Planning Approval
10-01000019_SPA121

WATER SUPPLY SYSTEM NOTES

1. WATER SUPPLY SYSTEM COMPONENTS SHALL NOT BE PLACED IN OPERATION UNTIL AN "APPROVAL TO OPERATE" HAS BEEN ISSUED BY THE TOWN OF BETHLEHEM WATER DEPARTMENT.
2. THERE SHALL BE NO CHANGES ON THESE PLANS IN ADVANCE OF, OR DURING CONSTRUCTION, WITHOUT PROPER APPROVAL OF THE DESIGN ENGINEER AND THE NEW YORK STATE DEPARTMENT OF HEALTH.
3. WATER SUPPLY SYSTEM SHALL CONFORM TO THE FOLLOWING:
   - RECOMMENDED STANDARDS FOR WATER WORKS ADOPTED BY THE GREAT LAKES-UPPER MISSISSIPPI RIVER BOARD OF STATE SANITARY ENGINEERS (NEW YORK STATE DEPARTMENT OF HEALTH BULLETIN NO. 42)
   - RECOMMENDED WATER SYSTEM DESIGN STANDARDS OF THE INSURANCE SERVICES OFFICE OF NEW YORK.
   - TOWN OF BETHLEHEM WATER DEPARTMENT REGULATIONS.
   - NEW YORK STATE DEPARTMENT OF HEALTH PUBLICATION(S):
     - RURAL WATER SUPPLY.
     - RECOMMENDED STANDARDS FOR WATER WORKS.
4. A LICENSED PROFESSIONAL ENGINEER SHALL SUPERVISE CONSTRUCTION IN ACCORDANCE WITH THE APPROVED PLAN AND SUPPLEMENTAL DATA. HE SHALL THEN CERTIFY THE CONSTRUCTION, IN WRITING, AND FURNISH "AS BUILT" PLANS.
5. ALL PROPOSED WATER MAINS AND APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF THE TOWN OF BETHLEHEM WATER DEPARTMENT.
6. ALL PROPOSED WATER MAINS AND SERVICES CONSTRUCTION SHALL CONFORM TO THE NEW YORK STATE DEPARTMENT OF HEALTH REGULATIONS AND REQUIREMENTS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF THE PROPOSED WORK. THE LAYOUT SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR SHALL FURNISH SHOP DRAWINGS FOR ALL PROPOSED IMPROVEMENTS TO THE ENGINEER FOR APPROVAL PRIOR TO THE BEGINNING OF CONSTRUCTION.
9. THE ENGINEER SHALL BE NOTIFIED IN WRITING BY THE CONTRACTOR OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE PROPOSED WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL OF THE ENGINEER.
10. THE CONTRACTOR SHALL RESTORE PAVEMENT, LAWNS, DRIVEWAYS, CULVERTS, SIGNS AND OTHER PUBLIC OR PRIVATE PROPERTY DAMAGED OR REMOVED TO AT LEAST AS GOOD A CONDITION AS BEFORE BEING DISTURBED AS DETERMINED BY THE ENGINEER. ANY DAMAGED TREES, SHRUBS, AND/OR HEDGES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
11. MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE TOWN OF BETHLEHEM REQUIREMENTS.
12. THE CONTRACTOR SHALL COMPLY WITH ALL O.S.H.A. AND OTHER STATE AND LOCAL SAFETY REQUIREMENTS DURING CONSTRUCTION.
13. ALL EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES SHALL BE MAINTAINED DURING CONSTRUCTION BY THE CONTRACTOR UNLESS OTHERWISE NOTED ON THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.
14. THE CONTRACTOR SHALL FERTILIZE, SEED AND MULCH ALL DISTURBED VEGETATED AREAS UNLESS OTHERWISE NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
15. ALL PROPOSED WATER MAINS AND APPURTENANCES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.
   - DUCTILE IRON PIPE (CLASS 52)
   - PIPE PUSH-ON AND MECHANICAL JOINTS: ANSI/AWWA C111/A21.11-85.
   - DUCTILE IRON PIPE FITTINGS: ANSI/AWWA C110/A21.10-87.
   - PIPE AND FITTINGS MORTAR LINED/PAINT SEAL COATING: ANSI/AWWA C104/A21.4-90.
   - WATER GATE VALVES: IRON BODY, BRONZE MOUNTED DOUBLE DISC TYPE, AWWA C-500.
   - FIRE HYDRANTS: MUELLER SUPER CENTURION 200
   - COPPER TUBING: TYPE K SEAMLESS CONFORMING TO ASTM SPECIFICATION B88-81 AND FEDERAL SPECIFICATION WW1-799.
   - COMPRESSION FITTINGS: MUELLER H-15401 110
   - CORPORATION STOPS: MUELLER H-15000 W/MUELLER 15071 110. BOTH STOPS SHALL HAVE AWWA INLET THREADS.
   - CURB STOP: CAST BRONZE, FLARED INLET AND OUTLET, MIN. SIZE 3/4", MUELLER 15200 OR APPROVED EQUAL.
   - CURB BOX WITH ROD: CURB BOX SHALL BE CAST IRON, EXTENSION TYPE WITH STATIONARY ROD AND SINGLE PIECE LID, MUELLER H-10314, STATIONARY ROD MUELLER B10981.
16. SEWER MAIN AND WATER MAIN SEPARATION: WHERE POSSIBLE, WATER MAINS SHALL BE INSTALLED AT LEAST 10' HORIZONTALLY DISTANT FROM ANY EXISTING OR PROPOSED SANITARY SEWER. WATER MAINS CROSSING SANITARY SEWERS SHALL BE INSTALLED TO PROVIDE A MINIMUM VERTICAL SEPARATION OF 18". THIS SHALL APPLY WHEREVER THE WATER MAIN CROSSED ABOVE OR BELOW THE SANITARY SEWER. FOR ALL CROSSINGS, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE LOCATED SO THAT EACH JOINT IS AS FAR AWAY AS POSSIBLE FROM THE SANITARY SEWER. WHERE NOT POSSIBLE, SEE SEWER MAIN AND WATER MAIN SEPARATION DETAILS. THIS SHEET.
17. ALL PROPOSED CONNECTIONS TO EXISTING WATER DISTRIBUTION SYSTEM SHALL BE WET-TAPPED ONLY. CONNECTIONS SHALL BE MADE WITH A MINIMUM OF, OR NO DISRUPTION TO, WATER SERVICE IN THE EXISTING SYSTEM.

    THE CONTRACTOR SHALL NOTIFY THE WATER DEPARTMENT AT LEAST 24 HOURS IN ADVANCE PRIOR TO THE START OF MAKING ANY CONNECTION TO THE EXISTING WATER DISTRIBUTION SYSTEM.
18. ONCE ALL PROPOSED WATER MAINS AND SERVICE LATERALS HAVE BEEN PROPERLY INSTALLED TO THE SATISFACTION OF THE TOWN OF BETHLEHEM AND THE ENGINEER, THEY SHALL BE CLEANED, HYDROSTATICALLY TESTED AND

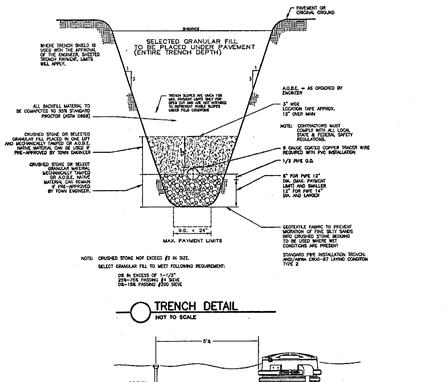
    DISINFECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE TOWN OF BETHLEHEM AND THE ENGINEER.
19. THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER THE LOCATION OF ALL INSTALLED IMPROVEMENTS THAT HE HAS COMPLETED, SO THAT THE ENGINEER MAY FURNISH RECORD MAPS TO THE TOWN OF BETHLEHEM.

SANITARY SEWER SYSTEM NOTES

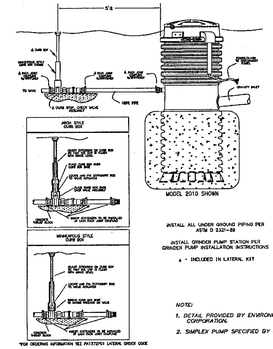
1. DESIGN, CONSTRUCTION, MATERIAL STANDARDS, MINIMUM SEPARATION DISTANCES, AND INSPECTION REQUIREMENTS SHALL COMPLY WITH:
   - TOWN OF BETHLEHEM SEWER DEPARTMENT
   - NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION REQUIREMENTS
   - APPROVED PLANS
   - APPROVED ENGINEERING REPORT(S)
   - TOWN OF BETHLEHEM
2. A LICENSED PROFESSIONAL ENGINEER SHALL SUPERVISE CONSTRUCTION IN ACCORDANCE WITH THE APPROVED PLAN
3. ALL PROPOSED SANITARY SEWER SYSTEM COMPONENTS SHALL CONFORM TO THE TOWN OF BETHLEHEM SEWER DEPARTMENT SPECIFICATIONS AND REQUIREMENTS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF THE PROPOSED WORK. THE LAYOUT SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR SHALL FURNISH SHOP DRAWINGS FOR ALL PROPOSED IMPROVEMENTS TO THE ENGINEER FOR APPROVAL PRIOR TO THE BEGINNING OF CONSTRUCTION.
6. THE ENGINEER SHALL BE NOTIFIED IN WRITING BY THE CONTRACTOR OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE PROPOSED WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL OF THE ENGINEER.
7. SEWER MAIN AND WATER MAIN SEPARATION: WHERE POSSIBLE, SEWERS SHALL BE LAID AT LEAST 10' HORIZONTALLY DISTANT FROM ANY EXISTING OR PROPOSED WATER MAIN. VERTICAL SEPARATION SHALL BE MAINTAINED TO PROVIDE 18" BETWEEN TOP OF SEWER AND INVERT OF WATER MAIN AT UTILITY CROSSINGS.
8. MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE TOWN OF BETHLEHEM REQUIREMENTS.
9. THE CONTRACTOR SHALL COMPLY WITH ALL O.S.H.A. AND OTHER STATE AND LOCAL SAFETY REQUIREMENTS DURING CONSTRUCTION.
10. ALL EXCAVATIONS SHALL BE KEPT DRY AND DEWATERED AT ALL TIMES DURING CONSTRUCTION.
11. ALL EXISTING ABOVE GROUND AND UNDERGROUND UTILITES SHALL BE MAINTAINED DURING CONSTRUCTION BY THE CONTRACTOR UNLESS OTHERWISE NOTED ON THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.
12. THE CONTRACTOR SHALL FERTILIZE, SEED AND MULCH ALL DISTURBED VEGETATED AREAS UNLESS OTHERWISE NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
13. PRESSURE SEWER SYSTEM INSTALLATION NOTES:
   - THE DEVELOPER SHALL BE RESPONSIBLE FOR CONSTRUCTION OF THE PROPOSED PRESSURE SEWER SYSTEM AS SHOWN ON THESE PLANS.
   - ALL VALVE BOXES ARE TO BE BROUGHT TO GRADE.
   - ALL TEES AND BENDS TO HAVE A SOLID CONCRETE BLOCK (4" X 8" X 12") FOR THRUST RESTRAINT.
   - PIPE LINE SHALL BE TESTED AT 120 PSIG FOR A DURATION OF TWO HOURS. ALLOWABLE LEAKAGE FOR 1,000 LF OF PIPE SHALL BE AS FOLLOWS:

PIPE SIZE (INCHES)	ALLOWABLE LEAKAGE (GALLONS PER HOUR)
2.0	0.19
2 1/2	0.24
3.0	0.29

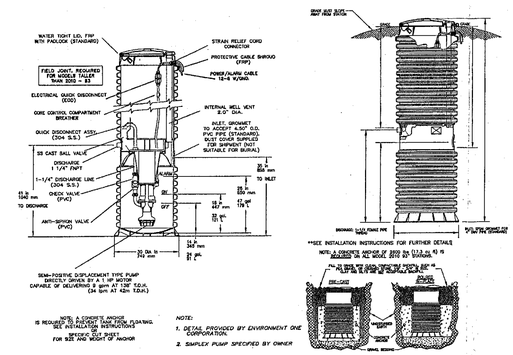
   - PROPOSED PRESSURE SEWER SYSTEM SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWN OF BETHLEHEM SEWER DEPARTMENT.
14. GRINDER PUMP INSTALLATION NOTES:
   - LOCATION AND CONSTRUCTION OF GRINDER PUMPS SHALL BE APPROVED BY THE TOWN OF BETHLEHEM SEWER DEPARTMENT PRIOR TO APPLICATION FOR A BUILDING PERMIT.
     GENERAL GUIDELINES
     - GRINDER PUMP SHALL BE LOCATED 20' MAXIMUM FROM PROPOSED BUILDING.
     - GRINDER PUMP SHALL BE LOCATED 20' MAXIMUM FROM PROPOSED DRIVEWAY/PARKING.
     - BUILDING SERVICE CONNECTION TO GRINDER PUMP SHALL BE BY GRAVITY LINE ONLY.
   - NO BUILDING PERMIT SHALL BE ISSUED PRIOR TO APPROVAL OF THE LOCATION OF THE GRINDER PUMP BY THE TOWN OF BETHLEHEM SEWER DEPARTMENT. WRITTEN APPROVAL BY THE TOWN OF BETHLEHEM SEWER DEPARTMENT SHALL BE SUBMITTED TO THE TOWN OF BETHLEHEM BUILDING DEPARTMENT AT A TIME OF APPLICATION FOR A BUILDING PERMIT.
   - ALL GRINDER PUMP UNITS ARE TO BE TESTED AFTER COMPLETION OF ALL GRADING AND LAWN LANDSCAPING. UNITS AND PIPING TO BE TESTED FOR 3 MINUTES AT 100 PSIG.
   - ALL UNITS TO BE FINAL TESTED AFTER ALL SITE IMPROVEMENTS AND LANDSCAPING IS COMPLETED TO VERIFY THAT NO DAMAGE TO FORCE MAIN OCCURRED DURING CONSTRUCTION. TEST TO INCLUDE THAT PRESSURE IS MAINTAINED BY THE SYSTEM AND MUST BE WITNESSED BY THE TOWN OF BETHLEHEM PERSONNEL.
15. THESE IMPROVEMENTS ARE DESIGNED FOR USE WITH ENVIRONMENT ONE CORP. PUMPS ONLY. USE OF OTHER PUMPS SHALL REQUIRE P.E. CERTIFICATION AND APPROVAL FROM THE TOWN OF BETHLEHEM SEWER DEPARTMENT.
16. GRINDER PUMP AND SERVICE LINES ARE TO BE OWNED AND MAINTAINED BY THE OWNER.
17. SEWER SERVICE TO BE PROVIDED BY TOWN OF BETHLEHEM SEWER DEPARTMENT.
    ALL INSTALLATION AND MATERIAL SPECIFICATIONS FOR SANITARY SEWER MAINS AND SERVICE CONNECTIONS SHALL CONFORM TO TOWN OF BETHLEHEM SEWER DEPARTMENT STANDARD DETAILS AND REQUIREMENTS.
18. TOWN OF BETHLEHEM SEWER DEPARTMENT SUPERINTENDENT SHALL BE NOTIFIED OF COMMENCEMENT OF CONSTRUCTION FOR THE PURPOSES OF INSPECTION.
    CONTRACTOR SHALL OBTAIN A CONSTRUCTION PERMIT FROM THE TOWN OF BETHLEHEM SEWER DEPARTMENT PRIOR TO CONSTRUCTION OF ANY PROPOSED SANITARY SEWERS.



TRENCH DETAIL
NOT TO SCALE

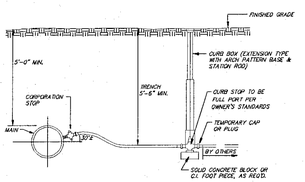


TYPICAL LATERAL INSTALLATION (SIDR 7 HDPE PIPE ARCH AND MINN PATTERN)
NOT TO SCALE



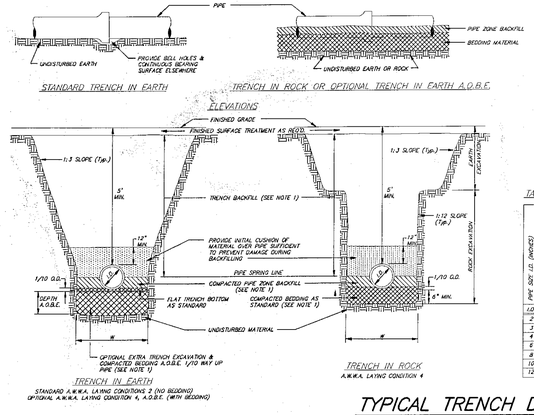
NOTE:
1. DETAIL PROVIDED BY ENVIRONMENT ONE CORPORATION.
2. SIMPLEX PUMP SPECIFIED BY OWNER

GRINDER PUMP
NOT TO SCALE



FOR SERVICES 2" DIAMETER OR LESS

TYPICAL SERVICE CONNECTION DETAILS
SCALE : NONE

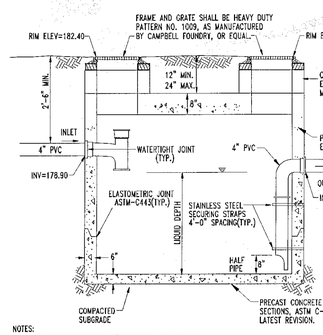


NOTES :
1. PIPE ZONE BEDDING SHALL CONSIST OF CRUSHED STONE, SAND, SUITABLE EXCAVATED MATERIAL OR OTHER APPROVED MATERIAL. PIPE ZONE BACKFILL SHALL CONSIST OF SAND, SUITABLE EXCAVATED MATERIAL, OR OTHER APPROVED MATERIAL. TRENCH BACKFILL SHALL SHALL CONSIST OF SUITABLE EXCAVATED MATERIAL OR OTHER APPROVED MATERIAL.
2. ALL TRENCH EXCAVATION & ANY REQUIRED SHEETING & SHORING SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE FOLLOWING:
   a. SUBPART 23-A "EXCAVATION OPERATIONS," OF N.Y.S. DEPARTMENT OF LABOR INDUSTRIAL CODE RULE 23.
   b. SUBPART 29, "EXCAVATIONS, TRENCHING AND SHORING," OF U.S. DEPARTMENT OF LABOR OSHA REGULATIONS FOR CONSTRUCTION. THE MORE STRINGENT REQUIREMENT IN EACH CODE SHALL APPLY.
3. SHEETING & SHORING SYSTEMS OTHER THAN THOSE ALLOWED BY THE CODES, SHALL BE IN ACCORDANCE WITH SPECIFIC DESIGN PLANS DONE BY A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER.

TABLE 3

PIPE SIZE I.D. (INCHES)	MAX. TRENCH WIDTH AT TOP OF PIPE (BEDDING NOT INCLUDED)	MAX. TRENCH WIDTH AT TOP OF PIPE PLUS 24"
1.0	W min.	W max.
2	18	26
3	18	27
4	18	28
6	21	30
8	24	32
10	26	34
12	29	38

TYPICAL TRENCH DETAILS
SCALE : NONE



NOTES:
1. INV. OF INLETS TO BE 2" ABOVE INV. OF OUTLETS
2. ALL JOINTS SHALL BE MADE WATERTIGHT.
3. DEPTH SHALL BE EQUAL TO THE WIDTH FOR A RECTANGULAR TANK OR THE DIAMETER FOR A CIRCULAR TANK.

1000 GAL. GREASE TRAP
SCALE : NONE

ALL UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH TOWN STANDARD DETAILS AND SPECIFICATIONS. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN THESE DOCUMENTS FOR USE ON THE JOB.

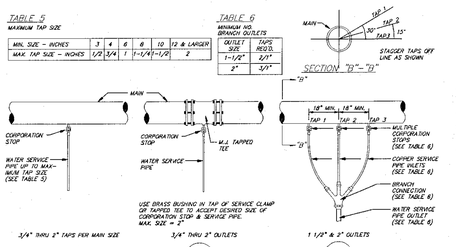
RECEIVED
AUG 28 2006

TABLE 5
MAXIMUM TAP SIZE

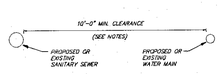
MIN. SIZE - INCHES	3	4	6	8	10	12 & LARGER
MAX. TAP SIZE - INCHES	1/2	3/4	1	1-1/4	1-1/2	2

TABLE 6
MINIMUM I.D. BRANCH OUTLETS

OUTLET SIZE	TAPS REQ'D.
1-1/2"	2/1"
2"	3/1"

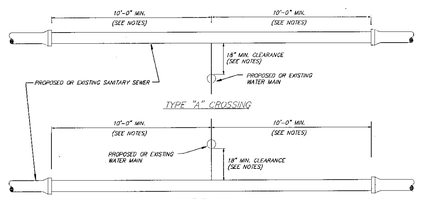


TYPICAL COPPER SERVICE PIPE CONNECTIONS
SCALE : NONE



HORIZONTAL SEPARATIONS

NOTES:
WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, ONE OF THE FOLLOWING METHODS MUST BE SPECIFIED:
1. THE SEWER SHALL BE DESIGNED AND CONSTRUCTED EQUAL TO WATER PIPE, AND SHALL BE PRESSURE TESTED AT 150 PSI TO ASSURE WATER TIGHTNESS PRIOR TO BACKFILLING.
2. EITHER THE WATER MAIN OR THE SEWER LINE MAY BE ENCASED IN A WATERTIGHT CARRIER PIPE WHICH EXTENDS 10 FEET ON BOTH SIDES OF THE CROSSING, MEASURED PERPENDICULAR TO THE WATER MAIN. THE CARRIER PIPE SHALL BE OF MATERIALS APPROVED BY THE HEALTH DEPARTMENT FOR USE IN WATER MAIN CONSTRUCTION.



VERTICAL SEPARATIONS

SEWER MAIN AND WATER MAIN SEPARATION
SCALE : NONE

PLANNING BOARD
TOWN OF BETHLEHEM
ALBANY COUNTY, NEW YORK
This Site Plan Approved.
Chairman
Date 8/24/06

TOWN OF BETHLEHEM APPROVAL AREA

INCHES
Town of Bethlehem, NY

Cumberland Farms
777 Dedham Street Canton, Massachusetts 02021

Rev.	Date	Comment	BY
4	7/17/06	REVISED PER DPW COMMENTS	RJS
3	3/10/06	REVISED PER TOWN COMMENTS	ALS
2	9/14/05	REVISED PER CLIENT COMMENTS	RJS
1	5/6/05	REVISED PER CLIENT COMMENTS	RJS

BOHLER ENGINEERING, P.C.
• CIVIL & CONSULTING ENGINEERS • PROJECT MANAGERS • ENVIRONMENTAL & SITE PLANNERS • MUNICIPAL ENGINEERS •
352 TURNPIKE ROAD, SUITE 105 SOUTHBOROUGH, MA 01772 (508) 480-9900
5 COMPUTER DRIVE WEST, SUITE 203 ALBANY, NEW YORK 12205 (518) 438-9900
776 MOUNTAIN BLVD. WATCHUNG, NEW JERSEY 07060 (908) 668-8300

PROJECT: CUMBERLAND FARMS, INC.
PROP. FOOD STORE & GAS STATION
68 ROUTE 9W – NYS RTE 9W & NYS RTE 32
TOWN OF BETHLEHEM, ALBANY COUNTY, NEW YORK

TITLE: DETAILS

L.H. BOHLER
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 27410
PENNSYLVANIA LICENSE No. 37184
NEW YORK LICENSE No. 63409
CONNECTICUT LICENSE No. 17518
MASSACHUSETTS LICENSE No. 37025

W. DAVID OBEL
STATE OF NEW YORK
LICENSED PROFESSIONAL ENGINEER

SCALE: (H) NONE (V) NONE	DATE: 4/11/05
DRAWN BY: SMV	PROJECT No. b040587
CHECKED BY: RJS	CAD I.D.: b040587sd0
CONSTRUCTION CHECK DATE	

SHEET No: 13 OF 16
REV. No. 4