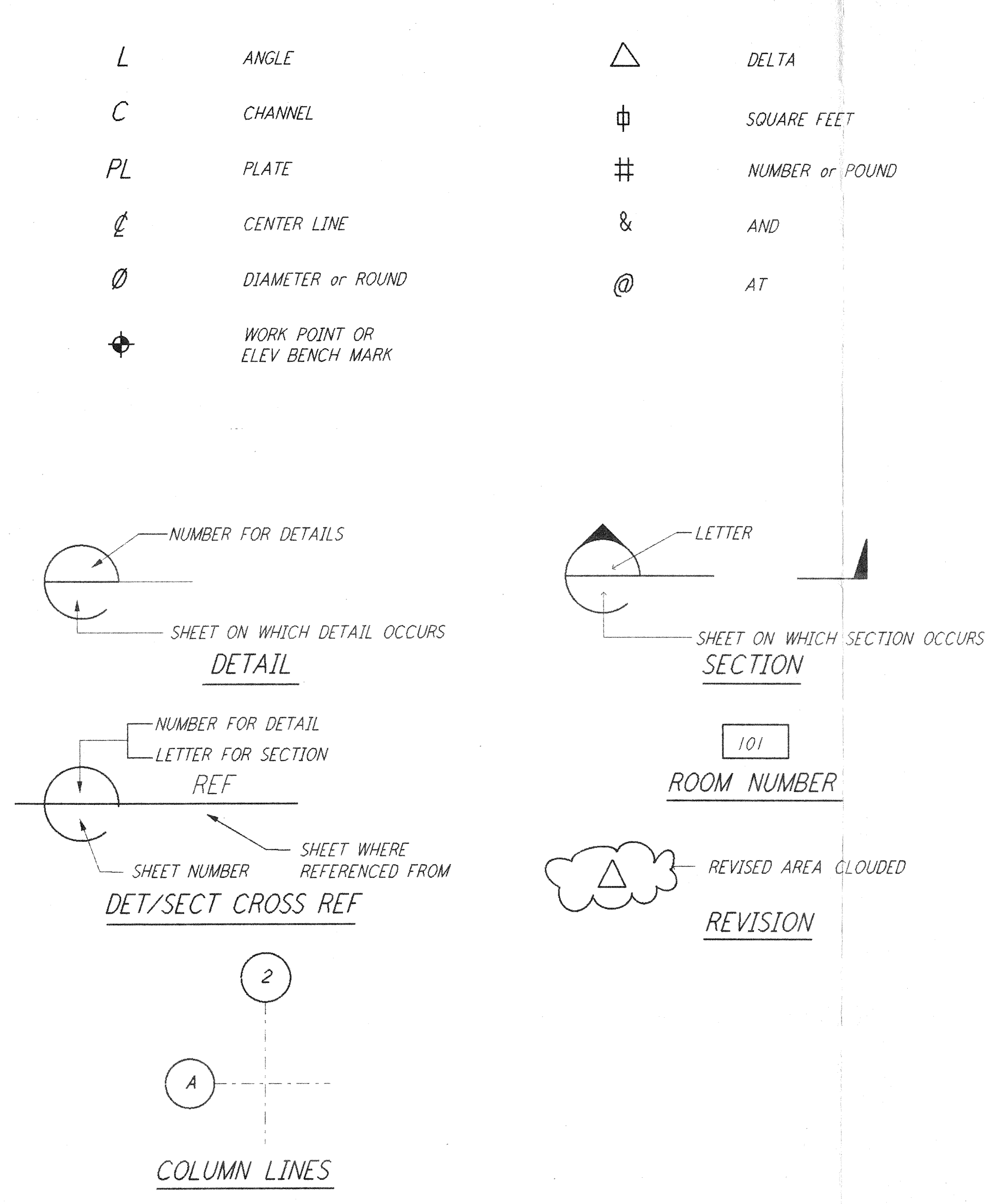


# ABBREVIATIONS

AB ACI AISC APPROX ARCH ASTM AWS	ANCHOR BOLT AMERICAN CONCRETE INSTITUTE AMERICAN INSTITUTE OF STEEL CONSTRUCTION APPROXIMATE ARCHITECTURAL AMERICAN SOCIETY FOR TESTING AND MATERIALS AMERICAN WELDING SOCIETY	MAX MB MECH MEZZ MFR MIN MISC MPH	MAXIMUM MACHINE BOLT MECHANICAL MEZZANINE MANUFACTURER MINIMUM MISCELLANEOUS MILES PER HOUR
B/B B/P BM BOF BOS BRCC	BACK TO BACK BASE PLATE BEAM BOTTOM OF FOOTING BOTTOM OF STEEL BRACING	NS NTS	NEAR SIDE NOT TO SCALE
C CC OR C/C CG C/J CLG CLR CMU COL CONC CONT CU	CAMBER CENTER TO CENTER CENTER OF GRAVITY CONSTRUCTION JOINT CEILING CLEAR CONCRETE MASONRY UNIT COLUMN CONCRETE CONTINUOUS CUBIC	OC OD OH OPNG OPP OSB OTO	ON CENTER OUTSIDE DIAMETER OPPOSITE HAND OPENING OPPOSITE OPERATIONS SUPPORT BUILDING OUT TO OUT
DET DIAG DIM DL DO DWG DWL	DETAIL DIAGONAL DIMENSION DEAD LOAD DITTO DRAWING DOWEL	PCF PL PSF PSI PT	POUNDS PER CUBIC FOOT PLATE POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH POINT
EA EF EL ENCL ENGR EQ EQUIP ETC EW EXIST	EACH EACH FACE ELEVATION ENCLOSURE ENGINEER EQUAL EQUIPMENT ETCETERA EACH WAY EXISTING	R RD REF REIN REQD REV	RADIUS ROOF DRAIN REFERENCE REINFORCING STEEL REQUIRED REVISE OR REVISION
FD FDN FIN FLR FLSHG FOC FRMG FS FT FTG	FLOOR DRAIN FOUNDATION FINISH FLOOR FLASHING FACE OF CONCRETE FRAMING FAR SIDE FOOT, FEET FOOTING	SCHED SECT SHT SIM SLV SPA ST STL STD STIF SYM	SCHEDULE SECTION SHEET SIMILAR SHORT LEG VERTICAL SPACED STAINLESS STEEL STANDARD STIFFENER SYMMETRICAL
GA GALV GR	GAUGE GALVANIZED GRADE	T&B THK TOC TOP TOS TOW TYP	TOP AND BOTTOM THICKNESS TOP OF CONCRETE TOP OF FOOTING TOP OF STEEL TOP OF WALL TYPICAL
HORIZ HP HR HSB	HORIZONTAL HIGH POINT HANDRAIL HIGH STRENGTH BOLT	UGN VERT	UNLESS OTHERWISE NOTED VERTICAL
ID IN INFO INSUL	INSIDE DIAMETER INCH INFORMATION INSULATION	W/ W/P WP WS WT W/W W/M	WITH WATER PROOF WORKING POINT WELDED STUD WEIGHT WELDED WIRE FABRIC WELDED WIRE MESH
JST JT	JOIST JOINT		
LB LG LL LLH LLV LVEA LWC	POUND LENGTH LIVE LOAD LONG LEG HORIZONTAL LONG LEG VERTICAL LASER AND VACUUM EQUIPMENT AREA LIGHT WEIGHT CONCRETE		

# SYMBOLS

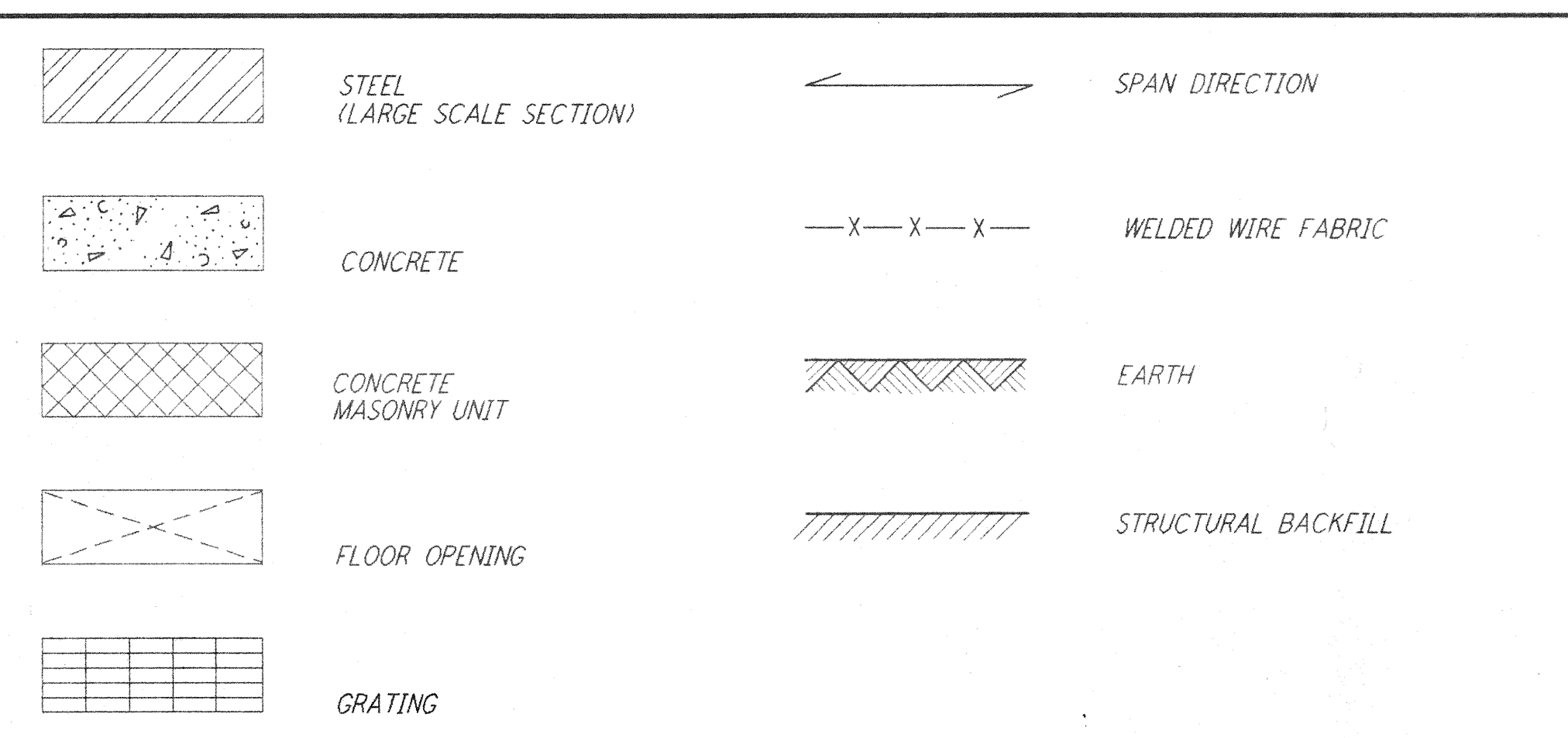


# NOTES

## INSPECTIONS AND APPROVALS

- GENERAL**
- PROFESSIONAL SOILS ENGINEER REGISTERED IN THE STATE OF WASHINGTON SHALL INSPECT AND APPROVE ALL FOOTING EXCAVATIONS PRIOR TO PLACING CONCRETE ACCORDING TO SECTION 2200 OF THE SPECIFICATION.
  - CONTINUOUS INSPECTION BY AN INSPECTOR, APPROVED BY THE DEPARTMENT OF BUILDING AND SAFETY SHALL BE PROVIDED FOR THE FOLLOWING FIELD WORK:
    - PLACEMENT OF COMPACTED FILL.
    - PLACEMENT OF CONCRETE AND REINFORCING STEEL AND ANCHOR BOLTS.
    - EXPANSION TYPE CONCRETE ANCHORS.
    - FIELD WELDING.
    - INSTALLATION OF HIGH STRENGTH BOLTS.
  - FIELD WELDERS AND WELDING OPERATORS SHALL BE FULLY QUALIFIED IN ACCORDANCE WITH AWS D1.1 AND BE APPROVED BY THE DEPARTMENT OF BUILDING AND SAFETY.
  - THE CONSTRUCTION SHALL COMPLY WITH REQUIREMENTS OF THE BUILDING CODE.
- GENERAL**
- ALL STRUCTURAL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE JOB SPECIFICATIONS AND STANDARDS.
  - ALL SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER OF RECORD PRIOR TO FABRICATION.
  - NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED, SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. NO CUTTING OR BURNING OF STEEL SHALL BE PERMITTED WITHOUT APPROVAL OF THE ENGINEER OF RECORD.
  - PAINTING AND SHOP PRIMING WHERE REQUIRE SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
  - FOR TYPICAL DETAILS SEE DRAWINGS WA-5-002 THROUGH WA-5-009.
  - CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED TO MAINTAIN THE ALIGNMENT OF BUILDING AND RETAINING WALLS UNTIL ALL CONNECTIONS ARE COMPLETED AND SLAB AND WALLS CONSTRUCTED.
  - PRIOR TO PLACING FOUNDATIONS & SLABS, REFER TO UNDERDRAIN SYSTEM DRAWINGS, ARCHITECTURAL DWGS FOR SLOPES & ELECTRICAL DWGS FOR GROUNDING.
  - FOR BUILDING COLUMN LOCATION COORDINATES SEE CIVIL DWGS.

# MATERIALS LEGEND



# NOTES

## FOUNDATIONS

- FOUNDATION AND SOIL REQUIREMENTS ARE BASED ON SOIL REPORT BY DAMES AND MOORE; REPORT NO. 177-004-0016 DATED: FEBRUARY 10, 1993.

## STRUCTURAL STEEL

- THE DESIGN, FABRICATION AND ERECTION OF ALL STRUCTURAL STEEL SHALL CONFORM TO AISC "MANUAL OF STEEL CONSTRUCTION" AND WITH THE SPECIFICATIONS. STRUCTURAL STEEL SHAPES & PLATES SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE NOTED ON PLAN.
- PROVIDE FILLERS AT SPLICES OF PARTS HAVING MORE THAN 1/8" DIFFERENCE IN THICKNESS.
- ALL BEARING STIFFENERS SHALL HAVE A CLOSE BEARING AGAINST THE INNER SURFACES OF BOTH FLANGES.

## CONNECTIONS

- PLATE FOR BOLTED SHEAR PLATE CONNECTIONS SHALL BE THE SAME THICKNESS AS THE BEAM WEB WITH A MINIMUM THICKNESS OF 3/8" UNLESS OTHERWISE NOTED. DIAGONAL GUSSET PLATE CONNECTIONS SHALL HAVE A MINIMUM THICKNESS OF 1/2" (UNLESS OTHERWISE NOTED) AND THE NET AREA THROUGH THE BOLTS HOLES SHALL DEVELOP TOTAL SHEAR CAPACITY OF THE BOLTS. ALL CONNECTIONS SHALL HAVE A MINIMUM OF TWO BOLTS. LOAD INDICATOR WASHERS SHALL BE USED WITH ALL ASTM A325SC BOLTS.
- ALL BOLTS SHALL BE ASTM A325SC, CLASS A, UNLESS OTHERWISE NOTED. 3/4" BOLTS SHALL BE USED FOR MID & END STATION, OSB BUILDING AND MAINTENANCE BUILDING AND 5/8" BOLTS SHALL BE USED FOR CORNER LVEA BUILDING, UNLESS OTHERWISE NOTED.
- ALL STIFFENERS SHALL HAVE A MINIMUM THICKNESS OF 3/8", UNLESS OTHERWISE NOTED.
- GIRT CONNECTIONS SHALL HAVE A MINIMUM OF 2-3/4" Ø ASTM A307 BOLTS.

## WELDING

- ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.1-90 STRUCTURAL WELDING CODE AND THE SPECIFICATION.
- ALL WELDING PROCEDURE SPECIFICATIONS AND WELDING PROCEDURE QUALIFICATIONS, WELDERS, AND WELDING OPERATORS SHALL BE FULLY QUALIFIED IN ACCORDANCE WITH AWS D1.1-90.
- LENGTHS OF WELDS SHOWN ARE EFFECTIVE LENGTHS AS SPECIFIED IN AISC SPECIFICATIONS, WHERE LENGTH OF WELD IS NOT SHOWN, IT SHALL BE FULL LENGTH OF JOINT. ALL BUTT WELDS SHALL BE FULL PENETRATION WELDS, UNLESS OTHERWISE NOTED.
- ALL WELDING ELECTRODES SHALL BE E70XX.
- WITH REFERENCE TO MINIMUM SIZE OF FILLET WELD REQUIREMENTS IN SECTION 1.17 OF AISC SPECIFICATIONS, MINIMUM SIZE OF FILLET WELDS WHEN NOT SPECIFIED ON WELD SYMBOLS SHALL BE AS FOLLOWS:
  - 1/2" WELD FOR MATERIAL THICKNESS UP TO AND INCLUDING 3/4"
  - 3/8" WELD FOR MATERIAL THICKNESS OVER 3/4" TO 1 1/2"
- WELDING PROCEDURES AND SEQUENCES SHALL BE PLANNED TO MINIMIZE WELD SHRINKAGE THAT COULD RESULT IN LAMELLAR TEARING, AND APPROVED BY OWNER'S REPRESENTATIVE.
- GRIND SMOOTH WELDED JOINTS WHERE FLUSH SURFACE IS REQUIRED.

## METAL DECK

- ALL METAL DECKING SHALL BE IN ACCORDANCE WITH SECTION 5312 OF THE SPECIFICATIONS.
- ROOF DECK SHALL HAVE SINGLE RIBS 7" DEEP AND MADE OUT OF 20 GAGE STEEL WITH MINIMUM 1'-0.873 IN/FOOT OF WIDTH AND MINIMUM S(1)+0.508 IN 9'FOOT WIDTH AND S(1)-1=0.562 IN 3'FOOT WIDTH. ATTACHMENT OF ROOF DECK TO SUPPORTS SHALL BE PER MANUFACTURER'S RECOMMENDATIONS. THE ATTACHMENT SHALL BE CAPABLE OF RESISTING 80 PSF NET UPLIFT AND 300 POUNDS PER LINEAR FOOT OF SHEAR.
- ACOUSTICAL ROOF DECK OF SAME SECTION PROPERTIES AS INDICATED IN ITEM 2 ABOVE SHALL BE USED FOR THE ROOF OVER MULTIPURPOSE ROOM OF THE OSB BLDG AS INDICATED ON THE DWG.
- ROOF DECK SHALL HAVE A MINIMUM OF TWO (2) SPANS UNLESS OTHERWISE NOTED.

## CONCRETE

- ALL CONCRETE MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF DIVISION 3 (CONCRETE) OF THE SPECIFICATIONS. (REGULAR WEIGHT AND LIGHT WEIGHT)
- STRUCTURAL CONCRETE SHALL HAVE AN ULTIMATE COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS UNLESS OTHERWISE NOTED. ALL CONCRETE SHALL BE REGULAR WEIGHT CONCRETE UNLESS OTHERWISE NOTED.
- ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60 (UNLESS OTHERWISE NOTED). SPLICES AND HOOKS SHALL CONFORM TO ACT 318-89. SPLICES SHALL BE CLASS B UNLESS OTHERWISE NOTED. MINIMUM LAP SHALL BE 30 DIAMETERS. STIRRUP AND TIE HOOKS SHALL HAVE 135-DEGREE BENDS.
- LOCATION OF ALL CONSTRUCTION JOINTS OR OTHER TYPES OF JOINTS, OTHER THAN SPECIFIED, SHALL BE APPROVED BY THE CONSTRUCTION MANAGER BEFORE PLACING.
- MINIMUM CONCRETE COVER PROVIDED FOR REINFORCEMENT SHALL BE IN ACCORDANCE WITH THE SPECIFICATION.
- ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS AND OTHER INSERTS SHALL BE WELL SECURED IN POSITION AND INSPECTED BY QUALIFIED INSPECTOR PRIOR TO PLACING CONCRETE.
- EXISTING PAVEMENT SHALL BE SAW CUT AND BROKEN OUT TO CLEAN, STRAIGHT EDGES OF DEMOLITION AREAS.
- EXPOSED EDGES OF CONCRETE SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE NOTED ON DRAWINGS.
- EYACAVATING AND BACKFILLING SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- CONSTRUCTION JOINTS SHALL BE CLEANED AND ROUGHENED TO 1/4" AMPLITUDE.
- PROVIDE REINFORCEMENT IN WALLS AT CORNER AND INTERSECTIONS AS PER DETAIL (T) WA-5-002

## ANCHOR BOLTS

- FOR ANCHOR BOLT DETAILS SEE DRAWING WA-5-003

## MASONRY

- WALLS SHALL BE LOAD BEARING REGULAR WEIGHT HOLLOW CONCRETE MASONRY UNITS WITH ALL CELLS GROUTED SOLID (UONI), ACCORDING TO THE SPECIFICATIONS.
- THE MORTAR SHALL BE CEMENT-LIME TYPE 'S' WITH A COMPRESSIVE STRENGTH OF 1800 PSI AT 28 DAYS, CONSISTING OF ONE PART OF CEMENT 1/2 TO 1/2 PART OF HYDRATED LIME OR LIME PUTTY AND DAMP LOOSE AGGREGATE 2 1/2 TO 3 TIMES THE SUM OF VOLUMES OF CEMENT AND LIME. THE GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS.
- THE MINIMUM CLEAR DISTANCE BETWEEN PARALLEL BARS SHALL BE THE BARS DIAMETER, BUT NOT LESS THAN 1".
- MINIMUM LAP OF REINFORCING STEEL SHALL BE 40 DIAMETERS, BUT NOT LESS THAN 2'-0".
- IF WORK STOPPED FOR ONE HOUR OR MORE, PROVIDE A HORIZONTAL CONSTRUCTION JOINT BY STOPPING THE GROUT 1/2" MINIMUM BELOW THE TOP OF MORTAR OR MASONRY.

This document and the design it covers are the property of PARSONS. They are loaned only with the borrower's expressed written agreement that they will not be reproduced, copied, loaned, exhibited, or used in any other way, except by written consent from PARSONS to the borrower.

REFERENCES	REVISIONS	ISSUED FOR CONSTRUCTION						LASER INTERFEROMETER GRAVITATIONAL-WAVE OBSERVATORY SITE NO. 1 - HANFORD, WASHINGTON	SCALE	CONTRACT NUMBER	PROJECT NUMBER
		DRAWN	MCS	6-24-96					NONE	PPI50969	8094
DRAWING NO.	DESCRIPTION	NO.	DATE	BY	CHKD	ENGR	PROJ	DESCRIPTION	SHEET NUMBER	STRUCTURAL GENERAL NOTES, ABBREVIATIONS & LEGEND	
5									WA-S-001	LIGO-D960286-00-0 LIGOWAF.BDR	