

GENERAL
TYPICAL DETAILS AND GENERAL NOTES SHALL APPLY IN ALL CASES UNLESS SPECIFICALLY SHOWN OTHERWISE ON THE DRAWINGS. WHERE NO DETAIL IS SHOWN, CONSTRUCTION SHALL BE AS SHOWN FOR OTHER SIMILAR WORK. NO DEVIATIONS FROM THE DRAWINGS SHALL BE PERMITTED WITHOUT PERMISSION OF THE ENGINEER.
SEE NON-STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ITEMS NOT SHOWN ON THE STRUCTURAL DRAWINGS AND SPECIFICATIONS. ALL EQUIPMENT SHALL BE BRACED AND ANCHORED ADEQUATELY FOR SEISMIC LOADS.

WHERE CONSTRUCTION MATERIALS ARE TEMPORARILY STORED ON THE ROOF FRAMING, THEY SHALL BE DISTRIBUTED SO THAT THE LOAD DOES NOT EXCEED 20 LBS/SF.
THE CONTRACTOR SHALL:

1. VERIFY ALL (E) EXISTING CONDITIONS AND DIMENSIONS AND REPORT ANY DIFFERENCES IN ASSUMED CONDITIONS TO THE ENGINEER PRIOR TO PROCEEDING.
2. PROVIDE AND BE SOLELY RESPONSIBLE FOR ALL TEMPORARY SHORING, GUYS AND BRACING NECESSARY FOR STRUCTURAL WORK SHOWN ON THESE DRAWINGS.
3. PERFORM ALL WORK AND RECEIVE ALL TESTS AND INSPECTIONS IN ACCORDANCE WITH THE PROJECT DRAWINGS, SPECIFICATIONS, THE "STRUCTURAL TESTS & INSPECTIONS SCHEDULE" AND TITLE 24, PART 2 OF THE CALIFORNIA CODE OF REGULATIONS (C.C.R.)
4. BE SOLELY RESPONSIBLE FOR CONDITIONS AT THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY.
5. PERFORM ALL DEMOLITION, REMOVAL AND DISPOSAL IN CONFORMANCE WITH ALL APPLICABLE LAWS, ORDINANCES, RULES AND REGULATIONS. EXCESS MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF OFF SITE UNLESS OTHERWISE DIRECTED BY THE ARCHITECT.
6. PERFORM ALL WORK UNDER CONTINUOUS INSPECTION OF AN DIVISION OF THE STATE ARCHITECT (D.S.A.) APPROVED INSPECTOR.

ALL SUPPORT SERVICES PERFORMED BY THE ENGINEER DURING CONSTRUCTION SHALL BE DISTINGUISHED FROM CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THE SUPPORT SERVICES PERFORMED BY THE ENGINEER ARE PERFORMED SOLELY FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS. THESE SUPPORT SERVICES DO NOT GUARANTEE THE CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.

ALL (E) DIMENSIONS ARE APPROXIMATE AND ARE GIVEN FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL DIMENSIONS & EXISTING CONDITIONS SHALL BE VERIFIED AT THE SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

ALL ITEMS SHOWN ON THESE DRAWINGS ARE NEW CONSTRUCTION UNLESS IDENTIFIED AS (E) EXISTING.

ALL NEW STRUCTURAL MATERIAL SHALL BEAR DIRECTLY ON (E) FRAMING OR (E) WOOD SHEATHING. ALL (E) ROOFING AND OTHER NON-STRUCTURAL MATERIALS TO BE REMOVED SHALL BE REPLACED OR PATCHED PER THE ARCHITECTURAL DRAWINGS.

NOTIFICATION

THE D.S.A APPROVED INSPECTOR SHALL NOTIFY THE STRUCTURAL ENGINEER TWO (2) WORKING DAYS PRIOR TO:

1. START OF CONSTRUCTION.
2. POURING CONCRETE & GROUT
3. COVERING PLYWOOD SHEATHING AND FRAMING.

FOUNDATIONS

FOUNDATIONS AND SLABS SHALL BE PLACED ONLY ON FIRM BEARING AND NOT ON LOOSE SOIL OR UNCOMPACTED FILL. THE CONTRACTOR SHALL PERFORM ALL WORK AND RECEIVE ALL TESTS AND INSPECTIONS IN ACCORDANCE WITH THE DRAWINGS & SPECIFICATIONS

BASIC ALLOWABLE BEARING PRESSURE: 1000 LBS/SF.
SOIL TYPE SANDY LOAM

REINFORCING

MATERIALS SHALL BE CONTINUOUS, DEFORMED BARS CONFORMING TO ASTM A615:
#4 BARS & SMALLER GRADE 40
#5 BARS & LARGER GRADE 60
CONTINUOUS BAR SPLICES (UND) SHALL BE:
MASONRY 48 BAR DIAMETERS (2'-0" MINIMUM)
CONCRETE 36 BAR DIAMETERS (2'-0" MINIMUM)
CONCRETE REINFORCEMENT SHALL BE:
CAST AGAINST EARTH & PERMANENTLY EXPOSED TO EARTH 3"
CAST AGAINST FORMS & PERMANENTLY EXPOSED TO EARTH OR WEATHER 2"
CAST AGAINST FORMS & NOT PERMANENTLY EXPOSED TO EARTH OR WEATHER SLABS, WALLS & JOISTS 3/4"
BEAMS, GIRDERS & COLS 1-1/2"

CONCRETE

MATERIALS SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:
PORTLAND CEMENT (ONE BRAND, DOMESTIC) ASTM C150
WATER DOMESTIC SUPPLY
AGGREGATES (FINE & COARSE) ASTM C33
(AGGREGATES SHALL CONTAIN NOT MORE THAN 2% SHALE OR OTHER DELETERIOUS PARTICLES.)
ADMIXTURE (TYPE A, WATER REDUCING) ASTM C494
CURING COMPOUND ASTM C309
(SHALL NOT IMPAIR IN ANY WAY THE APPLICATION OF FINISHES, COVERINGS OR PAINT)
DRYPACK PER C.C.R. TABLE 21A-B FINE GROUT (NO FREEWATER, NO SLUMP, TAMP INTO PLACE)
EPOXY RAMSET "EPCON" CERAMIC & (ICBO #4285)

CONCRETE MIX AND CONSTRUCTION SHALL BE TYPE II, REGULAR WEIGHT (145 LBS.) AND CONFORM TO THE FOLLOWING:
MINIMUM ULTIMATE COMPRESSIVE STRENGTH @ 28 DAYS 3000 PSI
MAXIMUM SLUMP (PER ASTM C-143) 4 INCHES
MAXIMUM AGGREGATE SIZE 1 INCH
MINIMUM CEMENT CONTENT 5.75 SACKS/CY
MAXIMUM WATER CONTENT 38 GAL/CY

CONTRACTOR SHALL SUBMIT A CONCRETE DESIGN MIX, APPROVED BY A CALIFORNIA LICENSED CIVIL ENGINEER, TO THE ARCHITECT FOR REVIEW 15 WORKING DAYS PRIOR TO PLACEMENT.

CONCRETE MASONRY

CONCRETE BLOCK SHALL BE GRADE N-1, MEDIUM OR LIGHT WEIGHT (WITH A DRY NET WEIGHT OF NOT MORE THAN 115 LBS. PER CUBIC FOOT), OPEN-END UNITS AND CONFORM TO ASTM C-90 MINIMUM COMPRESSIVE STRENGTHS.

FILL ALL CELLS WITH GROUT. NO SPLICES SHALL BE PERMITTED IN VERTICAL REINFORCING EXCEPT WHERE DETAILED ON THE DRAWINGS. ALL ISOLATED BOLTS EMBEDDED IN MASONRY SHALL BE GROUTED SOLIDLY IN PLACE WITH NOT LESS THAN 1" OF GROUT SURROUNDING THE BOLT. IF WORK IS STOPPED FOR ONE HOUR OR LONGER, PROVIDE HORIZONTAL CONSTRUCTION JOINT BY STOPPING THE GROUT 1-1/2" BELOW THE TOP OF THE BLOCK.

MINIMUM MORTAR STRENGTH @ 28 DAYS (TYPE S) 1800 PSI (SHALL CONTAIN NO ADMIXTURES)
MINIMUM GROUT STRENGTH @ 28 DAYS 2000 PSI (SHALL CONTAIN "SIKA GROUT AID, TYPE II", AS PER MANUFACTURERS RECOMMENDATIONS. NO OTHER ADMIXTURE SHALL BE ADDED.)

CONTRACTOR SHALL SUBMIT A GROUT DESIGN MIX, APPROVED BY A CALIFORNIA LICENSED CIVIL ENGINEER, TO THE ARCHITECT FOR REVIEW 15 WORKING DAYS PRIOR TO PLACEMENT.

CONTRACTOR SHALL USE "LOW-LIFT GROUTED CONSTRUCTION" MAXIMUM LAID & GROUTED LIFT SHALL NOT EXCEED 2'-0". UNITS SHALL BE PLACED IN A RUNNING BOND

STEEL

MATERIALS SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:
SHAPES, PLATES, BARS, RODS ASTM A36, (FY = 36 KSI)
PIPES ASTM A53, GRADE B, (FY = 35 KSI)
SQUARE & RECTANGULAR TUBING ASTM A500, GRADE B, (FY = 46 KSI)
WELDING ELECTRODES AWS E70XX
MACHINE BOLTS & ANCHOR BOLTS ASTM A36 OR ASTM A307

WELDING SHALL BE DONE BY THE ELECTRIC SHIELDED ARC OR SUBMERGED ARC PROCESS. WELDERS SHALL BE CERTIFIED AND WORK DONE IN ACCORDANCE WITH THE STRUCTURAL WELDING CODES, AWS D1.1. FABRICATION AND ERECTION SHALL CONFORM TO THE LATEST EDITION OF THE AISC SPECIFICATIONS. ALL STEEL NOT IN CONTACT WITH CONCRETE SHALL RECEIVE ONE COAT OF SHOP PAINT IN ACCORDANCE WITH THE PROVISIONS OF THE CODE OF STANDARD PRACTICE OF AISC AND THE SPECIFICATIONS.

WOOD

FRAMING LUMBER SHALL BE DOUGLAS FIR & GRADE MARKED AS FOLLOWS (UND):
2x4 & SMALLER STANDARD OR BETTER
2x6 & DEEPER NO. 2
3x & LARGER NO. 1
SILLS (HEM FIR OR DOUGLAS FIR) (PRESSURE TREATED) NO. 2

STANDARD CUT WASHERS SHALL BE USED UNDER BOLT HEADS AND NUTS THAT WOULD OTHERWISE BEAR ON WOOD SURFACES. ALL LIGHT GAGE METAL CONNECTORS SHALL BE MANUFACTURED BY "SIMPSON STRONG-TIE CO., INC." OR APPROVED EQUAL. **RETIGHTEN BOLTS BEFORE CLOSING IN.**

ALL NAILS SHALL BE COMMON GAGE, UNCOATED AND HAVE FULL HEADS.

WHERE DRIVING NAILS CAUSES SPLITTING, LEAD HOLES WITH A DIAMETER EQUALING 60 TO 75 PERCENT OF THE NAIL DIAMETER SHALL BE PROVIDED. NAILING SHALL BE AS PER THE 1995 C.B.C. TABLE 23A-I-Q.

LAG SCREWS OR LAG BOLTS: CONNECTORS SHALL BE INSERTED IN DRILLED HOLES AS SHOWN ON THE PLANS. THE THREADED PORTION OF THE CONNECTOR SHALL BE INSERTED IN ITS LEAD HOLE BY TURNING IT WITH A WRENCH AND NOT BY DRIVING IT WITH A HAMMER.

PLYWOOD SHEATHING SCHEDULE

IDENT.	MATERIAL	NAILING	REMARKS
PLATFORM SHEET	1/2" PLYWD., APA RATED SHTG., (WEAR & HOLD)	10d @ 6" BOUND. 10d @ 6" EDGES 10d @ 12" INTERM.	

FOOT NOTES

- (1) SEE THIS SHEET FOR GENERAL NOTES AND TYPICAL DETAILS.
- (2) PLYWOOD SHALL CONFORM TO PS-1-93. PANELS SHALL BE STAGGERED AND PLACED SO THAT THE FACE GRAIN IS PERPENDICULAR TO THE SUPPORTING MEMBERS (UND).
- (3) PLYWOOD NAILS SHALL HAVE FULL HEADS AND BE OF THE FOLLOWING SIZES: 100 = .148" DIA. X 2-3/8" LONG
- (4) NO PANEL LESS THAN 24 INCHES WIDE SHALL BE USED IN ANY HORIZONTAL PLYWOOD DIAPHRAGM. NO PANEL LESS THAN 12 INCHES WIDE SHALL BE USED IN ANY VERTICAL PLYWOOD DIAPHRAGM.
- (5) THE EDGES OF ALL OPENINGS SHALL BE PERIMETER NAILED PER THE BOUNDARY NAILING REQUIRED FOR THAT AREA.
- (6) THE PLYWOOD EDGE DISTANCE ON A 2-1/2" OR WIDER MEMBER SHALL BE 3/4" MINIMUM. THE PLYWOOD EDGE DISTANCE ON A 1-1/2" WIDE MEMBER SHALL BE 3/8" MINIMUM. NAILS MAY BE SLANT DRIVEN TO MAINTAIN THE MINIMUM EDGE DISTANCE.
- (7) TWO LAYERS OF PAPER SHALL BE PLACED BETWEEN ALL PLYWOOD AND CEMENT PLASTER FOR MOISTURE PROTECTION OF THE PLYWOOD.
- (8) NAILHEADS SHALL NOT PENETRATE THE OUTER PLY OF PLYWOOD MORE THAN WOULD BE NORMAL FOR A HAND-HAMMER.
- (9) THE USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY OBSITE DEMONSTRATION AND THE APPROVAL BY THE PROJECT ARCHITECT OR STRUCTURAL ENGINEER AND D.S.A. THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE. IF NAIL HEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER OR IF MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.

EXPANSION ANCHORS

ANCHOR SIZE	ANCHOR TYPE						
	WEDGE		SLEEVE		SHIELD		
	"Kwik Bolt"-11" HILTI INC. ICBO NO. 4627		"DYNABOLT" RAMSET/RED HEAD ICBO NO. 1372		"HDI" HILTI INC. ICBO NO. 2695		
DIA. IN	LOAD LBS	TORQUE FT-LBS	EMBED IN	LOAD LBS	TORQUE FT-LBS	EMBED IN	
1/4	800	10	1-1/8	400	4	1-1/8	1000
3/8	1100	25	1-5/8	700	10	1-1/2	1800
1/2	2000	50	2-1/4	900	20	1-7/8	2700
5/8	2300	80	2-3/4	1100	45	2	3700
3/4	3700	150	3-1/4	1400	90	2-1/2	5400

- NOTES
1. THE ANCHOR DIAMETER REFERS TO THE THREAD SIZE FOR THE WEDGE AND SLEEVE CATEGORIES AND TO THE ANCHOR OUTSIDE DIAMETER FOR THE SHIELD CATEGORY.
 2. 50% OF ALL ANCHORS SHALL BE TESTED TO THE VALUES SHOWN ABOVE (EXCEPTION: 10% OF STILL PLATE ANCHORS SHALL BE TESTED).
 3. TESTING SHOULD NOT OCCUR UNTIL AT LEAST 24 HOURS AFTER ANCHOR INSTALLATION. TESTING SHALL BE DONE IN ACCORDANCE WITH THE C.C.R., TITLE 24, 1P 26-5 AND SHALL BE DONE IN THE PRESENCE OF THE PROJECT INSPECTOR. A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO THE ARCHITECT. IF ANY ANCHORS FAIL, THE IMMEDIATELY ADJACENT ANCHORS SHALL BE TESTED.

TITLE 24, PART 2 (C.C.R.)
MASONRY-CHAPTER 21A
CONCRETE-CHAPTER 19A

MATERIALS

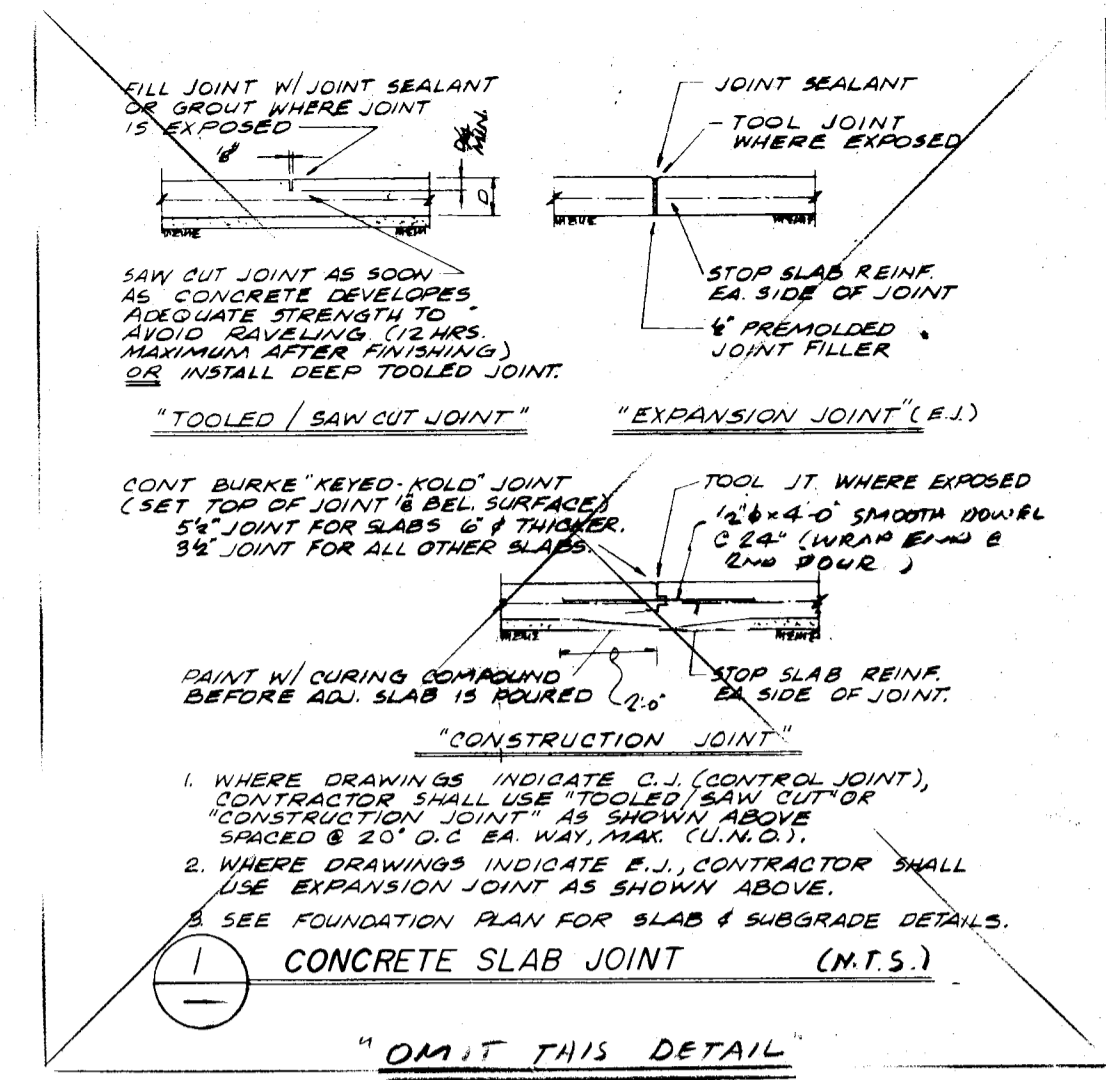
1. MASONRY UNITS
2. PORTLAND CEMENT LIME
3. MORTAR AND GROUT AGG.
4. REINFORCING BARS

QUALITY

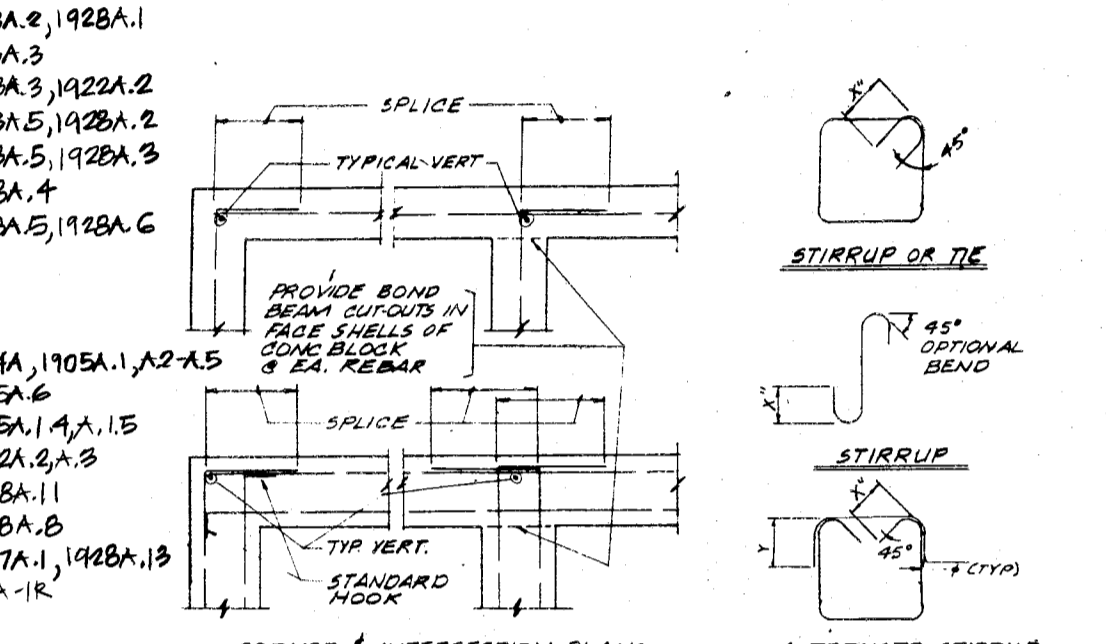
1. PORTLAND CEMENT TESTS
2. MORTAR AND GROUT TESTS
3. MASONRY PRISM TESTS
4. MASONRY CORE TESTS
5. MASONRY UNIT TESTS
6. REINFORCING BAR TESTS

INSPECTION

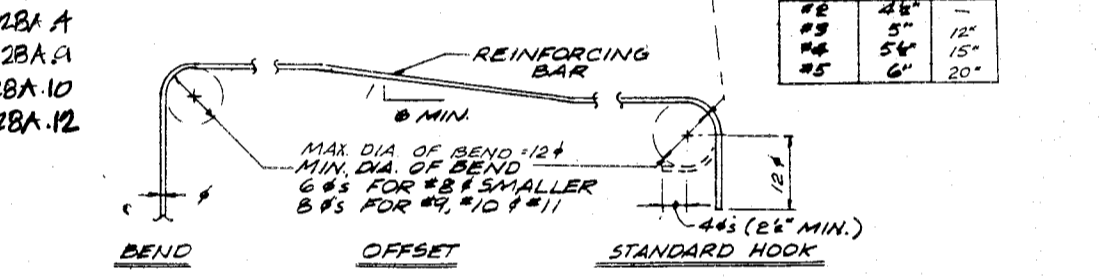
1. REINFORCED MASONRY
2. REINFORCING BAR WELDING INSP.



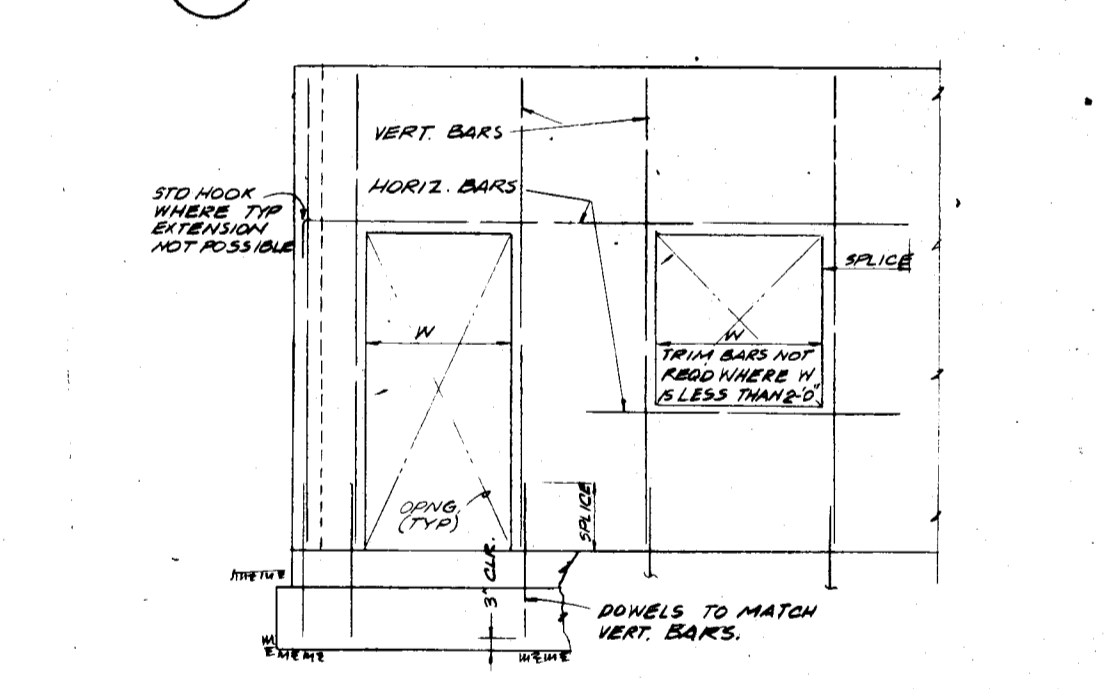
REINFORCING DETAILS (M.T.S.)



REINFORCING DETAILS (M.T.S.)

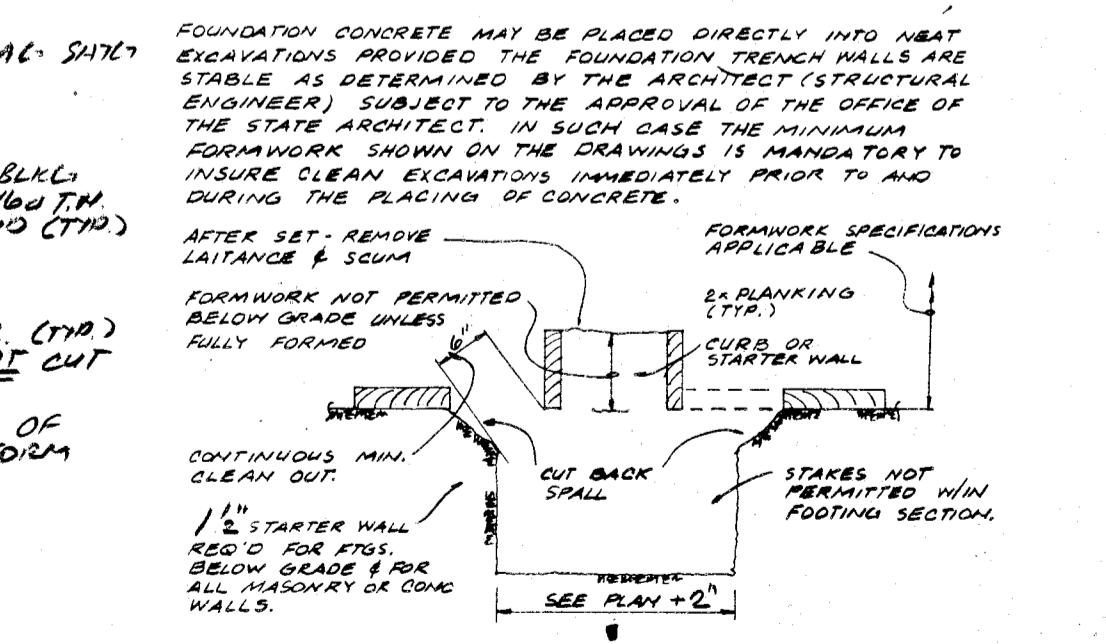


REINFORCING DETAILS (M.T.S.)

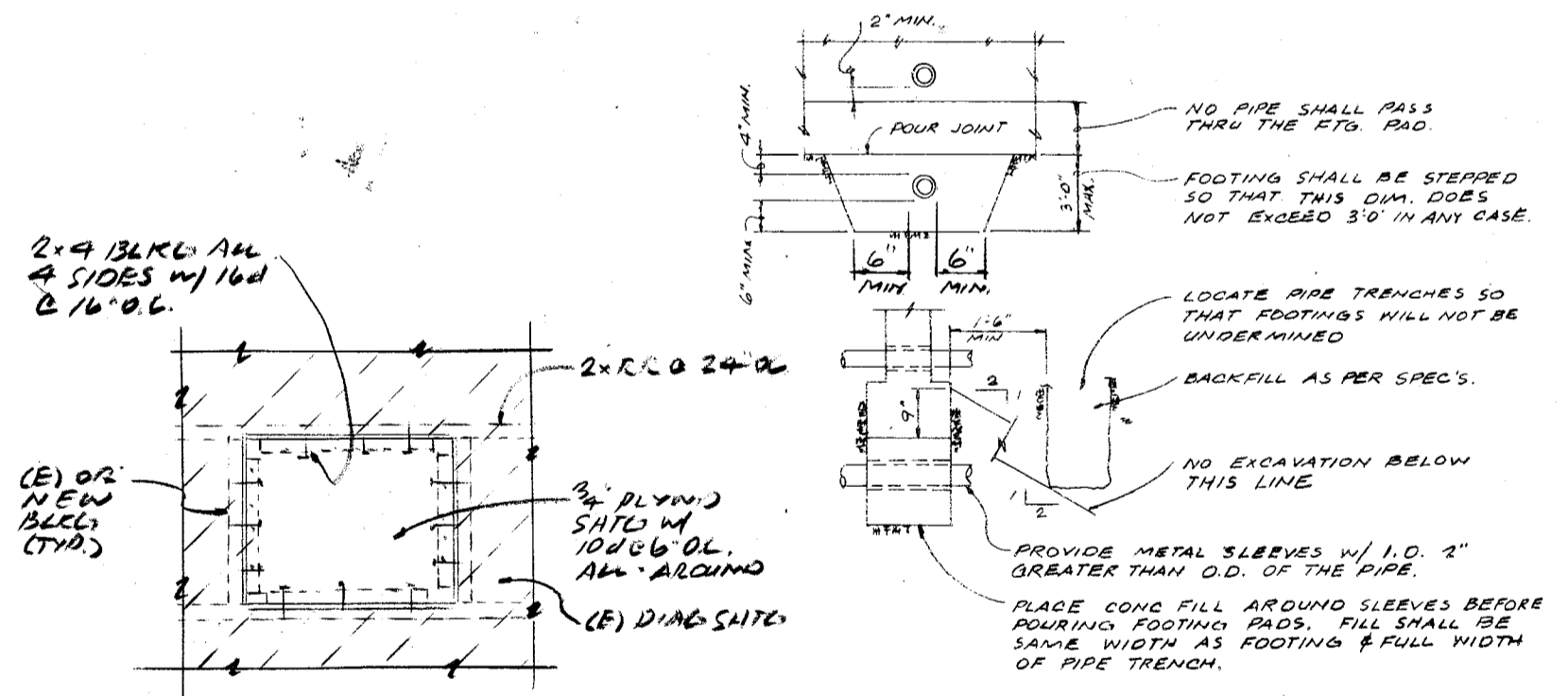


CONCRETE BLOCK WALL OPENINGS (M.T.S.)

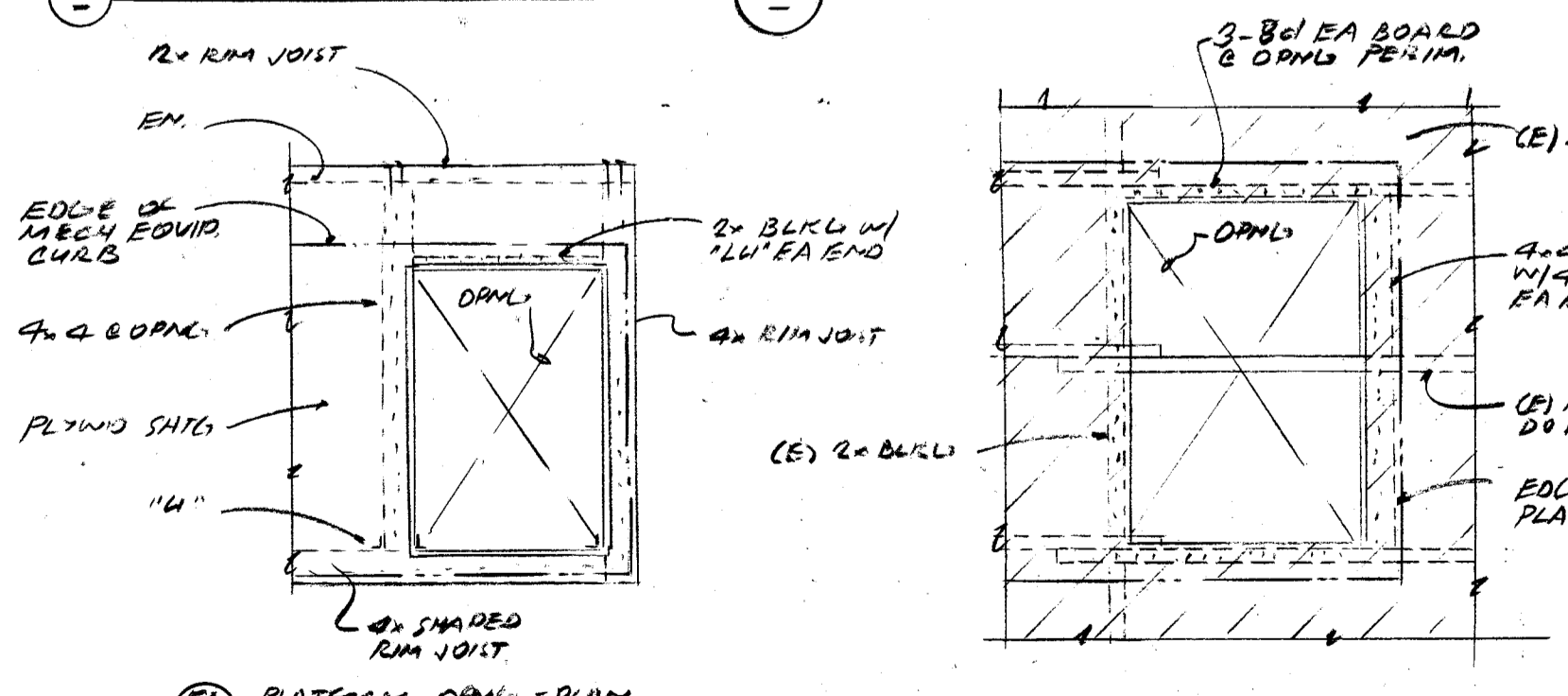
FOUNDATION CONCRETE MAY BE PLACED DIRECTLY INTO EXISTING EXCAVATIONS PROVIDED THE FOUNDATION TRENCH WALLS ARE STABLE AS DETERMINED BY THE ARCHITECT (STRUCTURAL ENGINEER) SUBJECT TO THE APPROVAL OF THE OFFICE OF THE STATE ARCHITECT. IN SUCH CASE THE MINIMUM REINFORCING SHOWN ON THE DRAWINGS IS MANDATORY TO INSURE CLEAN EXCAVATIONS IMMEDIATELY PRIOR TO AND DURING THE PLACING OF CONCRETE.



UNFORMED FOOTING (M.T.S.)



PIPE TRENCH/FOOTING DETAIL (M.T.S.)



PLATFORM OPENING DETAIL (M.T.S.)

HEATING & COOLING MODIFICATIONS
CASTRO LANE ELEMENTARY SCHOOL
2600 ROSE MARIE DRIVE
BAKERSFIELD CITY SCHOOL DISTRICT

Lawrence • Nye • Becker Associates
CONSULTING MECHANICAL ENGINEERS, INCORPORATED
1400 Easton Drive, Suite 130
Bakersfield, California 93309
(805) 322-9211 FAX 805-322-6337

DATE 4-4-97
DRAWN J.O.F.
CHECKED J.F.
PROJECT 96298
SHEET 31
OF 2

