



To: Michael Rezk, P.E., PMP  
Principal Engineer

From: Ryan Hagaman, PMP, LEED AP; Preconstruction Manager  
Greg Roy, P.E.; Project Manager  
Suzanne Mechler, P.E., Client Service Leader  
Mahendra Balkaran, P.E., PMP; Assistant Preconstruction Manager  
Jeffrey James; Lead Estimator

Date: November 10, 2025

Subject: Delray Beach Membrane Treatment Plant PDB Project GMP

Dear Mr. Rezk:

CDM Smith wants to thank you for the opportunity to submit to the City of Delray Beach the Guaranteed Maximum Price (GMP) package for the Delray Beach Membrane Water Treatment Plant Progressive Design Build Project in the amount of \$228,924,854. The package includes the following items:

1. Summary of GMP Costs
2. Basis of GMP
3. General Conditions
4. Engineering Services During Construction
5. Schedule
6. Risk Register
7. Bid Analysis

Sincerely,

A handwritten signature in blue ink, appearing to read "Ryan Hagaman", with a stylized flourish at the end.

Ryan Hagaman  
Senior Vice President  
CDM Smith Inc.

Cc: Tommy Floyd, CDM Smith, Inc.

City of Delray Beach  
Membrane Water Treatment Plant  
Delray Beach, Florida  
Progressive Design-Build  
CDM Smith



Electronic

Date:

Thursday, November 6, 2025

**Guaranteed Maximum Price (GMP)**

<b>DIRECT COST</b>	<b>\$117,527,597</b>
Builders Risk Insurance	\$1,199,403
General Liability	\$2,289,249
Design-Builder Bonds	\$3,798,749
Design-Builder OH&P (11.5%)	\$14,353,725
Design Builder Contingency	\$24,495,241
Tarriiffs (Owner Allowance)	\$2,230,000
Building Permit Fees (Owner Allowance)	\$23,973
FPL Direct Cost Fees (Owner Allowance)	\$446,000
FPU Gas Main Installation (Owner Allowance)	\$238,298
Natural Gas Generator System, Electrical and Mechanical (Owner Allowance)	\$7,805,000
Raw Water Quality Improvement Efforts (Owner Allowance)	\$21,185,000
General Conditions	\$22,953,229
Engineering Services During Construction	\$10,379,391
<b>Total</b>	<b>\$228,924,854</b>

**Previous Commitments Related to the Project And Part of this Agreement:**

Phase 1 Services	\$15,782,309
EPP-1 Early Procurement	\$9,952,638
DIW ESDCs	\$2,886,021
Amendment No 2	\$291,347.00
<b>Total of Various Project Components</b>	<b>\$28,912,315</b>

**Other Commitments Related to the Project Not Part of this Agreement:**

DIW1 and 2 and Monitoring Well	\$29,600,000
<b>Total of Various Project Components</b>	<b>\$29,600,000</b>

<b>TOTAL PROJECT VALUE</b>	<b>\$287,437,169</b>
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## Attachment 2

### Basis of GMP

# Introduction

The City of Delray beach contracted CDM Smith (CDM Constructors Inc) for the progressive-design build of a new membrane treatment system at the City's existing lime softening water treatment plant. The new membrane water treatment plant will have an initial minimum treatment capacity of 14 million gallons per day (MGD) and flexibility to expand treatment capacity to 25 MGD of finished water. The project includes construction of six (6) new raw water supply wells to replace existing non-performing wells, a deep injection well for concentrate disposal (which is not part of this GMP), and the rehabilitation of 11 existing wells.

Guaranteed Maximum Price (GMP) for the construction, engineering services during construction and startup of the Project is \$228,924,854 and is based on the following:

## General Assumptions & Clarifications

- I. Subcontractor and vendor bids are valid through December 31, 2025. Design-Builder reserves the right to adjust the GMP if the Amendment is not executed by December 20th, 2025 to allow for the issuance of contracts to subcontractors & vendors to secure pricing.
- II. Cost escalation due to public posting of the subcontractor and supplier quotations is excluded. DESIGN-BUILDER reserves the right to modify the GMP if Subcontractor or Vendor quotes are exposed prior to Notice to Proceed (NTP).
- III. DESIGN-BUILDER will perform all General Conditions Costs for the lump sum amount of \$22,953,229 which is included as part of GMP. General Conditions includes all CDM Smith Construction Management labor including:
  - a. Project Management, Project Supervision, Health & Safety, Project Controls, Procurement, Accounting, Administrative, and Executive Management, and other staff required to execute the GMP.
  - b. CDM Smith management equipment including computers, cell phones, and vehicles is included.
  - c. Travel and housing for project delivery is included.
- IV. DESIGN-BUILDER will be paid for all Engineering Services During Construction on a Fixed Price Basis in Accordance with the Agreement. The value of Engineering Services During Construction is estimated to be \$10,379,391 and is included in the total GMP.
- V. Builders Risk Insurance, General Liability Insurance, and Design-Builder Bonds are included in the GMP for the lump sum value of \$7,287,752. DESIGN-BUILDER shall invoice the Owner for Bonds and Insurance at \$7,287,752 plus 11.5% markup.
- VI. CDM Constructors Inc. Payment & Performance Bonds are included for the value of construction only.
- VII. Building Permits are excluded from the GMP. An Owner Allowance is included for the permits listed in the Permits section below. No other permits are included.
- VIII. Design-Builder shall not be responsible for any delays in obtaining permits relating in any way that are beyond its direct control or that are/were handled by independent third parties. Any agency delays in completing the review(s) shall be an excusable delay for the Design-Builder and may be eligible for additional compensation pursuant to the terms of the agreement.

- IX. The GMP includes a Design Builder Contingency of \$24,495,241 within the GMP in accordance with Section 6.5.3 of the AGREEMENT. DESIGN-BUILDER shall have access to the contingency in accordance with the AGREEMENT. Total Contingency estimate is inclusive of markup and Design-Builder shall be entitled to markup on contingency costs actually occurred in accordance with the Agreement. The Risk Register is included in this GMP Submission and includes many of the known risks identified at this stage of the project. However, the Risk Register is not a line-item contingency and instead is meant to roughly quantify the expected risks on the overall project. Contingency shall be utilized for the risks and at the values as they occur. This GMP proposal does not include an Owner Contingency outside of the above-described costs. The GMP includes a Contingency which is available for the Design-Builder's exclusive use for unanticipated cost it has incurred that are not the basis for a change order under the Contract Documents. By way of example, and not as a limitation, such cost may include: (a) trade buy-out differentials; (b) overtime or acceleration; (c) escalation of materials; (d) correction of defective, damaged or nonconforming work, design omissions, which are not caused by the negligent acts/omissions of the Design-Builder, subcontractor defaults or (f) delays beyond the control of the Design-builder that result in an extension of the Schedule but do not result in an increase in the Contract Price. The contingency is not available to Owner for any reason, including, but not limited to changes in scope or any other item which would enable Design-Builder to increase the GMP under the Contract Documents. Design-Builder shall provide Owner notice of all anticipated charges against the Contingency and shall provide Owner as part of the monthly Owners' meeting, including all reasonably foreseen uses or potential uses of the Contingency in the upcoming three (3) months. Design-Builder agrees that with respect to any expenditure from the Contingency relating to a Subcontractor default or an event for which insurance or bond may provide reimbursement, Design-Builder will in good faith exercise reasonable steps to obtain performance from the Subcontractor and /or recovery from any surety or insurance company. Design-Builder agrees that if Design-Builder is subsequently reimbursed for said costs, then said recovery will be credited back to the Contingency.
- X. DESIGN-BUILDER will be paid for all direct and indirect cost of construction incurred as part of the administration of the project in accordance with the AGREEMENT and will receive 11.5% markup on all costs. Costs include all Subcontractors, Vendors, Materials Suppliers, Equipment Suppliers, Construction Rentals, small tools, etc. as required to construct the project.
- XI. Sales taxes are included.
- XII. No consideration for contaminated groundwater/soils or hazardous materials is included (i.e., asbestos, lead, etc.).
- XIII. This GMP is based on the 60% design documents. The true up process will occur with the delivery of the Issued for Construction documents where the successful bidder will be given the opportunity to revisit the cost impacts of any changes due to design progression or requirements from the permitting agencies. Any resulting cost impacts will be billed against the construction contingency unless subject to a change order.
- XIV. Design-Builder does not guarantee either the output or depth of any production wells. In the event that wells are required to be drilled deeper than assumed per the design documents due to subsurface conditions then the Design-Builder shall be entitled to a change to the GMP.
- XV. Design-Builder is not responsible for any dirt or debris in the clearwell.
- XVI. During construction CDM Smith will provide an average of 8 hours of operations service, every calendar day over 4.5 months, with 2 hours of on-call services each day. When the City is operating the WTP during the 2nd and 3rd shift, CDM Smith operators will be available for calls to assist with any challenges. During final development of the start-up and commissioning plan, division of operations and staff requirements will be coordinated. Throughout all construction, the City will remain the licensee on

the permit to operate the existing and new water plants. CDM Smith will provide operations training and assistance for the City's operations staff prior to and during commissioning of the new WTP. CDM Smith will be responsible for start-up and commissioning in compliance with the Contract Documents, permits, and the final start-up and commissioning plan (to be developed with the City). The City will remain responsible for permit compliance.

#### XVII. PRE COMMISSIONING RAW WATER QUALITY REQUIREMENTS

Prior to loading membrane elements in the first unit for Performance Acceptance Testing (PAT), the full-scale cartridge filters shall operate successfully, without replacing cartridge filters, for a duration acceptable to the CITY. In addition, the raw water quality from a representative blend of all 4 well fields shall be within or close to, as agreed to by the CITY and the Design-Builder, the limits defined below. The start date for PAT shall be as defined in the P6 schedule, provided in the approved GMP 2 package.

- SDI Less than or equal to 4
- DO Less than 1.0 mg/l

Four consecutive weekly samples per parameter will be averaged to confirm compliance with the raw water quality requirements. Weekly sampling may continue until the average of the latest four consecutive weeks meets the criteria.

Pilot testing has yet to be conducted to define the site-specific minimum water quality characteristics necessary to successfully operate the full-scale membrane plant. The Design-Builder will re-assess the SDI and DO limits defined above and would consider adjusting these values to expedite the commencement of commissioning.

If the testing reveals that the criteria above has not been met, the Design-Builder will promptly meet with the CITY to determine a course of action including scheduling of the PAT. If the raw water quality parameters above are not met and the project schedule or GMP costs including engineering and general conditions costs are impacted, subject to the Owner's Approval which shall not be unreasonably withheld, Design-Builder shall be entitled to schedule relief and shall have access to the Raw Water Quality Allowance toward additional cost impacts, if not already accessed previously.

## Owner Furnished Equipment and Materials

- I. Owner shall provide all chemicals and electricity as required for startup and operations of the facility.
- II. Owner shall provide all furniture required for the facility.
- III. Sales taxes are included in the GMP. Owner may utilize the Owner Direct Purchase Order (ODPO) Program to procure equipment, however, Owner shall notify Design-Builder of which packages Owner wishes to include in the ODPO program within one week of NTP and the program shall only be utilized for packages valued over \$1,000,000

## Design-Builder Self Performance

- I. DESIGN-BUILDER shall self-perform the Raw Water Main installation, Process Electrical and Instrumentation scopes of work on a lump sum basis in accordance with the GMP bid. The total value paid to DESIGN-BUILDER for the Process Electrical & Instrumentation work shall be the bid value plus a 11.5% markup, equating to \$19,610,012.33. The total value of paid to the to DESIGN-BUILDER for the Raw Water Transmission main work shall be the bid value plus a 11.5% markup, equating to \$1,262,509. Self-performed work shall be "trued up" with the Issued For Construction (IFC) design documents similar to other subcontracted bid packages. Detail cost breakdowns of any true up costs shall be provided by Design-Builder to Owner.

## Allowances

- I. Owner and Design-Builder agree that certain items of Work should be treated as an allowance. Design-Builder and Owner have worked together to review the Allowance Items and Allowance Values based on available design information to determine that the Allowance Values constitute reasonable estimates for the Allowance Items. Nothing herein is intended in any way to constitute a guarantee by Design-Builder that the Allowance Item in question can be performed for the Allowance Value.
- II. The allowance value for an Allowance Item for which the Design-Builder will be entitled to receive compensation includes direct cost of labor, materials, equipment, transportation, taxes and insurance ("Costs") associated with the Allowance Item. Design fees, general conditions costs and Fee associated with the Allowance Items are included in the Contract Price.
- III. Whenever the actual Costs for an Allowance Item is more than or less than the stated Allowance Value for that Allowance Item, the Contract Price shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect the difference between actual Costs incurred by Design-Builder for the particular Allowance Item and the Allowance Value plus Fee.
- IV. Given the nature of the allowances being driven by uncertainties outside of Design-Builder's control and noting that the Allowances will ultimately be implemented as Cost of Work per the Agreement, the Design Builder shall be entitled to markup all direct costs in as part of the final value of the Allowance. Further, if there are design or General Conditions costs associated with the ultimate implementation of the Allowance, Design Builder shall be entitled to those costs as part of the final value of the Allowance.
- V. Owner Allowances are inclusive of Design-Builder markup (the allowance is comprised of the direct cost-plus indirect costs including Design-Builder markup), and Design-Builder shall be entitled to markup on all direct and indirect costs actually incurred following approval from the Owner to utilize the Allowance.
- VI. The Raw Water Treatment Allowance is intended to allow the Design-Builder and Owner to work together to implement efforts to improve the quality of the raw water to within acceptable tolerances. The items contemplated within the Allowance do not guarantee of future water quality results. The scope included within the Allowance consists of certain improvements to existing equipment and facilities, specifically mechanical and ice pigging including launching and receiving stations and a flushing port at the water treatment plant. This work will include a test to confirm that recovery water return is not entering the northern pilot tap and feed. If, following contemplated scope to improve influent water quality, additional work or full-scale pretreatment is required to meet required water quality requirements to support proper treatment plant operations, such additional work will require additional efforts, engineering and general conditions, as well as extending the project schedule. Such additional work, if necessary, will be performed either pursuant to an Amendment to the Agreement, addressing the additional efforts and time, or under a different contract.

## Start-up and Testing

- I. Startup and Commissioning assumes 10 weeks for operational readiness and functional testing, 10 weeks performance testing, and 4 weeks commission. Any further start up or commissioning efforts, such as retesting, are not included within the GMP.

## Domestic Preference

- I. No Buy American/Buy America provision included.
- II. No American Iron and Steel Act included.
- III. Design-Builder's cost and time for performance of its work are based upon the applicable laws and regulations, including tariffs, duties, and trade restrictions (hereinafter referred to as "Tariffs") in effect at the time of signing the Agreement. The parties acknowledge that there has been discussion among various national governments about significant changes to existing Tariffs and/or the imposition of new Tariffs for certain goods and materials. The amount, timing and impact of such changes to the acquisition of goods and materials and/or products and services is unknown at the time of signing this Agreement and, as such, the parties acknowledge and agree that Design-Builder has not included in its price or schedule the cost or schedule impact of such unknown and unquantifiable risk. The parties further agree that Design-Builder shall be entitled to a Change Order increasing the contract price and extending the contract time if and to the extent that any changes to existing Tariffs or any new Tariffs result in increased costs or project delays.

## Wage Determination

- I. No Davis Bacon wage rates included.

## Standard Working Hours

- I. All Work will be performed between 7:00 a.m. and 7:00 p.m. any day of the week, not including Saturdays, Sundays, or Legal Holidays unless authorized by Owner or Owner's Representative. However, emergency work or work needing to be completed to maintain the structural integrity of the well, such as casing installation and grouting, may be performed beyond 7:00 p.m. to the extent that these activities are complete without prior permission. Upon agreement with Owner or Owner's Representative, work on Saturdays, Sundays, and/or Legal Holidays will be allowed upon Design-Builder providing written request to the Owner.

## Equal Business Opportunity Program

- I. The GMP is not required to comply with the project's SBE Subcontracting requirements. The City explored opportunities to obtain state funding for this project; however, due to numerous emergency disaster recovery efforts, particularly hurricane-related damages in South Florida, no state funding was available. Incorporating state or federal funding requirements would have increased the construction cost due to additional General Conditions and compliance obligations associated with those funding sources.

## Funding Sources

- I. The City did apply for State Revolving Fund (SRF) and similar state funding for this project. Unfortunately, due to the redirection of available funds toward emergency disaster recovery efforts, including hurricane response in South Florida, no state funding was available. As a result, the project is proceeding without SRF or similar funding. Additionally, incorporating state or federal funding requirements would have raised the overall construction cost due to the added General Conditions and compliance obligations required under those funding programs.

## Substantial Completion

- I. Substantial completion shall be accomplished on the date when the work, or agreed upon portion of the work, is sufficiently complete in accordance with the Contract Documents so that the Owner is able to occupy and use the Project or a portion thereof to accomplish the objectives stated in the Basis of



Design Report. Ancillary items such as landscaping, sidewalks, interior finishes, punchlist items, or O&M Manuals which do not impact the purpose of the facility shall not be required as a predecessor of Substantial Completion.

## Permits

- I. Design Builder shall not be responsible for any delays in obtaining permits relating in any way that are beyond its direct control or that are/were handled by independent third parties. Any agency delays in completing the review(s) beyond the stipulated timeframes stated below shall be an excusable delay for the Design-Builder and may be eligible for additional compensation pursuant to the terms of the agreement.

Permit	Agency	Review Period (Calendar Days from application submittal to permit receipt)
Site Development Permit	City of Delray Beach	90
Air Emissions Permit	Florida Department of Environmental Protection	180
Building Permit (any single prime or sub-permit)	City of Delray Beach	60

## Design Drawings And Specifications

- I. The GMP is based on the 60% / Issued for Bid specifications dated April 2025.
- II. The GMP is based on the 60% / Issued for Bid drawings dated April 2025.

## Attachment 3

### General Conditions

**GC REPORT**CLIENT NAME: City of Delray BeachPROJECT NAME: Membrane Water Treatment Plant

REV44 09-13-24

PROJECT MANAGER: Greg RoyPROJECT NUMBER: 291242

PRELIMA

PRELIMINARY SERVICES

Cost Item	Takeoff Quantity	Labor Manhours	Labor Rate	Labor Amount	Material Amount	Equip Amount	Sub Amount	Other Amount	Total Unit Cost	Total Amount
<b>PRELIM/PRECON SERVICES STAFFING</b>										
<b>PROJECT MANAGEMENT STAFF</b>										
Area Leader	11 /wk	88 mh	\$ 328.65 hr	\$ 28,921	\$ -	\$ 1,481	\$ -	\$ -	\$ 2,763.87 /wk	\$ 30,403
Precon Mgr	11 /wk	440 mh	\$ 273.00 hr	\$ 120,120	\$ -	\$ 7,407	\$ -	\$ -	\$ 11,593.33 /wk	\$ 127,527
Sr Project Mgr	11 /wk	440 mh	\$ 192.15 hr	\$ 84,546	\$ -	\$ 7,407	\$ -	\$ -	\$ 8,359.33 /wk	\$ 91,953
Assistant PM	11 /wk	440 mh	\$ 171.15 hr	\$ 75,306	\$ -	\$ 375	\$ -	\$ -	\$ 6,880.09 /wk	\$ 75,681
Elec Delivery Lead	11 /wk	220 mh	\$ 203.70 hr	\$ 62,351	\$ -	\$ 188	\$ -	\$ -	\$ 5,685.31 /wk	\$ 62,538
I&C Mgr	11 /wk	220 mh	\$ 210.00 hr	\$ 52,998	\$ -	\$ 188	\$ -	\$ -	\$ 4,835.07 /wk	\$ 53,186
Project Account	11 /wk	110 mh	\$ 145.95 hr	\$ 16,055	\$ -	\$ 94	\$ -	\$ -	\$ 1,468.02 /wk	\$ 16,148
VDC Mgr	11 /wk	110 mh	\$ 145.95 hr	\$ 16,055	\$ -	\$ 94	\$ -	\$ -	\$ 1,468.02 /wk	\$ 16,148
Lead Procurement	11 /wk	440 mh	\$ 101.85 hr	\$ 44,814	\$ -	\$ 375	\$ -	\$ -	\$ 4,108.09 /wk	\$ 45,189
Sr Procurement Mgr	11 /wk	440 mh	\$ 198.45 hr	\$ 87,318	\$ -	\$ 7,407	\$ -	\$ -	\$ 8,611.33 /wk	\$ 94,725
<b>PROJECT MANAGEMENT STAFF</b>	<b>11 /wk</b>	<b>2948 mh</b>		<b>\$ 588,483</b>	<b>\$ -</b>	<b>\$ 25,014</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 55,772.47 /wk</b>	<b>\$ 613,497</b>
<b>FIELD STAFF</b>										
Construction Mgr	11 /wk	88 mh	\$ 262.50 hr	\$ 23,100	\$ -	\$ 1,481	\$ -	\$ -	\$ 2,234.67 /wk	\$ 24,581
General Super	11 /wk	220 mh	\$ 218.40 hr	\$ 48,048	\$ -	\$ 3,703	\$ -	\$ -	\$ 4,704.67 /wk	\$ 51,751
Regional H&S Mgr	11 /wk	88 mh	\$ 267.75 hr	\$ 16,211	\$ -	\$ 1,481	\$ -	\$ -	\$ 1,608.41 /wk	\$ 17,693
Constr Specialist 2	11 /wk	440 mh	\$ 130.20 hr	\$ 57,288	\$ -	\$ 7,407	\$ -	\$ -	\$ 5,881.33 /wk	\$ 64,695
Constr Specialist 3	11 /wk	440 mh	\$ 150.38 hr	\$ 66,168	\$ -	\$ 7,407	\$ -	\$ -	\$ 6,688.57 /wk	\$ 73,574
Sr QC Mgr	11 /wk	88 mh	\$ 267.75 hr	\$ 24,940	\$ -	\$ 1,481	\$ -	\$ -	\$ 2,401.97 /wk	\$ 26,422
<b>FIELD STAFF</b>	<b>11 /wk</b>	<b>1364 mh</b>		<b>\$ 235,755</b>	<b>\$ -</b>	<b>\$ 22,961</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 23,519.62 /wk</b>	<b>\$ 258,716</b>
<b>ESTIMATING</b>										
Estimator	11 /wk	110 mh	\$ 241.50 hr	\$ 14,029	\$ -	\$ 1,266	\$ -	\$ -	\$ 1,390.42 /wk	\$ 15,295
Lead Estimator	11 /wk	110 mh	\$ 241.50 hr	\$ 26,565	\$ -	\$ 1,266	\$ -	\$ -	\$ 2,530.06 /wk	\$ 27,831
Elec Estimator	11 /wk	110 mh	\$ 243.60 hr	\$ 19,329	\$ -	\$ 1,266	\$ -	\$ -	\$ 1,872.22 /wk	\$ 20,594
Chief Estimator	11 /wk	110 mh	\$ 262.50 hr	\$ 28,875	\$ -	\$ 1,266	\$ -	\$ -	\$ 2,740.06 /wk	\$ 30,141
Estimating Mgr	11 /wk	44 mh	\$ 297.15 hr	\$ 12,470	\$ -	\$ 506	\$ -	\$ -	\$ 1,179.68 /wk	\$ 12,976
<b>ESTIMATING</b>	<b>11 /wk</b>	<b>484 mh</b>		<b>\$ 101,268</b>	<b>\$ -</b>	<b>\$ 5,569</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 9,712.45 /wk</b>	<b>\$ 106,837</b>
<b>PROJECT CONTROLS</b>										
Project Controls Mgr	11 /wk	220 mh	\$ 241.50 hr	\$ 53,130	\$ -	\$ 188	\$ -	\$ -	\$ 4,847.05 /wk	\$ 53,318
<b>PROJECT CONTROLS</b>	<b>11 /wk</b>	<b>220 mh</b>		<b>\$ 53,130</b>	<b>\$ -</b>	<b>\$ 188</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,847.05 /wk</b>	<b>\$ 53,318</b>
<b>CLERICAL STAFF</b>										
Project Admin	11 /wk	220 mh	\$ 131.25 hr	\$ 28,875	\$ -	\$ 188	\$ -	\$ -	\$ 2,642.05 /wk	\$ 29,063
Lead Project Admin	11 /wk	220 mh	\$ 141.75 hr	\$ 31,185	\$ -	\$ 188	\$ -	\$ -	\$ 2,852.05 /wk	\$ 31,373
<b>CLERICAL STAFF</b>	<b>11 /wk</b>	<b>440 mh</b>		<b>\$ 60,060</b>	<b>\$ -</b>	<b>\$ 375</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 5,494.09 /wk</b>	<b>\$ 60,435</b>
<b>TRAVEL &amp; SUBSISTENCE</b>										
Area Lead Airfare	4 /Trips							\$ 2,400	\$ 600.00 /Trips	\$ 2,400
Area Lead Car Rental	4 /Trips							\$ 3,360	\$ 840.00 /Trips	\$ 3,360
Area Lead Hotel	4 /Trips							\$ 6,400	\$ 1,600.00 /Trips	\$ 6,400
Area Lead Meals	4 /Trips							\$ 2,400	\$ 600.00 /Trips	\$ 2,400
Proj Mgr Airfare	8 /Trips							\$ 4,800	\$ 600.00 /Trips	\$ 4,800
Proj Mgr Car Rental	8 /Trips							\$ 6,720	\$ 840.00 /Trips	\$ 6,720
Proj Mgr Hotel	8 /Trips							\$ 12,800	\$ 1,600.00 /Trips	\$ 12,800
Proj Mgr Meals	8 /Trips							\$ 4,800	\$ 600.00 /Trips	\$ 4,800
Super Airfare	8 /Trips							\$ 4,800	\$ 600.00 /Trips	\$ 4,800
Super Car Rental	8 /Trips							\$ 6,720	\$ 840.00 /Trips	\$ 6,720

[illegible]

Cost Item	Takeoff Quantity	Labor Manhours	Labor Rate	Labor Amount	Material Amount	Equip Amount	Sub Amount	Other Amount	Total Unit Cost	Total Amount
CONSTRUCTION GENERAL CONDITIONS STAFFING										
PROJECT MANAGEMENT STAFF										
Area Leader	107 /wk	429 mh	\$ 345.08 hr	\$ 147,891	\$ -	\$ 6,771	\$ -	\$ -	\$ 1,441.60 /wk	\$ 154,663
Precon Mgr	107 /wk	643 mh	\$ 286.65 hr	\$ 184,275	\$ -	\$ 10,157	\$ -	\$ -	\$ 1,812.28 /wk	\$ 194,432
Sr Project Mgr	107 /wk	4286 mh	\$ 201.76 hr	\$ 864,675	\$ -	\$ 67,714	\$ -	\$ -	\$ 8,690.71 /wk	\$ 932,389
Assistant PM	107 /wk	4286 mh	\$ 179.71 hr	\$ 770,175	\$ -	\$ 3,429	\$ -	\$ -	\$ 7,210.69 /wk	\$ 773,604
Elec Delivery Lead	107 /wk	214 mh	\$ 213.89 hr	\$ 45,833	\$ -	\$ 171	\$ -	\$ -	\$ 428.80 /wk	\$ 46,004
I&C Mgr	107 /wk	214 mh	\$ 220.50 hr	\$ 47,250	\$ -	\$ 171	\$ -	\$ -	\$ 442.01 /wk	\$ 47,421
Project Account	107 /wk	1071 mh	\$ 153.25 hr	\$ 164,196	\$ -	\$ 857	\$ -	\$ -	\$ 1,538.45 /wk	\$ 165,054
VDC Mgr	107 /wk	1286 mh	\$ 153.25 hr	\$ 197,036	\$ -	\$ 1,029	\$ -	\$ -	\$ 1,846.14 /wk	\$ 198,064
Lead Procurement	107 /wk	857 mh	\$ 106.94 hr	\$ 91,663	\$ -	\$ 686	\$ -	\$ -	\$ 860.77 /wk	\$ 92,349
Sr Procurement Mgr	107 /wk	429 mh	\$ 208.37 hr	\$ 89,301	\$ -	\$ 6,771	\$ -	\$ -	\$ 895.49 /wk	\$ 96,073
PROJECT MANAGEMENT STAFF	107 /wk	13714 mh		\$ 2,602,295	\$ -	\$ 97,757	\$ -	\$ -	\$ 25,166.93 /wk	\$ 2,700,053
FIELD STAFF										
Construction Mgr	107 /wk	4286 mh	\$ 275.63 hr	\$ 1,181,271	\$ -	\$ 67,714	\$ -	\$ -	\$ 11,641.68 /wk	\$ 1,248,986
General Super	107 /wk	4286 mh	\$ 229.32 hr	\$ 982,800	\$ -	\$ 67,714	\$ -	\$ -	\$ 9,791.74 /wk	\$ 1,050,514
General Foreman	107 /wk	4286 mh	\$ 151.14 hr	\$ 647,743	\$ -	\$ 67,714	\$ -	\$ -	\$ 6,668.71 /wk	\$ 715,457
General Foreman	107 /wk	2143 mh	\$ 151.14 hr	\$ 341,898	\$ -	\$ 33,857	\$ -	\$ -	\$ 3,502.38 /wk	\$ 375,756
Assistant Super	107 /wk	4286 mh	\$ 209.32 hr	\$ 897,086	\$ -	\$ 67,714	\$ -	\$ -	\$ 8,992.81 /wk	\$ 964,800
Regional H&S Mgr	107 /wk	857 mh	\$ 281.14 hr	\$ 240,977	\$ -	\$ 13,543	\$ -	\$ -	\$ 2,372.36 /wk	\$ 254,520
CCI H&S Mgr	107 /wk	4286 mh	\$ 280.50 hr	\$ 1,202,143	\$ -	\$ 3,429	\$ -	\$ -	\$ 11,237.02 /wk	\$ 1,205,571
Constr Specialist 1	107 /wk	4286 mh	\$ 136.71 hr	\$ 585,900	\$ -	\$ 67,714	\$ -	\$ -	\$ 6,092.28 /wk	\$ 653,614
Constr Specialist 1	107 /wk	4286 mh	\$ 136.71 hr	\$ 585,900	\$ -	\$ 67,714	\$ -	\$ -	\$ 6,092.28 /wk	\$ 653,614
Constr Specialist 2	107 /wk	4286 mh	\$ 150.38 hr	\$ 644,490	\$ -	\$ 67,714	\$ -	\$ -	\$ 6,638.39 /wk	\$ 712,204
Constr Specialist 3	107 /wk	4286 mh	\$ 165.42 hr	\$ 708,934	\$ -	\$ 67,714	\$ -	\$ -	\$ 7,239.07 /wk	\$ 776,649
Sr QC Mgr	107 /wk	857 mh	\$ 281.14 hr	\$ 240,977	\$ -	\$ 13,543	\$ -	\$ -	\$ 2,372.36 /wk	\$ 254,520
QC Specialist	107 /wk	4286 mh	\$ 210.00 hr	\$ 900,000	\$ -	\$ 67,714	\$ -	\$ -	\$ 9,019.97 /wk	\$ 967,714
FIELD STAFF	107 /wk	46714 mh		\$ 9,160,120	\$ -	\$ 673,800	\$ -	\$ -	\$ 91,661.04 /wk	\$ 9,833,920
ESTIMATING										
Lead Estimator	107 /wk	214 mh	\$ 253.58 hr	\$ 54,339	\$ -	\$ 2,314	\$ -	\$ -	\$ 528.06 /wk	\$ 56,653
Chief Estimator	107 /wk	214 mh	\$ 275.63 hr	\$ 59,064	\$ -	\$ 2,314	\$ -	\$ -	\$ 572.10 /wk	\$ 61,378
ESTIMATING	107 /wk	429 mh		\$ 113,402	\$ -	\$ 4,629	\$ -	\$ -	\$ 1,100.15 /wk	\$ 118,031
PROJECT CONTROLS										
Project Controls Mgr	107 /wk	2143 mh	\$ 253.58 hr	\$ 543,386	\$ -	\$ 1,714	\$ -	\$ -	\$ 5,080.83 /wk	\$ 545,100
PROJECT CONTROLS	107 /wk	2143 mh		\$ 543,386	\$ -	\$ 1,714	\$ -	\$ -	\$ 5,080.83 /wk	\$ 545,100
CLERICAL STAFF										
Project Admin	107 /wk	4286 mh	\$ 137.81 hr	\$ 590,614	\$ -	\$ 3,429	\$ -	\$ -	\$ 5,537.02 /wk	\$ 594,043
Lead Project Admin	107 /wk	2143 mh	\$ 148.84 hr	\$ 318,938	\$ -	\$ 1,714	\$ -	\$ -	\$ 2,988.76 /wk	\$ 320,652
CLERICAL STAFF	107 /wk	6429 mh		\$ 909,552	\$ -	\$ 5,143	\$ -	\$ -	\$ 8,525.78 /wk	\$ 914,695
TRAVEL & SUBSISTENCE										
Area Lead Airfare	24 /Trips							\$ 14,400	\$ 600.00 /Trips	\$ 14,400
Area Lead Car Rental	24 /Trips							\$ 20,160	\$ 840.00 /Trips	\$ 20,160
Area Lead Hotel	24 /Trips							\$ 38,400	\$ 1,600.00 /Trips	\$ 38,400
Area Lead Meals	24 /Trips							\$ 14,400	\$ 600.00 /Trips	\$ 14,400
Proj Mgr Airfare	48 /Trips							\$ 28,800	\$ 600.00 /Trips	\$ 28,800
Proj Mgr Car Rental	48 /Trips							\$ 40,320	\$ 840.00 /Trips	\$ 40,320
Proj Mgr Hotel	48 /Trips							\$ 76,800	\$ 1,600.00 /Trips	\$ 76,800
Proj Mgr Meals	48 /Trips							\$ 28,800	\$ 600.00 /Trips	\$ 28,800
Super Airfare	24 /Trips							\$ 14,400	\$ 600.00 /Trips	\$ 14,400

	Cost Item	Takeoff Quantity	Labor Manhours	Labor Rate	Labor Amount	Material Amount	Equip Amount	Sub Amount	Other Amount	Total Unit Cost	Total Amount
CONSTRUCTION GCs	Super Car Rental	24 /Trips							\$ 20,160	\$ 840.00 /Trips	\$ 20,160
	Super Hotel	24 /Trips							\$ 38,400	\$ 1,600.00 /Trips	\$ 38,400
	Super Meals	24 /Trips							\$ 14,400	\$ 600.00 /Trips	\$ 14,400
	CS Airfare	24 /Trips							\$ 14,400	\$ 600.00 /Trips	\$ 14,400
	CS Car Rental	24 /Trips							\$ 20,160	\$ 840.00 /Trips	\$ 20,160
	CS Hotel	24 /Trips							\$ 38,400	\$ 1,600.00 /Trips	\$ 38,400
	CS Meals	24 /Trips							\$ 14,400	\$ 600.00 /Trips	\$ 14,400
	PerDiem by Weeks	312 /Wks							\$ 491,400	\$ 1,575.00 /Wks	\$ 491,400
	PerDiem by Weeks (After 1 yr)	312 /Wks							\$ 614,250	\$ 1,968.75 /Wks	\$ 614,250
	TRAVEL & SUBSISTENCE								\$ 1,542,450		\$ 1,542,450
	TRAINING & ORIENTATION										
	PreHire/Orientation	10 /Ea							\$ 25,000	\$ 2,500.00 /Ea	\$ 25,000
	OSHA 10 Training	10 /Ea							\$ 5,000	\$ 500.00 /Ea	\$ 5,000
	Specific Training	10 /Ea							\$ 5,000	\$ 500.00 /Ea	\$ 5,000
	TRAINING & ORIENTATION								\$ 35,000		\$ 35,000
	QUALITY ASSURANCE/CONTROL										
	Soils Testing	20000 /CY							\$ 30,000	\$ 1.50 /CY	\$ 30,000
	Concrete Testing	20000 /CY							\$ 60,000	\$ 3.00 /CY	\$ 60,000
	QUALITY ASSURANCE/CONTROL								\$ 90,000		\$ 90,000
	TEMP SANITARY SERVICE										
	Portable Toilets (Month)	360 /Mon							\$ 54,000	\$ 150.00 /Mon	\$ 54,000
	SS Tank Service	24 /Mon							\$ 60,000	\$ 2,500.00 /Mon	\$ 60,000
	TEMP SANITARY SERVICE								\$ 114,000		\$ 114,000
	TEMP TELEPHONE & COMM										
	Internet Monthly	72 /Mon							\$ 18,000	\$ 250.00 /Mon	\$ 18,000
	TEMP TELEPHONE & COMM								\$ 18,000		\$ 18,000
	CDM FIELD OFFICES										
	CDM Office Trailer	72 /Mon							\$ 86,400	\$ 1,200.00 /Mon	\$ 86,400
	CDM Trailer Mob/Demob	2 /Ea							\$ 10,000	\$ 5,000.00 /Ea	\$ 10,000
	CDM FIELD OFFICES								\$ 96,400		\$ 96,400
	CDM FIELD OFFICE EQUIP/SUPPLY										
ION GCs	CDM Furniture LS	3 /LS							\$ 15,000	\$ 5,000.00 /LS	\$ 15,000
	CDM Tablets	6 /Ea							\$ 6,000	\$ 1,000.00 /Ea	\$ 6,000
	CDM Computer	10 /Ea							\$ 25,000	\$ 2,500.00 /Ea	\$ 25,000
	CDM Copier/Printer	2 /Ea							\$ 3,000	\$ 1,500.00 /Ea	\$ 3,000
	CDM Radios	2 /Ea							\$ 800	\$ 400.00 /Ea	\$ 800
	CDM Office Supplies	48 /Mon							\$ 16,800	\$ 350.00 /Mon	\$ 16,800
	CDM Documents	48 /Ea							\$ 12,000	\$ 250.00 /Ea	\$ 12,000
	CDM Drinking Water	72 /Mon							\$ 21,600	\$ 300.00 /Mon	\$ 21,600
	Aerial Photo	28 /Ea							\$ 42,000	\$ 1,500.00 /Ea	\$ 42,000
	Cleaning Service	28 /Mon							\$ 18,200	\$ 650.00 /Mon	\$ 18,200
	CDM FIELD OFFICE EQUIP/SUPPLY								\$ 160,400		\$ 160,400
	TEMP FACILITIES										
	Water Connection	2 /Ea							\$ 2,000	\$ 1,000.00 /Ea	\$ 2,000
	Water Usage	48 /Mon							\$ 19,200	\$ 400.00 /Mon	\$ 19,200
	Sanitary Connection	3 /Ea							\$ 1,950	\$ 650.00 /Ea	\$ 1,950
	Elec Connection	3 /Ea							\$ 7,500	\$ 2,500.00 /Ea	\$ 7,500
	Elec Usage	48 /Mon							\$ 19,200	\$ 400.00 /Mon	\$ 19,200
	Mob & Set-up	3 /Ea							\$ 43,500	\$ 14,500.00 /Ea	\$ 43,500
	Demob	3 /Ea							\$ 60,795	\$ 20,265.00 /Ea	\$ 60,795

CONSTRUCT	Cost Item	Takeoff Quantity	Labor Manhours	Labor Rate	Labor Amount	Material Amount	Equip Amount	Sub Amount	Other Amount	Total Unit Cost	Total Amount
	Temp Fencing	1000 lfmo							\$ 150,000	\$ 150.00 lfmo	\$ 150,000
	Dust Control	112 /Wks							\$ 80,080	\$ 715.00 /Wks	\$ 80,080
	Dump Tipping Fees	121 /Trips							\$ 242,480	\$ 2,000.00 /Trips	\$ 242,480
	TEMP FACILITIES								\$ 626,705		\$ 626,705
	CONSTR EQUIP & SMALL TOOLS										
	Misc Small Tools	63000 /Mh					\$ 189,000			\$ 3.00 /Mh	\$ 189,000
	CONSTR EQUIP & SMALL TOOLS						\$ 189,000				\$ 189,000
	VDC EQUIP/DRONES										
	VDC Equip Rental	112 /Mon							\$ 560,000	\$ 5,000.00 /Mon	\$ 560,000
	VDC EQUIP/DRONES								\$ 560,000		\$ 560,000
	SAFETY										
	Drug Testing	2 /Ea							\$ 1,000	\$ 500.00 /Ea	\$ 1,000
	Safety Supplies	63000 /Mh					\$ 35,280			\$ 0.56 /Mh	\$ 35,280
	SAFETY						\$ 35,280		\$ 1,000		\$ 36,280
	SECURITY/TRAFFIC CONTROL										
	Project Sign	1 /Ea							\$ 2,500	\$ 2,500.00 /Ea	\$ 2,500
	Traffic Control	28 /Wks							\$ 58,800	\$ 2,100.00 /Wks	\$ 58,800
	SECURITY/TRAFFIC CONTROL								\$ 61,300		\$ 61,300
	SURVEY										
	Initial Control Points	4 /LS							\$ 14,000	\$ 3,500.00 /LS	\$ 14,000
	Relocate Survey & Layout	12 /LS							\$ 42,000	\$ 3,500.00 /LS	\$ 42,000
	SURVEY								\$ 56,000		\$ 56,000
	PROJECT CLOSEOUT										
	System Start-up	30 /Days							\$ 27,000	\$ 900.00 /Days	\$ 27,000
	As Built Drawings	5 /LS							\$ 11,250	\$ 2,250.00 /LS	\$ 11,250
	O&M Docs	2 /LS							\$ 40,000	\$ 20,000.00 /LS	\$ 40,000
	Warranty	50 /Hrs							\$ 50,000	\$ 1,000.00 /Hrs	\$ 50,000
	PROJECT CLOSEOUT								\$ 128,250		\$ 128,250
	CONTRACT REQUIREMENTS										
	Textura Accounting	1 /LS							\$ 30,000	\$ 30,000.00 /LS	\$ 30,000
	Predictive Solutions	1 /LS							\$ 5,000	\$ 5,000.00 /LS	\$ 5,000
	LCP Certified Payroll	1 /LS							\$ 35,748	\$ 35,747.50 /LS	\$ 35,748
	Fees & BRI Deduct	1 /LS							\$ 50,000	\$ 50,000.00 /LS	\$ 50,000
	Investigate Conflicts	2 /LS							\$ 50,000	\$ 25,000.00 /LS	\$ 50,000
	CONTRACT REQUIREMENTS								\$ 170,748		\$ 170,748
	Subtotal				\$ 13,328,755		\$ 1,007,323		\$ 3,660,253		\$ 17,996,330
	Sales Tax	7.00%									\$ 163,946
	Subtotal w/ Taxes										\$ 18,160,276
	CCI G&A	7.60%									\$ 354,736
	CCI FEE	4.90%									\$ 228,711
	CONSTRUCTION GCs TOTAL										\$ 18,743,723

CONSTRUCTION GCs



STARTUP & COMMISSIONING	Cost Item	Takeoff Quantity	Labor Manhours	Labor Rate	Labor Amount	Material Amount	Equip Amount	Sub Amount	Other Amount	Total Unit Cost	Total Amount
STARTUP & COMMISSIONING	STARTUP & COMMISSIONING STAFFING										
	PROJECT MANAGEMENT STAFF										
	Area Leader	23 /wk	69 mh	\$ 362.33 hr	\$ 25,156	\$ -	\$ 1,097	\$ -	\$ -	\$ 1,127.44 /wk	\$ 26,253
	Sr Project Mgr	23 /wk	926 mh	\$ 211.85 hr	\$ 196,111	\$ -	\$ 14,626	\$ -	\$ -	\$ 9,050.06 /wk	\$ 210,737
	Assistant PM	23 /wk	926 mh	\$ 188.70 hr	\$ 174,678	\$ -	\$ 741	\$ -	\$ -	\$ 7,533.32 /wk	\$ 175,419
	Elec Delivery Lead	23 /wk	46 mh	\$ 224.58 hr	\$ 10,395	\$ -	\$ 37	\$ -	\$ -	\$ 447.99 /wk	\$ 10,432
	I&C Mgr	23 /wk	46 mh	\$ 231.53 hr	\$ 10,717	\$ -	\$ 37	\$ -	\$ -	\$ 461.81 /wk	\$ 10,754
	Project Account	23 /wk	231 mh	\$ 160.55 hr	\$ 37,156	\$ -	\$ 185	\$ -	\$ -	\$ 1,603.60 /wk	\$ 37,341
	VDC Mgr	23 /wk	231 mh	\$ 160.55 hr	\$ 37,034	\$ -	\$ 185	\$ -	\$ -	\$ 1,598.36 /wk	\$ 37,219
	Lead Procurement	23 /wk	231 mh	\$ 112.04 hr	\$ 66,661	\$ -	\$ 185	\$ -	\$ -	\$ 2,870.68 /wk	\$ 66,846
	Sr Procurement Mgr	23 /wk	231 mh	\$ 218.30 hr	\$ 66,661	\$ -	\$ 3,657	\$ -	\$ -	\$ 3,019.76 /wk	\$ 70,317
	PROJECT MANAGEMENT STAFF	23 /wk	2939 mh		\$ 624,568	\$ -	\$ 20,750	\$ -	\$ -	/wk	\$ 645,318
STARTUP & COMMISSIONING	FIELD STAFF										
	Construction Mgr	23 /wk	463 mh	\$ 289.41 hr	\$ 133,956	\$ -	\$ 7,313	\$ -	\$ -	\$ 6,066.78 /wk	\$ 141,269
	General Super	23 /wk	463 mh	\$ 240.79 hr	\$ 111,450	\$ -	\$ 7,313	\$ -	\$ -	\$ 5,100.24 /wk	\$ 118,763
	General Foreman	23 /wk	694 mh	\$ 158.70 hr	\$ 122,211	\$ -	\$ 10,970	\$ -	\$ -	\$ 5,719.43 /wk	\$ 133,181
	Assistant Super	23 /wk	463 mh	\$ 219.79 hr	\$ 96,288	\$ -	\$ 7,313	\$ -	\$ -	\$ 4,449.12 /wk	\$ 103,601
	Regional H&S Mgr	23 /wk	46 mh	\$ 295.20 hr	\$ 13,663	\$ -	\$ 731	\$ -	\$ -	\$ 618.18 /wk	\$ 14,395
	Constr Specialist 1	23 /wk	463 mh	\$ 143.55 hr	\$ 66,443	\$ -	\$ 7,313	\$ -	\$ -	\$ 3,167.45 /wk	\$ 73,756
	Constr Specialist 2	23 /wk	463 mh	\$ 157.91 hr	\$ 73,087	\$ -	\$ 7,313	\$ -	\$ -	\$ 3,452.79 /wk	\$ 80,401
	Constr Specialist 3	23 /wk	463 mh	\$ 173.70 hr	\$ 80,399	\$ -	\$ 7,313	\$ -	\$ -	\$ 3,766.77 /wk	\$ 87,712
	QC Specialist	23 /wk	463 mh	\$ 220.50 hr	\$ 102,060	\$ -	\$ 7,313	\$ -	\$ -	\$ 4,697.01 /wk	\$ 109,373
	FIELD STAFF	23 /wk	3981 mh		\$ 799,558	\$ -	\$ 62,893	\$ -	\$ -	/wk	\$ 862,451
STARTUP & COMMISSIONING	ESTIMATING										
	Lead Estimator	23 /wk	46 mh	\$ 266.26 hr	\$ 12,324	\$ -	\$ 500	\$ -	\$ -	\$ 550.72 /wk	\$ 12,824
	ESTIMATING	23 /wk	46 mh		\$ 12,324	\$ -	\$ 500	\$ -	\$ -	/wk	\$ 12,824
STARTUP & COMMISSIONING	PROJECT CONTROLS										
	Project Controls Mgr	23 /wk	185 mh	\$ 266.26 hr	\$ 49,296	\$ -	\$ 148	\$ -	\$ -	\$ 2,123.36 /wk	\$ 49,444
	PROJECT CONTROLS	23 /wk	185 mh		\$ 49,296	\$ -	\$ 148	\$ -	\$ -	/wk	\$ 49,444
STARTUP & COMMISSIONING	CLERICAL STAFF										
	Project Admin	23 /wk	463 mh	\$ 144.70 hr	\$ 66,976	\$ -	\$ 370	\$ -	\$ -	\$ 2,892.16 /wk	\$ 67,346
	Lead Project Admin	23 /wk	463 mh	\$ 156.28 hr	\$ 72,336	\$ -	\$ 370	\$ -	\$ -	\$ 3,122.37 /wk	\$ 72,707
	CLERICAL STAFF	23 /wk	926 mh		\$ 139,312	\$ -	\$ 741	\$ -	\$ -	/wk	\$ 140,052
STARTUP & COMMISSIONING	COMMISSIONING										
	TSU Commiss Mgr	23 /wk	926 mh	\$ 270.00 hr	\$ 249,943	\$ -	\$ -	\$ -	\$ -	\$ 10,733.74 /wk	\$ 249,943
	TSU Commiss Lead	23 /wk	926 mh	\$ 252.00 hr	\$ 233,280	\$ -	\$ -	\$ -	\$ -	\$ 10,018.16 /wk	\$ 233,280
	TSU Commiss Tech	23 /wk	926 mh	\$ 234.00 hr	\$ 216,617	\$ -	\$ -	\$ -	\$ -	\$ 9,302.58 /wk	\$ 216,617
	COMMISSIONING	23 /wk	2777 mh		\$ 699,840	\$ -	\$ -	\$ -	\$ -	/wk	\$ 699,840
STARTUP & COMMISSIONING	TRAVEL & SUBSISTENCE										
	Area Lead Airfare	2 /Trips							\$ 1,200	\$ 600.00 /Trips	\$ 1,200
	Area Lead Car Rental	2 /Trips							\$ 1,680	\$ 840.00 /Trips	\$ 1,680
	Area Lead Hotel	2 /Trips							\$ 3,200	\$ 1,600.00 /Trips	\$ 3,200
	Area Lead Meals	2 /Trips							\$ 1,200	\$ 600.00 /Trips	\$ 1,200
	Proj Mgr Airfare	10 /Trips							\$ 6,000	\$ 600.00 /Trips	\$ 6,000
	Proj Mgr Car Rental	10 /Trips							\$ 8,400	\$ 840.00 /Trips	\$ 8,400
	Proj Mgr Hotel	10 /Trips							\$ 16,000	\$ 1,600.00 /Trips	\$ 16,000
	Proj Mgr Meals	10 /Trips							\$ 6,000	\$ 600.00 /Trips	\$ 6,000
	Commiss Airfare	84 /Trips							\$ 50,400	\$ 600.00 /Trips	\$ 50,400
	Commiss Car Rental	84 /Trips							\$ 70,560	\$ 840.00 /Trips	\$ 70,560

STARTUP & COMMISSIONING	Cost Item	Takeoff Quantity	Labor Manhours	Labor Rate	Labor Amount	Material Amount	Equip Amount	Sub Amount	Other Amount	Total Unit Cost	Total Amount
	Commiss Hotel	84 /Trips							\$ 134,400	\$ 1,600.00 /Trips	\$ 134,400
	Commiss Meals	84 /Trips							\$ 50,400	\$ 600.00 /Trips	\$ 50,400
	TRAVEL & SUBSISTENCE								\$ 349,440		\$ 349,440
	CDM FIELD OFFICES										
	CDM Office Trailer	26 /Mon							\$ 31,200	\$ 1,200.00 /Mon	\$ 31,200
	CDM FIELD OFFICES								\$ 31,200		\$ 31,200
	TEMP FACILITIES										
	Water Usage	6 /Mon							\$ 2,400	\$ 400.00 /Mon	\$ 2,400
	Elec Usage	6 /Mon							\$ 2,400	\$ 400.00 /Mon	\$ 2,400
	TEMP FACILITIES								\$ 4,800		\$ 4,800
	CONSTR EQUIP & SMALL TOOLS										
	Misc Small Tools	9928 /Mh							\$ 29,785	\$ 3.00 /Mh	\$ 29,785
	CONSTR EQUIP & SMALL TOOLS						\$ -				\$ 29,785
	SAFETY										
	Safety Supplies	9928 /Mh							\$ 5,560	\$ 0.56 /Mh	\$ 5,560
	SAFETY						\$ -		\$ 5,560		\$ 5,560
	CONTRACT REQUIREMENTS										
	Textura Accounting	1 /LS							\$ 6,000	\$ 6,000.00 /LS	\$ 6,000
	Predictive Solutions	1 /LS							\$ 1,000	\$ 1,000.00 /LS	\$ 1,000
LCP Certified Payroll	1 /LS							\$ 2,125	\$ 2,124.50 /LS	\$ 2,125	
CONTRACT REQUIREMENTS								\$ 9,125		\$ 9,125	
Subtotal					\$ 2,324,897		\$ 85,031		\$ 400,124		\$ 2,839,838
Sales Tax	7.00%										\$ 5,633
Subtotal w/ Taxes											\$ 2,845,471
CCI G&A	7.60%										\$ 39,135
CCI FEE	4.90%										\$ 25,232
STARTUP & COMMISSIONING TOTAL											\$ 2,909,838
TOTAL COST REPORT (Precon/Preliminary Services + Construction GC's + Startup & Commissioning)											\$ 22,953,229

## Attachment 4

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# Engineering Services During Construction

# **ATTACHMENT A TO DBIA CONTRACT #545**

## **CITY OF DELRAY BEACH WATER TREATMENT PROGRESSIVE DESIGN BUILD PROJECT**

**November 2025**

### **PHASE 2 ENGINEERING SERVICES DURING CONSTRUCTION – MEMBRANE WATER TREATMENT PLANT**

#### **GENERAL**

The DESIGN-BUILDER has prepared a set of Drawings and Technical Specifications for the City of Delray Beach (CITY) Phase 2 Project (Project). These documents are the basis for the Phase 2 services from the DESIGN-BUILDER under the DESIGN-BUILDER's Agreement with the CITY.

#### **PURPOSE**

This Attachment A sets forth the Phase 2 Engineer Services During Construction (ESDC) to be provided by the DESIGN-BUILDER during construction of the Membrane Water Treatment Plant (WTP).

#### **ORGANIZATION**

##### **Task 7 – Engineering Services During Construction**

- Subtask 7.1 Task Management
- Subtask 7.2 Meetings During Construction
- Subtask 7.3 Construction Engineering Coordination
- Subtask 7.4 Review of Submittals and Substitutions
- Subtask 7.5 Requests for Information (RFI) and Clarifications
- Subtask 7.6 Design Changes and Change Orders
- Subtask 7.7 Site Visits and Factory Witness Testing
- Subtask 7.8 Vendor Training
- Subtask 7.9 Operation and Maintenance Manual
- Subtask 7.10 Develop Standard Operating Procedures (SOP)
- Subtask 7.11 Start Up and Commissioning
- Subtask 7.12 Final Walk Through and Punch Lists
- Subtask 7.13 Record Drawings
- Subtask 7.14 Project and Permitting Closeout

## **TASK 7 – ENGINEERING SERVICES DURING CONSTRUCTION – MEMBRANE WATER TREATMENT PLANT**

This task provides for general administrative services during the construction phase of the Membrane Water Treatment Plant and six new Surficial Aquifer Wells (Project). Activities performed under this task also consist of those general functions required to maintain the quality of work consistent with DESIGN-BUILDER's standards and CITY's expectations. This task will start when the CITY provides Notice to Proceed (NTP) for the Phase 2 amendment to the design-build contract. Services described herein are based on a 32-month construction duration from Phase 2 NTP to Final Completion.

### **Subtask 7.1 –Task Management**

Provide the necessary management and coordination throughout Phase 2 construction phase. Task management shall include the following elements:

#### **Project Coordination and Communication**

The DESIGN-BUILDER shall conduct general coordination and communication with the Project team and with the CITY regarding issues as they arise, including scheduling and progress of Project activities.

#### **Quality Management**

DESIGN-BUILDER maintains a Quality Management System (QMS) to identify procedures for quality assurance and quality control including the necessary levels of documentation and procedures for monitoring the effectiveness of the quality program. DESIGN-BUILDER will review project for quality assurance and control, prior to transmitting documents to CITY.

### **Subtask 7.2 – Meetings During Construction**

Schedule and conduct meetings with the CITY and the CITY's representative throughout Phase 2 of the Project. The DESIGN-BUILDER shall prepare a draft agenda and submit to the CITY's Project Manager prior to the meeting. Meeting minutes shall be developed by the DESIGN-BUILDER and submitted to the CITY's Project Manager soon after the meeting.

The meetings under Subtask 7.2 shall include the following:

#### **Pre-construction Conference**

The DESIGN-BUILDER shall attend a pre-construction conference. Key members of all firms on the DESIGN-BUILDER's Project team, the CITY's representative team, and CITY's project team are to attend.

#### **Internal Construction Coordination Meetings**

The DESIGN-BUILDER will conduct monthly meetings between the design and construction staff. Agenda items or discussion items may be suggested by either party. The purpose of these meetings is to coordinate between designers and subcontractors during the construction phase. DESIGN-BUILDER has budgeted for 31 coordination meetings with a variety of design and constructor staff attending.

### **Project Construction Coordination Meetings**

The DESIGN-BUILDER will attend monthly construction coordination meetings with the CITY and CITY's representative. DESIGN-BUILDER has budgeted for 31 Construction Coordination Meetings.

### **Miscellaneous Construction Coordination Meetings**

During the 32 months of the ESDC services and construction, there will be unscheduled meetings required to maintain coordination on the Project. These meetings will be with the CITY, regulatory agencies, local and state permitting agencies, utilities (FPU and FPL), neighbors and other key stakeholders. DESIGN-BUILDER has budgeted for 40 Miscellaneous Construction Coordination Meetings.

### **Deliverables:**

1. Meeting agendas and notes

### **Subtask 7.3 – Construction Engineering Coordination**

The DESIGN-BUILDER will provide Construction Engineering Coordination to manage the timely flow of information and documentation from the DESIGN-BUILDER into the Project's Construction Management Software (CMS) and responding to the technical needs of subcontractors and the CITY. Of significant importance is the monitoring of responsiveness to submittals and requests for information. CMS management includes the updates to schedules, change orders, RFIs, submittals, O&M, warranties, substitution requests, and other related construction management documentation. The Construction Engineering Coordinator is responsible for managing this information on behalf of the DESIGN-BUILDER and addressing issues on time.

The Construction Engineering Coordinator will prepare and follow a construction submittal protocol. The protocol will establish procedures for submitting and documenting shop drawings, RFIs, CITY requested design modifications, change order requests from others, testing procedures, and other documentation as required.

The Coordinator will schedule periodic meetings with the Project team and be responsible for facilitating the interpretation of the intent of the drawings and specifications by the design staff. The Construction Engineering Coordinator will coordinate resolution of conflicts that may arise between the design documents and construction field conditions.

The Construction Engineering Coordinator will assist in resolving non-conforming work observed and recommend action to alleviate an emergency situation. The Coordinator will promptly submit recommended action to initiate corrective procedures for defective work and coordinate special materials tests and performance tests needed to complete a quality Project.

The Construction Engineering Coordinator will provide occasional construction observations under responsible charge of the designer-of-record of work completed. Such observations are not intended to be exhaustive or to extend to every aspect of the work in progress, or to involve detailed inspections of the work beyond the responsibilities specifically assigned by the designer-of-record.

Also included under this task are efforts to secure the remaining permits necessary for construction. Planning type permits were pursued and obtained during Phase 1 and the remaining building permits will be pursued during early stages of Phase 2. The City requires trade and structure type permits along with sub-permits for each. Services are provided to secure the remaining permits necessary to commence construction.

#### **Subtask 7.4 – Review of Submittals and Substitutions**

The DESIGN-BUILDER design staff will follow the construction submittal protocol that establishes procedures for submitting, reviewing and filing of submittals. Equipment and materials submittals, test reports, and Operation & Maintenance (O&M) manuals will be reviewed for conformance with the Drawings and Specifications to verify that the design intent of the Project is maintained. Approximately 506 original submittals are estimated, and it is assumed a second review will be required for fifty percent of the submittals. In addition, 720 test reports will be reviewed. The submittal process is assumed to be fully electronic with all submittals maintained in the document management system where they can be accessed by the CITY. The document management system (or Construction Management Software) will be Auto Desk Construction Cloud. Hardcopy submittals are not anticipated to be required for the Project, other than for samples.

Up to five (5) requested substitutions will be assessed by the DESIGN-BUILDER. The feasibility of the changes will be explored and summarized in a letter to the CITY. Resulting design changes are defined in Subtask 7.6.

This task also includes design team liaison to the field team during critical periods of submittal reviews and approvals to coordinate resolution of issues quickly to allow work to proceed efficiently and timely.

#### **Subtask 7.5 – Requests for Information (RFI) and Clarifications**

The DESIGN-BUILDER design staff will provide design and specification support services during construction to answer technical requests for information (RFI) submitted for the purpose of clarifying design intent or specific features presented in the final (IFC) design drawings and specifications. Approximately 700 RFI are estimated.

#### **Subtask 7.6 – Design Changes and Change Orders**

The DESIGN-BUILDER will provide design and specification support services during construction for design changes. The DESIGN-BUILDER will also manage change orders submitted by subcontractors and define necessary design modifications. The DESIGN-BUILDER will provide up to 2,900 hours for design changes and managing change orders.

#### **Subtask 7.7 – Site Visits and Factory Witness Testing**

The DESIGN-BUILDER, from time to time, will make site visits to observe work and to answer technical questions and assist with resolving field issues. The purpose for these visits is to assist in the timely resolution of Project issues, observing the work to confirm compliance with the design intent. Up to 64 individual site visits by technical staff are included in this task. These site visits are budgeted separately from construction meetings and separately from specialty site inspections. This includes travel time and other direct costs.

The DESIGN-BUILDER staff and subcontractors will also provide specialty site inspections specific to requirements of the contract documents. These visits are in addition to the individual visits mentioned above. The following are example special inspections:

- Reinforcing inspections required by the designer prior to pouring concrete
- Production well installation inspection, geophysical logs, pump test, water quality tests. Geologists will witness daily well installations at the 6 locations.
- Rehabilitation of 11 existing production wells will be performed by the DESIGN-BUILDER. In addition to these construction activities, the work requires daily inspections of rehabilitation performed, recommendations for well repair and improvements, and general diller management.

In addition, the DESIGN-BUILDER will attend 15 factory witness testing events. These are specific visits by the subject matter expert to observe testing of the equipment to be supplied and ensure it meets the performance requirements of the specifications.

### **Subtask 7.8 Vendor Training**

The DESIGN-BUILDER's O&M Specialist will coordinate vendor and manufacturer training for the new water plant equipment and processes. Vendor prepared training plans will be reviewed to confirm that subject matter is covered properly, and training materials are developed for handouts. An O&M Specialist will monitor select vendors and manufacturers' training to confirm that it complies with the intent of the specifications and that the material is covered adequately and professionally. An O&M Specialist will take attendance and provide feedback on design intent during the training session to augment the learning experience.

### **Subtask 7.9 Operation and Maintenance Manual**

An e-O&M Manual will be developed for the CITY's staff to provide operations and maintenance guidance for the new treatment plant processes and associated equipment only. The e-O&M will be accessible from remote locations through use of computers and tablets and will be linked to pertinent O&M data identified within the scope.

The e-O&M manual will be provided as a comprehensive PDF-based facility e-O&M for the new treatment plant processes and associated equipment. The proposed e-O&M will be stored on a common CITY-owned server and be accessible remotely by CITY staff and other authorized personnel. The e-O&M will be accessible from local and remote locations through the use of computers and tablets. CITY staff will be trained on maintaining, updating, editing, and adding documents to the e-O&M.

The e-O&M will be provided as a standalone platform that is simultaneously accessible to multiple personnel, navigable, searchable and linked to other pertinent O&M documentation such as manufacturer O&M manuals, SOPs, operating permits, facility schematics, training modules and videos, SDS, record drawings and other useful information.

At the outset of this task, the DESIGN-BUILDER will develop a proposed manual table of contents and layout with the CITY staff in the kickoff workshop to determine the final e-O&M Manual layout and style.



DESIGN-BUILDER will provide training related to navigating and updating the e-O&M. The training will be designed for all relevant operations and maintenance staff to discuss and demonstrate e-O&M design, navigation, and platform capabilities. Training will include processes for updating and modifying the manual to ensure the e-O&M remains current and addresses future changes and/or modifications at the treatment plant.

### **Subtask 7.10 Develop Standard Operating Procedures (SOP)**

The DESIGN-BUILDER will prepare SOPs designed to provide CITY operating staff with specific procedures for startup, shutdown, process operations and other related tasks for maintaining and optimizing plant operations of the new equipment and systems. The formatting of SOPs will be developed and agreed upon through an initial task workshop.

#### **SOP Kickoff Workshop**

During the development process of SOPs, and O&M Specialist will conduct a workshop to discuss SOP formatting, required content and expectations. In addition, a preliminary list of specific SOPs will be developed and agreed upon.

#### **SOP Development**

The DESIGN-BUILDER will develop up to 25 SOPs that will provide detailed procedures for treatment plant and processes requiring consistent, safe task completion. The SOPs will contain plant specific operations guidelines developed specifically for tasks necessary for operation. Preparations for the SOPs will include collection of information, authoring of text, and discussion and review with plant staff. The SOPs will be enhanced with photographs, illustrations and/or figures for simplification and clarification of essential details. In addition, control panel photos and pertinent screen shots will be included. The SOPs will be written in terms intended to maximize reader comprehension to a target audience who possess basic reading skills and to maximize use.

Draft SOPs will be provided to CITY operations staff for review and comment and SOPs will then be finalized. The final source files for MS Word, MS Excel, and associated figures and photos in their native format for subsequent use in updates to these SOPs will be provided. The information will be delivered using a standardized file structure so that the information can be easily located when updates are required.

The following is an approximate list of SOPs with the final list to be developed in conjunction with the CITY:

- Plant/Process Start-Up and Shutdown
- Surficial Aquifer Well System Operation
- Raw Water Booster Pump Station Operation
- Sand Strainer Operation
- Antiscalant Chemical System Operation
- Sulfuric Acid Chemical System Operation

- Cartridge Filter Operation and filter replacement
- Membrane Feed Pump Operation
- Membrane System Operations
- Membrane Cleaning-In-Place
- Permeate Flush System Operation
- Backup Power Operation
- Degasifier Operation
- Sodium Hydroxide Chemical System Operation
- Corrosion Inhibitor Chemical System Operation
- Compliance Monitoring and Reporting
- Sodium Hypochlorite Chemical System Operation (review and update to recent SOP by others)
- Ammonia Chemical System Operation (review and update to recent SOP by others)
- Clearwell Disinfection Compliance
- Clearwell plus Membrane Disinfection Compliance
- High Service and Transfer Pump Operation
- Deep Injection Wells Operation
- Process Control Sampling
- Laboratory Analysis Procedures
- Administration Procedures – Operations Reporting, Evacuation, Security, Emergencies

## **Subtask 7.11 Start Up and Commissioning**

### **Commissioning Planning**

The DESIGN-BUILDER's Commissioning Manager will work to complete the draft and final Commissioning Plan that will detail the commissioning activities related to checkout, startup, and testing. The draft Commissioning Plan will be reviewed by the CITY. Comments will be addressed and agreed upon prior to issuing the final Commissioning Plan.

### **Commissioning Coordination Meetings**

The Commissioning Manager will conduct up to 15 commissioning coordination meetings (assumed to be 1 day onsite) with DESIGN-BUILDER, appropriate subcontractors, CITY and CITY's representative. The meetings will be used to coordinate upcoming startup events,

equipment and processing testing, and to discuss commissioning activities. The Commissioning Plan will be utilized as a guide during these meetings and adjusted as necessary to transition from commissioning to beneficial use. Additional coordination on commissioning activities will occur during monthly progress meetings.

### **Operational/Functional and Performance Witness Testing**

The Commissioning Manager will manage and observe the field startup activities, including operational readiness testing, wet functional demonstration testing, performance testing and initial startup and operation by vendor or manufacturer's representatives. The Commissioning Manager will direct, witness, and document the startup and testing activities from manufacturer's and provide written documentation. The documentation will include, at a minimum: date and time of activity; nature of activity; performance test or startup activity; specification requirements; people attending; test or activity data; and results, problems or follow-up requirements.

It is assumed that operational and functional testing will be conducted over three and one-half (3.5) continuous months. In addition, performance testing will be conducted over three and one-half (3.5) continuous months. It is assumed that initial testing will be successful and no repeat testing necessary. In the event that repeat testing is necessary, then the risk register will fund the additional fee for all repeat tests.

### **System Commissioning**

DESIGN-BUILDER will provide on-site, Operations Specialist (Operator) who will train and assist the CITY's operating staff and assist the commissioning team with process performance testing and systems optimization. System commissioning will be conducted on the entire facility, operating as a complete system to meet the overall processing objectives and purified water quality. The duration for system commissioning will be one (1) continuous month.

An Operations Specialist will be provided 8 hours per day for every calendar day over the four and one-half (4.5) months of performance and system commissioning testing. In addition, 2 hours per day of on call services will be provided for communications and guidance for the CITY's operations staff during the 2<sup>nd</sup> and 3<sup>rd</sup> daily shifts of performance and system commissioning. It is assumed that initial testing will be successful and no repeat testing necessary. In the event that repeat testing is necessary, then the risk register will fund the additional fee for all repeat tests.

The Commissioning Manager will maintain a checklist to track and monitor the readiness of equipment and processes for testing. The checklist will include specified pre-testing submittals and actions, physical readiness, and submittal of the manufacturers certificate of proper installation.

In addition, a Commissioning Specialist will review Vendor/Subcontractor startup and testing program and instructions for field, performance testing, and manufacturer's startup activities, including checkout, testing and initial operations.

The Commissioning Specialist will provide hands-on guidance to facility staff through startup and initial operation.

The Commissioning Specialists will provide the following during this task:

- Regulatory approval to convey membrane permeate to the existing distribution system
- Lead Operational/Functional Testing, Performance Testing and Facility Commissioning of the work
- Assist plant staff in process preparation for initial operation
- Provide guidance and assistance in the commissioning of new work
- Recommend process analysis, monitoring and control adjustments
- Monitor and recommend process optimization adjustments
- Prepare sample process equipment status log sheets
- Provide informal hands-on instruction to plant staff
- Provide sampling and analysis during testing to document compliance with performance requirements

The CITY will be required to provide all power and chemicals necessary for all commissioning activities. All equipment will be maintained by the DESIGN-BUILDER up to the point when the CITY receives beneficial use, or when membrane water is conveyed to the distribution system.

#### **Subtask 7.12 – Final Walk Through and Punch Lists**

The DESIGN-BUILDER will conduct final walk throughs with the CITY for the development of punch list(s) for the completed facilities as they are completed and made ready for startup, commissioning, or beneficial use for the CITY. This will include site visits from the DESIGN-BUILDER's Engineer of Record, Architect of Record, or their designee to visually inspect the completed work and identify remaining items (punch list) necessary to achieve the requirements of the design.

### **Subtask 7.13 – Record Drawings**

During construction, the DESIGN-BUILDER will create and maintain a set red line drawings showing the filed changes during construction. These drawings will be kept in the DESIGN-BUILDER's construction trailer for review by the DESIGN-BUILDER and/or CITY. These drawings will be used to create the record drawings at the end of construction, at approximately 30 months from NTP.

After substantial completion of the Project by the CITY, the DESIGN-BUILDER shall prepare and submit a set of Record Drawings modified to show changes made during the construction based on the DESIGN BUILDER field as built drawings. One (1) round of updates/edits to the record drawings based on CITY comments is assumed. These drawings will be designated in the revision block as "construction record" drawings and will be sealed by the Architect or Engineer-of-Record, or DESIGN-BUILDER staff having direct supervision of the work, indicating that the drawings have been revised to reflect record information based on information furnished by others in accordance with Florida regulations. Two (2) full size and two (2) half size hardcopy prints of the Record Drawings and one (1) electronic copy of the Record Drawings will be provided.

### **Subtask 7.14 – Project and Permitting Closeout**


The DESIGN-BUILDER design staff will assist the construction team in the final close out of permits at the end of the construction phase of the Project. This may require design revisions, addenda or preparation of supplemental sketches or details to further address and certify the project completion. This subtask will provide project administrative activities related to proper closing of the project in the DESIGN-BUILDER's delivery system. The oversight will confirm that project close-out documents are reviewed for completion and distributed/filed as required. The list of documents may include certifications to the permitting authorities, record drawings, vendor O&M manuals, etc.




City of Delray Beach , Florida  
Phase 2 - ESDC - Membrane Water Treatment Plant  
Fee Summary (November 3, 2025)

Task Number	Task Description	Hours	Labor (\$)	ODCs (\$)	Subcontractors (\$)	Total Costs
Task 7	<i>Subtask 7.1 - Task Management</i>	2202	\$600,699	\$90,000	\$126,412	\$817,111
	<i>Subtask 7.2 - Meetings During Construction</i>	1266	\$323,807	\$40,000	\$62,018	\$425,825
	<i>Subtask 7.3 - Construction Engineering Coordination</i>	5835	\$1,291,554	\$40,000	\$0	\$1,331,554
	<i>Subtask 7.4 - Review of Submittals and Substitutions</i>	7848	\$1,626,355		\$93,324	\$1,719,679
	<i>Subtask 7.5 - Requests for Information and Clarifications</i>	5190	\$1,081,839		\$147,465	\$1,229,304
	<i>Subtask 7.6 - Design Changes and Change Orders</i>	2357	\$499,564		\$118,305	\$617,869
	<i>Subtask 7.7 - Site Visits and Factory Witness Test</i>	5388	\$924,869	\$70,000	\$96,558	\$1,091,427
	<i>Subtask 7.8 - Vendor Training</i>	464	\$103,528		\$0	\$103,528
	<i>Subtask 7.9 - Operation and Maintenance Manual</i>	1310	\$247,555		\$0	\$247,555
	<i>Subtask 7.10 - Develop Standard Operating Procedures</i>	1265	\$273,383		\$107,800	\$381,183
	<i>Subtask 7.11 - Start Up and Commissioning</i>	6080	\$1,295,559	\$251,000	\$276,210	\$1,822,769
	<i>Subtask 7.12 - Final Walk Through and Punchlists</i>	480	\$103,730		\$3,036	\$106,766
	<i>Subtask 7.13 - Record Drawings</i>	1068	\$199,492		\$40,436	\$239,928
	<i>Subtask 7.14 - Project and Permitting Closeout</i>	860	\$173,954	\$10,000	\$60,940	\$244,894
	<b>PHASE 2 TOTAL</b>	<b>41613</b>	<b>\$ 8,745,887</b>	<b>\$ 501,000</b>	<b>\$ 1,132,504</b>	<b>\$ 10,379,391</b>


Design-Builder  
Design Labor Detail

		Position/Title	Construction Manager	Area Leader	Senior Technical Advisor/Specialist	Senior Technical Advisor/Specialist	Administrative Assistant	Designer	Engineer IV	Water Plant Operator	Senior Technical Advisor/Specialist	Senior Design Engineer	Associate/Principal	Engineer III	Senior Technical Advisor/Specialist
	Billing Rate		\$ 275.00	\$ 344.30	\$ 287.10	\$ 287.10	\$ 137.50	\$ 149.60	\$ 201.30	\$ 150.00	\$ 287.10	\$ 240.90	\$ 310.20	\$ 178.20	\$ 287.10
<b>TASK 7</b>	<b>ENGINEERING SERVICES DURING CONSTRUCTION</b>														
	<i>Subtask 7.1 - Task Management</i>		512	640	110	50	50							100	40
	<i>Subtask 7.2 - Meetings During Construction</i>		200	28	202									120	20
	<i>Subtask 7.3 - Construction Engineering Coordination</i>		2000	120	300		120							2260	
	<i>Subtask 7.4 - Review of Submittals and Substitutions</i>		200		200	40	120	20	80	40	80	40	80	400	40
	<i>Subtask 7.5 - Requests for Information and Clarifications</i>		500		120		120							200	
	<i>Subtask 7.6 - Design Changes and Change Orders</i>		220	60	120									200	
	<i>Subtask 7.7 - Site Visits and Factory Witness Test</i>		120	60	200								40	120	
	<i>Subtask 7.8 - Vendor Training</i>		20		20				108			60		20	
	<i>Subtask 7.9 - Operation and Maintenance Manual</i>		20		20			420	380			230		40	
	<i>Subtask 7.10 - Develop Standard Operating Procedures</i>		40		80			60	300			280		40	
	<i>Subtask 7.11 - Start Up and Commissioning</i>		900		160				500	1350	640		100	800	
	<i>Subtask 7.12 - Final Walk Through and Punchlists</i>		140		80		40							160	
	<i>Subtask 7.13 - Record Drawings</i>		80		40								8	100	
	<i>Subtask 7.14 - Project and Permitting Closeout</i>		160	80	20		100							180	
	<b>PHASE 2 TOTAL</b>														
	<b>Labor Subtotal Hours</b>		<b>5112</b>	<b>988</b>	<b>1672</b>	<b>90</b>	<b>550</b>	<b>500</b>	<b>1368</b>	<b>1390</b>	<b>720</b>	<b>610</b>	<b>228</b>	<b>4740</b>	<b>100</b>
	<b>Labor Subtotal Costs</b>		<b>\$ 1,405,800</b>	<b>\$ 340,168</b>	<b>\$ 480,031</b>	<b>\$ 25,839</b>	<b>\$ 75,625</b>	<b>\$ 74,800</b>	<b>\$ 275,378</b>	<b>\$ 208,500</b>	<b>\$ 206,712</b>	<b>\$ 146,949</b>	<b>\$ 70,726</b>	<b>\$ 844,668</b>	<b>\$ 28,710</b>


Design-Build  
Design Labor Detail

		Position/Title	Senior Designer	Engineer IV	Engineer IV	Senior Design Engineer	Engineer IV	Professional Geologist	Geologist	Geologist	Geologist	Principal Architect	Principal Architect	Architect	Vice President	Senior Technical Advisor/Specialist													
	Billing Rate	\$	172.70	\$	201.30	\$	201.30	\$	240.90	\$	201.30	\$	253.00	\$	126.50	\$	126.50	\$	126.50	\$	253.00	\$	253.00	\$	137.50	\$	350.90	\$	287.10
TASK 7	ENGINEERING SERVICES DURING CONSTRUCTION																												
	Subtask 7.1 - Task Management							40				40			40											40			
	Subtask 7.2 - Meetings During Construction			60				60				20	100			10		40										40	
	Subtask 7.3 - Construction Engineering Coordination		20	80			260	10	60		240	40			40		40									40		40	
	Subtask 7.4 - Review of Submittals and Substitutions		80	300	300	250	200	60	120	80	80	140	280	300	200		220												
	Subtask 7.5 - Requests for Information and Clarifications			200	90	60	80	10	80			80	240	300		200													200
	Subtask 7.6 - Design Changes and Change Orders			80	80	40	40		20				40	120	20	60													60
	Subtask 7.7 - Site Visits and Factory Witness Test		24	120	60	60	24	40	800	1000	1000	60	120	120		90													
	Subtask 7.8 - Vendor Training																												
	Subtask 7.9 - Operation and Maintenance Manual																												
	Subtask 7.10 - Develop Standard Operating Procedures																												
	Subtask 7.11 - Start Up and Commissioning					120	60	20	60																				
	Subtask 7.12 - Final Walk Through and Punchlists																												
	Subtask 7.13 - Record Drawings			40	40									60															
	Subtask 7.14 - Project and Permitting Closeout																												
	PHASE 2 TOTAL																												
	Labor Subtotal Hours		124	880	570	530	664	240	1140	1080	1320	380	780	900	310	650													
	Labor Subtotal Costs	\$	21,415	\$ 177,144	\$ 114,741	\$ 127,677	\$ 133,663	\$ 60,720	\$ 144,210	\$ 136,620	\$ 166,980	\$ 96,140	\$ 197,340	\$ 123,750	\$ 108,779	\$ 186,615													



		Position/Title												
		Engineer II	Engineer IV	Senior Technical Advisor/Specialist	Engineer III	Engineer III	Engineer III	Senior Designer	Senior Technical Advisor/Specialist	Engineer III	Engineer II	Senior Technical Advisor/Specialist	Engineer II	Senior Design Engineer
	Billing Rate	\$ 144.10	\$ 201.30	\$ 287.10	\$ 178.20	\$ 178.20	\$ 178.20	\$ 172.70	\$ 287.10	\$ 178.20	\$ 144.10	\$ 287.10	\$ 144.10	\$ 240.90
<b>TASK 7</b>	<b>ENGINEERING SERVICES DURING CONSTRUCTION</b>													
	Subtask 7.1 - Task Management			40					40			40		
	Subtask 7.2 - Meetings During Construction	20	20	100					20			10		60
	Subtask 7.3 - Construction Engineering Coordination				55					40				40
	Subtask 7.4 - Review of Submittals and Substitutions	220	220	20	250	300	300	120	100	250	250	40	300	300
	Subtask 7.5 - Requests for Information and Clarifications	50	250	80	220	200	200		100	200	120	60	200	240
	Subtask 7.6 - Design Changes and Change Orders	60	60	40	80	80	80	80	40	60	60	40	100	100
	Subtask 7.7 - Site Visits and Factory Witness Test	60	60		100	80	160		20	90	60		20	280
	Subtask 7.8 - Vendor Training				12	12	12							
	Subtask 7.9 - Operation and Maintenance Manual				40	40	40							20
	Subtask 7.10 - Develop Standard Operating Procedures				80	45	40							80
	Subtask 7.11 - Start Up and Commissioning			80	200	60	100					40	140	300
	Subtask 7.12 - Final Walk Through and Punchlists													
	Subtask 7.13 - Record Drawings	40			20	80	40	240		40				
	Subtask 7.14 - Project and Permitting Closeout	40			20	40	40			40	40			
	<b>PHASE 2 TOTAL</b>													
	Labor Subtotal Hours	490	610	360	1077	937	1012	440	320	720	530	230	760	1420
	Labor Subtotal Costs	\$ 70,609	\$ 122,793	\$ 103,356	\$ 191,921	\$ 166,973	\$ 180,338	\$ 75,988	\$ 91,872	\$ 128,304	\$ 76,373	\$ 66,033	\$ 109,516	\$ 342,078

Design-Build  
Design Labor Detail

		Position/Title	Technical Advisor/Specialist	Engineer III	Senior Design Engineer	Senior Designer	Senior Technical Advisor/Specialis t	Senior Design Engineer	Sr. Project Controls	Project Accounting	Administrative Assistant	Senior Designer	Total Labor (hrs)	Total Labor (\$)									
	Billing Rate	\$	258.50	\$	178.20	\$	240.90	\$	172.70	\$	287.10	\$	240.90	\$	253.00	\$	152.90	\$	137.50	\$	172.70		
TASK 7	ENGINEERING SERVICES DURING CONSTRUCTION																						
	Subtask 7.1 - Task Management		40				40		100	200	80		2202	\$600,699									
	Subtask 7.2 - Meetings During Construction		20		60			96					1266	\$323,807									
	Subtask 7.3 - Construction Engineering Coordination				40			10			60		5835	\$1,291,554									
	Subtask 7.4 - Review of Submittals and Substitutions		40	250	200	150	200	200			88	100	7848	\$1,626,355									
	Subtask 7.5 - Requests for Information and Clarifications		100	160	260		20	120			80		5190	\$1,081,839									
	Subtask 7.6 - Design Changes and Change Orders			100	100	80	20	20			20	37	2357	\$499,564									
	Subtask 7.7 - Site Visits and Factory Witness Test			80	220		20	20			60		5388	\$924,869									
	Subtask 7.8 - Vendor Training				180						20		464	\$103,528									
	Subtask 7.9 - Operation and Maintenance Manual										60		1310	\$247,555									
	Subtask 7.10 - Develop Standard Operating Procedures				160						60		1265	\$273,383									
	Subtask 7.11 - Start Up and Commissioning			100	300						50		6080	\$1,295,559									
	Subtask 7.12 - Final Walk Through and Punchlists										60		480	\$103,730									
	Subtask 7.13 - Record Drawings				40	80					60	60	1068	\$199,492									
	Subtask 7.14 - Project and Permitting Closeout									40	60		860	\$173,954									
	PHASE 2 TOTAL																						
	Labor Subtotal Hours		200		690	1560	310	300	466	100	240	758	197	41613									
	Labor Subtotal Costs	\$	51,700	\$	122,958	\$	375,804	\$	53,537	\$	86,130	\$	112,259	\$	25,300	\$	36,696	\$	104,225	\$	34,022		\$8,745,887

**DESIGN BUILDER PERSONNEL HOURLY RATE SCHEDULE**  
**CDM CONSTRUCTORS INC.**  
**DESIGN AND CONSTRUCTION PROFESSIONAL SERVICES (November 4, 2025)**

<b>BILLING RATE RANGES BY POSITION/TITLE<sup>1,2</sup></b>	
<b>Position/Title</b>	<b>Hourly Labor Billing Rate</b>
Vice President	\$350.90
Associate/Principal	\$310.20
Senior Technical Advisor/Specialist	\$287.10
Technical Advisor/Specialist	\$258.50
Design Build Project Manager	\$374.00
Deputy Design Build Project Manager	\$179.30
Project Manager	\$201.30
Senior Design Engineer	\$240.90
Engineer IV	\$201.30
Engineer III	\$178.20
Engineer II	\$144.10
Engineer I	\$126.50
Senior Designer	\$172.70
Designer	\$149.60
Administrative Assistant	\$137.50
Principal Architect	\$253.00
Architect	\$137.50
Senior Environmental Specialist	\$224.40
Professional Geologist	\$253.00
Geologist	\$126.50
Senior GIS Technician	\$240.90
GIS Technician	\$126.50
Senior Construction Field Representative	\$253.00
Area Leader	\$344.30
Design-Build Project Director	\$352.00
Preconstruction Manager	\$286.00
Electrical Delivery Lead	\$213.40
I&C Integration Manager	\$220.00
Project Accounting	\$152.90
VDC Manager	\$152.90
Health & Safety Manager	\$280.50
Sr Quality Manager	\$280.50
Lead Procurement	\$106.70
Water Plant Operator	\$150.00
Sr. Procurement Manager	\$207.90
Construction Manager	\$275.00
General Superintendent	\$228.80
Construction Specialist	\$136.40
Lead Estimator	\$253.00
Electrical Estimator	\$275.00
Chief Estimator	\$275.00
Estimating Manager	\$311.30
Sr. Project Controls	\$253.00

Note<sup>1</sup>: These are representative Positions/Titles and their respective Billing Rates and may not include all positions that could be used throughout the term of the Design Build Agreement. These rates do not include project travel. Rates provided are in effect through March 30, 2027, and labor rate shall be escalated 5% beginning on April 1, 2027 and each April 1 thereafter. Subsequent Phase 1 rate escalation will be negotiated with the City of Delray.

Note<sup>2</sup>: The rates, information, and footnotes in this table are for the use in pricing the lump sum services for Engineering Services During Construction for the Deep Injection Wells.

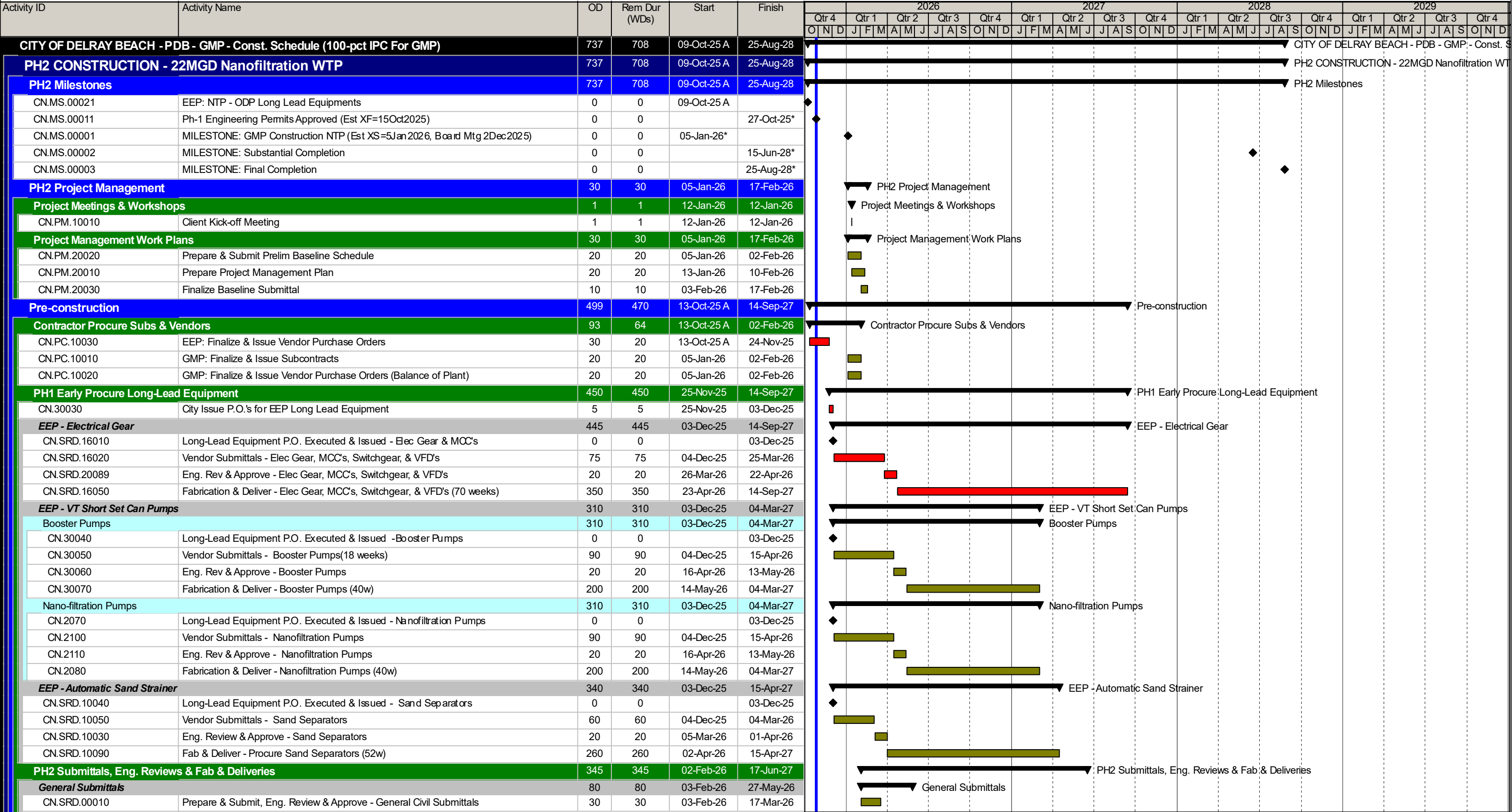
# Attachment 5

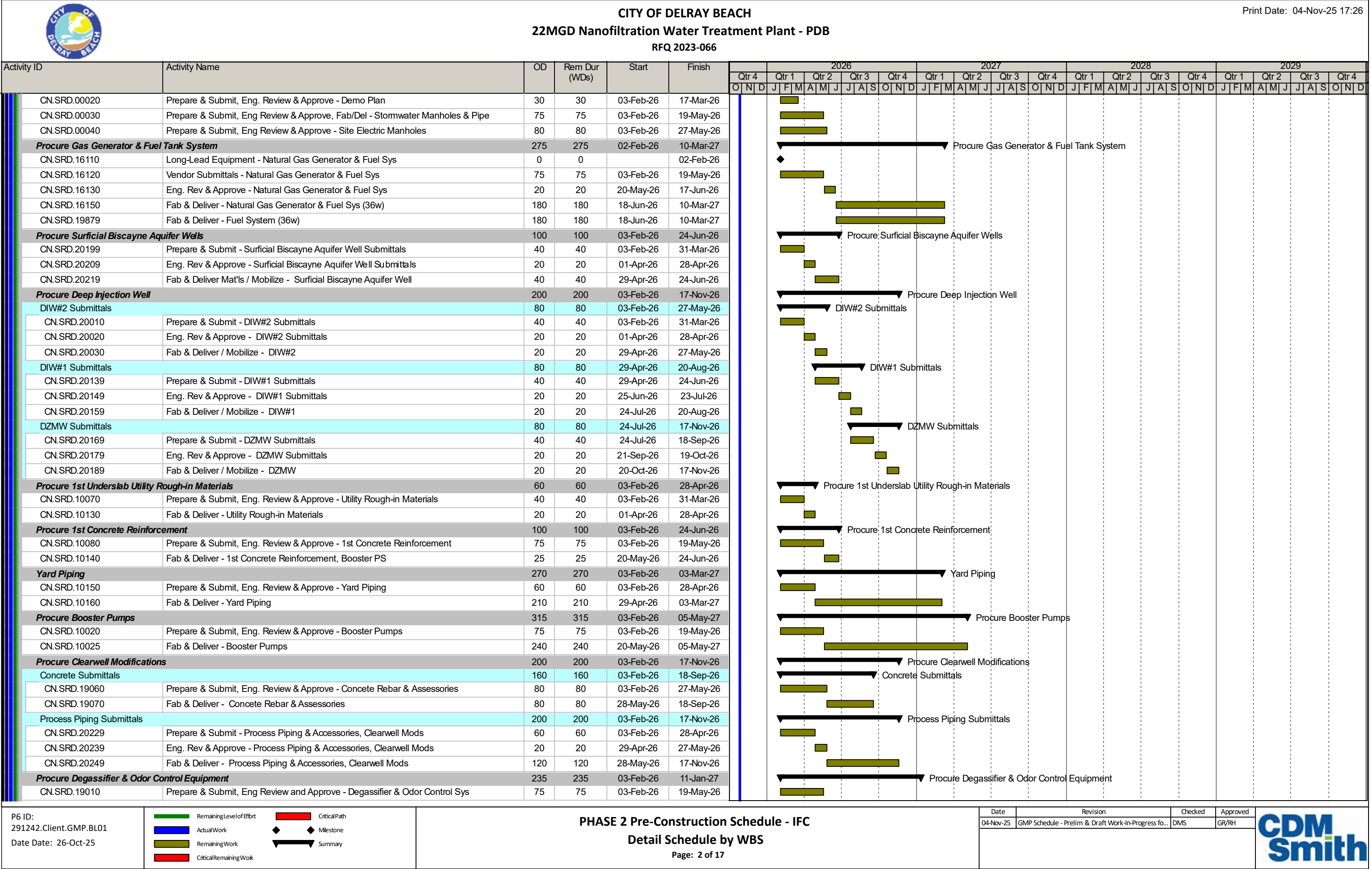
## Schedule



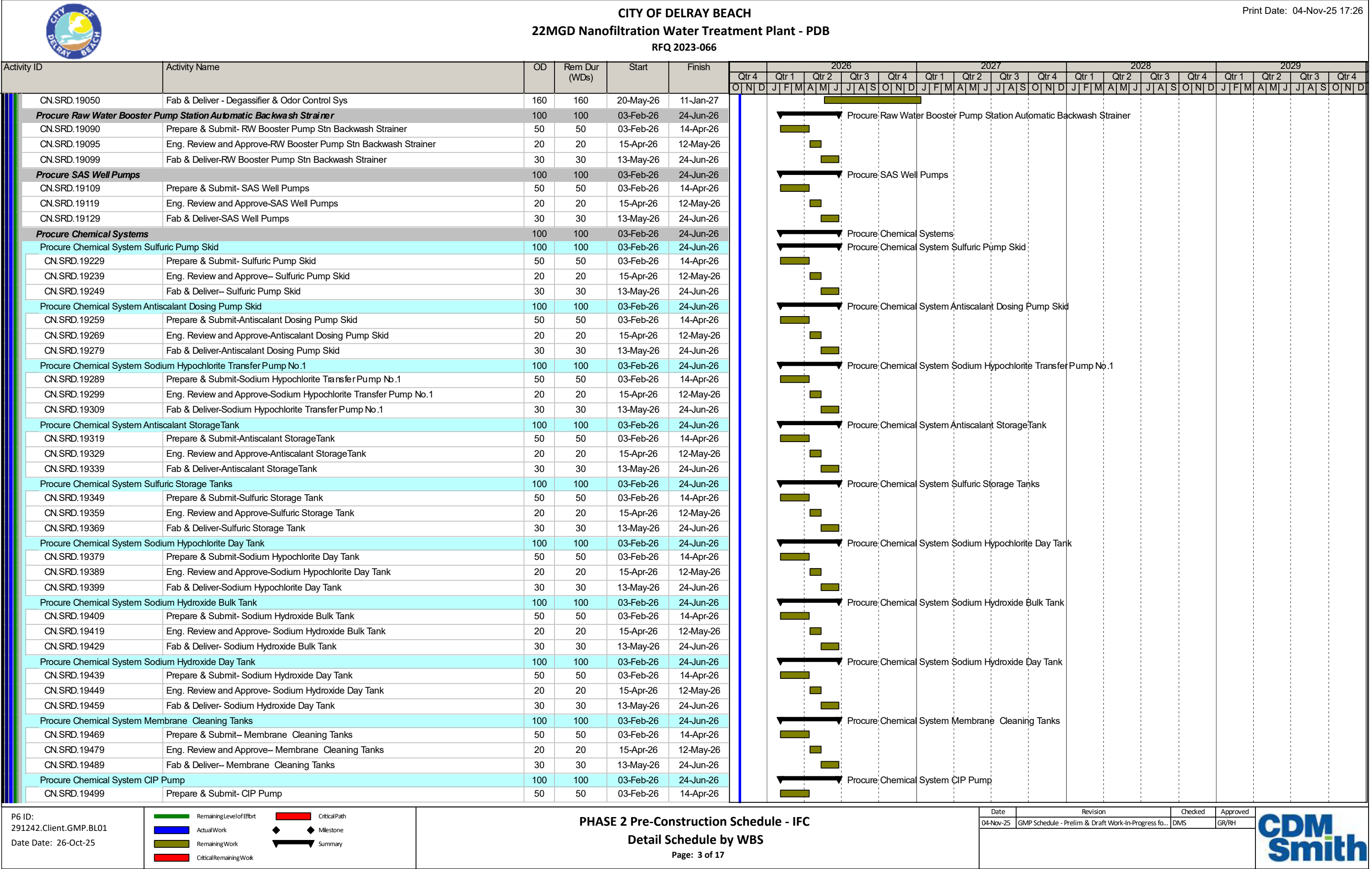
CITY OF DELRAY BEACH  
22MGD Nanofiltration Water Treatment Plant - PDB  
RFQ 2023-066

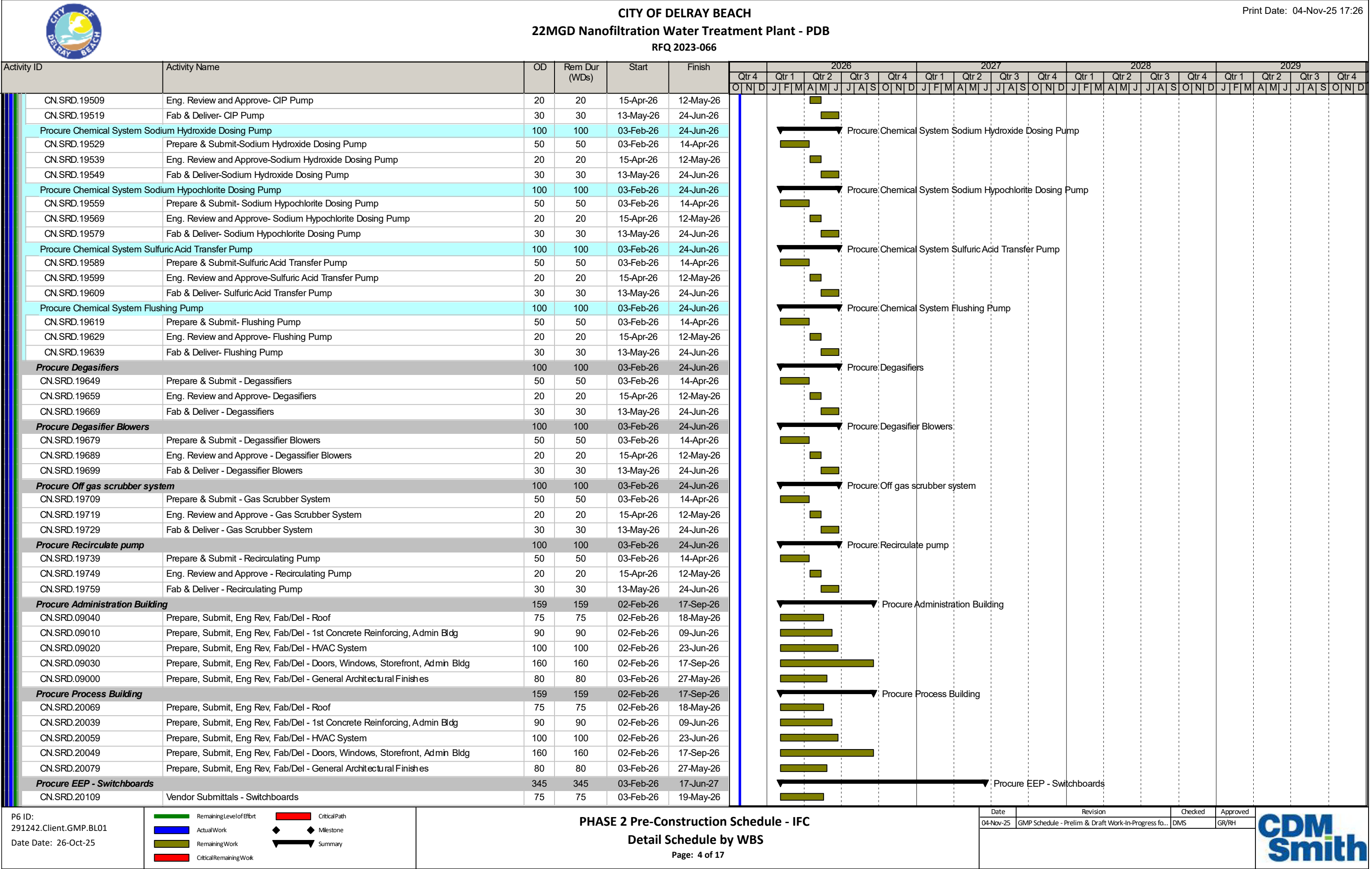
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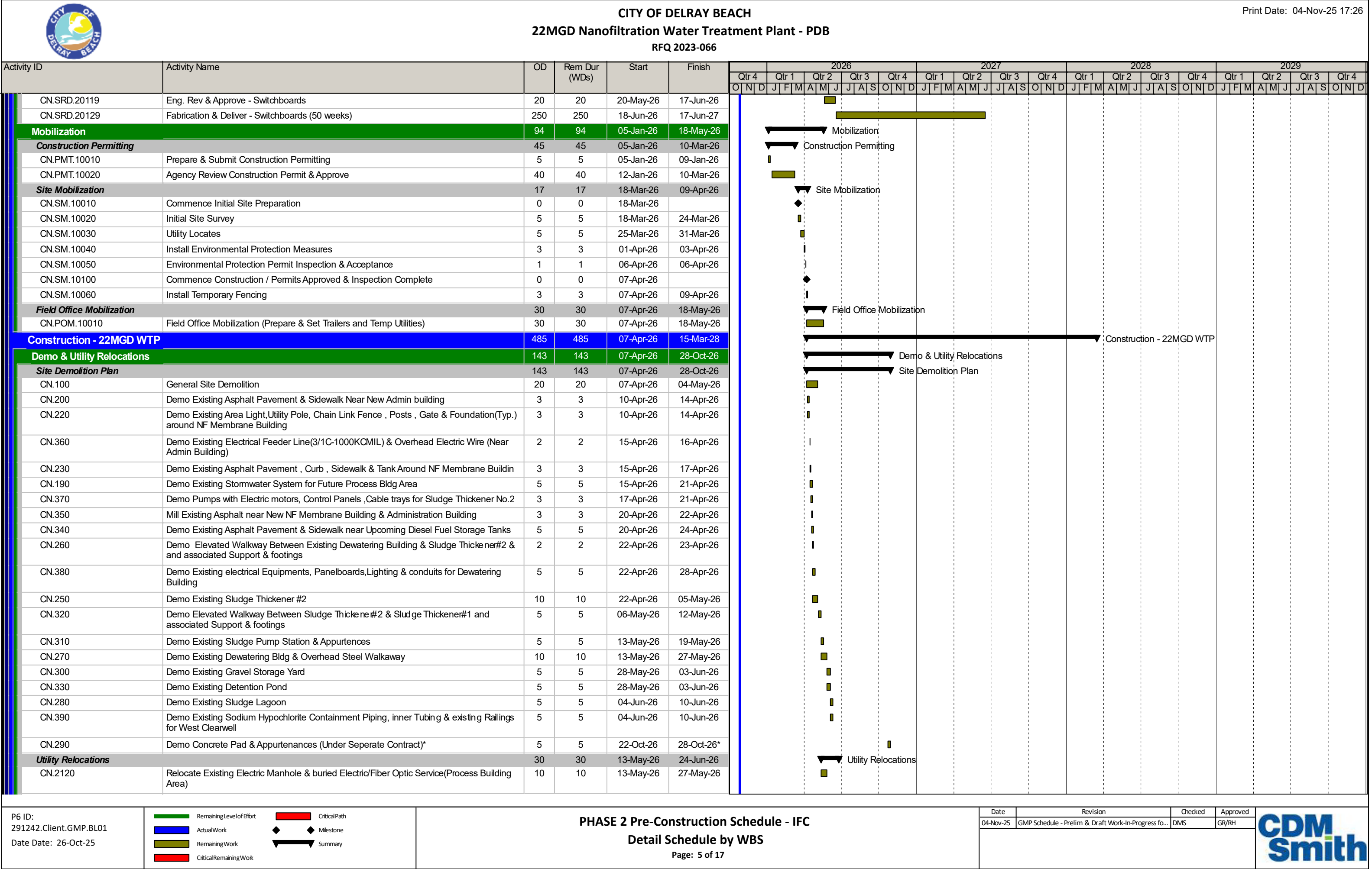


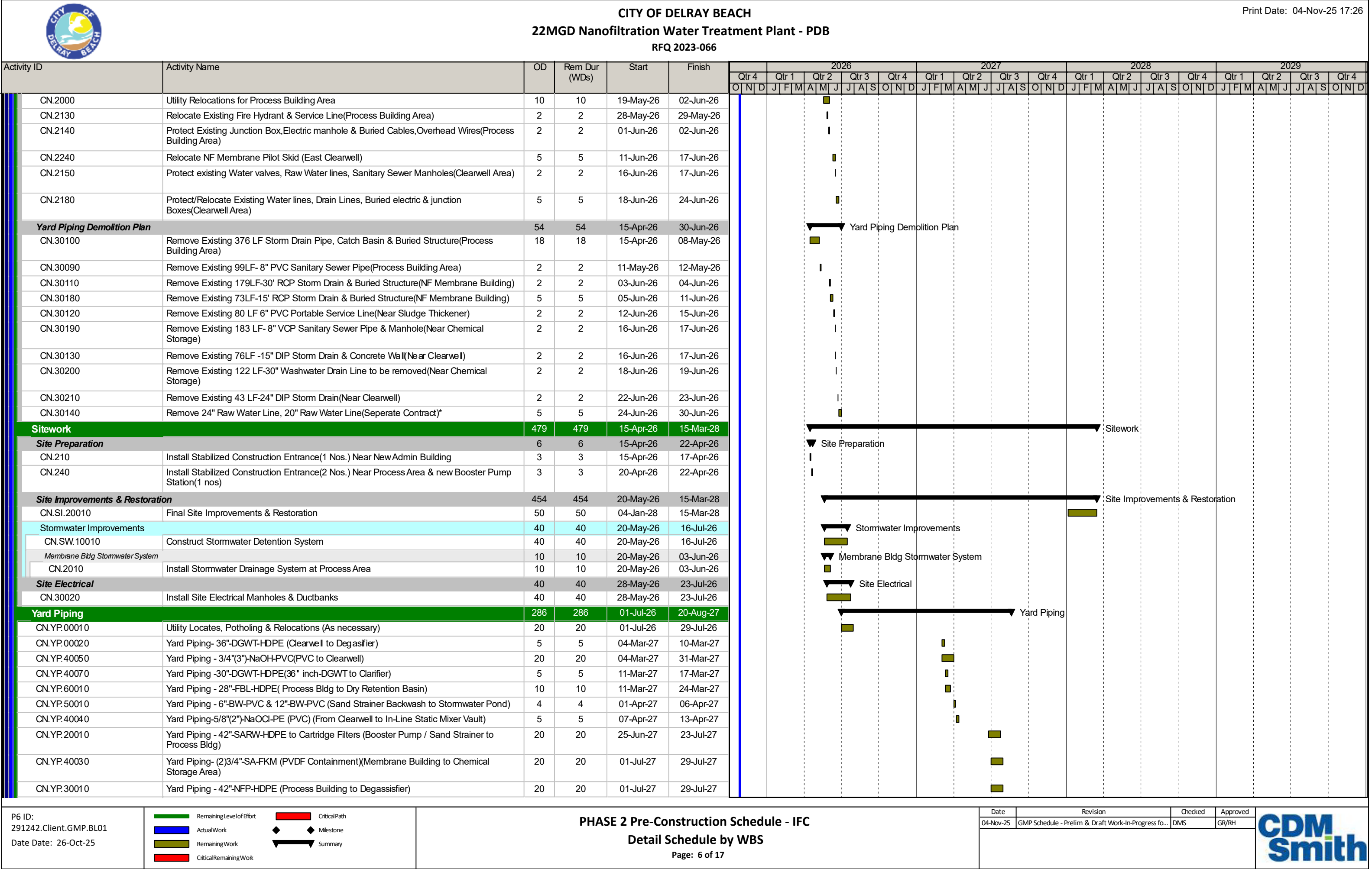


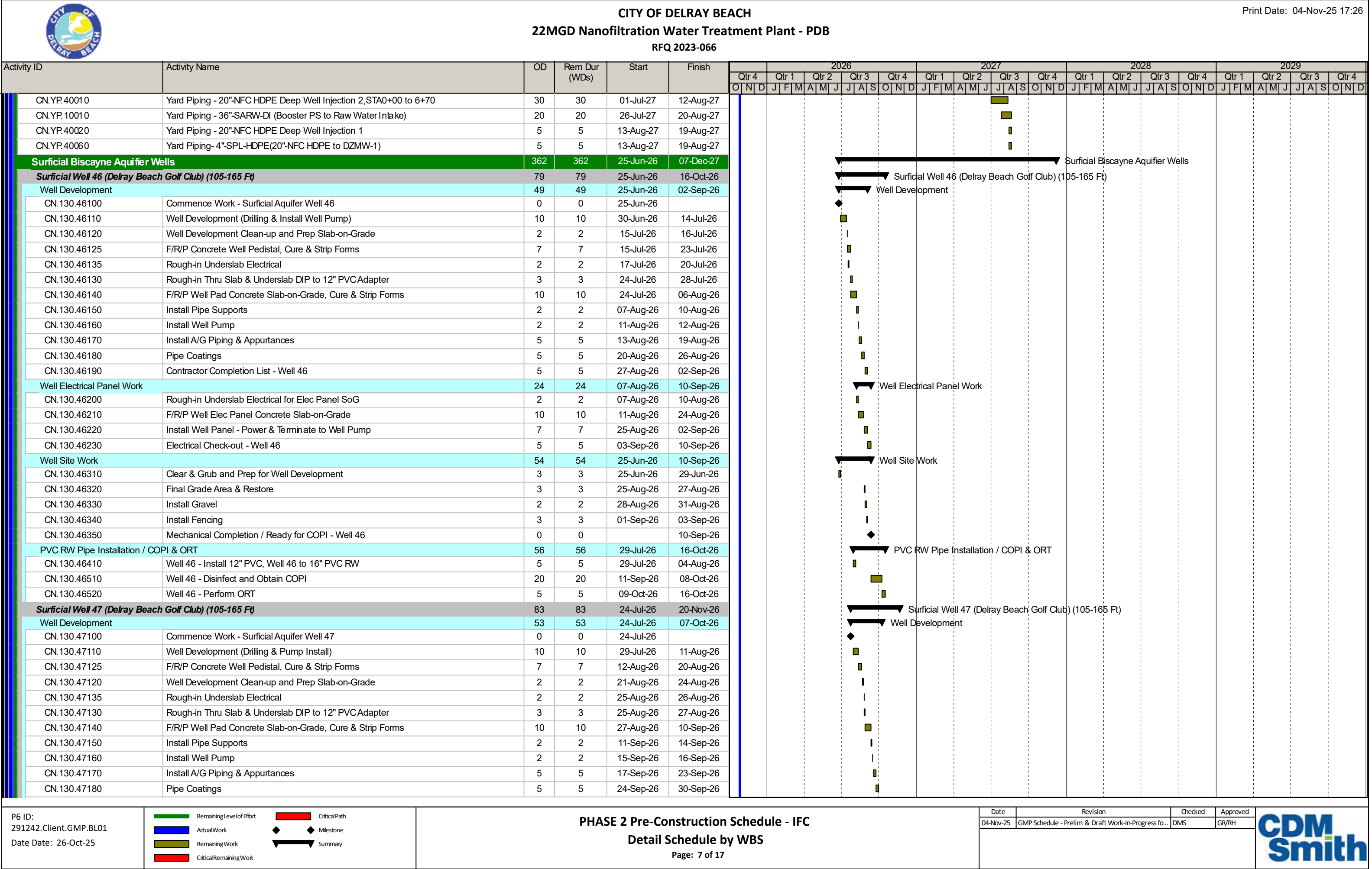




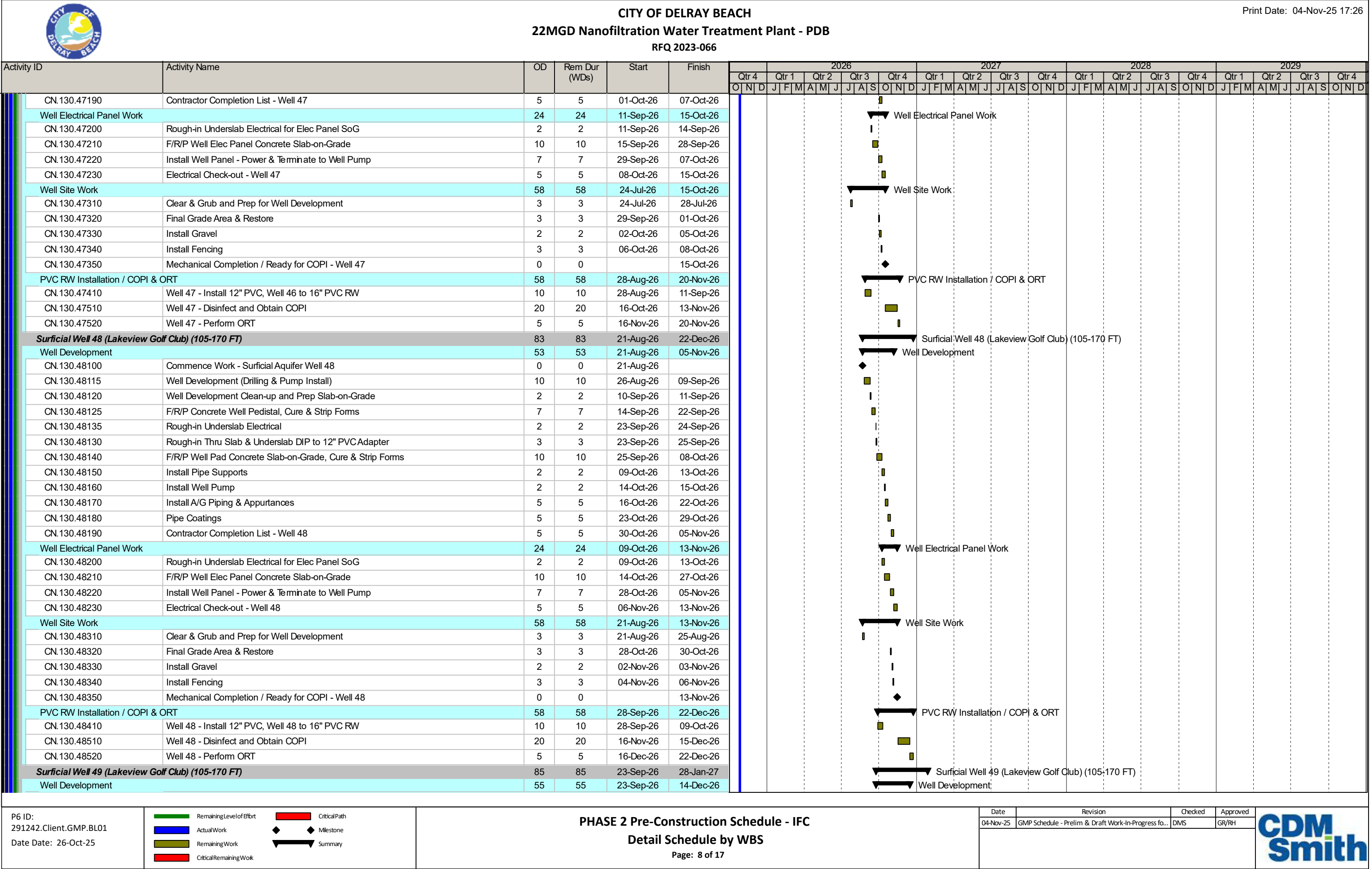


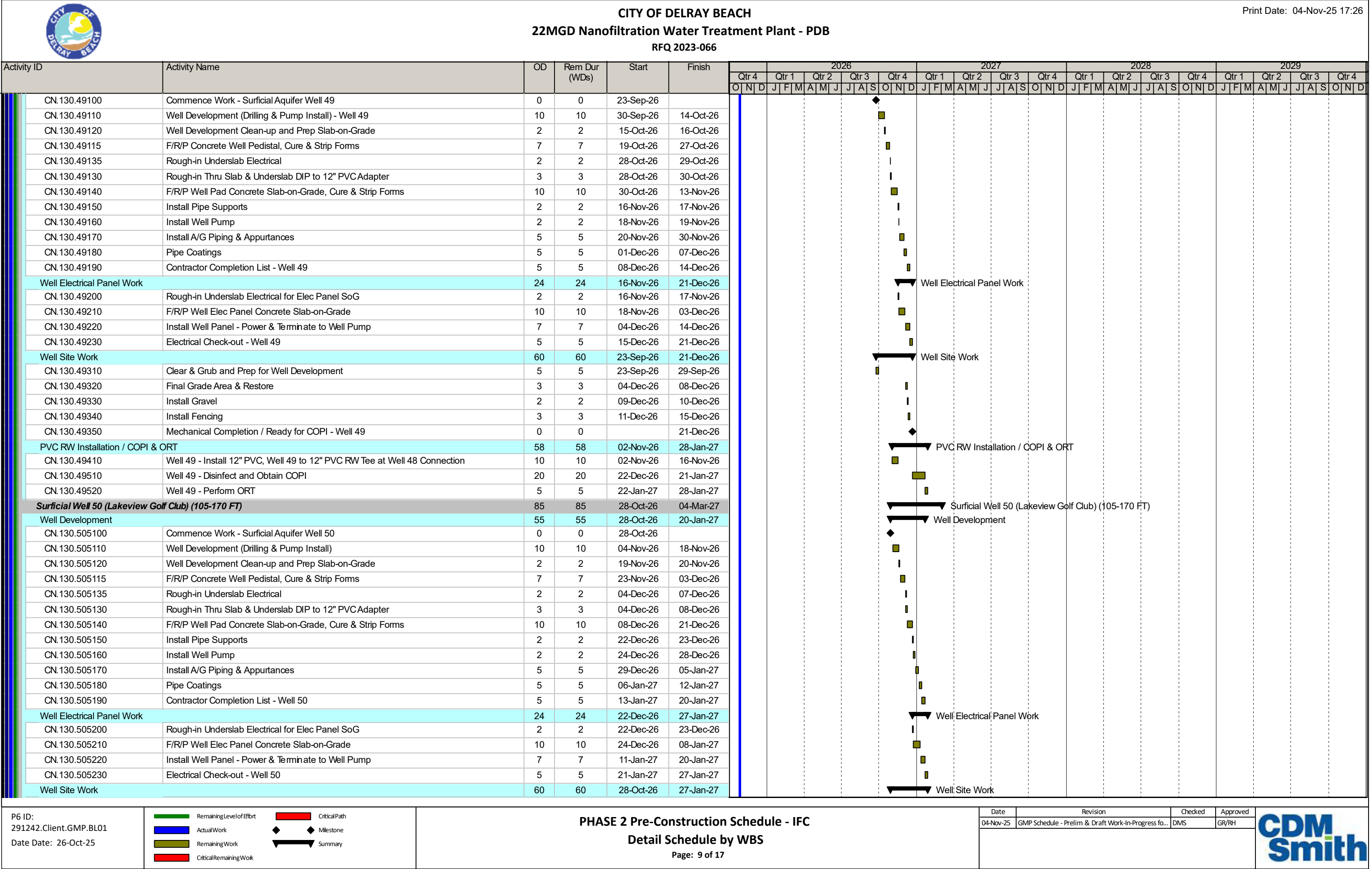


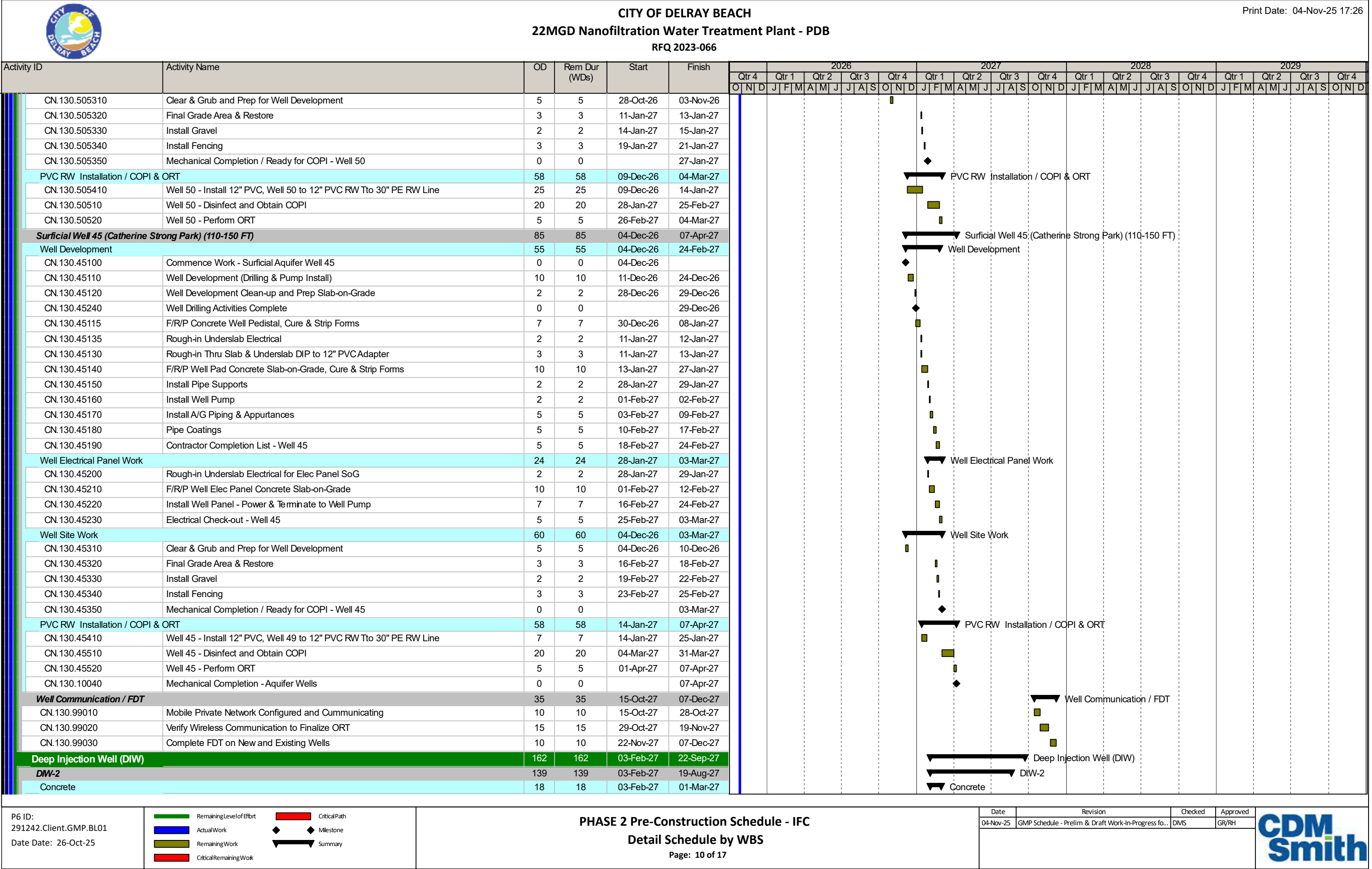




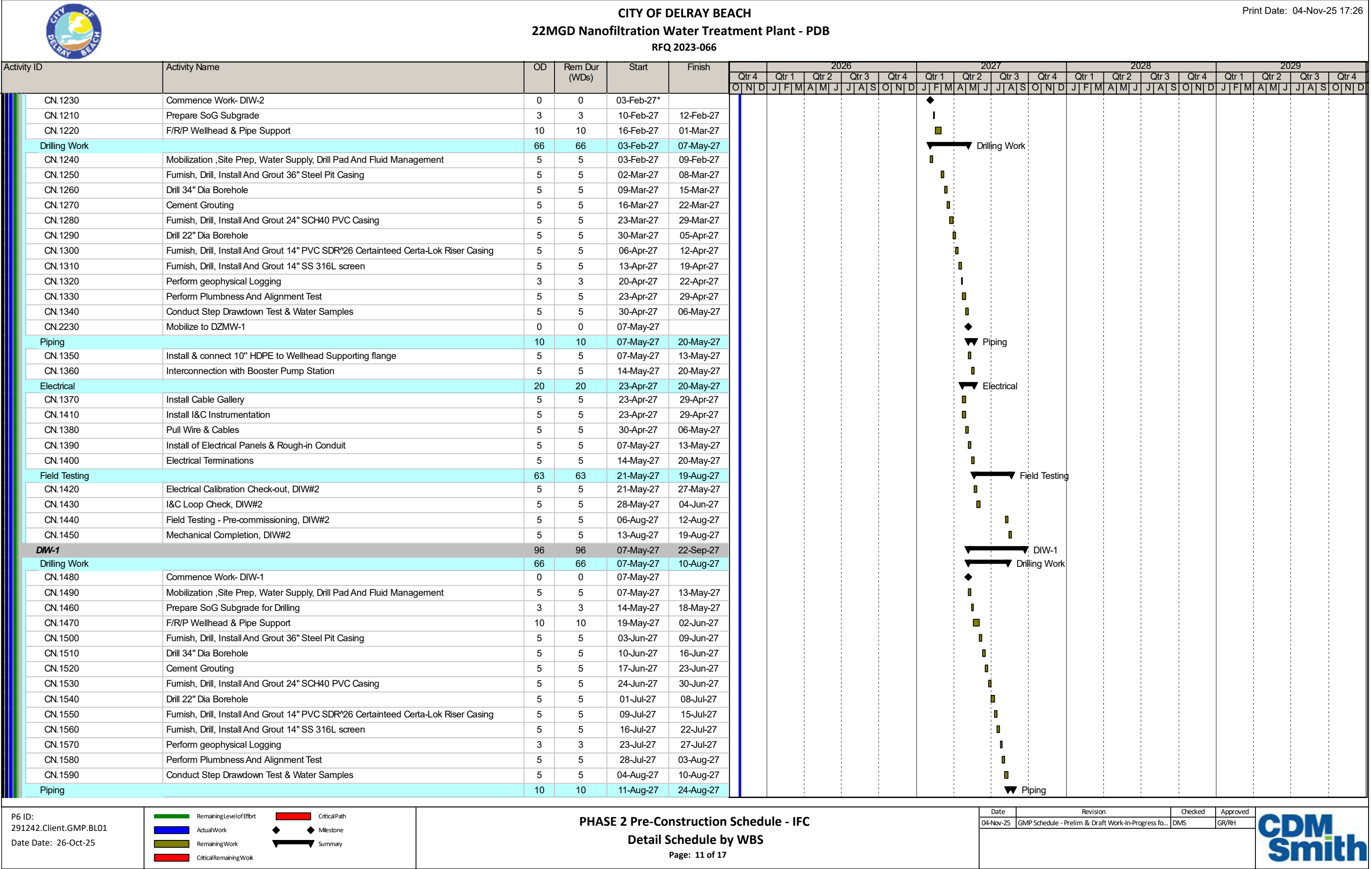


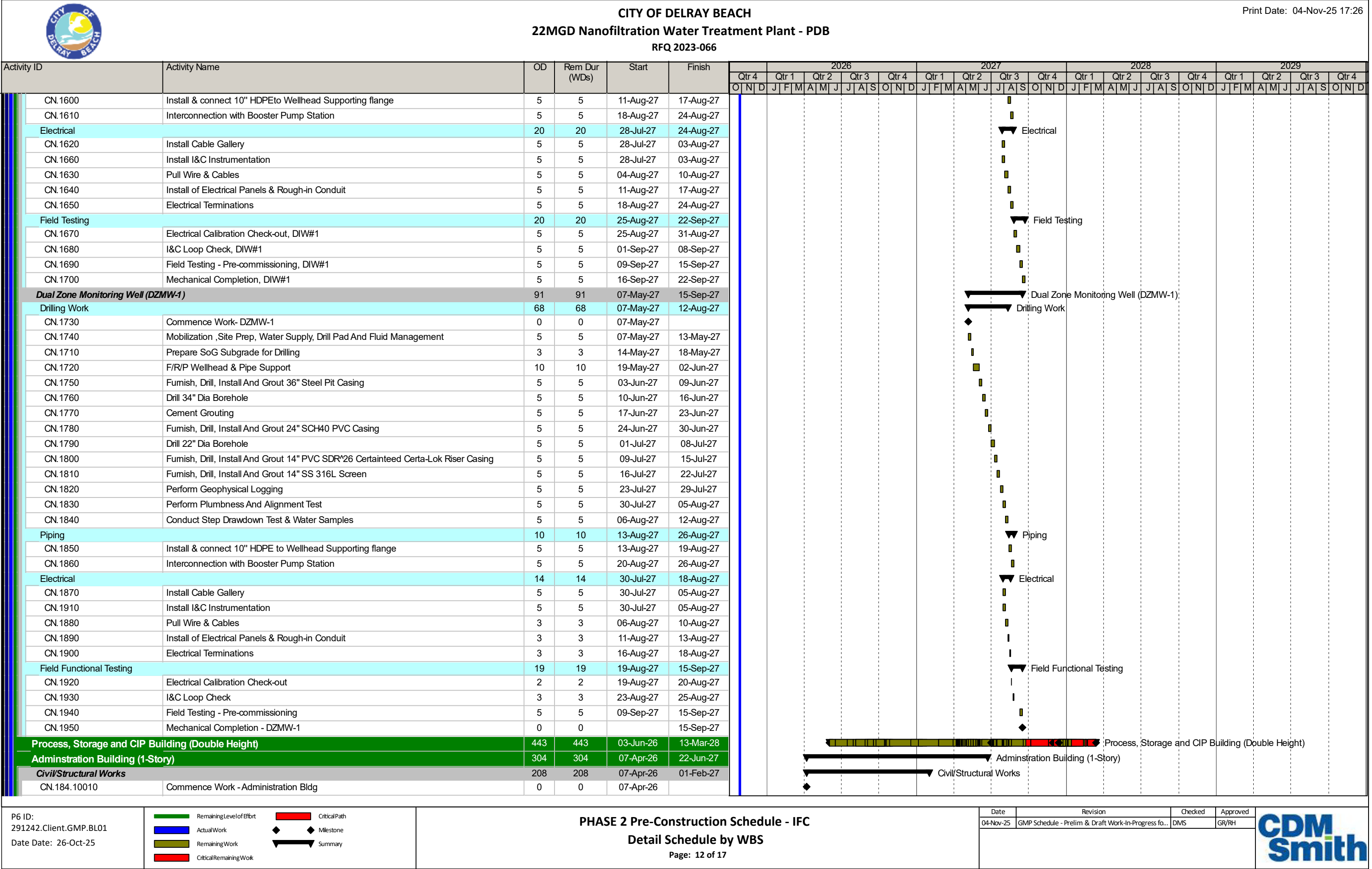




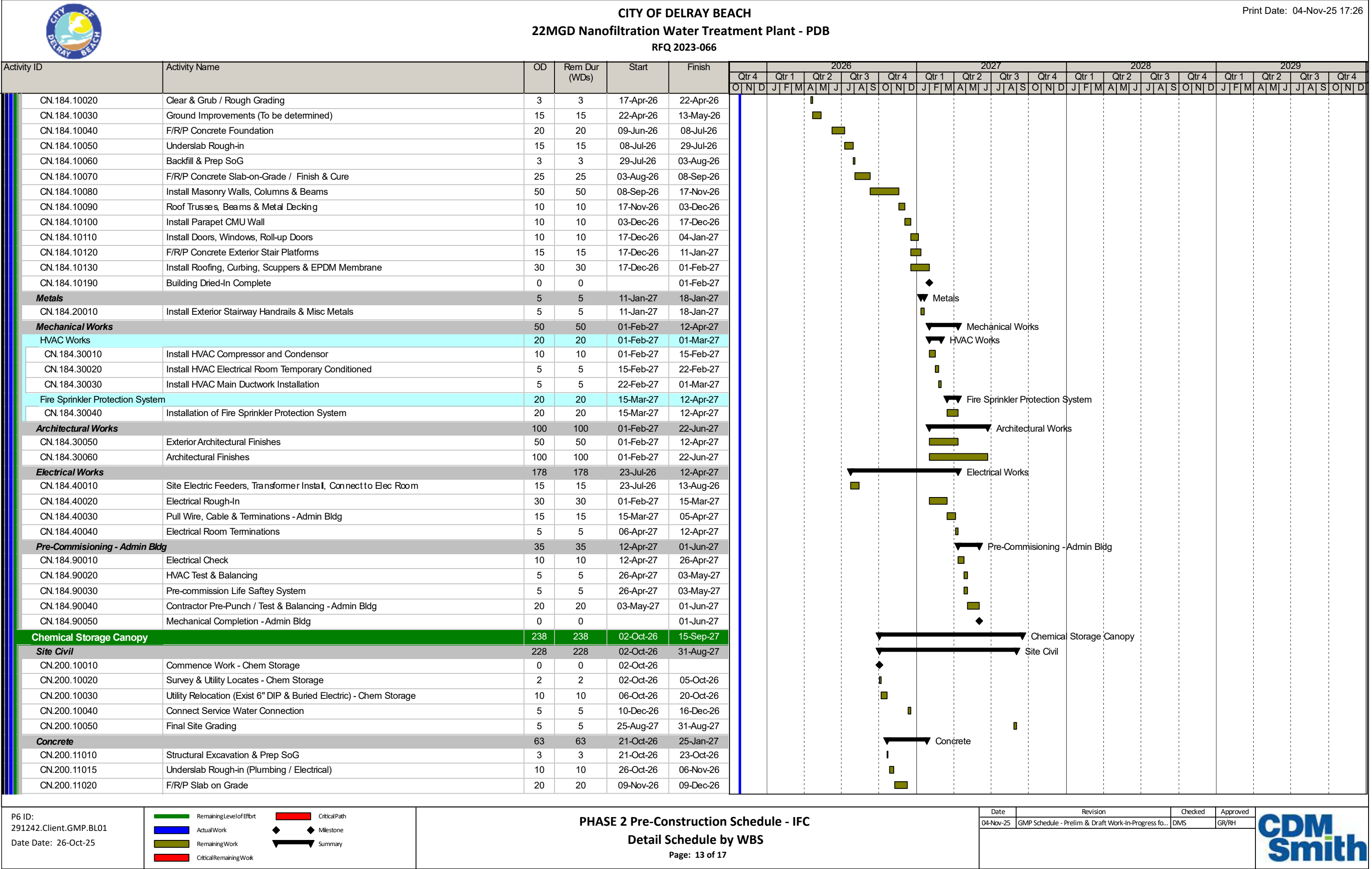


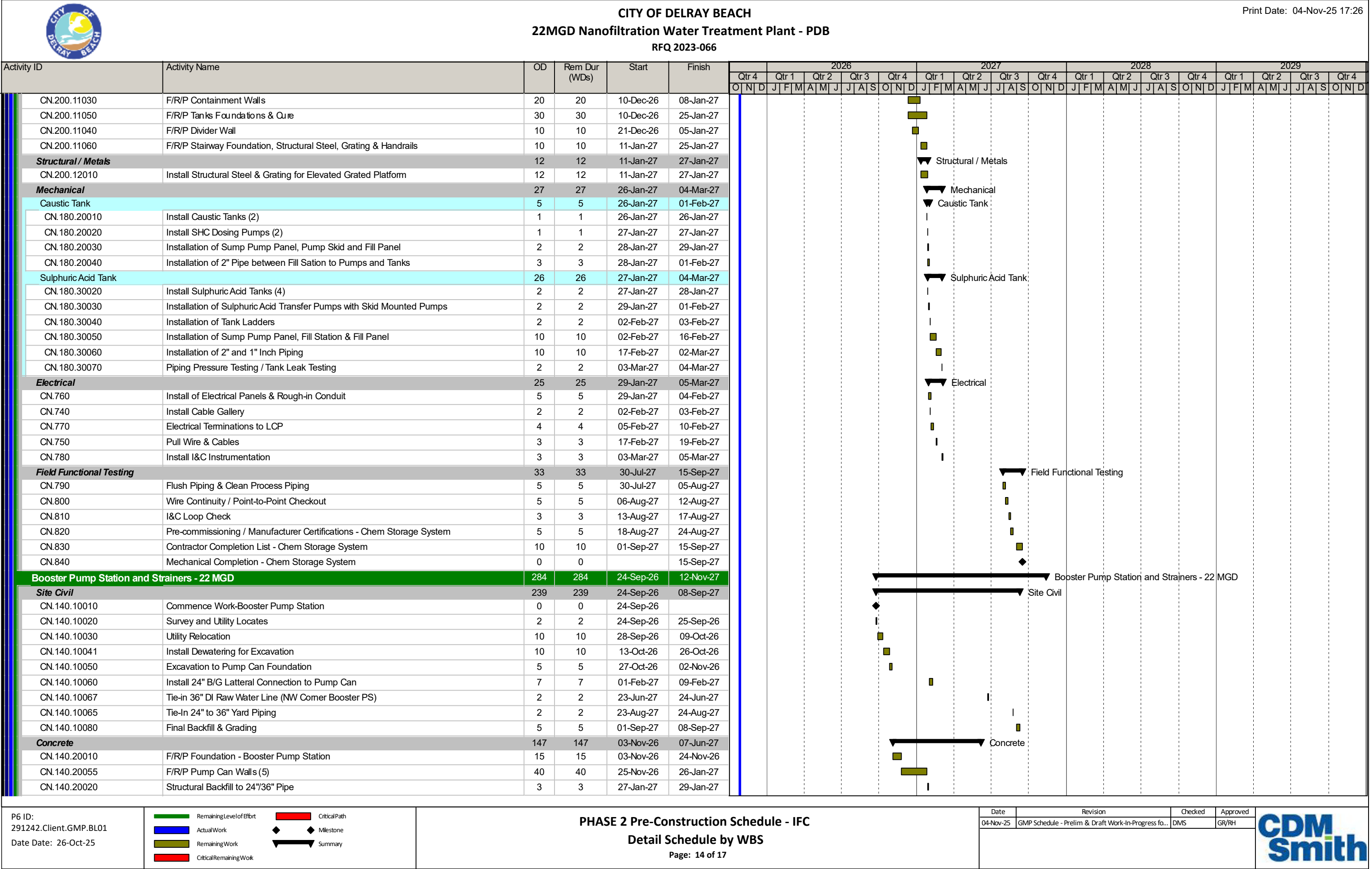


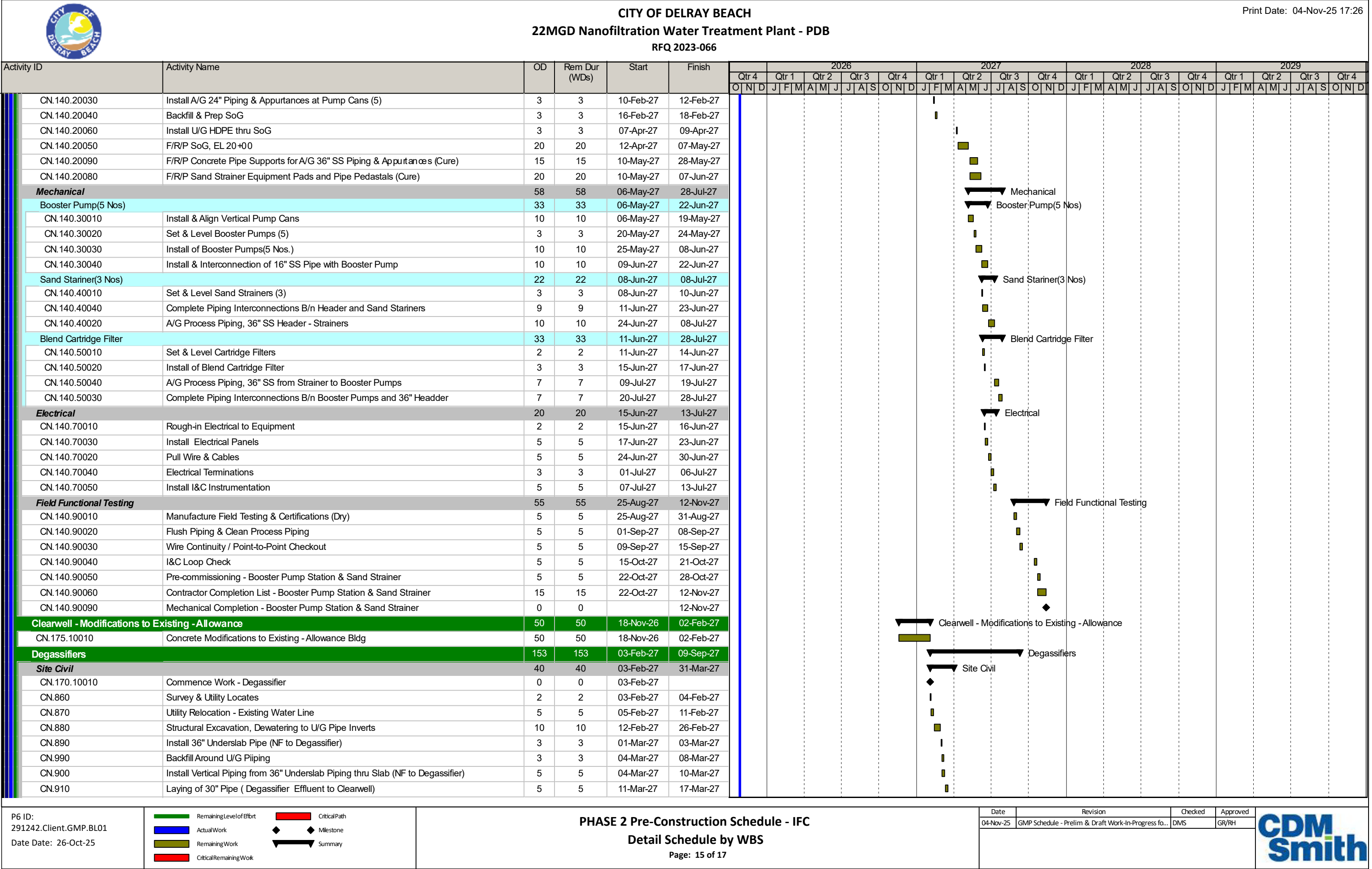


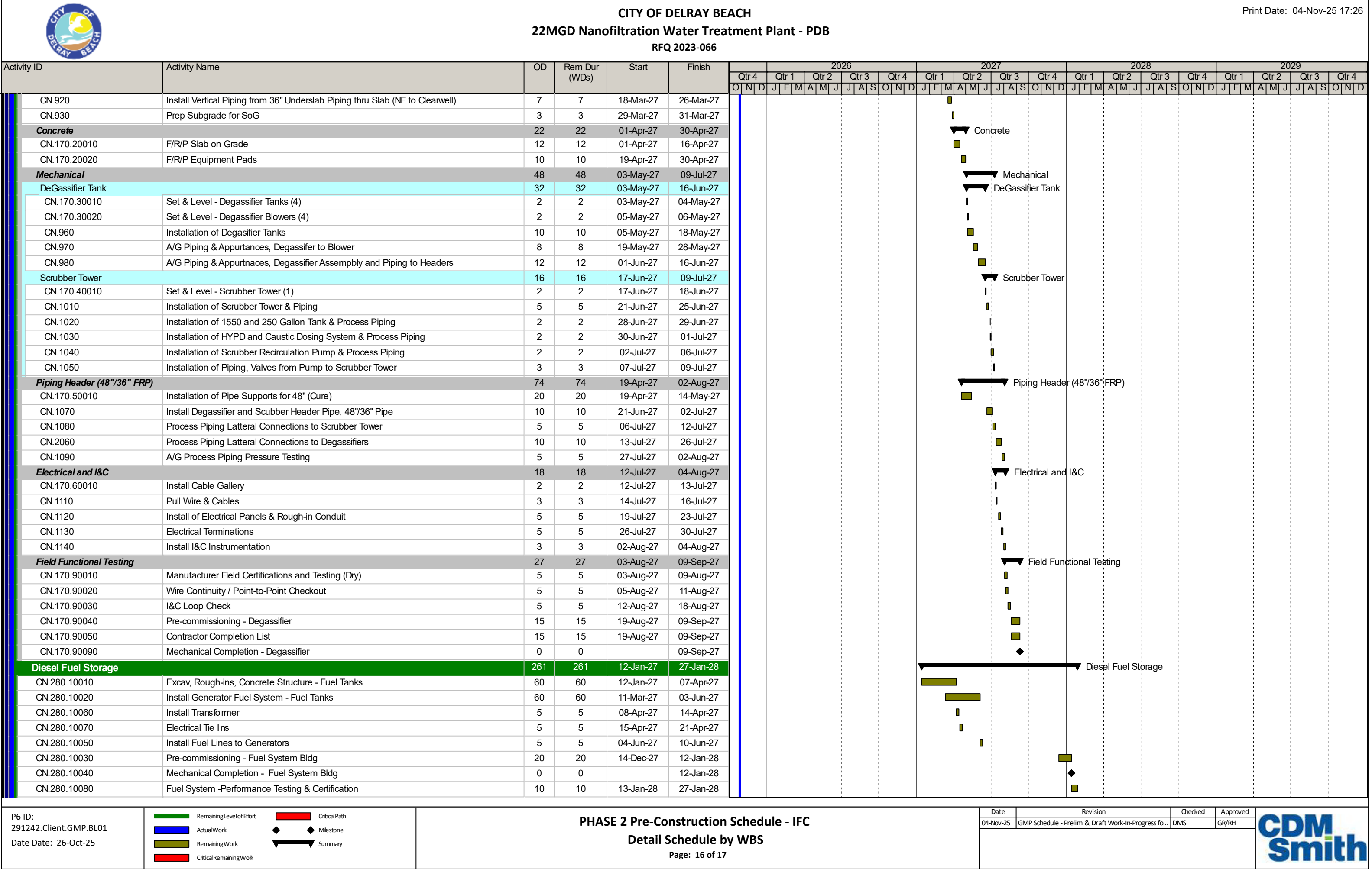




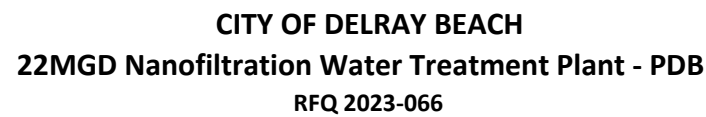












# Attachment 6

## Risk Register

RISK ASSESSMENT REGISTER

Project Name:	Delray Membrane WTP Phase 1	Input Provider:	D. Sutter
Project Number:	291242	Run Date:	11/5/25
CSL:	Suzanne Mechler	Version:	Rev 10.3
PMCL:	Victor Pujals	Risk\$ + OH&P	\$24,495,241
PMD:	Ajish Nambiar	Risk\$ + Opp\$	\$21,968,826
PMC:	Ryan Hagaman	Risk\$	\$21,968,826
LCE:	Elias Andraos	Opportunity\$	\$-
PCS:	Doug Sutter	High Risk\$	\$15,247,209
		Schedule Days Risk	404

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Update: G. Roy, R. Hagaman, D. Sutter

RISK PROBABILITY ASSESSMENT		COST ASSESSMENT		SCHEDULE ASSESSMENT	
Rating	Guideline	Impact Rating	Cost Impact Guideline	Rating	Guideline
Very Low (VL)	10%	Negligible	<\$10,000	Negligible	< 1 Week
Low (L)	30%	Marginal	\$10,000 - \$100,000	Marginal	1-2 Weeks
Moderate (M)	50%	Significant	>\$100,000 - \$500,000	Significant	> 2-4 Weeks
High (H)	70%	Critical	>\$500,000 - \$1 million	Critical	> 4-8 Weeks
Very High (VH)	90%	Crisis	>\$1 million	Crisis	> 8 Weeks

PART ONE - Risk / Opportunity Identification									PART TWO	PART THREE - Contingency Planning					
ID	Risk Prob	Risk Change	Risk/Opportunity Element	Definition of Risk/Opportunity Element	Consequence of Occurrence (Cost (\$) and Schedule (days) Impact)	Risk/ Opp	Risk Mitigation / Opportunity Suggestion (technical approach)	BIC	Pricing Strategy Contingency		Cost (whole \$)	Cost Probability	Schedule (days)	Schedule Probability	Assumptions
1	M		Technical/Engineering	Site Soil Conditions for Suitable Econmonical Foundations	\$ -	CLOSED	Perform geotech investigation in locations of final designed foundation to ensure good soils	Greg Roy	Contingency	Optimistic	\$ -	20%	30	40%	Mar-2025: Risk Closed - Foundation design completed based on thorough geotech analysis. Nov 2024: Pocket poor soil identified
					Schedule (days): 28					Most Likely	\$ -	70%	20	50%	
										Pessimistic	\$ -	10%	60	10%	
2	M		Technical/Engineering	Excessive iron in raw water impacting ability to pilot	\$ -	CLOSED	Pre-design raw water characterization, pre-treatment pilot testing, wellfield and raw water well system rehabilitation.	Greg Roy	Contingency	Optimistic	\$ -	80%	0	40%	Closed: 6/5/2025 Updated 1/13/2025: Reduced risk percentage. Nov 2024: Pilot still delayed
					Schedule (days): 0					Most Likely	\$ -	15%	0	50%	
										Pessimistic	\$ -	5%	0	10%	
3	L		Environmental	Severe Weather	\$ 122,500	R	Carry appropriate insurances per contract and look to carry Owner's contingency for impacts of a named storm or similar force majeure.	Owner	Contingency	Optimistic	\$ 25,000	40%	15	40%	Updated: 6/5/2025 BRI included in direct costs. This risk is for BRI deductible costs, storm prep, or other general weather prep or clean up including potential down time. Definition of FM and contract relief per agreement.
					Schedule (days): 27					Most Likely	\$ 125,000	50%	30	50%	
										Pessimistic	\$ 500,000	10%	60	10%	
4	L		Technical/Engineering	Design Definition Progression	\$ -	CLOSED	Work with technical staff to clarify as early as possible, but some decisions can't be made until post GMP.	Ajish Nambiar	Contingency	Optimistic	\$ -	95%	0	40%	Closed: 6/5/2025 Updated 1/13/2025: Reduced risk percentage.
					Schedule (days): 0					Most Likely	\$ -	5%	0	50%	
										Pessimistic	\$ -	0%	0	10%	
5	M		Reglatory	Permitting	\$ 155,000	R	Meet early with regulators in advance of permit application submittals. Utilize existing relationships with permitting agencies and communicate frequently Align design requirements with long-lead permit application needs. Sequence work to start in areas where permits can be obtained quicker	Joan Fernandez	Contingency	Optimistic	\$ 100,000	55%	0	40%	
					Schedule (days): 9					Most Likely	\$ 200,000	40%	10	50%	
										Pessimistic	\$ 400,000	5%	40	10%	
6	VH		Contractual	Supply Chain Challenges	\$ 2,592,209	R	Early release of long lead equipment, work to move complex equipment away from critical path	Mahendra Balkaran	Contingency	Optimistic	\$ 1,036,884	10%	0	40%	Updated 24Oct2025: Delay in issuing POs increases risk of schedule impacts. Updated 1/13/2025: Increased risk percentage. Percent of material cost from OPCC
					Schedule (days): 18					Most Likely	\$ 2,073,767	60%	20	50%	
										Pessimistic	\$ 4,147,535	30%	80	10%	
7	H		Contractual	Local Labor Shortages	\$ -	CLOSED	Early Outreach to solicit subcontractor interest and participation. Push for CCI to self-perform electrical, automation and mechanical work	Mahendra Balkaran	Contingency	Optimistic	\$ -	40%	0	40%	CLOSED 4NOV2025 per GMP Negotiation. Percent of labor cost from OPCC.
					Schedule (days): 0					Most Likely	\$ -	50%	0	50%	
										Pessimistic	\$ -	10%	0	10%	

RISK ASSESSMENT REGISTER

Project Name:	Delray Membrane WTP Phase 1	Input Provider:	D. Sutter
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		Schedule Days Risk	404

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Update: G. Roy, R. Hagaman, D. Sutter

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Rating	Guideline	Impact Rating	Cost Impact Guideline	Rating	Guideline
Very Low (VL)	10%	Negligible	<\$10,000	Negligible	< 1 Week
Low (L)	30%	Marginal	\$10,000 - \$100,000	Marginal	1-2 Weeks
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High (H)	70%	Critical	>\$500,000 - \$1 million	Critical	> 4-8 Weeks
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ID	Risk Prob	Risk Change	Risk/Opportunity Element	Definition of Risk/Opportunity Element	Consequence of Occurrence (Cost (\$) and Schedule (days) Impact)	Risk/ Opp	Risk Mitigation / Opportunity Suggestion (technical approach)	BIC	Pricing Strategy Contingency		Cost (whole \$)	Cost Probability	Schedule (days)	Schedule Probability	Assumptions
8	H		Schedule	Schedule Risk - Extended GC's	\$825,000	R	Weather, labor shortages, supply chain issues and others adds schedule risk to the project.	Construction Manager	Contingency	Optimistic	\$750,000	40%	10	40%	Assume \$250,000/month
					Schedule (days):					Most Likely	\$750,000	50%	20	50%	
					20					Pessimistic	\$1,500,000	10%	60	10%	
9	L		Schedule	Schedule Risk - LD's	\$92,000	R	Weather, labor shortages, supply chain issues and others adds schedule risk to the project and it's effective \$XXXXX per day damanges. Project may require acceleration, re-sequencing, or similar to avoid LD's.	Owner	Contingency	Optimistic	\$-	10%		40%	Updated 24Oct2025: Risk value reduced due to execution of long lead procurement.
					Schedule (days):					Most Likely	\$90,000	80%	10	50%	
					8					Pessimistic	\$200,000	10%	30	10%	
10	L		Safety	Construction Accidents	\$235,000	R	Safety is critical and any safety incidents will affect productivity and schedule.	Construction Manager	Contingency	Optimistic	\$100,000	40%	0	40%	
					Schedule (days):					Most Likely	\$250,000	50%	5	50%	
					5					Pessimistic	\$700,000	10%	20	10%	
11	M		Location	Unforeseen Conditions	\$-	CLOSED	Existing conditions - differences between record drawings, potholed utilites during design phase, and actual conditions	Owner	Allowance	Optimistic	\$-	50%	0	40%	Closed: 6/5/2025 Closed and revised to Owner Allowance (\$315k was estimate) Mar-2025: An excessive amount of potholing done
					Schedule (days):					Most Likely	\$-	45%	0	50%	
					0					Pessimistic	\$-	5%	0	10%	
12	VH		Resources	Additional Estimating & Precon efforts	\$-	CLOSED	Limit alternatives which are not feasible or which are unlikely to be selected by client. Seek to avoid excessive alternative analysis. Focus on not backtracking on decisions after they are made.	Ajish Nambiar	Contingency	Optimistic	\$-	60%	0	40%	Closed: 6/5/2025
					Schedule (days):					Most Likely	\$-	35%	0	50%	
					0					Pessimistic	\$-	5%	0	10%	
13	L		Resources	Availability of planned resources	\$127,500	R	Delay in the execution of Phase 2 contract or the overall project schedule start could impact available resources which could increase cost or impact schedule	Greg Roy	Contingency	Optimistic	\$100,000	50%	0	40%	
					Schedule (days):					Most Likely	\$150,000	45%	5	50%	
					4					Pessimistic	\$200,000	5%	10	10%	
14	M		Financial	Subcontractor and Vendor Bidder Interest (post selection, e.g. low bidder drops between 60% and 90%)	\$2,786,617	R	The construction market in Delray Beach and surrounding areas is very hot and labor availability is consistently shrinking; therefore bidder interest could be challenging. Team to create bidder interest early in the project by holding outreach events between 30% and 60% design.	Mahendra Balkaran	Contingency	Optimistic	\$1,548,121	40%	20	40%	Updated: 6/5/2025 To be updated after GMP2 bids are received. Percentage of Labor, Sub, Other cost from OPCC
					Schedule (days):					Most Likely	\$3,096,241	50%	30	50%	
					32					Pessimistic	\$6,192,482	10%	90	10%	



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PCS:	Doug Sutter	High Risk\$	\$15,247,209
		Schedule Days Risk	404

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Update: G. Roy, R. Hagaman, D. Sutter

RISK PROBABILITY ASSESSMENT		COST ASSESSMENT		SCHEDULE ASSESSMENT	
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15	M		Contractual	Sole Sourced Equipment (if applicable) which may limit competition or reduce commercial control of the project.	\$ -	CLOSED	Additional costs, limited bid transparency to client, reduced commercial term negotiation (warranties, damages, lead times, etc.) when working with vendor.	Greg Roy	Contingency	Optimistic	\$ -	90%	0	40%	CLOSED 24Oct2025: Closed due to bidding completion. Mar-2025: Owner sole source items are extreemly limited
					Schedule (days):					Most Likely	\$ -	10%	0	50%	
					0					Pessimistic	\$ -	0%	0	10%	
16	H		Contractual	Subcontractor Performance Delays	\$ 3,575,000	R	Labor shortages compounds traditional risks associated with sub delays. Current market has many subcontractors bidding projects without the proper manpower and lack the ability to meet contract requirements. It is imperative to schedule subs as early as possible to provide flexibility for sub delays. Also work to flow all damages down to subs to ensure full commitment to schedule.	Construction Manager	Contingency	Optimistic	\$ 500,000	15%	0	40%	Updated 24Oct2025: Recent projects trending subcontractor performance concerns.
					Schedule (days):					Most Likely	\$ 3,750,000	60%	40	50%	
					28					Pessimistic	\$ 5,000,000	25%	80	10%	
17	L		Technical/Engineering	Startup & Commissioning Delays	\$ 680,000	R	Startup of an additional process is challenging. Brinig key design team on site to assist with startup and develop startup plan well in advance of any startup and commissioning. Carry startup with vendor bid packages.	Construction Manager	Contingency	Optimistic	\$ 200,000	40%	0	40%	
					Schedule (days):					Most Likely	\$ 800,000	50%	5	50%	
					5					Pessimistic	\$ 2,000,000	10%	20	10%	
18	M		Contractual	Conflict with existing UG Utilities	\$ -	CLOSED	Working at a existing plant, potential of UG utilities.	Ajish Nambiar	Contingency	Optimistic		60%	0	40%	Closed: 6/5/2025 Nov 2024: Elec ductbank conflict found & mitigated
					Schedule (days):					Most Likely	\$ -	35%	0	50%	
					0					Pessimistic	\$ -	5%	0	10%	

RISK ASSESSMENT REGISTER

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19	VL		Contractual	Client Insurance Reviews Require Design Changes	\$-	CLOSED	Some owner insurance carriers perform a late review of design documents and add requirements above and beyond the basis of design. To minimize this potential impact, have insurance carrier review 60% design documents in parallel to GMP development so any comments can be picked up as part of GMP development.	Greg Roy	Allowance	Optimistic	\$-	40%	0	40%	Closed: 6/5/2025
					Schedule (days):					Most Likely	\$-	50%	0	50%	
					0					Pessimistic	\$-	10%	0	10%	
20	M		Contractual	Additional Funding Impacts	\$-	CLOSED	Availability of Funding or Funding Source Requirements Impact Schedule or Budget	Greg Roy	Contingency	Optimistic	\$-	70%	0	40%	Updated: 6/5/2025 - Owner is not utilizing any funding that requires compliance costs. Mar-2025: Mar 11, 2025 BCC meeting provided commitment to funding project.
					Schedule (days):					Most Likely	\$-	25%	0	50%	
					0					Pessimistic	\$-	5%	0	10%	
21	L		Contractual	Timely decisions by client	\$-	CLOSED	Work with the client to ensure they understand the timelines involved and provide guidance/assistance where possible to resolve issues.	Greg Roy	Contingency	Optimistic	\$-	40%	0	40%	CLOSED 24Oct2025: All design decisions have been made and captured in GMP . Updated 1/13/2025: Increased risk percentage.
					Schedule (days):					Most Likely	\$-	40%	0	50%	
					0					Pessimistic	\$-	20%	0	10%	
22	L		Contractual	Truck Traffic & Site Controls	\$101,500	R	Truck traffic, deliveries, & construction equipment will be onsite together, potential traffic issues.	Construction Manager	Contingency	Optimistic	\$60,000	40%	0	40%	Updated 4NOV2025 per GMP Negotiation.
					Schedule (days):					Most Likely	\$125,000	50%	5	50%	
					4					Pessimistic	\$150,000	10%	10	10%	
23	L		Environmental	Asbestos or other hazardous materials in the existing plant.	\$-	CLOSED	Hazardous material require additional handling and disposal costs. Discuss with owner and perform any necessary investigations.	Greg Roy	Contingency	Optimistic	\$-	40%	0	40%	Updated 18Feb2025: Closed Risk. Resolved since HAZ assessment completed and any mitigation is in direct costs.
					Schedule (days):					Most Likely	\$-	50%	0	50%	
					0					Pessimistic	\$-	10%	1	10%	

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24	L		Contractual	Unknown quantities of suitable fill to support installation of the structures	\$-	CLOSED	Verify soil conditions through geotech investigations & do an early cut/fill analysis to support structural designs.	Ajish Nambiar	Contingency	Optimistic	\$-	75%	0	40%	CLOSED 24Oct2025: Geotech work complete & unsuitables known. Updated 1/13/2025: Increased risk percentage.
					Schedule (days):					Most Likely	\$-	20%	0	50%	
					0					Pessimistic	\$-	5%	0	10%	
25	L		Technical/Engineering	Dewatering Issues	\$-	CLOSED	Verify underground water table elevations and underground conditions	Construction Manager	Contingency	Optimistic	\$-	75%	0	90%	CLOSED 24Oct2025: Geotech work complete and groundwater known. Mar-2025: GW levels have been documented and its very low. However given the plant's proximity to the ocean, and reviewing similar other projects, its possible significantly more dewatering is required.
					Schedule (days):					Most Likely	\$-	25%	0	10%	
					0					Pessimistic	\$-	25%	60	0%	
26	VH		Technical/Engineering	Design Development Post GMP (60% to IFC and through construction)	\$7,775,000	R	Early definition of scope of work to send out to bidders. Utilize pre-construction team to run parallel cost estimate on IFC to confirm direct costs bid for GMP.	Greg Roy	Contingency	Optimistic	\$4,000,000	5%	90	40%	Updated 5Nov2025 per GMP Negotiation Updated 24Oct2025: Significant post 60% design changes increase direct costs and increase design development. Updated 1/13/2025: Reduced risk percentage. Percent of direct & indirect cost from OPCC
					Schedule (days):					Most Likely	\$7,500,000	65%	120	50%	
					116					Pessimistic	\$9,000,000	30%	200	10%	
27	M		Technical/Engineering	Software/hardware and programming and intergration into the existing conditions.	\$75,000	R	Early review of existing software/hardware setup to verify compatibility of new software/hardware setup. Obsolete software not working with current software	Greg Roy	Contingency	Optimistic	\$50,000	55%	15	40%	Updated 1/13/2025: Reduced risk percentage.
					Schedule (days):					Most Likely	\$100,000	40%	30	50%	
					27					Pessimistic	\$150,000	5%	60	10%	
28	M		Contractual	Damage to existing roads and asphalt	\$66,000	R	Video tape and document existing road conditions.	Construction Manager	Contingency	Optimistic	\$40,000	40%	15	40%	
					Schedule (days):					Most Likely	\$80,000	50%	20	50%	
					22					Pessimistic	\$100,000	10%	60	10%	
29	L		Environmental	Surface water site control after a rain event.	\$43,000	R	Subcontractor scope to mitigate rainwater.	Construction Manager	Contingency	Optimistic	\$20,000	40%	15	40%	
					Schedule (days):					Most Likely	\$50,000	50%	30	50%	
					27					Pessimistic	\$100,000	10%	60	10%	

RISK ASSESSMENT REGISTER

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PMCL:	Victor Pujals	Risk\$ + OH&P	\$24,495,241
PMD:	Ajish Nambiar	Risk\$ + Opp\$	\$21,968,826
PMC:	Ryan Hagaman	Risk\$	\$21,968,826
LCE:	Elias Andraos	Opportunity\$	\$-
PCS:	Doug Sutter	High Risk\$	\$15,247,209
		Schedule Days Risk	404

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Update: G. Roy, R. Hagaman, D. Sutter

RISK PROBABILITY ASSESSMENT		COST ASSESSMENT		SCHEDULE ASSESSMENT	
Rating	Guideline	Impact Rating	Cost Impact Guideline	Rating	Guideline
Very Low (VL)	10%	Negligible	<\$10,000	Negligible	< 1 Week
Low (L)	30%	Marginal	\$10,000 - \$100,000	Marginal	1-2 Weeks
Moderate (M)	50%	Significant	>\$100,000 - \$500,000	Significant	> 2-4 Weeks
High (H)	70%	Critical	>\$500,000 - \$1 million	Critical	> 4-8 Weeks
Very High (VH)	90%	Crisis	>\$1 million	Crisis	> 8 Weeks

PART ONE - Risk / Opportunity Identification									PART TWO	PART THREE - Contingency Planning					
ID	Risk Prob	Risk Change	Risk/Opportunity Element	Definition of Risk/Opportunity Element	Consequence of Occurrence (Cost (\$) and Schedule (days) Impact)	Risk/ Opp	Risk Mitigation / Opportunity Suggestion (technical approach)	BIC	Pricing Strategy Contingency		Cost (whole \$)	Cost Probability	Schedule (days)	Schedule Probability	Assumptions
30	M		Contractual	Accidental Plant Shutdown/interruption during construction	\$100,000	R	Engage owner in developing a detailed MOPO plan. Conduct several meetings with operations staff to discuss the activities and schedule. MOPO plan will ensure all safety measures and permits are in place. It will have a EAP plan. Establish hold points. Create a communication and contingency plans.	Construction Manager	Contingency	Optimistic	\$100,000	100%	0	40%	Updated 24Oct2025: Comprehensive MOPO planning complete.
					Schedule (days):					Most Likely	\$150,000	0%	0	50%	
					0					Pessimistic	\$250,000	0%	0	10%	
31	M		Contractual	Damage of existing systems/equipment by subcontractors	\$225,000	R	Carefully plan construction sequence/operations and plan with plant operations staff	Construction Manager	Contingency	Optimistic	\$125,000	40%	15	40%	
					Schedule (days):					Most Likely	\$250,000	50%	30	50%	
					26					Pessimistic	\$500,000	10%	45	10%	
32	L		Technical/Engineering	Source water difficult to pilot. May differ to full scale plant	\$-	CLOSED	Test for various ranges during piloting and consider treatment membranes and equipment with scalability to account for source water variations	Greg Roy	Contingency	Optimistic	\$-	40%	0	40%	
					Schedule (days):					Most Likely	\$-	50%	0	50%	
					0					Pessimistic	\$-	10%	0	10%	
33	L		MOPO, Start-up & Testing	New process (membrane) operation for owner will require new personel and new practices to get operations running smoothly. Substantial completion delay due to greater owner operator training.	\$200,000	R	Engage operators early including prior to startup and commissioning to let them be part of the trouble shooting process to gain understanding and experience prior to full commissioning. Full owner training on every piece of equipment inclduing classroom and field trairing. Send operators to SEDA short courses and SEDA conferences	Greg Roy	Contingency	Optimistic	\$100,000	65%	0	40%	
					Schedule (days):					Most Likely	\$300,000	20%	0	50%	
					0					Pessimistic	\$500,000	15%	0	10%	
34	L		Location	Good neighbor impacts, respect residents, noise, visual appearance at Main Site	\$-	CLOSED	Condcut outreach events, community gatherings and a 24/7 resident hotline. Work closely with the community regarding the architecture, colors and finish of the new membrane building to encourage a blend of the facility into the neighborhood.	Greg Roy	Contingency	Optimistic	\$-	40%	0	40%	CLOSED 4Nov2025 per GMP Negotiation.
					Schedule (days):					Most Likely	\$-	50%	0	50%	
					0					Pessimistic	\$-	10%	0	10%	

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35	L		Location	Site constraints, laydown area, space	\$175,000	R	Understand the phasing of the work as well as delivery and traffic considerations. Early detailed planning of the work with owner and subcontractor coordination. May require renting a bonded warehouse or offsite space	Greg Roy	Contingency	Optimistic	\$100,000	65%	0	65%	
					Schedule (days):					Most Likely	\$250,000	20%	0	20%	
					0					Pessimistic	\$400,000	15%	0	15%	
36	M		Quality	OPCC Accuracy resulting in redesign and delays.	\$-	CLOSED	Provide quality and timely information to the cost estimator. Review OPCC when it's received.	Mahendra Balkaran	Contingency	Optimistic	\$-	50%	0	40%	Closed: 6/5/2025
					Schedule (days):					Most Likely	\$-	40%	0	50%	
					0					Pessimistic	\$-	10%	0	10%	
37	H		Technical/Engineering	Source Water not improving for membrane treatment requiring addition of pre-treatment process system.	\$-	CLOSED	Design for possibility of adding pretreatment and aggressively pursue well rehabilitation to improve water quality	Greg Roy	Allowance	Optimistic	\$-	50%	0	25%	Update 6/10/25: Source water/influent water quality is assumed to match water quality as detailed in the BODR. Requirements for well field rehabilitation or pretreatment systems are not considered part of the GMP. 30Oct2024: Prorated cost removed from allowance in OPCC
					Schedule (days):					Most Likely	\$-	30%	0	50%	
					0					Pessimistic	\$-	20%	0	25%	
38	H		Technical/Engineering	Florida Power and Light providing timely design assistance and installation of new power services	\$480,000	R	Frequent correspondence between FPL/design-builder/owner	Greg Roy	Contingency	Optimistic	\$100,000	0%	0	25%	
					Schedule (days):					Most Likely	\$300,000	10%	0	50%	
					0					Pessimistic	\$500,000	90%	0	25%	
39	M		Technical/Engineering	The membrane plant will provide changes to water quality in the distribution system that could impact pipe corrosion and lead/copper releases. Chemical inhibitors will be included in the design based on desktop studies but may not be sufficient. Adjustments to the installed inhibitors may be necessary to combat LCCR violations.	\$317,500	R	Perform a comprehensive Optimal Corrosion Control Treatment Evaluation.	Greg Roy	Contingency	Optimistic	\$100,000	5%	0	25%	Updated 24Oct2025: Recent corrosion study and commission plan reveals great concern with finish water acclimation. This risk is not related to iron levels in the influent water which is an Owner's direct cost.
					Schedule (days):					Most Likely	\$250,000	45%	0	50%	
					0					Pessimistic	\$400,000	50%	0	25%	
40	L		Technical/Engineering	Owner decided (5Nov2024) to not include process for re-mineralization. As piloting occurs, this design decision might change and a more costly option required such as calcite contractors. The probability is low.	\$-	CLOSED				Optimistic	\$-	60.0%	0	0%	CLOSED 24Oct2025: The GMP does not include post treatment for reminieralization. Nov 2024: Lowered riks percetange weighting due to Owner dcison made Nov 5, 2024. 15Oct2024: New Risk
					Schedule (days):					Most Likely	\$-	30.0%	0	50%	
					0					Pessimistic	\$-	10.0%	0	50%	

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41	M		Financial	Impacts of potential tariffs on global price equipment and materials	\$ -	CLOSED	The only mitigation is to carry more contingency for known international tariffs	G. Roy	Allowance	Optimistic	\$ -	60.0%	0	10%	Closed: 6/5/2025 Moved to Owners Allowance and to be carried in Estimate as Allowance. 18Feb2025: New Risk Added
					Schedule (days): 0					Most Likely	\$ -	30.0%	0	50%	
										Pessimistic	\$ -	10.0%	0	40%	
42	M		Financial	FPL direct cost to City for electrical service work with transformers	\$ -	CLOSED	N/A	G. Roy	Allowance	Optimistic	\$ -	5.0%	0	40%	Closed: 6/5/2025 Moved to Owners Allowance and to be carried in Estimate as Allowance. 18Feb2025: New Risk Added
					Schedule (days): 0					Most Likely	\$ -	90.0%	0	40%	
										Pessimistic	\$ -	5.0%	0	20%	
43	M		Financial	Permitting direct cost to City	\$ -	CLOSED	N/A	G. Roy	Allowance	Optimistic	\$ -	5.0%	0	20%	Closed: 6/5/2025 Moved to Owners Allowance and to be carried in Estimate as Allowance. 18Feb2025: New Risk Added
					Schedule (days): 0					Most Likely	\$ -	90.0%	0	40%	
										Pessimistic	\$ -	5.0%	0	40%	
44	M		Technical/Engineering	The location of all 6 new production wells has not been establish and has been assumed for GMP development. Changes to these locations could increase construction costs.	\$ -	CLOSED	Obtain regulator approval for the currently recommended well locations.	G. Roy	Contingency	Optimistic	\$ -	10.0%	0	60%	Closed: 6/5/2025 March-2025: Risk added
					Schedule (days): 0					Most Likely	\$ -	80.0%	0	20%	
										Pessimistic	\$ -	10.0%	0	20%	
45	M		Environmental	Disposal of off-spec water during startup & commissioning	\$ -	CLOSED	Work with City to identify disposal locations for offspec water. May require temporary piping, hoses and/or pumps to properly complete flushing, testing, and startup.	Const. Mgr	Contingency	Optimistic	\$ -	20.0%	0	60%	CLOSED 24Oct2025: A plan developed for disposal of off spec process water.
					Schedule (days): 0					Most Likely	\$ -	60.0%	0	20%	
										Pessimistic	\$ -	20.0%	0	20%	



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46	M		Contractual	Work Sequencing: complex site utilities in main road and new requirement to maintain existing Dewatering Building thru 1/2 construction.	\$400,000	R	Continuously enhance construction sequencing plan as work progresses		Contingency	Optimistic	\$250,000	10.0%	0	60%	Added Risk 24Oct2025
					Schedule (days): 0					Most Likely	\$400,000	75.0%	0	20%	
										Pessimistic	\$500,000	15.0%	0	20%	
47	M		Technical/Engineering	Protection of Existing Structures	\$570,000	R	Provide proper pre construction assessments followed by maximize distance between work and existing structures, subsurface support (shoring) or other mitigation if necessary and continuous monitoring.	G. ROy	Contingency	Optimistic	\$100,000	20.0%	0	60%	Added Risk 24Oct2025
					Schedule (days): 0					Most Likely	\$500,000	60.0%	0	20%	
										Pessimistic	\$1,250,000	20.0%	0	20%	
48	M		Technical/Engineering	Construction Health and Safety Hazards	\$250,000	R	Develop and strictly enforce all Health and Safety Plans, and have a dedicated H&S Manager.	G. Roy	Contingency	Optimistic	\$100,000	20.0%	0	50%	Added Risk 24Oct2025
					Schedule (days): 0					Most Likely	\$250,000	60.0%	0	30%	
										Pessimistic	\$400,000	20.0%	0	20%	
49					\$-	R				Optimistic	\$-	20.0%	0	10%	
					Schedule (days): 0					Most Likely	\$-	60.0%	0	50%	
										Pessimistic	\$-	20.0%	0	40%	
50					\$-					Optimistic					
					Schedule (days): 0					Most Likely					
										Pessimistic					

# Attachment 7

## Bid Analysis



Bid Analysis



2025-04 Delray WTP-60 Blue Sheets

	OPCC	Selected Bid	Variance
Package/Section:	Major PO's		
400.26 32 13 Diesel-Engine_Driven Generator Sets & Fuel Tanks	See Allowance	See Allowance	See Allowance
400.41 22 13.23 Mobile All Terrain Crane and Pallet Stacker	\$ 197,027	\$ 238,259	\$ 41,232
400.43 24 16 Process Sump Pumps	\$ 44,549	\$ 40,134	\$ (4,415)
400.43 32 41 Flushing and Clean In Place Pumps	\$ 314,815	\$ 358,732	\$ 43,917
400.43 41 13 Welded Steel Tanks (H2SO4) Bulk & Day Tank	\$ 115,472	\$ 128,072	\$ 12,600
400.43 41 45 FRP Chemical Tanks	\$ 1,003,038	\$ 871,978	\$ (131,060)
400.46 33 66 Chemical Transfer & Metering Pumps	\$ 387,190	\$ 521,908	\$ 134,718
400.46 41 17 Static Mixers	\$ 229,281	\$ 148,659	\$ (80,622)
400.46 53 26 Degasifier Equipment	\$ 3,801,546	\$ 2,026,788	\$ (1,774,758)
400.46 61 53 Cartridge Filters	\$ 992,417	\$ 1,064,464	\$ 72,047
400.46 63 00 Membrane Elements	\$ 2,831,588	\$ 2,593,767	\$ (237,821)
400.46 63 23 NF System	\$ 7,812,648	\$ 8,390,077	\$ 577,429
SUBTOTAL	\$ 17,729,571	\$ 16,382,839	
503.26 00 00 Electrical & Instrumentation	\$ 19,126,775	\$ 17,587,455	\$ (1,539,320)
SUBTOTAL	\$ 19,126,775	\$ 17,587,455	
200.01 32 23 Surveying	\$ 279,496	\$ 228,746	\$ (50,750)
200.01 45 23 Materials Testing	\$ 57,017	\$ 201,639	\$ 144,622
200.03 30 00 Site CIP Concrete & Reinforcing	\$ 1,332,459	\$ 1,277,623	\$ (54,837)
200.05 50 00 Misc Metals	\$ 275,237	\$ 445,763	\$ 170,526
200.09 00 00 Building Envelope - NF Membrane and Admin Buildings	\$ 25,363,853	\$ 29,255,209	\$ 3,891,356
200.09 96 73 Paint & High Performance Coatings	\$ 537,517	\$ 520,366	\$ (17,151)
200.13 34 19 Metal Canopies	\$ 389,897	\$ 214,343	\$ (175,554)
200.31 00 00 Sitework (Plant & SAS Wells)	\$ 15,076,803	\$ 17,930,200	\$ 2,853,397
200.31 00 01 Precast Wall	\$ 1,006,053	\$ 202,216	\$ (803,837)
200.31 00 02 Landscaping and Irrigation	\$ 812,344	\$ 812,344	\$ -
200.31 00 03 Site Signage	\$ 68,676	\$ 68,676	\$ -
200.31 00 04 Fencing	\$ 194,151	\$ 194,151	\$ -
200.31 45 00 Deep Foundations	\$ 2,049,587	\$ 1,649,921	\$ (399,666)
200.33 00 00 SAS Well Installation	\$ 6,549,331	\$ 4,712,000	\$ (1,837,331)
200.33 11 13 SAS Well Rehabilitation	\$ 1,800,000	\$ 1,106,311	\$ (693,689)
200.33 14 11 Raw Water Main	\$ 1,132,295	\$ 1,132,295	\$ 0
200.40 00 00 Process Mechanical	\$ 18,917,194	\$ 22,729,075	\$ 3,811,881
Charter Bus for Contractor Staff		\$ 601,425	
Parking Lot for Contractor Staff		\$ 275,000	
SUBTOTAL	\$ 75,841,910	\$ 83,557,303	
SUBTOTAL	\$ 112,698,256	\$ 117,527,597	\$ 3,952,916
TOTAL	\$ 112,698,256	\$ 117,527,597	\$ 3,952,916