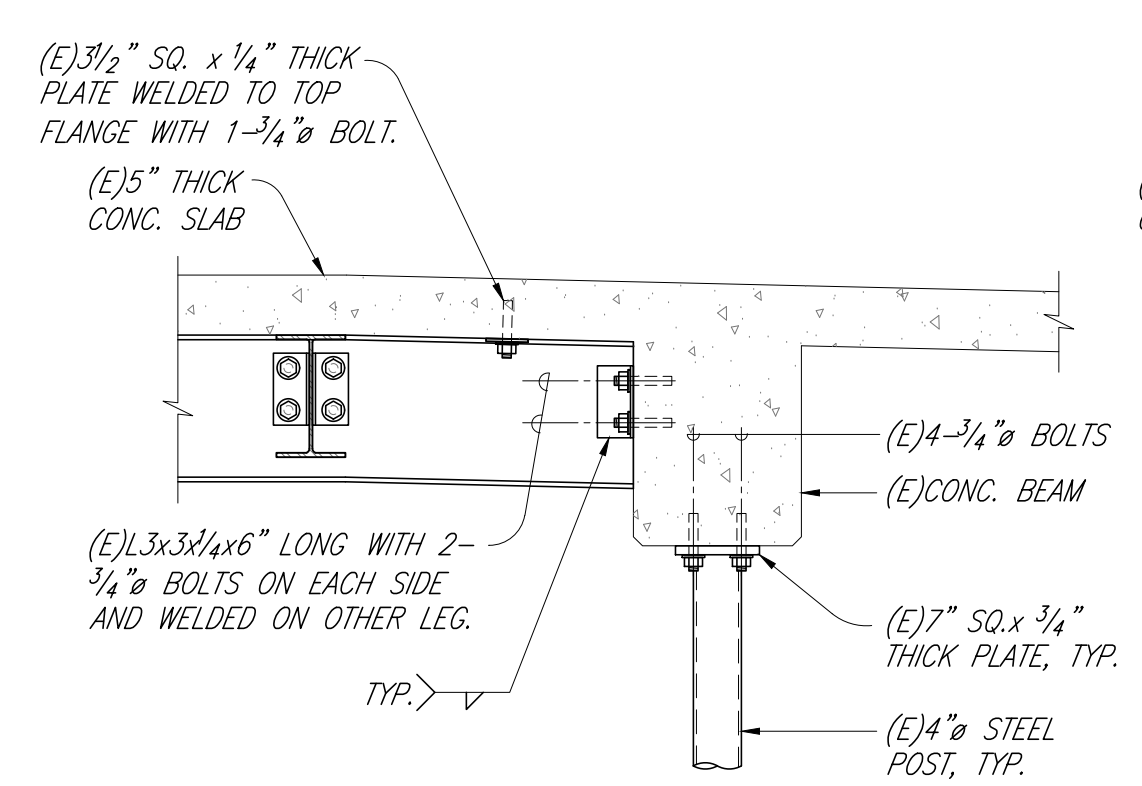
D SECTION
S-10 SCALE: 3/4" = 1'-0"



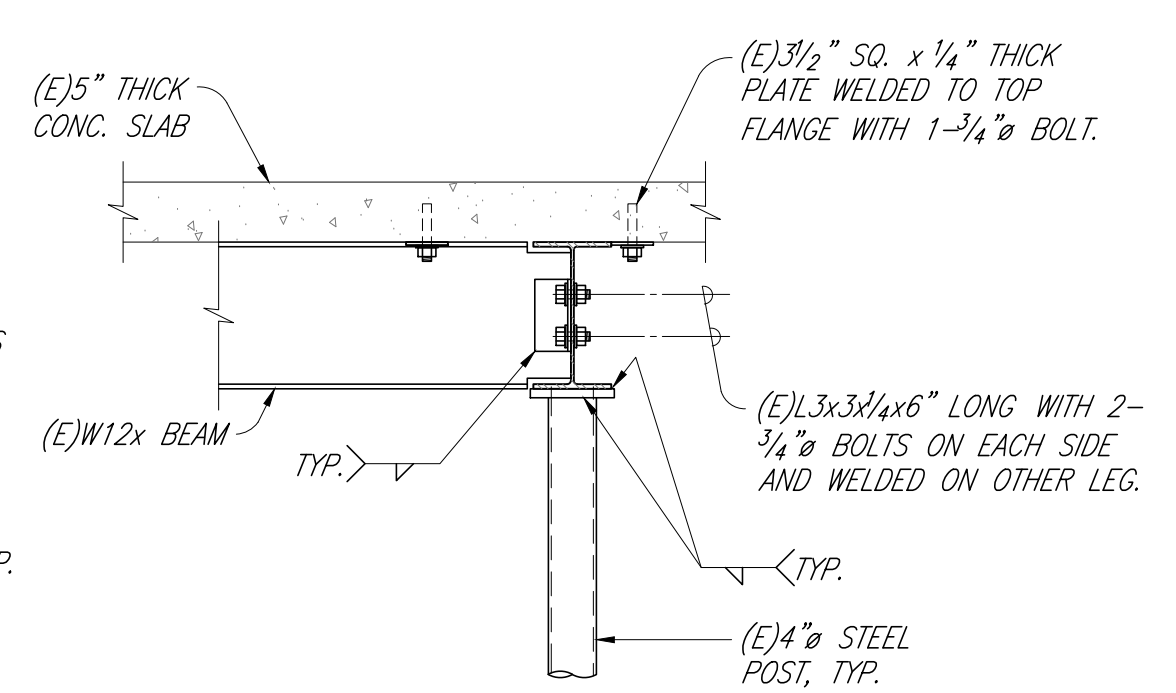
E SECTION
S-10 SCALE: 3/4" = 1'-0"



F SECTION
S-10 SCALE: 3/4" = 1'-0"



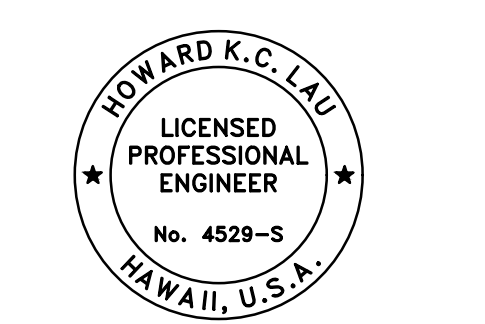
G SECTION
S-10 SCALE: 3/4" = 1'-0"



H SECTION
S-10 SCALE: 3/4" = 1'-0"



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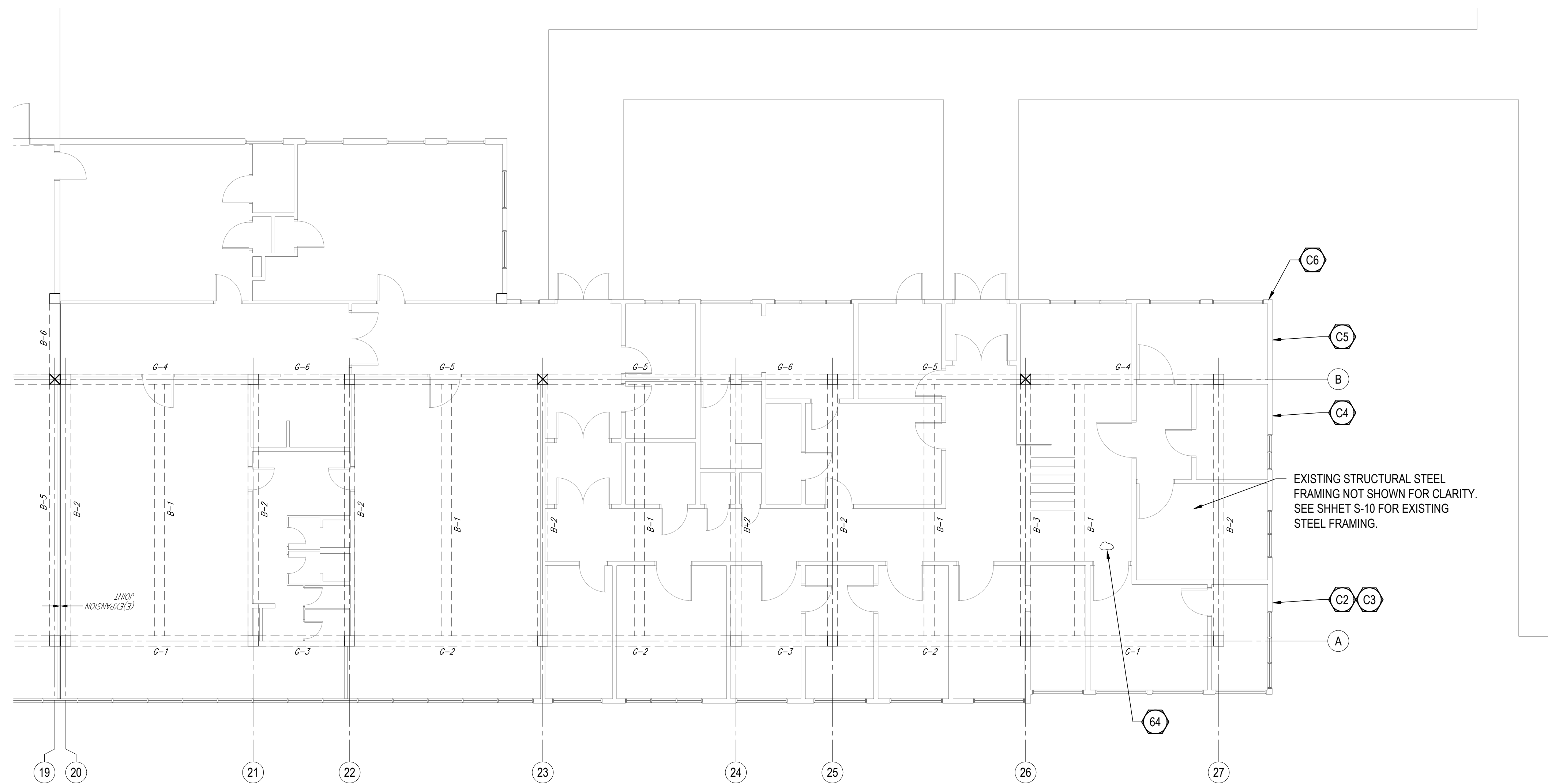
SHEET TITLE:
EXISTING STEEL BEAM AND POST FRAMING PLAN AND SECTIONS

SHEET NO.:

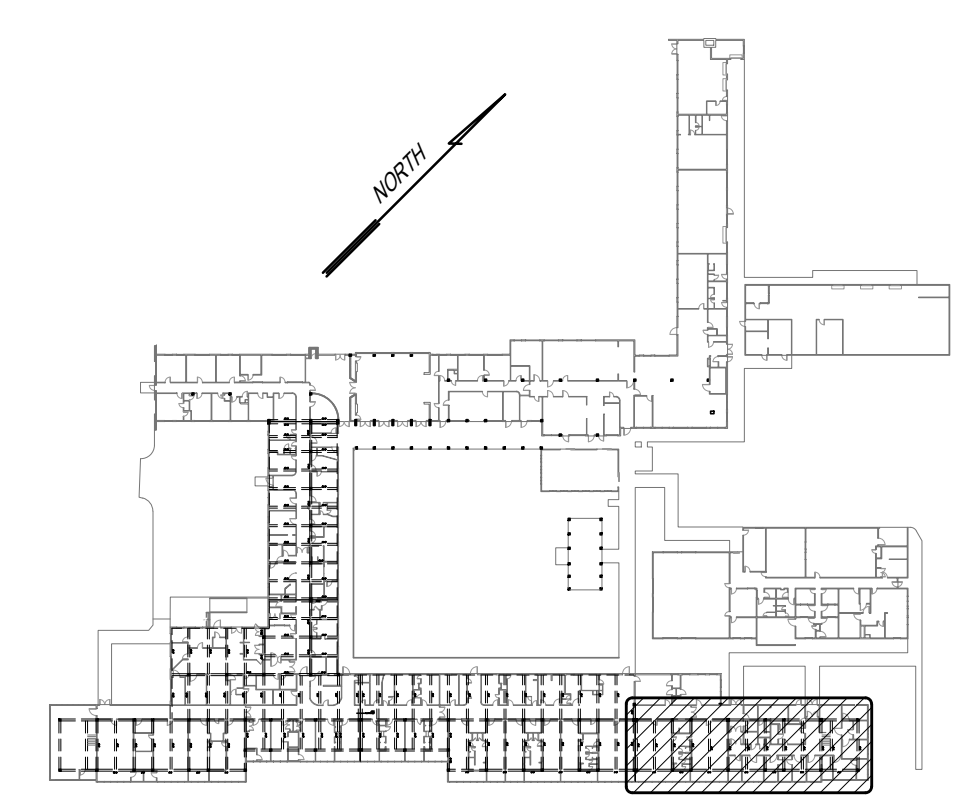
S-10

PROJ NO.: 21S031

OF



1 EXISTING SOUTH EAST PORTION OF FLOOR FRAMING PLAN
 S-12 SCALE: 1/8" = 1'-0"



KEY PLAN
 NOT TO SCALE

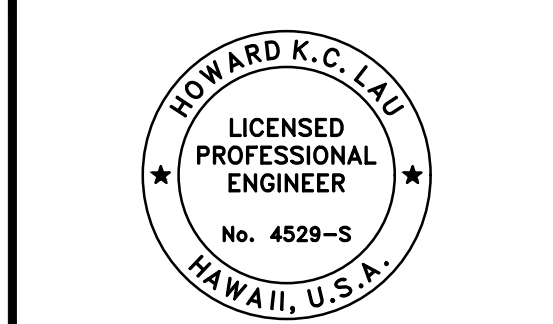
LEGEND:
 # CONCRETE DAMAGE. SEE SHEET S-8 FOR DAMAGE SCHEDULE AND REPAIR TYPE.

EXISTING STRUCTURAL STEEL FRAMING NOT SHOWN FOR CLARITY. SEE SHHET S-10 FOR EXISTING STEEL FRAMING.

REPAIR NOTES:

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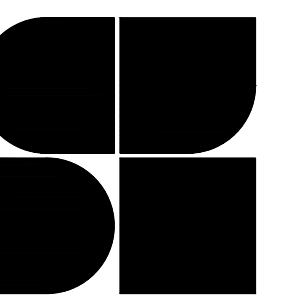
SHEET TITLE:
 EXISTING SOUTH EAST PORTION OF FLOOR FRAMING PLAN

SHEET NO.:

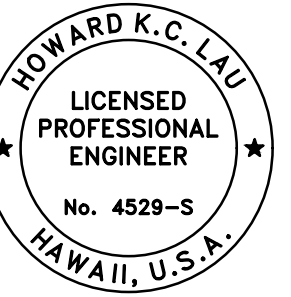
S-12

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PROJECT NAME:

**SAMUEL MAHELONA MEMORIAL HOSPITAL
MAIN BUILDING STRUCTURAL REPAIRS**

HAWAII HEALTH SYSTEMS CORPORATION - KAUAI REGION
4800 KAWAIIHAU, KAPAA, HAWAII 96746
TAX MAP KEY: 4-6-014:030

REVISIONS:

NO.	DATE	DESCRIPTION

DRAWN BY: MTM CHECKED BY: MWM
DATE: EVENT:

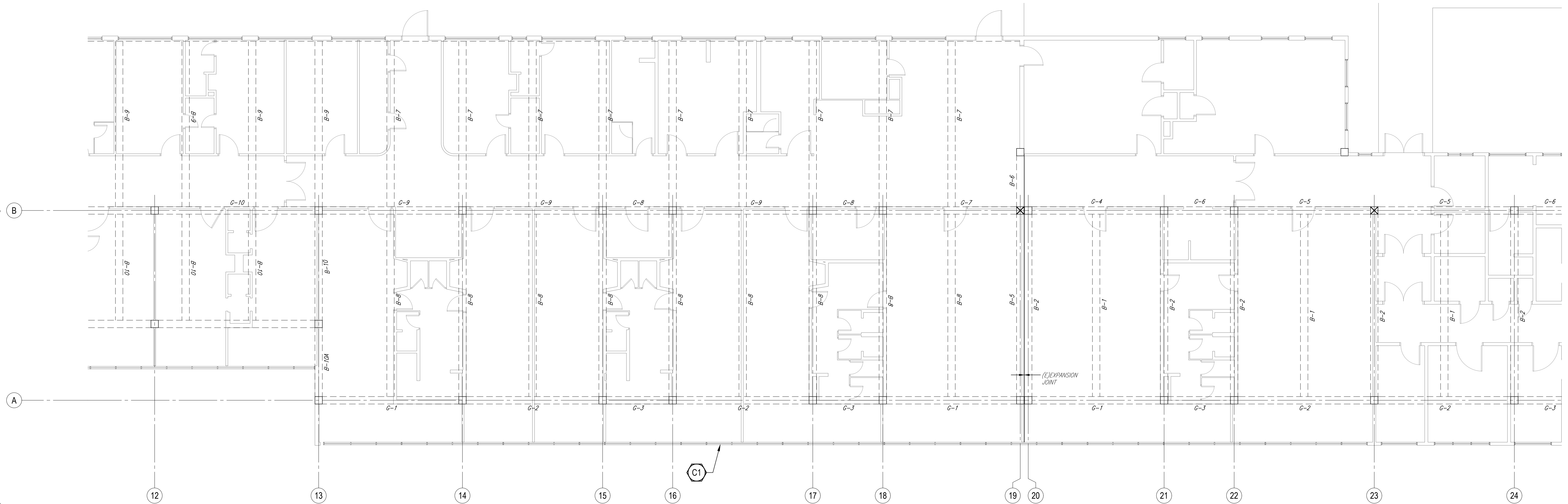
SHEET TITLE:
CRACK IN EXISTING CMU WALL
BETWEEN GRID LINES "16" AND "17"

SHEET NO.:

S-15

PROJ NO.: 21S031

OF



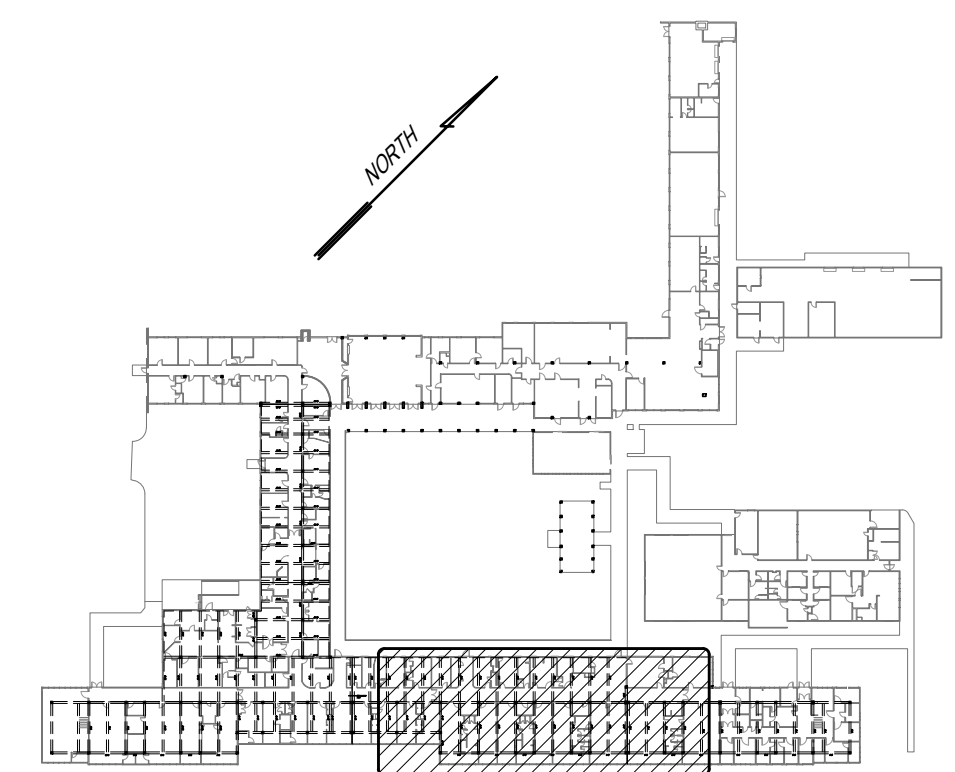
LEGEND:

CONCRETE DAMAGE. SEE SHEET S-8 FOR DAMAGE SCHEDULE AND REPAIR TYPE.

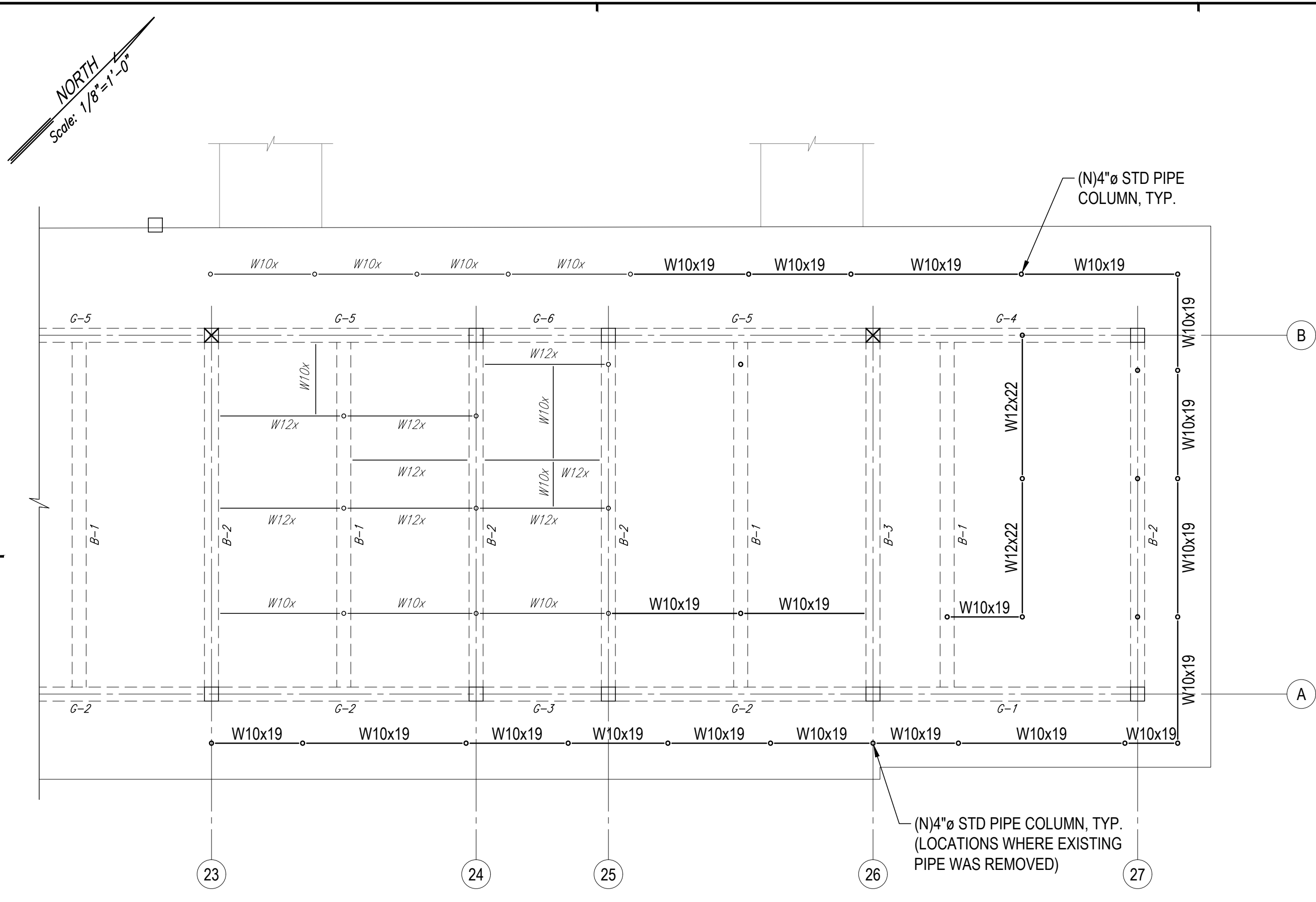
1 CRACK IN EXISTING CMU WALL BETWEEN GRIDLINES 16 AND 17
S-15 SCALE: 1/8" = 1'-0"

REPAIR NOTES:

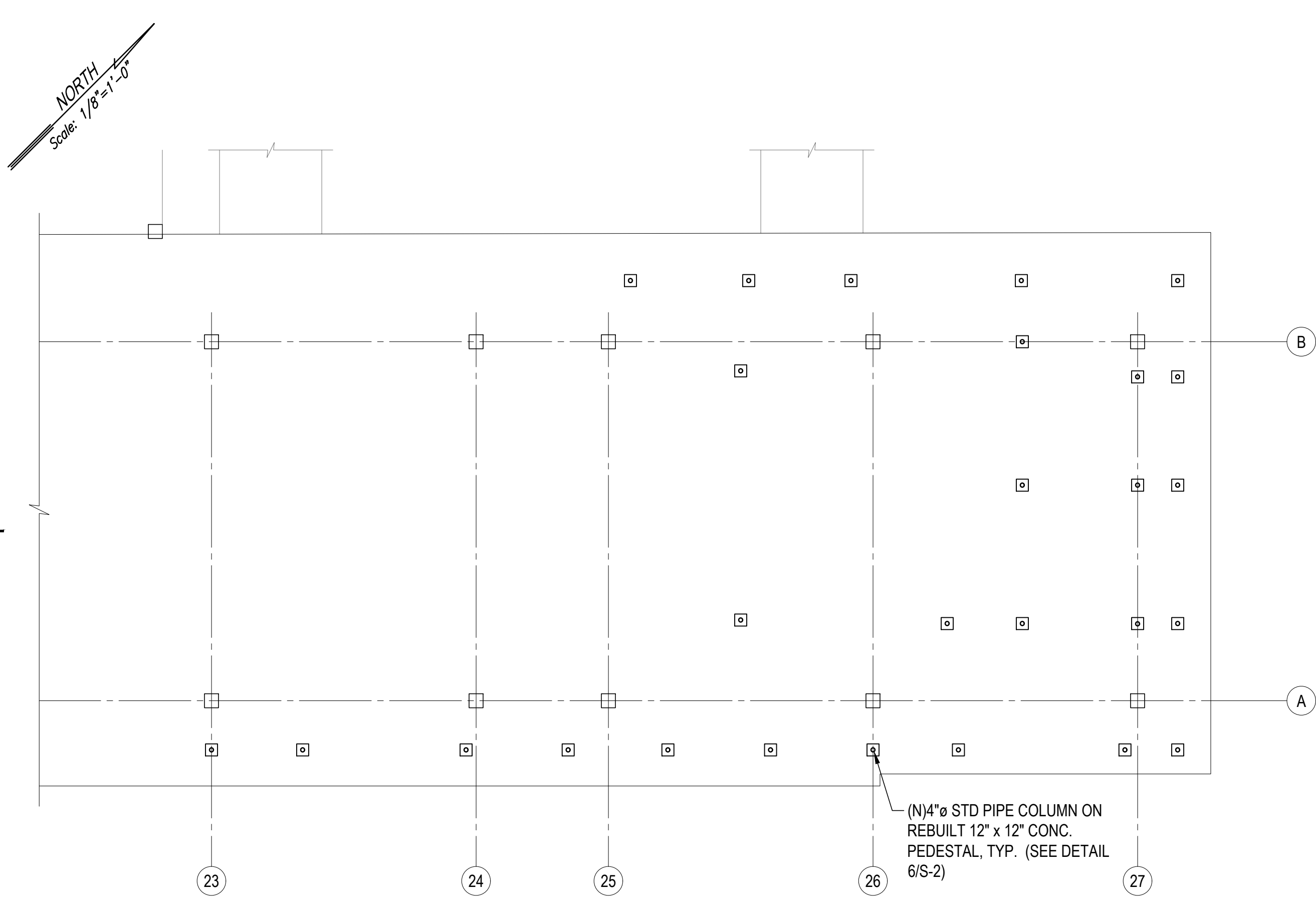
1. THE REPAIRS ARE CATEGORIZED INTO TYPES I, II, III AND V.
2. TYPE I ARE SPALLS WHERE THE REBAR HAS CORRODED BEYOND USEFULNESS AND NEEDS REPLACEMENT (SEE 3/S-2 FOR REPAIR DETAILS).
3. TYPE II ARE SPALLS WHERE THE REBAR IS CORRODED BUT MAY BE CLEANED OF THE RUST AND RE-USED (SEE 2/S-2 FOR REPAIR DETAILS).
4. TYPE III ARE JUST CONCRETE SURFACE SPALLS WHERE THE REBAR ISN'T EXPOSED AT ALL AND SIMPLY NEEDS TO BE PATCHED (SEE 4/S-1 FOR REPAIR DETAIL).
5. TYPE V ARE CONCRETE CRACKS THAT NEED TO BE ROUTED OUT AND FILLED WITH EPOXY (SEE 5/S-1 FOR REPAIR DETAIL).



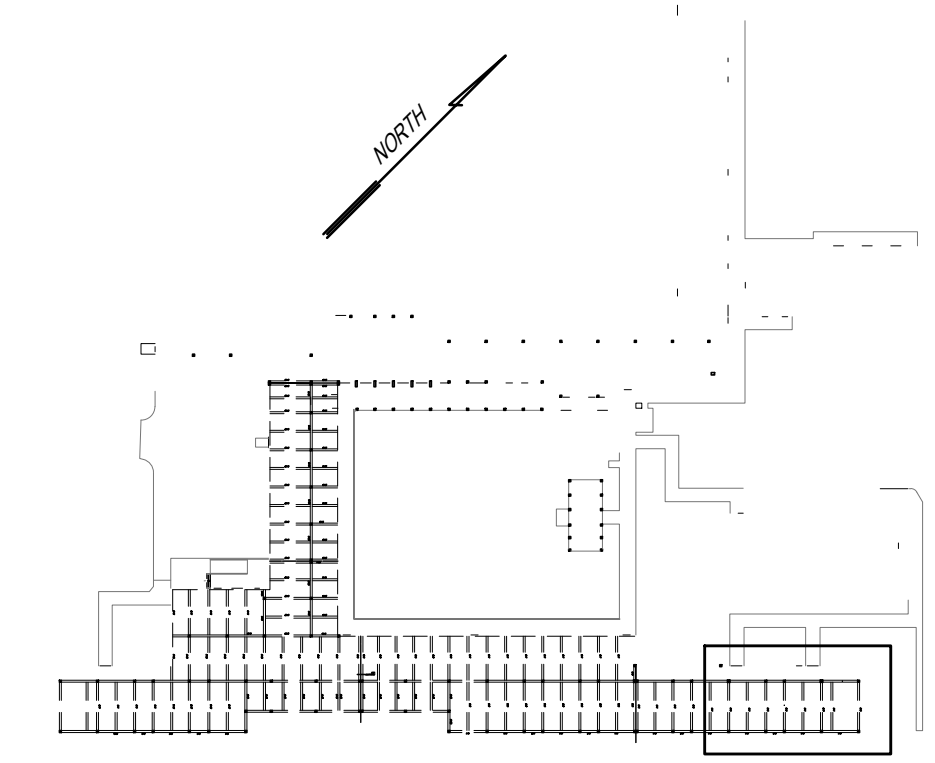
KEY PLAN
NOT TO SCALE



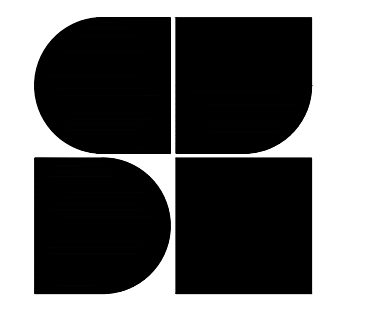
1 EXISTING REFLECTED FLOOR PLAN
S-XX SCALE: 1/8" = 1'-0"



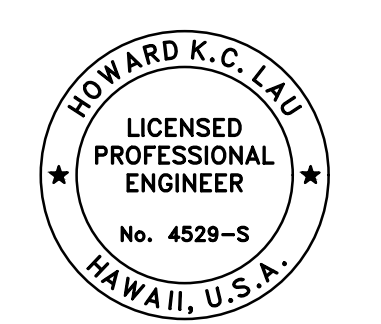
1 FOUNDATION PLAN
S-XX SCALE: 1/8" = 1'-0"



KEY PLAN
NOT TO SCALE



SHIGEMURA, LAU, SAKANASHI,
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This work was prepared by me or under my supervision and the construction of this project will be under my observation.

4-30-2024
License Expiration Date

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MAIN BUILDING STRUCTURAL REPAIRS**
HAWAII HEALTH SYSTEMS CORPORATION - KAUAI REGION
4800 KAWAIHAU, KAPAA, HAWAII 96746
TAX MAP KEY: 4-6-014:030

REVISIONS:

DRAWN BY: MTM	CHECKED BY: MWM
DATE:	EVENT:

SHEET TITLE:
NEW STEEL FRAMING

SHEET NO.:
S-16

PROJ NO.: 21S031
OF