

CODES AND MANUALS

-INTERNATIONAL BUILDING CODE, 2003 EDITION
-BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 318-02
-MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, 7-02 ASCE

DESIGN CRITERIA

LIVE LOAD: H20-S16-44 AND INTERSTATE ALTERNATE LOADING ON CBC

SOIL: IMPORTANCE FACTOR DESIGN SOIL BEARING PRESSURES: = 1.0
IBC SEISMIC SOIL PROFILE TYPE: = SD
MAXIMUM ALLOWABLE SOIL BEARING PRESSURE = 2000 PSF
EQUIVALENT FLUID PRESSURE - ACTIVE + 2' SURCHARGE = 45 PSF
EQUIVALENT FLUID PRESSURE - AT REST + 2' SURCHARGE = 60 PSF
EQUIVALENT FLUID PRESSURE - PASSIVE = 300 PSF
SOIL TO CONCRETE COEFFICIENT OF FRICTION = 0.4
SOIL WEIGHT = 120 PCF

GENERAL STRUCTURAL NOTES

WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.

DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE SHOWN ON DRAWINGS.

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION, AS WELL AS WORKER SAFETY AND COMPLIANCE WITH OSHA OR OTHER AGENCY SAFETY GUIDELINES. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC..

CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FLOORS OR ROOF. LOAD SHALL NOT EXCEED 240 PSF. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.

NOTCHING OR CUTTING OF ANY STRUCTURAL MEMBER IN THE FIELD IS PROHIBITED, UNLESS APPROVED BY THE STRUCTURAL ENGINEER.

SHOP DRAWINGS SHALL BE REVIEWED PRIOR TO FABRICATION OR ERECTION. THE CONTRACTOR SHALL REVIEW AND APPROVE SHOP DRAWINGS PRIOR TO SUBMITTAL TO THE ENGINEER FOR REVIEW. POORLY EXECUTED SHOP DRAWINGS WILL BE REJECTED AND SHALL BE RESUBMITTED.

THE CONTRACTOR SHALL CLEAN ALL CONSTRUCTION DEBRIS FROM THE AREA.

CAST-IN-PLACE CONCRETE

ALL EXPOSED EDGES OF CONCRETE SHALL HAVE A 3/4" CHAMFER UNLESS NOTED OTHERWISE.

STRUCTURAL CAST-IN-PLACE CONCRETE SHALL BE IN ACCORDANCE WITH TABLE 101.C AND SECTIONS 510 AND 511.

NORMAL WEIGHT CONCRETE: 3000 PSI @ 28 DAYS (AIR ENTRAINED) U.N.O.

THE CONTRACTOR SHALL NOT CAST FOUNDATIONS, STEM WALLS OR RETAINING WALLS AGAINST EXCAVATED VERTICAL SIDE SURFACES WITHOUT PRIOR APPROVAL OF THE ENGINEER.

SEE DRAWINGS FOR SIZES AND LOCATIONS OF HOLES, SLEEVES, REGLETS, WASHERS, BOLTS, NOTCHES, DRIPS, EMBEDDED ANCHORS, ETC.

EMBEDDED PIPES AND CONDUITS: NO PIPES, CONDUITS OR ANY OTHER ITEMS USED BY OTHER TRADES EXCEPT THOSE SHOWN ON THE DRAWINGS SHALL BE EMBEDDED IN CONCRETE OR PASS THROUGH CONCRETE MEMBERS WITHOUT PRIOR APPROVAL OF THE ENGINEER.

ALL EXPOSED SURFACES OF CONCRETE CHANNEL LINING SHALL RECEIVE A BRIDGE FLOAT AND TINE FINISH WITH TWO PASSES TRANSVERSE TO FLOW.

ALL EXPOSED CONCRETE CHANNEL LINING AT THE EAGLE ROCK TRANSITION SHALL BE TINTED WITH 1 LB OF "SAN DIEGO BUFF" PER SACK OF CEMENT. TINT SHALL BE INCIDENTAL TO THE COST OF CHANNEL LINING CONCRETE. SEE PLANS FOR DETAILS.

ALL EXPOSED CONCRETE CHANNEL LINING UPSTREAM FROM THE EAGLE ROCK TRANSITION SHALL NOT BE TINTED. SEE PLANS FOR DETAILS.

ALL EXPOSED SURFACES OF THE EAGLE ROCK TRANSITION WALLS AND CBC SHALL RECEIVE A "THOROCOAT" RUBBED COLOR FINISH. THE COLOR SHALL BE SIMILAR TO THE TINTED CHANNEL LINING AND SHALL BE APPROVED BY AMAFCA. "THOROCOAT" SHALL BE APPLIED TO THE BACK OF WALLS TO 6 INCHES BELOW GRADE. SEE PLANS FOR DETAILS.

PIPE RAILING

ALL PIPE RAILING SHALL BE SCHEDULE 40 STEEL PIPE AND CONFORM WITH ASTM A53 GRADE B. THE TOP RAIL SHALL BE CONTINUOUS, WITH POSTS, MIDDLE RAIL AND BOTTOM RAILS SADDLE CUT.

CHAIN LINK FOR RAILING SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M181, WITH A CLASS C COATING OR BETTER. THE WIRE SHALL BE GALVANIZED, 9 GAUGE, WITH A 2" MESH.

ALL RAILS, PIPES, PLATES AND TUBING TO BE COLOR COATED. COLOR COATING SHALL BE SHERWIN-WILLIAMS COROTHANE II INDUSTRIAL AND MARINE COATINGS OR PITTSBURG PAINT AND GLASS PITHANE ULTRA OR APPROVED EQUAL. PRIOR TO COLOR COATING, RAIL IS TO BE PRIMED WITH 2 COATS OF PRIMER BY THE SAME MANUFACTURER. COLOR OF FINAL COATING TO BE SELECTED BY AMAFCA.

TENSION BARS AND CLAMPS FOR CHAINLINK SHALL BE INSTALLED ON ALL ENDS AND AT ALL CORNERS AND ANGLE POINTS.

NEW AND UNSPLICED CHAINLINK MATERIAL SHALL BE USED THROUGHOUT.

PIPE RAILING, CONT.

ALL ANCHOR BOLTS SHALL BE HILTI KWIK BOLT II EXPANSION ANCHOR (KB II) OR ENGINEER APPROVED EQUAL. PROVIDE FLAT WASHERS BETWEEN ALL NUTS AND BASE PLATES.

BOLTS SHALL CONFORM TO ASTM A325, WASHERS SHALL BE INSTALLED UNDER NUTS OF FASTENERS.

BASE PLATES SHALL CONFORM TO ASTM A36. TUBE STEEL SHALL CONFORM TO ASTM A500 GRADE B.

ALL WELDING OR GAS CUTTING SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS OF THE AMERICAN WELDING SOCIETY D1.1-2000. ALL WELDING SHALL USE E70XX ELECTRODES AND BE PERFORMED BY CERTIFIED WELDERS QUALIFIED BY THE AMERICAN WELDING SOCIETY, CODE D1.1, LATEST REVISION.

PROVIDE EXPANDING POLYSTYRENE FOAM AT THE BASE OF ALL POSTS ON THE WALL MOUNTED PIPE RAIL.

PIPE RAILS EXPANSION JOINTS SHALL BE LOCATED A 40'-0" ON CENTER MAX.

CAST-IN-PLACE RETAINING WALLS

VERTICAL CONTRACTION JOINTS SHALL BE PLACED AT 10'-0" O.C. MAXIMUM. THE BACK SIDES OF ALL VERTICAL JOINTS IN RETAINING WALLS SHALL BE PROTECTED BY WATERPROOFING. WATERPROOFING SYSTEMS SHALL BE INCIDENTAL TO STRUCTURAL CONCRETE AND INSTALLED IN STRICT CONFORMANCE TO MANUFACTURER'S RECOMMENDATIONS. THE FOLLOWING SYSTEMS ARE APPROVED FOR USE:

A. CETCO SWELLTITE WATERPROOFING SYSTEM, CONSISTING OF A 20 MIL GEOMEMBRANE LINER BONDED TO 70 MILS OF SODIUM BENTONITE WITH A 1.5 MIL WATER SOLUBLE FILM.

B. CETCO ENVROSHEET WATERPROOFING SYSTEM, CONSISTING OF A 60 MIL MEMBRANE, PROTECTIVE BOARD AND REQUIRED PRIMER AND MASTIC.

C. CONWRAP BARRIER CS-212 AS MANUFACTURED BY CONCRETE SEALANTS, INC. MEMBRANE TO BE 0.100 INCHES IN THICKNESS.

D. MEL-ROL WATERPROOFING SYSTEM CONSISTING OF PRIMER, MEL-ROL SHEET, PROTECTIVE BOARD AND REQUIRED MASTIC OR LIQUID MEMBRANE SEALERS AS MANUFACTURED BY W.R. MEADOWS, INC.

REINFORCING STEEL

ALL REINFORCING STEEL SHALL BE FABRICATED AND PLACED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE 2003 REQUIREMENTS AND THE DETAILING OF CONCRETE REINFORCEMENT MANUAL (ACI 315-99).

ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60.

WHERE LAP SPLICES IN REINFORCING OCCUR, THE MINIMUM LAP SHALL BE MADE AS FOLLOWS UNLESS NOTED OTHERWISE ON DRAWINGS:

- A. TENSION SPLICES SHALL BE CLASS B.
B. COMPRESSION SPLICES SHALL BE 30 BAR DIA. OR 18" MINIMUM.

ALL HORIZONTAL REINFORCING IN FOOTINGS, WALLS, AND BEAMS SHALL BE CONTINUOUS AROUND CORNERS OR HAVE CORNER BARS OF THE SAME SIZE AND SPACING AS THE HORIZONTAL BARS AND HAVE A CLASS B TENSION SPLICE, UNLESS NOTED OTHERWISE ON DRAWINGS.

CONCRETE COVER FOR REINFORCING SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
PLAIN CONCRETE POURED AGAINST EARTH 3 INCHES

CONCRETE SLABS POURED IN FORMS BUT EXPOSED TO WEATHER, EARTH OR WATER:
IF BARS ARE LARGER THAN #5 2 INCHES
IF BARS ARE #4 OR SMALLER 1 1/2 INCHES
COLUMNS, GRIDERS AND BEAMS 2 1/2 INCHES
WALLS 2 INCHES

CONCRETE NOT EXPOSED TO WEATHER, EARTH OR WATER:
IF BARS ARE LARGER THAN #5 2 INCHES
IF BARS ARE #4 OR SMALLER 1 1/2 INCHES
WALLS 2 INCHES

FORM TIES SHALL BE EITHER OF THE THREADED OR SNAP-OFF TYPE SO THAT NO METAL WILL BE LEFT WITHIN 1 INCH OF THE SURFACE OF THE WALL. FOLLOWING REMOVAL OF FORM TIES, RECESSES ARE TO BE FILLED AND POINTED WITH MORTAR.

BAR SUPPORTS AND SPACERS FOR REINFORCING SHALL BE PROVIDED IN ACCORDANCE WITH ACI 315-92. CHAIRS WITH 22 GA. SAND PLATES OR PRECAST BLOCKS SHALL BE PROVIDED FOR ALL REINFORCING OF CONCRETE IN CONTACT WITH GRADE. REINFORCING SHALL BE SECURELY TIED TO SUPPORTS.

REINFORCING SHALL NOT BE TACK WELDED OR WELDED IN ANY MANNER UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL PLANS OR APPROVED BY THE ENGINEER.

REINFORCING SHALL BE STORED IN SUCH A MANNER AS TO INHIBIT RUSTING OR THE DEPOSIT OF OILS OR OTHER BOND INHIBITING DEPOSITS.

GRADE 60 DOWELS SHALL NOT BE BENT IN THE FIELD AFTER PLACING.

THE CONTRACTOR SHALL BE RESPONSIBLE THAT ALL REBAR IS PROPERLY ALIGNED AND TIED IN PLACE BEFORE PLACING CONCRETE. ALL COLUMNS, WALL DOWELS, AND VERTICAL STEEL SHALL BE ACCURATELY LOCATED AND SECURED IN PLACE SO THAT IT REMAINS IN THE POSITION SHOWN DURING THE CONCRETE PLACING OPERATION. ANY REBAR FOUND IMPROPERLY INSTALLED SHALL BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.

FOUNDATIONS

A SUBSURFACE SOIL INVESTIGATION HAS BEEN PERFORMED BY EARTHWORKS ENGINEERING GROUP, LLC., JOB NO. A06-396 DATED DECEMBER 28, 2006. THE CONTRACTOR SHALL OBTAIN AND REVIEW THE REPORT.

CONCRETE REMOVAL

THE CONTRACTOR SHALL IMMEDIATELY SEAL THE 2" DEEP SAW CUT IN EXISTING CONCRETE CHANNEL WITH NP-1 SEALANT UNTIL THE TIME COMES TO BEGIN CONCRETE REMOVAL.

ALL EXPOSED VERTICAL SURFACES AND 12" OF THE ADJACENT TOP SURFACE OF THE EXISTING CHANNEL SHALL BE TREATED WITH A LITHIUM NITRATE COATING SUCH AS EUCO ARC, TM OR APPROVED EQUAL. SEE DRAWINGS FOR DETAILS.

COMPACTION REQUIREMENTS

SUBGRADE SOILS AND STRUCTURAL FILL MATERIALS SHALL BE COMPACTED TO THE FOLLOWING PERCENTAGES OF THE ASTM D1557 MAXIMUM DRY DENSITY AT ±3 % OPTIMUM MOISTURE CONTENT:

MATERIAL: MINIMUM PERCENT COMPACTION
SUBGRADE BELOW STRUCTURES 95 %
MISCELLANEOUS BACKFILL 95 %
WALL BACKFILL 95 %

EXCAVATION AND BACKFILL SHALL BE IN CONFORMANCE WITH THE C.O.A. STANDARD SPECIFICATIONS. DURING BACKFILL THE CONTRACTOR SHALL BE LIMITED TO THE USE OF HAND OPERATED COMPACTION EQUIPMENT WITHIN A ZONE OF 5 FEET FROM THE BACK OF ANY WALL. ALL BACKFILL MATERIAL SHALL BE BE NON EXPANSIVE, FREE OF VEGETATION AND DEBRIS AND CONTAIN NO ROCKS LARGER THAN 6 INCHES. GRADATION OF THE BACKFILL MATERIAL, AS DETERMINED IN ACCORDANCE WITH ASTM D-422 SHOULD BE AS FOLLOWS:

SIEVE SIZE	PERCENT PASSING
1.5 INCH	100
NO. 4	70 - 100
NO. 200	5 - 45

THE PLASTICITY INDEX SHOULD BE NO GREATER THAN 15 WHEN TESTED IN ACCORDANCE WITH ASTM D-4318.

FILL OR BACKFILL, CONSISTING OF SOIL APPROVED BY THE GEOTECHNICAL ENGINEER, SHALL BE PLACED IN CONTROLLED LAYERS WITH APPROVED COMPACTION EQUIPMENT.

AGGREGATE BASECOURSE BACKFILL: MEASUREMENT AND PAYMENT OF THE AGGREGATE BASECOURSE SHALL BE BY THE CUBIC YARD, COMPLETE IN PLACE AND SHALL INCLUDE SUBGRADE PREPARATION.

TEMPORARY SHORING

CAVING OF CLEAN SANDS IN TRENCHES AND EXCAVATIONS SHOULD BE EXPECTED.

ALL TRENCHES GREATER THAN FOUR FEET IN DEPTH MUST BE SLOPED, SHORED OR BRACED OR OTHERWISE SUPPORTED ACCORDING TO OSHA CONSTRUCTION AND SAFETY STANDARDS. MATERIAL EXCAVATED FROM THE TRENCH OR SPOIL MUST BE PLACED AWAY FROM THE EDGE OF THE EXCAVATION. THE SPOIL SHOULD BE RETAINED IN AN EFFECTIVE MANNER SUCH THAT NO LOOSE MATERIAL CAN FALL INTO THE EXCAVATION.

TEMPORARY CONSTRUCTION EXCAVATIONS LESS THAN EIGHT FEET DEEP SHOULD BE SLOPED NO STEEPER THAN 1 1/2:1 (HORIZONTAL: VERTICAL). IF DEEPER EXCAVATIONS ARE REQUIRED, THE GEOTECHNICAL ENGINEER SHOULD BE CONTACTED FOR SUPPLEMENTAL RECOMMENDATIONS. HEAVY EQUIPMENT AND MATERIAL STOCKPILES SHOULD BE LOCATED AWAY FROM THE TOP OF SLOPES AND TRENCHES.

INCIDENTAL ITEMS

ANY ITEMS REQUIRED, BUT NOT SPECIFICALLY SPECIFIED OR PROVIDED BY BID ITEM SHALL BE CONSIDERED INCIDENTAL TO THE COMPLETION OF THE PROJECT CONSTRUCTION AND NO PAYMENT SHALL BE MADE THEREOF.

AGENCY NOTES

THE CONTRACTOR SHALL NOTIFY THE AMAFCA FIELD ENGINEER 48 HOURS PRIOR TO ANY WORK WITHIN THE AMAFCA R/W OR EASEMENT. TEL (505) 884-2215 KURT WAGENER.

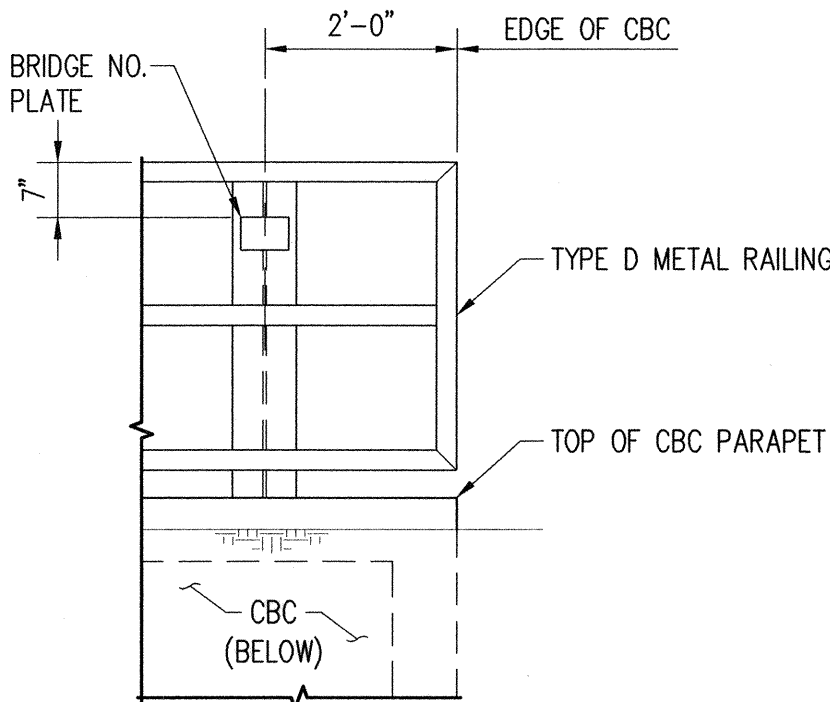
NO WORK SHALL BE PERFORMED IN THE AMAFCA R/W BETWEEN MAY 15 AND OCTOBER 15 WITHOUT WRITTEN PERMISSION FROM AMAFCA.

ALL SUBGRADE, BACKFILL AND EMBANKMENT SHALL BE COMPACTED TO 95% (MODIFIED PROCTOR) WITHIN THE AMAFCA R/W. TESTING REPORTS SHALL BE PROVIDED TO AMAFCA FILED ENGINEER. THIS NOTE DOES NOT SUPERCEDE HIGHER COMPACTION AS SPECIFIED WITHIN THE PLAN SET.

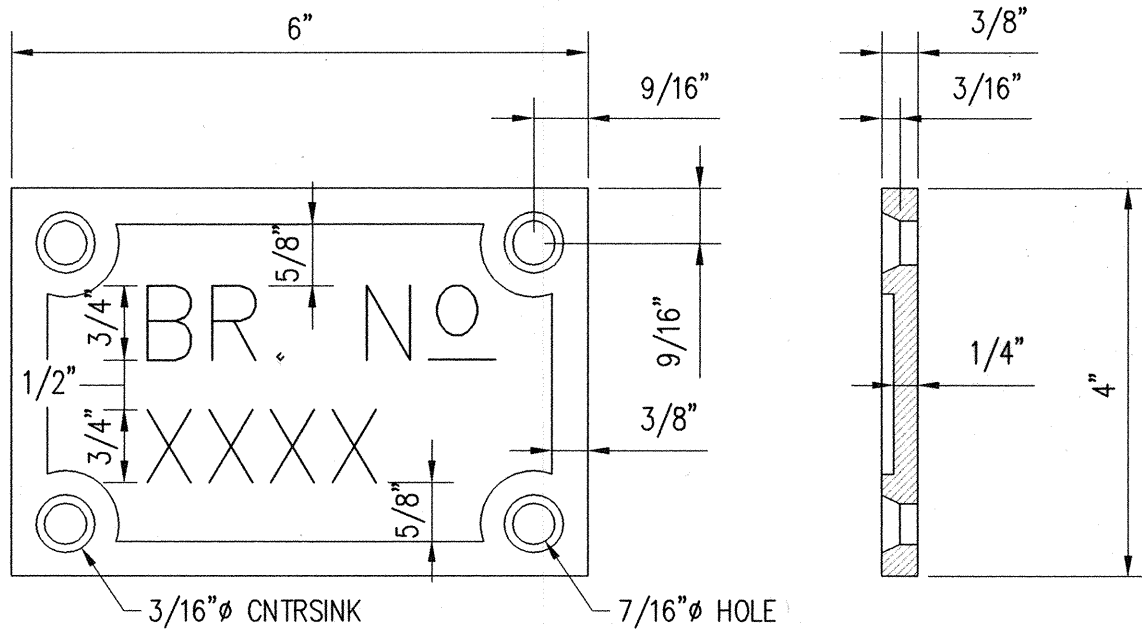
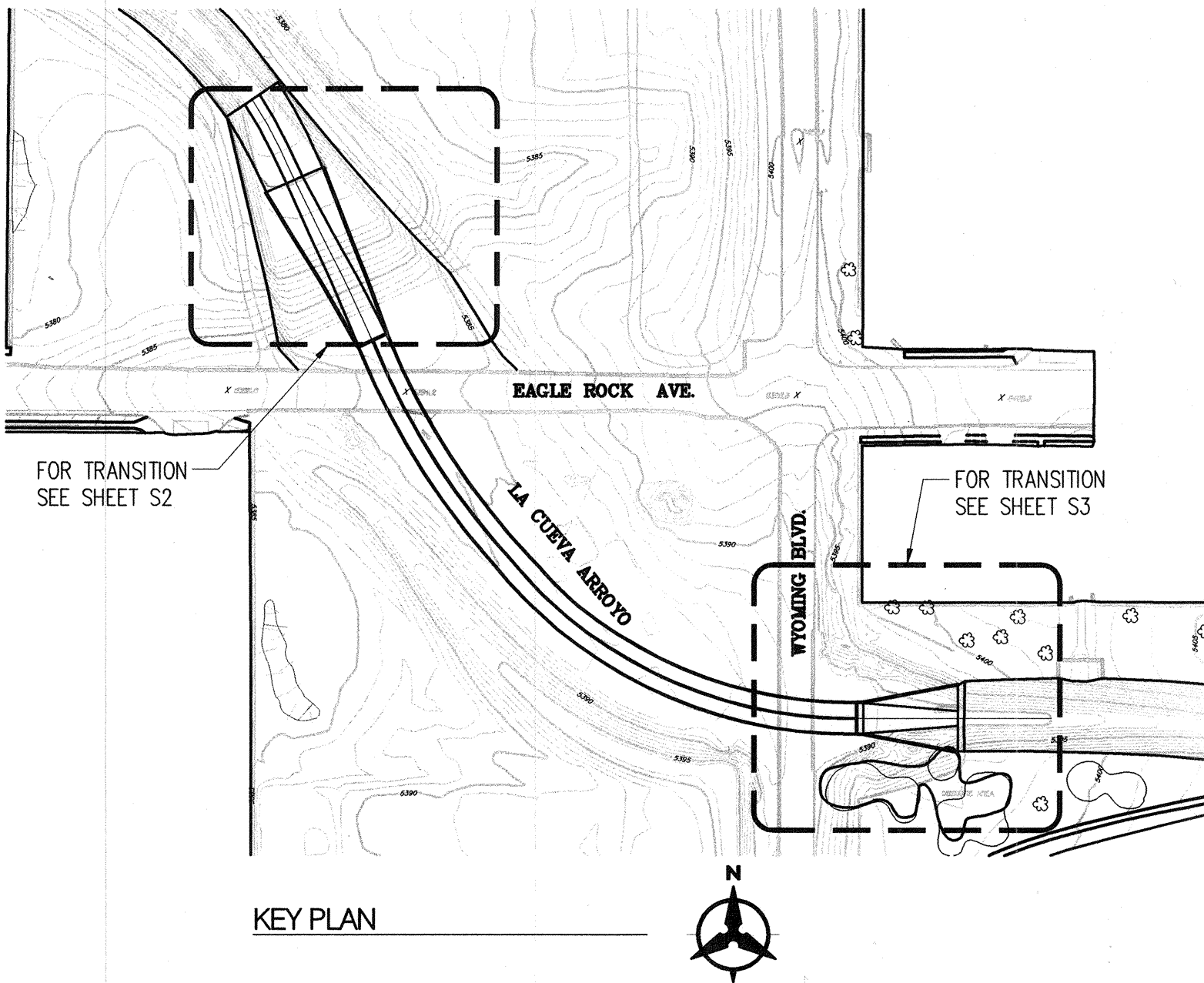
THE CONTRACTOR SHALL NOTIFY THE AMAFCA FIELD ENGINEER 48 HOURS PRIOR TO FINAL INSPECTION OF ANY FACILITIES WITHIN THE AMAFCA R/W.

ALL DISTURBED GROUND AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. SECTION 1012 NATIVE GRASS SEEDING AS CURRENTLY UPDATED.

CONSTRUCTION, INCLUDING EQUIPMENT AND MATERIALS ARE NOT ALLOWED WITHIN THE EXISTING AMAFCA CHANNEL WITHOUT WRITTEN APPROVAL FROM AMAFCA.



BRIDGE PLATE LOCATION



BRIDGE NUMBER PLATE DETAILS

- NOTES:
- BRIDGE NUMBER IS TO BE OBTAINED BY THE CITY OF ALBUQUERQUE AFTER CONSTRUCTION BEGINS.
 - 2 PLATES WITH BOLTS REQUIRED. MATERIALS EQUALS CAST IRON, RAISED BLOCK LETTERS OF NEAT SQUARE CUT DESIGN. GRIND FACE & HOT DIPPED GALVANIZE.
 - EACH PLATE IS TO BE PLACED AT EACH END OF THE BRIDGE ON THE ROADWAY FACE OF THE BARRIER AS SHOWN. LOCATE ON RIGHT SIDE AS ONE APPROACHES BRIDGE. (1) REQUIRED AT EAGLE ROCK, (1) REQUIRED AT WYOMING.
 - USE (4) 3/8" x 2" LAG SCREWS TO ATTACH TO BARRIER POST.

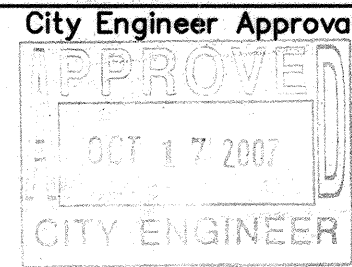
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CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT

LA CUEVA ARROYO DIP REPLACEMENT
GENERAL STRUCTURAL NOTES AND SITE PLAN



Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
7848.02	C-19	S1	25