N

STERILITE AVENUE S.W. - 60'

72" RCP PIPE
FL 990.95

72" RCP PIPE
FL 993.11

3/4 IRON PIPE

S 83°03'12" E 512.39'

DITCH

EMERGENCY SPILLWAY
10'L X 8'W X 0.5'D

GRAVEL

GRAVEL

N 07°13'36" E
130.60'

DETENTION BASIN

DITCH

PROPOSED
DITCH

AT&T ESM'T.

MASSILLON CORPORATION LINE
& TOWNSHIP LINE

S 83°03'12" E 290.16'

FIRE
HYDRANT

R=270.00'
Δ=25°02'00"
T=59.94'
C=117.03'
B=N 05°14'15" W
A=117.97'

BENCH MARK #2
ELEV.=1008.20

A=117.97'

BENCH MARK #4
SAN. M.H. #1
T/C 1010.38
FL 8" 991.36

STORM C.B.
T/G 1010.92

STORM C.B.
T/G 1010.75

CURB INLET
T/G 1010.34

PUBLIC SAN. SEWER EASMT.

ELEC. BOX

(2) TELE. BOXES

CURB, EOP & GUTTER

CURB INLET
T/G 1010.25

N 17°45'15" W 169.89'

582.73'

12"W

FIRE HYDRANT
BENCH MARK #3
ELEV.=1015.17

C.B. #2
T/G 1009.00

C.B. #1
T/G 1010.00

C.B. #3
T/G 1010.50

C.B. #4
T/G 1010.50

C.B. #5
T/G 1010.00

PROP. BLDG.
F.F. 1011.75

1010.20
1010.70
1011.35
1011.55
1010.50
1011.30
1010.80
1010.75
1010.75
1011.50
1011.00

N 83°00'00" W 705.40'

EXISTING CORPORATION LINE

QUARTER SECTION LINE

SECTION A-A

1005
1000
995

EXIST. GROUND
PROP. GROUND
100 YR.
50 YR.
25 YR.
10 YR.

PEAK WATER ELEVATIONS
IN DETENTION BASIN:
10 YEAR = 1000.91
25 YEAR = 1001.30
50 YEAR = 1001.46
100 YEAR = 1001.73

BENCHMARK

#1 TOP OF COVER OF SANITARY MANHOLE #2 PER PLAN AND PROFILE SHEET 5 OF 12 BY HAMMONTREE & ASSOICATES, LTD.
DATED: 11/25/96.
ELEVATION = 1015.39

#2 "X" CHISLED IN NORTH FLANGE BOLT OF FIRE HYDRANT ON THE WEST SIDE OF STERILITE AVENUE AT THE SOUTHWEST CORNER OF 6.254 ACRE TRACT.
ELEVATION = 1015.17

#3 "□" CHISLED ON CONCRETE BASE ON EAST SIDE OF LIGHT POLE ON THE WEST SIDE OF STERILITE AVENUE AT THE NORHWEST CORNER OF 6.254 ACRE TRACT.
ELEVATION = 1008.20

#4 TOP OF COVER ON SANITARY MANHOLE #1 PER PLAN & PROFILE SHEET 5 OF 12 BY HAMMONTREE & ASSOCIATES, LTD.
DATED: 11/25/96.
ELEVATION = 1010.38

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NON-MEMBERS
MUST BE CALLED DIRECTLY

LEGEND

- (SF) SILT FENCE
- (ST) SEDIMENT TRAP
- (RCE) ROCK CONSTRUCTION ENTRANCE
- (TS) TEMPORARY SEEDING
- (IP) INLET PROTECTION

NOTE: FOR STORMWATER POLLUTION PREVENTION DETAILS, SEE SHEET 3.

SCALE: 1" = 20'
0 10 20 40

VASCO - STE

STATE OF OHIO
BARBARA HAMMONTREE BENNETT
E-56000
REGISTERED
PROFESSIONAL ENGINEER
9/11/02

REVISION BY: BAK DATE: 8/7/02 DESCRIPTION: PER CITY OF MASSILLON COMMENTS
REVISION BY: DATE: DESCRIPTION:
REVISION BY: DATE: DESCRIPTION:
REVISION BY: DATE: DESCRIPTION:
REVISION BY: DATE: DESCRIPTION:

DESIGNED BY: BAK CHECKED BY: BHB
DRAWN BY: LJP REVIEWED BY: BHB
486 1
471 25
F.B. 413 PAGE 79 27
COPYRIGHT: 2002 DATE: 7/16/02
R:\STORMS\VASSTLOC.DGN

SCALE:
HORIZ: 1"=20'
CONTOUR = 1'

SITE GRADING & STORMWATER POLLUTION PREVENTION PLAN
VASCO ASPHALT COMPANY
SITUATED IN THE CITY OF MASSILLON, COUNTY OF STARK, STATE OF OHIO AND BEING ALL OF OUT LOT 929.

® HAMMONTREE & ASSOCIATES, LTD.
ENGINEERS, PLANNERS, SURVEYORS
CANTON PITTSBURGH AKRON
5233 STONEHAM ROAD, NORTH CANTON, OHIO 44720
PHONE: CANTON (330)494-8817 AKRON (330)633-7221
TOLL FREE: 1-800-321-8817 FAX: (330)494-0148
www.hammontree-engineers.com

1/3

N

STERILITE AVENUE S.W. – 60'

FIRE HYDRANT

R=270.00'
Δ=25°02'00"
T=59.94'
C=117.03'
B=N 05°14'15" W
A=117.97'

BENCH MARK #2
ELEV.=1006.20

A=117.97'

R=30'

R=10'

BENCH MARK #4
SAN. M.H. #1
T/C 1010.38
FL 8" 991.36
FL 6"E 1001.88 DROP

STORM C.B.
T/G 1010.75

STORM C.B.
T/G 1010.92

CLEANOUT
FL 1003.00

6" SAN. @ 1.0% MIN.

12' SERVICE STACK
FL 8" 1004.24

PUBLIC SAN. SEWER EASMT.

UE&T

ELEC. BOX

LOWER EXISTING SERVICE STACK
FL 1002.00

(2) TELE. BOXES

CURB INLET
T/G 1010.34

CURB INLET
T/G 1010.25

CURB CUP & GUTTER

N 17°45'15" W 169.89'

FIRE HYDRANT
BENCH MARK #3
ELEV.=1015.17

12"W

EXPANSION JOINT MATERIAL
CONCRETE SIDEWALK ODOT ITEM 608
1/4" PER FT.
COMPACTED SUBGRADE ODOT ITEM 203.13
CONCRETE CURB – ODOT ITEM 609 CURB, TYPE 6 (STD. CONSTR. DWG. BP–5.1)

CURB & SIDEWALK DETAIL
N.T.S.

AT&T ESM'T.

MASSILLON CORPORATION LINE & TOWNSHIP LINE

S 83°03'12" E 290.16'

1/2 INCH BAR

L=30.05'
R=269.08'

TRUCK DRIVE

ASPHALT PAVEMENT (SEE DETAIL)

HEADWALL HW–2.1
FL 996.00
ROCK CHANNEL PROTECTION
TYPE "C" W/FILTER
5'L X 4'W X 1.5'D

3/4 IRON PIPE

S 83°03'12" E 512.39'

DITCH

N 07°13'36" E 130.60'

PROPOSED DITCH

(SEE NOTE #1)
HEADWALL HW–2.1
FL 997.90

DETENTION BASIN

HEADWALL HW–2.1
FL 999.65
ROCK CHANNEL PROTECTION
TYPE "C" W/FILTER
7'L X 4'W X 1.5'D

HEADWALL HW–2.1
FL 1003.10
ROCK CHANNEL PROTECTION
TYPE "C" W/FILTER
5'L X 4'W X 1.5'D

1002
1002
998
999
1002

DITCH

OIL/WATER SEPARATOR
(SEE MECHANICAL DRAWINGS FOR DETAILS)

180'
GRAVEL PARKING
10" THK.–ODOT 304 LIMESTONE

FL 6" SAN.
1004.74

ODOT 2–2B
C.B. #2
T/G 1009.00

ODOT 2–2B
C.B. #5
T/G 1010.00

ODOT 2–2B
C.B. #1
T/G 1010.00

ODOT 2–2B
C.B. #3
T/G 1010.50

ODOT 2–2B
C.B. #4
T/G 1010.50

PROP. BLDG.
F.F. 1011.75

SIDEWALK

ASPHALT PAVEMENT (SEE DETAIL)

UE&T
G

64'
45'
80'
98'
60.00'
60.14'
20'
24'
5'
22'
42'
78.31'
194.25'
142.30'
181.2?'
274.24'

R=30'
R=10'
34.14'

N 83°00'00" W 705.40'

1) ITEM 404 1" ASPHALT CONCRETE
2) ITEM 301 3" BITUMINOUS AGGREGATE BASE
3) ITEM 304 8" AGGREGATE BASE (2–4" LIFTS)
4) ITEM 203.13 COMPACTED SUBGRADE
5) ITEM 408 PRIME COAT TO BE APPLIED AT THE RATE OF 0.4 GAL./SQ. YD.
6) ITEM 407 TACK COAT TO BE APPLIED AT THE RATE OF 0.4 GAL./SQ. YD.

ALL ITEMS FROM STATE OF OHIO DEPARTMENT OF TRANSPORTATION, CONSTRUCTION & MATERIAL SPECIFICATIONS, JAN. 1, 1997.

ASPHALT PAVEMENT SECTION DETAIL
NTS

UTILITY NOTES

1. EXISTING UTILITIES TO REMAIN, WHICH ARE CRUSHED OR DAMAGED DURING CONSTRUCTION, SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.
2. ANY UTILITIES FOUND DURING EXCAVATION, NOT SHOWN ON PLAN, SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT AND/OR ENGINEER.
3. EACH SUBCONTRACTOR SHALL OBTAIN HIS OWN PERMITS AND CONTACT THE UTILITY COMPANY FOR VERIFICATION AND LOCATION OF HOOK–UP PRIOR TO ANY WORK BEING DONE.
4. COORDINATE UTILITY CONNECTIONS AT THE BUILDING WITH THE MECHANICAL DRAWINGS.
5. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SLOPE OF BUILDING SEWERS TOWARDS THE LATERAL SEWER IN STRICT ACCORDANCE WITH THE GOVERNING AUTHORITIES PRIOR TO STARTING CONTRUCTION.
6. ALL UTILITIES SHALL BE UNDERGROUND.
7. FOR SIZES OF GAS, ELECTRIC CONDUIT AND WATER SERVICE REFER TO MECHANICAL DRAWINGS.

NOTES:

1. CONTRACTOR TO PLUG INLET WHILE BASIN IS ACTING AS SEDIMENT TRAP. WHEN UPSTREAM AREA IS SEEDED AND STABILIZED, PLUG TO BE REMOVED.
2. WATERLINE TO BE BORED UNDER ROAD.
3. SANITARY SEWER PERMITS ARE REQUIRED FROM BOTH THE CITY OF MASSILLON AND STARK COUNTY. CONTACT THE CITY OF MASSILLON ENGINEER'S OFFICE FOR PERMIT AND INSPECTION.
4. DRIVEWAY PERMITS ARE REQUIRED BY THE CITY OF MASSILLON. CONTACT THE CITY OF MASSILLON ENGINEER'S OFFICE FOR LICENSE AND PERMIT REQUIREMENTS.

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PIPE CHART

PIPE	SIZE	* TYPE	LENGTH	GRADE	Ⓔ IN	Ⓔ OUT
P_1	12"	B	92'	1.0%	1007.02	1006.10
P_2	12"	B	150'	2.0%	1006.10	1003.10
P_3	12"	B	100'	1.25%	1007.50	1006.25
P_4	15"	B	83'	1.4%	1006.00	1004.84
P_5	15"	B	183'	2.84%	1004.84	999.65
P_6	12"	C	46'	4.13%	997.90	996.00

* USE R.C.P. (706.02), CORRUGATED POLYETHLYENE SMOOTH LINED PIPE (707.33) OR APPROVED EQUAL.

STATE OF OHIO
BARBARA HAMMONTREE BENNETT
E-56001
REGISTERED PROFESSIONAL ENGINEER
9/11/02

OWNER

MIKE VINTON
VASCO ASPHALT COMPANY
P.O. BOX 754
MASSILLON, OHIO 44648
330–832–5151

SCALE: 1" = 20'
0 10 20 40

VASCO – STE ITE

QUARTER SECTION LINE
EXISTING CORPORATION LINE

REVISION BY: BAK DATE: 8/7/02 DESCRIPTION: PER CITY OF MASSILLON COMMENTS
REVISION BY: BAK DATE: 9/12/02 DESCRIPTION: PER STARK SAN. ENG. COMMENTS
REVISION BY: DATE: DESCRIPTION:
REVISION BY: DATE: DESCRIPTION:
REVISION BY: DATE: DESCRIPTION:

DESIGNED BY: BAK CHECKED BY: BHB
DRAWN BY: LJP REVIEWED BY: BHB
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F.B. 413 PAGE 79
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SCALE:
HORIZ: 1"=20'

SITE DIMENSION & UTILITY PLAN
VASCO ASPHALT COMPANY
SITUATED IN THE CITY OF MASSILLON, COUNTY OF STARK, STATE OF OHIO AND BEING ALL OF OUT LOT 929.

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ENGINEERS, PLANNERS, SURVEYORS
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PHONE: CANTON (330) 494–4817 AKRON (330) 633–7274
1–800–686–4817 FAX (330) 494–4877
TOLL FREE 1–800–686–4817 www.hammontree–engineers.com

2
3

EROSION CONTROL NOTES

1. ALL PROPERTIES ADJACENT TO THE SITE OF SOIL–DISTURBING ACTIVITY SHALL BE PROTECTED TO THE MAXIMUM EXTENT PRACTICABLE, FROM SOIL EROSION AND SEDIMENT RUNOFF AND DRAINAGE, INCLUDING, BUT NOT LIMITED TO PRIVATE PROPERTIES, NATURAL AND ARTIFICIAL WATERWAYS, WETLANDS, STORM SEWERS AND PUBLIC LANDS.

2. CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL PRACTICES USED TO SATISFY THIS REQUIREMENT SHALL CONFORM, AS A MINIMUM, TO STATE OF OHIO STANDARDS AS SET FORTH IN THE MOST–CURRENT EDITION OF THE RAINWATER AND LAND DEVELOPMENT MANUAL, DEFINED BY THE OHIO DEPARTMENT OF NATURAL RESOURCES DIVISION OF SOIL AND WATER CONSERVATION AND NATURAL RESOURCE CONSERVATION SERVICE AND SHALL CONFORM TO THE MOST CURRENT OHIO ENVIRONMENTAL PROTECTION AGENCY, OHIO REVISED CODE CHAPTER 6111 REQUIREMENTS.

3. EROSION AND SEDIMENT CONTROL PLAN APPROVALS ISSUED IN ACCORDANCE WITH THESE RULES DO NOT RELIEVE THE OWNER OF RESPONSIBILITY FOR OBTAINING ALL OTHER NECESSARY PERMITS AND OR APPROVALS FROM FEDERAL STATE, AND/OR COUNTY AGENCIES. IF REQUIREMENTS VARY, THE MOST STRINGENT REQUIREMENTS SHALL BE FOLLOWED.

4. EROSION AND SEDIMENT CONTROL PRACTICES AT THE SITE, AND, AS IDENTIFIED IN THE ESC PLAN SHALL COMPLY WITH THE FOLLOWING:

A. LIMITS TO CLEARING AND GRADING SHALL BE SHOWN ON ESC PLANS. LIMITS TO CLEARING AND GRADING SHALL BE CLEARLY MARKED ON SITE WITH SIGNAGE, FLAGGING, AND/OR FENCING ETC.

B. INSTALL EROSION AND SEDIMENT PERIMETER CONTROLS AS A FIRST ACTION OF CONSTRUCTION AS SPECIFIED BY CONSTRUCTION SEQUENCE. THIS SHALL INCLUDE AND IS NOT LIMITED TO PROTECTIVE BMP'S FOR STREAM CORRIDORS AND CROSSINGS, WETLANDS, SITE ENTRANCE, SEDIMENT TRAPS & BASINS, BARRIERS, AND DIVERSION DIKES.

C. CONCENTRATED STORM WATER RUNOFF SHALL PASS THROUGH A SEDIMENT CONTROL DEVICE BEFORE EXITING THE SITE BOUNDARIES. CONCENTRATED RUNOFF FROM BARE SOIL AREAS SHALL BE DIVERTED INTO A SETTLING POND OR SEDIMENT CONTROL STRUCTURE, OR OTHER APPROVED SEDIMENT BARRIER BEFORE LEAVING THE SITE.

D. EARTHEN STRUCTURES SUCH AS DAMS, BASINS, STREAM MODIFICATIONS AND WATER DIVERSIONS SHALL BE SEEDED AND MULCHED WITH IN SEVEN (7) DAYS OF THE COMPLETION OF INSTALLATION. DAMS SHALL CONFORM TO THE OHIO DAM LAWS (ORC 1521.06).

E. STABILIZATION OF CRITICAL AREAS WITHIN 50 FEET OF ANY STREAM OR WETLAND SHALL BE TEMPORARILY STABILIZED WITHIN TWO (2) DAYS OF DISTURBANCE IF AREA WILL REMAIN INACTIVE FOR FOURTEEN (14) DAYS OR LONGER. CONSTRUCTION VEHICLES SHALL AVOID STREAMS AND THE 50 FOOT BUFFER AREAS. IF AN ACTIVE DRAINAAGEWAY MUST BE CROSSED BY CONSTRUCTION VEHICLES REPEATEDLY DURING CONSTRUCTION, A TEMPORARY STREAM CROSSING SHALL BE CONSTRUCTED ACCORDING TO THE SPECIFICATIONS IN THE RAINWATER & LAND DEVELOPMENT BOOK. CONSTRUCTION OF BRIDGES, CULVERTS OR SEDIMENT CONTROL STRUCTURES SHALL NOT PLACE SOIL, DEBRIS AND OTHER FINE PARTICULATE MATERIAL INTO OR CLOSE TO THE WATER RESOURCE IN SUCH A MANNER THAT IT MAY SLOUGH, SLIP OR ERODE.

F. STORM SEWER INLETS (AND SANITARY) SHALL BE PROTECTED SO THAT SEDIMENT–LADEN RUNOFF WILL NOT ENTER THE STORM SEWER SYSTEM WITHOUT FIRST BEING FILTERED AND/OR TREATED.

G. RE–VEGETATE SOIL. TEMPORARY SOIL STABILIZATION SHALL OCCUR WITHIN SEVEN (7) DAYS AFTER ROUGH GRADING IF THE AREA WILL REMAIN IDLE LONGER THAN THIRTY (30) DAYS. PERMANENT SOIL STABILIZATION SHALL BE INSTALLED WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. PERMANENT VEGETATION IS A GROUNDCOVER DENSE ENOUGH TO COVER 80% OF THE SOIL SURFACE AND MATURE ENOUGH TO SURVIVE WINTER WEATHER CONDITION.

H. SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED TO PREVENT SOIL LOSS. STABILIZATION SHALL BE REQUIRED IF STOCKPILES ARE LOCATED WITHIN CRITICAL AREAS NEAR STREAMS OR WETLANDS, OR IF DETERMINED BY THE STARK SWCD THAT SEDIMENT FROM STOCKPILES WILL LEAVE THE SITE.

I. UNSTABLE SOILS PRONE TO SLIPPING OR SLOUGHING SHALL NOT BE CLEARED, GRADED, EXCAVATED, FILLED OR HAVE LOADS IMPOSED UPON THEM UNLESS THE WORK IS PLANNED BY A QUALIFIED PROFESSIONAL ENGINEER AND INSTALLED IN ACCORDANCE WITH THE ESC PLAN. CUT AND FILL SLOPES SHOULD BE DESIGNED TO MINIMIZE EROSION PROBLEMS.

ADEQUATE SLOPE DESIGN INCLUDES USE OF ROUGH SOIL SURFACE ALONG THE FACE OF THE SLOPE; WATER DIVERSION ALONG THE TOP OF THE SLOPE AWAY FROM THE FACE; TERRACES TO REDUCE SLOPE LENGTH; DELIVERY OF CONCENTRATED STORM WATER FLOWS TO THE BASE OF THE SLOPE VIA ADEQUATE CHANNEL OR PIPE; AND DRAINAGE FOR WATER SEEPS IN THE SLOPE THAT ENDANGER SLOPE STABILITY.

J. SOIL SHALL BE REMOVED FROM PAVED SURFACES AND/OR PUBLIC ROADS AT THE END OF EACH DAY IN SUCH A MANNER THAT DOES NOT CREATE OFF–SITE SEDIMENTATION IN ORDER TO ENSURE SAFETY AND ABATE OFF–SITE SOIL LOSS. COLLECTED SEDIMENTS SHALL BE PLACED IN A STABLE LOCATION ON SITE OR TAKEN OFF–SITE TO A STABLE LOCATION.

K. STABILIZE DISTURBED OR MODIFIED DRAINAGE WAYS. REDUCE EROSION EFFECTS OF STORM WATER BY USING AND/OR MAINTAINING GRASSED SWALES, INFILTRATION STRUCTURES, OR WATER DIVERSIONS.

L. SEDIMENT AND EROSION CONTROLS SHALL BE INSPECTED ONCE EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF A 0.5" OR GREATER RAINFALL EVENT. A WRITTEN LOG OF THESE INSPECTIONS AND IMPROVEMENTS TO CONTROLS SHALL BE KEPT ON SITE. THE INSPECTIONS SHALL INCLUDE THE DATE OF INSPECTION, NAME OF INSPECTOR, WEATHER CONDITIONS, ACTIONS TAKEN TO CORRECT ANY PROBLEMS AND THE DATE CORRECTIVE ACTIONS WERE TAKEN.

M. TRENCHES FOR UNDERGROUND UTILITY LINES AND PIPES SHALL BE TEMPORALLY STABILIZED WITHIN SEVEN (7) DAYS IF THEY ARE TO REMAIN INACTIVE FOR THIRTY (30) DAYS. TRENCH DEWATERING DEVICES SHALL DISCHARGE IN A MANNER THAT FILTERS SOIL–LADEN WATER BEFORE DISCHARGING IT TO A RECEIVING DRAINAGE DITCH OR POND. IF SEEDING, MULCHING , OR OTHER EROSION AND SEDIMENT CONTROL MEASURES WERE PREVIOUSLY INSTALLED, THESE PROTECTIVE MEASURES SHALL BE REINSTALLED.

5. CONTRACTOR'S CONSTRUCTION SEQUENCE:

A. INITIAL CLEARING AND GRUBBING TO GAIN ACCESS, AND INSTALLATION OF PERIMETER CONTROLS WITHIN SEVEN (7) DAYS OF CLEARING AND GRUBBING.

B. CLEARING AND GRUBBING FOLLOWED BY EXCAVATION OF SEDIMENT TRAPS AND BASINS; TEMPORARY SOIL STABILIZATION FOR THESE SEDIMENT SETTLING DEVICES WITHIN FOURTEEN (14) DAYS OF EXCAVATION.

C. MAINTENANCE INSPECTION SCHEDULE AND PARTY RESPONSIBLE FOR INSPECTION AND REPAIR OF EROSION AND SEDIMENT CONTROL DEVICES.

D. FINAL GRADING AND PERMANENT SOIL STABILIZATION WITHIN 30 DAYS OF FINISHING FINAL GRADE.

E. REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES.

F. FINAL STABILIZATION MEETING WITH PROVISIONS FOR LONG–TERM MAINTENANCE OF STORM WATER FACILITIES INCLUDING MECHANISMS FOR NOTIFICATION OF FUTURE RESPONSIBLE PARTIES AND/OR PROPERTY OWNERS.

SITE INFORMATION

SITE DESCRIPTION – EXISTING – GRASS OUTLOT
PROPOSED – WAREHOUSE & OFFICE BLDG.

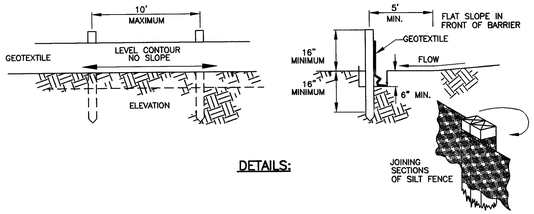
TOTAL AREA OF SITE – 6.25 AC.
AREA OF SITE TO UNDERGO EXCAVATION – 3.5± AC.

PRE–CONSTRUCTION RUNOFF COEFFICIENT – 0.30
POST–CONSTRUCTION RUNOFF COEFFICIENT – 0.80

SCHEDULE OF MAJOR CONSTRUCTION
COMMENCEMENT – SUMMER 2002
COMPLETION – FALL 2002

RECEIVING STREAM AND SURFACE WATERS
EXIST. DRAINAGE DITCH ON PROPERTY TO TUSCARAWAS RIVER

EXISTING SOILS ON SITE
WuD2 WOOSTER SILT LOAM, 12 TO 18 PERCENT SLOPES, MODERATELY ERODED
Sh SHOALS SILT LOAM
CdC2 CANFIELD SILT LOAM, 12 TO 18 PERCENT SLOPES, MODERATELY ERODED



DETAILS:

NOTES:

1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTRUBANCE BEGINS.
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
3. TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UPSLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.
4. WHERE POSSIBLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 ft. (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE RE–ESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE FENCE.
6. SOIL STOCKPILES OR OTHER SOURCES OF SEDIMENT SHALL HAVE SILT FENCE PROTECTION.
7. THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT A MINIMUM OF 6" DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICE WHICH WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
8. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE AND SO THAT 8" OF CLOTH ARE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6" DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED.
9. SEAMS BETWEEN SECTION OF SILT FENCE SHALL BE OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.
10. MAINTENANCE–– SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE:
   1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED,
   2) ACCUMULATED SEDIMENT SHALL BE REMOVED,
   3) OTHER PRACTICES SHALL BE INSTALLED.

CRITERIA FOR SILT FENCE MATERIALS

1. FENCE POSTS – THE LENGTH SHALL BE A MINIMUM OF 32" LONG. WOOD POST WILL BE 2" X 2" HARDWOOD OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT.
2. SILT FENCE FABRIC (SEE CHART BELOW):

FABRIC PROPERTIES	VALUES	TEST METHOD
GRAB TENSILE STRENGTH	90 LB. MINIMUM	ASTM D 1682
MULLEN BURST STRENGTH	190 P.S.I. MINIMUM	ASTM D 3786
SLURRY FLOW RATE	0.3 GAL./MIN./FT.^{2} MAXIMUM	
EQUIVALENT OPENING SIZE	40–80	US STD. SIEVE CW–02215
ULTRAVIOLET RADIATION STABILITY	90% MINIMUM	ASTM–G–26

SILT FENCE (SF)

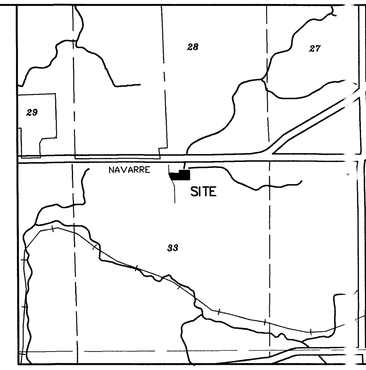
N.T.S.

TEMPORARY SEEDING SPECIES SELECTION			
SEEDING DATES	SPECIES	LB./1,000 FT.^{2}	PER ACRE
MARCH 1 TO AUGUST 15	OATS	3	4 BUSHEL
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	PERENNIAL RYGRASS	1	40 LB.
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
AUGUST 16 TO NOVEMBER 1	RYE	3	2 BUSHEL
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	WHEAT	3	2 BUSHEL
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	PERENNIAL RYEGRASS	1	40 LB.
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
NOVEMBER 1 TO SPRING SEEDING	USE MULCH ONLY, SODDING PRACTICES OR DORMANT SEEDING.		

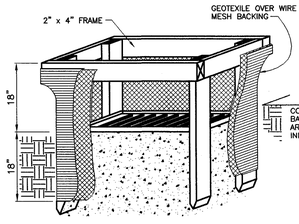
NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED.

1. STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION SITE.
2. TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR RE–WORKED FOR 45 DAYS OR MORE. THESE IDLE AREAS SHOULD BE SEEDED AS SOON AS POSSIBLE AFTER GRADING OR SHALL BE SEEDED WITHIN 7 DAYS. SEVERAL APPLICATIONS OF TEMPORARY SEEDING ARE NECESSARY ON TYPICAL CONSTRUCTION PROJECTS.
3. THE SEED BED SHOULD BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. HOWEVER, TEMPORARY SEEDING SHALL NOT BE POSTPONED IF IDEAL SEED BED PREPARATION IS NOT POSSIBLE.
4. SOIL AMENDMENTS – APPLICATIONS OF TEMPORARY VEGETATION SHALL ESTABLISH ADEQUATE STANDS OF VEGETATION WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. SOIL TESTS SHOULD BE TAKEN ON THE SITE TO PREDICT THE NEED FOR LIME AND FERTILIZER.
5. SEEDING METHOD – SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON–SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

TEMPORARY SEEDING (TS)



VICINITY MAP

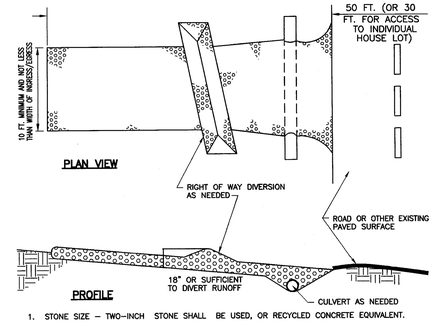


1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE STORM DRAIN BECOMES OPERATIONAL.
2. THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH AT LEAST 18 IN.
3. THE WOODEN FRAME SHALL BE CONSTRUCTED OF 2 IN BY 4 IN. CONSTRUCTION GRADE LUMBER. THE 2 IN. BY 4 IN. POSTS SHALL BE DRIVEN 18 IN. INTO THE GROUND AT FOUR CORNERS OF THE INLET AND THE TOP PORTION OF 2 IN. BY 4 IN. FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN. THE TOP OF THE FRAME SHALL BE AT LEAST 6 IN. BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.
4. WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPOUNDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.
5. GEOTEXTILE SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20 – 40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY. IT SHALL EXTEND FROM THE TOP OF THE FRAME TO 18 IN. BELOW THE INLET NOTCH ELEVATION. THE GEOTEXTILE SHALL OVERLAP ACROSS ON SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
6. BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6 IN. LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES.
7. A COMPACTED EARTH DIKE OR A CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION AND IF RUNOFF BYPASSING THE INLET WILL NOT FLOW TO A SETTLING POND. THE TOP OF EARTH DIKES SHALL BE AT LEAST 6 IN. HIGHER THAN THE TOP OF THE FRAME.

INLET PROTECTION IN SWALES, DITCH LINES OR YARD INLETS

N.T.S.

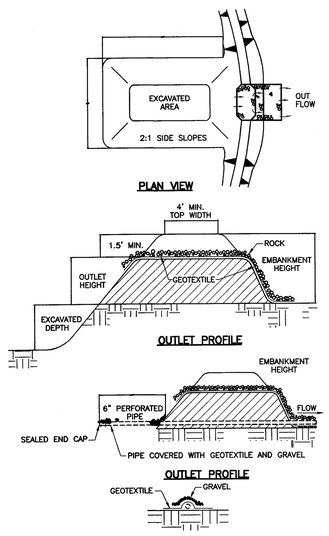
(IP)



1. STONE SIZE – TWO–INCH STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 50 FT. (EXCEPT ON SINGLE RESIDENCE LOT WHERE A 30–FT. MINIMUM LENGTH APPLIES.
3. THICKNESS – THE STONE LAYER SHALL BE AT LEAST 6 IN. THICK.
4. WIDTH – THE ENTRANCE SHALL BE AT LEAST 10 FT. WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. BEDDING – A GEOTEXTILE SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL HAVE A GRAB TENSILE STRENGTH OF AT LEAST 200 LB. AND A MULLEN BURST STRENGTH OF AT LEAST 190 LB.
6. CULVERT – A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FLOWING ACROSS THE ENTRANCE FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
7. WATER BAR – A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
8. MAINTENANCE – TOP DRESSING OF ADDITIONAL STONE WALL SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
9. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF–SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION SITE SHALL BE RESTRICTED FROM MUDDY AREAS.

CONSTRUCTION ENTRANCE (RCE)

N.T.S.



DEWATERING PIPE SECTION

SEDIMENT TRAPS (ST)

SEDIMENT TRAP NOTES:

1. SEDIMENT TRAPS SHALL BE CONSTRUCTED AND OPERATIONAL BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
2. THE AREA UNDER THE EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED AS NEEDED TO FACILITATE SEDIMENT CLEANOUT.
3. FILL MATERIAL USED FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVERSIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED. MAXIMUM HEIGHT OF THE EMBANKMENT SHALL BE 5 FT. AS MEASURED FROM THE SURROUNDING GROUND.
4. CUT–AND–FILL SLOPES SHALL BE 2:1 OR FLATTER.
5. DIKES DIRECTING WATER TO THE TRAP SHALL BE HIGHER THAN THE HEIGHT OF THE EMBANKMENT.
6. TEMPORARY SEEDING SHALL BE ESTABLISHED ON ALL NON–SUBMERGED AREAS OF THE SEDIMENT TRAP.
7. THE STORAGE VOLUME SHALL BE ACHIEVED TO THE DIMENSIONS SHOWN IN THE PLANS TO ACHIEVE 67 CY OF STORAGE VOLUME BELOW THE CREST OF THE OUTLET FOR EVERY ACRE OF CONTRIBUTING DRAINAGE AREA.
8. THE OUTLET SPILLWAY SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN IN THE PLANS.
9. GEOTEXTILE SHALL BE PLACED OVER THE BOTTOM AND SLOPES OF THE OUTLET SPILLWAY. GEOTEXTILE SHALL CONTINUE DOWNSTREAM OF THE EMBANKMENT TO FORM AN APRON ON THE SURROUNDING GROUND. TO PREVENT RUNOFF FROM FLOWING UNDER THE GEOTEXTILE, THE SECTIONS PLACED NEAREST THE FRONT SHALL OVERLAP FOLLOWING SECTIONS. SECTIONS OF GEOTEXTILE SHALL OVERLAP AT LEAST 2 FT.
10. ROCK USED IN THE OUTLET SPILLWAY SHALL BE PLACED 1 FT. THICK ON THE GEOTEXTILE. THE ROCK SHALL BE BETWEEN TYPE C AND TYPE D ROCK WHERE D_{50} IS ABOUT 8 IN.
11. SEDIMENT SHALL BE REMOVED AND THE SEDIMENT TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS FILLED ONE–HALF THE POND'S ORIGINAL DEPTH. REMOVED SEDIMENT SHALL BE SPREAD IN A SUITABLE AREA AND STABILIZED SO IT WILL NOT ERODE.
12. THE STRUCTURE AND ACCUMULATED SEDIMENT SHALL BE PERMANTLY STABILIZED WHEN THE DRAINAGE AREA HAS BEEN STABILIZED.

REVISION BY: ___ DATE: ___ DESCRIPTION: ___
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DESIGNED BY: BAK CHECKED BY: BHB
DRAWN BY: LJP REVIEWED BY: BHB
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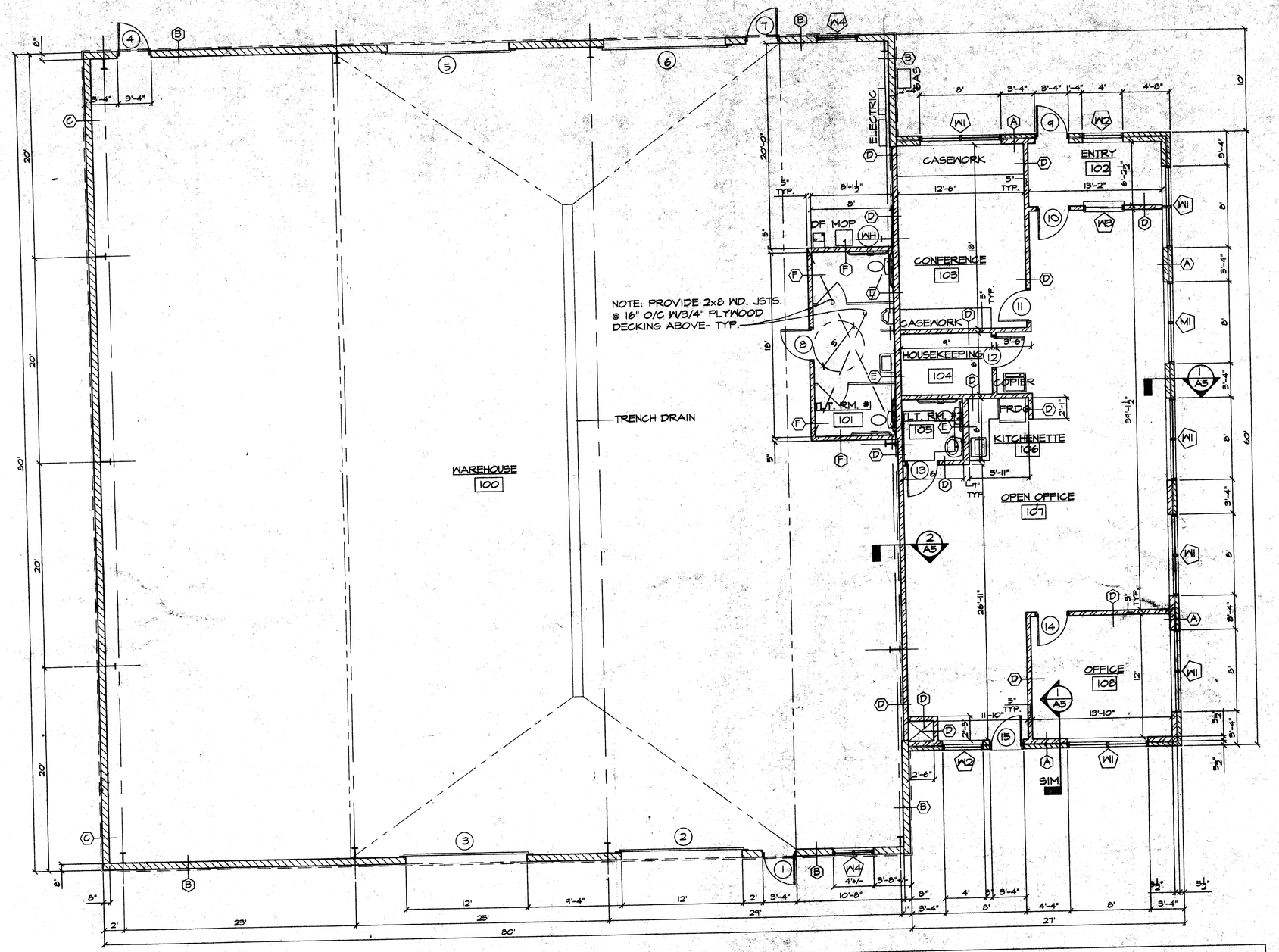
SCALE:
AS SHOWN

STORMWATER POLLUTION PREVENTION DETAILS
VASCO ASPHALT COMPANY
SITUATED IN THE CITY OF MASSILLON, COUNTY OF STARK,
STATE OF OHIO AND BEING ALL OF OUT LOT 929.

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CANTON PITTSBURGH AKRON
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3/3

VASCO – STEL LITE



REFERENCE NORTH

FLOOR PLAN

SCALE: 3/16"=1'-0"

WALL TYPE SCHEDULE

(A)	EXTERIOR WALL CONSTRUCTION: 4" SPLIT-FACE CMU W/ GALV. WALL TIES TO 24" AFF W/ 4" CHAMFERED STONE SILL ABOVE & RIGID INSUL. & EIFS ABOVE TO SOFFIT O/. 7/16" OSB BOARD & 15# FELT OR OTHER APPROVED MOISTURE BARRIER O/ 2x6 WOOD STUDS @ 16" O.C. W/ 5/8" GYP. BOARD AS INTERIOR FINISH FILL W/ BATT INSULATION (R19 MIN.)
(B)	EXTERIOR WALL CONSTRUCTION: 8" SPLIT-FACE CMU TO 24" AFF & PRE-FINISHED INSULATED METAL 'SANDWICH PANEL' FROM 24" AFF TO EAVE O/ PRE-ENGINEERED METAL BUILDING FRAME
(C)	EXTERIOR WALL CONSTRUCTION: 8" SPLIT FACE CMU TO ONE COURSE AFF & PRE-FINISHED, INSULATED METAL 'SANDWICH PANEL' FROM ONE COURSE AFF TO EAVE O/PRE-ENGINEERED METAL BUILDING FRAME
(D)	INTERIOR WALL CONSTRUCTION: 5/8" GYP. BOARD O/ 3 5/8" (25 GA.) MTL. STUDS @ 16" O.C.- PROVIDE MOISTURE RESISTANT GYP. BOARD AT WET AREAS & 3 1/2" BATT SOUND INSULATION AT BATH ROOMS & OFFICES
(E)	INTERIOR WALL CONSTRUCTION: 5/8" GYP. BOARD O/ 6" (25 GA.) MTL. STUDS - PROVIDE MOISTURE RESISTANT GYP. BOARD AT WET AREAS & 3 1/2" BATT SOUND INSULATION AT BATH ROOMS & OFFICES
(F)	INTERIOR WALL CONSTRUCTION: 5/8" GYP. BOARD O/ 2x4 WD. STUDS @ 16" O/C @ 16" O.C. TO 9'-0" AFF - PROVIDE MOISTURE RESISTANT GYP. BOARD AT WET AREAS & 3 1/2" BATT SOUND INSULATION AT BATH ROOMS

STATE OF OHIO REGISTERED ARCHITECT ROBERT V. BUONASPINA 12422

St. CLAIR PAVLIS GROUP
ARCHITECTURAL DIRECTIONS

DATE
16 July 02

REVISIONS

ROBERT V. BUONASPINA, INC.
Architectural Plans For Institutional, Commercial & Industrial Projects
1401 Santa Anita Street Suite 304 North Canton, Ohio 44720

PROJECT
New Facility For:
VASCO Asphalt
4270 Sterilite Avenue, S.E.
Massillon, Ohio 44646

DRAWING
Floor Plan

A-1

ROOM FINISH SCHEDULE

NO.	ROOM	FLOOR: CONCRETE W/SEALER	FLOOR: CARPET	FLOOR: VINYL TILE	FLOOR: CERAMIC TILE	BASE: NONE	BASE: 5" VINYL - STRAIGHT	BASE: 5" VINYL - COVE	BASE: CERAMIC TILE	BASE: CARPET	WALLS: EXPOSED STRUCTURE	WALLS: GWB PAINTED	WALLS: VINYL WALL COVERING	WALLS: PAINTED DRYWALL	CEILING: EXPOSED STRUCTURE PAINT	CEILING: 2' X 4' LAY-IN ACOUSTIC	CEILING: 1'-0" X 1'-0" LAY-IN ACOUSTIC	CEILING: GWB	CEILING: 10'-0" CEILING HT.	CEILING: 9'-0" +/- CEILING HT.	REMARKS
100	WAREHOUSE	O				O					O	O			O						
101	TOILET RM. #1	O						O						O		O				O	
102	ENTRY			O				O						O			O			O	
103	CONFERENCE		O					O						O			O			O	
104	HOUSEKEEPING			O				O						O	O					O	
105	TOILET RM. #2			O				O						O		O				O	
106	KITCHENETTE			O				O						O	O				O		
107	OPEN OFFICE		O					O						O	O				O		
108	OFFICE		O					O						O			O			O	

NOTE:
1. ALL INTERIOR FINISHES SHALL BE THE MINIMUM OF CLASS STATED IN OBBC INFORMATION ON COVER SHEET. ALL CARPETING SHALL PASS DEPARTMENT OF COMMERCE "PILL TEST" D.O.C. FF-1.
2. PROVIDE METAL CAP DRIP FOR ALL EXTERIOR H.M. DOORS
3. PAINT ALL INTERIOR BLOCK WALLS, STEEL FRAMES & SEAL ALL CONC. FLOORS

NOTES:
1.) ALL MAT'L. USED FOR INTERIOR FINISH & TRIM SHALL BE CLASSIFIED IN ACCORDANCE W/ ASTME84

	REQUIRED VERT. EXITS & PASSAGEWAYS	CORRIDORS PROVIDING EXIT ACCESS	ROOMS OR ENCLOSED SPACES
B	I	II	III
S	II	II	III

DOOR SCHEDULE

INSUL = INSULATED NON = NON-INSULATED P = PASSAGE SET PR = PRIVACY SET PP = PUSH/PULL LK = LOCKSET PB = PUSH BAR DB = DEAD BOLT BB = BALL BEARING SD = STANDARD WST = WALL STOP FST = FOOT STOP CL = CLOSER WS = WEATHERSTRIPPING TH = THRESHOLD LP = LATCH PROTECTOR

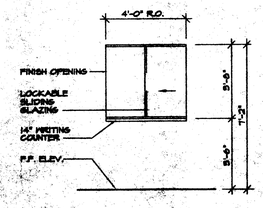
DOOR NO.	DOOR SIZE	DOOR MAT'L.	FRAME MAT'L.	INSUL	NON	LATCH DEVICES: P	PR	PP	LK	PB	DB	HINGES: BB	SD	ACCESSORIES: WST	FST	CL	WS	TH	LP	REMARKS
1	3'-0" x 7'-0"	H.M.	H.M.	O					O			O				O	O	O	O	BY BLDG. SUPPLIER
2	12'-0" x 14'-0"	PREFIN. MTL.	-	O													O			WELECTRIC OPENER
3	12'-0" x 14'-0"	PREFIN. MTL.	-	O													O			WELECTRIC OPENER
4	3'-0" x 7'-0"	H.M.	H.M.	O					O			O				O	O	O	O	BY BLDG. SUPPLIER
5	12'-0" x 14'-0"	PREFIN. MTL.	-	O													O			WELECTRIC OPENER
6	12'-0" x 14'-0"	PREFIN. MTL.	-	O													O			WELECTRIC OPENER
7	3'-0" x 7'-0"	H.M.	H.M.	O					O			O				O	O	O	O	BY BLDG. SUPPLIER
8	3'-0" x 7'-0" x 1 3/4"	H.M.	H.M.	O		O						O				O				
9	3'-0" x 7'-0"	ALUM.	ALUM.	O					O	O		O				O	O	O		
10	3'-0" x 7'-0" x 1 3/4"	S.C. MD.	H.M.		O	O						O		O						
11	3'-0" x 7'-0" x 1 3/4"	S.C. MD.	H.M.		O	O						O		O						
12	3'-0" x 7'-0" x 1 3/4"	S.C. MD.	H.M.		O	O						O		O						
13	3'-0" x 7'-0" x 1 3/4"	S.C. MD.	H.M.		O		O					O		O						
14	3'-0" x 7'-0" x 1 3/4"	S.C. MD.	H.M.		O	O						O		O						
15	3'-0" x 7'-0"	ALUM.	ALUM.	O					O	O		O				O	O	O		

NOTE:
1. ALL HOLLOW METAL FRAMES TO HAVE MITERED CORNERS.
2. ALL GLASS IN DOORS AND SIDELIGHTS SHALL CONFORM TO O.B.B.C. FOR SAFETY GLAZING.
3. ALL DOOR HARDWARE TO COMPLY WITH OBBC AND ADAAG
4. ALL THRESHOLDS TO COMPLY W/ ADAAG
5. ALL DOOR CLOSERS TO COMPLY W/ ADAAG

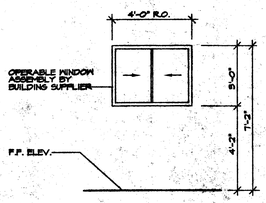
WINDOWS TYPES:

W1

W2



W3



W4

ROBERT V. BUONASPINA
STATE OF OHIO
REGISTERED ARCHITECT
12422

ST. CLAIR PAVING GROUP
COMMERCIAL CONTRACTORS

DATE
16 July 02

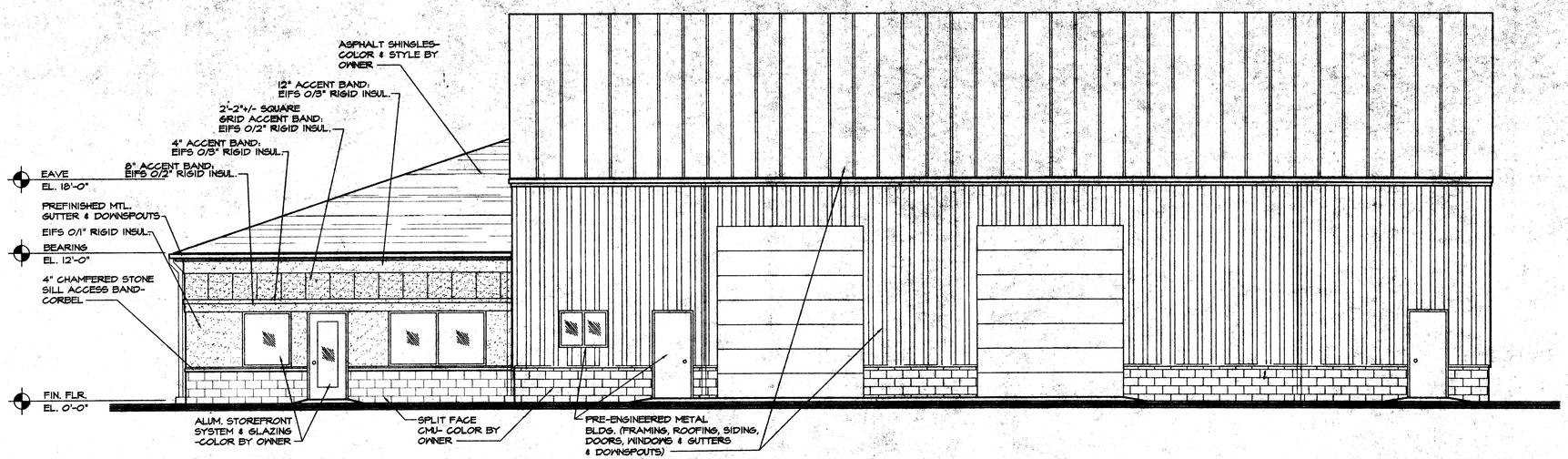
REVISIONS

ROBERT V. BUONASPINA, INC.
Architectural Firm for Architectural, Commercial & Residential Projects
1441 South Main Street Suite 204 North Canton, Ohio 44720

PROJECT
New Facility For:
VASCO Asphalt
4270 Sterilite Avenue, S.E.
Massillon, Ohio 44646

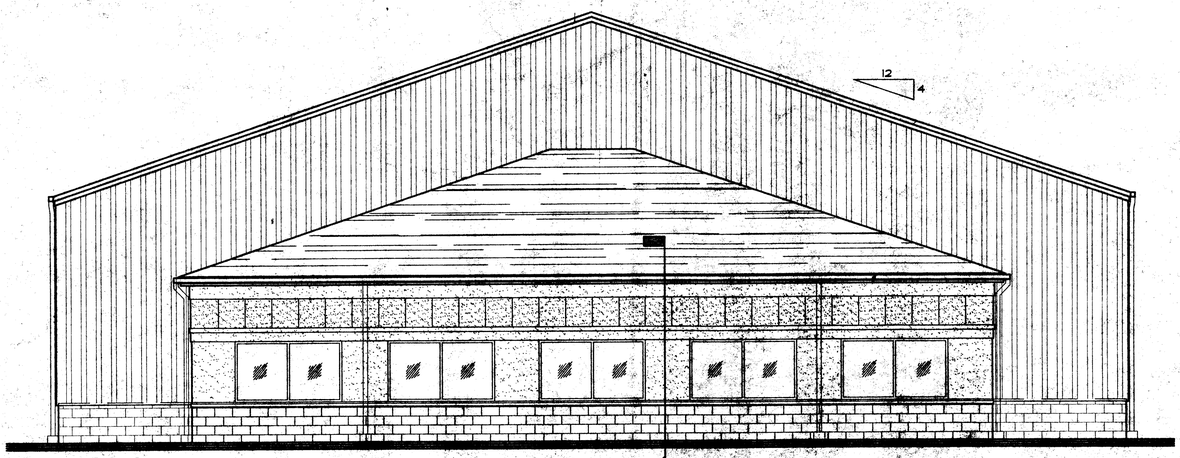
DRAWING
Schedules

A-2



FRONT ELEVATION

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



FRONT ELEVATION

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

STATE OF OHIO
ROBERT V. BUONASPINA
12422
REGISTERED ARCHITECT

ST. CLAIR/RAILSGROUP
Construction, Contractors

DATE
16 July 02

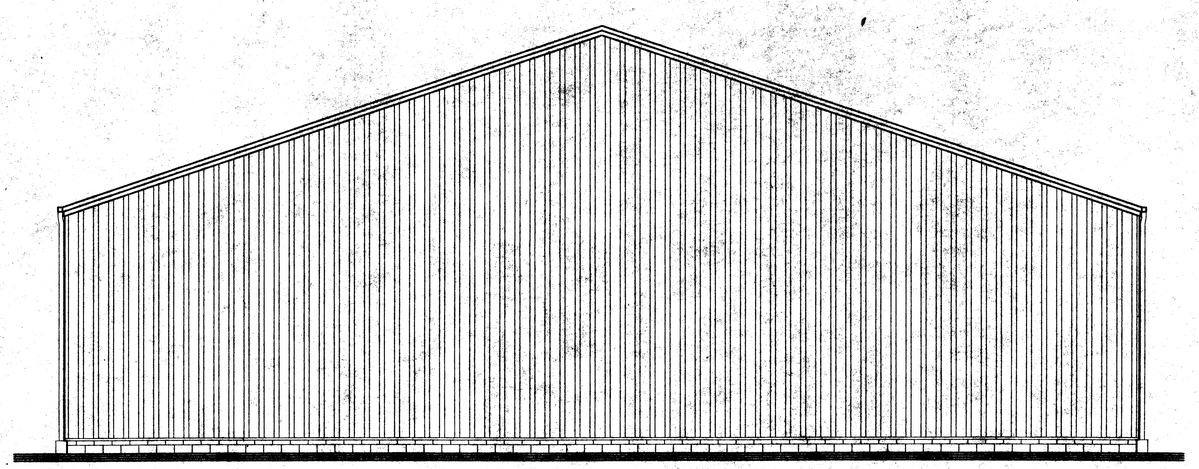
REVISIONS

ROBERT V. BUONASPINA, INC.
Architectural Plan for Residential, Commercial & Industrial Projects
1041 North Main Street Suite 204 North Canton, Ohio 44720

PROJECT
New Facility For:
VASCO Asphalt
4270 Sterilite Avenue, S.E.
Massillon, Ohio 44646

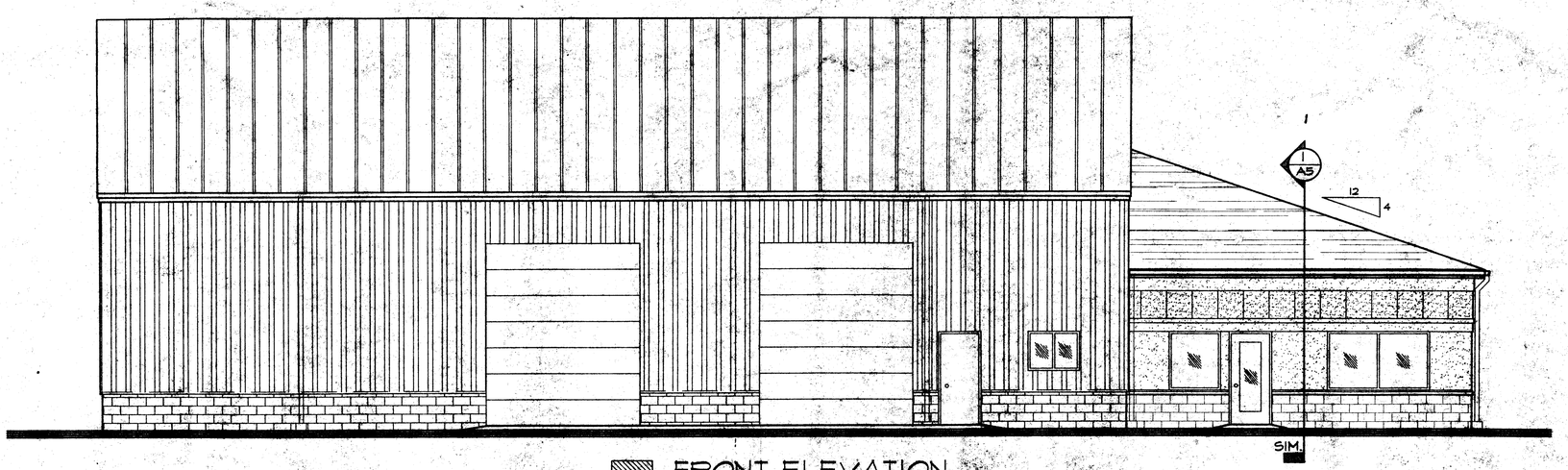
DRAWING
Elevations

A-3



FRONT ELEVATION

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



FRONT ELEVATION

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

STATE OF OHIO
ROBERT V. BUONASPINA
REGISTERED ARCHITECT
1322

S.CLAIR PAULSGROUP

DATE
16 July 02

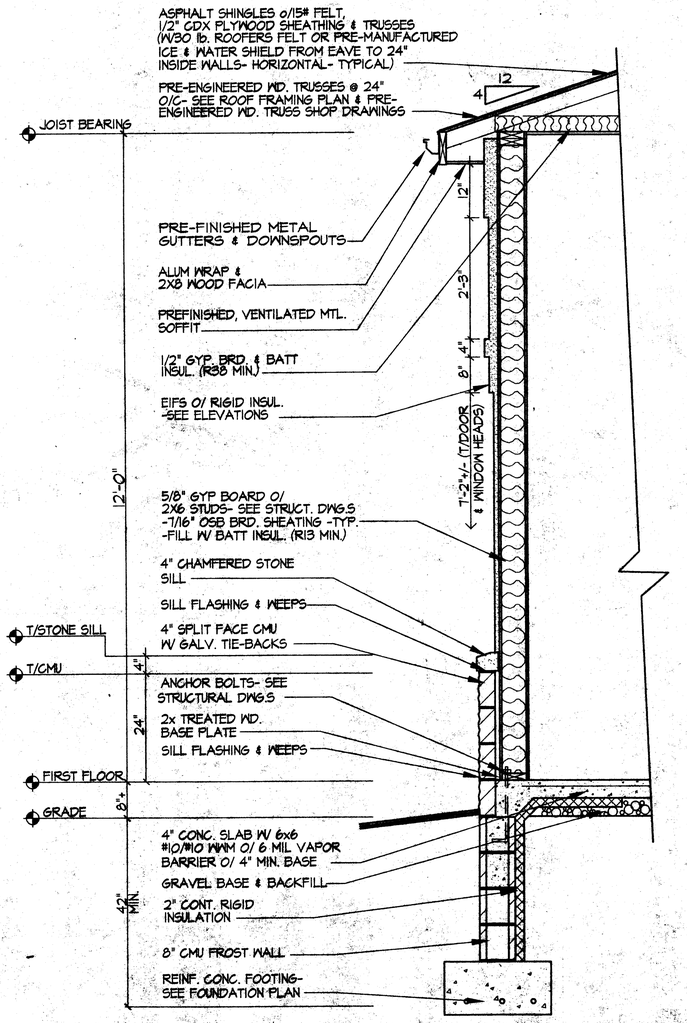
REVISIONS

ROBERT V. BUONASPINA, INC.
Architectural Firm for Institutional, Commercial & Industrial Projects
1401 North Main Street Suite 204 North Canton, Ohio 44720

PROJECT
New Facility For:
VASCO Asphalt
4270 Sterlite Avenue, S.E.
Massillon, Ohio 44646

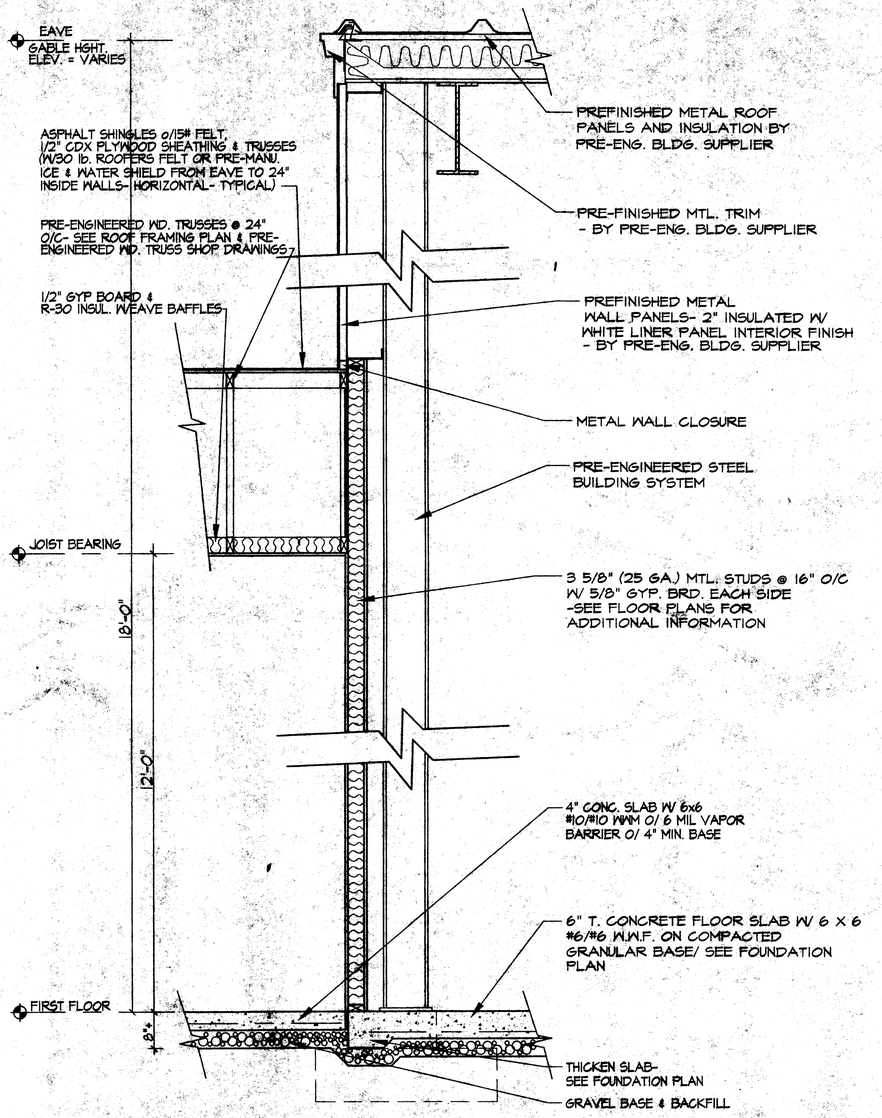
DRAWING
Elevations

A-4



1 A-5 WALL SECTION

SCALE : 3/4"=1'-0"



2 A-5 WALL SECTION

SCALE : 3/4"=1'-0"

STATE OF OHIO
ROBERT V. BUONASPINA
12422
REGISTERED ARCHITECT

SINCLAIR PAULIS GROUP

DATE
16 July 02

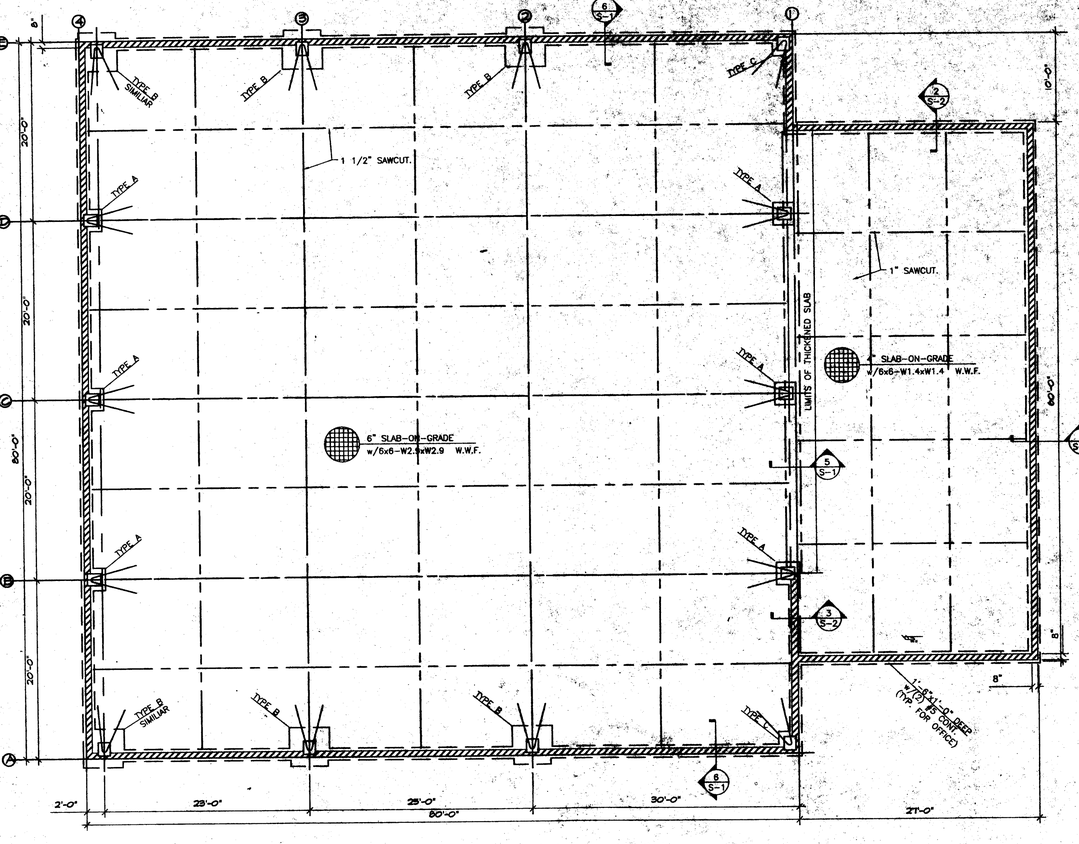
REVISIONS

ROBERT V. BUONASPINA, INC.
Architecture/Site & Residential, Commercial & Industrial Projects
4401 South Main Street Suite 204 North Canton, Ohio 44720

PROJECT
New Facility For:
VASCO Asphalt
4210 Sterlite Avenue, S.E.
Massillon, Ohio 44646

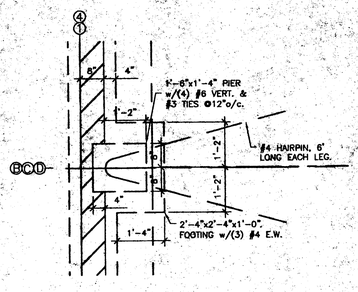
DRAWING
Wall Sections

A-5



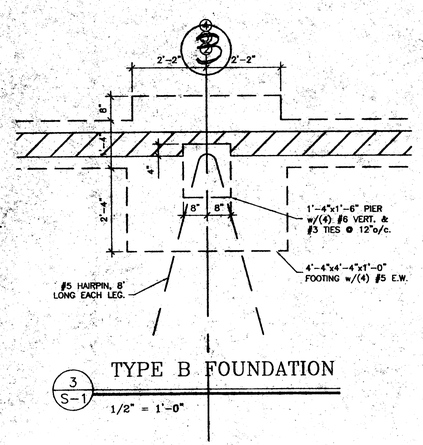
FOUNDATION PLAN

1/8" = 1'-0"



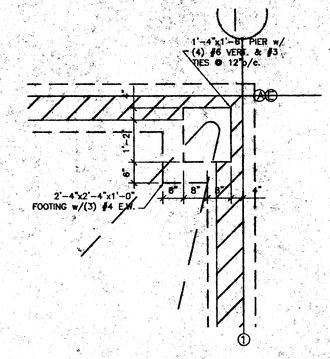
TYPE A FOUNDATION

1/2" = 1'-0"



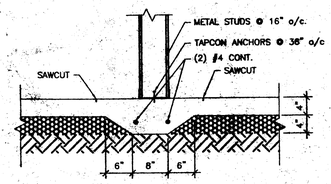
TYPE B FOUNDATION

1/2" = 1'-0"



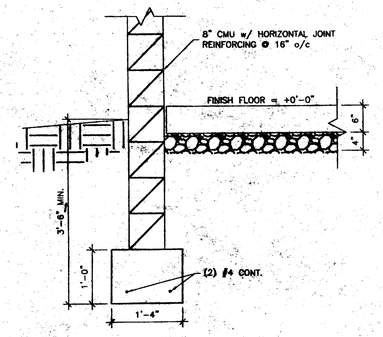
TYPE C FOUNDATION

1/2" = 1'-0"



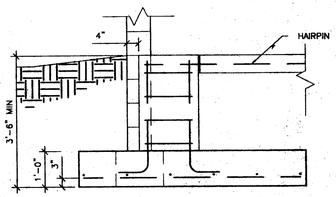
THICKENED SLAB DETAIL

3/4" = 1'-0"



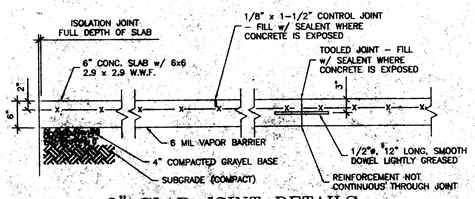
SECTION THRU FROST WALL

3/4" = 1'-0"



TYPICAL SECTION @ EXT. PIER

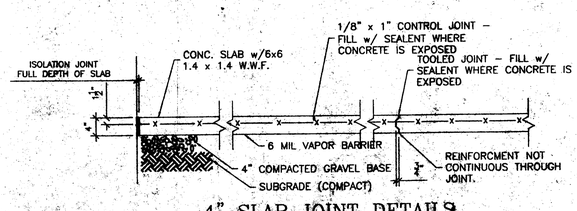
1/2" = 1'-0"



6" SLAB JOINT DETAILS

3/4" = 1'-0"

NOTES:
1. CONSTRUCTION JOINTS SHALL BE LOCATED AT THE END OF ANY SINGLE POUR.
2. CONSTRUCTION JOINT MAY REPLACE A CONTROL JOINT.
3. PROVIDE ISOLATION JOINTS AT THE FACE OF ALL COLUMNS, WALLS, PIERS AND ADJACENT CONSTRUCTION.
4. SPACING OF CONTROL JOINTS SHALL BE BETWEEN 10' TO 15' o/c.



4" SLAB JOINT DETAILS

3/4" = 1'-0"

NOTES:
1. CONSTRUCTION JOINTS SHALL BE LOCATED AT THE END OF ANY SINGLE POUR.
2. CONSTRUCTION JOINT MAY REPLACE A CONTROL JOINT.
3. PROVIDE ISOLATION JOINTS AT THE FACE OF ALL COLUMNS, WALLS, PIERS AND ADJACENT CONSTRUCTION.
4. SPACING OF CONTROL JOINTS SHALL BE BETWEEN 8' TO 12' o/c.

NOTES:
T.O.F = TOP OF FOOTING= -3'-4" UNLESS NOTED OTHERWISE.

STATE OF OHIO
BRIAN K. ROSTEDT E-54002
REGISTERED
PROFESSIONAL ENGINEER

DATE
JULY 23, 2002

REVISIONS

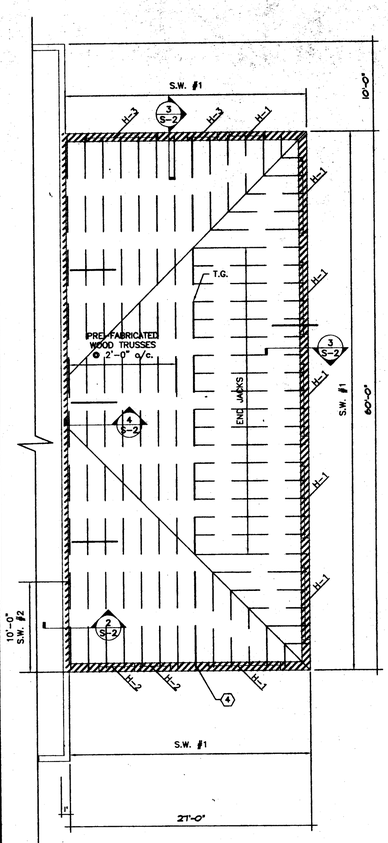
ROBERT V. BUONASPINA, INC.
Architectural Firm for Institutional, Commercial & Industrial Projects
1401 South Main Street, Suite 204 North Canton, Ohio 44720

PROJECT
New Facility For:
VASCO Asphalt
Massillon, Ohio 44646

DRAWING
Foundation Plan & Details

Troike-Rostedt Engineering, Inc.
1982 Akron-Peninsula Road
Akron, Ohio 44313
(330) 928-8388
Fax: (330) 928-5399
E-Mail: tr@tr4.net

S-1

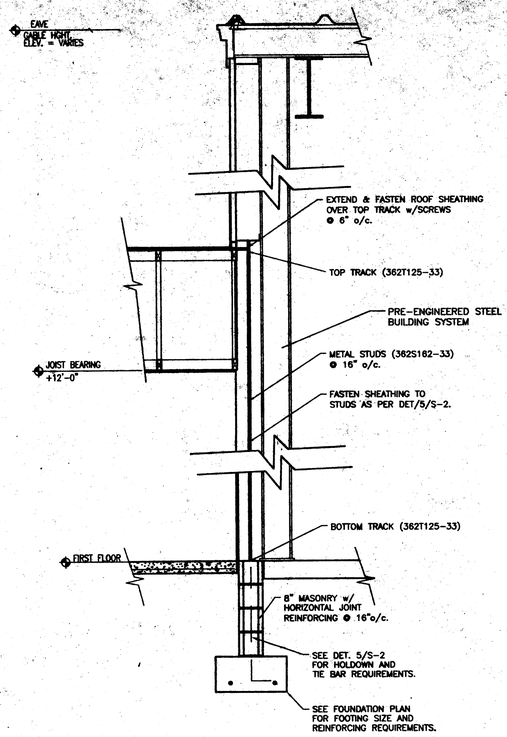


ROOF FRAMING PLAN

1 / S-2

1/8" = 1'-0"

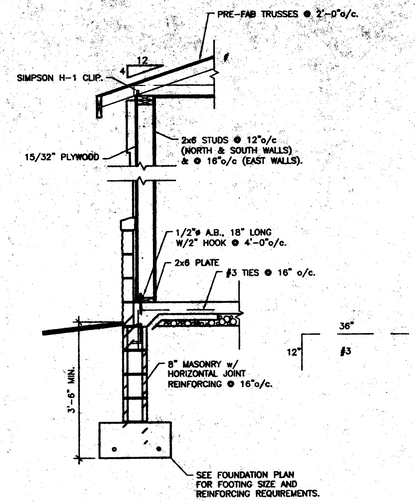
LINTEL/HEADER SCHEDULE		
MK.	SIZE	TYPE
H-1	(3) 2x10 w/PLYWOOD FILLERS.	--
H-2	(3) 1-3/4"x9-1/4" LVL	--
H-3	(3) 1-3/4"x11-1/4" LVL	--



TYPICAL WALL SECTION

2 / S-2

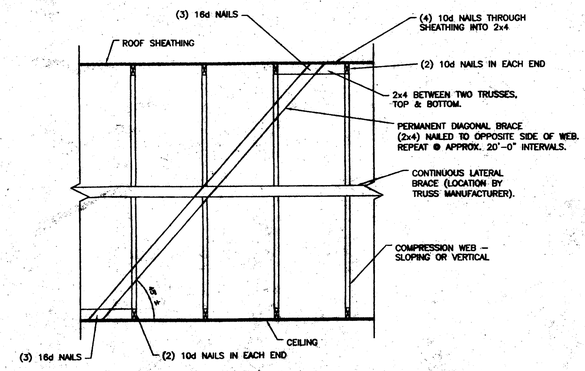
1/2" = 1'-0"



TYPICAL WALL SECTION

3 / S-2

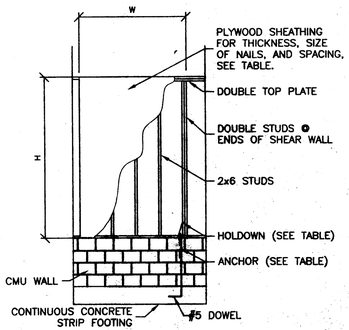
1/2" = 1'-0"



DIAGONAL TRUSS BRACING DETAIL

4 / S-2

1/2" = 1'-0"



SHEAR WALL LAYOUT

5 / S-2

1/4" = 1'-0"

SHEAR WALL TABLE													
			FASTENER SPACING @ PANEL EDGES	FAST-ENER SIZE	PLYWOOD THICKNESS	EXTERIOR SIDE ONLY	EXT. & INT. SIDES	NO. OF STUDS @ EA. END	HOLDOWN/STRAP TABLE (SIMPSON OR EQUAL)				
SHEAR WALL	H	W							HOLDOWN	ANCHOR	LENGTH	TIEBAR	STRAP
S.W. 1	12'-0"	*	6" o/c	8d	7/16"	X		2	PHD2-SDS3 (3.6k uplift)	1/2"ø	18"	#4	N/R
S.W. 2	12'-0"	10'-0"	6" o/c	5.)	7/16"	X		2	S/HIT14 (4.2k uplift)	5/8"ø	18"	#4	N/R

NOTE:
1.) FOR SHEAR WALL #1, HOLDOWNS ARE REQUIRED AT ONLY THE CORNERS OF THE BUILDING.
2.) INTERMEDIATE FRAMING MEMBERS SHALL HAVE NAILS OF SAME SIZE SPACED @12" o/c.
3.) ANCHOR BOLTS SHALL BE A36. IN LIEU OF ANCHOR BOLTS, EPOXY ANCHORS CAN BE USED AND MUST BE ABLE TO RESIST THE UPLIFT LOAD SPECIFIED UNDER "HOLDOWN".
4.) ANCHORS AND STRAPS SPECIFIED IN THE TABLE ARE "SIMPSON" CONNECTORS. OTHER CONNECTORS MAY BE USED BUT MUST BE EQUAL OR BETTER.
5.) MINIMUM SCREWS FOR PLYWOOD ARE #8 x 1" FLAT HEAD, SHARP POINT, SELF-DRILLING.
6.) N/R - NOT REQUIRED
7.) REFER TO ROOF FRAMING PLAN (S-2) FOR SHEARWALL LOCATIONS.
8.) NOTE THE NAILING REQUIREMENTS ABOVE APPLY TO THE SHEATHING ABOVE AND BELOW THE WINDOWS ALSO.
9.) TIEBARS REQUIRE #4 DOWELS (2'-9" LONG w/6" HOOK) OUT OF THE FOOTING AT SAME LOCATION AS TIEBAR.
* SEE ROOF FRAMING PLAN FOR LOCATION AND WIDTH OF SHEARWALL.

GENERAL NOTES

A.) GENERAL

1.) THIS STRUCTURE WAS DESIGNED IN ACCORDANCE WITH STATE OF OHIO BUILDING CODE (O.B.C.), LATEST EDITION.
2.) ALL CONSTRUCTION SHALL CONFORM TO THE OHIO BUILDING CODE AND TO OSHA STANDARDS. WORK STRUCTURAL DRAWINGS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
3.) THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS AND FOR SAFETY CONDITIONS AT THE SITE.
4.) TEMPORARY BRACING OF THE STRUCTURE, TRUSSES, COLUMNS, BEAMS, WALLS, ETC. DURING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. TEMPORARY BRACING OF THE STRUCTURE SHALL REMAIN IN PLACE UNTIL ALL LATERAL FORCE RESISTING ELEMENTS ARE INSTALLED (INCLUDING WALL AND ROOF SHEATHING). CONTRACTOR SHALL DESIGN AND COORDINATE LOCATIONS OF TEMPORARY BRACING WITH OTHER CONTRACTORS.
5.) FOUNDATION CONTRACTOR SHALL COORDINATE AND SCHEDULE WORK WITH MECHANICAL AND ELECTRICAL CONTRACTORS REGARDING ITEMS CONCEALED BY OR EMBEDDED IN FOUNDATIONS, WALLS OR FLOOR SLABS.

DESIGN LOAD INFORMATION:
ROOF SNOW LOAD

1.) GROUND SNOW LOAD (Pg) = 20.00 PSF
2.) FLAT ROOF SNOW LOAD (Pf) = 14 PSF
3.) SNOW EXPOSURE FACTOR (Ce) = 0.9
4.) SNOW LOAD IMPORTANCE FACTOR (I) = 1.0
5.) THERMAL FACTOR, Ct = 1.0

WIND LOAD

1.) BASIC WIND SPEED = 90 MPH
2.) WIND LOAD IMPORTANCE FACTOR = 1.0
3.) WIND EXPOSURE = B
4.) INTERNAL PRESSURE COEFFICIENT = ±0.18
4.) WIND DESIGN PRESSURES = +11 PSF,-12 PSF

EARTHQUAKE DESIGN DATA

1.) SEISMIC USE GROUP = I
2.) SEISMIC DESIGN CATEGORY = B
3.) SPECTRAL RESPONSE COEFFICIENTS, Sds=0.08 ,Sd1= 0.25
4.) SITE CLASS = D
5.) BASIC SEISMIC-FORCE-RESISTING SYSTEM = INTERMEDIATE REINFORCED MASONRY SHEAR WALLS
6.) BASE SHEAR =21.4k
7.) V = CsW (EQUIVALENT LATERAL FORCE PROCEDURE)

ROOF LIVE LOADS

1.) LIVE LOAD (ROOF TRUSSES) = 25 PSF

B.) FOUNDATION

1. ALL FOUNDATIONS HAVE BEEN DESIGNED FOR THE BUILDING REACTIONS PROVIDED BY BUTLER MANUFACTURING.
1. ALL FOUNDATIONS SHALL BEAR ON UNDISTURBED SOIL WITH AN ASSUMED MINIMUM BEARING CAPACITY OF 2000 PSF.
2. COMPACT BACKFILL OVER FOOTINGS AND BENEATH SLABS ON GRADE TO AT LEAST 98% OF IT'S STANDARD PROCTOR MAXIMUM DRY DENSITY PER ASTM D-698 ± 2.0% MOISTURE CONTENT.
3. BACKFILL MATERIAL SHOULD BE CLEAN OF ANY DEBRIS OR LARGE STONES.
4. FOOTING ELEVATIONS SHOWN ARE APPROXIMATE AND SHALL BE FIELD ADJUSTED IF REQUIRED.

C.) CONCRETE AND REINFORCING STEEL

1.) ALL CONCRETE SHALL CONFORM TO THE FOLLOWING REFERENCED STANDARDS (LATEST EDITION):
ACI 318: BUILDING CODE REQUIREMENT FOR REINFORCED CONCRETE.
ACI 315: DETAILS AND DETAILING OF CONCRETE REINFORCEMENT.
ACI 305: RECOMMENDED PRACTICES FOR HOT WEATHER CONCRETING.
ACI 306: RECOMMENDED PRACTICES FOR COLD WEATHER CONCRETING.
2.) ALL CAST-IN-PLACE INTERIOR SLAB CONCRETE SHALL BE 3000 PSI AT 28 DAYS WITHOUT AIR ENTRAINMENT AND WITH THE APPROPRIATE CURE SEALER.
3.) ALL OTHER CAST-IN-PLACE CONCRETE SHALL BE 3000 PSI AT 28 DAYS. ALL EXTERIOR CONCRETE SHALL HAVE STANDARD AIR ENTRAINMENT.
4.) REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A-615 GRADE-60.
5.) GROUT UNDER BEARING PLATES SHALL BE MASTER BUILDERS "EMBECO" OR APPROVED EQUAL.
6.) WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. ONLY FLAT SHEETS SHALL BE USED.
7.) ALL WELDED WIRE FABRIC SPLICES SHALL BE NOT LESS THAN (2) SPACINGS OF CROSS WIRES OR 6", WHICHEVER IS GREATER.
8.) ANCHOR BOLTS SHALL BE A36 MATERIAL. 1-1/4"ø A.B. SHALL BE 24" LONG w/3" HOOK. 3/4"ø A.B. SHALL BE 18" LONG w/3" HOOK. 1/2"ø A.B. SHALL BE 12" LONG w/ 3" HOOK.

D.) MASONRY

1.) ALL MATERIALS, LABOR AND CONSTRUCTION OF THE MASONRY SHALL CONFORM TO THE BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-99/ASCE 5-99/TMS 402-99).
2.) ALL HOLLOW CONCRETE BLOCK SHALL CONFORM TO ASTM C-90 WITH A NET COMPRESSIVE STRENGTH OF 2000 PSI.
3.) MORTAR SHALL BE ASTM C91, TYPE "S".
4.) AGGREGATE FOR MORTAR SHALL BE ASTM C144. AGGREGATE FOR GROUT ASTM C404.
5.) ALL MASONRY GROUT SHALL CONFORM TO ASTM C476 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,000 P.S.I.
6.) REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A-615 GRADE-60. WELDING OF REINFORCING STEEL SHALL CONFORM TO ANSI/AWS D1.4-92.
7.) CONTINUOUS WIRE JOINT REINFORCING SHALL BE GALVANIZED FABRICATED UNITS WITH 9 GAGE SIDE RODS AND 9 GAGE CROSS RODS FABRICATED FROM COLD-DRAWN STEEL WIRE COMPLYING WITH ASTM A82. PREFABRICATED CORNERS & TEES SHALL BE USED FOR ALL INTERSECTING WALLS.
8.) ALL INTERSECTING LOAD BEARING WALLS AND PILASTERS SHALL BE IN RUNNING BOND WITH AT LEAST 50% OF THE MASONRY UNITS INTERLOCKING AT THE INTERFACE.
9.) SEE PREFABRICATED BUILDING DRAWINGS FOR BASE PLATE AND ANCHOR BOLT LAYOUTS.

E.) WOOD FRAMING

1.) ALL WOOD SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION, NDS (LATEST ADDITION).
2.) WOLMANIZED BOTTOM PLATES WHERE THERE IS CONTACT WITH MASONRY.
3.) JOISTS, RAFTERS, & HEADERS-(SPF, NO.1/NO.2, DOUGLAS FIR OR SOUTHERN PINE), DESIGN VALUES SHALL EQUAL OR EXCEED THE FOLLOWING: Fb = 875 P.S.I., Fv=70 P.S.I., E = 1,400,000 P.S.I.. STUDS (SPF, DOUGLAS FIR OR SOUTHERN PINE, STUD GRADE), SHALL EQUAL OR EXCEED THE FOLLOWING: Fb = 675 P.S.I., Fv=70 P.S.I., Fc(PARALLEL TO GRAIN)=725 P.S.I., E = 1,200,000 P.S.I.
4.) 5/8" CDX PLYWOOD WITH SIDE CLIPS FOR ROOF.
5.) NAILING OF ALL FRAMING MEMBERS SHALL MEET THE RECOMMENDED NAILING SCHEDULE (TABLE 2304.9.1) CONTAINED IN THE OBC, CHAPTER 23.
6.) CALCULATIONS AND ERECTION PLANS FOR ALL TRUSSES SHALL BE SUBMITTED FOR REVIEW WITH SHOP DRAWINGS PRIOR TO FABRICATION. ERECTION PLANS SHALL INCLUDE HOW AND WHERE THE PERMANENT BRIDGING WILL BE INSTALLED. CALCULATIONS SHALL BE SEALED BY A PROFESSIONAL ENGINEER OF OHIO REGISTRATION. TEMPORARY AND PERMANENT BRIDGING AND BRACING OF WOOD ROOF AND FLOOR TRUSSES SHALL BE IN ACCORDANCE WITH THE TRUSS INSTITUTE, INC. TEMPORARY BRIDGING SHALL BE FURNISHED AS REQUIRED TO MAINTAIN TRUSS STABILITY, SPACING AND TO PREVENT BUCKLING DURING ERECTION.
7.) CONNECT ROOF TRUSSES TO TOP PLATE WITH A SIMPSON "H".
8.) NO STRUCTURAL MEMBER SHALL BE CUT OR NOTCHED UNLESS SPECIFICALLY SHOWN, NOTED OR APPROVED.

9.) LAMINATED VENEERED LUMBER (LVL) OR PARALLEL STRAND LUMBER (PSL):: DESIGN VALUES SHALL EQUAL OR EXCEED THE FOLLOWING:
Fb: 2800 P.S.I. BENDING
Fv: 285 P.S.I. HORIZONTAL SHEAR
Fc: 2310 P.S.I. IN. COMPRESSION PARALLEL TO GRAIN
E: 1,900,000 P.S.I.
10.) PROVIDE DOUBLE STUDS AT ALL CORNERS, SIDES OF ALL OPENINGS, WINDOWS, AND DOORS AND BENEATH ALL WOOD BEAMS, GIRDER TRUSSES, AND HEADERS UNLESS NOTED OTHERWISE ON PLANS.

GENERAL NOTES

T.G. - TRUSS GIRDER
S.W. - SHEAR WALL SEE DETAIL 4/S-2
-TRUSS BRACING SEE DETAIL 5/S-2

(#) NUMBER OF 'JACK' 2x6 STUDS REQUIRED FOR BEARING UNDER TRUSS GIRDERS & HEADERS.

Troike-Rostedt
Engineering, Inc.
1983 Akron-Peninsula Road
Akron, Ohio 44313
(330) 928-8188
Fax: (330) 928-3269
E-Mail: tri@sbcglobal.net

STATE OF OHIO
BRIAN
ROSTEDT
E-54022
REGISTERED
PROFESSIONAL ENGINEER

STONER PAVING GROUP
COMMERCIAL, CONSTRUCTION

DATE
JULY 23, 2002

REVISIONS

ROBERT V. BUONASPINA, INC.
Architectural Plan for Residential, Commercial & Industrial Projects
1441 South Main Street, Suite 204 North Canton, Ohio 44720

PROJECT
New Facility For:
VASCO Asphalt
Massillon, Ohio 44646

DRAWING
ROOF FRAMING PLAN & DETAILS

S-2

MASSILLON CORPORATION LINE
& TOWNSHIP LINE

40.16'

TRUCK DRIVE

TELEPHONE PEDESTAL, FIELD VERIFY EXACT LOCATION. TERMINATE CONDUIT AT PEDESTAL AS DIRECTED BY TELEPHONE COMPANY.

FIRST ENERGY CO. PAD-MOUNTED TRANSFORMER. CONNECT SECONDARY CONDUCTORS TO TRANSFORMER AS DIRECTED BY FIRST ENERGY CO. PROVIDE ALL ACCESSORIES AS DIRECTED BY FIRST ENERGY CO.

STUB CONDUIT AT TRANSFORMER AS DIRECTED BY FIRST ENERGY CO.

4-#600KCMIL, 1-#3GND, 4"C. INSTALL AT 36" BFG.

CONDUIT FOR FUTURE SIGN LUMINAIRES. STUB CONDUIT UP AT LOCATION AS DIRECTED BY OWNER.

1"G WITH PULL WIRE

TO PANEL "A" THROUGH CON-1. SEE SHEET E2 FOR LOCATION OF PANEL "A"

4"C WITH PULL WIRE, INSTALL AT 36" BFG.

PARKING FOR 18

4"C WITH PULL WIRE, INSTALL AT 36" BFG. (FOR FUTURE USE)

OFFICE

WAREHOUSE

BACKLOT 6

SIDEWALK

TO METER. SEE SHEET E2 FOR CONTINUATION.

TO TELEPHONE BACKBOARD. SEE SHEET E2 FOR CONTINUATION.

ENTRANCE DRIVE

STERILITE AVENUE S.W. - 60'

REFERENCE NORTH

ELECTRICAL SITE PLAN

SCALE: 1" = 20'-0"

STATE OF OHIO
GERALD M. PAHL
E-30132
REGISTERED
PROFESSIONAL ENGINEER

DATE
4 June 07

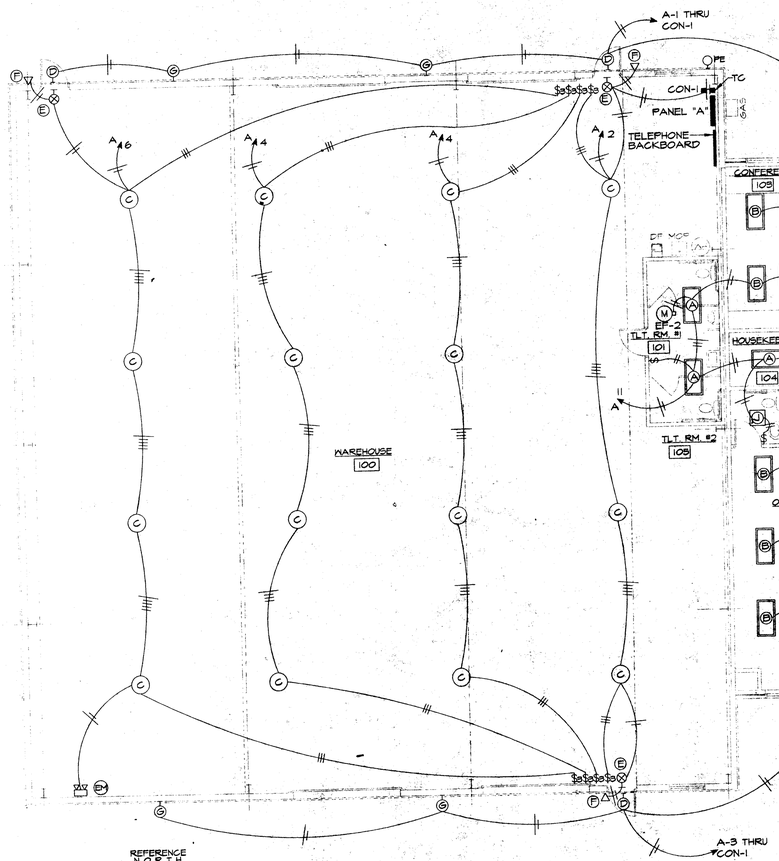
REVISIONS

ROBERT V. BUONASPINA, INC.
Architecture for planning, Commercial & Industrial Projects
1681 South Main, Suite 304 North Canton, Ohio 44720

PROJECT
New Facility For:
YASCO Asphalt
Massillon, Ohio 44646

DRAWING
Lighting - Floor Plan

E1



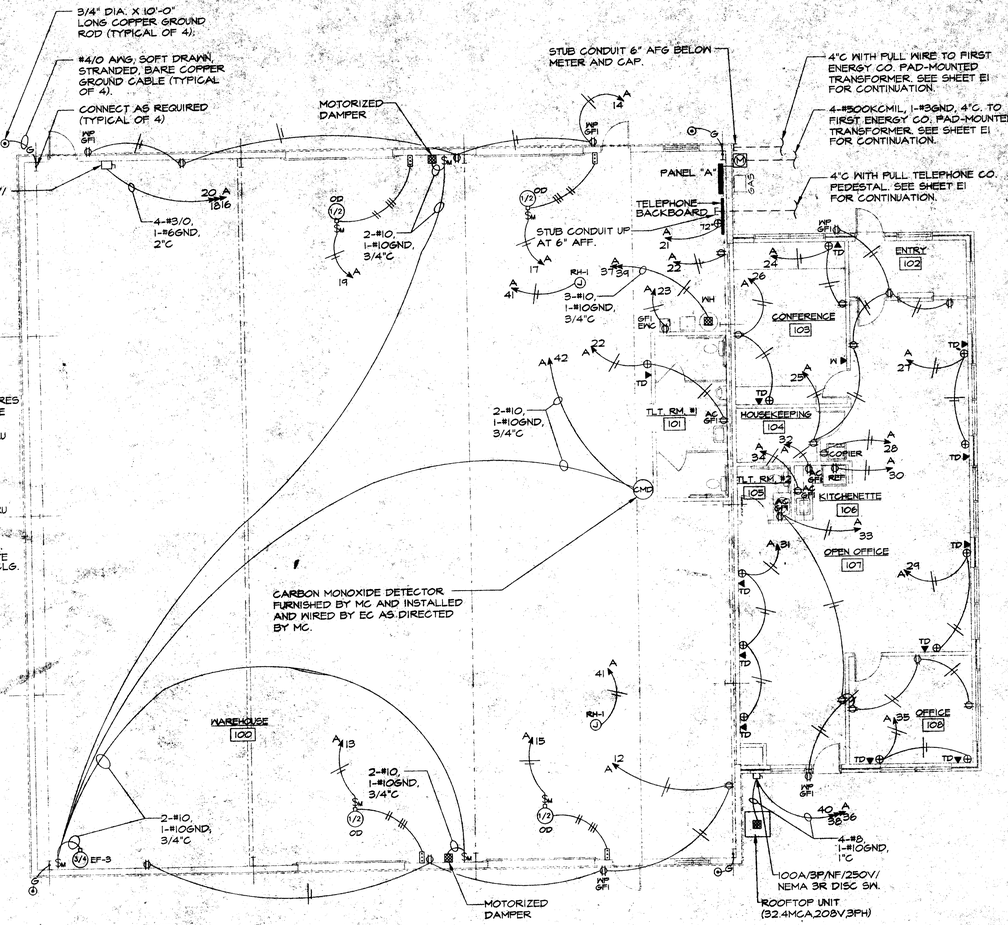
REFERENCE NORTH

LIGHTING-FLOOR PLAN

SCALE : 1/8" = 1'-0"

GENERAL NOTES

1. ALL ELECTRIC WORK SHALL BE IN ACCORDANCE WITH NEC.
2. ALL WIRING TO BE AT LEAST #12 THWN UNLESS NOTED OTHERWISE.
3. ALL CONDUIT TO BE AT LEAST 1/2" ELECTRICAL METALLIC TUBING (EMT) UNLESS NOTED OTHERWISE.
4. CONCEAL ALL WIRING TO THE GREATEST EXTENT POSSIBLE.
5. AREA FROM FLOOR TO 18" ABOVE FINISHED FLOOR TO BE CLASSIFIED AS CLASS 1 DIV. 1 GROUP D HAZARDOUS.
6. VERIFY RECEPT. & JUNCTION BOX LOCATIONS W/ OWNER PRIOR TO INSTALLATION



REFERENCE NORTH

LIGHTING-FLOOR PLAN

SCALE : 1/8" = 1'-0"

STATE OF OHIO
GERALD W. BAHL
E-30332
REGISTERED
PROFESSIONAL ENGINEER

ST. CLAIR PAI ISG GROUP

DATE	REVISIONS
4 June 02	

ROBERT V. BUONASPINA, INC.
Architectural Firm for Residential, Commercial & Industrial Projects
1441 South Main Street, Suite 204, North Canton, Ohio 44720

PROJECT
New Facility For:
VASCO Asphalt
Massillon, Ohio 44646

DRAWING
Lighting - Floor Plan

E - 2

DISTRIBUTION PANEL SCHEDULE

PANEL: A TYPE: NEMA 1 MOUNTING: SURFACE

FEATURES: [X] GROUND BUS [X] SOLID NEUTRAL [X] 100% RATED MAIN CIRCUIT BREAKER

SERVICE: 400 AMPS 120/208 VOLTS 3 PHASE 4 WIRE 60 HZ 35,000 A.I.C.

LOAD		WIRE SIZE	CB/P	CIRC. NO.	A B C	CIRC. NO.	CB/P	WIRE SIZE	LOAD	
975	LTG., SOUTH BLDG.	12	20/1	1		2	20/1	12	LTG., 100	1350
975	LTG., NORTH BLDG.	12	20/1	3		4	20/1	12	LTG., 100	1800
975	LTG., WEST BLDG.	12	20/1	5		6	20/1	12	LTG., 100	1800
1500	LTG., FUTURE SIGN	12	20/1	7		8	20/1	12	LTG., 100	1800
1500	LTG., FUTURE SIGN	12	20/1	9		10	20/1	12	LTG., 102	1855
1600	LTG., 101	12	20/1	11		12	20/2	12	REC., 100	800
1200	O.D., 100	12	20/1	13		14	20/2	12	REC., 100	800
1200	O.D., 100	12	20/1	15		16	200/3	6	EQUIP., 100	19200
1200	O.D., 100	12	20/1	17		18	200/3	6	EQUIP., 100	19200
1200	O.D., 100	12	20/1	19		20	200/3	6	EQUIP., 100	19200
400	REC.,100(TELE. BKBD.)	12	20/1	21		22	20/1	12	REC., 100	1000
1000	REC, 100 (EWC)	12	20/1	23		24	20/1	12	REC., 103	800
1000	REC., 105	12	20/1	25		26	20/1	12	REC, 103	800
1200	REC., 107	12	20/1	27		28	20/1	12	REC., 107 (COPIER)	1800
1200	REC., 107	12	20/1	29		30	20/1	12	REC., 106	1000
1800	REC., 107	12	20/1	31		32	20/1	12	REC., 106	1500
1200	REC., 108	12	20/1	33		34	20/1	12	REC., 106	1500
1200	REC., 108	12	20/1	35		36	50/3	8	RT-1, SITE	3888
2250	WH, 100	10	30/2	37		38	50/3	8	RT-1, SITE	3888
2250	WH, 100	10	30/2	39		40	50/3	8	RT-1, SITE	3888
500	RH-1, 100	12	20/1	41		42	30/1	10	EF-3, 100	1656
–	SPARE	–	20/1	43		44	20/1	–	SPARE	–
–	SPARE	–	20/1	45		46	20/1	–	SPARE	–
–	SPARE	–	20/1	47		48	20/1	–	SPARE	–
–	SPACE	–	20/1	49		50	20/1	–	SPACE	–
–	SPACE	–	20/1	51		52	20/1	–	SPACE	–
–	SPACE	–	20/1	53		54	20/1	–	SPACE	–
–	SPACE	–	20/1	55		56	20/1	–	SPACE	–
–	SPACE	–	20/1	57		58	20/1	–	SPACE	–
–	SPACE	–	20/1	59		60	20/1	–	SPACE	–

LOADS: A = 39,263W B = 39,768W C = 36,819W

TOTAL LOAD: 3xPHB = 119,304W = 331 AMPS @ 208/120 VOLTS, 3PH, 4W

NOTES:
1. TWO (2) TUB PANEL

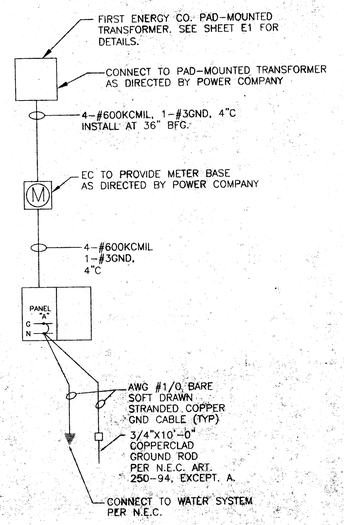
LUMINAIRE SCHEDULE

TYPE	MFG	CAT NO.	VOLT	LAMPS	MTG
A	LITHONIA – 2'X4' LAY-IN GRID LUMINAIRE	2GT8-232-A12125-120-GEB	120	(2) F32T8/SP35	CEILING RECESS
B	LITHONIA – 2'X4' LAY-IN GRID LUMINAIRE	2GT8-332-A12125-120-GEB	120	(3) F32T8/SP35	CEILING RECESS
C	LITHONIA – LOW BAY LUMINAIRE	TXC-400M-A23-120	120	(1) 400W MH	CEILING SUSPEND 14'-0" AFF
D	LITHONIA – WALL PACK	TWAC-70M-120-DMB-LP1	120	(1) 70W MH	WALL SURFACE ABOVE DOOR
E	LITHONIA–COMBO EXIT SIGN/ EM. LIGHT WITH HEADS	LHQM-SWIR-120/277-HO	120/277	INTEGRAL	UNIVERSAL
EM	LITHONIA– EM. LIGHT	ELM2	120/277	INTEGRAL	UNIVERSAL
F	LITHONIA– REMOTE HEAD	ELA-NX-HO606	120/277	INTEGRAL	WALL SURFACE
G	LITHONIA – WALL PACK	TWH-250M-120-DDB	120	(1) 250W MH	WALL SURFACE AT 15'-0"AFG
H	LITHONIA – 2'X4' LAY-IN GRID LUMINAIRE	2GT8-232-A12125-120-GEB	120	(2) F32T8/SP35	CEILING RECESS
J	BROAN– COMBINATION EXHAUST FAN/LUMINAIRE	696	120	(1) 100A19	CEILING RECESS

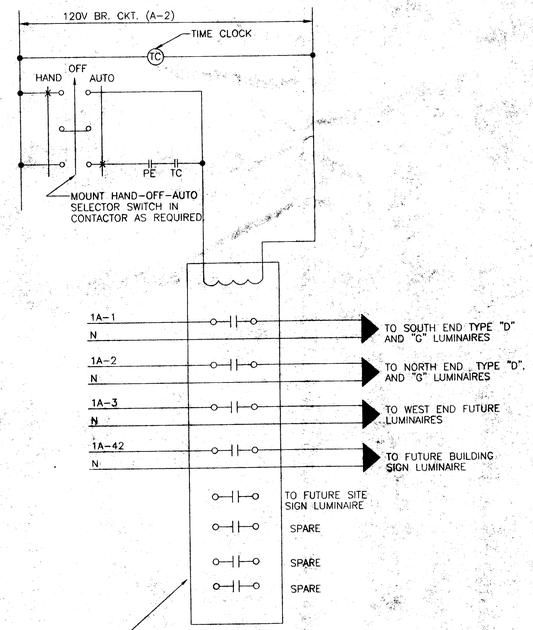
LUMINAIRE SCHEDULE NOTES:
1. EQUIVALENT LUMINAIRES AS MANUFACTURED BY COOPER.

LEGEND

SYMBOL	DESCRIPTION
	20A, 125V DUPLEX RECEPTACLE GFI–GROUND FAULT INTERRUPTING WP–WEATHERPROOF AC–ABOVE COUNTERTOP
TD	TELEPHONE/DATA SYSTEM OUTLET. EC TO PROVIDE 4" SQUARE BOX WITH PLASTER RING. PROVIDE 1"C WITH PULL WIRE FROM OUTLET TO ABOVE ACCESSIBLE CEILING (W – WALL MOUNT AT 48" AFF).
J	JUNCTION BOX
N	FLUORESCENT FIXTURE, NL = NIGHT LIGHT
	EXIT LIGHT
M	SINGLE POLE SWITCH (M–MANUAL MOTOR STARTER).
3,4	SWITCH – 3–WAY, 4–WAY
CON-1	CONTACTOR "CON–1". SEE DETAIL.
TC	TIME CLOCK
PE	PHOTOELECTRIC CONTROL
	POWER PANEL
	DISCONNECT SWITCH. FRAME SIZE/# OF POLES/# OF FUSES /VOLTAGE RATING/ENCLOSURE TYPE.
	RAISE, LOWER, STOP PUSHBUTTON.
1/2	SINGLE PHASE MOTOR WITH HORSEPOWER AS INDICTATED.
	CONDUIT CONCEALED
	CONDUIT IN FLOOR OR UNDERGROUND
A3	CONDUIT HOME RUN WITH CIRCUIT NUMBER
	TWO DUPLEX RECEPTACLES MOUNTED IN SAME BOX WITH COMMON COVERPLATE.
	POINT OF CONNECTION TO ELECTRICAL EQUIPMENT. VERIFY EXACT LOCATION WITH RESPECTIVE EQUIPMENT SUPPLIER PRIOR TO ROUGH–IN.
M	POWER COMPANY METER.
BFG	BELOW FINISHED GRADE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
EC	ELECTRICAL CONTRACTOR
MC	MECHANICAL CONTRACTOR



SINGLE LINE DIAGRAM
NO SCALE



SITE CONTROL DIAGRAM / CONTACTOR "CON–1" DETAIL
N.T.S.

STATE OF OHIO
GERALD W. PAHL
E–30332
REGISTERED
PROFESSIONAL ENGINEER

S. CLAIR/PAHL GROUP
COMMERCIAL CONTRACTORS

DATE
4 June Ø2

REVISIONS

ROBERT V. DUONASPINA, INC.
Architectural Firm for Industrial, Commercial & Industrial Projects
1401 South Main Street Suite 204 North Canton, Ohio 44720

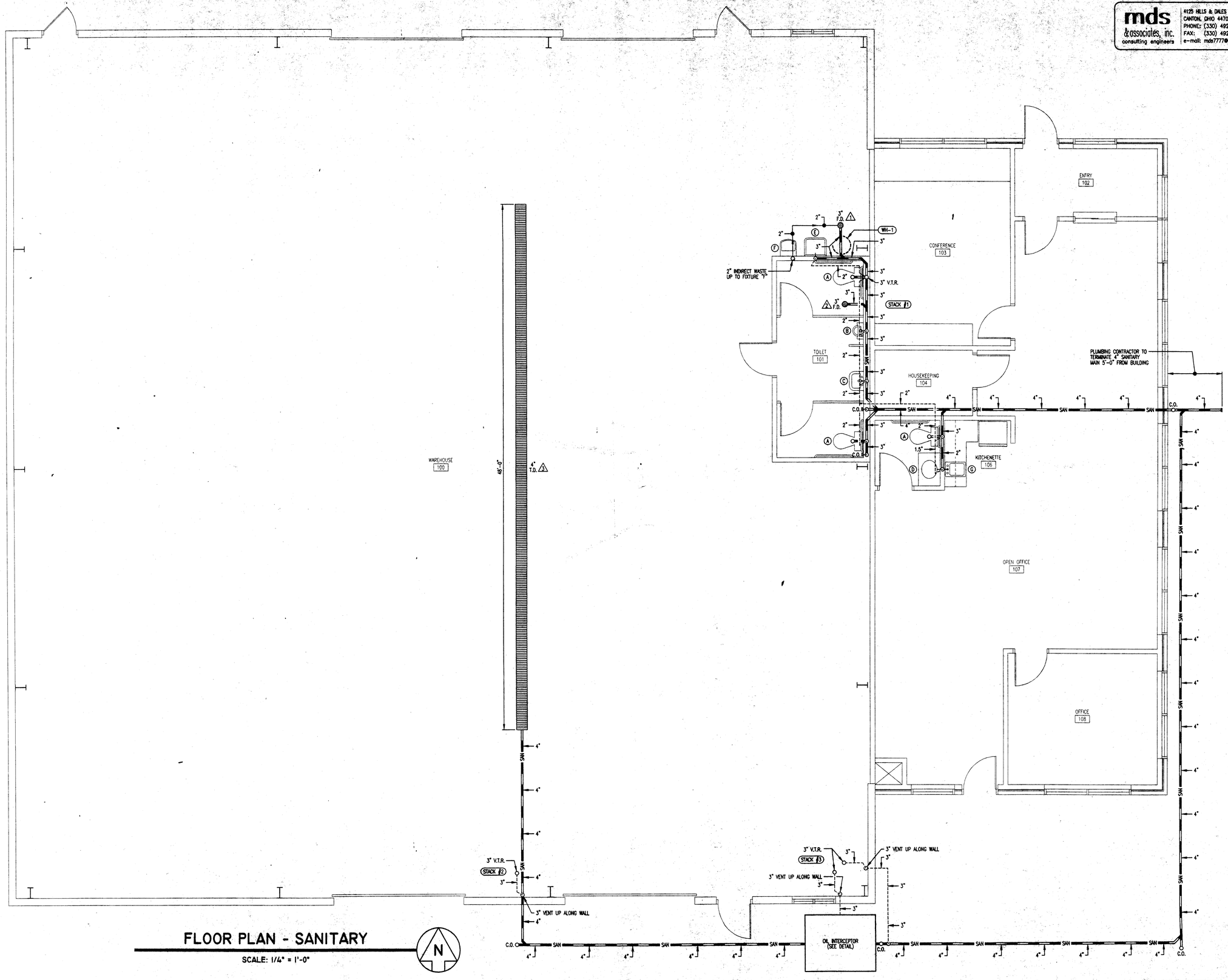
PROJECT
New Facility For:
VASCO Asphalt
Massillon, Ohio 44646

DRAWING
Lighting - Floor Plan

E-3

mds
& associates, inc.
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STATE OF OHIO
S. MICHAEL DE STEFANO
24693
REGISTERED PROFESSIONAL ENGINEER



FLOOR PLAN - SANITARY

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

REVISIONS	DATE
	17 JULY 2002

ROBERT V. BUONASPINA, INC.
Architectural firm for Residential, Commercial & Industrial Projects
1401 South Main Street Suite 204 North Canton, Ohio 44720

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PROJECT
NEW FACILITY FOR:
VASCO ASPHALT
4270 STERILITE AVENUE, SE
MASSILLON, OHIO 44646

DRAWING
FLOOR PLAN - SANITARY

P1

FILENAME: D:\2002\02-153\P1.DWG

NOTE:
SIZE SHOWN ON GAS MAIN (1-1/8") IS BASED ON MEDIUM PRESSURE LOCATED AT STREET. IF FIELD CONDITIONS NECESSITATE A TI-IN POINT AT A LOW PRESSURE GAS MAIN, THEN PLUMBING CONTRACTOR SHALL UTILIZE STANDARD INDUSTRY PRACTICE FOR RESIZING SAID GAS MAIN.

NOTE:
1-1/8" UNDERGROUND GAS MAIN SHALL BE DRISCO #8000 PLASTIC PIPE WITH #12 TRACER WIRE.

FLOOR PLAN - PLUMBING

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

CODED NOTES

P2.1	3/4" CW DOWN TO FIXTURE "K".
P2.2	3/4" CW AND 1/2" THW DOWN WITH 1/2" CW AND THW TO FIXTURE "D", AND 1/2" CW AND THW TO FIXTURE "E".
P2.3	1/2" CW DOWN TO FIXTURE "A".
P2.4	1/2" CW AND THW DOWN TO FIXTURE "C".
P2.5	3/4" CW DOWN TO FIXTURE "B".
P2.6	1/2" CW AND THW DOWN TO FIXTURE "E".
P2.7	1/2" CW DOWN TO FIXTURE "F".
P2.8	1/2" CW FROM FIXTURE "L" DOWN IN WALL TO BELOW FLOOR.
P2.9	1" CW, 1" HW, AND 1" THW PIPING DOWN TO FIXTURE "H".
P2.10	3/4" CW DOWN TO FIXTURE "J".
P2.11	1.5" CW DOWN ALONG WALL EXPOSED.
P2.12	1" GAS UP TO ROOFTOP (SEE ROOFTOP GAS CONNECTION DETAIL).
P2.13	1" GAS DOWN ALONG WALL EXPOSED AND PENETRATE EXTERIOR WALL 6" ABOVE GRADE.
P2.14	1" GAS DOWN TO RADIANT HEATER (SEE RADIANT HEATER GAS CONNECTION DETAIL).
P2.15	1.5" GAS DOWN ALONG WALL EXPOSED.

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STATE OF OHIO
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PROJECT
NEW FACILITY FOR:
VASCO ASPHALT
4270 STERLITE AVENUE, SE
MASSILLON, OHIO 44646

DRAWING
FLOOR PLAN - PLUMBING

P2

FILENAME: D:\2002\02-153\P2.DWG

WATER HEATER SCHEDULE

SYM.	MFGR.	CAT. NO.	DESCRIPTION
WH-1	LOCHINVAR WATER HEATER	RTJ052KK	COMMERCIAL, ELECTRIC, EXPLOSION-RESISTANT, GLASS-LINED WATER HEATER, 50 GAL. CAPACITY, 4500 WATT UPPER ELEMENT, 4500 WATT LOWER ELEMENT, 27.3 GAL. RECOVERY @ 90°F RISE, VOLTAGE 208/1/60, 3/4" WATER CONNECTIONS MT 117

PLUMBING FIXTURE SCHEDULE

SYM.	DESCRIPTION	CONNECTIONS (IN INCHES) HW	CW	TRAP	SAN	MT. HT.
A	AMERICAN STANDARD #2998.012 "CADET" WATER CLOSET, HANDICAPPED, WATERSAVER, VITREOUS CHINA, CLOSE-COUPLED, SIPHON JET, ELONGATED BOWL WITH CHURCH #295C WHITE OPEN FRONT SEAT, AND EBC #CAH25 (1/2") FLEXIBLE SUPPLY WITH HANDWHEEL STOP	---	1/2	3	3	FLOOR
B	AMERICAN STANDARD #6501.010 "WASHBROOK" HANDICAPPED, WATERSAVER, VITREOUS CHINA, WALL HUNG, WASHOUT URINAL WITH 3/4" TOP SPUD, INTEGRAL FLUSHING RIM, WALL HANGERS, AND SLOAN ROYAL #186-1AYB FLUSH VALVE	---	3/4	2	2	17
C	AMERICAN STANDARD #0356.015 "LUCERNE" 20x18 VITREOUS CHINA, WALL HUNG LAVATORY WITH WALL HANGER AND PUNCHED FOR #8500.170 FAUCET WITH 4" WRIST BLADE HANDLES AND AERATOR, EBC #SG7WC OFFSET OPEN GRID STRAINER WITH 1-1/4" O.D. TAILPIECE, EBC #TA125 (1-1/4") CAST BRASS P-TRAP WITH CLEANOUT, EBC #LAH22 (3/8") FLEXIBLE SUPPLIES WITH HANDWHEEL STOPS, AND TRUEBRO #103 SUPPLY AND DRAINAGE INSULATION KIT	3/8	3/8	1-1/4	2	34
D	AMERICAN STANDARD #0475.020 "ACUALYN" 20x17 VITREOUS CHINA, SELF-RIMMING LAVATORY PUNCHED FOR #8500.170 FAUCET WITH 4" WRIST BLADE HANDLES AND AERATOR, EBC #SG7WC OFFSET OPEN GRID STRAINER WITH 1-1/4" O.D. TAILPIECE, EBC #TA125 (1-1/4") CAST BRASS P-TRAP WITH CLEANOUT, EBC #LAH22 (3/8") FLEXIBLE SUPPLIES WITH HANDWHEEL STOPS, AND TRUEBRO #103 SUPPLY AND DRAINAGE INSULATION KIT	3/8	3/8	1-1/4	2	COUNTER
E	ZECO #988 CAST IRON SERVICE SINK WITH BLANK BACK, STAINLESS STEEL RIM GUARD, #870-3 (3") TRAP STANDARD WITH FLAT GRID STRAINER AND CLEANOUT PLUG, AND AMERICAN STANDARD #8344.112 FAUCET WITH TOP BRACE, VACUUM BREAKER, INTEGRAL STOPS, AND STANDARD 10-1/2" THREADED SPOUT	1/2	1/2	3	3	28
F	OASIS #P8AM WALL MOUNTED, BARRIER-FREE, ELECTRIC WATER COOLER WITH EBC #TA125 (1-1/4") CAST BRASS P-TRAP WITH CLEANOUT, AND EBC #WAH22 (3/8") HANDWHEEL STOP	---	3/8	1-1/4	2	34 (ORIFICE)
G	JUST #S-2217-A-GR "STYLIST" SINGLE COMPARTMENT, 18 GAUGE STAINLESS STEEL TYPE 304, SELF-RIMMING COUNTERTOP SINK, 3-HOLE PUNCHED FOR #J-1174-KS FAUCET WITH 4" WRIST BLADE HANDLES AND AERATOR, EBC #SB8H CRUMB CUP STRAINER WITH 1-1/2" O.D. TAILPIECE, EBC #TA150 (1-1/2") CAST BRASS P-TRAP WITH CLEANOUT, AND EBC #LAH25 (1/2") FLEXIBLE SUPPLIES WITH HANDWHEEL STOPS	1/2	1/2	1-1/2	2	COUNTER
H	POWERS #432ADQSO THERMOSTATIC MIXING VALVE COMPLETE WITH STAINLESS STEEL WALL MOUNTED CABINET, OUTLET VOLUME CONTROL VALVE, SHUT-OFF VALVE, AND DIAL THERMOMETER	1	1	---	---	AS REQUIRED
J	CHICAGO FAUCET #952 HOSE BIBB WITH INTEGRAL VACUUM BREAKER, T-HANDLE, AND 3/4" HOSE THREADED OUTLET	---	3/4	---	---	30
K	ZURN #Z-1310-3 NON-FREEZE, EXPOSED WALL HYDRANT WITH INTEGRAL VACUUM BREAKER, T-HANDLE, AND 3/4" HOSE THREADED OUTLET	---	3/4	---	---	30
L	ZURN #Z-1022 AUTOMATIC TRAP PRIMER WITH INTEGRAL VACUUM BREAKER	---	1/2	---	---	---

DRAIN SCHEDULE

SYM.	DESCRIPTION	GRATE TYPE	DRAIN TYPE
1	ZURN #Z-550 CAST IRON FLOOR DRAIN WITH FLASHING COLLAR	CAST IRON	EQUIPMENT
2	ZURN #Z-415-6B-P CAST IRON FLOOR DRAIN WITH FLASHING COLLAR, ADJUSTABLE STRAINER, AND 1/2" TRAP PRIMER CONNECTION	POLISHED BRONZE STRAINER	TOILET AND SHOWER
3	POLYCAST #900 TRENCH DRAIN WITH PRESLOPED CONCRETE CHANNELS WITH #DA0833 ALIGNMENT CHAIRS, #DA0870 FEMALE CLOSING END CAP, #DA0870N MALE CLOSING END CAP, 4" BOTTOM OUTLET CONNECTION, #DA0642H LOCKING DEVICE, AND #DG0841 GRAY IRON SLOTTED GRATES (24 REQUIRED)	SLOTTED GRAY IRON	TRENCH

EXPANSION TANK SCHEDULE

SYM.	DESCRIPTION	MFGR.	CAT. NO.	CAPACITY
T-1	EXPANSION TANK (THERMAL)	AMTROL	ST-12	4.4 GAL., 11" DIA. x 15" HIGH TANK, 150 PSIG MAX. WORKING PRESSURE, 200°F MAXIMUM ALLOWABLE WORKING TEMPERATURE, 3/4" SYSTEM CONNECTION

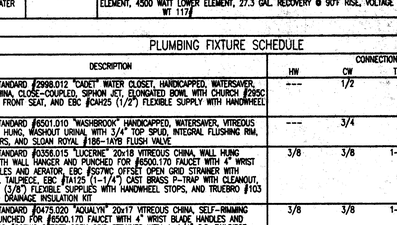
PLUMBING LEGEND

- 101 — ROOM NUMBER SYMBOL
- EQUIPMENT SYMBOL
- FIXTURE SYMBOL
- DRAIN SYMBOL
- SAN — SANITARY BELOW FLOOR
- VENT
- INDIRECT WASTE
- CW — COLD WATER PIPING
- HW — HOT WATER PIPING
- THW — TEMERED HOT WATER PIPING
- G — NATURAL GAS PIPING
- BALL VALVE
- GLOBE VALVE
- GATE VLAVE
- GAS COCK
- CHECK VALVE
- UNION (SCREWED)
- BACKFLOW PREVENTER
- THERMOMETER
- HOSE BIBB
- F.D. — FLOOR DRAIN
- C.O. — CLEANOUT
- V.T.R. — VENT THRU ROOF
- A.F.F. — ABOVE FINISHED FLOOR
- PRESSURE RELIEF VALVE

PLUMBING GENERAL NOTES

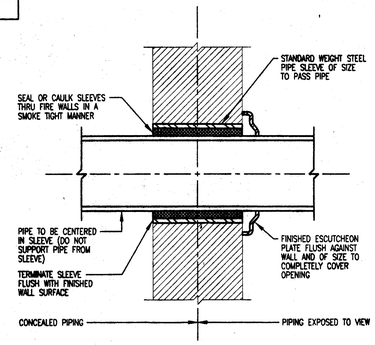
1.) PLUMBING CONTRACTOR TO INSULATE ALL COLD AND HOT WATER PIPING WITH 1/2" ARMAFLEX.

2.) PLUMBING CONTRACTOR TO SLOPE SANITARY PIPING FROM INVERTS TO TIE-IN POINTS AS REQUIRED.



VENT TERMINATION DETAIL

NOT TO SCALE



FIRE STOPPING DETAIL

NOT TO SCALE

NOTES:

1.) REINFORCED PRECAST CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.

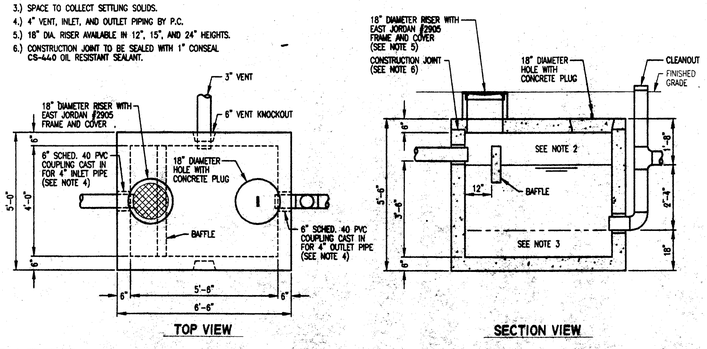
2.) VENTILATED AIR SPACE.

3.) SPACE TO COLLECT SETTLING SOLIDS.

4.) 4" VENT, INLET, AND OUTLET PIPING BY P.C.

5.) 18" DIA. RISER AVAILABLE IN 12", 15", AND 24" HEIGHTS.

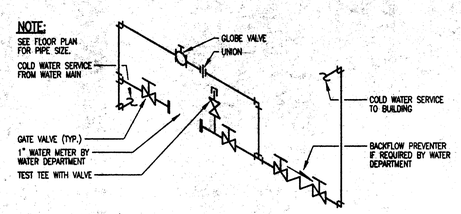
6.) CONSTRUCTION JOINT TO BE SEALED WITH 1" CONSEAL CS-440 OIL RESISTANT SEALANT.



TRAFFIC-BEARING (50 CUBIC FT.) OIL INTERCEPTOR DETAIL

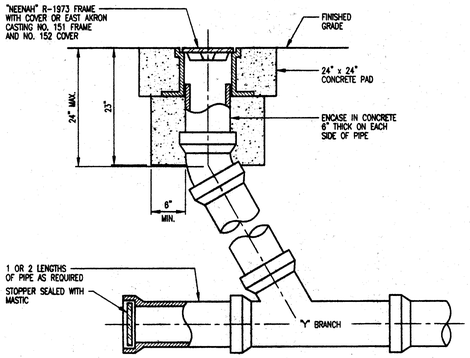
NOT TO SCALE

NOTE:
SEE FLOOR PLAN FOR PIPE SIZE.



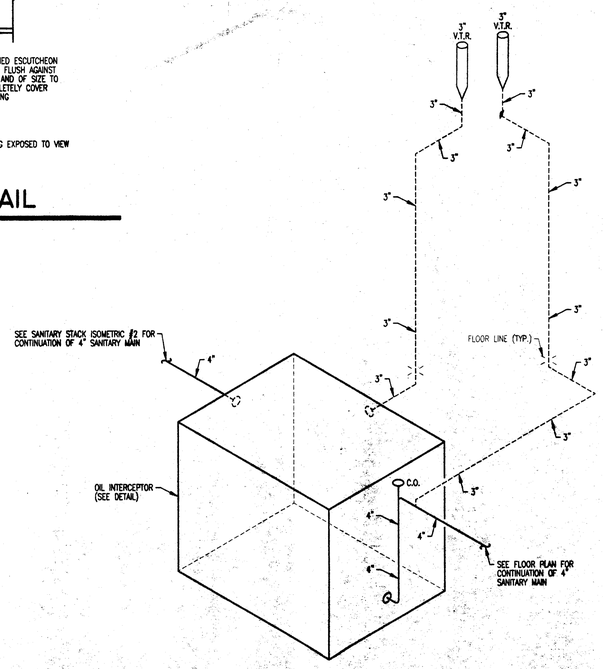
WATER METER ISOMETRIC

NOT TO SCALE



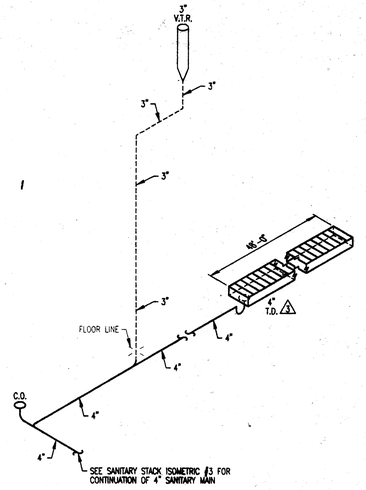
GRADE CLEANOUT DETAIL

NOT TO SCALE



SANITARY STACK ISOMETRIC #3

NOT TO SCALE


3" V.T.R.
3"
3"
3"

PLUMBING SPECIFICATIONS

GENERAL CONDITIONS

A. REFERENCE
1. For purposes of clearness and legibility, Drawings are essentially diagrammatic and although size and location of equipment are drawn to scale wherever possible, Contractor shall make use of all data in all of the Contract Documents and shall verify this information at the building site. Dimensions given in figures on the Drawings take precedence over scaled dimensions.
2. Drawings and Specifications to be considered cooperative, and anything appearing in Specifications but not on Drawings or vice versa, shall be considered part of the Contract and must be executed.

B. QUALITY ASSURANCE
1. Codes and Permits – Deliver official record of approval, by governing agencies, to Engineer to transmit to Owner.

C. OPERATING INSTRUCTIONS
1. Provide to Owner, after all equipment is in operation and at an agreeable time, competent instructors for the purpose of training Owner's personnel in all phases of operation and maintenance of equipment and systems for both heating and cooling season.

D. DAMAGE AND EMERGENCY REPAIRS
1. Contractor will be held responsible for any damage that may be incurred on any installed work of other trades, by any workmen employed in the installation of work under this Contract. Provide covering under workbench or under any work involving cutting and fitting of materials being installed, so as not to damage surrounding finished surfaces.

E. MATERIALS
1. Provide material and labor for that which is neither drawn nor specified but which is obviously a component part of and necessary to complete work which is customarily a part of work of similar character.
2. All materials, fixtures, and equipment shall be new, of the best grade, and installed according to manufacturer's recommendations. Additionally, the installation shall be according to the best standards of practices, complete with all accessories and connections necessary for proper operation, and in compliance with effective State or Local Code requirements.
3. Where piping passes through floor, ceiling or wall, close space between pipe and construction with fire stop putty.

PIPE AND PIPE FITTINGS

A. QUALITY ASSURANCE
1. Welding Materials and Procedures: Conform to ASME Code, 1980 Standards of the American Welding Society, OBBC Chapter 4101:8 Ohio Pressure Piping System Rules.
2. All piping systems in compliance with the Ohio Pressure Pressure System Rules must be performed by certified welders. Provide copies of welding certificate and mark all joints with certificate ID.

B. PRODUCTS
1. PIPE AND TUBE
   a. Steel Pipe: ANSI/ASTM A53 or A120; black; weight as scheduled.
   b. Copper Water Tube: ASTM B88; type and temper as scheduled; seamless.
   c. ABS Plastic Pipe: ANSI/ASTM D2661, Schedule 40 (for sanitary/storm).
   d. PVC Plastic Pipe: ANSI/ASTM D1785, weight as scheduled.
   e. PVC Plastic Pipe: ANSI/ASTM D2665, Schedule 40 (for sanitary/storm).
2. PIPE AND TUBE JOINTS AND FITTINGS
   a. Malleable Iron Threaded Fittings: ANSI/ASTM B16.3.
   b. Malleable Iron Threaded Unions: MSS SP-76.
   c. Threaded Pipe Plugs: ANSI B16.14.
   d. Tin/Copper/Silver Solder: ASTM B32, Grade E.
   e. Silver Solder: ASTM B32, Grade 96.5TS.
   f. ABS Pipe Fittings: ASTM D2661 for Schedule 40 socket type (non-pressure pipe).
   g. Solvent for ABS Jointing: ASTM D2235.
   h. PVC Pipe Fittings: ASTM D2467 for Schedule 80 socket type and ASTM D2466 for Schedule 40 (pressure high) (used with ASTM D1785 PVC Pipe).
   i. PVC Pipe Fittings: ASTM D2665 for Schedule 40 (non-pressure pipe).
   j. Solvent for PVC Jointing: ANSI/ASTM D2564.
   k. Solvent for Joining ABS to PVC: ANSI/ASTM D3138 (non-pressure pipe).

C. INSTALLATION
1. General: Install pipe, tube and fittings in accordance with recognized industry practices which will achieve permanently-leakproof piping systems, capable of performing each indicated service without piping failure. Install each run with a minimum of joints and couplings, but with adequate and accessible unions for disassembly and maintenance/replacement of valves and equipment. Reduce sizes (where indicated) by use of reduced fittings. Align piping accurately at connections, with 1/16" misalignment tolerance.
2. Locate piping runs, except as otherwise indicated, vertically and horizontally (pitched to drain) and avoid diagonal runs wherever possible. Orient horizontal runs parallel with walls and column lines. Locate runs as shown or described by diagrams, details and notations or if not otherwise indicated, run piping in the shortest route which does not obstruct usable space or block access for servicing the building and its equipment. Hold piping close to walls, overhead construction, columns and other structural members. Wherever possible in finished and and occupied spaces, conceal piping from view.
3. Electrical Equipment Spaces: Do not run piping through transformer vaults and other electrical or electronic equipment spaces and enclosures.
4. Piping System Joints: Provide joints of the type indicated in each piping system.
   a. Thread pipe and fittings shall have cut threads full and clean using sharp dies. Ream threaded ends to remove burns and restore full inside diameter. Apply pipe joint compound, or pipe joint tape (Teflon) where recommended by pipe/fitting manufacturer, on male threads at each joint and tighten joint to leave not more than three threads exposed.
   b. Solder copper tube and fitting joints where indicated, in accordance with recognized industry practice. Cut tube ends squarely, ream to full inside diameter, and clean outside of tube ends and inside of fittings. Apply solder flux to joint areas of both tubes and fittings. Insert tube full depth into fitting, and solder in a manner which will draw solder full depth and circumference of joint. Wipe excess solder from joint before it hardens.
   c. Weld pipe joints in accordance with ANSI B31.
      – At the Contractor's option, the use of weld-o-lets or thread-o-lets will be acceptable where the branch size is less than one half the size of the main.
   d. Flanged Joints: Match flanges within piping system and at connections with valves and equipment. Clean flange faces and install gaskets. Tighten bolts to provide uniform compression of gaskets.
   e. Plastic Pipe/Tube Joints: Comply with manufacturer's instructions and recommendations and with applicable industry standards. Make solvent cemented joints ASTM D2855 and F402.
5. Insulating (Dielectric) Unions: Comply with manufacturer's instructions for installing unions. Install unions in a manner which will prevent galvanic action and stop corrosion where the joining of ferrous and non-ferrous piping is indicated.

D. CLEANING, FLUSHING, INSPECTION
1. General: Clean exterior surfaces of installed piping systems of superfluous materials and prepare for application of specified coatings (if any). Flush out piping systems with clean water before proceeding with required tests. Inspect each run of each system for completion of joints, supports and accessory items.

E. CORROSION PROTECTION
1. Protect metal gas piping in contact with the earth, or other corrosive material, against corrosion. Seal wrap piping with cool-lar saturated wrapping tape over cool-lar epoxy coating (20 mils thick).

F. PIPING TEST
1. Test pressure piping in accordance with ANSI B31.
2. Repair piping systems sections which fail the required piping test by disassembly and re-installation, using new materials to the extent required to overcome leakage. Do not use chemicals, stop-leak compounds, mastics or other temporary repair methods.
3. Drain test water from piping systems after testing and repair work has been completed.

G. SCHEDULE OF PIPE MATERIALS, JOINTS AND FITTINGS
1. Pipe and fittings for all services shall be as indicated on the following schedule.

SCHEDULE OF PIPE MATERIALS, JOINTS AND FITTINGS

Service	Above Grade	Below Grade	Pipe	Joints & Fittings
Natural Gas	X		Black Steel, Schedule 40	Class 150 Malleable Iron
Natural Gas		X	Black Steel, Schedule 40 Wrapped & Coated	Class 150 Malleable Iron
Sanitary & Vent	X	X	PVC or ABS Schedule 40	ASTM D 2665–82 With Solvent Weld Joints
Sanitary & Vent	X		Spun Cast Iron Soil Pipe (no hub)	Neoprene Gaskets & Stainless Steel Clamps 1–1/2" & Above
Sanitary & Vent		X	Service Weight Cast Iron Soil pipe	Compression type Neoprene Joints or Lead & Oakum
Domestic Water	X		Type L Copper, Hard	Soldered Silvabrite 100
Domestic Water 2–1/2" & Smaller		X	Type K Copper, Soft	Silver Soldered

NOTE: The stainless steel clamps are manufactured by Clamp–All or approved equal.

PIPE HANGERS AND SUPPORTS

A. Support horizontal steel and copper piping as follows:

Nominal Pipe Size (inch)	Distance Between Support (feet)	Hanger Rod Diameter (inch)
1/2	6	3/8
3/4 to 1–1/2	6	3/8
2 and 2–1/2	10	3/8
3 and 4	12	5/8

B. Install hangers to provide minimum 1/2" clear space between finished covering and adjacent work.
C. Place a hanger within one foot of each horizontal elbow.
D. Use hangers which are vertically adjustable 1–1/2" minimum after piping is erected.
E. Support horizontal soil pipe near each hub, with 5 ft. minimum spacing between hangers.
F. Support vertical piping at every other floor. Support vertical soil pipe at each floor at hub.
G. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hanger.
H. Where practical, support riser piping independently of connected horizontal piping.

PLUMBING

A. SUBMITTALS
1. Furnish Shop Drawings for all plumbing fixtures, hot water heater, carriers, drains and cleanouts.
2. Submit detailed Shop Drawings clearly indicating make, model, location, type, and size.

B. DOMESTIC WATER HEATER
1. Provide water heaters shown on Drawings:
   a. Factory insulated and steel jacketed storage tank with baked on finish.
   b. Temperature–pressure relief valve, ASME rated.
   c. Glass lined storage tank with anode rod.
   d. 150 psi working pressure.
   e. 100% automatic shutoff upon pilot failure.
   f. Copper immersion heating elements, factory wired with fused connections.
   g. Adjustable immersion stat and high temperature cutout.
   h. U.L. approved.
2. Hot Water Heater to be Lochinvar as described on Drawings. A.O. Smith, Rheud, or Bradford White hot water heaters of equal size are acceptable.
3. Warranty:
   a. Water heater shall be covered by a 5–year limited warranty against tank failure due to corrosion or due to metal failure or overheating caused by buildup of sand, sediment, or sludge.

C. CLEANOUTS
1. Cleanouts in suspended sewers shall be ABS or PVC body with ABS or PVC screw plug.
2. Provide cleanouts at the base of sanitary stacks.
3. Floor cleanouts shall be Smith #4033–Y with PB Top for carpeted areas, #4153 with Recessed PE Top for tile, #4233 C.I., and #4193 PB Top in terrazzo. Cleanouts shall be installed with finished floors. Josam, Wade, or Zurn cleanouts are acceptable.
4. Cleanouts occurring on vertical wastes in partition walls shall be made made accessible by using Smith #4710 SS wall cleanout plates.
5. Outside cleanouts occurring in paved, slag, or cinder areas shall be Smith Series #4283 or equal by Josam, Wade, or Zurn and set in a 18" x 18" x 18" deep concrete collar flush with grade. Outside cleanouts occurring in other areas shall be installed with a vitreous riser and vitreous stopper flush with finished grade.

D. BACKFLOW PREVENTER
1. Backflow preventers shall be reduced pressure type, equivalent to Watts Series 900 or Hersey–Beeco.

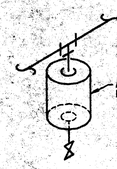
E. SANITARY DRAINAGE SYSTEMS
1. Run all drainage and vent piping as direct as possible. Actual location of drains, soil and waste piping shall meet the various building conditions. Do any work necessary to conceal piping.
2. Slope branch soil and waste pipes at an incline of at least 1/4" per foot of rise. Make changes in direction of drainage piping by means of 45° branches and 1/4, 1/8, or 1/16 bends except that sanitary "T"s and crosses may be used in vertical stacks.
3. Provide cleanouts at base of all stacks, at changes of direction and as shown on Drawings. Cleanouts on underground lines shall extend up flush with finished floor or grade. Provide cleanouts not over 50 ft. o.c. along straight runs. Cleanouts shall be size of pipe to which it is installed up to 4" in diameter. Pipe over 4" in diameter shall have a 4" cleanout.
4. Terminate vent pipes at least 12" above roof. Make each vent terminal water–tight with the roof by using sheet lead (4 psf) with base not less than 24" in all directions from center of pipe and full height of pipe and turned down 2" inside of pipe.
5. Lay all sanitary sewers with full length of each section resting on a solid bed. Lay pipe starting at upgrade with spigot end of pipe pointing in direction of flow. All sanitary sewers shall be collected separately as shown on Drawings.

F. DOMESTIC WATER SUPPLY SYSTEMS
1. Install main water service from the street main and install water meter.
2. Install water system as shown on Drawings with hot and cold water being supplied and connected to all fixtures and equipment.
3. Provide pressure gauge with shut–off cock on cold water service line inside building.
4. Provide reduced pressure backflow preventers and install where specified or shown on Drawings. Pipe vent connection to floor drain.
5. Provide valving at all equipment rooms, strainer, also to facilitate removal for repair or replacement without disturbing adjacent piping.
6. Nipples between copper pipe and fixture supply fittings shall be brass pipe not galvanized steel pipe.
7. Provide temporary water service for use of construction for use of all trades. Plumbing Contractor shall be responsible for maintaining uninterrupted temporary water service throughout construction.
8. Chlorinate all domestic water systems. Flush out domestic system then hold a solution containing of 50 parts of chlorine in the system for a period of 24 hours. Then and flush system until chlorine residual of 5 parts. Chlorination shall be repeated if necessary and conform to AWWA Specification C601–54 and be accepted by Local Health Dept.

G. GAS PIPING SYSTEM
1. Install gas service from street main including all metering and regulating equipment. Underground gas service shall be buried with a minimum of 2'–0" cover.
2. Provide insulated Dresser coupling where gas piping is connected to meters. Protect underground gas piping with Hill–Hubbell wrapping or "Extru–Coat" with joints protected with "Scotch" wrapping, but not less than as required by the serving utility for their piping. Provide anodic protection on underground piping conforming to utility company standards.
3. Underground service lines 3" and smaller may be plastic pipe in lieu of the schedule 40 steel pipe specified. Material and installation shall conform to strict requirements of utility company. A No. 12 copper wire shall be installed in bottom of trench to "trace" pipe.
4. Connect to all building equipment requiring gas. Install drip leg and shut–off cock at each connection.
5. For each 200'–0" of main, weld one end of a 12 gauge copper wire to the pipe and to the other a 17# bar of magnesium buried not less than 4'–0" in the ground.

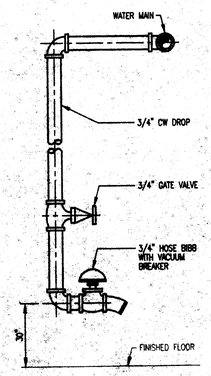
H. PLUMBING FIXTURES AND EQUIPMENT
1. Provide plumbing fixtures shown on Drawings and listed in Fixture Schedule. Fixtures as manufactured by American Standard, Kohler, or Crane are approved equal.
2. All countertop sinks to be individually valved under sinks using Wolverine Ball Valves.
3. Faucets and Flush Valves to have renewable seats and discs and chrome plated trim. Delany and Watrous flush valves and Delta Faucets are acceptable on Base Bid.
4. All fixtures to be supported as indicated on Fixture Schedule.
5. After installation, all connecting piping to be flushed and valves properly adjusted. Labels, plaster, stains and other foreign material to be removed from all fixtures so they are acceptable in and operation. Caulk all Fixtures at wall and floors.
6. Fixtures set to height as shown in schedule and in location shown on Drawings, plumb, level and substantially supported. Immediately after the setting of any fixture, fitting or piping, protect it adequately without extra cost to the Owner. At all stages of the installation, pipe openings must be protected against the entrance of foreign material.
7. Exposed piping to plumbing fixtures shall be chromium plated, iron pipe size, brass pipe and chromium plated stop valves where exposed and brass where concealed.
8. All fixtures shall be furnished and installed according to schedules on the Drawings. However, the Plumbing Contractor shall ascertain the correct amount of fixtures required by the plans as he will be held strictly responsible for furnishing and installing all items shown.
9. Contractor shall inform himself fully regarding peculiarities and limitations of space available for installation of all material and equipment to be installed under this Contract, and see that all equipment to be reached periodically for operation and maintenance is made easily accessible.
10. Contractor shall be furnished rough–in Drawings or similar data approved by Architect for all equipment specified for connection, as furnished by other contractors.

I. TESTS
1. Sanitary, Waste, and Vent Piping: All sanitary, storm, and water piping shall be tested per State Plumbing Code and/or requirements of Local Authority.



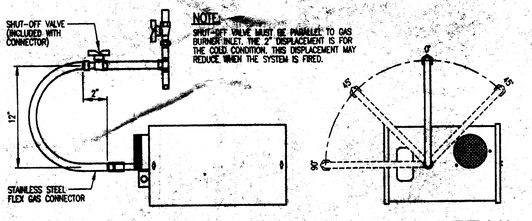
EXPANSION TANK DETAIL

NOT TO SCALE



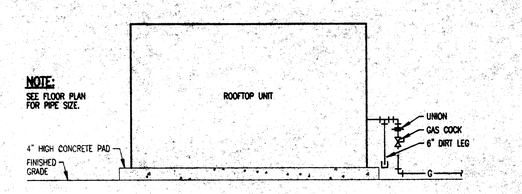
HOSE BIBB DETAIL

NOT TO SCALE



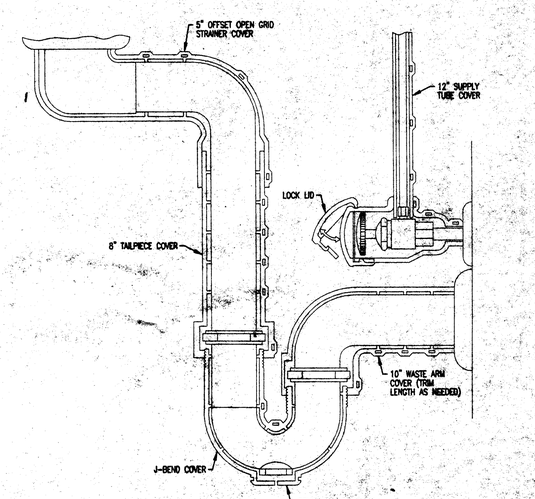
RADIANT HEATER GAS CONNECTION DETAIL

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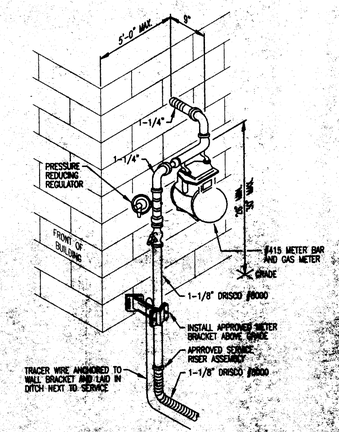
ROOFTOP GAS CONNECTION DETAIL

NOT TO SCALE



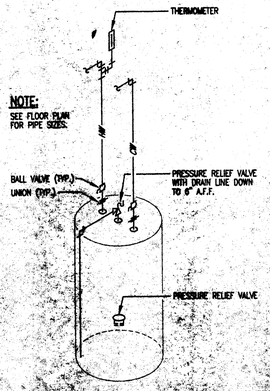
LAVATORY SHIELD DETAIL

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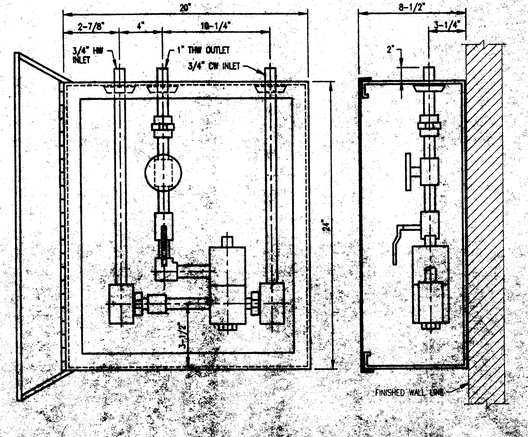
GAS METER ISOMETRIC

NOT TO SCALE



WATER HEATER DETAIL

NOT TO SCALE



THERMOSTATIC MIXING VALVE DETAIL

NOT TO SCALE

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S. MICHAEL DE STEFANO
24693
REGISTERED PROFESSIONAL ENGINEER

REVISIONS
DATE 17 JULY 2002

ROBERT V. BUONASPINA, INC.
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1691 South Main Street Suite 204, North Canton, Ohio 44720

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PROJECT
NEW FACILITY FOR:
VASCO ASPHALT
4270 STERLITE AVENUE, SE
MASSILLON, OHIO 44646

DRAWING
PLUMBING SPECIFICATIONS AND DETAILS

P4

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MOUNT BOTTOM OF INTAKE LOUVER "IL-1" @ 11'-0" ABOVE FINISHED FLOOR

IL-1

RE-VERBER-RAY #WV-4 INTAKE WALL CAP

4"ø B-VENT UP TO RE-VERBER-RAY #RTVP-4 ROOFTOP VENT PACKAGE

4"ø B-VENT

RH-1

4'ø

WAREHOUSE
100

8x8 EXHAUST DUCT UP TO ROOF CAP

TOILET
101

8x8

EF-2

RH-1 (QTY. 2)

T

NCM-1

MOUNT BOTTOM @ 5'-7" ABOVE FINISHED FLOOR

SEQUENCE OF OPERATION

1.) "NCM-1" IS A CARBON MONOXIDE/NITROGEN DIOXIDE SENSOR CALIBRATED AT 100 PPM/1 PPM RESPECTIVELY.
2.) WHEN DETECTOR SENSES QUANTITIES OF CARBON MONOXIDE OR NITROGEN DIOXIDE IN EXCESS OF SETPOINTS, IT SHALL ENGAGE EXHAUST FAN "EF-3" (INTERLOCKED TO MOTOR OPERATED DAMPERS LOCATED ON INTAKE LOUVERS "IL-1").
3.) WHEN CONTAMINATION LEVELS HAVE BEEN DILUTED SUFFICIENTLY TO RETURN DETECTOR TO ORIGINAL SETPOINTS (OR BELOW), EXHAUST FAN "EF-3" TO DISENGAGE.
4.) LOW VOLTAGE (24V) TRANSFORMER REQUIRED FOR "NCM-1" SUPPLIED BY MECHANICAL CONTRACTOR.
5.) ALL NECESSARY LOW VOLTAGE CONTROLS AND WIRING BY ELECTRICAL CONTRACTOR.

E 295

CONFERENCE
103

A 345

10"ø

BD

C 150

ENTRY
102

6"ø

C 130

B 220

E 310

8"ø

12"ø

HOUSEKEEPING
104

D 70

4"ø EXHAUST DUCT UP TO ROOF CAP

EF-1

D 65

12x12

16x12

OPEN OFFICE
107

18x14

RT-1

F 220

1575 CFM

20x14

14x22 SUPPLY DUCT DOWN IN CHASE

12x22 RETURN DUCT DOWN IN CHASE

24x14

22x14

14x22

RT-1 ON GRADE

OFFICE
108

B 260

4" HIGH CONCRETE PAD BY GENERAL CONTRACTOR

4"ø B-VENT UP TO RE-VERBER-RAY #RTVP-4 ROOFTOP VENT PACKAGE

4"ø B-VENT

RH-1

42x28 EXHAUST DUCT DOWN TO 18" ABOVE FINISHED FLOOR (LEAVE OPEN ON BOTTOM AND HEM DUCT TO HELP PREVENT INJURY) COVER BOTTOM WITH 1/4" WIRE MESH

EF-3

MOUNT BOTTOM OF EXHAUST FAN "EF-3" @ 10'-6" ABOVE FINISHED FLOOR

IL-1

MOUNT BOTTOM OF INTAKE LOUVER "IL-1" @ 11'-0" ABOVE FINISHED FLOOR

RE-VERBER-RAY #WV-4 INTAKE WALL CAP

FLOOR PLAN - HVAC

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

N

PROJECT
NEW FACILITY FOR:
VASCO ASPHALT
4270 STERILITE AVENUE, SE
MASSILLON, OHIO 44646

DRAWING
FLOOR PLAN – HVAC

M1

FILENAME: D:\2002\02-153\M1.DWG

MECHANICAL SPECIFICATIONS

GENERAL CONDITIONS

A. REFERENCE
1. For purposes of clearness and legibility, Drawings are essentially diagrammatic and although size and location of equipment are drawn to scale wherever possible, Contractor shall make use of all data in all of the Contract Documents and shall verify this information at the building site. Dimensions given in figures on the Drawings take precedence over scaled dimensions.
2. Drawings and Specifications to be considered cooperative, and anything appearing in Specifications but not on Drawings or vice versa, shall be considered part of the Contract and must be executed.

B. QUALITY ASSURANCE
1. Codes and Permits – Deliver official record of approval, by governing agencies, to Engineer to transmit to Owner.

C. OPERATING INSTRUCTIONS
1. Provide to Owner, after all equipment is in operation and at an agreeable time, competent instructors for the purpose of training Owner's personnel in all phases of operation and maintenance of equipment and systems for both heating and cooling season.

D. DAMAGE AND EMERGENCY REPAIRS
1. Contractor will be held responsible for any damage that may be incurred on any installed work of other trades, by any workman employed in the installation of work under this Contract. Provide covering under workbench or under any work involving cutting and fitting of materials being installed, so as not to damage surrounding finished surfaces.

E. MATERIALS
1. Provide material and labor for that which is neither drawn nor specified but which is obviously a component part of and necessary to complete work which is customarily a part of work of similar character.
2. All materials, fixtures, and equipment shall be new, of the best grade, and installed according to manufacturer's recommendations. Additionally, the installation shall be according to the best standards of practices, complete with all accessories and connections necessary for proper operation, and in compliance with effective State or Local Code requirements.
3. Where piping and ductwork passes through floor, ceiling or wall, close off space between pipe or duct and construction with fire stop putty.

ROOFTOP AIR CONDITIONING UNIT

A. Furnish and install, where shown on Drawings, rooftop air conditioning unit as manufactured by York. Unit shall have complete weatherproof casing, mixing dampers, filter section, main blower section, and DX cooling. Unit shall have all safety and operating controls.

B. Base of unit shall be constructed of 14 ga. formed steel with 14 ga. cross members. All side and top panels shall be constructed of 18 ga. galvanized steel and insulated with one inch coated fiberglass insulation.
1. Access panels shall be removable type and shall have self-contained and adjusting spring latch fasteners. The entire exterior shall be phosphatized and finished with a vinyl acrylic enamel finish.

C. Filters shall be one inch thick and shall be high efficiency throwaway type such as Farr 30/30 or equal, providing construction, capacity and operating characteristics are equal. A pressure switch shall be provided to light a light on the remote panel when the filters are dirty.

D. Supply blowers shall be forward curved DWDI with solid steel shaft sized to operate well below the first critical speed. The fan assembly shall have heavy-duty regreasable ball bearings. The blower assembly, including motor, fan wheels, bearings, shafts, and adjustable drives, shall be framed mounted on rubber isolators. The drive shall have adjustable drive sheaves and adjustable motor mounts.

E. DX cooling system shall be completely factory charged and tested. Each unit shall utilize multiple hermetic compressors. All compressors shall have crankcase heaters, manual reset high pressure switches, auto reset low pressure switches, and three leg overload protection. Condenser fan motors shall be single phase inherently protected direct drive type. Fan cycling head pressure controls shall allow operation to 35 degrees F ambient. Condenser and evaporator coil shall be cooper tube with aluminum plate fins. Each refrigeration circuit shall have thermostatic expansion valves, liquid line filter dryer sight glasses and service valves.

F. Rooftop heating and air conditioning unit as manufactured by Lennox, Comfortmaker or equivalent will be acceptable providing construction, capacity, and operating characteristics are equal to the specified equipment. The cost for any modifications to the building structure, the duct system, the piping system or the power wiring system, or the building automation system, (including interface points and interlock wiring) which is necessitated by the substitution of the other listed manufacturers, manufacturers, shall be borner by the Mechanical Contractor making the substitution. substitution.

G. Unit shall be provided with all starters, control transformers and overloads. Unit shall have dual factory installed firestats per NEC requirements.

H. The unit shall have a complete one year labor and parts warranty beginning at the date of startup. In addition to the warranty, all compressors shall have an additional four year parts warranty.

I. The unit shall have Check-Test-Start performed by the authorized service representative with a report submitted to the Engineer.

J. Every effort shall be made to minimize vibration and noise.

K. Entire unit, including supply and return air transition piece, shall be mounted on factory roof curbs. The Contractor shall shim between the roof deck and curb because of the pitch of the roof. Note: The rooftop unit must be installed LEVEL!

L. Submit detailed Shop Drawings and clearly indicate make, model, location, type, and size.

AIR DISTRIBUTION

A. EXHAUST FANS
1. Submittals
   a. Submit detailed Shop Drawings clearly indicating make, model, location, type, and size.
2. Furnish and install, where show on Drawings, exhaust fans as manufactured by Nutone and Greenheck.
3. All fans complete with BDD, factory mounted and wired disconnect switches, bird screens and of all aluminum construction.
4. Exhaust fans as manufactured by Cook, Carnes, or Penn will be acceptable providing construction, capacity, and operating characteristics are equal.

B. LOW PRESSURE DUCTWORK
1. All ductwork to be constructed in accordance with ASHRAE and SMACNA Standards.
2. All ductwork shall be constructed of galvanized steel complying with ASTM A527-71, lockforming quality. All toilet and shower room exhaust ducts shall be aluminum construction, and all joints welded or sealed with 3M Company #EC-1792 sealant. Sheetmetal must be fabricated so that the gauge of material being used is visible externally.
3. Duct fasteners shall comply with SMACNA MF-1.
4. Provide hot dipped galvanized steel fasteners, anchors, rods, straps, trim and angles for support of ductwork.
5. Provide turning vanes in all mitered elbows and where otherwise indicated. Vanes shall be 2" galvanized steel for up to and including 18" ducts and 4-1/2" for ducts over 18". Construction of vanes shall be double wall, fixed blade type for 90 degree elbows.
6. All joints and seams shall be sealed to SMACNA Class B Standards (100% sealing) with Hardcast or Duro-Dyne S-2 high pressure sealant.
7. Volume extractors shall be equivalent to Titus Model AG-25 with operator #2 (3/8" square rotating shaft). Regulator shall be equivalent to Young No. 1 mounted on duct surface.
8. Exposed round ductwork shall be factory fabricated with spiral lock seams and 1" interior insulation as manufactured by United McGill or approved equal. Sheet metal gauges shall be manufacturer's standard for low pressure ductwork.

C. GRILLES AND DIFFUSERS
1. Submittals
   a. Submit detailed Shop Drawings clearly indicating make, model, location, type, and size.
2. Furnish and install, where shown on Drawings, grilles and diffusers as manufactured by Titus.
3. All grilles, registers and diffusers to have a factory applied off-white finish unless, otherwise noted on Plans.
4. Ceiling Supply Diffusers: Fully adjustable air pattern, round and square with radial opposed blade damper and equalizing grid. Diffusers shall be surface mount, lay-in, or snap-in frame to fit ceiling construction being used.
5. Grilles and diffusers as manufactured by Krueger, Price, or equivalent will be acceptable providing construction, capacity and operating characteristics are equal.

D. DAMPERS AND DEFLECTORS
1. Provide all manual opposed blade dampers with Young Regulator Company, Ventlock or Dura-Dyne operators. Use Young Regulator No. 443-B or approved equal operators for balancing dampers.

E. FILTERS
1. Furnish filters as manufactured by Farr, model 30/30. Media shall be reinforced glass fiber supported by galvanized steel grids formed to the configuration of the pleats. The media pack shall be sealed into a galvanized frame. Filter shall have a rated average atmospheric dust spot efficiency of not less than 35 to 40% and an average synthetic arrestance of 95% when tested in accordance with ASHRAE Standards 52-76. The filter shall be capable of operating with variable face velocities up to 600 FPM without impairing performance. It shall have an initial resistance not to exceed the value selected from the capacity table and shall be classified by Underwriter Laboratories as Class II.
2. Spare Filters: One original and two sets of spare filters shall be supplied. One set is for use during the construction phase and a set shall be installed for testing and balancing. One complete set of unused filters shall be turned over to the Owner at completion of the project.
3. Filters as manufactured by Cambridge, Continental or American Air Filter will be acceptable providing construction, capacity, and operating characteristics are equal.

DUCTWORK AND ACCESSORIES

A. Provide all sheetmetal work, as shown on the Drawings, in accordance with the latest edition of the ASHRAE guide and data book, SMACNA Standards and this Specification, the most demanding of which shall be the minimum standard.

B. Install ductwork indicated on Drawings making all neccesary changes in cross sections and offsets, whether or not specifically indicated.

C. All changes in cross section shall be made without reducing the desing area of the duct.

D. Cap all open ends of ductwork until connected to grilles, diffusers, equipment to prevent entrance of debris, dust, etc.

E. Make changes in direction of ductwork, unless otherwise specified with square elbows and double thickness turning vanes; full radius elbows having inside radius equal to width of duct measured in plane of turn; or one-third radius elbows with inside radius equal to one-third duct width and a single vane radius of two-thirds duct width.

F. No pipe or other obstructions shall pass through air ducts.

G. Ducts shall not be hung from other ducts, pipe or conduit.

H. Duct dimensions are gross except of lined ducts where dimensions are for net free area.

I. All joints and seams in ducts shall be air-tight; poorly made joints, splits, visible holes at corners, etc. shall be reworked or new pieces of ductwork installed. Where excessive pulsating of ductwork or plenum housing is found, additional stiffeners shall be added. Any cracking, in the coating around seams or joints, or in any other part of the formed duct that is apparent upon inspection, shall be sufficient to warrant rejection.

J. Furnish and install all manual opposed blade dampers and deflectors indicated on Drawings, or where necessary, to properly distribute and balance air. Provide opposed blade damper in each supply duct leaving duct main, and in each branch service, each individual supply, return and exhaust outlets, and where otherwise indicated.

K. Where opposed blade dampers are concealed above suspended ceilings, other than removable ceilings or behind walls, provide access or provide Young Regulator Co., adjustable recessed damper operators with flush prime-coated covers and extended regulator number 896, 912, 914, or 927 as applicable.

L. Opposed blade dampers shall be fabricated with blades no larger than 8" wide X 48" in length which shall have intermediate support and bearings.

CONTROLS AND INSTRUMENTATION

A. THERMOSTATS
1. Room thermostats shall be of the gradual acting type with adjustable sensitivity. They shall have a bimetal sensing element capable of responding to a temperature change of one-tenth of one degree. Thermostats shall be arranged for vertical mounting, and shall fit on mullions of movable partitions without overlap. Thermostat covers shall be mounted with tamperproof socket head screws. Guards shall cover thermostats where indicated on Drawings.

ROOFTOP SCHEDULE

SYM.	EVAPORATOR FAN CFM SA	CFM OA	HP	ESP (IN)	RPM	COOLING TEMP. (F) ENT. AIR DB	ENT. AIR WB	LVG. AIR DB	LVG. AIR WB	O.D. AMB.	CAPACITY MBH TOT.	CAPACITY MBH SENS.	HEATING MBH IN	HEATING MBH OUT	ELECTRICAL V/P/C	MCA	MAX. FUSE	YORK MODEL NO.	REMARKS
RT-1	1990	415	1.0	0.6	HIGH	80.0	67.0	60.3	57.8	95.0	56.5	44.3	135	108	208-3-60	32.4	45	D2NA060	1,2,3,4,5

REMARKS:
1.) FACTORY SUPPLIED OUTSIDE AIR INLET HOOD, INSECT SCREEN, AND DAMPER LOCKING HARDWARE
2.) FIELD INSTALLED ANTI-RECYCLE TIMER
3.) FACTORY SUPPLIED SIDE DISCHARGE CONFIGURATION
4.) FACTORY SUPPLIED DISCONNECT SWITCH
5.) FACTORY SUPPLIED CONVENIENCE OUTLET

GRILLE AND DIFFUSER SCHEDULE

SYM.	MFGR.	CAT. NO.	FACE SIZE	NECK SIZE	REMARKS
A	TITUS	TMS	24x24	10"ø	WITH O.B.D., FRAME TYPE 3
B	TITUS	TMS	24x24	8"ø	WITH O.B.D., FRAME TYPE 3
C	TITUS	TMS	24x24	6"ø	WITH O.B.D., FRAME TYPE 3
D	TITUS	TMS	12x12	6"ø	WITH O.B.D., FRAME TYPE 1
E	TITUS	50F	--	10x10	BORDER TYPE 1 (RETURN)
F	TITUS	50F	--	8x8	BORDER TYPE 1 (RETURN)
G	TITUS	50F	--	6x6	BORDER TYPE 1 (RETURN)

HVAC LEGEND

101	ROOM NUMBER SYMBOL
	EQUIPMENT SYMBOL
	GRILLE AND DIFFUSER SYMBOL
T	THERMOSTAT
BD	BALANCING DAMPER

EXHAUST FAN SCHEDULE

SYM.	MFGR.	CAT. NO.	CAPACITY CFM	S.P.	MOTOR HP	RPM	VOLTAGE	REMARKS
EF-1	NUTONE	L580L	75	.125	--	--	120-1-60	WITH #841-BL ROOF CAP
EF-2	GREENHECK	SP-224	225	.250	--	1000	120-1-60	WITH GRU-6X9 ROOF CAP
EF-3	QUIETAIRE	CS3675	9200	.1875	3/4	482	208-1-60	WITH AWB-36 WALL BOX, AHD-36 SHUTTER, AND AGHG-36 GUARD

INTAKE LOUVER SCHEDULE

SYM.	MFGR.	CAT. NO.	SIZE	REMARKS
IL-1	RUSKIN	ELF6375DX	48x36	WITH FACTORY MOUNTED MOTOR OPERATED DAMPER AND 115 VOLT 2-POSITION DAMPER MOTOR

RADIANT HEATER SCHEDULE

SYM.	MFGR.	CAT. NO.	INPUT	REMARKS
RH-1	RE-VERBER-RAY	DX50-150	150 CFH	PROVIDE WITH HANGING HARDWARE, REFLECTORS, AND FLEXIBLE GAS CONNECTORS

COMBINATION NITROGEN DIXOIDE/CARBON MONOXIDE DETECTOR

SYM.	MFGR.	CAT. NO.	MOUNT	ENCLOSURE	REMARKS
NCM-1	BRASCH	BGS-NCM-STD	5'-7"	NEMA 1	COORDINATE WIRING WITH ELECTRICAL CONTRACTOR

HVAC GENERAL NOTES

1.) GENERAL CONTRACTOR TO PROVIDE 4" HIGH CONCRETE PAD FOR ALL FLOOR MOUNTED EQUIPMENT.
2.) GENERAL CONTRACTOR TO PROVIDE ALL LINTELS AND SUPPORTING STEEL FOR LOUVERS AND EXHAUST FAN AS REQUIRED.
3.) MECHANICAL CONTRACTOR TO LEVEL AND SHIM ROOFTOP UNIT AS REQUIRED.
4.) ALL BALANCING DAMPERS SHALL BE EQUIPPED WITH AN INDICATING LOCKING QUADRANT.
5.) MECHANICAL CONTRACTOR SHALL COORDINATE CEILING DIFFUSERS WITH THE ARCHITECT'S REFLECTED CEILING PLAN.

EXTERIOR DUCTWORK NOTE

ALL EXTERIOR DUCTWORK (SUPPLY AND RETURN) EXPOSED TO OUTDOOR CONDITIONS SHALL BE INSULATED WITH 2" FIBERGLASS BOARD (WITH VAPOR BARRIER), ONE COAT WEATHERPROOF MASTIC, EMBED GLASSFAB CLOTH, AND FINAL COAT OF MASTIC (WHITE IN COLOR).

OUTSIDE AIR REQUIREMENTS

MECHANICAL CONTRACTOR TO AIR BALANCE ROOFTOP AS FOLLOWS:
ROOFTOP "RT-1": 1990 SUPPLY AIR CFM, 1575 RETURN AIR CFM, 415 OUTSIDE AIR CFM

ENVELOPE SYSTEM PERFORMANCE COMPLIANCE CALCULATION PROGRAM
VERSION 2.4

ASHRAE/IES Standard 90.1-1989 with Addenda f & m
ENERGY EFFICIENT DESIGN OF NEW BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS

CITY: 3 Massillon, Ohio
CODE <B,C,H>: Both Heated And Cooled

BUILDING: Vasco Asphalt
DATE: July 17, 2002

ENVSTD Version 2.4 – March 1996

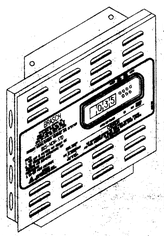
	N	NE	E	SE	S	SW	W	NW	WEIGHTED AVERAGE	CRITERIA
WL AREA	1944		2000		1944		2000		0.041	0.297
GL AREA	.81		160		.81				WWR	WWR
SCx	.58		.58		.58				0.580	0.614
PF	0		0		0				0.000	0.000
VLT	1.0		1.0		1.0				1.000	N/A
Uof	.56		.56		.56				0.560	0.579
WALL Uo	.072		.072		.072		.072		0.072	0.0886
HC	1.0		1.0		1.0		1.0		1.000	1.000
INS POS	.3		.3		.3		.3		N/A	N/A
EQUIP	0.75		0.75		0.75		0.75		0.750	0.750
LIGHTS	1.81		1.81		1.81		1.81		1.810	1.810
DLCF	0		0		0		0		0.000	0.000
				LOADS					TOTAL	
HEATING	3.781		3.826		3.495		3.779		14.881 <	17.879
COOLING	4.001		4.907		4.753		3.492		17.152 <	33.049
TOTAL	7.782		8.733		8.247		7.270		32.033 <	50.928

********** PASSES EXTERIOR WALL TOTAL CRITERIA **********

OTHER ENVELOPE REQUIREMENTS
ENVSTD Version 2.4 – March 1996

MAXIMUM PERCENTAGE OF ROOF AREA IN SKYLIGHTS	DESIGN		CRITERIA MAXIMUM
Percentage of Roof Area In Skylights:			
Visible Transmittance of Skylight			
Design Lighting Footcandles of Space (30, 50, 70)			
MAXIMUM ALLOWABLE Uo:			MAXIMUM
Roof	.050	<	0.057
Wall Adjacent to Unconditioned Space			0.136
Floor Over Unconditioned Space			0.051
MINIMUM ALLOWABLE R-VALUE:			MINIMUM
Wall Below Grade			9.1
R-Value of Concrete Slab Insulation	8.2	>	7.4
Heated or Unheated Slab (H/U)	Unheated		
Horizontal or Vertical Insulation Position (H/V)	Vertical		
Depth or Width of Insulation (24, 36, or 48 in.)	24		

********** PASSES OTHER ENVELOPE REQUIREMENTS **********



RATINGS
INPUT VOLTAGE
24 VAC 50/60 HZ @ 28 VA
AMBIENT TEMPERATURE RATING
STORAGE
-50°C TO 120°C (-58°F TO 248°F)
OPERATING
-15°C TO 40°C (5°F TO 104°F)
HUMIDITY
10% TO 90% (NON-CONDENSING)
ENCLOSURE
NEMA 1
PAINTED STEEL
MOUNTING
THIS UNIT CAN ONLY BE MOUNTED INDOORS IN A DRY LOCATION AT A HEIGHT OF 5 TO 7 FEET ABOVE FLOOR LEVEL. THIS LOCATION WILL SENSE THE CONCENTRATION OF NITROGEN DIOXIDE AND CARBON MONOXIDE AT APPROXIMATELY BREATHING HEIGHT. THE SENSOR SHOULD ALSO BE MOUNTED IN THE MOST CENTRALLY LOCATED AREA AS POSSIBLE. THE SENSOR WILL COVER 7000 TO 9000 SQUARE FEET OF FLOOR SPACE.

OUTPUT RELAYS-ALERT LEVELS-ALARM
125 VAC 50/60 HZ
5 AMP RESISTIVE
250 VA INDUCTIVE
1/8 HP MOTOR
DIMENSIONS
SIZE
7-5/8"H x 9-1/4"W x 2-7/8"D
WEIGHT
4 POUNDS
RECOGNITIONS
ETL LISTED

CARBON MONOXIDE/NITROGEN DIOXIDE DETECTOR DETAIL

NOT TO SCALE

mds & associates, inc. consulting engineers
4125 HILLS & DALES RD., NW
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FAX: (330) 492-7054
e-mail: mds7777@aol.com

STATE OF OHIO
S. MICHAEL DE STEFANO
24693
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

DATE
17 JULY 2002

ROBERT V. BUONASPINA, INC.
Architectural Firm for Residential, Commercial & Industrial Projects
1490 South Main Street Suite 204 North Canton, Ohio 44720

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PROJECT
NEW FACILITY FOR:
VASCO ASPHALT
4270 STERILITE AVENUE, SE
MASSILLON, OHIO 44646

DRAWING
MECHANICAL SPECIFICATIONS AND SCHEDULES

M2

FILENAME: D:\2002\02-153\M2.DWG