REQUEST FOR PROPOSALS

RFP BID #23-01-2932 TT

NAVAJO NATION FISCAL RECOVERY FUND OFFICE

GEOTECHNICAL INVESTIGATION AND SOIL PERCOLATION TESTS

TSE BONITO, NEW MEXICO

JANUARY 24, 2023

1. INTRODUCTION

a. The Navajo Nation Fiscal Recovery Funds Office is requesting Proposals from Geotechnical Engineering Firms, listed in the Navajo Business Regulatory Source List, interested in performing geotechnical investigation and soil percolation testing in Tse Bonito, New Mexico, Navajo Nation. A Site Plan and Building Floor Plans are attached.
b. This project is subject to all provisions of the Navajo Business and Procurement Act, 12 N.N.C. §1501 et seq.
c. The selected firm shall comply with all provisions of the Navajo Preference in Employment Act at 15 N.N.C. § 601 et seq.
d. This project is subject to all provisions of the Navajo Business Opportunity Act (NBOA) (5 NNC T§§ 201 et seq), the Navajo Business and Procurement Act, 12 §1501 et seq. The selection of Firm will be made in accordance with NBOA. Selected firm shall comply with all the provisions of the Navajo Preference in Employment Act at 15 N.N.C. § 601 et seq and NBOA. The Navajo Nation will not provide any waiver of sovereign immunity.
e. The selected firm and any subcontractors will be subject to Federal Procurement Standards and Compliance and Reporting Requirements- State and Local Fiscal Recovery Funds, September 20, 2022 Version: (As Amended)

2. PROJECT DESCRIPTION

The Navajo Nation Fiscal Recovery Funds (FRF) Office is planning on developing modular office buildings located in Tse Bonito, New Mexico. Two (2) separate Modular Office Buildings will be placed each having an occupancy of 100 people. One modular building is 9072-Square Feet and the other modular building is 10,584-Square Feet. Geotechnical Investigation will be used to develop foundation systems to carry the building loads. Soil Percolation Tests will be used to size the Wastewater Septic Tank and Drainfield System according to the Navajo Nation Environmental Protection Agency Domestic Wastewater Regulations, Navajo Nation Regulations. Project also consists of building a Traffic Turn Out

w/Culvert, Access Road, Parking Lot, Flood Wall, Fencing, Septic Tank and Drainfield, and a gravel pad for Storage Sheds.

3. PROJECT LOCATION

This project is located in Tse Bonito, New Mexico. Project is located on the North East Corner (NEC) of Highway 264 and BIA Highway N54 in Tse Bonito New Mexico. The total withdrawn area is 85.86+acres, but this development will occur on 10-acres. See Enclosed Site Plan.

4. PROPOSAL DUE DATE

a. The RFP Package is due ***3:00 PM (MST) on February 23, 2023*** at the Navajo Nation Fiscal Recovery Fund Office-Window Rock Airport Terminal Building. Late proposals will be returned to the sender. Proposals must be clearly labeled "NN FISCAL RECOVERY FUNDS OFFICE GEOTECHNICAL INVESTIGATION AND SOIL PERCOLATION TESTS" INSTRUCTIONS TO OFFERORS TO VISIBLY MARK ON THE OUTSIDE OF THE PROPOSAL PACKAGE, IF APPLICABLE, THE OFFERORS'S PRIORITY STATUS UNDER THE NAVAJO NATION BUSINESS OPPORTUNITY ACT. IT IS THE RESPONSIBILITY OF THE OFFEROR TO IDENTIFY THEMSELVES AS CERTIFIED UNDER THE NAVAJO NATION BUSINESS OPPORTUNITY ACT.

b. Navajo Nation Fiscal Recovery Office and Contact.

Mailing Address:
Navajo Nation Fiscal Recovery Fund Office
P.O. Box 2469
Window Rock, Arizona 86515
Phone: (928) 309-5532

Physical Address:
1 Beacon Road, (**Window Rock Airport Terminal Building**)
Window Rock, Arizona 86515

Questions can directed to: Max Bighorse, P.E., mlbighorse@navajo-nsn.gov Cell: 928-270-8456

5. PROPOSAL CONTENT

a. A limit of 20 pages is required, 8 ½ x 11 size, double sided sheet counts as one page.
b. A total of 5 copies and 1 original of Proposal. 6 Total.
c. Cover Letter; clearly stating who the firm is. Does not count towards 20 page limit.
d. Proposal, 20 Page Limit (can be double sided, counts as 1 page) Introduction, Overall Experience in Geotechnical Investigations, Experience on the Navajo Nation, Experience on Public Works Projects, Team Members, Firm's Qualifications, Plan of Approach: Equipment to be used
e. Completed W-9 Form
f. Completed Navajo Nation Certification Regarding Debarment, Suspension and Contracting Eligibility Document
g. Resumes of Key Personnel, Professional Registration of Key Personnel, Professional Liability Insurance, Commercial Liability Insurance, Navajo Nation Business Regulatory Certification, State Firm Registration (i.e. Arizona, New Mexico, Utah, etc.) Does not counts towards 20-page requirement.
h. All potential contractors must accept the attached format for SERVICES CONTRACT BETWEEN THE NAVAJO NATION AND _____ with no revisions.

6. FEES

In a Separate Sealed Envelope: **Fees to complete this project**. Include Navajo Nation Taxes.

7. REQUIREMENTS OF THE FIRM IF CONTRACT AWARDED

If awarded a contract, the Firm should be prepared to comply with the following:

a. Comply with all applicable Federal, Compliance and Reporting Requirements-State and Local Fiscal Recovery Funds, September 20, 2022 Version: 5.0 (As Amended).
b. Selected firm shall comply with all provisions of the Navajo Preference in Employment Act at 15 NNC. § 601 et seq. and NBOA (5 NNC§ 201 et seq).
c. The selected firm shall contact the Navajo Nation's Source List of firms to be given priority in Firms' selection of Subcontractors for this project.

8. GEOTECHNICAL INVESTIGATION

This work involves performing a geotechnical investigation by boring, sampling, and laboratory testing of the soil and rock strata to establish the soil and rock foundation characteristics for the analysis for a building foundation system for 2 EA single story modular office buildings. Building #1 is 84-Feet x 108-Feet in Floor Area with an occupancy of 100 People. Building #2 is 98-Feet x 108-Feet in Floor Area with occupancy of 100 People.

The Consultant shall conduct geotechnical investigations to determine and identify: soil conditions, water table and soil bearing capacity, etc. of the proposed construction areas on the site. All soil borings, if taken, shall be accurately surveyed and their dimensioned locations with the test data shall be shown on the site plan.

The Consultant is to conduct the geotechnical tests and prepare any documents to facilitate the construction of the proposed building or structure described above.

The geo-technical requirements shall include but not be limited to the following:

1. Geotechnical Investigation and Analysis: Provide personnel and equipment to conduct geotechnical investigations including, but not limited to:
    a. Shallow and deep soil borings.
    b. Soil Properties (e.g. moisture content, organic content, unit weight)
    c. Classification (e.g. Atterberg Limits, Grain Size Distribution)
    d. Strength Test (e.g. miniature vane, unconfined compression, triaxial)
    e. Geotechnical Engineering (e.g. consolidation settlement of underlying soils)
    f. Subsurface soil profiles.
    g. Detailed engineering report with analyses and recommendations.

2. Soil Borings: Obtain soil borings of sufficient quantity to identify and conditions that may impact the design for any footings, foundations, utility trenches, sidewalks, roads and parking lots, etc. Ensure 2 Borings are in the BIA N54 Highway Right of Way (Proposed Turn Out w/in fencing) for securing a Driveway Permit from BIA Branch of Roads.

    a. Borings should be drilled dry, and the depth at which groundwater is encountered should be recorded.

    b. Provide a plot plan giving dimensioned locations of the test borings on the topographic/utility survey plan. Provide vertical sections for each boring plotted and graphically presented showing the number of borings, sampling method used, description of soil and thickness of each layer. Note the location of strata containing organic materials, wet materials, or other inconsistencies that might affect the engineering conclusions.

    c. Describe the existing surface conditions, and summarize the subsurface conditions found to be present on the site.

3. Water Table:
    a. Identify the maximum elevation of the water table(if any) at the construction site to determine how it will impact the design for any footings, foundations, trenches, underground utilities, and site drainage.

Geotechnical Investigation Deliverables

1. Boring Logs and Field Notes
2. Laboratory Analysis Results
3. Include the following:
    a. Generalized soils and groundwater conditions.
    b. Engineering characteristics of the subsurface material together with laboratory test results.
    c. Site conditions, include site topography, vegetation, and frost depth.
    d. Recommendations for site preparation, earthwork, compaction and structural fill
    e. Whether or not subsoils are expansive for Building Subgrade Support
    f. Recommend Suitable building foundation system(s) for the type of modular buildings.
    g. Estimated subsoil settlement and swell potential.
    h. Soil stabilization requirements, suitable additivities and quantities.
    i. Groundwater management recommendations.
    j. Site drainage recommendations.
    k. Any other soil design or construction problems revealed by the study.

9. **PERCOLATION TESTS SCOPE OF WORK – SEPTIC TANK DRAINFIELD AREA (<u>PER NAVAJO ENVIRONMENTAL PROTECTION AGENCY DOMESTIC WASTEWATER REGULATIONS)</u>**

Percolation testing and the submittal of test results shall comply with the procedures described in this section. An alternative but equivalent test method may be approved by the Director on a case-by-case basis.

A. Percolation tests shall be performed at points and elevations selected as typical of the area in which the absorption system will be located. Consideration should be given to the finished grades of building sites so that the test results will represent the percolation rate of the soil in which the absorption systems will be located. After the suitability of an area has been evaluated, and the area has been approved for construction, no grade changes shall be made unless the Director is notified in advance and the area's suitability is re-evaluated prior to construction.

B. Percolation test reports shall include:

1. a signed statement certifying that the tests were conducted in accordance with Section §408 or the approved alternative method;

2. the name of the individual conducting the tests;

3. the date of the test(s);

4. the location of the property;

5. the depth and rate of each test in minutes per inch;

6. logs of the soil exploration pits, including descriptions of soil explorations to a depth of ten (10) feet. In the event that an absorption system will be deeper than six (6) feet, soil exploration must extend to a depth of at least four (4) feet below the bottom of the proposed absorption system;

7. a statement of the present and anticipated maximum groundwater table; and

8. all other factors affecting the percolation test results.

C. Percolation tests shall be conducted by or under the supervision of a qualified person such as a licensed environmental health scientist, or a civil, environmental or geotechnical engineer registered in Arizona, New Mexico, or Utah, in accordance with the following criteria:

1. Conditions Prohibited for Test Holes: Percolation tests shall not be conducted in test holes that extend into groundwater, bedrock, or frozen ground.

2. Soil Exploration Pit Prerequisite to Percolation Tests: Because the appropriate percolation test depth depends on the soil conditions at a specific site, a percolation test should be conducted only after a soil exploration pit has been dug and examined for suitable, porous strata and groundwater table information. Percolation test results should be related to the soil conditions found.

3. Number and Location of Percolation Tests: One or more tests shall be made in separate test holes on the site of the proposed absorption system to ensure that the results are representative of the soil conditions present.

4. Test Holes to Commence in Specially-Prepared Excavations: All percolation test holes should commence in specially-prepared larger excavations (preferably made with a backhoe), of sufficient size, which extend to a depth approximately six (6) inches above the strata to be tested.

5. Type, Depth, and Dimensions of Test Holes: Test holes shall be dug or bored, preferably with hand tools such as shovels, augers, or the like, and shall have horizontal dimensions ranging from four (4) to eighteen (18) inches (preferably eight to twelve (8-12) inches). The vertical sides of the test holes shall be at least twelve (12) inches deep, terminating at an elevation six (6) inches below the bottom of the proposed absorption system or unlined lagoon.

6. Preparation of Percolation Test Hole: The bottom and sides of the hole shall be carefully roughened or scratched with a knife blade or other sharp-pointed instrument in order to remove any smeared soil surfaces and to provide an open, natural soil interface into which water may percolate. All loose soil is to be

removed from the bottom of the hole. The addition of two to three (2-3) inches of clean coarse sand gravel will protect the bottom of the hole from scouring or sealing with sediment when water is added. Caving or sloughing in some test holes can be prevented by placing a wire cylinder or perforated pipe in the test hole, and surrounding it with clean coarse gravel.

7. Saturation and Swelling of the Soil: It is important to distinguish between saturation and swelling. Saturation means that the void spaces between soil particles are full of water. This can happen in a relatively short period of time. Swelling, however, is a soil volume increase caused by the intrusion of water into the individual soil particles. This is a slow process, especially in clay-type soil, and is the reason for requiring a prolonged swelling period, as in Paragraph (11) below.

8. Placing Water in Test Holes: Water should be placed carefully into the test holes by means of a small-diameter siphon hose or other suitable method to prevent the sides of the hole from washing down.

9. Percolation Rate Measurement: The necessary equipment may consist of a timepiece and a tape measure (with at least one-sixteenth-inch (1/16-inch) calibration) or a float gauge. All measurements shall be made from a fixed reference point (near the top of the test hole) to the surface of the water.

10. Test Procedure for Sandy or Granular Soils: For tests in sandy or granular soils containing little or no clay, the hole shall be carefully filled with clear water to a minimum depth of twelve (12) inches above the gravel, and the time for this amount of water to seep away shall be measured. The procedure shall be repeated. If the water from the second filling of the hole, also at least twelve (12) inches above the gravel, seeps away in ten (10) minutes or fewer, the test may proceed immediately as follows:

    a. Water shall be added to a point not more than six (6) inches above the gravel.

    b. Thereupon, from the fixed reference point, water levels shall be measured and recorded at ten (10) minute intervals for a period of one (1) hour.

    c. If six (6) inches of water seeps away in fewer than ten (10) minutes a shorter time interval between measurements shall be used, but in no case shall the water depth exceed six (6) inches.

    d. The drop that occurs during the final measurement period shall be used to calculate the percolation rate.

11. Test Procedure for Other Soils Not Meeting the Above Requirements: The hole shall be carefully filled with clear water and a minimum depth of twelve (12) inches

shall be maintained above the gravel for at least four (4) hours by refilling whenever necessary. Water remaining in the hole after four (4) hours shall not be removed. Immediately following this saturation period, the soil shall be allowed to swell not fewer than sixteen (16) hours and not more than thirty (30) hours. Immediately following this soil swelling period, percolation rate measurements shall be made using the following procedures:

a. Any soil which has sloughed into the hole shall be removed, and the water shall be adjusted to six (6) inches over the gravel.

b. Thereupon, from the fixed reference point, water levels shall be measured and recorded at approximately thirty-minute (30-minute) intervals over four (4) hours unless two (2) successive water level drops do not vary more than one-sixteenth (1/16) of an inch and thus indicate that an approximate stabilized rate has been obtained.

c. The hole shall be filled with clear water to a point not more than six (6) inches above the gravel whenever it becomes nearly empty.

d. Adjustments of the water level shall not be made during the last three (3) measurement periods except to the water level at the beginning of the immediately preceding measurement period.

e. When the first six (6) inches of water seep away in fewer than thirty (30) minutes, the time intervals between measurements shall be ten (10) minutes, and the test run for one (1) hour.

f. The water depth shall not exceed six (6) inches at any time during the measurement period.

g. The drop that occurs during the final measurement period shall be used in calculating the percolation rate.

12. Calculation of Percolation Rate: The percolation rate is equal to the time elapsed in minutes for the water column to drop, divided by the distance the water dropped in inches and fractions thereof.

13. Using Percolation Rate to Determine Absorption Area: The minimum or slowest percolation rate shall be used in calculating the required absorption area.

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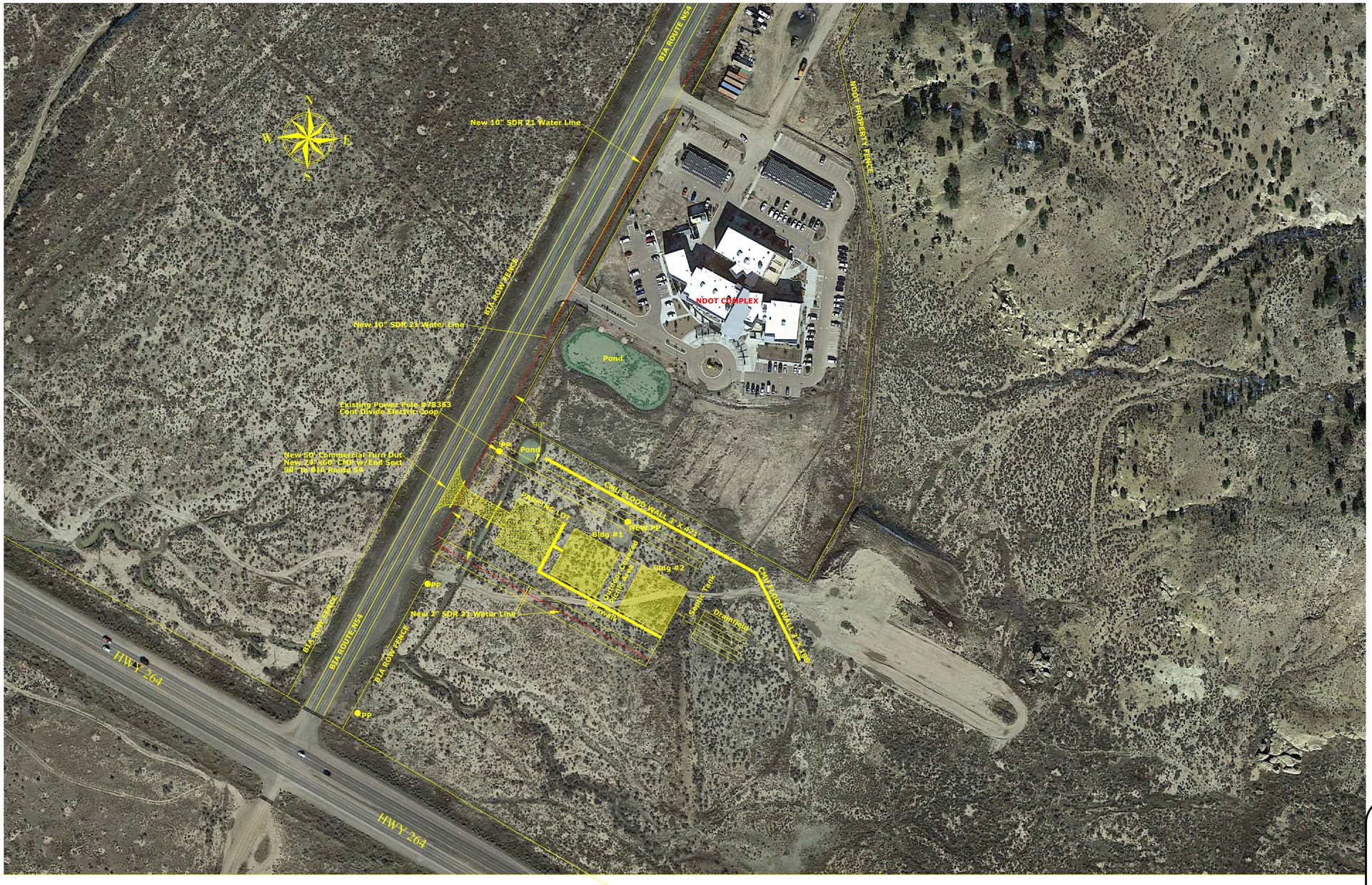
10. TERMS AND CONDITIONS

a. Nothing in this RFP is intended to or shall have the effect of waiving any privileges or immunities afforded. The Navajo Nation including, but limited to, sovereign immunity or official immunity and it is expressly agreed that the Navajo Nation retains such privileges
b. The Navajo Nation is a sovereign government and all contracts entered because of the RFP shall comply with the Navajo Nation Laws, Rules, and Regulations, includes the Navajo Preference in Employment Act- and applicable federal laws, rules and regulations.

11. SCORING OF REQUEST FOR PROPOSALS (RFP)

- Experience in Drilling, Geotechnical Investigations, Laboratory Soils Testing, Soils Reports, Building Foundation Recommendations **20 Points**
- Current License to practice in Arizona, New Mexico or Utah, **20 Points**
- Proposal Content, Neatness, Organization Chart, Experience Relevant to Scope of Work, Cover Letter, How Firm will approach this project, **20 Points**
- Experience working on Navajo Nation Projects in Geotechnical and Soils Investigations **10 Points**
- Capacity to handle the Project, Manpower **10 Points**
- Qualification of Firm: Professional Licenses and Resumes of Key Personnel. **20 Points**
- A total of **100 Points** Possible

OVERALL SITE PLAN
FISCAL RECOVERY FUNDS OFFICE BUILDING
TSE BONITO, NEW MEXICO



NAVAJO NATION FISCAL RECOVERY FUND

Project: NN FISCAL RECOVERY FUNDS OFFICE

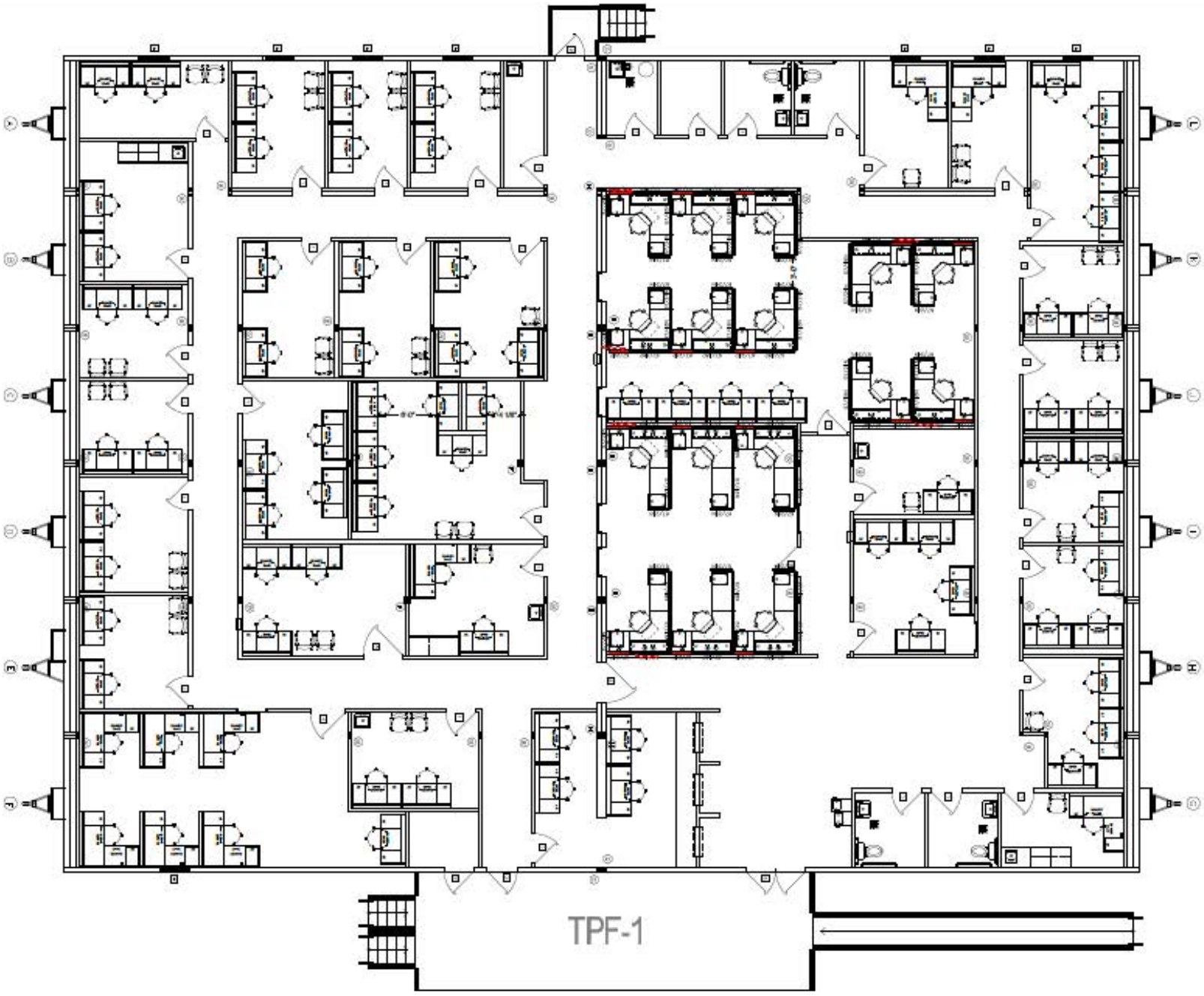
Scale: 1"=100'

Sheet:

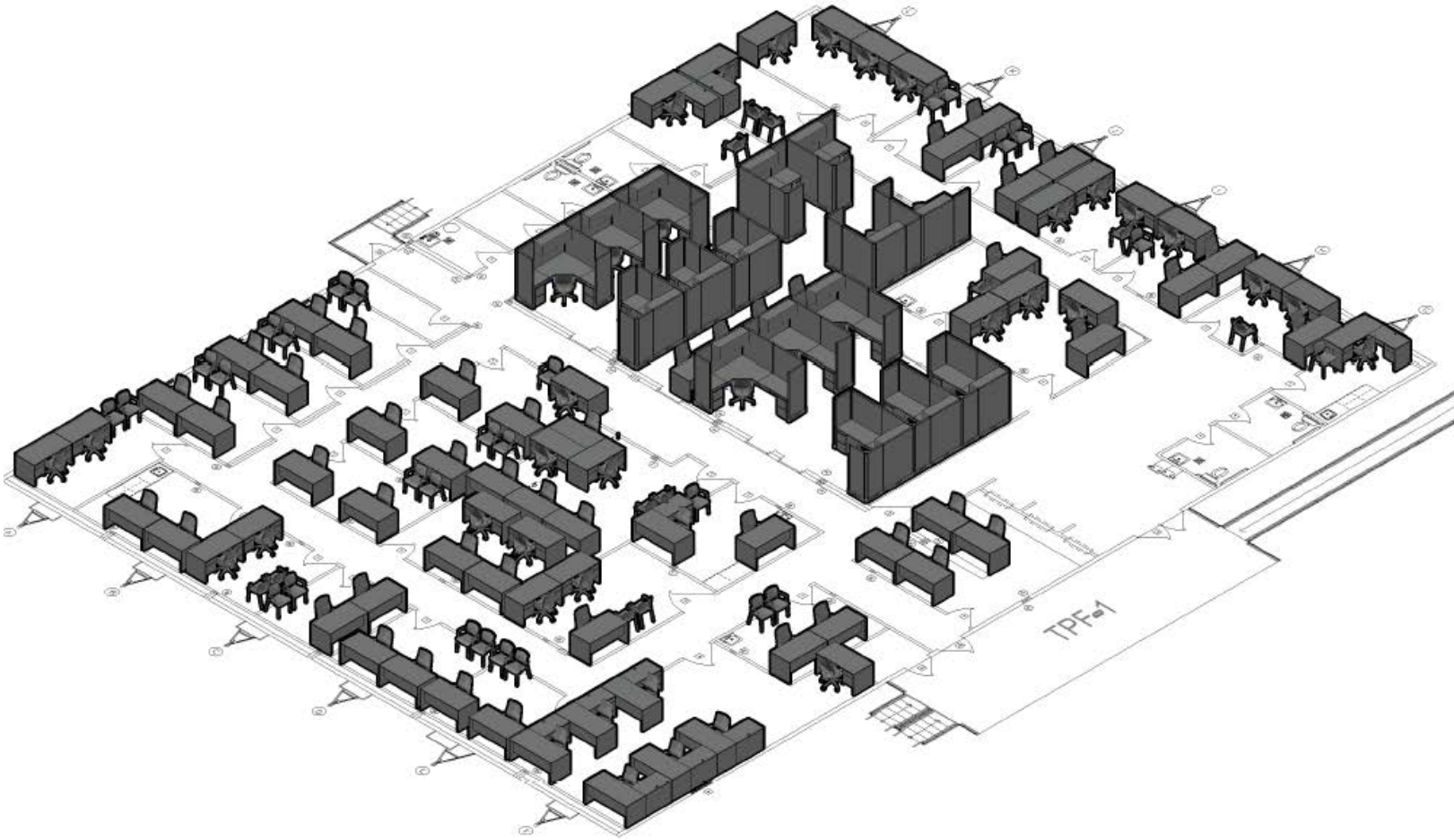
Revised: January 19, 2023

(1) 12-plex 84’ X 108’ (9,072’ sf) TPF-1

Structurally Stamped & Approved

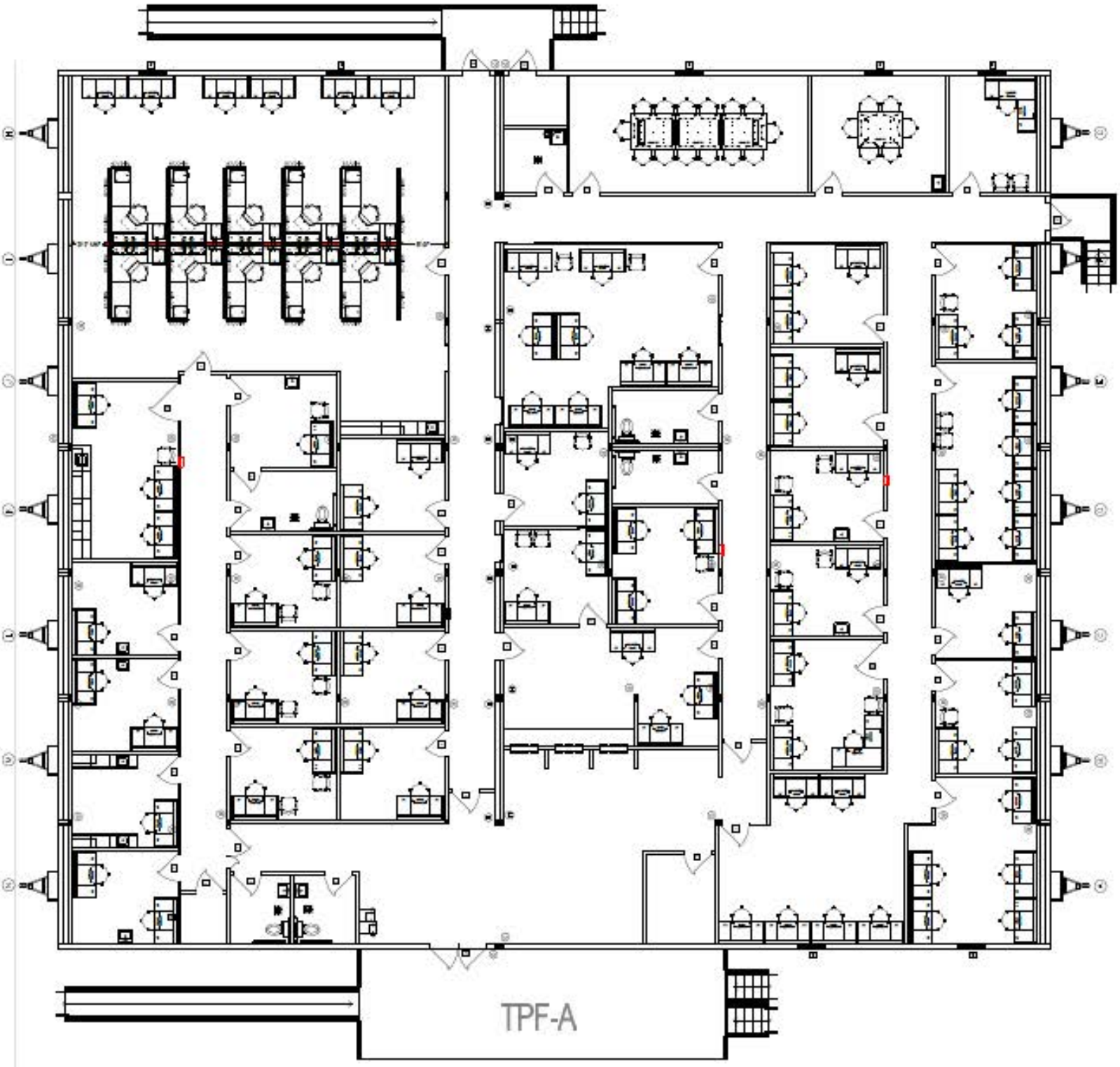


Schematic 3D Layout TPF-1

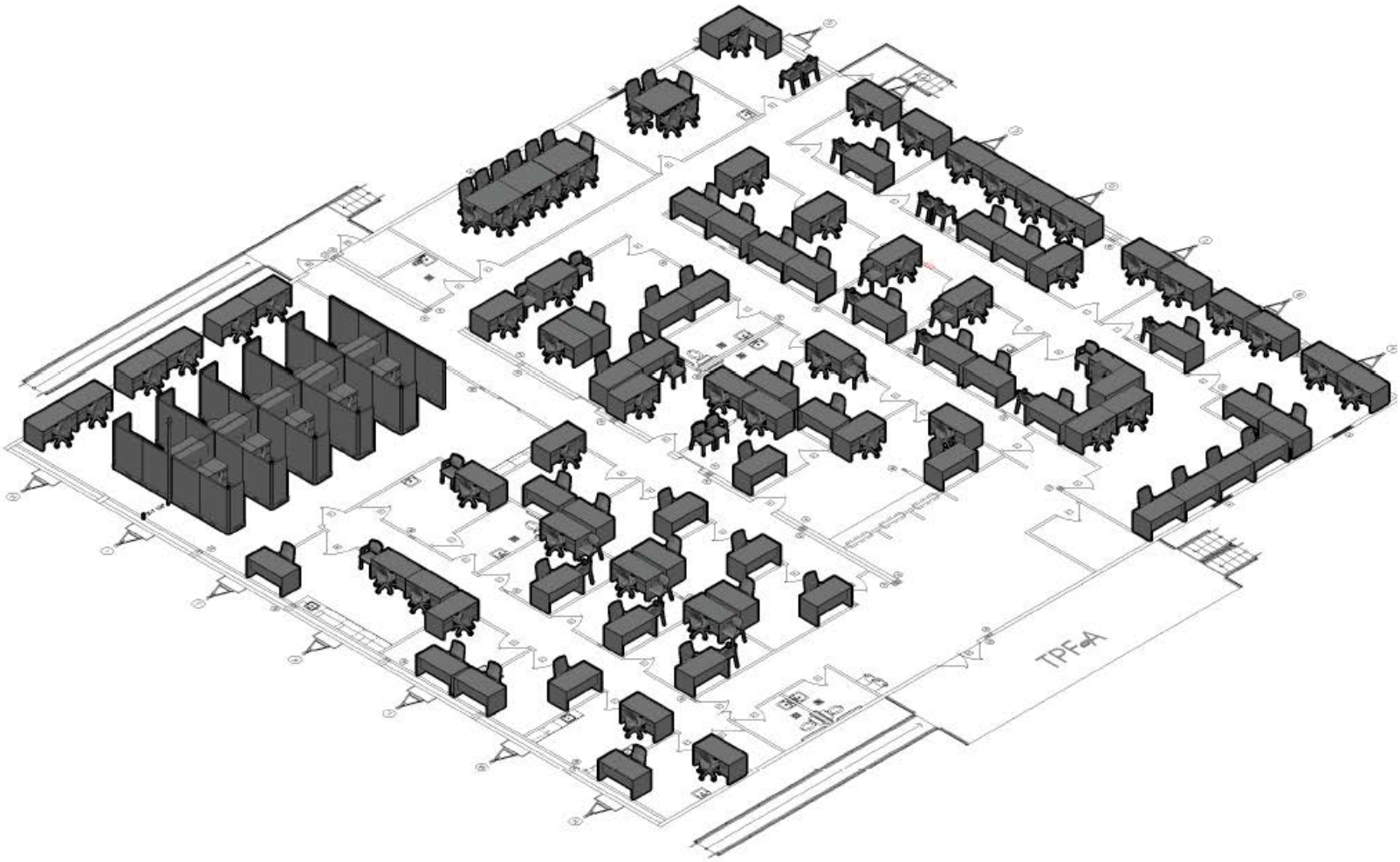


(1) 14-plex 98’ X 108” (10,584 sf) TPF-A

Structurally Stamped & Approved



Schematic 3D Layout TPF-A



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