GENERAL NOTES

1. THE FOLLOWING NOTES ARE INTENDED TO BE USED AS OUTLINED SPECIFICATIONS FOR THIS PROJECT. THE REFERENCED STANDARDS ARE CONSIDERED TO BE PART OF THE WORK.
2. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH SITE DRAWINGS AND GEOTECHNICAL REPORT. CONSULT THESE DRAWINGS/REPORTS FOR ADDITIONAL INFORMATION NOT SHOWN ON STRUCTURAL DRAWINGS.
3. ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
4. ALL APPLICABLE FEDERAL, STATE, AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED, INCLUDING THE FEDERAL DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).

DESIGN LOADS

1. BUILDING CODE:
   MAINE UNIFORM BUILDING AND ENERGY CODE
   INTERNATIONAL BUILDING CODE, 2009 EDITION
   ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
   MANUFACTURER'S TANK LOADS (DEAD,WIND,SEISMIC) PER ASCE 7-10. ALL DESIGN LOADS SUPPLIED BY FELDMEIER EQUIPMENT 2/18/16.
2. DESIGN TANK LOADS (VERTICAL):
   20000 GAL TANK SELF WEIGHT: 18000 LBS
   20000 GAL TANK CONTENT WEIGHT: 166840 LBS
3. DESIGN TANK LOADS (WIND):
   BASIC WIND SPEED: 130 MPH
   WIND EXPOSURE: C
   BASE SHEAR: 6250 LBS (TANK EMPTY)
   BASE MOMENT: 1172000 IN-LBS (TANK EMPTY)
4. DESIGN TANK LOADS (SEISMIC):
   DESIGN PER ASCE 7-10 CHAPTERS 11,12 AND 15
   SEISMIC RISK CATEGORY: II
   SEISMIC IMPORTANCE FACTOR (Ie): 1.0
   MAPPED SPECTRAL RESPONSE ACCELERATIONS:
   Ss: 0.317
   S1: 0.077
   SEISMIC SITE CLASS: D
   SPECTRAL RESPONSE COEFFICIENTS:
   Sds: 0.327
   Sd1: 0.123
   SEISMIC DESIGN CATEGORY: B
   BASE SHEAR: 48100 LBS (TANK FULL)
   BASE MOMENT: 1083000 IN-LBS (TANK FULL)

FOUNDATION NOTES (SOIL SUPPORTED)

1. FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH A REPORT ENTITLED "GEOTECHNICAL SERVICES, PROPOSED MILK SILOS, H.P. HOOD, 349 PARK AVE., PORTLAND, MAINE", PREPARED BY S.W. COLE ENGINEERING INC. DATED 03/2/2016. THE RECOMMENDATIONS OF THE REPORT ARE PART OF THIS WORK. REFER TO THIS REPORT FOR SPECIFIC RECOMMENDATIONS.
2. FOUNDATION DESIGN IS BASED ON MAT FOUNDATIONS BEARING ON NEW COMPACTED STRUCTURAL FILL EXTENDING TO UNDISTURBED AND RECOMPACTED NATIVE SOIL.
3. BEARING CAPACITY IS 2000 PSF. (2670 PSF W/SEISMIC LOAD COMBINATIONS).
4. FOR PROTECTION OF FROST, INSTALL RIGID INSULATION 60 PSI (MIN) BELOW MAT FOUNDATION EXTENDING 4'-0" BEYOND THE PERIMETER OF THE MAT. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.
5. ALL EXISTING PAVEMENT, TOP SOILS, FILLS, AND UNSUITABLE SOILS SHALL BE REMOVED FROM THE AREA OF THE PLANNED FOUNDATION. (REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION).
6. AFTER EXCAVATION FOR FOOTING IS COMPLETE, NATIVE SOILS SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER OF RECORD PRIOR TO BACKFILL AND COMPACTION. ADDITIONAL EXCAVATIONS MAY BE REQUIRED UPON REVIEW OF GEOTECHNICAL ENGINEER (REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION).
7. COMPACTED STRUCTURAL FILL SHALL BE USED TO BACKFILL TO THE DESIGN FOUNDATION SUBGRADE. STRUCTURAL FILL SHALL CONFORM TO THE REQUIREMENTS OF THE GEOTECHNICAL REPORT.
8. SOILS EXPOSED AT THE BASE OF ALL SATISFACTORY FOUNDATION EXCAVATIONS SHALL BE PROTECTED AGAINST ANY DETRIMENTAL CHANGE IN CONDITION, SUCH AS DISTURBANCE FROM RAIN OR FROST. SURFACE RUNOFF SHALL BE DRAINED AWAY FROM THE EXCAVATIONS SHALL BE ADEQUATELY PROTECTED FROM RAINFALL OR FREEZING CONDITIONS. GROUNDWATER SHALL BE ANTICIPATED FOR EXCAVATIONS AND APPROPRIATE DEWATERING MEASURES SHALL BE EMPLOYED.
9. SLOPE FOOTING EXCAVATIONS AS REQUIRED FOR STABILITY AND SAFETY IN ACCORDANCE WITH OSHA REQUIREMENTS. PROVIDE SHEETING OR SHORING IN ACCORDANCE WITH OSHA GUIDELINES. BRACED EXCAVATIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MAINE.
10. ANY EXISTING UTILITIES AND/OR FOUNDATIONS UNCOVERED DURING EXCAVATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER. THE IMPACTS OF NEW CONSTRUCTION ON SUCH UTILITIES/FOUNDATIONS MAY REQUIRE FURTHER REVIEW. CARE SHALL BE TAKEN NOT TO DISTURB OR DAMAGE THESE ITEMS DURING EXCAVATION.

CONCRETE NOTES

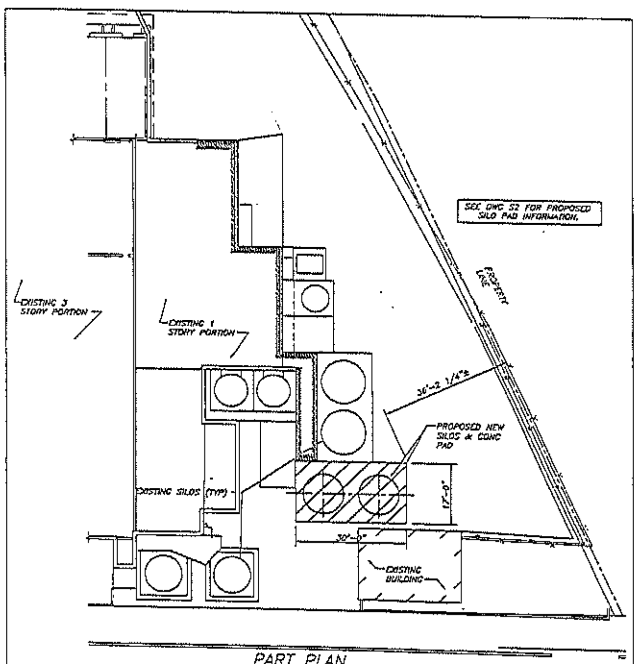
1. CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318 LATEST)," AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301-LATEST)". THESE PUBLICATIONS ARE AVAILABLE THROUGH THE AMERICAN CONCRETE INSTITUTE (248) 848-3800.
2. GENERAL CONTRACTOR, CONSTRUCTION MANAGER AND/OR OWNER'S CLERK OF THE WORKS SHALL HAVE AVAILABLE ON SITE AT ALL TIMES A COPY OF ACI "FIELD REFERENCE MANUAL SP-15 (LATEST)". THIS PUBLICATION IS AVAILABLE THROUGH THE AMERICAN CONCRETE INSTITUTE (248) 848-3800.
3. CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED, AND PLACED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ACI 318-LATEST.
4. CONCRETE MIX DESIGN:
   EXTERIOR MAT FOUNDATION:
   A. STRENGTH: 5000 PSI @ 28 DAYS
   B. AGGREGATE: 3/4"
   C. W/C RATIO: 0.40 MAX
   D. ENTRAINED AIR: 5% TO 7%
   E. SLUMP: 4" MAX
   NOTE:
   A. ADD AIR ENTRAINING ADMIXTURE AT MANUFACTURER'S PRESCRIBED RATE TO RESULT IN CONCRETE AT POINT OF PLACEMENT HAVING THE ABOVE NOTED AIR CONTENT.
   B. ADDITIONAL SLUMP MAY BE ACHIEVED BY THE ADDITION OF A MIDRANGE OR HIGH RANGE WATER REDUCING ADMIXTURE. MAXIMUM SLUMP AFTER ADDITION OF ADMIXTURE SHALL BE 6 INCHES AND 8 INCHES RESPECTIVELY.
5. ADJUSTMENT TO CONCRETE MIXES: MIX ADJUSTMENTS MAY BE REQUESTED BY THE CONTRACTOR, WHEN CHARACTERISTICS OF THE MATERIALS, JOB CONDITIONS, WEATHER OR OTHER CIRCUMSTANCES WARRANT, AT NO ADDITIONAL COST TO THE OWNER AS ACCEPTED BY THE ENGINEER. LABORATORY TEST DATA FOR THE REVISED MIX DESIGN AND STRENGTH DATA MUST BE SUBMITTED AND ACCEPTED BY THE ENGINEER BEFORE INCORPORATING INTO THE WORK.
   NOTE:
   A. WATER MAY BE ADDED AT THE PROJECT ONLY IF THE MAXIMUM SPECIFIED WATER-CEMENT RATIO AND SLUMP ARE NOT EXCEEDED. CONTRACTOR SHALL HAVE BATCH TICKET INDICATING WATER AND CEMENT MIXED IN THE PLANT, AND SHALL RECORD THE WATER ADDED AS EVIDENCE THAT THE WATER-CEMENT RATIO HAS NOT BEEN EXCEEDED.
   B. ADDITIONAL DOSES OF SUPER PLASTICIZER SHOULD BE USED WHEN DELAYS OCCUR AND REQUIRED SLUMP HAS NOT BEEN MAINTAINED. A MAXIMUM OF TWO ADDITIONAL DOSAGES ARE PERMITTED PER ACI 212.3R RECOMMENDATIONS.
6. CONCRETE MIXING:
   A. JOB-SITE MIXING OF CONCRETE WILL NOT BE PERMITTED.
   B. READY-MIX CONCRETE MUST COMPLY WITH THE REQUIREMENTS OF ASTM C94, AND AS SPECIFIED HEREIN. PROVIDE BATCH TICKET FOR EACH BATCH DISCHARGED AND USED IN WORK, INDICATING PROJECT NAME, MIX TYPE, MIX TIME, BATCH QUANTITY, AND PROPORTIONS OF INGREDIENTS.
7. CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.
8. PROVIDE PVC SLEEVES WHERE PIPES PASS THROUGH EXTERIOR CONCRETE OR SLABS CAST ON GRADE. ADJACENT SLEEVES SHALL BE SPACED A MINIMUM OF THREE DIAMETERS APART. NO PENETRATIONS SHALL BE MADE THROUGH FOOTINGS WITHOUT WRITTEN PERMISSION FROM ENGINEER.
9. REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60 DEFORMED BARS AND SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI 315, LATEST EDITION.
10. MINIMUM CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:
   A. SURFACES CAST AGAINST AND PERMANENTLY IN CONTACT WITH EARTH, 3.0"
   B. FORMED SURFACES IN CONTACT WITH EARTH OR EXPOSED TO WEATHER #5 BARS, 5/8" DIAMETER WIRE, AND SMALLER, 1.5"
11. REINFORCEMENT SHALL BE CONTINUOUS AROUND CORNERS AND AT INTERSECTIONS. PROVIDE LAPPED BARS AT NECESSARY SPLICES OR HOOKED BARS AT DISCONTINUOUS ENDS. SEE SCHEDULE THIS DRAWING FOR REQUIRED REBAR LAP SPLICE LENGTHS. LAP ALL REINFORCEMENT 36" MIN. U.N.O.
12. WELDING OF REINFORCEMENT IS NOT PERMITTED.
13. CONCRETE SHALL BE PLACED WITHOUT HORIZONTAL OR VERTICAL CONSTRUCTION JOINTS U.N.O.
14. ANCHOR RODS SHALL BE AS NOTED ON THE DRAWINGS. ANCHOR RODS SHALL BE H.D. GALVANIZED U.N.O.
15. ALL GROUT SHALL BE "5-STAR" 5000 PSI NON-SHRINK GROUT BY U.S. GROUT CORP., OR APPROVED EQUAL.
16. INSTALLATION OF REINFORCEMENT SHALL BE COMPLETE AT LEAST 24 HOURS PRIOR TO THE SCHEDULED CONCRETE PLACEMENT. NOTIFY STRUCTURAL ENGINEER OF COMPLETION AT LEAST 24 HOURS PRIOR TO THE SCHEDULED COMPLETION OF THE INSTALLATION OF REINFORCEMENT. ENGINEER SHALL INSPECT ALL REINFORCEMENT PRIOR TO PLACEMENT OF CONCRETE.

STRUCTURAL STEEL NOTES

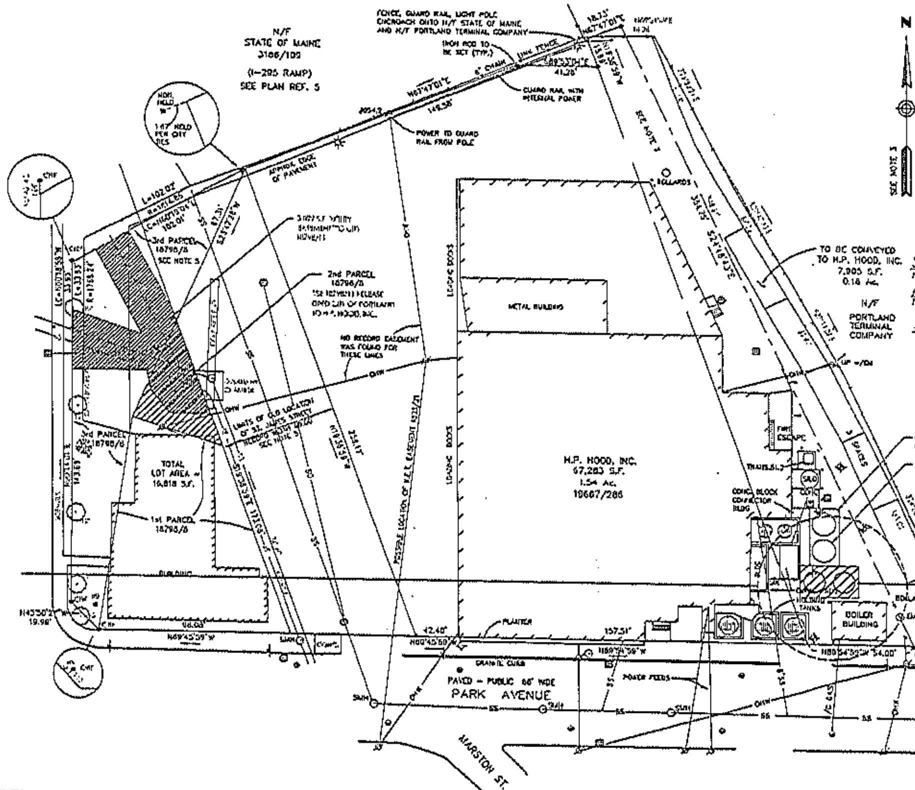
1. STRUCTURAL STEEL FABRICATION, ERECTION, AND CONNECTION DESIGN SHALL CONFORM TO AISC "SPECIFICATION FOR THE DESIGN FABRICATIONS, AND ERECTION OF STRUCTURAL STEEL" 13TH EDITION, AND THE "CODE OF STANDARD PRACTICE", LATEST EDITION.
2. STRUCTURAL STEEL: STEEL PLATES, SHAPES, AND BARS, SHALL CONFORM TO A36 STEEL. ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED U.N.O.
3. WHERE WELDING IS INDICATED, ALL WELDING SHALL CONFORM TO AWS D1.1-LATEST EDITION. ELECTRODES SHALL CONFORM TO AWS A5.1 E70XX SERIES WITH PROPER ROD TO PRODUCE OPTIMUM WELD (LOW HYDROGEN). ALL WELDING AT STAINLESS STEEL SHALL CONFORM TO AWS D1.6, LATEST EDITION.

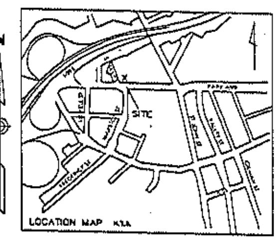
TESTING

1. OWNER WILL ENGAGE A QUALIFIED TESTING AGENCY TO CONDUCT PERIODIC TESTS TO CONFIRM CONSTRUCTION IS IN CONFORMANCE WITH SPECIFIED PROCEDURES AND SPECIFICATIONS.
2. TESTING SHALL INCLUDE
   STRUCTURAL FILL GRADATION AND COMPACTION
   CONCRETE SLUMP, TEMPERATURE, AIR CONTENT AT POINT OF PLACEMENT
   CONCRETE COMPRESSION TESTS
3. TEST RESULTS SHALL BE SUBMITTED TO THE OWNER AND ENGINEER FOR REVIEW WITHIN 72 HOURS OF COMPLETION OF EACH TEST.



PART PLAN
1/16"=1'-0"





SEE NOTE 3

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SITE PLAN
1"=30'-0"

NOTES:
1. PROPOSED SILO PAD ON EXISTING SURVEY PLOT PLAN. EXISTING PLAN ENTITLED "COMPILED PLAN" PREPARED BY OWEN HASKELL, INC. DATED 2/28/09. SEE THIS PLAN FOR FULL SURVEY INFO.
2. PLAN INTENDED TO SHOW GENERAL LOCATION. ALL SURVEY DATA, SETBACKS, AND EXISTING SITE FEATURES/UTILITIES TO BE VERIFIED BY OTHERS.

BECKER STRUCTURAL ENGINEERS

STATE OF MAINE
PAUL B. BECKER
NO. 6584
LICENSED

Rev. No.	Date	Issued For	Appr'd

PASTEURIZED MILK SILO PAD
HP HOOD INC., PORTLAND, ME

SITE PLAN & GENERAL NOTES

Designer: RTN	Scale: AS NOTED
Drawn: WBH	Date: 03-11-16
Checked: DSB	Becker Job Number: 3771

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