

**HARFORD COUNTY PUBLIC SCHOOLS
REQUEST FOR PROPOSALS
FOR QUALITY CONTROL TESTING SERVICES
and
SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING SERVICES**

June 23, 2019

INTRODUCTION:

Proposals are being sought for Quality Control Testing Services and Subsurface Exploration and Geotechnical Engineering Services for the Joppatowne High School Limited Renovation Project. The construction phase of this project is scheduled to begin in June 2020 and continue until December 2021.

AWARD of PROPOSAL:

The contract is a total amount of the combination of the Quality Control Testing Services fee and the Subsurface Exploration and Geotechnical Engineering Services fee. The contract will be awarded to the lowest responsive and responsible bidder complying with all requirements of the invitation to submit proposals, provided the proposal price is reasonable and it is to the interest of Harford County Public Schools to accept it. Harford County Public Schools reserves the right to reject any or all bids received whenever such rejection or waiver is in the best interest of Harford County Public Schools.

Quality Control Testing Services

Estimated fee based on the Evaluation Sheet

Subsurface Exploration and Geotechnical Engineering Services

Lump Sum Fee

Total Fee for providing above services

**HARFORD COUNTY PUBLIC SCHOOLS
REQUEST FOR PROPOSALS
FOR QUALITY CONTROL TESTING SERVICES**

JOPPATOWNE HIGH SCHOOL LIMITED RENOVATION

Scope of Service:

Provide a comprehensive testing program to meet quality assurance needs for the above mentioned project. Engineering technicians must have appropriate certifications, such as American Concrete Institute and National Institute for Certification in Engineering Technologies, and may be required on both a full-time and part-time basis. A U.S. Army Corps of Engineers or American Association of State Highway Officials (AASHTO) accredited laboratory will be required for testing in accordance with all pertinent codes, regulations, ASTM specifications, and project requirements

Services are to include:

- a) Foundation and soils inspection and testing to include monitoring undercutting operations, field density tests for structural and trench fill, and observation of soils in foundation excavations. Laboratory testing including classification tests, proctor tests, and other tests as necessary.
- b) Concrete and reinforcing steel inspection and testing to include sampling and field testing, acquiring and transporting concrete test cylinders for curing and compressive strength testing.
- c) Structural steel inspection and testing services are to be performed by a qualified inspector to include checking fastener tension of bolted connections, visually checking welds, and nondestructive testing of welds.
- d) All other testing as necessary to comply with the project specifications including testing and inspection of bituminous paving, masonry and sprayed on fireproofing.

All tests and inspections shall require appropriate evaluations and reports to be submitted in a complete format. Inspection and testing reports shall include: date, times and duration that a technician is on site, contractor's activities, technician's activities, tests taken, test/inspection location map, field test results, etc. A registered professional engineer shall supervise and certify all testing and inspections.

Project Description

Joppatowne High School Limited Renovation:

A Phased Occupied Limited Renovation of an approximately 184,000 sq. ft. high school, which includes structural repairs and the addition of new accessory buildings. The project will include foundations, site paving, utilities, and storm water management facilities.

Coordination:

The testing consultant shall be responsible to coordinate schedules with the construction manager and prime contractors for required testing and inspections.

Form of Proposal:

The written proposals shall include an itemized description of all costs including the number and types of all tests and inspections which will be performed, unit pricing for each service as well as the lump sum totals, and unit prices for any additional services. Engineering technician rates shall include mileage, sample pickup, project engineer review and issuance of all reports, administrative fees, clerical fees, and field supervision. Engineering unit price shall include only requested site meetings and consultation. Refer to the attached evaluation sheet for engineering services and laboratory testing to be included.

Use the Quality Control Testing Proposal Evaluation Sheet that is attached.

FAXED OR EMAILED PROPOSALS WILL NOT BE ACCEPTED.

All proposals shall be directed to:

Mr. Stephen Fantasie
Construction Project Assistant
Harford County Public Schools
Planning & Construction Department
102 South Hickory Avenue
Bel Air, Maryland 21014
Telephone (410) 809-6123

PROPOSALS must be received at the address listed above by:

**July 10, 2019
2:00 P.M. LOCAL TIME
NO EXCEPTIONS**

**JOPPATOWNE HIGH SCHOOL LIMITED RENOVATION
EVALUATION SHEET**

SERVICES	FEE OR HOURLY RATE	ESTIMATED HOURS OR QUANTITY	TOTAL ESTIMATED PRICE
A) Engineering Technicians			
Soils		500	
Reinforcing Steel		100	
Concrete		100	
Masonry		75	
Bituminous Concrete		150	
Structural Steel		100	
B) Testing Services			
Nuclear Density		25	
Sieve Analysis		5	
Atterberg Limits		5	
Moisture Density (Standard Proctor)		3	
Moisture Density (Modified Proctor)		3	
Concrete Test Cylinders		100	
Mortar Cubes		1 set of 3	
Grout Test Cylinders		1 set of 4	
Masonry Prisms		1	
C) Miscellaneous			
Project Engineer			
TOTAL FEE:			

**HARFORD COUNTY PUBLIC SCHOOLS
SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING SERVICES
REQUEST FOR PROPOSAL**

JOPPATOWNE HIGH SCHOOL LIMITED RENOVATION

SCOPE OF SERVICE:

Provide a soil testing program to include soil test borings as required producing a comprehensive geotechnical report for the anticipated construction as outlined on the enclosed Banta Campbell memo: Geotechnical and Materials Testing Scope, dated May 14, 2019. Services to include subsurface explorations, laboratory testing, engineering evaluation and report. Registered professional geotechnical engineer shall supervise entire subsurface investigation.

The proposal shall indicate the number and types of all tests which will be performed with unit pricing for each test. Harford County Public Schools reserves the right to award this project based solely on the best interest of Harford County Public Schools as determined by the Supervisor of Planning and Construction.

PROJECT DESCRIPTION:

A Phased Occupied Limited Renovation of an approximately 184,000 sq. ft. high school, which includes structural repairs and the addition of new accessory buildings. The project will include foundations, site paving, utilities and storm water management facilities. The enclosed Specifications for Geotechnical Investigation outlines the scope, loads and requirements for the proposed building borings.

GEOTECHNICAL REPORT:

It shall be the geotechnical engineer's responsibility to perform the tests to produce a comprehensive geotechnical report in accordance 2018 International Building Code/IBC 2018. The report shall include, but not necessarily be limited to, the following:

- A. A description of site, subsurface, and geologic conditions**
- B. A description of exploration, samplings, testing and analysis methods**
- C. A description of the condition of material associated with the interior test pits associated with the existing building and provide recommendations for remedial repairs**
- D. Boring location plan, profiles and ground surface elevations at borings**
- E. Allowable bearing pressure for foundations**
- F. Recommendations and alternatives for the design and construction and or repairs of foundation system**
- G. Foundation bearing elevations**
- H. Recommendations for design and details of pavements and its subgrade**
- I. Recommendations and specifications for placement of structural fill, if required. The recommendations should address potential use of on-site materials as fill.**
- J. Settlement considerations as related to any proposed cut/fill grading scheme across the building area**
- K. Lateral earth pressure diagrams for walls for both active and at rest conditions**
- L. Location of water table at the completion of the investigations and at 24 hours after completion, and at 48 hours after completion**
- M. Recommendations regarding slab-on-grade construction**
- N. Earthwork, excavation criteria, and subgrade preparation recommendations**
- O. Modify geotechnical investigation and testing as required to provide complete professional engineering report in all areas to be investigated**

- P. Equivalent fluid pressure diagrams for foundation and retaining walls***
- Q. Field testing or inspections required during construction***
- R. Extent of rock formation***
- S. Passive earth pressure coefficient***
- T. Coefficient of sliding friction for retaining wall design***
- U. Provide site soil classification for seismic design per IBC 2018 Code***

THE LABORATORY TESTING SHOULD INCLUDE:

- A. Natural Moisture Contents**
- B. Moisture - Density Relationships (ASTM D 1557, AASHTO T 180)**
- C. California Bearing Ratio Test (ASTM D 1883, AASHTO T 1293)**
- D. USDA Classification**
- E. Atterberg Limits (ASTM D4318).**

REMARKS:

1. For bidding purposes only, boring depths shall be assumed to be as outlined in the Banta Campbell memo dated May 14, 2019. Actual boring depths shall be determined by the Geotechnical consultant in order to produce a comprehensive and accurate geotechnical report. The boring locations must be approved by the Geotechnical Engineer. If the Geotechnical Engineer feels additional borings may be required to provide a comprehensive report, then it shall be so noted in his proposal.
2. Geotechnical Engineer shall conform to the requirements of MD 378: "All investigations shall be logged using the Unified Soil Classification System."
3. Additional tests will be necessary if the initial field percolation test yield a rate greater than 0.52 inches/hour.
4. Coordinate boring locations with existing utilities and existing structures.
5. It shall be the geotechnical consultant's responsibility to perform the necessary tests to produce a comprehensive and accurate geotechnical report in accordance with IBC 2018.
6. The proposal shall indicate the number and types of all tests which will be performed.

7. Refer to Banta Campbell memo, dated May 14, 2019 for additional boring information.

LOCATION OF BORINGS:

It shall be the responsibility of the geotechnical consultant to provide for stakeout of all proposed borings and tests. Subsurface investigations shall be performed at the locations to be determined. Underground obstructions shown on the plan are for the convenience of the soils engineer and are not guaranteed accurate. The driller shall satisfy himself as to the existence of location of all underground construction before beginning work. The location of borings may be adjusted in the field as dictated by site conditions, and the revised boring locations noted in the report. Harford County Public Schools reserves the right to change the location of any test boring to another point within the site; Harford County Public Schools reserves the right to add additional test borings to the sequence at the unit price.

SAMPLES:

Samples shall be taken of each different material encountered in the investigations. The location of all samples shall be noted on the boring logs. Samples shall be taken at approximately five-foot intervals at each boring.

NOTIFICATION:

The geotechnical consultant shall notify the Project Manager at Harford County Public Schools' Planning and Construction Department, 410-638-4090, at least 48 hours prior to mobilizing on site and after completion of all borings before removing drilling rig from site.

PROTECTION:

The geotechnical consultant shall exercise care and provide the necessary protection for the existing facilities and roads. The geotechnical consultant shall initiate, maintain and supervise all required safety precautions and programs in connection with the work.

Underground obstructions shown on the plan are for the convenience of the soils engineer and are not guaranteed accurate. The driller shall satisfy himself as to the existence and location of all underground construction before beginning work. The location of soil borings may be adjusted in the field as dictated by site conditions.

DEPTH:

For bidding purposes only, borings may be terminated at a shallower depth if rock is encountered or as designated on the enclosed plan. Rock shall be defined as the

materials that has a resistance to the sampling spoon of 100 blows to drive it into the material one inch or less using a 140-pound hammer having a 30 inch fall.

Do not terminate borings in "fill" materials.

Do not terminate borings in "soft" material not capable of supporting proposed structure.

FORM OF PROPOSAL:

A written proposal shall include an itemized description of all costs as well as the lump sum totals and unit prices for additional services. The proposal shall include a work schedule noted in calendar days, stating mobilization, boring completion, verbal report and final report dates. The timeliness of the schedule is a consideration in the evaluation of these proposals.

PROPOSALS ARE TO BE SUBMITTED TO:

Mr. Stephen Fantasie
Construction Project Assistant
Planning and Construction Department
Harford County Public Schools
102 South Hickory Avenue
Bel Air, Maryland 21014
Telephone: (410) 809-6123

PROPOSALS **will not** be accepted by fax or email and **must** be received at the address listed above by:

**July 10, 2019
2:00 PM LOCAL TIME
NO EXCEPTIONS**

May 14, 2019

Re: **Joppatowne High School Limited Renovation
Geotechnical and Materials Testing Scope**

The purpose of this investigation is to determine the general subsurface conditions at the site and to evaluate those conditions with respect to the geotechnical aspects of the project, including the following:

- Determine the general subsurface conditions at the site, including soil and groundwater conditions. (Provide min. 24 hr. reading for accurate depth of water.)
- Provide 4 stormwater management borings (2 shall be infiltration tests), depth shall be 20' deep. All infiltration testing shall be in accordance with Appendix D of the current 2000 Maryland Stormwater Design Manual Volumes I and II. Specific locations to be determined by Civil Engineer. Provide Unit Costs at this time.
- Provide 28 paving borings to a depth of 5' and recommend an appropriate paving design based on the soil conditions encountered.
- Provide geotechnical considerations related to the proposed SWM facilities.
- Provide price for additional mobilization if required.
- Provide price for additional borings if required.
- Structural borings as outlined below.
- Geotechnical Engineer is responsible for boring stakeout and contacting Miss Utility to locate underground utilities at the site.

The minimum requirements for the geotechnical report are as follows:

1. An Executive summary with the project findings and recommendations.
2. A general description of the site including existing grades and the regional geology.
3. A description of the proposed project including the assumed building loadings of typical column load of 30 kips at Bleachers, typical bearing wall load of 3 kips per foot at Toilet/Concessions Building and Team/Storage Building and Electrical Service Room.
4. Interior under-slab test pits: The building has experienced floor slab settlement in the area of the Back Stage, Dressing Rooms and Cafeteria. Perform minimum 4 test pits below the slab to determine, compaction, water content, stability of soils. Primary concern is to evaluate if the condition is now stable or what measures will be necessary to establish a stable under-slab condition.

5. A general site plan accurately showing test boring and test pit locations.
6. A description of the subsurface conditions including the ground water levels.
7. The Site Class Definition per table 1613.3.2 of the 2018 International Building Code/IBC 2018.
8. Description of the field exploration and laboratory tests performed.
9. Final logs of the soil borings and records of the field exploration in accordance with the standard practice of soil mechanics and foundation engineers. A site location plan shall be included, and the results of the laboratory tests will be plotted on the final boring logs.
10. Provide recommendations for foundation and slab systems. Recommendations should be based on the most economical system that is acceptable for use with the soil conditions. If a shallow foundation system is recommended, provide allowable soil bearing pressures for conventional spread footing foundations and slab on grade. Acceptable foundation settlements should be determined by the geotechnical engineer as is consistent with industry standards with buildings of similar size and construction. Include any relevant project details and indicate anticipated foundation settlements.
11. Provide additional recommendations specific to selected foundation system as required. For example, if timber piles are recommended, provide guidelines for load testing of piles, etc.
12. Evaluate the on-site soil characteristics encountered in the soil borings. Specifically, discuss the suitability of the on-site materials for re-use as engineered fill to support the slab.
13. Provide recommendations for excavation and rock removal at the site, if applicable.
14. Provide recommendations for lateral earth pressure (active, at rest and passive) likely to develop on below grade walls. Provide coefficient of friction for soil conditions present for use in sliding stability analysis. Provide recommendations for drainage and backfill at the walls below grade.
15. As requested, consult with the architects and engineers on any problems that may arise related to performance of the structure and subsurface foundations.

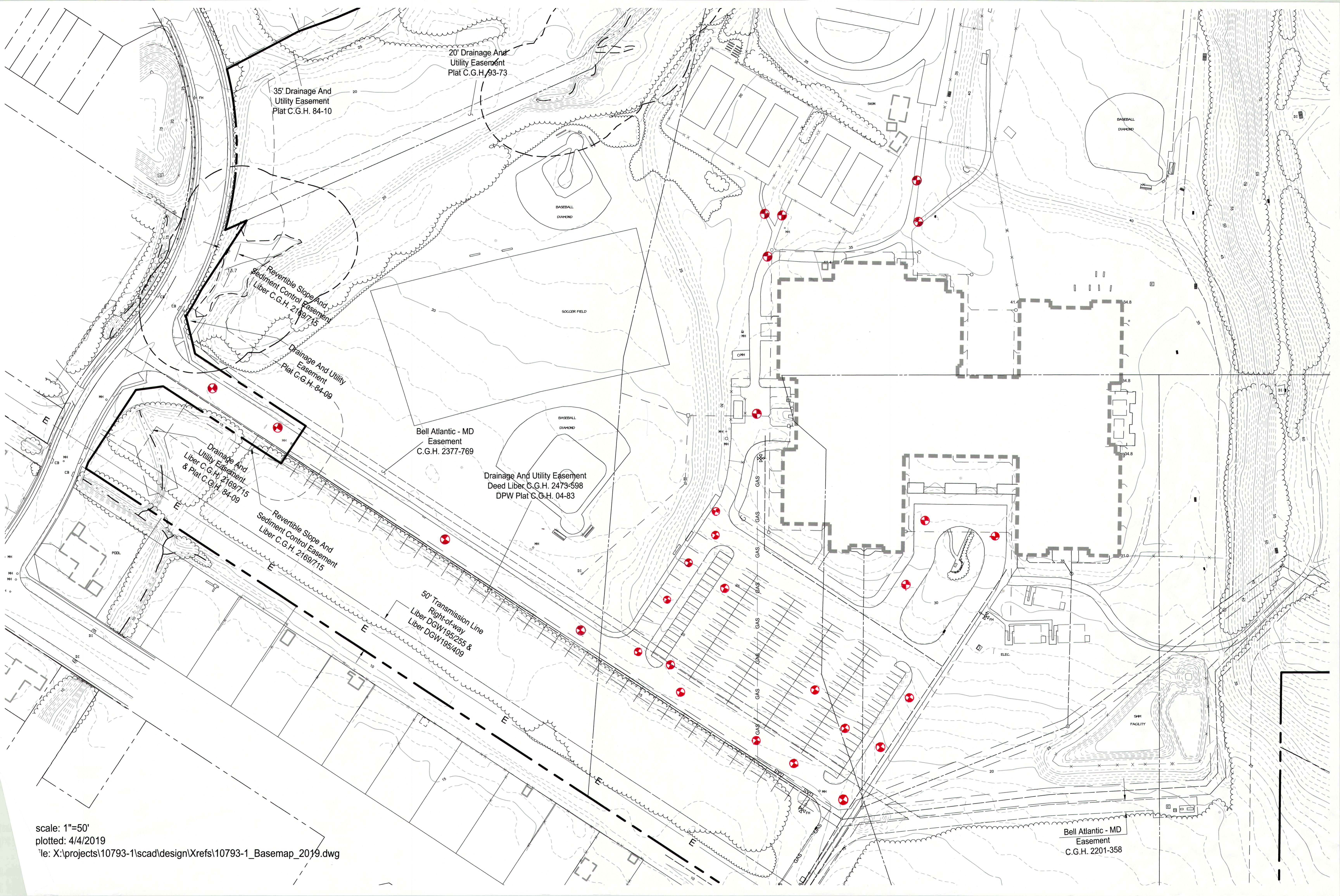
We estimate 5 borings will be needed and that these should be drilled to depths on the order of 30 feet each below existing ground for bidding purposes. Borings should not be terminated in fill or in soft material not capable of supporting the proposed structure.

The number of soil boring locations and drilling depths are for bidding purposes only but is to be considered the minimum requirement. If, in the judgment of the geotechnical engineer, deeper or additional borings are required to make a reasonable assessment of the soil conditions for determination of allowable soil bearing pressures, then it is the

Banta Campbell Architects, Inc.

responsibility of the geotechnical engineer to provide the additional borings. The geotechnical engineer is also responsible for notifying the Project Architect if different boring depths are required. A unit price shall be provided in the proposals indicating the cost of drilling per foot of boring depth.





35' Drainage And
Utility Easement
Plat C.G.H. 84-10

20' Drainage And
Utility Easement
Plat C.G.H. 93-73

Reversible Slope And
Sediment Control Easement
Liber C.G.H. 2169715

Drainage And Utility
Easement
Plat C.G.H. 84-09

Drainage And
Utility Easement
Liber C.G.H. 2169715
& Plat C.G.H. 84-09

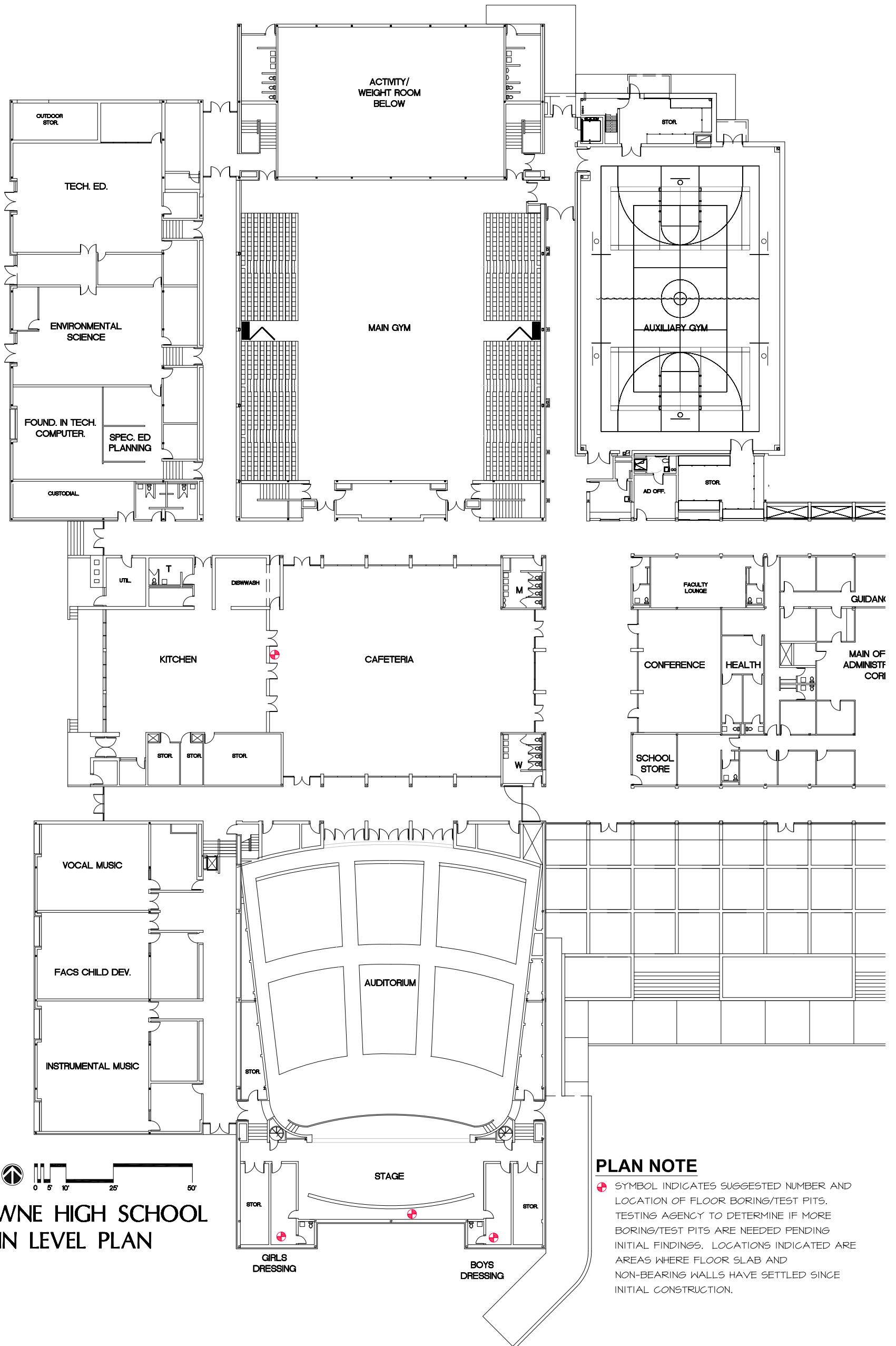
Reversible Slope And
Sediment Control Easement
Liber C.G.H. 2169715

Bell Atlantic - MD
Easement
C.G.H. 2377-769

Drainage And Utility Easement
Deed Liber C.G.H. 2473-598
DPW Plat C.G.H. 04-83

50' Transmission Line
Right-of-way
Liber DGW 95/255 &
Liber DGW 195/409

Bell Atlantic - MD
Easement
C.G.H. 2201-358



**JOPPATOWNE HIGH SCHOOL
PART MAIN LEVEL PLAN**

$\frac{1}{32}'' = 1'-0''$

PLAN NOTE

➤ SYMBOL INDICATES SUGGESTED NUMBER AND LOCATION OF FLOOR BORING/TEST PITS. TESTING AGENCY TO DETERMINE IF MORE BORING/TEST PITS ARE NEEDED PENDING INITIAL FINDINGS. LOCATIONS INDICATED ARE AREAS WHERE FLOOR SLAB AND NON-BEARING WALLS HAVE SETTLED SINCE INITIAL CONSTRUCTION.