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Double Jack Design Workshop PLLC

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Vadnais Heights Park Shelter

Project Name: Vadnais Heights Park Shelter
Project Location: 641 County Road F East
Vadnais Heights, MN 55127
Project Budget: $275,000.00 (*$226,500.00 for Construction*)
Project Schedule: Targeting spring 2023 Construction Start (*2-4 Month Construction Timeline*)
Project Description:

A park shelter that is designed uniquely to Vadnais heights that welcomes and inspires its visitors through maintenance-free strategies, durable materials, and a timeless design blended with its landscape.

- **Design Option 1 (Large Butterfly Roof)**
  - Overall Size: 35'-0" x 80'-0"
  - Estimated Cost: $587,800.00
  - Project Description
    - Option 1 is based off of the original size and program of the existing park shelter. It is comprised of a steel structure, steel girts, metal deck, concealed fastener metal roofing, a masonry base at each column location, and a timber clad soffit with LED lighting.
    - The foundation for Option 1 is a full depth frost foundation system with a reinforced concrete foundation and footing.
  - Project Challenges
    - Existing Soil Conditions
      - Due to poor existing soil conditions, Option 1 explores a full depth foundation system that requires the removal of existing fill. The new foundation can then be supported on the newly placed and compacted sand and fil.
      - Excavation should extend 4 feet beyond the perimeter of the building for the entire building footprint to reduce settlement of the concrete slab.
      - The fill that is removed will require environmental testing for transportation offsite or reuse on site following Minnesota Pollution Control Agency (MPCA) guidelines.

- **Design Option 2 (Multiple, Single-sloped Roofs)**
  - Overall Size: 30'-0" x 42'-0"
  - Estimated Cost: $366,408.00 - $381,285.00
  - Project Description
    - Option 2 reduces the size and program of the existing park shelter by + 50%. It is comprised of steel columns, wood TJIs for the roof structure, asphalt shingles, and a timber clad soffit with LED lighting.
    - The foundation for Option 2 is a thickened slab foundation placed on the newly placed and compacted sand fill.
  - Project Challenges
    - Existing Soil Conditions
      - To minimize excavation and foundation costs, Option 2 explores a shallow thickened slab foundation system. Due to the type of foundation design, there is a potential risk of a total settlement greater than 1" and different settlements greater than ½" due to the poor subsoil conditions.
      - Excavation should extend 4 feet beyond the perimeter of the building for the entire building footprint to reduce settlement of the concrete slab.
      - The fill that is removed will require environmental testing for transportation offsite or reuse on site following Minnesota Pollution Control Agency (MPCA) guidelines.

- **Design Option 1 (Large Butterfly Roof)**

- **Design Option 2 (Multiple, Single-sloped Roofs)**