

**Sixth Amendment to the Agreement
between
Portland Parks and Recreation
and
Verde**

This *Sixth Amendment to the Agreement* is made on _____ between Portland Parks & Recreation (PP&R) and Verde to clarify funding in the development of Thomas Cully Park (the project).

The original *Agreement* between the parties was executed on July 23, 2012 pursuant to Ordinance no. 185428 as City Contract no. 30002684, and an *Amended and Restated Agreement* was executed on June 30, 2014 pursuant to Ordinance no. 186665, as amendment 1 to Contract no. 30002684. There have been four additional amendments to Contract no. 30002684 to amend scope of work and clarify funding for the project. The original *Agreement*, the *Amended and Restated Agreement* and the previous contract amendments are collectively referenced as "Agreement".

The parties wish to amend Section 2 of the Agreement to include new funding sources in support of the project, specifically additional Multnomah County grant funds and funds the City received under an intergovernmental agreement between the City and the State of Oregon.

This will be amendment 6 to Contract no. 30002684.

NOW, THEREFORE, the parties agree as follows:

Section 2 of the Agreement is hereby amended to add the additional subsections:

2.14. The City and the Department of Environmental Quality entered into an intergovernmental agreement, identified as DEQ #21-19 - Cully Park/KFD Landfill Gas Probe and Stormwater System Upgrades, ("DEQ #21-19") and a copy of which is attached as Exhibit A. DEQ #21-19 detailed the modification and improvement of the existing landfill infrastructure at Thomas Cully Park and provided a maximum compensation of \$526,233. Verde serves as the City's subcontractor in performance of work under DEQ #21-19. PP&R will use funds received in DEQ #21-19 to reimburse Verde for eligible work performed up to \$526,233.

2.15. Verde was awarded additional grant funds from Multnomah County in fiscal year 2016-17 for use towards the Project in the amount of \$70,000. PP&R previously served as fiscal sponsor for a like amount of grant funds that Verde received from Multnomah County in fiscal year 2015-16. The parties agree that PP&R will serve as Verde's fiscal sponsor for the additional \$70,000 received.

Section 2. No Other Changes. Except as expressly set forth herein, the Agreement shall remain unmodified and in full force and effect.

PP&R and Verde have caused this Amendment to be executed by their duly authorized officers.

VERDE

By: _____

Print Name: _____

Title: Executive Director

Date: _____

PORTLAND PARKS AND RECREATION

By: _____

Kia Selley

Title: Interim Director

Date: _____

APPROVED AS TO FORM

City Attorney

INTERGOVERNMENTAL AGREEMENT
Cully Park/KFD Landfill Gas Probe and Stormwater System Upgrades

This Agreement is between the State of Oregon, acting by and through its Department of Environmental Quality (DEQ) and City of Portland (City).

| CITY DATA | DEQ DATA |
|---|--|
| <p>Agreement Administrator:</p> <p>Travis Ruybal Portland Parks and Recreation City of Portland 1120 SW 5th Avenue, Suite 1302 Portland, OR 97204</p> <p>PH: (503) 823-5487 Email: Travis.Ruybal@portlandoregon.gov</p> <p>Federal Tax ID: 93-6002236</p> | <p>Agreement Administrator:</p> <p>Tim Spencer Department of Environmental Quality 700 NE Multnomah, Suite #600 Portland, OR 97232</p> <p>PH: (503) 229-5826 Email: spencer.tim@deq.state.or.us</p> |

1. **Background** The Cully Park property is a closed solid waste landfill that DEQ regulates under a solid waste closure permit. Cully Park is a new and developing park located near NE 72nd Avenue and Columbia Blvd and in one of City of Portland's most park deprived neighborhoods. The City and its contractor are redeveloping the 25 acre property into a city park; 3.6 acres will be dedicated to creating new wildlife habitat along the former landfill. Other park amenities include a community garden, Inter-Tribal Gathering Garden, children's play area, ball fields, trails, and picnic areas.

In 2000, DEQ performed remedial actions at the site to mitigate threats to human health and safety posed by methane. Actions included installation of a new landfill gas control system and repair of the geomembrane cap. DEQ funded the activities primarily from the Solid Waste Orphan Site Account established under Oregon Revised Statutes (ORS) 465.381. Now that Cully Park is under construction on the landfill property DEQ has determined that additional remedial actions are necessary at the property to mitigate threats to public health and safety and to protect landfill infrastructure from vandalism or accidental damage during park construction and maintenance. In 2017 under an IGA between DEQ and the City the existing leachate sump was upgraded to eliminate health and safety concerns. DEQ has determined that additional remedial actions are necessary to enhance the existing landfill infrastructure as described in the Statement of Work.
2. **Authority** DEQ has authority under Oregon Revised Statute (ORS) Chapter 459, 465.200 et seq. to undertake independently, in cooperation with others or by contract, remediation, removal, monitoring, and analyses and any other activity necessary to conduct removal or remedial action and to carry out the provisions of ORS 465.200 to 465.545 and 465.900. DEQ has authority under ORS 190.110 to cooperate for any lawful purpose with a unit of local government.
3. **Effective Date and Duration** This Agreement is effective on the date that every party has signed this Agreement and, when required, approved by the Department of Justice. Unless earlier terminated or extended, this Agreement expires June 15, 2019.
4. **Agreement Documents** This Agreement consists of this document and the attached Exhibit A (Statement of Work) and Exhibit B (Subcontractor Insurance Requirements), Engineering Memorandum (Exhibit C) and Drainage and Grading Plans (Exhibit D).
5. **Statement of Work** The statement of work (the "Work"), including the delivery schedule is contained in attached Exhibit A. The City agrees to perform the Work in accordance with the terms and conditions of this Agreement.
6. **Consideration** The maximum, not-to-exceed compensation payable to the City under this Agreement, which includes any allowable expenses, is \$526,233.00.
7. **Invoicing/Payments**
 - A. The City will not submit invoices for, and DEQ will not pay, any amount in excess of the maximum not-to-exceed compensation amount identified in this Agreement. If this maximum compensation amount is increased by amendment of this Agreement, the amendment must be fully effective before The City performs work subject to the amendment. The City will notify DEQ's Agreement Administrator in writing sixty (60) calendar days before this Agreement expires of any proposed amendments to the Agreement.
 - B. Upon completion of all Work under this Agreement and acceptance of the deliverables described in Exhibit A the City will submit a single invoice for Work performed. The invoice will itemize and explain all completed tasks for which reimbursement is claimed. Invoices must be emailed to DEQEXP@deq.state.or.us. Invoices are subject to the review and approval of the DEQ Agreement Administrator.

Invoice payments will be sent to: Bureau of Portland Parks and Recreation, City of Portland, Attention: Travis Ruybal, 1001 SW 5th Avenue, Suite 2200, Portland, Oregon, 97204.


- 8. Travel and Travel Related Expenses** Travel and other expenses of the City will not be reimbursed by DEQ.
- 9. Amendments** The terms of this Agreement will not be waived, altered, modified, supplemented, or amended, in any manner whatsoever, except by written instrument signed by both parties.
- 10. Termination** This Agreement may be terminated by mutual consent of both parties or by either party upon 30 days written notice. This notice may be transmitted in person, by mail, facsimile or by Email. If this Agreement is terminated under this Section 10, DEQ will pay for approved unpaid invoices and services performed within any limits set forth in this Agreement.
- 11. Funds Available and Authorized** The City shall not be compensated for Work performed under this Agreement by any other agency or department of the State of Oregon. DEQ certifies that it has sufficient funds currently authorized for expenditure to finance the costs of this Agreement within the DEQ's current biennial appropriation or limitation. The City understands and agrees that DEQ's payment of amounts under this Agreement is contingent on DEQ receiving appropriations, limitations, allotments or other expenditure authority sufficient to allow DEQ, in the exercise of its reasonable administrative discretion, to continue to make payments under this Agreement.
- 12. Captions** The captions or headings in this Agreement are for convenience only and in no way define, limit or describe the scope or intent of any provisions of this Agreement.
- 13. Access to Records** The City will maintain all financial records relating to this Agreement in accordance with generally accepted accounting principles. In addition, The City will maintain any other records pertinent to this Agreement in such a manner as to clearly document the City's performance. The Oregon Secretary of State's Office and the federal government and their duly authorized representatives will have access to such financial records and other books, documents, papers, plans, records of shipments and payments and writings of the City that are pertinent to this Agreement, whether in paper, electronic or other form, to perform examinations and audits and make excerpts and transcripts. The City will retain and keep accessible all such financial records, books, documents, papers, plans, records of shipments and payments and writings for a minimum of six (6) years, or such longer period as may be required by applicable law, following final payment and termination of this Agreement, or until the conclusion of any audit, controversy or litigation arising out of or related to this Agreement, whichever date is later.
- 14. Compliance with Applicable Law** The City will comply with all federal, state and local laws, regulations, executive orders and ordinances applicable to the work performed under this Agreement. Without limiting the generality of the foregoing, the City expressly agrees to comply with the following laws, regulations and executive orders to the extent they are applicable to the Agreement: (i) Titles VI and VII of the Civil Rights Act of 1964, as amended; (ii) Sections 503 and 504 of the Rehabilitation Act of 1973, as amended; (iii) the Americans with Disabilities Act of 1990, as amended; (iv) Executive Order 11246, as amended; (v) the Health Insurance Portability and Accountability Act of 1996; (vi) the Age Discrimination in Employment Act of 1967, as amended, and the Age Discrimination Act of 1975, as amended; (vii) the Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended; (viii) ORS Chapter 659, as amended; (ix) all regulations and administrative rules established pursuant to the foregoing laws; and (x) all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations; and (xi) ORS 279A, ORS 279B, ORS 279C as applicable to the City. These laws, regulations and executive orders are incorporated by reference herein to the extent that they are applicable to the Agreement and required by law to be so incorporated.
- 15. Recycled Products** The City shall, to the maximum extent economically feasible in the performance of this Agreement, use recycled paper (as defined in ORS 279A.010(1)(ee)), recycled PETE products (as defined in ORS 279A.010(1)(ff)), and other recycled products (as "recycled product" is defined in ORS 279A.010(1)(gg)).
- 16. Contribution** If any third party makes any claim or brings any action, suit or proceeding alleging a tort as now or hereafter defined in ORS 30.260 ("Third Party Claim") against a party (the "Notified Party") with respect to which the other party ("Other Party") may have liability, the Notified Party must promptly notify the Other Party in writing of the Third Party Claim and deliver to the Other Party a copy of the claim, process, and all legal pleadings with respect to the Third Party Claim. Either party is entitled to participate in the defense of a Third Party Claim, and to defend a Third Party Claim with counsel of its own choosing. Receipt by the Other Party of the notice and copies required in this paragraph and meaningful opportunity for the Other Party to participate in the investigation, defense and settlement of the Third Party Claim with counsel of its own choosing are conditions precedent to the Other Party's liability with respect to the Third Party Claim.
With respect to a Third Party Claim for which the State is jointly liable with the City (or would be if joined in the Third Party Claim), the State shall contribute to the amount of expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred and paid or payable by the City in such proportion as is appropriate to reflect the relative fault of the State, on the one hand, and of the City, on the other hand, in connection with the events which resulted in such expenses, judgments, fines or settlement amounts, as well as any other relevant equitable considerations. The relative fault of the State, on the one hand, and of the City, on the other hand, shall be determined by reference to, among other things, the parties' relative intent, knowledge, access to information and opportunity to correct or prevent the circumstances resulting in such expenses, judgments, fines or settlement amounts. The State's contribution amount in any instance is capped to the same extent it would have been capped under Oregon law if the State had sole liability in the proceeding.

With respect to a Third Party Claim for which the City is jointly liable with the State (or would be if joined in the Third Party Claim), the City shall contribute to the amount of expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred and paid or payable by the State in such proportion as is appropriate to reflect the relative fault of the City, on the one hand, and of the State, on the other hand, in connection with the events which resulted in such expenses, judgments, fines or settlement amounts, as well as any other relevant equitable considerations. The relative fault of the City, on the one hand, and of the State, on the other hand, shall be determined by reference to, among other things, the parties' relative intent, knowledge, access to information and opportunity to correct or prevent the circumstances resulting in such expenses, judgments, fines or settlement amounts. The City's contribution amount in any instance is capped to the same extent it would have been capped under Oregon law if it had sole liability in the proceeding.

- 17. Indemnification by Subcontractors** The City shall take all reasonable steps to cause its contractor(s) that are not units of local government as defined in ORS 190.003, if any, to indemnify, defend, save and hold harmless the State of Oregon and its officers, employees and agents ("Indemnitee") from and against any and all claims, actions, liabilities, damages, losses, or expenses (including attorneys' fees) arising from a tort (as now or hereafter defined in ORS 30.260) caused, or alleged to be caused, in whole or in part, by the negligent or willful acts or omissions of the City's contractor or any of the officers, agents, employees or subcontractors of the contractor ("Claims"). It is the specific intention of the parties that the Indemnitee shall, in all instances, except for Claims arising solely from the negligent or willful acts or omissions of the Indemnitee, be indemnified by the contractor from and against any and all Claims.
- 18. Subcontractor Insurance Requirements** The City shall require its first tier contractor(s) that are not units of local government as defined in ORS 190.003, if any, to: i) obtain insurance specified in Exhibit B (Subcontractor Insurance Requirements) meeting the requirements described in Exhibit B under ADDITIONAL INSURED, "TAIL" COVERAGE, NOTICE OF CANCELLATION OR CHANGE, and CERTIFICATES OF INSURANCE before the contractors perform under contracts between the City and the contractors (the "Subcontracts"), and ii) maintain the insurance in full force throughout the duration of the Subcontracts. The insurance must be provided by insurance companies or entities that are authorized to transact the business of insurance and issue coverage in the State of Oregon and that are acceptable to Agency. The City shall not authorize contractors to begin work under the Subcontracts until the insurance is in full force. Thereafter, the City shall monitor continued compliance with the insurance requirements on an annual or more frequent basis. The City shall incorporate appropriate provisions in the Subcontracts permitting it to enforce contractor compliance with the insurance requirements and shall take all reasonable steps to enforce such compliance. Examples of "reasonable steps" include issuing stop work orders (or the equivalent) until the insurance is in full force or terminating the Subcontracts as permitted by the Subcontracts, or pursuing legal action to enforce the insurance requirements. In no event shall the City permit a contractor to work under a Subcontract when the County is aware that the contractor is not in compliance with the insurance requirements. As used in this section, a "first tier" contractor is a contractor with which the City directly enters into a contract. It does not include a subcontractor with which the contractor enters into a contract.
- 19. Federal Fund Requirements** Any recipient of federal grant funds, pursuant to this agreement with the State, shall assume sole liability for that recipient's breach of the conditions of the Grant, and shall, upon recipient's breach of grant conditions that requires the state to return funds to the federal grantor, hold harmless and indemnify the state for an amount equal to the funds received under this agreement; or if legal limitations apply to the indemnification ability of the recipient of grant funds, the indemnification amount shall be the maximum amount of funds available for expenditure, including any available contingency funds or other available non-appropriated funds, up to the amount received under this Agreement.
- 20. Alternative Dispute Resolution** The parties shall attempt in good faith to resolve any dispute arising out of this Agreement. This may be done at any management level, including at a level higher than persons directly responsible for administration of the Agreement. In addition, the parties may agree to utilize a jointly selected mediator or arbitrator (for non-binding arbitration) to resolve the dispute short of litigation.
- 21. Merger Clause** THIS AGREEMENT CONSTITUTES THE ENTIRE AGREEMENT BETWEEN THE PARTIES. NO WAIVER, CONSENT, MODIFICATION OR CHANGE OF TERMS OF THIS AGREEMENT SHALL BIND EITHER PARTY UNLESS IN WRITING AND SIGNED BY BOTH PARTIES. SUCH WAIVER, CONSENT, MODIFICATION OR CHANGE, IF MADE, SHALL BE EFFECTIVE ONLY IN THE SPECIFIC INSTANCE AND FOR THE SPECIFIC PURPOSE GIVEN. THERE ARE NO UNDERSTANDINGS, AGREEMENTS, OR REPRESENTATIONS, ORAL OR WRITTEN, NOT SPECIFIED HEREIN REGARDING THIS AGREEMENT. THE CITY, BY THE SIGNATURE BELOW OF ITS AUTHORIZED REPRESENTATIVE, HEREBY ACKNOWLEDGES THAT HE/SHE HAS READ THIS AGREEMENT, UNDERSTANDS IT AND AGREES TO BE BOUND BY ITS TERMS AND CONDITIONS.
- 22. Counterparts.** This Agreement may be executed in several counterparts, all of which when taken together shall constitute one agreement, notwithstanding that all parties are not signatories to the same counterpart. Each copy of the Agreement so executed constitutes an original.


THE PERSONS SIGNING THIS AGREEMENT REPRESENT AND WARRANT THAT THEY HAVE THE POWER AND AUTHORITY TO ENTER INTO THIS AGREEMENT.

Approved by City of Portland:


Kia Selley, Interim PP&R Director

8-20-18
Date

APPROVED AS TO FORM


CITY ATTORNEY 8/17/18

City Attorney

Date

Approved by DEQ:

Lydia Emer, Land Quality Division Administrator

Date

Richard Whitman, Director

Date

Index/PCA/Project

Mark Brown, Financial Services Manager

Date

Approved by the Oregon Dept. of Justice by separate document dated: 8/15/18

THE PERSONS SIGNING THIS AGREEMENT REPRESENT AND WARRANT THAT THEY HAVE THE POWER AND AUTHORITY TO ENTER INTO THIS AGREEMENT.


Approved by City of Portland:

Kia Selley, Interim PP&R Director _____ Date

City Attorney _____ Date

Approved by DEQ:

 8/17/18
Lydia Emer, Land Quality Division Administrator _____ Date

 FOR 8/17/18
Richard Whitman, Director _____ Date

41510-39377  8/17/18
Index/PCA/Project Mark Brown, Financial Services Manager _____ Date
sdc

Approved by the Oregon Dept. of Justice by separate document dated: 8/15/18

EXHIBIT A**STATEMENT OF WORK****1. Overview.**

The City will upgrade the landfill gas monitoring probes and the stormwater control system at the Cully Park/KFD Landfill site located at NE 72nd Avenue & Killingsworth, Portland, OR. The Work is a part of a larger construction project being undertaken by the City and its contractor to turn a Brownfield site into a 25-acre park in an underserved community. DEQ has agreed to reimburse the City with Solid Waste Orphan Site Account (SWOSA) funds for completing specific improvements to the landfill infrastructure intended to protect public health and safety and the environment. This Work involves modifications and upgrades to the existing landfill gas monitoring probe network and the stormwater control system including new dry wells and a stormwater conveyance and treatment swale and associated earthwork and site grading and submittal of the required documentation to DEQ at project completion. **The Work must be completed on or before June 15, 2019** in accordance with a detailed schedule provided to DEQ by the City.

2. Work, Deliverables and Schedule

The City will perform modifications and improvements to the existing landfill infrastructure per the techniques, timing, goals, and anticipated outcomes described as follows:

Task 1: The City will modify all landfill gas monitoring probes to eliminate the above-ground stick up and visibility of the probes. The probes are a potential attractive nuisance at a public park and are difficult to mow around or to perform other site maintenance around. In addition, many of the probes are damaged and in need of repair. The City will repair or replace any damaged or malfunctioning probes to ensure that the ongoing landfill gas monitoring program complies with requirements of the solid waste closure permit.

The City will provide final design and upgrades to the landfill gas monitoring probe network per the objectives, locations and preliminary design information described in the engineering memorandum (Memorandum) (Exhibit C). The Work includes but is not limited to:

- a. Project administration and final design for the decommissioning, replacement and modification of landfill gas monitoring probes,
- b. Excavation around and repair of damaged probes that do not require replacement. Ten (10) such probes assumed.
- c. Replacement of non-repairable gas monitoring probes. Three (3) such probes assumed. Surface details will be completed per the Memorandum.
- d. Modifications to existing gas monitoring probes as follows:
 - 1. Cut probes to grade, or as needed per the Memorandum, if the Option No. 3 design option is used for any probes.
 - 2. Remove existing steel security casings manhole cover
 - 3. Install new locking vault lid/covers (Option 1) or stainless steel enclosures (Option 3)
 - 4. Grade around probes and seal existing manhole exterior
 - 5. Install concrete pad around the gas probes
 - 6. Install number tag or plaque for each gas probe
 - 7. Restore grading, soils, erosion control measures and vegetation around areas disturbed by probe repair, replacement and modification work.

Note: Gas probes GP-6 and GP-24 are located in the community garden and will not be modified. Replacement probes to be installed and completed per final design documents prepared by the City and reviewed and approved by DEQ. The City will provide construction oversight for the probe upgrades as described in Task 4. If DEQ and the City determine that additional Work is required to complete Task 1, DEQ and the City must agree to the Work by written amendment.

Task 2: The City will replace the existing stormwater control system to comply with the City of Portland BDS standards for stormwater control via injection wells. The existing injection (dry) wells are located on Union Pacific Railroad right of way. As a result, the City has no guaranteed right of access for continued use of the injection wells or to perform operation and maintenance of the wells. The proposed stormwater improvements include a soil berm which will buttress and enhance the stability of the north slope, a steep potentially slide prone area, at the Cully Park/Killingsworth Fast Disposal landfill site.

The City will provide final design and construction modifications to the North Slope Stormwater control system, including perimeter grading, approximately 1,400 feet of conveyance/treatment swale and soil berm construction, modification of the north condensate sump, decommissioning the stormwater pipelines that feed the existing drywells and installation of two (2) new dry wells and associated conveyance piping. See the attached Drainage and Grading Plans (Exhibit D).

- Task 3** The City will restore soils and native-plant landscaping disturbed around the site perimeter as a result of Task 1 and 2 construction activities. Work authorized by this agreement does not include habitat restoration within north-slope habitat areas previously completed and funded by the DEQ Cleanup Program under the Columbia Slough Natural Resource Damage Grant project.
- Task 4** The City will provide construction quality assurance and construction oversight and will prepare the following updated engineering documents to reflect the Task 1 and Task 2 Work and associated modifications to the landfill gas monitoring probe network and to the north slope stormwater control system:
- a. An Addendum to the existing Preliminary Engineering Report.
 - b. An addendum to the Operation Maintenance and Monitoring Plan
 - c. Construction Completion Documents including As Built Drawings and a Final Construction Report.
- Task 5:** The City will provide project administration and project management oversight. In addition, the City will submit to DEQ a Final Project Summary Report within 6 months after completion of the above tasks no later than June 15, 2019. This report will contain but is not limited to a – e below. DEQ reserves the right to request the City to provide additional criteria. Any new criteria will be authorized by written amendment to this Agreement.
- a. Background of the Projects
 - b. Description of the work performed
 - c. Descriptions of any changes made to the original proposal
 - d. Lessons learned and recommendations for future projects
 - e. Before and After photos of the projects

EXHIBIT B**Subcontractor Insurance Requirements****WORKERS' COMPENSATION & EMPLOYERS' LIABILITY**

All employers, including Contractor, that employ subject workers, as defined in ORS 656.027, shall comply with ORS 656.017 and shall provide workers' compensation insurance coverage for those workers, unless they meet the requirement for an exemption under ORS 656.126(2). Contractor shall require and ensure that each of its subcontractors complies with these requirements. If Contractor is a subject employer, as defined in ORS 656.023, Contractor shall also obtain employers' liability insurance coverage with limits not less than \$500,000 each accident. If contractor is an employer subject to any other state's workers' compensation law, Contractor shall provide workers' compensation insurance coverage for its employees as required by applicable workers' compensation laws including employers' liability insurance coverage with limits not less than \$500,000 and shall require and ensure that each of its out-of-state subcontractors complies with these requirements.

COMMERCIAL GENERAL LIABILITY:

☒ Required ☐ Not required

Commercial General Liability Insurance covering bodily injury and property damage in a form and with coverage that are satisfactory to the Agency. This insurance shall include personal and advertising injury liability, products and completed operations, contractual liability coverage for the indemnity provided under this contract, and have no limitation of coverage to designated premises, project, or operation. Coverage shall be written on an occurrence basis in an amount of not less than \$2,000,000 per occurrence. Annual aggregate limit shall not be less than \$4,000,000.

AUTOMOBILE LIABILITY INSURANCE:

☒ Required ☐ Not required

Automobile Liability Insurance covering Contractor's business use including coverage for all owned, non-owned, or hired vehicles with a combined single limit of not less than \$1,000,000 for bodily injury and property damage. This coverage may be written in combination with the Commercial General Liability Insurance (with separate limits for Commercial General Liability and Automobile Liability). Use of personal automobile liability insurance coverage may be acceptable if evidence that the policy includes a business use endorsement is provided.

PROFESSIONAL LIABILITY:

☒ Required ☐ Not required

Professional Liability insurance covering any damages caused by an error, omission or any negligent acts related to the services to be provided under the Subcontract by the Contractor and Contractor's subcontractors, agents, officers or employees in an amount not less than \$2,000,000 per occurrence. Annual aggregate limit shall not be less than \$4,000,000. If coverage is on a claims made basis, then either an extended reporting period of not less than 24 months shall be included in the Professional Liability insurance coverage, or the Contractor shall provide Tail Coverage as stated below.

POLLUTION LIABILITY:

☒ Required ☐ Not required

Pollution Liability Insurance covering Contractor's liability for bodily injury, property damage and environmental damage resulting from sudden accidental and gradual pollution and related cleanup costs incurred by Contractor, all arising out of the Goods delivered or Services (including transportation risk) performed under this Subcontract is required. Combined single limit per occurrence shall not be less than \$1,000,000. Annual aggregate limit shall not be less than \$2,000,000.

An endorsement to the Commercial General Liability or Automobile Liability policy, covering Contractor's liability for bodily injury, property damage and environmental damage resulting from sudden accidental and gradual pollution and related clean-up cost incurred by the Contractor that arise from the Goods delivered or Services (including transportation risk) performed by Contractor under this Subcontract is also acceptable.

EXCESS/UMBRELLA INSURANCE:

A combination of primary and excess/umbrella insurance may be used to meet the required limits of insurance.

ADDITIONAL COVERAGE REQUIREMENTS:

Contractor's insurance shall be primary and non-contributory with any other insurance. Contractor shall pay for all deductibles, self-insured retention and self-insurance, if any.

ADDITIONAL INSURED:

The Commercial General Liability insurance and Automobile liability insurance required under the Subcontract must include an additional insured endorsement specifying the State of Oregon, its officers, employees and agents as Additional Insureds, including additional insured status with respect to liability arising out of ongoing operations and completed operations, but only with respect to Contractor's activities to be performed under this Subcontract. Coverage shall be primary and non-contributory with any other

insurance and self-insurance. The Additional Insured endorsement with respect to liability arising out of Contractor's ongoing operations must be on ISO Form CG 20 10 07 04 or equivalent and the Additional Insured endorsement with respect to completed operations must be on ISO form CG 20 37 04 13 or equivalent.

TAIL COVERAGE:

If any of the required insurance is on a claims made basis and does not include an extended reporting period of at least 24 months, Contractor shall maintain either tail coverage or continuous claims made liability coverage, provided the effective date of the continuous claims made coverage is on or before the effective date of this Subcontract, for a minimum of 24 months following the later of (i) Contractor's completion and Local Government's acceptance of all Services required under this Subcontract, or, (ii) The expiration of all warranty periods provided under this Subcontract.

CERTIFICATE(S) AND PROOF OF INSURANCE:

Local Government shall obtain from the Contractor a Certificate(s) of Insurance for all required insurance before delivering any Goods and performing any Services required under this Contract. The Certificate(s) shall list the State of Oregon, its officers, employees and agents as a Certificate holder and as an endorsed Additional Insured. If excess/umbrella insurance is used to meet the minimum insurance requirement, the Certificate of Insurance must include a list of all policies that fall under the excess/umbrella insurance. As proof of insurance Agency has the right to request copies of insurance policies and endorsements relating to the insurance requirements in this Contract.

NOTICE OF CHANGE OR CANCELLATION:

The Contractor or its insurer must provide at least 30 days' written notice to Local Government before cancellation of, material change to, potential exhaustion of aggregate limits of, or non-renewal of the required insurance coverage(s).

INSURANCE REQUIREMENT REVIEW:

Contractor agrees to periodic review of insurance requirements by Agency under this agreement and to provide updated requirements as mutually agreed upon by Contractor and Local Government.

STATE ACCEPTANCE:

All insurance providers are subject to Agency acceptance. If requested by Agency, Contractor shall provide complete copies of insurance policies, endorsements, self-insurance documents and related insurance documents to Agency's representatives responsible for verification of the insurance coverages required under this Exhibit B.

TECHNICAL MEMORANDUM

TO: Ron White, Probity Builders

FROM: Neil Pietrok, P.E.

DATE: January 12, 2018/*Revised May 15 and July 10, 2018 (revisions in italics)*

RE: Cully Park/Killingsworth Fast Disposal (KFD) Landfill Perimeter Gas Monitoring Probes modifications.

Background

The Killingsworth Fast Disposal Landfill was designed in 1979. The landfill has a bottom liner, a leachate collection system, a landfill gas collection system, and a landfill cap or cover. The closed landfill is being converted to Cully Park. The perimeter of the landfill is ringed with monitoring probes. These probes are used to monitor the migration of gas from the site. The landfill closure permit (Permit number: 1204) states in section 9.10 Specific Post-Closure Operating Conditions: Landfill Gas control System Maintenance, "The Permittee must operate and maintain the landfill gas control and monitoring systems in good working order to prevent methane migration,..."

The landfill is being converted to Cully Park and the perimeter gas monitoring probes (or gas probes, GP-#) are an eyesore and possible "attractive nuisance" with the public having access to the park. The probes stick up above ground and are also difficult to mow around. The purpose of this memorandum is to offer some options for modifying the probes to minimize their visibility to the public and reduce maintenance concerns.



Photo 1: GP 1, typical well at perimeter of park.



**Photo 2: GP-7, grading and erosion control around probes,
This well will be near and drainage channel at park completion.**

Existing Conditions

The existing probes are in a 6 or 8-inch steel casing pipe that sticks up above the ground approximately 3 feet. Some of the probes appear to have a small concrete pad at the original ground level. The probes are capped with a steel cap that locks to the casing. There has been some minor grading around most of the probes, but since the probes are around the perimeter of the site, the grades haven't changed significantly. The center area of the site has been raised to accommodate the playground, play fields and other park features; as a result the storm water runoff towards the probes has increased. However, this will lessen as the park vegetation is established and finish grading better defines storm water channels.

On March 15, 2018, I met with Jeremy Kirby and Michael Guebert of Metro to discuss the status of some of the gas probes on the north side of the landfill. Jeremy Kirby forwarded an email to me documenting probes (or probes) that are in the landfill material. Probes GP-13, GP-15, GP-16, GP-17, and GP-19 are in waste material and therefore not giving accurate data as a perimeter probe monitoring gas migration. There are additional probes on the south side of the landfill that are suspected of being in waste material, but the boring records for those probes have not been found. The well logs for the above probes are attached in Attachment D.

A follow up memorandum from Metro (June 19, 2018) noted the conditions of some of the probes:

GP 1: Single depth probe. Broken near the top of screen, plugged with dirt. This is a possible remnant of the gas collection system (located near GP 21 s/d). Needs to be properly decommissioned. Previously buried by blackberries.



GP2: This is a single depth probe, very close to the property fence, and casing has a slight lean from being hit by machinery a long time ago, but the PVC is not bent.

GP9: Single depth probe. Older style with drilled holes instead of screen. The PVC appears fine, but the casing anchored in the concrete footing can move easily. It will likely need to be shored up, otherwise it could fall down the slope.

GP10: Single depth probe. The PVC appears fine, then ends with dirt. No screen is visible. When purging this probe for monitoring, it quickly builds up vacuum, like a deadhead. Remove or replace?

GP-13, -15, -16, -17, and -19: Appear to have been drilled through landfill material. GP-13 is the only one of the 5 where the shallow screened interval (5-9' bgs) was not installed in landfill material. Deep screened intervals all appear to be in native soils.

GP14: Double depth probe. The casing leans due to a bump by machinery a long time ago. The PVC is bent near the bottom of the casing, but appears unbroken all the way to the screen bottom. Will likely need to dig down to bend in pvc to repair.

GP20s/d: Double depth probe. The casing leans due to a recent bump by machinery. The PVC is bent near the bottom of the casing, but appears unbroken all the way to the screen bottom. Will likely need to dig down to bend in PVC to repair.

GP 21s/d: Double depth probe. The casing leans due to a recent bump by machinery. The PVC is bent near the bottom of the casing, but appears unbroken all the way to the screen bottom of GP 21 D (I could not get camera past the bend in GP21 S). Will likely need to dig down to bend in PVC to repair.

GP22s/d: Double depth probe. PVC appears fine all the way to the screen bottom. The concrete footing anchoring the casing is cracked from being recently bumped by machinery. Perhaps the concrete can be repaired.

Proposed Changes

Changes include reducing the visual impact of the probes, abandoning some probes, and repairing some probes. Replacement of some probes may be required and will be noted but costs for well replacement are outside of the scope of this memorandum. The three proposed options to modify the probes and lessen the height and visual impact of the probes are as follows. In addition, two of the options make it easier to mow around or over the probes.

- Option 1: Cut the well off ~~at approximately 12" above ground level~~ or remove the casing and add fill around the well to bring the grade closer to the top of the well; pour a 2'x2' concrete pad around the rim of the well; add fill to the surrounding area to smooth out the ground for mowing, lock the cap of the well with a monitoring well cap.



Photo 3: Typical Monitoring well cap.

- Option 2: Cut the well off ~~at approximately 12" above ground level~~ and/or add fill around the well to bring the grade up to the well level; place a lockable irrigation box over the well; add fill to the surrounding area to smooth out the ground for mowing.



Photo 4: Typical "irrigation" or "valve" box being used at Cully Park

- Option 3: Cut the well off at approximately 18" ~~to 24"~~ above ground; replace the locking cap; place a stainless steel control box or *water test station box* over the well to secure it, but also, make it visible to mowers.



Photos 5 and 6: Stainless steel valve control box and Water Test Station cover box.

Pros, Cons, and Justifications for Probe Cover Replacement

Option 1: By making the well heads flush mounted a mower could pass over them. Flush mount would be secure and not attract attention of the public. The cost for concrete and the extra fill is higher than the other two options. The pad and well head would need to be above the surrounding ground to prevent water ponding over the well and causing water intrusion. Fill material is available on site and could be used to keep the well above the surrounding grade. The concrete pad is needed to stabilize the well casing and avoid settlement that could occur. If settlement occurred around an unprotected well head a mower blade might hit it and damage it. This option may not be viable where the well heads are in or near a drainage that has side slope. ~~The size of the impacted area with pad and grading could be as large as 14' x 14'.~~ *The size of the impacted area will depend on the amount of fill needed around each wellhead.* Testing the well head is more difficult at ground level, especially in the wet weather.



Option 2: By making the well heads/valve box flush mounted a mower could pass over them. Flush mount would be secure. There are many valve boxes around the site so this option would not stand out to the public. The valve box and well head would need to be above the surrounding ground to prevent water ponding over the well and causing water intrusion. During the wet season, the valve box will most likely have water in it. A Valve box would most likely settle with the surrounding ground to a point. Once the top of the valve box settles onto the top of the steel well casing, it would not settle and soil may need to be placed around the valve boxes to maintain grade. This option may not be viable where the well heads are in or near a drainage that has side slope. ~~The size of the impacted area with grading could be as large as 11' x 11'.~~ The size of the impacted area will depend on the amount of fill needed around the well. Testing the well head is more difficult at ground level, especially in the wet weather.

Option 3: Option 3 would secure the well head and make it visible to mowers when mowing taller grass. Mowing around these boxes would be difficult and string trimming may be needed to keep the grass and vegetation down. These control boxes do attract climbing vines and plants such as Himalayan Blackberry. The intent of this option is to be similar to other stainless steel control boxes at the site to lessen its conspicuousness to the public. Water ponding or intrusion would not be an issue with this option. This option has the least ground area impact and could be placed in or near water channels.

Conclusions

Option 1 is the most secure and easiest to maintain around, however, Option 3 may be needed in areas where the probes are in drainage channels. Based on the attached map, it appears that approximately 14 or more of the probes could be Option 1, while the remaining 8 well may need to be Option 2 or 3.

UPDATE: After reviewing the technical memorandum with the stakeholders in a meeting on March 9, 2018, Options 1 and 3 appear the most feasible with minor modifications. Adding fill around the wellheads to offset the amount of well head that needs to be cut off has been included in the memorandum. Some of the steel casing may be removed around the well for those probes that will be brought down to existing ground level. By placing fill around the probes and adjusting the finish elevation, the concrete pad for Option 1 will be reduced in size. After the meeting, we viewed each well and determined which Option would be best for each. The following table summarizes our findings.

Based on the follow up conversation and data collected at my meeting on March 15, 2018 with Metro (see summary under "Existing Conditions"), the probes GP-13, GP-15, GP-16, GP-17 and GP-19 are in the waste portion of the landfill. The intent of the Gas Probes is to monitor gas migration offsite. Therefore, the probes that are in the waste do not provide data to support or track gas migration. The conclusion of this report is that these probes should be abandoned as they do not provide useful data.



| Probe Id | Completion | Option | Comments/Additional Probe Repairs Needed |
|----------|------------------------------|--------|---|
| GP-1 | Single probe ¹ | 1 | Repair or replace probe based on Metro Memo damaged probe. |
| GP-2 | Single probe ¹ | 3 | Option No. 1 possible with grading. Repair Damaged probe. Verify PVC is intact. |
| GP-5 | Single probe ¹ | 3 | Option No. 1 possible with grading |
| GP-6 | Single probe ¹ | -- | No modification needed |
| GP-7 | Single probe ¹ | 3 | Option No. 1 possible with grading |
| GP-8 | Single probe ¹ | 3 | Option No. 1 possible with grading, probe not shown On drawing (located between GP-7 and GP-9) |
| GP-9 | Single probe ¹ | 3 | Option No. 1 possible with grading. Verify that remaining casing is stable. |
| GP-10 | Single probe ¹ | 3 | Option No. 1 possible with grading. Clean dirt out of probe and test. Possibly replace if cannot be repaired. |
| GP-11 | Single probe ¹ | 1 | |
| GP-12 | Dual completion ² | 1 | |
| GP-13 | Dual completion ² | 1 | Retain as detection probe |
| GP-14 | Dual completion ² | 1 | Repair PVC. |
| GP-15 | Dual completion ² | 1 | Retain as detection probe |
| GP-16 | Dual completion ² | 1 | Retain as detection probe |
| GP-17 | Dual completion ² | 1 | Retain as detection probe |
| GP-18 | Dual completion ² | 1 | |
| GP-19 | Dual completion ² | 1 | Retain as detection probe |
| GP-20 | Dual completion ² | 3 | Option No. 1 possible with grading. Repair PVC. |
| GP-21 | Dual completion ² | 3 | Option No. 1 possible with grading. Repair PVC. |
| GP-22 | Dual completion ² | 3 | Option No. 1 possible with grading. Verify casing is intact. |

| | | | |
|-------|------------------------------|----|------------------------------------|
| GP-23 | Dual completion ² | 3 | Option No. 1 possible with grading |
| GP-24 | Dual completion ² | -- | No modification needed |
| GP-25 | Dual completion ² | 1 | |
| GP-26 | Dual completion ² | 1 | |

Notes:

1. One gas monitoring probe in the borehole
2. Two gas monitoring probes in the same borehole

A cost estimate has been added to Attachment C reflecting the cost base on the cover options chosen in the above table. A contingency has also been added to reflect that each probe may need field modifications during construction. Additional costing information will be available separately from the installation contractor.

Recommendations

The following are recommendations for each probe

1. GP-1:
 - a. Abandon the existing probe.
 - b. Install new probe and casing at same location.
 - c. Install flush mounted cap per Option 1 with grading.
2. GP-2; GP-20; GP-21:
 - a. Remove casing and repair PVC pipe by excavating cutting existing PVC pipe below bend and coupling a new piece of PVC pipe. Verify screen is intact.
 - b. Re-install casing per new cap under item C.
 - c. Install above ground Stainless Steel Water Test station box with concrete collar per Option 3, including grading.
3. GP-5; GP-7; GP-8; GP23: Install above ground Stainless Steel Water Test station box with concrete collar per Option 3, including grading.
4. GP-6; GP-24: No modifications needed. Probes located in community garden.
5. GP-9; GP-22:
 - a. Remove collar around existing casing and adjust for new cover under item b. below.
 - b. Install above ground Stainless Steel Water Test station box with concrete collar per Option 3, including grading.
 - c. Install additional concrete collar (6" deep, 24" diameter) below concrete pad for cover to ensure casing is stable.
6. GP-10:
 - a. Abandon the existing probe.



- b. Install new probe and casing at existing location.
 - c. Install above ground Stainless Steel Water Test station box with concrete collar per Option 3, including grading.
- 7. GP-11; GP-12; GP-18; GP-25; GP-26: Install flush mounted cap per Option 1 with grading.
- 8. GP-13; GP-15; GP-16; GP-17; GP-19:
 - a. These probes will be retained as "Detection Probes" defined as: Monitoring probes used for methane detection and tracking, not for nor intended to meet compliance levels. These probes' labels and definition should be included in the KFD O&M or Monitoring plans as a part of the post closure report for the landfill.
 - b. Install flush mounted cap per Option 1 with grading.
- 9. GP-14:
 - a. Remove casing and repair PVC pipe by excavating cutting existing PVC pipe below bend and coupling a new piece of PVC pipe. Verify screen is intact.
 - b. Install flush mounted cap per Option 1 with grading.

ATTACHMENTS

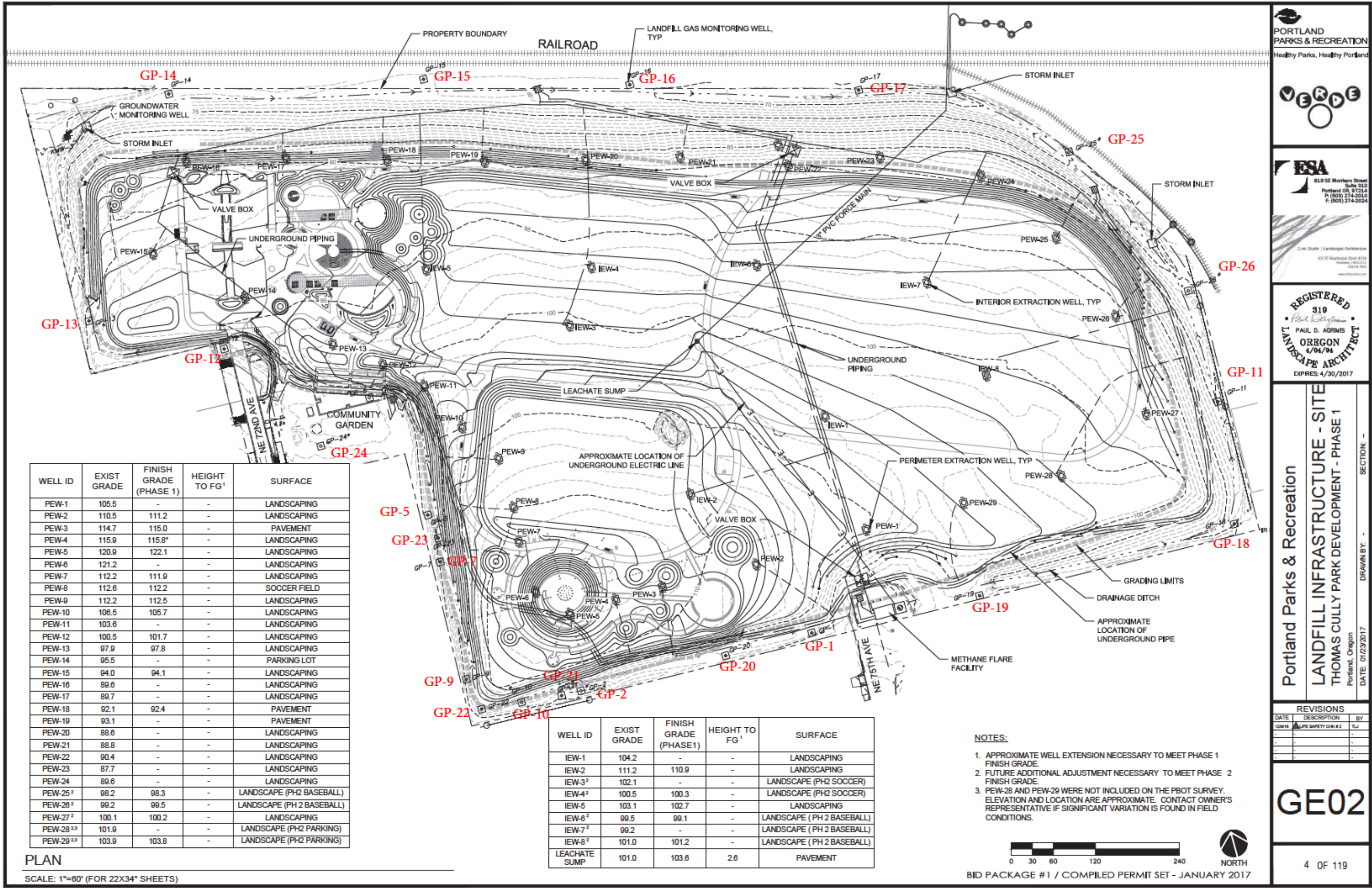
- A. Sheet GE02 from the Cully Park Plans showing the probes
- B. Option Details
- C. Magnitude of Order Cost Estimates
- D. Well logs for GP-13, GP-15, Gp-16, GP17, and GP-19

Appendix

Appendix 1: Condensate Sump Modifications



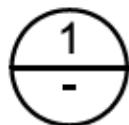
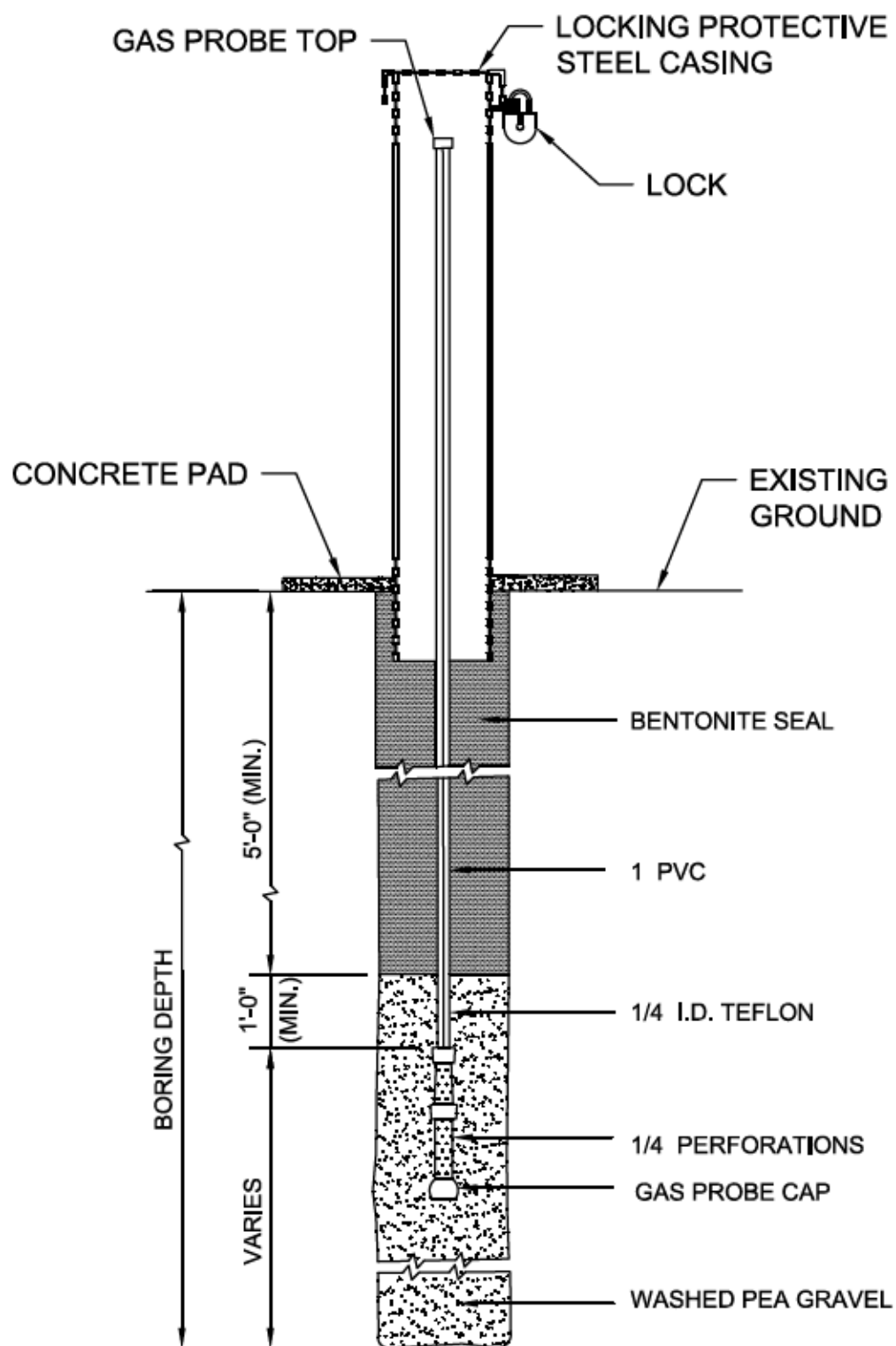
ATTACHMENT A: Sheet GE02 from the Cully Park Plans



| REVISIONS | | | |
|-----------|--------------------|-----|--|
| DATE | DESCRIPTION | BY | |
| 12/8/16 | ADDITIONAL CHANGES | TLJ | |
| | | | |
| | | | |
| | | | |

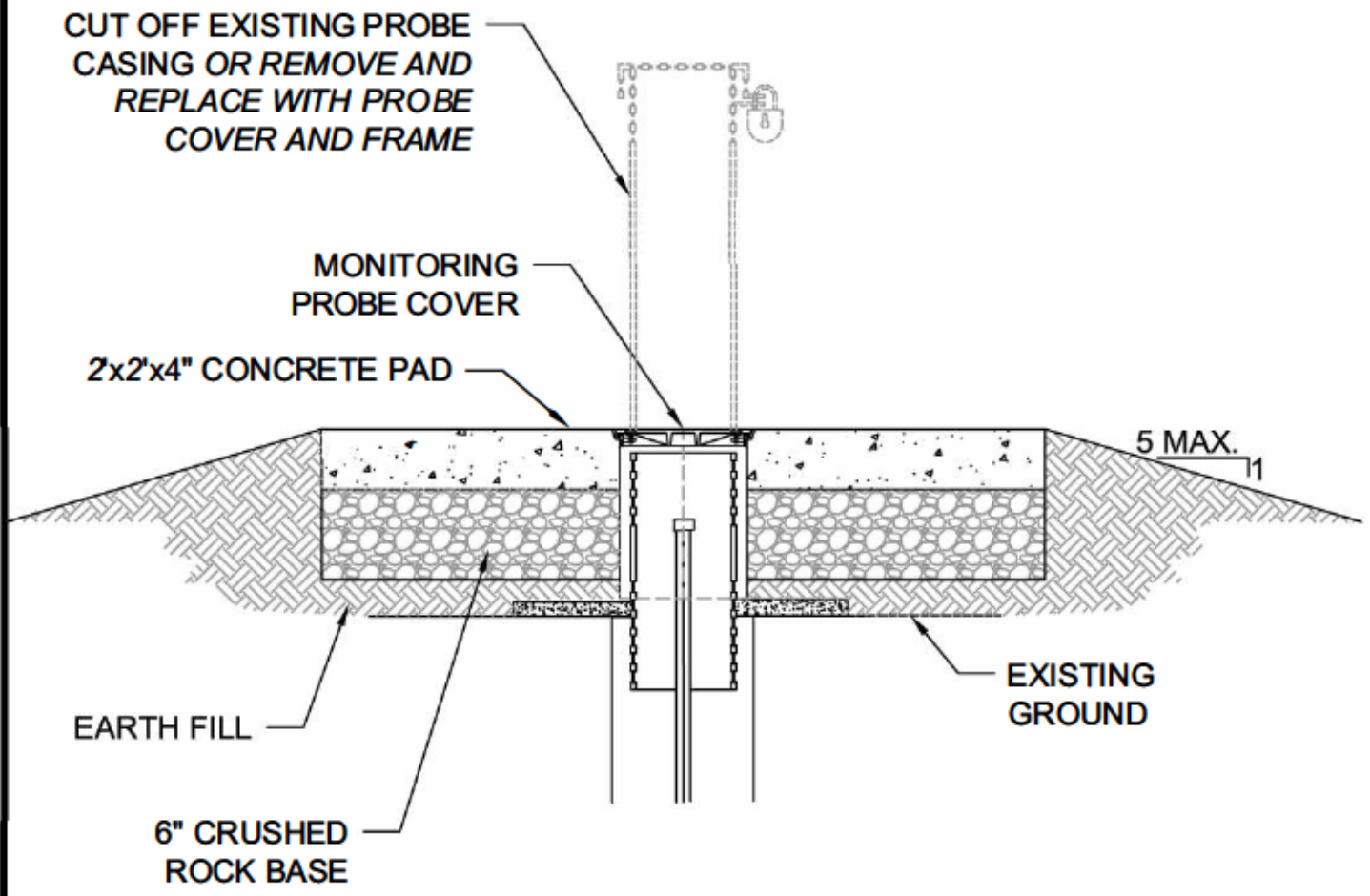


ATTACHMENT B: Option Details



TYPICAL LANDFILL GAS PROBE

NO SCALE



2
-

OPTION 1: FLUSH MOUNT PROBE WITH STEEL CAP

NO SCALE

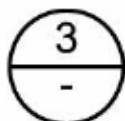
CUT OFF EXISTING PROBE
CASING APPROX. 12" ABOVE
THE GROUND

LOCKING, VALVE BOX

5 MAX. 11

EARTH FILL

EXISTING
GROUND



OPTION 2: FLUSH MOUNT PROBE IN VALVE BOX

NO SCALE

CUT OFF EXISTING PROBE
CASING APPROX. 12" TO 18"
ABOVE THE GROUND
OR 6" BELOW TOP OF
NEW ENCLOSURE.

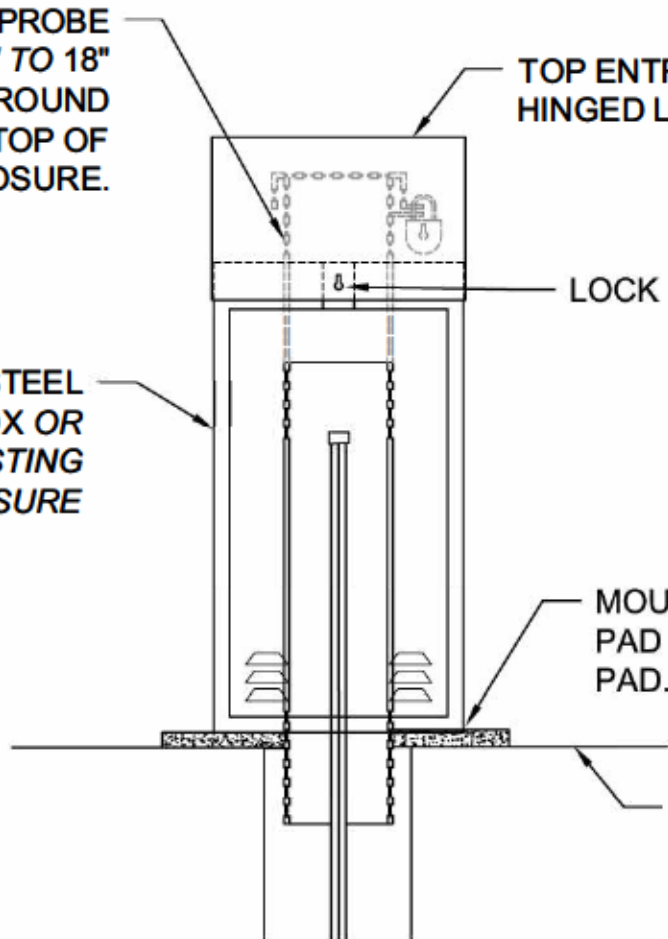
TOP ENTRY,
HINGED LID

LOCK

STAINLESS STEEL
CONTROL BOX OR
WATER TESTING
STATION ENCLOSURE

MOUNT ON EXISTING
PAD OR POUR NEW
PAD.

EXISTING
GROUND



OPTION 3: GAS PROBE IN SS ENCLOSURE

NO SCALE



ATTACHMENT C: Cost Estimates

Rough Order of Magnitude Cost Estimate

15-Jan-18

Cully Park Gas Monitoring Probe Modifications OPTION 1: Flush Mount with Probe Cap

NOTE: Cost is per Monitoring Probe

| NO. | ITEM | UNIT | Crew | Mat. | Lab. | Equip. | UNIT PRICE + O&P | ESTIMATED QUANTITY | TOTAL PRICE* |
|-------------------------|-----------------------------|------|------|-----------|-----------|-----------|---------------------|-----------------------|--------------------|
| 1 | Mobilization/Demobilization | LS | | | | | \$ 530.00 | 1 | \$ 600.00 |
| 2 | Cutting Monitoring Probe | Ea | B-6 | \$ - | \$ 250.00 | \$ 300.00 | \$ 786.50 | 1 | \$ 800.00 |
| 3 | Concrete Pad | CY | | \$ 175.00 | \$ 150.00 | \$ 5.00 | \$ 504.90 | 1 | \$ 600.00 |
| 4 | 6" layer crushed rock | CY | | \$ 65.00 | \$ 150.00 | \$ 25.00 | \$ 264.00 | 1 | \$ 300.00 |
| 5 | Earth Fill and Grading | CY | | \$ - | \$ 225.00 | \$ 50.00 | \$ 310.75 | 10 | \$ 3,200.00 |
| 6 | Monitoring Probe Cap | Ea | | \$ 200.00 | \$ 65.00 | \$ 5.00 | \$ 305.10 | 1 | \$ 400.00 |
| Capital Cost in 2017 \$ | | | | | | | | | <u>\$ 5,900.00</u> |

* For this ROM estimate all numbers are rounded up to the nearest hundred.

Rough Order of Magnitude Cost Estimate

15-Jan-18

Cully Park Gas Monitoring Probe Modifications OPTION 2: Flush Mount with Valve Box

NOTE: Cost is per Monitoring Probe

| NO. | ITEM | UNIT | Crew | Mat. | Lab. | Equip. | UNIT PRICE + O&P | ESTIMATED QUANTITY | TOTAL PRICE* |
|--------------------------------|------------------------------|------|------|-----------|-----------|-----------|---------------------|-----------------------|--------------------|
| 1 | Mobilization/Demobilization | LS | | | | | \$ 460.00 | 1 | \$ 500.00 |
| 2 | Cutting Monitoring Probe | Ea | B-6 | \$ - | \$ 250.00 | \$ 300.00 | \$ 786.50 | 1 | \$ 800.00 |
| 3 | Concrete Pad | CY | | \$ 175.00 | \$ 150.00 | \$ 5.00 | \$ 504.90 | - | \$ - |
| 4 | Crushed Rock under valve box | CY | | \$ 65.00 | \$ 150.00 | \$ 25.00 | \$ 264.00 | 1 | \$ 300.00 |
| 5 | Earth Fill and Grading | CY | | \$ - | \$ 225.00 | \$ 50.00 | \$ 310.75 | 10 | \$ 3,200.00 |
| 6 | Valve Box | Ea | | \$ 180.00 | \$ 65.00 | \$ 5.00 | \$ 282.50 | 1 | \$ 300.00 |
| Capital Cost in 2017 \$ | | | | | | | | | \$ 5,100.00 |

* For this ROM estimate all numbers are rounded up to the nearest hundred.

Rough Order of Magnitude Cost Estimate

15-Jan-18

Cully Park Gas Monitoring Probe Modifications OPTION 3: Cover Well with SS Enclosure

NOTE: Cost is per Monitoring Probe

| NO. | ITEM | UNIT | Crew | Mat. | Lab. | Equip. | UNIT PRICE + O&P | ESTIMATED QUANTITY | TOTAL PRICE* |
|--------------------------------|------------------------------|------|------|-------------|-----------|-----------|---------------------|-----------------------|--------------------|
| 1 | Mobilization/Demobilization | LS | | | | | \$ 800.00 | 1 | \$ 800.00 |
| 2 | Cutting Monitoring Well | Ea | B-6 | \$ - | \$ 250.00 | \$ 300.00 | \$ 786.50 | 1 | \$ 800.00 |
| 3 | Concrete Pad | CY | | \$ 175.00 | \$ 150.00 | \$ 5.00 | \$ 504.90 | - | \$ - |
| 4 | Crushed Rock under valve box | CY | | \$ 65.00 | \$ 150.00 | \$ 25.00 | \$ 264.00 | - | \$ - |
| 5 | Earth Fill and Grading | CY | | \$ - | \$ 225.00 | \$ 50.00 | \$ 310.75 | 2 | \$ 700.00 |
| 6 | SS Enclosure | Ea | | \$ 5,500.00 | \$ 225.00 | \$ 5.00 | \$ 6,474.90 | 1 | \$ 6,500.00 |
| Capital Cost in 2017 \$ | | | | | | | | | \$ 8,800.00 |

* For this ROM estimate all numbers are rounded up to the nearest hundred.

Rough Order of Magnitude Cost Estimate

11-Mar-18

Cully Park Gas Monitoring Probes Modifications Total Costs All Probes

Note: Probe options were determined at a site visit on March 9, 2018

| NO. | ITEM | Option | | | | | UNIT PRICE + O&P | ESTIMATED QUANTITY | TOTAL PRICE* |
|-----|-------|--------|--|--|--|--|-------------------------|-----------------------|-------------------|
| 1 | GP-1 | 1 | | | | | \$ 5,900.00 | 1 | \$ 5,900.00 |
| 2 | GP-2 | 3 | | | | | \$ 8,800.00 | 1 | \$ 8,800.00 |
| 3 | GP-5 | 3 | | | | | \$ 8,800.00 | 1 | \$ 8,800.00 |
| 4 | GP-6 | — | | | | | \$ - | 0 | \$ - |
| 5 | GP-7 | 3 | | | | | \$ 8,800.00 | 1 | \$ 8,800.00 |
| 6 | GP-8 | 3 | | | | | \$ 8,800.00 | 1 | \$ 8,800.00 |
| 7 | GP-9 | 3 | | | | | \$ 8,800.00 | 1 | \$ 8,800.00 |
| 8 | GP-10 | 3 | | | | | \$ 8,800.00 | 1 | \$ 8,800.00 |
| 9 | GP-11 | 1 | | | | | \$ 5,900.00 | 1 | \$ 5,900.00 |
| 10 | GP-12 | 1 | | | | | \$ 5,900.00 | 1 | \$ 5,900.00 |
| 11 | GP-13 | 1 | | | | | \$ 5,900.00 | 1 | \$ 5,900.00 |
| 12 | GP-14 | 1 | | | | | \$ 5,900.00 | 1 | \$ 5,900.00 |
| 13 | GP-15 | 1 | | | | | \$ 5,900.00 | 1 | \$ 5,900.00 |
| 14 | GP-16 | 1 | | | | | \$ 5,900.00 | 1 | \$ 5,900.00 |
| 15 | GP-17 | 1 | | | | | \$ 5,900.00 | 1 | \$ 5,900.00 |
| 16 | GP-18 | 1 | | | | | \$ 5,900.00 | 1 | \$ 5,900.00 |
| 17 | GP-19 | 1 | | | | | \$ 5,900.00 | 1 | \$ 5,900.00 |
| 18 | GP-20 | 3 | | | | | \$ 8,800.00 | 1 | \$ 8,800.00 |
| 19 | GP-21 | 3 | | | | | \$ 8,800.00 | 1 | \$ 8,800.00 |
| 20 | GP-22 | 3 | | | | | \$ 8,800.00 | 1 | \$ 8,800.00 |
| 21 | GP-23 | 3 | | | | | \$ 8,800.00 | 1 | \$ 8,800.00 |
| 22 | GP-24 | — | | | | | \$ - | 0 | \$ - |
| 23 | GP-25 | 1 | | | | | \$ 5,900.00 | 1 | \$ 5,900.00 |
| 24 | GP-26 | 1 | | | | | \$ 5,900.00 | 1 | \$ 5,900.00 |
| | | | | | | | Contingency 20% | | \$ 31,800.00 |
| | | | | | | | Capital Cost in 2017 \$ | \$ | <u>190,600.00</u> |

Note: During the site visit on March 9, 2018, it was determined that Monitoring Probes GP-6 and GP-22 do not need to be modified as they are in the community garden.



**ATTACHMENT D: Well Logs for GP-13, GP-15,
GP-16, GP-17, and GP-19**

LOG OF EXPLORATORY BORING

PROJECT NAME Killingsworth Landfill
 LOCATION Reidel/DEQ
 DRILLED BY Cascade Drilling, Inc.
 DRILL METHOD Air Rotary
 LOGGED BY S. Richards

BORING NO. GP-13
 PAGE 1 OF 4
 GROUND ELEV.
 TOTAL DEPTH 59.11'
 DATE COMPLETED 07/22/97

| SAMPLE NUMBER | GROUND WATER LEVELS | DEPTH IN FEET | SAMPLES | WELL DETAILS | LITHOLOGIC COLUMN | LITHOLOGIC DESCRIPTION |
|------------------|---------------------------|------------------|---------|-----------------|----------------------|---|
| | | | | | | 0 to 3.0 feet: GRAVEL PAD BUILT FOR DRILL RIG. |
| | | | | | | 3.0 to 5.0 feet: SILT (ML); brown; loose; moist. (TOPSOIL) |
| | | 5 | | | | 5.0 to 10.0 feet: GRAVEL (GM); dark brown to gray; 3/4-inch minus aggregate; 15 to 20 percent fines; medium dense; moist. |
| | | 10 | | | | 10.0 to 20.0 feet: WOOD WASTE AND DEBRIS; black; some organic odors. |
| | | 15 | | | | |
| | | 20 | | | | |

REMARKS



EMCON

LOG OF EXPLORATORY BORING

PROJECT NAME Killingsworth Landfill
 LOCATION Reidel/DEQ
 DRILLED BY Cascade Drilling, Inc.
 DRILL METHOD Air Rotary
 LOGGED BY S. Richards

BORING NO. GP-15
 PAGE 1 OF 4
 GROUND ELEV.
 TOTAL DEPTH 54.10'
 DATE COMPLETED 07/17/97

| SAMPLE NUMBER | GROUND WATER LEVELS | DEPTH IN FEET | SAMPLES | WELL DETAILS | LITHOLOGIC COLUMN | LITHOLOGIC DESCRIPTION |
|------------------|---------------------------|------------------|---------|-----------------|----------------------|---|
| | | | | | | 0 to 2.0 feet: SILT (ML); brown; loose; moist. (TOPSOIL) |
| | | 5 | | | | 2.0 to 15.0 feet: WOOD AND PAPER DEBRIS, ORGANICS; black; loose; hydrocarbon odor. (FILL) FID reading: 23. |
| | | 10 | | | | |
| | | 15 | | | | 15.0 to 18.0 feet: CLAY (CL); less than 5 percent 1/4-inch minus gravel; some paper and wood debris; medium dense; moist. |
| | | | | | | 18.0 to 20.0 feet: SANDY SILT (ML); brown; 15 to 20 percent 1/4-inch minus gravel; paper and wood debris. |
| | | 20 | | | | |

REMARKS



EMCON

LOG OF EXPLORATORY BORING

PROJECT NAME Killingsworth Landfill
 LOCATION Reidel/DEQ
 DRILLED BY Cascade Drilling, Inc.
 DRILL METHOD Air Rotary
 LOGGED BY S. Richards

BORING NO. GP-16
 PAGE 1 OF 3
 GROUND ELEV. 40.00'
 TOTAL DEPTH 40.00'
 DATE COMPLETED 07/17/97

| SAMPLE NUMBER | GROUND WATER LEVELS | DEPTH IN FEET | SAMPLES | WELL DETAILS | LITHOLOGIC COLUMN | LITHOLOGIC DESCRIPTION |
|------------------|---------------------------|------------------|---------|-----------------|----------------------|--|
| | | | | | | 0 to 2.0 feet: SILTY SAND WITH CLAY LENSES; dark brown; 70 percent sand; 30 percent silt, red clay; stiff; moist. |
| | | 5 | | | | 2.0 to 9.0 feet: WOOD DEBRIS AND ORGANICS; black; loose; hydrocarbon odor. (FILL) FID reading: 23. |
| | | 10 | | | | 9.0 to 10.0 feet: GRAVEL; 1/2-inch minus gravel with paper debris. |
| | | 15 | | | | 10.0 to 15.0 feet: SILTY SAND (SP-SM); grayish-brown; 75 to 80 percent sand; 20 percent silt; less than 5 percent 1/4-inch minus gravel; medium dense; moist; organic hydrocarbon odor. (FILL) |
| | | 20 | | | | 15.0 to 20.0 feet: GRAVEL (GW); gray; 3/4-inch minus; rounded; dry. Some paper and metal debris mixed in (5 to 10 percent). FID Reading: 9. |

REMARKS



EMCON

LOG OF EXPLORATORY BORING

PROJECT NAME Killingsworth Landfill
 LOCATION Reidel/DEQ
 DRILLED BY Cascade Drilling, Inc.
 DRILL METHOD Air Rotary
 LOGGED BY S. Richards

BORING NO. GP-17
 PAGE 1 OF 4
 GROUND ELEV.
 TOTAL DEPTH 52.20'
 DATE COMPLETED 07/16/97

| SAMPLE NUMBER | GROUND WATER LEVELS | DEPTH IN FEET | SAMPLES | WELL DETAILS | LITHOLOGIC COLUMN | LITHOLOGIC DESCRIPTION |
|------------------|---------------------------|------------------|---------|-----------------|----------------------|--|
| | | | | | | 0 to 1.0 foot: SILT (ML); light brown; some roots, grass. (TOPSOIL) |
| | | | | | | 1.0 to 6.0 feet: SILTY SAND (SM); medium brown; 60 percent sand; 40 percent fines. @ 2.0 feet: hit plastic liner. |
| | | 5 | | | | |
| | | | | | | 6.0 to 15.0 feet: WOOD, RUBBER, PAPER DEBRIS, BLACK ORGANICS, smells. FID reading (sensidyne): 15. |
| | | 10 | | | | |
| | | | | | | 15.0 to 17.0 feet: CLAY (CL); intermittent in wood debris, black, 80 percent wood, 20 percent clay. |
| | | 15 | | | | |
| | | | | | | 17.0 to 22.0 feet: SILTY SAND (SM) WITH CLAY LENSES; medium brown; 70 percent sand; 30 percent fines; medium dense; moist. FID reading: 8. |
| | | 20 | | | | |



REMARKS

EMCON

40376-002.003.KILLI.sr:2.08/22/97...1SMPLCOL

LOG OF EXPLORATORY BORING

PROJECT NAME Killingsworth Landfill
 LOCATION Reidel/DEQ
 DRILLED BY Cascade Drilling, Inc.
 DRILL METHOD Air Rotary
 LOGGED BY S. Richards

BORING NO. GP-19
 PAGE 1 OF 4
 GROUND ELEV. 59.30'
 TOTAL DEPTH 59.30'
 DATE COMPLETED 07/23/97

| SAMPLE NUMBER | GROUND WATER LEVELS | DEPTH IN FEET | SAMPLES | WELL DETAILS | LITHOLOGIC COLUMN | LITHOLOGIC DESCRIPTION |
|---------------|---------------------|---------------|---------|--------------|-------------------|---|
| | | | | | | 0 to 2.0 feet: SILT (ML); brown; loose; moist. (TOPSOIL) |
| | | 5 | | | | 2.0 to 11.0 feet: WOOD DEBRIS AND PLASTICS DEBRIS; black; strong organic odor. FID reading: 20. |
| | | 10 | | | | 11.0 to 15.0 feet: GRAVELLY SILT (ML); dark gray to black; 15 percent 3/4-inch minus aggregate; loose; moist; organic odor. FID reading: 11 |
| | | 15 | | | | 15.0 to 20.0 feet: GRAVEL (GW-GM); dark gray to black; 5 to 10 percent fines; loose; moist; odor. |
| | | 20 | | | | |



EMCON

REMARKS

APPENDIX 1

TO: Ron White, Probit Builders

FROM: Neil Pietrok, P.E.

DATE: May 16, 2018 (revised July 10, 2018)

RE: Cully Park/Killingsworth Fast Disposal (KFD) Condensate Sump Modifications.

Background

The Killingsworth Fast Disposal Landfill contains a perimeter and interior gas collection lines that feed to the north condensation sump. This sump then pumps the methane to the methane flare facility. The condensate sump is often surrounded by water in the winter and water intrudes into the vault corroding the piping, connections, and other controls. In addition, the water intrusion makes it difficult to identify and repair leaks in the system. A new storm drainage ditch will be constructed on the north side of the landfill to direct storm water to the northwest corner of the landfill. This will result in the raising of the condensate pump vault lid by approximately 18". The top of the well and the interior controls will need to be raised also to avoid creating a confined space issue in the vault. Currently, monitoring, testing and repairs to the condensate vault can be done from the hatch cover. When the vault cover is raised, the controls will not be accessible without entering the vault.



Photo 1: Existing Condensate Sump vault, note the standing water.

Condensate Sump Upgrades

The condensate vault lid will need to be raised to accommodate the new storm drainage ditch. The new vault lid elevation should be approximately 4" above the surrounding grade to prevent ground water runoff from entering the vault. The existing vault was produced by Utility Vault Company and is a 233 LA w/Strut and Pull Irons. The matching 24" riser should be installed between the vault and lid and sealed, however this should be field verified before ordering. In addition, the vault door needs to be locking to prevent unwanted access.



Photo 2: Picture from original vault installation.

The PVC pump cap (see Photo 1) needs to be raised to avoid creating a confined space issue in the vault. The 8" cap can be raised using a small section of PVC pipe. During the removal and raising of the cap, the size of the wetwell or pump vault needs to be determined. The floats and the pump need to be replaced and the cables and feeder lines lengthened to accommodate the new pump height and configuration. The existing pump and floats need to be salvaged and returned to the owner. Also, the gauges, valves, connections, and internal piping need to be raised and replaced due to corrosion from being under water.

The lines from the vault to the collection header are encased in PVC pipe (see photo above). This makes it hard to work on or repair these lines. These lines need to be replaced (approximately 15') and direct bury them with warning tape above them. The lines will run directly below the new storm drainage ditch, so backfill will need to be well compacted and

possibly enhanced with clay or other material. The air equalization line currently connects from the vault into the incoming line near the collection line header (see Photo4). This line serves to equalize the pressure in the pump vault and should be directly connected to the header to prevent it from becoming crimped or in the way of the incoming line to the vault. Two ports exist at the tee connection of the collection header. Either of these ports could be used to connect the equalization line. The equalization line is currently a 1-1/2" hose encased in PVC. This line should be downsized to 1/2" diameter to make it easier to repair in the future.

The west leg of the header needs a valve installed on it. In addition, the east perimeter line needs a valve just before the interior line connects to the outer loop (see attached drawings). These valves will assist in isolating extraction wells in the event of a leak or damage to the wells.

New valve boxes should be placed over the header in a tee formation to facilitate future monitoring and maintenance. A valve box should be placed over the west leg, over the new valve; and a valve box over the east leg, over the equalization line port; and, a valve box over the north leg where the incoming line exists the tee. These boxes should mimic the other valve boxes around the site, to not draw attention to them. They should be locking to prevent vandalism.



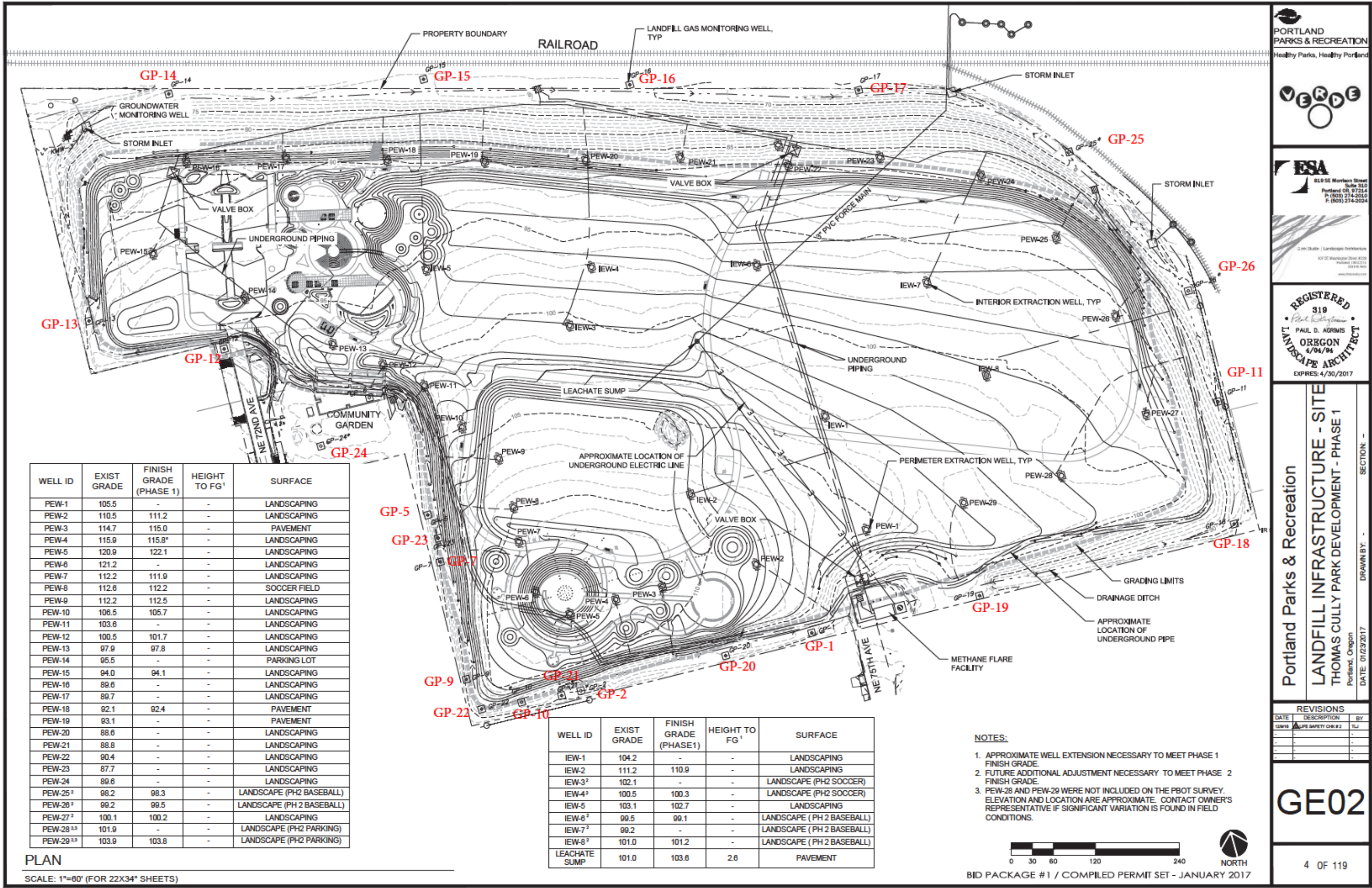
Photo 3: Collection line header. (Orientation is top of photo is south, bottom of photo is leg to the condensate vault). Ports can be seen on each leg of the header. A new valve is needed on the leg nearest the shoe in the picture.



Photo 4: Collection Line Header. White PVC pipe is air equalization line from vault. Disconnect this line from the line to the vault and reconnect to a port at the tee connection.



APPENDIX 1: Condensate Sump modifications



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REGISTERED
319
PAUL D. AGRIMIS
OREGON
4/04/94
LANDSCAPE ARCHITECT
EXPRES: 4/30/2017

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LANDFILL INFRASTRUCTURE - SITE

THOMAS CULLY PARK DEVELOPMENT - PHASE 1

Portland, Oregon

DATE: 01/23/2017

SECTION: -

DRAWN BY: -

REVISIONS

| DATE | DESCRIPTION | BY |
|----------|-------------------|-----|
| 12/01/16 | ADDED SAFETY CH 2 | TLJ |
| | | |
| | | |
| | | |

GE02

4 OF 119

EXHIBIT D - DRAINAGE AND
GRADING PLANS



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503.274.2024 **fax**

www.esassoc.com

Architect's Supplemental Instructions ASI 008

Project: Cully Park

Date: 03/12/2018 (with rev 4/17/18 sheet CG02)

Consultant: ESA

Number of Pages: 5 sheets

Description:

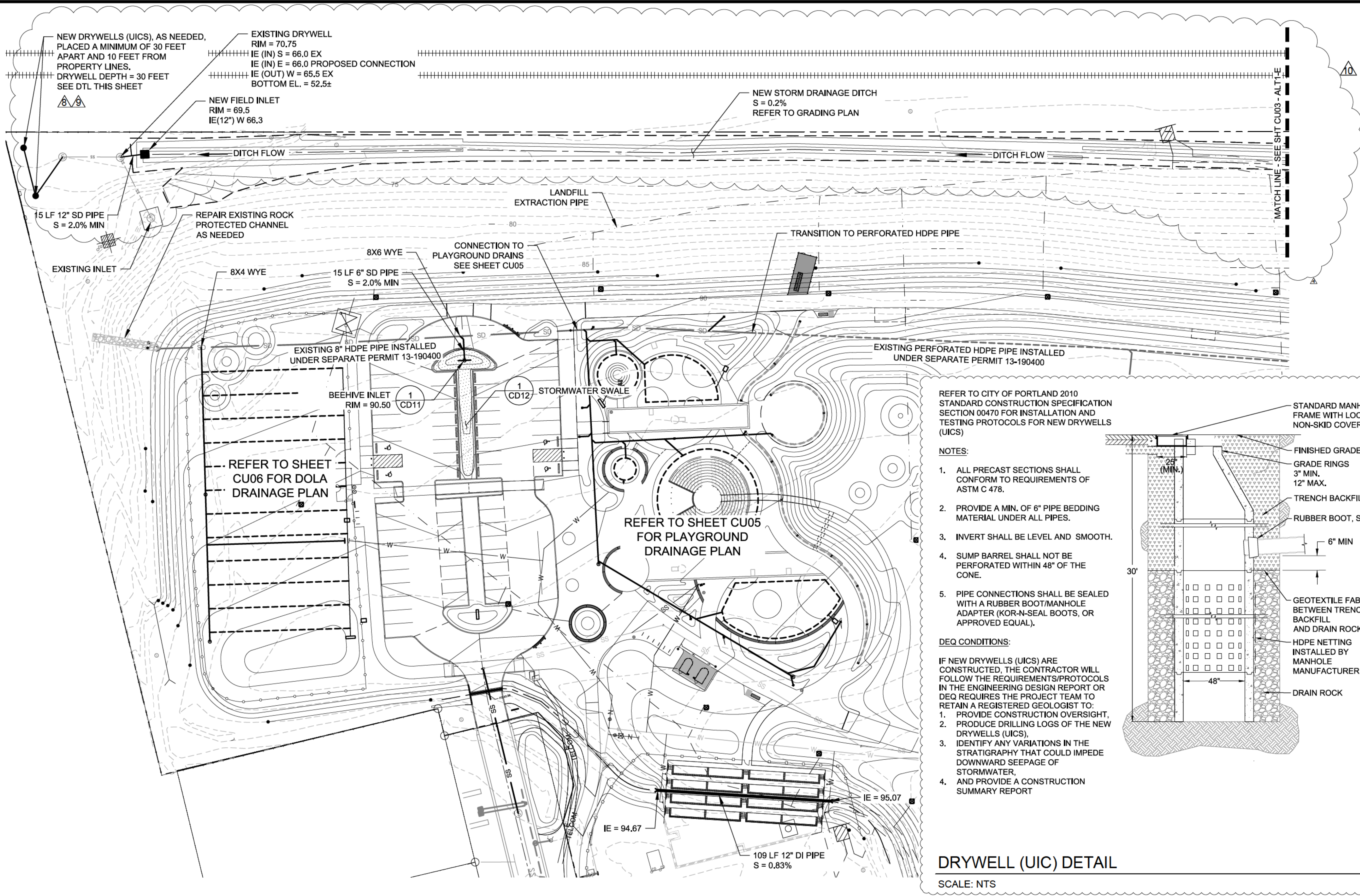
ASI #008 eliminates the stormwater conveyance pipe shown at the base of the North Slope and replaces it with an overland conveyance swale (ditch) that will take water from near the NE corner of the site down to a new ditch inlet in the NW corner of the site. This new ditch inlet will connect to the existing dry wells in that area.

The existing inlet in the NE corner will be removed, and the pipe leading to the off-site drywells will be permanently plugged and buried.

Attachments:

| | |
|--------------|----------------|
| CU03W, CU03E | Drainage Plans |
| CG01-CG03 | Grading Plans |

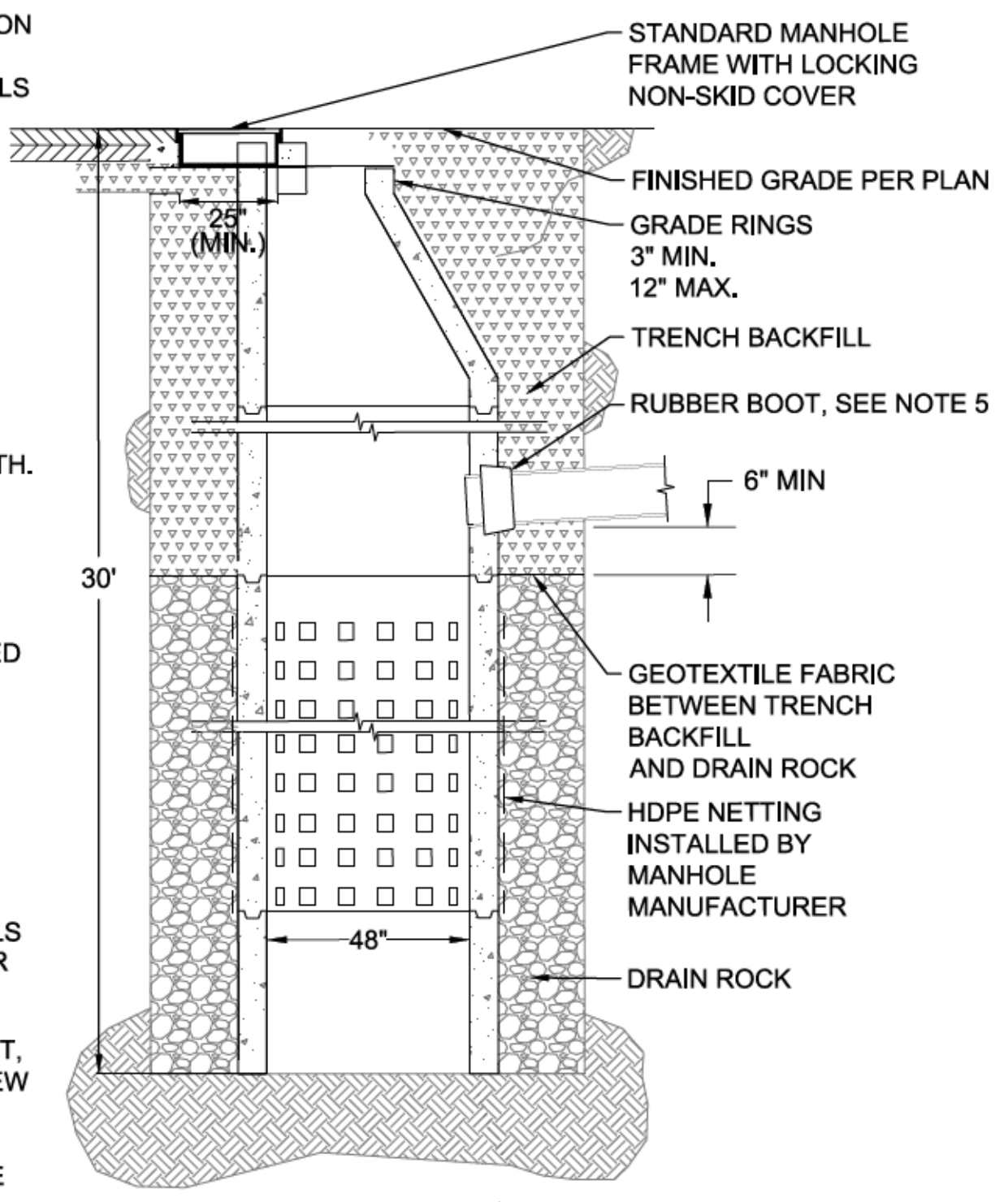
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REFER TO CITY OF PORTLAND 2010
STANDARD CONSTRUCTION SPECIFICATION
SECTION 00470 FOR INSTALLATION AND
TESTING PROTOCOLS FOR NEW DRYWELLS
(UICS)

- NOTES:
1. ALL PRECAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF ASTM C 478.
 2. PROVIDE A MIN. OF 6" PIPE BEDDING MATERIAL UNDER ALL PIPES.
 3. INVERT SHALL BE LEVEL AND SMOOTH.
 4. SUMP BARREL SHALL NOT BE PERFORATED WITHIN 48" OF THE CONE.
 5. PIPE CONNECTIONS SHALL BE SEALED WITH A RUBBER BOOT/MANHOLE ADAPTER (KOR-N-SEAL BOOTS, OR APPROVED EQUAL).

- DEQ CONDITIONS:
- IF NEW DRYWELLS (UICS) ARE CONSTRUCTED, THE CONTRACTOR WILL FOLLOW THE REQUIREMENTS/PROTOCOLS IN THE ENGINEERING DESIGN REPORT OR DEQ REQUIRES THE PROJECT TEAM TO RETAIN A REGISTERED GEOLOGIST TO:
1. PROVIDE CONSTRUCTION OVERSIGHT,
 2. PRODUCE DRILLING LOGS OF THE NEW DRYWELLS (UICS),
 3. IDENTIFY ANY VARIATIONS IN THE STRATIGRAPHY THAT COULD IMPEDE DOWNWARD SEEPAGE OF STORMWATER,
 4. AND PROVIDE A CONSTRUCTION SUMMARY REPORT

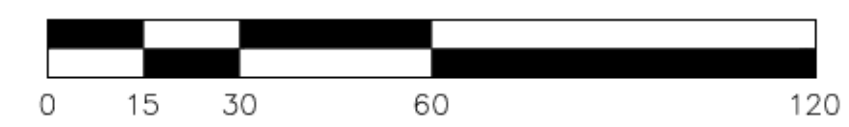


DRYWELL (UIC) DETAIL

SCALE: NTS

DRAINAGE PLAN - ALTERNATIVE DRAINAGE DESIGN - WEST

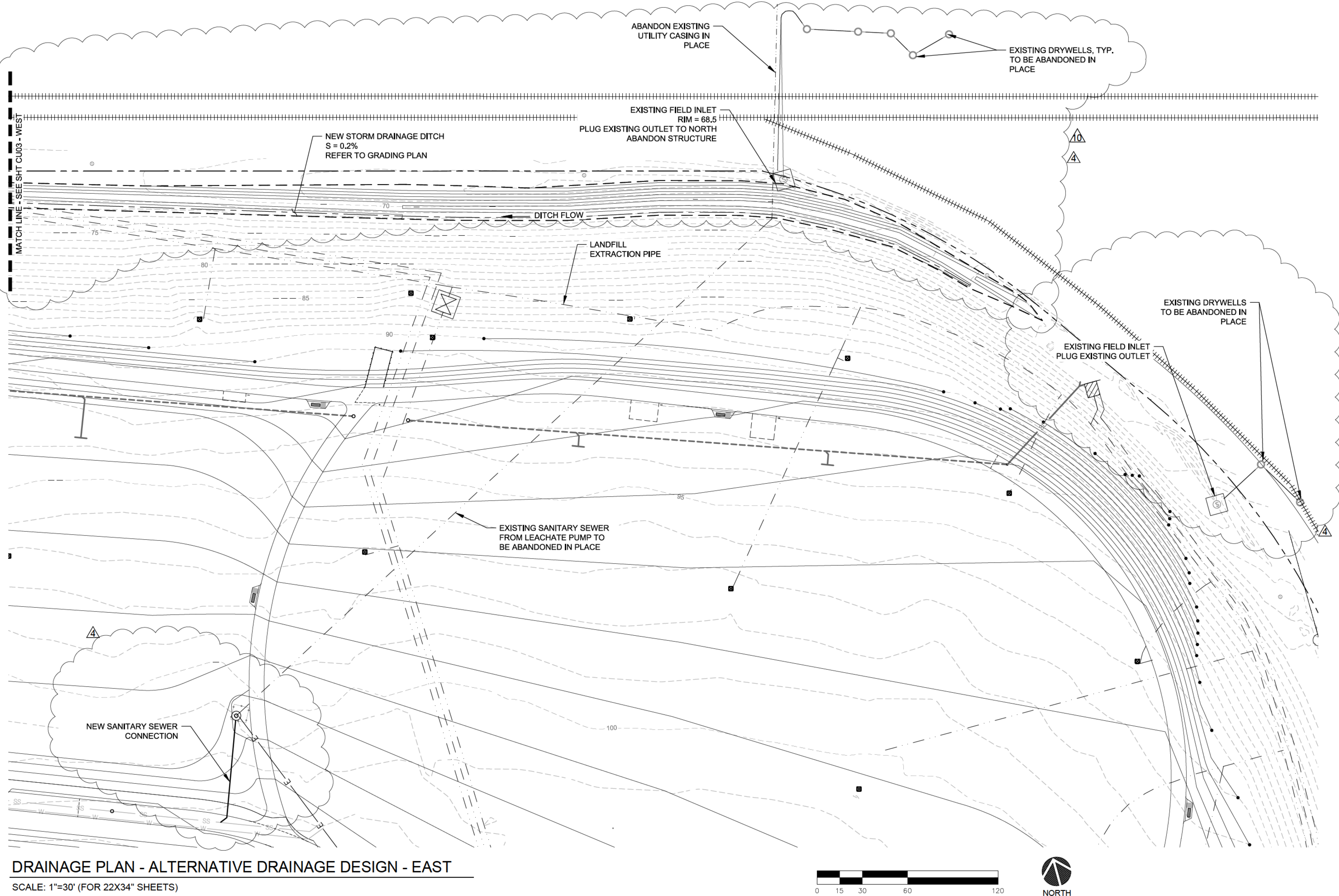
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| 11/14/16 | BES Check Sheet | ASZ |
| 2/23/17 | BES Check Sheet | ASZ |
| 3/12/18 | ASI 008 | NMR |

CU03
WEST

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DRAINAGE PLAN - ALTERNATIVE DRAINAGE DESIGN - EAST
SCALE: 1"=30' (FOR 22X34" SHEETS)

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DRAINAGE PLAN - ALTERNATIVE DESIGN
THOMAS CULLY PARK DEVELOPMENT - PHASE 1

Portland, Oregon

DATE: 01/23/2017

DRAWN BY: -

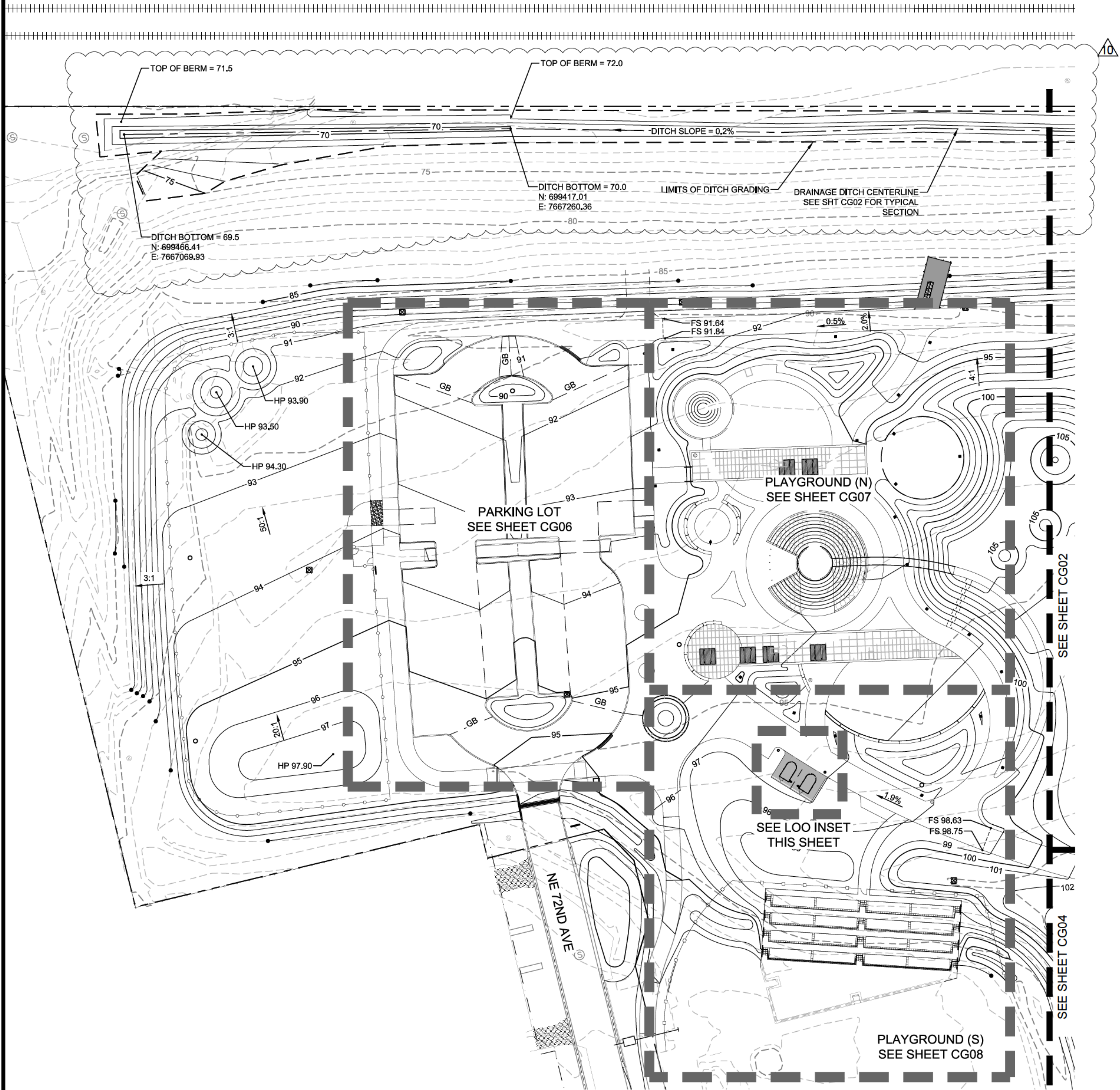
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| 3/12/18 | ASI 008 | NMR |

CU03
EAST

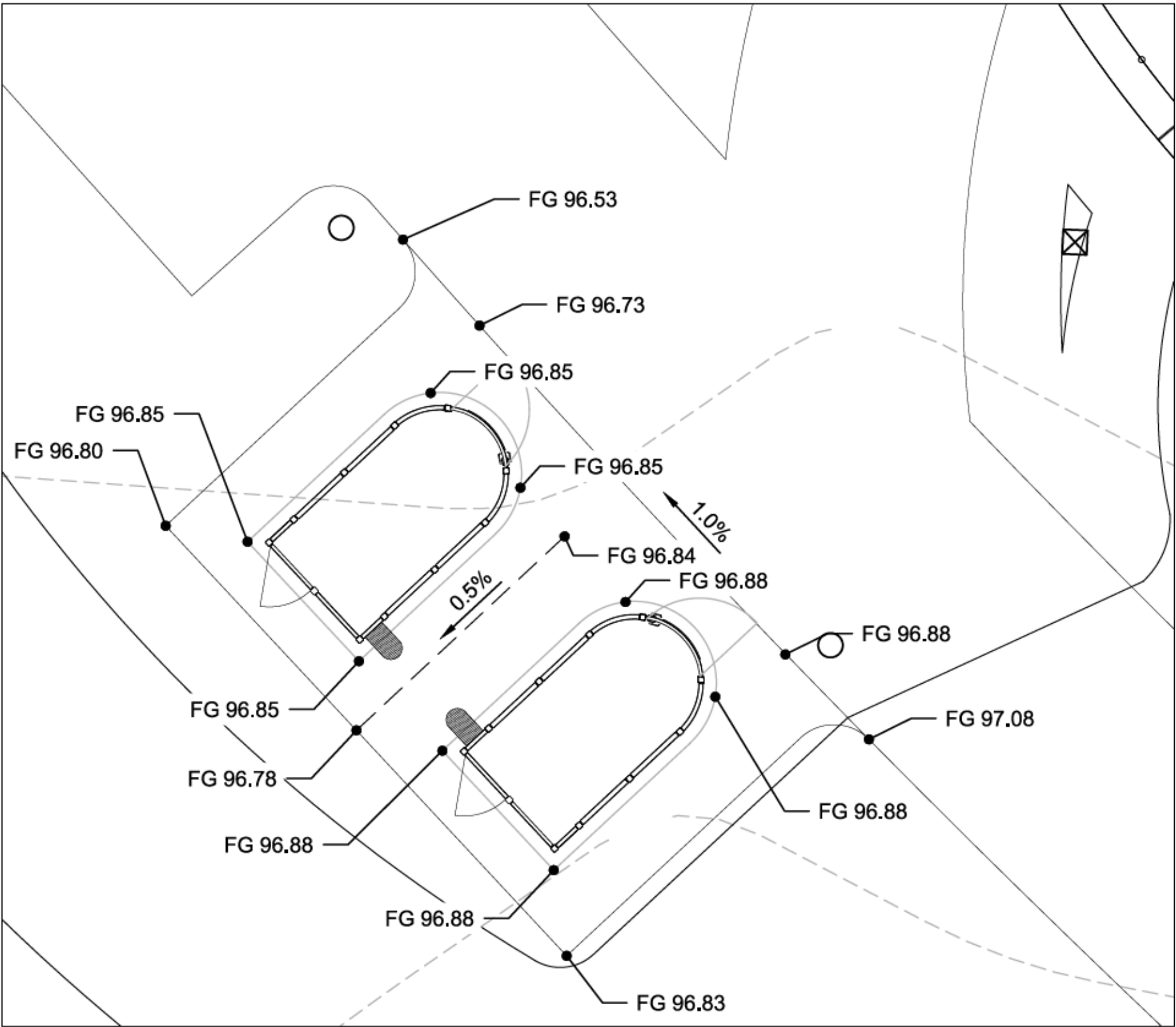
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PLAN

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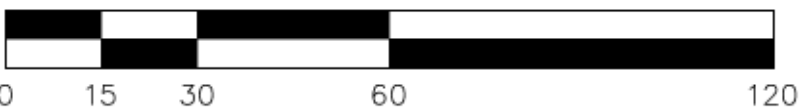


LOO INSET

SCALE: 1"=5' (FOR 22X34" SHEETS)

GRADING NOTES

1. SEE SHEET GE00 FOR GENERAL PROJECT NOTES, ABBREVIATIONS, AND LEGEND.
2. CONTOUR INTERVAL SHOWN IS 1 FOOT FOR BOTH EXISTING AND PROPOSED CONTOURS.
3. SPOT ELEVATIONS TAKE PRECEDENCE OVER CONTOUR ELEVATIONS. CONTACT PROJECT ENGINEER IF SIGNIFICANT DISCREPANCY ARISES.
4. SET STRAIGHT GRADES BETWEEN SPOT ELEVATIONS UNLESS OTHERWISE INDICATED.
5. CROSS SLOPE ON PAVED SURFACES IS 1% UNLESS OTHERWISE NOTED.
6. DO NOT EXCEED 5% SLOPE WITH IN DIRECTION OF TRAVEL WITH 1% CROSS SLOPE ON PAVED TRAIL TO MAINTAIN ACCESSIBLE ROUTE.
7. CONTRACTOR SHALL VERIFY EXISTING GRADE AT TRANSITIONS BETWEEN EXISTING AND PROPOSED SURFACES. NOTIFY PROJECT ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
8. ALL ADA PARKING STALLS, AISLES AND WALKWAYS TO MEET FEDERAL, STATE AND LOCAL REQUIREMENTS. CONTRACTOR SHALL VERIFY GRADES PRIOR TO PLACING MATERIALS.
9. ALL LANDSCAPE AREAS SHALL BE FINE GRADED.



BID PACKAGE #1 / COMPILED PERMIT SET - JANUARY 2017



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GRADING PLAN - 1

THOMAS CULLY PARK DEVELOPMENT - PHASE 1

Portland, Oregon

DATE: 01/23/2017

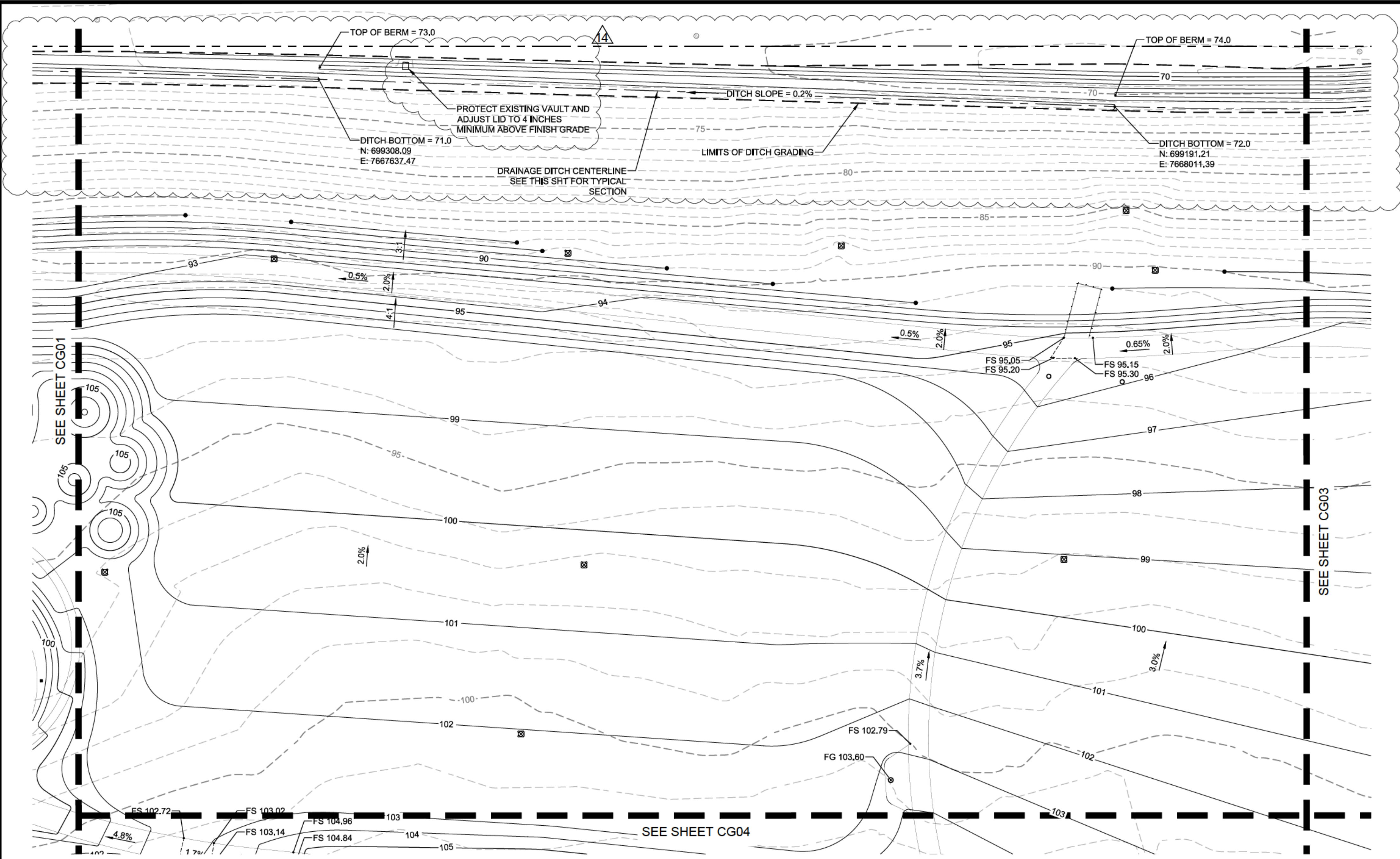
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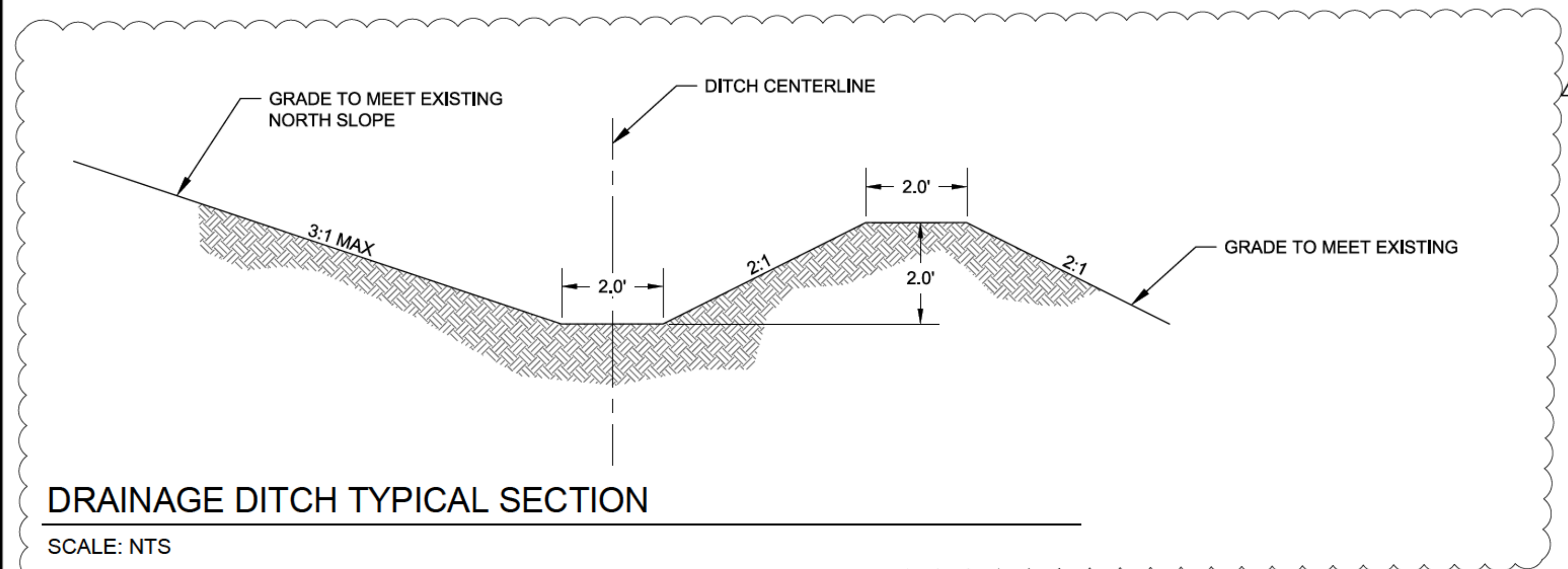
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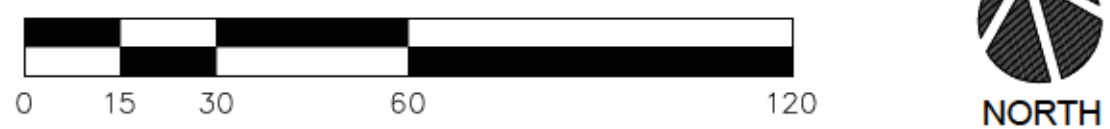
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PLAN
SCALE: 1"=30' (FOR 22X34" SHEETS)



- GENERAL NOTES
- SEE SHEET GE00 FOR GENERAL PROJECT NOTES, ABBREVIATIONS, AND LEGEND.
 - SEE SHEET CG01 FOR GRADING NOTES.



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GRADING PLAN - 2

THOMAS CULLY PARK DEVELOPMENT - PHASE 1

Portland, Oregon

DATE: 01/23/2017

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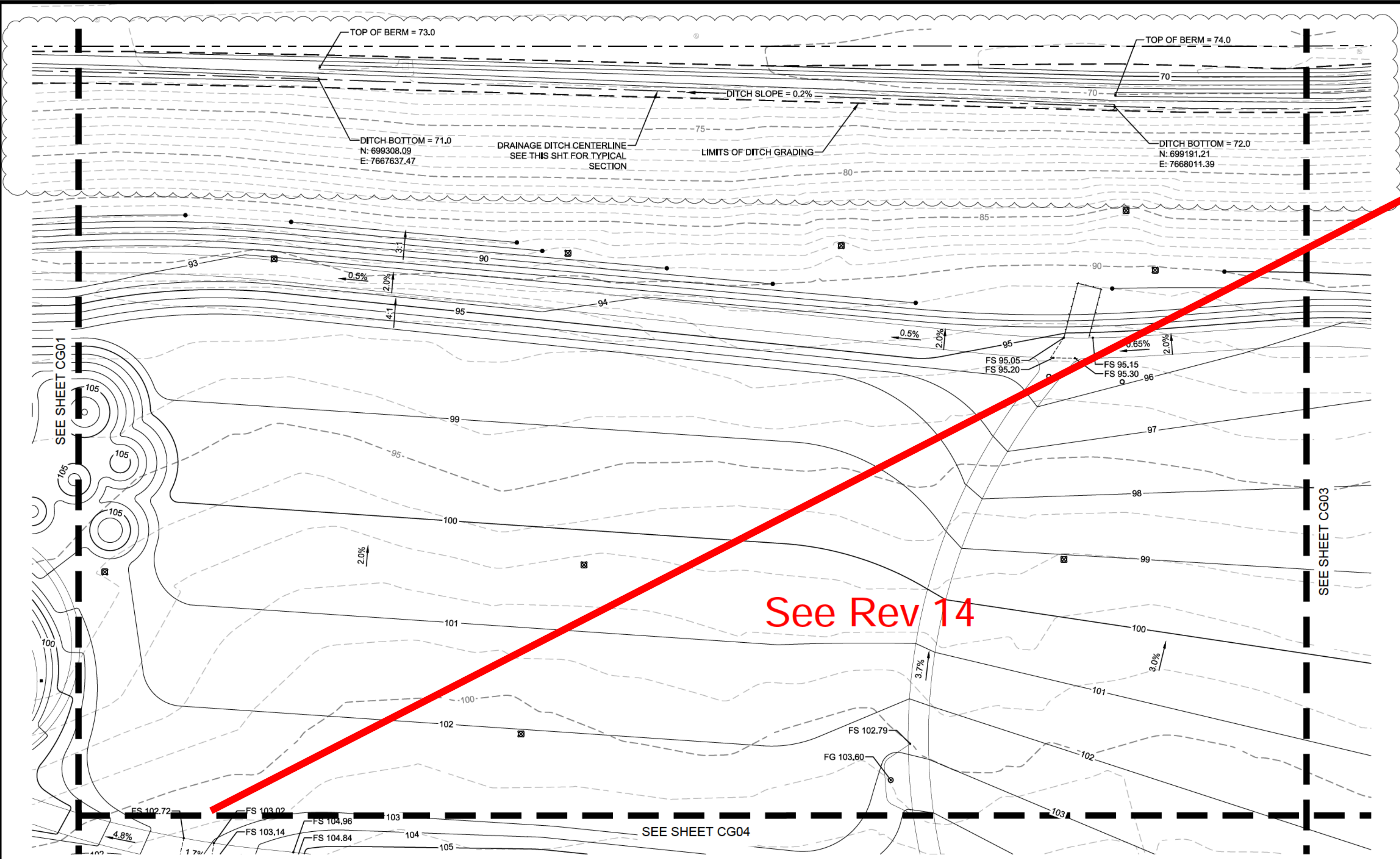
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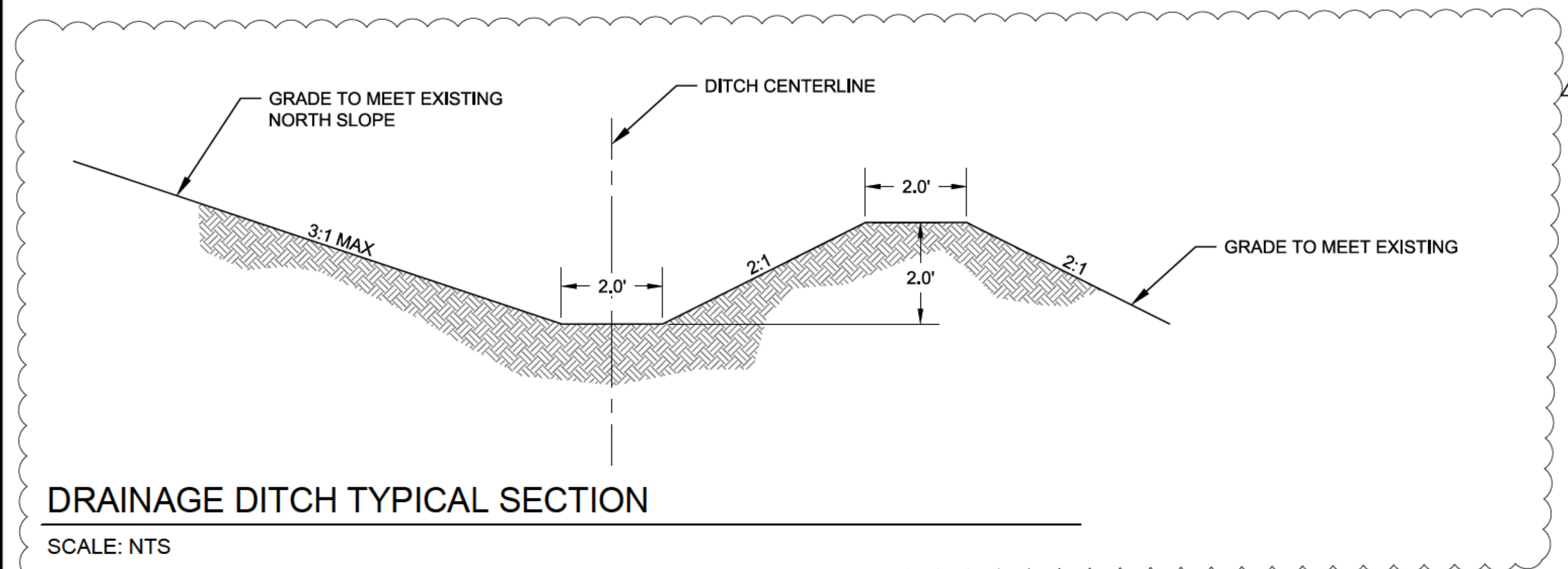
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PLAN
SCALE: 1"=30' (FOR 22X34" SHEETS)



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- GENERAL NOTES
- SEE SHEET GE00 FOR GENERAL PROJECT NOTES, ABBREVIATIONS, AND LEGEND.
 - SEE SHEET CG01 FOR GRADING NOTES.



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GRADING PLAN - 2

THOMAS CULLY PARK DEVELOPMENT - PHASE 1

Portland, Oregon

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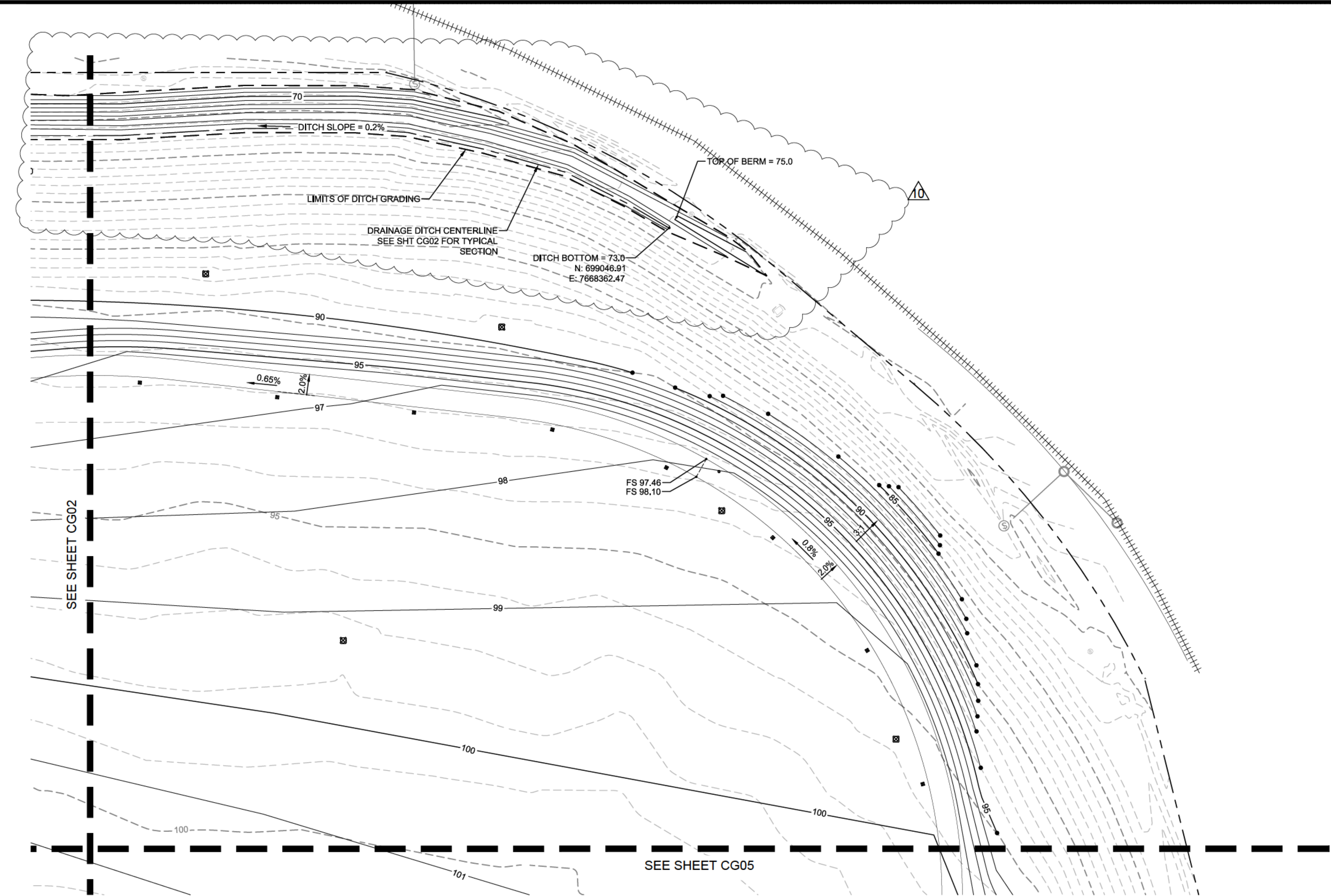
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11 OF 119

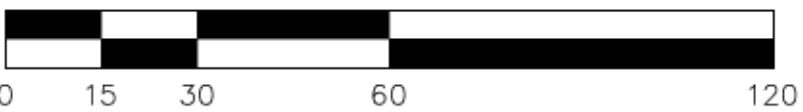
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PLAN
SCALE: 1"=30' (FOR 22X34" SHEETS)

GENERAL NOTES

- SEE SHEET GE00 FOR GENERAL PROJECT NOTES, ABBREVIATIONS, AND LEGEND.
- SEE SHEET CG01 FOR GRADING NOTES.



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GRADING PLAN - 3

THOMAS CULLY PARK DEVELOPMENT - PHASE 1

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DATE: 01/23/2017

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CG03

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