Mark McCumber & Associates
Golf Course Architects

Hollywood Beach Golf Course
Hollywood, FL

Architectural/Engineering Design Services

Fee Proposal Summary

1/16/2020

Please see the attached breakdown for a detailed analysis of each component.

PROJECT UNDERSTANDING

The work consists of providing Basic Architectural, Design and Engineering Services for a restored golf course, clubhouse, and support buildings for the renovation project. This proposal includes Interior Design to provide finishes and color selections for this project.

We understand the project to include a new two-story clubhouse with ample covered outdoor space, a maintenance building, and a small toilet room building located on the golf course. The new clubhouse, parking, and cart storage will be located at the southwest corner of the property along Polk Street and N 17th Avenue. This will allow the golf course to retain its original routing. A new fitness and nature walk will be located along the perimeter of the site of all four sides. This will incorporate existing landscaping and new natural vegetation. Stretch stations and nature signposts that describe the natural environments will be located along the walk. Details will be shared with the neighborhood during Community Meetings aimed to share design philosophies and receive community input that can be incorporated in the project.

The restored golf course will be 18 championship holes going back to its original routing and have new grasses, new irrigation, new greens complexes, new tee complexes, new bunkers, new cart paths and most critically improved drainage due to course closure.

The proposed clubhouse is 6,000 square feet building composed of concrete and steel that integrates passive and active sustainable design features. The conceptual design includes a green roof, viewing tower, and other design features that will be incorporated if the budget permits. The building will include a pro shop, dining area and bar, locker rooms, concessions, commercial kitchen, and other spaces that will be determined in the final program.

A 5,000 square feet prefabricated steel building will house the maintenance operations for the golf course. The exterior aesthetics will match the clubhouse and the building will be in a pocket of thick vegetation to help conceal it. The building will have a small office, toilet room, overhead doors for equipment storage, and other spaces that will be determined in the final program.

The separate toilet building will be approximately 500 square feet and will have Men's and Women's toilet rooms in addition to a small storage/janitor's room. The design will follow that of the clubhouse and the roof structure will extend to provide overhead cover from rain for the doors.

The clubhouse will have a covered drop off area and integrated covered parking for golf carts. The site includes all parking required for the project and sustainable design features such as rain gardens, bio-swales, water cisterns, permeable hard surfaces and pavers.

The design intent for this project is to provide a design goal to meet or exceed FGBC Silver Certification level.

Phase 1 Project Scope – Programming, Master Plan, Site Plan & Schematic Design

Golf Course, Landscape & Irrigation Project Scope

- Develop a program with the goals and objectives of the City's Parks and Recreation Department to fully address needs and concerns of the golf course and surrounding landscape. To include review of clubhouse program, size of facility, rooms, kitchen, banquet hall etc.
- Coordinate with surveyors and other consultants to verify existing conditions and proposed upgrades
- Refine design and scope as needed after public meeting input
- Create conceptual site plan based on team inputs for golf course and landscape
- Apply sustainable features to golf course and landscape to adhere to LEED/SITES certification
- Conduct bi-weekly design meetings
- Participate in community design meetings and planning meetings as required
- Prepare preliminary cost estimates and revise project timeline
- Hold a design kickoff meeting with City staff to go over the process and varied project requirements.

Clubhouse/Support Buildings

Conceptual Design

- Develop a program for the clubhouse and support buildings based on coordination with the City
- Coordinate with subconsultants and client to verify existing site infrastructure locations and proposed upgrades
- Refine design and scope based on program and budget to create flexible spaces
- Create a new site plan, floor plans, and elevations
- Revise renderings to match new drawings
- Include sustainable design features and provide Owner with proposed list of features that will be explored further
- Provide a preliminary rough estimate/budget based on cost per square feet
- Provide preliminary design package for pre-application conference
- Attend pre-application conference with Planning for conceptual overview
- Setup and hold one (1) Community Engagement meetings and one (1) General Obligation Bond (GOB) Oversight Board Meeting
- Attend bi-weekly design progress meetings

Schematic Design

- Refine design and scope based on program and budget to create flexible spaces
- Create a new site plan, floor plans, and elevations
- Revise renderings to match new drawings
- Review sustainable design features with Owner and provide additional details
- Provide a preliminary rough estimate/budget based on cost per square feet
- Refine preliminary design package for pre-application conference
- Coordinate with sub-consulting planner to provide documents for Technical Advisory Committee (TAC)
- Coordinate with sub-consulting planner to provide documents for Planning and Development Board
- Planning and Zoning Board approval meeting
- Setup and hold one (1) Community Engagement meetings
- Attend five (5) public meetings during the design phases including those listed above
- Attend City Commission meeting for final approval of Site Plan
- Attend bi-weekly design progress meetings

Structural Engineering Services

Schematic Design

- Review architectural documents.
- Perform preliminary code analysis as related to structural aspects of the project.
- Develop key design criteria for approval by the Owner.
- Develop loading criteria.
- Provide structural system comparison and recommendations based on program, schedule, budget and constructability parameters.
- Assist in coordination with the design team.
- Assist in coordination with prefabricated steel building manufacturer for the maintenance operations building.
- Provide review and coordination with the geotechnical.
- Participate in biweekly design/pre-construction team meetings via web/conference call.
- Respond to Owner generated comments.
- Deliverables: Structural scope narrative only, no structural drawings provided.

MEP & Fire Protection

GENERAL SERVICES

- Attend coordination meetings (via video conference) to review engineering concepts in order to proceed with the design phase and to properly coordinate the work of the related disciplines.
- Provide assistance to the Architect in establishing space allocations for systems, equipment and associated distribution.

- Review with the Architect the impact the systems may have upon the aesthetics of the facility.

Environmental Services

- Collection of up to 40 discrete soil samples from up to ten soil boring locations across the site (approximately 110 acres or 2,400 feet by 2,000 feet). The soil sampling locations will be selected based on current site usage (i.e., greens, tees, fairways and maintenance areas). Representative samples will be collected from at least two greens, two tees and in key maintenance area locations (e.g., soil mixing or staging areas). Soil borings will also be installed across at least one fairway perpendicular to course play. Soil samples will be collected at 0-0.5 feet below land surface (bls), 1.5-2 feet bls, 2-4 feet bls and every two feet to groundwater. Depth to water is anticipated to be approximately 6 feet bls.
- Soil samples will be collected and submitted to a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory for analysis by US Environmental Protection Agency (EPA) Method 6010 for Arsenic and Lead, EPA Method 353.2 for Nitrates/Nitrates/NOX, EPA Method 8081 for Organochlorine Pesticides and EPA Method 8141 for Organophosphate Pesticides.

Civil & Survey Services

Concept Design Phase

- Prepare engineered Concept Site Plan working with the golf course architect and building architect. This engineered Plan will include the proposed clubhouse, maintenance and restroom facilities as well as the primary entrance drives, parking areas and vehicular and pedestrian circulation paths.
- Site utilities master plan, for water, sewer, drainage, communications and power, including any offsite work.

Subconsultants

- Boundary, Topographic and tree Survey by NV5, Inc. The topographic portion of the survey will be conducted using a combination of unmanned aerial vehicle (UAV) photogrammetry and LIDAR flights and ground support survey to expedite the survey timeframe.
- Environmental Wetland Services by E-Reg Consulting, LLC. This task includes conducting a preliminary site inspection to review onsite wetlands or surface waters and potential listed species issues, coordination with SFWMD regarding environmental review criteria, and attendance at the pre-application meeting with SFWMD.

FGBC Facilitation and Fundamental Commissioning

Green Project Meeting During Schematic Design

NV5 will conduct a Green Project Meeting compliant with FGBC prerequisite PMp1 with the Owner or Owner's Representative, design team representatives from architecture, landscape architecture, mechanical, and lighting/electrical, civil, and other key stakeholders. Convening these stakeholders is essential to clearly establish goals and strategies for the project and to develop consensus among the team members. In advance of the meeting, we will develop a preliminary FGBC certification scoresheet to guide the meeting discussion.

Throughout design development, our scope will include assisting the design team with evaluating the energy savings due to refinements to the building envelope, lighting, HVAC system, controls and potential renewable energy options.

The primary goals for the Green Project Meeting are:

- Educate project stakeholders about FGBC - conduct an overview of FGBC certification and the rating process
- Define sustainability goals for the project and evaluate the project with respect to FGBC objectives
- Prioritize sustainability strategies for the project
- Identify FGBC credits to obtain the desired level of award
- Explore how FGBC objectives could be met and develop a plan for achieving FGBC certification
- Evaluate the FGBC boundary
- Evaluate the project with respect to local green building and energy standards
- Identify alternatives that could be used in an alternate certification plan to achieve the next higher level of FGBC rating
- Establish project team responsibilities/action items to meet targets discussed and identify individuals to be responsible for documenting the requirements of each FGBC credit (Credit Champions)

NV5 will take information on project goals and priorities from the kick-off meeting and help create the Owners Project Requirements (OPR) and the Basis of Design (BOD) in coordination with the Architect and team. Project team members from the design and construction team will have primary responsibility for documenting FGBC credits, with NV5 providing guidance and sample documentation as needed.

Phase 1 Project Schedule

Phase 1 – Programming, Master Plan, Site Plan and Schematic Design
March 2020-May 2020

- Survey/Base Maps – January 2020-February 2020
- Program Development – January 2020-February 2020
- Schematic Design Master and Site Plan Studies and Review – February 2020-March 2020
    - Public Meetings and Hearing as required; Civic Associations & GOB Oversight Board
    - Updated Project Schedule
    - Preliminary Project Construction Cost
- Create Florida Green Building Council design goals and objectives with input from the city and provide design review to make sure goals and objectives are being met
- Approval From City and approval to move forward March 2020
- Provide Microsoft project schedule with proposal, revised with each pay request.

Phase 1 Fees

Geotechnical	$0
Environmental	$16,592
Civil	$12,667
Survey	$46,220
Asbestos Survey	$0
Architecture/Structural MEP Buildings	$60,525
Irrigation Design	$0
Planning Consultant	$12,500
Golf Course Architecture/Landscape Architecture	$77,750
Design & Engineering Cost	**$226,254**

Phase 2 Project Scope – Design Development

Golf Course, Landscape & Irrigation Project Scope

- Coordinate with team to determine integration and circulation between buildings and golf course envelope
- Work with civil engineer to determine plan of action to address drainage shortcomings of course and ways to implement solutions
- Provide Design Development documents and plans and outline specifications for Owner approval
- Respond to issues and questions with planning review process to get city approvals
- Provide anticipated plant palette for review
- Revised project cost estimate for golf course, landscape and irrigation
- Revise project timeline
- Attend bi-weekly design progress meetings

Clubhouse/Support Buildings

- Provide code analysis of the proposed facility and site
- Coordinate with sub-consulting engineers to determine boring locations for geotechnical report
- Review geotechnical report and coordinate with structural and civil engineer as needed
- Create a detailed analysis of the proposed sustainable design features with consulting engineers
- Review proposed mechanical, electrical and plumbing systems and locations provided by consulting engineers
- Coordinate with structural engineer to develop an efficient structural system for each building
- Provide Design Development Documents including drawings and outline specifications for Owner approval, including kitchen equipment layout and selection
- Provide construction estimate to compare with Owner's budget
- Recommend finishes, materials, and color palate for building interior
- Attend bi-weekly progress meetings and provide meeting minutes with action item list

Structural Engineering

Design Development

- Further develop selected structural systems.
- Further develop plans and details.
- Initiate lateral analysis and design.
- Continue coordination efforts with the design team.
- Continue coordination efforts with prefabricated steel building manufacturer for the maintenance operations building.
- Participate in biweekly design/pre-construction team meetings via web/conference call.
- Respond to Owner generated comments.

- Deliverables: Design Development level drawings to include:
    - General notes
    - Typical details
    - Foundation plans
    - Faming plans
    - Critical sections/details to further development and coordination

MEP & Fire Protection

GENERAL SERVICES

- Attend coordination meetings (via video conference) to review engineering concepts in order to proceed with the design phase and to properly coordinate the work of the related disciplines.

Fire Protection Engineering Services

- Prepare a building code analysis for the project which will include, but not be limited to, the following: building construction type, passive fire-resistive aspects, fire suppression system requirements, fire alarm system requirements.
- Provide general code consulting to the Client for the project related to fire protection and life safety issues on an as needed basis.
- Review design team drawings for general code compliance related to fire protection and life safety issues. We will issue a report to the Client which will outline our findings.

Building Services

Mechanical Engineering Services

- Design the mechanical systems to support the building program and equipment loads. Services will be roughed-in to locations determined by the appropriate vendors, suppliers and Owner selected consultants.
- Prepare calculations to demonstrate compliance with the applicable energy codes for the mechanical systems using the mandatory and prescriptive requirements as outlined in the International Energy Conservation Code.

Plumbing Engineering Services

- Design the plumbing systems, including storm drainage, sanitary sewer, grease waste, domestic hot and cold water, and natural gas systems. Our scope of services will include up to five feet outside the building. Services will be roughed-in to locations determined by the appropriate vendors, suppliers and Owner selected consultants.
- Prepare calculations to demonstrate compliance with the applicable energy codes for the plumbing systems using the mandatory and prescriptive requirements as outlined in the International Energy Conservation Code.

Electrical Engineering Services

- Design the electrical power distribution system to support the building systems and equipment loads. Services will be roughed-in to locations determined by the appropriate vendors, suppliers and Owner selected consultants.
- Prepare calculations to demonstrate compliance with the applicable energy codes for the electrical systems using the mandatory and prescriptive requirements as outlined in the International Energy Conservation Code.
- Design of back of house and parking lot lighting systems including fixture specifications, controls and circuiting.
- We will coordinate with the interior designer for the front-of-house, public space, landscape and specialty lighting requirements. Controls, zoning and dimming schedules for lighting systems for the public areas will be provided by others. The consultant must assist in the coordination of emergency lighting for those spaces for which they are designing the lighting.
- Coordinate site utility requirements with the Civil Engineer.

Geotechnical Design Services

- Drill seven (7) test borings to a depth of 25 feet below existing grade each, at locations accessible to our truck mounted drill rig as follows: three (3) borings for the clubhouse, three (3) for the maintenance building, and one (1) for the toilet structure. The borings will be utilizing the rotary wash method. Samples of the subsurface materials encountered will be collected continuously down to 10 feet below the ground surface, and every 5 feet thereafter. Sampling will be performed using a Standard Penetration Test (SPT) sampler per ASTM D-1586. Upon completion of the borings, the boreholes will be abandoned with soil cuttings.
- Additionally we propose to perform a series of test excavations across the site to more closely evaluate the top few feet of material excavated. It is expected that the site is covered with several feet of loose sands and silt, followed by limestone. The excavations will be performed using a rubber-tired backhoe. Upon completion the test excavations will be backfilled to the ground surface and the backfill materials tamped with the backhoe bucket. We anticipate performing 10 to 12 test excavations to a depth up to eight feet or so below grade over a one-day period.
- Perform three (3) percolation tests required for drainage design. The tests extend about 10 feet below grade and performed in general accordance with the South Florida Water Management District's Usual Open Hole Procedure. Upon completion of the tests, the boreholes will be abandoned with soil cuttings.
- For performing the field work NV5 will contact Sunshine One Call for advice about the location of underground utilities. Additionally, we require that any other available information regarding the location of underground utilities be provided to us. NV5 cannot be held responsible for damage to below ground structures or utilities which are not identified to us. We specifically request any available information about the location of underground utilities for this project.

- NV5 personnel will layout test locations based on the furnished drawings. NV5 will perform borings in areas which are indicated to be free from underground utilities.
- Based on our field data and review of existing data, we will perform engineering analyses and prepare an engineering report with evaluations and discussions of the geotechnical aspects of the proposed project, and recommendations for foundation design and construction.

Specifically, the report will provide:

- Drawings showing boring and test locations, a graphic summary of the generalized subsurface conditions, and boring logs with detailed descriptions of the materials encountered.
- Discussion of generalized subsurface conditions at the site including groundwater levels and hydraulic conductivity.
- Discussion of feasible foundation type(s) for the proposed development.
- Design parameters for the recommended foundation type, including vertical and lateral load resistance.
- Provide lateral capacities for the various foundation alternatives.
- Estimates of foundation settlements.
- Modulus of subgrade reaction for any slabs on grade.
- Recommendations for site preparation and grading, including the re-use of site-excavated materials for fill, fill placement and compaction, and slab subgrade preparation. Construction considerations including excavation support and dewatering, basement construction, impacts of existing foundations, and impacts for adjacent structures. The report will be signed and sealed by a professional engineer licensed in the State of Florida.
- We represent the local NV5 office, we will also assist the NV5 design team with coordination of services with the project architects

Environmental Services

- Based on the initial soil sampling analytical data up to 10 soil samples will be analyzed using Synthetic Precipitation Leaching Procedure (SPLP). Soil samples analyzed for SPLP will be selected across a wide range of arsenic levels to provide a data for a statistical evaluation of any correlation between total arsenic concentrations in soil and potential for leaching to groundwater. Samples both above and below the applicable regulatory criteria will be analyzed by EPA Method 6010 for Arsenic.

- Six grab groundwater samples will be collected utilizing a GeoProbe with the groundwater samples being submitted to a NELAP accredited laboratory for analysis by EPA Method 6010 for Arsenic and Lead, EPA Method 353.2 for Nitrates/Nitrates/NOX, EPA Method 8081 for Organochlorine Pesticides and EPA Method 8141 for Organophosphate Pesticides.

Civil and Survey

Preliminary Design Phase

- Attend mandatory Pre-Application Meeting with City of Hollywood/Broward County to identify entitlement process, fees, and scheduling.
- Attend Pre-Application Meeting with South Florida Water Management District (SFWMO) to identify entitlement process, fees, and scheduling as it relates to stormwater design and wetland mitigation.

FGBC Facilitation and Fundamental Commissioning

Project Design Review during Design Development & Construction Documents Phases

- NV5 will attend project meetings following the Project Green Meeting to review design development, update FGBC credit tracking, and revise the Project Team FGBC Workplan. During these meetings, we will also review the status of each team member's FGBC documentation, identify any issues, and answer any questions the project team may have with regards to FGBC requirements.
- We will research, explore, and identify specific project opportunities that may assist in the FGBC rating. In addition, we will review drawings and specifications at key milestones to assess the status of the project design in achieving sustainability goals.
- Our final review of design documentation will be after 100% construction documents have been issued, before the final bid documents are released. This review will be focused on comparing the 100% construction documents against the targeted FGBC credits and prerequisites to note potential conflicts.
- As part of the base scope, our design reviews will be conducted by engineers with experience in design and facility operations with a focus on reliable system operation and compliance with ASHRAE 90.1. Our sustainability specialists will review design documents to ensure alignment with FGBC requirements, working closely with mechanical and electrical engineers completing their review, and we will assist the project team with achieving credit synergies and cost-effective strategies. Comments on design documents will be presented in a clear and organized Issues Log that allows for tracking response to each item. We will support the project team to develop specifications and material selections for material credits for CSI division 1.
- Based on building occupancy assumptions, we will complete water consumption and sewage conveyance calculations and provide recommendations for selecting plumbing fixtures to optimize performance. We will also develop a daylight model of a sample floor to assist the design team in maximizing daylighting introduced into the building.
- In design team meetings not attended by NV5, we will review meeting minutes for potential FGBC issues and will work with representatives from the Architect to monitor FGBC progress and relay pertinent issues discussed at these meetings that may put FGBC credits at risk. We will continue to develop the certification plan which includes an updated credit summary and a specific credit-by-credit task list and assignment of the responsible team member. NV5 will provide sustainable development and technical and practical guidance throughout the Design Development Phase.

- Develop a commissioning plan tailored to this project that delineates the scope of commissioning, roles and responsibilities, activity milestone schedule, list of pre-functional and functional tests to be developed and other sections determined during the design phase. Assist the Design team to incorporate the Commissioning Plan into the Bridging Documents.

Phase 2 Project Schedule

Phase 2 – Design Development
May 2020-October 2020

- Create Design Development Documents for City to review
- Florida Green Building Council team review of plans to make sure project objectives are include within the design
- Updated Project Schedule
- Update Probable Cost of Project
- Get City Approval – Site Plan, TAC, City Commission, Planning & Development Board

Phase 2 Fees

Geotechnical	$18,040
Environmental	$9,716
Civil	$1,740
Survey	$5,135
Asbestos Survey	$0
Architecture/Structural MEP Buildings	$62,897
Irrigation Design	$1,495
Planning Consultant	$12,500
Golf Course Architecture/Landscape Architecture	$50,000
Design & Engineering Cost	**$161,523**

Phase 3 Project Scope – Construction Documents

Golf Course, Landscape & Irrigation Project Scope

30% Construction Documents

- Provide 30% Construction Document review set for city building department review
- Provide updated project timeline
- Provide updated cost estimate for golf course, landscape and irrigation
- Attend bi-weekly progress meetings
- Oversee QA/QC control review for all discipline's documents submitted to city

60% Construction Documents

- Provide 60% Construction Document review set for city building department review
- Participate in internal Florida Green Building Council review to make sure all objectives are addressed and being met
- Make project presentation to GOB Oversight Committee
- Attend bi-weekly progress meetings
- Oversee QA/QC control review for all discipline's documents submitted to city

90% Construction Documents

- Provide 90% Construction Document review set for city building department review
- Provide updated project timeline
- Provide updated cost estimate for golf course, landscape & irrigation
- Attend bi-weekly progress meetings
- Oversee QA/QC control review for all discipline's documents submitted to city

100% Construction Documents

- Provide full architectural drawings and specifications for golf course, landscape and irrigation
- Provide complete documents for permitting and bidding
- Assist civil engineer with RFI's from permitting agencies as they relate to golf course development
- Attend bi-weekly progress meetings
- Oversee QA/QC control review for all discipline's documents submitted to city

Clubhouse/Support Buildings

30% Construction Documents

- Provide 30% Construction Documents review set to the Owner. Two (2) full size and two (2) half size sets shall be provided

- Provide 30% Construction Documents to City of Hollywood Building Department for preliminary review

60% Construction Documents

- Coordinate with sub-consulting engineers to provide construction details
- Coordinate with sub-consulting engineers to finalize the layout of all mechanical, electrical, and plumbing systems
- Provide 60% Construction Document including specifications. Two (2) full size and two (2) half size sets shall be provided
- Provide 60% Construction Documents to City of Hollywood Building Department for preliminary review
- Attend one (1) GOB Oversight Board Meeting and provide project presentation

90% Construction Documents

- Provide 90% Construction Document including specifications. Two (2) full size and two (2) half size sets shall be provided
- Attend bi-weekly progress meetings and provide meeting minutes with action item list
- Provide internal QA/QC report and findings

100% Construction Documents

- Coordinate with sub-consulting engineers to provide construction details
- Provide full Architectural drawings and specifications including Interior Design drawings
- Provide 100% Construction Documents for permitting and bidding including final drawings and final specifications. Two (2) full size and two (2) half size sets shall be provided
- Provide all required details for permitting and bidding
- Submit engineering permit applications to all Agencies Having Jurisdiction (AHJ) such as Broward Count, SFWMD, City of Hollywood, etc.
- Attend bi-weekly progress meetings and provide meeting minutes with action item list
- Provide ALTA survey, topographic survey, environmental assessment required for demolition and County permitting for Golf Course renovations and re-grading
- Provide CAD files to the City for City's use in managing the property
- Provide BIM or Revit 3D modeling for presentations on Constructability review

Structural Engineering

Construction Documents

- ▪ Complete calculations and details to support structural design.
- ▪ For clubhouse and restroom buildings, provide structural design for miscellaneous building elements including:
  - ▪ Canopies
  - ▪ Elevator support
  - ▪ Loading docks
  - ▪ Support of the exterior wall systems by the building structure (design structure to support loads imposed by the exterior façade)
  - ▪ Design and detail connections of non-proprietary exterior wall systems to building structure
- ▪ Continue to assist in coordination with all disciplines.
- ▪ Continue coordination efforts with prefabricated steel building manufacturer for the maintenance operations building.
- ▪ Provide structural specifications.
- ▪ Complete structural construction drawings, including plans, schedules and details.
- ▪ Provide Statements of Special Inspections, if required.
- ▪ Participate in biweekly design/pre-construction team meetings via web/conference call.
- ▪ Respond to Owner generated comments.
- ▪ Deliverables: signed and sealed set of construction documents at the completion of design phase for permit review; progress check sets throughout the design phase.

MEP & Fire Protection

GENERAL SERVICES

- Attend coordination meetings (via video conference) to review engineering concepts in order to proceed with the design phase and to properly coordinate the work of the related disciplines.

Fire Protection Engineering Services

- Preparation of plans to obtain building permit. The fire alarm design will be prepared and stamped in sufficient detail to obtain building permit.
- Preparation of plans to obtain building permit. Sprinkler risers, standpipe and fire department outlet valves will be located on our drawings and coordinated with the authority having jurisdiction (AHJ). The sprinkler design will be prepared and stamped in sufficient detail to obtain building permit.

Mechanical Engineering Services

- Design the mechanical systems to support the building program and equipment loads. Services will be roughed-in to locations determined by the appropriate vendors, suppliers and Owner selected consultants.
- Design the kitchen exhaust and make-up air systems (as required) based on food service consultant's rough-in documents and equipment specifications.

Plumbing Engineering Services

- Design the plumbing systems, including storm drainage, sanitary sewer, grease waste, domestic hot and cold water, and natural gas systems. Our scope of services will include up to five feet outside the building. Services will be roughed-in to locations determined by the appropriate vendors, suppliers and Owner selected consultants.
- Design the food and beverage plumbing systems based on the food service consultant's rough-in documents and equipment specifications.

Electrical Engineering Services

- Design the electrical power distribution system to support the building systems and equipment loads. Services will be roughed-in to locations determined by the appropriate vendors, suppliers and Owner selected consultants.
- Design the food and beverage electrical systems based on the food service consultant's rough-in documents and equipment specifications.
- Design of back of house and parking lot lighting systems including fixture specifications, controls and circuiting.
- We will coordinate with the interior designer for the front-of-house, public space, landscape and specialty lighting requirements. Controls, zoning and dimming schedules for lighting systems for the public areas will be provided by others. The consultant must assist in the coordination of emergency lighting for those spaces for which they are designing the lighting.

Environmental Services

- Based on the field activities a summary report will be prepared which will include the laboratory analytical data, tables, and figures. The report will be signed and sealed by a professional geologist licensed in the State of Florida.

Civil & Survey

Final Design Phase

- Prepare Final Civil Engineering Plans for submittal to jurisdictions for entitlements and for Construction of the new primary entrance drive(s), clubhouse parking area, infrastructure support for the new clubhouse and maintenance facility, revised course design and modified lake locations within the course. Plans will include Cover Sheet, General Notes, Demolition Plans, Stormwater Pollution Prevention Plans, Site Layout Plans, Paving, Grading & Drainage Plans, Utility Plans and Detail Sheets in conjunction with golf course plans
- Prepare Civil Site Specifications for Construction.

- Prepare comprehensive stormwater design calculations and report for the overall golf course facility. These calculations and report will include both the proposed clubhouse and parking facilities as well as the golf course lake design. This work product will be used to submit for a SFWMD ERP permit as part of Phase 1.04.2 below.
- Design coordination and interface with Architect and other subconsultants in all phases of design.

Permitting Phase

- City of Hollywood Site Plan approval. This task includes preparing documentation and applications as well as response to Staff comments as required. This task includes attendance at all required internal meetings and public hearings as well.

FGBC Facilitation and Fundamental Commissioning

Design Phase Submission

The schedule for this submittal will depend on the Credit Champions completing FGBC documentation, but typically is within two months from the completion of the 100% Design Development submittal.

Once all documentation has been collected, organized, and reviewed, by the project team, the FGBC Designated Professional (NV5) completes the Design Application information form and checklist, attaches all supporting letters and documentation, and submits it to FGBC. The assigned Project Evaluator will review the complete package to determine applicability of credit points claimed. In the event that the Project Evaluator finds the submittal not in compliance with the Standard, the team's Designated Professional will be notified and informed of the specific deficiencies in the submittal. The Designated Professional will consult with the project team and then correct the deficiencies and submit the required revisions to the FGBC. If the second submittal fails to comply with the Standard, then the process for each subsequent re-submittal is repeated with the additional requirement of payment of a re-submittal fee equal to 20% of the original fee (this fee is paid for each subsequent re-submittal).

Deliverables

- Design Phase meeting materials
- An updated FGBC Project Scorecard after each meeting
- An updated Project Team FGBC Workplan identifying specific tasks for each team member
- Design Phase review comments from NV5 at key milestones including upon completion of 100% documents
- Design Phase FGBC portal submission (team members to provide documentation; NV5 to review and submit application)

Phase 3 Project Schedule

Phase 3 – Programming, Master Plan, Site Plan and Schematic Design
Phase 3 – Construction Documents
August 2020 - January 2021

- 30% Construction Document Submittal – August 2020
  - Plan Base information and drawing index
  - Structure for Specifications per Contract
  - Updated Project Schedule
  - Statement of Probable Cost
  - City of Hollywood Building Department Preliminary Review
- 60% Construction Document Submittal – September 2020
  - Preparation of Specifications per Contract
  - Provide Construction Details for Project
  - Internal Florida Green Building Council review to make sure project objectives are being me and provide assistance with specification and details
  - Attend GOB Oversight Committee Meeting and Make Project Presentation
  - City of Hollywood Building Department Preliminary Review
- 90% Construction Document Submittal – October - November 2020
  - Substantial Completion of Drawings and Specifications
  - Internal Florida Green Building Council review of plans to verify goals and objectives are being met
  - Updated Project Schedule
  - Statement of Probable Cost
  - Submit for First Round of Jurisdictional Permits to get comments from other Agencies to incorporate into design documents
  - City of Hollywood Building Department Review
- 100% Construction Document Submittal – December 2020 – January 2021
  - Completion of drawings and specifications
  - Final Florida Green Building Council plan review to verify plans meet Florida Green Building Council requirements and Bid Documents are in order for Construction Bidding
  - Complete Project permitting to include City of Hollywood, Broward County, South Florida Water Management Districts and any other jurisdictions

Phase 3 Fees

	30%	60%	90%	100%
Geotechnical	$0	$0	$0	$0
Environmental	$3,955	$0	$0	$3,441
Civil	$16,775	$18,625	$16,450	$35,866
Survey	$0	$0	$0	$0
Asbestos Survey	$1,500	$1,523	$718	$0
Architecture/Structural MEP Buildings	$40,030	$51,159	$48,459	$29,776
Irrigation Design	$1,500	$5,003	$5,003	$2,000
Planning Consultant	$0	$0	$0	$0
Golf Course Architecture/Landscape Architecture	$14,000	$30,000	$30,000	$21,000
Design & Engineering Cost	**$77,760**	**$106,309**	**$100,629**	**$92,083**

Phase 4 Project Scope – Bidding and Award of Contract

Golf Course, Landscape & Irrigation Project Scope

- Conduct on-site pre-bid meeting of contractors with the City
- Respond to RFI's from contractors as they relate to golf course, landscape and irrigation
- Provide revised drawings as required for permitting, value engineering and contractor clarification
- Assist city in review of bid proposals

Clubhouse/Support Buildings

Permitting and Bidding

- Assist with bid documents and hold an on-site pre-bid meeting with the Owner
- Respond to RFI's from subcontractors and provide clarification and interpretations of the documents to all prospective bidders in the form of addenda
- Provide revised drawings and comments responses based on building department comments to secure building permits
- Provide detailed project cost estimates
- Assistance with Value Engineering (VE) if required
- Provide award recommendation

Structural Engineering

Bidding and Permitting

- Respond to structural permit review comments.
- Revise drawings/model, if needed, as a result of structural permit review comments.
- Respond to bidder questions.
- Deliverables: signed and sealed set of construction documents at the completion of permit phase; responses to bid questions.

MEP & Fire Protection

- Prepare clarifications and document revisions during the bidding and plans check phase of the project, as may be required.

Civil & Survey

Bidding or Negotiating Phase

- Assist in advertising for and obtaining bids or negotiating proposals for the Work and, where applicable, maintain a record of prospective bidders to whom Bidding Documents have been issued, attend pre-Bid conferences, if any, and receive and process Contractor deposits or charges for the Bidding Documents.
- Issue Addenda as appropriate to clarify, correct, or change the Bidding Documents.
- Consult with CLIENT as to the acceptability of subcontractors, suppliers, and other individuals and entities proposed by Contractor for those portions of the Work as to which such acceptability is required by the Bidding Documents.
- Attend the Bid opening, prepare Bid tabulation sheets, and assist CLIENT in evaluating Bills or proposals and in assembling and awarding contracts for the work. The CLIENT shall award a contract for the Work based on construction documents permitted by all regulatory agencies. CLIENT accepts full responsibility if it awards a contract for the Work based on construction documents not fully permitted.

Phase 4 Project Schedule

Phase 4 – Bidding and Award of Contract – January 2021- June 2021

- Preparation of Bid Documents and Issuance of Addenda
- Bid Opening
- Award of Contract

Phase 4 Fees

Geotechnical	$0
Environmental	$0
Civil	$4,916
Survey	$0
Asbestos Survey	$0
Architecture/Structural MEP Buildings	$6,525
Irrigation Design	$0
Planning Consultant	$0
Golf Course Architecture/Landscape Architecture	$13,350
Design & Engineering Cost	**$26,791**

Phase 5 Project Scope – Administration of Construction Contract

Golf Course, Landscape & Irrigation Project Scope

- Pre-Construction Conference: Conduct preconstruction conference for golf course and landscape contractor(s) prior to commencement of work
- Attend regular field reviews as needed during critical points of construction to review work of golf course contractor and detail in-the-field design adjustments to shaping and construction to meet design intent and provide approval to move forward with further work in the area based on construction sequence. These reviews will include, but not be limited to, clearing operations, rough shaping, golf course drainage, greens construction, irrigation, fine shaping, and grassing and landscaping. Landscape Architect to provide field reports to Owner and Contractor to outline changes/adjustments to be made to the work and indicated which areas have been approved to move to the next phase of construction.
- Shop Drawings & Samples: Review of Shop Drawings and Samples as required by Contractor to submit to provide approval as outlined in contract documents
- Review pay application and proposed change orders from contractor
- Review and respond promptly to contractor RFI's from Contractor during construction
- Assist Florida Green Building Council team in gathering information to submit for certifications
- Review As-built drawings by the Contractor for golf course features and irrigation system as required by the contract

Clubhouse/Support Buildings

Construction Contract Administration

- Attend bi-weekly OAC meetings to observe construction progress and compliance with the design intent upon request
- Review Payment Application and Proposed Change Orders from the Contractor
- Review RFIs and Shop Drawings submittals from the Contractor
- Architect and Consultants to review RFIs and Shop Drawings submittals from the Contractor and provide responses in a timely manner
- Architect and Consultants to review NOAs and Florida Product approvals from the Contractor
- All submittals shall from the Contractor shall be in electronic format. The Architect and Engineer will provide electronic copies of reviewed submittals for the Owner and Contractor's use.
- Construction period is anticipated to be 18 months

Structural Engineering

Shop Drawing Review/RFIs

- Review structural submittals and shop drawings of structural elements designed by NV5. Review submittals of elements by others for coordination purposes.

- Provide phone consultation with the contractor for clarification and questions.
- Address requests for information (RFI's) as related to NV5 structural construction issues.

Construction Administration

- Participate in team meetings during construction on an as-needed basis via web/conference call (10 meetings).
- Address change order requests related to structural issues.

MEP & Fire Protection

Construction Administration

- Perform site observation visits during the construction phase to survey the status of the systems installations. Observation reports will be forwarded to your office after each field visit.
- Preparation of (RFI) documentation during the construction phase, as may be required.
- Review Contractor material submittals and shop drawings.
- Respond to field related coordination issues as the need may arise.

Civil & Survey

Construction Phase

- Pre-Construction Conference: Participate in a preconstruction conference prior to commencement of work at the site.
- Shop Drawings and Samples: Shop Drawing Review and approve or take other appropriate action in respect to Shop Drawings and Samples and other data which Contractor is required to submit, but only for conformance with the information given in the Contract Documents and compatibility with the design concept of the completed Project as a functioning whole.
- Visits to site and observation of construction; In connection with observations of Contractor's work in progress: (a) make visits to the Site at intervals appropriate to the various stages of construction, as ENGINEER deems necessary, in order to observe as an experienced and qualified design professional the progress and quality of the Work. ENGINEER shall have no construction inspection responsibilities.
    - ENGINEER shall keep CLIENT informed of the progress of the Work.
- Respond to RFI's Requests for Information (RFI's) from General Contractor as required during construction.
- Certifications and Closeout Documents - Based on construction observations, ENGINEER will prepare certifications of completion as required by Local/State Agency Permits.

FGBC Facilitation and Fundamental Commissioning

Construction Administration and FGBC Final Application Submittal

Upon start of construction, NV5 will hold a FGBC Construction Kickoff Meeting to translate the project's sustainability goals to the construction phase of the project. This is a crucial handoff point in the project where the contractor must take responsibility for implementing sustainable strategies and completing documentation requirements. If needed, we will revisit the "Credit Champions" assigned to the FGBC credits for the project. Following the FGBC Construction Kickoff Meeting, NV5 will participate in typically monthly construction meetings to maintain the project team's focus on FGBC requirements and monitor FGBC documentation progress.

We will support the contractor in reviewing submittals and completing calculations for FGBC materials credits based on contractor provided submittals. These credits span FGBC categories, including Site, Water, Energy, Health, Materials and Disaster Mitigation. In addition, we will work with the contractor to implement construction activity pollution prevention, construction waste management, and indoor air quality management strategies.

The project design team will be responsible for verifying that sustainable design strategies are implemented during construction.

In the construction meetings not attended by NV5, we will review meeting minutes for potential FGBC issues and will work with representatives from the Architect and the Contractor to monitor FGBC progress and relay pertinent issues discussed at these meetings that may put FGBC credits at risk. We will identify opportunities to achieve Innovation credits as well.

FGBC Final Application

We will assist the team in reviewing contractor submittals for materials and other systems supporting FGBC requirements. At the completion of construction, we will review FGBC documentation for the project's final submission. This includes documentation from all FGBC credits pursued, including any resubmission required from the Design Phase submission. The team will upload all documentation to FGBC Online for this review. The schedule for this submittal will depend on the Credit Champions completing FGBC documentation, but typically is within three months from the date of substantial completion.

Application Review Process

The FGBC application review process is approximately six weeks long, after which FGBC may issue a request for clarifications on certain credits. NV5 will facilitate the response to these requests to bring the certification process to completion. Responsibility for providing additional information will be on the original Credit Champion to make the needed clarifications and edit any required documentation. NV5 will oversee the clarifications process, review all final documentation, and submit to the FGBC when all clarifications are completed.

Commissioning Plan Updates

Based on the work completed in the items above, the Construction Phase Commissioning Plan for the project shall be periodically reviewed with the Commissioning Team and updated to reflect changes in project equipment, sequences of operations, scope or schedule and with project personnel.

Commissioning Kick Off Meeting

Conduct a "Project Kickoff Meeting" with the Construction Team. Review with the Construction team the purpose and process for program management and commissioning, the individual roles of each participating team member, the Construction Phase Commissioning Plan and Commissioning Specifications and the Project Commissioning Schedule.

Review Change Orders, ASI, and RFI and Develop Pre-Functional Checklists (PFC's)

Review change orders, architect's supplemental instructions and requests for information (with design team response) for issues that affect the performance of the completed systems. Our review will help establish the benefits and costs of changes recommended in the project. Review is for information only and does not constitute technical or contractual approval or disapproval.

The Commissioning Authority will prepare Pre Functional Checklists (PFC) for the project and distribute to all Cx Team members for review and comment. The Commissioning Authority will incorporate review comments from the team deemed appropriate. The requirements for Pre Functional Checklists shall be coordinated with the startup requirements specified for each commissioned system. The PFC's shall be constructed to leverage the specified contractor and vendor start activities to avoid unnecessary duplication.

Systems Functional Performance Test (FPT's) Procedures

Based on construction documents and approved submittals, the Commissioning Authority will prepare Systems Functional Performance Test Procedures (FPT's) for systems to be commissioned. Completed FPT's will be distributed to all appropriate members of the Commissioning Team for review and comment. The Commissioning Authority will incorporate review comments from the team deemed appropriate and re- issue to the construction team.

Review Contractor Equipment Startup Checklists, TAB Reports and PFC's, Systems Functional Performance and Integrated Systems Testing

The Commissioning Authority will review all contractor prepared Equipment Startup Checklists, TAB Reports (including "pencil" daily test results) and PFC's to confirm that the systems are have been subject to appropriate Quality Control and Start Up procedures prior to initiation of Functional Performance Testing. Incomplete work, inadequate preparation and deficiencies will note noted and tracked on the Commissioning Issues Log. The Commissioning Authority will oversee, facilitate, and document all Functional Performance Testing (FPTs) and Integrated Systems Testing (ISTs). Execution of FPT's and IST's shall be executed in accordance with the procedures published by the Commissioning Authority. All systems tested in accordance with the FPT's or IST's shall be operated by the contractors

in accordance with the approved procedures. Contractors shall retain responsibility for the installed systems during and after functional testing until substantial completion.

Final Commissioning Report

We will compile a comprehensive commissioning report documenting all commissioning activities in accordance with the ASHRAE Guideline 0 and NEBB Procedural Standard or similar standard of equal rigor. The report shall include but not necessarily be limited to the following:

- Commissioning scope
- Test methods and results
- Outstanding commissioning issues
- Issues log
- Commissioning plan
- Status reports
- Submittal and O&M manual reviews
- Training record
- System Readiness Checklists
- Design Review Comments

Deliverables (after each meeting)

- Construction Phase meeting materials
- An updated FGBC Project Scorecard
- An updated Construction Team Action Item Matrix which identifies specific tasks to be completed by each responsible team member
- Construction Phase FGBC review of documentation
- Final QC for FGBC application (team members to provide documentation; NV5 to review and submit application)

Phase 5 Project Schedule

Phase 5 – Administration of Construction Contract – June 2021-Completion

- As-Needed Site Visits and Field Reports for Golf Course Construction and Landscape Installation
- Bi-Weekly Site Visits and Field Reports for Architecture
- Florida Green Building Council application and submittals for certification for final submission
- Review of Shop Drawings
- Review of Payment Applications
- Substantial Completion Inspection and Punch List
- Final Completion Inspection
- As-Built Drawings

Phase 5 Fees

Geotechnical	$0
Environmental	$0
Civil	$23,781
Survey	$0
Asbestos Survey	$0
Architecture/Structural MEP Buildings	$41,630
Irrigation Design	$0
Planning Consultant	$0
Golf Course Architecture/Landscape Architecture	$41,900
Design & Engineering Cost	**$107,311**

Total Project Fees

Geotechnical	$18,040
Environmental	$33,704
Civil	$130,820
Survey	$51,355
Asbestos Survey	$3,740
Architecture/Structural MEP Buildings	$341,000
Irrigation Design	$15,000
Planning Consultant	$25,000
Golf Course Architecture/Landscape Architecture	$280,000
Design & Engineering Cost	**$898,660**
FGBC Facilitation and Commissioning*	$52,490

This fee outline does not include the FGBC registration and certification fees.

Florida Green Building Coalition

STIPULATED SUM FEE

This fee outline does not include the FGBC registration and certification fees. These are listed in the previous page provided.

Clubhouse ONLY	Fee
FGBC Consulting (Inclusive of Documentation and Submission)*	$37,000
Florida Energy Code (FEC) calculations review	$2,000
FGNC credit E3.01 (4 pts - not required) Fundamental Building Systems Commissioning (single building)	$13,690
Total	$52,490

*Platinum Level Certification (requires documentation of 20 additional FGBC points for certification) is not included in the FGBC consulting fee.