Woodside School District

Project No. 20-01

Underground Utility Gas Piping Repair
At
Woodside Elementary School

ADDENDUM NO. 1

April 23, 2020

Owner: Woodside School District
3195 Woodside Road
Woodside, CA 94062

Project Manager: Capital Program Management, Inc.
1851 Heritage Lane, Suite 210
Sacramento, CA 95815

This Addendum has been prepared to clarify, modify, delete, or add to the drawings and/or specifications for the above referenced project, and revisions to items listed here shall supersede description thereof prior to the above stated date. All conditions not specifically referenced here shall remain the same. It is the obligation of the Prime Contractor to make subcontractors aware of any items herein that may affect submitted bids.

Acknowledge receipt of this addendum by inserting its number and date in the bidding documents. Failure to do so may subject bidder to disqualification.

All addenda items refer to the plans and specifications unless specifically noted otherwise.

TOTAL PAGES IN THIS ADDENDUM (including attachments): **58**

Woodside School District

Project No. 20-01
Underground Utility Gas Piping Repair
At
Woodside Elementary School

ADDENDUM NO. 1

PART A - BIDDING AND CONTRACT REQUIREMENTS

1.1 **The bid date has not changed. Bids are due Thursday, April 30, 2020 before 2:00:00 p.m. at Woodside School District, 3195 Woodside Road, Woodside, CA 94062.**

1.2 **Refer to Notice to Bidders, 2. Contractors Requirements, and REMOVE Specialty Contractor C36 Contractor's license. Bids will only be accepted from contractors that have and maintain a General Contractor "A" Class license.**

PART B - TECHNICAL REQUIREMENTS

1.3 Refer to Division 31 21 00 Utility Trenching and Backfill and **REPLACE** section with Attachment 1.10 of this addendum.

1.4 Refer to Division 32 50 00 Restoration of Surfaces and **REPLACE** section with Attachment 1.11 of this addendum.

1.5 Refer to Division 33 21 00 Water System and **REPLACE** section with Attachment 1.12 of this addendum.

1.6 Refer to Division 33 52 16.23 Natural Gas Piping and **REPLACE** section with Attachment 1.13 of this addendum.

PART C - DRAWINGS

1.7 Refer to Woodside Elementary School Underground Utility Gas Piping Repair drawings and **REPLACE** in their entirety with Bid Addendum #1 set (Attachment 1.14 of this addendum)

PART D – RESPONSES TO CONTRACTOR QUESTIONS

NA

List of Attachments

1.8 Pre-Bid Conference and Site Visit Agenda dated April 16, 2020 (2 pages)

1.9 Pre-Bid Conference and Site Visit Sign-in Sheet dated April 16, 2020 (2 pages)

1.10 Division 31 21 00 Utility Trenching and Backfill, DSA Submittal – Addendum No. 1 (14 pages)

Woodside School District

Project No. 20-01
Underground Utility Gas Piping Repair
At
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ADDENDUM NO. 1

1.11 Division 32 50 00 Restoration of Surfaces, DSA Submittal – Addendum No. 1 (2 pages)

1.12 Division 33 21 00 Water System, DSA Submittal – Addendum No. 1 (12 pages)

1.13 Division 33 52 16.23 Natural Gas Piping, DSA Submittal – Addendum No. 1 (8 pages)

1.14 Woodside Elementary School Underground Utility Gas Piping Repair Drawings, Bid Addendum #1 (15 pages)

End of Addendum

Woodside School District
3195 Woodside Road
Woodside, CA 94062
(650) 851-1571

PRE-BID CONFERENCE & SITE VISIT AGENDA

Project No. 20-01
Underground Utility Gas Piping Repair
Woodside School

Date: Thursday, April 16, 2020 **Time:** 3:30 p.m.
Project: Project No. 20-01
Woodside School, Underground Utility Gas Piping Repair
Bid Date: Thursday, April 30, 2020 by 2:00:00 p.m.

1. **Meeting Called to Order**

2. **Introduction of Project Team**
   a. Client: Woodside School District
   b. Project/Const. Manager: Tim Doane, Capital Program Management, Inc.
   c. Civil Engineer: Dale Leda, BKF Engineers
   d. Civil Engineer: Corey Worthington, BKF Engineers

3. **Bidding Documents:**
   a. Available by request from Tim Doane at timd@capitalpm.com
   b. Print Charles Reprographics
   c. Bid documents and forms can be found in project manual

4. **Contracting Format:** Prime Contract

5. **Scope of Work Descriptions:** See Section 00700 Scope of Work and Drawings and Project Manual

6. **Engineer's Estimated Construction Budget:** $370,000

7. **Bid/Award/Project Schedule:** See Section 00800 Special Provisions:
   a. Bid Day RFI deadline: April 20, 2020
   b. Final Addendum Issued: April 23,2020
   c. Bids due: April 30, 2020 before 2:00:00PM
   d. Notice of Intent to Award, Authorization for Bonds, Insurance, & Submittals: May 7, 2020
   e. Board Approval: June 9, 2020
   f. Notice to Proceed: June 10, 2020
   g. Mobilization and Start of Construction: 5 days
   h. Phase 1 Complete: 7 days
   i. Phase 2 Complete: 18 days
   j. Phase 3 Complete: 18 days
   k. Punch List: 3 days
   l. Complete all Punch List Items and Closeout Documents: 11 days
   m. Total Days to Complete Work from Notice To Proceed: 62 calendar days

8. **Bidding and Contract Award Requirements:**
    a. License requirement(s): "A"
    b. Bid Bond or Certified Check: 10% of bid
    c. Prevailing Wages: Certified payrolls, payroll records and other documents shall be required along with your progress billings: www.dir.ca.gov/dlsr/DPreWageDetermination.htm
    d. Department of Industrial Relations (DIR) Registration of Contractor & Subcontractors
    e. Bond and Insurance Requirements (See Agreement, Article 16, Page 5)

    f. Bid Form:
        i. Completed Forms (See Notice to Bidders, Page 4)
        ii. No exclusions
        iii. No faxes, phone or email bids
        iv. Bids good for 90 days

9. **Basis of Award**
    a. Base Bid: **Award will be determined on the Base Bid only**
    b. Allowances: The Bidder's Base Bid shall **NOT** include the following allowances. The District will add some or all of the following allowances to the successful bidders contract, at the District's discretion:
        i. Allowance for unforeseen site conditions and repair of existing underground utilities damaged during excavation: $40,000.00
    c. Deductive Bid Alternate:
    Remove from scope the replacement of the water lines where not joint trenched with gas lines as indicated on Plans. Purpose of this alternate is to determine potential cost reductions if the specified scope of work was removed from the project. Note that water lines that are joint trenched with gas lines are not part of this Bid Alternate.

10. **Inspection Procedures:** DSA Project Inspector and Materials Testing/Special Inspections

11. **Department of Justice (DOJ) Clearance:** See Notice to Contractors Regarding Criminal Record Checks, Forms, Page 6
    a. Provide Fingerprinting Notice and Acknowledgment and:
        i. Install a physical barrier at the worksite to limit contact with pupils, and
        ii. Have an employee DOJ cleared to monitor and supervise employees

12. **Site Walk**

13. **Questions**

14. **Adjournment**

Important note: *Responses to inquiries and discussions occurring at this pre-bid walk-through shall in no way change or modify the bid documents. The bid documents will be affected only by addenda issued prior to the bid date.*

Send all inquiries by April 20, 2020 to: Tim Doane, timd@capitalpm.com

Woodside School District
Project No. 20-01
Underground Utility Gas Piping Repair Project DSA #01-118889
Woodside School

PRE-BID CONFERENCE & SITE VISIT SIGN IN SHEET
Thursday, April 16, 2020
3:30 PM

Company Name & Representative	Company Street Address	Phone #	E-Mail
IN & out plumbing & const Atef Abbas	184 HARBOR WAY S.S.F CA 94080	650 589-4855	FiXit@Inandoutplumbing .com
Dan Whaley	12855 Alcosta Blvd San Ramon, CA 94583	925-989-9936	dan@mbs.engineering

Woodside School District
Project No. 20-01
Underground Utility Gas Piping Repair Project DSA #01-118889
Woodside School

PRE-BID CONFERENCE & SITE VISIT SIGN IN SHEET
Thursday, April 16, 2020
3:30 PM

Company Name & Representative	Company Street Address	Phone #	E-Mail
CPM Tim Doane			
Kingdom Pipelines Patrick Kenny	5750 Mission St San Francisco	415 5214477	kingdompipe@sbcglobal.net
Dinelli Plumbing Ken Roeber	1160 Chess Dr. Site 5 Foster City, CA 94404	650-372-9456	KenR@Dinelliplumbing.com
Eugenio Ruiz.	WSD	6509060233	emartinez@woodsideschools.org
DALE LEDA + CRAIG SMITH	BKF		
MK Pipelines Inc Kevin McGovern	3708 Bayshore Blvd, Brisbane	415 2007114	Kevin.mcgovern@mkpipelines.com

SECTION 31 21 00

UTILITY TRENCHING AND BACKFILL

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Excavation, bedding, and backfill for underground water piping, gas piping, and associated structures.

B. Provide labor, material, equipment, and services necessary to complete the backfilling and compacting as necessary for this project. Section includes, but is not limited to:
   1. Select Backfill Material
   2. Aggregate Base
   3. Detectable Tape
   4. Trench Excavation
   5. Pipe Bedding
   6. Trench Backfill
   7. Trench Surfacing

1.2 RELATED SECTIONS

A. Section 32 50 00 – Restoration of Surfaces

B. Section 33 10 00 – Water System

C. Section 33 52 16.23 – Natural Gas Piping

1.3 RELATED DOCUMENTS

A. ASTM
   1. D1557, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort.
   2. D2321, Standard Practice for Underground Installation of Thermoplastic Pipe for Sewer and Other Gravity-Flow Applications.

B. California Administrative Code, Title 24, Part 2 - Basic Building Regulations, Chapter 24, Excavations, Foundations, and Retaining Walls.

C. Caltrans Standard Specifications, 2015
   1. Section 19, Earthwork
   2. Section 26, Aggregate Bases
   3. Section 39, Asphalt Concrete
   4. Section 68, Subsurface Drains
   5. Section 90, Portland Cement Concrete
   6. Section 96, Geosynthetics

D. CAL/OSHA, Title 8

1.4 DEFINITIONS

A. AC: Asphalt Concrete

B. ASTM: American Society for Testing and Materials

C. Base: The layer placed between the subgrade and surface pavement in a paving system.

D. Bedding: Material from bottom of trench to bottom of pipe

E. CDF: Controlled Density Fill

F. Engineered Fill:
1. Soil or soil-rock material approved by the Project Manager and transported to the site by the Contractor in order to raise grades or to backfill excavations.
2. Contractor shall provide sufficient tests, and a written statement that all materials brought onto the project site comply with specification requirements.

G. Excavation: Consists of the removal of material encountered to subgrade elevations

H. Initial Backfill: Material from bottom of pipe to 12 inches above top of pipe

I. PCC: Portland Cement Concrete

J. RCP: Reinforced Concrete Pipe

K. Relative Compaction: In-place dry density of soil expressed as percentage of maximum dry density of same materials, as determined by laboratory test procedure ASTM D1557.

L. Springline of Pipe: Imaginary line on surface of pipe at a vertical distance of ½ the outside diameter measured from the top or bottom of the pipe.

M. Subgrade: The uppermost surface of an excavation or the top surface of a fill or backfill immediately below base.

N. Subsequent Backfill: Material from 12 inches above top of pipe to subgrade of surface material or subgrade of surface facility or to finish grade.

O. Trench Excavation: Removal of material encountered above subgrade elevations and within horizontal trench dimensions.
1. Authorized Trench Over-Excavation: Excavation below trench subgrade elevations or beyond indicated horizontal trench dimensions as shown on plans or authorized by the Geotechnical Engineer.

2. Unauthorized Trench Over-Excavation: Excavation below trench subgrade elevations or beyond indicated horizontal trench dimensions without authorization by the Geotechnical Engineer. Unauthorized excavation shall be without additional compensation.

P. Utility Structures:
1. Water and Gas valve boxes, vaults, etc.

1.5 SUBMITTALS

A. Follow submittal procedures outlined in General Conditions.

B. Test Reports: Submit the following report for import material directly to the Project Manager from the Owner's testing services:
1. Compaction test reports for aggregate base.

C. Samples:
1. Provide samples to the Geotechnical Engineer prior to importing on site. Provide 20-pound samples of all imported trench bedding and backfill material sealed in airtight containers, tagged with source locations and suppliers of each proposed material. Do not import materials to Project without written approval of the Geotechnical Engineer and the Project Manager.
2. Provide materials from same source throughout work. Change of source requires approval of the Geotechnical Engineer and the Project Manager.

1.6 QUALITY ASSURANCE

A. Conform all work and materials to the recommendations or requirements of the Geotechnical Engineer.

B. Conform all work to the appropriate portion(s) of the Caltrans Standard Specifications, Section 19, Earthwork.

C. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the dry density of the compacted material to the maximum dry density of the material as determined by the procedure set forth in ASTM D 1557.

D. The Geotechnical Engineer will perform observations and tests required to enable them to form an opinion of the acceptability of the trench backfill. Correct the trench backfill that, in the opinion of the Geotechnical Engineer, does not meet the requirements of these Technical Specifications.

1.7 PROJECT CONDITIONS

A. Promptly notify the Project Manager of surface or subsurface conditions differing from those disclosed in the contract documents. First notify the Project Manager verbally to permit verification and extent of condition and then in writing. No claim for conditions differing from those anticipated in the Contract Documents will be allowed unless

Contractor has notified the Project Manager in writing of differing conditions prior to contractor starting work on affected items.

B. Barricade open excavations and post with warning lights.
   1. Operate warning lights and barricades as required.
   2. Protect structures, utilities, sidewalks, pavements, and other facilities immediately adjacent to excavations, from damages caused by settlement, lateral movement, undermining, washout, and other hazards.
   3. Protect open, trenches, and utility structure excavations with fences, covers and railings to maintain safe pedestrian and vehicular traffic passage.

C. Stockpile on-site and imported backfill material temporarily in an orderly and safe manner. Stockpiles shall be fenced off.

D. Environmental Requirements:
   1. Protect existing storm drainage system from silt and debris resulting from construction activities. If contamination occurs, remove contamination at no cost to the District.
   2. Protect existing streams, ditches and storm drain inlets during work on this project.

E. Protection of Subgrade: Do not allow equipment to pump or rut subgrade, stripped areas, footing excavations, or other areas prepared for project.

F. Transport all excess soils materials by legally approved methods to disposal areas.
   1. Off haul all demolition debris and excess construction materials including concrete and asphalt.
   2. Any additional fill requirements shall be the responsibility of the Contractor.

1.8 EXISTING UTILITIES

A. Locate existing underground utilities in the areas of work. For utilities that are to remain in place, provide adequate means of protection during excavation operations.
   1. Locating of existing underground utilities shall include but not be limited to pot-holing prior to the start of construction.

B. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult Project Manager and/or utility agency immediately for directions.
   1. Cooperate with the Project Manager and public and private utility companies in keeping their respective services and facilities in operation.
   2. Repair damaged utilities to the satisfaction of the Project Manager.

C. Do not interrupt existing utilities serving facilities occupied and used by the Project Manager or others, except when permitted in writing by the Project Manager and then only after acceptable temporary utility services have been provided. Provide temporary connections as necessary to not disrupt existing services.

PART 2 - PRODUCTS

2.1 GENERAL

A. Import materials will be subject to approval of the Geotechnical Engineer.

B. For approval of imported fill material, notify the Project Manager at least 7 days in advance of intention to import material.

2.2 PIPE BEDDING AND INITIAL BACKFILL

A. ASTM D2321, Class IA, IB or II.
   1. Clean and free of clay, silt or organic matter.

B. Permeable Material: In accordance with Section 68-2.02F of Caltrans Standard Specifications, Class 1, Type A or Class 2.

C. Class 2 Aggregate Base: In accordance with Section 26 of Caltrans Standard Specifications, ¾ inch maximum.

D. Sand: In accordance with Section 19-3.02F of Caltrans Standard Specifications.

2.3 SELECT BACKFILL

A. Select backfill material shall be gravel, free of clay or organic matter and shall conform to the following gradation:

Sieve Size	Percentage Passing
1 inch	100
¾ inch	90 – 100
No. 4	35 – 60
No. 200	2 - 9

B. For gas piping, select backfill shall be clean, graded building sand conforming to the following gradation:

Sieve Size	Percentage Passing
No. 4	100
No. 200	0 -5

2.4 WARNING TAPE

A. Polyethylene plastic, acid- and alkali-resistant, polyethylene plastic warning tape manufactured specifically for warning and identification of buried utility lines. Provide tape on rolls, 3 inch minimum width, color coded as specified below for the intended utility with warning and identification imprinted in bold black letters continuously over the entire tape length. Warning and identification to read, "CAUTION, BURIED (intended service) LINE BELOW" or similar wording. Color and printing shall be permanent, unaffected by moisture or soil.

1. Warning Tape Color Codes
   a. Red: Electric
   b. Yellow: Gas, Oil; Dangerous Materials
   c. Orange: Telephone and Other Communications
   d. Blue: Water Systems
   e. Green: Sewer Systems
2. Warning Tape: Acid and alkali-resistant polyethylene plastic tape conforming to the width, color, and printing requirements specified above. Minimum thickness of tape shall be 0.003 inch. Tape shall have a minimum strength of 1500 psi lengthwise, and 1250 psi crosswise, with a maximum 350 percent elongation.

2.5 TRACER WIRE FOR NON-METALLIC PIPING

A. Tracer wire shall be insulated single strand, solid copper with a minimum of 12 AWG.

2.6 SUBSEQUENT BACKFILL

A. General: On-site soils are considered suitable for use as fill provided the materials are placed in accordance with Geotechnical Recommendations. Highly expansive soils shall not be used as select structural fill, or used as backfill for trenches located within hardscape areas.

B. Imported fill soils, if required, should be predominantly granular in nature, and should be free of organics, debris, or rocks over 3 inches in size, and shall be approved by the Geotechnical Engineer before importing to the site. Imported non-expansive soils shall have a Plasticity Index less than twelve (12) as determined by ASTM D424, an R-value of at least 25 as determined by the procedure set forth in California Test Method No. 301, and shall meet the following gradation requirements:
   1. Maximum particle size of 4 inches,
   2. Percent passing 1-1/2" screen 50-100%,
   3. Percent passing No. 4 screen 20-100%,
   4. Percent passing No. 200 screen 10-30%.

C. Import fill shall be considered non-hazardous per Department of Toxic Substances Control guidelines (DTSC, 2017) and non-corrosive per Caltrans Corrosion Guidelines (Caltrans, 2015).

2.7 CONTROLLED DENSITY FILL (CDF) (IN TRENCHES)

A. Provide non-structural CDF, from bottom of trench to finish subgrade of subbase or base material, that can be excavated by hand and produce unconfined compressive 28-day strengths from 50-psi to a maximum of 150-psi. Provide aggregate no larger than 3/8 inch top size. The 3/8 inch aggregate shall not comprise more than 30% of the total aggregate content.

B. Cement: Conform to the standards as set forth in ASTM C150, Type II Cement.

C. Fly Ash: Conform to the standards as set forth in ASTM C618, for Class F pozzolan. Do not inhibit the entrainment of air with the fly ash.

D. Air Entraining Agent: Conform to the standards as set forth in ASTM C260.

E. Aggregates need not meet the standards as set forth in ASTM C33. Any aggregate, producing performances characteristics described herein will be accepted for consideration. The amount of material passing a #200 sieve shall not exceed 12% and no plastic fines shall be present.

F. Provide CDF that is a mixture of cement, Class F pozzolan, aggregate, air entraining agent and water. CDF shall be batched by a ready mixed concrete plant and delivered to the job site by means of transit mixing trucks.

G. The Contractor shall determine the actual mix proportions of the controlled density fill to meet job site conditions, minimum and maximum strengths, and unit weight. Entrained air content shall be a minimum of 4.0%. The actual entrained air content shall be established for each job with the materials and aggregates to be used to meet the placing and unit weight requirements. Entrained air content may be as high as 20% for fluidity requirements.

H. Mix design shall meet the Geotechnical Engineer's approval.

2.8 GEOSYNTHETICS

A. Filter Fabric:
   1. Filter Fabric: Section 96-1.02 of Caltrans Standard Specifications.
   2. Mirafi 140N, Mirafi Inc., or approved equal.

PART 3 - EXECUTION

3.1 GENERAL

A. Comply with the recommendations of the Geotechnical Engineer.

B. Protect existing trees to remain. No grading is permitted under the drip line of protected trees.

C. Excavations for appurtenant structures, such as, but not limited to, manholes, transition structures, junction structure, vaults, valve boxes, catch basins, thrust blocks, and boring pits, shall be deemed to be in the category of trench excavation.

D. Unless otherwise indicated in the Plans, all excavation for pipelines shall be open cut.

E. Prior to commencement of work, become thoroughly familiar with site conditions.

F. In the event discrepancies are found, immediately notify the Project Manager in writing, indicating the nature and extent of differing conditions.

G. Backfill excavations as promptly as work permits.

H. Do not place engineered fill or backfill until rubbish and deleterious materials have been removed and areas have been approved by the Project Manager.

I. Place acceptable soil material in layers to required subgrade elevations, for each area classification listed below.

J. In excavations, use satisfactory excavated or borrow material.

K. Under grassed areas, use satisfactory excavated or borrow material.

3.2 SITE PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities, which are to remain, from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

B. Protect existing storm drainage system from silt and debris resulting from construction activities. If contamination occurs, remove contamination at no cost to the Project Manager.

3.3 EXISTING UTILITIES

A. Identity the location of existing utilities.
   1. Prior to trenching, the Contractor shall excavate (pothole) where new lines cross other utilities of uncertain depth and determine the elevation of the utility in question to ensure that the new line will clear the potential obstruction.
   2. The Contractor shall procure the services of an underground locator service for assistance in locating existing utilities.
   3. If, after the excavation, a crossing utility does present an obstruction, then the line and grade of the new line will be adjusted as directed by the Project Manager to clear the utility.

B. Protect all existing utilities to remain in operation.

C. Movement of construction machinery and equipment over existing pipes and utilities during construction shall be at Contractor's risk.

D. Excavation made with power-driven equipment is not permitted within 2 feet of any known utility or subsurface structure.
   1. Use hand or light equipment for excavating immediately adjacent to known utilities or for excavations exposing a utility or buried structure.
   2. Start hand or light equipment excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured.

3. Support uncovered lines or other existing work affected by excavation until approval for backfill is obtained.
4. Report damage of utility line or subsurface structures immediately to the Project Manager.

E. Backfill trenches resulting from utility removal in lifts of 8 inches maximum (loose material).

3.4 TRENCH EXCAVATION

A. General
1. Excavation shall include removal of all water and materials that interfere with construction. The Contractor shall remove any water which may be encountered in the trench by pumping or other methods during the pipe laying, bedding and backfill operations. Material shall be sufficiently dry to permit approved jointing.
2. Excavation shall include the construction and maintenance of bridges required for vehicular and pedestrian traffic, support for adjoining utilities.
3. The Contractor shall be responsible to safely direct vehicular and pedestrian traffic through or around his/her work area at all times.
4. The Contractor shall relocate, reconstruct, replace or repair, at his/her own expense, all improvements which are in the line of construction or which may be damaged, removed, disrupted or otherwise disturbed by the Contractor.

B. Existing Paving and Concrete:
1. Existing pavement over trench shall be sawcut, removed, and hauled away from the job. Existing pavement shall be neatly sawcut along the limits of excavations.
2. Existing concrete over the trench shall be sawcut to a full depth in straight lines, at a minimum distance of 12 inches beyond the edge of the trench, either parallel to the curb or at right angles to the alignment of the sidewalk. Sawcut back to nearest control or expansion joint and do not overcut. Contractor to provide rebar reinforcement if present in existing concrete. Dowel new concrete into existing concrete per the detail in the project drawings.
3. Boards or other suitable material shall be placed under equipment outrigging to prevent damage to paved surfaces.

C. Trench Width:
1. The maximum allowable trench widths at the top of the all pipe materials outside diameter of barrel pipe plus 18 inches. shall be as follows:
   a. The maximum trench width shall be inclusive of all shoring.
   b. If the maximum trench width is exceeded, the State's representative may direct the Contractor to encase or cradle the pipe in concrete at no additional charge.
2. For pipes 3 inch diameter and larger, the free working space on each side of the pipe barrel shall not be less than 6 inches.

D. Excavation Width at Springline of Pipe:
   1. Up to a nominal pipe diameter of 24 inches: Minimum of twice the outside pipe diameter, or as otherwise allowed or required by the Geotechnical Engineer.

E. Open Trench:
   1. The maximum length of open trench shall be 300 feet or the distance necessary to accommodate the amount of pipe installed in a single day, whichever is greater. No trench shall be left open at the end of the day.
   2. Provisions for trench crossings and free access shall be made at all street crossings, driveways, water gate valves.
   3. Excavate by hand or machine. For gravity systems begin excavation at the outlet end and proceed upstream. Excavate sides of the trench parallel and equal distant from the centerline of the pipe. Hand trim excavation. Remove loose matter.
   4. Excavation Depth for Bedding: Minimum of 6 inches below bottom of pipe or as otherwise allowed or required by the Geotechnical Engineer, except that bedding is not required for nominal pipe diameters of 2 inches or less.
   5. Over-Excavations: Backfill trenches that have been excavated below bedding design subgrade, with approved bedding material.
   6. Where forming is required, excavate only as much material as necessary to permit placing and removal of forms.
   7. Grade bottom of trench to provide uniform thickness of bedding material and to provide uniform bearing and support for pipe along entire length. Remove stones to avoid point bearing.

F. Excavated Material:
   1. All excavated material not required for backfill shall be immediately removed and properly disposed of in a legal manner by the Contractor.
   2. Material excavated in streets and roadways shall be laid alongside the trench no closer than 2 feet from the trench edge and kept trimmed to minimize inconvenience to public traffic.
   3. Provisions shall be made whereby all storm and wastewater can flow uninterrupted in gutters or drainage channels.

3.5 CONTROL OF WATER AND DEWATERING

A. Be solely responsible for dewatering trenches and excavations and subsequent control of ground and surface water. Provide and maintain such pumps or other equipment as may be necessary to control ground water and seepage to the satisfaction of the Geotechnical Engineer and the Project Manager until backfilling is completed.

B. Dewater during backfilling operation so that groundwater is maintained a least one foot below level of compaction effort.

C. Obtain the Geotechnical Engineer's approval for proposed control of water and dewatering methods.

D. Reroute surface water runoff away from open trenches and excavations. Do not allow water to accumulate in trenches and excavations.

E. Maintain dewatering system in place until dewatering is no longer required.

3.6 BRACING AND SHORING

A. Conform to California and Federal OSHA requirements.

B. Place and maintain such bracing and shoring as may be required to support the sides of the excavations for the proper protection of workmen; to facilitate the work; to prevent damage to the pipes and appurtenances being constructed; and to prevent damage to adjacent structures or facilities. Remove all bracing and shoring upon completion of the work.

C. Be solely responsible for all bracing and shoring and, if requested by the Project Manager, submit details and calculations to the Project Manager. The Project Manager may forward the submittal to the Geotechnical Engineer, the Consulting Engineer and/or the California Division of Industrial Safety for their review. The Contractor's submittal shall include the basic design, assumed soils conditions and estimation of forces to be resisted, together with plans and specifications of the materials and methods to be used, and shall be prepared by a civil engineer or structural engineer registered in California. No excavations in trench section or around structures shall precede a response to the submittal by the Project Manager.

D. Be solely responsible for installing and extracting the sheathing in a manner which will not disturb the line, grade, or backfill compaction or operation of the utility being installed or adjacent utilities and facilities.

3.7 PIPE BEDDING

A. Obtain approval of bedding material from the Geotechnical Engineer.

B. Accurately shape bedding material to the line and grade called for on the Plans. Carefully place and compact bedding material to the elevation of the bottom of the pipe in layers not exceeding 8 inches in loose thickness. Compact bedding material at optimum water content to 90% relative compaction unless specified otherwise on the Plans or by the Geotechnical Engineer. Compact by pneumatic tampers or other mechanical means approved by the Geotechnical Engineer. Jetting or ponding of bedding material will not be permitted.

C. Stabilization of Trench Bottom: When the trench bottom is unstable due to wet or spongy foundation, trench bottom shall be stabilized with gravel or crushed rock. The State's inspector will determine the suitability of the trench bottom and the amount of gravel or crushed rock needed to stabilize a soft foundation. Soft material shall be removed and replaced with gravel or crushed rock as necessary.

D. Placement of Bedding Material: The trench bottom shall be cleaned to remove all loose native material prior to placing select backfill material. Sufficient select backfill material shall be placed in trench and tamped to bring trench bottom up to grade of the bottom of pipe. The relative compaction of tamped material shall be not less than 90 percent. It is the intention of these requirements to provide uniform bearing under the full length of pipe to a minimum width of 60 percent of the external diameter.

3.8 BACKFILLING

A. Initial Backfill:
   1. Obtain approval of backfill material from Geotechnical Engineer.
   2. Bring initial backfill up simultaneously on both sides of the pipe, so as to prevent any displacement of the pipe from its true alignment. Carefully place and compact initial backfill material to an elevation of 12 inches above the top of the pipe in layers not exceeding 8 inches in loose thickness. Compact bedding material at optimum water content to 90% relative compaction unless specified otherwise on the Plans or by the Geotechnical Engineer. Compact by pneumatic tampers or other mechanical means approved by the Geotechnical Engineer. Jetting or ponding of initial backfill material will not be permitted.

B. Pipe Detection: In trenches containing pressurized plastic pipes, tracer wire shall be placed directly above the pipe and shall be connected to all valves, existing exposed tracer wires, and other appurtenances as appropriate.

C. Installation of Tracer Wire:
   1. Install a continuous length of tracer wire for the full length of each run of nonmetallic pipe.
   2. Attach wire to top of pipe in such manner that it will not be displaced during construction operations.
   3. Form a mechanically and electrically continuous line throughout the pipeline, extending to the nearest valve or other pipeline appurtenance. Extend the wire up the outside of the valve box/riser and cut a hole that is 8 inches from the top, extend a 12 inch wire lead to the inside of the box. At other pipeline appurtenances, terminate the 12 inch wire lead inside the enclosure.
   4. Splice wire with a splicing device consisting of and electro-tin plated seamless copper sleeve conductor. Install as recommended by the manufacturer. Wrap splices and damaged insulation with electrician's tape.

D. Installation of Warning Tape
   1. Install tape approximately 1 foot above and along the centerline of the pipe.
   2. Where tape is not continuous lap tape ends a minimum of 2 feet.

E. Subsequent Backfill:
   1. Above the level of initial backfill, the trench shall be backfilled with non-expansive native material from trench excavation or with imported select backfill material (Contractor's option). Subsequent backfill shall be free of

vegetable matter, stones or lumps exceeding 3 inches in greatest dimension, and other unsatisfactory material.

2. Bring subsequent backfill to subgrade or finish grade as indicated. Carefully place and compact subsequent backfill material to the proper elevation in layers not exceeding 8 inches in loose thickness. Compact bedding material at optimum water content to 90% relative compaction, except that the upper 36 inches in areas subject to vehicular traffic shall be compacted to at least 95% relative compaction, unless specified otherwise on the Plans or by the Geotechnical Engineer. Compact by pneumatic tampers or other mechanical means approved by the Geotechnical Engineer. Jetting or ponding of subsequent backfill material will not be permitted.

F. Do not use compaction equipment or methods that produce horizontal or vertical earth pressures that may cause excessive pipe displacement or damage the pipe. Jetting of trench backfill is not permitted.

G. Utility backfill shall be inspected and tested by the Geotechnical Engineer during placement. Cooperate with the Geotechnical Engineer and provide working space for such tests in operations. Backfill not compacted in accordance with these specifications shall be re-compacted or removed as necessary and replaced to meet the specified requirements, to the satisfaction of the Geotechnical Engineer and the Project Manager prior to proceeding with the Project.

H. Compaction testing shall be in accordance with California Test Method ASTM D1556 or D1557.

3.9 CLEANUP

A. Upon completion of utility earthwork all lines, manholes catch basins, inlets, water meter boxes and other structures shall be thoroughly cleaned of dirt, rubbish, debris and obstructions of any kind to the satisfaction of the Project Manager.

END OF SECTION

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SECTION 32 50 00

RESTORATION OF SURFACES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes but is not limited to:
   1. General surface restoration.
   2. Asphalt concrete surface restoration.
   3. Concrete surface restoration.
   4. Pavement Marking
   5. Landscape/Planting restoration.

B. Related Sections:
   1. Section 31 21 00 – Utility Trenching and Backfill

PART 2 - PRODUCTS

2.1 MATERIALS

A. Refer to Section 31 21 00 – Utility Trenching and Backfill

PART 3 - EXECUTION

3.1 GENERAL

A. Surface restoration shall be in kind or better.

3.2 ASPHALT CONCRETE SURFACE RESTORATION

A. The base course for permanent asphalt concrete surface restoration shall be Class II Aggregate Base, equal in depth to the existing pavement structural section, but not less than 8 inches in depth.

B. The wearing surface for permanent surface restoration shall be asphalt concrete equal in thickness to the existing pavement, but not less than 3 inches in depth. The asphalt concrete shall be Type B Asphalt Concrete, in accordance with Section 39, Asphalt Concrete of the Caltrans Standard Specifications, 2015.

3.3 CONCRETE SURFACE RESTORATION

A. The base for permanent concrete surface restoration shall be Class II Aggregate base, equal in depth to the existing section, but not less than 6 inches in depth.

B. The wearing surface for permanent concrete surface restoration shall be concrete equal in thickness to the existing concrete section, but not less than 4 inches in depth. The concrete shall be in accordance with Section 90, Portland Cement Concrete of the Caltrans Standard Specifications, 2015.

3.4 PAVER RESTORATION

A. The base for paver surface restoration shall be sand bedding to a depth to match existing and compacted using a vibratory compacter.

B. The pavers shall be stockpiled and replaced to match the existing adjacent pavers.

3.5 PAVEMENT MARKING RESTORATION

A. Replace pavement marking disturbed by construction operations/activity to the satisfaction of the Project Manager in kind.

3.6 LANDSCAPE RESTORATION

A. Replace landscaping, planting, trees, shrubs, ground cover, irrigations systems disturbed by construction operations/activity to the satisfaction of the Project Manager in kind or better.

B. Disturbed lawn areas shall be replaced with Sod in kind or better to the satisfaction of the Project Manager.

END OF SECTION

SECTION 33 10 00

WATER SYSTEM

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Site water distribution system for domestic services up to 5 feet of any on-site building being served.

1.2 RELATED SECTIONS

A. Section 31 21 00 – Utility Trenching and Backfill

B. Section 32 50 00 – Restoration of Surfaces

1.3 RELATED DOCUMENTS

A. ASME
1. ASME A112.1.2: Air Gaps in Plumbing Systems (for Plumbing Fixtures and Water Connect Receptors
2. ASME B1.20.1: Pipe Threads, General Purpose, Inch
3. ASME B16.18: Cast Copper Alloy Solder Joint Pressure Fittings
4. ASME B16.22: Wrought Copper and Copper Alloy Solder – Joint Pressure fittings
5. ASME B16.26: Cast Copper Alloy Fittings for Flared Copper Tubes

B. ASTM
1. ASTM B61: Standard Specification for Steam or Valve Bronze Castings
2. ASTM B62: Standard Specification for Composition Bronze or Ounce Metal Castings
3. ASTM B88: Standard Specification for Seamless Copper Water Tube
4. ASTM C94: Standard Specification for Ready-Mixed Concrete

C. AWWA
1. C509: Resilient-Seated Gate Valves for Water Supply Service
2. C550: Protective Interior Coatings for Valves and Hydrants
3. C651: Disinfecting Water Mains
4. C800: Underground Service Line Valves and Fittings
5. C901: Polyethylene (PE) Pressure Pipe and Tubing, ½ inch through 3 inch for Water Service

D. National Sanitation Foundation (NSF)
1. NSF 61: Drinking Water System Components-Health Effects

1.4 DEFINITIONS

A. AASHTO: American Association of State Highway and Transportation Officials

B. ASTM: American Society for Testing Materials

C. AWWA: American Waterworks Association

D. NSF: National Sanitation Foundation

E. PCC: Portland cement concrete

F. PE: Polyethylene

1.5 SYSTEM PERFORMANCE REQUIREMENTS

A. Minimum Working Internal Pressures: As indicated on Plans. 20 PSI

B. External Load: Earth load indicated by depth of cover plus AASHTO H20 live load unless indicated otherwise.

1.6 SUBMITTALS

A. Follow submittal procedure outlined in General Conditions.

B. Product Data: Manufacturer's literature and data, including, where applicable, sizes, pressure rating, rated capacity, listing/approval stamps, labels, or other marking on equipment made to the specified standards for materials, and settings of selected models, for the following:
   1. Piping materials and fittings
   2. Gaskets, couplings, sleeves, and assembly bolts and nuts
   3. Restrained pipe fittings
   4. Gate valves
   5. Valve boxes, meter boxes, frames and covers
   6. Thrust block concrete mix
   7. Identification materials and devices

C. Field test reports: Indicate and interpret test results for compliance with the Project requirements.

1.7 QUALITY ASSURANCE

A. Comply with requirements of utility supplying water. Do not operate existing valves or tap existing piping without written permission and/or presence of utility company representative.

B. Comply with the following requirements and standards:
   1. NSF 61: "Drinking Water System Components-Health Effects" for materials for potable water.

C. Provide listing/approval stamp, label, or other marking on piping and specialties made to a specified standard.

1.8 MATERIAL DELIVERY, STORAGE AND HANDLING

A. Preparation for Transport: Prepare valves, according to the following:
   1. Ensure that valves are dry and internally protected against rust and corrosion.
   2. Protect valves against damage to threaded ends and flange faces.
   3. Set valves in best position for handling. Set valves closed to prevent rattling.

B. Deliver piping with factory-applied end-caps. Maintain end-caps through shipping, storage and handling to prevent pipe end damage and to prevent entrance of dirt, debris and moisture.

C. During Storage: Use precautions for valves, according to the following.
   1. Do not remove end protectors, unless necessary for inspection, then reinstall for storage.
   2. Protection from Weather: Store indoors and maintain temperature higher than ambient dew-point temperature. Store indoors and maintain temperature higher than ambient dew point temperature. Support off the ground or pavement in watertight enclosures when outdoor storage is necessary.

D. Do not store plastic pipe and fittings in direct sunlight.

E. Protect pipe, fittings, flanges, seals and specialties from moisture, dirt and damage.

F. Protect linings and coatings from damage.

G. Handle precast boxes, vaults and other precast structures according to manufacturer's written instructions.

H. Protect imported bedding and backfill material from contamination by other materials.

PART 2 - PRODUCTS

2.1 COPPER PIPE: SIZES ¾ INCH THROUGH 2 INCH

A. Pipe and Fittings: Provide Type K soft or hard copper pipe, seamless water tube, annealed conforming to ASTM B88.

B. Cast copper alloy solder-joint pressure fittings shall conform to ASME B16.18.

C. Wrought copper solder-joint pressure fittings or wrought copper alloy unions shall conform to ASME B16.22

D. Cast copper alloy flare fittings shall conform to ASME B16.26.

E. Wrought copper alloy body, hexagonal stock, metal-to-metal seating surfaces, and solder-joint threaded ends shall conform to ASME B1.20.1.

F. Compression connections shall be Mueller 110, Ford or approved equal.

G. Joints: Restrain by couplings.

2.2 PE PLASTIC PIPE: SIZES ½ INCH THROUGH 3 INCH

A. Pipe and Fittings: Provide PE3408, Pressure Class 200, DR 9 conforming to AWWA C901. PWPIPE, or approved equal.

B. Cast Copper Fittings shall conform to ASME B16.18.

C. Cast Copper Compression Fittings and connections shall be Mueller 110, Ford or approved equal.

D. Joints: Restrain with clamps or heat-fusion.

2.3 GATE VALVES

A. Provide valves conforming to AWWA C500 or AWWA C509

B. Valves shall be resilient-seated, with non-rising stem, gray or ductile-iron body and bonnet, with bronze or gray or ductile-iron gate, bronze stem and square stem operating nut unless noted otherwise.

C. All bolts, nuts and washers, except operating nut, shall be stainless steel.

D. Stem operating nut to be 2 inches square and open counter-clockwise.

E. Stem extensions shall be installed to bring the stem operating nut to within 2 feet of finish grade where the depth from finish grade to the stem operating nut exceeds 4 feet.

F. Provide protective epoxy interior and exterior coating according to AWWA C550 and manufacturer's recommendations.

G. For the domestic water system, valves shall also conform to NSF 61.

H. Service vine Valves and fittings, 2 inch and smaller shall be in accordance with AWWA C800

I. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the project include, but are not limited to, the following:
   1. Mueller Company
   2. M&H Valve Company
   3. Crane Company, or approved equal

2.4 VALVE BOXES, METER BOXES, FRAMES AND COVERS

A. Water Valve Box: Provide pre-cast concrete valve box for each buried valve. Provide box with steel or cast iron traffic cover marked "WATER". Christy Model G5 with G5C cover or approved equal.

B. Valve or Meter Boxes: Contractor shall verify box size required for water system appurtenances as shown in the Construction Documents. Provide a precast concrete utility box for each buried appurtenance. Provide a traffic-rated lid for H20 loading. A non-traffic rated lid may be used for boxes located in landscape areas. Christy, or approved equal.

2.5 THRUST BLOCKS

A. Use concrete conforming to ASTM C94 having a minimum compressive strength of 2,500 psi at 28 days; or use concrete of a mix not leaner than one part cement, 2 ½ parts sand, and 5 parts gravel, having the same minimum compressive strength.

B. Provide thrust blocks or mechanical pipe restraints at all fittings and changes in angle, alignment or elevation.

C. Where depth or location of existing structures prohibit the use of standard thrust blocks, gravity blocks may be used.

PART 3 - EXECUTION

3.1 PIPE INSTALLATION

A. Install underground, water piping buried at least 36 inches below finished grade.

B. Excavation, Bedding, Backfill, and Compaction: Section 31 21 00 – Utility Trenching and Backfill and Section 32 50 00 "Restoration of Surfaces".

C. Handling: Carefully handle during loading, hauling, unloading and placing operations to avoid breakage or damage. Use strap type slings for lifting and placing; no chains or hooks will be permitted. Comply with manufacturer's recommendations.

D. Pipe laying and jointing:
1. Provide proper facilities for lowering sections of pipe into trenches.
2. Do not drop or dump pipe, fittings, valves, or any other water line material into trenches.
3. Cut pipe accurately to length established at the site and work into place without springing or forcing. Replace any pipe or fitting that does not allow sufficient space for proper installation of jointing material.
4. Blocking or wedging between bells and spigots will not be permitted. Lay bell-and-spigot pipe with the bell end pointing in the direction of laying.
5. Grade the pipeline in straight lines; avoid the formation of dips and low points.
6. Support pipe at proper elevation and grade.

7. Provide secure firm, uniform support. Wood support blocking will not be permitted.
8. Lay pipe so that the full length of each section of pipe and each fitting rests solidly on the pipe bedding; excavate recesses to accommodate bells, joints, and couplings.
9. Provide anchors and supports where indicated and where necessary for fastening work into place.
10. Make proper provision for expansion and contraction of pipelines.
11. Keep trenches free of water until joints have been properly made.
12. Do not lay pipe when conditions of trench or weather prevent proper installation.
13. All fittings shall be blocked with appropriately sized thrust blocks as shown on the Plans.

E. Installation of Tracer Wire:
1. Install a continuous length of tracer wire for the full length of each run of nonmetallic pipe.
2. Attach wire to top of pipe in such manner that it will not be displaced during construction operations. See trenching details in the Civil drawings for more information about connecting to pipe.
3. Form a mechanically and electrically continuous line throughout the pipeline, extending to the nearest valve or other pipeline appurtenance. Extend the wire up the outside of the valve box/riser and cut a hole that is 8 inches from the top, extend a 12 inch wire lead to the inside of the box. At other pipeline appurtenances, terminate the 12-inch wire lead inside the enclosure.
4. Splice wire with a splicing device consisting of and electro-tin plated seamless copper sleeve conductor. Install as recommended by the manufacturer. Wrap splices and damaged insulation with electrician's tape.

F. Installation of Warning Tape
1. Install tape approximately 1 foot above and along the centerline of the pipe.
2. Where tape is not continuous, lap tape ends a minimum of 2 feet.

G. Curved Alignment: When necessary to conform to the alignment specifically indicated, lay pipe on a curved alignment by means of asymmetrical closure of joints or bending of the pipe barrel. If necessary, use shorter than the standard lengths of pipe to achieve curvature specified. Do not exceed the recommendations of the pipe manufacture for deflections at the joints or pipe bending.

H. Connections to Existing Lines:
1. Make connections to existing water lines after approval is obtained and with a minimum interruption of service on the existing line.
2. Make connections to existing lines under pressure in accordance with the recommended procedures of a manufacturer of pipe of which the line being tapped is made.

I. Closure: Close open ends of pipes and appurtenance openings at the end of each day's work or when work is not in progress.

3.2 INSTALLATION OF POLYETHYLENE PIPING

A. Install pipe, fittings, and appurtenances in accordance with manufacturer's recommendations.

B. Jointing:
   1. Provide mechanical joints, compression fittings, or flanges as recommended by the manufacturer.
   2. Jointing shall be performed using proper equipment and machinery by trained and certified personnel.
   3. Joints, fittings and tools shall be clean and free of burrs, oil, and dirt.
   4. Butt fusion:
      a. Pipe ends shall be faced to establish clean, parallel mating surfaces.
      b. Align and securely fasten the components to be joined squarely between the jaws of the joining machine.
      c. Heat the ends of the pipe to the pipe manufacturer's recommended temperature interface pressure and time duration. A pyrometer or other surface temperature-measuring device should be used to insure proper temperature of the heating tool. Temperature indicating crayons shall not be used on a surface which will come into contact with the pipe or fitting.
      d. Prevent molten plastic from sticking to the heater faces. Molten plastic on the heater faces shall be removed immediately according to the tool manufacturer's instructions.
      e. Bring the molten ends together with sufficient pressure to properly mix the pipe materials and form a homogeneous joint. Hold the molten joint under pressure until cooled adequately to develop strength. Refer to the manufacturer's recommendations for temperature, pressure, holding, and cooling times.
      f. Remove the inside bead from the fusion process using Manufacturer's recommended procedure.

3.3 INSTALLATION OF VALVES

A. Gate Valves
   1. Install gate valves conforming to AWWA C500 and UL 262 in accordance with the requirements of AWWA C600 for valve-and-fitting installation and with the recommendations of the Appendix (Installation, operation, and Maintenance of Gate Valves) to AWWA C509.
   2. Install gate valves conforming to AWWA C509 in accordance with the requirements of AWWA C600 for valve-and-fitting installation and with the recommendations of the Appendix (Installation, Operation, and Maintenance of Gate Valves) to AWWA C509.
   3. Install gate valves on PVC water mains in addition in accordance with the recommendations for appurtenance installation in AWWA Manual M23.

B. Joints:

1. Valves on PE Pipe: Mechanical joint valves for buried locations. Flanged-end valves for installation in vaults/pits.

3.4 INSTALLATION OF VALVE AND METER BOXES

A. Boxes shall be centered over the appurtenance so as not to transmit shock or stress. Covers shall be set flush with the surface of the finished pavement, or as shown on the Plans. Backfill shall be placed around the boxes and compacted to the specified level in a manner that will not damage or displace the box from proper alignment or grade. Misaligned boxes shall be excavated, plumbed, and backfilled at no additional cost to the Owner.

3.5 ANCHORAGE INSTALLATION

A. Mechanically Restrained Joints: Install where indicated for lengths indicated in accordance with manufacturer's instructions.

B. PCC Thrust Blocks: Install where required and as indicated. Bearing area indicated is to be against undisturbed earth. Allow a minimum of 24 hours curing time before introducing water into the pipeline and allow a minimum of 7 days curing time before pressure testing.

3.6 CONNECTION TO EXISTING

A. Contractor shall submit a work plan delineating the work sequence and duration of each task.

B. The Contractor to submit a contingency plan in case work extends beyond the allowable shutdown duration

C. Contractor to notify Project Manager 48 hours prior to shutdown.

D. Prior to shutdown the Contractor shall have the following:
   1. Approved submittals for the work to be done
   2. Approved work plan
   3. Approved contingency plan
   4. The material, tools and equipment necessary to do the work, including pumps, generator, lighting, etc.

E. No work shall be done within two weeks from a wet weather event.

F. Contractor to check the weather (NOAA website) and plan work during dry weather period.

3.7 HYDROSTATIC PRESSURE AND LEAKAGE TEST

A. General:
   1. Provide all necessary materials and equipment, including water.

2. Backfill all trenches sufficient to hold pipe firmly in position.
3. Allow time for thrust blocks to cure prior to testing.
4. Flush all pipes prior to testing to remove all foreign material.
5. Perform pressure and leakage test concurrently.
6. Apply test pressure by means of a pump connected to the pipe.
7. Base test pressure on the elevation of the lowest point in the line.
8. Fill each closed valve section or bulk-headed section slowly. Expel air from section being tested by means of permanent air vents installed at high points or by means of temporary corporation cocks installed at such points. Remove and plug the temporary corporation cocks at the conclusion of the test.
9. Ensure the release of air from the line during filling, and prevent collapse due to vacuum when dewatering the line.
10. The pressure test on mortar-lined pipe shall not begin until the pipe has been filled with water for at least 24 hours to allow for absorption in the cement mortar lining.
11. Allow the system to stabilize at the test pressure before conducting the leakage test.
12. Do not operate valves in either the opening or closing direction at differential pressures above the valves rated pressure.
13. Maintain test pressure as specified for type of pipe being tested.
14. Pressure Test: Examine any exposed pipe, fittings, valves, hydrants and joints during the test, if no leaks are observed the section of line has passed the pressure test. If leaks are observed, repair any damaged or defective pipe, fittings, valves, or hydrants, and repeat the pressure test.
15. Leakage Test: Perform as specified hereafter for the type of pipe being installed.

B. Preparation for Test
1. Vents shall be provided at the high points of the system and drains provided where means of venting or draining do not exist.
2. Remove or block off, all relief valves, rupture discs, alarms, control instruments, etc. that shall not be subjected to the test pressure.
3. All discs, balls, or pistons from check valves shall be removed if they interfere with filling of the system. Open all valves between inlet and outlet of the section to be tested.
4. Connect pump and provide temporary closures for all of the external openings in the system. Use caution to insure that the closures are properly designed and strong enough to withstand the test pressure.
5. A joint previously tested in accordance with this specification may be covered or insulated.
6. Expansion joints shall be provided with temporary restraint for additional pressure under test or shall be isolated from the test.
7. Flanged joints, where blanks are inserted to isolate equipment during the test, need not be tested.

C. PE Pipe Leakage Test:

1. The pipe shall be subjected to a hydrostatic pressure of 50 percent above the normal operating pressure, or 150 psi, whichever is greater. In no case shall the pressure be allowed to exceed the design pressure for pipe, appurtenances, or thrust restraints.
2. Apply the test pressure and allow the pipe to stand, without makeup pressure, for sufficient time to allow for diametric expansion or pipe stretching to stabilize, approximately two to three hours.
3. After the above stabilization has occurred, return the section being tested to the test pressure. Hold the test pressure for four hours. If the pressure in the test section drops, and it is determined the drop may be the result of expansion resulting from increasing temperature, a limited amount of additional water may be added to bring the pressure back to the test pressure. Allowable amounts of make-up water, to compensate for expansion due to increasing temperature, are as shown in the following table. Make-up water is only allowed during this final test period and not during the initial stabilization described in the previous paragraph. If the additional water added is less than the allowable shown in the table and there are no visual leaks or significant pressure drops, the tested section passes the test.

Nominal Pipe Size (in.)	Allowance for Expansion (U.S. Gals./100 Feet of Pipe)		
	1-Hour Test	2-Hour Test	3-Hour Test
3	0.10	0.15	0.25
4	0.13	0.25	0.40
6	0.30	0.60	0.90
8	0.50	1.0	1.50
10	0.75	1.3	2.1
11	1.0	2.0	3.0
12	1.1	2.3	3.4
14	1.4	2.8	4.2
16	1.7	3.3	5.0
18	2.2	4.3	6.5
20	2.8	5.5	8.0
22	3.5	7.0	10.5
24	4.5	8.9	13.3
28	5.5	11.1	16.8
32	7.0	14.3	21.5
36	9.0	18.0	27.0
40	11.0	22.0	33.0
48	15.0	27.0	43.0

3.8 CLEANING

A. At the conclusion of the work, thoroughly clean all pipelines by flushing with water or other means to remove all dirt, stones, pieces of wood, or other material, which may have entered the pipes during the construction period. Debris cleaned from the lines

shall be removed from the low end of the pipeline. If after this cleaning, obstructions remain, they shall be removed. After the pipelines are cleaned and if the groundwater level is above the pipe or following a heavy rain, the School District will examine the pipes for leaks. If any further defective pipes or joints are discovered, the Contractor shall repair them. Finished paving shall not be installed prior to completion of all cleaning and testing.

3.9 DISINFECTION OF PIPELINES

A. After completion of the hydrostatic test, the mains shall be thoroughly flushed with a minimum pipe velocity of 2.5 fps and chlorinated in accordance with the latest revision of AWWA 651, Standards of Disinfecting Water Mains. Any one of the methods therein described may be used, with the additional requirement of 50 ppm chlorination minimum initial application. At the end of the contact period, the mains shall again be flushed and bacteriological samples taken.

B. If necessary, the Contractor shall provide, at his expense, outlets from which to take the samples. The location of the chlorination and sampling points will be determined by the Project Manager in the field. Taps for chlorination and sampling shall be installed. The Contractor shall uncover and backfill the taps as required.

C. Disinfection of tie-ins shall be performed by the Contractor by swabbing with chlorine or by other approved methods. Following a tie-in, the area affected by the tie-in shall be thoroughly flushed and bacteriological samples will be taken as deemed necessary.

D. All treated water flushed from the lines shall be dechlorinated and disposed of by discharging to the locations identified in the Plans, or by other approved means. No discharge of chlorinated water to any storm sewer or natural watercourse will be allowed, unless properly dechlorinated.

E. The Contractor shall rechlorinate and retest any lines that do not meet the requirements of the above testing. The line shall not be placed in service until the requirements of the State Public Health Department are met.

3.10 BACTERIOLOGICAL TESTING

A. Samples shall be gathered and tests conducted at the expense of the Contractor by a laboratory approved by the Owner.

B. Water samples are to be taken at representative points no less than one test per 500 feet of pipe, plus one test at each end of the pipe; or as required by the Owner.

C. After the samples have passed the bacteriological testing, the Contractor will be notified and arrangements can be made to make tie-ins and connections to house services.

D. Each water sample will have passed the bacteria tests if they show zero total coliform per 100 ml and not more than 50 non-sheen bacteria per 100 ml, and when the turbidity is no greater than the source water.

E. Samples shall be taken no sooner than 24 hours after final flushing.

F. Jumpers and/or plates shall be pulled within 14 days of the notification of a successful test, or new bacteria samples will have to be taken.

G. Follow-up bacteriological testing shall take place after tie-ins have been made, and shall meet the same passing requirements as the initial tests.

END OF SECTION

SECTION 33 52 16.23

NATURAL-GAS PIPING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Work includes installation of natural gas mains, natural gas services, regulators, valves, tracer wire, polyethylene valves and boxes, polyethylene fittings, modification of existing natural gas plumbing to accommodate relocation of all related equipment and fittings in accordance with the requirements of the Contract Documents.

1.2 RELATED SECTIONS

A. Section 31 21 00, Utility Trenching and Backfill

1.3 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

B. ASTM
1. ASTM D2513 "Standard Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing and Fittings"
2. ASTM D3350 "Standard Specification for Polyethylene Plastics Pipe and Fittings Materials

1.4 PERFORMANCE REQUIREMENTS

A. Minimum Operating-Pressure Ratings:
1. Piping and Valves: 100 psig minimum unless otherwise indicated.
2. Service Regulators: 65 psig minimum unless otherwise indicated.

1.5 DEFINITIONS

A. ASME: American Society of Mechanical Engineers

B. ASTM: American Society for Testing Materials

C. PE: Polyethylene

D. Psig: Pounds per square inch in gauge

E. NPS: Nominal Pipe Size

1.6 ACTION SUBMITTALS

A. Product Data: For each type of the following:
   1. Valves. Include pressure rating, capacity, settings, and electrical connection data of selected models.
   2. Pressure regulators. Indicate pressure ratings and capacities.

1.7 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

1.8 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For pressure regulators to include in emergency, operation, and maintenance manuals.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Handling Flammable Liquids: Remove and dispose of liquids from existing natural-gas piping according to requirements of authorities having jurisdiction.

B. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.

C. Store and handle pipes and tubes having factory-applied protective coatings to avoid damaging coating, and protect from direct sunlight.

D. Protect stored PE pipes and valves from direct sunlight.

PART 2 - PRODUCTS

2.1 PIPES, TUBES, AND FITTINGS

A. PE Pipe: ASTM D 2513, SDR 11.
   1. All pipe shall be Medium Density Polyethylene (MDPE) 2708, uniformly yellow in color, conforming to the latest edition of ASTM D3350 "Standard Specification for Polyethylene Plastics Pipe and Fittings Materials", cell classification 234373E (Suggested product: JM Eagle: Medium-Density Polyethylene yellow gas pipe).
   2. Markings: Polyethylene gas valve markings shall be in compliance with the latest edition of ASTM F2897 "Standard Specification for Tracking and Traceability Encoding System of Natural Gas Distribution Components (Pipe, Tubing, Fittings, Valves, and Appurtenances)" and consist of a 16-digit alpha-numeric code and scannable code-128 barcode, or QR code, with standardized encoding of pipe specifications as described in the referenced Standard.
   3. PE Fittings: ASTM D 3261, butt-fusion type with dimensions matching PE pipe.

4. PE Transition Fittings: Factory-fabricated fittings with PE pipe complying with ASTM D 2513, SDR 11; and steel pipe complying with ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.
5. Anodeless Service-Line Risers: Factory fabricated and leak tested.
   a. Underground Portion: PE pipe complying with ASTM D 2513, SDR 11 inlet.
   b. Casing: Steel pipe complying with ASTM A 53/A 53M, Schedule 40, Grade A, with corrosion-protective coating covering. Vent casing aboveground.
   c. Aboveground Portion: PE transition fitting.
   d. Outlet shall be threaded or flanged or suitable for welded connection.
   e. Tracer wire connection.
   f. Ultraviolet shield.
   g. Stake supports with factory finish to match steel pipe casing or carrier pipe.
6. Steel Mechanical Couplings: Capable of joining plain-end PE pipe to PE pipe, steel pipe to PE pipe, or steel pipe to steel pipe.
   a. Steel flanges and tube with epoxy finish.
   b. Buna-nitrile seals.
   c. Steel bolts, washers, and nuts.
   d. Factory-installed anode for steel-body couplings installed underground.

2.2 MANUAL GAS SHUTOFF VALVES

A. See "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles for where each valve type is applied in various services.

B. PE Gas Valves: Comply with ASME B16.40.
   1. The polyethylene portion of the gas valve shall be one piece molded medium density PE 2708 polyethylene conforming to the latest edition of ASTM D3350 “Standard Specification for Polyethylene Plastics Pipe and Fittings Materials”, cell classification 234373E
   2. All polyethylene gas valves shall be full port, assembled to operate smoothly and provide a gas tight seal(s). Polyethylene gas valves shall utilize a 2” square operating nut with positive position indication and over-torque protection actuator. Each valve’s stem shall be equipped with weather seal(s) protecting inner parts from ground water and foreign debris intrusion. All polyethylene valves shall be supplied with the butt end outlets Ball: PE.

C. Shutoff Valves: Comply with all applicable parts of CFR Title 49, Part 192 and ASME/ANSI B16.33:
   1. Homestead Series 600 Lubricated Plug Valve to match the other valves onsite.
   2. Valve design shall conform to MSS-SP-78, Type IV, Class 125.
   3. Threaded valve connections shall conform to ASME/ANSI B1.20.1

4. Valves shall be furnished with a lubricating/sealing system to provide a means for delivering plug valve lubricant/sealant to the body-plug interface.

D. Valve Boxes:
1. Cast-iron, two-section box.
2. Top section with cover with "GAS" lettering.
3. Bottom section with base to fit over valve and barrel a minimum of 5 inches in diameter.
4. Adjustable cast-iron extensions of length required for depth of bury.
5. Include tee-handle, steel operating wrench with socket end fitting valve nut or flat head, and with stem of length required to operate valve.

2.3 PRESSURE REGULATORS

A. General Requirements:
1. Single stage and suitable for natural gas.
2. Steel jacket and corrosion-resistant components.
3. Elevation compensator.
4. End Connections: Threaded for regulators NPS 2 and smaller.

B. Service Pressure Regulators: Comply with ANSI B109.4-1998.
1. Elster American Meter – 1800C Service Regulator to match existing onsite regulators.
2. Body and Diaphragm Case: Cast iron or die-cast aluminum.
3. Springs: Zinc-plated steel; interchangeable.
4. Diaphragm Plate: Zinc-plated steel.
5. Seat Disc: Nitrile rubber resistant to gas impurities, abrasion, and deformation at the valve port.
6. Orifice: Aluminum; interchangeable.
7. Seal Plug: Ultraviolet-stabilized, mineral-filled nylon.
8. Single-port, self-contained regulator with orifice no larger than required at maximum pressure inlet, and no pressure sensing piping external to the regulator.
9. Pressure regulator shall maintain discharge pressure setting downstream, and not exceed 150 percent of design discharge pressure at shutoff.
10. Overpressure Protection Device: Factory mounted on pressure regulator.
11. Atmospheric Vent: Factory- or field-installed, stainless-steel screen in opening if not connected to vent piping.
12. Maximum Inlet Pressure: 100 psig.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine roughing-in for natural-gas piping system to verify actual locations of piping connections before equipment installation.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Close equipment shutoff valves before turning off natural gas to premises or piping section.

B. Inspect natural-gas piping according to NFPA 54 to determine that natural-gas utilization devices are turned off in piping section affected.

C. Comply with NFPA 54 requirements for prevention of accidental ignition.

3.3 OUTDOOR PIPING INSTALLATION

A. Comply with NFPA 54 for installation and purging of natural-gas piping.

B. Install underground, natural-gas piping buried at least 30 inches below finished grade. Comply with requirements in Section 31 21 00 "Utility Trenching and Backfill" for excavating, trenching, and backfilling and Section 32 50 00 “Restoration of Surfaces”.
   1. If natural-gas piping is installed less than 30 inches below finished grade, install it in containment conduit.

C. Install underground, PE, natural-gas piping according to ASTM D 2774.

D. Install fittings for changes in direction and branch connections.

E. Installation of Tracer Wire:
   1. Install a continuous length of tracer wire for the full length of each run of nonmetallic pipe.
   2. Attach wire to top of pipe in such manner that it will not be displaced during construction operations. See trenching details in the Civil drawings for more information about connecting to pipe.
   3. Form a mechanically and electrically continuous line throughout the pipeline, extending to the nearest valve or other pipeline appurtenance. Extend the wire up the outside of the valve box/riser and cut a hole that is 8 inches from the top, extend a 12 inch wire lead to the inside of the box. At other pipeline appurtenances, terminate the 12-inch wire lead inside the enclosure.
   4. Splice wire with a splicing device consisting of and electro-tin plated seamless copper sleeve conductor. Install as recommended by the manufacturer. Wrap splices and damaged insulation with electrician’s tape.

F. Installation of Warning Tape
   1. Install tape approximately 1 foot above and along the centerline of the pipe.
   2. Where tape is not continuous, lap tape ends a minimum of 2 feet.

3.4 VALVE INSTALLATION

A. Install underground valves with valve boxes. Valves shall be installed at the marked locations. Valve supports are required for 2" valves only. Valves shall be installed with the operating nut on top, facing vertically up.

B. Install regulators and overpressure protection devices with maintenance access space adequate for servicing and testing.

C. Install aboveground shutoff valves before regulator at each building.

3.5 PIPING JOINT CONSTRUCTION

A. Ream ends of pipes and tubes and remove burrs.

B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

C. Threaded Joints:
1. Thread pipe with tapered pipe threads complying with ASME B1.20.1.
2. Cut threads full and clean using sharp dies.
3. Ream threaded pipe ends to remove burrs and restore full inside diameter of pipe.
4. Apply appropriate tape or thread compound to external pipe threads unless dryseal threading is specified.
5. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

D. PE Piping Heat-Fusion Joints: Clean and dry joining surfaces by wiping with clean cloth or paper towels. Join according to ASTM D 2657.
1. Plain-End Pipe and Fittings: Butt fusion shall be conducted in accordance with the manufacturer's recommended fusion procedure and in compliance with the most current version of ASTM F2620.
2. Ambient temperature shall be between 55° F and 85° F prior to pipe fusion; otherwise pipe shall be protected from direct sunlight and cooled down until the ambient temperature falls within the above temperature range.

3.6 PAINTING

A. Paint exposed, exterior metal piping, valves, service regulators, except components, with factory-applied paint or protective coating.
1. Alkyd System: MPI EXT 5.1D.
a. Prime Coat: Alkyd anticorrosive metal primer.
b. Intermediate Coat: Exterior alkyd enamel matching topcoat.
c. Topcoat: Exterior alkyd enamel semigloss.
d. Color: Gray.

B. Damage and Touchup: Repair marred and damaged factory-applied finishes with materials and by procedures to match original factory finish.

3.7 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:
   1. Test, inspect, and purge natural gas according to NFPA 54 and authorities having jurisdiction.

C. Natural-gas piping will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

3.8 UNDERGROUND MANUAL GAS SHUTOFF VALVE SCHEDULE

A. Connections to Existing Gas Piping: Use valve and fitting assemblies made for tapping utility's gas mains and listed by an NRTL.

B. Underground:
   1. PE valves.

3.9 ABOVEGROUND MANUAL GAS SHUTOFF VALVE SCHEDULE

A. Valves for pipe sizes NPS 2 and smaller at each building shall be one of the following:
   1. Valve design shall conform to MSS-SP-78, Type IV, Class 125.

END OF SECTION

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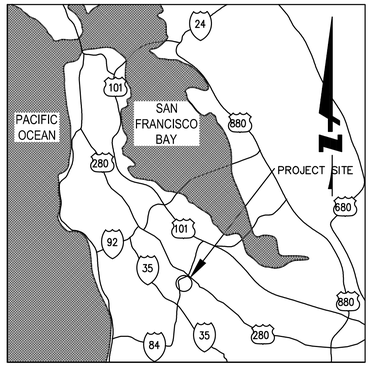
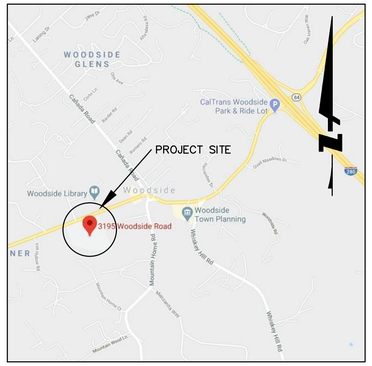
WOODSIDE ELEMENTARY SCHOOL – UNDERGROUND UTILITY GAS PIPING REPAIR

WOODSIDE ELEMENTARY SCHOOL DISTRICT
3195 WOODSIDE ROAD
WOODSIDE, CA 94062

BID ADDENDUM #1
APRIL 23, 2020
APP# 01-118889



VICINITY MAP
N.T.S.



LOCATION MAP
N.T.S.

SHEET INDEX

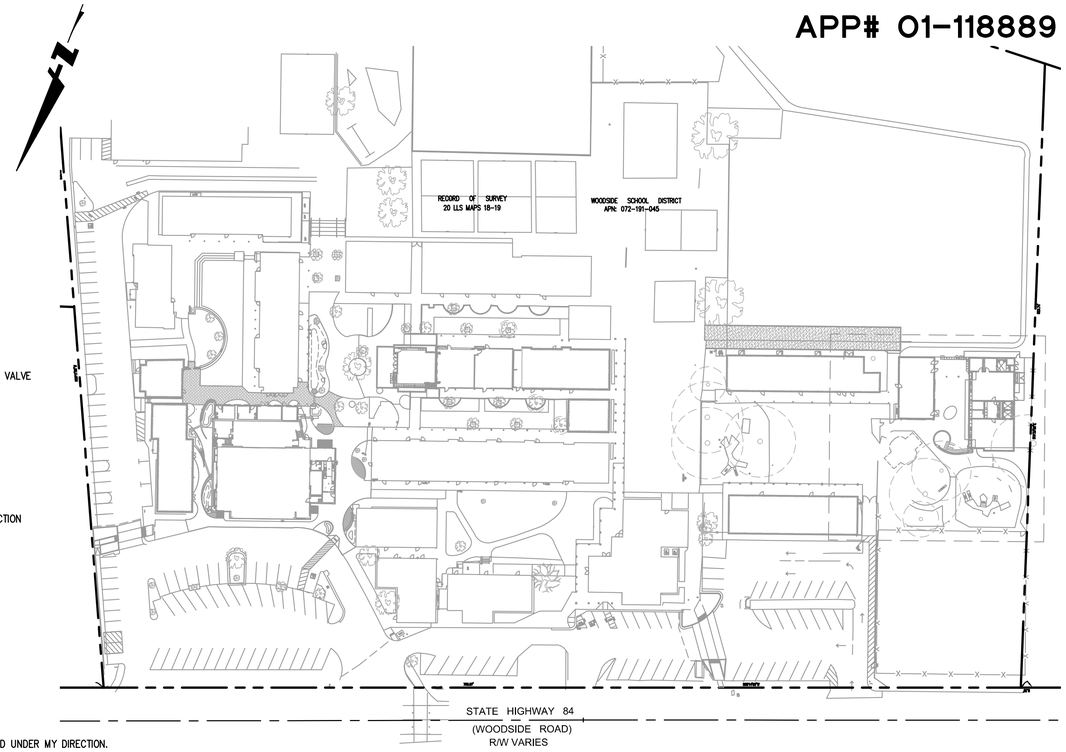
SHEET COUNT – 15 TOTAL

ABBREVIATIONS:

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
AD	AREA DRAIN
ATD	ATRIUM DRAIN
BFPD	BACK FLOW PREVENTION DEVICE
BW	BOTTOM OF WALL ELEVATION
CB	CATCH BASIN
CL	CENTER LINE
CIP	CAST IRON PIPE
CONC	CONCRETE
DDCV	DOUBLE DETECTOR CHECK VALVE
DIP	DUCTILE IRON PIPE
DS	ROOF DOWN SPOUT
DW	DOMESTIC WATER LINE
(E)	EXISTING
EG	EXISTING GRADE
ELEC	ELECTRICAL
EM	ELECTRICAL METER
EP	EDGE OF PAVEMENT
FC	FACE OF CURB ELEVATION
FDC	FIRE DEPARTMENT CONNECTION
FG	FINISHED GROUND ELEVATION
FM	FORCE MAIN LINE
FS	FINISHED SURFACE ELEVATION
FW	FIRE WATER LINE
GB	GRADE BREAK
GM	GAS METER
GR	GRATE ELEVATION
GV	GATE VALVE
HP	HIGH POINT
INV	INVERT ELEVATION
JT	JOINT TRENCH
JP	JOINT POLE
LD	LANDSCAPE DRAIN
LF	LINEAR FEET
LP	LOW POINT
(N)	NEW
PIV	POST INDICATOR VALVE
POC	POINT OF CONNECTION
RIM	RIM ELEVATION
S	SLOPE
SD	STORM DRAIN
SDCO	STORM DRAIN CLEANOUT
SGR	SEE GEOTECHNICAL REPORT
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
TW	TOP OF WALL ELEVATION
TYP	TYPICAL
VD	PIPE VERTICAL DROP
W	DOMESTIC WATER LINE
WM	WATER METER

LEGEND:

EXISTING	PROPOSED	
		BOUNDARY
		LIMIT OF WORK
6" SS	6" SS	SANITARY SEWER
10" SD	10" SD	SOLID STORM DRAIN
4" SBD	4" SBD	PERFORATED SUB DRAIN
FM	2"FM	FORCE MAIN
10" FW	10"FW	FIRE SERVICE
2" W	2"W	DOMESTIC WATER SERVICE
IRR	2"IRR	IRRIGATION SERVICE
GAS	G	NATURAL GAS
T	T	TELEPHONE
TV	TV	TV/CABLE TV
E	E	ELECTRIC
JT	JT	JOINT TRENCH
O/H	O/H	OVERHEAD WIRES
X	X	FENCE
○	○	CLEAN OUT TO GRADE
◉	◉	FOUND MONUMENT
	DDCV	DOUBLE DETECTOR CHECK VALVE
G	⋈	VALVE
	⋈	METER BOX
	☼	STREET LIGHT
•	•	DRAIN
■	■	ATRIUM DRAIN
▤	▣	CATCH BASIN
		FIRE HYDRANT
		FIRE DEPARTMENT CONNECTION
		BENCHMARK
		MANHOLE
		SIGN
		SPLASH BLOCK
2 / C5.1	2 / C5.1	DETAIL NUMBER / SHEET LOCATION



PROJECT DIRECTORY:

OWNER:	STEVE FRANK – DISTRICT SUPERINTENDENT WOODSIDE SCHOOL DISTRICT 3195 WOODSIDE ROAD WOODSIDE, CA, 94062 (650) 851-1571
PROJECT MANAGER/ DISTRICT REPRESENTATIVE:	TIM DOANE CAPITAL PROGRAM MANAGEMENT 1851 HERITAGE LANE, SUITE 210 SACRAMENTO, CA 95815 (916) 553-4400
CIVIL:	DALE LEDA – PROJECT MANAGER BKF ENGINEERS 255 SHORELINE DR, SUITE 200 REDWOOD CITY, CA 94065 (650) 482-6300
GEOTECHNICAL ENGINEER:	J. MICHAEL CLEARY CLEARY CONSULTANTS, INC. 900 N. SAN ANTONIO ROAD LOS ALTOS, CA 4022 (650) 948-0574

PROJECT INFORMATION:

SCOPE OF WORK:	SITE UTILITY INFRASTRUCTURE UPGRADES • REPLACE (E)GAS AND (E)WATER SUPPLY PIPING • REPLACE LANDSCAPING, CONCRETE, AND ASPHALT PAVING AS REQUIRED DUE TO UTILITY WORK
PROJECT ADDRESS:	WOODSIDE ELEMENTARY SCHOOL 3195 WOODSIDE RD, WOODSIDE, CA 94062
OCCUPANCY CLASSIFICATION:	GROUP E EDUCATION (NO ADDED BUILDING AREA PROPOSED)

APPLICABLE CODES:

CALIFORNIA CODES
2019 CALIFORNIA BUILDING CODE
2019 CALIFORNIA ELECTRICAL CODE
2019 CALIFORNIA MECHANICAL
2019 CALIFORNIA PLUMBING CODE
2019 CALIFORNIA ENERGY CODE
2019 CALIFORNIA FIRE CODE
2019 CALIFORNIA EXISTING BUILDING CODE
2019 CALIFORNIA GREEN BUILDING STANDARDS CODE
TITLE 19, CCR, PUBLIC SAFETY, STATE FIRE MARSHALL REGULATIONS
CALIFORNIA HEALTH AND SAFETY CODE, DIVISION 22

NATIONAL REFERENCE STANDARDS
NFPA 13, AUTOMATIC SPRINKLER SYSTEM, 2018 EDITION
NFPA 14, INSTALLATION OF STANDPIPE AND HOSE SYSTEMS, 2018 EDITION
NFPA 17, DRY CHEMICAL EXTINGUISHING SYSTEMS, 2018 EDITION
NFPA 17-A, WET CHEMICAL EXTINGUISHING SYSTEMS, 2018 EDITION
NFPA 24, INSTALLATION OF PRIVATE FIRE SERVICE MAINS, 2018 EDITION
NFPA 54, NATIONAL FUEL GAS CODE, 2018 EDITION
NFPA 72, NATIONAL FIRE ALARM CODE, 2018 EDITION
NFPA 110, EMERGENCY AND STANDBY POWER SYSTEMS, 2018 EDITION

FEMA FLOOD ZONE:

THE SITE IS LOCATED IN FEMA ZONE X, AREA OF MINIMAL FLOOD HAZARD PER FLOOD MAP 06081C0292E.

STATEMENT OF CONFORMANCE:

Statement of General Conformance
FOR ARCHITECTS/ENGINEERS WHO UTILIZE PLANS, INCLUDING BUT NOT LIMITED TO SHOP DRAWINGS, PREPARED BY OTHER LICENSED DESIGN PROFESSIONALS AND/OR CONSULTANTS

(Application No. 01-118889 File No. _____)

☒ The drawings or sheets listed on the cover or index sheet
☒ This drawing, page of specifications/calculations

have been prepared by other design professionals or consultants who are licensed and/or authorized to prepare such drawings in this state. It has been examined by me for:

1) design intent and appears to meet the appropriate requirements of Title 24, California Code of Regulations and the project specifications prepared by me, and
2) coordination with my plans and specifications and is acceptable for incorporation into the construction of this project.

The Statement of General Conformance "shall not be construed as relieving me of my rights, duties, and responsibilities under Sections 17302 and 81138 of the Education Code and Sections 4-336, 4-341 and 4-344" of Title 24, Part 1. *(Title 24, Part 1, Section 4-317 [b])*

I find that: ☒ All drawings or sheets listed on the cover or index sheet ☐ This drawing or page	
☒ is/are in general conformance with the project design intent, and ☒ has/have been coordinated with the project plans and specifications.	☐ is/are in general conformance with the project design intent, and ☐ has/have been coordinated with the project plans and specifications.
Signature: DLedA — Date: 4/15/20	Signature: — Date:
Architect or Engineer designated to be in general responsible charge	Architect or Engineer delegated responsibility for this portion of the work
Print Name: DALE LEDA	Print Name:
License Number: 78436 — Expiration Date: 9/30/2021	License Number: — Expiration Date:

ENGINEER'S STATEMENT

THIS SITE IMPROVEMENT PLAN SUBMITTAL HAS BEEN PREPARED UNDER MY DIRECTION.

04/23/2020
DATE

ROLAND N.V. HAGA
VICE PRESIDENT
P.E. #43971
BKF ENGINEERS

REGISTERED PROFESSIONAL ENGINEER — ROLAND N.V. HAGA — C 43971 — CIVIL — STATE OF CALIFORNIA

ENGINEER OF WORK

I HEREBY DECLARE THAT I AM THE CIVIL ENGINEER OF WORK FOR THIS PROJECT AND THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS PROJECT AS DEFINED IN SECTION 6703 OF THE STATE OF CALIFORNIA, BUSINESS PROFESSIONAL CODES, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

04/23/2020
DATE

DALE LEDA
PROJECT MANAGER
P.E. #78436
BKF ENGINEERS

REGISTERED PROFESSIONAL ENGINEER — DALE J. LEDA — C 78436 — CIVIL — STATE OF CALIFORNIA

0 60 120
GRAPHIC SCALE

811 Know what's below. Call before you dig.

FILE #: PTN #:

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT

APP #: 01-118889

AC: _____ FLS: _____ SS: _____
DATE: _____

Woodside Elementary School District

Woodside Elementary School Underground Utility Gas Piping Repair

3195 Woodside Road
Woodside
CA 94062

REGISTERED PROFESSIONAL ENGINEER — DALE J. LEDA — C 78436 — CIVIL — STATE OF CALIFORNIA

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 Shoreline Drive, Suite 200
Redwood City, CA 94065
(650) 482-6300

Date	Issued For
04.08.20	Contractor Bidset
04.23.20	Addendum #1 (1)

SCALE: 1" = 60'

20200196-10

TITLE SHEET

CO.0

CAUTION:

1. CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT FOR LOCATION OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION- PHONE (800) 642-2444. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES PRIOR TO BEGINNING ANY WORK ON THIS SITE.
2. CONTRACTOR SHALL PROCURE AN UNDERGROUND LOCATOR SERVICE TO IDENTIFY ALL EXISTING UNDERGROUND IN AREAS OF EXCAVATION AND TAKE SPECIAL PRECAUTIONS TO PROTECT FROM DAMAGE.

GENERAL SITE NOTES:

1. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING ON THIS WORK AND CONSIDER THE EXISTING CONDITIONS AND SITE CONSTRAINTS IN THE BID. CONTRACTOR SHALL BE IN THE POSSESSION OF AND FAMILIAR WITH ALL APPLICABLE GOVERNING AGENCIES STANDARD DETAILS AND SPECIFICATIONS PRIOR TO SUBMITTING OF A BID.
2. ALL WORK ON-SITE AND IN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO ALL APPLICABLE GOVERNING AGENCIES STANDARD DETAILS & SPECIFICATIONS.
3. PRIOR TO BEGINNING WORK, AND AFTER INITIAL HORIZONTAL CONTROL STAKING, CONTRACTOR SHALL FIELD CHECK ALL ELEVATIONS MARKED WITH (E) AND REPORT ANY DISCREPANCIES GREATER THAN 0.05' TO PROJECT MANAGER.
4. DAMAGE TO ANY EXISTING SITE IMPROVEMENTS, UTILITIES AND/OR SERVICES TO REMAIN SHALL BE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL REPAIR AND/OR REPLACE IN KIND.
5. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND THAT THE CONTRACTOR SHALL DEFEND INDEMNIFY AND HOLD THE CLIENT, THE CONSULTING ENGINEER AND THE SCHOOL DISTRICT HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE CLIENT OR THE CONSULTING ENGINEER.
6. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE DISTRICT'S GEOTECHNICAL ENGINEERS RECOMMENDATIONS: CLEARY CONSULTANTS, INC.
7. CAMPUS WILL BE OCCUPIED DURING CONSTRUCTION, CONTRACTOR TO PHASE WORK TO MAINTAIN ACCESSIBILITY TO CERTAIN AREAS OF THE SITE. REFER TO SPECIFICATIONS FOR PHASING PLAN REQUIREMENTS.
8. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SITE FENCE NOTES:

1. CONTRACTOR SHALL PROVIDE A TEMPORARY CONSTRUCTION FENCE AROUND THE IMMEDIATE AREAS OF DEMOLITION AND CONSTRUCTION, INCLUDING ALL STAGING, STORAGE, CONSTRUCTION OFFICE AND LAYDOWN AREAS. AS WORK AREA SHIFTS CONTRACTOR SHALL ADJUST FENCING ACCORDINGLY IN ORDER TO MINIMIZE IMPACTING PUBLIC ACCESS TO CAMPUS. CONTRACTOR SHALL BALLAST FENCING POSTS TO HELP PREVENT WIND FROM BLOWING OVER.
2. CONSTRUCTION FENCE SHALL BE A MINIMUM OF A 6' HIGH GALVANIZED CHAIN LINK WITH GREEN WINDSCREEN FABRIC ON THE OUTSIDE OF THE FENCE.
3. PRIOR TO COMMENCING WITH FENCING INSTALLATION, CONTRACTOR SHALL PROVIDE CONSTRUCTION SITE STAGING AND FENCING PLANS TO THE DISTRICT'S REPRESENTATIVE FOR APPROVAL, IN ACCORDANCE WITH THE PROJECT TECHNICAL SPECIFICATIONS.
4. CONSTRUCTION FENCE ADDRESSED IN THESE NOTES IS ONLY FOR VISUAL CONFORMANCE OF THIS CONSTRUCTION SITE TO THE DISTRICT STANDARDS. CONTRACTOR MAY BE REQUIRED TO PROVIDE ADDITIONAL FENCING, BARRICADES OR OTHER SAFETY DEVICES TO KEEP THE SITE SECURE AND SAFE.

TEMPORARY FACILITIES NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING OPERATION AND FUNCTION OF EXISTING FACILITIES IMPACTED BY CONSTRUCTION, INCLUDING BUT NOT LIMITED TO EXISTING UTILITIES SERVING ADJACENT STRUCTURES AND AMENITIES WHICH RUN THROUGH THE CONSTRUCTION SITE, EXISTING ACCESS TO THOSE FACILITIES, AND RELATED STRUCTURES. APPLICABLE UTILITIES INCLUDE STORM DRAINAGE, SANITARY SEWER, DOMESTIC/FIRE WATER SUPPLY, IRRIGATION, NATURAL GAS, ELECTRICAL AND COMMUNICATION LINES.
2. CONTRACTOR SHALL PLAN PHASING AND METHOD OF DISCONNECTION/RECONNECTION OF SITE UTILITIES TO MINIMIZE DOWNTIME WHERE SHUTDOWN IS NECESSARY, AND PROVIDE THE CITY WITH SCHEDULE FOR ANY PLANNED SHUTDOWN/DISCONNECTION AND RECONNECTION OF SERVICES.
3. CONTRACTOR SHALL PROVIDE ALTERNATE MEANS AND METHODS FOR TEMPORARILY MAINTAINING FUNCTIONALITY / OPERATION OF EXISTING FACILITIES TO REMAIN (SUCH AS TEMPORARY USE OF PORTABLE PUMPS, POWER EQUIPMENT, TEMPORARY ALTERNATE SUPPLY/CONVEYANCE PIPES/CONDUITS, APPROPRIATE SIGNAGE) FOR THE CITY TO REVIEW AND APPROVE PRIOR TO COMMENCING CONSTRUCTION.
4. CONTRACTOR SHALL TO RESTORE PERMANENT SERVICE TO EXISTING FACILITIES IMPACTED BY CONSTRUCTION TO THE SATISFACTION OF THE CITY.

DEMOLITION NOTES :

1. CONTRACTOR IS TO COMPLY WITH ALL GENERAL AND STATE REQUIREMENTS INVOLVING THE REMOVAL AND DISPOSAL OF HAZARDOUS MATERIAL(S). CONTRACTOR SHALL REMOVE FROM SITE AND PROPERLY DISPOSE OF ALL DEMOLITION DEBRIS AND MATERIALS.
2. CONTRACTOR'S BID IS TO INCLUDE ALL VISIBLE SURFACE AND ALL SUBSURFACE FEATURES IDENTIFIED TO BE REMOVED OR ABANDONED IN THESE DOCUMENTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A SITE INSPECTION TO FULLY ACKNOWLEDGE THE EXTENT OF THE DEMOLITION WORK.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS NECESSARY FOR ENCROACHMENT, GRADING, DEMOLITION, AND DISPOSAL OF SAID MATERIALS AS REQUIRED BY PRIVATE, LOCAL AND STATE JURISDICTIONS. THE CONTRACTOR SHALL PAY ALL FEES ASSOCIATED WITH THE DEMOLITION WORK.
5. BACKFILL ALL DEPRESSIONS AND TRENCHES FROM DEMOLITION TO THE SATISFACTION OF THE DISTRICT'S GEOTECHNICAL ENGINEER.
6. REMOVAL OF LANDSCAPING SHALL INCLUDE ROOTS AND ORGANIC MATERIALS TO THE SATISFACTION OF THE DISTRICT'S GEOTECHNICAL ENGINEER.
7. PRIOR TO BEGINNING DEMOLITION WORK ACTIVITIES, CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES CONSISTENT WITH THE BEST MANAGEMENT PRACTICES.
8. THE CONTRACTOR SHALL MAINTAIN ALL SAFETY DEVICES, AND SHALL BE RESPONSIBLE FOR CONFORMANCE TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS LAWS AND REGULATIONS.
9. THE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING IMPROVEMENTS FACILITIES AND STRUCTURES WHICH ARE TO REMAIN. ANY ITEMS DAMAGED BY THE CONTRACTOR OR HIS AGENTS OR ANY ITEMS REMOVED FOR HIS USE SHALL BE REPLACED IN EQUAL OR BETTER CONDITION AS APPROVED BY THE ARCHITECT OR OWNER'S REPRESENTATIVE.
10. THIS PLAN IS NOT INTENDED TO BE A COMPLETE CATALOGUE OF ALL EXISTING STRUCTURES AND UTILITIES. THIS PLAN INTENDS TO DISCLOSE GENERAL INFORMATION KNOWN BY THE ENGINEER AND TO SHOW THE LIMITS OF THE AREA WHERE WORK WILL BE PERFORMED. THIS PLAN SHOWS THE EXISTING FEATURES TAKEN FROM A FIELD SURVEY, FIELD INVESTIGATIONS AND AVAILABLE INFORMATION. THIS PLAN MAY OR MAY NOT ACCURATELY REFLECT THE TYPE OR EXTENT OF THE ITEMS TO BE ENCOUNTERED AS THEY ACTUALLY EXIST. THE CONTRACTOR SHALL PERFORM A THOROUGH FIELD INVESTIGATION AND REVIEW OF THE SITE WITHIN THE LIMIT OF WORK SHOWN IN THIS PLAN SET TO DETERMINE THE TYPE, QUANTITY AND EXTENT OF ANY AND ALL ITEMS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING THE EXTENT OF EXISTING UTILITIES AND QUANTITY OF WORK INVOLVED IN REMOVING THESE ITEMS FROM THE SITE.
11. CONTRACTOR SHALL SAWCUT EXISTING CONCRETE AT NEAREST CONTROL JOINT AND TAKE CAUTION SUCH THAT NO OVER CUTTING OF EXISTING CONCRETE OCCURS.
12. CONTRACTOR SHALL MAINTAIN IRRIGATION SERVICE AND HAND WATER IF NECESSARY TO KEEP LANDSCAPED AREA IRRIGATED DURING CONSTRUCTION. CONTRACTOR SHALL REPAIR ANY IRRIGATION LINES DAMAGED DURING CONSTRUCTION.
13. CONTRACTOR SHALL PRESERVE OR REPLACE ALL PLANTS DISTURBED BY EXCAVATIONS AND REPLACE ALL DAMAGED LAWN WITH SOD.

NPDES REQUIREMENTS:

1. ALL CONSTRUCTION ON OFF-SITE OR ON-SITE IMPROVEMENTS SHALL ADHERE TO NPDES (NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM) BEST MANAGEMENT PRACTICES TO PREVENT DELETERIOUS MATERIALS OR POLLUTANTS FROM ENTERING THE CITY/TOWN OR COUNTY STORM DRAIN SYSTEMS.
2. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, OR WIND.
3. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
4. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
5. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC RIGHT-OF-WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
6. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION AND DISPERSAL BY WIND.
7. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC RIGHT-OF-WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
8. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
9. CLEAN UP ALL SPILLS USING DRY METHODS.
10. SWEEP ALL GUTTERS AT THE END OF EACH WORKING DAY. GUTTERS SHALL BE KEPT CLEAN AFTER LEAVING CONSTRUCTION SITE.
11. CALL 911 IN CASE OF A HAZARDOUS SPILL.
12. BMP'S AS OUTLINED IN, BUT NOT LIMITED TO, CALIFORNIA STORM WATER QUALITY TASK FORCE, SACRAMENTO, CALIFORNIA, JANUARY 2015, OR THE LATEST REVISED EDITION, MAY APPLY DURING THE CONSTRUCTION OF THIS PROJECT (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY CITY/TOWN INSPECTORS).
13. UPON SATISFACTORY COMPLETION OF THE WORK, THE ENTIRE WORK SITE SHALL BE CLEANED BY THE CONTRACTOR AND LEFT WITH A SMOOTH AND NEATLY GRADED SURFACE FREE OF CONSTRUCTION WASTE, RUBBISH, AND DEBRIS OF ANY NATURE.

GENERAL UTILITY SYSTEM NOTES:

1. ALL TRENCHES SHALL BE BACK FILLED PER THE SPECIFICATIONS WITH APPROPRIATE TESTS BY THE DISTRICT'S GEOTECHNICAL ENGINEER TO VERIFY COMPACTION VALUES.
2. CLEAN OUTS, CATCH BASINS AND AREA DRAINS ARE TO BE ACCURATELY LOCATED BY THEIR RELATIONSHIP TO THE BUILDING, FLATWORK, ROOF DRAINS, AND/OR CURB LAYOUT, NOT BY THE LENGTH OF PIPE SPECIFIED IN THE DRAWINGS (WHICH IS APPROXIMATE).
3. CONTRACTOR SHALL STAKE LOCATION OF ABOVE GROUND UTILITY EQUIPMENT (BACKFLOW PREVENTOR, SATELLITE DISH, TRANSFORMER, GAS METER, ETC.) AND MEET WITH CLIENT TO REVIEW LOCATION PRIOR TO INSTALLATION. PLANNING DEPARTMENT MUST SPECIFICALLY AGREE WITH LOCATION PRIOR TO PROCEEDING WITH THE INSTALLATION.
4. CONTRACTOR SHALL PREPARE AN ACCURATE COMPOSITE UTILITY PLAN THAT TAKES INTO ACCOUNT THE ACTUAL LOCATION OF EXISTING UTILITIES AS DETERMINED DURING THE DEMOLITION WORK, THE UTILITIES SHOWN ON THE CIVIL DRAWINGS, AND THE SITE POWER, CONDUITS AND LIGHTING SHOWN ON THE ELECTRICAL PLANS. THE FIRE SPRINKLER SYSTEM SHALL BE INCLUDED AS DESIGNED BY THE DESIGN/BUILD UNDERGROUND FIRE SPRINKLER CONTRACTOR.
5. CATHODIC PROTECTION MAY BE REQUIRED ON ALL METALLIC FITTINGS AND ASSEMBLIES THAT ARE IN CONTACT WITH THE SOIL, IF RECOMMENDED BY THE DISTRICT'S GEOTECHNICAL ENGINEER. CONTRACTOR IS RESPONSIBLE TO FULLY ENGINEER AND INSTALL THIS SYSTEM AND COORDINATE ANODE AND TEST STATION LOCATIONS WITH DISTRICT'S REPRESENTATIVE.
6. COMPLETE SYSTEMS: ALL UTILITY SYSTEMS ARE DELINEATED IN A SCHEMATIC MANNER ON THESE PLANS. CONTRACTOR IS TO PROVIDE ALL FITTINGS, ACCESSORIES AND WORK NECESSARY TO COMPLETE THE UTILITY SYSTEM SO THAT IT IS FULLY FUNCTIONING FOR THE PURPOSE INTENDED.
7. UNDERGROUND UTILITIES OR STRUCTURES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS AND EXTENT BASED UPON RECORD INFORMATION. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CLIENT, BY ACCEPTING THESE PLANS OR PROCEEDING WITH IMPROVEMENTS PURSUANT THERETO, AGREES TO ASSUME LIABILITY AND TO HOLD UNDERSIGNED HARMLESS FOR ANY DAMAGES RESULTING FROM THE EXISTENCE OF UNDERGROUND UTILITIES OR STRUCTURES NOT REPORTED TO THE UNDERSIGNED; NOT INDICATED ON THE PUBLIC RECORDS EXAMINED, LOCATED AT VARIANCE WITH THOSE REPORTED OR SHOWN ON RECORDS EXAMINED.
8. CONTRACTOR SHALL VERIFY ALL EXISTING INVERT ELEVATIONS FOR STORM DRAIN AND SANITARY SEWER CONSTRUCTION PRIOR TO COMMENCEMENT OF ANY WORK. ALL WORK FOR STORM AND SANITARY SEWER INSTALLATION SHALL BEGIN AT THE DOWNSTREAM CONNECTION POINT. THIS WILL ALLOW FOR ANY NECESSARY ADJUSTMENTS TO BE MADE PRIOR TO THE INSTALLATION OF THE ENTIRE LINE. IF THE CONTRACTOR FAILS TO BEGIN AT THE DOWNSTREAM CONNECTION POINT AND WORKS UP STREAM, HE SHALL PROCEED AT HIS OWN RISK AND BE RESPONSIBLE FOR ANY ADJUSTMENTS NECESSARY. CONTRACTOR SHALL VERIFY LOCATION OF SANITARY SEWER LATERAL WITH OWNER PRIOR TO CONSTRUCTION.
9. EXISTING UTILITY CROSSINGS OF NEW PIPELINE ARE SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. GAS, WATER AND SEWER SERVICE LATERALS ARE SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THE TYPE, SIZE, LOCATION AND DEPTH OF ALL THE UTILITY CROSSING (BOTH MAINS AND LATERALS) ARE CORRECT AS SHOWN. NO GUARANTEE IS MADE THAT ALL EXISTING UTILITIES (BOTH MAINS AND LATERALS) ARE SHOWN. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING AND SHALL PROTECT ALL EXISTING UTILITIES (BOTH MAINS AND LATERALS) FROM DAMAGE DUE TO HIS OPERATION.
10. VERTICAL SEPARATION REQUIREMENTS:

    A MINIMUM OF SIX (6) INCHES VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN CROSSING UTILITY PIPES, EXCEPT THAT THE MINIMUM VERTICAL CLEARANCE BETWEEN WATER AND SANITARY SEWER PIPELINES SHALL BE 12 INCHES AND ALL NEW WATER PIPES SHALL BE TYPICALLY INSTALLED TO CROSS ABOVE/OVER EXISTING SANITARY SEWER PIPELINES.

    WHERE NEW WATER PIPELINES ARE REQUIRED TO CROSS UNDER EXISTING AND/OR NEW SANITARY SEWER PIPELINES, THE MINIMUM VERTICAL SEPARATION SHALL BE 12 INCHES. WATER LINE PIPE ENDS SHALL BE INSTALLED NO CLOSER THAN 10' MINIMUM HORIZONTAL DISTANCE FROM CENTERLINE OF UTILITY CROSSINGS, WHERE FEASIBLE.
11. HORIZONTAL SEPARATION REQUIREMENTS:

    A MINIMUM HORIZONTAL SEPARATION BETWEEN NEW PIPELINES AND ANY EXISTING UTILITIES SHALL BE 5' FEET, EXCEPT THAT THE MINIMUM HORIZONTAL SEPARATION FOR WATER AND SANITARY SEWER PIPELINES SHALL BE 10' MINIMUM, UNLESS OTHERWISE NOTED. BRING ANY DISCREPANCIES TO THE PROJECT CIVIL ENGINEER PRIOR TO CONSTRUCTION.

    A MINIMUM HORIZONTAL SEPARATION BETWEEN NEW PIPELINES AND JOINT TRENCH SHALL BE 5 FEET.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING APPROPRIATE UTILITIES AND REQUESTING VERIFICATION OF SERVICE POINTS, FIELD VERIFICATION OF LOCATION, SIZE, DEPTH, ETC. FOR ALL THEIR FACILITIES AND TO COORDINATE WORK SCHEDULES.
13. ANY EXISTING UNDERGROUND UTILITY LINES TO BE ABANDONED, SHOULD BE REMOVED FROM WITHIN THE PROPOSED BUILDING ENVELOPE AND THEIR ENDS CAPPED OUTSIDE OF THE BUILDING ENVELOPE.

SITE MAINTENANCE:

1. REMOVE ALL DIRT, GRAVEL, RUBBISH, REFUSE, AND GREEN WASTE FROM STREET PAVEMENT AND STORM DRAINS ADJOINING THE SITE. LIMIT CONSTRUCTION ACCESS ROUTES ONTO THE SITE AND PLACE GRAVEL PADS AT THESE LOCATIONS. DO NOT DRIVE VEHICLES AND EQUIPMENT OFF THE PAVED OR GRAVELED AREAS DURING WET WEATHER.
2. SWEEP OR VACUUM THE STREET PAVEMENT AND SIDEWALKS ADJOINING THE PROJECT SITE AND THE ON-SITE PAVED AREAS ON A DAILY BASIS. SCRAPE CAKED-ON MUD AND DIRT FROM THESE AREAS BEFORE SWEEPING. CORNERS AND HARD TO REACH AREAS SHALL BE SWEPT MANUALLY.
3. CREATE A CONTAINED AND COVERED AREA ON THE SITE FOR THE STORAGE OF BAGS, CEMENT, PAINTS, OILS, FERTILIZERS, PESTICIDES, OR OTHER MATERIALS USED ON THE SITE THAT HAVE THE POTENTIAL OF BEING DISCHARGED INTO THE STORM DRAIN SYSTEM THROUGH EITHER BEING WIND-BLOWN OR IN THE EVENT OF A MATERIAL SPILL.
4. NEVER CLEAN MACHINERY, EQUIPMENT OR TOOLS INTO A STREET, GUTTER OR STORM DRAIN.
5. ENSURE THAT CEMENT TRUCKS, PAINTERS, OR STUCCO/PLASTER FINISHING CONTRACTORS DO NOT DISCHARGE WASH WATER FROM EQUIPMENT, TOOLS OR RINSE CONTAINERS INTO GUTTERS OR DRAINS.
6. UPON PROJECT COMPLETION THE DISTRICT SHALL BE SOLELY RESPONSIBLE TO ROUTINELY INSPECT AND MAINTAIN ALL ON-SITE STORM DRAIN FACILITIES. STORM DRAIN SYSTEM SHALL BE CLEANED AND/OR FLUSHED ON A BIANNUAL BASIS OR AS FOUND NECESSARY.

EROSION AND SEDIMENTATION CONTROL NOTES:

1. CONTRACTOR SHALL ASSUME THE CONCEPTS ON THE EROSION CONTROL PLAN, IF PROVIDED, ARE SCHEMATIC MINIMUM REQUIREMENTS, THE FULL EXTENT OF WHICH ARE TO BE DETERMINED BY THE CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR THE EXACT DESIGN AND EXTENT OF THE EROSION CONTROL SYSTEM SO THAT IT WORKS WITH THE CONTRACTOR'S INTENDED USE AND MANAGEMENT OF THE CONSTRUCTION SITE.
2. ALL EROSION CONTROL FACILITIES SHALL BE INSPECTED BY THE CONTRACTOR AND REPAIRED, AS REQUIRED, AT THE CONCLUSION OF EACH WORKING DAY. THE CONTRACTOR SHALL INSPECT THE EROSION CONTROL FACILITIES AND MAKE NECESSARY REPAIRS PRIOR TO ANTICIPATED STORMS AND AT REASONABLE INTERVALS DURING STORMS OF EXTENDED DURATION. REPAIRS TO DAMAGED FACILITIES SHALL BE MADE IMMEDIATELY UPON DISCOVERY.
3. AS SOON AS PRACTICAL FOLLOWING EACH STORM, THE CONTRACTOR SHALL REMOVE ANY ACCUMULATION OF SILT OR DEBRIS FROM THE EROSION CONTROL SEDIMENT BASINS AND SHALL CLEAR THE OUTLET PIPES OF ANY BLOCKAGE.
4. STOCKPILED MATERIAL SHALL BE COVERED WITH VISQUEEN OR A TARPAULIN UNTIL THE MATERIAL IS REMOVED FROM THE SITE. ANY REMAINING BARE SOIL THAT EXISTS AFTER THE STOCKPILE HAS BEEN REMOVED SHALL BE COVERED UNTIL A NATURAL GROUND COVER IS ESTABLISHED OR IT MAY BE SEEDED OR PLANTED TO PROVIDE GROUND COVER.
5. PRIOR TO THE COMMENCEMENT OF ANY CLEARING, GRADING, OR EXCAVATION, THE CONTRACTOR SHALL VERIFY THAT THE CLIENT HAS SUBMITTED TO THE STATE WATER RESOURCES CONTROL BOARD A NOTICE OF INTENT (NOI) FOR COVERAGE UNDER THE STATE CONSTRUCTION STORM WATER GENERAL PERMIT, IF REQUIRED BY THE STATE. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE NOI ON THE CONSTRUCTION SITE.
6. NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
7. PROTECT ADJACENT PROPERTIES AND UNDISTURBED AREAS FROM CONSTRUCTION IMPACTS USING VEGETATIVE BUFFER STRIPS, SEDIMENT BARRIERS OR FILTERS, DIKES, MULCHING OR OTHER MEASURES AS APPROPRIATE.
8. CONTRACTOR SHALL MAINTAIN ADJACENT STREETS IN A NEAT, CLEAN, DUST FREE AND SANITARY CONDITION AT ALL TIMES AND TO THE SATISFACTION OF THE CITY/TOWN INSPECTOR. THE ADJACENT STREET SHALL BE KEPT CLEAN OF DEBRIS, WITH DUST AND OTHER NUISANCE BEING CONTROLLED AT ALL TIMES. DEVELOPER SHALL BE RESPONSIBLE FOR ANY CLEAN UP ON ADJACENT STREETS AFFECTED BY THEIR CONSTRUCTION, METHOD OF STREET CLEANING SHALL BE BY DRY SWEEPING OF ALL PAVED AREAS. NO STOCKPILING OF BUILDING MATERIALS WITHIN THE CITY/TOWN'S RIGHT-OF-WAY IS PERMITTED.
9. ALL EROSION CONTROL MATERIALS SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS OTHERWISE NOTED.
10. PROTECT DOWN SLOPE DRAINAGE COURSES, STREAMS AND STORM DRAINS WITH ROCK FILLED SAND BAGS, TEMPORARY DRAINAGE SWALES, SILT FENCES, EARTH BERMS, STORM DRAIN INLET FILTERS AND/OR STRAW BALES USED ONLY IN CONJUNCTION WITH PROPERLY INSTALLED SILT FENCES.

DUST CONTROL:

1. WATER TRUCKS, OR ALTERNATIVE SOURCE OF WATER FOR DUST SUPRESSION, SHALL BE PRESENT AND IN USE AT THE CONSTRUCTION SITE. ALL PORTIONS OF THE SITE SUBJECT TO BLOWING DUST SHALL BE WATERED AS OFTEN AS DEEMED NECESSARY BY THE DISTRICT'S INSPECTOR IN ORDER TO INSURE PROPER CONTROL OF BLOWING DUST FOR THE DURATION OF THE PROJECT.
2. ALL PUBLIC STREETS AND MEDIANS SOILED OR LITTERED DUE TO THIS CONSTRUCTION ACTIVITY SHALL BE CLEANED AND SWEPT ON A DAILY BASIS DURING THE WORK WEEK, OR AS OFTEN AS DEEMED NECESSARY BY THE DISTRICT'S INSPECTOR, OR TO THE SATISFACTION OF THE CITY/TOWN'S DEPARTMENT OF PUBLIC WORKS.
3. ALL TRUCKS HAULING SOIL, SAND, AND OTHER LOOSE MATERIALS SHALL BE COVERED WITH TARPAULINS OR OTHER EFFECTIVE COVERS.
4. WHEEL WASHERS SHALL BE INSTALLED AND USED TO CLEAN ALL TRUCKS AND EQUIPMENT LEAVING THE CONSTRUCTION SITE. IF WHEEL WASHERS CANNOT BE INSTALLED, TIRES OR TRACKS OF ALL TRUCKS AND EQUIPMENT SHALL BE WASHED OFF BEFORE LEAVING THE CONSTRUCTION SITE.
5. THE CONTRACTOR SHALL DEMONSTRATE DUST SUPPRESSION MEASURES, SUCH AS REGULAR WATERING, WHICH SHALL BE IMPLEMENTED TO REDUCE EMISSIONS DURING CONSTRUCTION AND GRADING IN A MANNER MEETING THE APPROVAL OF THE CONSTRUCTION MANAGER. THIS SHALL ASSIST IN REDUCING SHORT-TERM IMPACTS FROM PARTICLES WHICH COULD RESULT IN NUISANCES THAT ARE PROHIBITED BY RULE 403 (FUGITIVE DUST).
6. GRADING OR ANY OTHER OPERATIONS THAT CREATES DUST SHALL BE STOPPED IMMEDIATELY IF DUST AFFECTS ADJACENT PROPERTIES. THE CONTRACTOR SHALL PROVIDE SUFFICIENT DUST CONTROL FOR THE ENTIRE PROJECT SITE IN ACCORDANCE WITH THE PROJECT NPDES AT ALL TIMES. THE SITE SHALL BE SPRINKLERED AS NECESSARY TO PREVENT DUST NUISANCE. IN THE EVENT THAT THE CONTRACTOR NEGLECTS TO USE ADEQUATE MEASURES TO CONTROL DUST, THE CLIENT RESERVES THE RIGHT TO TAKE WHATEVER MEASURES ARE NECESSARY TO CONTROL DUST AND CHARGE THE COST TO THE CONTRACTOR.
7. THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL MEASURES AND FOR OBTAINING ALL REQUIRED PERMITS AND APPROVALS.

RECORD DRAWINGS:

1. THE CONTRACTOR SHALL KEEP UP-TO-DATE AND ACCURATE A COMPLETE RECORD SET OF PRINTS OF THE CONTRACT DRAWINGS SHOWING EVERY CHANGE FROM THE ORIGINAL DRAWINGS MADE DURING THE COURSE OF CONSTRUCTION INCLUDING EXACT FINAL LOCATION, ELEVATION, SIZES, MATERIALS, AND DESCRIPTION OF ALL WORK. RECORDS SHALL BE "REDLINED" ON A SET OF CONSTRUCTION PLAN DRAWINGS. A COMPLETE SET OF CORRECTED AND COMPLETED RECORD DRAWING PRINTS SHALL BE SUBMITTED TO THE SCHOOL DISTRICT AND DISTRICTS'S CIVIL ENGINEER PRIOR TO FINAL ACCEPTANCE FOR REVIEW AND APPROVAL BY THE DISTRICT'S ENGINEER.

GEOTECHNICAL NOTES:

EXCERPTS FROM GEOTECHNICAL REPORT BY CLEARY CONSULTANTS INC. DATED NOVEMER 22, 2013.

1. SUBSURFACE: EXPLORATORY BORINGS GENERALLY ENCOUNTERED INTERLAYERED STIFF TO HARD SANDY SILT,SANDY CLAY, SILTY CLAY, SANDY GRAVELLY CLAY AND MEDIUM DENSE TO VERY DENSE CLAYEY SAND, SILTY SAND, AND GRAVELLY SILTY SAND TO THE MAXIMUM DEPTH EXPLORED, 45.0 FEET. IN ADDITION, BORING 1 ENCOUNTERED APPROXIMATELY 3.5 FEET OF LOOSE SILTY SAND AT THE SURFACE.THE NEAR SURFACE SANDY CLAY SOILS ARE CONSIDERED TO HAVE A LOW EXPANSION POTENTIAL BASED ON THEIR PLASTICITY CHARACTERISTICS (PLASTICITY INDICES OF 0) AND THE FREE SWELL TEST DATA (FREE SWELLS OF 10 TO 30 PERCENT).
2. SITE PREPARATION: EXISTING FOUNDATIONS, UNDERGROUND UTILITIES, UNDERGROUND OBSTRUCTIONS AND ANY OTHER SITE IMPROVEMENTS SHOULD BE REMOVED TO THEIR FULL DEPTH AND EXTENT AND HAULED FROM THE SITE.THE NEW CONSTRUCTION AREA SHOULD THEN BE STRIPPED TO A SUFFICIENT DEPTH TO REMOVE ALL FILLS, PAVEMENT, DEBRIS, GRASS, AND ORGANIC RICH TOPSOIL. STRIPPINGS SHOULD BE REMOVED FROM THE PROPERTY OR STOCKPILED FOR LATER USE AS NON-STRUCTURAL FILL OUTSIDE THE BUILDING PAD IN APPROPRIATE AREAS, IF DESIRED. HOLES RESULTING FROM THE REMOVAL OF UNDERGROUND OBSTRUCTIONS (SUCH AS ABANDONED UTILITIES AND REMOVED FOUNDATIONS) THAT EXTEND BELOW THE PLANNED FINISHED GRADE SHOULD BE CLEARED OF LOOSE SOIL AND DEBRIS, THEN BACKFILLED WITH SUITABLE MATERIAL COMPACTED TO THE REQUIREMENTS DISCUSSED BELOW FOR ENGINEERED FILL (SEE NOTE 4, FILL PLACEMENT AND COMPACTION).
3. MOISTURE CONDITIONING AND RECOMPACTION OF SURFACE SOILS: AFTER THE SITE HAS BEEN CLEARED, STRIPPED AND EXCAVATED TO REQUIRED GRADE, THE EXPOSED SOIL IN THE AREA OF THE NEW BUILDING SHOULD BE MOISTURE CONDITIONED AND COMPACTED. THE UPPER TWELVE INCHES OF THE EXPOSED SUBGRADE SHOULD BE PROCESSED SUCH THAT THE MOISTURE IS AT THE APPROXIMATE LABORATORY ESTABLISHED OPTIMUM MOISTURE CONTENT, AND THEN COMPACTED TO AT LEAST 90 PERCENT RELATIVE COMPACTION AS DETERMINED BY ASTM TEST.DESIGNATION D1557. THE MOISTURE CONDITIONING PROCESS SHOULD BE OBSERVED BY OUR REPRESENTATIVE. FIELD TESTING OF THE MOISTURE CONTENT AND RELATIVE COMPACTION IN THE UPPER 12 INCHES SHOULD BE PERFORMED JUST PRIOR TO PLACING FILL OR AGGREGATE BASE ON THE RECOMPACTED SUBGRADE. COMPACTION SHOULD BE PERFORMED USING HEAVY COMPACTION EQUIPMENT, SUCH AS A SELF PROPELLED SHEEPSFOOT ROLLER OR SEGMENTED WHEELED COMPACTOR. AFTER THE EXPOSED SUBGRADE SOILS ARE COMPACTED, ANY REQUIRED FILL AND THE REQUIRED AGGREGATE BASE MATERIAL CAN BE PLACED IN THIN LIFTS AND COMPACTED TO THE REQUIREMENTS GIVEN BELOW FOR ENGINEERED FILL. THE SUBGRADE SHOULD NOT BE ALLOWED TO DRY BELOW OPTIMUM MOISTURE CONTENT PRIOR TO PLACING ADDITIONAL FILL OR THE CLASS 2 AGGREGATE BASE. THIS IS LIKELY TO REQUIRE PERIODIC SPRINKLING DURING THE DRY SEASON. SHOULD DRYING OF THE SOILS OCCUR, THEY SHOULD AGAIN BE SCARIFIED, MOISTURE CONDITIONED TO THE PROPER MOISTURE CONTENT AND RECOMPACTED. BASED ON THE MOISTURE CONTENTS OBTAINED FROM THE BORINGS, WE ANTICIPATE THAT IN ORDER TO ACHIEVE SATISFACTORY COMPACTION IN THE SUBGRADE AND FILL SOILS, IT MAY BE NECESSARY TO ADJUST THE SOIL MOISTURE CONTENT AT THE TIME OF CONSTRUCTION. THIS MAY REQUIRE THAT WATER BE ADDED AND THOROUGHLY MIXED INTO ANY SOILS WHICH ARE TOO DRY OR THAT REPEATED SCARIFICATION AND "TURNING OVER" OF THE SOILS DURING PERIODS OF DRY WEATHER BE PERFORMED IN ORDER TO AERATE AND REDUCE THE MOISTURE CONTENT OF ANY SOILS WHICH ARE TOO WET. THE BUILDING SUBGRADE SHOULD ALSO BE PROTECTED FROM EXCESSIVE MOISTURE FROM IRRIGATION, FLOODING OR WET WEATHER BY METHODS SUCH AS, BUT NOT LIMITED TO, GRADING TO PROMOTE RUNOFF TO A SUITABLE DRAIN, PUMPING AND/OR COVERING WITH PLASTIC. STANDING WATER SHOULD NOT BE PERMITTED ON THE SUBGRADE.
4. FILL PLACEMENT AND COMPACTION: EXISTING SOILS HAVING AN ORGANIC CONTENT OF LESS THAN THREE PERCENT BY VOLUME AND WHICH ARE FREE OF CONSTRUCTION DEBRIS CAN BE USED AS ENGINEERED FILL. FILL MATERIAL SHOULD NOT CONTAIN ROCKS OR LUMPS GREATER THAN THREE INCHES IN GREATEST DIMENSION AND NOT MORE THAN 15 PERCENT BY WEIGHT LARGER THAN 2.5 INCHES. IMPORTED FILL REQUIRED TO RAISE GRADES AT THE SITE SHOULD ALSO BE PREDOMINANTLY GRANULAR WITH A PLASTICITY INDEX OF 12 OR LESS. ANY FILL PLACED WITHIN THE BUILDING PAD SHOULD NOT CONTAIN ASPHALTIC CONCRETE PAVEMENTS. ENGINEERED FILL SHOULD BE COMPACTED TO AT LEAST 90 PERCENT RELATIVE COMPACTION AS DETERMINED BY ASTM TEST DESIGNATION D1557. FILL MATERIAL SHOULD BE SPREAD AND COMPACTED IN LIFTS NOT EXCEEDING EIGHT INCHES IN UNCOMPACTED THICKNESS. IN ORDER TO ACHIEVE SATISFACTORY COMPACTION IN THE SUBGRADE AND FILL MATERIALS, IT MAYBE NECESSARY TO ADJUST THE SOIL MOISTURE CONTENT AT THE TIME OF SOIL COMPACTION. THIS MAY REQUIRE THAT WATER BE ADDED AND THOROUGHLY MIXED INTO ANY SOILS WHICH ARE TOO DRY OR THAT SCARIFICATION, AND AERATION BE PERFORMED REPEATEDLY IN ANY SOILS WHICH ARE TOO WET UNTIL OPTIMUM MOISTURE CONTENT IS ACHIEVED.
5. UTILITY TRENCH BACKFILL: NEW UTILITY LINES REQUIRED FOR THE PROJECT SHOULD BE BACKFILLED WITH ENGINEERED FILL PLACED IN LIFTS NOT EXCEEDING EIGHT INCHES IN UNCOMPACTED THICKNESS, EXCEPT THICKER LIFTS MAYBE USED WITH THE APPROVAL OF OUR REPRESENTATIVE PROVIDED SATISFACTORY COMPACTION IS ACHIEVED. IF ON-SITE SOILS ARE USED, THE MATERIAL SHOULD BE COMPACTED TO AT LEAST 90 PERCENT RELATIVE COMPACTION, EXCEPT THAT THE UPPER EIGHT INCHES OF SUBGRADE UNDER VEHICULAR PAVEMENTS SHOULD BE COMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION, BY MECHANICAL MEANS ONLY. IMPORTED SAND CAN ALSO BE USED FOR UTILITY BEDDING OR COVER IN TRENCHES PROVIDED IT IS COMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION. WATER JETTING OF TRENCH BACKFILLS AS A MEANS TO ACHIEVE THE REQUIRED COMPACTION SHOULD NOT BE PERMITTED.
6. SURFACE DRAINAGE: POSITIVE SURFACE GRADIENTS OF AT LEAST TWO PERCENT ON POROUS OR LANDSCAPED SURFACES AND ONE PERCENT ON PAVED SURFACES SHOULD BE MAINTAINED AWAY FROM FOUNDATIONS, SIDEWALKS, AND OTHER IMPROVEMENTS SO THAT WATER DOES NOT COLLECT IN THEIR VICINITY.
7. CONSTRUCTION OBSERVATION: GRADING SHOULD BE OBSERVED AND TESTED BY OUR REPRESENTATIVE FOR CONFORMANCE WITH THE PROJECT PLANS/SPECIFICATIONS AND OUR RECOMMENDATIONS. THIS WORK INCLUDES SITE PREPARATION, RECOMPACTION OF THE SUBGRADE, SELECTION OF SATISFACTORY FILL MATERIALS, REMOVAL AND STOCKPILING OF EXISTING BASEROCK, AND FILL COMPACTION. SUFFICIENT NOTIFICATION PRIOR TO COMMENCEMENT OF EARTHWORK IS ESSENTIAL TO MAKE CERTAIN THAT OUR STAFF WILL BE AVAILABLE TO CARRY OUT THE REQUIRED OBSERVATION AND TESTING.

FILE #: PTN #:

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT

APP #: 01-118889

AC: ______ FLS: ______ SS: ______
DATE: ______

Woodside
Elementary
School District

Woodside
Elementary School
Underground Utility
Gas Piping Repair

3195 Woodside Road
Woodside
CA 94062

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS

255 Shoreline Drive, Suite 200
Redwood City, CA 94065
(650) 482-6300

Date	Issued For
04.08.20	Contractor Bidset
04.23.20	Addendum #1

SCALE: NO SCALE

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NOTES SHEET

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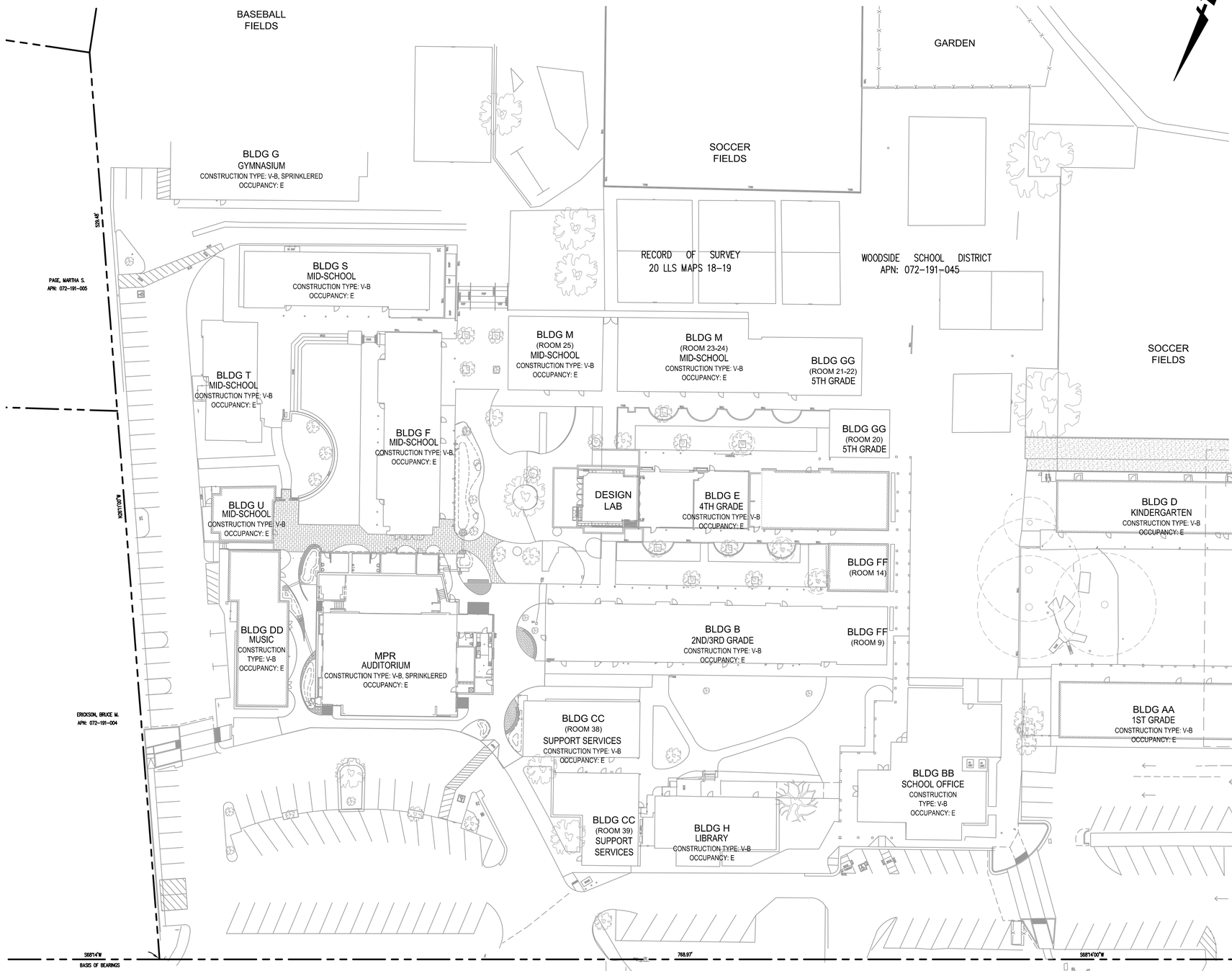

DSA WORK LIST

UNIT	FACILITY	DSA APP#	APPLICATION DATE	NOTES
B	4 CLASROOMS	11925	12/9/1953	EXISTING
C	1 KINDERGARTEN	31124	12/11/1968	EXISTING
D	2 KINDERGARTEN, 1 CLASSROOM	31124	12/11/1969	EXISTING
E	2 CLASSROOMS	5798	7/23/1948	EXISTING
F	1 CLASSROOM, 1 LAB MODERNIZATI	11838 101746	6/4/1954 11/2/1999	EXISTING CLOSED
G	GYMNASIUM	103143	3/16/2001	CLOSED
H	LIBRARY	51493	6/20/1999	CLOSED
K	~~MULTIPURPOSE ROOM~~	~~11295~~	~~9/24/1959~~	~~EXISTING, CALLED BLDG 9~~
M	CLASSROOMS	61683	7/5/1994	CLOSED
N	~~PRESCHOOL~~	~~61555~~	~~5/3/1994~~	~~DEMOLISHED~~
R	~~AUDITORIUM~~	~~103143~~	~~3/16/2001~~	~~DEMOLISHED~~
S	3 CLASSROOMS	103143	3/16/2001	CLOSED
T	2 CLASSROOMS	103143	3/16/2001	CLOSED
U	1 CLASSROOM	103143	3/16/2001	CLOSED
C&D	CLASSROOM MODERNIZATION	101466	7/7/1999	CLOSED
B	UPDATE RESTROOM	107946	6/5/2006	CLOSED
AA	3 CLASSROOMS, RESTROOMS	107873	8/17/2006	CLOSED
BB	STUDENT SERVICES BUILDING	107873	8/17/2006	CLOSED
CC	SPECIAL INSTRUCTION CLASSROOMS	107873	8/17/2006	CLOSED
DD	MUSIC AND CHOIR CLASSROOMS	107873	8/17/2006	CLOSED
EE	~~RESTROOMS~~	~~107873~~	~~8/17/2006~~	~~DEMOLISHED~~
FF	2 CLASSROOMS	107873	8/17/2006	CLOSED
GG	3 CLASSROOMS	107873	8/17/2006	CLOSED
HH	2 CLASSROOMS PRE-SCHOOL	113818	12/24/2014	CLOSED
E	BLDG M RESTROOMS, DESIGN LAB	114017	11/20/2014	CLOSED
II	SPECIAL INSTRUCTION CLASSROOMS	114553	5/6/2015	CLOSED
SITE	FIRE ALARM ALT BLDG. A,B,C,D,E,F,M,L,Q,N,H	104595	7/30/2002	CLOSED
SITE	SITE WORK, UTILITIES, ROOFING	114622	4/21/2015	CLOSED
SITE	SAFE ROUTES TO SCHOOL	115799	2/22/2016	CLOSED
S,T,U	ROOF REPAIR	116426	3/6/2017	CLOSED

FILE #: PTN #:

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APP #: 01-118889

AC: _____ FLS: _____ SS: _____
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Woodside Elementary School District

Woodside Elementary School Underground Utility Gas Piping Repair

3195 Woodside Road
Woodside
CA 94062

REGISTERED PROFESSIONAL ENGINEER
DALE J. LEDA
C 78436
CIVIL
STATE OF CALIFORNIA

BkF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 Shoreline Drive, Suite 200
Redwood City, CA 94065
(650) 482-6300

Date	Issued For
04.08.20	Contractor Bidset
04.23.20	Addendum #1 (1)

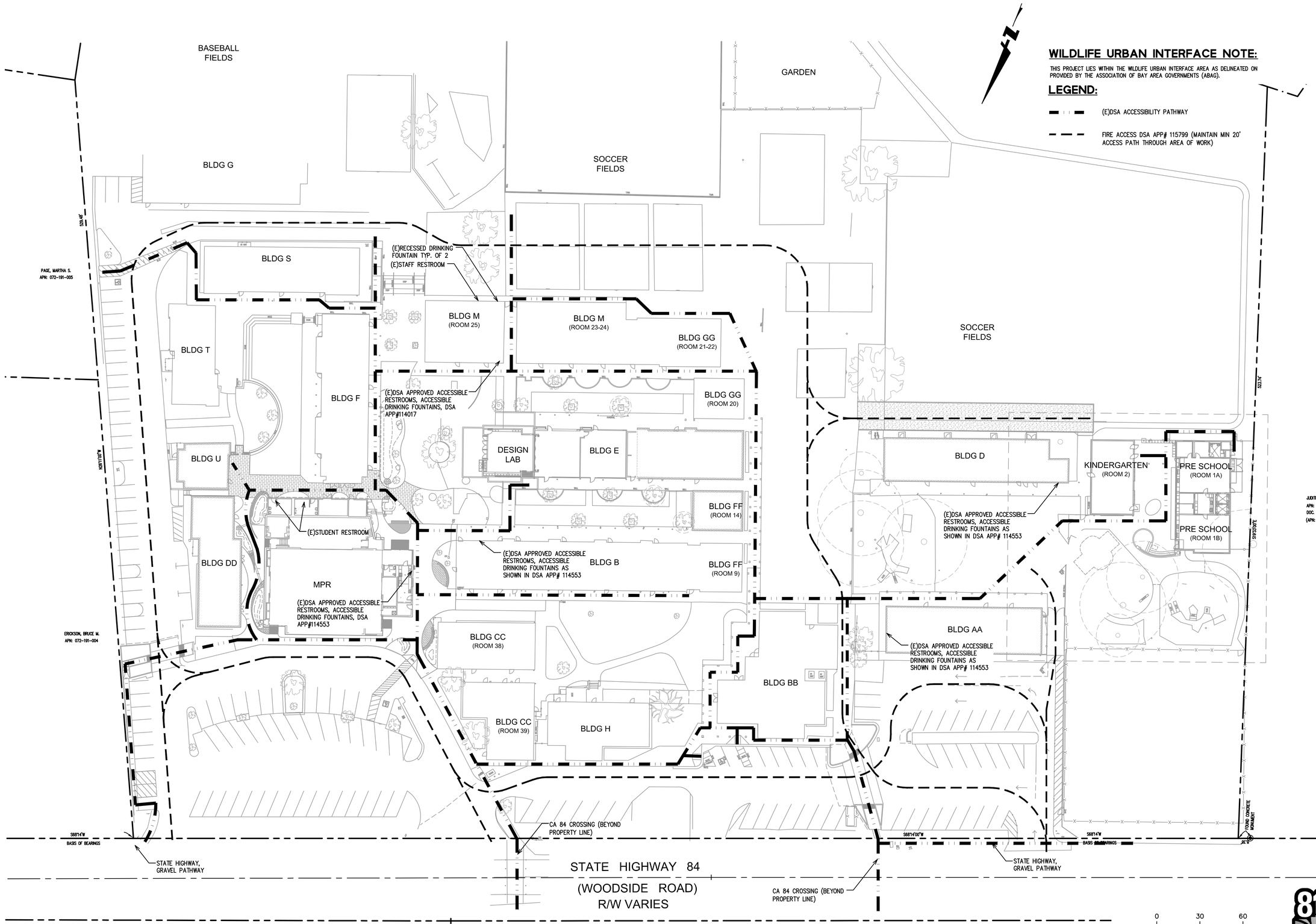
SCALE: 1" = 30'

20200196-10

DSA PROJECT NUMBER ID PLAN

CO.2

811 Know what's **below.** **Call** before you dig.



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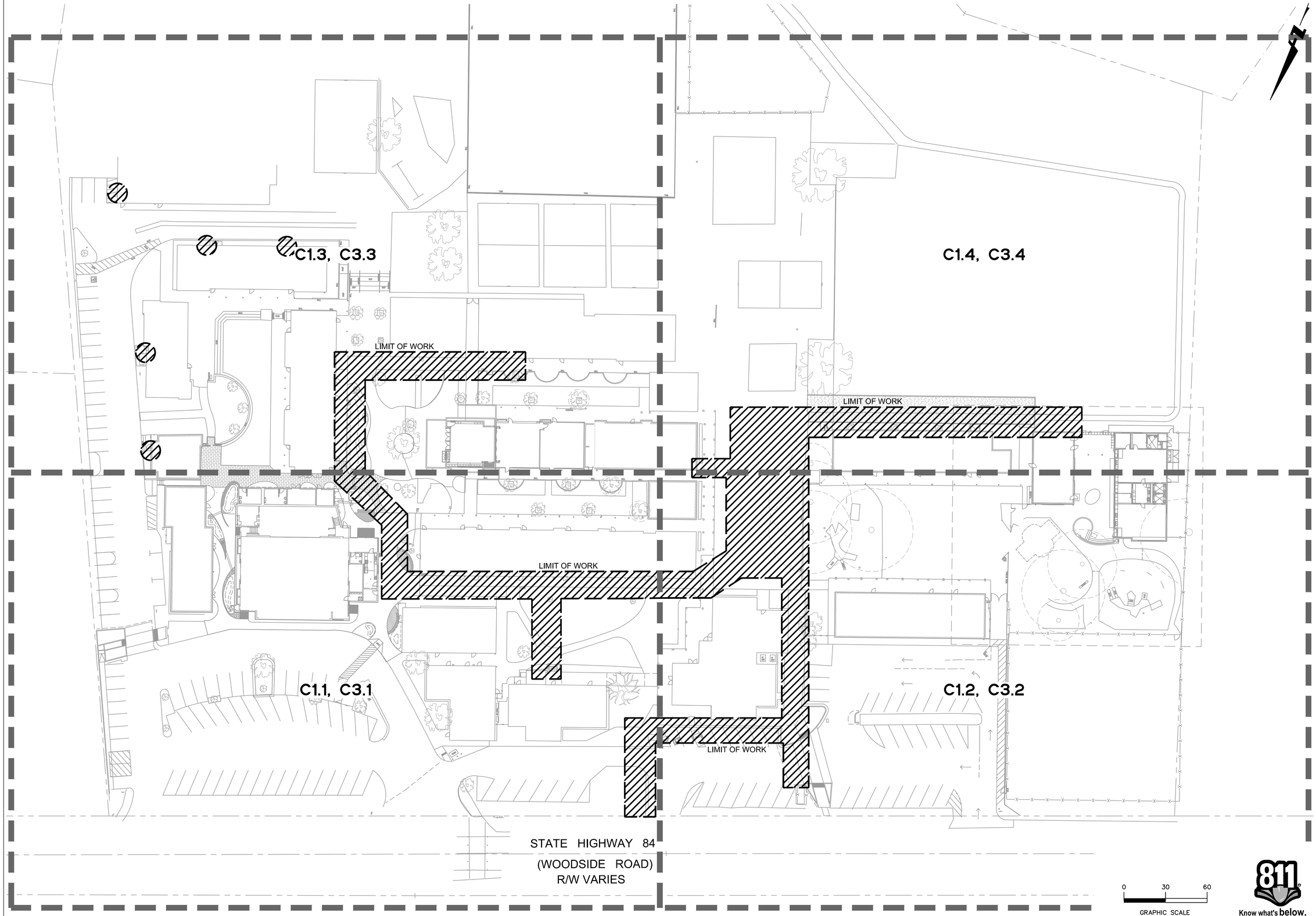
SITE ACCESS PLAN & FIRE ACCESS PLAN

CO.3

811 Know what's below. Call before you dig.



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SITE KEY MAP

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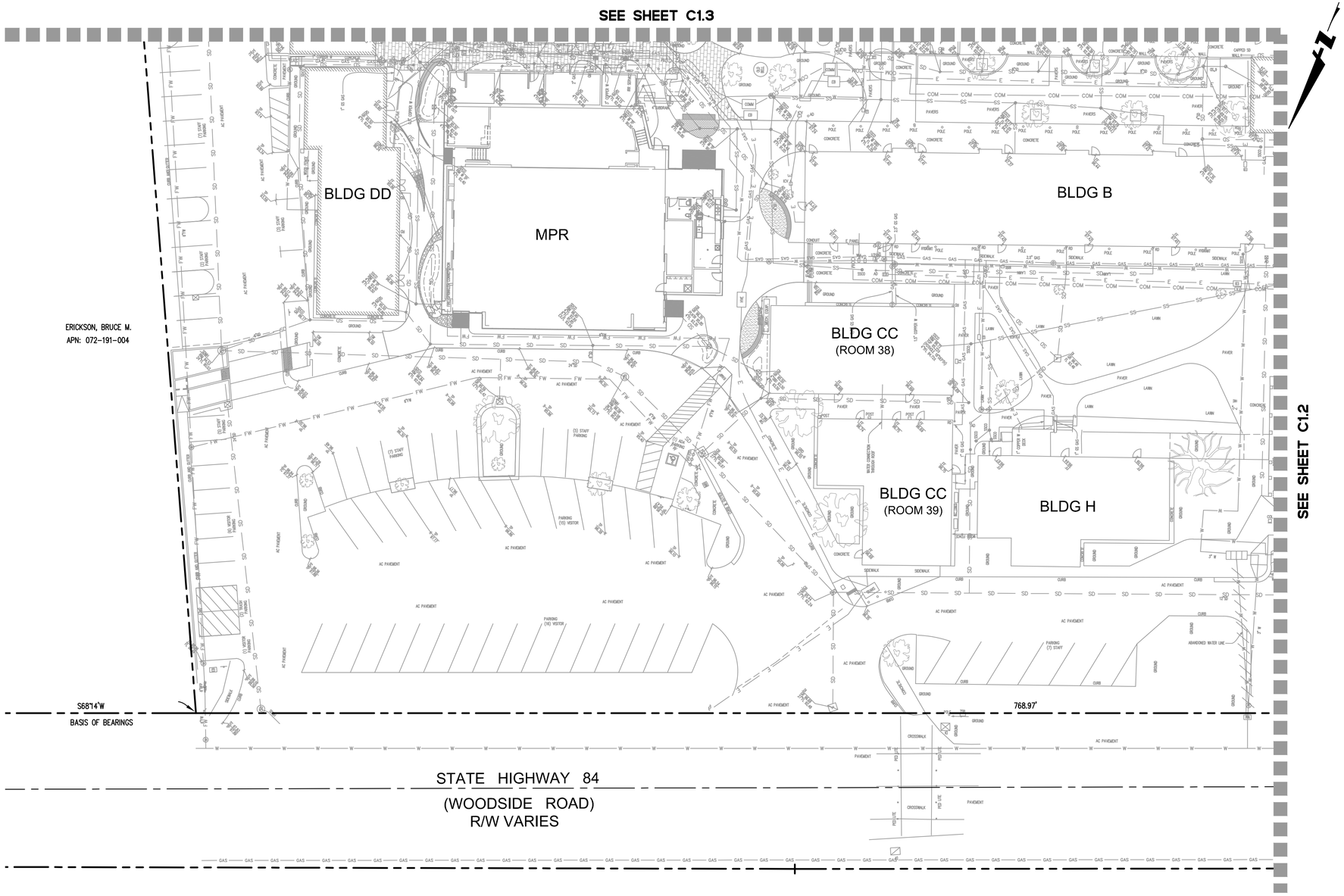
CO.4



EXISTING CONDITIONS:

1. EXISTING TOPOGRAPHIC SURVEY PROVIDED BY THE DISTRICT. GRADES ENCOUNTERED ON-SITE MAY VARY FROM THOSE SHOWN. CONTRACTOR SHALL REVIEW THE PLANS AND CONDUCT FIELD INVESTIGATIONS AS REQUIRED TO VERIFY EXISTING CONDITIONS AT THE PROJECT SITE.
2. CLIENT SHALL HOLD HARMLESS BKF ENGINEERS FROM ANY AND ALL OCCURRENCES RESULTING FROM THE INACCURACY OF THE CLIENT SUPPLIED TOPOGRAPHIC AND BOUNDARY SURVEY (AS PREPARED BY OTHERS).

SURVEYOR'S NOTES:

UTILITY NOTE:

UTILITIES ARE SHOWN IN ASSUMED LOCATION BASED ON FOUND SURFACE STRUCTURES AND RECORD DATA PROVIDED BY THE SCHOOL DISTRICT.

CONTRACTOR SHALL PROCEED WITH CAUTION AND POSITIVELY VERIFY ALL EXISTING UTILITIES IN AREA OF WORK PRIOR TO CONSTRUCTION.

BASIS OF BEARING:

THE BEARING S68°14'W OF THE SOUTHERNLY RIGHT OF WAY OF WOODSIDE ROAD. BETWEEN FOUND IRON PIPES, AS SAID BEARING IS SHOWN ON CERTAIN RECORD OF SURVEY, FILED NOVEMBER 17, 1999 IN BOOK 20 OF L.L.S. MAPS AT PAGES 18 & 19, RECORDS OF SAN MATEO COUNTY WAS TAKEN AS THE BASIS OF BEARING FOR THIS SURVEY.

EASEMENT NOTE:

NO EASEMENTS SHOWN, TITLE REPORT NOT RECEIVED

SURVEY BY OTHERS SHOWN FOR REFERENCE ONLY.

SEE SHEETS C0.0 AND C0.1 FOR NOTES AND LEGENDS

0 20 40
GRAPHIC SCALE

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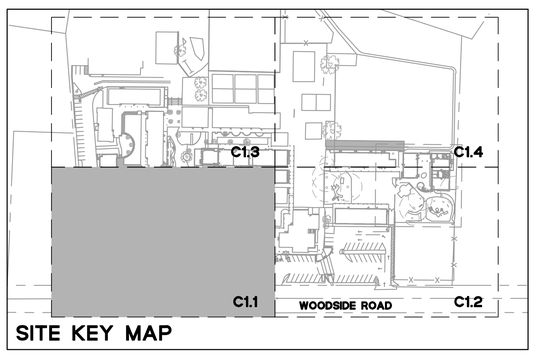

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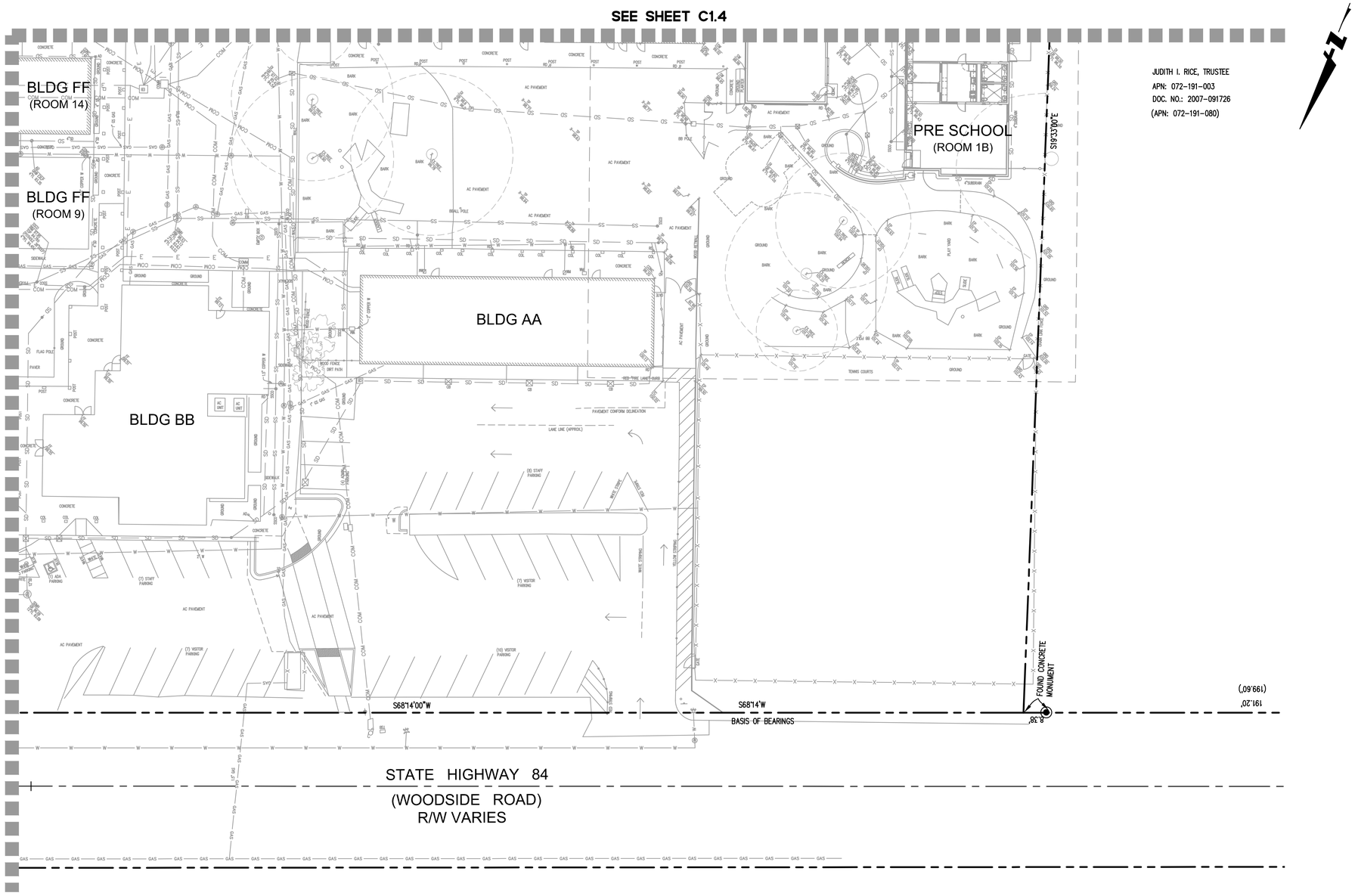
SCALE: 1" = 20'

20200196-10

EXISTING CONDITIONS

C1.1



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0 20 40

GRAPHIC SCALE

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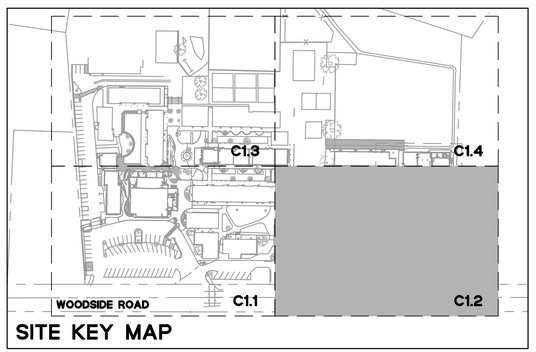

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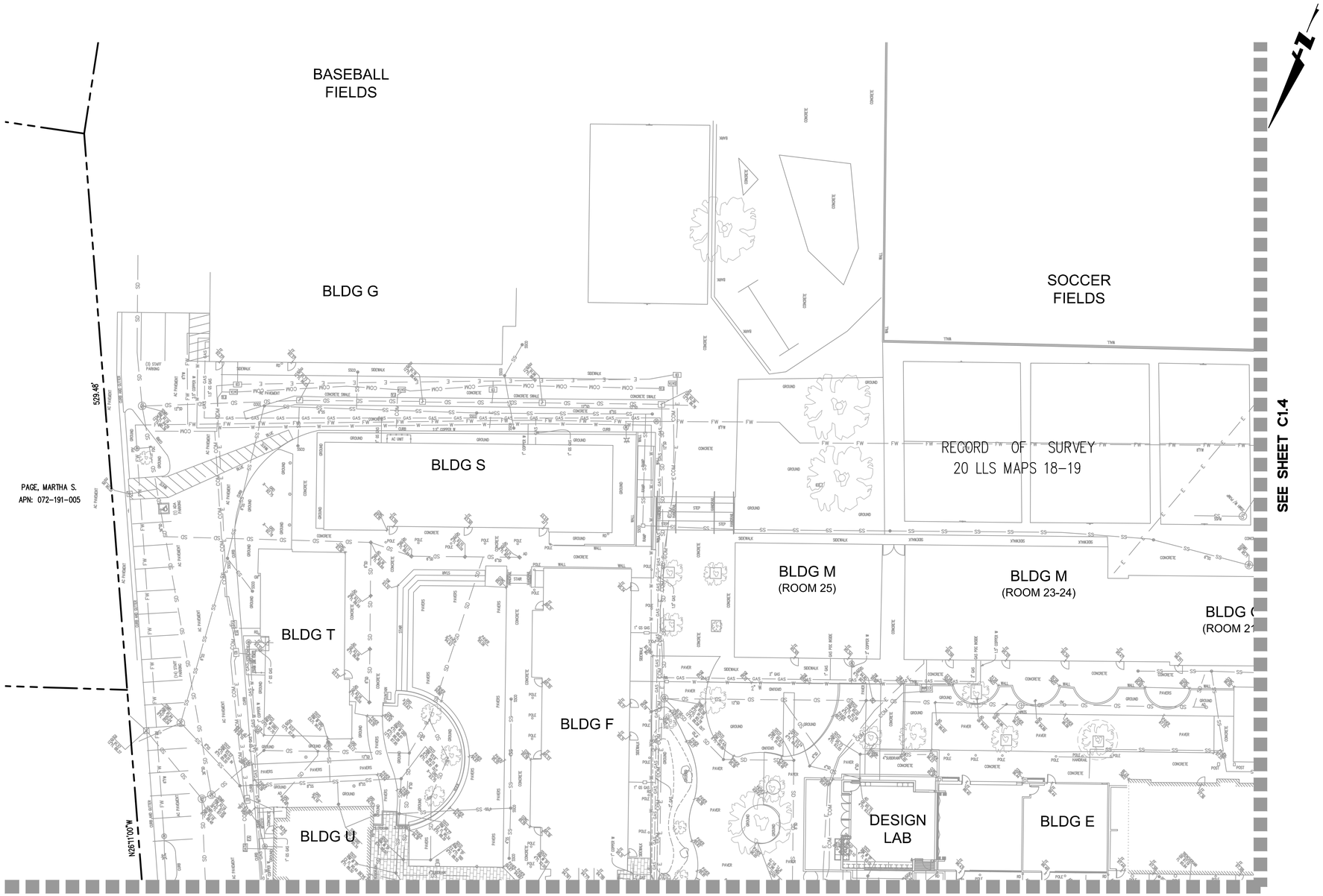
EXISTING CONDITIONS

C1.2



SEE SHEET C1.1

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SEE SHEETS CO.0, CO.1, & C1.1 FOR NOTES AND LEGENDS

0 20 40
GRAPHIC SCALE

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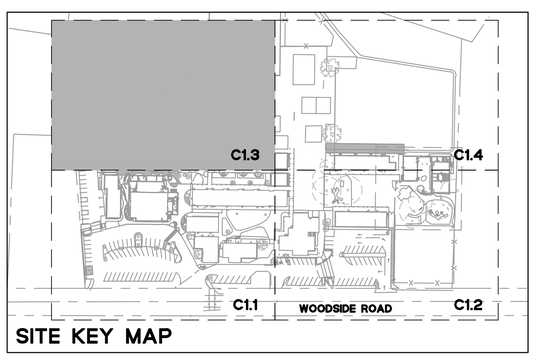

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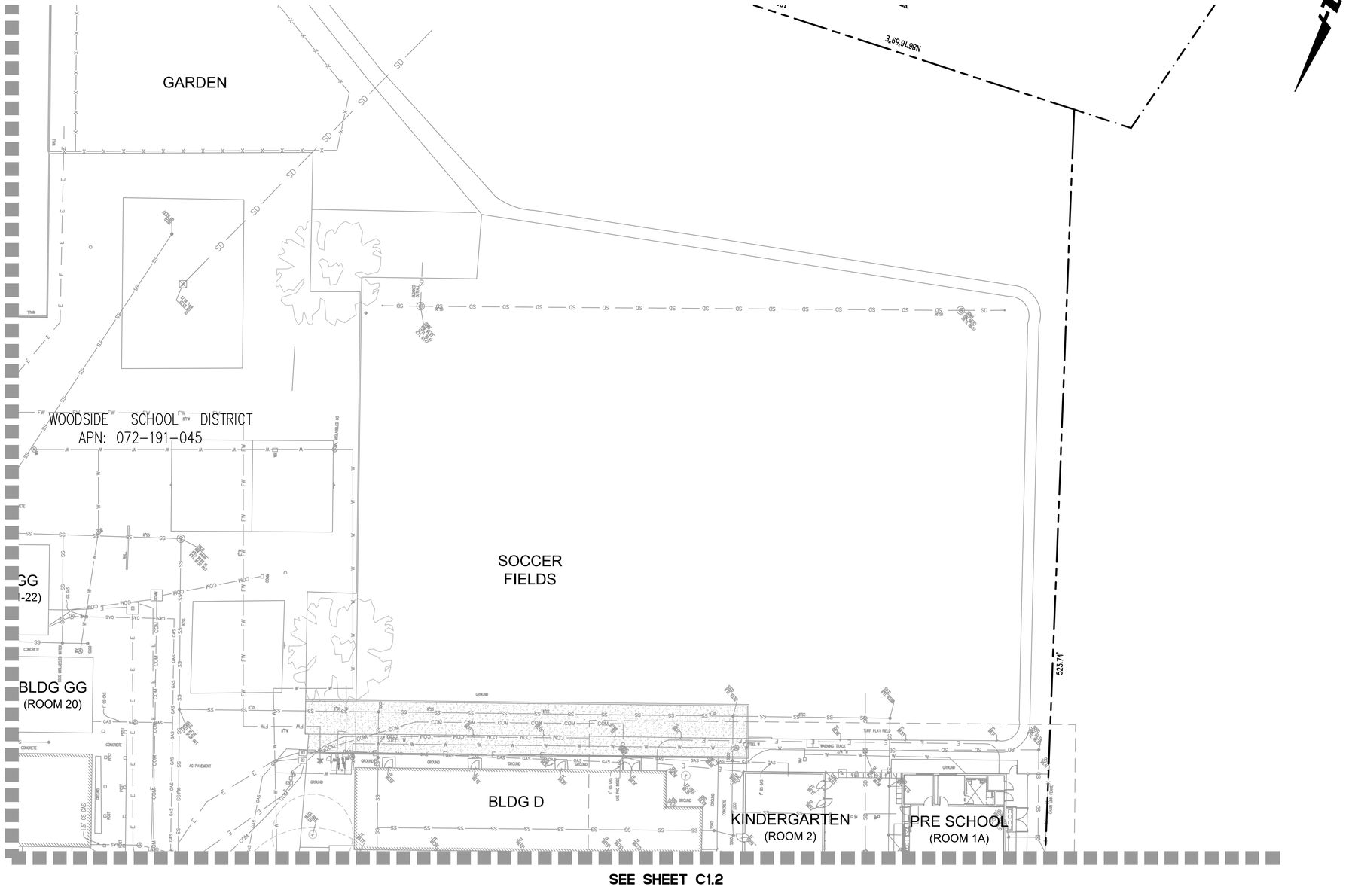
EXISTING CONDITIONS

C1.3



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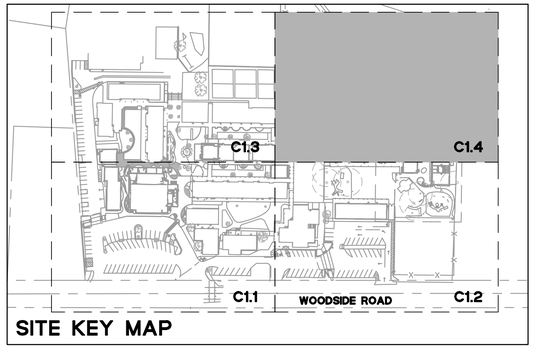

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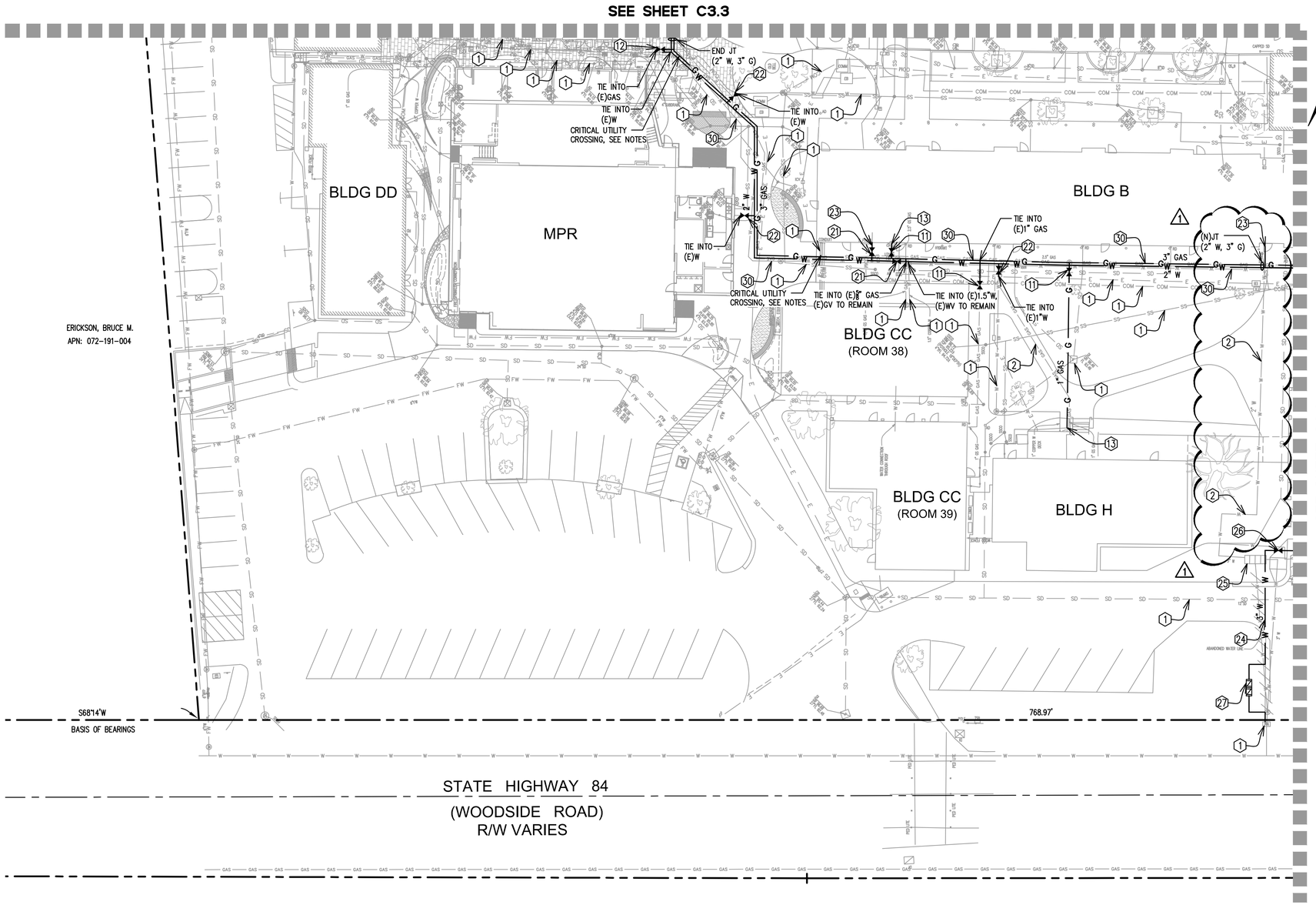
EXISTING CONDITIONS

C1.4



WATER SYSTEM NOTES:

1. WATER PIPING SHALL BE EITHER POLYETHYLENE PLASTIC PIPE CONFORMING TO THE REQUIREMENTS OF AWWA C901, OR TYPE K COPPER PIPE CONFORMING TO ASTM B88 DEPENDING ON SIZE, REFER TO SPECIFICATIONS.
2. WHERE WATER LINES HAVE TO CROSS SANITARY SEWER LINES, DO SO AT A 90 DEGREE ANGLE AND WATER LINES SHALL BE MINIMUM OF 12" ABOVE TOP OF SANITARY SEWER LINES.
3. WATER LINES ARE SHOWN SCHEMATICALLY, CONTRACTOR SHALL IDENTIFY EACH ANGLE AND/OR BEND THAT MAY BE REQUIRED TO ACCOMPLISH THE INTENDED DESIGN.
4. ALL WATER SERVICE CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE SCHOOL DISTRICT OR APPLICABLE WATER DISTRICT STANDARDS.
5. ALL WATER LINES SHALL BE INSTALLED WITH 36" MINIMUM COVER.
6. ALL EXISTING TEES SERVICING BRANCH LINES OFF OF EXISTING LINE BEING REPLACED ARE TO BE RECONNECTED TO NEW LINE.
7. ALL EXISTING SHUT-OFF VALVES ARE TO BE REPLACED AND NEW ADDITIONAL VALVES ARE REQUIRED AS INDICATED ON PLANS. SEE DETAIL 4 ON C5.1.

GAS SYSTEM NOTES:

1. ALL GAS PIPING SHALL BE MEDIUM DENSITY POLYETHYLENE 2708, UNIFORMLY YELLOW IN COLOR, CONFORMING TO THE LATEST EDITION OF ASTM D3350, REFER TO SPECIFICATIONS.
2. GAS LINES ARE SHOWN SCHEMATICALLY CONTRACTOR SHALL IDENTIFY EACH ANGLE AND/OR BEND THAT MAY BE REQUIRED TO ACCOMPLISH THE INTENDED DESIGN.
3. ALL GAS LINES SHALL BE INSTALLED WITH 30" MINIMUM COVER.
4. ALL EXISTING SHUT-OFF VALVES ARE TO BE REPLACED AND NEW ADDITIONAL VALVES ARE REQUIRED AS INDICATED ON PLANS. SEE DETAIL 5 ON C5.1.

CONSTRUCTION KEYNOTES (GENERAL):

(1) EXISTING UTILITY LINE OR STRUCTURE TO REMAIN, PROTECT IN PLACE.

(2) DISCONNECT CAP AND ABANDON EXISTING UTILITY LINE.

(3) POTHOLE AND VERIFY EXISTING UTILITY DEPTH, MATERIAL, SIZE AND CONDITION. REPLACE EXISTING SURFACE IN KIND.

CONSTRUCTION KEYNOTES (GAS):

(10) REMOVE PORTION OF EXISTING GAS PIPE, REPLACE WITH NEW GAS PIPE AS SHOWN. SEE DETAILS 1 & 2 ON C5.1 FOR TRENCH SECTION.

(11) REMOVE EXISTING GAS VALVE AND REPLACE WITH NEW VALVE AS SHOWN. SEE DETAIL 5 ON C5.1.

(12) INSTALL GAS VALVE AND ASSOCIATED UNDERGROUND PIPE, AS SHOWN. SEE DETAIL 5 ON C5.1.

(13) NEW LATERAL POC TO EXISTING BUILDING, CONTRACTOR TO VERIFY SIZE AND MATCH EXISTING. SEE DETAIL 8 ON C5.1 FOR RISER TRANSITION DETAIL.

(14) INSTALL NEW REGULATOR AND EXTERIOR SHUT OFF VALVE AT FACE OF BUILDING, SEE SPECIFICATIONS.

(15) CONTRACTOR TO VERIFY EXISTENCE OF EARTHQUAKE SHUT OFF VALVE IF NO VALVE EXISTS CONTRACTOR INSTALL NEW EARTHQUAKE SHUT OFF VALVE BEHIND GAS METER, SEE SPECIFICATIONS.

CONSTRUCTION KEYNOTES (WATER):

(20) REMOVE PORTION OF EXISTING WATER PIPE, REPLACE WITH NEW WATER PIPE AS SHOWN. SEE DETAILS 1 & 2 ON C5.1 FOR TRENCH SECTION.

(21) REMOVE EXISTING WATER VALVE AND REPLACE WITH NEW VALVE AS SHOWN. SEE DETAIL 4 ON C5.1.

(22) INSTALL WATER VALVE AND ASSOCIATED UNDERGROUND PIPE, AS SHOWN. SEE DETAIL 4 ON C5.1.

(23) NEW LATERAL POC TO EXISTING BUILDING, CONTRACTOR TO VERIFY SIZE AND MATCH EXISTING. SEE DETAIL 9 ON C5.1 FOR RISER TRANSITION DETAIL

(24) REMOVE PORTION OF EXISTING WATER PIPE, REPLACE WITH NEW WATER PIPE AS SHOWN. SEE DETAILS 1 & 2 ON C5.1 FOR TRENCH SECTION. CONTRACTOR TO BID SEPARATELY, SEE CONTRACTOR BID NOTE #1.

(25) REMOVE EXISTING WATER VALVE AND REPLACE WITH NEW VALVE AS SHOWN. SEE DETAIL 4 ON C5.1. CONTRACTOR TO BID SEPARATELY, SEE CONTRACTOR BID NOTE #1.

(26) INSTALL WATER VALVE AND ASSOCIATED UNDERGROUND PIPE, AS SHOWN. SEE DETAIL 4 ON C5.1. CONTRACTOR TO BID SEPARATELY, SEE CONTRACTOR BID NOTE #1.

(27) INSTALL BACKFLOW PREVENTOR AND PRESSURE REDUCING VALVE. SEE DETAIL 7 ON C5.1. CONTRACTOR TO BID SEPARATELY, SEE CONTRACTOR BID NOTE #1.

CONSTRUCTION KEYNOTES (JT):

(30) REMOVE PORTION OF EXISTING GAS AND WATER PIPES, REPLACE WITH NEW WATER AND GAS PIPES AS SHOWN IN COMBINED JOINT TRENCH. SEE DETAIL 3 ON C5.1 FOR JOINT TRENCH SECTION.

CONSTRUCTION KEYNOTES (REPAVING):

(40) SECTION OF UTILITY REPLACEMENT RUNS THROUGH EXISTING FIRE LANE. EXISTING PAVING SECTION CONSISTS OF 8" CONC OVER 6" AGGREGATE BASE WITH #4 REBAR 18" O.C. IN EACH DIRECTION, TO BE REPLACED IN KIND. SEE PLANS FOR LENGTH.

CRITICAL UTILITY CROSSING NOTES:

1. PRIOR TO CONSTRUCTION CONTRACTOR SHALL POTHOLE AND VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES.
2. CONTRACTOR TO USE CAUTION AROUND EXISTING UTILITIES AND MAINTAIN MINIMUM SEPARATION PER PG&E AND CITY OF LOS ALTOS REQUIREMENTS.

LANDSCAPE AND IRRIGATION NOTES:

1. CONTRACTOR SHALL PRESERVE OR REPLACE ALL PLANTS DISTURBED BY EXCAVATIONS AND REPLACE ALL DAMAGED LAWN WITH SOD.
2. CONTRACTOR SHALL MAINTAIN IRRIGATION SERVICE AND HAND WATER IF NECESSARY TO KEEP LANDSCAPED AREA IRRIGATED DURING CONSTRUCTION. CONTRACTOR SHALL REPAIR ANY IRRIGATION LINES DAMAGED DURING CONSTRUCTION.

PHASING NOTES:

1. CAMPUS WILL BE OCCUPIED DURING CONSTRUCTION, CONTRACTOR TO PHASE WORK TO MAINTAIN ACCESSIBILITY TO CERTAIN AREAS OF THE SITE. REFER TO SPECIFICATIONS FOR FENCING AND PHASING PLAN REQUIREMENTS.
2. CONTRACTOR SHALL SUBMIT A PHASING PLAN TO MAINTAIN A SOURCE OF WATER TO THE CAMPUS FOR DRINKING FOUNTAINS, TOILET FACILITIES, AND THE KITCHEN LOCATED AT THE SELLMAN MPR BUILDING DURING AS MUCH OF THE WORK AS POSSIBLE. PLAN TO BE APPROVED BY THE SCHOOL DISTRICT PRIOR TO CONSTRUCTION.

SURFACE REPAVING NOTES:

1. CONTRACTOR TO REPLACE (E)PAVING AND PAVEMENT MARKINGS IN KIND, DISTRICT'S GEOTECHNICAL ENGINEER TO OVERSEE COMPACTION TESTING ON-SITE.
   - 1.1. SAWCUT EXISTING AC PAVING BACK TO STRAIGHT PATCH AND RESTRIPE, SEE DETAILS 1 & 3 ON C5.1
   - 1.2. REPLACE CONCRETE TO NEAREST CONTROL OR EXPANSION JOINT INCLUDING DOWELING. MATCH TEXTURE AND COLOR OF EXISTING ADJACENT CONCRETE FINISH. SEE DETAILS 1, 3 & 6 ON C5.1.
   - 1.3. REINSTALL EXISTING PAVERS, MATCH EXISTING SAND BEDDING MATERIAL AND THICKNESS.

CONTRACTOR BID NOTE:

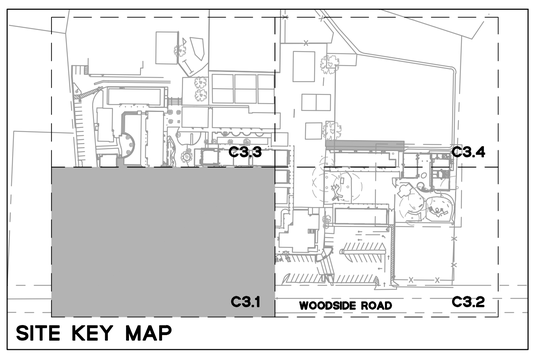
1. CONTRACTOR SHALL PREPARE SEPARATE DEDUCTIVE BID ALTERNATE FOR STAND ALONE WATER REPLACEMENT WORK, REFER TO WATER KEYNOTES 24-27 FOR ENTAILED SCOPE OF WORK.

0 20 40

GRAPHIC SCALE

SEE SHEETS C0.0 AND C0.1 FOR NOTES AND LEGENDS

811 Know what's **below.** **Call** before you dig.



SITE KEY MAP

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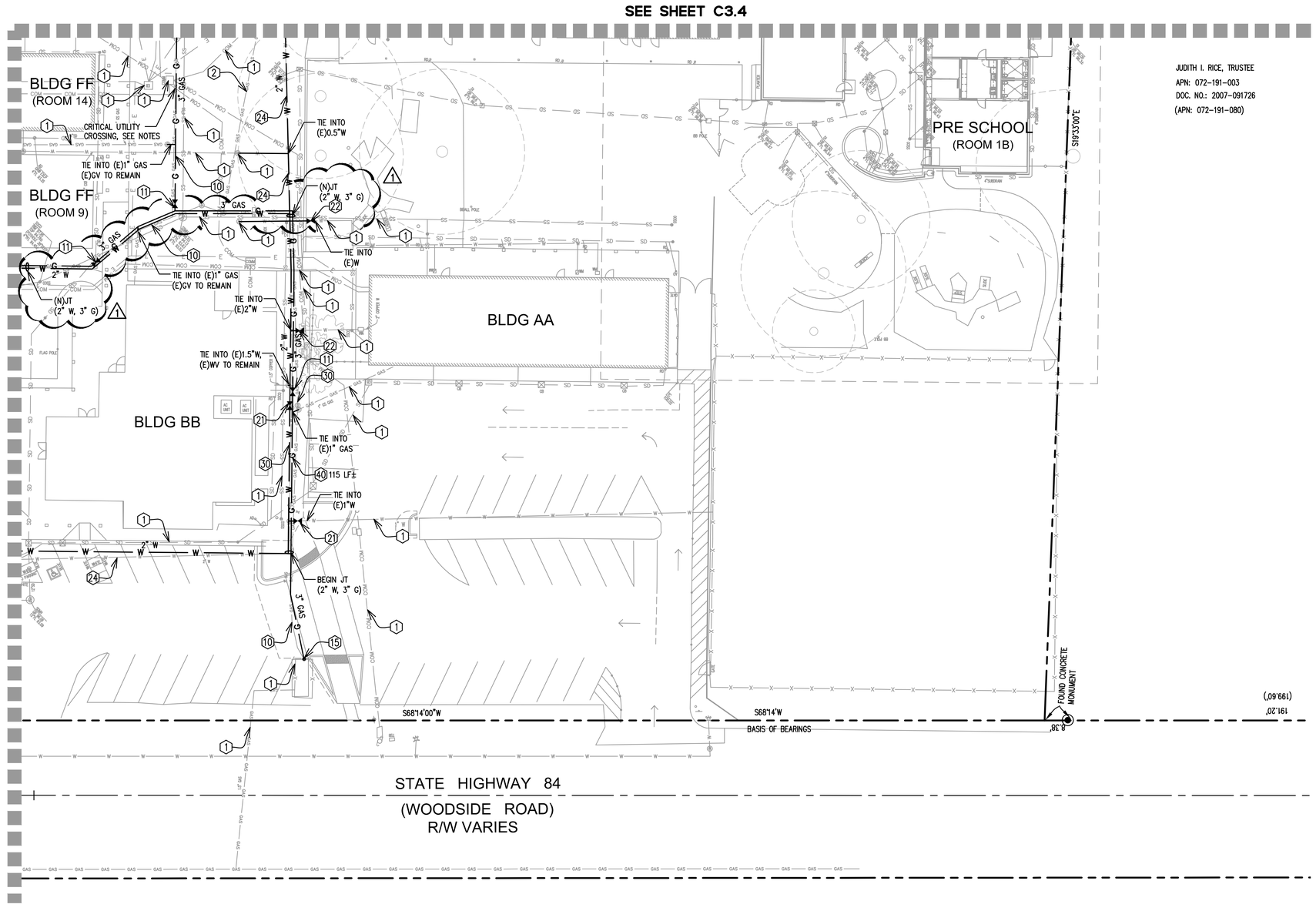
SCALE: 1" = 20'

20200196-10

UTILITY PLAN

C3.1



CRITICAL UTILITY CROSSING NOTES:

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   - 1.2. REPLACE CONCRETE TO NEAREST CONTROL OR EXPANSION JOINT INCLUDING DOWELING. MATCH TEXTURE AND COLOR OF EXISTING ADJACENT CONCRETE FINISH. SEE DETAILS 1 & 3 ON C5.1.
   - 1.3. REINSTALL EXISTING PAVERS, MATCH EXISTING SAND BEDDING MATERIAL AND THICKNESS.

CONTRACTOR BID NOTE:

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0 20 40

GRAPHIC SCALE

SEE SHEETS C0.0, C0.1, & C3.1 FOR NOTES AND LEGENDS

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2. WHERE WATER LINES HAVE TO CROSS SANITARY SEWER LINES, DO SO AT A 90 DEGREE ANGLE AND WATER LINES SHALL BE MINIMUM OF 12" ABOVE TOP OF SANITARY SEWER LINES.
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4. ALL WATER SERVICE CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE SCHOOL DISTRICT OR APPLICABLE WATER DISTRICT STANDARDS.
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CONSTRUCTION KEYNOTES (GENERAL):

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(3) POTHOLE AND VERIFY EXISTING UTILITY DEPTH, MATERIAL, SIZE AND CONDITION. REPLACE EXISTING SURFACE IN KIND.

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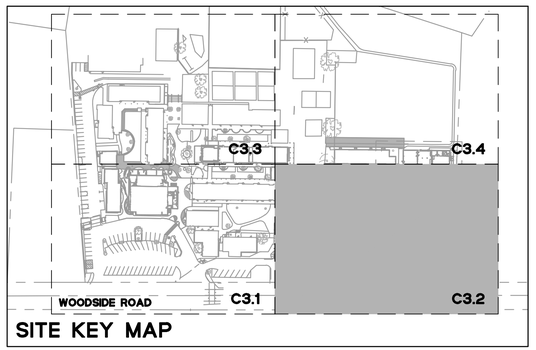


SITE KEY MAP

FILE #: PTN #:

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT

APP #: 01-118889

AC:_____ FLS:_____SS:_____
DATE: _____

Woodside Elementary School District

Woodside Elementary School Underground Utility Gas Piping Repair

3195 Woodside Road
Woodside
CA 94062

REGISTERED PROFESSIONAL ENGINEER
DALE J. LEDA
C 78436
CIVIL
STATE OF CALIFORNIA

BkF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 Shoreline Drive, Suite 200
Redwood City, CA 94065
(650) 482-6300

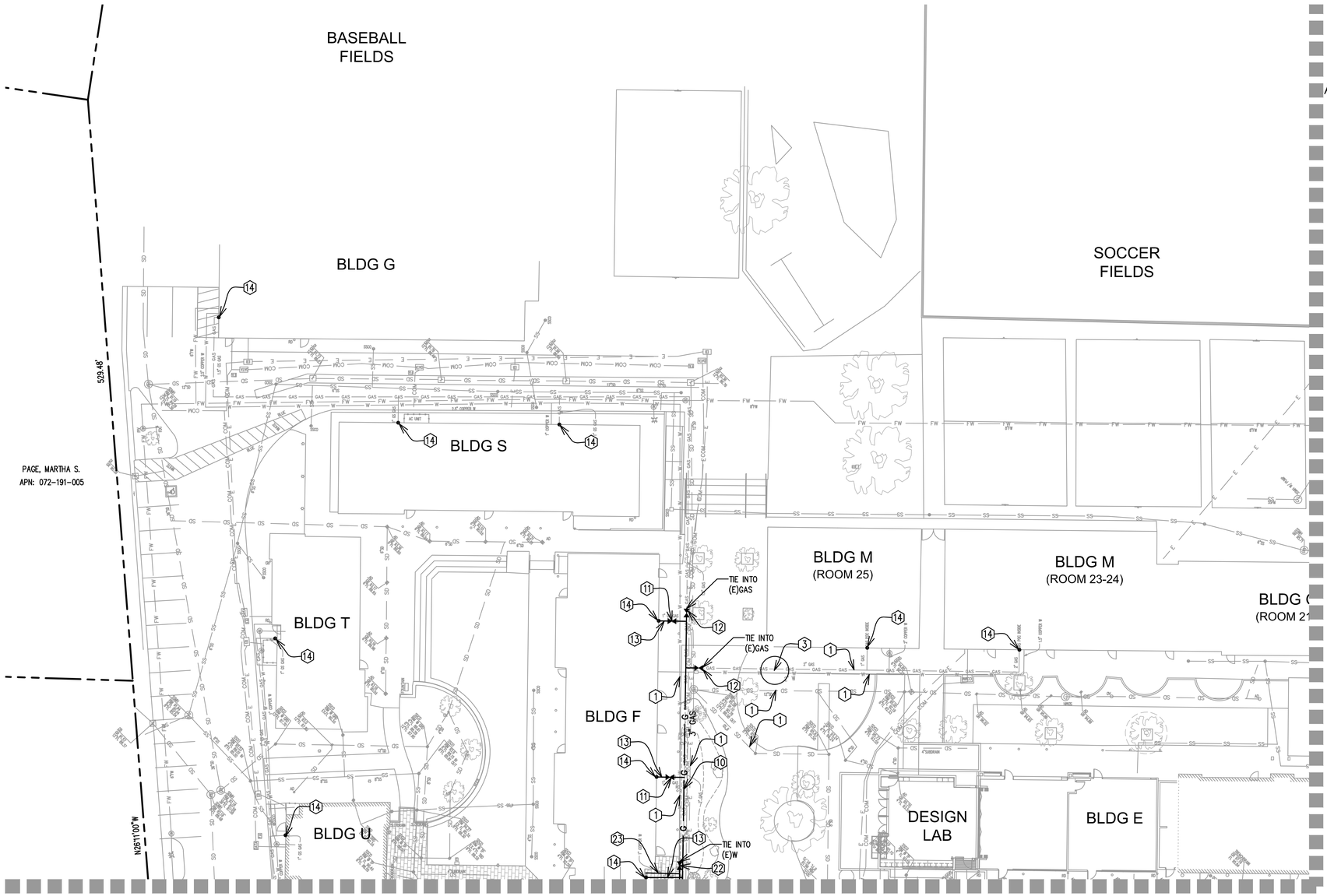
Date	Issued For
04.08.20	Contractor Bidset
04.23.20	Addendum #1 (1)

SCALE: 1" = 20'

20200196-10

UTILITY PLAN

C3.2



SEE SHEET C3.1

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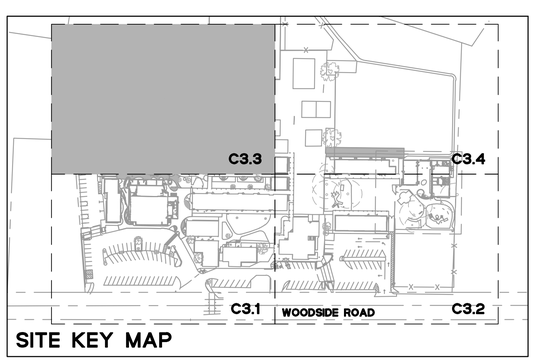

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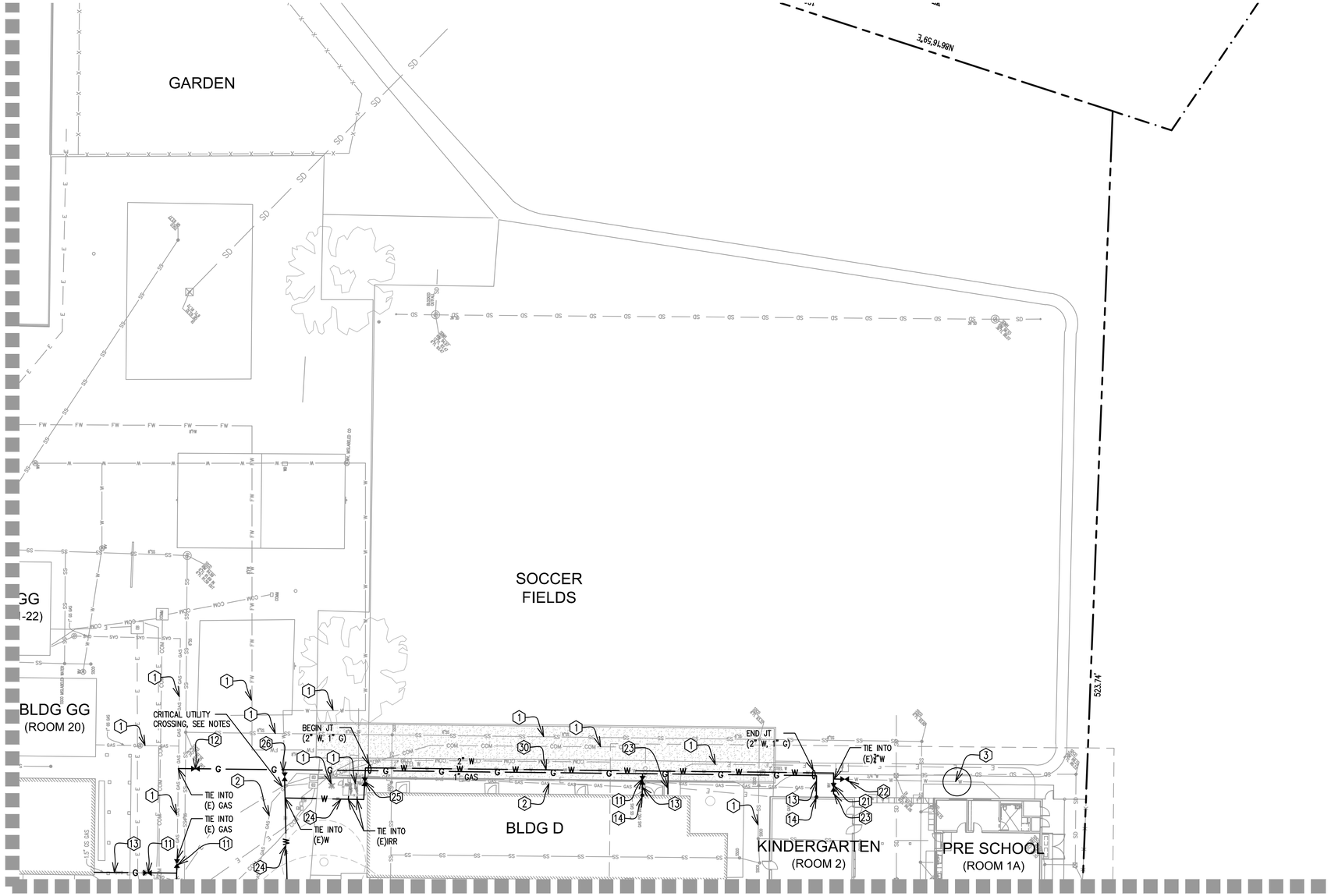
UTILITY PLAN

C3.3



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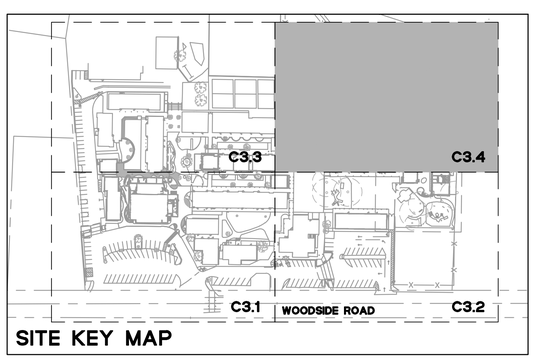

SITE KEY MAP

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20200196-10

UTILITY PLAN

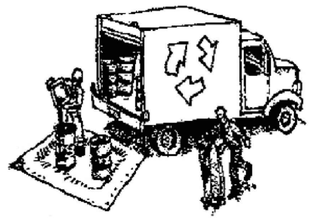
C3.4

SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
Clean Water. Healthy Community.

Construction Best Management Practices (BMPs)

Construction projects are required to implement the stormwater best management practices (BMP) on this page, as they apply to your project, all year long.

Materials & Waste Management



Non-Hazardous Materials

- ❑ Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.
- ❑ Use (but don't overuse) reclaimed water for dust control.

Hazardous Materials

- ❑ Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state and federal regulations.
- ❑ Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecast.
- ❑ Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- ❑ Arrange for appropriate disposal of all hazardous wastes.

Waste Management

- ❑ Cover waste disposal containers securely with tarps at the end of every work day and during wet weather.
- ❑ Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the construction site.
- ❑ Clean or replace portable toilets, and inspect them frequently for leaks and spills.
- ❑ Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.)
- ❑ Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.

Construction Entrances and Perimeter

- ❑ Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- ❑ Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking.

Equipment Management & Spill Control

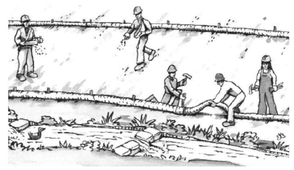
Maintenance and Parking

- ❑ Designate an area, fitted with appropriate BMPs, for vehicle and equipment parking and storage.
- ❑ Perform major maintenance, repair jobs, and vehicle and equipment washing off site.
- ❑ If refueling or vehicle maintenance must be done onsite, work in a bermed area away from storm drains and over a drip pan big enough to collect fluids. Recycle or dispose of fluids as hazardous waste.
- ❑ If vehicle or equipment cleaning must be done onsite, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or surface waters.
- ❑ Do not clean vehicle or equipment onsite using soaps, solvents, degreasers, steam cleaning equipment, etc.

Spill Prevention and Control

- ❑ Keep spill cleanup materials (rags, absorbents, etc.) available at the construction site at all times.
- ❑ Inspect vehicles and equipment frequently for and repair leaks promptly. Use drip pans to catch leaks until repairs are made.
- ❑ Clean up spills or leaks immediately and dispose of cleanup materials properly.
- ❑ Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags).
- ❑ Sweep up spilled dry materials immediately. Do not try to wash them away with water, or bury them.
- ❑ Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- ❑ Report significant spills immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill: 1) Dial 911 or your local emergency response number, 2) Call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours).

Earthwork & Contaminated Soils



Erosion Control

- ❑ Schedule grading and excavation work for dry weather only.
- ❑ Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- ❑ Seed or plant vegetation for erosion control on slopes or where construction is not immediately planned.

Sediment Control

- ❑ Protect storm drain inlets, gutters, ditches, and drainage courses with appropriate BMPs, such as gravel bags, fiber rolls, berms, etc.
- ❑ Prevent sediment from migrating offsite by installing and maintaining sediment controls, such as fiber rolls, silt fences, or sediment basins.
- ❑ Keep excavated soil on the site where it will not collect into the street.
- ❑ Transfer excavated materials to dump trucks on the site, not in the street.
- ❑ Contaminated Soils
- ❑ If any of the following conditions are observed, test for contamination and contact the Regional Water Quality Control Board:
  - ■ Unusual soil conditions, discoloration, or odor.
  - ■ Abandoned underground tanks.
  - ■ Abandoned wells
  - ■ Buried barrels, debris, or trash.

Paving/Asphalt Work

- ❑ Avoid paving and seal coating in wet weather, or when rain is forecast before fresh pavement will have time to cure.
- ❑ Cover storm drain inlets and manholes when applying seal coat, tack coat, slurry seal, fog seal, etc.
- ❑ Collect and recycle or appropriately dispose of excess abrasive gravel or sand. Do NOT sweep or wash it into gutters.
- ❑ Do not use water to wash down fresh asphalt concrete pavement.

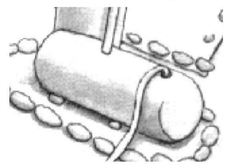
Sawcutting & Asphalt/Concrete Removal

- ❑ Completely cover or barricade storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or gravel bags to keep slurry out of the storm drain system.
- ❑ Shovel, abosorb, or vacuum saw-cut slurry and dispose of all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- ❑ If sawcut slurry enters a catch basin, clean it up immediately.

Concrete, Grout & Mortar Application

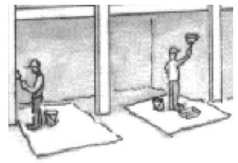
- ❑ Store concrete, grout and mortar under cover, on pallets and away from drainage areas. These materials must never reach a storm drain.
- ❑ Wash out concrete equipment/trucks offsite or in a contained area, so there is no discharge into the underlying soil or onto surrounding areas. Let concrete harden and dispose of as garbage.
- ❑ Collect the wash water from washing exposed aggregate concrete and remove it for appropriate disposal offsite.

Dewatering



- ❑ Effectively manage all run-on, all runoff within the site, and all runoff that discharges from the site. Divert run-on water from offsite away from all disturbed areas or otherwise ensure compliance.
- ❑ When dewatering, notify and obtain approval from the local municipality before discharging water to a street gutter or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- ❑ In areas of known contamination, testing is required prior to reuse or discharge of groundwater. Consult with the Engineer to determine whether testing is required and how to interpret results. Contaminated groundwater must be treated or hauled off-site for proper disposal.

Painting & Paint Removal



Painting cleanup

- ❑ Never clean brushes or rinse paint containers into a street, gutter, storm drain, or surface waters.
- ❑ For water-based paints, paint out brushes to the extent possible. Rinse to the sanitary sewer once you have gained permission from the local wastewater treatment authority. Never pour paint down a drain.
- ❑ For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of residue and unusable thinner/solvents as hazardous waste.

Paint removal

- ❑ Chemical paint stripping residue and chips and dust from marine paints or paints containing lead or tributyltin must be disposed of as hazardous waste.
- ❑ Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash.

Landscape Materials

- ❑ Contain stockpiled landscaping materials by storing them under tarps when they are not actively being used.
- ❑ Stack erodible landscape material on pallets. Cover or store these materials when they are not actively being used or applied.
- ❑ Discontinue application of any erodible landscape material within 2 days before a forecast rain event or during wet weather.

Storm drain polluters may be liable for fines of up to $10,000 per day!

FILE #: PTN #:
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP #: 01-118889
AC:_____ FLS:_____SS:_____
DATE: _____

Woodside Elementary School District

Woodside Elementary School Underground Utility Gas Piping Repair

3195 Woodside Road
Woodside
CA 94062

REGISTERED PROFESSIONAL ENGINEER
DALE J. LEDA
C 78436
CIVIL
STATE OF CALIFORNIA

BkF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS

255 Shoreline Drive, Suite 200
Redwood City, CA 94065
(650) 482-6300

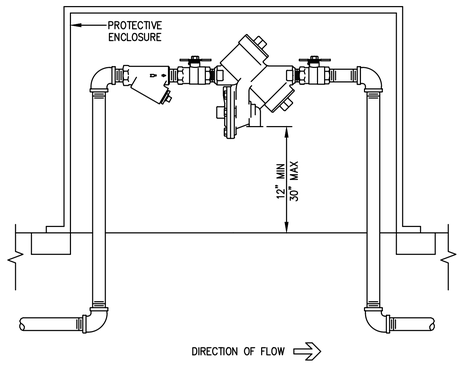
Date	Issued For
04.08.20	Contractor Bidset
04.23.20	Addendum #1 (1)

SCALE: NO SCALE

20200196-10

BEST MANAGEMENT PRACTICES

C4.1

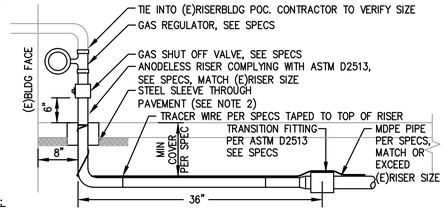


PROFILE

NOTES:

1. REDUCED PRESSURE BACKFLOW ASSEMBLY TO BE WILKINS 975XL OR APPROVED EQUAL.
2. SEE PLAN FOR REDUCED PRESSURE BACKFLOW ASSEMBLY LOCATION.
3. TO BE INSTALLED PER CAL WATER STANDARDS AND PER MANUFACTURER'S RECOMMENDATIONS.
4. PROVIDE ONE COMMON FIBERGLASS HOTBOX ENCLOSURE, WITH PADLOCK, ON CONCRETE PAD FOR REDUCED PRESSURE BACKFLOW ASSEMBLY AND IRRIGATION BACKFLOW ASSEMBLY.

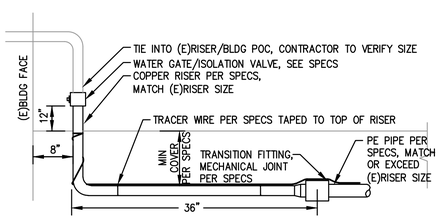
7 — REDUCED PRESSURE BACKFLOW ASSEMBLY
NTS



NOTES:

1. ALWAYS MAINTAIN A MINIMUM DISTANCE OF 36" BETWEEN THE VERTICAL CENTERLINE OF THE RISER AND THE TRANSITION FITTING.
2. IF THE AREA AROUND THE GAS RISER IS GOING TO BE PAVED, INTALL A MINIMUM 3-INCH DIAMETER STEEL SLEEVE AROUND THE RISER, SEE SPECS.

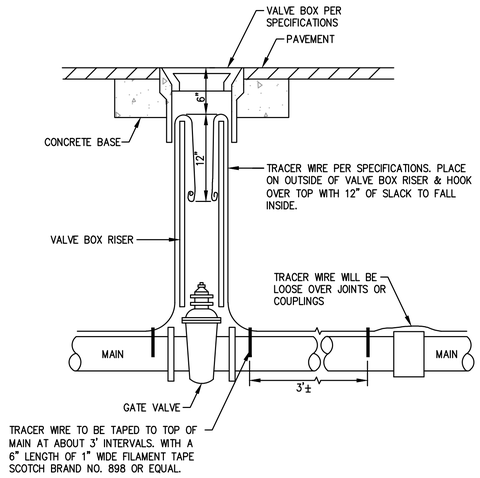
8 — GAS RISER TRANSITION
NTS



NOTES:

1. ALWAYS MAINTAIN A MINIMUM DISTANCE OF 36" BETWEEN THE VERTICAL CENTERLINE OF THE RISER AND THE TRANSITION FITTING.

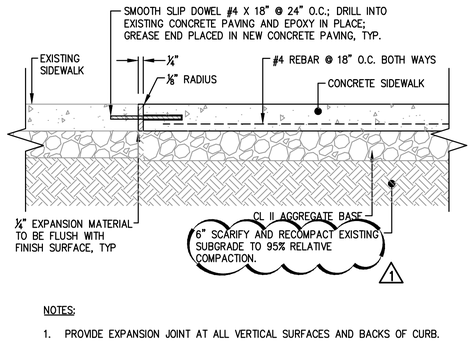
9 — WATER RISER TRANSITION
NTS



NOTES:

1. POLYETHYLENE GAS VALVES SHALL COMPLY WITH ASME B16.40, REFER TO SPECIFICATIONS.

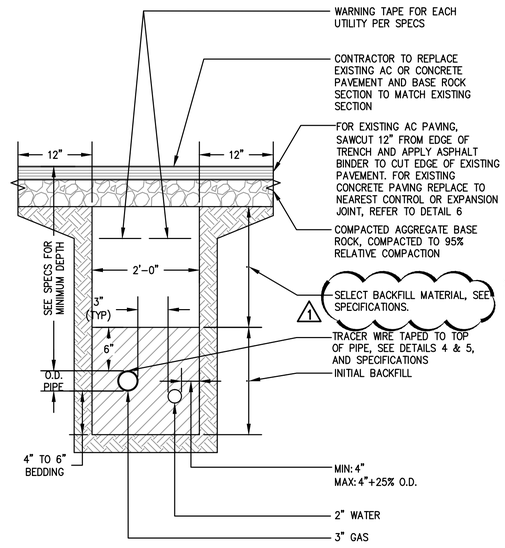
5 — GAS VALVE AND LOCATOR WIRE
NTS



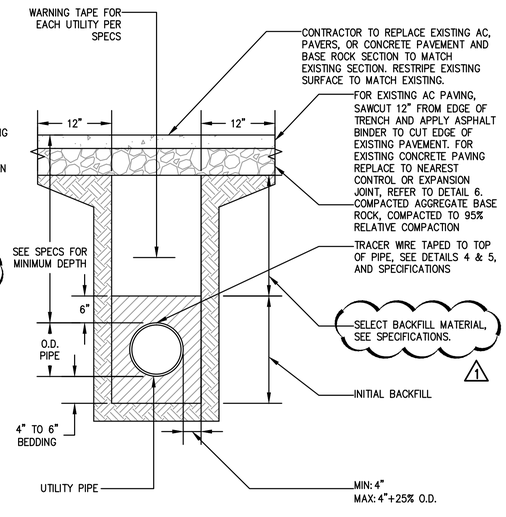
NOTES:

1. PROVIDE EXPANSION JOINT AT ALL VERTICAL SURFACES AND BACKS OF CURB.

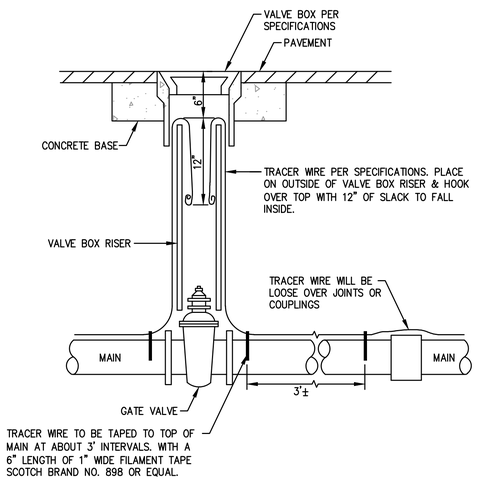
6 — NEW SIDEWALK TO EXISTING SIDEWALK CONNECITON
NTS



3 — JOINT TRENCH BACKFILL GAS AND WATER SERVICE
NTS



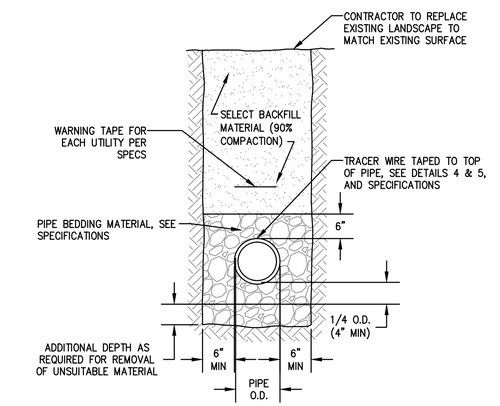
1 — PIPE BACKFILL ON-SITE
NTS



NOTES:

1. VALVE SHALL BE GATE VALVE CONFORMING TO AWWA C500 OR AWWA C509, UL 262, FM 1120 AND FM 1130 AND OF ONE MANUFACTURER. VALVES SHALL HAVE A NON-RISING STEM, A 2-INCH SQUARE NUT, AND DOUBLE DISC GATES. REFER TO SPECIFICATIONS.

4 — WATER VALVE AND LOCATOR WIRE
NTS



2 — PIPE BACKFILL ON-SITE LANDSCAPE
NTS

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Date	Issued For
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DETAIL SHEET

C5.1