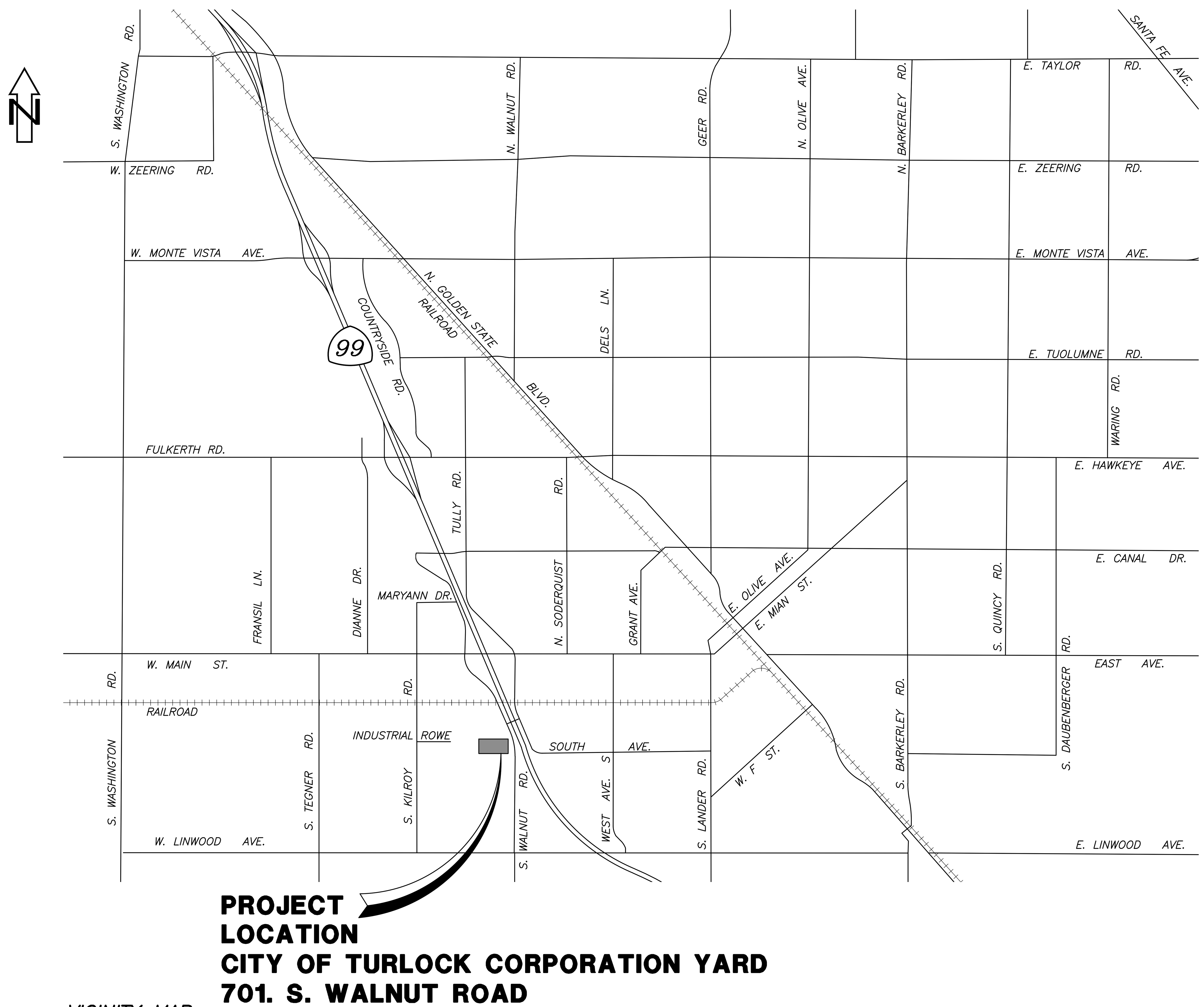
CITY OF TURLOCK

CITY PROJECT NO. 22-007

STRUCTURAL REPAIR OF COLUMN AT CORPORATION YARD



VICINITY MAP
NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER
NANDA K. GOTTIPARTHY
C-52308
CIVIL
STATE OF CALIFORNIA

REINFORCING STEEL:

1. ALL REINFORCING BARS, EXCEPT REINFORCING BARS TO BE WELDED AND STIRRUPS, SHALL CONFORM TO ASTM A615 GRADE 60 (U.N.O.), NO. 2 AND NO. 3 TIES AND STIRRUPS SHALL CONFORM TO ASTM A615 GRADE 40, ALL REINFORCING BARS TO BE WELDED SHALL CONFORM TO ASTM A706 GRADE 60.
2. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING STEEL SHALL CONFORM TO THE LATEST A.C.I. MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES A.C.I. 315.
3. REINFORCING BARS SHALL HAVE THE MINIMUM COVERS AS FOLLOWS. UNLESS NOTED OTHERWISE:
   - UNIFORMED SURFACES EXPOSED TO EARTH ------ 3"
   - FORMED SURFACES EXPOSED TO EARTH OR WEATHER
     - NO. 5 AND SMALLER ----------------- 3"
     - NO. 6 THRU NO. 18 ----------------- 3"
   - FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER
     - NO. 11 AND SMALLER ---------------- 1"
     - NO. 14 AND NO. 18 ----------------- 1-1/2"
     - BEAMS, GIRDERS AND COLUMNS ---------- 1-1/2"
4. ALL REINFORCING STEEL SHALL HAVE MINIMUM LAP SPLICE PER A.C.I. 318 SECTION 25.4.2.2, 25.5.2.1, AND THE FOLLOWING:

LAP SPLICE (INCHES)*							
#3	#4	#5	#6	#7	#8	#9	#10
18	24	30	35	51	59	66	74

* NOTE: FOR EPOXY COATED BARS, MULTIPLY SPICE LENGTH BY 1.5

EPOXY:

1. ANCHOR BOLT EPOXY: HILTI HIT-RE 500 V3 OR PG&E APPROVED EQUAL.
2. ALL HOLES TO RECEIVE EPOXY SHALL BE CLEARED AND BE FREE OF LAITANCE.
3. ALL HOLES TO RECEIVE EPOXY ANCHORS SHALL BE INSPECTED BY CITY OF TURLOCK APPROVED INSPECTORS FOR COMPLIANCE WITH THE MANUFACTURER'S REQUIREMENTS FOR CLEANLINESS, ETC. BEFORE SETTING THE EPOXY ANCHORS.

CONCRETE:

1. CONCRETE SHALL BE INSTALLED IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (A.C.I. 318 LATEST EDITION), SPECIFICATION FOR STRUCTURAL CONCRETE FOR BUILDINGS (A.C.I 300 LATEST EDITION.).
2. MATERIAL SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS (LATEST EDITION):

CEMENT	ASTM C150 TYPE II
AGGREGATE	ASTM C33 (MAX. 1" U.N.O.)
REINFORCED STEEL	ASTM A615 GRADE 60 MINIMUM (U.N.O.)

3. ADMIXTURES SHALL NOT BE USED WITHOUT PERMISSION OF THE ENGINEER.
4. CONCRETE SHALL BE KEPT IN A MOIST CONDITION FOR SEVEN DAYS AFTER PLACEMENT.
5. AS AN ALTERNATE TO A MOIST CURE, THE EXPOSED SURFACES OF FRESHLY PLACED CONCRETE SHALL BE SPRAYED WITH CURING COMPOUND IN ACCORDANCE WITH THE "SPECIFICATION FOR LIQUID MEMBRANE-FORMING COMPOUNDS OF CURING CONCRETE" (ASTM C309).
6. WELDING OF REINFORCING STEEL SHALL NOT BE DONE UNLESS APPROVED BY THE ENGINEER.
7. ALL POURED IN PLACE CONCRETE SHALL HAVE AN ULTIMATE COMPRESSIVE STRENGTH, f'c, OF 2,000 POUNDS PER INCH SQUARED AT 28 DAYS AND AN AIR DRIED DENSITY OF 145 POUNDS PER CUBIC FOOT. THE CONCRETE SHALL HAVE AN AIR ENTERTAINMENT OF 6%.
8. THE MAXIMUM WATER-CEMENT RATION, W/C SHALL NOT EXCEED 0.45.
9. ALL PERPENDICULAR EXPOSED CORNERS OF EXPOSED CONCRETE SHALL BE CHAMFERED AT 45° BY 3/4", U.N.O.
10. PREPARATIONS OF BASE SURFACES:
    - A. WEATHER: HOT AND COLD CONDITIONS, ACI 305, ACI 306, AND AS APPROVED BY ENGINEER.
    - B. PRELIMINARY MEASURES:
      - 1) DO NOT PLACE CONCRETE UNTIL FOUNDATIONS, EXCAVATIONS, AND FORMS HAVE BEEN CHECKED AND APPROVED BY THE CITY OF TURLOCK.
11. COLD-WEATHER PRECAUTIONS: COMPLY WITH ACI 306 WHEN AIR TEMPERATURE FALLS TO 40°F OR BELOW WITHIN 72 HOURS AFTER PLACEMENT SUPPLY AN APPROVED THERMOMETER.
12. HOT-WEATHER PRECAUTIONS: COMPLY WITH ACI 305.
13. THE CONSTRUCTOR SHALL CONTROL INTERNAL TEMPERATURES OF CONCRETE PER ACI 301.
14. AS AN ALTERNATIVE TO BATCH PLANT MIX AND DELIVERY VIA HELICOPTER, CONSTRUCTOR MAY ELECT TO MIX CONCRETE ON SITE IN ACCORDANCE WITH ASTM C387 FOR PACKAGED, DRY, HIGH STRENGTH CONCRETE MORTAR:

A. QUICKCRETE Q-MAX PRO OR APPROVED EQUAL.

GENERAL NOTES:

1. THE CONSTRUCTOR IS RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, AND PROCEDURES.
2. DO NOT SCALE DRAWINGS. ALL DIMENSIONS RELATED TO EXISTING CONDITIONS SHALL BE VERIFIED BY THE CONSTRUCTOR. DETAILS NOT SPECIFICALLY SHOWN SHALL BE OF SAME NATURE AS OTHER SIMILAR CONDITIONS.
3. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND STANDARD DETAILS.
4. ALL WORK NOT DETAILED OR NOTED SHALL BE CONSTRUCTED THE SAME AS OTHER SIMILAR WORK SHOWN IN THE DETAILS.
5. ALL CONSTRUCTION AND INSPECTION SHALL CONFORM TO AND COMPLY WITH THE LATEST CALIFORNIA BUILDING CODE, CAL-OSHA REQUIREMENTS, AND ALL CODES, ORDINANCES, RULES AND REGULATIONS OF THE GOVERNING AGENCIES.
6. CONSTRUCTOR SHALL TAKE ALL PRECAUTIONARY MEASURES TO PROTECT IN PLACE EXISTING STRUCTURES AND FEATURES FROM DAMAGE. EXISTING AND NEW IMPROVEMENTS DAMAGED BY THE CONSTRUCTOR SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED AT THE CONSTRUCTOR'S EXPENSE AS DIRECTED BY PG&E OR THE ENGINEER.
7. CONSTRUCTOR SHALL LAWFULLY DISPOSE OF ALL DEBRIS FROM DEMOLITION OR REMOVAL OF MATERIAL.
8. ALL WORK SHALL BE PREFORMED IN ACCORDANCE WITH THE FOLLOWING PROVISIONS.
   - A. 2019 CALIFORNIA BUILDING CODE
   - B. ACI318-19, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
   - C. OSHA REGULATIONS, STANDARDS 29 CFR, SECTION 1910

CONSTRUCTION SEQUENCING AND SCOPE OF WORK:

LIKE-IN-KIND REPAIRS ARE PLANNED FOR THE EXISTING DAMAGED CONCRETE PEDESTAL.

1. CONSTRUCTOR SHALL PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED FOR PROPOSED REPAIRS.
2. REMOVE EXISTING DAMAGED CONCRETE PEDESTAL (PROTECT IN PLACE EXISTING ANCHOR BOLTS).
3. INSTALL POST-INSTALLED DOWEL BARS VERTICALLY INTO EXISTING FOUNDATION AND INSTALL TIES.
4. INSTALL FORMS AND PLACE CONCRETE UP TO THE BOTTOM OF BASE PLATE ELEVATION.
5. ALLOW CONCRETE TO CURE FOR 7-DAYS OR 75% CONCRETE STRENGTH.
6. REMOVE FORMS AND TEMPORARY BRACING AND SHORING.

NOTE: IT IS THE CONSTRUCTOR'S RESPONSIBILITY TO DESIGN THE TEMPORARY BRACING AND SHORING FOR THE EXISTING BUILDING COLUMN AS REQUIRED FOR THE PROPOSED REPAIRS. CONSTRUCTOR SHALL SUBMIT FOR CITY AND ENGINEER REVIEW THE PROPOSED TEMPORARY SUPPORT PLAN.

APPROVED:
Nanda Gotthiparthy, P.E.
Acting City Engineer
City of Turlock

TABLE OF CONTENTS

Blair, Church & Flynn
CONSULTING ENGINEERS

LICENSED PROFESSIONAL ENGINEER
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7/15/2022
Date Signed:

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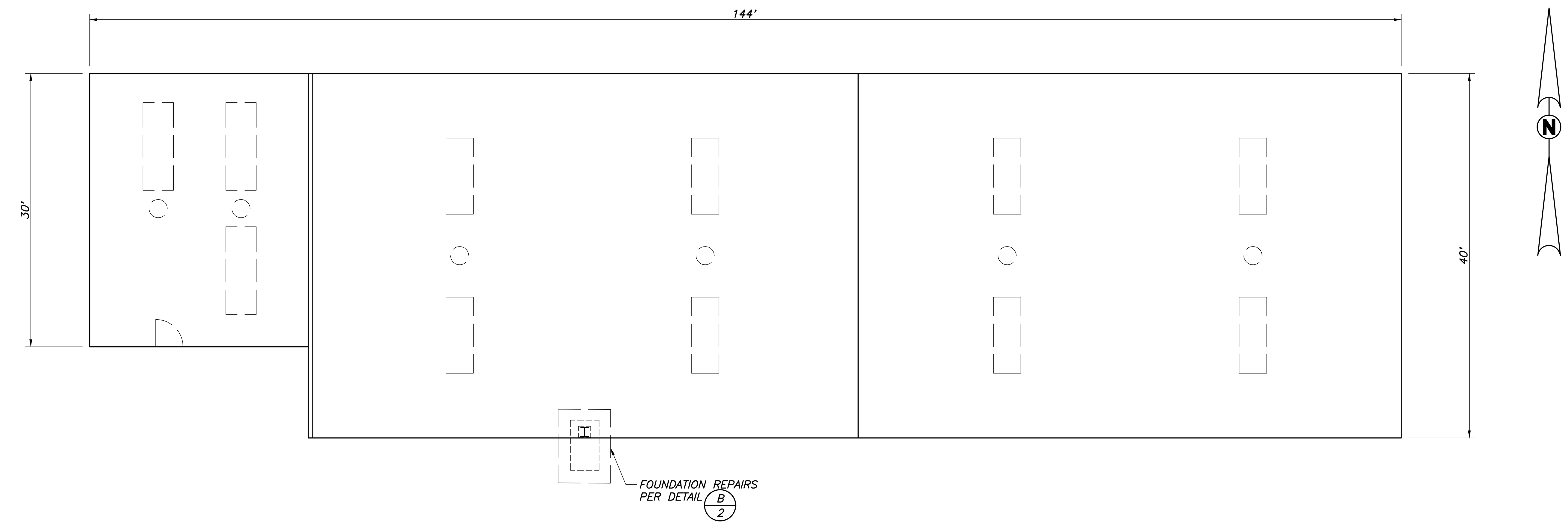
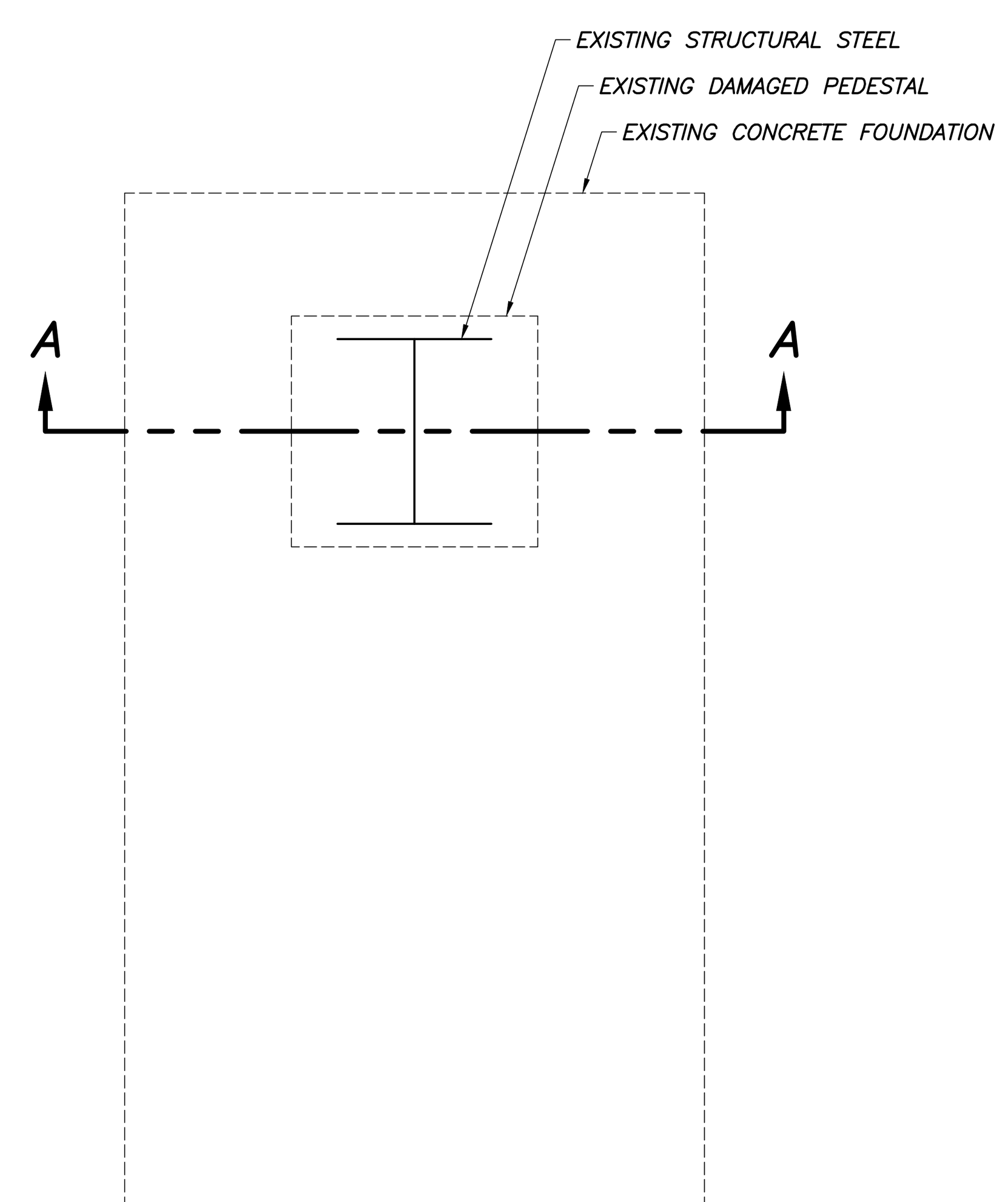
REF. & REV.

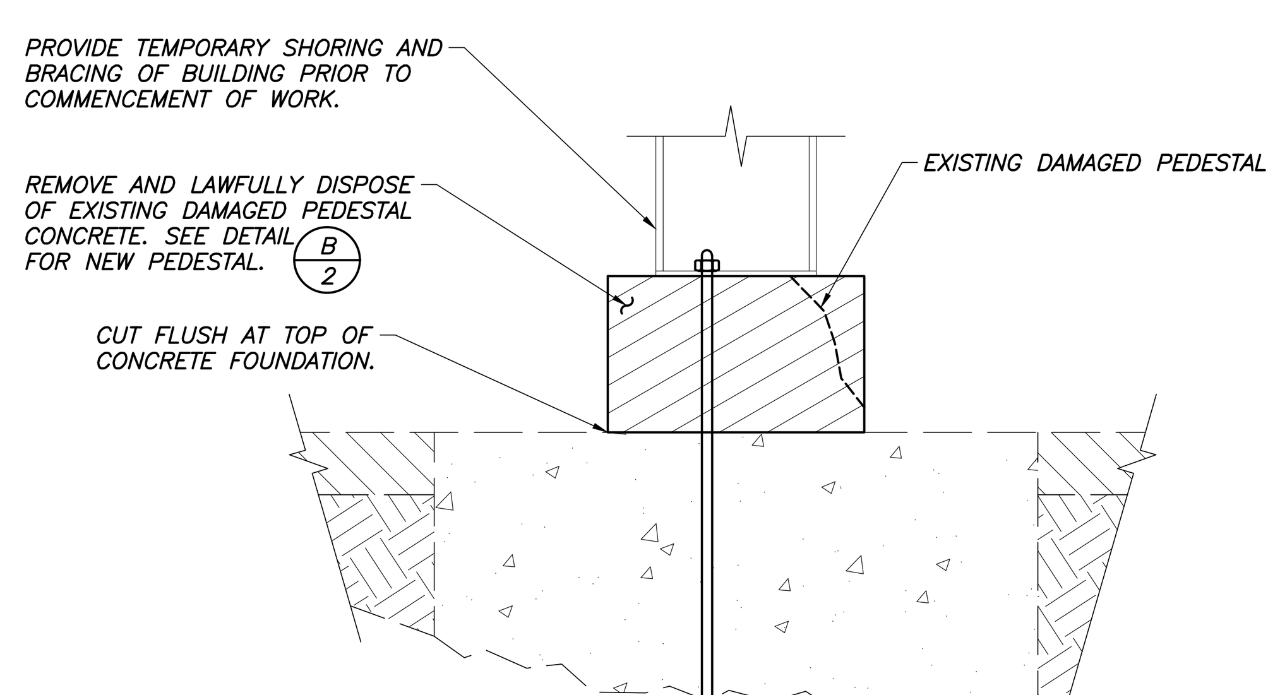
CITY OF TURLOCK		
CITY PROJECT NO. 22-007 STRUCTURAL REPAIR OF COLUMN AT CORPORATION YARD COVER SHEET	DR. BY: BHS CH. BY: BB DATE: 7/15/2022 SCALE AS NOTED	SHEET NO. 1 OF 2 SHEETS



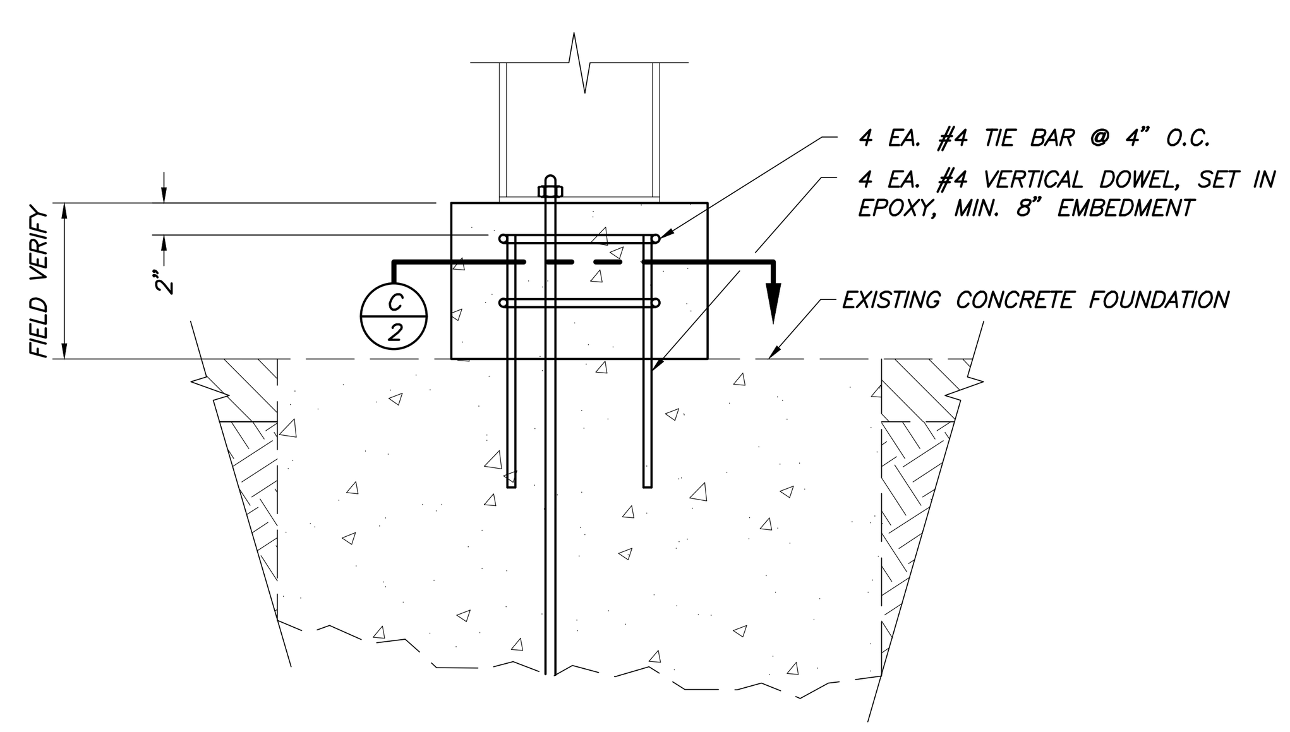
A/2 OVERALL PLAN
SCALE: 1" = 10'



PLAN

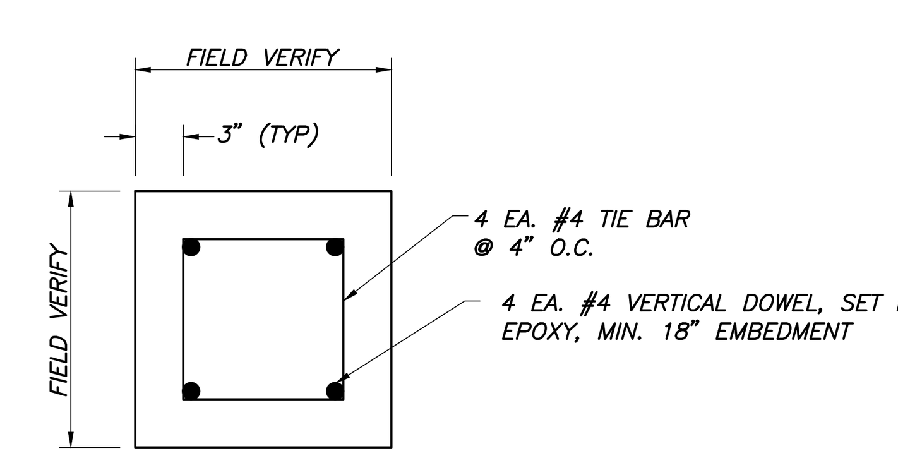


SECTION A–A – DEMOLITION



SECTION A–A – CONSTRUCTION

B/2 PEDESTAL DETAIL
SCALE: 1" = 1'-0"



C/2 REINFORCEMENT SECTION
SCALE: 1" = 1'

Blair, Church & Flynn
CONSULTING ENGINEERS

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CITY OF TURLOCK

CITY PROJECT NO. 22–007
STRUCTURAL REPAIR OF COLUMN
AT CORPORATION YARD
STRUCTURAL DETAILS

DR. BY: BHS
CH. BY: BB
DATE: 7/15/2022
SCALE AS NOTED

SHEET NO. 2
OF 2 SHEETS

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