FWH 31/41 filed 2/6/73

GENERAL NOTES

The following notes shall apply unless otherwise shown or noted on the plans:

1. All design and construction shall be in accordance with The Southern Standard, The American Concrete Institute Code 318-63 and The Manual of Steel Construction (AISC) latest edition.
2. The contractor shall verify all dimensions in the field prior to commencing work. The engineer shall be notified of any discrepancies which may exist.
3. All material tests shall be made as specified. Concrete Test Cylinders shall be made for all concrete. Test results shall be submitted to the Owners, Architect and Engineer. Tests shall be made by an approved laboratory.
4. See architectural drawings for elevations not shown.

DESIGN LIVE LOAD
(Except as Noted on Drawings)

Roof	30 psf
Typical Floors	20 psf partitions +40 psf
Stairs & Mechanical Room	100 psf
Wind Loading	45 psf
⚠ GRADE SLAB LOADING	75 psf

MATERIALS

1. Concrete:
   a. Concrete Strength and weight shall be as follows:

Locations	At 28 Days	Unit Weight
Superstructure, Piles and Pile Caps	4,000 psi	150 pcf
All Other	3,000 psi	150 pcf

   For all concrete, the ratio of splitting tensile strength to the square root of compressive strength, Fsp, shall be equal to 6.0 or greater. Concrete slump to be 3" to 5" max. typ. 4" max. in floor slabs.
   b. Stone aggregates shall conform to ASTM C-33.
   c. Lightweight aggregates shall conform to ASTM C-330 with maximum size passing 3/4" screen.
   d. Portland Cement shall be Type I, II and III conforming to ASTM C-150.
2. Steel:
   a. All reinforcement shall, except ties and stirrups or otherwise specified, be new deformed billet steel bars conforming to ASTM A-432 with minimum yield of 60,000 psi. Deformations shall conform to ASTM A-408 for #14S and #18S bars and ASTM A-305 for others.
   b. All reinforcing steel for ties and stirrups, except as otherwise specified, shall be new deformed intermediate grade billet steel bars conforming to ASTM A-15. Deformation shall conform to ASTM 305.
   c. Seven-wire strand for prestressing shall conform to ASTM 416; minimum ultimate tensile strength shall be either 250,000 psi or 270,000 psi wire shall be stress relieved, clean and free from corrosion.
   d. 1/4" diameter wire for prestressing shall conform to ASTM 421. Minimum ultimate tensile strength shall be 240,000 psi.
   e. Rods and couplers shall be high strength alloy steel bars and shall conform to ASTM 4340 with a minimum ultimate strength of 145,000 psi, and an elongation at rupture of not less than 4 percent on a 20" long test section. All rods and couplers shall be proof loaded to 80 percent of the minimum ultimate strength.
   f. Post-tension tendons shall be coated with a rust preventive mastic wrapped with a double layer of Kraft paper or a plastic sheath. Tendons shall be in satisfactory condition when placed.
   g. Structural steel shall conform to ASTM A-36-63a. Pipe to conform to A-53-63a, Grade B. High strength steel bolts to conform to ASTM A-325 and A-307. Welding rods to conform to AWS-D1.0.
3. Dry pack concrete shall be one part Portland Cement and one part sand with sufficient water to allow a stiff amount of paste to come to the surface after vigorous tamping.

REINFORCED CONCRETE NOTES

1. Concrete shall not be dropped through reinforcing steel for in walls so as to cause segregation of aggregates; in such cases except on vertical centers or trunks shall be used. The free unconfined fall of concrete shall not exceed six (6) feet. The concrete surface shall be kept level throughout with a minimum of concrete allowed to flow from one position to another.
2. All dimensions shown for location of reinforcing are to face of main bars and denote clear coverage.
3. Unless otherwise indicated on the drawings minimum reinforcement for shrinkage and temperature stresses normal to the principal reinforcement shall be provided in floor slabs where principal reinforcement extends in one direction only.
4. Splices in continuous reinforcement as in walls, footings, etc. shall have a lap of 24 bar diameters (unless noted otherwise) and the splices in adjacent bars shall not be less than five (5) feet apart. Vertical wall bars shall be spliced at or near floor lines. Continuous bars in spandrels, wall beams, etc. shall be as follows: Top bars at centerline span. Bottom bars at centerline supports.
5. All walls and columns shall be doweled to footings, walls, beams, or slabs with bars of the same size and spacing as the wall and column bars except where specifically indicated otherwise.
6. See architectural drawings for size and location of wall and floor openings wall offsets, provisions for future equipment, stair details, pipe, vent, duct and other openings and details not shown on structural drawings.
7. For all reinforced concrete walls ~~(and grade slabs)~~ provide weakened plane contraction joints at intervals of about 15 feet and keyed expansion joints approximately 120 feet apart ~~(for walls and 30 feet apart for grade slabs)~~. ⚠
8. All reinforcing steel details shall be in accordance with the latest recommendations of the American Concrete Institute (ACI) latest edition(as proposed in the "Manual of Standard Practice for Detailing Reinforced Concrete Construction")

STRUCTURAL STEEL NOTES

1. Structural steel welding shall be performed by a certified welder.
2. The installation of high strength bolts shall be continuously supervised by a licensed professional engineer engaged by the owner to insure that the high strength bolts are installed according to design code requirements.
3. Bolts shall be 3/4" diameter, unless otherwise noted.
4. All steel work shall be shop painted in accordance with specifications.
5. Contractor is to supply all temporary bracing required to maintain plumbness and stability during erection.
6. Provide stiffeners at all beams and girders under or over all concentrated loads and where required.
7. All loads are given in kips (1 kip = 1000 pounds).

PRESTRESSED CONCRETE NOTES

1. Concrete strengths at transfer of prestress force shall be at least 3,000 psi, unless noted otherwise, and shall be stressed within seven days of pouring.
2. All pockets required for anchorages shall be adequately reinforced so as not to decrease the strength of the structure. All pockets shall be waterproofed so as to eliminate water leakage through the pocket.
3. Tendons shall be draped to approximately a parabolic profile between supports and shall conform to the control points shown in the profile. Dimensions locate the center of gravity of the tendon or group of tendons. Low points are at midspan unless otherwise noted. Adequate support bars and chairs shall be furnished to adequately hold the tendons in place during the concrete placement.
4. Powder driven fasteners will be permitted where it can be shown that the inserts will not spall the concrete and where fasteners are located so as to avoid tendons. Contractor must locate tendons on the surface of the slab.

SHOP DRAWINGS

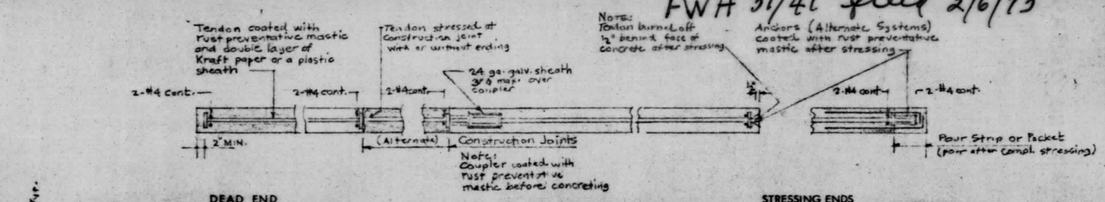
1. Shop drawings for post-tensioning shall show the following:
   a. Shop drawings showing all details of end anchorages, connections, blockouts or holes, inserts and other prestressing details and stressing record forms showing required elongations for each tendon at each jacking point shall be submitted to the Engineer for approval before construction.
   b. Tendon profiles showing chair heights and locations and any placement steel, if required. It shall be the prestressing steel placer's responsibility to maintain alignment of the tendons before, during and after concrete placement. Shop drawings shall clearly show location of each tendon and method of supporting tendon.
   c. If required by the Engineer, shop drawings shall include calculations of friction losses to determine that design forces are obtainable. Also, calculations or test results of adequacy of anchorage may be required.
   d. Complete prestressing records to include:
      1) Jacking force and jacking pressure.
      2) Maximum temporary jacking force and jacking pressures.
      3) Certified jack calibrations and method of identification of jacks. Each jack and pump combination to be used on the job must be calibrated.
      4) Method of determining slack, if any.
      5) Method of determining anchor force or force remaining in tendons after anchorage.
      6) Method of burning off excess tendon after anchorage.
2. All openings in slabs, beams and walls shall be shown on all shop drawings.
3. Contractor shall coordinate all shop drawings before submitting for approval. Approval by the Engineer is only for compliance with the Contract Documents.
4. One sample of prestress wire or strand from each reel or heat and one tension test and one bending test from each 20 tons of each type of reinforcing steel shall be tested by an approved laboratory. Certified mill test reports will be acceptable.

CONSTRUCTION NOTES

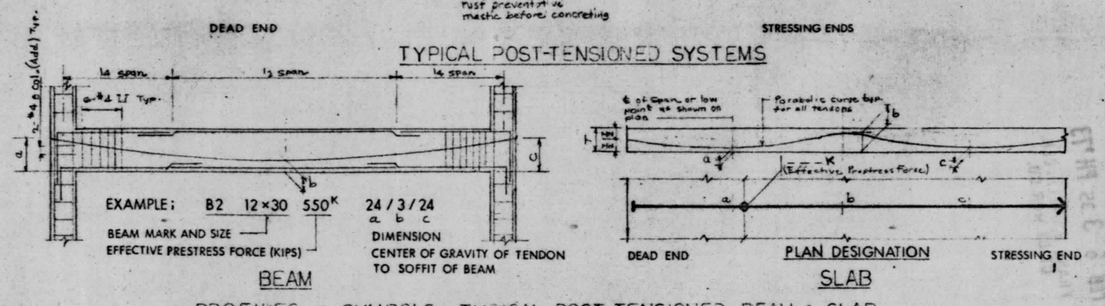
1. Stressing of tendons shall be done in the following sequence: slab, beam and transfer beam. The shores for the beams/transfer beams must be adequate to carry the total weight of the slab and beam/transfer beams before stressing of the slab.
2. Precast elements or block walls shall not be put in place until the supporting beams or slabs are completely stressed or the elements are adequately shored.
3. Top of floors shall be true to indicated elevations. Variations shall not exceed 1/8" in 10 feet. Care must be exercised in finishing operations to obtain a true surface.
4. All inserts for suspended mechanical and architectural work shall be cast-in-place whenever feasible. When additional fasteners are required, only those that are anchored in drilled holes are preferred.

FOUNDATIONS

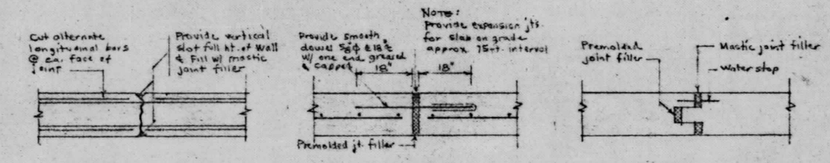
1. Pile Foundations: Shall be friction piles of the approved type, having a minimum capacity of 60 tons per pile in accordance with the modified Engineering News-Record formula. Steel shell thickness shall be sufficient to withstand driving forces and materials into which driven without crushing or deformation. Piles shall be driven with a steam hammer, delivering at least 15,000 foot-pounds of energy per blow. Pile length shown is 60 feet, for estimating purposes only.



TYPICAL POST-TENSIONED SYSTEMS



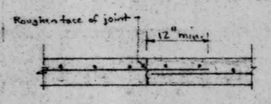
PROFILES & SYMBOLS TYPICAL POST-TENSIONED BEAM & SLAB



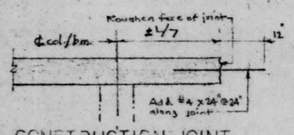
VERTICAL WEAKENED PLANE CONTRACTION JOINT IN R.C. WALL

EXPANSION JOINT FOR SLAB ON GRADE

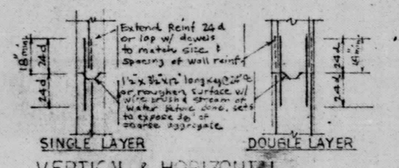
VERTICAL EXPANSION JOINT IN R.C. WALL



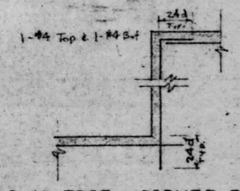
CONSTRUCTION JOINT FOR SLAB ON GRADE



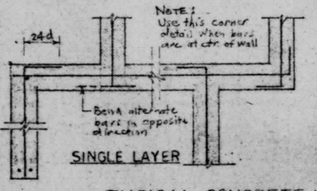
CONSTRUCTION JOINT FOR STRUCTURAL SLAB

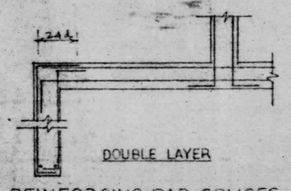


VERTICAL & HORIZONTAL CONSTRUCTION JOINTS IN WALLS

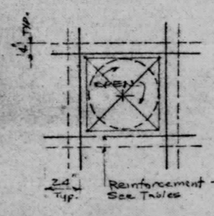


SLAB EDGE & CORNER REINF.





TYPICAL CONCRETE WALL REINFORCING BAR SPLICES

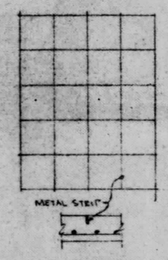


TYPICAL OPENING IN SLAB OR WALL

SLAB OPENINGS	
MAXIMUM DIM. IN.	REINFORCEMENT
6 TO 18	1 #4 EA. SIDE
18 TO 30	1 #4 T. & B. & EA. SIDE
30 TO 54	2 #4 T. & B. & EA. SIDE UNLESS SHOWN OTHERWISE
OVER 54	CONSULT ENGR.

WALL OPENINGS	
MAXIMUM DIM. IN.	REINFORCEMENT
6 TO 24	2 #4 EA. SIDE
24 TO 54	2 #5 EA SIDE UNLESS SHOWN OTHERWISE
OVER 54.	CONSULT ENGR.

NOTE ON OPENINGS: Openings with largest dimension smaller than 6" ø placed in a row or closely such that the distance between openings is less than max openings largest dimension shall be considered as one. Continuous opening and shall be reinforced accordingly.



SLAB ON GRADE POURING METHOD ⚠

NOTES ON SLAB-ON-GRADE POUR

1. POUR SLAB ON GRADE AS A STRUCTURAL SLAB.
2. PROVIDE ½" WIDE x ¼" DEEP METAL STRIP INSERTED WHEN CONCRETE IS PLACED & FINISH FLUSH WITH SURFACE.
3. SPACING OF THE METAL STRIPS IS TO BE SUCH THAT THE SLAB WILL BE DIVIDED INTO "CHECKERBOARD" BLOCKS WITH MAX. AVERAGE SIZE OF 25'-25' UNLESS OTHERWISE NOTED.

NO.	DATE	REVISIONS	BY
⚠1	10-9-71	ADD GRADE SLAB LOAD & REVISE GRADE SLAB DETAILS	ER

T. Y. LIN & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
LOS ANGELES (VAN NUYS) · NEW YORK · CHICAGO · DALLAS · WASHINGTON

GENERAL NOTES & TYPICAL DETAILS
SURF SIDE 84 APARTMENT CONDOMINIMUM
OCEAN CITY, MARYLAND.

SHEET S-1 OF 12
JOB NO. 71312
DATE 8-23-71
DESIGN ER | DRAWN WR | CHECK ER

MSA CSU 2157-768-12

Maryland State Archives