AVIS

CORPORATE FACILITIES

VEHICLE SERVICE CENTER

JETPORT BOULEVARD
PORTLAND, MAINE
SEPTEMBER 17, 2001

DRAWING ABBREVIATIONS

AB	ANCHOR BOLT
ACT	ACOUSTICAL CEILING TILE
AFF	ABOVE FINISH FLOOR
ALUM OR AL	ALUMINUM
AWP	ACOUSTICAL WALL PANEL
ACT	ACOUSTICAL CEILING TILE
BIT	BITUMINOUS
BM	BENCH MARK
BOT	BOTTOM
BRG	BEARING
BRK	BRICK
	CARPET
CAB	CABINET
CB	CHALK BOARD
CC	CENTER TO CENTER
CH	CONCRETE HARDENER
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CMU	CONCRETE MASONRY UNITS
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CONTR	CONTRACTOR
CT	CERAMIC TILE
DBL	DOUBLE
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DNA	DOES NOT APPLY
DTL	DETAIL
DWG	DRAWING
	EAST
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMHO	ELECTRO-MAGNETIC HOLD OPEN
EQ	EQUAL
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXIST OR (E)	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FFE	FINISH FLOOR ELEVATION
FIN	FINISH
FIN FL OR FF	FINISH FLOOR
FIN GR	FINISH GRADE
FL	FLOOR
FR	FIRE RATING
FRMG	FRAMING
FT	FEET (FOOT)
FV	FIELD VERIFY
FWC	FABRIC WALL COVERING
	GRANITE
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BARS
GC	GENERAL CONTRACTOR
GWB	GYPSUM WALL BOARD
HC	HANDICAP
HD WD	HARDWOOD
HDR	HEADER
HDWE	HARDWARE
HM	HOLLOW METAL
HORZ	HORIZONTAL
HT	HEIGHT
ID	INSIDE DIAMETER
IF	INSIDE FACE
IN	INCHES
INSUL	INSULATION
INT	INTERIOR
JNT OR JT	JOINT
L	LAVATORY
LNTL	LINTEL
LOC	LOCATION
M	MARBLE
MAS	MASONRY
MAX	MAXIMUM
MB	MARKER BOARD
MECH	MECHANICAL
MFGR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MR	MOP RECEPTOR
MRGB	MOISTURE RESISTANT GYPSUM BOARD
MTL	METAL
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPNG	OPENING
OPP	OPPOSITE
OF	OUTSIDE FACE
P	PAINT
PTD	PAINTED
PL	PLATE
PLY WD	PLYWOOD
PNL	PANEL
P.T.	PRESSURE TREATED
PT & D	PAPER TOWEL AND WASTE DISPENSER
PTN	PARTITION
RD	ROOF DRAIN
RE	REFER
REF	REFRIGERATOR
REINF	REINFORCED
REQD	REQUIRED
RM	ROOM
RO	ROUGH OPENING
S	SOUTH
SC	SHOWER CURTAIN
SD	SOAP DISPENSER
SCHED	SCHEDULE
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SND	SANITARY NAPKIN DISPOSAL
SQ	SQUARE
SSS	SYNTHETIC SPORTS SURFACE
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SV	SHEET VINYL
T	TEMPERED (GLASS)
TB	TACK BOARD
THK	THICKNESS
TO	TOP OF
TOB	TOP OF BEAM
TOM	TOP OF MASONRY
TOW	TOP OF WALL
TP	TOILET PAPER DISPENSER
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VB	VAPOR BARRIER
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VWC	VINYL WALL COVERING
W	WEST
W/	WITH
WC	WATER CLOSET
WD	WOOD

SYMBOLS

- ROOM NUMBER
- DOOR NUMBER
- WINDOW TYPE
- BUILDING ELEVATION
- BUILDING SECTION
- WALL SECTION
- DETAIL SECTION
- CASEWORK ELEVATION
- INTERIOR ELEVATION
- VERTICAL ELEVATION
- PARTITION TYPE
- COLUMN CENTER LINE

MATERIALS

- CONCRETE
- CONCRETE MASONRY UNIT
- BRICK
- GRAVEL
- SOIL
- STEEL
- WOOD FRAMING
- WOOD BLOCKING
- PLYWOOD
- GYPSUM BOARD
- SAT
- BATT INSULATION
- RIGID INSULATION
- EXPANSION MATERIAL
- FINISH WOOD
- ONE HOUR RATED PTN.
- TWO HOUR RATED PTN.
- CROWN MOULDING
- CHAIR RAIL
- CHAIR RAIL & CROWN MOULDING

DRAWING INDEX

PROJECT DIRECTORY

OWNER
AVIS RENT A CAR SYSTEMS,INC.
900 OLD COUNTRY ROAD
GARDEN CITY, NEW YORK 11530

ARCHITECT
GAWRON ARCHITECTES
29 BLACK POINT ROAD
SCARBOUGH MAINE 04074
BUSINESS (207) 883-6307
BUSINESS FAX (207) 883-6361
E-MAIL:GEORGE TARIF / [illegible]
E-MAIL:RAY HAMLIN / [illegible]

ELECTRICAL & MECHANICAL
BENNETT ENGINEERING
ELECTRICAL ATTN: CHARLES ABBOTT JR P.E
MECHANICAL ATTN: Scott Rhenish
7 Bennett Road
P.O. Box 297
Freeport, ME 04032-0297
BUSINESS: (207) 865-9475
BUSINESS FAX: (207) 865-9473
E-MAIL:[illegible]

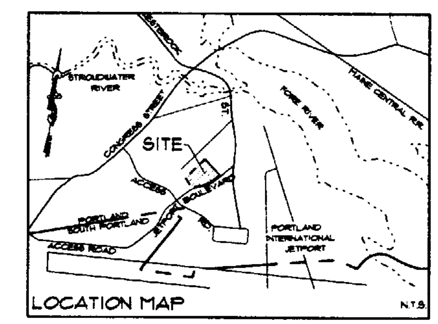
SITE & CIVIL
SEBAGO TECHNICS
ATTN: OWENS MCCULLOUGH
P.O. Box 1339
12 Westbrook Common
Westbrook, Maine 04098-1339
BUSINESS: (207) 856-0277
BUSINESS FAX: (207) 856-2206
E-MAIL:[illegible]

STRUCTURAL
BECKER STRUCTURAL ENGINEERS, INC
ATTN: PAUL BECKER
19 Commercial Street
Portland, Maine 04101-4701
BUSINESS: (207) 879-1838
BUSINESS FAX: (207) 879-1822
E-MAIL:[illegible]

GENERAL NOTES

1. THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS, AND REPORT ANY DISCREPANCIES TO THE ARCHITECT. CONTRACTOR SHALL PROCEED WITH THE WORK ONLY AFTER DISCREPANCY HAS BEEN RESOLVED WITH THE ARCHITECT.
2. ALL STRUCTURAL FRAMING TO BE SUPPLIED BY TRUSS MANUFACTURER (AS NOTED) TO BE CERTIFIED BY MANUF. ENGINEERS.
3. ALL FRAMING (OTHER THAN TRUSSES) TO BE KILN DRIED, MIN. Fb=1,200 PSI REPETITIVE USE, UNLESS NOTED.
4. THE BUILDING SHALL BE CONSTRUCTED TO CONFORM WITH ALL APPLICABLE CODES INCLUDING, BUT NOT LIMITED TO, THE LATEST EDITIONS OF BOCA, NFPA 101, & ANSI.
5. ALL WOOD IN CONTACT WITH CONCRETE SHALL BE PRESSURE PRESERVATIVE TREATED.
6. CONTRACTOR SHALL WORK FROM GIVEN DIMENSIONS AND LARGE SCALE DETAILS ONLY. DO NOT SCALE THE DRAWINGS.
7. ALL FLOORS SHALL BE LEVELED TO A TOLERANCE OF 1/8" IN 10'-0" WHEN CHECKED AT ANY AREA WITH A 10'-0" STRAIGHT EDGE.
8. ALL BASE PLATES TO SIT DIRECTLY ATOP FOUNDATION CONCRETE. LEVEL PLATE AS REQUIRED WITH METAL SHIMS.
9. INSTALL BLOCKING FOR FUTURE SURFACE APPLIED FIXTURES, TRIM, CABINETS, COUNTER TOPS, AND GRAB BARS WHEN MOUNTED ON STUD WALLS.
10. ALL GRAB BARS SHALL BE ABLE TO SUPPORT A DEAD WEIGHT OF 250 LBS AT ANY POINT.
11. ALL TRUSSES AND BEARING MEMBERS SHALL HAVE CLIPS AT THE WALL PLATE. SIMPSON HURRICAN ANCHORS.
12. INSTALL MOISTURE RESISTANT GYPSUM BOARD IN LAVORATORIES, JANITOR CLOSETS, AND ALL OTHER HIGH HUMIDITY AREAS.
13. ALL CAULKING AROUND WINDOWS SHALL BE NON-HARDENING TYPE SEALANT.
14. INSTALL WATERPROOF UNDERLAYMENT 40 MIL W.R GRACE ICE-ENTIRE ROOF & FASCIA SURFACE. UP 12" MIN. UP ROOF/SIDEWALL INTERSECTIONS.
15. ANY DOORS NOT LOCATED DIMENSIONALLY ARE TO BE 4" MIN. OFF OF ADJACENT WALL AT HINGE SIDE OF DOOR.
16. INSTALL ALL 5/8" TYPE X DRYWALL ON 7/8" STRAPPING UNDER LT GAGEMETAL TRUSSES.WITH 6 MILL POLY VAPOR BARRIER ABOVE GYP. BD.

SITE MAP

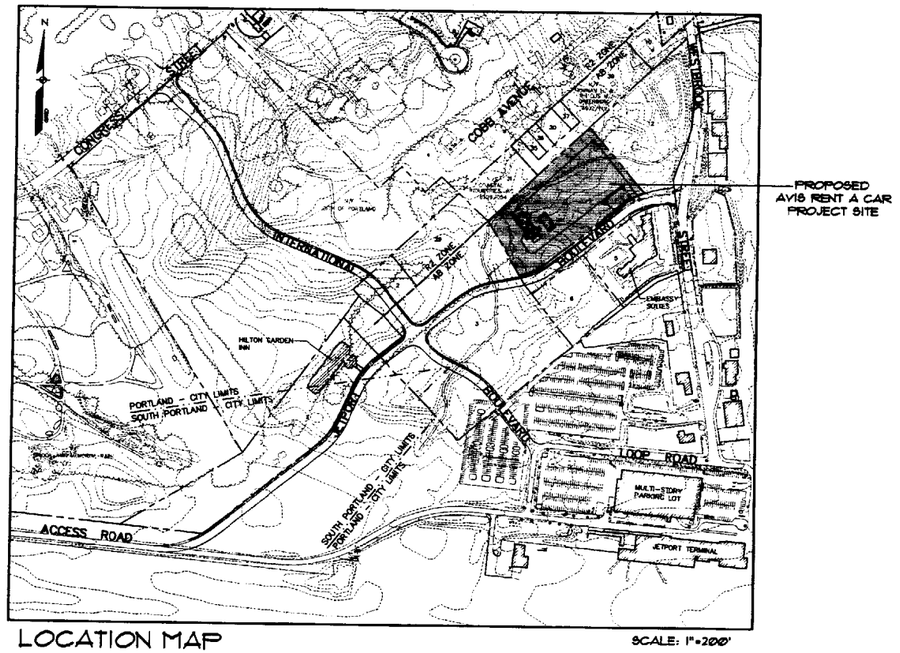


DESIGNED AND PREPARED BY

GAWRON ARCHITECTS
29 Black Point Road, Scarborough, Maine 04074-9358

AVIS RENT A CAR SYSTEMS, INC.

JETPORT BOULEVARD
PORTLAND, MAINE



LOCATION MAP

SCALE: 1"=200'

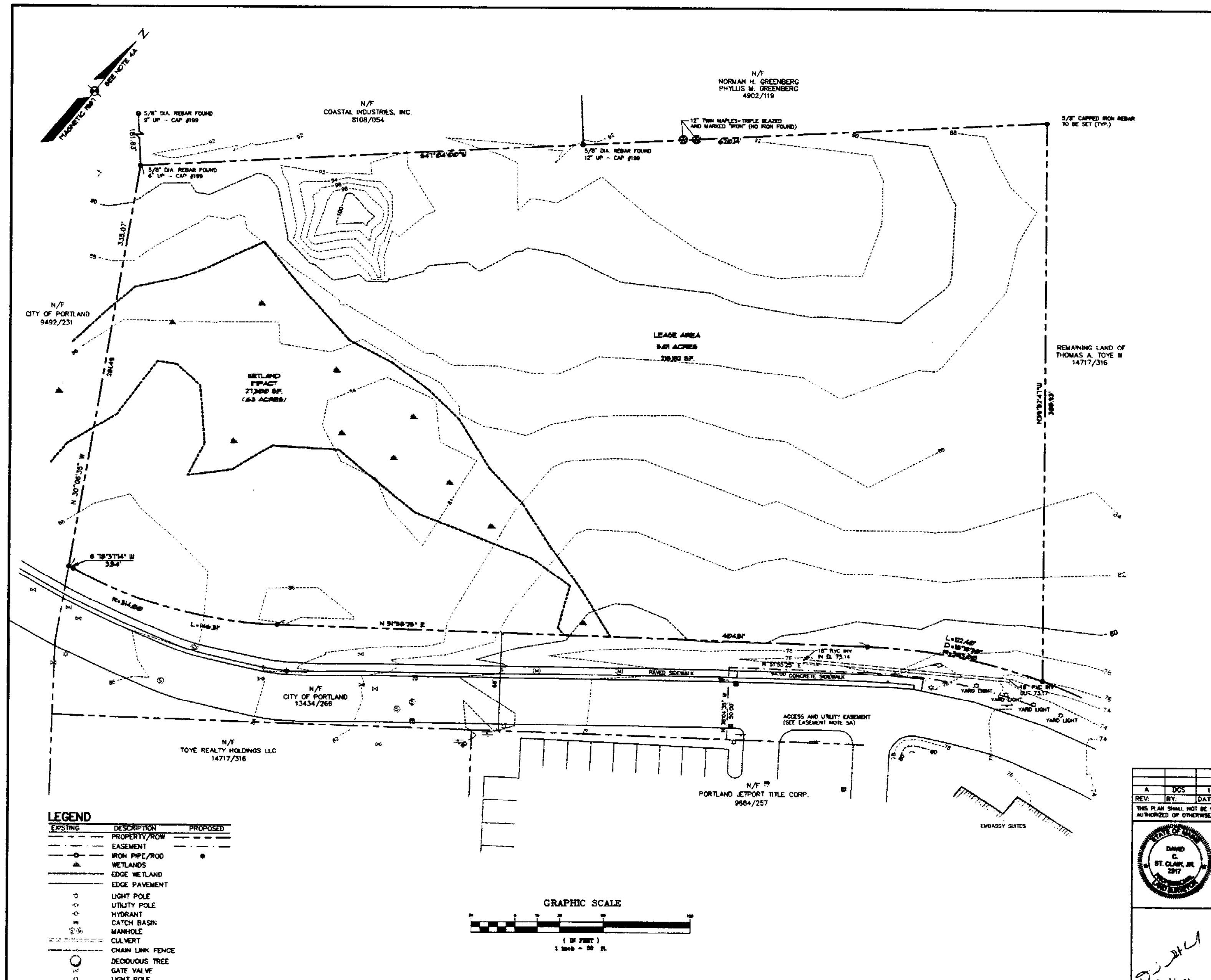
OWNER/APPLICANT:
AVIS RENT A CAR SYSTEMS, INC.
900 OLD COUNTRY ROAD
GARDEN CITY, NEW YORK 11530

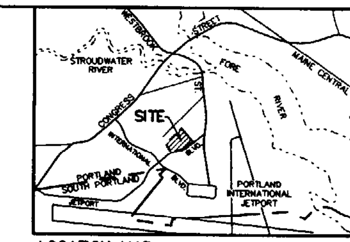
ENGINEER/SURVEYOR:
SEBAGO TECHNICS, INC.

Sebago Technics
Engineering & Planning for the Future
ONE CHABOT STREET
WESTBROOK, ME 04092-1339
TEL (207) 856-0277

ARCHITECT:
GAWRON ARCHITECTS
29 BLACK POINT ROAD
SCARBOROUGH, MAINE 04074-9358

SHEET INDEX





LOCATION MAP N.T.S.

GENERAL NOTES

1. THE RECORD OWNER OF THE PROPERTY IS TOYE REALTY HOLDINGS, LLC BY DEED OF THOMAS A. TOYE III DATED APRIL 29, 1999 AND RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 14717 PAGE 316.
2. WETLAND LIMITS SHOWN HEREON WERE DELINEATED BY MARK J. HAMPTON AS AN EMPLOYEE OF SEBAGO TECHNICS, INC IN ACCORDANCE WITH THE 1987 ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND LOCATED IN CONJUNCTION WITH A STANDARD BOUNDARY SURVEY REFERENCED IN NOTE 5D.
3. TOTAL AREA OF PROPERTY: 5.01 ACRES, MORE OR LESS.
4. PLAN REFERENCE:
   A. PLAN OF LAND ON CONGRESS & WESTBROOK STREETS, PORTLAND, MAINE, FOR DUNFEY PROPERTIES. PREPARED BY OWEN HASKELL, INC. DATED APRIL 10, 1987.
   B. STANDARD BOUNDARY SURVEY ON CONGRESS STREET IN PORTLAND, MAINE, FOR CITY OF PORTLAND. PREPARED BY OWEN HASKELL, INC. DATED NOVEMBER 20, 1990.
   C. PLAN OF LAND AT STROUDWATER – PORTLAND, MAINE, SURVEYED FOR LILLIAN M. PARKER. PREPARED BY E.C. JORDAN & CO. DATED MAY 1923. RECORDED IN PLAN BOOK 15, PAGE 33.
   D. STANDARD BOUNDARY SURVEY OF THOMAS A. TOYE PROPERTY LAST REVISED JANUARY 18, 2001 BY SEBAGO TECHNICS, INC.
5. EASEMENTS:
   A. PEDESTRIAN AND VEHICULAR ACCESS AND UTILITY EASEMENT AS CONVEYED TO JOSEPH F. BOULOS ET. AL. BY SAID DEED RECORDED IN BOOK 8557, PAGE 130 AND DESCRIBED AS EXHIBIT C IN SAID DEED.
6. THIS PLAN CONFORMS TO THE STANDARDS ADOPTED BY THE MAINE STATE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS STANDARDS OF PRACTICE CATEGORY I CONDITION II.

EXCEPTIONS:

A. NO WRITTEN SURVEYOR'S REPORT
B. NO MONUMENTATION SET
C. WETLANDS WERE DELINEATED BY SOMEONE OTHER THEN THE SIGNING PROFESSIONAL SEE NOTE 2.
D. PERIMETER INFORMATION IS TAKEN FROM A PREVIOUS SURVEY COMPLETED BY SEBAGO TECHNICS, INC. FOR PEOPLE'S HERITAGE BANK DATED MARCH 1, 1995.

REV:	BY:	DATE:	STATUS:
A	DCS	1-15-01	ADD TOPOGRAPHIC INFORMATION

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

STATE OF MAINE – DAVID C. ST. CLAIR, JR. 2317 – PROFESSIONAL LAND SURVEYOR

BOUNDARY & TOPOGRAPHIC SURVEY

OF

PROPOSED AVIS CAR RENTAL SITE

JETPORT BOULEVARD
PORTLAND, MAINE

FOR: RECORD OWNER

TOYE REALTY HOLDINGS LLC

P.O. BOX 66
CAPE ELIZABETH, ME 04107

9-11-01

Sebago Technics
Engineering & Planning for the Future
One Chabot Street
Westbrook, Me 04098-1339
Tel (207) 856-0277

DESIGN BY:	–
DRAWN BY:	DCS
CHECKED BY:	DED
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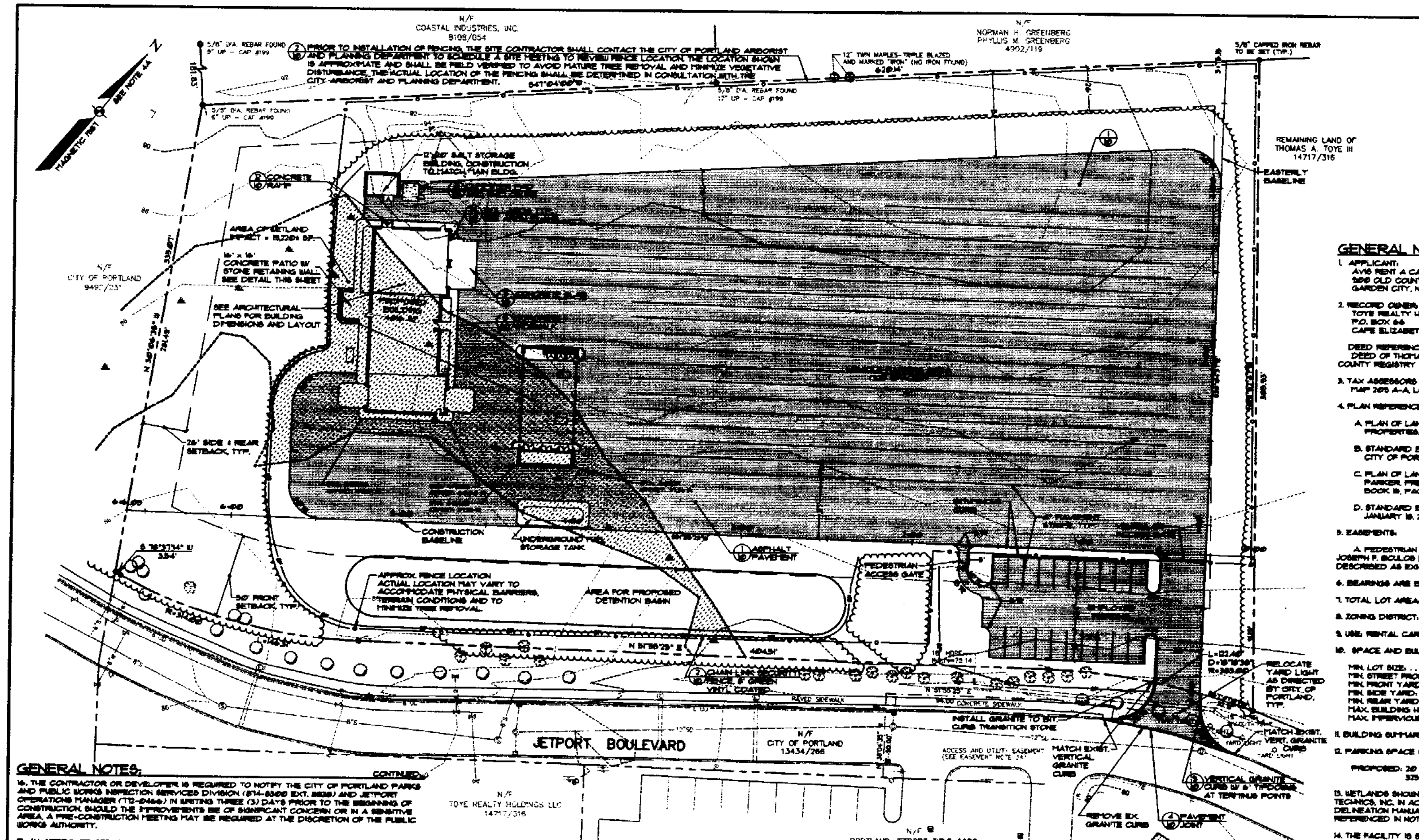
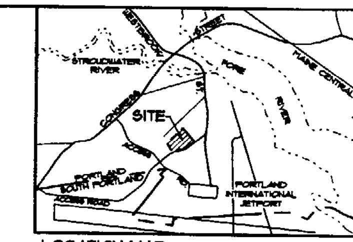
SHEET 2 OF 12





LOCATION MAP N.T.S.

GENERAL NOTES:

1. APPLICANT:
   AVIS RENT A CAR SYSTEM, INC.
   900 OLD COUNTRY ROAD
   GARDEN CITY, NEW YORK 11530

2. RECORD OWNER:
   TOYE REALTY HOLDINGS, LLC
   P.O. BOX 66
   CAPE ELIZABETH, MAINE 04107

   DEED REFERENCE:
   DEED OF THOMAS A. TOYE III DATED APRIL 26, 1999 AND RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 14717 PAGE 316.

3. TAX ASSESSORS REFERENCE:
   MAP 205 A-A, LOT

4. PLAN REFERENCES
   A. PLAN OF LAND ON CONGRESS & WESTBROOK STREETS, PORTLAND, MAINE, FOR DUNFEY PROPERTIES. PREPARED BY OWEN HASKELL, INC. DATED APRIL 10, 1987.
   B. STANDARD BOUNDARY SURVEY ON CONGRESS STREET IN PORTLAND, MAINE, FOR THE CITY OF PORTLAND. PREPARED BY OWEN HASKELL, INC. DATED NOVEMBER 20, 1990.
   C. PLAN OF LAND AT STROUDWATER - PORTLAND, MAINE, SURVEYED FOR LILLIAN M. PARKER. PREPARED BY E.C. JORDAN & CO. DATED MAY 1923. RECORDED IN PLAN BOOK 18, PAGE 33.
   D. STANDARD BOUNDARY SURVEY OF THOMAS A. TOYE PROPERTY LAST REVISED JANUARY 18, 2001 BY SEBAGO TECHNICS, INC.

5. EASEMENTS:
   A. PEDESTRIAN AND VEHICULAR ACCESS AND UTILITY EASEMENT AS CONVEYED TO JOSEPH F. BOULOS ET. AL. BY SAID DEED RECORDED IN BOOK 8867, PAGE 150 AND DESCRIBED AS EXHIBIT C IN SAID DEED.

6. BEARINGS ARE BASED ON THE PLAN DESCRIBED IN NOTE 4A.

7. TOTAL LOT AREA: 5.01 Ac.

8. ZONING DISTRICT: AIRPORT BUSINESS (ABI) ZONE

9. USE: RENTAL CAR STORAGE AND OPERATIONS

10. SPACE AND BULK CRITERIA:

    MIN. LOT SIZE: .... 20,000 SF.
    MIN. STREET FRONTAGE: .... 50'
    MIN. FRONT YARD: .... NONE
    MIN. SIDE YARD: .... NONE
    MIN. REAR YARD: .... 30'
    MAX. BUILDING HEIGHT: .... 75'
    MAX. IMPERVIOUS SURFACE RATIO ... 75% (PROPOSED 57%)

11. BUILDING SUMMARY: PROPOSED 4,816 SF.

12. PARKING SPACE REQUIREMENTS:
    PROPOSED: 20 EMPLOYEE PARKING SPACES
    375 RENTAL CAR PARKING SPACES

13. WETLANDS SHOWN AS DELINEATED BY MARK J. HAMPTON AS AN EMPLOYEE OF SEBAGO TECHNICS, INC. IN ACCORDANCE WITH THE 1987 ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND LOCATED IN CONJUNCTION WITH A STANDARD BOUNDARY SURVEY REFERENCED IN NOTE 4D.

14. THE FACILITY IS SERVICED BY CITY SEWER, WATER, GAS, UNDERGROUND ELECTRIC, TELEPHONE AND CABLE.

15. METHODS AND MATERIALS USED IN THE CONSTRUCTION OF THE IMPROVEMENTS HEREIN SHALL CONFORM TO THE CURRENT CITY CONSTRUCTION STANDARDS AND SPECIFICATIONS AND/OR CURRENT M.D.O.T. STANDARDS AND SPECIFICATIONS.

GENERAL NOTES:

16. THE CONTRACTOR OR DEVELOPER IS REQUIRED TO NOTIFY THE CITY OF PORTLAND PARKS AND PUBLIC WORKS INSPECTION SERVICES DIVISION (874-8300 EXT. 8828) AND JETPORT OPERATIONS MANAGER (772-0466) IN WRITING THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION. SHOULD THE IMPROVEMENTS BE OF SIGNIFICANT CONCERN OR IN A SENSITIVE AREA, A PRE-CONSTRUCTION MEETING MAY BE REQUIRED AT THE DISCRETION OF THE PUBLIC WORKS AUTHORITY.

17. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE. THE DEVELOPER, OR AN AUTHORIZED AGENT, MUST BE AVAILABLE AT ALL TIMES DURING CONSTRUCTION.

18. WARNING SIGNS, MARKERS, BARRICADES OR FLAGMEN, APPROPRIATE FOR THE TYPE OF CONSTRUCTION MUST BE EMPLOYED TO REGULATE TRAFFIC.

19. CONSTRUCTION DEBRIS SHALL BE CONTAINERIZED AND DISPOSED OF IN ACCORDANCE WITH CITY OF PORTLAND'S SOLID WASTE ORDINANCE CHAPTER 12.

20. ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE DEVELOPER/CONTRACTOR AT THEIR EXPENSE.

21. PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED AT ALL TIMES DURING CONSTRUCTION TO INSURE THEIR INTEGRITY. IF DISTURBED THEY SHALL BE REPLACED BY A SURVEYOR REGISTERED IN THE STATE OF MAINE AT THE CONTRACTOR/DEVELOPER'S EXPENSE.

22. ALL SANITARY SERVICES AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF PORTLAND PARKS AND PUBLIC WORKS SEWER DIVISION.

23. ALL NEW CONNECTIONS, RECONNECTIONS, ETC. TO SANITARY OR STORM SEWERS SHALL REQUIRE A CONNECTION PERMIT PRIOR TO BEGINNING ANY WORK. THE CITY OF PORTLAND PARKS AND PUBLIC WORKS DEPARTMENT MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO COMMENCEMENT TO ALLOW FOR INSPECTION.

24. A PERMIT MUST BE OBTAINED FROM THE CITY OF PORTLAND PARKS AND PUBLIC WORKS DEPARTMENT PRIOR TO BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY.

25. THE ENTIRE SITE SHALL BE DEVELOPED AND/OR MAINTAINED AS DEPICTED ON THE SITE PLAN. APPROVAL OF THE PLANNING AUTHORITY OR PLANNING BOARD SHALL BE REQUIRED FOR ANY ALTERATIONS TO OR DEVIATIONS FROM THE APPROVED SITE PLAN, INCLUDING, WITHOUT LIMITATION, TOPOGRAPHY, DRAINAGE, LANDSCAPING, RETENTION OF WOODED OR LAWN AREAS, ACCESS SIZE, LOCATION AND SURFACING OF PARKING AREAS, AND LOCATION AND SIZE OF BUILDINGS.

LEGEND

EXISTING	DESCRIPTION	PROPOSED
— — —	PROPERTY/ROW	— — —
	SETBACK	—— ——
— - —	EASEMENT	
—o—	IRON PIPE/ROD	•
	BUILDING	
▲	WETLANDS	
	EDGE WETLAND	
	EDGE PAVEMENT	
	TREELINE	
8"W	WATER	
8"S	SEWER	
12"SD	STORM DRAIN	
4"UD	UNDERDRAIN	
UGE	UNDERGROUND ELEC. & TEL.	
	GATE VALVE	
	LIGHT POLE	
	CATCH BASIN	
	MANHOLE	
	CHAIN LINK FENCE	
	DECIDUOUS TREE	
	CONIFEROUS TREE	
	BOLLARD	

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

REV:	BY:	DATE:	STATUS:
B	OAM	08-08-01	ADD FENCE NOTE
A	OAM	07-26-01	ISSUED FOR PLANNING BOARD REVIEW

SITE PLAN
OF:
AVIS RENT A CAR SYSTEMS, INC.
JETPORT BOULEVARD
PORTLAND, MAINE
FOR:
AVIS RENT A CAR SYSTEMS, INC.
900 OLD COUNTRY ROAD
GARDEN CITY, NEW YORK 11530

Sebago Technics
Engineering & Planning for the Future
ONE CHABOT STREET
WESTBROOK, ME 04098-1339
TEL (207) 856-0277

DESIGN BY:	OAM
DRAWN BY:	BRF
CHECKED BY:	OAM
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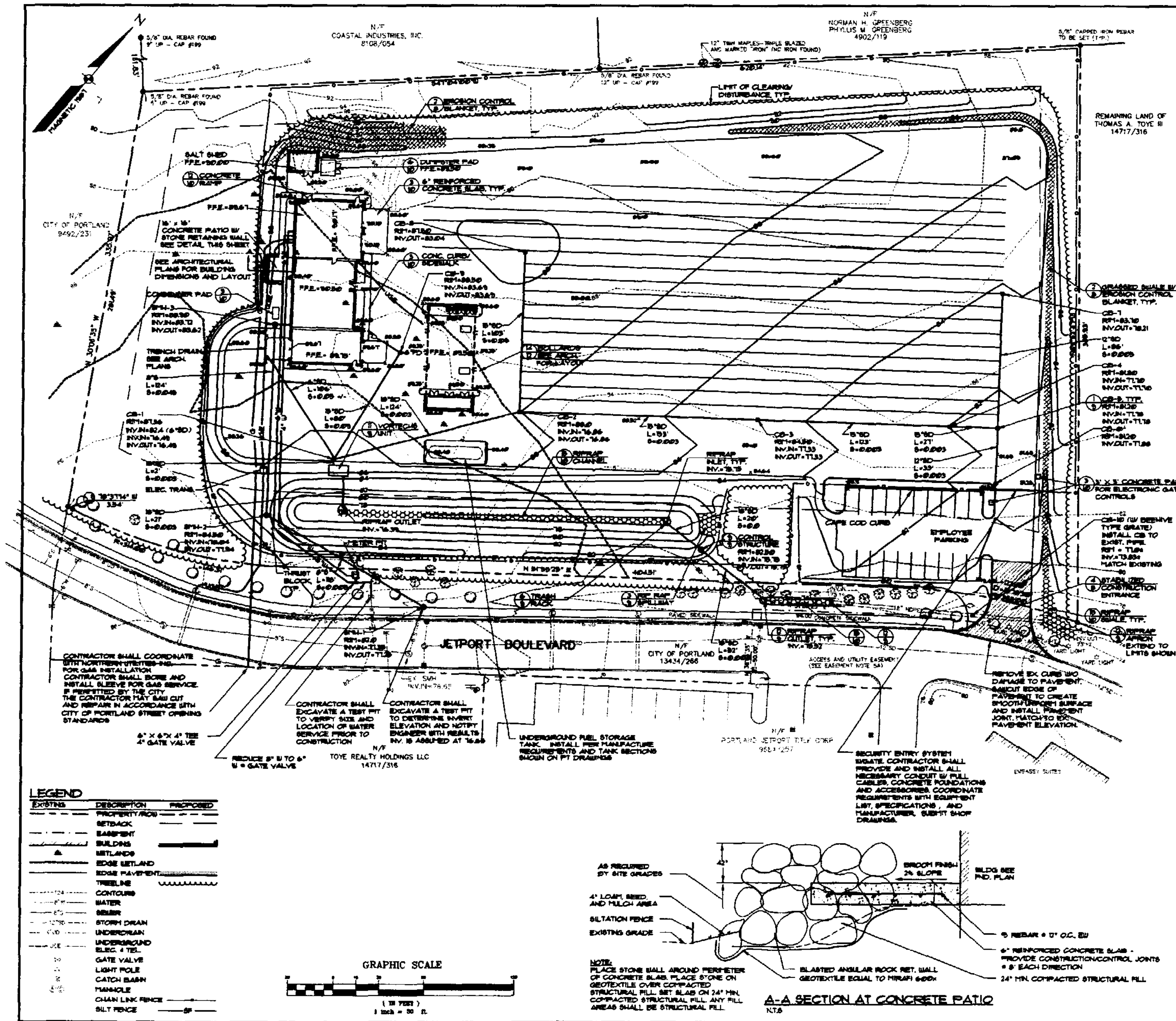

CONSTRUCTION NOTES

REV:	BY:	DATE:	STATUS:
D	SAG	09-07-01	REVISED PER MEETING & GAWRON ON 9/5/01
C	SAG	08-29-01	REVISED BUILDING ELEVATIONS,SEWER SERVICE ADDED GAS SERVICE
B	OAM	08-09-01	REVISED WATER SEWER
A	OAM	07-26-01	ISSUED FOR PLANNING BOARD REVIEW

GRADING AND UTILITY PLAN

OF:

AVIS RENT A CAR SYSTEMS, INC.
JETPORT BOULEVARD
PORTLAND, MAINE

FOR:

AVIS RENT A CAR SYSTEMS, INC.
900 OLD COUNTRY ROAD
GARDEN CITY, NEW YORK 11530

Sebago Technics
Engineering & Planning for the Future
ONE CHABOT STREET
WESTBROOK, ME 04098-1339
TEL (207) 856-0277

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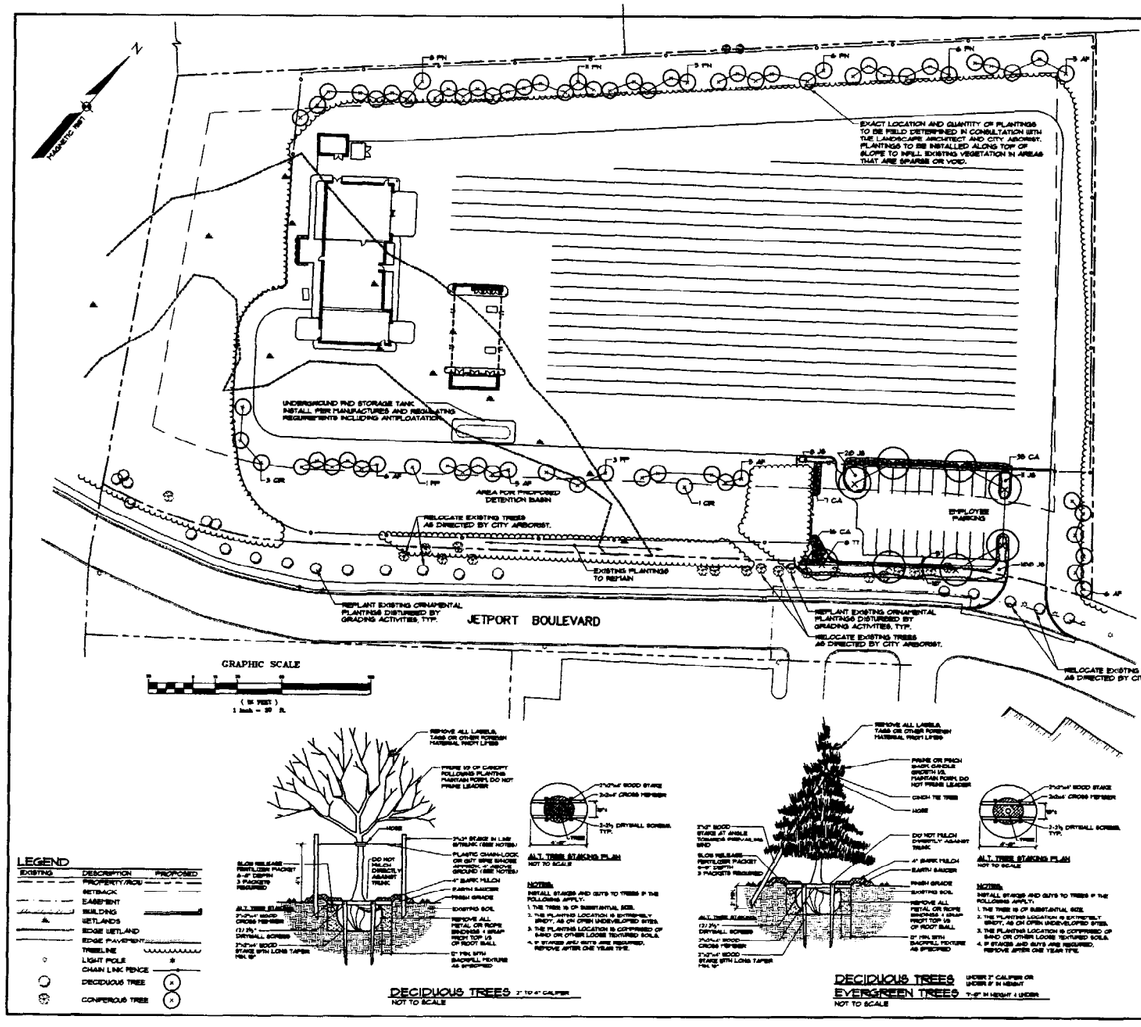
SHEET 4 OF 12

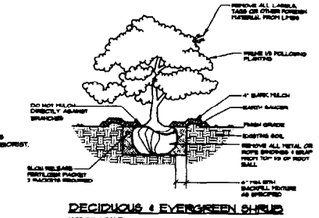


LANDSCAPE NOTES

1. PLANT QUANTITIES SHOWN ON PLANT LISTS ARE FOR CONVENIENCE TO THE CONTRACTOR ONLY. THE CONTRACTOR IS RESPONSIBLE FOR ALL PLANT MATERIAL INSTALLATION AS SHOWN ON PLANS.
2. SIZE AND GRADING STANDARDS OF PLANT MATERIALS SHALL CONFORM TO THE LATEST EDITION OF "U.S.A. STANDARD FOR NURSERY STOCK," BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
3. ALL PLANT MATERIAL SHALL BE FREE FROM INSECTS AND DISEASE.
4. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH ACCEPTABLE HORTICULTURAL PRACTICES. THIS IS TO INCLUDE PROPER PLANTING PIT, PLANT BED AND WEED PIT PREPARATION, PRUNING, STAKING OR GUYING, MULCHING, SPRAYING, FERTILIZATION, PLANTING AND ADEQUATE MAINTENANCE UNTIL ACCEPTANCE BY THE OWNER.
5. PLANT MATERIAL SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR BY THE CONTRACTOR AND A PERIOD OF TWO YEARS THEREAFTER BY THE OWNER FROM DATE OF INSTALLATION. DURING THE ONE YEAR GUARANTEE PERIOD, DEAD PLANT MATERIAL SHALL BE REPLACED AT NO COST TO THE OWNER. AT THE END OF THE ONE YEAR PERIOD, THE CONTRACTOR SHALL OBTAIN FINAL ACCEPTANCE FROM THE OWNER.
6. ALL GRASS, OTHER VEGETATION AND DEBRIS SHALL BE REMOVED FROM ALL PLANTING AREAS PRIOR TO PLANTING.
7. EXISTING TREES TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION AND SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
8. THE LANDSCAPE CONTRACTOR IS ADVISED OF THE PRESENCE OF THE UNDERGROUND UTILITIES AND SHALL VERIFY THE EXISTENCE AND LOCATION OF SAME BEFORE EXCAVATION AND DIGGING OPERATIONS. THE LANDSCAPE CONTRACTOR SHALL REPLACE OR REPAIR UTILITY CONDUITS, PAVING, WALKS, CURBING, ETC. DAMAGED IN PERFORMANCE OF THIS JOB AT NO ADDITIONAL COST TO THE OWNER.
9. ALL SHRUB BEDS SHALL BE MULCHED WITH 3" CLEAN SHREDDED BARK MULCH.
10. THE CONTRACTOR SHALL PROVIDE 4" LOAM FOR ALL AREAS TO BE SODDED OR SEEDED. PLANTING AREAS SHALL RECEIVE 6" ROLLED THICKNESS OF LOAM. THE LANDSCAPE CONTRACTOR SHALL COORDINATE EARTHWORK PREPARATION WITH THE GENERAL CONTRACTOR PRIOR TO PLACING LOAM.
11. ANY DEVIATION FROM THE LANDSCAPE PLAN, INCLUDING PLANT LOCATION, SELECTION, SIZE, QUANTITY OR CONDITION SHALL BE REVIEWED AND APPROVED BY THE OWNER AND LANDSCAPE ARCHITECT (AND MUNICIPAL AUTHORITY, IF APPLICABLE) PRIOR TO INSTALLATION ON SITE.
12. EXISTING VEGETATION SHALL BE CONSERVED IN AREAS SHOWN ON THIS SITE. FENCING OR OTHER PROTECTIVE BARRIERS SHALL BE ERECTED ALONG THE DRIP-LINE OF INDIVIDUAL SPECIMENS OF TREES DESIGNATED FOR PRESERVATION PRIOR TO THE START OF CONSTRUCTION. REMOVAL SHALL NOT TAKE PLACE WITHIN THE DRIP-LINE OF TREES DESIGNATED FOR PRESERVATION. NO STORAGE OF CONSTRUCTION MATERIALS SHALL BE PERMITTED WITHIN THE DRIP-LINE OF TREES TO BE PRESERVED.

PLANT LIST

KEY	BOTANICAL NAME	COMMON NAME	SIZE
AF	ABIES FRASERI	FRASER FIR	6'-7' HEIGHT
CA	CORNUS ALBA 'SIBIRICA/VARIEGATA'	VARIEGATED DOGWOOD	18"-24"
JS	JUNIPERUS SABINA 'TAMARIX SPREADING'	TAMARIX SPREADING JUNIPER	2'-3" O.C.
PN	PINUS NIGRA	AUSTRIAN PINE	6'-7' HEIGHT
TT	TILIA TOMENTOSA 'STERLING'	STERLING SILVER LINDEN	2½" CAL.
QR	QUERCUS RUBRA	RED OAK	2½" CAL.
PP	PLATANUS PSEUDOPLATANUS 'SUTTNER'	SUTTNER GREEN ASH	2½" CAL.



DECIDUOUS & EVERGREEN SHRUB
NOT TO SCALE

DECIDUOUS TREES 2" TO 4" CALIPER
NOT TO SCALE

DECIDUOUS TREES UNDER 2" CALIPER OR
EVERGREEN TREES 7'-0" IN HEIGHT & UNDER
NOT TO SCALE

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	PROPERTY/ROW	
	SETBACK	
	EASEMENT	
	BUILDING	
	WETLANDS	
	EDGE WETLAND	
	EDGE PAVEMENT	
	TREELINE	
○	LIGHT POLE	●
	CHAIN LINK FENCE	
	DECIDUOUS TREE	
	CONIFEROUS TREE	

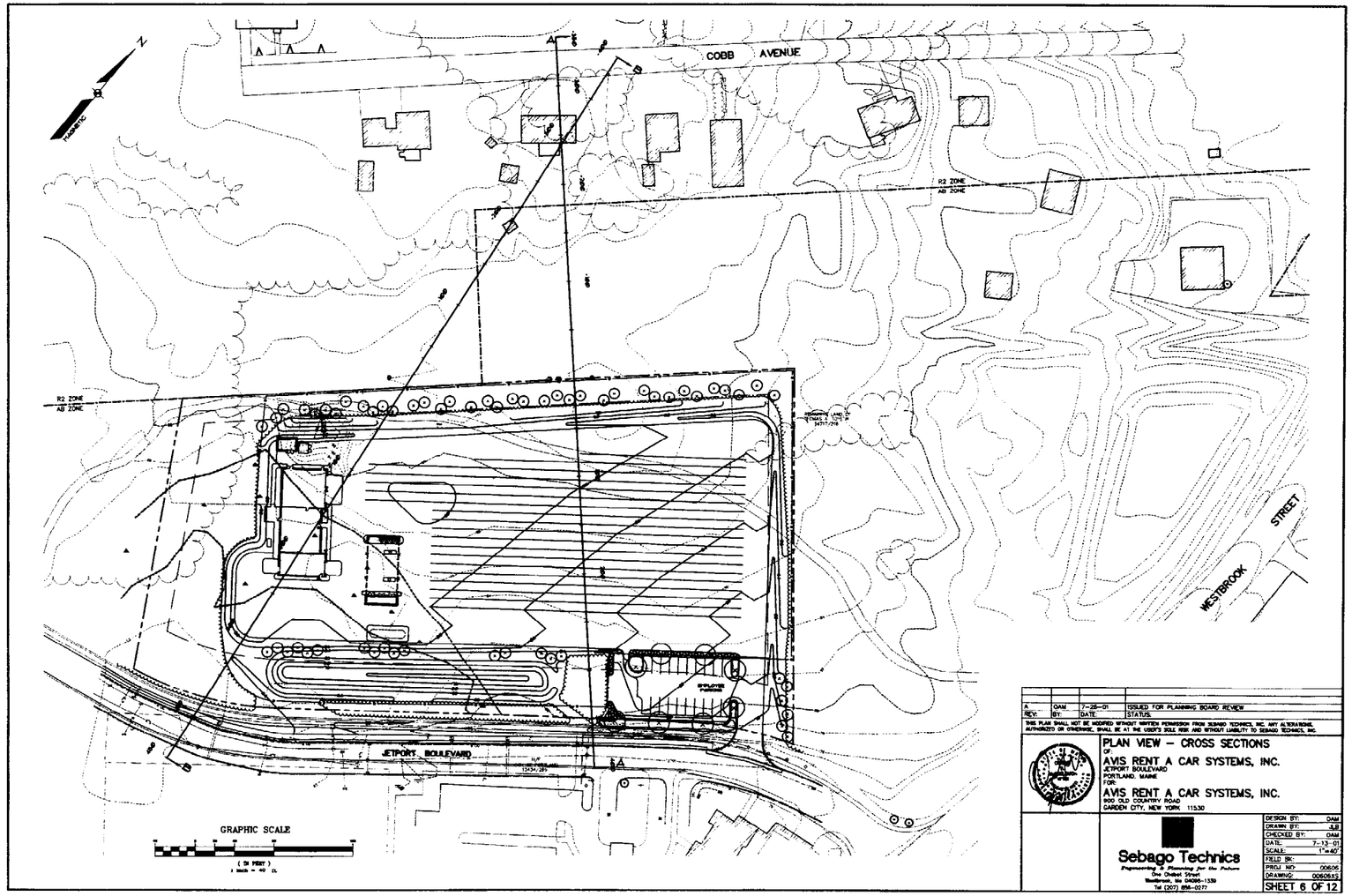
REV:	BY:	DATE:	STATUS:
C	GAM	08-29-01	REVISED PER CONDITION'S OF SITE PLAN APPROVAL
B	GAM	08-09-01	REVISED PLANTINGS
A	GAM	07-26-01	ISSUED FOR PRELIMINARY PLANNING BOARD REVIEW

LANDSCAPE PLAN
OF
AVIS RENT A CAR SYSTEMS, INC.
JETPORT BOULEVARD
PORTLAND, MAINE
FOR:
AVIS RENT A CAR SYSTEMS, INC.
900 OLD COUNTRY ROAD
GARDEN CITY, NEW YORK 11530

Sebago Technics
Engineering & Planning for the Future
ONE CHABOT STREET
WESTBROOK, ME 04092-1339
TEL (207) 856-0277

DESIGN BY:	SGD
DRAWN BY:	BRF
CHECKED BY:	SGD
DATE:	07-16-01
SCALE:	1"=30'
FIELD BK:	
PROJ. NO.	00606
DRAWING:	00606L
SHEET 5 OF 12	

09/21/2001



REV.	BY:	DATE:	STATUS:
A	OAM	7-25-01	ISSUED FOR PLANNING BOARD REVIEW

PLAN VIEW – CROSS SECTIONS

OF

AVIS RENT A CAR SYSTEMS, INC.

JETPORT BOULEVARD
PORTLAND, MAINE

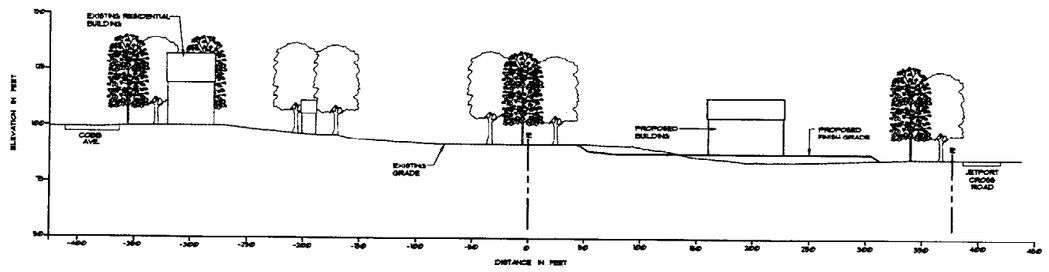
FOR:

AVIS RENT A CAR SYSTEMS, INC.
900 OLD COUNTRY ROAD
GARDEN CITY, NEW YORK 11530

Sebago Technics
Engineering & Planning for the Future
One Chabot Street
Westbrook, Me 04092-1339
Tel (207) 856-0277

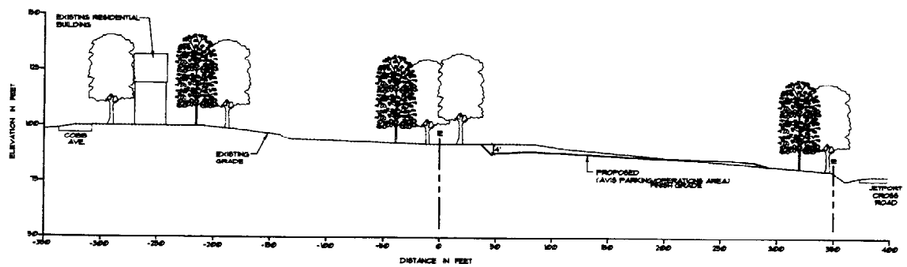
DESIGN BY:	OAM
DRAWN BY:	JLB
CHECKED BY:	OAM
DATE:	7-13-01
SCALE:	1"=40'
FIELD BK:	
PROJ NO:	00606
DRAWING:	00606X3

SHEET 6 OF 12



CROSS-SECTION B-B

SCALE: 1"=40' HORIZ.
1"=20' VERT.



CROSS-SECTION A-A

SCALE: 1"=40' HORIZ.
1"=20' VERT.

REV	BY	DATE	STATUS
A	GAM	7-26-01	ISSUED FOR PLANNING BOARD REVIEW

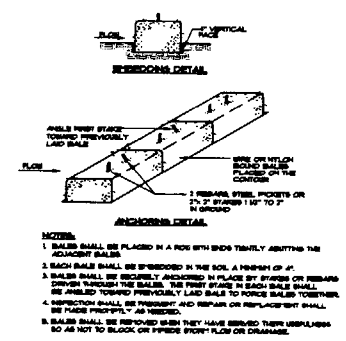
CROSS-SECTIONS
OF
AVIS RENT A CAR SYSTEMS, INC.
JETPORT BOULEVARD
PORTLAND, MAINE
FOR:
AVIS RENT A CAR SYSTEMS, INC.
900 OLD COUNTRY ROAD
GARDEN CITY, NEW YORK 11530

Sebago Technics
Engineering & Planning for the Future
One Chabot Street
Westbrook, Me 04092-1339
Tel (207) 856-0277

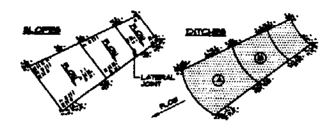
DESIGN BY:	GAM
DRAWN BY:	AB
CHECKED BY:	GAM
DATE:	7-13-01
SCALE:	AS SHOWN
FIELD BK.	
PROJ. NO.	00506
DRAWING	00506X5

SHEET 7 OF 12

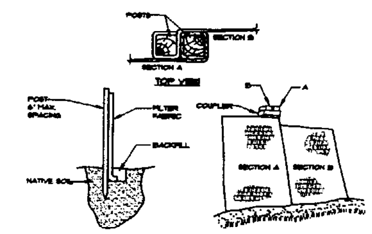
EROSION AND SEDIMENT CONTROL PLAN



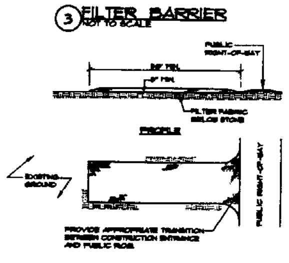
1 HAY BALE BARRIER
NOT TO SCALE



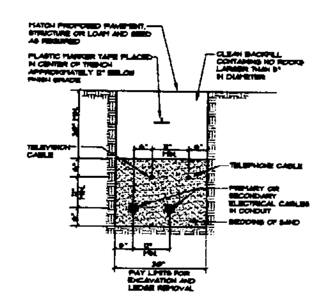
2 EROSION CONTROL BLANKET
NOT TO SCALE



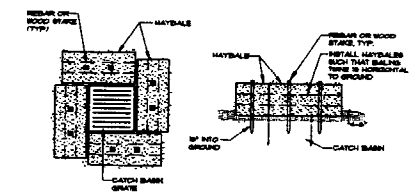
3 FILTER BARRIER
NOT TO SCALE



4 STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



5 TYPICAL UNDERGROUND CABLE INSTALLATION
NOT TO SCALE



6 CATCH BASIN HAYBALE BARRIER
NOT TO SCALE

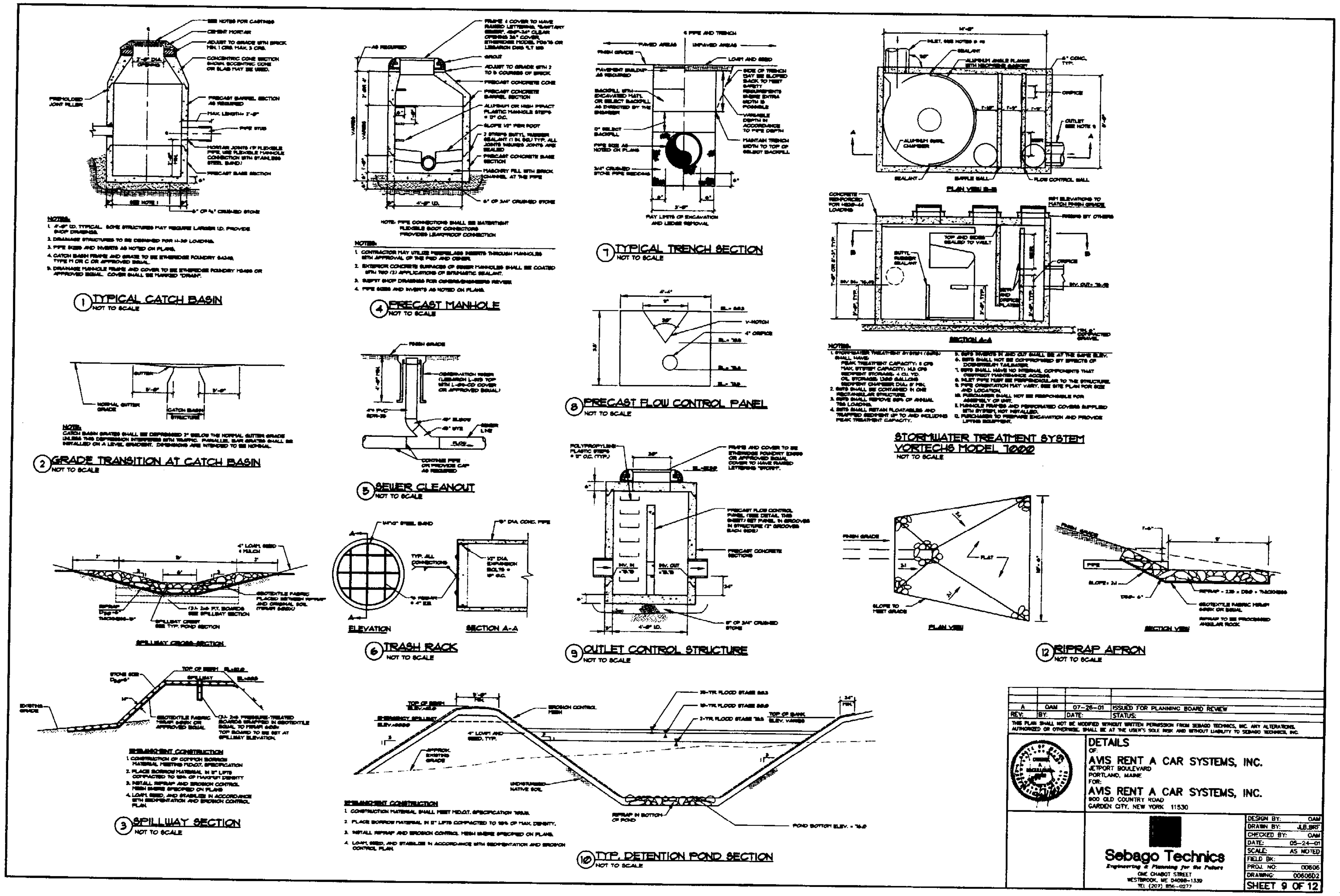
REV:	BY:	DATE:	STATUS:
B	SAG	08-29-01	REMOVE GREESE TRAP
A	OAM	07-26-01	ISSUED FOR PLANNING BOARD REVIEW

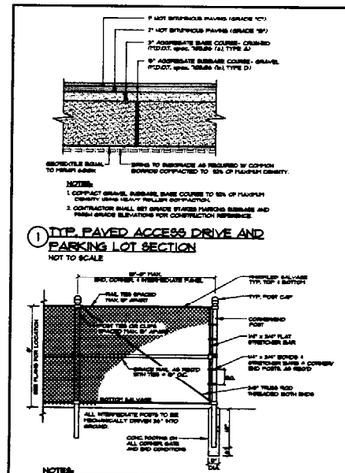
DETAILS
OF:
AVIS RENT A CAR SYSTEMS, INC.
JETPORT BOULEVARD
PORTLAND, MAINE
FOR:
AVIS RENT A CAR SYSTEMS, INC.
900 OLD COUNTRY ROAD
GARDEN CITY, NEW YORK 11530

Sebago Technics
Engineering & Planning for the Future
ONE CHABOT STREET
WESTBROOK, ME 04098-1339
TEL (207) 856-0277

DESIGN BY:	OAM
DRAWN BY:	JLB,BRF
CHECKED BY:	OAM
DATE:	05-24-01
SCALE:	AS NOTED
FIELD BK:	
PROJ. NO:	00606
DRAWING:	0060601

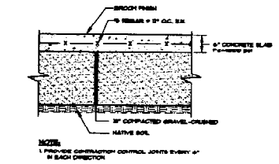
SHEET 8 OF 12


1 TYPICAL CATCH BASIN
NOT TO SCALE
2 GRADE TRANSITION AT CATCH BASIN
NOT TO SCALE
SPILLWAY CROSS-SECTION
3 SPILLWAY SECTION
NOT TO SCALE
4 PRECAST MANHOLE
NOT TO SCALE
5 SEWER CLEANOUT
NOT TO SCALE
ELEVATION
SECTION A-A
6 TRASH RACK
NOT TO SCALE
7 TYPICAL TRENCH SECTION
NOT TO SCALE
8 PRECAST FLOW CONTROL PANEL
NOT TO SCALE
9 OUTLET CONTROL STRUCTURE
NOT TO SCALE
10 TYP. DETENTION POND SECTION
NOT TO SCALE
STORMWATER TREATMENT SYSTEM
VORTECHS MODEL 1000
NOT TO SCALE
PLAN VIEW
SECTION VIEW
12 RIPRAP APRON
NOT TO SCALE
A | OAM | 07-26-01 | ISSUED FOR PLANNING BOARD REVIEW
REV: | BY: | DATE: | STATUS:
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.
DETAILS
OF:
AVIS RENT A CAR SYSTEMS, INC.
JETPORT BOULEVARD
PORTLAND, MAINE
FOR:
AVIS RENT A CAR SYSTEMS, INC.
900 OLD COUNTRY ROAD
GARDEN CITY, NEW YORK 11530
Sebago Technics
Engineering & Planning for the Future
ONE CHABOT STREET
WESTBROOK, ME 04098-1339
TEL (207) 856-0277
DESIGN BY: OAM
DRAWN BY: JLB,BRF
CHECKED BY: OAM
DATE: 05-24-01
SCALE: AS NOTED
FIELD BK:
PROJ. NO: 00606
DRAWING: 00606D2
SHEET 9 OF 12

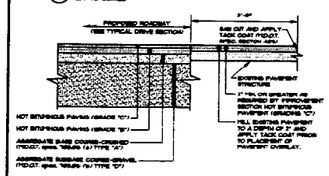


1 TYP. PAVED ACCESS DRIVE AND PARKING LOT SECTION
NOT TO SCALE

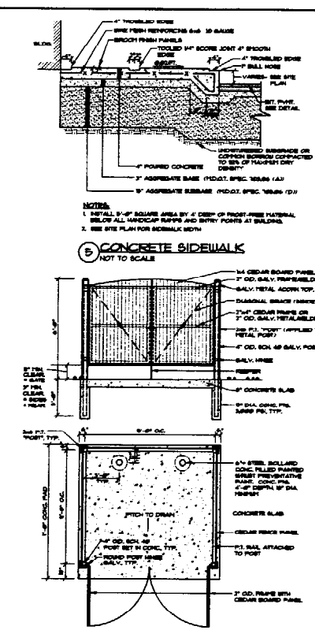
2 TYPICAL CHAIN LINK FENCE
NOT TO SCALE



3 TYPICAL CONCRETE SLAB
NOT TO SCALE

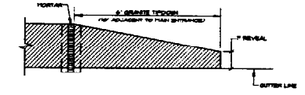


4 TYPICAL PAVEMENT JOINT DETAIL
NOT TO SCALE

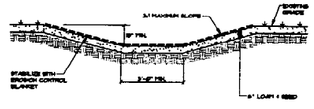


5 CONCRETE SIDEWALK
NOT TO SCALE

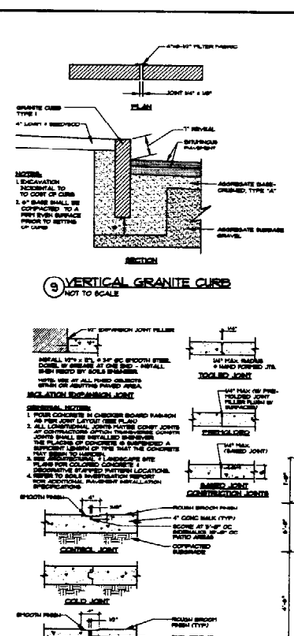
6 TYPICAL DUMPSTER ENCLOSURE
NOT TO SCALE



7 TYPICAL TIPDOWN CURB INSTALLATION
NOT TO SCALE

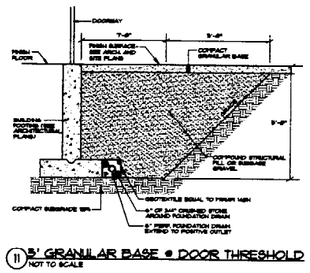


8 GRASSED SWALE
NOT TO SCALE

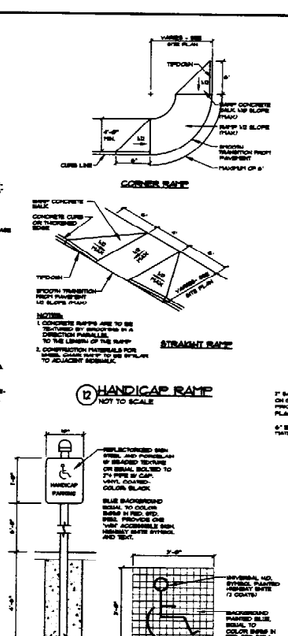


9 VERTICAL GRANITE CURB
NOT TO SCALE

10 CONTROL JOINT DETAILS
NOT TO SCALE

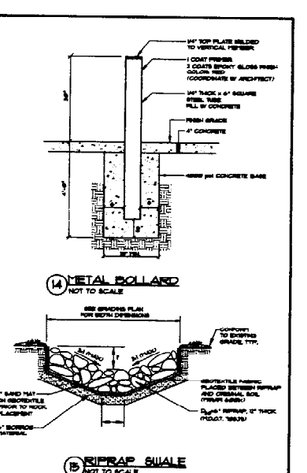


11 5' GRANULAR BASE @ DOOR THRESHOLD
NOT TO SCALE



12 HANDICAP RAMP
NOT TO SCALE

13 HANDICAP SIGNS
NOT TO SCALE



14 METAL BOLLARD
NOT TO SCALE

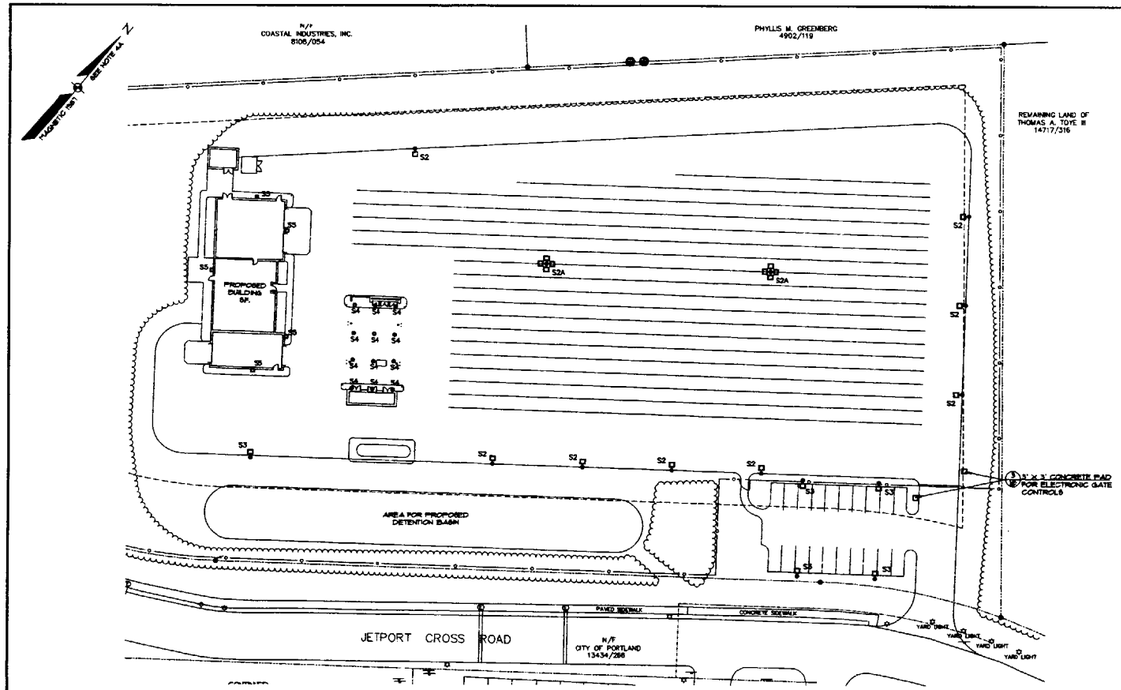
15 RIPRAP SWALE
NOT TO SCALE

REV:	BY:	DATE:	STATUS:
A	DAM	07-26-01	ISSUED FOR PLANNING BOARD REVIEW

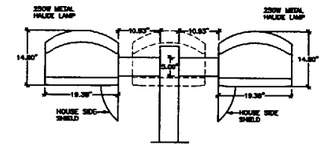
DETAILS
OF
AVIS RENT A CAR SYSTEMS, INC.
JETPORT BOULEVARD
PORTLAND, MAINE
FOR:
AVIS RENT A CAR SYSTEMS, INC.
900 OLD COUNTRY ROAD
GARDEN CITY, NEW YORK 11530

Sebago Technics
Engineering & Planning for the Future
ONE CHABOT STREET
WESTBROOK, ME 04092-1339
TEL (207) 856-0277

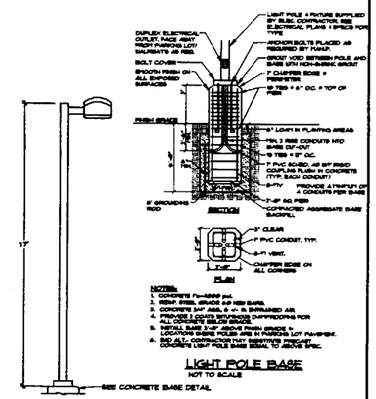
DESIGN BY:	DAM
DRAWN BY:	JLB/BRF
CHECKED BY:	DAM
DATE:	05-24-01
SCALE:	AS NOTED
FIELD BK:	
PROJ. NO.	00808
DRAWING	0080803
SHEET 10 OF 12	



SITE PLAN
1" = 30'-0"

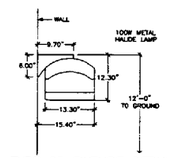


TYPE S2A FIXTURE DETAIL
1" = 1'-0"

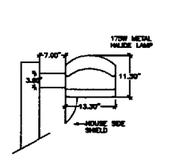


TYPE S2/S3 POLE DETAIL
3/8" = 1'-0"

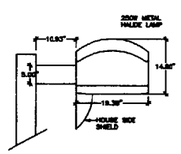
LIGHT POLE BASE
NOT TO SCALE



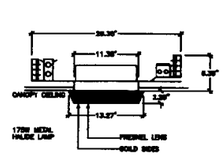
TYPE S5 FIXTURE DETAIL
1" = 1'-0"



TYPE S3 FIXTURE DETAIL
1" = 1'-0"



TYPE S2 FIXTURE DETAIL
1" = 1'-0"



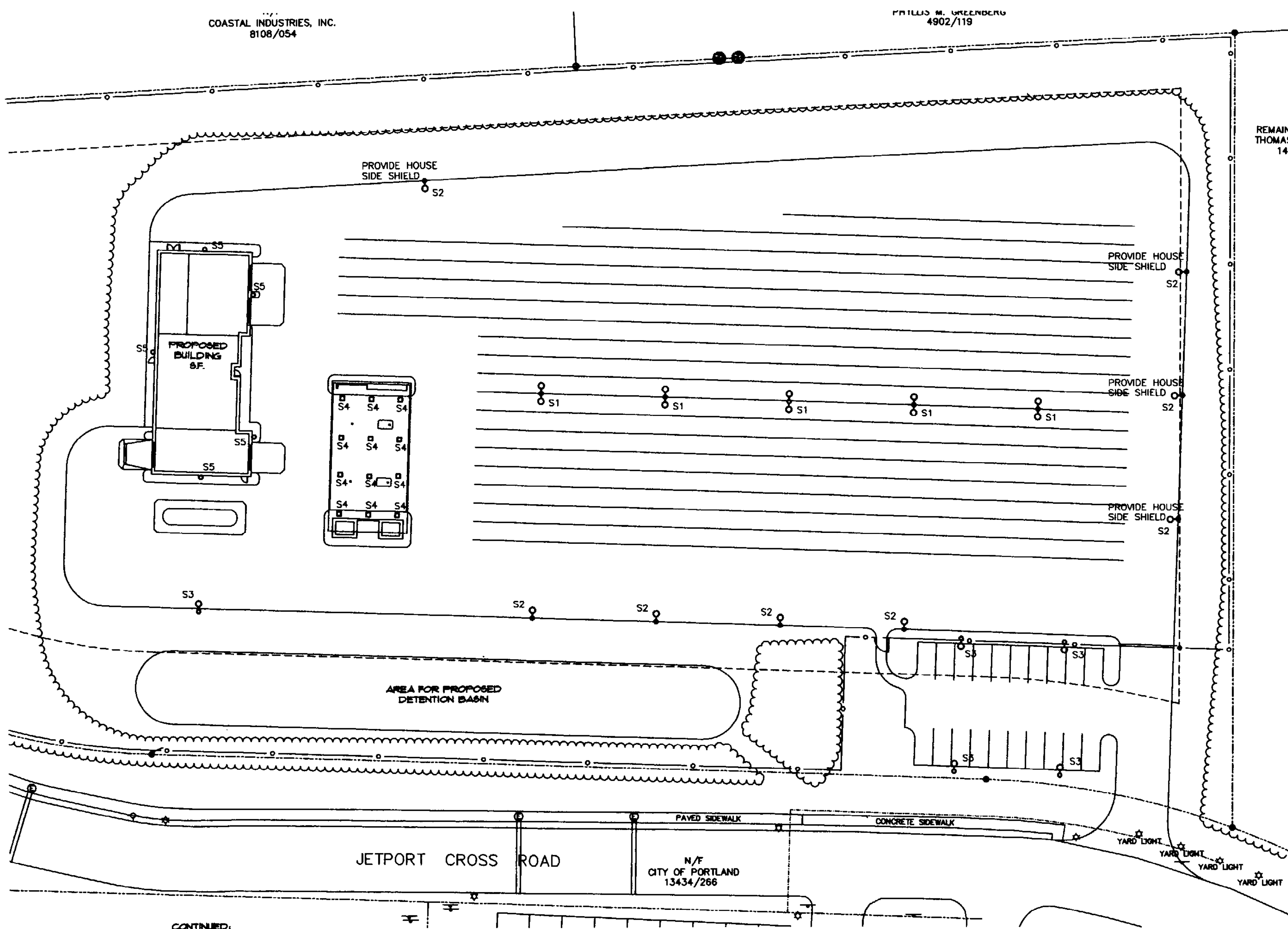
TYPE S4 FIXTURE DETAIL
1-1/2" = 1'-0"

REV.	BY:	DATE:	STATUS:
B	CAM	08-29-01	REVISED PER CONDITION'S OF SITE PLAN APPROVAL
A	CAM	07-25-01	ISSUED FOR PLANNING BOARD REVIEW

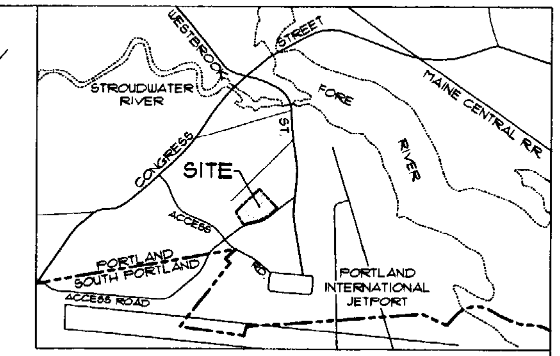
LIGHTING PLAN
OF:
AVIS RENT A CAR SYSTEMS, INC.
JETPORT BOULEVARD
PORTLAND, MAINE
FOR:
AVIS RENT A CAR SYSTEMS, INC.
900 OLD COUNTRY ROAD
GARDEN CITY, NEW YORK 11530

Sebago Technics
Engineering & Planning for the Future
ONE CHABOT STREET
WESTBROOK, ME 04092-1339
TEL. (207) 856-0277

DESIGN BY:	JLC
DRAWN BY:	JLC
CHECKED BY:	CEB
DATE:	07-25-01
SCALE:	1"=30'
FIELD BK:	
PROJ. NO:	00606
DRAWING:	00606L10

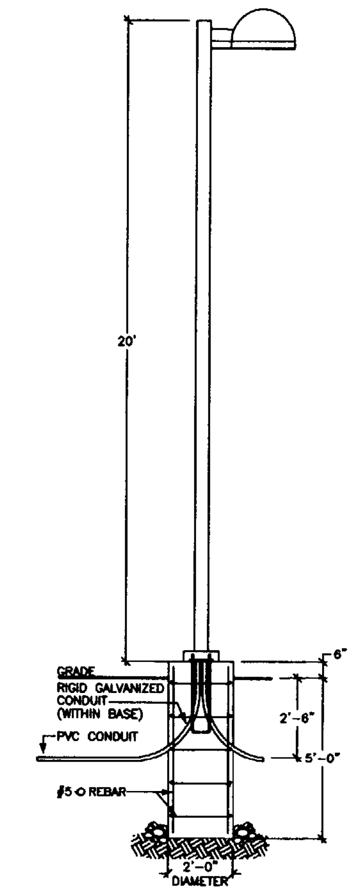


SITE PLAN
1" = 30'-0"

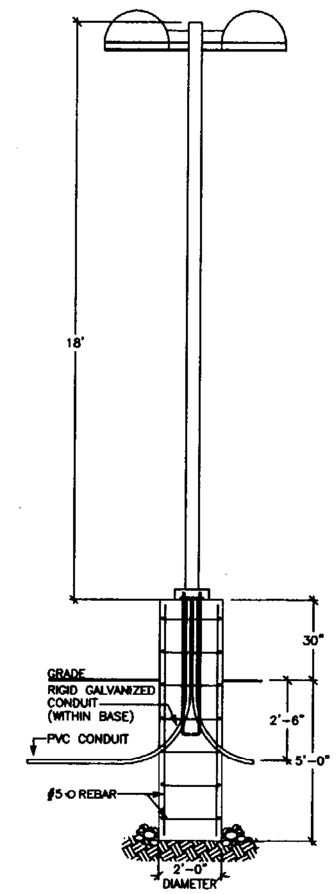


LOCATION MAP

N.T.S.



TYPE S2/S3 POLE DETAIL
3/8" = 1'-0"



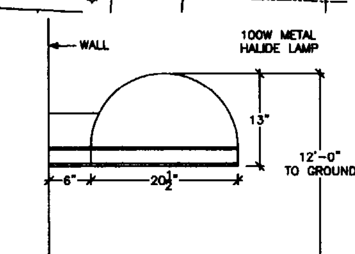
TYPE S1 POLE DETAIL
3/8" = 1'-0"

LIGHTING FIXTURE SCHEDULE

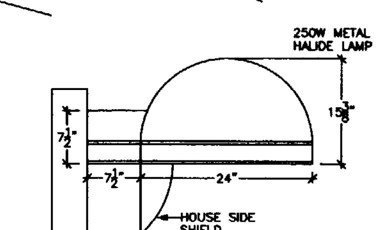
(EXTERIOR ONLY)

NO.	MANUFACTURER	CAT. NO.	LAMP NO.	LAMP TYPE	DESCRIPTION
S1	McGRAW EDISION	2ZAD21531BK (fixture) RSA5M18NYZ2 (pole)	2	MVR250/ HOR	TWIN CUT-OFF TYPE AREA LIGHT WITH FLAT TEMPERED GLASS LENS.
S2	McGRAW EDISION	ZAD21541BK (fixture) RSA5M20NYZ1 (pole)	1	MVR250/ HOR	SINGLE CUT-OFF TYPE AREA LIGHT WITH FLAT TEMPERED GLASS LENS.
S3	McGRAW EDISION	ZAD11441BK (fixture) RSA5M20NYZ1 (pole)	1	MVR175/ HOR	SINGLE CUT-OFF TYPE AREA LIGHT WITH FLAT TEMPERED GLASS LENS.
S4	LUMARK	MHCL-250-120-C73	1	MVR250/ HOR	SURFACE MOUNTED CANOPY LIGHT WITH FLAT PRISMATIC TEMPERED GLASS LENS.
S5	McGRAW EDISION	ZAD11241BK-MA1001	1	MVR100/ HOR	WALL MOUNTED CUT-OFF AREA LIGHT WITH FLAT TEMPERED GLASS LENS.

1. ALL LIGHT FIXTURES ARE 120 VOLT EXCEPT AS SPECIFICALLY NOTED OTHERWISE IN SCHEDULE.
2. LAMP DESIGNATIONS REFER TO GENERAL ELECTRIC ORDERING CODES. ALSO APPROVED ARE EQUIVALENT LAMPS BY OSRAM-SYLVANIA AND PHILIPS-WESTINGHOUSE.



TYPE S5 FIXTURE DETAIL
1" = 1'-0"



TYPE S1/S2 FIXTURE DETAIL
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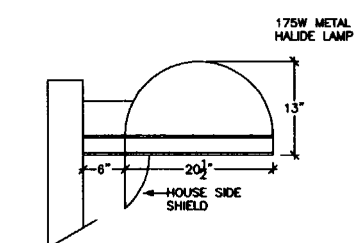

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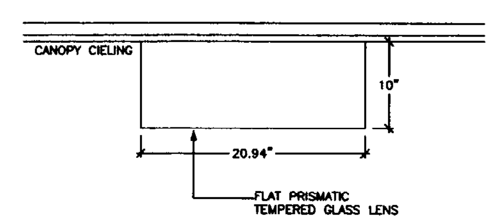


TYPE S4 FIXTURE DETAIL
1-1/2" = 1'-0"

REV:	BY:	DATE:	STATUS:
B	JLC	09-06-01	ISSUED FOR PLANNING BOARD REVIEW
A	OAM	07-20-01	ISSUED FOR PRELIMINARY PLANNING BOARD REVIEW

STATE OF MAINE
LAWRENCE E. BARTLETT
#7928
REGISTERED
PROFESSIONAL ENGINEER

SITE PLAN

OF:

AVIS RENT A CAR SYSTEMS, INC.
WESTBROOK STREET
PORTLAND, MAINE

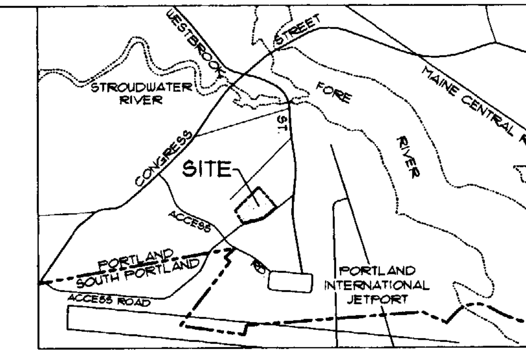
FOR:

AVIS RENT A CAR SYSTEMS, INC.
900 OLD COUNTRY ROAD
GARDEN CITY, NEW YORK 11530

Sebago Technics
Engineering & Planning for the Future
ONE CHABOT STREET
WESTBROOK, ME 04098-1339
TEL (207) 856-0277

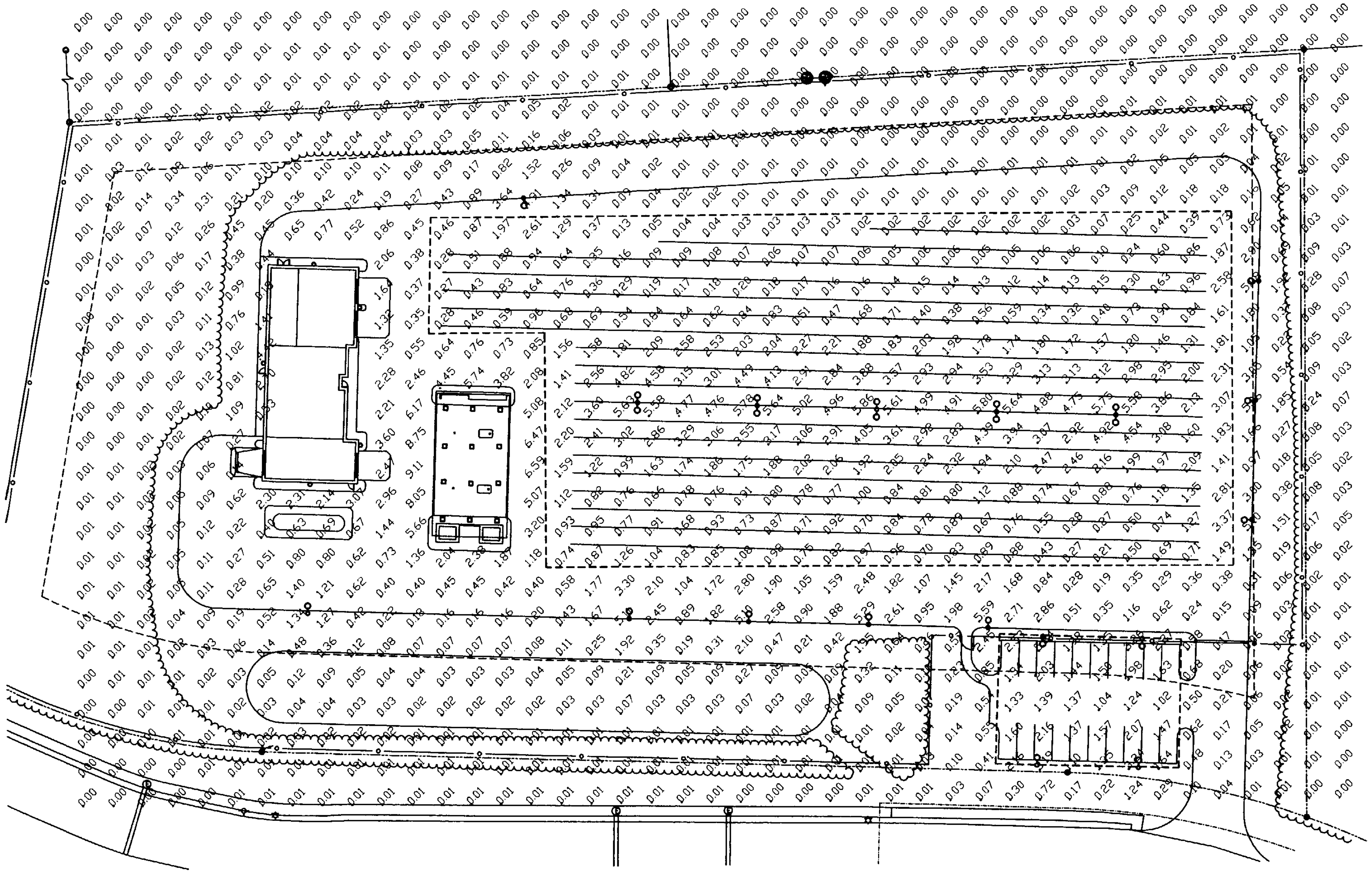
DESIGN BY:	JLC
DRAWN BY:	JLC
CHECKED BY:	LEB
DATE:	07-25-01
SCALE:	AS NOTED
FIELD BK:	580AA
PROJ. NO:	00606
DRAWING:	00606S2

SHEET 1 OF 2



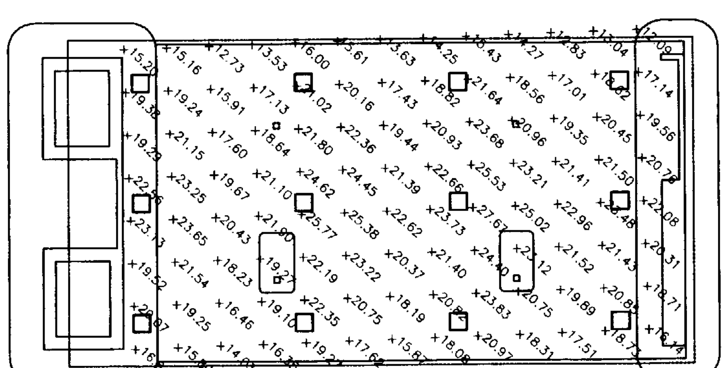
LOCATION MAP

N.T.S.



SITE PLAN

1" = 30'-0"



CANOPY PLAN

1" = 10'-0"

REV:	BY:	DATE:	STATUS:
B	JLC	09-06-01	ISSUED FOR PLANNING BOARD REVIEW
A	OAM	07-20-01	ISSUED FOR PRELIMINARY PLANNING BOARD REVIEW

STATE OF MAINE
LAWRENCE E. BARTLETT
#7928
REGISTERED
PROFESSIONAL ENGINEER

SITE PLAN

OF:

AVIS RENT A CAR SYSTEMS, INC.
WESTBROOK STREET
PORTLAND, MAINE

FOR:

AVIS RENT A CAR SYSTEMS, INC.
900 OLD COUNTRY ROAD
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ONE CHABOT STREET
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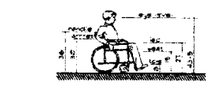
TEL (207) 856-0277

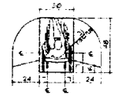
DESIGN BY:	JLC
DRAWN BY:	JLC
CHECKED BY:	LEB
DATE:	07-25-01
SCALE:	AS NOTED
FIELD BK:	580AA
PROJ. NO:	00606
DRAWING:	00606S2



Dimensions of Adult-Sized Wheelchair

1

Clear Floor Space



Dimensions of Adult-Sized Wheelchair

Cane Technique

Cane Technique

Fig3: Minimum Clear Width for Single Wheelchair

42 Spaces Allowance and Reach Ranges.
42.1h Wheelchair Passage Width. The minimum clear width for a single wheelchair passage shall be 32in (815mm) at a point, and 36in (915mm) continuously (see Fig1 and 24a).

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2 Minimum Clear Width for Single Wheelchair

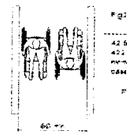

Fig3: Minimum Clear Width for Two Wheelchairs

42 Spaces Allowance and Reach Ranges
42.2 Width for Wheelchair Passing. The minimum width for two wheelchairs to pass is 60in (1525mm) (see Fig3).

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3 Minimum Clear Width for Two Wheelchairs

Fig4: 60in (1525mm) Diameter Space Wheelchair Turning Space

42 Spaces Allowance and Reach Ranges
42.3h Wheelchair Turning Space. The space required for a wheelchair to make a 360-degree turn is a clear space of 60in (1525mm) diameter (see Fig4) or a T-shaped space (see Fig5a-c).

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4 Wheelchair Turning Space

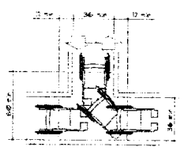

Fig5a-b: T-shaped Space for 180° Turns Wheelchair Turning Space

42 Spaces Allowance and Reach Ranges
42.3h Wheelchair Turning Space. The space required for a wheelchair to make a 180-degree turn is a clear space of 60in (1525mm) diameter (see Fig4a) or a T-shaped space (see Fig5a-c).

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5 T-Shaped Space for 180° Turns

6 Forward Approach

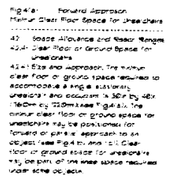

Fig4a-b: Forward Approach Minimum Clear Floor Space for Wheelchairs

42 Spaces Allowance and Reach Ranges
42.2h Clear Floor or Ground Space for Wheelchairs
42.4 Elite and Approach. The minimum clear floor or ground space required to accommodate a single stationary wheelchair and occupant is 30in by 48in (760mm by 1220mm) (see Fig4a-b). The minimum clear floor or ground space for wheelchairs may be positioned for forward or parallel approach to an object (see Fig4a-b, and c-f). Clear floor or ground space for wheelchairs may overlap any of the knee space required under some lavatories and sinks (see Fig4a-b).

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6 Forward and Parallel Approaches

Fig5: 180-degree Turn Wheelchair Space

42 Spaces Allowance and Reach Ranges
43 Accessible Route
43.3 Width. The minimum clear width of an accessible route shall be 36in (915mm) except at doors (see 4.13.5 and 4.3.6). If a person in a wheelchair must make a turn around an obstruction, the minimum clear width of the accessible route shall be as shown in Fig7(a) and (b).

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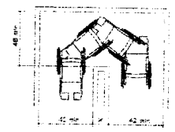
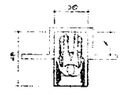
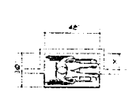
7 A 180° Turn



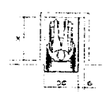
8 Turn Around an Obstruction



Clear Floor Space in Alcove (See Fig 4a)



Clear Floor Space in Alcove (see Fig 4a)



Additional Maneuvering Clearance for Alcove See Fig 4a)

Additional Maneuvering Clearance for Alcove (see Fig 4a)

9 Clear Floor Space in Alcove

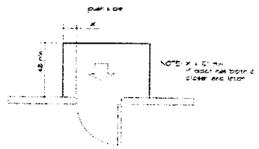


Fig25a: Front Approach - Swing Door and Folding Doors Maneuvering Clearances at Doors

NOTE: All doors in a series shall comply with the clearances for front approaches.

4.13 Doors
4.13h Maneuvering Clearances at Doors. Minimum maneuvering clearances at doors that are not automatic or power-assisted shall be as shown in Fig25. The floor or ground area within the required clearances shall be level and clear.

EXCEPTION: Entry doors to acute care hospital bedrooms for in-patients shall be exempted from the requirement for space "pull" side of the door (see dimension "x" in Fig25) if the door is at least 44in (1220mm) wide.

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10 Front Approach - Swinging Door (See Fig 25a)

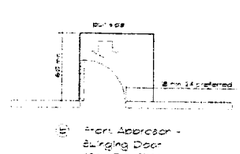

Fig25b: Front Approach - Swing Door and Folding Doors Maneuvering Clearances at Doors

NOTE: All doors in a series shall comply with the clearances for front approaches.

4.13 Doors
4.13h Maneuvering Clearances at Doors. Minimum maneuvering clearances at doors that are not automatic or power-assisted shall be as shown in Fig25. The floor or ground area within the required clearances shall be level and clear.

EXCEPTION: Entry doors to acute care hospital bedrooms for in-patients shall be exempted from the requirement for space "pull" side of the door (see dimension "x" in Fig25) if the door is at least 44in (1220mm) wide.

[4] 28642 Federal Register Vol. 56 No.144 Friday July 26, 1991 Rules and Regulations

11 Front Approach - Swinging Door (See Fig 25b)

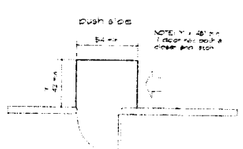

Fig25c: Hinge Side Approach - Swing Door and Folding Doors Maneuvering Clearances at Doors

NOTE: All doors in a series shall comply with the clearances for front approaches.

4.13 Doors
4.13h Maneuvering Clearances at Doors. Minimum maneuvering clearances at doors that are not automatic or power-assisted shall be as shown in Fig25. The floor or ground area within the required clearances shall be level and clear.

EXCEPTION: Entry doors to acute care hospital bedrooms for in-patients shall be exempted from the requirement for space "pull" side of the door (see dimension "x" in Fig25) if the door is at least 44in (1220mm) wide.

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12 Hinge Side Approach - Swinging Door (See Fig 25c)

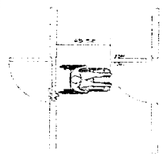

Fig26: Front Approach Swing Doors Maneuvering Clearances at Doors

4.13 Doors
4.13i Two Doors in Series. The minimum spacing between two doors in series shall be 48in (1220mm) plus the width of any door swinging into the space. Doors in series shall swing either in the same direction or away from the space between the doors (see Fig26).

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13 Two Hinged Doors in Series

Fig29a-b: Side Side Approach Swing Doors and Folding Doors Maneuvering Clearances at Doors

NOTE: All doors in a series shall comply with the clearances for front approaches.

4.13 Doors
4.13i Maneuvering Clearances at Doors. Minimum maneuvering clearances at doors that are not automatic or power-assisted shall be as shown in Fig29. The floor or ground area within the required clearances shall be level and clear.

EXCEPTION: Entry doors to acute care hospital bedrooms for in-patients shall be exempted from the requirement for space "pull" side of the door (see dimension "x" in Fig29) if the door is at least 44in (1220mm) wide.

[4] 28642 Federal Register Vol. 56 No.144 Friday July 26, 1991 Rules and Regulations

14 Side Side Approach - Sliding or Folding Doors

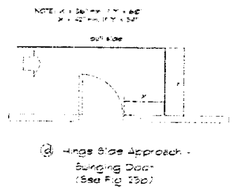

Fig27a-b: Front Approach Swing Doors Maneuvering Clearances at Doors

NOTE: All doors in a series shall comply with the clearances for front approaches.

4.13 Doors
4.13h Maneuvering Clearances at Doors. Minimum maneuvering clearances at doors that are not automatic or power-assisted shall be as shown in Fig27. The floor or ground area within the required clearances shall be level and clear.

EXCEPTION: Entry doors to acute care hospital bedrooms for in-patients shall be exempted from the requirement for space "pull" side of the door (see dimension "x" in Fig27) if the door is at least 44in (1220mm) wide.

[4] 28642 Federal Register Vol. 56 No.144 Friday July 26, 1991 Rules and Regulations

15 Front Approach - Swinging Door (See Fig 27a)

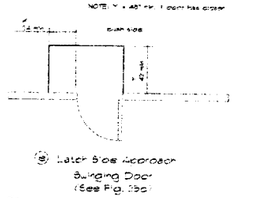

Fig28a-b: Front Approach Swing Doors Maneuvering Clearances at Doors

NOTE: All doors in a series shall comply with the clearances for front approaches.

4.13 Doors
4.13h Maneuvering Clearances at Doors. Minimum maneuvering clearances at doors that are not automatic or power-assisted shall be as shown in Fig28. The floor or ground area within the required clearances shall be level and clear.

EXCEPTION: Entry doors to acute care hospital bedrooms for in-patients shall be exempted from the requirement for space "pull" side of the door (see dimension "x" in Fig28) if the door is at least 44in (1220mm) wide.

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16 Latch Side Approach - Swinging Door (See Fig 28a)

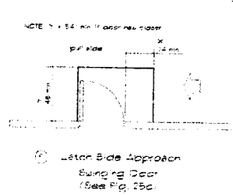


Fig29a-b: Front Approach Swing Doors Maneuvering Clearances at Doors

NOTE: All doors in a series shall comply with the clearances for front approaches.

4.13 Doors
4.13h Maneuvering Clearances at Doors. Minimum maneuvering clearances at doors that are not automatic or power-assisted shall be as shown in Fig29. The floor or ground area within the required clearances shall be level and clear.

EXCEPTION: Entry doors to acute care hospital bedrooms for in-patients shall be exempted from the requirement for space "pull" side of the door (see dimension "x" in Fig29) if the door is at least 44in (1220mm) wide.

[4] 28642 Federal Register Vol. 56 No.144 Friday July 26, 1991 Rules and Regulations

17 Latch Side Approach - Swinging Door (See Fig 28a)

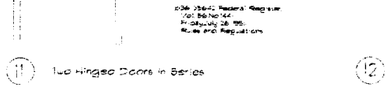


Fig25c: Latch Side Approach Sliding Doors and Folding Doors Maneuvering Clearances at Doors

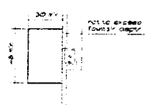
NOTE: All doors in a series shall comply with the clearances for front approaches.

4.13 Doors
4.13i Maneuvering Clearances at Doors. Minimum maneuvering clearances at doors that are not automatic or power-assisted shall be as shown in Fig25. The floor or ground area within the required clearances shall be level and clear.

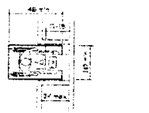
EXCEPTION: Entry doors to acute care hospital bedrooms for in-patients shall be exempted from the requirement for space "pull" side of the door (see dimension "x" in Fig25) if the door is at least 44in (1220mm) wide.

18 Latch Side Approach - Sliding or Folding Doors

Accessible Height and Knee Clearance



Built-in Fountain or Cooler



Clear Floor Space

Free-Standing Fountain or Cooler

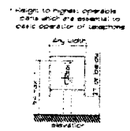
19 Clearances for Fountain

Forward Reach Required

Clearances for Telephone

Side Reach Possible

Clearances for Telephone

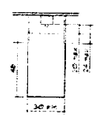


Side Reach Possible

Mounting Height and Clearances for Telephone

Forward Reach Required

Mounting Height and Clearances for Telephone



Forward Reach Required

Clearances for Telephone

20 Clearances for Telephone

GAWRON ARCHITECTS
29 Black Point Road
Scarborough, ME 04074
www.gawron.com
Tel. 207 883 6367
Fax. 207 883 6361

AVIS CORPORATE FACILITIES

VEHICLE SERVICE CENTER
JETPORT BOULEVARD
PORTLAND, ME

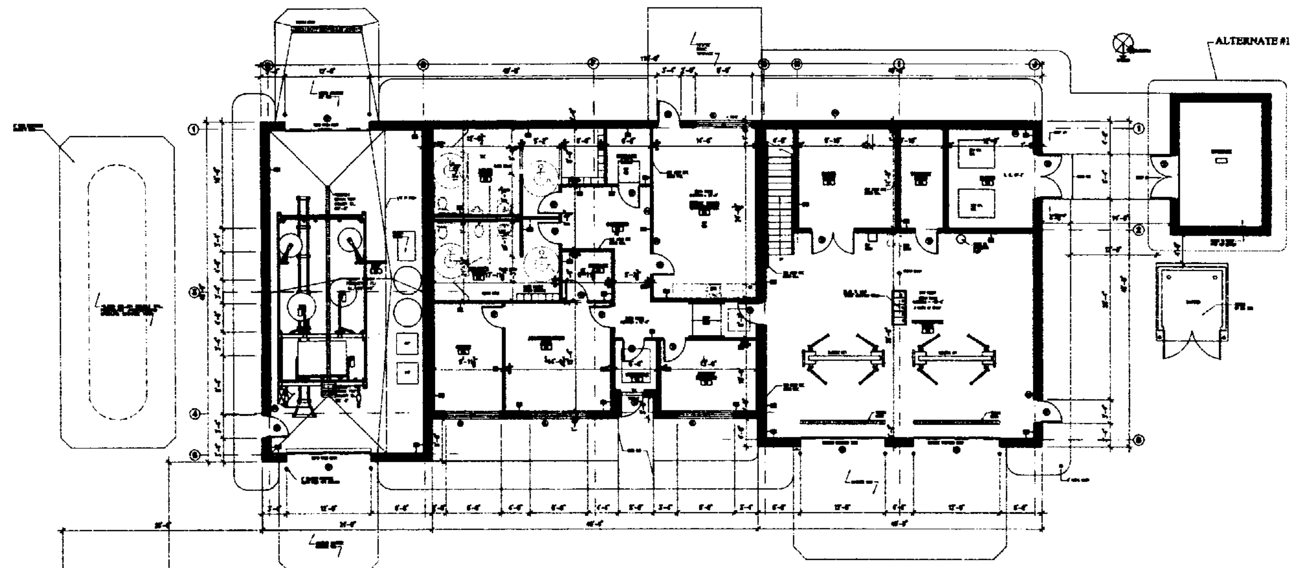
REVISIONS

NO.	DATE	DESCRIPTION

DATE	04/13/01
PROJECT #	9918(1)
DRAWN BY:	GAT
CHECKED BY:	MM
DRAWING SCALE	AS NOTED

SHEET TITLE
ADA SHEET

A000



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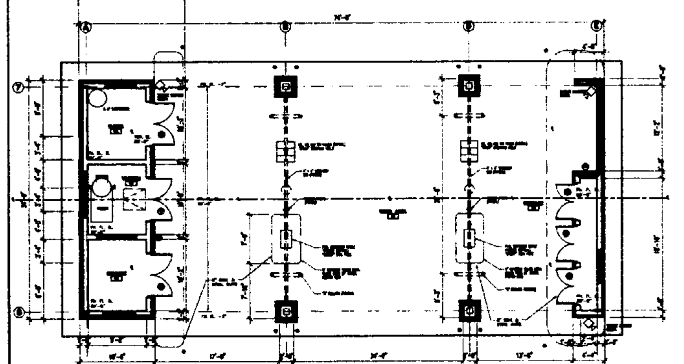

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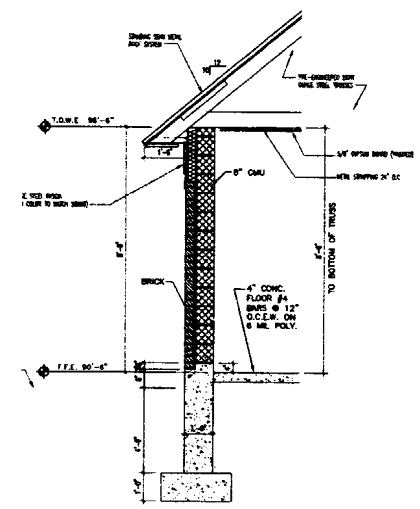
ALTERNATE # 1



SECTION 1/A000
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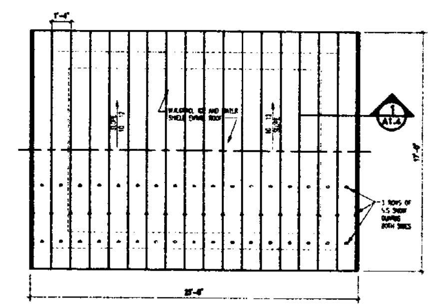

ROOF PLAN A001
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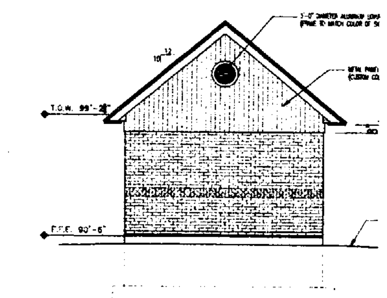

SIDE ELEVATION A001
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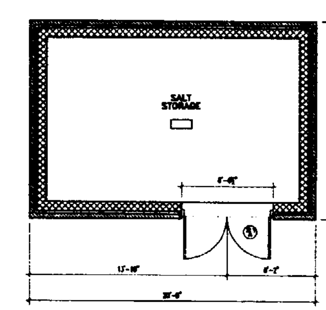

FLOOR PLAN A001
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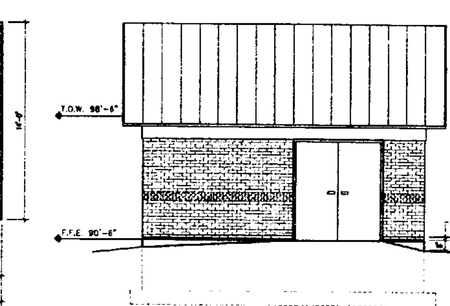

FRONT ELEVATION A001
SCALE: 1/8" = 1'-0"

GAWRON ARCHITECTS
29 Black Point Road
Scarborough, ME 04074
www.gawron.com
Tel. 207.883.6307
Fax. 207.883.0361

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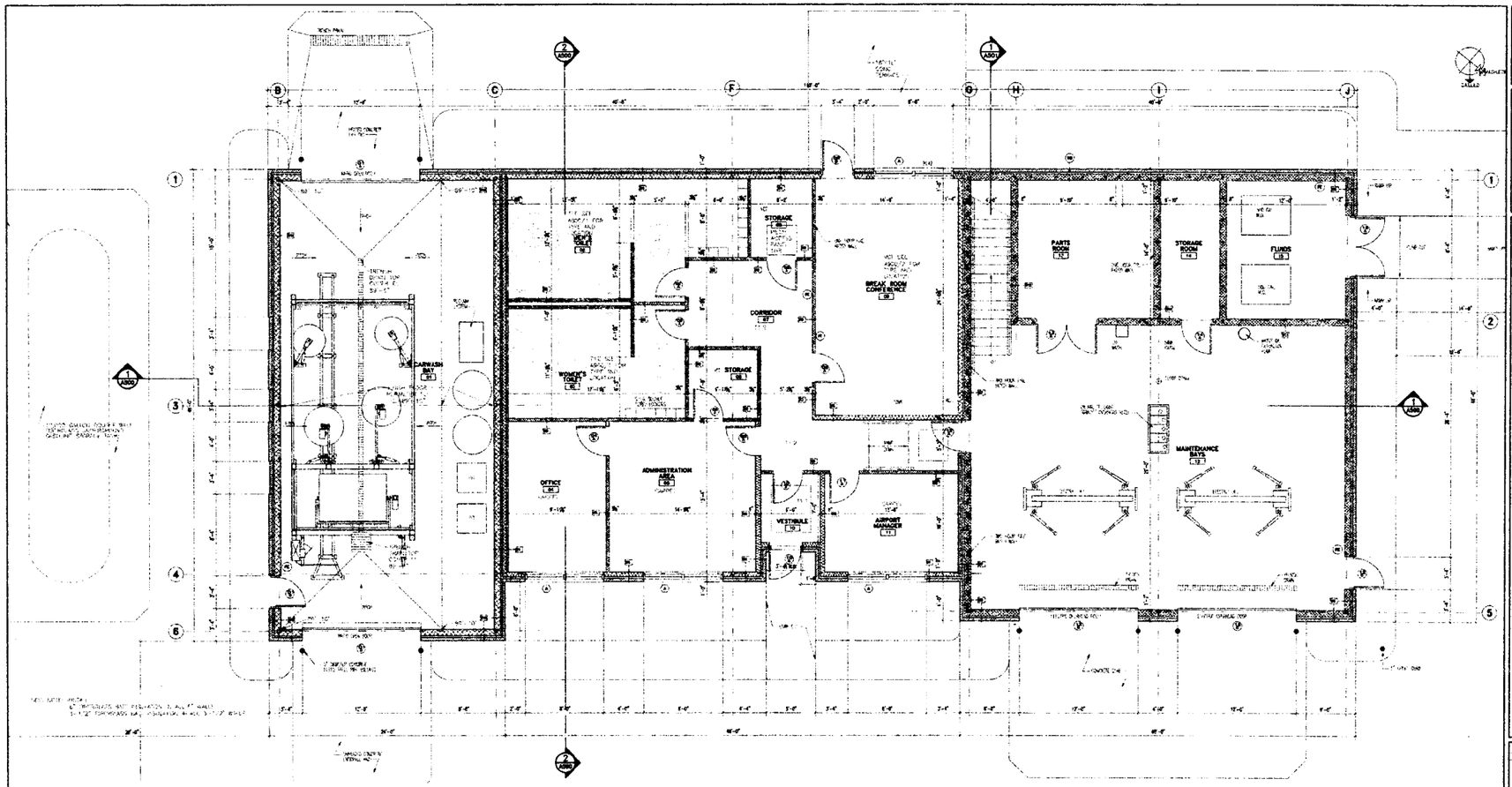
VEHICLE SERVICE CENTER
JETPORT BOULEVARD PORTLAND, ME

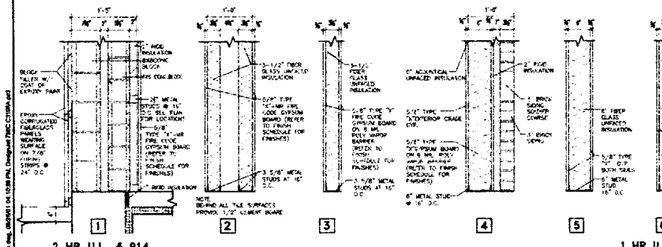
REVISIONS

SHEET TITLE
FLOOR PLAN

A001

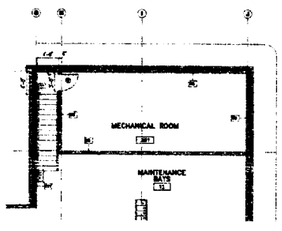


FLOOR PLAN (3 / A100)
SCALE: 1/4" = 1'-0"



2 HR U.L. # 914 | 1 HR U.L. # 465 | 2 HR U.L. # 914 | 2 HR U.L. # 474

WALL TYPES (2 / A100)
SCALE: 1" = 1'-0"



MEZZANINE PLAN (1 / A100)
SCALE: 1/8" = 1'-0"

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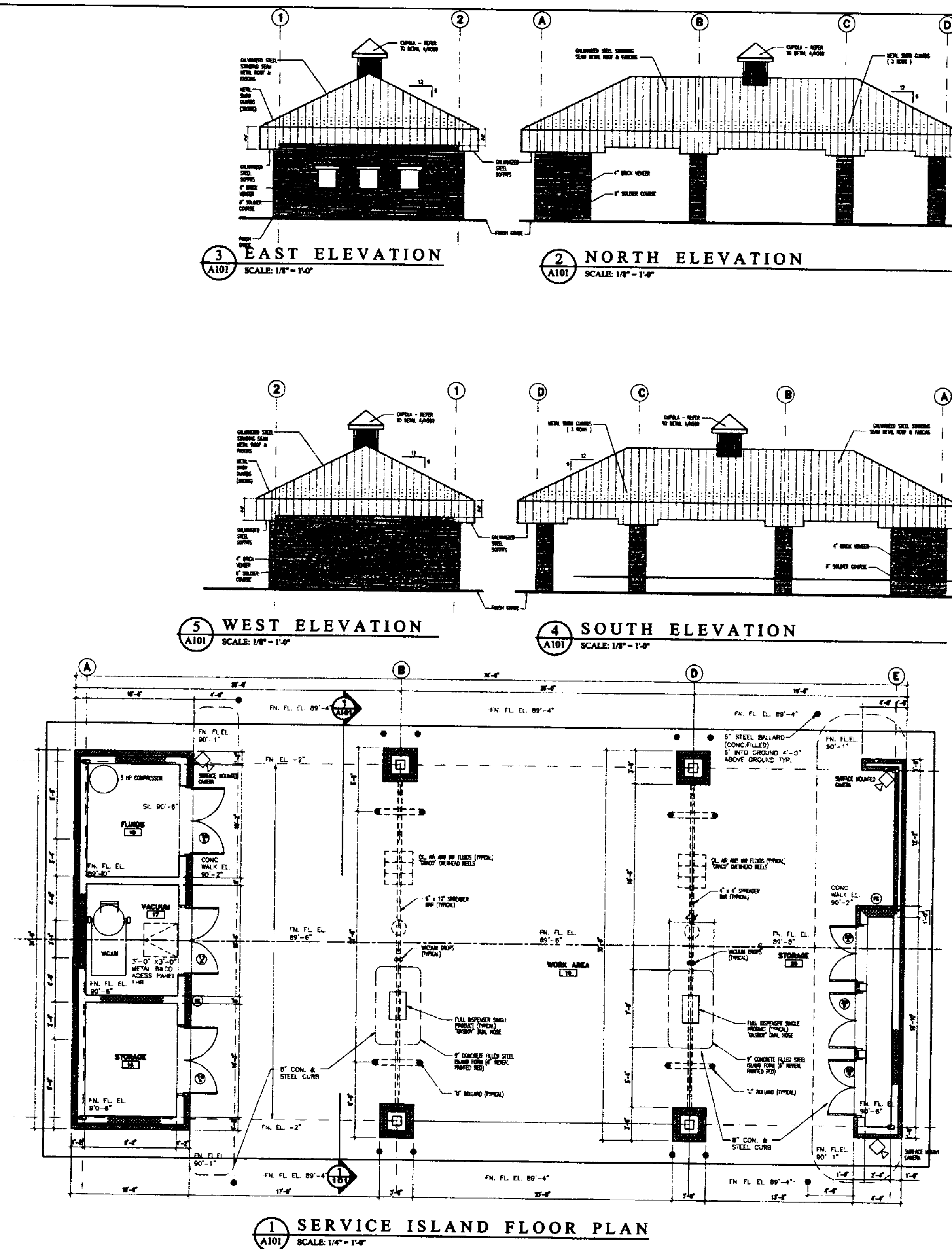
REVISIONS

NO.	DATE	DESCRIPTION

DATE:	09/17/02
PROJECT #:	043000
DRAWN BY:	GAT
CHECKED BY:	MM
DRAWING SCALE:	AS NOTED

SHEET TITLE
FLOOR & MEZZINE PLAN
WALL TYPES

A100



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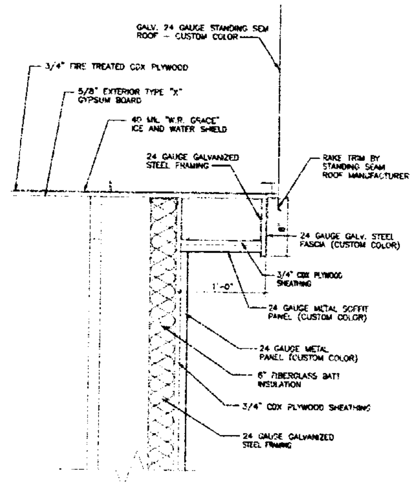
REVISIONS

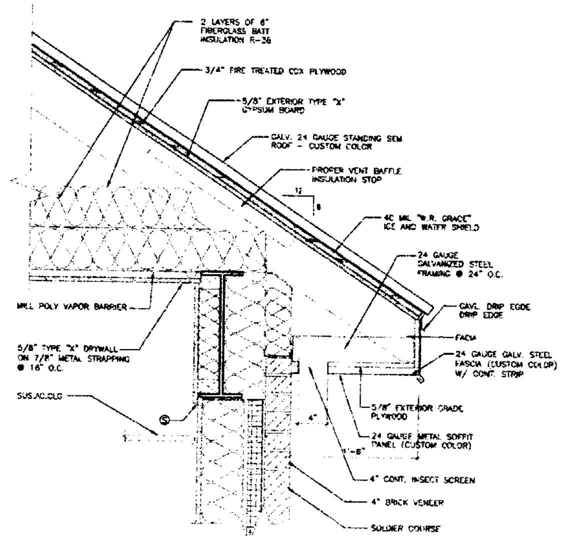
DATE:	
PROJECT #	
DRAWN BY:	GAT
CHECKED BY:	
DRAWING SCALE	AS NOTED

SHEET TITLE
SERVICE ISLAND ELEVATIONS

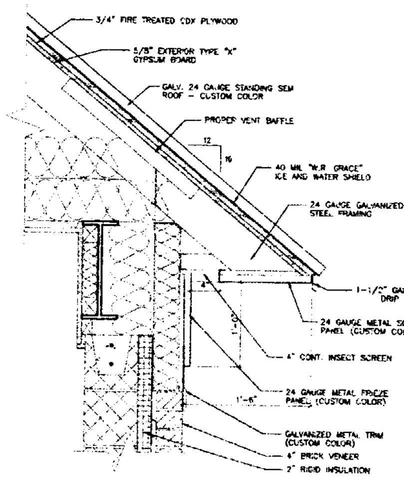
A101



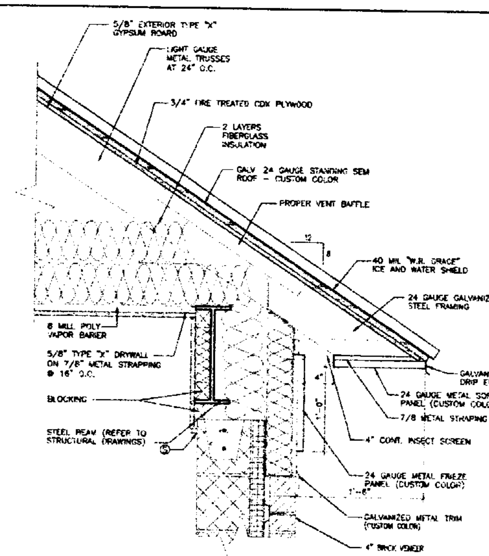
4 A200 RAKE DETAIL
SCALE: 1 1/2" = 1'-0"



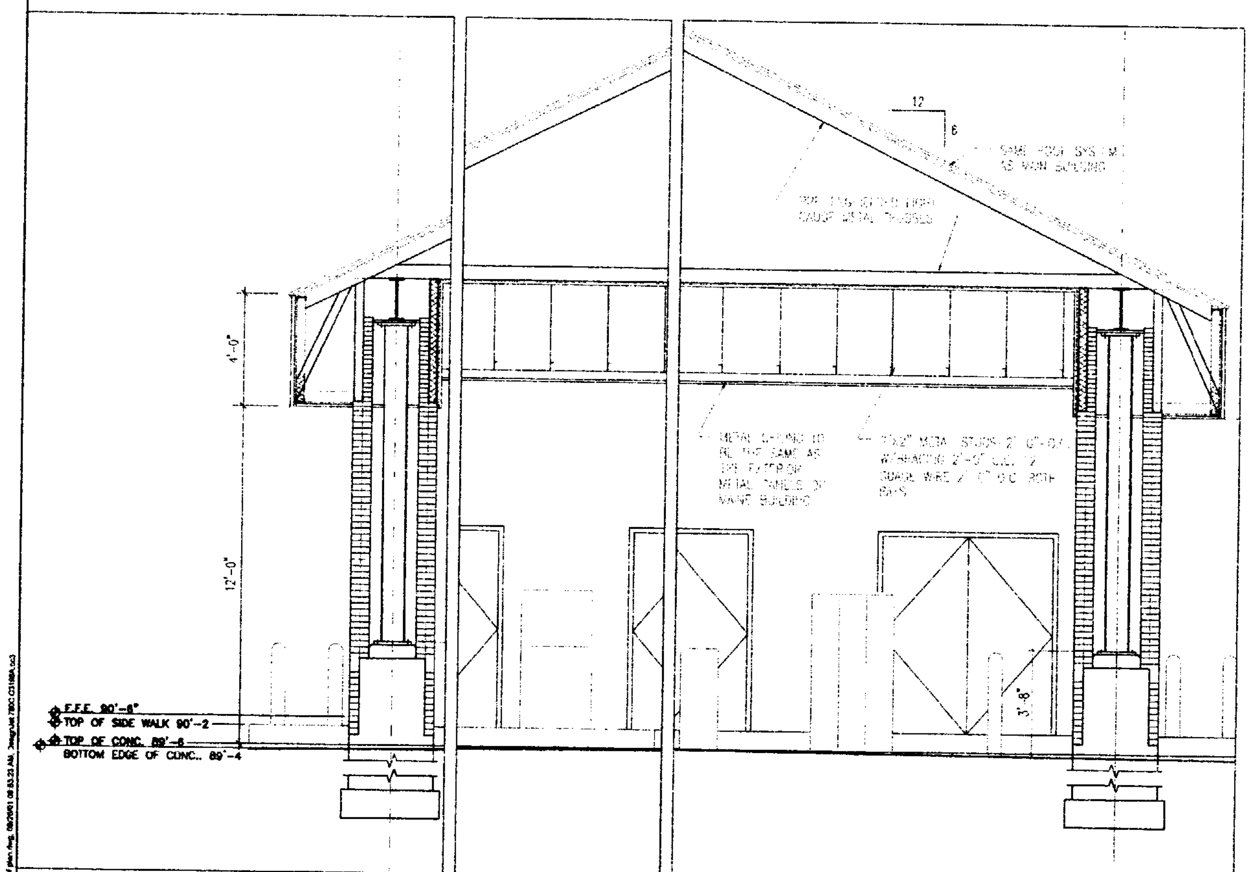
3 A200 SOFFIT DETAIL
SCALE: 1 1/2" = 1'-0"



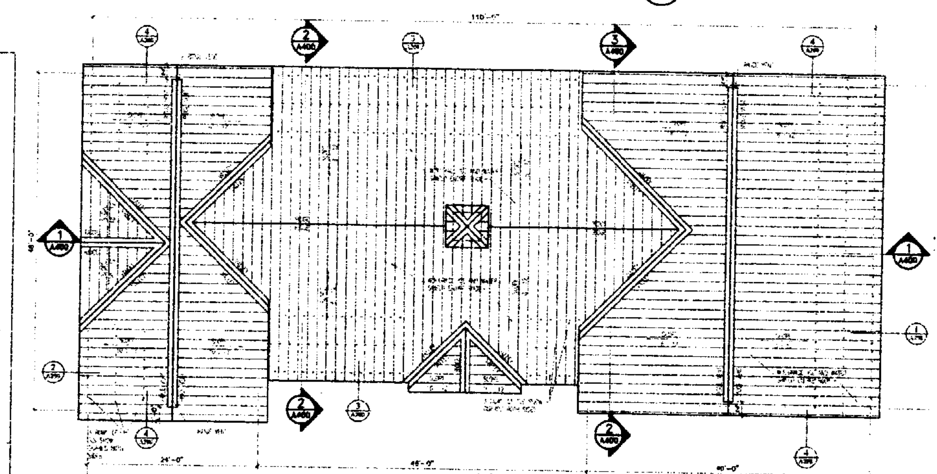
2 A200 SOFFIT DETAIL
SCALE: 1 1/2" = 1'-0"



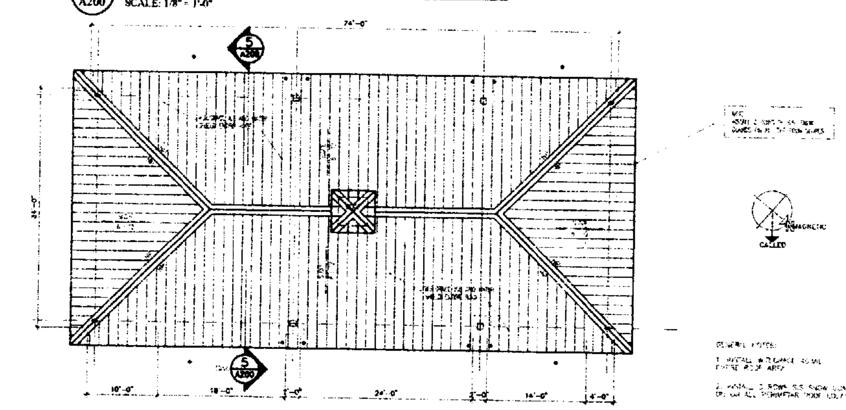
1 A200 SOFFIT DETAIL
SCALE: 1 1/2" = 1'-0"



5 A200 SECTION
SCALE: 1/2" = 1'-0"



1 A200 MAIN BUILDING ROOF PLAN
SCALE: 1/8" = 1'-0"



2 A200 FUEL ISLAND ROOF PLAN
SCALE: 1/8" = 1'-0"

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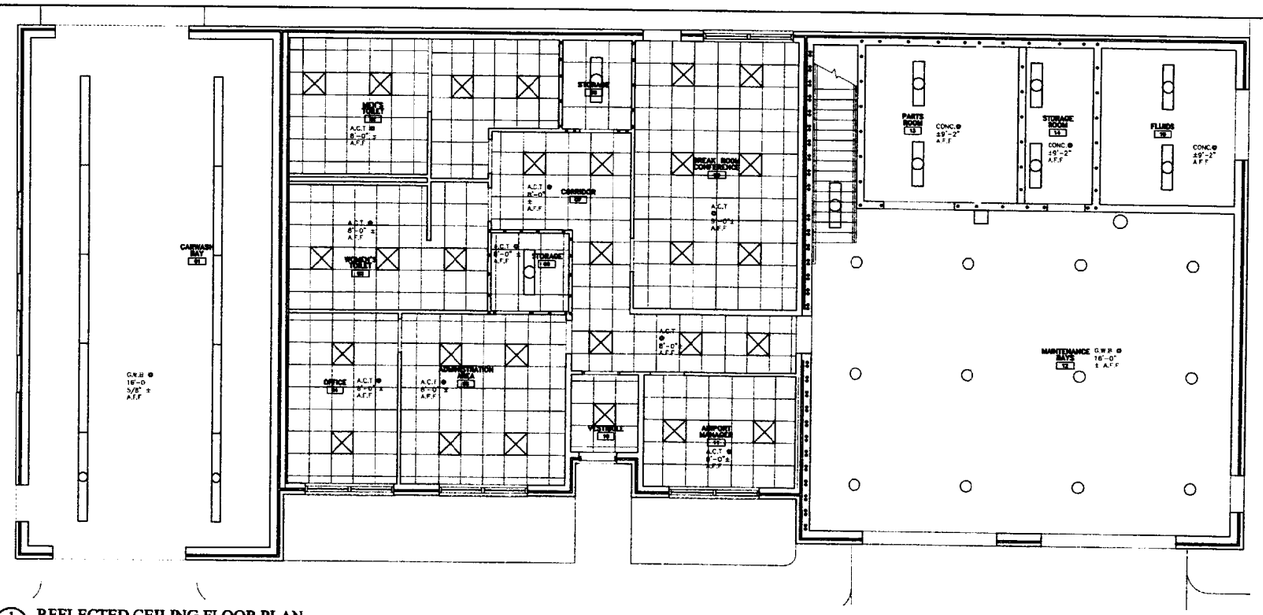
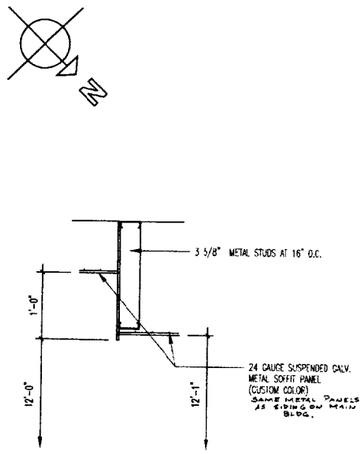
REVISIONS

SHEET TITLE
ROOF PLAN AND DETAILS

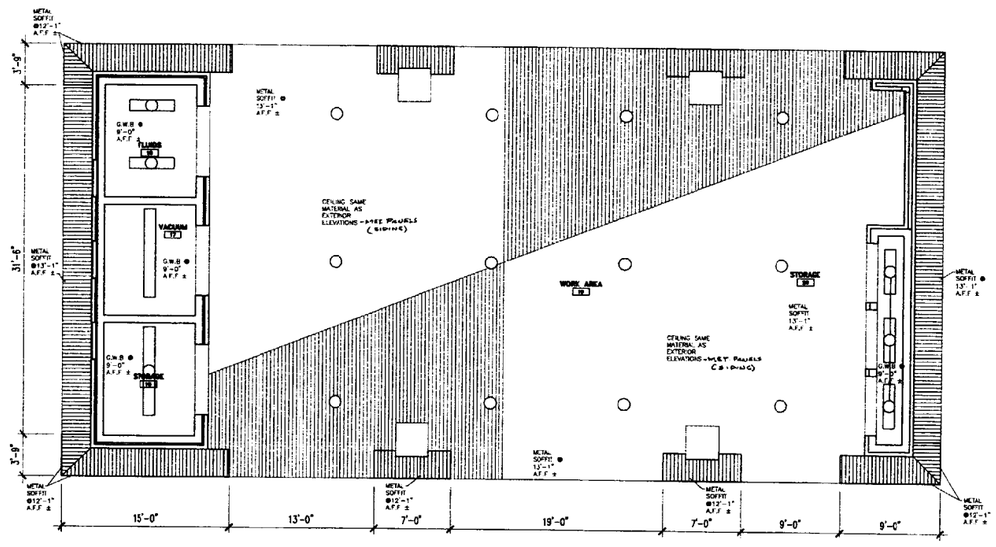
A200



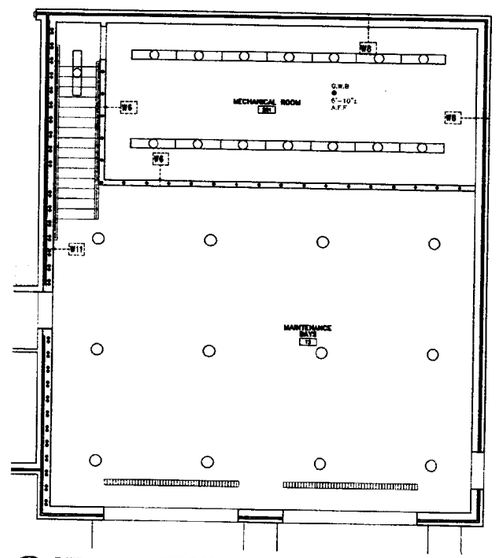
1 A300 **REFLECTED CEILING FLOOR PLAN**
SCALE: 1/4" = 1'-0"



1 A300 **FUEL ISLAND SOFFIT DETAIL**
SCALE: 1 1/2" = 1'-0"



2 A300 **REFLECTED CEILING PLAN @ FUEL ISLAND**
SCALE: 1/4" = 1'-0"



3 A300 **REFLECTED CEILING PLAN @ MEZZIN**
SCALE: 1/4" = 1'-0"

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PORTLAND, ME

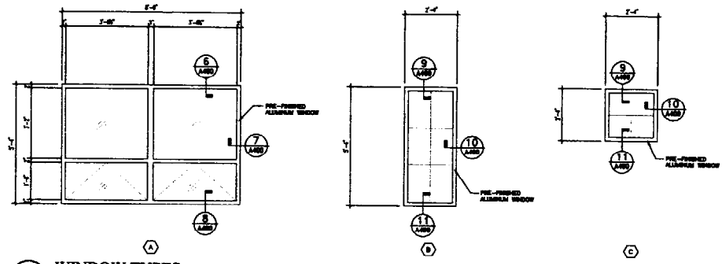
REVISIONS

#	DATE	DESCRIPTION

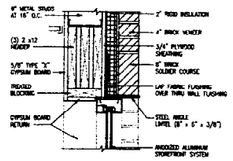
DATE:	07/7/01
PROJECT #	9908
DRAWN BY:	GAZ
CHECKED BY:	MM
DRAWING SCALE	1/4" = 1'-0"

SHEET TITLE
REFLECTED CEILING FLOOR PLANS

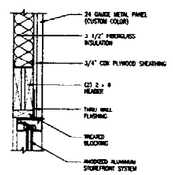
A300



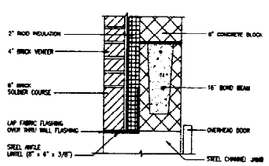
5 A400 WINDOW TYPES
SCALE: 1/2" = 1'-0"



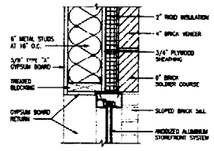
6 A400 HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



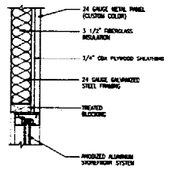
9 A400 HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



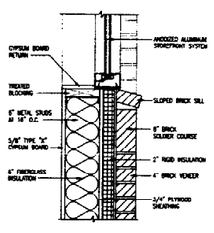
12 A400 HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



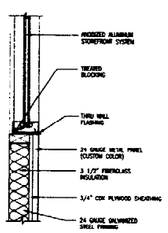
7 A400 JAMB DETAIL
SCALE: 1 1/2" = 1'-0"



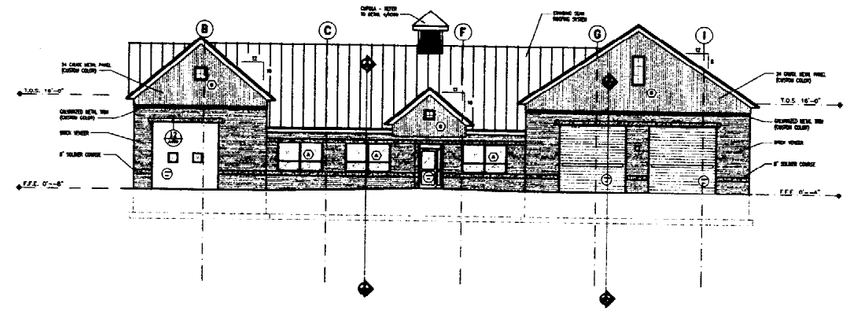
10 A400 JAMB DETAIL
SCALE: 1 1/2" = 1'-0"



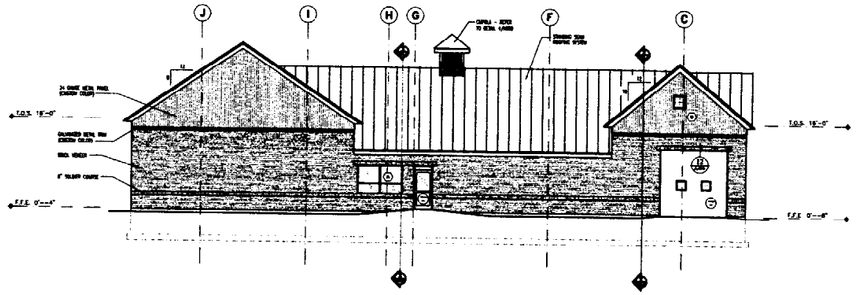
8 A400 SILL DETAIL
SCALE: 1 1/2" = 1'-0"



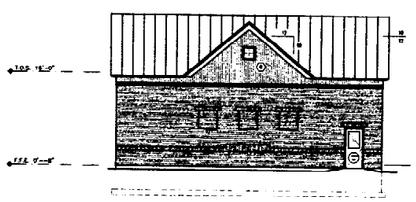
11 A400 SILL DETAIL
SCALE: 1 1/2" = 1'-0"



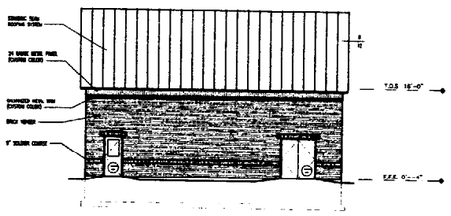
1 A400 NORTH ELEVATION
SCALE: 1/8" = 1'-0"



2 A400 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



3 A400 EAST ELEVATION
SCALE: 1/8" = 1'-0"



4 A400 WEST ELEVATION
SCALE: 1/8" = 1'-0"

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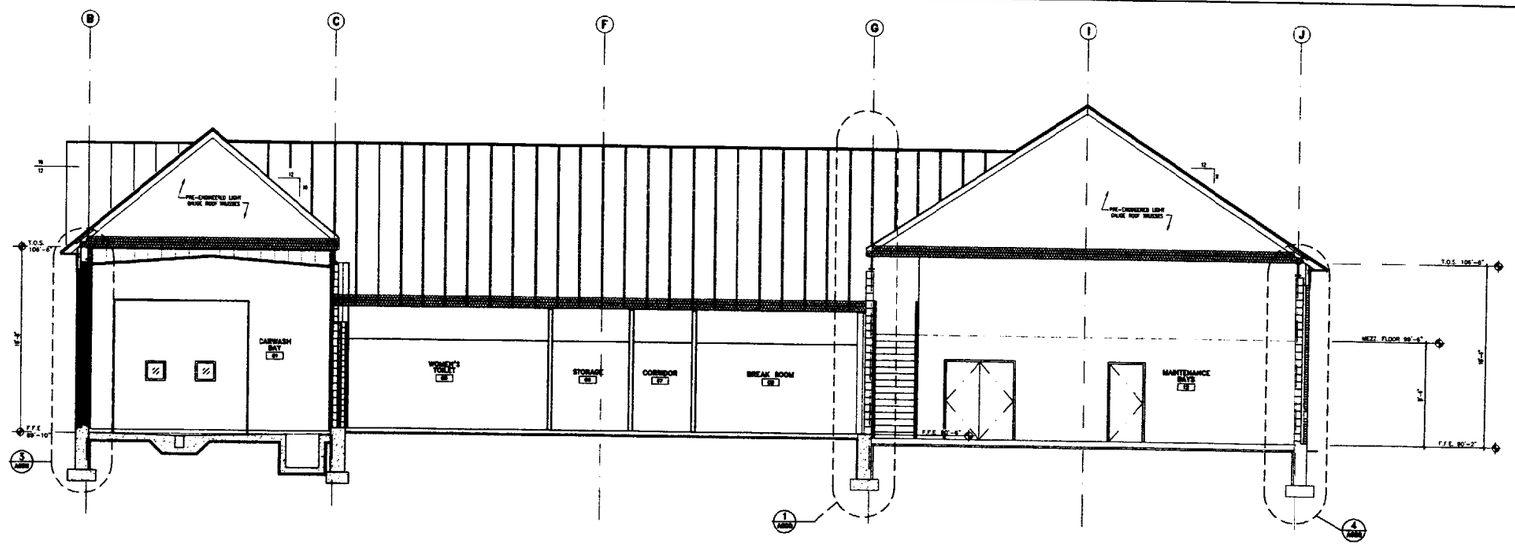
REVISIONS

#	DATE	DESCRIPTION

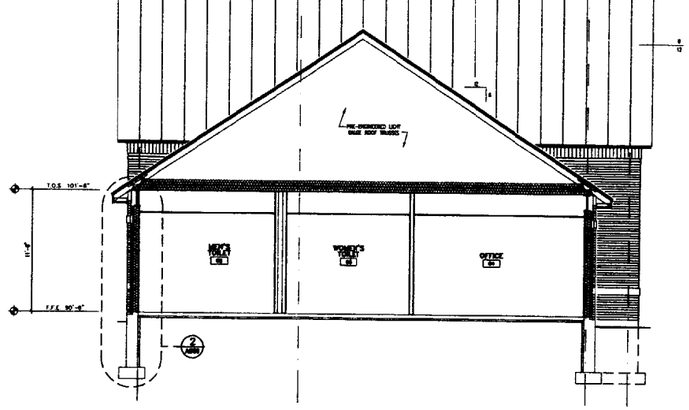
DATE:	03/7/01
PROJECT #	99085
DRAWN BY:	GAT
CHECKED BY:	MH
DRAWING SCALE	AS NOTED

SHEET TITLE
OFFICE & MAINTENANCE BUILDING ELEVATIONS

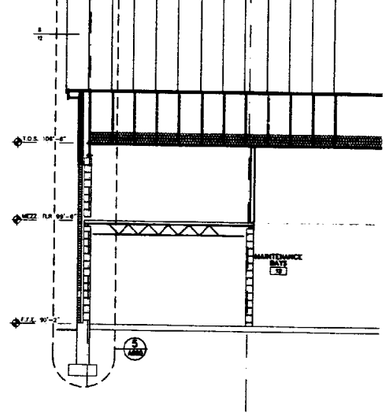
A400



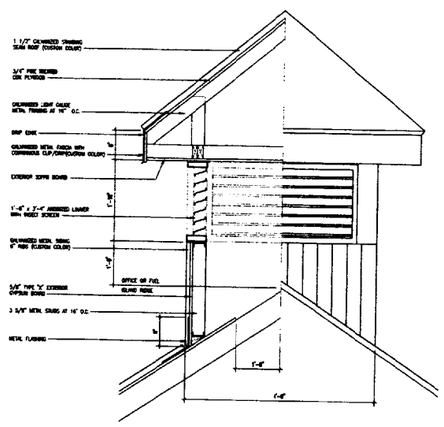
1 A500 LONGITUDINAL SECTION THRU MAIN BUILDING
SCALE: 1/4" = 1'-0"



2 A500 SECTION THRU OFFICE AREA
SCALE: 1/4" = 1'-0"



3 A500 SECTION THRU STAIR
SCALE: 1/4" = 1'-0"



4 A500 SECTION THRU CUPOLA
SCALE: 1" = 1'-0"

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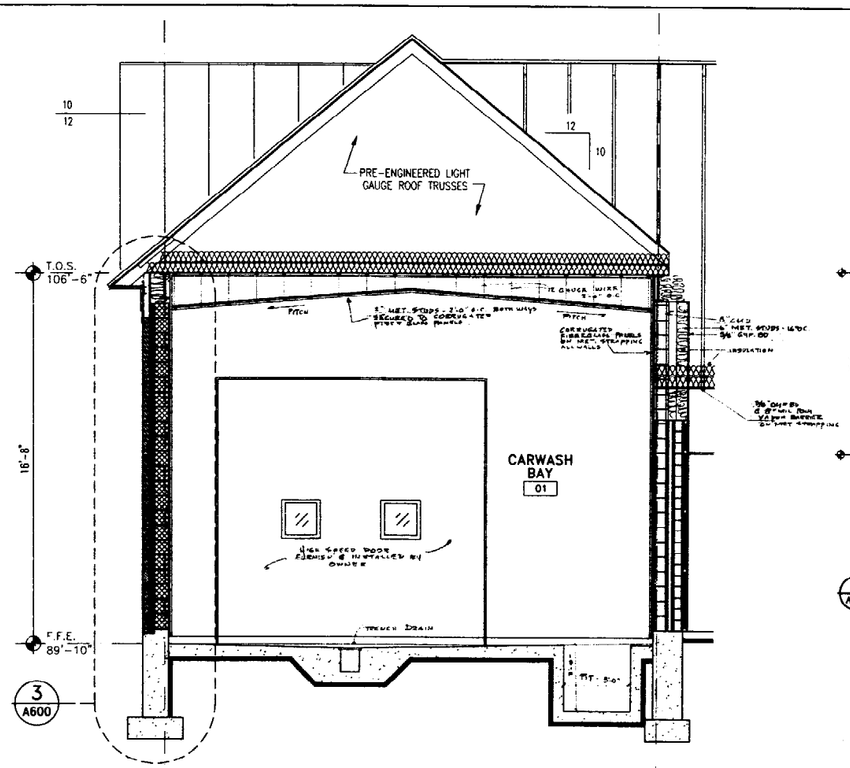
REVISIONS

#	DATE	DESCRIPTION

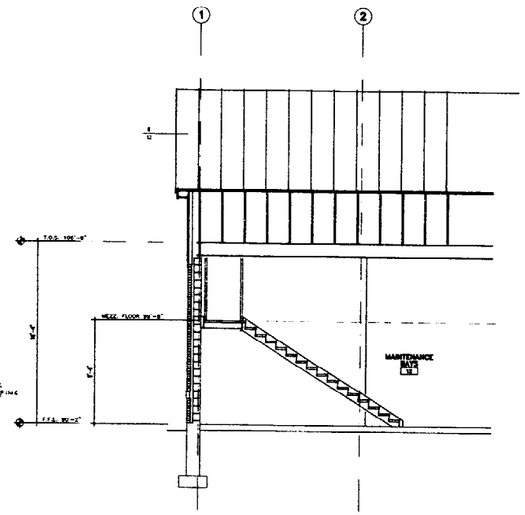
DATE:	9/17/01
PROJECT #	99081
DRAWN BY:	GAT
CHECKED BY:	MM
DRAWING SCALE	1/4" = 1'-0"

SHEET TITLE
BUILDING SECTIONS

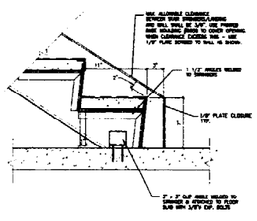
A500



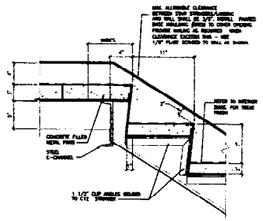
2 A501 SECTION THRU CARWASH BAY
SCALE: 1/2" = 1'-0"



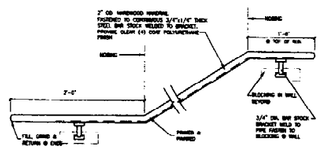
1 A501 SECTION THRU CARWASH BAY
SCALE: 1/4" = 1'-0"



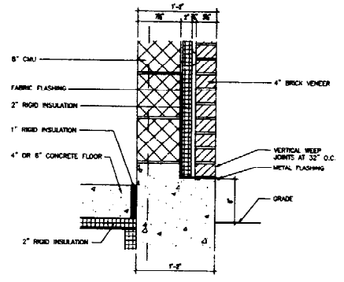
6 A501 STRINGER ANCHORING DETAIL
SCALE: 1 1/2" = 1'-0"



5 A501 STAIR LANDING DETAIL
SCALE: 1 1/2" = 1'-0"



4 A501 TYPICAL WALL HANDRAIL DETAIL
SCALE: 1 1/2" = 1'-0"



3 A501 TYPICAL WALL FLASHING DETAIL
SCALE: 1 1/2" = 1'-0"

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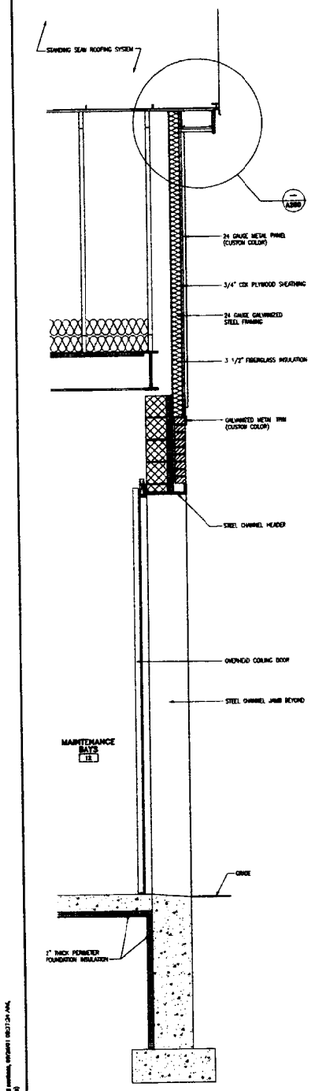
REVISIONS

#	DATE	DESCRIPTION

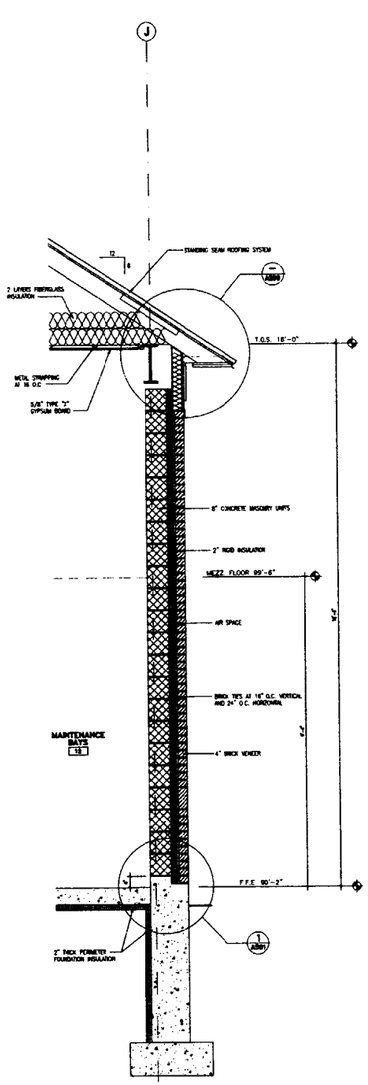
DATE	08/17/04
PROJECT #	9938B
DRAWN BY:	GAT
CHECKED BY:	MM
DRAWING SCALE	AS NOTED

SHEET TITLE
BUILDING SECTIONS

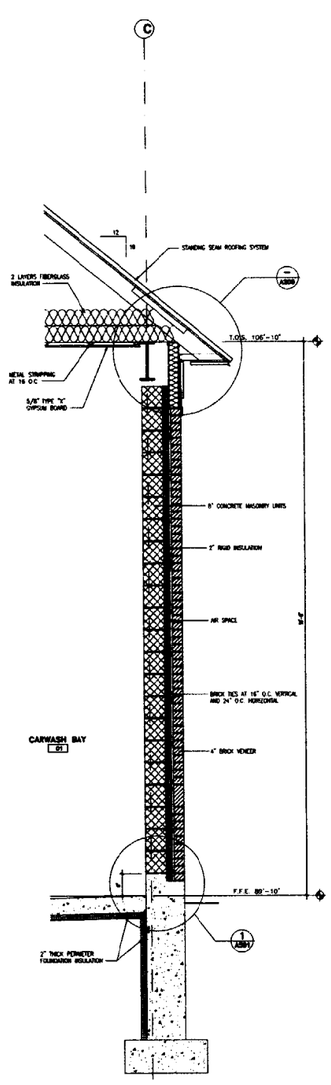
A501



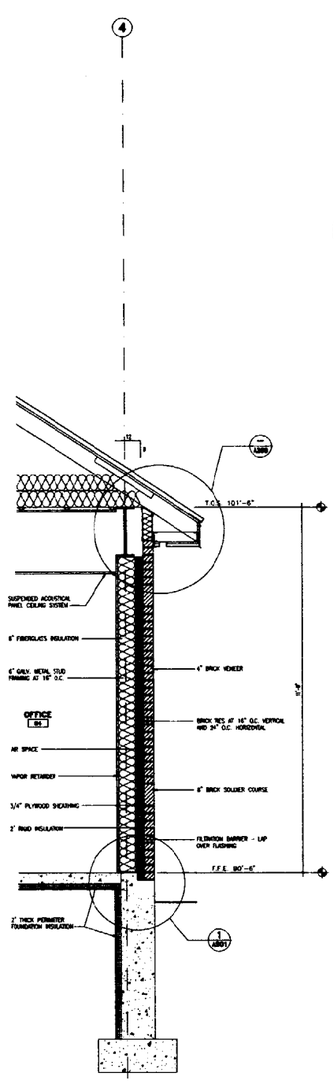
5 A600 **WALL SECTION**
SCALE: 3/4" = 1'-0"



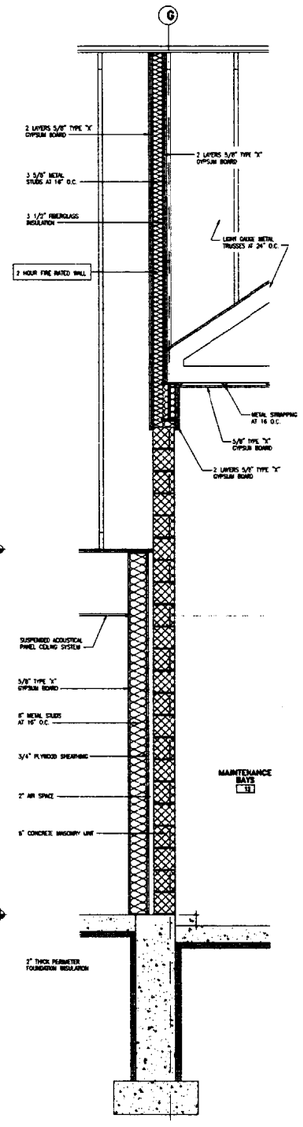
4 A600 **WALL SECTION**
SCALE: 3/4" = 1'-0"



3 A600 **WALL SECTION**
SCALE: 3/4" = 1'-0"



2 A600 **WALL SECTION**
SCALE: 3/4" = 1'-0"



1 A600 **WALL SECTION**
SCALE: 3/4" = 1'-0"

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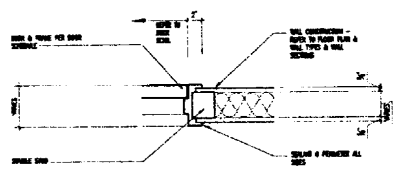
REVISIONS

#	DATE	DESCRIPTION

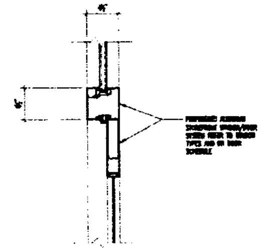
DATE:	05/1/02
PROJECT #	0108N
DRAWN BY:	GAT
CHECKED BY:	MH
DRAWING SCALE	AS NOTED

SHEET TITLE
WALL SECTIONS

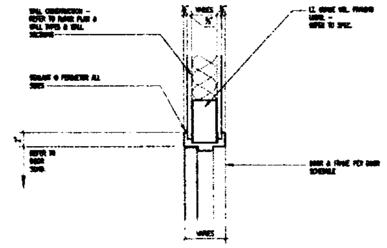
A600



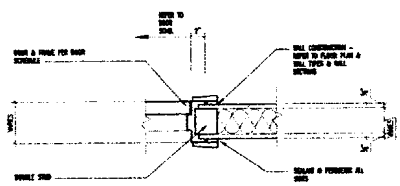
1 A700 JAMB DETAIL
SCALE: 1 1/2 = 1'-0"



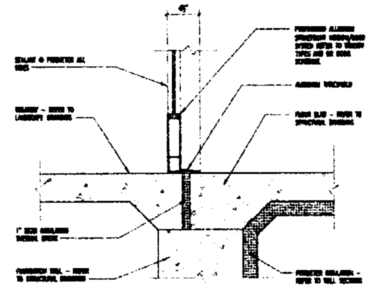
2 A700 HEAD DETAIL
SCALE: 1 1/2 = 1'-0"



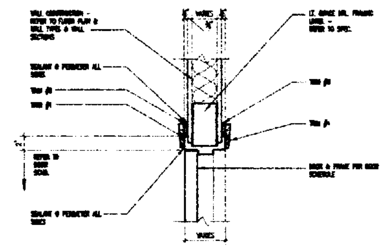
3 A700 HEAD DETAIL
SCALE: 1 1/2 = 1'-0"



4 A700 JAMB DETAIL
SCALE: 1 1/2 = 1'-0"



5 A700 SILL DETAIL
SCALE: 1 1/2 = 1'-0"



6 A700 HEAD DETAIL
SCALE: 1 1/2 = 1'-0"

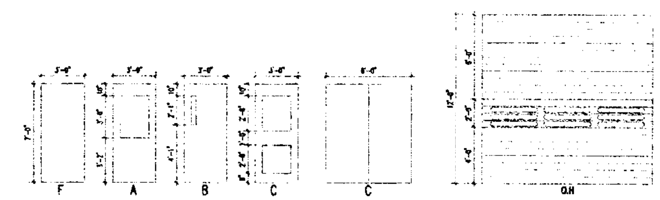
DOOR SCHEDULE

DOOR SCHEDULE ABBREVIATIONS

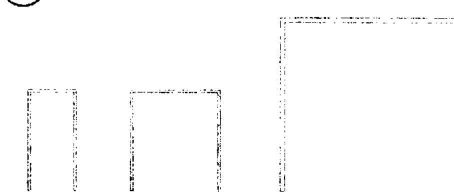
WD	WOOD (SOLID)	TEMP	TEMPERED	VDK	VIEW/DOOR KNOCKER
HM	HOLLOW METAL	CLO	CLOSURE	SH	SPRING HINGE
NO	NUMBER	EHO	ELECTRIC HOLD OPENER	KPE	KEY PAD ENTRY
THK	THICKNESS	WG	WIRE GLASS	EDO	ELECTRONIC DOOR OPENER
FR	FIRE RATED	MAS	MASONITE	KP	28"x34" KICKPLATE (BOTH SIDES)
HDWE	HARDWARE	PH	PANIC HARDWARE	PP	PUSH / PULL
INSUL	INSULATION	EMH	ELECTRIC MAGNET HOLDOPENS		

DOORS											FRAMES						THRESHOLD		
NO.	TYPE	SIZE	THK.	F.R.	HDWE SET	MAT.	INSUL.	GLASS SIZE	GLASS TYPE	REMARKS	TYPE	MAT.	F.R.	INSUL.	DETAILS HEAD	DETAILS JAMB	MAT.	DETAIL SILL	DETAIL HT.
01A	OH	12'-0" x 12'-0"	2"	O.H.	CL	GALV. H.M.	Y	3'-1"-6"x3'	-	TEMP.	-	STEEL	-		-	-	-	-	-
01B	A	3'-0" x 7'-0"	1 3/4"	-	L CL	GALV. H.M.	Y	24" x 36"	-	TEMP.		GALV. H.M.	-		-	-	ALUM.	-	-
01C	OH	12'-0" x 12'-0"	2"	O.H.	CL	-	Y	3'-1"-6"x3'	-	TEMP.		STEEL	-		-	-		-	-
02A	F	3'-0" x 7'-0"	1 3/4"		CL	WD		-	-			GALV. H.M.	-		-	-	MARBLE	-	-
03A	F	3'-0" x 7'-0"	1 3/4"	-	CL	WD		-	-			GALV. H.M.	-		-	-	MARBLE	-	-
04A	B	3'-0" x 7'-0"	1 3/4"		-	WD		4" x 25"	-	TEMP.	-	H.M.					NONE	-	-
05A	A	3'-0" x 7'-0"	1 3/4"	-	L CL	WD		24" x 36"	-	TEMP.	-	H.M.	-				AL. [illegible]	-	-
06A	F	3'-0" x 7'-0"	1 3/4"	1 HR	L CL	WD		-	-		-	H.M.	1 HR		-	-	AL.	-	-
-	-					-		-	-	-	-	-			-			-	-
08A	F	3'-0" x 7'-0"	1 3/4"	1 HR	L CL	WD		-	-		-	H.M.	1 HR		-	-	AL.	-	-
09A	A	3'-0" x 7'-0"	1 3/4"		CL	WD		24" x 36"	-	TEMP.	-	H.M.	-			-		-	-
09B	C	3'-0" x 7'-0"	1 3/4"	-	L CL	AL. INSUL.	Y	24" x 36"	-	TEMP.	-	GALV. H.M.	-	Y		-	AL.	-	-
10A	C	3'-0" x 7'-0"	1 3/4"	-	L CL	AL.	Y	24" x 36"	-	TEMP.	-	AL.	-	Y	-	-	AL.	-	-
10B	C	3'-0" x 7'-0"	1 3/4"		L CL	AL.	Y	24" x 36"	-	TEMP.	-	AL.	-	Y		-	AL.	-	-
11A	B	3'-0" x 7'-0"	1 3/4"	-	CL	H.M.		4" x 25"	-	TEMP.	-	H.M.	-			-	AL. [illegible]	-	-
12A	F	3'-0" x 7'-0"	1 3/4"	2 HR	L CL	H.M.	Y	-			-	H.M.	2 HR			-	AL.	-	-
12B	OH	12'-0" x 12'-0"	2"	O.H.	CL	GALV. H.M.	Y	3'-1"-6"x3'	-	TEMP.	-	STEEL	-					-	-
12C	OH	12'-0" x 12'-0"	2"	O.H.	CL	GALV. H.M.		3'-1"-6"x3'	-	TEMP.		STEEL	-				-	-	-
12D	F	3'-0" x 7'-0"	1 3/4"	-	L CL	GALV. H.M.		-			-	H.M. GALV.	-		-	-	AL.	-	-
13A	D	(2)3'-0" x 7'-0"	1 3/4"	1HR	L CL	H.M.		-	-	-	-	H.M.	-			-	AL.	-	-
14A	F	3'-0" x 7'-0"	1 3/4"	1HR	L CL	H.M.		-			-	H.M.	-			-	AL.	-	-
15A	D	(2)3'-0" x 7'-0"	1 3/4"	-	L CL	H.M. INSUL.		6	-		-	H.M.	-		-	-	AL.	-	-
16A	C	(2)3'-0" x 7'-0"	1 3/4"	-	L CL	H.M. INSUL.		6	-		-	H.M.				-	AL.	-	-
17A	D	(2)3'-0" x 7'-0"	1 3/4"		L CL	H.M. INSUL.		6	-			H.M.			-	-	AL.	-	-
18A	C	(2)3'-0" x 7'-0"	1 3/4"		CL	H.M. INSUL.		6		-	-	H.M.					AL.		
-	-	-	-	-	-	-		-	-	-		-					-	-	-
20A	HM	(2)3'-6" x 7'-0"	1 3/4"	-	L	H.M.		6	-			H.M. GALV.	-		-		AL.	-	-
20B	HM	(2)3'-6" x 7'-0"	1 3/4"	-	L	H.M.		6		-	-	H.M. GALV.	-		-		AL.	-	-
20C	HM	(2)3'-6" x 7'-0"	1 3/4"		L	H.M.		6	-		-	H.M. GALV.			-		AL.	-	-
-	-	-	-	-	-												-	-	-

ALL DOORS SHALL HAVE LEVER HANDLES BOTH SIDES



DOOR TYPES
SCALE: 1/4"= 1'-0"



FRAME TYPES
SCALE: 1/4"= 1'-0"

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REVISIONS

#	DATE	DESCRIPTION

DATE:	09.17.01
PROJECT #:	041601
DRAWN BY:	GAT
CHECKED BY:	MM
DRAWING SCALE:	AS NOTED

SHEET TITLE

DOOR SCHEDULE

A700

I:\2001\041601-avis\a780-door schedule.dwg, 09/25/01 04:47:09 PM, DesignJet 755C C3198A.pc3

KEY TO FINISHES

PAINTS: MANUFACTURER : SHERWIN-WILLIAMS

P1 SW-1352 CRESCENT CREAM
P2 SW 1352 COPPER BANDS
P3 SW 1350 VOGUE GREEN
P4 SW 1553 CABARET PURPLE

CARPET: MANUFACTURER : PATCRAFT

C1 PATCRAFT-RADICAL 10015 MIND ERASER

VINYL COMPOSITION TILE MANUFACTURER : MANNINGTON

VCT1-MANNINGTON-DESIGNER ESSENTIALS 295 DEEP FERN
VCT2-MANNINGTON-DESIGNER ESSENTIALS 288 BRICK
VCT3-MANNINGTON-DESIGNER ESSENTIALS 244 NEW EGGPLANT
VCT4 MANNINGTON DESIGNER ESSENTIALS 101 NIGHT BLACK

PLASTIC LAMINATE: MANUFACTURER : FORMICA

PL1 FORMICA - A7241 CINNAMON DECO

VINYL BASE: MANUFACTURER : JOHNSONITE

VCB1-JOHNSONITE CORE BASE 86 HUNTER
VCB2-JOHNSONITE CORE BASE 40 BLACK

TILE: MANUFACTURER : DALTILE

T1 DALTILE ROCKY MOUNTAIN PORCELAIN-803-BEIGE-6X6 WALL TILE
T1.1 DALTILE-ROCKYMOUNTAIN PORCELAIN-803-BEIGE-12X12-WALL TILE
T1.2 DALTILE ROCKYMOUNTAIN PORCELAIN-803 BEIGE-4X12 BULLNOSE (MITER CUT ALL CORNERS)
GROUT LATICRETE- 97 SALTILLO (-11)
T2 DALTILE- GLAZE WALL TILE/ACCENTIALS-MATTE 0790 WHITE 3X6
T3 DALTILE- GLAZE WALL TILE/ACCENTIALS-MATTE 0707 TERRACOTTA 3X6
T4 DALTILE- GLAZE WALL TILE/ACCENTIALS MATTE 0721 SABLE WHITE 3X6

FINISH SCHEDULE

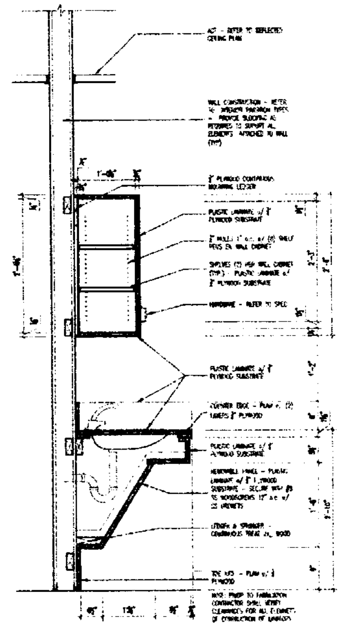
ABBREVIATIONS

BWD- BIRCH WOOD
C-CARPET
CT- CERAMIC TILE
CLG- CEILING
CONC- CONCRETE HARDENER & OR SEALER
SAT-SUSP. ACOUSTICAL TILE
GWB-GYPSUM WALL BOARD
GWB-E- EXTERIOR WATER PROOF SOFFIT-THR
GWB-MR GYP WALL BOARD-MOISTURE RESISTANT THR
PL- PLASTIC LAMINATE
MS- METAL SOFF. OVER 5/8" TYP X DRYWALL OR STRAPPING
VB- VINYL BASE
SV- SHEET VINYL
T-TILE
VCT-VINYL COMP. TILE
NO- NUMBER
N- NORTH
EXP-EXPOSED CONSTRUCTION
EP- EPOXY PAINT
E- EAST
S- SOUTH
W- WEST
MATL-MATERIAL
HT-HEIGHT
FIN-FINISH
P- PAINT
WC-WALLCOVERING
* PATCH TO MATCH EXISTING CONDITIONS

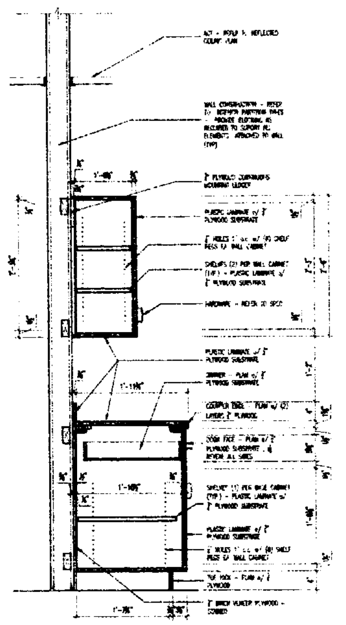
KEY PLAN

PROJECT NORTH

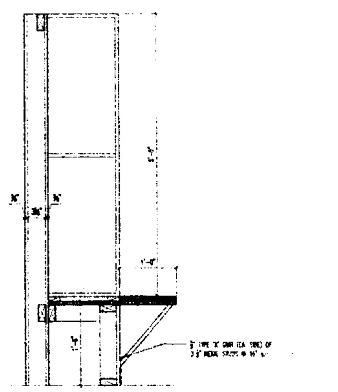
NO.	NAME	WALLS N	WALLS E	WALLS S	WALLS W	FLOOR MATL	FLOOR	FLOOR BASE	FLOOR BASE FINISH	CLG A TYPE	CLG A HT.	REMARKS
01	CARWASH BAY	T/P1	T/P1	T/P1	T/P1	CONC.	–	T1.2	–	GWB-E	16'-0"	WALLS ABOVE 8'-0" & CEIL WHITE EPOXY PAINT
02	MEN'S TOILET	T/P1	T/P1	T/P1	T/P1	T1.1	–	T1.2	–	SAT1	8'-0"	CT WALL TO 48" SEE ELEV.
03	WOMEN'S TOILET	T/P1	T/P1	T/P1	T/P1	T1.1		VCB1	–	SAT1	8'-0"	CT WALL TO 48" SEE ELEV.
04	OFFICE	P1	P2	P2	P1	C1	–	VCB	–	SAT2	8'-0"	
05	ADMINISTRATION AREA	P1	P1	P1	P1	C1	–	VCB1	–	SAT2	9'-0"	
06	STORAGE	P1	P1	P1	P1	VCT1		VCB1				
07	CORRIDOR	P1	P1	[illegible]	P2	CT1		T1.2				
08	STORAGE	P1	P1	P1	P1	VCT1		VCB1				
09	BREAK ROOM	P1	P4	P1	P1	VCT		VCB				PL1 @ COUNTERTOP/SEE ENLARGED PLAN FOR FLOOR PATTERN
10	VESTIBULE	P1	P1	P1	P1	CT1		T1.1				WALK OFF MAT
11	AIRPORT MANAGER	P1	P1	P1	P1	C1		VCB1				
12	MAINTENANCE BAYS	CMU/[illegible]	CMU	CMU	CMU/[illegible]	CONC	–	–	–	GWB/EP	16'-0"	
13	PARTS ROOM	CMU	CMU	CMU	CMU	CONC		–	–	EXP	9'-0"	
14	STORAGE	CMU	CMU	CMU	CMU	CONC	–	–	–	EXP	9'-0"	
15	FLUIDS	CMU	CMU	CMU	CMU	CONC	–	–	–	EXP	9'-0"	
16	STORAGE	CMU	CMU	CMU	CMU	CONC	–	–	–	GWB	10'-0"	
17	VACUUM	CMU	CMU	CMU	CMU	CONC	–	–	–	GWB	10'-0"	
18	FLUIDS	CMU	CMU	CMU	CMU	CONC	–	–	–	GWB	10'-0"	
19	WORK AREA	BRICK	/	BRICK	/	CONC	–	–	–	MS	13'-[illegible]"	
20	STORAGE	CMU	CMU	CMU	CMU	CONC	–	–	–	GWB	10'-0"	
21	SALT STORAGE	CMU	CMU	CMU	CMU	CONC	–	–	–	GWB	16'-0"	
22	MECH. ROOM	CMU	CMU	CMU	CMU	CONC	–	–	–	GWB	[illegible]	



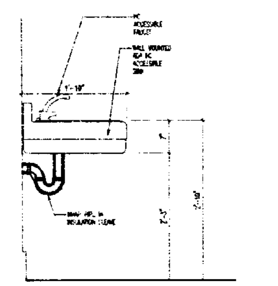
4 A800 CABINET SECTION
SCALE: 1" = 1'-0"



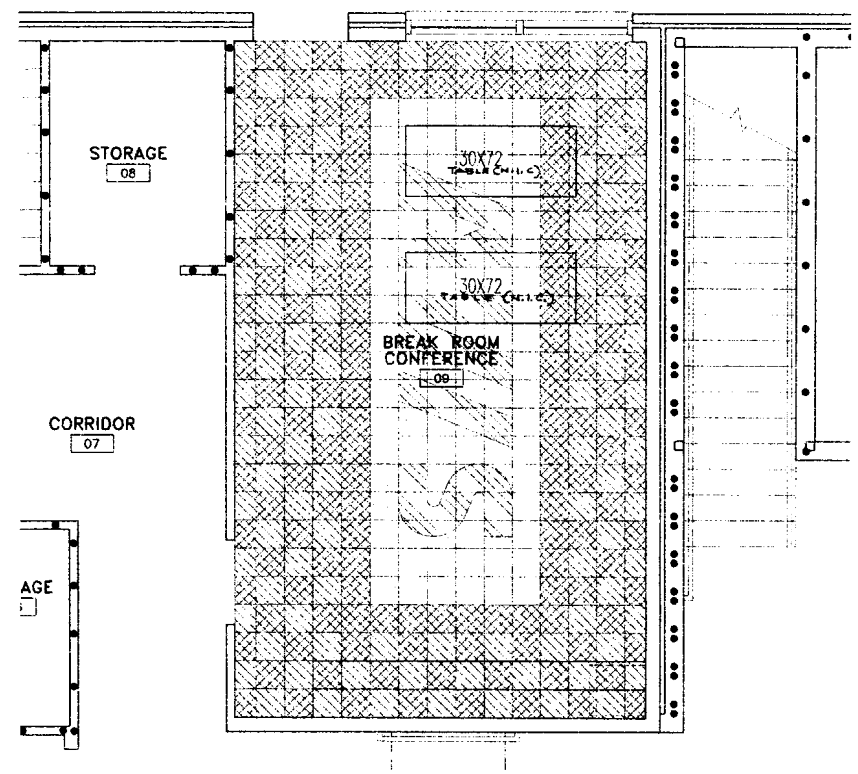
5 A800 CABINET SECTION
SCALE: 1" = 1'-0"



2 A800 BENCH/STORAGE SECTION
SCALE: 1" = 1'-0"



3 A800 HC SINK SECTION
SCALE: 1" = 1'-0"



1 A800 KITCHEN FLOOR TILE PLAN
SCALE: 1/2" = 1'-0"

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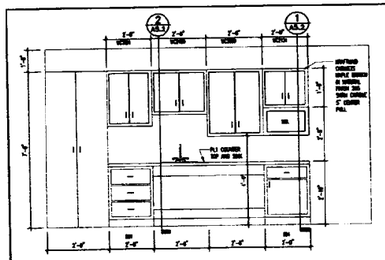
PORTLAND, ME.

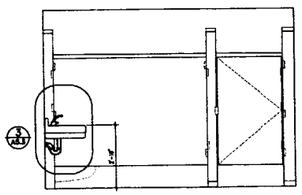
REVISIONS

SHEET TITLE: FINISH SCHEDULE & INTERIOR DETAILS

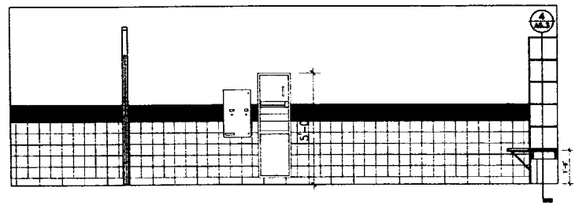
A800



2 A801 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"

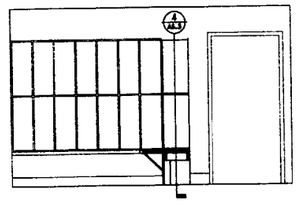


3 A801 INTERIOR ELEVATION
MEN'S TOILET 03 SCALE: 1/2" = 1'-0"

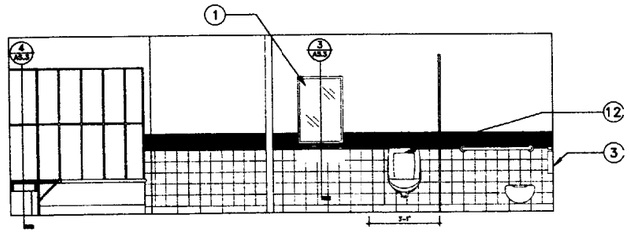


4 A801 INTERIOR ELEVATION
MEN'S TOILET 03
SCALE: 1/2" = 1'-0"

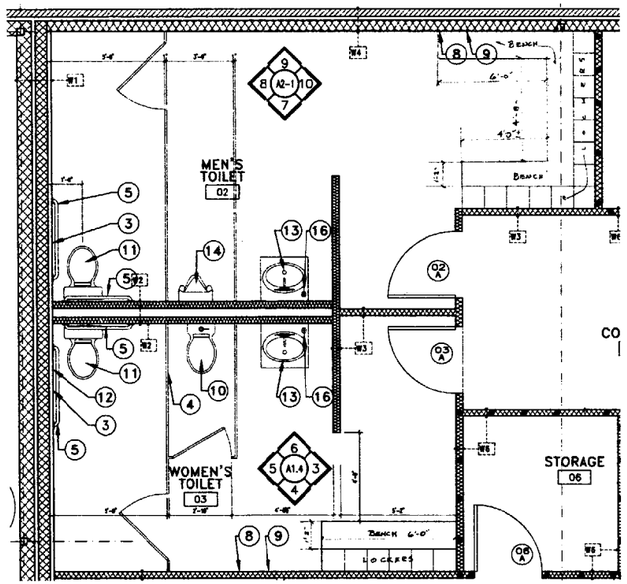
REST ROOM LEGEND



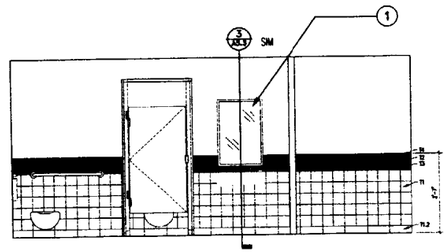
5 A801 INTERIOR ELEVATION
MEN'S TOILET 03 SCALE: 1/2" = 1'-0"



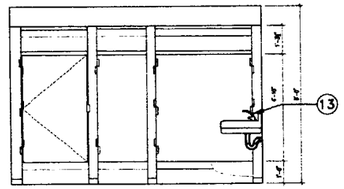
6 A801 INTERIOR ELEVATION
MEN'S TOILET 03
SCALE: 1/2" = 1'-0"



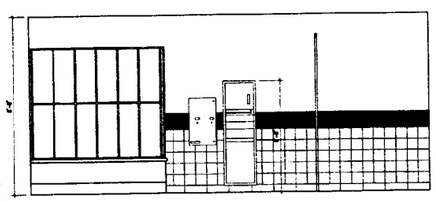
1 A801 ENLARGED FLOOR PLAN - WOMANS #39, MENS #2
SCALE: 1/2" = 1'-0"



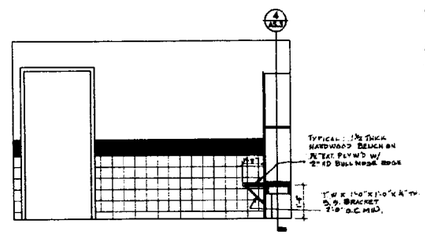
7 A801 INTERIOR ELEVATION
WOMEN'S TOILET 03 SCALE: 1/2" = 1'-0"



8 A801 INTERIOR ELEVATION
WOMEN'S TOILET 03
SCALE: 1/2" = 1'-0"



9 A801 INTERIOR ELEVATION
WOMEN'S TOILET 03 SCALE: 1/2" = 1'-0"



10 A801 INTERIOR ELEVATION
WOMEN'S TOILET 03
SCALE: 1/2" = 1'-0"

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PORTLAND, ME.

REVISIONS

NO	DATE	DESCRIPTION

DATE:	09/17/01
PROJECT #	01035
DRAWN BY:	GAT
CHECKED BY:	MM
DRAWING SCALE	AS NOTED

SHEET TITLE
ENLARGED TOILET ROOM PLANS AND ELEVATIONS

A801

GENERAL NOTES

1. THE NOTES ON THESE DRAWINGS ARE NOT INTENDED TO REPLACE SPECIFICATIONS. SEE SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO GENERAL NOTES. INCONSISTENCIES BETWEEN THESE DRAWINGS AND THE SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.
2. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, CHASES, INSERTS, REGLETS, SLEEVES, DEPRESSIONS, AND OTHER DETAILS 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 ARCHITECT BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
4. THE STRUCTURE IS NON-SELF SUPPORTING UNTIL ALL LATERAL ELEMENTS AND CONNECTIONS BETWEEN THEM ARE FULLY INSTALLED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE BUILDING AND COMPONENTS DURING ERECTION. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING (e.g. SHORING, SHEETING, GUYS, TIEDOWNS) UNTIL ROOF AND/OR FLOOR DECK, LATERAL RESISTING BRACING, AND CONCRETE SLABS, INCLUDING THE CONNECTIONS BETWEEN THEM, ARE IN PLACE. ALL FOUNDATION WALLS SHALL HAVE ADEQUATE TEMPORARY BRACING BEFORE BACKFILLING. THEREFORE, TEMPORARY BRACING FOR ANY STRUCTURAL COMPONENT SHALL REMAIN IN PLACE UNTIL LATERAL RESISTING ELEMENTS ARE FULLY INSTALLED.
5. SECTIONS AND DETAILS SHOWN ON ANY STRUCTURAL DRAWINGS SHALL BE CONSIDERED TYPICAL FOR SIMILAR CONDITIONS AS DETERMINED BY THE ARCHITECT.
6. THE CONTRACTOR SHALL SUBMIT COMPLETE SHOP DRAWINGS FOR ALL PARTS OF THE WORK, INCLUDING CONSTRUCTION METHODS AND SEQUENCING WHERE APPLICABLE. NO PERFORMANCE OF THE WORK INCLUDING, BUT NOT LIMITED TO, FABRICATION OR ERECTION OF NEW STRUCTURAL ELEMENTS, SHALL COMMENCE WITHOUT REVIEW OF THE SHOP DRAWINGS BY THE ARCHITECT AND ENGINEER. SUBMIT ONE COPY AND ONE SEPIA. COPY WILL BE REVIEWED AND SEPIA WILL BE RETURNED.
7. ALL APPLICABLE FEDERAL, STATE, AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED, INCLUDING THE FEDERAL DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.

DESIGN LOADS

1. BUILDING CODE: BOCA NATIONAL BUILDING CODE (1999) ASCE 7-95 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
2. DESIGN LIVE LOADS: ROOF
   - GROUND SNOW LOAD (Pg): 60 PSF
   - SNOW EXPOSURE FACTOR (C_e): 1.0
   - SNOW THERMAL FACTOR (C_t): 1.1
   - SNOW LOAD IMPORTANCE FACTOR (I): 1.0
   - FLAT ROOF SNOW LOAD (Pf): 46 PSF + DRIFT
3. DESIGN LOADS: SEISMIC
   - PEAK VELOCITY-RELATED ACCEL (A_v): 0.11
   - SEISMIC HAZARD EXPOSURE GROUP: I
   - SEISMIC PERFORMANCE CATEGORY: C
   - SOIL-PROFILE TYPE: S4 USING A SOIL FACTOR OF 2.0
   - ANALYSIS: EQUIVALENT FORCE PROCEDURE
   - STRUCTURAL SYSTEM/SEISMIC SYSTEM: REINFORCED MASONRY SHEAR WALLS & STEEL MOMENT FRAMES — $R = 5$, $C_d = 4.5$
4. DESIGN LIVE LOADS: WIND
   - BASIC WIND SPEED: 85 MPH
   - WIND LOAD IMPORTANCE FACTOR (I): 1.10 (CONSTR.)
   - WIND EXPOSURE: C
   - BASIC VELOCITY PRESSURE (Pv): 18.5 PSF

FOUNDATION NOTES (SOIL SUPPORTED)

1. FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH A [illegible] REPORT [illegible]
2. [illegible]
3. PRESUMPTIVE BEARING CAPACITY [illegible] PSF.
4. [illegible]
5. ALL UNCONTROLLED FILL, FOREST DUFF AND ORGANICS SHOULD BE REMOVED FROM THE AREA OF THE PLANNED [illegible] TO AT LEAST 4.0 FEET BEYOND THE FOOTING LIMIT. PROOF ROLL EXISTING [illegible] SUBGRADE.
6. NO FILL FOR BUILDING SUPPORT SHALL BE PLACED UNTIL [illegible]
7. COMPACTED STRUCTURAL FILL PLACED [illegible] A CLEAN [illegible] HAVING THE FOLLOWING GRADATION:

PASSING SIEVE	SCREEN OR SIEVE SIZE PERCENT
[illegible]	100
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	0 - 8

8. ALL FILL SHALL BE PLACED IN [illegible] LIFTS AND BE COMPACTED TO [illegible] DRY DENSITY PER ASTM D-1557, MODIFIED PROCTOR TEST.
9. [illegible]
10. [illegible]
11. [illegible]
12. [illegible]

SUBMITTALS

1. THE CONTRACTOR SHALL SUBMIT COMPLETE SHOP DRAWINGS FOR ALL PARTS OF THE WORK, INCLUDING CONSTRUCTION METHODS AND SEQUENCING WHERE APPLICABLE. NO PERFORMANCE OF THE WORK INCLUDING, BUT NOT LIMITED TO, ERECTION OF NEW STRUCTURAL ELEMENTS, SHALL COMMENCE WITHOUT REVIEW OF THE SHOP DRAWINGS BY THE ARCHITECT AND ENGINEER. SUBMIT ONE COPY AND ONE SEPIA. COPY WILL BE REVIEWED AND SEPIA WILL BE RETURNED.
2. REQUIRED SUBMITTALS INCLUDE:
   - CONCRETE MIX DESIGN
   - CONCRETE REINFORCING INCLUDING BAR SUPPORTS
   - STRUCTURAL STEEL MILL CERTIFICATIONS
   - STRUCTURAL STEEL FRAMING FABRICATION DRAWINGS
   - OPEN WEB STEEL JOIST ERECTION DRAWINGS & DETAILS
   - STEEL DECK ERECTION DRAWINGS

TESTING

1. OWNER WILL ENGAGE A QUALIFIED TESTING AGENCY TO CONDUCT PERIODIC TESTS TO CONFIRM THAT CONSTRUCTION IS IN CONFORMANCE WITH SPECIFIED PROCEDURES, DRAWINGS AND SPECIFICATIONS. TEST REPORTS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER.
2. TESTING SHALL INCLUDE:
   - STRUCTURAL FILL GRADATION AND COMPACTION
   - CONCRETE SLUMP, TEMPERATURE, AIR CONTENT AT POINT OF PLACEMENT
   - CONCRETE COMPRESSION TESTS
   - STRUCTURAL STEEL FIELD BOLTED CONNECTIONS
   - STRUCTURAL STEEL FIELD WELDED CONNECTION INCLUDING ULTRASONIC TESTING OF ALL FULL PENETRATION WELDS AT ANY MOMENT CONNECTIONS.

CONCRETE NOTES

1. CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318 - 95)," AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301-96)." THESE PUBLICATIONS ARE AVAILABLE THROUGH AMERICAN CONCRETE INSTITUTE (313) 532-2600.
2. GENERAL CONTRACTOR, CONSTRUCTION MANAGER OR OWNER'S CLERK OF THE WORKS SHALL HAVE AVAILABLE ON SITE AT ALL TIMES A COPY OF ACI "FIELD REFERENCE MANUAL SP-15(96)". THIS PUBLICATION IS AVAILABLE THROUGH AMERICAN CONCRETE INSTITUTE (313) 532-2600.
3. CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED, AND PLACED IN THE PRESENCE OF A REPRESENTATIVE OF AN APPROVED TESTING AGENCY.
4. CONCRETE MIX DESIGN:
   - FOOTINGS AND FOUNDATION WALLS:
     - A. STRENGTH: 3000 PSI @ 28 DAYS
     - B. AGGREGATE: 3/4"
     - C. W/C RATIO: 0.50 MAX
     - D. ENTRAINED AIR: 6% MIN, 4% MIN
     - E. SLUMP: 4" MAX
   - INTERIOR SLABS ON GRADE:
     - A. STRENGTH: 4000 PSI @ 28 DAYS
     - B. AGGREGATE: 3/4"
     - C. W/C RATIO: 0.40 MAX
     - D. ENTRAINED AIR: 3% MAX, 3% MIN
     - E. SLUMP: 4" MAX
   - EXTERIOR SLABS ON GRADE:
     - A. STRENGTH: 4000 PSI @ 28 DAYS
     - B. AGGREGATE: 3/4"
     - C. W/C RATIO: 0.40 MAX
     - D. ENTRAINED AIR: 7% MAX, 5% MIN
     - E. SLUMP: 4" MAX
5. ADD AIR ENTRAINING ADMIXTURE AT MANUFACTURER'S PRESCRIBED RATE TO RESULT IN CONCRETE AT POINT OF PLACEMENT HAVING THE ABOVE NOTED AIR CONTENTS.
6. ADDITIONAL SLUMP MAY BE ACHIEVED BY THE ADDITION OF A MID-RANGE OR HIGH-RANGE WATER REDUCING ADMIXTURE. MAXIMUM SLUMP AFTER THE ADDITION OF ADMIXTURE SHALL NOT EXCEED 8".
7. ADJUSTMENT TO CONCRETE MIXES: MIX DESIGN ADJUSTMENTS MAY BE REQUESTED BY CONTRACTOR, WHEN CHARACTERISTICS OF MATERIALS, JOB CONDITIONS, WEATHER, OR OTHER CIRCUMSTANCES WARRANT, AT NO ADDITIONAL COST TO OWNER AND AS ACCEPTED BY ARCHITECT. LABORATORY TEST DATA FOR REVISED MIX DESIGN AND STRENGTH RESULTS MUST BE SUBMITTED TO AND ACCEPTED BY ARCHITECT BEFORE USING IN WORK.
   - A. WATER MAY BE ADDED AT THE PROJECT ONLY IF THE MAXIMUM SPECIFIED SLUMP AND DESIGN MIX MAXIMUM WATER/CEMENT RATIO IS NOT EXCEEDED.
   - B. ADDITIONAL DOSES OF SUPERPLASTICIZER SHOULD BE USED WHEN DELAYS OCCUR AND MAXIMUM SLUMP HAS NOT BEEN MAINTAINED. A MAXIMUM OF TWO ADDITIONAL DOSAGES WILL BE PERMITTED PER ACI 212.3R RECOMMENDATIONS.
8. CONCRETE MIXING:
   - A. JOB-SITE MIXING: WILL NOT BE PERMITTED.
   - B. READY-MIX CONCRETE: MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 94, AND AS HEREIN SPECIFIED. PROVIDE BATCH TICKET FOR EACH BATCH DISCHARGED AND USED IN WORK, INDICATING PROJECT NAME, MIX TYPE, MIX TIME AND QUANTITY.
   - C. DURING HOT WEATHER, OR UNDER CONDITIONS CONTRIBUTING TO RAPID SETTING A SHORTER MIXING TIME THAN SPECIFIED IN ASTM C 94 MAY BE REQUIRED BY ENGINEER.
   - D. WHEN THE AIR TEMPERATURE IS BETWEEN 85 DEGREES F. AND 90 DEGREES F., REDUCE THE MIXING AND DELIVERY TIME FROM 1 1/2 HOURS TO 75 MINUTES, AND WHEN THE AIR TEMPERATURE IS ABOVE 90 DEGREES F., REDUCE THE MIXING AND DELIVERY TIME TO 60 MINUTES.
9. CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.
10. PROVIDE PVC SLEEVES WHERE PIPES PASS THROUGH EXTERIOR CONCRETE WALLS, BEAMS OR SLABS.
11. 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.
12. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185 AND BE FURNISHED IN FLAT SHEETS.
13. FIBER REINFORCEMENT SHALL BE TYPE III SYNTHETIC VIRGIN HOMOPOLYMER POLYPROPYLENE FIBERS CONFORMING TO ASTM C1116.
14. COMPLETE SHOP DRAWINGS AND SCHEDULES OF ALL REINFORCING STEEL SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE STRUCTURAL ENGINEER FOR RECORD. PROVIDE AND SCHEDULE ON SHOP DRAWINGS THE NECESSARY ACCESSORIES TO HOLD REINFORCEMENT SECURELY IN POSITION. MINIMUM REQUIREMENTS SHALL BE: HIGH CHAIRS AT 4'-0" O.C. WITH CONTINUOUS #5 SUPPORT BAR; SLAB BOLSTERS, CONTINUOUS AND 3'-6 O.C.; BEAM BOLSTERS AT 5'-0" O.C.
15. MINIMUM CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:
    - A) SURFACES CAST AGAINST AND PERMANENTLY IN CONTACT WITH EARTH — 3"
    - B) FORMED SURFACES IN CONTACT WITH EARTH OR EXPOSED TO WEATHER:
      - #5 BARS, 5/8" DIAMETER WIRE, AND SMALLER — 1.5"
      - #6 THROUGH #11 BARS — 2"
    - C) SURFACES NOT IN CONTACT WITH EARTH OR EXPOSED TO WEATHER:
      - WALLS, SLABS, JOISTS #11 BARS AND SMALLER — 1"
      - BEAMS, GIRDERS, AND COLUMNS; ALL REINFORCEMENT — 1.5"
16. REINFORCEMENT SHALL BE CONTINUOUS AROUND CORNERS AND AT INTERSECTIONS. PROVIDE LAPPED BARS AT NECESSARY SPLICES OR HOOKED BARS AT DISCONTINUOUS ENDS. PROVIDE TENSION LAP SPLICES FOR ALL REINFORCING AS SHOWN ON TABLE - SHT S0.
17. WELDING OF REINFORCEMENT IS NOT PERMITTED.
18. FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS, PROVIDE SUPPLEMENTAL REINFORCING AROUND OPENING AS SHOWN ON THE CONTRACT DOCUMENTS TYPICAL DETAILS.
19. CONSTRUCTION JOINTS SHOWN ON DRAWINGS ARE MANDATORY. OMISSIONS, ADDITIONS, OR CHANGES SHALL NOT BE MADE EXCEPT WITH THE SUBMITTAL OF A WRITTEN REQUEST TOGETHER WITH DRAWINGS OF THE PROPOSED JOINT LOCATIONS FOR APPROVAL OF THE STRUCTURAL ENGINEER.
20. WHERE CONSTRUCTION JOINTS ARE NOT SHOWN, OR WHEN ALTERNATE LOCATIONS ARE PROPOSED, DRAWINGS SHOWING LOCATION OF CONSTRUCTION AND CONTROL JOINTS AND CONCRETE PLACING SEQUENCE SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO PREPARATION OF THE REINFORCEMENT SHOP DRAWINGS.
    LIMIT PLACEMENT SIZE OR LOCATE CONTROL JOINTS AS FOLLOWS:
    - A) FOOTINGS AND WALLS — MAX. LENGTH 40'-0" MIN 15'-0" FROM ANY CORNER
    - B) SLABS ON GRADE — MAX AREA 225 SF
22. CONCRETE SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS EXCEPT WHERE SHOWN OR NOTED. VERTICAL CONSTRUCTION JOINTS AND STOPS IN CONCRETE WORK SHALL BE MADE AT MIDSPAN OR AT POINTS OF MINIMUM SHEAR.
23. ANCHOR BOLTS SHALL BE HEADED BOLTS CONFORMING TO ASTM A307 UNLESS NOTED OTHERWISE ON DRAWINGS.
24. ALL GROUT BENEATH BASE PLATES & BEARING PLATES SHALL BE "5-STAR" 5000-PSI NON-SHRINK GROUT BY U.S. GROUT CORP.
25. INSTALLATION OF REINFORCEMENT SHALL BE COMPLETED AT LEAST 24 HOURS PRIOR TO THE SCHEDULED CONCRETE PLACEMENT. NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER OF COMPLETION AT LEAST 24 HOURS PRIOR TO THE SCHEDULED COMPLETION OF THE INSTALLATION OF REINFORCEMENT.
26. CONCRETE ANCHORS SHALL BE POWERFAST ADHESIVE ANCHORS BY POWERS/RAWL, NEW ROCHELLE, NY (914) 235-6300.

STRUCTURAL STEEL NOTES

1. STRUCTURAL STEEL FABRICATION, ERECTION, AND CONNECTION DESIGN SHALL CONFORM TO AISC SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL, 9th EDITION, AND THE CODE OF STANDARD PRACTICE, JUNE 10, 1992.
2. STRUCTURAL STEEL: PLATES AND ANGLES SHALL CONFORM TO ASTM A36 UNLESS NOTED OTHERWISE (UNO). STRUCTURAL STEEL WIDE FLANGE & CHANNEL SHAPES SHALL CONFORM TO ASTM A992, GRADE 50.
3. STRUCTURAL TUBING: CONFORM TO ASTM A500 GRADE B 46 KSI.
4. FIELD CONNECTIONS SHALL BE BOLTED USING 3/4" DIAMETER ASTM A325N HIGH STRENGTH BOLTS (HSB) EXCEPT WHERE SLIP CRITICAL CONNECTIONS ARE REQUIRED AND NOTED BY A325(SC) ON THE DRAWINGS. PROVIDE A325 (SC) CONNECTIONS AT ALL BRACED FRAMES, RELEVING ANGLES AND AS OTHERWISE NOTED.
5. 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 RODS TO PRODUCE OPTIMUM WELD (LOW HYDROGEN).
6. DESIGN AND DETAIL ALL CONNECTIONS ACCORDING TO AISC REQUIREMENTS. DESIGN STANDARD BEAM CONNECTIONS FOR THE MINIMUM UNIFORM LOAD CAPACITY OF THE MEMBER. BRACING CONNECTIONS HAVE BEEN DETAILED ON THE DRAWINGS.
7. ALL STEEL SHALL BE FABRICATED AND SHIPPED AS SHOP UN-PAINTED STEEL, EXCEPT STEEL PERMANENTLY EXPOSED TO WEATHER. ALL STEEL EXPOSED TO WEATHER SHALL BE PAINTED WITH THE FABRICATOR'S SHOP STANDARD PRIMER, TNEMEC 10-99 OR EQUAL AND TOP COATED WITH TNEMEC SERIES 2 GLOSS ENAMEL OR HOT DIPPED GALVANIZED AS INDICATED ON THE DRAWINGS.
8. ANCHOR BOLTS SHALL BE ASTM A307 HEADED BOLTS OF THE DIAMETERS AND DIMENSIONS DETAILED UNLESS OTHERWISE NOTED ON THE DRAWINGS.
9. PROVIDE 3/8" MINIMUM STIFFENER PLATES EACH SIDE OF WEB AT BEAMS FRAMING OVER COLUMNS AND AT BEAMS SUPPORTING COLUMNS ABOVE.
10. PROVIDE 1/4" THICK LEVELING PLATE UNDER ALL COLUMN BASE PLATES UNLESS OTHERWISE NOTED. LEVELING PLATES SHALL BE SET AND GROUTED PRIOR TO ERECTING COLUMNS.
11. PROVIDE ALL ANGLES, PLATES, ANCHORS, BOLTS, ETC., SHOWN ON ARCHITECTURAL DRAWINGS.
12. LINTELS FOR EXTERIOR MASONRY AND STRUCTURAL STEEL EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED ACCORDING TO ASTM A123, UNLESS OTHERWISE NOTED TO BE PAINTED. REFER TO LINTEL SCHEDULES FOR LINTEL SIZES.
13. COAT ALL COLUMNS BELOW SLAB WITH BITUMINOUS MASTIC.

METAL DECK

1. THE METAL DECK SHALL BE FORMED OF STEEL SHEETS CONFORMING TO ASTM STANDARD A611.
2. METAL DECK SHALL BE VULCRAFT 1-1/2" DEEP, 22 GAGE, PAINTED TYPE B, METAL DECK, OR EQUAL WITH THE FOLLOWING MINIMUM PROPERTIES PER FOOT:

$$I_p = 0.150\ in^4$$
$$I_n = 0.182\ in^4$$
$$Sp = 0.178\ in^3$$
$$Sn = 0.189\ in^3$$

3. WELD DECK SHEETS 12 INCHES ON CENTER TO ALL STRUCTURAL SUPPORTS WITH 5/8 INCH DIAMETER OR LARGER PUDDLE WELDS UNLESS OTHERWISE NOTED ON DRAWINGS. WELD DECK AROUND OPENINGS, ALONG EXPANSION JOINTS, ALONG BRACED FRAME COLUMN LINES, AND AROUND THE BUILDING PERIMETER AT 6 INCHES ON CENTER INCLUDING THE SIDES OF THE DECK. PROVIDE SIDELAP SCREWS AT 1/3 POINTS OF THE DECK SPAN (2 SCREWS PER SPAN). SEE SPECIFICATIONS FOR ADDITIONAL ATTACHMENT CRITERIA.

OPEN WEB STEEL JOISTS

1. DESIGN, DETAIL, FABRICATE AND ERECT STEEL JOISTS IN ACCORDANCE WITH THE LATEST EDITION OF STANDARD SPECIFICATIONS OF THE STEEL JOIST INSTITUTE.
2. PROVIDE BRIDGING IN ACCORDANCE WITH SJI SPECIFICATIONS. PROVIDE X BRIDGING IN ALL SPANS ADJACENT TO BEAMS AND WHERE INDICATED ON THE DRAWINGS. BRIDGING DESIGN SHALL BE BY THE JOIST SUPPLIER. JOIST FABRICATOR SHALL SUPPLY ALL ANGLE BRIDGING AND MASONRY ANCHORS FOR BRIDGING.
3. PROVIDE CAMBER IN ALL JOISTS AS RECOMMENDED IN SECTION 4.7 OF SJI STANDARD SPECIFICATIONS.
4. SLOPE JOIST SEATS TO ATTAIN UNIFORM BEARING ON SUPPORTING MEMBERS.
5. ALL K-SERIES JOISTS SHALL HAVE WELDED CONNECTIONS. WELDS TO BE 1/4" x 2" LONG FILLETS EACH SIDE OF JOIST SEAT. USE (2) 1/2" DIAMETER A325 BOLTS IN SLIP-CRITICAL CONNECTION AT TIE-JOISTS (T.J.) OR ON NEAREST COLUMN LINES.
6. PROVIDE BOTTOM CHORD EXTENSIONS AT THE 3 JOISTS NEAREST THE COLUMN TO BRACE THE BOTTOM FLANGE OF BEAMS THAT CANTILEVER OVER COLUMNS, AND WHERE SHOWN ON PLAN. STEEL FABRICATOR TO SUPPLY (2) 2" x 2" x 1/4" ANGLES PER JOIST EXTENSION. DO NOT CONNECT JOIST EXTENSIONS TO BEAMS UNTIL THE BUILDING IS PLUMB AND ALL DEAD LOADS ARE APPLIED.
7. EXTENDED ENDS (R-TYPE) SHALL BE PROVIDED WHERE DECK EXTENDS BEYOND SUPPORTS.
8. JOIST FABRICATOR SHALL SHOW ON SHOP DRAWINGS DISTANCE FROM CENTER LINE OF SUPPORT TO FIRST PANEL OF JOIST.
9. JOISTS SHALL BE THOROUGHLY INSPECTED DURING FABRICATION TO ENSURE COMPLIANCE WITH CODES AND GOOD WORKMANSHIP.
10. HANDLING AND ERECTION SHALL BE DONE WITH CARE.
11. HANGERS FOR DUCTS, PIPES, UNITS, ETC., MUST BE ATTACHED TO JOISTS AT PANEL POINTS ONLY.
12. THE SJI SPECIFICATIONS REQUIRE BOLTED DIAGONAL BRIDGING TO BE INSTALLED FOR SOME K-SERIES JOISTS BEFORE SLACKENING THE HOISTING LINES. THE JOIST SPANS REQUIRING THIS STABILITY BRIDGING ARE SHADED IN THE LOAD TABLES. JOIST ERECTOR SHALL REVIEW AND COMPLY WITH SJI REQUIREMENTS.

MASONRY NOTES

1. ALL MASONRY CONSTRUCTION SHALL CONFORM TO ACI 530.1-LATEST EDITION.
2. ALL CONCRETE MASONRY UNITS SHALL BE ASTM C90 GRADE N, TYPE I STANDARD WEIGHT BLOCKS INCLUDING STRETCHERS AND CORNER BLOCKS. MINIMUM PRISM STRENGTH OF BLOCK SHALL BE f'm = 1500 PSI IN 28 DAYS.
3. MORTAR SHALL CONFORM TO ASTM SPECIFICATION C270, TYPE M OR S.
4. GROUT SHALL CONFORM TO ASTM-C476.
5. REINFORCING FOR BOND BEAMS, LINTEL BLOCKS AND VERTICAL WALL REINFORCING SHALL BE BILLET STEEL CONFORMING TO ASTM A615, GRADE 60.
6. HORIZONTAL JOINT REINFORCING SHALL BE DUR-O-WAL TRUSS DESIGN, STANDARD CLASS MILL GALVANIZED WITH 9 GAGE SIDE RODS AND 9 GAGE CROSS TIES UNO. REINFORCING SHALL BE PLACED IN MASONRY WALLS AT EVERY SECOND BLOCK COURSE.
7. CONCRETE MASONRY UNITS SHALL BE LAID IN RUNNING BOND UNLESS OTHERWISE NOTED. PROVIDE FULL MORTAR COVERAGE ON ALL WEBS AND FACE SHELLS. PROVIDE CORNER BLOCKS AND END BLOCKS TO FINISH ALL 90 DEGREE CORNERS AND WALL OPENINGS.
8. ALL WALL PENETRATIONS SHALL RECEIVE A LINTEL AS INDICATED.
9. STANDARD LAP LENGTH OF GRADE 60 MASONRY REINFORCING BARS SHALL BE 48 BAR DIAMETERS. PROVIDE CORNER BARS TO MATCH HORIZONTAL REINFORCEMENT.
10. CELLS TO BE GROUTED SHALL BE 2-CELL BLOCK. ALIGN CELLS TO MAINTAIN A CLEAR UNOBSTRUCTED, CONTINUOUS VERTICAL CHASE AND CELLS MUST BE KEPT CLEAN OF PROTRUSIONS OR FINS OF MORTAR. FILL CELLS OF MASONRY UNITS AND WALL CAVITIES WHERE INDICATED WITH 2000 PSI GROUT. MAXIMUM GROUT LIFT WITHOUT CLEAN-OUTS SHALL BE 4'-0". HIGH LIFT GROUTING SHALL CONFORM TO CODE REQUIREMENTS WITH A MINIMUM CEMENT CONTENT OF 8 SACKS PER CUBIC YARD. SUPPORT ALL VERTICAL BARS IN CENTER OF GROUTED CELLS WITH VERTICAL BAR POSITIONERS.
11. PROVIDE 1-#5 REINFORCING BAR MINIMUM AND AROUND ALL SIDES OF ALL WALL OPENINGS. PROVIDE 1-#5 VERTICAL REINFORCING BAR EACH SIDE OF STEEL COLUMNS, WITHIN 16" OF COLUMN. PROVIDE #5 VERTICAL BARS AT 24" O.C. WITHIN FIELD OF WALL. GROUT ALL CELLS SOLID WHICH CONTAIN VERTICAL REBAR. ALL VERTICAL STEEL SHALL BE POSITIONED IN THE CENTER OF THE WALL.
12. ALL STEEL SUPPORTED BY BLOCK WORK SHALL BE FIELD ANCHORED BY THE USE OF GOVERNMENT ANCHORS AND FIELD WELDED TO BEARING PLATES PROPERLY EMBEDDED IN THE BOND BEAM.
13. FIELD PENETRATIONS THROUGH BLOCK WALLS SHALL NOT BE MADE THROUGH BOND BEAMS, LINTELS OR GROUTED CELLS.

LINTELS

1. THE FOLLOWING MINIMUM LINTELS SHALL BE USED FOR BRICK OPENINGS:

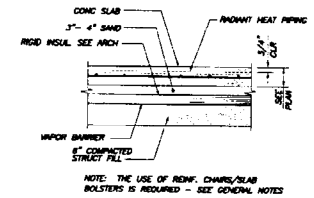
MASONRY OPENING	LINTEL SIZE
UP TO 3'-0"	L 3 1/2 x 3 1/2 x 5/16
3'-1" TO 4'-6"	L 4 x 3 1/2 x 5/16 (LLV)
4'-7" TO 6'-6"	L 5 x 3 1/2 x 5/16 (LLV)
6'-1" TO 8'-0"	L 6 x 3 1/2 x 5/16 (LLV)
8'-1" TO 12'-0"	L 8 x 3 1/2 x 3/8 (LLV)

2. SEE SCHEDULE ON S4 AND LINTEL MARKS INDICATED ON S2 FOR CMU OPENING LINTELS.
3. PROVIDE 8" OF BEARING AT EACH END OF ALL LINTELS.
4. ALL STEEL ANGLE LINTELS SHALL BE HOT-DIPPED GALVANIZED.

TRUSS NOTES

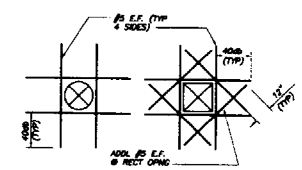
1. TRUSS MANUFACTURER SHALL PROVIDE DESIGN OF ALL PERMANENT TRUSS MEMBER BRACING FOR WIND AND CHORDS. INDICATE SIZE AND LOCATION ON SHOP DWGS.
2. CONTRACTOR SHALL INSTALL TEMPORARY TRUSS BRACING DURING ERECTION PER LEBCO-FIELD INSTALLATION GUIDE FOR COLD FORMED STEEL TRUSSES; LIGHT GAGE STEEL ENGINEERS ASSOCIATION, OCTOBER 1998. ALSO INCORPORATE PERMANENT BRACING REQUIREMENTS, PER ITEM (1) ABOVE.
3. TEMPORARY BRACING MAY BE LEFT IN PLACE AND SERVE AS PERMANENT BRACING.
4. PERMANENT BOTTOM CHORD BRACING CONNECTIONS TO THE BUILDING WILL BE DESIGNED IN THE SHOP DWG PHASE FOLLOWING REVIEW OF TRUSS MEMBER FORCES.
5. TRUSS MANUFACTURER SHALL VISIT THE SITE TO INSPECT THE TRUSSES AFTER PERMANENT BRACING IS INSTALLED TO ENSURE THAT BRACING SATISFIES THE DESIGN REQUIREMENTS. PROVIDE A REPORT TO ENGINEER.
6. PROVIDE GABLE END TRUSSES WITH VERTICALS AT 2'-0" O.C. DESIGN WIND LOAD PER 1999 BOCA CODE.
7. TRUSS DESIGN SHALL CONFORM TO LATEST AISI DESIGN STANDARDS, SEE SPECIFICATIONS.
8. SEE MECHANICAL DRAWINGS FOR SPECIAL LOADING AT MECHANICAL LOW ROOF AREAS.
9. TRUSS MANUFACTURER TO PROVIDE ALL HANGERS AND CONNECTION MATERIAL.
10. TRUSS MANUFACTURER TO SUBMIT SHOP DRAWINGS AND CALCULATIONS STAMPED BY AN ENGINEER REGISTERED IN THE STATE OF MAINE FOR REVIEW PRIOR TO FABRICATION. SUBMITTALS WITHOUT STAMP WILL NOT BE REVIEWED. EACH TRUSS DESIGN DRAWING SHALL INCLUDE THE FOLLOWING:
    - A. SLOPE, SPAN, AND SPACING.
    - B. LOCATION OF ALL JOINTS.
    - C. REQUIRED BEARING WIDTHS.
    - D. CHORD AND WEB MEMBER TYPE.
    - E. CALCULATED HORIZONTAL AND VERTICAL DEFLECTION.
    - F. MAXIMUM AXIAL AND COMPRESSION FORCES IN EA OF THE TRUSS MEMBERS TO ENABLE THE BUILDING DESIGNER TO DESIGN THE SIZE, CONNECTIONS AND ANCHORAGE OF PERMANENT CONTINUOUS LATERAL BRACING.
    - G. REQUIRED PERMANENT TRUSS BRACING LOCATIONS.

REBAR LAP SPLICE TABLE		
BAR SIZE	LAP LENGTH	
	3,000 PSI	4,000 PSI
#3	30"	24"
#4	36"	32"
#5	48"	42"
#6	56"	48"
#7	81"	72"

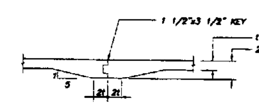


NOTE: THE USE OF REINF. CHAIRS/SLAB BOLSTERS IS REQUIRED - SEE GENERAL NOTES

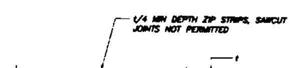
TYP SLAB DETAIL
N.T.S.



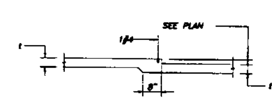
TYP OPENING IN WALL OR SLAB
N.T.S.



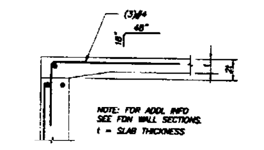
TYP SLAB ON GRADE CONST JOINT DETAIL
N.T.S. t = SLAB THICKNESS



TYP SLAB ON GRADE CONTROL JOINT DETAIL
N.T.S. t = SLAB THICKNESS

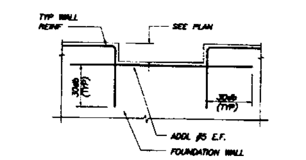


TYP SLAB ON GRADE DEPRESSION DETAIL
N.T.S. t = SLAB THICKNESS

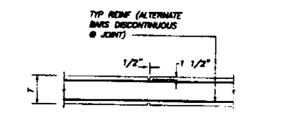


NOTE: FOR ADDL INFO SEE FDN WALL SECTIONS.
t = SLAB THICKNESS

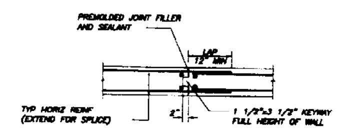
TYP SLAB DETAIL @ DOOR
N.T.S.



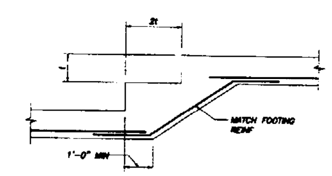
TYP WALL DEPRESSION DETAIL @ DOOR
N.T.S.



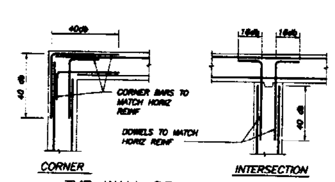
TYP CONTROL JOINT IN WALL
N.T.S. T = WALL THICKNESS



TYP CONSTRUCTION JOINT IN WALL
N.T.S. t = WALL THICKNESS



TYP STEP FOOTING DETAIL
N.T.S. t = FOOTING THICKNESS



TYP WALL REINF DETAILS
N.T.S.

STATE OF MAINE — PAUL B. BECKER 6664 — LICENSED PROFESSIONAL ENGINEER

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SEPT 17, 2001

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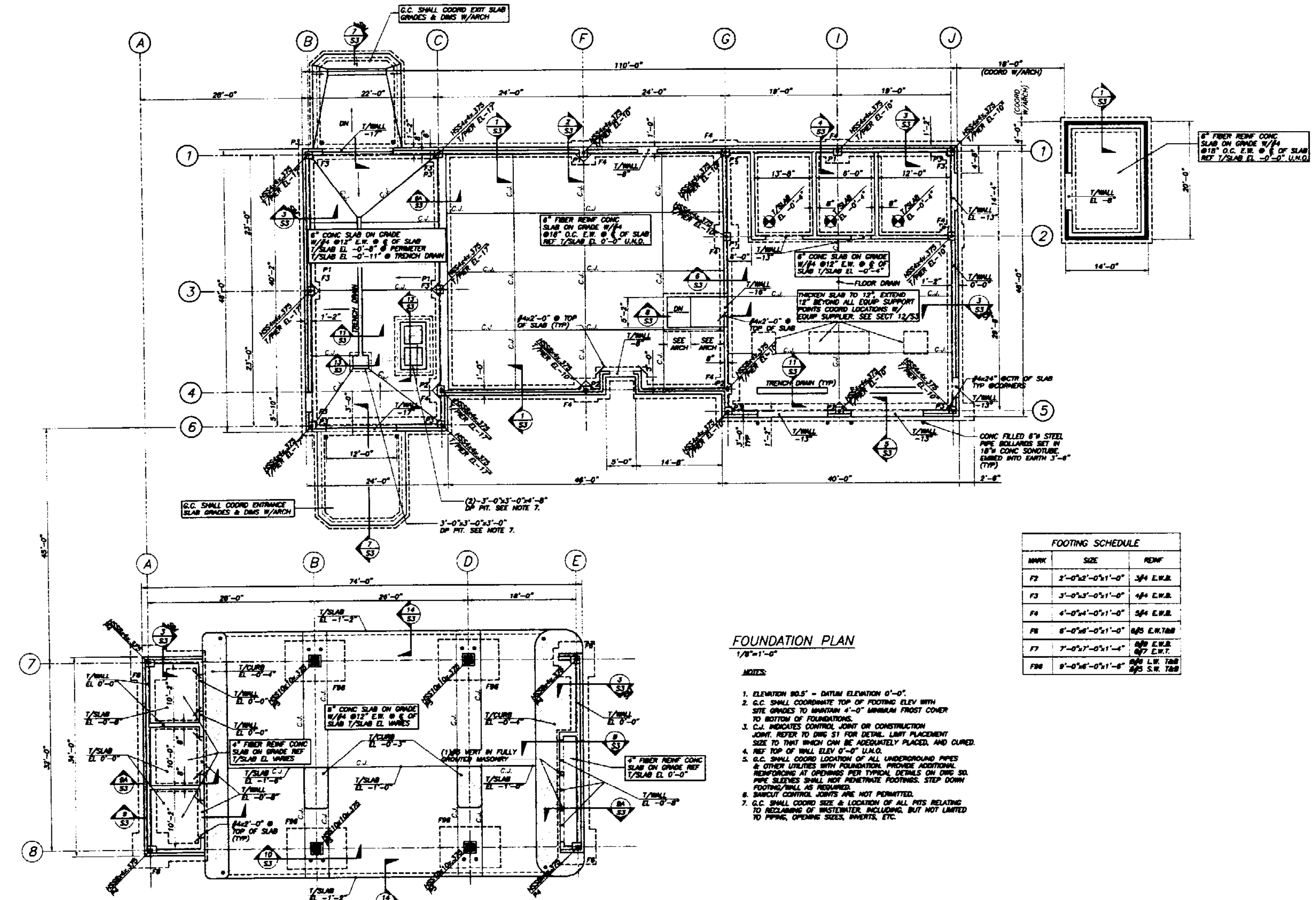
REVISIONS		
#	DATE	DESCRIPTION

DATE:	09/17/01
PROJECT #	740.00
DRAWN BY:	TEM
CHECKED BY:	PBB
DRAWING SCALE	AS NOTED

SHEET TITLE

GENERAL NOTES & TYPICAL DETAILS

S0



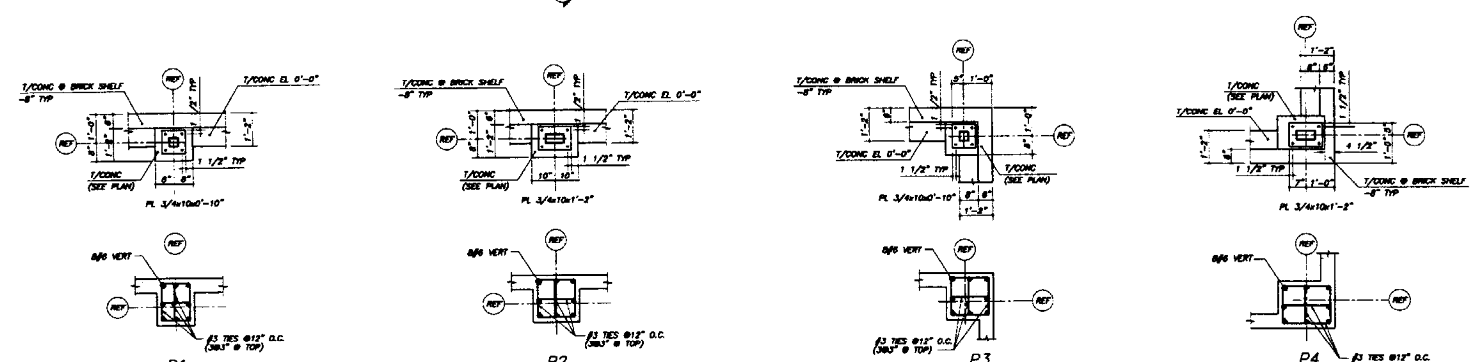
FOUNDATION PLAN

1/8"=1'-0"

NOTES:

1. ELEVATION 90.5' = DATUM ELEVATION 0'-0".
2. G.C. SHALL COORDINATE TOP OF FOOTING ELEV WITH SITE GRADES TO MAINTAIN 4'-0" MINIMUM FROST COVER TO BOTTOM OF FOUNDATIONS.
3. C.J. INDICATES CONTROL JOINT OR CONSTRUCTION JOINT. REFER TO DWG S1 FOR DETAIL. LIMIT PLACEMENT SIZE TO THAT WHICH CAN BE ADEQUATELY PLACED, AND CURED.
4. REF TOP OF WALL ELEV 0'-0" U.N.O.
5. G.C. SHALL COORD LOCATION OF ALL UNDERGROUND PIPES & OTHER UTILITIES WITH FOUNDATION. PROVIDE ADDITIONAL REINFORCING AT OPENINGS PER TYPICAL DETAILS ON DWG S0. PIPE SLEEVES SHALL NOT PENETRATE FOOTINGS. STEP DOWN FOOTING/WALL AS REQUIRED.
6. SAWCUT CONTROL JOINTS ARE NOT PERMITTED.
7. G.C. SHALL COORD SIZE & LOCATION OF ALL PITS RELATING TO RECLAIMING OF WASTEWATER, INCLUDING, BUT NOT LIMITED TO PIPING, OPENING SIZES, INVERTS, ETC.

FOOTING SCHEDULE		
MARK	SIZE	REINF
F2	2'-0"x2'-0"x1'-0"	3#4 E.W.B.
F3	3'-0"x3'-0"x1'-0"	4#4 E.W.B.
F4	4'-0"x4'-0"x1'-0"	5#4 E.W.B.
F6	6'-0"x6'-0"x1'-0"	6#5 E.W.T&B
F7	7'-0"x7'-0"x1'-4"	8#8 E.W.B. 8#7 E.W.T.
F96	9'-0"x6'-0"x1'-6"	8#8 L.W. T&B 8#5 S.W. T&B



BASE PLATE & PIER DETAILS

1/2"=1'-0"

NOTE:

1. SEE SECTION 10 DWG S3 FOR PIER P5.
2. WHERE BRICK SHELF EXTENDS ABOVE BASE PLATE/PIER, EXTEND VERT PIER REINF TO TOP OF WALL.

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#	DATE	DESCRIPTION

DATE:	09/17/01
PROJECT #	768.00
DRAWN BY:	TRM
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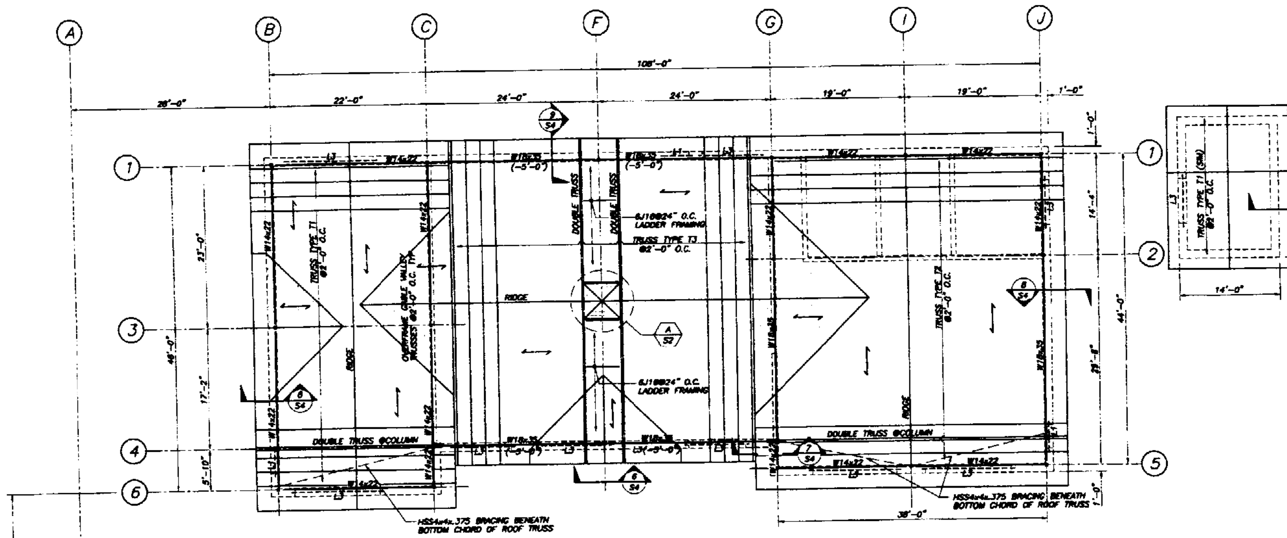
DRAWING SCALE	AS NOTED

SHEET TITLE

FOUNDATION PLAN

S1

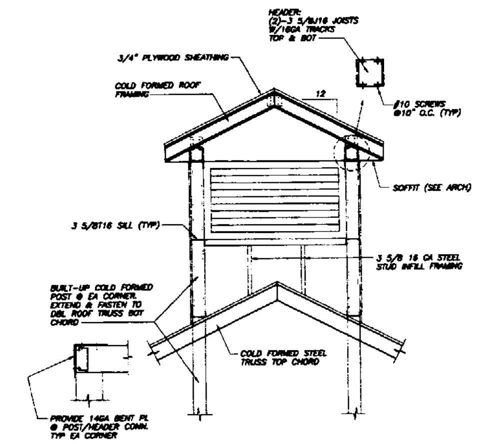


ROOF FRAMING PLAN

1/8"=1'-0"

NOTE:

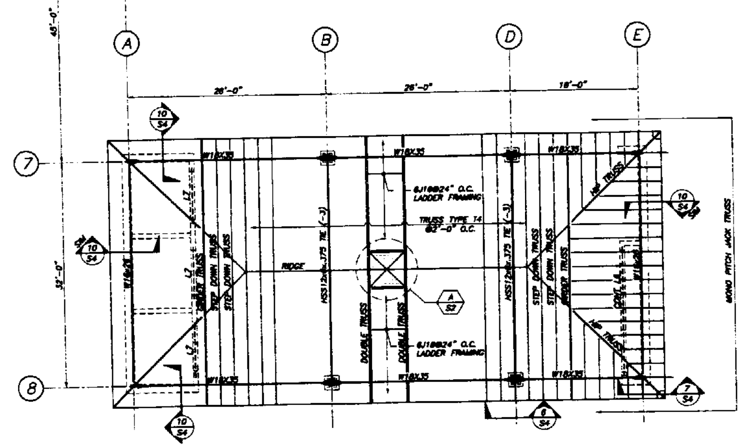
1. TOP OF STEEL = 16'-0" U.N.O. BY (-5'-0"), (+2) ETC.
2. ROOF SHEATHING TO BE CONTINUOUS UNDER OVERFRAMING TRUSSES.
3. ←→ INDICATES SPAN DIRECTION OF 3/4" THICK, APA RATED, TONGUE & GROOVE CDX PLYWOOD ROOF SHEATHING.

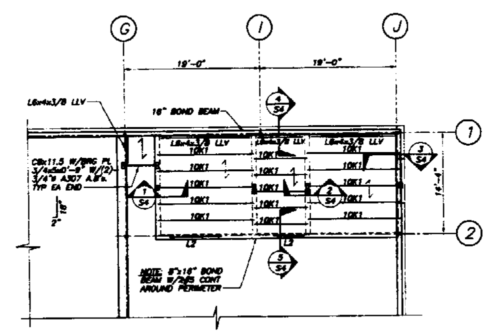


DETAIL @ CUPOLA

3/4"=1'0"

NOTE: SEE ARCH DWGS FOR ADDL INFO



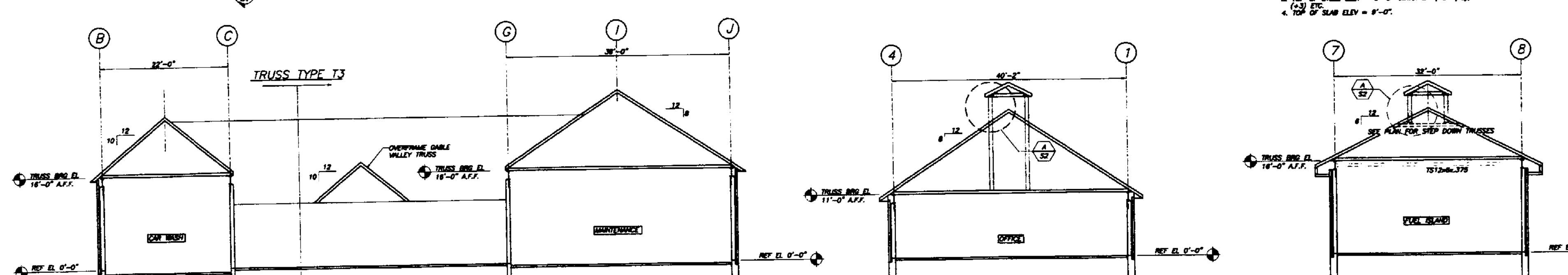


MEZZANINE FRAMING PLAN

1/8"=1'-0"

NOTE:

1. MEZZANINE FLOOR CONSTRUCTION CONSISTS OF 2 1/2" CONC SLAB ON 1.5VL22 COMPOSITE DECK W/6x6-W1.4xW1.4 W.W.F. TOTAL SLAB THICKNESS=4".
2. ←→ INDICATES DIRECTION OF DECK SPAN.
3. TOP OF STEEL ELEV = 8'-8" U.N.O. BY (-2 1/2), (+3) ETC.
4. TOP OF SLAB ELEV = 9'-0".



TRUSS TYPE T1

TRUSS LOADS 10:12

T.C. D.L. = 10 PSF
T.C. S.L. = 50 PSF
T.C. UNBAL S.L. = 65 PSF
B.C. D.L. = 14 PSF

TRUSS TYPE T2

TRUSS LOADS 8:12

T.C. D.L. = 10 PSF
T.C. S.L. = 50 PSF
T.C. UNBAL S.L. = 65 PSF
B.C. D.L. = 24 PSF

TRUSS ELEVATIONS

1/8"=1'-0"

NOTE:

1. DESIGN TRUSSES FOR LIVE LOADS IN ACCORDANCE WITH 1999 BOCA NATIONAL BUILDING CODE, IN ADDITION TO SPECIFIED LIVE LOADS. PROVIDE DESIGN AND COMPONENTS FOR A COMPLETE FRAMING SYSTEM.

TRUSS TYPE T3

TRUSS LOADS 8:12

T.C. D.L. = 10 PSF
T.C. S.L. = 50 PSF
T.C. UNBAL S.L. = 65 PSF
B.C. D.L. = 14 PSF

TRUSS TYPE T4

TRUSS LOADS 8:12

T.C. D.L. = 10 PSF
T.C. S.L. = 58 PSF
T.C. UNBAL S.L. = 73 PSF
B.C. D.L. = 14 PSF

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REVISIONS

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DATE	09/17/01
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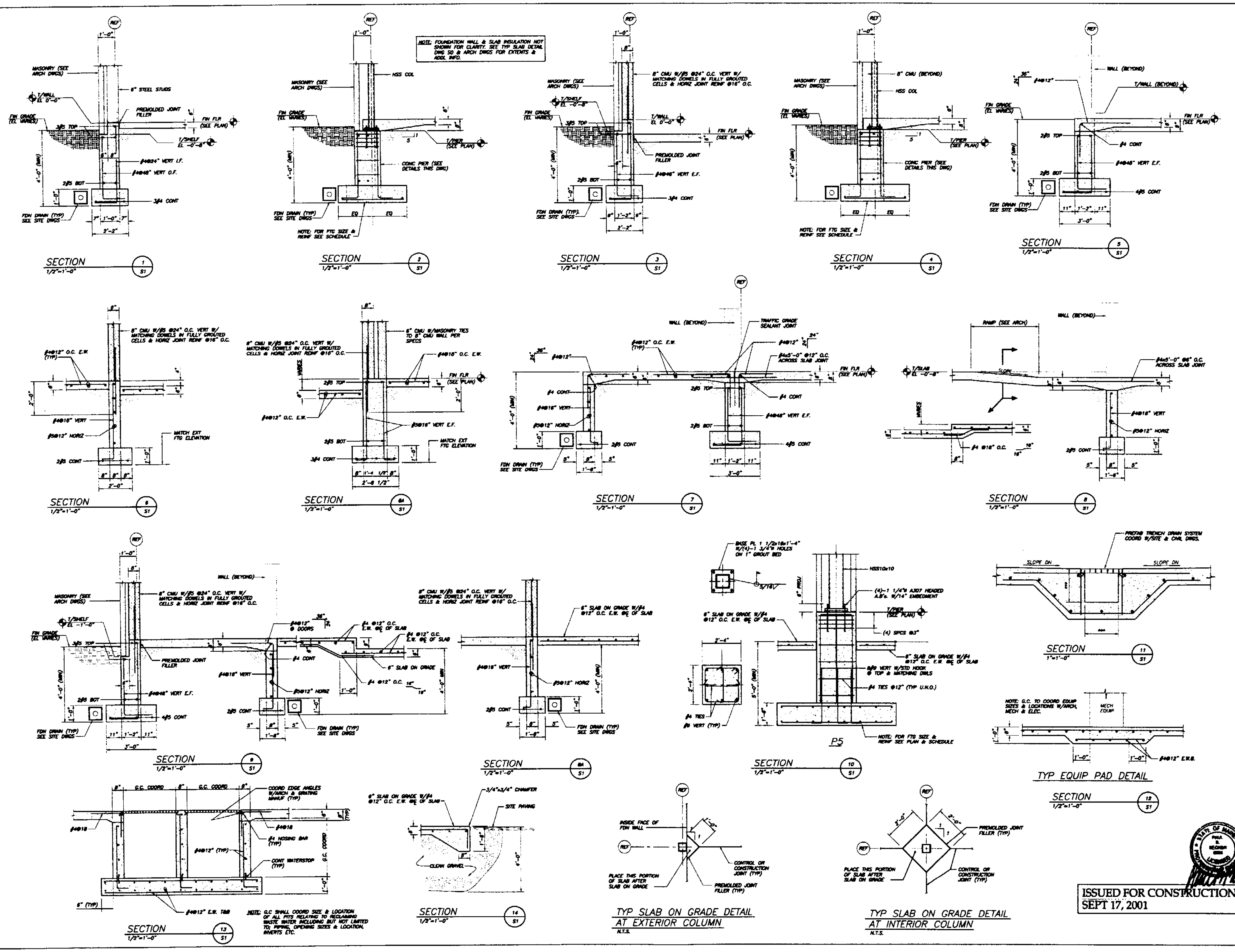
SHEET TITLE

ROOF FRAMING PLAN

S2



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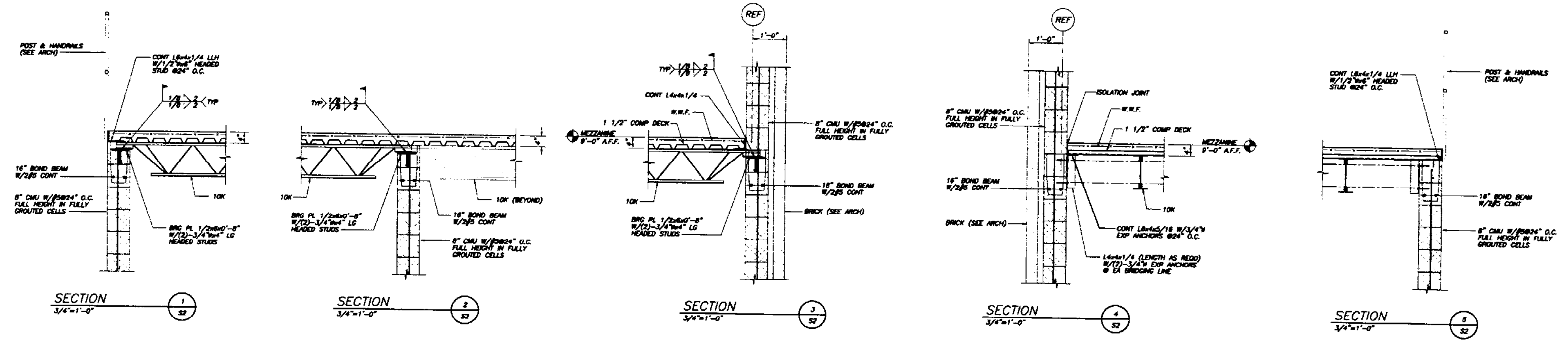
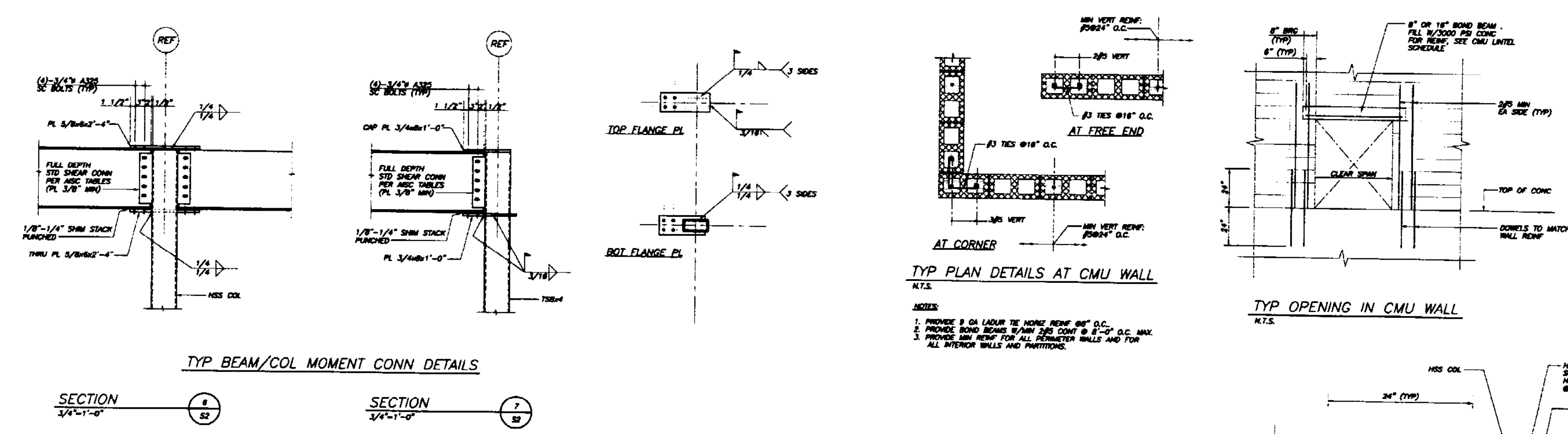
SHEET TITLE

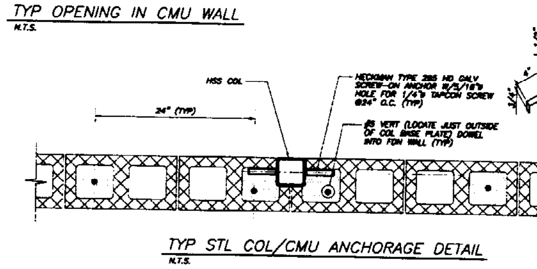
CONCRETE SECTIONS

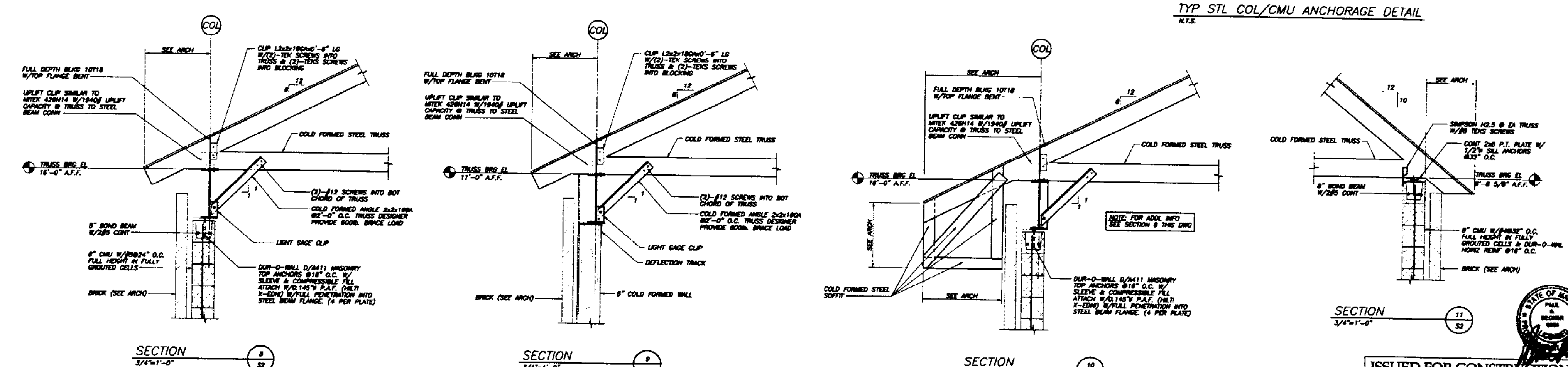
S3





CMU LINTEL SCHEDULE				
MARK	CLEAR SPAN	WIDTH	DEPTH	REINF
L1	< 6'-0"	8"	8"	2#5 CONT
L2	6'-0" - 7'-0"	8"	16"	2#5 CONT
L3	7'-0" - 12'-0"	8"	16"	2#5 CONT





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DRAWN BY:	TRM
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DRAWING SCALE	AS NOTED

SHEET TITLE

FRAMING SECTIONS

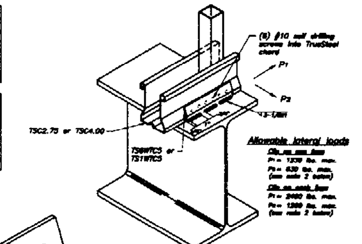
S4

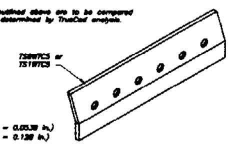
TS6WTC5 or TS1WTC5 – Welded Truss Clip

TS6WTC5 — Total Uplift Capacity (lbs.)		
Chord Gauge	Clip on one side	Clip on each side
28TSC (22g)	730	3280
33TSC (20g)	730	4080
43TSC (18g)	730	6080
54TSC (16g)	730	[illegible]

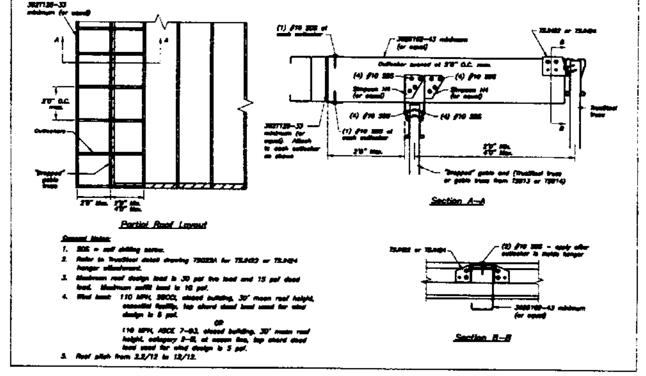
TS1WTC5 — Total Uplift Capacity (lbs.)		
Chord Gauge	Clip on one side	Clip on each side
28TSC (22g)	730	3280
33TSC (20g)	730	4080
43TSC (18g)	730	6080
54TSC (16g)	730	8152

- The uplift capacities shown above have been increased by 1.33 and shall be used only for uplift resulting from wind or seismic loads. For uplift due to other loads, use 75% of tabulated values.
- Uplift capacities outlined above are to be compared with uplift values determined by TrusCad analysis.





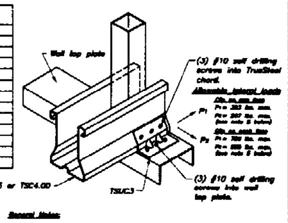
OUTLOOKER Attachment to TrusSteel Trusses

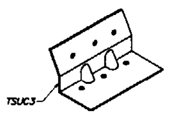


TSUC3 Uplift Attachment to Light Gauge Steel

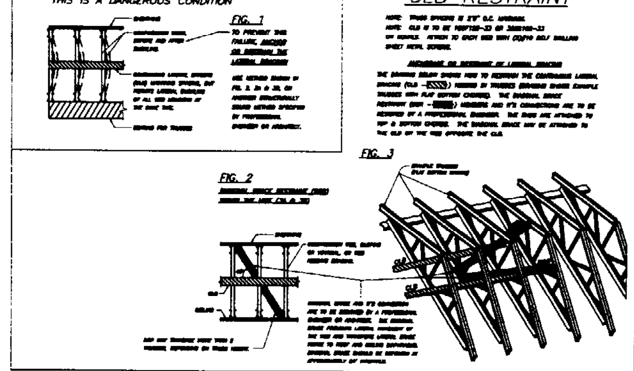
Total Uplift Capacity (lbs.)		
Wall top plate/min. thickness	Clip on one face	Clip on each face
22g grade 33/[illegible] in.	230	550
22g grade 80/[illegible] in.	330	790
20g grade 33/[illegible] in.	280	670
20g grade 80/[illegible] in.	410	970
18g grade 33/0.0428 in.	370	870
18g grade 80/0.0428 in.	530	1260
16g grade 33/[illegible] in.	480	1100
16g grade 50/0.0538 in.	540	1580
14g grade 33/0.0677 in.	540	1380
14g grade 80/0.0677 in.	540	1640
12g grade 33/[illegible] in.	540	1640
12g grade 50/[illegible] in.	540	1640

- The uplift capacities shown above have been increased by 1.33 and shall be used only for uplift resulting from wind or seismic loads. For uplift due to other loads, use 75% of tabulated values.
- Uplift capacities outlined above are to be compared with uplift values determined by TrusCad analysis.

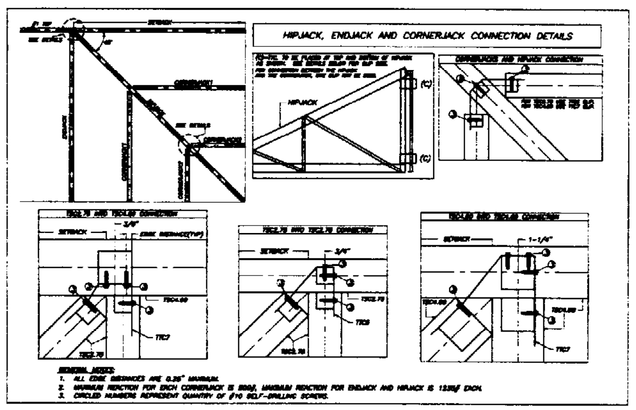




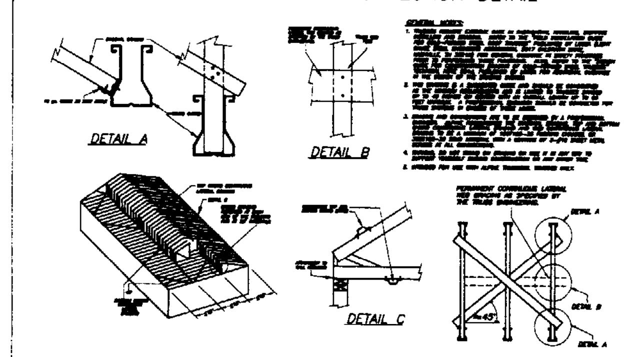
CLB RESTRAINT



HIPJACK, ENDJACK AND CORNERJACK CONNECTION DETAILS



STEEL TRUSS BRACING CONNECTION DETAIL



NOTE: THESE DETAILS REFERENCE TRUSSTEEL PRODUCTS AND ARE INTENDED AS GENERIC REPRESENTATIONS FOR THE BRACING AND BRACING CONNECTION SYSTEMS. SIMILAR DETAILS FOR MITEK PRODUCTS SHALL BE USED. REFER TO THE GENERAL NOTES SECTION TITLED "TRUSS NOTES" FOR ADDITIONAL REQUIREMENTS.

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SHEET TITLE: TRUSS BRACING DETAILS & NOTES

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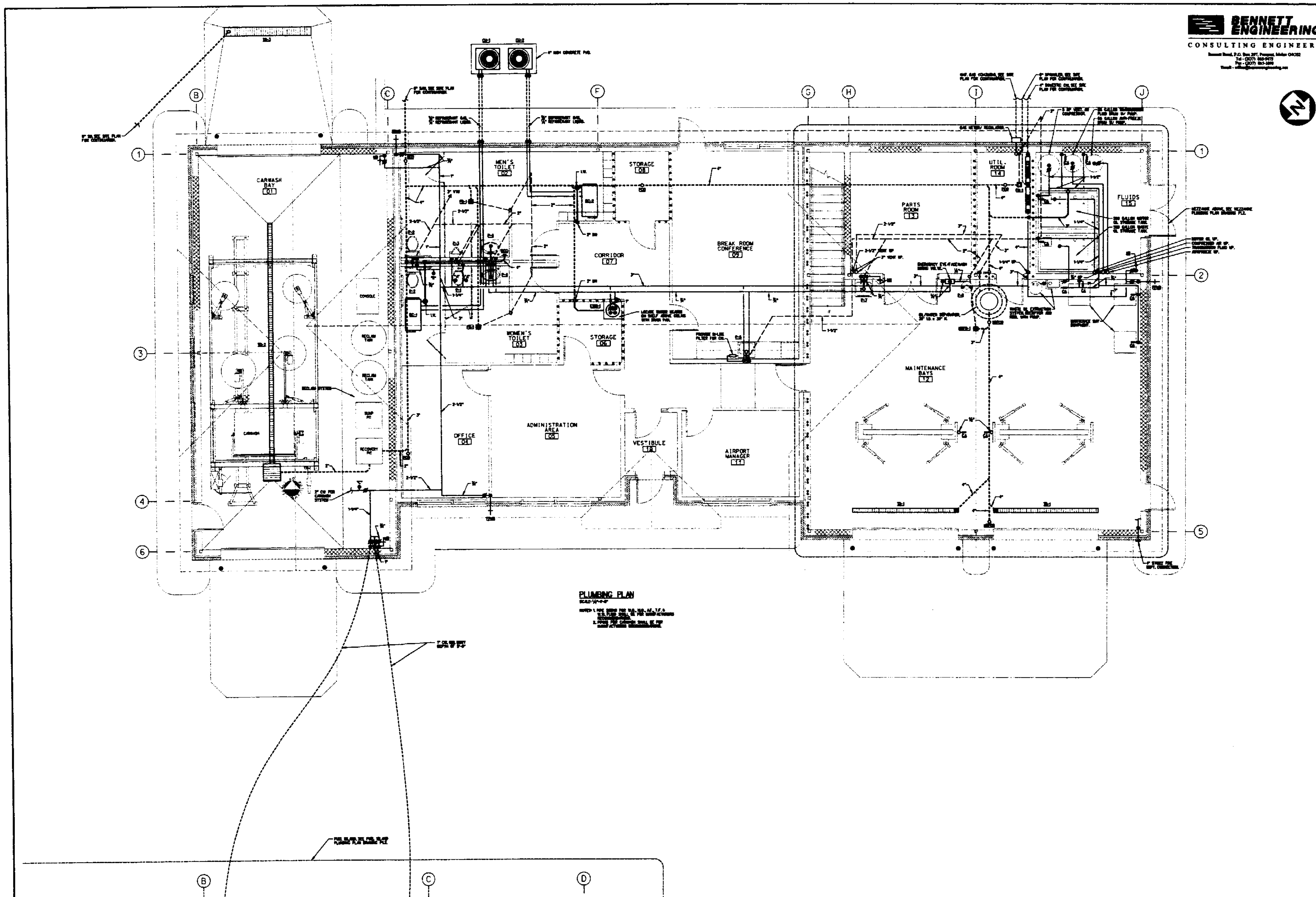
S5



GENERAL NOTE

REFER TO APPENDIX "B" IN THE SPECIFICATIONS FOR OWNER FURNISHED EQUIPMENT AND DISPOSITION OF INSTALLATION.

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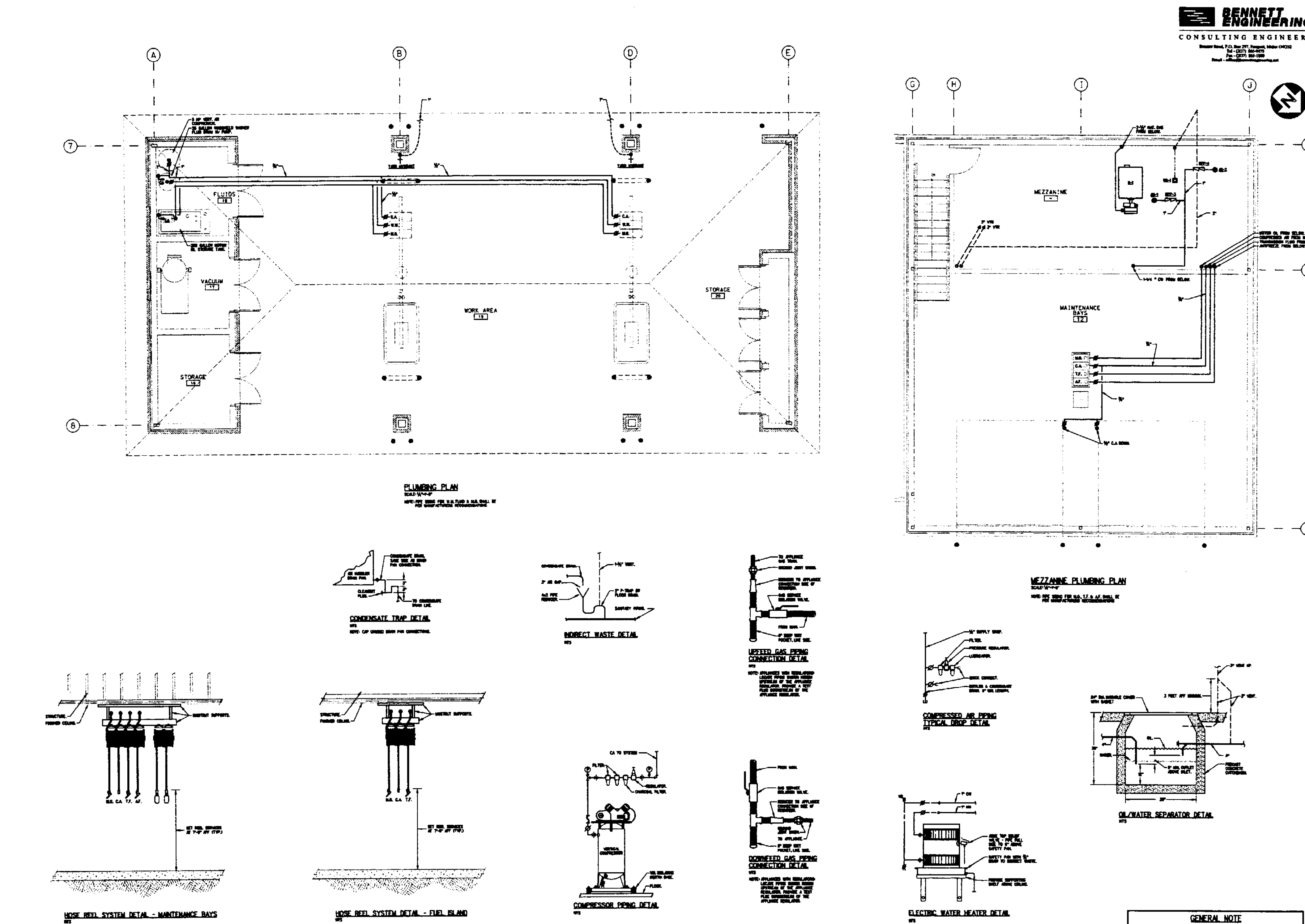
SHEET TITLE

PLUMBING FLOOR PLAN

P1.1



GENERAL NOTE

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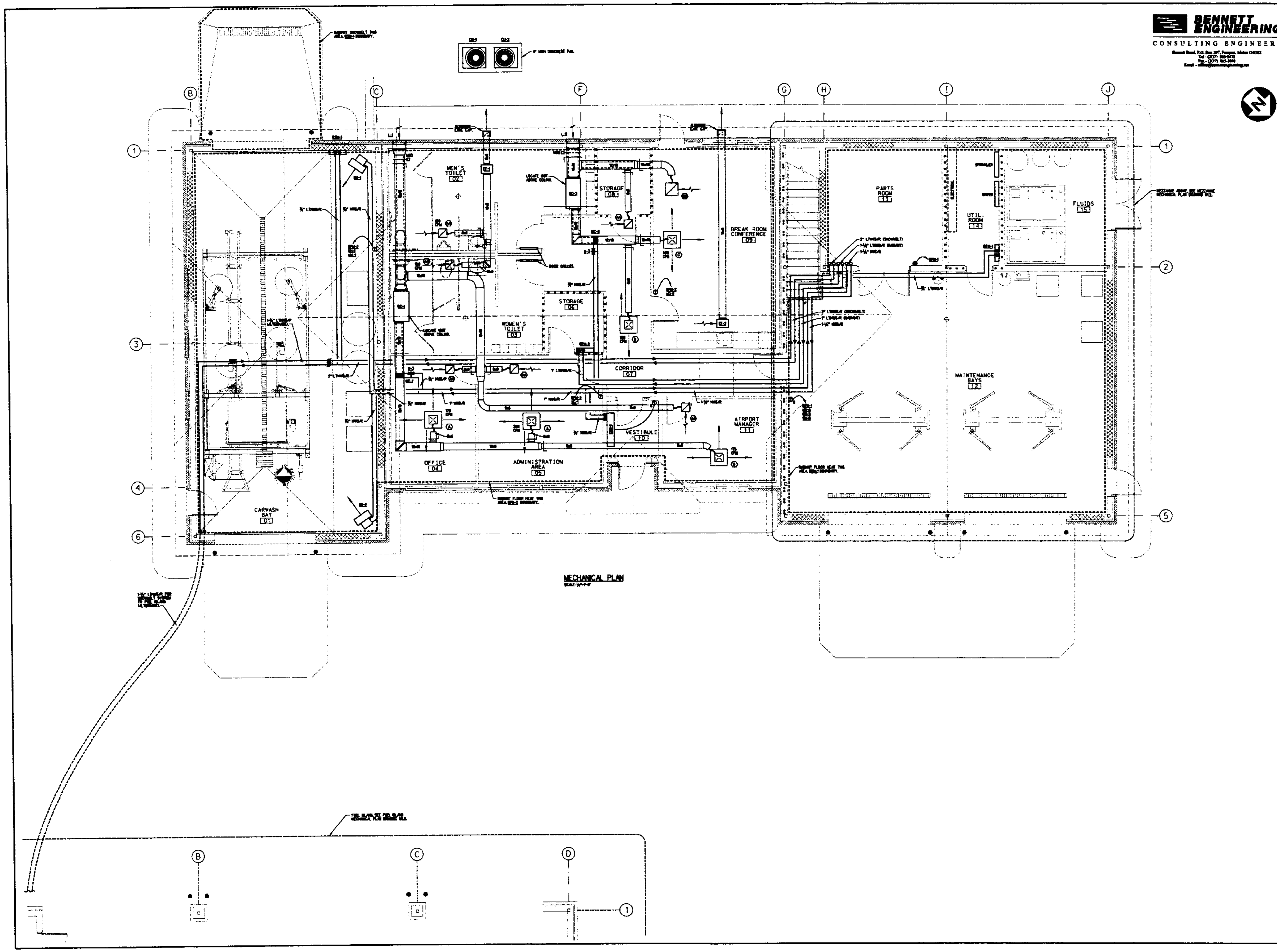
SHEET TITLE

PLUMBING FLOOR PLAN

P1.2



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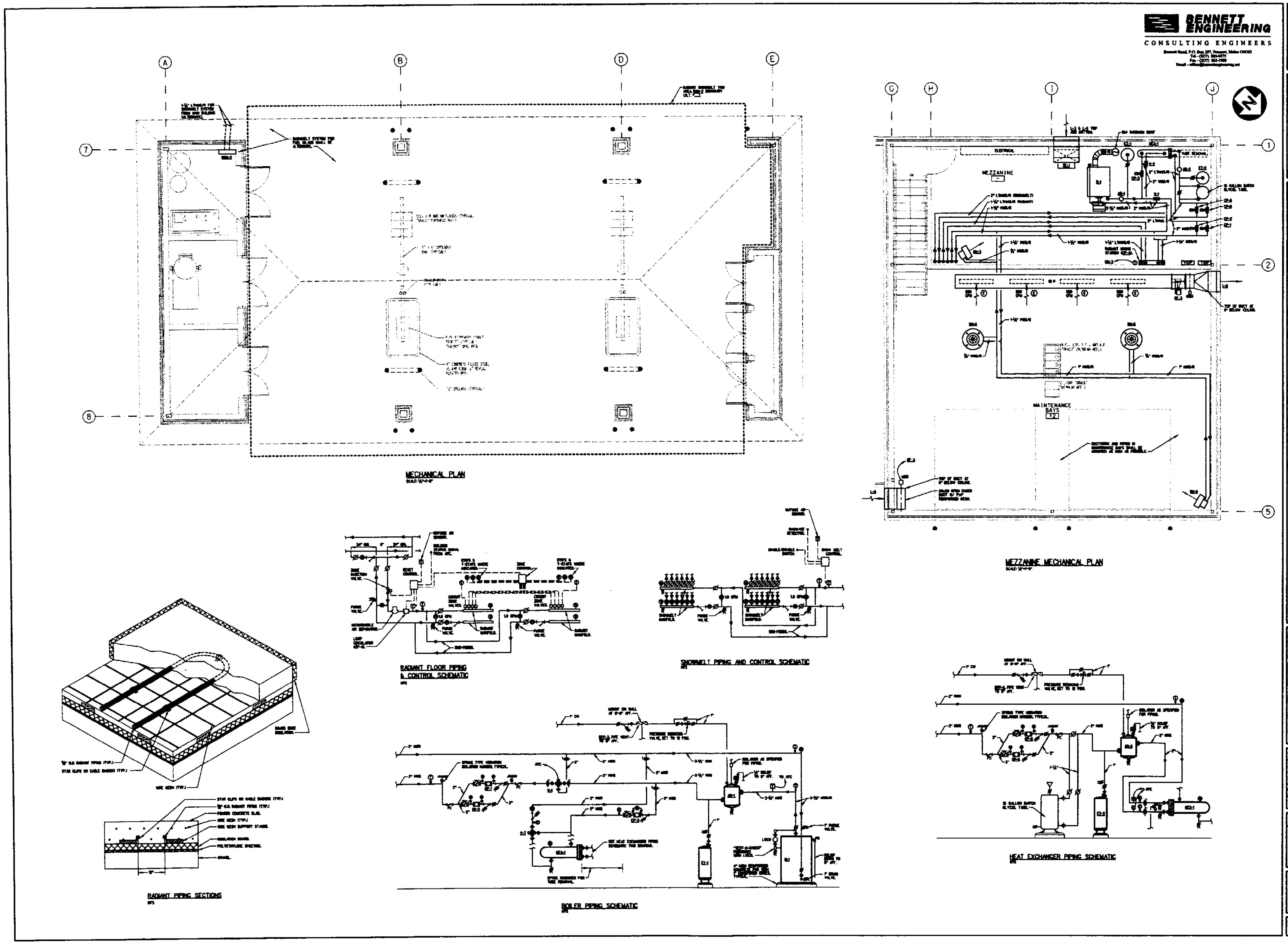
SHEET TITLE

MECHANICAL PLAN

M1.1



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DATE	[illegible]
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SHEET TITLE

MEZZANINE MECHANICAL PLAN & DETAILS

M1.2

MECHANICAL & PLUMBING LEGEND

NOTE: USE SYMBOLS AND ABBREVIATIONS AS APPLICABLE FOR THIS MECHANICAL DRAWING SET. SOME SYMBOLS AND ABBREVIATIONS IN THIS LEGEND MAY NOT APPLY.

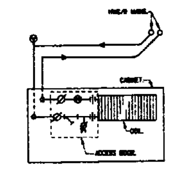
SYMBOL	DESCRIPTION
—CA—	COMPRESSED AIR PIPING (CA)
—C—	CONDENSATE DRAIN PIPING (C)
—CTR—	COOLING TOWER RETURN PIPING (CTR)
—CTS—	COOLING TOWER SUPPLY PIPING (CTS)
—CHR—	CHILLED WATER RETURN PIPING (CWR)
—CHS—	CHILLED WATER SUPPLY PIPING (CWS)
—FOR—	FUEL OIL RETURN PIPING (FOR)
—FOS—	FUEL OIL SUPPLY PIPING (FOS)
—G—	GAS PIPING (G)
—HWR—	HOT WATER RETURN PIPING (HWR)
—HWS—	HOT WATER SUPPLY PIPING (HWS)
—RL—	REFRIGERANT LIQUID PIPING (RL)
—RG—	REFRIGERANT GAS PIPING (RG)
	THERMOSTAT WIRING
	SANITARY PIPING BELOW SLAB (SAN)
	SANITARY PIPING ABOVE SLAB (SAN)
	SANITARY VENT PIPING
—RWL—	RAINWATER LEADER ABOVE SLAB (RWL)
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
	RECIRCULATED HOT WATER PIPING (RHW)
	PIPE CAP
	DIRECTION OF FLUID FLOW
	ELBOW UP
	ELBOW DOWN
	PIPE TEE UP
	PIPE TEE DOWN
	PIPE REDUCER
	PIPE WITH GUIDE
	PIPE WITH ANCHOR
	BUTTERFLY VALVE
	OS & Y GATE VALVE
	BACKFLOW PREVENTER (BFP)
	CHECK VALVE
	BALANCING VALVE (ADJUSTABLE)
	AUTOMATIC FLOW CONTROL VALVE
	RELIEF VALVE (RV)
	BALL VALVE
	3/4" BALL VALVE WITH 3/4" HOSE END
	GATE VALVE
	PRESSURE REDUCING VALVE
	FUSIBLE VALVE
	STRAINER
	STRAINER W/BLOWDOWN BALL VALVE
	2-WAY CONTROL VALVE
	SOLENOID VALVE
	3-WAY CONTROL VALVE
	3-WAY CONTROL VALVE (TOP VIEW)
	2 BUTTERFLY VALVES W/SINGLE ACTUATOR

SYMBOL	DESCRIPTION
	BUTTERFLY VALVE W/ACTUATOR
	TRIPLE-DUTY VALVE
	UNION
	PIPE FLANGE
	PUMP WITH FLANGES
	BASE MOUNTED PUMP
	CARTRIDGE TYPE INLINE PUMP
	VERTICAL INLINE PUMP
FC	FLEXIBLE PIPE CONNECTION (FC)
	PITCH DOWN
	PETCOCK
	PRESSURE GAGE WITH GAGE COCK
	THERMOMETER IN WELL
	WATER FLOW SWITCH
	PRESSURE SWITCH OR SENSOR
	TEMPERATURE SENSOR
	DUCT MOUNTED SMOKE DETECTOR
	ROOM TEMPERATURE SENSOR
	THERMOSTAT OR SENSOR ON WALL
	MANUAL AIR VENT
	NOTE TAG NUMBER
	AIR DEVICE TAG W/ CFM
	ROOM NUMBER
	TURNING VANES
	DUCT MANUAL DAMPER
	DUCT W/FLEXIBLE CONNECTION (FC)
	LINED DUCT
	DUCT W/ACOUSTIC LINING
	DUCT W/SQUARE-TO-ROUND TRANSITION
	FLEXIBLE DUCT
MOD	MOTOR OPERATED DAMPER
	AIRFLOW OUT
	AIRFLOW IN
	DIAMETER OR FLAT OVAL
	FIRE DAMPER
	CONNECT TO EXISTING
	ROUND OR FLAT OVAL DUCT DOWN
	ROUND OR FLAT OVAL DUCT UP
	SUPPLY DIFFUSER
	RETURN GRILLE
	STEAM TRAP
	WATER HAMMER ARRESTOR W/RATING
	SECTION REFERENCE

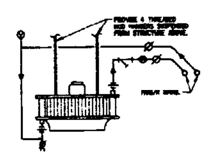
ABBREVIATION	DESCRIPTION
AAV	AUTOMATIC AIR VENT
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHU-#	AIR HANDLING UNIT TAG
AMS	AIRFLOW MONITORING STATION
AMPS	AMPERES
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
AS-#	AIR SEPARATOR TAG
ATC	AUTOMATIC TEMPERATURE CONTROL
B-#	BOILER TAG
BD-#	BYPASS DAMPER TAG
BFP-#	BACKFLOW PREVENTER TAG
BHP	BRAKE HORSEPOWER
BTUH	BRITISH THERMAL UNITS PER HOUR
CBD	COUNTER BALANCED DAMPER
CC-#	COOLING COIL TAG
CFM	CUBIC FEET PER MINUTE
CHLR-#	CHILLER TAG
CO	CLEANOUT
CONV-#	CONVECTOR TAG
CUH-#	CABINET UNIT HEATER TAG
CP-#	CIRCULATING PUMP TAG
CT-#	COOLING TOWER TAG
Cv	VALVE COEFFICIENT
CW	COLD WATER
CWS/R	CHILLED WATER SUPPLY AND RETURN
DB	DRY BULB
dB RE	DECIBELS RELATIVE TO
DC	DOUBLE CHECK
DCA	DOUBLE CHECK ASSEMBLY
DEG F	DEGREES FAHRENHEIT
DIA	DIAMETER
DIW	DOWN IN WALL
DN	DOWN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB
EDC-#	ELECTRIC DUCT COIL TAG
EER	ENERGY EFFICIENCY RATIO
EF-#	EXHAUST FAN TAG
EFF	EFFICIENCY
EG-#	EXHAUST GRILLE TAG
ER-#	EXHAUST REGISTER TAG
ESP	EXTERNAL STATIC PRESSURE
ET-#	EXPANSION TANK TAG
EWB	ENTERING WET BULB
EWH-#	ELECTRIC WATER HEATER TAG
EWT	ENTERING WATER TEMPERATURE
EXIS	EXISTING

ABBREVIATION	DESCRIPTION
EXH	EXHAUST
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEANOUT
FD	FIRE DAMPER
FD-#	FLOOR DRAIN TAG
FLA	FULL LOAD AMPS
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FPHB	FROST PROOF HOSE BIB
FPM	FEET PER MINUTE
FT	FEET
FTR-#	FINTUBE RADIATION TAG
GA	GAGE
GAL	GALLONS
GFWH-#	GAS FIRED WATER HEATER TAG
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GUH-#	GAS UNIT HEATER TAG
HC-#	HEATING COIL TAG
HP	HORSEPOWER
HRV-#	HEAT RECOVERY VENTILATOR TAG
HW	HOT WATER
HWS/R	HOT WATER SUPPLY AND RETURN
I-B-R	INSTITUTE OF BOILER AND RADIATOR MANUFACTURERS
IFWH-#	INDIRECT FIRED WATER HEATER TAG
IN	INCHES
IV-#	INTAKE VENT TAG
L-#	LOUVER TAG
LAT	LEAVING AIR TEMPERATURE
LB	POUNDS
LD-#	LINEAR DIFFUSER TAG
LF	LINEAR FEET
LRA	LOCKED ROTOR AMPS
LWCO	LOW WATER CUTOFF
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSANDS OF BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MIN	MINIMUM
NC	NOISE CRITERION
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIAMETER
OED	OPEN ENDED DUCT
OFWH-#	OIL FIRED WATER HEATER TAG
OPD	OVERCURRENT PROTECTIVE DEVICE
P-#	PLUMBING FIXTURE TAG

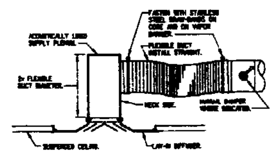
ABBREVIATION	DESCRIPTION
PENETR	PENETRATION
PF-#	PADDLE FAN TAG
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE
PVC	POLYVINYL CHLORIDE (PIPE)
RA	RETURN AIR
RD	ROOF DRAIN
RFE	RECOMMENDED DUAL ELEMENT FUSE AMPS
RFM-#	RADIANT FLOOR MANIFOLD TAG
RG-#	RETURN GRILLE TAG
RHW	RECIRCULATED HOT WATER
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
RPS	REVOLUTIONS PER SECOND
RPZ	REDUCED PRESSURE ZONE
RR-#	RETURN REGISTER TAG
RTS	ROOM TEMPERATURE SENSOR
RV	RELIEF VALVE
RWL	RAINWATER LEADER
SA	SUPPLY AIR
SAN	SANITARY SEWER & WASTE
SD	SMOKE DAMPER
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SF	SUPPLY FAN
SG-#	SUPPLY GRILLE TAG
SP	STATIC PRESSURE
SP-#	SUMP PUMP TAG
SR-#	SUPPLY REGISTER TAG
SQ.FT	SQUARE FEET
ΔT	TEMPERATURE DIFFERENTIAL
TEMP.	TEMPERATURE
TCP	TEMPERATURE CONTROL PANEL
TMV-#	THERMOSTATIC MIXING VALVE TAG
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UH-#	UNIT HEATER TAG
VAV-#	VARIABLE AIR VOLUME BOX TAG
VB	VACUUM BREAKER
VSD	VARIABLE SPEED DRIVE
VTR	VENT THRU ROOF
V/PH/HZ	VOLTS/PHASE/HERTZ
WB	WET BULB
WCO	WALL CLEANOUT
WG	WATER GAGE
WPD	WATER PRESSURE DROP
WSA	WIRE SIZING AMPS
WTD	WATER TEMPERATURE DROP
W/	WITH
ZD-#	ZONE DAMPER TAG



CABINET UNIT HEATER PIPING DETAIL
NTS

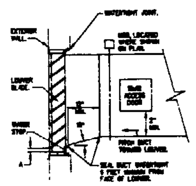


VERTICAL UNIT HEATER PIPING DETAIL
NTS



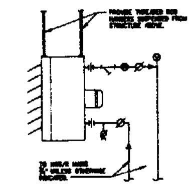
DIFFUSER/RETURN CONNECTION DETAIL
NTS

NOTE: DETAIL TYPICAL FOR CEILING GRILLES, REGISTERS AND LINEAR DIFFUSERS. FOR SURFACE-MOUNT DEVICES, SUPPORT PLENUM FROM CEILING GRID WITH STEEL ANGLES FASTENED TO PLENUM.

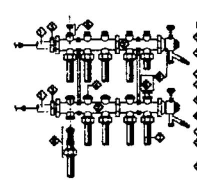


LOUVER DETAIL WITH HORIZONTAL DUCT
NTS

NOTE: IF DIMENSION "A" IS LESS THAN 1 INCH SEE MODIFIED LOUVER DETAIL THIS SHEET.



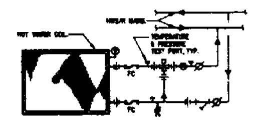
HORIZONTAL UNIT HEATER PIPING DETAIL
NTS



RADIANT FLOOR MANIFOLD COMPONENT LIST:

1. PIPING TO RADIANT FLOOR PUMP/MIXING VALVE STATION.
2. MANIFOLD BODY - FURNISHED IN PRE-MANUFACTURED SECTIONS OF 2 & 3. SECTIONS, MAXIMUM NUMBER OF CIRCUITS PER MANIFOLD SHALL NOT EXCEED 12.
3. BUSHING TO PIPING SIZE.
4. CIRCUIT ISOLATION VALVE INTEGRAL TO MANIFOLD.
5. CIRCUIT BALANCING VALVE INTEGRAL TO MANIFOLD.
6. ACTUATED CIRCUIT ZONE VALVE (PROVIDE AS REQUIRED).
7. RADIANT FLOOR TUBING.
8. BARBED TUBING INSERT WITH COMPRESSION RING AND NUT (TYPICAL EACH CONNECTION TO MANIFOLD).
9. END CAP WITH KEYED MANUAL AIR VENT AND MANIFOLD DRAIN WITH BARBED HOSE CONNECTION.

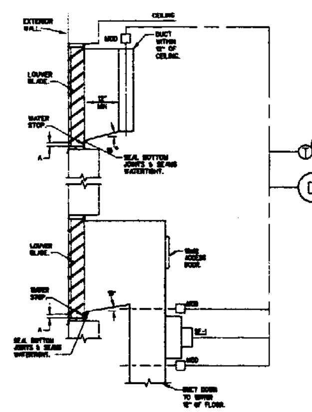
RADIANT FLOOR MANIFOLD
NTS



HEATING COIL PIPING SCHEMATIC WITH 3-WAY VALVE CONTROL
NTS

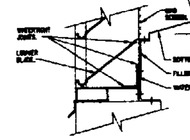
SLAB CONTROL JOINT DETAIL
NTS

NOTE: THIS DETAIL APPLIES ONLY FOR SEPARATE POUR CONTROL JOINTS. DO NOT USE FOR SAW CUT JOINTS.

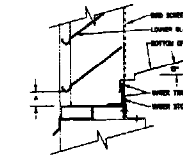


COMBUSTION AIR INTAKE DETAIL
NTS

NOTES:
1. IF DIMENSION "A" IS LESS THAN 1 INCH, SEE MODIFIED LOUVER DETAIL THIS SHEET.
2. ALL DAMPERS SHALL OPEN FOR COMBUSTION AIR. LOWER DAMPER ON DOWNWARD DUCT SHALL CLOSE AND SF-1 SHALL ENERGIZE WHEN TEMPERATURE RISES ABOVE SETPOINT.

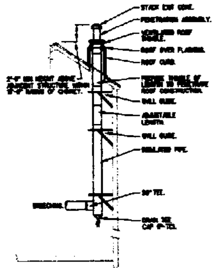


MODIFIED LOUVER DETAIL
NTS

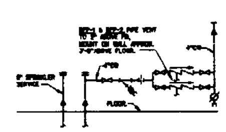


LOUVER CONNECTION DETAIL
NTS

NOTE: TYPICAL FOR LOUVERS AND BLOCK VENTS. IF DIMENSION "A" IS LESS THAN 1 INCH SEE MODIFIED LOUVER DETAIL THIS SHEET (LOUVERS ONLY).

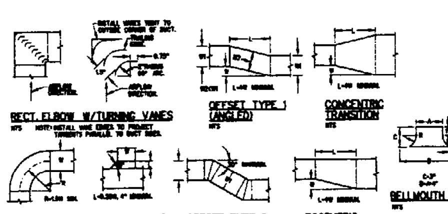


STACK DETAIL
NTS



WATER ENTRANCE DETAIL
NTS

NOTE: METER SHALL BE LOCATED IN METER PIT AS INDICATED ON SITE PLAN.



RECT. ELBOW W/TURNING VANES
NTS NOTE: INSTALL VANE EDGES TO PROJECT TANGENTS PARALLEL TO DUCT SIDES.

OFFSET TYPE 1 (ANGLED)
NTS

CONCENTRIC TRANSITION
NTS

BELLMOUTH ENTRY
NTS

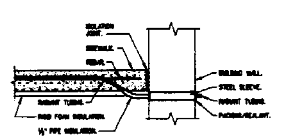
RADIUS ELBOW
NTS

RECTANGULAR TAP 45 DEGREE ENTRY
NTS

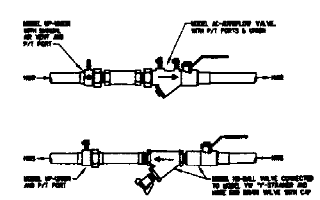
OFFSET TYPE 2 (MITERED)
NTS

ECCENTRIC TRANSITION
NTS

LOW PRESSURE DUCT CONSTRUCTION DETAILS - TYPICAL
NTS



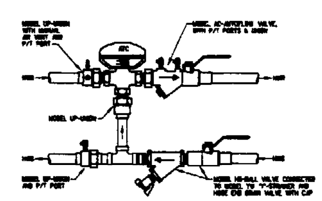
SNOW MELT SLAB BUILDING JOINT DETAIL
NTS



AUTOFLOW VALVE PIPING SCHEMATIC W/ NO CONTROL VALVE
NTS

MODEL NUMBERS BASED ON FLOW DESIGN, INC.

NOTE: APPLY DETAIL TO UNIT HEATERS & CABINET UNIT HEATERS.



AUTOFLOW VALVE PIPING SCHEMATIC W/ 3-WAY VALVE
NTS

MODEL NUMBERS BASED ON FLOW DESIGN, INC.

NOTE: APPLY DETAIL TO HEATING COILS.

BFP PERFORMANCE SCHEDULE

TAG	SIZE	FLOW RATE (GPM)	W.P.D. (PSI)	MAX. WORKING TEMPERATURE (DEGREES F)	MAX. WORKING PRESSURE (PSI)	TESTABLE (Y) OR (N)	BODY STYLE*	SERVICE	MODEL
BFP-1	2"	[illegible]	14.0	180	175	Y	RPZ	BLDG ENTRANCE	975XL
BFP-2	2"	[illegible]	14.0	180	175	Y	RPZ	BLDG ENTRANCE	975XL
BFP-3	3/4"	10.0	10.0	210	175	N	DCA	AS-1	750
BFP-4	3/4"	10.0	10.0	210	175	N	DCA	AS-2	750

Basis of design: WILKINS / ZURN. * - BODY STYLE DESIGNATIONS: RPZ - REDUCED PRESSURE ZONE, DCA - DOUBLE CHECK ASSEMBLY.

PLUMBING FIXTURE CONNECTION SCHEDULE

TAG	DESCRIPTION	SAN	VENT	CW	HW
P-1	FLR MNTD TT WC	3"	2"	1/2"	-
P-2	ADA FLR MNTD TT WC	3"	2"	1/2"	-
P-3	WALL HUNG URINAL	2"	2"	3/4"	-
P-4	COUNTERTOP LAV	1-1/2"	1-1/2"	1/2"	1/2"
P-5	ADA SINGLE BOWL SS KITCHEN SINK	1-1/2"	1-1/2"	1/2"	1/2"
P-6	EMERGENCY EYE WASH	-	-	-	3/4" *
P-7	SERVICE SINK	3"	1-1/2"	3/4"	3/4"
HB	HOSE BIBB	-	-	3/4"	-
FPHB	FREEZE PROOF HOSE BIBB	-	-	3/4"	-
FD-1	FLOOR DRAIN	3"	2"	-	-
HDFD-1	HEAVY DUTY FLOOR DRAIN	3"	2"	-	-
TD-1	TRENCH DRAIN - 12'x6"	4"	-	-	-
TD-2	TRENCH DRAIN - 20'x6"	4"	-	-	-
TD-3	TRENCH DRAIN - 10'x6"	4"	-	-	-

MINIMUM SIZE OF BELOW SLAB SANITARY & VENT PIPING SHALL BE 2".
* - TEMPERED WATER

RADIANT FLOOR HEATING SCHEDULE

ROOM	LOAD (MBH)	TUBE SPACING (INCHES)	MANI-FOLD	ZONE	BTUH/SF
PARTS ROOM 13	4.8	12"	RFM-1	●	24.0
UTILITY ROOM 14	2.0				
FLUIDS 15	4.0				
MAINTENANCE BAYS 12	26.2				
ADMINISTRATION AREA 05	8.4		RFM-2	●	
OFFICE 04	3.6				
VESTIBULE 10	1.0				
AIRPORT MANAGER 11	3.2				
BREAK ROOM CONFERENCE 08	8.4			●	
STORAGE 09	1.2				
CORRIDOR 07	6.0				
STORAGE 06	1.2				
WOMEN'S TOILET 03	4.8				
MEN'S TOILET 02	6.5				
CAR WASH BAY 01	23.8			●	

GAS BOILER PERFORMANCE SCHEDULE

TAG	BURNER INPUT (MBH)	HEATING CAPACITY (MBH)	NET I-B-R RATING (MBH)	FUEL	AFUE (%)	BOILER SECTIONS	FLUE DIA. (IN)	HP	WATTS	V/PH/HZ	BURNER	SERVICE	MODEL
B-1	[illegible]	[illegible]	[illegible]	NAT GAS	-	8	10	1/3	-	120/1/60	POWERFLAME	BLDG HWS	[illegible]

ELECTRICAL REQUIREMENTS: HP, WATTS, V/PH/HZ. BASIS OF DESIGN: SMITH. * - I-B-R GROSS OUTPUT RATING

SHELL & TUBE HEAT EXCHANGER PERFORMANCE SCHEDULE

BASIS OF DESIGN: TACO

TAG	TOTAL MBH	LENGTH (FT)	DIA (IN)	PASSES	BAFFLE PITCH (IN)	LMTD (°F)	MAX TEMP (°F)	WORKING PRESS. PSIG	FOULING FACTOR	VALVE	SIDE	FLUID	FLOW RATE (GPM)	INLET TEMP (°F)	OUTLET TEMP (°F)	VELOCITY (FT/SEC)	PRESSURE DROP (FT.WG)	INLET PIPE SIZE (IN)	OUTLET PIPE SIZE (IN)	MODEL
HEX-1	485.74	4	8	4	4	71	375	150	0.0001	V-2	TUBE	30% GLYCOL	30.0	100.0	130.0	4.42	5.67	1-1/2	1-1/2	[illegible]
											SHELL	WATER	50.0	200.0	180.0	2.89	4.15	2-1/2	2-1/2	

BLOWER COIL UNIT PERFORMANCE SCHEDULE

TAG	AIRFLOW (CFM)	MIN. OA (CFM)	E.S.P. HIGH (IN WC)	E.S.P. MED	E.S.P. LOW	FILTER FURNISHED	REF GAS SIZE (IN)	REF. LIQ SIZE (IN)	REFRIGERANT CONTROL	ASSOCIATED COND. UNIT	WEIGHT (LBS)	HP	FLA	LRA	V/PH/HZ	SERVICE	ARRANGEMENT	MODEL
BC-1	[illegible]	[illegible]	0.55	0.35	0.43	THROWAWAY	3/4	3/8	TXV	CU-1	[illegible]	1/4	1.7	2.6	208/1/60	ADMIN AREAS	HORIZONTAL	[illegible]
BC-2	[illegible]	[illegible]	0.55	0.35	0.43	THROWAWAY	3/4	3/8	TXV	CU-2	[illegible]	1/4	1.7	2.6	208/1/60	BREAK/LOCKER AREAS	HORIZONTAL	[illegible]

ELECTRICAL REQUIREMENTS: HP, FLA, LRA, V/PH/HZ. BASIS OF DESIGN: TRANE.
PROVIDE EACH WITH THERMAL EXPANSION VALVE.

CONDENSING UNIT PERFORMANCE SCHEDULE

* - AT ARI CONDITIONS OF 95°F AMBIENT/45°F SAT. SUCTION
** - EXPRESSED AS % COMPRESSOR DISPLACEMENT OPERATING

TAG	NOMINAL COOLING (TONS)	TOTAL COOLING (MBH)*	SENSIBLE COOLING (MBH)*	REFRIGERANT	CONDENSER AIRFLOW (CFM)	MINIMUM AMBIENT TEMP (°F)	FOOTPRINT DIMENSION (INCHES)	SEER (BTU/WATT-HR)	MCA	MAX FUSE	V/PH/HZ	COMP. STAGING**	WEIGHT (LB)	SOUND (DB)	SERVICE	MODEL
CU-1	1.5	[illegible]	[illegible]	R-22	[illegible]	30.0	[illegible]	12.75	[illegible]	[illegible]	208/1/60	0-100	[illegible]	78	BC-1	[illegible]
CU-2	1.5	[illegible]	[illegible]	R-22	[illegible]	30.0	[illegible]	12.75	[illegible]	[illegible]	208/1/60	0-100	[illegible]	78	BC-2	[illegible]

ELECTRICAL REQUIREMENTS: MCA, MAX FUSE, V/PH/HZ. BASIS OF DESIGN: TRANE.

CONTROL VALVE SCHEDULE

TAG	FLOW RATE (GPM)	Cv	VALVE SIZE (IN)	TYPE
V-1	30.0	33.0	1-1/2" SCREW	3-WAY, [illegible]
V-2	50.0	[illegible]	2" SCREW	3-WAY, [illegible]
V-3	2.0	2.0	1/2" SCREW	3-WAY, [illegible]

HEATING COIL PERFORMANCE SCHEDULE

TAG	OUTPUT (MBH)	SIZE (IN)	FLOW RATE (GPM)	W.P.D. (FT.WC)	WATER VELOCITY (FPS)	E.W.T. (°F)	L.W.T. (°F)	ROWS	TUBES (T/W)	MTC. AIR FLOW (CFM)	A.P.D. (IN.WC)	E.A.T. (°F)	L.A.T. (°F)	FIN TYPE	FPF	COIL TYPE	VALVE	SERVICE
HC-1	25.80	18x12	2.0	2.05	2.21	180.0	154.14	2	T	[illegible]	0.14	55.0	98.39	PRIMA-FLO H	80	T COIL	V-3	BC-1
HC-2	25.80	18x12	2.0	2.05	2.21	180.0	154.14	2	T	[illegible]	0.14	55.0	98.39	PRIMA-FLO H	80	T COIL	V-3	BC-2

BASIS OF DESIGN: TRANE

ELECTRIC WATER HEATER PERFORMANCE SCHEDULE

TAG	STORAGE (GALS)	RECOVERY @ 100°F (GPH)	NO. ELEM.	WATTS EA	V/PH/HZ	SERVICE	MODEL
EWH-1	30.0	10.0	1	3000	120/1/60	[illegible]	[illegible]

ELECTRICAL REQUIREMENTS: NO. ELEM., WATTS EA, V/PH/HZ. BASIS OF DESIGN: A.O. SMITH.

PUMP PERFORMANCE SCHEDULE

TAG	FLOW RATE (GPM)	HEAD (FT.WC)	IMPEL. SIZE	RPM	EFF %	HP	BHP	WATTS	AMPS	V/PH/HZ	SERVICE	ARRANGEMENT	MODEL
CP-1	30.0	25.0	5.75	1750	53.0	1/2	-	-	-	120/1/60	HWS/R	INLINE	[illegible]
CP-2	30.0	25.0	5.75	1750	53.0	1/2	-	-	-	120/1/60	HWS/R	INLINE	[illegible]
CP-3	50.0	15.0	4.9	1750	54.0	1/2	-	-	-	120/1/60	HEX-1	INLINE	[illegible]
CP-4	[illegible]	20.0	4.5	1750	37.0	1/4	-	-	-	120/1/60	RADIANT	INLINE	[illegible]
CP-5	30.0	20.0	5.3	1750	50.0	1/2	-	-	-	120/1/60	SNOWMELT	INLINE	[illegible]
CP-6	30.0	20.0	5.3	1750	50.0	1/2	-	-	-	120/1/60	SNOWMELT	INLINE	[illegible]

ELECTRICAL REQUIREMENTS: HP, BHP, WATTS, AMPS, V/PH/HZ. BASIS OF DESIGN: TACO.

FAN PERFORMANCE SCHEDULE

TAG	AIRFLOW (CFM)	T.S.P. (IN.WC)	NOISE (SONES)	RPM	DRIVE	HP	BHP	WATTS	AMPS	V/PH/HZ	SERVICE	ARRANGEMENT	MODEL
EF-1	300	0.35	3.2	[illegible]	DIRECT	-	-	145.0	1.2	120/1/60	MEN'S/WOMEN'S TLTS	INLINE	[illegible]
EF-2	300	0.125	1.7	710	DIRECT	-	-	[illegible]	4.2	120/1/60	BREAK/CONF RM	CEILING	[illegible]
EF-3	2000	0.35	9.8	[illegible]	BELT	1/2	0.33	-	-	120/1/60	MAINTENANCE BAYS	INLINE CENT.	[illegible]
SF-1	1000	0.25	6.5	[illegible]	BELT	1/4	-	-	-	120/1/60	COMB/VENT AIR	WALL PROP.	[illegible]

ELECTRICAL REQUIREMENTS: HP, BHP, WATTS, AMPS, V/PH/HZ. BASIS OF DESIGN: COOK.
PROVIDE EACH UNIT W/ DISCONNECT SWITCH AND BACKDRAFT DAMPER.
PROVIDE EF-1 & EF-2 WITH ALUMINUM EAVE CAP.
PROVIDE EF-2 & SF-1 WITH 5 AMP SPEED CONTROLLER.

CABINET UNIT HEATER PERFORMANCE SCHEDULE

HEATING PERFORMANCE BASED ON 180°F ENTERING WATER & 60°F ENTERING AIR TEMPERATURE

TAG	OUTPUT (MBH)	FLOW RATE (GPM)	W.P.D. (FT.WC)	AIRFLOW (CFM)	THROW	MTG.HT. (FEET)	HP	AMPS	V/PH/HZ	SERVICE	ARRANGEMENT	MODEL
CUH-1	28.4	2.0	0.30	330	-	*	1/8	0.9	120/1/60	VESTIBULE	PART RECESSED	[illegible]

ELECTRICAL REQUIREMENTS: HP, AMPS, V/PH/HZ. BASIS OF DESIGN: STERLING.
* - REFER TO ARCHITECTURAL DRAWINGS, TYP. 4'-0" AFF.
PROVIDE UNIT W/ DISCONNECT SWITCH.

EXPANSION TANK PERFORMANCE SCHEDULE

TAG	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	MIN. REQ'D ACCEPT. VOL (GAL)	MAX. WORKING TEMPERATURE (DEG F)	MAX. WORKING PRESSURE (PSI)	WEIGHT (LBS)	HOUSING	SERVICE	MODEL
ET-1	92.0	60.0	-	240	125	300	FLOOR	HWS/R	CAX-430
ET-2	34.0	19.0	-	240	125	200	FLOOR	SNOWMELT	[illegible]

BASIS OF DESIGN: TACO

AIR SEPARATOR PERFORMANCE SCHEDULE

TAG	FLOW RATE (GPM)	W.P.D. (FT.WC)	Cv FACTOR	STRAINER (Y) OR (N)	MAX. WORKING TEMPERATURE (DEGREES F)	MAX. WORKING PRESSURE (PSI)	SERVICE	PIPE SIZING	MODEL
AS-1	30.0	0.33	[illegible]	N	270	150	HWS/R	2"	2" [illegible]
AS-2	30.0	0.85	[illegible]	N	270	150	SNOWMELT	1-1/2"	1-1/2" [illegible]

BASIS OF DESIGN: SPIROTHERM SPIROVENT

LOUVER PERFORMANCE SCHEDULE

TAG	AIR FLOW (CFM)	SP LOSS (IN.WC)	AIR VEL (FPM)	SIZE (INCHES)	FREE AREA (SQ FT)	DRAINABLE (Y) OR (N)	BLADE ANGLE & FRAME DEPTH	SERVICE	MODEL
L-1	[illegible]	[illegible]	[illegible]	[illegible]	1.0	Y	37.5°, 6"	AHU-1 O.A.	[illegible]
L-2	[illegible]	[illegible]	[illegible]	[illegible]	1.0	Y	37.5°, 6"	AHU-2 O.A.	[illegible]
L-3	[illegible]	[illegible]	[illegible]	[illegible]	2.2	Y	37.5°, 6"	MEZZ COMB/VENT AIR	[illegible]
L-4	[illegible]	[illegible]	[illegible]	[illegible]	2.2	Y	37.5°, 6"	MEZZ COMB/VENT AIR	[illegible]
L-5	2000	[illegible]	[illegible]	[illegible]	3.39	Y	37.5°, 6"	MAINTENANCE BAY E.A.	[illegible]
L-6	2000	[illegible]	[illegible]	[illegible]	3.39	Y	37.5°, 6"	MAINTENANCE BAY O.A.	[illegible]

BASIS OF DESIGN: RUSKIN

UNIT HEATER PERFORMANCE SCHEDULE

HEATING PERFORMANCE BASED ON 180°F ENTERING WATER & 60°F ENTERING AIR TEMPERATURE

TAG	OUTPUT (MBH)	FLOW RATE (GPM)	W.P.D. (FT.WC)	AIRFLOW (CFM)	HP	AMPS	V/PH/HZ	SERVICE	ARRANGEMENT	MODEL
UH-1	44.4	2.0	0.34	1400	1/20	2.2	120/1/60	CARWASH BAY	HORIZONTAL	[illegible]
UH-2	44.4	2.0	0.34	1400	1/20	2.2	120/1/60	CARWASH BAY	HORIZONTAL	[illegible]
UH-3	33.3	2.0	0.17	[illegible]	1/20	1.6	120/1/60	MEZZANINE	HORIZONTAL	[illegible]
UH-4	[illegible]	4.0	[illegible]	1700	1/6	2.7	120/1/60	MAINTENANCE BAYS	VERTICAL	[illegible]
UH-5	[illegible]	4.0	[illegible]	1700	1/6	2.7	120/1/60	MAINTENANCE BAYS	VERTICAL	[illegible]
UH-6	[illegible]	4.0	0.30	1800	1/20	2.2	120/1/60	MAINTENANCE BAYS	HORIZONTAL	[illegible]

ELECTRICAL REQUIREMENTS: HP, AMPS, V/PH/HZ. BASIS OF DESIGN: STERLING.
MOUNTING HEIGHTS SHALL BE AS HIGH AS POSSIBLE WITHIN LIMITS OF MANUFACTURER.

AIR DEVICE PERFORMANCE SCHEDULE

TAG	PANEL (INCHES)	NECK (INCHES)	AIRFLOW (CFM) *	SP LOSS (IN.WC)	THROW(L)	THROW(S)	NC	DUCT COUPLING	PATTERN	MODEL
A	24x24	9x9	[illegible]	0.05	[illegible]	-	15	SEE DRAWINGS	4-WAY	[illegible]
B			9x9	175	0.12	[illegible]	[illegible]	21		3-WAY	[illegible]
C			[illegible]	400	0.05	[illegible]	[illegible]	17			
D			9x9	150	0.05	[illegible]	-	15		OPPOSED	[illegible]
[illegible]	18x12	18x12	[illegible]	0.04	-	-	15	SEE DRAWINGS	35° DEF	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	0.05	-	-	24			

BASIS OF DESIGN: KRUEGER.
* - EACH TAG SERVES RANGE OF AIRFLOWS, SEE DRAWINGS FOR EXACT AIRFLOWS.

LINEAR BAR GRILLE PERFORMANCE SCHEDULE

TAG	SIZE (INCHES)	AIRFLOW (CFM)	SP LOSS (IN.WC)	THROW (FEET)	NC	FRAME STYLE	PATTERN	FASTENING	SPACING	MODEL
E	48x8	[illegible]	0.02	-	22	FRAME B	0° DEF	CODE 60	½"	[illegible]

BASIS OF DESIGN: KRUEGER

BENNETT ENGINEERING
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Bennett Road, P.O. Box 297, Freeport, Maine 04032
Tel - (207) 865-9475
Fax - (207) 865-1688
Email - [illegible]

GAWRON ARCHITECTS
29 Black Point Road
Scarborough, ME 04074
www.gawron.com
Tel. 207 . 883 . 6307
Fax. 207 . 883 . 0961

AVIS CORPORATE FACILITIES

VEHICHLE SERVICE CENTER

REVISIONS

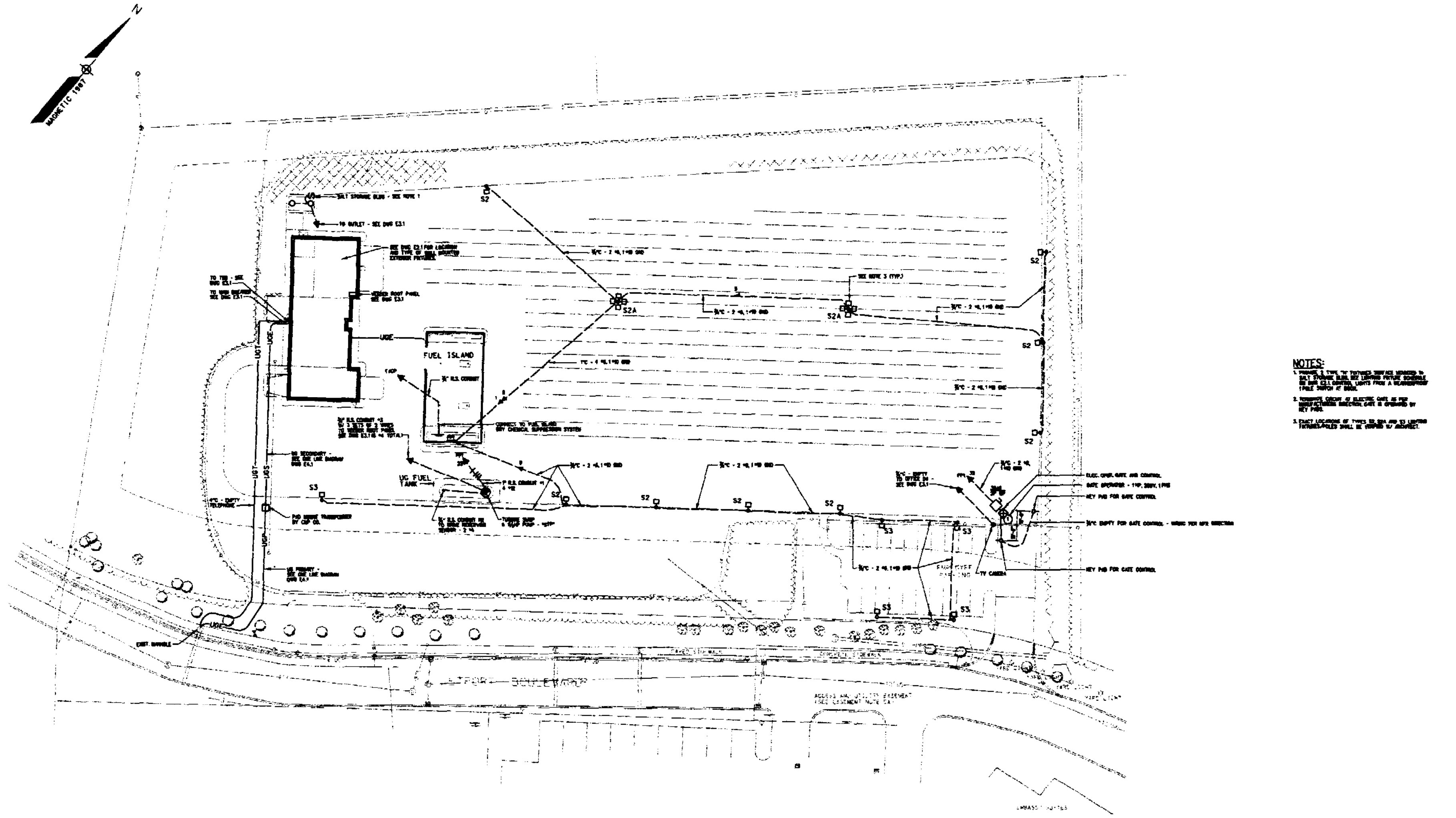
#	DATE	DESCRIPTION

DATE:	[illegible]
PROJECT #:	[illegible]
DRAWN BY:	[illegible]
CHECKED BY:	[illegible]
DRAWING SCALE:	AS NOTED

SHEET TITLE

MECHANICAL & PLUMBING LEGEND & SCHEDULES

MP1.1



EXTERIOR ELECTRICAL PLAN

SITE LIGHTING FIXTURE SCHEDULE			
TYPE	DESCRIPTION	LAMPS QUANTITY & TYPE	REMARKS
S2	WIDELITE #EALM-250-4H-QV208-S-PCB-208V-TBK	1 - MVR250/U	MOUNT ON POLE - WIDELITE #101-4011-18-BLK-D1. FIXTURE FURN. W/ HOUSE SIDE SHIELD #SK-10-EFX
S2A	SAME AS ABOVE EXCEPT QUANTITY IS 4	4 - MVR250/U	MOUNT ON POLE - WIDELITE #101-4011-18-BLK-D4
S3	WIDELITE #EALM-175-4QV208-S-PCB208V-TBK	1 - M175/U/MED (SYLVANIA)	MOUNT ON POLE - WIDELITE #101-4011-18-BLK-D1

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

GENERAL NOTE

REFER TO APPENDIX "B" IN THE SPECIFICATIONS FOR OWNER FURNISHED EQUIPMENT AND DISPOSITION OF INSTALLATION.

BENNETT ENGINEERING
CONSULTING ENGINEERS

GAWRON ARCHITECTS

AVIS CORPORATE FACILITIES

VEHICHLE SERVICE CENTER

REVISIONS

DATE:

PROJECT #

DRAWN BY:

CHECKED BY:

DRAWING SCALE

SHEET TITLE

EXTERIOR ELECTRICAL PLAN

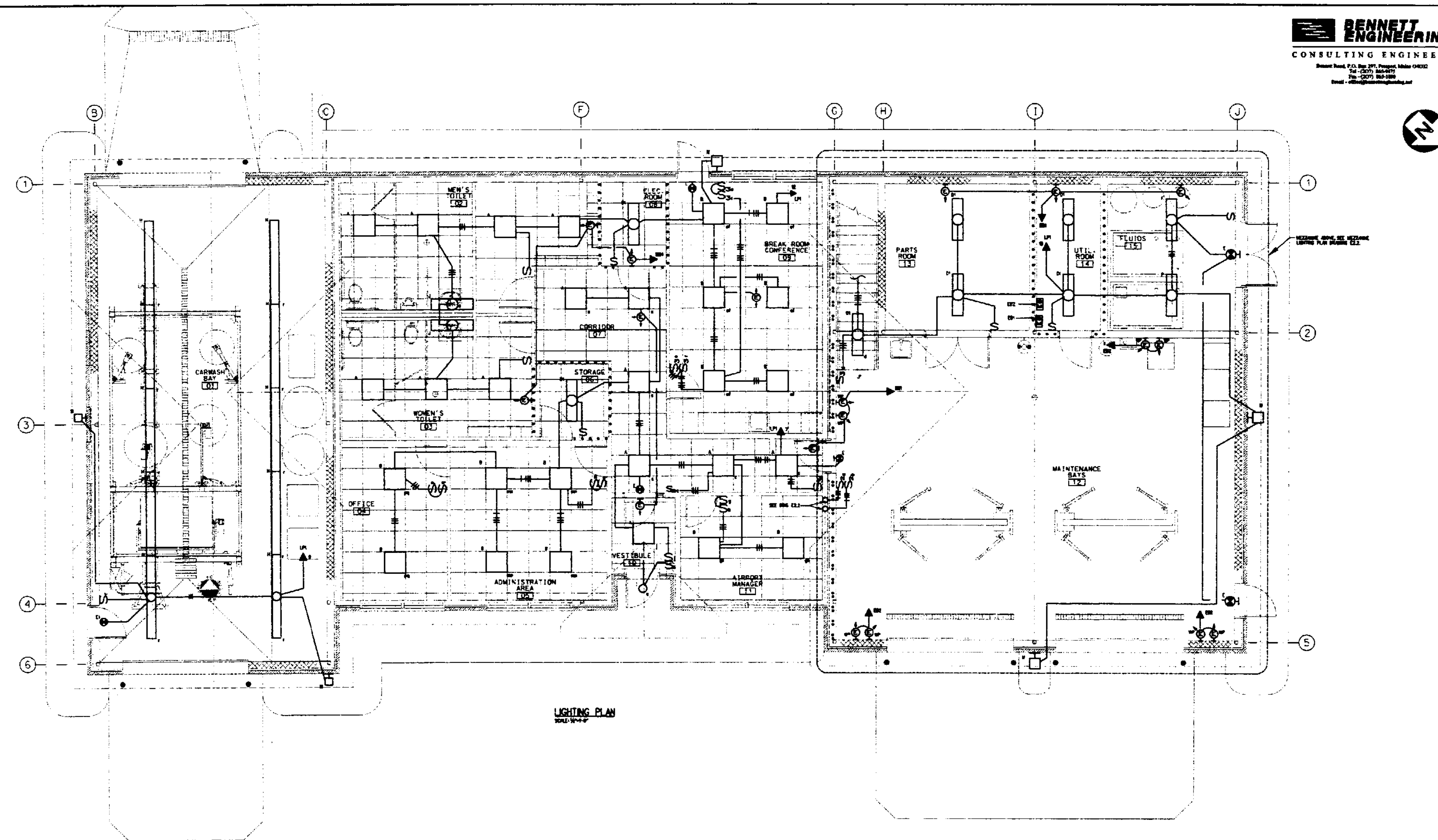
E1.1

BENNETT ENGINEERING
CONSULTING ENGINEERS

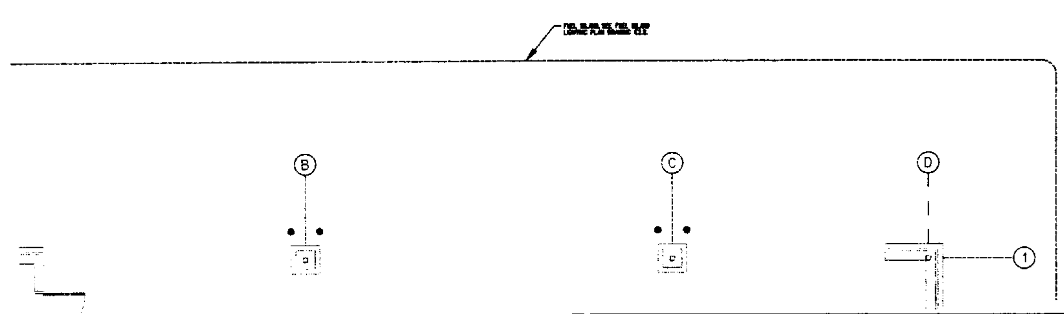
GAWRON ARCHITECTS

AVIS CORPORATE FACILITIES

VEHICHLE SERVICE CENTER



LIGHTING PLAN



LIGHTING FIXTURE SCHEDULE - SEE DWG E1.1 FOR SITE LIGHTING FIXTURE SCHEDULE			
TYPE	DESCRIPTION	LAMPS QUANTITY & TYPE	REMARKS: FLUORESCENT BALLASTS ARE ELECTRONIC TYPE
A	COLUMBIA #P4D22-232UBG-MA33-S-EB8120-GLR	2-F32T8/SPX35/U/6	RECESSED 1-2 LAMP BALLASTS
B	COLUMBIA #P4D22-331U1G-MA33-S-EB8120-GLR	3-FB031/835	RECESSED 1-1 LAMP, 1-2 LAMP BALLASTS FOR 2 LEVEL SWITCHING
C	RUUD #CJ2440-3-8 (208V)	1-400W SUPER METAL HALIDE LAMP FURN. W/FIXTURE	PENDANT MOUNT ON #PH-3 POWER HOOK-W/SAFETY CHAIN #SC-5
D	COLUMBIA #CS8-232-4EB8120-GLR	4-F32T8/SPX35	SURFACE MOUNT, 1-4 LAMP BALLAST
D1	COLUMBIA #CS4-232-EB8120-GLR	2-F32T8/SPX35	SURFACE MOUNT, 1-2 LAMP BALLAST
E	DUAL LITE #LXURWE-+-120V	RED LED'S FURN. W/FIXTURE	WALL/CEILING MOUNT AS INDICATED ON DWGS.
E1	DUAL LITE #LN4XRWE-+-120V	RED LED'S FURN. W/FIXTURE	WALL MOUNT ABOVE DOOR
F	COLUMBIA #LUN4-232-EB8120-GLR	2-F32T8/SPX35	SURFACE MOUNT, 1-2 LAMP BALLAST
H	COLUMBIA #LUN8-232-4EB8Z120-GLR	4-F32T8/SPX35	PENDANT MOUNT, 14'0" AFF ON STEM HANGING HUBS #HUBK- 1-4 LAMP BALLAST, 0° F. COLD WEATHER BALLAST
I	PRESCOLITE #INC800-ST1802	1-150A	RECESSED IN CANOPY
J	COLUMBIA #W4-232-EB8120-GLR	2-F32T8/SPX35	WALL MOUNT ABOVE TOP OF MIRROR
K	RUUD #C1425-3-V (208V.)	1 - 250W. SUPER METAL HALIDE LAMP FURN. W/ FIXTURE	MOUNT ON SPREADER BAR IN FUEL ISLAND CANOPY
L	EXCELINE #PF-250-MA-L-HS-2	1 - 250W. SUPER METAL HALIDE LAMP FURN. W/ FIXTURE	SURFACE MOUNT IN FUEL ISLAND CANOPY
M	WIDELITE #EWLM-A1-120-PCB-TBK	1 - MXR100/U/MED	WALL MOUNT 12'-0" ABOVE FINISH GRADE
N	STONCO #GSC120	2 - 60 A/S-120V (3000 HOURS LIFE)	SURFACE MOUNT IN SALT STORAGE BUILDING

REVISIONS

#	DATE	DESCRIPTION

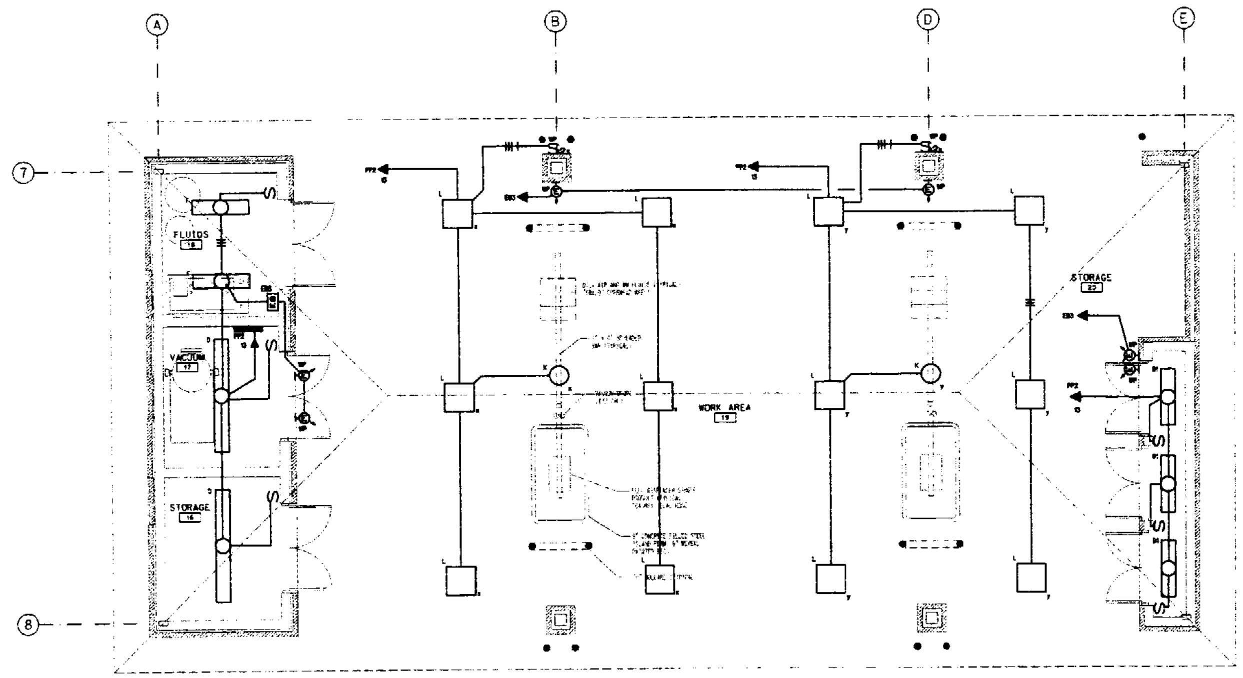
DATE:	
PROJECT #	
DRAWN BY:	
CHECKED BY:	
DRAWING SCALE	AS NOTED

SHEET TITLE

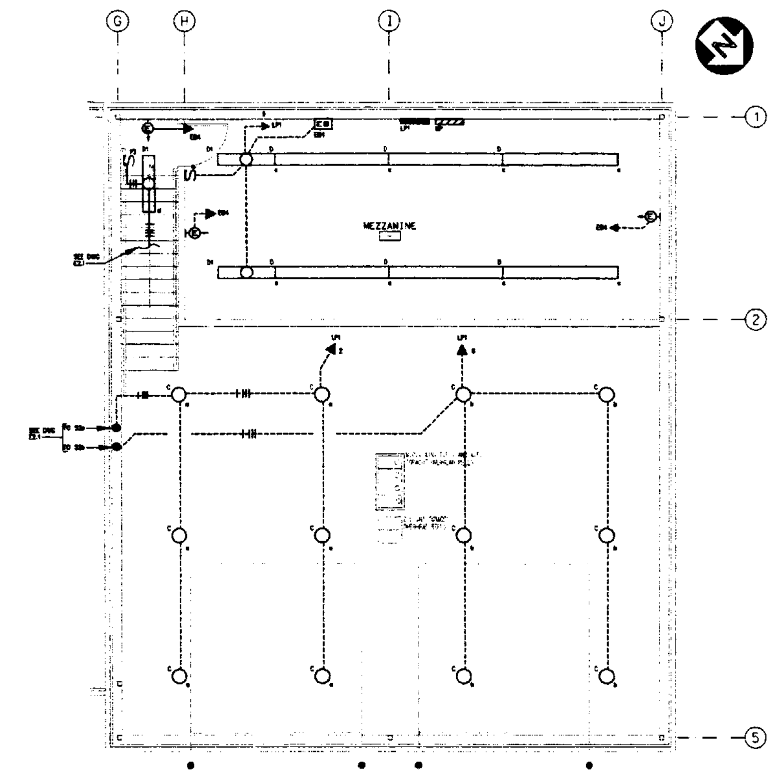
LIGHTING FLOOR PLAN

E2.1

BENNETT ENGINEERING
CONSULTING ENGINEERS



FUEL ISLAND LIGHTING PLAN



MEZZANINE LIGHTING PLAN

GAWRON ARCHITECTS

AVIS CORPORATE FACILITIES

VEHICHLE SERVICE CENTER

REVISIONS

DATE	DESCRIPTION

CHECKED BY: CVA

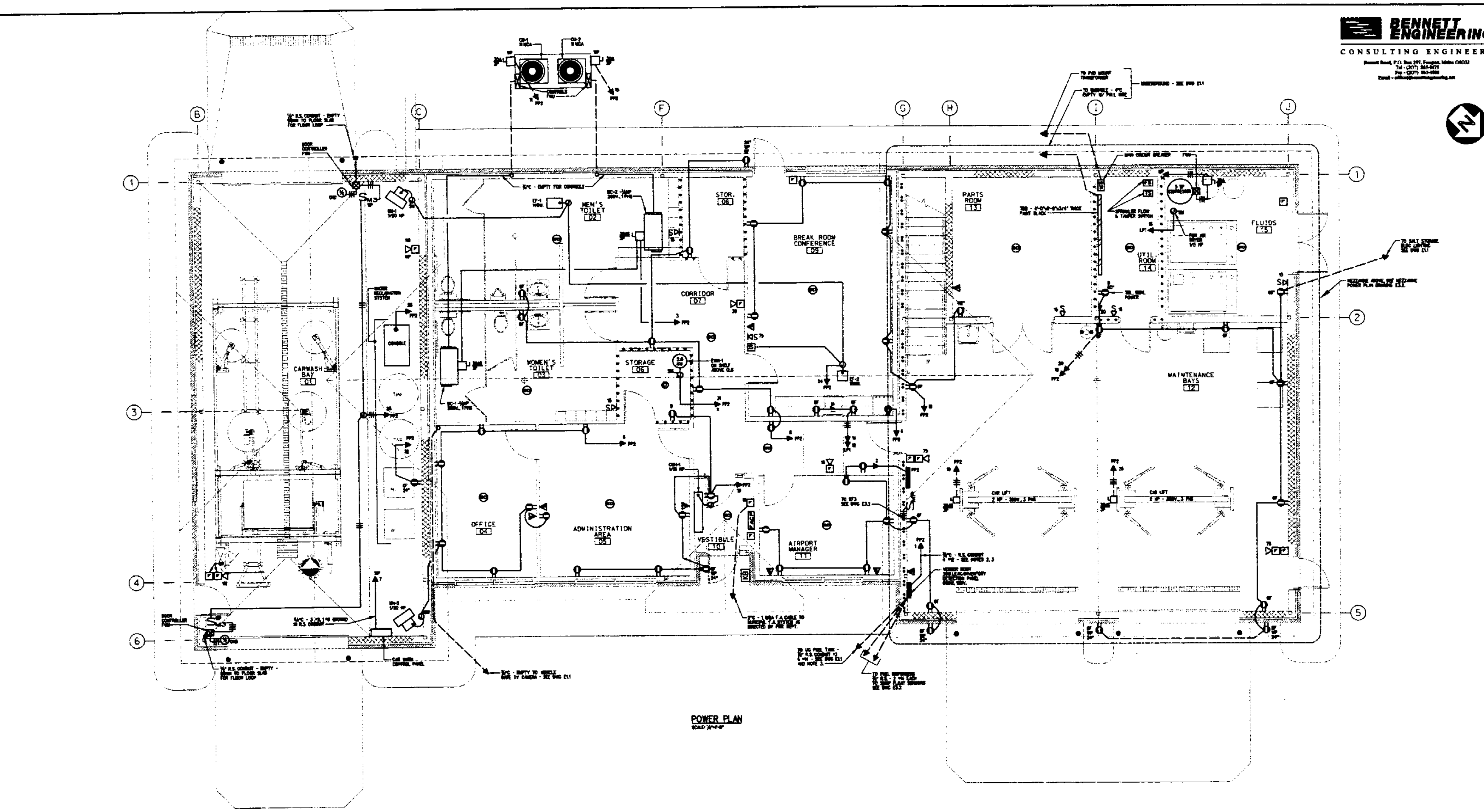
DRAWING SCALE: AS NOTED

SHEET TITLE

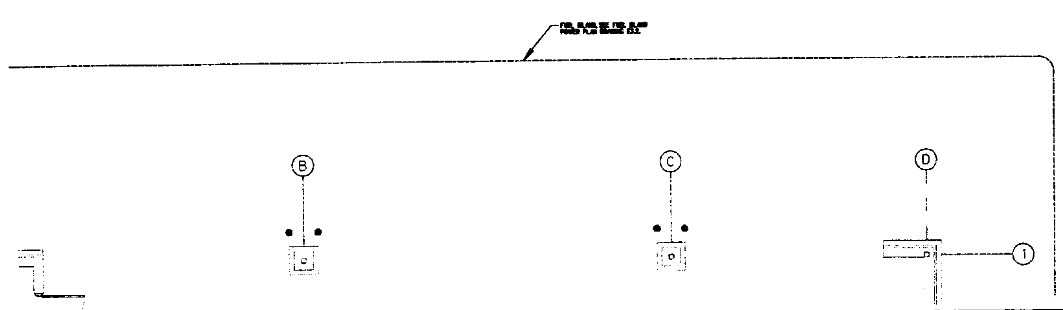
LIGHTING FLOOR PLAN

E2.2

BENNETT ENGINEERING
CONSULTING ENGINEERS



POWER PLAN



NOTES:

[illegible]

GENERAL NOTE

REFER TO APPENDIX "B" IN THE SPECIFICATIONS FOR OWNER FURNISHED EQUIPMENT AND DISPOSITION OF INSTALLATION.

GAWRON ARCHITECTS

AVIS CORPORATE FACILITIES

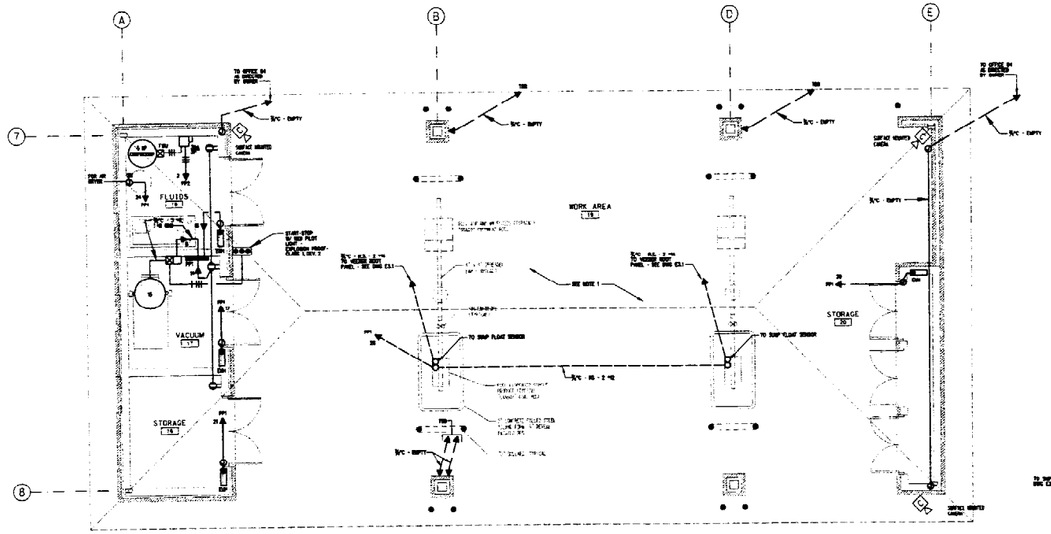
VEHICHLE SERVICE CENTER

REVISIONS

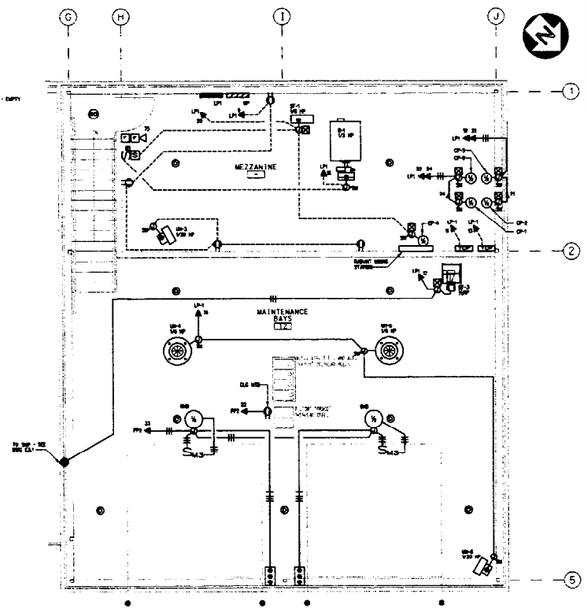
SHEET TITLE

POWER FLOOR PLAN

E3.1



FUEL ISLAND POWER PLAN



MEZZANINE POWER PLAN

NOTES:

GENERAL NOTE
REFER TO APPENDIX "B" IN THE SPECIFICATIONS FOR OWNER FURNISHED EQUIPMENT AND DISPOSITION OF INSTALLATION.

BENNETT ENGINEERING
CONSULTING ENGINEERS

GAWRON ARCHITECTS

AVIS
CORPORATE FACILITIES

VEHICHLE SERVICE CENTER

REVISIONS

#	DATE	DESCRIPTION

DATE:	08/17/05
PROJECT #	04008
DRAWN BY:	SPD
CHECKED BY:	CVA
DRAWING SCALE	AS NOTED

SHEET TITLE
POWER FLOOR PLAN

E3.2

THREE PHASE PANELBOARD SCHEDULE — PANEL DESIGNATION: PP1

PROJECT: AVIS CAR RENTAL
SURFACE MOUNTED
MAIN LUGS:
MAIN BRKR: 200A, 3P — VOLTS: 120/208 — PHASE: 3 — WIRE: 4
SQUARE D NQOD

KVA LOAD	DESCRIPTION	CKT / BKR	CKT / BKR	DESCRIPTION	KVA LOAD
.75	SITE LIGHTING	1 2P	2 3P	AIR COMPRESSOR - 5 HP	2.01
.75		20			2.01
1.05	SITE LIGHTING	5 2P	35		2.01
1.05		20	8 3P	VACUUM SYSTEM - 15 HP	5.55
1.20	SITE LIGHTING	9 2P			5.55
1.20		20	110		5.55
1.06	LTG - FUEL ISLAND	13 2P	14 1P 20	OUTLETS - FUEL ISLAND	.60
1.06		20	16 2P	EUH - FLUIDS	1.50
1.50	EUH - VACUUM	17 2P	20		1.50
1.50		20	20 2P	EUH - STORAGE	1.50
1.50	EUH - STORAGE	21 2P	20		1.50
1.50		20	24 1P 15	AIR DRYER FOR AIR COMPRESSOR - 1/5 HP	.62
.80	SUBMERSIBLE FUEL PUMP - 1/2HP [ST]	25	26 1P 20	FUEL DISPENSER LIGHTING	.50
.80		3P	28 2P	LTG - FUEL ISLAND	1.06
.80		35	20		1.06
	SPARE	31 1P 20	32 2P	ELEC. OPER. GATE - 1 HP	.92
		33 1P 20	20		.92
		35 1P 20	36	SPACE	
		37 1P 20	38		
		39 1P 20	40		
		41 1P 20	42		

ST - SHUNT TRIP - CIR. #25
TOTAL CONN. LOAD: 48.6 KVA — TOTAL DEM. LOAD: 48.6 KVA

THREE PHASE PANELBOARD SCHEDULE — PANEL DESIGNATION: PP2

PROJECT: AVIS CAR RENTAL
SURFACE MOUNTED
MAIN BRKR: 200A, 3P — VOLTS: 120/208 — PHASE: 3 — WIRE: 4
SQUARE D NQOD — 10,000 AIC

KVA LOAD	DESCRIPTION	CKT / BKR	CKT / BKR	DESCRIPTION	KVA LOAD
.60	VEEDER ROOT PANEL	1 1P 20	2 1P 20	OUTLETS - AIRPORT MGR, MAINT. BAY	1.80
.36	BC-1 & BC-2	3 2P	4 1P 20	BREAK ROOM REFRIG.	.35
.36		15	6 1P 20	OUTLETS - ADMIN. OFFICE	1.40
1.25	WATER RECLAMATION CONSOLE	7 2P	8 1P 20	OUTLETS - TOILETS, CORR., ADMIN.	1.40
1.25		20	10 1P 20	OUTLETS - ADMIN., VEST., CUH-1	1.52
1.15	CU-1 - 11 MCA	11 2P	12 1P 20	BREAK ROOM OUTLET	1.50
1.15		15	14 1P 20	BREAK ROOM OUTLET	1.50
1.15	CU-2 - 11 MCA	15 2P	16 1P 20	OUTLETS - BREAK RM, PARTS, MAINT. BAY	1.80
1.15		15	18 1P 20	OUTLETS - MAINT. BAY - SALT BUILDING LIGHTING	1.84
.90	ELECTRIC LIFT - 2 HP	19	20 1P 20	OUTLET FOR TEL. POWER	.50
.90		3P	22 1P 20	LIGHT REELS (2)	.40
.90		20	24 1P 20	EF-1, EF-2, UH-1	1.00
.90	ELECTRIC LIFT - 2 HP	25	26	2 - OHD - CAR WASH BAY - 1/2HP	.58
.90		3P	3P		.58
.90		20	20		.58
2.50	EWH-1	31 1P 30	32 1P 20	WATER RECLAMATION TRANSFER PUMP OUTLET	.80
.58	2 - OHD - MAINT. BAY - 1/2HP	33	34 1P 20	SPARE	
.58		3P	36 1P 20		
.58		20	38	SPACE	
	SPACE	39	40		
	SPACE	41	42		

TOTAL CONN. LOAD: 35.4 KVA — SUB-FEED LUGS FOR FUTURE — TOTAL DEM. LOAD: 31.7 KVA

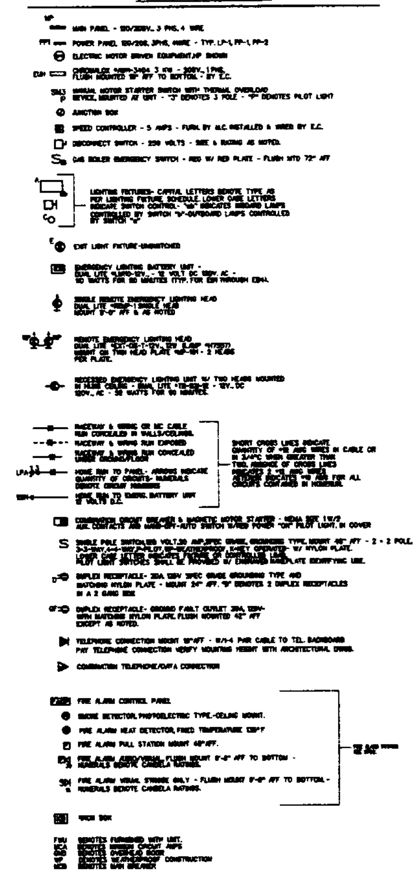
THREE PHASE PANELBOARD SCHEDULE — PANEL DESIGNATION: LP1

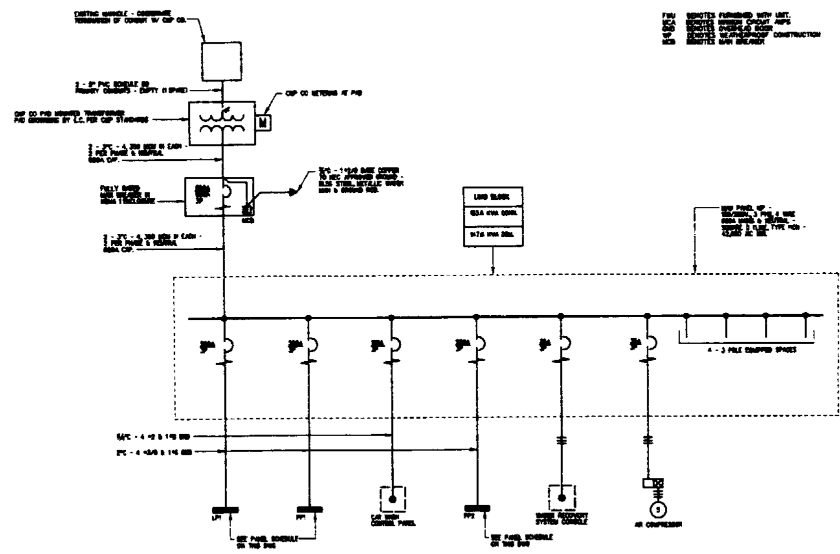
PROJECT: AVIS CAR RENTAL
SURFACE MOUNTED
MAIN LUGS: 225A, 3P — VOLTS: 120/208 — PHASE: 3 — WIRE: 4
SQUARE D NQOD — 10,000 AIC

KVA LOAD	DESCRIPTION	CKT / BKR	CKT / BKR	DESCRIPTION	KVA LOAD
	SPARE	1 1P 20	2 2P	LIGHTING - MAINT. BAY	3.00
	SPARE	3 1P 20	20		3.00
.90	LIGHTING - MEZZANINE	5 1P 20	6 2P	LIGHTING - MAINT. BAY	3.00
1.45	LIGHTING - CORR. AIRPORT, MGR, VEST, ADMIN.	7 1P 20	20		3.00
.98	OUTLETS - MEZZ. & UH-3	9 1P 20	10 1P 20	LIGHTING - PARTS, MECH., FLUIDS, EXTERIOR	.79
.50	TCP PANEL	11 1P 20	12 1P 20	LIGHTING - BREAK, TOILETS, ELEC., EXTERIOR	1.29
.50	TCP PANEL	13 1P 20	14 1P 20	UH-4, UH-5, UH-6	.92
.62	AIR DRYER FOR AIR COMP. - 1/5 HP	15 1P 20	16 1P 20	BOILER B-1 - 1/3 HP	.87
1.18	EF-3 - 1/2HP	17 1P 20	18 1P 20	CP-3 - 1/2HP	1.18
1.18	CP-5 - 1/2HP	19 1P 20	20 1P 20	SF-1 - 1/6 HP, CP-4 - 1/4HP	1.23
1.18	CP-1 - 1/2HP	21 1P 20	22 1P 20	CP-6 - 1/2HP	1.18
	SPARE	23 1P 20	24 1P 20	CP-2 - 1/2HP	1.18
		25 1P 20	26 1P 20	SPARE	
		27 1P 20	28 1P 20		
		29 1P 20	30 1P 20		
	SPACE	31	32	SPACE	
		33	34		
		35	36		
		37	38		
		39	40		
		41	42		

TOTAL CONN. LOAD: 29.2 KVA — TOTAL DEM. LOAD: 29.2 KVA

SYMBOL LEGEND





ONE LINE DIAGRAM

SCALE: NONE

BENNETT ENGINEERING
CONSULTING ENGINEERS

GAWRON ARCHITECTS

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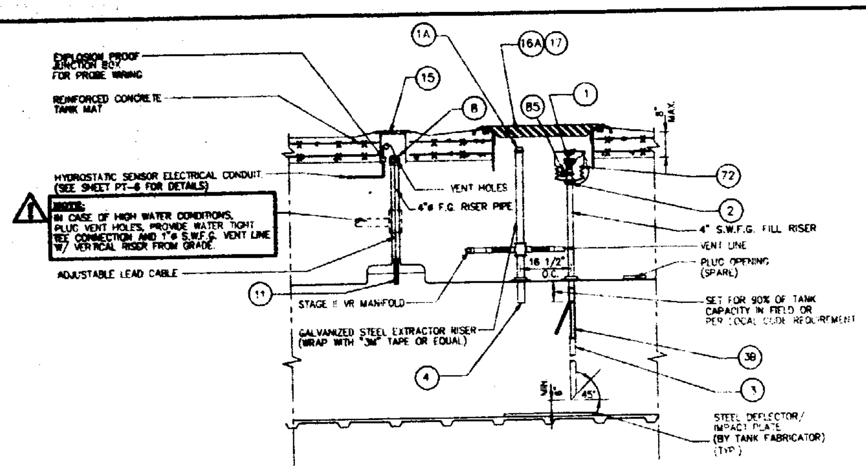
VEHICLE SERVICE CENTER

REVISIONS

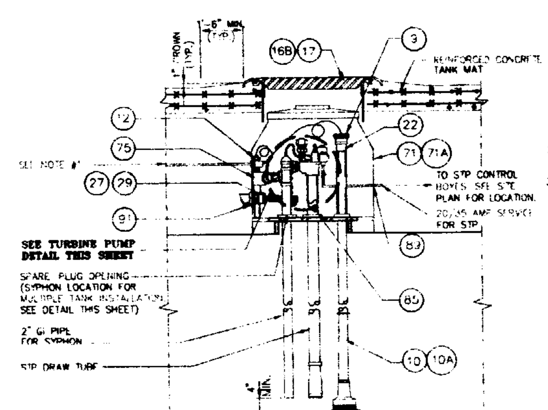
SHEET TITLE: LEGEND, SCHEDULES & ONE LINE DIAGRAM

E4.1



DETAIL "A" - TANK FILL/ STAGE I V/R RISER & BRINE RESERVOIR DETAIL (MAY VARY PER LOCAL CODE. VERIFY PRIOR TO TANK ORDERING)

NOT TO SCALE



DETAIL "B" - TURBINE SUMP DETAIL (DELETE STP AT SYPHONED TANK)

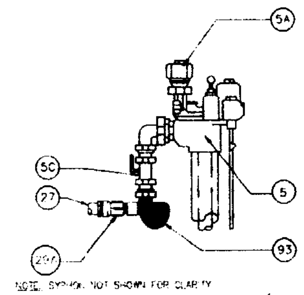
NOT TO SCALE

NOTES:

1. CONNECT PROBE WIRING TO EXPLOSION PROOF JUNCTION BOX IN SUMP. LOOP ALL LEAK DETECTION SENSORS IN TANK FIELD TO TLS-350 MONITOR CONSOLE. (REFER TO SHEET PT-6 OF 7 FOR DETAILS)
2. INSTALL SENSOR & PROBE WIRING WITH A LOOP BETWEEN JUNCTION BOXES.
3. ALL FIBRELITE LIDS HAVE (3) LOW POINT RIBS FOR DRAINAGE. PLACE THESE (3) RIBS IN DIRECTION OF DOWNWARD SLOPE.

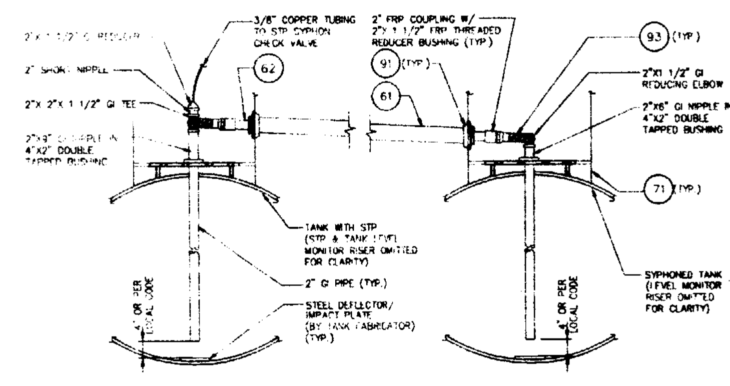
SUMP PROBE NOTE:

REFER TO PROBE MOUNTING DETAILS THIS SHEET.



TURBINE PUMP DETAIL (ENLARGED)

NOT TO SCALE

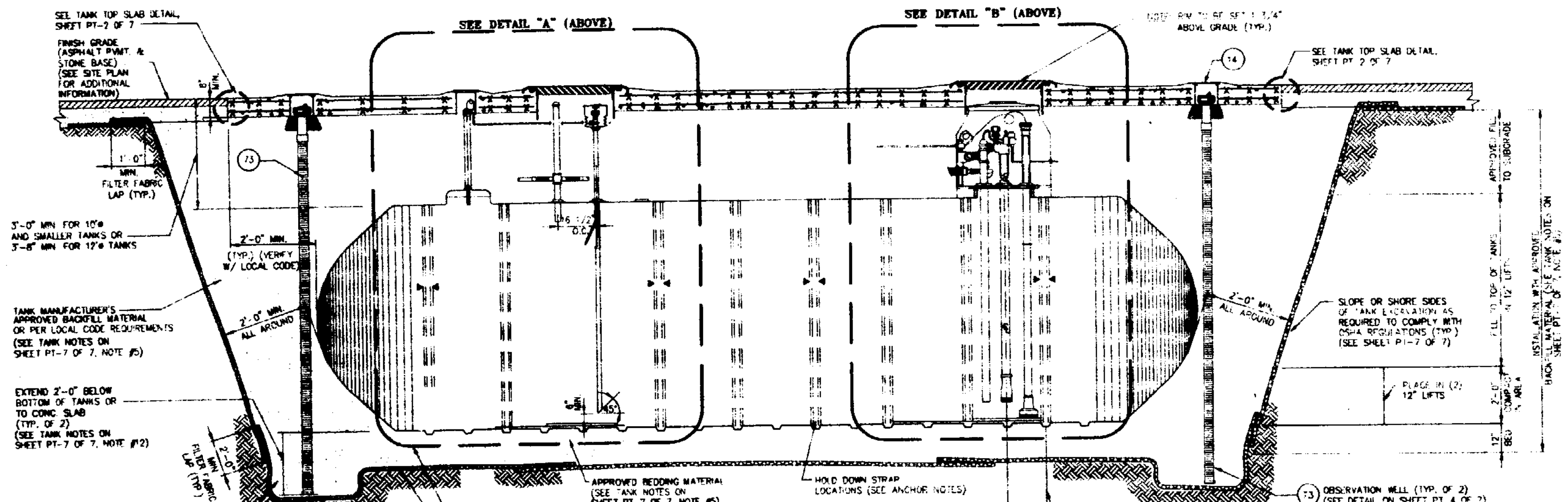


NOTES:

- POSITION BULKHEAD FITTING AND SECONDARY CONTAINMENT PIPE TO SUPPORT SWFG SYPHON LINE TO PREVENT FLEX CONNECTOR SAG.
- ALL PENETRATIONS THRU SUMP SHALL BE MADE RADIALLY.

TANK SYPHON DETAIL

NOT TO SCALE



BACKFILL COMPACTION NOTE:

PROVIDE MIN 12" LEVEL APPROVED BACKFILL BED OVER BOTTOM OF EXCAVATION OR ANCHOR CONCRETE SLAB. SET TANKS ON BED. PLACE FIRST 12" LIFT EVENLY AROUND TANKS. PUSH BACKFILL COMPLETELY BENEATH TANK BOTTOM, BETWEEN RIBS AND UNDER END CAPS TO PROVIDE NECESSARY SUPPORT. USE SAME COMPACTION PROCEDURES FOR THE SECOND 12" LIFT. PROCEED WITH BACKFILL TO TOP OF TANKS WITHOUT FURTHER HANDWORK. (COMPACTION MAY BE REQUIRED FOR TOP SLAB SUPPORT)

ANCHOR NOTES:

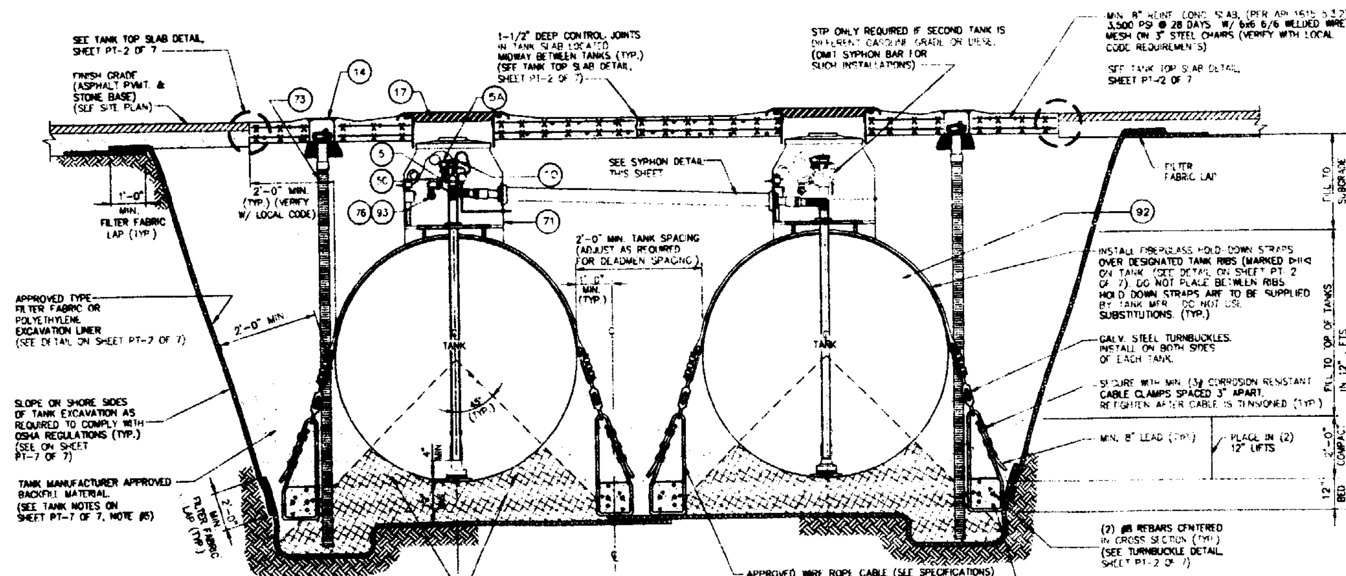
1. ℄ OF STRAP ANCHORAGE POINT MUST BE ALIGNED WITHIN ±1" OF DESIGNATED TANK RIB ℄ (TYP.)
2. NUMBER OF ANCHOR POINTS VARIES W/ TANK SIZE. (REFER TO MFR'S SPECIFICATIONS)

⚠ TANK NOTE:

TANKS ARE TO BE INSTALLED LEVEL ZERO SLOPE.

STANDARD INSTALLATION LONGITUDINAL SECTION

NOT TO SCALE

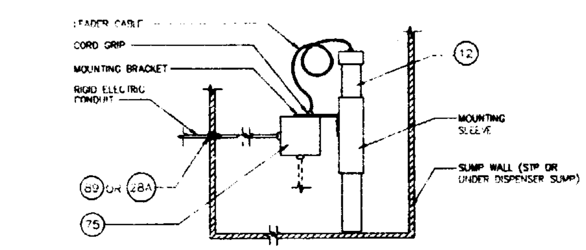


NOTES:

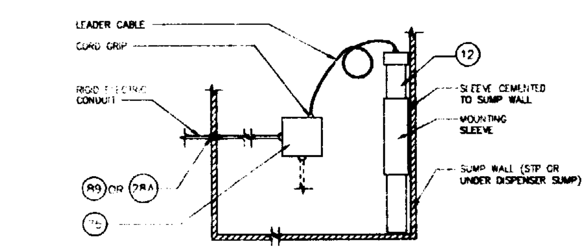
- AVIS' PROTOTYPICAL INSTALLATION CONSISTS OF A SYPHONED (2) TANK SYSTEM W/ (1) STP
- USE SAME DETAIL FOR APPLICATIONS WITH SINGLE GASOLINE & DIESEL TANK APPLICATION.
- USE SAME DETAIL FOR SINGLE TANK APPLICATION.

STANDARD INSTALLATION TRANSVERSE SECTION

NOT TO SCALE



TYPICAL SUMP SENSOR BRACKET MOUNTING - OPTION "A"



SUMP SENSOR MOUNTING SLEEVE CEMENTED TO SUMP WALL - OPTION "B"

SUMP SENSOR INSTALLATION NOTES:

1. THE SUMP SENSOR MUST BE POSITIONED AS CLOSE TO THE CONTAINMENT SUMP OUTER WALL AS POSSIBLE
2. THE SUMP SENSOR MUST BE MOUNTED IN A TRUE VERTICAL POSITION TO ENSURE PROPER OPERATION OF THE FLOAT SWITCH CONTAINED INSIDE.
3. THERE MUST BE AT LEAST ONE INCH OF CLEARANCE BETWEEN THE BOTTOM OF THE MOUNTING SLEEVE AND THE BASE OF THE SUMP.
4. WHEN INSTALLED, THE SUMP SENSOR MUST REST ON THE BASE OF THE SUMP.
5. THE WIRES BETWEEN THE MONITOR AND EACH SUMP SENSOR LOCATION MUST BE OF A TYPE DESIGNED FOR USE IN THE PRESENCE OF GASOLINE AND OIL, AND MUST BE BETWEEN AWG 14 AND AWG 18. THE CONDUIT MUST BE PROPERLY SEALED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NFPA 70) AND THE AUTOMOTIVE AND MARINE SERVICE STATION CODE (NFPA 30) SINCE THEY PASS FROM CLASS I, DIVISION 1 OR DIVISION 2 AREA INTO A NON-HAZARDOUS AREA.
6. FOR STP SUMP PROBE INSTALLATIONS, SELECT A POSITION FOR THE MOUNTING SLEEVE IN THE SUMP AS FAR AWAY FROM THE SUBMERSIBLE PUMP AS POSSIBLE.
7. EPOXY SEALANT BAGS ARE FOR TWO WIRE NUT CONNECTIONS ONLY! IMPROPER SEALING OF THE CONNECTIONS WILL RESULT IN INACCURATE SENSOR READINGS AND POSSIBLY FALSE ALARM CONDITIONS.
8. INSTALLER SHALL FOLLOW PROBE MANUFACTURER'S INSTALLATION GUIDE SHIPPED WITH PROBE UNITS FOR COMPLETE INSTALLATION INSTRUCTIONS AND PROCEDURES.

EQUIP. REFERENCE DRAWINGS

SUMP PROBE MOUNTING DETAILS

NOT TO SCALE

AVIS CORPORATE FACILITIES

NO.	REVISION DESCRIPTION	REV. DATE	BY

DATE: 5/5/97
PROJECT NO:
OPERATION:
DRAWN BY: D.S.H.D./C.B.
PROJECT MGR: R.A.L.
CHECKED BY: J.P.C.

LOCATION

PROJECT TITLE: STANDARD INSTALLATION OF DOUBLE-WALL FIBERGLASS UST'S

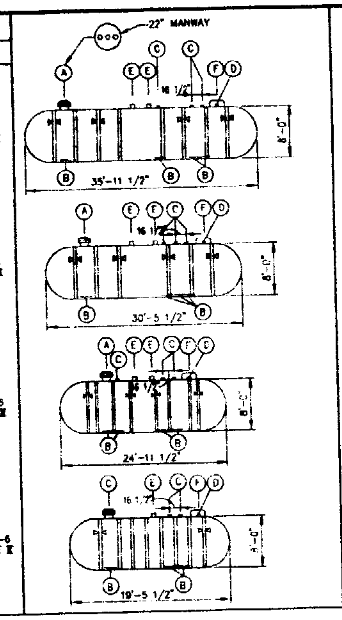
SHEET TITLE: TANK SECTIONS

SHEET NO. PT-1

OF 7

TANKPT12

FLUID CONTAINMENT SIZE/WT	MODEL
12000 (6000 LBS)	DWT-6 TYPE II (8)
10000 (5000 LBS)	DWT-6 TYPE II (8)
8000 (4200 LBS)	DWT-6 TYPE II (8)
6000 (3400 LBS)	DWT-6 TYPE II (8)



FITTING SCHEDULE:

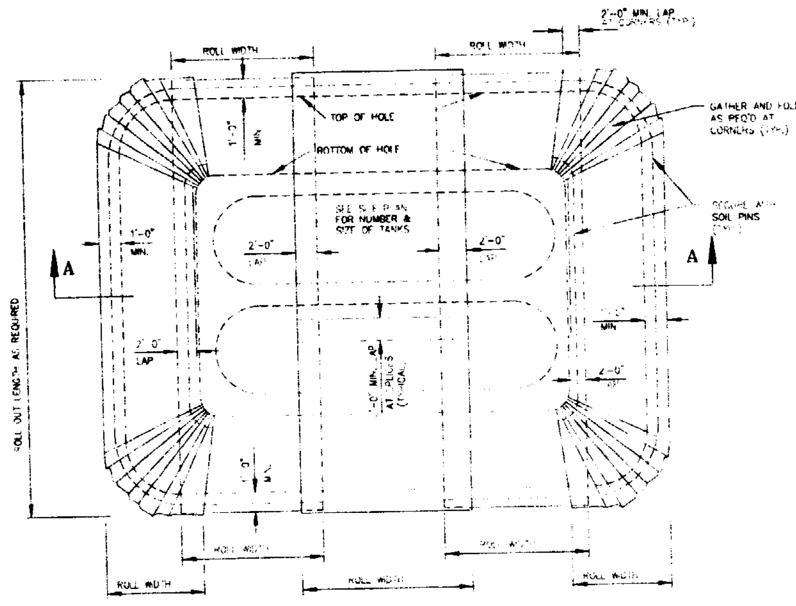
A – 22" MANWAY
B – 24" SQ. DEFLECTOR PLATE
C – 4" NPT FITTINGS
D – 4" NPT CAVITY ACCESS FITTING W/ MONITORING TUBE
E – LIFT LUGS
F – R28 RESERVOIR DOME
▷◁ THIS SYMBOL DENOTES RIB LOCATION FOR FIBERGLASS STRAPS REQ'D FOR STD HOLE INSTALLATION. STRAPS SHALL BE LOCATED OVER RIBS DESIGNATED BY TANK MFR & MARKED ON TANKS.

NOTES:

1. TANK DIMENSION MAY BE CHANGED BY TANK MANUFACTURER. CONTRACTOR SHALL VERIFY ALL TANK DIMENSIONS W/ MANUFACTURER PRIOR TO INSTALLATION.
2. TANKS MUST BE ORDERED WITH 4" NPT SHELL FITTINGS SPACED 16 1/2" O.C.

TANK DATA & FITTING IDENTIFICATION

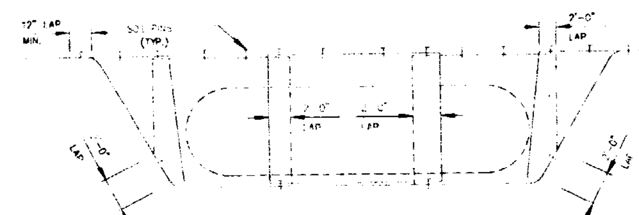
NOT TO SCALE



PLAN

DETAIL OF EXCAVATION LINER INSTALLATION

NOT TO SCALE

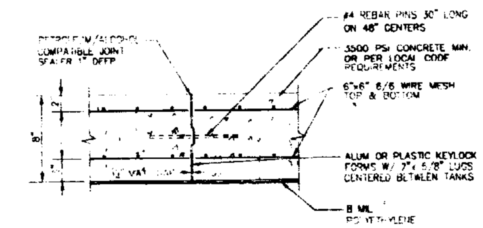


SECTION A–A

MANUFACTURER — REEMAY, INC.
PRODUCT
PHONE — (800) 321-6271

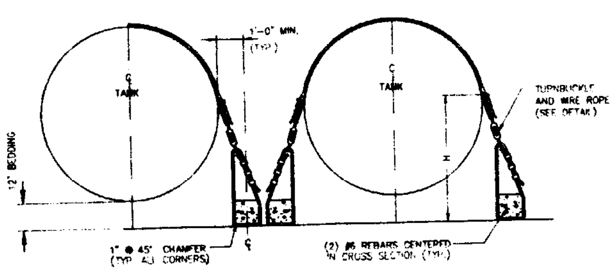
MANUFACTURER — HOECHST CELANESE CORPORATION
PRODUCT — TREVIRA S1120 (HOLE DEPTH LESS THAN 10' DEEP)
PHONE — (800) 845-7597

MANUFACTURER — PHILLIPS FIBERS
PRODUCT — SUPAC 4NP
PHONE



TANK TOP SLAB CROSS SECTION DETAIL

NOT TO SCALE

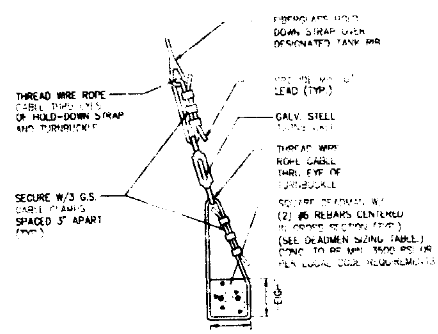


NOTES:

1. DEADMEN TO EXTEND 1'-0" PAST END OF TANKS
2. CONCRETE TO BE MIN. 3500 PSI OR PER LOCAL CODE REQUIREMENTS

"CAST-ON-SITE" CONC. DEADMAN DETAIL

NOT TO SCALE

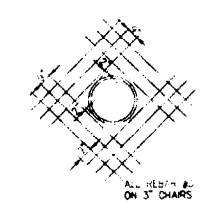


TURNBUCKLE DETAIL

NOT TO SCALE

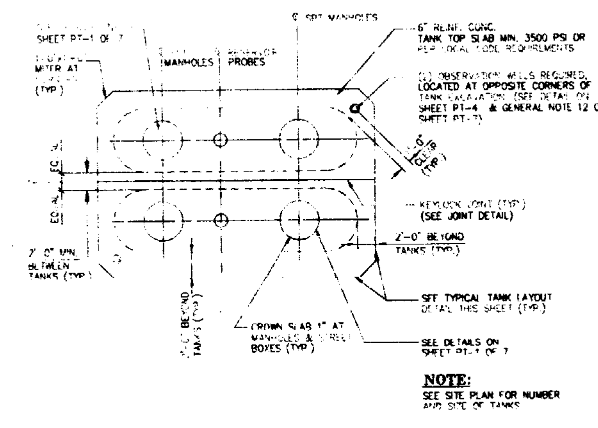
TANK # (NOMINAL)	MIN. HEIGHT	MIN. WIDTH	ANCHOR LOOP	MIN. REBAR WIDTH
8'	12"	12"	#8 REBAR	8"
10'	12"	18"	#10 REBAR	12 1/2"

DEADMEN SIZING TABLE



REBAR DETAIL AT MANHOLES IN TANK TOP SLAB

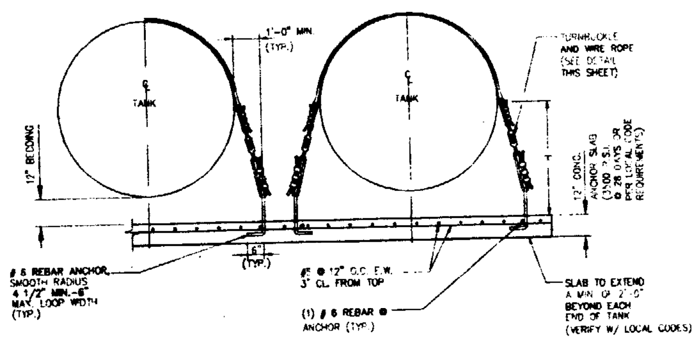
NOT TO SCALE



NOTE:
SEE SITE PLAN FOR NUMBER AND SIZE OF TANKS

PLAN VIEW OF CONCRETE SLAB OVER TANKS

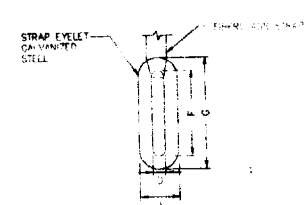
NOT TO SCALE



CONC. BASE SLAB DETAIL
ALTERNATE ANCHORAGE DETAIL

NOT TO SCALE

ANCHORAGE DETAILS



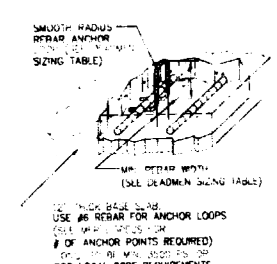
TANK # (NOMINAL)	B	D	E	F	G
8 FT.	2'-8 3/4"	1 1/8"	2 7/8"	2 1/2"	4 1/4"
10 FT.	4'-2"	1 1/8"	2 7/8"	2 1/2"	4 1/4"

STRAP EYELET DETAIL

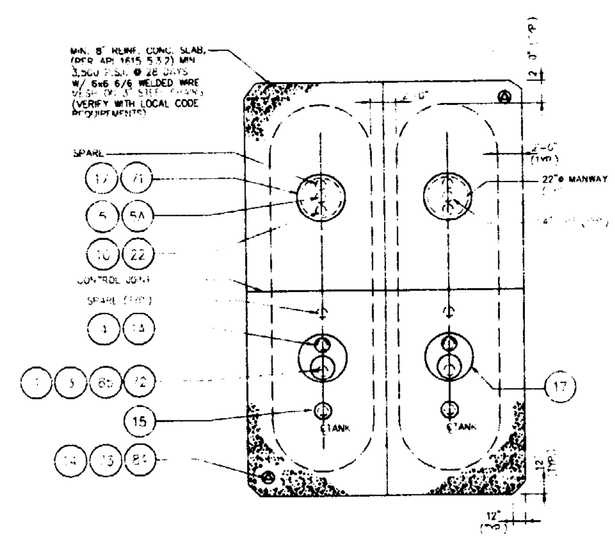
NOT TO SCALE

ANCHORING NOTES:

1. SEE SHEET PT-1 OF 7 FOR ADDITIONAL DETAILS
2. HOLD DOWN ANCHORAGE SPACING SHALL BE PER TANK MANUFACTURERS SPECIFICATIONS
3. CONCRETE FOR CAST DEADMAN OR BASE SLAB SHALL ATTAIN A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 P.S.I.

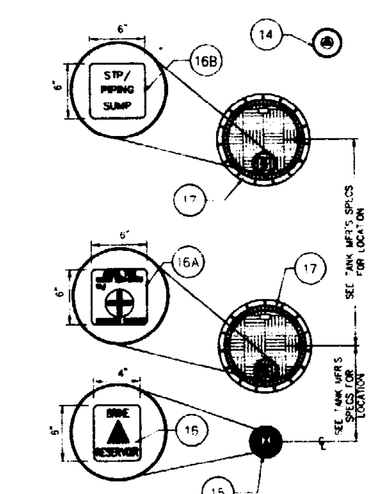


ANCHOR LOOP DETAIL



TYPICAL TANK LAYOUT

NOT TO SCALE



ID TAG DETAILS

NOT TO SCALE

TANK MANHOLE LAYOUT

NOT TO SCALE (SINGLE TANK SHOWN ONLY)

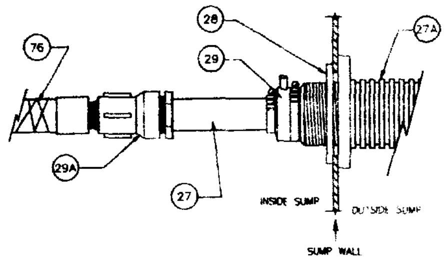
AVIS CORPORATE FACILITIES

NO.	REVISION DESCRIPTION	REV. DATE	BY

DATE: 5/5/97
PROJECT NO:
OPERATION:
DRAWN BY: C.B./D.S.H.D.
PROJECT MGR: R.A.L.
CHECKED BY: J.P.C.

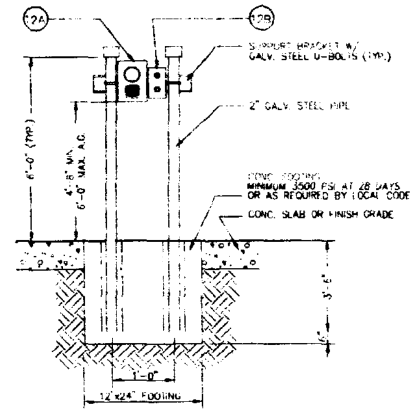
LOCATION
PROJECT TITLE: STANDARD INSTALLATION OF DOUBLE-WALL FIBERGLASS TANKS
SHEET TITLE: DETAILS

SHEET NO. PT-2
OF 7
TANKPT2



UNDER DISPENSER PAN:
FLEXIBLE PRODUCT PIPE ENTRY DETAIL
(UNCUFFED/FLAT WALLS)

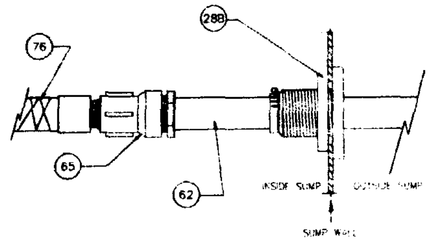
NOT TO SCALE



NOTES:
- PAINT ENTIRE ASSEMBLY GREY
- ANNUNCIATOR UNIT TO BE LOCATED MAX. 75' FROM FILL CAPS. ANNUNCIATOR UNIT CAN ALSO BE MOUNTED ON CANOPY COLUMN OR BUILDING WALL AS DEEMED APPROPRIATE BY AVIS' PROJECT MANAGER.
- SEE SITE PLAN FOR LOCATION

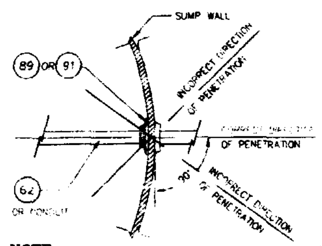
FREESTANDING ANNUNCIATOR MOUNTING DETAIL

NOT TO SCALE



UNDER DISPENSER PAN:
RIGID PIPE ENTRY DETAIL (F/G)
(UNCUFFED/FLAT WALLS)

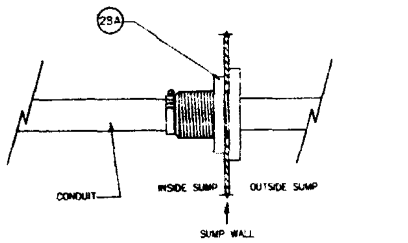
NOT TO SCALE



NOTE:
- ALL PIPING PENETRATIONS TO BE MADE RADIALLY

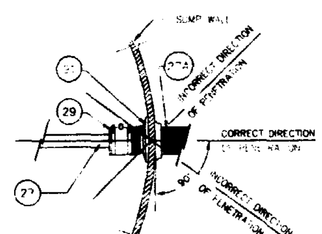
MANWAY SUMP:
RIGID PIPE ENTRY DETAIL (F/G OR CONDUITS)
(UNCUFFED/CURVED WALLS)

NOT TO SCALE



UNDER DISPENSER PAN:
RIGID PIPE ENTRY DETAIL (CONDUITS)
(UNCUFFED/FLAT WALLS)

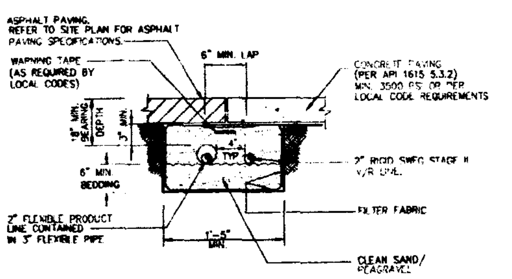
NOT TO SCALE



NOTE:
- ALL PIPING PENETRATIONS TO BE MADE RADIALLY

MANWAY SUMP:
FLEXIBLE PRODUCT PIPE ENTRY DETAIL
(UNCUFFED/CURVED WALLS)

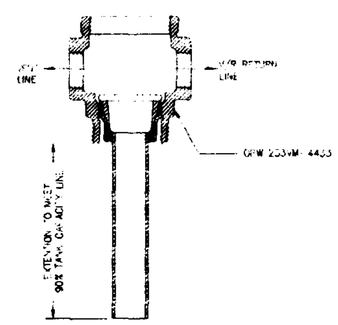
NOT TO SCALE



NOTES:
- PROVIDE 1/2" EXPANSION JOINT WHERE ABUTTING OTHER CONC. SLABS.
- SAWCUT EXISTING SURFACE PAVING PRIOR TO CONCRETE INSTALLATION AT RETROFIT INSTALLATIONS.
- PROVIDE EMULSIFIED ASPHALT IN ALL JOINTS BETWEEN NEW ASPHALT & EXISTING ASPHALT. PVMT
- THE BEDDING MUST BE LAID & GRADED TO THE PROPER FALL BEFORE PIPE RUNS ARE INSTALLED.
- REFER TO SITE PLAN FOR ASPHALT PAVING SPECIFICATIONS.

PIPE TRENCH & COVER DETAILS

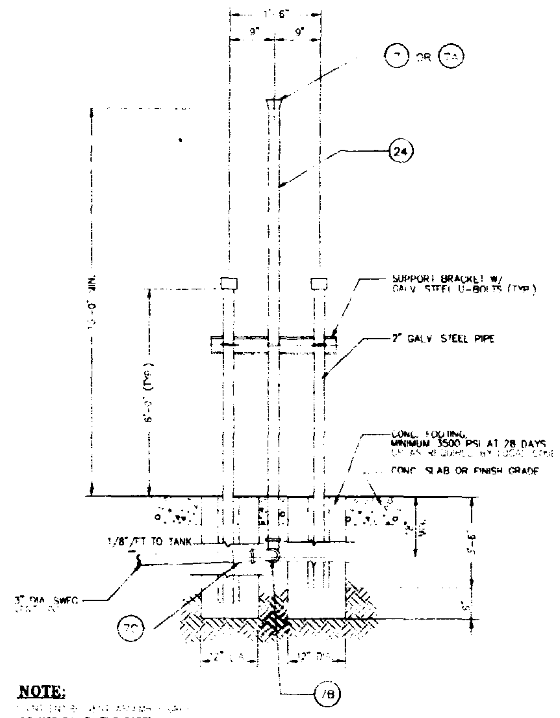
NOT TO SCALE



NOTE:
USE OPWS EXTRACTOR FITTING 233v-4430 TEE WHEN THE SYSTEM LAYOUT DOES NOT REQUIRE A STAGE II VAPOR RECOVERY LINE

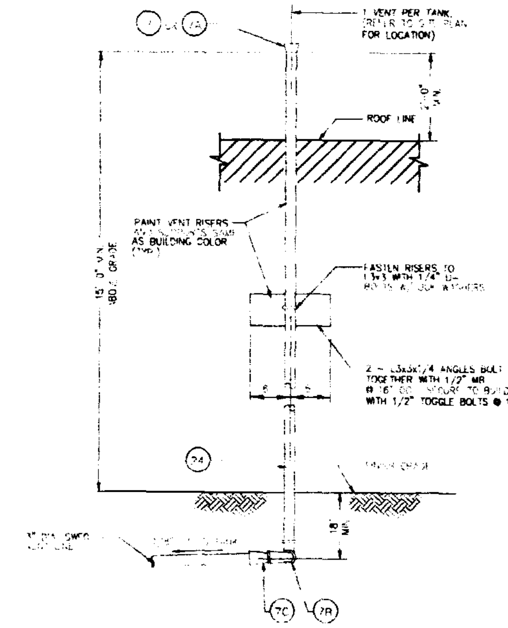
EXTRACTOR-FLOAT VALVE ASSEMBLY DETAIL

NOT TO SCALE



NOTE:
(DO NOT PAINT VENT CAPS)

FREESTANDING (PREFERRED)

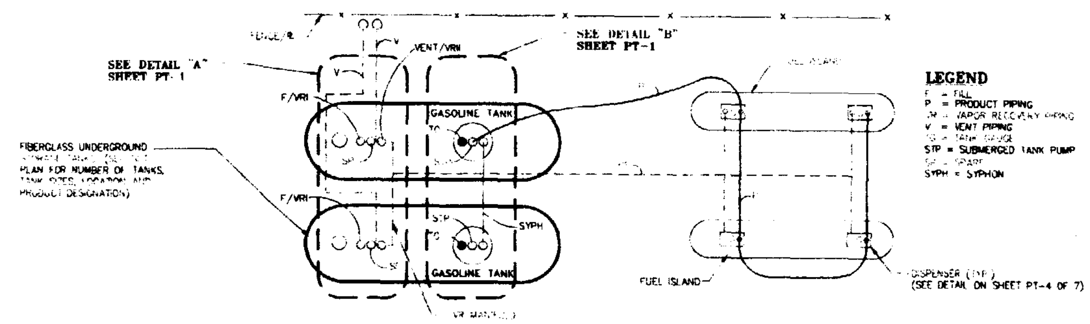


BUILDING MOUNTED

VENT RISER NOTES:
1. FREESTANDING VENT RISERS SHOULD BE USED WHEREVER POSSIBLE. (SEE SITE PLAN.)
2. VENT RISERS SHALL TERMINATE NOT LESS THAN 10'-0" MEASURED HORIZONTALLY FROM ANY ELECTRICAL CONNECTION
3. WRAP ALL METAL PIPE AND FITTINGS BELOW GRADE WITH "3M" TAPE OR EQUAL
4. ALL TANKS, 6,000 GAL OR LARGER 3"Ø MIN. VENT LINE

VENT RISER DETAILS

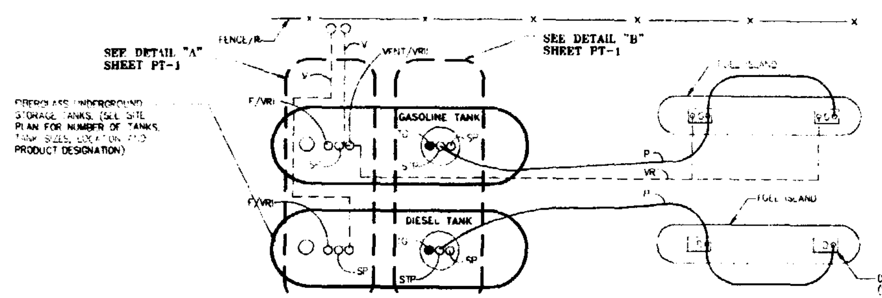
NOT TO SCALE



LEGEND
- F = FILL
- P = PRODUCT PIPING
- VR = VAPOR RECOVERY PIPING
- V = VENT PIPING
- TG = TANK GAUGE
- STP = SUBMERGED TANK PUMP
- SP = SPARE
- SYPH = SYPHON

TYPICAL PIPING SCHEMATIC DUAL SYPHONED TANKS AND DISPENSERS

NOT TO SCALE



LEGEND
- F = FILL
- P = PRODUCT PIPING
- VR = VAPOR RECOVERY PIPING
- V = VENT PIPING
- TG = TANK GAUGE
- STP = SUBMERGED TANK PUMP
- SP = SPARE

NOTE:
VAPOR RECOVERY NOT REQUIRED FOR DIESEL TANKS

TYPICAL PIPING SCHEMATIC MULTIPLE TANKS AND DISPENSERS

NOT TO SCALE

AVIS CORPORATE FACILITIES

NO.	REVISION DESCRIPTION	REV. DATE	BY

DATE: 5/5/97
PROJECT NO.:
OPERATION:
DRAWN BY: D.S.H.D./C.B.
PROJECT MGR: R.A.L.
CHECKED BY: J.P.C.

LOCATION

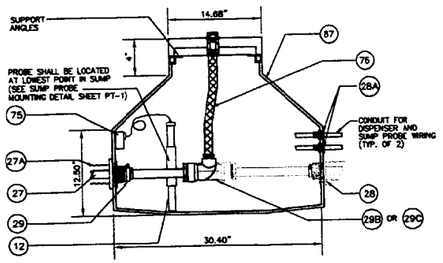
PROJECT TITLE: STANDARD ISTALLATION OF DOUBLE-WALL FIBERGLASS UST'S

SHEET TITLE: DETAILS

SHEET NO. PT-3

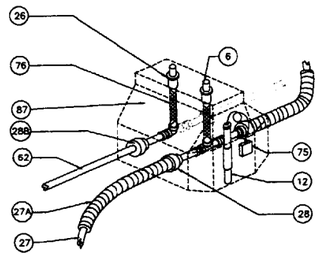
OF 7

TANKPT32



DISPENSER SUMP SECTION

NOT TO SCALE

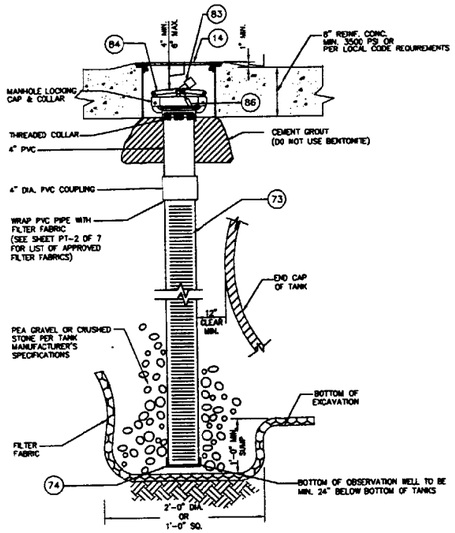


NOTE:

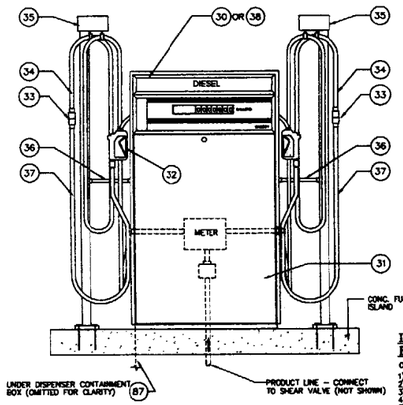
1. SEE DISPENSER SUMP SECTION FOR RISER & "T" CONNECTION.
2. OMIT DETAILS FOR V/R LINE FOR LAYOUTS WITH DIESEL DISPENSERS.

DETAIL SHOWING PRODUCT PIPING

NOT TO SCALE



WITH 1'-0" DEEP SUMP



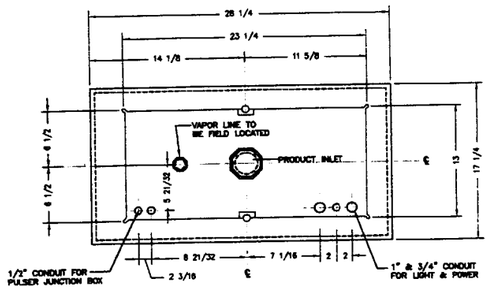
INSTALLATION NOTES FOR HOSES:

ORDER OF CONNECTION

1) NOZZLE
2) SWIVEL
3) SPACER HOSE
4) BREAKAWAY CONNECTOR
5) HOSE
6) DISPENSER

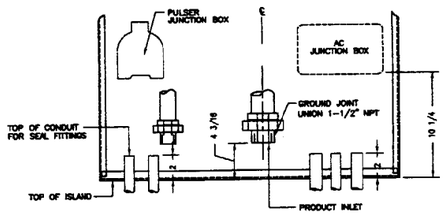
DIESEL DISPENSER INSTALLATION
GASBOY 9800A SERIES

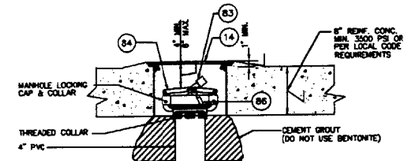
NOT TO SCALE



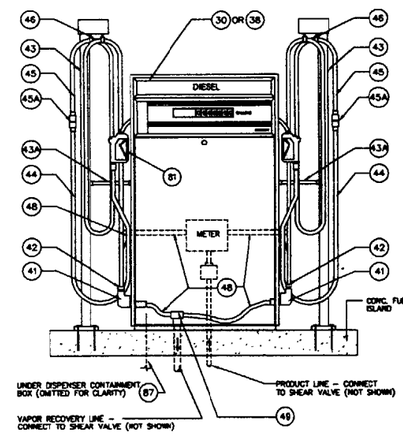
(SINGLE PRODUCT – WITH V/R)
BASE DIMENSIONS – GASBOY 9800A SERIES (DUAL HOSE)

NOT TO SCALE





WITH TANKS ANCHORED TO CONCRETE SLAB



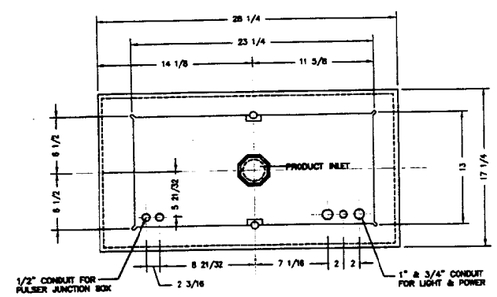
INSTALLATION NOTES FOR HOSES:

ORDER OF CONNECTION

1) NOZZLE
2) SWIVEL
3) SPACER HOSE
4) BREAKAWAY CONNECTOR
5) HOSE
6) DISPENSER

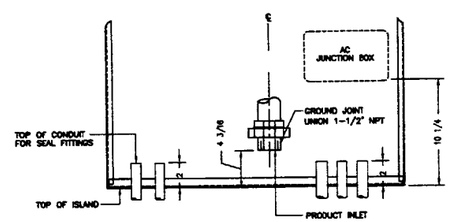
STAGE II VAPOR RECOVERY/DISPENSER INSTALLATION
(BALANCE SYSTEM) (DUAL HOSE DISPENSER SHOWN)

NOT TO SCALE



(SINGLE PRODUCT – DIESEL)
BASE DIMENSIONS – GASBOY 9800A SERIES (DUAL HOSE)

NOT TO SCALE

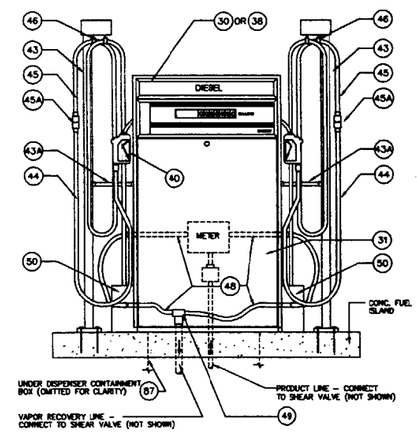


OBSERVATION WELL NOTES

1. (4) 4" DIA. PVC SLOTTED WELL SCREENS (MAX. SLOT .020") WILL BE INSTALLED AS REQUIRED. SLOTS WILL EXTEND TO WITHIN 12" OF GRADE.
2. EXTEND MONITORING WELL A MINIMUM OF 24" BELOW BOTTOM OF TANKS OR RECESSED IN CONCRETE SLAB SUMP.
3. DO NOT PAINT INSIDE MANHOLE.
4. TOP 2' TO BE STANDARD SCH 40 PVC. DO NOT GLUE REDUCERS, CAPS, OR COLLARS WITH PVC SOLVENT ADHESIVE.
5. MIN. TWO WELLS PER TANK AREA OR AS REQUIRED BY LOCAL CODE.

OBSERVATION WELL DETAILS

NOT TO SCALE



INSTALLATION NOTES FOR HOSES:

ORDER OF CONNECTION

1) NOZZLE
2) SWIVEL
3) SPACER HOSE
4) BREAKAWAY CONNECTOR
5) HOSE
6) DISPENSER

STAGE II VAPOR RECOVERY/DISPENSER INSTALLATION
(VAPOR ASSIST SYSTEM) (DUAL HOSE DISPENSER SHOWN)

NOT TO SCALE

AVIS CORPORATE FACILITIES

NO.	REVISION DESCRIPTION	REV. DATE	BY
1	FUEL DISPENSOR CHANGE TO GASBOY	26 FEB 98	AJB

DATE: 5/5/97
PROJECT NO:
OPERATION: C.B./D.S.H.D.
DRAWN BY: R.A.L.
PROJECT MGR: J.P.C.
CHECKED BY:

LOCATION
PROJECT TITLE: STANDARD INSTALLATION OF DOUBLE-WALL FIBERGLASS UST'S
SHEET TITLE: DETAILS

SHEET NO.
PT-4
OF 7
TANKPT4

EQUIPMENT LISTS

TANK EQUIPMENT LIST

PLAN SYMBOL	DESCRIPTION	MANUFACTURER/MODEL NO.			FURNISHED BY	
		OPW	UNIV	OTHER/NOTES	AVIS	CONTR
1	4" TIGHT FILL CAP	634-TT-4"	733-4"	EMCO WHEATON A0097-005 4"	X	
1A	4" EXTRACTOR RISER CAP			EMCO WHEATON A-584-003	X	
2	4" COAXIAL FILL PIPE ADAPTER	83-0066		EMCO WHEATON A0096-001	X	
3	4" COAXIAL FILL TUBE W/ SPRING LOADED SELF-SEALING VAPOR COLLAR & 4" OVERFILL PREV. VALVE.			EMCO WHEATON A88 A1100-010	X	
3A	4" FILL TUBE & 4" OVERFILL PREV. VALVE. (DIESEL TANK SYSTEM ONLY) (REMOTE FILLS - SEE SITE PLAN)			EMCO WHEATON A20 A1100-010	X	
3B	RESERVED					
4	4" GALV. STEEL RISER W/4" X 4" X 3" X 3" G.S. EXTRACTOR ASSEMBLY & PIPE CAP	233VM-4433				X
5	SUBMERGED TURBINE PUMP 1 1/2 HP OR 3/4 HP 208/230V (SEE SITE PLAN)			RED JACKET MODEL 3/4 FOR DUAL HOSE 1 1/5 FOR QUAD. HOSE 1 1/2-3 STAGE 6 HOSES	X	
5A	TWO SECOND LEAK DETECTOR			RED JACKET 116-058-5 (GAS) 116-058-5 (DIESEL)	X	
5B	PUMP CONTROL BOX (3/4 HP OR 1 1/2 HP) (SEE SITE PLAN FOR STP HP)			RED JACKET 880-041-5	X	
5C	2" FULL PORT BALL VALVE			McDONALD 20327-2"	X	
5D	NOT USED					
8	4" CAP AND ADAPTER	82-4"	714-C 4"	EMCO WHEATON A-0632-4"		X
15	12" DIA. MANHOLE W/SKIRT AT BRINE RESERVOIR RISER	104-A1066	60-1280	FIBRELITE FL12	X	
16	BRINE RESERVOIR ID PLATE (4"X6")			FIBRELITE		
16A	PRODUCT I.D. PLATE COLOR CODING (6"X6")			FIBRELITE (SPECIFY U/L OR DIESEL)	X	
16B	PIPING SUMP ID PLATE (6"X6")			FIBRELITE	X	
17	36" FIBERGLASS MANHOLE COVER AND SKIRT			FIBRELITE FL365K-9G	X	
20	RESERVED					
22	4" FIBERGLASS PROBE RISER			AMERON DUALOY 3000L		X
71	42" WATERTIGHT STP SUMP			FLUID CONTAINMENT WTE42	X	
71A	42" SUMP ADHESIVE KIT			FLUID CONTAINMENT KIT AD	X	
72	5 GAL. FILL/SPILL CONTAINMENT FILLBOX W/ MANUAL PULL DRAIN			EBW 705-495 OR FAIRFIELD FISC-5	X	
85	FILL PIPE PRODUCT I.D. TAPE			FIBRELITE (SPECIFY U/L OR DIESEL)	X	
89	3/4" CONDUIT BOOT			CTC MODEL PL3/4		X
90	RESERVED					
91	PRODUCT PIPING BULK HEAD FITTING			CTC MODEL PL3		
92	DWFG UNDERGROUND STORAGE TANK			FLUID CONTAINMENT SIZE PER AVIS REQUIREMENTS	X	
93	STP FLEXIBLE CONNECTOR			HOSEMASTER: FSMS 2"x 24" FIRESHIELD FLEX 2"Mx 24"MS	X	

LEAK DETECTION/MONITORING EQUIPMENT LIST

PLAN SYMBOL	DESCRIPTION	MANUFACTURER/MODEL NO.			FURNISHED BY	
		OPW	UNIV	OTHER/NOTES	AVIS	CONTR
9	6" PROBE RISER CAP & RING KIT			VEEDER - ROOT VR 312020-952	X	
10	8' AUTOMATIC TANK INVENTORY GAUGE/PROBE			VEEDER - ROOT VR 847390-107 8' (VERIFY TANK DIA.)	X	
10A	MAG. PROBE INSTALLATION KIT			VEEDER - ROOT VR 849600-000	X	
11	DUAL FLOAT HYDROSTATIC SENSOR (BRINE RESERVOIR SENSOR)			VEEDER - ROOT VR 794380-302	X	
12	SUMP LEAK DETECTION PROBE			VEEDER ROOT VR 794380-208	X	
12A	VISIBLE/AUDIBLE OVERFILL ALARM			VEEDER ROOT 790091-001	X	
12B	ALARM ACKNOWLEDGMENT SWITCH			VEEDER ROOT 790095-001	X	
13	LEAK/INVENTORY CONSOLE W/ PRINTER			VEEDER ROOT TLS-350 (VR 847090-002)	X	
13A	FOUR OUTPUT RELAY MODULE			VEEDER ROOT VR 847490-200	X	
13B	EIGHT INPUT LEAK SENSOR			VEEDER ROOT VR 847490-102	X	
13C	FOUR PROBE / TANK MODULE			VEEDER ROOT VR 847490-104	X	

DISPENSER PAN LIST

PLAN SYMBOL	DESCRIPTION	MANUFACTURER/MODEL NO.			FURNISHED BY	
		OPW	UNIV	OTHER/NOTES	AVIS	CONTR
6	1-1/2" CRASH VALVE	10-RMS	521 RMS	IN PREASSEMBLED DISPENSER SUMP	X	
6A	STABILIZER ASSEMBLY			IN PREASSEMBLED TOTAL-CONTAIN SUMP	X	
26	VAPOR SHEAR VALVE		516-1015	IN PREASSEMBLED DISPENSER SUMP	X	
28	3" FLEXIBLE SUMP PIPING BULKHEAD FITTING			TOTAL CONTAINMENT FB 3050	X	
28A	DISPENSER SUMP CONDUIT BULKHEAD FITTING 3/4"			TOTAL CONTAINMENT UB 1075	X	
28B	DISPENSER SUMP RIGID F/G PIPING BULKHEAD FITTING			TOTAL CONTAINMENT FB 2030	X	
29	TEST COUPLING W/ SPLIT REDUCER DONUT			CTC 3X3PS/ 3002P		X
29A	TRANSITION FITTING			CTC #6001		X
29B	90° ELBOW FITTING			CTC 6003F		X
29C	TEE COUPLING			CTC #6005		X
29D	TERMINATION COUPLING			CTC 3X3P		X
75	EXPLOSION PROOF JUNCTION BOX AND SEAL FITTING			CROUSE-HINDS/APPLETON OR EQUIVALENT		X
76	1-1/2"x24" MALE x MALE SWIVEL FIRESHIELD FLEXIBLE CONNECTOR			HOSEMASTER. (PART OF PREASSEMBLED DISPENSER SUMP)	X	
87	SINGLE PRODUCT DISPENSER PAN			TOTAL CONTAINMENT # DFBE-2014	X	
88	RESERVED					

TANK VENT LIST

PLAN SYMBOL	DESCRIPTION	MANUFACTURER/MODEL NO.			FURNISHED BY	
		OPW	UNIV	OTHER/NOTES	AVIS	CONTR
7	3" VENT CAP	523S	45	EMCO WHEATON A-4103		X
7A	3" VENT CAP FOR DIESEL TANK (WHERE REQ'D)	23-0055		MORRISON 548-A		X
7B	3" GALV. STEEL 90# ELBOW (PROVIDE (2) PER VENT RISER)			AMERON DUALOY 3000 LC		X
7C	3" FRP BELL X 3" MALE NPT ADAPTOR			AMERON DUALOY 3000 L		X
24	3" SCH 40 PIPE - GALV. STEEL VENT RISER			ASTM-A-120 ERW STEEL PIPE SCH 40		X
25	RESERVED					

FLEXIBLE PIPING LIST

PLAN SYMBOL	DESCRIPTION	MANUFACTURER/MODEL NO.			FURNISHED BY	
		OPW	UNIV	OTHER/NOTES	AVIS	CONTR
27	2" FLEXIBLE PRIMARY PRODUCT PIPING			CTC #5400		X
27A	3" FLEXIBLE SECONDARY CONTAINMENT PIPING			CTC #7000		X
78	3" THREADED ADAPTER BELL X FEMALE			CBA GEIGY DUALOY 3000UL SYSTEM		X

OBSERVATION WELL LIST

PLAN SYMBOL	DESCRIPTION	MANUFACTURER/MODEL NO.			FURNISHED BY	
		OPW	UNIV	OTHER/NOTES	AVIS	CONTR
14	10" DIA. LIMITED ACCESS MANHOLE FOR MONITORING WELLS	104-AOW 1212	65 1212	EBW #810-302	X	
73	4" DIA. SCH 40 PVC SLOTTED OBSERVATION WELL PIPE - 4 ROWS OF .020 SLOTS			HYDROPHILIC IND PUYALLUP, WA 1-800-438-3838		X
74	4" PVC PIPE CAP (SLIP TYPE)					X
83	LOCKING WARNING CAP					
84	4" MONITORING WELL CAP			MORRISON BROS. 604XAT		X
86	AVIS WARNING TAG			BY AVIS	X	

DISPENSER LIST

PLAN SYMBOL	DESCRIPTION	MANUFACTURER/MODEL NO.	FURNISHED BY	
			AVIS	CONTR
GILBARCO RAC5921AS1 (DIESEL) / GILBARCO RA492AS1 - (1) HOSE OR (2) HOSES				
30	SINGLE PRODUCT, DIESEL DISPENSER	GASBOY 9852AXTW1-D2 (DUAL HOSE)	X	
38	SINGLE PRODUCT, DIESEL DISPENSER	GASBOY 9852AX-D2 (SINGLE HOSE)	X	
31	NOT USED	NOT USED	X	
32	DISPENSING NOZZLE W/ ROUND SPLASH GUARD	HUSKY #159404	X	
33	RECONNECTABLE SAFE-BREAK	HUSKY #3360 VR 3/4 F X 3/4 F	X	
34	WHIP HOSE FOR SAFE-BREAK	VST-CP-008	X	
35	HIGH MAST W/ HOSE CLAMP	POMECO 100-6	X	
36	HIGH MAST STABILIZER BRACKET	POMECO 100HL	X	
37	3/4" X 17' HOSE			
GILBARCO RAC5921AS1 / GILBARCO RA492AS1 (VAPOR ASSIST SYSTEM) - (1) HOSE OR (2) HOSES				
30	SINGLE PRODUCT / DISPENSER	GASBOY 9852AXTW1-D2 (DUAL HOSE)	X	
38	SINGLE PRODUCT / DISPENSER	GASBOY 9852AX-D2 (SINGLE HOSE)	X	
40	VAPOR ASSIST NOZZLE	EMCO A4005/OPW 11AV1	X	
43	HIGH MAST HOSE RETRACTOR W/O CLAMP	POMECO 100-AG	X	
43A	HIGH MAST STABILIZER BRACKET	POMECO 100-HL	X	
44	7'-6" COAXIAL DISPENSER HOSE	VST-IS-090-COAX	X	
45	4'-6" COAXIAL DISPENSER HOSE	VST-IS-054-COAX	X	
45A	RECONNECTABLE SAFE BREAK	HUSKY INVERTED #4034	X	
46	HOSE CLAMP	VSTA	X	
47	RESERVED			
48	VAPOR/PRODUCT JUMPER HOSE	DAYCO 7280BDK-24 3/4"x 24" /FIELD INSTALL	X	
49	COUPLER FOR VAPOR/PRODUCT HOSE	DAYCO 7662-751 / FIELD INSTALL	X	
50	VAPOR RECOVERY ASSIST SYSTEM	OPW VAPOR EZ	X	
GILBARCO RAC5921AS1 / GILBARCO RA492AS1 (VAPOR BALANCED SYSTEM) - (1) HOSE OR (2) HOSES				
30	SINGLE PRODUCT / DISPENSER	GASBOY 9852AXTW1-D2 (DUAL HOSE)	X	
38	SINGLE PRODUCT / DISPENSER	GASBOY 9852AX-D2 (SINGLE HOSE)	X	
41	SPLITTER VALVE	EMCO A4041-001	X	
42	45 DEGREE COAXIAL SWIVEL	EMCO A4110-001	X	
43	HIGH MAST HOSE RETRACTOR W/O CLAMP	POMECO 100-AG	X	
43A	HIGH MAST STABILIZER BRACKET	POMECO 100-HL	X	
44	7'-6" COAXIAL DISPENSER HOSE	VST-IS-090-COAX	X	
45	4'-6" COAXIAL DISPENSER HOSE	VST-IS-054-COAX	X	
45A	RECONNECTABLE SAFE BREAK	HUSKY INVERTED #4034	X	
46	HOSE CLAMP	VSTA	X	
47	RESERVED			
48	VAPOR/PRODUCT JUMPER HOSE	DAYCO 7280BDK-24 3/4"x 24" /FIELD INSTALL	X	
49	COUPLER FOR VAPOR/PRODUCT HOSE	DAYCO 7662-751 / FIELD INSTALL	X	
81	BALANCED SYSTEM VAPOR NOZZLE	EMCO A4005	X	
82	RESERVED			
83	RESERVED			

FIBERGLASS PIPING LIST

PLAN SYMBOL	DESCRIPTION	MANUFACTURER/MODEL NO.			FURNISHED BY	
		OPW	UNIV	OTHER/NOTES	AVIS	CONTR
61	3" DIA. FIBERGLASS PIPE			AMERON (CIBA-GEIGY) DUALOY 3000/UL PIPING SYSTEM COMPLETE WITH FITTINGS AND C-204T ADHESIVE OR A.O. SMITH-INLAND, RED THREAD II		X
62	2" DIA. VAPOR RECOVERY FIBERGLASS PIPE					X
63	4" THREADED ADAPTER-BELL X MALE					X
64	3" THREADED ADAPTER-BELL X MALE					X
65	2" THREADED ADAPTER-BELL X MALE					X
66	2" - 90° FIBERGLASS ELBOW					X
67	2" - 45° FIBERGLASS ELBOW					X
68	2"x2"x2" FIBERGLASS TEE					X
69	2" DIA. FIBERGLASS NIPPLE					X
70	FIBERGLASS SLEEVE COUPLING (SIZE TO SUIT PIPE DIA.)					X
80	3"x3"x3" FIBERGLASS CONTAINMENT TEE					X

AVIS CORPORATE FACILITIES

NO.	REVISION DESCRIPTION	REV. DATE	BY
1	FUEL DISPENSER CHANG TO GASBOY	25 FEB.00	S.S

DATE: 5/5/97
PROJECT NO:
OPERATION:
DRAWN BY: C.B./D.S.H.D.
PROJECT MGR: R.A.L.
CHECKED BY: J.P.C.

LOCATION
PROJECT TITLE: STANDARD INSTALLATION OF DOUBLE-WALL FIBERGLASS UST'S
SHEET TITLE: EQUIPMENT LISTS

SHEET NO.
PT-5
OF 7
TANKPT51

VEEDER ROOT 350 START-UP PROGRAMMING: AVIS SPECIFICATIONS

SET-UP MODE ORGANIZATION

IN THE SET-UP MODE, ENTER SYSTEM INFORMATION AND OPERATING PARAMETERS AS SHOWN BELOW.
ALL SET-UP DATA IS ENTERED OR SETUP CHOICES MADE USING THE FRONT-PANEL KEYBOARD.

SYSTEM SETUP MODE	INPUT
SYSTEM LANGUAGE	USE ENGLISH
S-SYSTEM UNITS	USE U.S.
S-DATE	USE CURRENT DATE
S-TIME	USE CURRENT TIME
S-STATION HEADER LINE #1	USE AVIS FACILITY NAME
S-STATION HEADER LINE #2	USE STREET ADDRESS
S-STATION HEADER LINE #3	CITY, STATE, ZIP
S-STATION HEADER LINE #4	USE AREA# – AVIS #
S-SHIFT #1 START TIME	LOCAL MGR. NAME
S-PERIODIC TEST WARNINGS	ENABLED
S-PERIODIC TEST WARNING DAYS	23
S-PERIODIC TEST ALARM DAYS	26

COMMUNICATION SETUP DATA	INPUT
S-RS-232 EXTERNAL COMMUNICATIONS SECURITY CODE	INSTALL IF REQUIRED (Refer to project manager)
S-RS-232 END OF MESSAGE	ENABLED (Refer to project manager)

IN-TANK SETUP DATA		INPUT
S-TANK CONFIGURATION MODULE #1		FOR IN-TANK PROBES1 TO 4 (Verify that module is installed)
S-PRODUCT CODE	MOTOR OIL WASTE OIL DIESEL 1	U/L GASOLINE
S-COEFFICIENT OF THERMAL EXPANSION	ENTER 0.00070–GASOLINE ENTER 0.00045–DIESEL ENTER 0.00047–WASTE OIL	
S-TANK DIAMETER		ENTER "BUILT INSIDE DIAMETER" OR EXACT TANK CHART "FULL" DIAMETER
S-TANK PROFILE	4 POINTS (FIBERGLASS TANK)	MANDATORY
S-FULL VOLUME		GALLONS F.G.– SEE TANK MANUFACTURER'S CHART
S-ADDITIONAL VOLUMES		QUARTER VOLUMES, 25%, 50%, 75%, 100%, 4 POINTS
S-FLOAT SIZE	2 OR 4 INCHES	4 INCHES
S-CAP 0 CONDUCTOR BOOT		NO
S-WATER WARNING LIMIT		1.5 INCHES
S-HIGH WATER ALARM LIMIT		2.5 INCHES
S-MAXIMUM OR LABEL VOLUME		97%
S-OVERFILL LIMIT %		90%
S-HIGH LEVEL LIMIT %		95% OR 91% FOR WASTE OIL
S-DELIVERY LIMIT %		15%
S-LOW LEVEL LIMIT		10% OF TANK VOLUME
S-LEAK ALARM LIMIT		25 GAL.
S-SUDDEN LOSE LIMIT		50 GAL.
S-TANK TILT		PROGRAM ONLY WHEN PROBE IS NOT INSTALLED IN CENTER OF TANK
S-MONITORED STATUS		IDENTIFY MANIFOLDED TANKS
S-LEAK MINIMUM ANNUAL		MA ONLY
S-DELIVERY REPORT DELAY TIME		1 MINUTE

IN-TANK LEAK TEST SETUP DATA		INPUT
S-TEST METHOD	ALL TANKS	YES
S-TEST FREQUENCY	-MONTHLY WEEK, DAY	15 DAY

LIQUID SENSOR SETUP DATA		INPUT
S-SENSOR CONFIGURATION MODULE #1		SEE MANUAL FOR LIQUID SENSING SETUP
S-SENSOR LOCATION		MARK IN DOOR OF TLS 350
S-CATEGORY	-ANNULAR SPACE -DISPENSER PAN -STP SUMP	YES, HYDROSTATIC YES YES
S-RELAY CONFIGURATION MODULES #1		OVERFILL ALARMS WHERE REQUIRED
S-RELAY TYPE	STANDARD BY TANK	YES
S-RELAY ASSIGNMENTS (FOR EACH RELAY)	IN-TANK ALARMS ALL TANKS	YES

LINE DISABLE SETUP DATA	INPUT
LIQUID SENSOR ALARMS –ALL SUMPS	YES

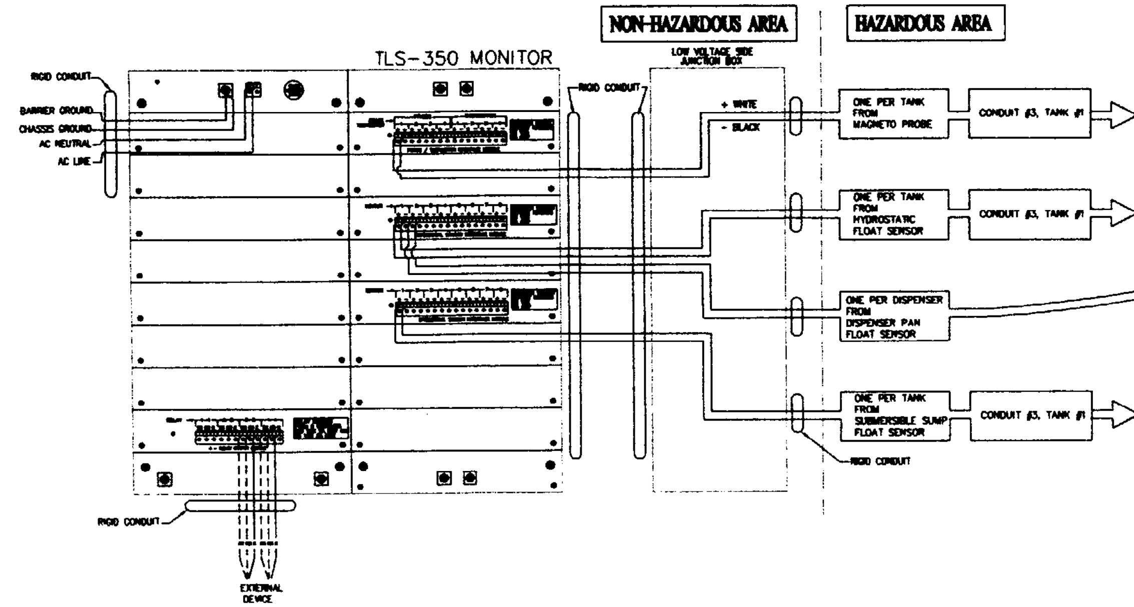
CONTRACTOR NAME ______________________
COMPANY NAME

ADDRESS–PHONE # ______________________

START–UP PERSON – SIGN WHEN COMPLETED ______________________ ________
CONTRACTOR/START–UP TECHNICIAN DATE

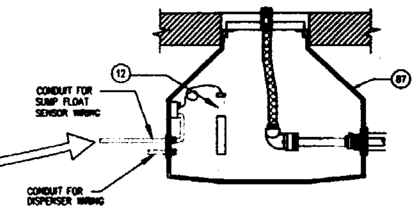
START–UP PERSON – TRAINING OF OPERATOR – SIGN WHEN COMPLETED ______________________ ________
AVIS OPERATOR – SIGNATURE DATE

NOTES: – ATTACH COPY OF COMPLETED VEEDER ROOT START–UP FORM.
– CONTRACTOR SHALL COMPLETE ORIGINAL COPY OF VEEDER ROOT START–UP FORM. SIGN WHERE REQUIRED AND SUBMIT ORIGINAL & (2) TWO COPIES TO AVIS PROJECT MANAGER PRIOR TO COMPLETION OF PROJECT.



VEEDER ROOT TLS-350 CONSTRUCTION DIAGRAM

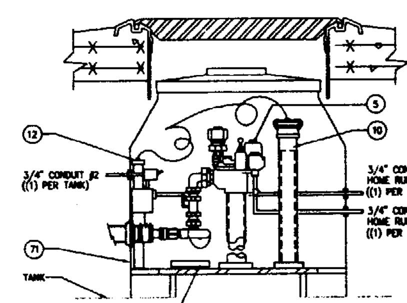
NOT TO SCALE



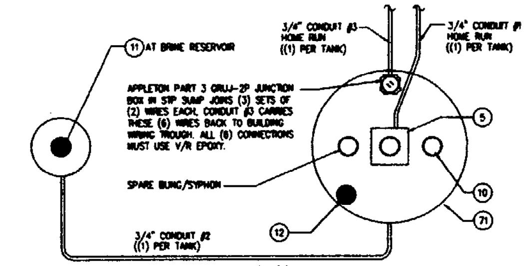
DISPENSER SUMP CONDUIT DESCRIPTION:
THE DISPENSER SUMP WILL HAVE (1) OR (2) PRODUCT LINES AND (2) 3/4" CONDUIT PENETRATIONS:
- (2) WIRES PER FLOAT SENSOR, (1) FLOAT SENSOR PER DISPENSER SUMP. LOOP DISPENSER SUMP CONDUITS WITH ONE HOME RUN PER BUILDING SIDE, OR MAXIMUM (6) DISPENSERS ON EACH HOME RUN.
- (4) WIRES PER DISPENSER. LOOP DISPENSER SUMP CONDUITS WITH ONE HOME RUN PER BUILDING SIDE, OR MAXIMUM (3) DISPENSERS ON EACH HOME RUN.

DISPENSER SUMP FLOAT SENSOR

NOT TO SCALE



ELEVATION



PLAN VIEW

STP SUMP CONDUIT DESCRIPTION:
THE SUBMERSIBLE SUMP WILL HAVE (1) PRODUCT LINE AND (3) 3/4" CONDUIT PENETRATIONS:
#1 – A 3/4" MMW CONDUIT SHALL BE RUN FROM THE STP TO THE BUILDING WIRING TROUGH AND WILL CONTAIN THE STP WIRING. (HIGH VOLTAGE)
#2 – A 3/4" MMW CONDUIT SHALL BE RUN FROM THE HYDROSTATIC RESERVOIR TO THE STP SUMP AND IT WILL CONTAIN THE WIRING FOR FOR THE HYDROSTATIC FLOAT SENSOR
#3 – A 3/4" MMW CONDUIT SHALL BE RUN FROM THE STP SUMP TO THE BUILDING WIRING TROUGH AND WILL CONTAIN (3) SETS OF (2) WIRES:
- (2) FROM CONDUIT #2 (HYDROSTATIC SENSOR)
- (2) FROM MAG PROBE
- (2) FROM STP SUMP FLOAT SENSOR

CONDUIT LAYOUT AT TANK

NOT TO SCALE

⚠ **WARNING:** IN INSTALLATION AND USE OF THIS PRODUCT, COMPLY WITH THE NATIONAL ELECTRICAL CODE: FEDERAL, STATE AND LOCAL CODES. IN ADDITION, TURN OFF POWER AND TAKE OTHER NECESSARY PRECAUTIONS DURING INSTALLATION, SERVICE AND REPAIR TO PREVENT PERSONAL INJURY, PROPERTY LOSS AND EQUIPMENT DAMAGE.

⚠ **WARNING:** DISCONNECT ALL POWER BEFORE MAKING ANY CONNECTIONS TO PREVENT DEATH, SERIOUS INJURY. EXPLOSION OR ELECTRICAL SHOCK. MONITOR MUST NEVER BE OPERATED UNLESS THE FRONT COVER IS CLOSED OVER THE BARRIER TERMINALS IN THE INTRINSICALLY SAFE AREA.

NOTES

1. WIRING TO PROBES AND SENSORS MUST BE GAS AND OIL RESISTANT SIZES FROM AWG NO. 18 TO AWG NO. 14. BARRIER GROUND WIRING MUST BE AWG NO. 12 OR LARGER.
2. CONNECT THE BARRIER GROUND TO THE EARTH GROUND BUS AT THE POWER DISTRIBUTION PANEL WITH NO. 12 AWG (OR LARGER) CONDUCTOR.
3. FIELD WIRING CONNECTION TO BE INSTALLED WITH WATERPROOF CONNECTORS SUPPLIED WITH THE PROBE(S) AND SENSOR(S).
4. INTRINSICALLY SAFE WIRING SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE 504–20 OF THE NEC ANS/NFPA 70, 1990.
5. TO MAINTAIN INTRINSIC SAFETY AND PROPER SYSTEM OPERATION, PROBE AND SENSOR WIRING MUST BE INSTALLED WITHIN SEALED CONDUIT.
6. ELECTRICAL RATING POWER INPUT –120VAC, 50/60 HZ, 600 WATTS MAX.
7. REFER TO "SITE PREPARATION AND INSTALLATION INSTRUCTIONS" MANUAL NO. 576013–622 FOR ACTUAL LOCATION OF CONDUIT ENTRY INTO TLS–350 MONITOR.
8. RS–232 MODULE IS LOCATED IN THE COMMUNICATIONS COMPARTMENT AND MUST BE ORDERED SEPARATELY.

AVIS

NO.	REVISION DESCRIPTION	REV. DATE	BY

DATE: 5/5/97
PROJECT NO:
OPERATION:
DRAWN BY: B.S.H.D./C.B.
CHECKED BY: J.J.D.

LOCATION
PROJECT TITLE: STANDARD INSTALLATION OF DOUBLE-WALL FIBERGLASS UST'S

SHEET NO. PT-6
OF 7

I STORAGE TANK SOIL EXCAVATING PRACTICES

A. CONTAMINATED SOILS

CONTAMINATED SOILS MAY BE ENCOUNTERED IN THE TANK, PIPE TRENCH, AND ISLAND AREA. IT IS IMPORTANT TO MINIMIZE CONTAMINATED SOIL EXCAVATION AND DISPOSAL DURING UNDERGROUND STORAGE TANK (UST) REPLACEMENTS AND NEW INSTALLATIONS. THE FOLLOWING PRACTICES SHALL BE EMPLOYED TO ACHIEVE THIS GOAL:

- THE SIZE OF THE TANK EXCAVATION SHALL BE THE MINIMUM REQUIRED TO CONTAIN THE NEW UST'S PLUS ANY SLOPING NECESSARY TO STABILIZE THE SIDES OF THE EXCAVATION. TANK INSTALLATION STANDARDS SPECIFY 24 INCHES OF CLEARANCE AROUND AND 12 INCHES BENEATH ALL TANKS. FURTHERMORE, ALL TANK TYPES SPECIFIED BY AVIS REQUIRE 24 INCHES OF CLEARANCE BETWEEN TANKS.
- EXCAVATED SAND, PEA GRAVEL, OR OTHER SOIL SUITABLE, AS DETERMINED BY AVIS PROJECT MANAGER/ENVIRONMENTAL CONSULTANT FOR BACKFILL (WHETHER OR NOT THEY CONTAIN PETROLEUM HYDROCARBONS) SHALL BE SEGREGATED ON SITE. THE MATERIAL SHALL BE REUSED AS BACKFILL IN THE TANK EXCAVATION TO THE MAXIMUM EXTENT POSSIBLE. BACKFILL WHICH CONTAINS PETROLEUM HYDROCARBONS SHOULD PREFERABLY BE PLACED BACK IN THE EXCAVATION AREA AT THE TOP OF THE EXCAVATION TO ENHANCE NATURAL BIOREMEDIATION.
- USE OF CONTAMINATED SOIL AS FILL OR GRADING MATERIAL MAY NOT BE ROUTINELY ALLOWED BY SOME LOCAL OR STATE REGULATORS. WHERE THIS IS THE CASE, THE AVIS PROJECT MANAGER/ENVIRONMENTAL CONSULTANT WILL NEED TO OBTAIN APPROVAL FOR THIS PRACTICE PRIOR TO START OF THE TANK EXCAVATION PROJECT.
- ANY ASPHALT OR CONCRETE MAT OVER THE TANK OR PIPE TRENCH AREAS SHALL BE CAREFULLY REMOVED AND SEPARATED FROM EXCAVATED SOILS. HARD OR SHARP MATERIAL, SUCH AS CONCRETE AND ASPHALT FRAGMENTS AND LARGE STONES, SHALL NOT BE INCORPORATED WITH BACKFILL MATERIAL AS THEY MAY DAMAGE OR BRUISE IT'S PROTECTIVE COATING. DRIVEWAY COMPONENTS SHALL BE DISPOSED WITH OTHER NON-CONTAMINATED MATERIAL.
- EXCAVATED CONTAMINATED SOILS WHICH CANNOT BE REPLACED IN THE TANK EXCAVATION SHALL BE USED AS BACKFILL IN OTHER AREAS OF THE SERVICE STATION, OR AS GRADING MATERIAL AS NEEDED.

B. EXCAVATION

ALL EXCAVATIONS TO BE SIZED TO PROVIDE MINIMUM BEDDING, CLEARANCES, AND DEPTH OF BURIAL AS DISCUSSED IN "SOILS" AND SHOWN, TO ALLOW PIPE TO HAVE MINIMUM OF 1/8 INCH PER FOOT SLOPE FROM THE DISPENSERS TO THE TANKS.

CONTRACTOR WILL ADHERE TO ALL O.S.H.A. STANDARDS ON EXCAVATIONS. CONTRACTOR MAY SELECT ANY OF THE RECOMMENDED PRACTICES FOR TANK EXCAVATION AND MUST PROVIDE ALL NECESSARY PROTECTIVE BARRICADES.

TRADITIONAL METHODS

- CUT BACK OF UPPER SIDE WALL, EXCEPT LOWER FOUR FEET.
- "LAY" SHEET PILING, CUT BACK TWO FEET ON SIDEWALLS AND LAY STEEL SHEETING ON SLOPE.
- SHEET PILING, LEFT IN PLACE OR REMOVED.
- POLE PILING, CLOSE CENTERS FOR SOIL STABILIZATION OR WIDE SPACING WITH NETTING, PLYWOOD, OR METAL.
- CORDONED SAFE AREA, ENTRY PERMITTED EIGHT FROM SIDEWALLS.
- AND OTHER O.S.H.A. APPROVED METHODS.

CONTRACTOR IS RESPONSIBLE FOR DEWATERING THE EXCAVATION DURING CONSTRUCTION AND PROTECTION OF THE HOLE FROM RAIN RUNOFF WITH EARTH BERM.

GASOLINE OR WATER IS CONSIDERED SUITABLE FOR BALLAST IN TANKS DURING INSTALLATION. JURISDICTIONAL CASE SHALL PREVAIL. PROPER 12 FOOT HIGH VENT PIPE MUST BE USED FOR BOTH WATER AND GASOLINE BALLAST.

ALL PIPE TRENCHES AND PUMP ISLANDS SHALL BE BACKFILLED WITH CLEAN AND OR PEA GRAVEL, EXCEPT AS NOTED IN CONTAMINATED SOILS ABOVE. (SEE SAND NOTE BELOW).

C. BACKFILL TO CONFORM TO THE FOLLOWING:

- PEA GRAVEL – NATURALLY ROUNDED AGGREGATED NOMINAL 1/4 INCH (1/8 INCH MIN., 3/8 INCH MAX.) IN SIZE AND CONTAINING NO CLAY, SLAG, CINDERS, OR DEBRIS.
- SAND – UNIFORMLY GRADED INERT GRANULAR PARTICLES NO MORE THAN 3/8 INCH IN SIZE WITH NO MORE THAN 8 PERCENT PASSING A #200 SIEVE. FINES SHALL BE NON-PLASTIC AND MATERIAL SHALL CONTAIN NO CLAY, SLAG, CINDERS, OR DEBRIS.

CAUTION: SAND MAY BE USED ONLY WHEN IT IS COMPATIBLE WITH ADJOINING SOIL, SO AS NOT TO ALLOW SOIL MIGRATION.

NOTE: UNDER NO CIRCUMSTANCES SHALL DIRT, CINDERS, BROKEN CONCRETE OR ASPHALT, BUILDING RUBBLE, WOOD, OTHER ORGANIC MATERIAL, AND ESPECIALLY CONSTRUCTION WASTES BE ALLOWED TO REMAIN IN THE EXCAVATED AREA.

II TANKS

THE TANKS ARE DOUBLE WALL CONSTRUCTION WITH 200 MIL EXTERIOR FRP. THE EXTERIOR FRP IS CONSTRUCTED SO AS NOT TO BOND WITH THE INTERIOR TANK.

- TANKS HAVE 28 INCH MERCURY VACUUM APPLIED TO THE INTERSTICE AT THE FACTORY. AFTER DELIVERY IT MAY SHOW 25 INCH +/- VACUUM. IF VACUUM GOES BELOW 20 INCH MERCURY DURING INSTALLATION, CONTACT THE MANUFACTURER IMMEDIATELY TO ASSIST IN AN INVESTIGATION. TANKS WILL BE DELIVERED WITH A FACTORY INSTALLED, API RONAN MODEL JT-2V SENSOR AND GAUGE SET TO CLOSE A SWITCH AT 0.5 INCH VACUUM OR LESS.
- THE SWITCH WIRING WILL INTERFACE WITH A V/R TLS-350, RED JACKET PPM 4000 OR 9000, AND E/W ECO SYSTEMS. THIS WIRING CAN RUN IN THE SUMP SENSOR CONDUIT OR THE ELECTRONIC TANK LEVEL GAUGE CONDUIT.
- TANKS WILL BE INSTALLED WITH ZERO SLOPE, DEAD LEVEL.
- SEE BALLAST NOTE IN EXCAVATION SECTION.
- HOLD DOWN STRAPS/ANCHORING IS REQUIRED.

III TANK OBSERVATION WELLS

- THE OBSERVATION WELLS ARE TO BE INSTALLED AT THE TIME OF TANK BACKFILLING. DO NOT DRILL AFTER INSTALLATION.
- THE MANHOLE COVER MUST BE BOLTED AND BE PERMANENTLY MARKED AS AN MONITORING PORT. SEE EQUIPMENT LIST FOR MODEL #.

IV PIPE

A. PERMA-FLEXX FLEXIBLE DOUBLE WALL PIPING

- MANUFACTURED BY CONTAINMENT TECHNOLOGIES CORP., (612) 881-0072 OR FAX (612) 884-4011.

INSTALLATION INSTRUCTIONS:

1. DETERMINE PROPER "SERIES LAYOUT" FOR PERMA-FLEXX DOUBLE-WALL (OR SINGLE WALL) PIPING SYSTEM.
2. IMPORTANT: AIR TEST FLEXIBLE SECONDARY PIPE COILS UPON DELIVERY TO ENSURE NO DAMAGE HAS OCCURRED IN TRANSIT. THIS CAN BE ACCOMPLISHED BY ATTACHING A SIMPLE ASSEMBLY OF 2 INCH RIGID (FIBERGLASS) PIPE WITH 3" X 2" TEST COUPLINGS ON EACH END TO THE TWO OPEN ENDS OF THE FLEXIBLE SECONDARY PIPE COIL. PRESSURIZE TO 5 P.S.I. FOR A DURATION OF 30 MINUTES. SOAP TEST ANY APPARENT DAMAGE.
3. ROLL OUT PERMA-FLEXX PRIMARY PIPE BETWEEN ANY TWO POINTS (I.E. TANK SUMP AND DISPENSER SUMP) IN THE PIPING SYSTEM. CUT PERMA-FLEXX TO REQUIRED LENGTH USING PLASTIC PIPE CUTTER (OR HAND SAW).
4. ONCE CORRECT MEASUREMENTS ARE MADE AND PERMA-FLEXX PRIMARY PIPE IS "DRY FITTED", MEASURE AND CUT SECONDARY PIPE TO LENGTH WITH HAND SAW. INSTALL FLEXIBLE SECONDARY PIPE BY SLIDING IT OVER THE PERMA-FLEXX PRIMARY.
5. INSTALL PERMA-FLEXX PRIMARY PIPE INTO TANK AND DISPENSER SUMPS. POSITION TERMINATION AND TERMINATION TEST COUPLINGS ON PRIMARY PIPE. ATTACH METAL FITTINGS. NOTE: BE SURE PRIMARY PIPE IS INSERTED ALL THE WAY INTO FITTING PAST COMPRESSION RING BY MEASURING DEPTH OF FITTING AND MARKING PIPE. USE TWO TWO-FOOT WRENCHES TO COMPLETELY TIGHTEN NUT (200 FT./LBS.). NOTE: TWO OR FEWER THREADS SHOULD BE SHOWING WHEN COMPLETED.
6. IMPORTANT: METAL FLEX CONNECTORS SHOULD BE USED INSIDE OF ALL DISPENSER SUMPS TO CONNECT PERMA-FLEXX PRIMARY PIPE TO SHEAR VALVES. RIGID METAL PIPE SHOULD BE USED EXCLUSIVELY IN TANK SUMPS TO CONNECT PERMA-FLEXX TO SUBMERSIBLE PUMPS.
7. INSTALL FLEXIBLE SECONDARY PIPE INTO TANK AND DISPENSER SUMPS BY PUSHING IT THROUGH THE PERMA-LOCK ENTRY FITTINGS. NEXT, TIGHTEN ENTRY FITTINGS DOWN ONTO THE SECONDARY. CONNECT TERMINATION OR TERMINATION COUPLING TO PRIMARY AND SECONDARY PIPES INSIDE TANK SUMPS AND DISPENSER SUMPS.
8. PROCEED TO NEXT SEGMENT IN PIPING SYSTEM. REPEAT STEPS 3 THROUGH 7 ABOVE.
9. AIR TEST EACH PERMA-FLEXX PRIMARY PIPE LINE TO 60 P.S.I. FOR 15 MINUTES THIS PRE-TEST WILL DETERMINE IF THE PRIMARY COUPLINGS WERE ATTACHED PROPERLY. EACH PIPING RUN MUST BE PRE-TESTED IN THIS MANNER PRIOR TO INSTALLING THROUGH SECONDARY.
10. AIR TEST EACH INDIVIDUAL SEGMENT OF FLEXIBLE SECONDARY PIPE TO 5 P.S.I. (NOTE: AIR TEST ON SECONDARY PIPE SHOULD NOT EXCEED 60 MINUTES).
11. IN COLDER WEATHER (BELOW 40 DEGREES F), PERMA-FLEXX WILL BE EASIER TO WORK WITH IF WARMED UP BY LOOSELY ATTACHING A METAL FITTING TO ONE END AND BLOWING HOT AIR THROUGH THE METAL FITTING INTO THE PIPE COIL.
12. LOCAL AND NATIONAL CODES MUST BE FOLLOWED REGARDING INSTALLATION AND BURIAL.
13. CONTACT YOUR LOCAL CTC REPRESENTATIVE IF FURTHER INFORMATION IS REQUIRED.

B. SMITH FIBERGLASS PRODUCTS, INC. (RIGID FIBERGLASS)

- PRIMARY-RED THREAD (R) IIA PIPE AND RED THREAD II FITTINGS, UL LISTED FOR ALCOHOL-GASOLINE MIXTURES. JOIN ONLY WITH SMITH FIBERGLASS PRODUCTS, INC. ADHESIVES DS-8014, DS-8024, DS-8055, OR DS-4024 IN ACCORDANCE WITH MANUAL NO. B-2160.
- SECONDARY – RED THREE II FITTINGS, UL LISTED FOR RE THREAD (R) IIA PIPE AND ALCOHOL-GASOLINE MIXTURES. JOINT ONLY WITH SMITH FIBERGLASS PRODUCTS INC. ADHESIVES DS-7014, DS-7069, DS-8014, DS-8024, DS-8055 OR DS-8069 IN ACCORDANCE WITH MANUAL NO. B-2160.

C. AMERON (RIGID FIBERGLASS)

- PRIMARY – AMERON (CIBA-GEIGY) DURALOY 3000-L, WITH A 20 LT. TWO PART ADHESIVE AND ONLY BLACK FITTINGS.
- SECONDARY – AMERON CONTAINMENT FITTINGS UP TO 4" DIA. CAN USE A 20 LT ADHESIVE. FITTINGS 6" DIA. REQUIRE THE RP34C ADHESIVE.
- USE INSTALLATION BULLETINS NOTED OR LATER ISSUE.
PRIMARY PIPE – BULLETIN 7501 (FP1048) (FEB. 1992)
SECONDARY PIPE – BULLETIN 8702 (FP264F) (JUN. 1992)
- DO NOT USE: RP48A, C-20HT, OR SC-10 2-PART ADHESIVE
- DO NOT USE: STANDARD DURALOY "RED" FITTINGS.

NOTE APPLICABLE FOR BOTH FRP PIPE SYSTEM MFG.

- ALL FIBERGLASS PIPE MUST HAVE MIN. 6" BED, 6" SIDEWALL AND 10" MIN.
- COVER OF SAND OR 1/8" TO 3/8" PEA GRAVEL BACKFILL. THE COVER DOES NOT INCLUDE THE TYPICAL 7" CONCRETE OR 2" ASPHALT WITH 10" STONE.

D. METAL PIPE

STEEL PRIMARY PIPE MAY BE USED IN CONJUNCTION WITH FLEXIBLE PIPE LISTED AND THESE DRAWINGS CAN BE USED IF FOR ANY REASON SINGLE WALL STEEL PIPE IS DESIRED. SUMPS AND DISPENSER PANS WILL BE A DHERED TO AND SINGLE WALL TANKS ARE NOT AN ACCEPTABLE OPTION. THE METAL PIPE SPECIFICATION IS AS FOLLOWS:

- WHEATLAND TUBE – BLACK STEEL, CONTINUOUS WELD SPEC. CW-53 SCHEDULE 40, X-TRU-COAT, EXTRUDED POLYETHYLENE (1/2" THRU 2", 25-MIL, 3" AND 4", 35-MIL). ALL JOINTS PRIMED POLYKEN P-27, THEN TAPED WITH POLYKEN 826 POLYETHYLENE TAPE.
- ALTERNATE TO ABOVE WOULD BE ERW OR SEAMLESS PIPE AND TYPE I HEAT SHRINK AS MANUFACTURED BY AUSTIN ENGINEERING ON ALL PIPE JOINTS IN LIEU OF TAPED JOINTS.

ALL METAL PRODUCT LINE FITTINGS SHALL BE MALLEABLE IRON CLASS 150 (250PSI RATING). FITTINGS OUTSIDE SUMPS, JACKETS, OR SECONDARY CONTAINMENT PIPING SHALL BE COATED AND WRAPPED. ALL FITTINGS EXPOSED TO SOIL MUST ALSO BE PROTECTED WITH SACRIFICIAL ANODES, MIN. 17-LBS.

ALL SCREWED FITTINGS, JOINTS, AND PLUG CONNECTIONS SHALL BE LIQUID TEFLON JOINT COMPOUND AND TIGHTENED UNTIL SEALED. ONLY METHANOL, ETHANOL, AND GASOLINE RESISTANT COMPOUND CAN BE USED. SUCH PRODUCT AS MADE BY FEDERAL PROCESS, INC.

E. VAPOR RECOVERY PIPING

- VAPOR PIPING SHALL BE SMITH FIBERGLASS OR AMERON FRP HARD PIPE.

V UNIONS

ALL UNIONS SHALL BE MINIMUM CLASS 250. IF THE UNION JOINS FIBERGLASS PIPE, OR IF THE ATTACHED METAL PIPE AND/ OR FITTINGS DO NOT TOUCH SOIL OR BACKFILL, DIELECTRIC UNIONS ARE NOT REQUIRED. ON DETAILS SHOWN ON THESE DRAWINGS, ESPECIALLY AT THE DISPENSER AND SUBMERSIBLE, DIELECTRIC UNIONS ARE NOT REQUIRED.

VI TANK MEASUREMENTS

IT WILL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ASSIGN THE PROPER PERSONNEL TO COMPLETE THE FOLLOWING SEQUENCE TO GET ACTUAL TANK MEASUREMENTS TO THE PLACARD ON THE TANK LEVEL GAUGE CONSOLE IN THE BUILDING.

1. THE TANK MANUFACTURER SHOP MEASURES THE TANK AT THE SHOP. HE MFG. MARKS THE TANK WITH DIMENSIONS (INTERIOR AND EXTERIOR) AND ALSO FURNISHES PAPER TO ASSOCIATE THE SERIAL # WITH THE TANK SIZE (ACTUAL SHOP MEASUREMENTS).

2. THE TANK INSTALLATION CONTRACTOR THEN MEASURES THE ACTUAL EXTERIOR SIZE FOR CONFIRMATION, AND TO COORDINATE THE SIZE, SERIAL NO., PRODUCT INSTALLED, AND THE POSITION OF THAT TANK ON THE AS-BUILT PLOT PLAN.

3. THIS DATA THEN MUST BE TRANSFERRED TO THE ELECTRICAL CONTROL BOX OF THE TANK LEVEL GAUGE.

4. PROVIDE THE TOP OF THE TANK ELEVATION READING AT BOTH ENDS OF EACH TANK.

VII TESTING

TANKS AND LINES SHALL BE TESTED, INSTALLED, AND BACKFILLED ACCORDING TO MANUFACTURERS INSTALLATION AND ACCORDING TO REQUIREMENTS GIVEN HEREON.

- CONTRACTOR TO PERFORM AND PROVIDE TO AVIS PROJECT MANAGER DOCUMENTATION OF ALL WARRANTY VALIDATION TESTING REQUIRED BY MANUFACTURER OF BOTH TANKS AND PIPING.
- THE TANKS ARE SHIPPED WITH 25" MERCURY VACUUM APPLIED AT THE FACTORY. CARE IN INSPECTION SHOULD BE TAKEN IF VACUUM WOULD GO BELOW 20" MERCURY DURING INSTALLATION AND PIPING WORK. NOTIFY THE MANUFACTURER IMMEDIATELY TO ASSIST IN THE INVESTIGATION.
- AT ANY TIME AFTER FINAL INSTALLATION TESTING THE VACUUM DROPS BELOW 5 INCH MERCURY IT SHOULD NOT BE CONSIDERED ALARMING. HOWEVER, NOTIFY AVIS PROJECT MANAGER FOR FURTHER INVESTIGATION. THE ELECTRONIC ALARM VACUUM SWITCH CLOSES AT 0.5" MERCURY.
- AFTER ALL PRIMARY PIPING AND SECONDARY PIPING IS IN PLACE, AIR PRESSURE TEST THE PRIMARY PIPE FOR 30 MINUTES MINIMUM UNDER 50 PSI PRESSURE WHILE SOAPING ALL JOINTS. ONCE ALL PRIMARY JOINTS ARE PROVEN TIGHT, INSTALL THE TEST DONUTS INTO THE COMPRESSION SEALS AND AIR TEST THE SECONDARY PIPING TO 3 PSI FOR 15 MINUTES.
- ONCE THE FINAL TEST IS PERFORMED TO THE SATISFACTION OF THE LOCAL AVIS PROJECT MANAGER, REMOVE THE AIR PRESSURE ON THE SECONDARY PIPE AND SLIDE THE TEST DONUT BACK 2 INCHES.
- VAPOR RECOVERY LINES SHALL BE TESTED FOR 30 MINUTES MINIMUM, UNDER 50 PSI PRESSURE WHILE SOAPING ALL JOINTS.
- VAPOR RECOVERY PIPING MUST PASS ALL C.A.R.B. TESTING RELATIVE TO TIGHTNESS, NON-TRAPPING, AND WET AND DRY PRESSURE DROP STANDARDS. (BLOCKAGE TEST).
- BACKFILL MAY NOT BE COMPLETED UNTIL PRESSURE TESTS ARE SUCCESSFULLY COMPLETED. THIS FINAL INSTALLED SOAP TEST WILL BE DONE IN THE PRESENCE OF THE AVIS PROJECT MANAGER 24 HOUR NOTIFICATION TO AVIS PROJECT MANAGER IS REQUIRED.

ALL SUMPS MUST BE HYDROSTATICALLY TESTED WITH WATER ABOVE THE LEVEL OF THE HIGHEST PIPE OR ELECTRICAL CONDUIT PENETRATION OR SUMP JOINT FOR A PERIOD OF 12 HOURS AFTER ALL WORK IS COMPLETED.

THE FINAL APPROVAL OF THIS SYSTEM WILL BE A PRECISION TANK AND LINE TEST DONE BY AN INDEPENDENT TANK AND LINE TESTING CONTRACTOR. THE SYSTEM WILL BE TESTED WITH ALL FITTINGS, LEAK DETECTORS, DISPENSERS, SENSORS, IN SHORT, ALL ITEMS IN PLACE AND READY TO OPERATE.

- THE PIPE MUST BE 8 INCHES MINIMUM DIAMETER, WITH SLOTS OR HOLES GEOMETRICALLY BALANCED AT 15 PERCENT AND HOLES 3/32 INCHES. SUCH A PRODUCT IS AVAILABLE AS BOLES TEST AND RETRIEVAL SUMP, MODEL P9149X14'.

VIII CATHODIC PROTECTION (AS REQUIRED)

ALL METAL FITTINGS AND PIPE IN CONTACT WITH SOIL OR BACKFILL AND UNPROTECTED BY SECONDARY CONTAINMENT PIPING, JACKETED OR WITHIN A SUMP MUST BE COATED OR WRAPPED BY A MINIMUM OF ONE 17 POUND MAGNESIUM ANODE

IF FOR ANY REASON DIELECTRIC UNIONS ARE REQUIRED, THE ONLY ALLOWED ARE:
CENTRAL PLASTICS, 1 1/2" #106-151510-000
AND
2" #106-020210-000 AS PROVIDED BY CLAY BAILEY
– NO SUBSTITUTION.

TANK INSTALLATION CHECKLIST

FLUID CONTAINMENT

VALIDATION CERTIFICATE/ STRUCTURAL WARRANTY*

Installation Checklist And Inspection Procedure For Fiberglass Underground Tank Installation

*THIS CHECKLIST MUST BE COMPLETED IN ITS ENTIRETY TO VALIDATE TO 30-YEAR STRUCTURAL WARRANTY. FOR WARRANTY DETAILS, SEE FLUID CONTAINMENT'S SINGLE-WALL AND DOUBLE-WALL UNDERGROUND STORAGE TANK WARRANTY PUBLICATION NO. TNK1020

JOB NAME ______ OWNER ______ DATE ______

JOB SITE ADDRESS ______ CITY ______ STATE ______

INSTALLATION CONTRACTOR ______ ADDRESS ______ FOREMAN ______

OWNER REPRESENTATIVE ______ TITLE ______

INSTALLATION CHECKLIST
PLEASE INITIAL EACH ITEM AS IT IS COMPLETED.
IF NOT APPLICABLE, PLEASE MARK N/A.

(CONTRACTOR REP. / OWNER REP.)

A.1 PRE INSTALLATION TESTING-SINGLE WALL TANKS
- HAVE YOU PRESSURE TESTED THE SINGLE-WALL
  - 4',6',8',10' TANKS TO 5 PSI? ___ ___
  - 12' TANKS TO 3 PSI? ___ ___
- HAVE YOU APPLIED A SOAPY WATER SOLUTION
  - OVER THE ENTIRE TANK SURFACE? ___ ___
  - OVER AT FITTINGS? ___ ___
  - HAVE YOU CAREFULLY INSPECTED FOR LEAK AS INDICATED BY BUBBLES? ___ ___

A.2 PRE INSTALLATION TESTING-DOUBLE WALL TANKS
- HAVE YOU TESTED DOUBLE WALL TANKS IN STRICT CONFORMANCE WITH THE "TEST INSTRUCTIONS" LABEL NO. L20002 WHICH IS ON THE TANK? ___ ___

CAUTION: DO NOT CONNECT THE AIR PRESSURE LINE DIRECTLY TO ANY ANNULAR SPACE FITTING.
- COMPLETE THE HYDROSTATIC TEST OF THE SECONDARY CONTAINMENT COLLAR:
  - DID YOU FILL THE COLLAR WITH WATER, LET SET FOR 12 HOURS, THEN CHECK FOR LEAKS? ___ ___

B. BED AND BACKFILL
- BED AND BACKFILL MUST MEET ALL ASTM C-33 REQUIREMENTS FOR QUALITY AND SOUNDNESS.
- APPROVED PEA GRAVEL MUST CONSIST OF A CLEAN NATURALLY ROUNDED AGGREGATE WITH A MIX OF PARTICLE SIZES NOT LESS THAN 1/8" OR MORE THAT 3/4".
- APPROVED CRUSHED STONE OR CRUSHED GRAVEL MUST BE WASHED WITH ANGULAR PARTICLE SIZE NOT LESS THAN 1/8" OR MORE THAN 1/2". ___ ___
  - DOES YOUR BED AND BACKFILL MEET THESE REQUIREMENTS?
  - HAVE YOU OBTAINED A SIEVE ANALYSIS FROM A QUALIFIED SOIL ENGINEER OR FROM THE BACKFILL SUPPLIER? ___ ___
  - HAVE YOU ATTACHED THE SIEVE ANALYSIS? ___ ___
  - SUPPLIER: ______
  - TYPE: ______
  - WHETHER YOU USE GRAVEL OR CRUSHED STONE; DOES NO MORE THAN 5% OF THE BACKFILL MATERIAL PASS THROUGH A #8 SIEVE? ___ ___

C. HOLE SIZE
- ALLOW FOR PROPER SPACING AS REQUIRED. STABLE EXCAVATIONS (4' THROUGH 10' DIA. TANKS) REQUIRE:
  - MINIMUM OF 18" (24" PREFERRED) BETWEEN ADJACENT TANKS 24" FOR 12' TANKS). ___ ___
  - MINIMUM 18" (24" PREFERRED) BETWEEN TANK SIDES AND ENDS AND THE EXCAVATION WALLS (24" FOR 12' TANKS). ___ ___
- UNSTABLE EXCAVATIONS (ALL SIZE TANKS) REQUIRE:
  - MINIMUM OF 1/2 THE TANK DIAMETER FROM ENDS AND SIDES OF TANKS TO EXCAVATION WALLS. ___ ___
  - MINIMUM 18" (24" PREFERRED) BETWEEN ADJACENT TANKS (24" FOR 12' TANKS). ___ ___

D. ANCHORING
- HAVE YOU REVIEWED THE EXCAVATION FOR POTENTIAL FLOODING FROM A HIGH WATER TABLE? ___ ___
- HAVE YOU REVIEWED THE EXCAVATION FOR POTENTIAL FLOODING FROM SURFACE WATER RUNOFF? ___ ___
- HAVE YOU COMPLIED WITH THE ANCHORING REQUIREMENTS AS STATED IN THE INSTALLATION INSTRUCTIONS FOR:
  - CONCRETE ANCHOR PAD? ___ ___
  - CONCRETE DEADMEN? ___ ___
  - IS THE OWNER'S REPRESENTATIVE AWARE OF THE ANCHORING REQUIREMENTS? ___ ___
  - IS ANCHORING NOT REQUIRED FOR THIS INSTALLATION? ___ ___

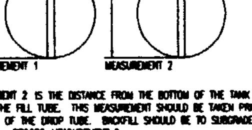
E. INSTALLATION PROCEDURES
- HAVE YOU PROVIDED THE MINIMUM 12" LEVEL BEDDING OF APPROVED BACKFILL MATERIAL? ___ ___
- HAVE YOU PROPERLY PUSHED THE INITIAL 1ST TWO 12" LIFTS OF BACKFILL UNDER THE TANK BOTTOMS, BETWEEN RIBS AND UNDER THE END CAPS TO ELIMINATE VOIDS? ___ ___
- HAVE YOU COMPLETED THE BACKFILLING TO THE TOP OF THE TANKS IN UNIFORM LIFTS? ___ ___
- DID YOU COMPLETELY FILL THE TANK WITH WATER OR PRODUCT, AFTER THE BACKFILLING HAD BEEN PROPERLY FINISHED? ___ ___
  EXCEPTION: WET HOLE INSTALLATION (SEE FLUID CONTAINMENT PUBLICATION "INSTALLATION INSTRUCTIONS FOR ALL SINGLE-WALL AND DOUBLE-WALL TYPE II TANKS AND RELATED ACCESSORIES".
- DID YOU COMPLY WITH THE REQUIREMENTS FOR :
  - PROPER BURIAL DEPTH? ___ ___
  - PAD THICKNESS FOR TRAFFIC LOADS? ___ ___
  SEE INSTALLATION INSTRUCTIONS FOR SPECIFICS.
- FLUID CONTAINMENT REQUIRES THE USE OF FILTER FABRIC FOR THE FOLLOWING TYPES OF INSTALLATIONS: TIDAL CONDITIONS; AREAS SUBJECTED TO FREQUENTLY CHANGING GROUND WATER LEVELS; UNSTABLE SOILS (MUCK OR LANDFILLS, SEE SECTION A4); WATER CONDITIONS WITH SILTY SOIL.
  - DID YOU USE APPROPRIATE FILTER FABRIC AS REQUIRED (IF APPLICABLE)? ___ ___

F. TANK INSPECTION PROCEDURES

	TANK NUMBER 1	2	3	4	5
A. UNDERWRITER LABORATORIES LABEL NUMBER (TO CORRESPOND WITH INVOICES AND UL LABEL ON TANK)					
B. TANK NOMINAL CAPACITY (GALLONS)					
C. TANK MEASUREMENTS IN INCHES (SEE INSTRUCTIONS BELOW) TO CONFIRM THAT TANK HAS PROPER SUPPORT.					
1. AFTER PRESSURE TEST, MEASURE TANK INTERNAL DIAMETER PRIOR TO BACKFILLING.					
2. AFTER BACKFILL IS AT SUBGRADE, MEASURE FROM TANK BOTTOM TO TOP OF FILL TUBE PRIOR TO INSERTION OF DROP TUBE.					
3. AFTER BACKFILL IS AT SUBGRADE PRIOR TO INSERTION OF DROP TUBE, MEASURE FROM BOTTOM OF THE FITTING TO THE TOP OF THE FILL TUBE.					
4. CALCULATED TANK INTERNAL DIAMETER WITH BACKFILL AT SUBGRADE (SUBTRACT MEASUREMENT #3 FROM MEASUREMENT #2).					
5. CALCULATED TANK DEFLECTION (SUBTRACT MEASUREMENT #4 FROM MEASUREMENT #1).					

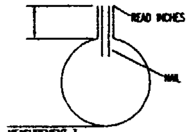
MEASUREMENT INSTRUCTIONS
ALL MEASUREMENTS FOR VERTICAL DEFLECTION ARE MADE FROM THE BOTTOM OF THE TANK TO THE BOTTOM OF THE FITTING.
ALL MEASUREMENTS SHOULD BE MADE IN INCHES USING A STANDARD NON-METALLIC GAUGE STICK.
ALL MEASUREMENTS SHOULD BE MADE THROUGH THE FILL TUBE FITTING.
MEASUREMENT 1 MAY BE MADE ABOVE GROUND OR IN HOLE PRIOR TO BACKFILLING.
MEASUREMENT 2 MUST BE MADE PRIOR TO INSERTION OF DROP TUBE, BUT AFTER FILL PIPE HAS BEEN INSTALLED.

MEASUREMENT 1 IS THE INSIDE DIAMETER OF THE TANK AT THE GAUGE OPENING. MEASURE FROM THE BOTTOM OF THE TANK TO THE BOTTOM OF THE FITTING. THIS MEASUREMENT SHOULD BE TAKEN PRIOR TO PLACING ANY BACKFILL. RECORD MEASUREMENT 1.



MEASUREMENT 2 IS THE DISTANCE FROM THE BOTTOM OF THE TANK TO THE TOP OF THE FILL TUBE. THIS MEASUREMENT SHOULD BE TAKEN PRIOR TO INSERTION OF THE DROP TUBE. BACKFILL SHOULD BE TO SUBGRADE AT THIS TIME. RECORD MEASUREMENT 2.

MEASUREMENT 3 IS THE DISTANCE FROM THE BOTTOM OF THE FITTING TO THE TOP OF THE FILL TUBE. THIS MEASUREMENT IS TAKEN BY DRIVING A NAIL INTO THE 1" POINT OF THE GAUGE STICK AT A RIGHT ANGLE TO THE GAUGE STICK.



LOWER THE GAUGE STICK DOWN THE FILL TUBE FAR ENOUGH TO EXTEND BELOW THE BOTTOM OF THE FITTING. LIFT THE GAUGE STICK UNTIL THE NAIL CATCHES ON THE LIP OF THE FITTING. READ MEASUREMENT AT THE TOP OF THE FILL PIPE. SUBTRACT 1" TO ALLOW FOR THE POINT WHERE THE NAIL IS IN THE GAUGE STICK.

MEASUREMENT 4 IS THE CALCULATED TANK INTERNAL DIAMETER (SUBTRACT MEASUREMENT 3 FROM MEASUREMENT 2).

MEASUREMENT 5 IS THE CALCULATED TANK INTERNAL DEFLECTION (SUBTRACT MEASUREMENT 4 FROM MEASUREMENT 1).

WARNING: IF THE ANSWER IN MEASUREMENT #5 IS IN EXCESS OF THE APPROPRIATE VALUE SHOWN IN TABLE A, IMMEDIATELY CONTACT THE MANUFACTURER'S INSTALLATION MANAGER PRIOR TO PROCEEDING WITH THE INSTALLATION.

TABLE A	
TANK DIAMETER	MAXIMUM DEFLECTION
4'	1/2"
6'	3/4"
8'	1-1/4"
10'	1-1/2"
12'	1-1/2"

NOTE: CONTRACTOR MUST FOLLOW INSTALLATION INSTRUCTIONS TO VALIDATE THE 30 YEAR STRUCTURAL WARRANTY. FOR WARRANTY DETAILS, SEE FLUID CONTAINMENTS WARRANTY FOR SINGLE-WALL AND DOUBLE-WALL UNDERGROUND STORAGE TANKS.

INSTALLATION WAS IN ACCORDANCE WITH FLUID CONTAINMENT, INC. AND THE "INSTALLATION INSTRUCTIONS FOR ALL SINGLE-WALL AND DOUBLE-WALL TYPE II TANKS AND RELATED ACCESSORIES"

OWNER'S REPRESENTATIVE ______ TITLE ______

CONTRACTOR'S REPRESENTATIVE ______

NOTARY PUBLIC ______ DATE ______

NOTE: OWNER MUST RETAIN THIS DOCUMENT TO SUBSTANTIATE ANY FUTURE STRUCTURAL WARRANTY CLAIM.

TANK TECHNICAL SUPPORT (800) 537-4730

AVIS

NO.	REVISION DESCRIPTION	REV. DATE	BY
1	REV. DETAILS & NOTES	10/21/97	O.B.
[illegible]	[illegible]	1/8/98	O.B.

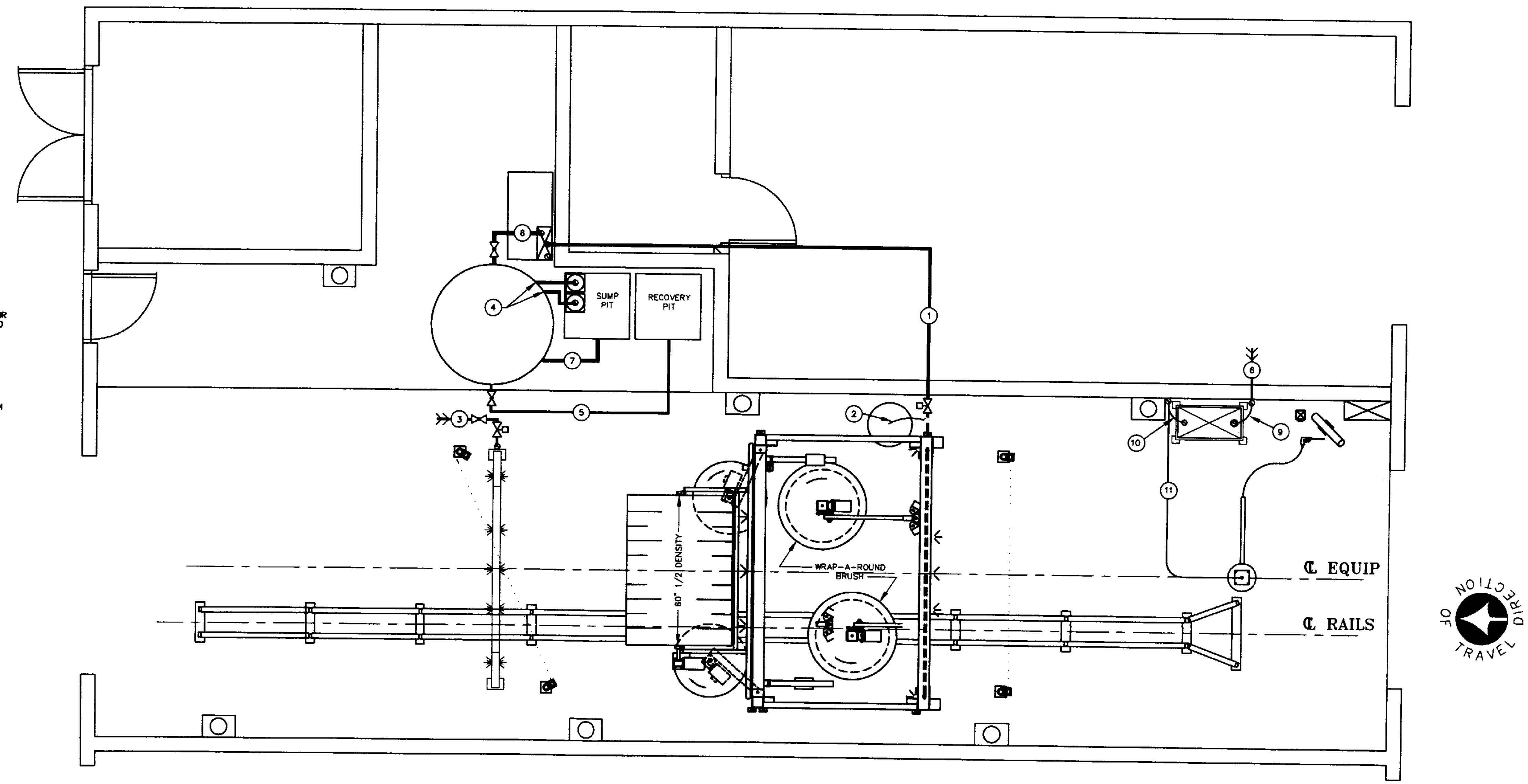
DATE: 5/5/97
PROJECT NO:
OPERATION:
LOCATION
PROJECT TITLE STANDARD INSTALLATION OF DOUBLE-WALL FIBERGLASS UST'S
SHEET TITLE [illegible]
SHEET NO.
PT-7
OF

LEGEND:

- WATER LINE
- SOLENOID VALVE
- BALL VALVE
- DEMA INJECTOR
- TEE OR REDUCING TEE

PLUMBING PLAN

1. 1 1/2" ø WATER LINE WITH SOLENOID VALVE (BY N/S CORP) AND DEMA INJECTOR (BY N/S CORP) FROM 3HP RECLAIM CONSOLE OUTLET TO MACHINE WASH MANIFOLD BY PLUMBING CONTRACTOR.
2. 3/8" ø VINYL HOSE (BY N/SCORP) FROM DETERGENT TANK TO DEMA INJECTOR BY N/S INSTALLER.
3. 1" ø WATER LINE WITH BALL VALVE AND SOLENOID VALVE (BY N/S CORP) FROM FRESH WATER SOURCE TO FINAL RONSE ARCH BY PLUMBING CONTRACTOR.
4. (2 PLACES) 1 1/2" ø WATER LINE (SUPPLIED BY N/S CORPORATION) FROM SUMP PUMP TO RECLAIM TANK BY N/S INSTALLER.
5. 1" ø CONTINUOUS DRAIN WITH BALL VALVE (SUPPLIED BY N/S CORPORATION) FROM RECLAIM TANK TO RECOVERY PIT BY N/S INSTALLER.
6. 3/4" ø WATER LINE WITH HOSE BIB FROM FRESH WATER SOURCE BY PLUMBING CONTRACTOR.
7. 2" ø OVERFLOW LINE FROM RECLAIM TANK TO SEWER BY N/S INSTALLER.
8. 2" ø WATER LINE WITH BALL VALVE (BY N/S CORP) FROM RECLAIM TANK TO 3HP RECLAIM CONSOLE BY N/S INSTALLER.
9. APPLIANCE HOSE FROM HOSE BIB TO 3HP PREP UNIT INLET BY PLUMBING CONTRACTOR.
10. 1/2" ø PRESSURE HOSE (MAXIMUM PRESSURE 2000 PSI) FROM 3HP HIGH PRESSURE PREP UNIT PUMP STATION OUTLET TO PIPE FITTINGS AT ± 14' A.F.F. BY PLUMBING CONTRACTOR.
11. 1/2" ø SCHEDULE 80 GALVANIZED OR STAINLESS STEEL PIPE WITH 2000 PSI FITTINGS FROM PRESSURE HOSE FITTINGS AT ± 14' A.F.F. TO BOOM (TERMINATE WITH FEMALE THREADED END) BY PLUMBING CONTRACTOR.



NOTE:

1. PLUMBING CONTRACTOR IS TO PROVIDE ALL PIPING SHOW AND CALLED FOR ON THIS DRAWING, INCLUDING ALL CONNECTION TO EQUIPMENT.
2. PLUMBING CONTRACTOR TO PROVIDE AND INSTALL AN APPROVED PRESSURE TYPE BACKFLOW DEVICE ON THE FRESH WATER LINE PRIOR TO ANY INDUSTRIAL WATER CONNECTIONS TO CAR WASH EQUIPMENT.
3. CONTRACTOR IS TO PROVIDE AND INSTALL A SHUT-OFF VALVE (BALL VALVE) AND UNION PRIOR TO ANY CONNECTION TO EQUIPMENT.
4. CONTRACTOR IS TO PROVIDE ANY ADDITIONAL VENTS THAT MAY BE REQUIRED BY CODE FOR DRAIN LINES.
5. THE PLUMBING ROUTING IN THIS DRAWING IS IN DIAGRAM FORM. ROUTING OF PLUMBING IS BY PLUMBING CONTRACTOR.

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REVISIONS	
DRAWN	LARRY Y.
DATE	5/31/01
SCALE	3/8"=1'

N/S Corporation

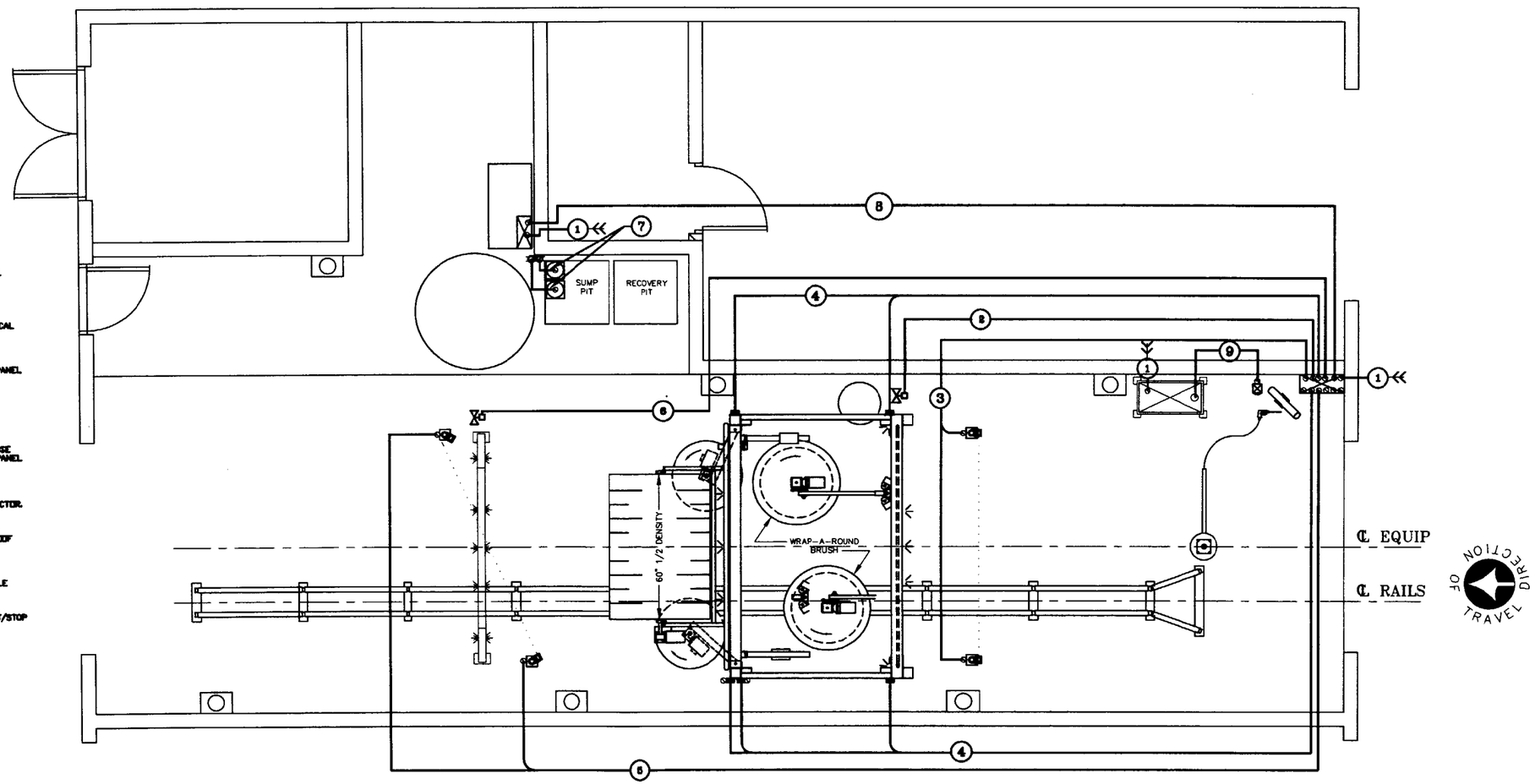
TITLE: DOLLAR TULSA QTA PLUMBING LAYOUT

DWG. No. 5542-P

These are only general drawings produced with sole intent of showing the approximate location of equipment and utilities necessary to run said equipment. They are by no means to be considered complete or exact in detail. These drawings are produced as a service to assist the customer and his architect for preliminary planning and bidding purposes. N/S does not accept any responsibility for the accuracy, errors and omissions on said drawings.

ELECTRICAL PLAN

1. (3 PLACES) 460V, 3Ø, 60HZ POWER FROM SOURCE TO MACHINE CONTROL PANEL. 4 FOR (3) 3HP BRUSH MOTOR, (1) 5HP RECLAIM CONSOLE, AND (1) 3HP PREP-UNIT BY ELECTRICAL CONTRACTOR.
2. 2 WIRES, CONDUIT AND 24VAC CONNECTION FROM PRE-APPLICATOR DETERGENT SOLENOID VALVE TO MACHINE CONTROL PANEL BY ELECTRICAL CONTRACTOR.
3. (2 PLACES) 2 WIRES, CONDUIT AND 24VAC CONNECTION FROM MACHINE ELECTRIC EYE SENSOR EMITTER AND RECEIVER TO MACHINE CONTROL PANEL BY ELECTRICAL CONTRACTOR.
4. (5 PLACES) 460V, 3Ø, 60HZ WIRE FROM BRUSH MOTOR JUNCTION BOX TO MACHINE CONTROL PANEL BY ELECTRICAL CONTRACTOR.
5. (2PLACES) 2 WIRES, CONDUIT AND 24VAC CONNECTION FROM FINAL RINSE ELECTRIC EYE SENSOR EMITTER AND RECEIVER TO MACHINE CONTROL PANEL BY ELECTRICAL CONTRACTOR.
6. 2 WIRES, CONDUIT AND 24VAC CONNECTION FROM FINAL RINSE SOLENOID VALVE TO MACHINE CONTROL PANEL BY ELECTRICAL CONTRACTOR.
7. 115 VOLT, WIRE AND CONDUIT FOR (2) SINGLE 20 AMP GFI, WATER PROOF OUTLET BY ELECTRICAL CONTRACTOR.
8. 2 WIRES, CONDUIT AND 24VAC CONNECTION FROM 5HP RECLAIM CONSOLE TO MACHINE CONTROL PANEL BY ELECTRICAL CONTRACTOR.
9. WIRES, CONDUIT AND 24VAC CONNECTION FROM 3HP PREP-UNIT TO START/STOP BUTTON BY ELECTRICAL CONTRACTOR.



NOTE:

1. PLAN SHOWS ELECTRICAL WORK TO BE PERFORMED BY ELECTRICAL CONTRACTOR AS PERTAIN TO CAR WASH EQUIPMENT.
2. ALL WORK SHOWN ON THIS DRAWINGS SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR AND ALL WORK MUST CONFORM TO NATIONAL AND LOCAL CODES.
3. ELECTRICAL CONTRACTOR TO SUPPLY ALL CONNECTING WIRING, CONDUIT, FITTINGS ETC. AND MAKE CONNECTION AS SHOWN.

REVISIONS

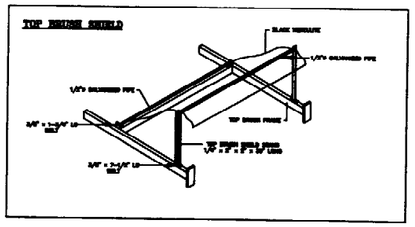
DRWN LARRY Y.
DATE 5/31/01
SCALE 3/8"=1'

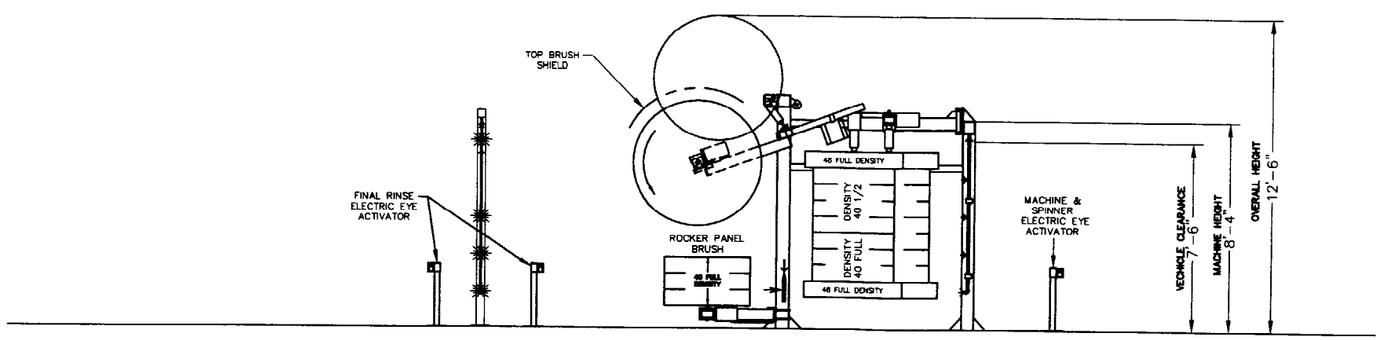
N/S Corporation

TITLE DOLLAR TULSA QTA ELECTRICAL LAYOUT

DWG. No. 5542-L

These are only general drawings produced with sole intent of showing the approximate location of equipment and utilities necessary to run said equipment. They are by no means to be considered complete or exact in detail. These drawings are produced as a service to assist the customer and his architect for preliminary planning and bidding purposes. N/S does not accept any responsibility for the accuracy, errors and omissions on said drawings.





MACHINE ELEVATION (SYS 5 BRUSH)

GENERAL NOTES

1. ALL ELECTRICAL CONNECTIONS FROM CUSTOMER'S MAIN POWER SUPPLY TO N/S CONTROL PANEL ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. ANY AND ALL LOCAL CODES ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
2. ALL PLUMBING CONNECTIONS TO MACHINE AND ALL EXTERNAL MACHINE PLUMBING ARE THE RESPONSIBILITY OF GENERAL CONTRACTOR.
3. ALL AIR LINE CONNECTIONS TO MACHINE WHEN USED IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. N/S DOES NOT SUPPLY AIR COMPRESSOR.
4. MINIMUM WATER SUPPLY TO MACHINE WITHOUT OPTIONAL PUMP SYSTEM IS 60 GPM AT 60 PSI.
5. ALL CONNECTIONS TO MACHINE SHALL BE FLEXIBLE. ALL CONNECTIONS TO AND FROM PUMP SYSTEM SHALL BE MADE FLEXIBLE.
6. WATER LINES TO BE GALVANIZED PIPE OR COPPER PIPE.
7. THE RECOMMENDED MINIMUM BREAKER AND REQUIRED AMPERAGE ARE AS FOLLOW:

ITEM	460V	
	F.L.A.	MIN. C/B
BASIC MACHINE	9.0A	20.0A
5HP RECLAIM CONSOLE	7.6A	15.0A
3HP PREP UNIT	4.8A	15.0A

8. N/S RECOMMENDS THAT ALL CONNECTIONS COMING INTO OUR PANEL BOX SHOULD BE MADE INTO THE BOTTOM OF THE ENCLOSURE.
9. ALL ANCHOR BOLTS ARE THE RESPONSIBILITY OF OTHERS. RECOMMENDED ANCHOR BOLTS ARE AS FOLLOW:
   3-1/2" LONG ANCHOR BOLT FOR A 4" CONCRETE SLAB.
   5" LONG ANCHOR BOLT FOR A 6" CONCRETE SLAB.

DIRECTION OF TRAVEL

REVISIONS

DRAWN	LARRY Y.
DATE	5/30/01
SCALE	3/8"=1'

N/S Corporation

TITLE: DOLLAR TULSA QTA EQUIPMENT LAYOUT

DWG. No. 5542-E