#### LEGAL DESCRIPTION:

LOT 4, AMENDED GATEWAY PARK FIRST-FILING-PHASE 2 REPLAT D TOWN OF BERTHOUD, COUNTY OF LARIMER, STATE OF COLORADO

#### BASIS OF BEARING:

THE GPS DERIVED EAST LINE OF THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 15, TOWNSHIP 4 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN MONUMENTED BY A 3.25" ALUMINUM CAP (ILLEGIBLE) BEING THE SOUTHEAST 1/4 CORNER OF SAID SECTION 15 WHENCE A 2.5" ALUMINUM CAP "PLS 28285" BEING THE NORTHEAST CORNER OF THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SAID SECTION 15 BEARS NORTH 00°17'46" WEST, A DISTANCE OF 1328.91 FEET WITH ALL BEARINGS HEREIN RELATIVE THERETO.

#### **BENCHMARK:**

FOUND NGS BENCHMARK PID "LL1061" NEAR THE INTERSECTION OF HIGHWAY 34 AND COUNTY ROAD 17 NAVD 1988 DATUM ELEVATION=5053.35

#### APPROVAL CERTIFICATES:

APPROVED BY THE TOWN ADMINISTRATOR OF THE TOWN OF BERTHOUD, COLORADO, THIS DAY OF \_\_\_\_\_, A.D., 20\_\_\_\_

TOWN ADMINISTRATOR

THE FOREGOING PLAN IS APPROVED FOR FILING AND ACCEPTED BY THE TOWN OF BERTHOUD, COLORADO, THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, A.D., 20\_\_\_\_

COMMUNITY DEVELOPMENT DIRECTOR

#### SITE SPECIFIC DEVELOPMENT PLAN:

THIS PLAN CONSTITUTES A SITE SPECIFIC DEVELOPMENT PLAN AS DEFINED IN ARTICLE 68 OF TITLE 24, C.R.S., AS AMENDED, AND CHAPTER 30 OF THE BERTHOUD DEVELOPMENT CODE AVAILABLE AT THE BERTHOUD TOWN HALL 807 MOUNTAIN AVENUE, BERTHOUD, COLORADO 80513.

#### OWNER CERTIFICATE:

I, THE UNDERSIGNED, SHALL COMPLY WITH ALL REGULATIONS CONTAINED IN CHAPTER 30 OF THE BERTHOUD DEVELOPMENT CODE AND TOWN OF BERTHOUD GENERAL DEVELOPMENT STANDARD LANGUAGE DOCUMENT.

THE FOLLOWING SIGNATURES CONSTITUTE ALL OWNERS AND HOLDERS OF DEEDS AND TRUST FOR LAND AND STRUCTURES INCLUDED IN THIS PLAN.

KEITH WOLFENDEN KJW REAL ESTATE, LLC 329 BRONCO CT, BERTHOUD, CO 80513

BY		DATE	
	OWNER		

THE MONUMENT SIGN SHALL BE REVIEWED AND APPROVED THROUGH A SEPARATE SIGN PERMIT APPLICATION.

#### **VESTING OF PROPERTY RIGHTS**

APPROVAL OF THIS SITE-SPECIFIC DEVELOPMENT PLAN CONSTITUTES THE CREATION OF VESTED PROPERTY RIGHTS PURSUANT TO ARTICLE 68 OF TITLE 24, C.R.S., AS AMENDED. THE APPROVAL OF VESTED PROPERTY RIGHTS SHALL BE SUBJECT TO ALL RIGHTS OF REFERENDUM AND JUDICIAL REVIEW. THIS APPROVED SITE SPECIFIC DEVELOPMENT PLAN VOIDS ANY AND ALL PRE-EXISTING VESTED PROPERTY RIGHTS ON THE SAME REAL

THE PLANS CONTAINED ON THIS SITE PLAN ARE THE LIMITS OF THE APPROVAL. ANY CHANGES TO THE APPROVED SITE PLAN MAY NECESSITATE AN AMENDMENT OR NEW PERMIT.

#### **DEVELOPMENT IMPROVEMENTS**

ALL DEVELOPMENT IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SITE PLAN AS WELL AS THE REQUIREMENTS OF THE BERTHOUD MUNICIPAL CODE. THE DEVELOPMENT SHALL ADHERE TO THE DEVELOPMENT AGREEMENT ENTERED INTO BETWEEN THE DEVELOPER AND THE TOWN OF BERTHOUD.

PRIOR TO COMMENCEMENT OF CONSTRUCTION OF ANY DEVELOPMENT IMPROVEMENTS INCLUDING ALTERATIONS TO EXISTING GRADING CONTOURS, REMOVAL OF VEGETATION AND/OR EXCAVATING, THE TOWN-APPROVED EROSION CONTROL PLAN WILL BE IMPLEMENTED. THE TOWN-APPROVED EROSION CONTROL PLAN MEASURES SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION OF DEVELOPMENT IMPROVEMENTS AND SHALL NOT BE REMOVED OR ABANDONED UNTIL AUTHORIZED BY THE TOWN. AT ALL TIMES DURING CONSTRUCTION ON THE PROPERTY, OR OFF-SITE PROJECTS ASSOCIATED WITH DEVELOPMENT OF THE PROPERTY, DEVELOPER SHALL MAINTAIN ALL STREETS, DRAINAGE, AND DRAINAGE FACILITIES IN AN ORDERLY AND WORKMANLIKE FASHION.

#### CONSTRUCTION RULES AND REGULATIONS

CONSTRUCTION ACTIVITIES SHALL ADHERE TO THE CONSTRUCTION RULES AND REGULATIONS FOUND IN CHAPTER 30 OF THE BERTHOUD MUNICIPAL CODE AT ALL TIMES.

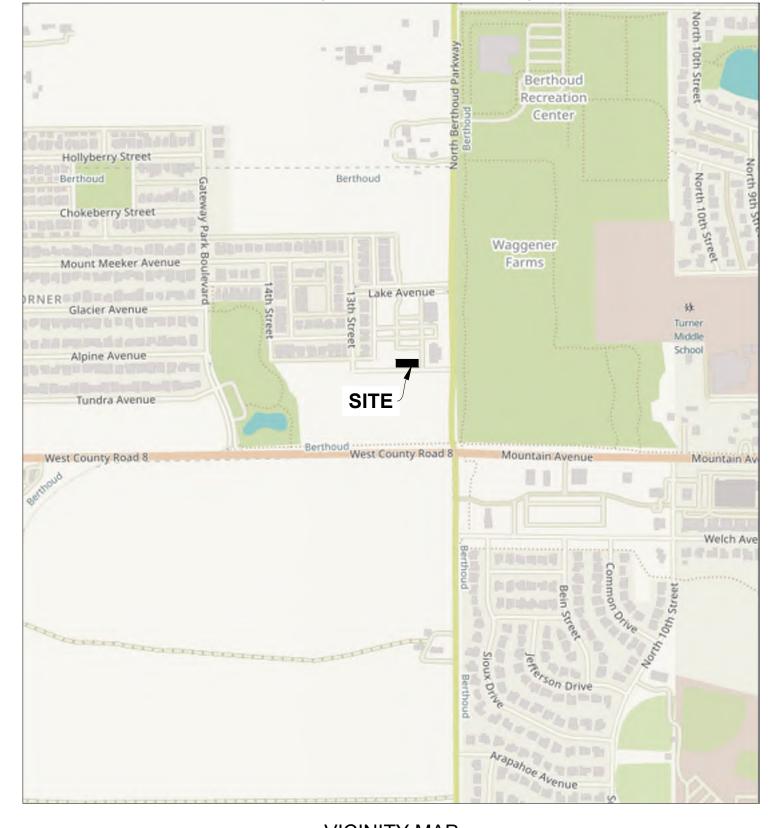
THE TOWN OF BERTHOUD HAS ADOPTED A DARK SKY ORDINANCE. ALL DEVELOPMENT SHALL ADHERE TO THE TOWN OF BERTHOUD DARK SKY ORDINANCE NO. 1230, ADOPTED JANUARY 9, 2018, AND AS MAY BE AMENDED, AT

**RIGHT TO FARM STATEMENT** THE TOWN OF BERTHOUD HAS ADOPTED A "RIGHT TO FARM POLICY". ALL NEW AND EXISTING RESIDENTS ARE EXPECTED TO READ AND UNDERSTAND THE POLICY. FOR A COPY OF THE POLICY, PLEASE CONTACT THE TOWN OF BERTHOUD.

# KJW REAL ESTATE, LLC

#### SITE DEVELOPMENT PLAN

LOT 4, AMENDED GATEWAY PARK FIRST-FILING-PHASE 2 REPLAT D TOWN OF BERTHOUD, COUNTY OF LARIMER, STATE OF COLORADO (1231 LAKE AVENUE)



#### **VICINITY MAP**

XCEL ENERGY:

ATTN: PAT KREAGER

POUDRE VALLEY REA:

ATTN: MATT ORGAN

7649 REA PKWY

PH: (970) 282-6432

ATTN: BILL BLAIR

3737 W 10TH ST

CENTURYLINK:

2505 1ST AVE GREELEY, CO 80631

PH: (970) 392-4838

GREELEY, CO 80634 PH: (720) 490-3891

ATTN: JASON GARCIA

PH: (970) 225-7843

1901 E HORSETOOTH RD

FORT COLLINS, CO 80525

FORT COLLINS, CO 80528

**COMCAST COMMUNICATIONS:** 

DENTAL OFFICE

29' (PROPOSED)

MIN: 131.6 FEET

REQUIRED

13

MIN: 35.7 EAST / 30.3 FEET WEST

PROVIDED

#### JURISDICTIONAL CONTACTS:

TOWN OF BERTHOUD - PLANNING ATTN: TAWN HILLENBRAND SENIOR PLANNER 807 MOUNTAIN AVE BERTHOUD, CO 80513 PH: (970) 532-2643

PLANNING AND ZONING ATTN: ANNE JOHNSON COMMUNITY DEVELOPMENT DIRECTOR TOWN OF BERTHOUD PH: (970) 532-2643

BERTHOUD FIRE PROTECTION DISTRICT: ATTN: CARIE DANN FIRE MARSHALL 275 MOUNTAIN AVE BERTHOUD, CO 80513

IBC CONSTRUCTION TYPE & OCCUPANCY GROUP:

BUILDING SETBACKS

LAND AREA COVERAGE

FRONT YARD NORTH (INTERNAL LOT LINES)

LANDSCAPE (15% REQ'D OR 4,932 SF)

PERSONAL SERVICE & OFFICE (3/1000 SF)

**OFF-STREET PARKING** 

BICYCLE PARKING (MIN 10% OF TOTAL # PARKING SPACES)

REAR YARD SOUTH (PRIVATE DRIVE)

SIDE (INTERNAL LOT LINES)

PAVED DRIVES / PARKING

WALKS / PATIOS

TOTAL SITE AREA

**ELECTRIC VEHICLE** 

32,881 SF (0.755 ACRES)

**VACANT** 

30' (ALLOWED)

REQUIRED

10 FEET

10 FEET

10 FEET

4,253 SF 12.9%

18,950 SF 57.6%

3,583 SF 10.9%

6,095 SF 18.5%

32,881 SF 100 %

(MEASURED FROM LOT LINE)

PH: (970) 532-2264

SITE DATA

BUILDING FLOOR AREA:

ZONING DISTRICT

#### PROJECT CONTACTS:

CIVIL ENGINEER: **HCI ENGINEERING** A DIVISION OF HABERER CARPENTRY INC. ATTN: COLE HABERER, PE 621 SOUTHPARK DR., SUITE 1600 LITTLETON, CO 80210 PH: 303-979-3900

SURVEYOR: FALCON SURVEYING, INC ATTN: JEFFERY J. MACKENNA 9940 WEST 25TH AVENUE LAKEWOOD, CO 80215 PH: (303) 202-1560

\*EXCEPTION IS REQUESTED TO ALLOW

REQUIRED BY EITHER 10 SPACES MORE

THAN REQUIRED OR 25% GREATER THAN

FOR PROVIDED PARKING TO EXCEED

MINIMUM REQUIRED.

**BATTISTA DESIGN** ATTN: PAUL BATTISTA 3650 WADSWORTH BLVD WHEAT RIDGE, CO 80033 PH: (303) 428-4895

OWNER & APPLICANT: KJW REAL ESTATE, LLC ATTN: KEITH WOLFENDEN 329 BRONCO CT, BERTHOUD, CO 80513 PH: (904) 703-2782

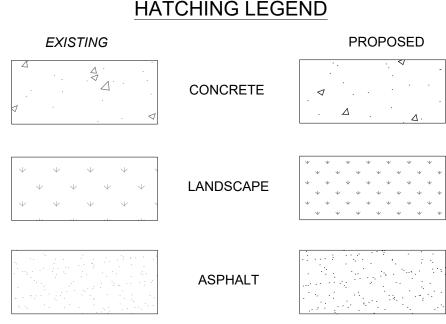
#### **CURB AND GUTTER (CATCH)** STORM SEWER --- ST -- ST -- ST --SANITARY SEWER ———— SS ——— SS ——— **WATER LINE** -- w-- w-- w-- w--**GAS LINE** -- G -- G -- G -- G --**ELECTRICAL** — - E - - - E - - - E - - - E - - -FIBER OPTIC LINE —— — FO — — FO — — FO — Е **ELECTRICAL BOX** SITE LIGHT SIGN MANHOLES INLET METER PIT **GATE VALVE** THRUST BLOCK **GAS METER** FIRE HYDRANT 0 LANDSCAPE SWALE \_\_\_\_\_\_*<* \_\_\_\_\_ XXX (XXX)SLOPE — — *5420-* — — — MAJOR CONTOUR MINOR CONTOUR XXXX SPOT ELEVATION

MASTER LEGEND

CURB AND GUTTER (SPILL)

PROPOSED

EXISTING



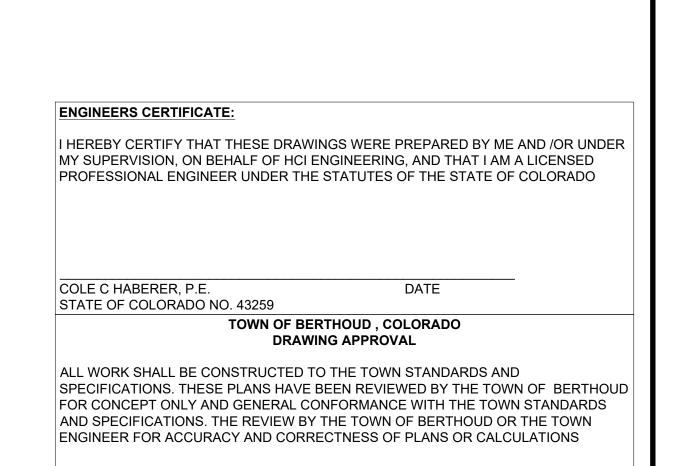
Sheet Number Sheet Title COVER SHEET C1.0 C1.1 TOB NOTES C1.2 HCI NOTES C2.0 DEMO PLAN SITE PLAN C2.2 HORIZONTAL CONTROL PLAN C3.0 GRADING PLAN C5.0 UTILITY PLAN C6.0 DETAILS (1) C6.1 DETAILS (2) C6.2 DETAILS (3) C7.0 EC PLAN - INITIAL C7.1 EC PLAN - INTERIM C7.2 EC PLAN - FINAL C7.3 EC DETAILS (1) C7.4 EC DETAILS (2) EXTERIOR ELEVATIONS A2 **EXTERIOR ELEVATIONS** A3 FLOOR/ROOF PLAN L1.0 LANDSCAPE PLAN LANDSCAPE NOTES & DETAILS IRRIGATION PLAN IRRIGATION DETAILS

SITE PHOTOMETRICS PLAN

SITE FIXTURE SPEC'S

TOWN ENGINEER

Sheet List Table



A DIVISION OF HABERER CARPENTRY INC. 621 SOUTHPARK DR., SUITE 1600 LITTLETON CO. 80120 PHONE: (303) 979-3900 INFO@HABERERGROUP.COM

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

CALL 811 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG. GRADE, OR EXCAVATE FOR THI MARKING OF UNDERGROUND MEMBER UTILITIES.

**REVISIONS:** No. | Date: | Description: 1 | 11.01.24 | 1st Submittal 2 | 02.18.25 | 2nd Submittal 3 | 04.18.25 | 3rd Submittal Project No: 24 15 Drawn By: GJB Checked By: CCH

COVER SHEET Number:

Date Issued: 01/05/2025

#### **GENERAL NOTES**:

- 1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE LATEST TOWN OF BERTHOUD STANDARDS AND SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF PUBLIC AND PRIVATE IMPROVEMENTS, COLORADO DEPARTMENT OF TRANSPORTATION, BERTHOUD FIRE PROTECTION DISTRICT REQUIREMENTS, REA POUDRE VALLEY, XCEL ENERGY, CENTURYLINK, AND ALL APPLICABLE STATE AND LOCAL STANDARDS AND SPECIFICATIONS.
- 2. THE CONTRACTOR SHALL HAVE IN POSSESSION AT THE JOB SITE AT ALL TIMES ONE (1) SIGNED COPY OF APPROVED PLANS, STANDARDS AND SPECIFICATIONS, AND PERMITS. CONTRACTOR SHALL CONSTRUCT AND MAINTAIN EMERGENCY ACCESS ROUTES TO THE SITE AND STRUCTURE AT ALL TIMES PER THE APPLICABLE BERTHOUD FIRE PROTECTION DISTRICT REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ANY VARIANCE TO THE ABOVE DOCUMENTS. THE CONTRACTOR SHALL NOTIFY THE TOWN ENGINEER OF ANY CONFLICTING STANDARDS OR SPECIFICATIONS. IN THE EVENT OF ANY CONFLICTING STANDARD OR SPECIFICATION, THE MORE STRINGENT OR HIGHER QUALITY STANDARD, DETAIL OR SPECIFICATION SHALL APPLY.
- 3. THE CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE CODES, LICENSES, STANDARD SPECIFICATIONS, PERMITS, BONDS, ETC., WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK, INCLUDING, BUT NOT LIMITED TO A LOCAL AND STATE GROUNDWATER DISCHARGE AND COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT (CDPHE) STORMWATER DISCHARGE PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITY.
- 4. ALL WORK SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY AUTHORIZED TOWN OF BERTHOUD PERSONNEL.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE TOWN ENGINEER, GEOTECHNICAL ENGINEER, AND ALL UTILITY OWNERS, AT LEAST 48 HOURS PRIOR TO START OF ANY CONSTRUCTION, PRIOR TO BACKFILLING, AND AS REQUIRED BY JURISDICTIONAL AUTHORITY AND/OR PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL CONTINUE WITH NOTIFICATIONS THROUGHOUT THE PROJECT AS REQUIRED BY THE STANDARDS AND SPECIFICATIONS.
- 6. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB SITE; INCLUDING, SAFETY OF PERSONS AND PROPERTY DURING THE PERFORMANCE OF WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE TOWN CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.
- 7. THE CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR TOWN APPROVAL BY THE TOWN OF BERTHOUD PRIOR TO CONSTRUCTION AND PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FENCING, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY. THE CONTRACTOR AGREES TO COMPLY WITH THE PROVISIONS OF THE TRAFFIC CONTROL PLAN AND THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)," PART VI, FOR CONSTRUCTION SIGNAGE AND TRAFFIC CONTROL. ALL TEMPORARY AND PERMANENT TRAFFIC SIGNS SHALL COMPLY TO THE MUTCD WITH REGARD TO SIGN SHAPE, COLOR, SIZE, LETTERING, ETC. UNLESS OTHERWISE SPECIFIED. IF APPLICABLE, PART NUMBERS ON SIGNAGE DETAILS REFER TO MUTCD SIGN NUMBERS.
- 8. THE TYPE, SIZE, LOCATION, AND NUMBER OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE AS SHOWN ON THE DRAWINGS BASED ON INFORMATION BY OTHERS. NOT ALL UTILITIES ARE SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, SIZE, TYPE, AND LOCATION OF ALL UNDERGROUND UTILITIES WHETHER SHOWN OR NOT ALONG THE ROUTE OF THE WORK. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY CONTRACTOR PRIOR TO DATE OF CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY SIZE AND HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING FACILITIES PRIOR TO CONSTRUCTION AND NOTIFY THE TOWN OF ANY DISCREPANCIES. THE ENGINEER AND/OR OWNER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS SHOWN ON PLANS. THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR ANY AND ALL DAMAGES AND COSTS WHICH MIGHT OCCUR BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES. THE CONTRACTOR SHALL NOTIFY ALL PUBLIC AND PRIVATE UTILITY COMPANIES AND DETERMINE THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO PROCEEDING WITH GRADING AND CONSTRUCTION. ALL WORK PERFORMED IN THE AREA OF UTILITIES SHALL BE PERFORMED AND INSPECTED ACCORDING TO THE REQUIREMENTS OF THE UTILITY OWNER. LIKEWISE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND MAPPING ANY EXISTING UTILITY (INCLUDING DEPTH) WHICH MAY CONFLICT WITH THE PROPOSED CONSTRUCTION, AND FOR RELOCATING ENCOUNTERED UTILITIES AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL CONTACT AND RECEIVE APPROVAL FROM TOWN ENGINEER AND THE UTILITY OWNER BEFORE RELOCATING ANY ENCOUNTERED UTILITIES. CONTRACTOR RESPONSIBLE FOR SERVICE CONNECTIONS, AND RELOCATING AND RECONNECTING AFFECTED UTILITIES AS COORDINATED WITH UTILITY OWNER AND/OR ENGINEER, INCLUDING NON- MUNICIPAL UTILITIES (TELEPHONE, GAS, CABLE, ETC., WHICH SHALL BE COORDINATED WITH THE UTILITY OWNER). THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE TOWN ENGINEER UPON DISCOVERY OF A UTILITY DISCREPANCY OR CONFLICT. AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY NOTIFICATION CENTER OF COLORADO (1-800-922-1987, WWW.UNCC.ORG).
- 9. ALL TRENCHES SHALL BE ADEQUATELY SUPPORTED AND THE SAFETY OF WORKERS PROVIDED FOR AS REQUIRED BY THE MOST RECENT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION." THESE REGULATIONS ARE DESCRIBED IN SUBPART P, PART 1926 OF THE CODE OF FEDERAL REGULATIONS. SHEETING AND SHORING SHALL BE UTILIZED WHERE NECESSARY TO PREVENT ANY EXCESSIVE WIDENING OR SLOUGHING OF THE TRENCH WHICH MAY BE DETRIMENTAL TO HUMAN SAFETY, TO THE PIPE BEING PLACED, TO TREES, OR TO ANY EXISTING STRUCTURE WHERE EXCAVATIONS ARE MADE UNDER SEVERE WATER CONDITIONS. THE CONTRACTOR MAY BE REQUIRED TO USE AN APPROVED PILING INSTEAD OF SHEETING AND SHORING.
- 10.THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY GROUNDWATER ENCOUNTERED DURING THE CONSTRUCTION OF ANY PORTION OF THIS PROJECT. GROUNDWATER SHALL BE PUMPED, PIPED. REMOVED AND DISPOSED OF IN A MANNER WHICH DOES NOT CAUSE FLOODING OF EXISTING STREETS NOR EROSION ON ABUTTING PROPERTIES IN ORDER TO CONSTRUCT THE IMPROVEMENTS SHOWN ON THESE PLANS. GROUNDWATER TO BE PUMPED SHALL BE TESTED, PERMITTED, AND PUMPED PER THE STATE OF COLORADO AND LOCAL GROUNDWATER DISCHARGING PERMIT REQUIREMENTS.

- 11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING NEARBY PUBLIC STREETS OF MUD OR DEBRIS DUE TO CONSTRUCTION ACTIVITY INITIATED BY SAID CONTRACTOR ON A DAILY BASIS OR AS OTHERWISE DIRECTED BY AUTHORIZED TOWN PERSONNEL
- 12. ALL SURPLUS MATERIALS, TOOLS, AND TEMPORARY STRUCTURES FURNISHED BY THE CONTRACTOR, SHALL BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR. ALL DEBRIS AND RUBBISH CAUSED BY THE OPERATIONS OF THE CONTRACTOR SHALL BE REMOVED, AND THE AREA OCCUPIED DURING CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ITS ORIGINAL CONDITION OR BETTER, WITHIN 48 HOURS OF PROJECT COMPLETION.
- 13. PRIOR TO THE BEGINNING OF WORK, A PRECONSTRUCTION CONFERENCE SHALL BE HELD BETWEEN THE TOWN, THE RESPONSIBLE PARTY WHO IS SCHEDULED TO PERFORM THE WORK, THE DESIGNATED ON-SITE FIELD REPRESENTATIVE, THE CONSULTING ENGINEER OR LANDSCAPE PROFESSIONAL, AND ANY OTHER ENTITIES INVOLVED IN THE CONSTRUCTION.
- 14. THE CONTRACTOR IS REQUIRED TO PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE TOWN OF BERTHOUD STANDARDS AND SPECIFICATION, THE STATE OF COLORADO, MILE HIGH FLOOD DISTRICT "URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3", THE M-STANDARD PLANS OF THE COLORADO DEPARTMENT OF TRANSPORTATION, AND THE APPROVED EROSION CONTROL PLAN. THE TOWN OF BERTHOUD MAY REQUIRE THE CONTRACTOR TO PROVIDE ADDITIONAL EROSION CONTROL MEASURES AT THE CONTRACTOR'S EXPENSE DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE PLANS DO NOT FUNCTION AS INTENDED. THE CONTRACTOR IS RESPONSIBLE FOR PROHIBITING SILT AND DEBRIS LADEN RUNOFF FROM LEAVING THE SITE, AND FOR KEEPING ALL PUBLIC AREAS FREE OF MUD AND DEBRIS THE CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING FINAL GRADES AND FOR REMOVING ACCUMULATED SEDIMENTATION FROM ALL AREAS INCLUDING SWALES AND DETENTION/WATER QUALITY AREAS. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROL MEASURES AND REPAIR AREAS AS REQUIRED AFTER VEGETATION IS ESTABLISHED AND ACCEPTED BY THE TOWN OF BERTHOUD.
- 15. DEVELOPMENT PHASING OF ANY PROJECT MUST BE SHOWN ON THE CONSTRUCTION PLANS, APPROVED BY THE TOWN ENGINEER AND MADE A PART OF THE APPLICATION PROCEDURE. NO PHASING SHALL BE PERMITTED UNLESS THIS REQUIREMENT HAS BEEN ADHERED TO.
- 16. NO WORK SHALL BEGIN UNTIL THE INSTALLING RESPONSIBLE PARTY IS IN POSSESSION OF AN APPROVED SET OF PLANS AND THE TOWN OF BERTHOUD STANDARDS AND SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF PUBLIC AND PRIVATE IMPROVEMENTS, AND ALL NECESSARY PERMITS FOR THE IMPROVEMENTS HAS BEEN ISSUED BY THE TOWN. TOWN ENGINEERING'S APPROVAL SHALL BE FOR GENERAL CONFORMITY TO THE UTILITY SPECIFICATIONS AND SHALL NOT CONSTITUTE BLANKET APPROVAL OF ALL DIMENSIONS, QUANTITIES AND DETAILS OF THE MATERIAL OR EQUIPMENT NOR SHALL SUCH APPROVAL RELIEVE THE RESPONSIBLE PARTY, CONSULTING ENGINEER, OR LANDSCAPE ARCHITECT OF THEIR RESPONSIBILITY FOR ERRORS CONTAINED IN THE DRAWINGS.
- 17. THE RESPONSIBLE PARTY SHALL FURNISH REASONABLE AID AND ASSISTANCE REQUIRED BY THE TOWN ENGINEER FOR THE PROPER EXAMINATION OF THE MATERIALS AND WORK. WORK SHALL BE PERFORMED IN ACCORDANCE WITH ACCEPTED WORKMANSHIP PRACTICES AND THE TOWN OF BERTHOUD STANDARDS AND SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF PUBLIC AND PRIVATE IMPROVEMENTS. ANY WORK NOT ACCEPTED BY THE TOWN ENGINEER SHALL BE REDONE UNTIL COMPLIANCE WITH THESE STANDARDS IS ACHIEVED. INSTRUCTIONS GIVEN BY THE TOWN ENGINEER RELATING TO QUALITY OF MATERIALS AND WORKMANSHIP MUST BE OBEYED AT ONCE BY THE RESPONSIBLE PARTY. THE TOWN SHALL NOT SUPERVISE SET OUT WORK, OR GIVE LINE AND GRADE
- 18. THE MATERIALS USED IN PROJECTS SHALL BE NEW AND SUBJECT TO THE INSPECTION AND APPROVAL OF THE INSPECTOR AT ALL TIMES. THE INSPECTOR HAS THE RIGHT TO PERFORM ANY TESTING DEEMED NECESSARY TO ENSURE COMPLIANCE OF THE MATERIAL WITH THESE STANDARDS. NO MATERIAL SHALL BE USED BEFORE BEING INSPECTED AND APPROVED BY THE INSPECTOR. FAILURE OR NEGLECT ON THE PART OF THE INSPECTOR TO CONDEMN OR REJECT INFERIOR MATERIALS OR WORK SHALL NOT BE CONSTRUED TO IMPLY THEIR ACCEPTANCE SHOULD THEIR INFERIORITY BECOME EVIDENT AT ANY TIME PRIOR TO FINAL ACCEPTANCE OF THE WORK. INSPECTORS HAVE THE AUTHORITY TO REJECT DEFECTIVE OR INFERIOR MATERIALS AND/OR DEFECTIVE WORKMANSHIP AND TO SUSPEND WORK UNTIL SUCH TIME AS THE RESPONSIBLE PARTY SHALL CORRECT THE DISCREPANCIES IN QUESTION.
- 19. WHENEVER DEFECTIVE MATERIALS AND WORK ARE REJECTED, THE RESPONSIBLE PARTY SHALL PROMPTLY REMOVE SUCH DEFECTIVE MATERIALS AND CONSTRUCTION FROM THE JOB SITE AND REPLACE ALL DEFECTIVE PORTIONS TO THE SATISFACTION OF THE TOWN ENGINEER. IN THE EVENT THE RESPONSIBLE PARTY FAILS TO REMOVE REJECTED ITEMS FROM THE JOB SITE WITHIN A REASONABLE LENGTH OF TIME, THE TOWN ENGINEER MAY ARRANGE FOR SUCH REMOVAL AT THE EXPENSE OF THE RESPONSIBLE PARTY.
- 20. INSPECTION SHALL NOT RELIEVE THE RESPONSIBLE PARTY FROM ANY OBLIGATION TO PERFORM THE WORK STRICTLY IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS OR ANY MODIFICATIONS THEREOF. WORK NOT SO CONSTRUCTED SHALL BE REMOVED AND CORRECTED BY THE RESPONSIBLE PARTY AT HIS SOLE EXPENSE, WHENEVER SO ORDERED BY THE TOWN ENGINEER, WITHOUT REFERENCE TO ANY PREVIOUS ERROR OR OVERSIGHT IN INSPECTION.
- 21. EXCEPT IN CASES OF EMERGENCY, MAINTENANCE, OR PROTECTION OF WORK ALREADY COMPLETED, NO WORK SHALL BE ALLOWED BETWEEN THE HOURS OF 7 P.M. AND 7 A.M.; NOR ON SATURDAY, SUNDAY, OR LEGAL HOLIDAYS UNLESS APPROVED BY THE TOWN ENGINEER IN EACH CASE. WHEN ANY INSPECTOR IS REQUIRED TO WORK OUTSIDE THE HOURS OF 7 A.M. TO 4 P.M. ON REGULAR TOWN BUSINESS DAYS, OVERTIME SHALL BE CHARGED TO THE RESPONSIBLE PARTY. HOWEVER, SUCH INSPECTORS SHALL REMAIN EMPLOYEES OF THE TOWN FOR ALL PURPOSES. REQUESTS FOR OVERTIME SHALL BE MADE TO THE TOWN ENGINEER AT LEAST 48 HOURS IN ADVANCE. PAYMENT FOR SUCH OVERTIME WORK SHALL BE MADE TO THE TOWN PRIOR TO FINAL ACCEPTANCE.
- 22. IN THE EVENT ONE OR MORE INSPECTORS REPRESENTING PRIVATE CONSULTING ENGINEERING FIRMS ARE ALSO INSPECTING A PROJECT ALONG WITH THE TOWN ENGINEER, THE INSTRUCTIONS GIVEN BY THE TOWN ENGINEER SHALL PREVAIL IN THE EVENT OF CONFLICTING INSTRUCTIONS.

- 23.PROTECT ALL TREES AND VEGETATION. PLACE CONSTRUCTION FENCING AT DRIP LINE OF TREES AND PLANTS NEAR THE WORK ZONE DEEP WATER TREES WEEKLY. HAND EXCAVATION REQUIRED AT ROOT ZONES WHERE PROPOSED PAVING OR UTILITY WORK IS WITHIN DRIPLINE OF TREES. REPAIR OF ANY DAMAGE TO EXISTING IMPROVEMENTS OR LANDSCAPING IS THE RESPONSIBILITY OF THE CONTRACTOR.
- 24. THE WORK SHALL BE SURVEYED AND STAKED UNDER THE SUPERVISION OF A LICENSED LAND SURVEYOR IN ACCORDANCE WITH THE APPROVED PLANS.
- 25. RIM AND GRATE ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATIONS. THE CONTRACTOR SHALL ADJUST RIMS AND OTHER IMPROVEMENTS TO MATCH FINAL PAVEMENT AND FINISHED GRADE ELEVATIONS.
- 26. THE CONTRACTOR SHALL FURNISH THE ENGINEER OF RECORD A COMPLETE SET OF CONSTRUCTION RECORD DRAWINGS ("AS-BUILTS"), FOR THE CONSTRUCTED IMPROVEMENTS. THE PLANS SHALL SHOW SUFFICIENT DIMENSION TIES TO PERMANENT SURFACE FEATURES FOR ALL BURIED FACILITIES TO ALLOW FOR FUTURE LOCATING. THE PLANS SHALL SHOW FINAL PAVEMENT, FLOW LINE ELEVATIONS, CONTOURS AT POND/DRAINAGE FEATURES (AS SURVEYED AND CERTIFIED BY A COLORADO P.L.S.), MANHOLE, PIPE, AND INLET LOCATIONS, INVERTS, GRATE ELEVATIONS, SIZES OF ALL UTILITIES, AND ANY VARIATIONS FROM THE APPROVED PLAN. FINAL AS-BUILT PLANS PREPARED BY THE ENGINEER OF RECORD SHALL BE PROVIDED TO THE TOWN OF
- 27.IF A FOUNDATION UNDERDRAIN SYSTEM IS INSTALLED IN THE PUBLIC RIGHT-OF-WAY. THE FOLLOWING STATEMENT SHALL BE INCLUDED IN THE DRAWINGS:
- a. "THE FOUNDATION UNDERDRAIN SYSTEM IS THE RESPONSIBILITY OF THE OWNER/DEVELOPER OR ITS ASSIGNS. THE TOWN IS NOT RESPONSIBLE FOR THE MAINTENANCE OR REPAIR OF SAID SYSTEM." GRADING NOTES
- 1. CONSTRUCTION SHALL ADHERE TO THE FOLLOWING SEQUENCE UNLESS OTHERWISE SPECIFIED BY THE TOWN ENGINEER: SANITARY SEWER INSTALLATION, WATER MAIN INSTALLATION, CURB AND GUTTER INSTALLATION, WATER SERVICE INSTALLATION.
- 2. COMPACTION OF ALL TRENCHES MUST BE ATTAINED AND COMPACTION TEST RESULTS SUBMITTED TO THE ENGINEER AND THE TOWN OF BERTHOUD PRIOR TO FINAL ACCEPTANCE.
- 3. ALL WORK, INCLUDING CORRECTION WORK, SHALL BE INSPECTED BY A TOWN REPRESENTATIVE WHO SHALL HAVE THE AUTHORITY TO HALT CONSTRUCTION WHEN STANDARD CONSTRUCTION PRACTICES ARE NOT BEING ADHERED TO.
- 4. DEVELOPER AND BUILDER SHALL REGULARLY PATROL THE PUBLIC LANDS ADJACENT TO THE DEVELOPMENT TO REMOVE CONSTRUCTION DEBRIS AND KEEP THE SITE CLEAN AND SAFE.
- ALL SITE GRADING (EXCAVATION, EMBANKMENT, AND COMPACTION) SHALL CONFORM TO THE RECOMMENDATIONS OF THE LATEST SOILS INVESTIGATION FOR THIS PROPERTY AND SHALL FURTHER BE IN CONFORMANCE WITH THE TOWN OF BERTHOUD STANDARDS AND SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF PUBLIC AND PRIVATE IMPROVEMENTS", LATEST EDITION. A CDPS GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES SHALL BE OBTAINED PRIOR TO ANY GRADING BEING PERFORMED ON SITES ONE (1) ACRE OR LARGER IN SIZE. THESE PERMITS CAN BE OBTAINED FROM THE STATE WATER QUALITY CONTROL DIVISION.
- 6. NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED WHEREVER POSSIBLE. EXPOSURE OF SOIL TO EROSION BY REMOVAL OR DISTURBANCE OF VEGETATION SHALL BE LIMITED TO THE AREA REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATION AND FOR THE SHORTEST PRACTICAL PERIOD OF TIME.
- 7. TOPSOIL SHALL BE STOCKPILED TO THE EXTENT PRACTICABLE ON THE SITE FOR USE ON AREAS TO BE REVEGETATED. ANY AND ALL STOCKPILES SHALL BE LOCATED AND PROPER MEASURES TAKEN TO CONTROL EROSION AND SEDIMENT MOVEMENT.
- 8. AT ALL TIMES, THE PROPERTY SHALL BE MAINTAINED AND/OR WATERED TO PREVENT WIND-CAUSED EROSION. EARTHWORK OPERATIONS SHALL BE DISCONTINUED WHEN DUST SIGNIFICANTLY IMPACTS ADJACENT PROPERTY. IF EARTHWORK IS COMPLETE OR DISCONTINUED AND DUST FROM THE SITE CONTINUES TO CREATE PROBLEMS, THE OWNER/DEVELOPER SHALL IMMEDIATELY INSTITUTE MITIGATIVE MEASURES AND SHALL CORRECT DAMAGE TO ADJACENT PROPERTY.
- 9. PERMANENT SLOPES SHALL NOT EXCEED 4:1 (H:V) IN AREAS TO BE SEEDED OR RETAINING WALLS SHALL BE REVIEWED AND APPROVED BY SEPARATE APPLICATION TO THE TOWN OF BERTHOUD.
- 10. THIS EROSION AND SEDIMENT CONTROL PLAN HAS BEEN SUBMITTED TO THE TOWN OF BERTHOUD AND IS IN GENERAL CONFORMANCE WITH THE TOWN'S EROSION CONTROL STANDARDS. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURE MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEM OR IF THE PROPOSED EROSION CONTROL MEASURES DO NOT FUNCTION AS INTENDED. THE REQUIREMENTS OF THIS EROSION CONTROL PLAN AND THE OBLIGATION OF THE LANDOWNER SHALL RUN WITH THE LAND UNTIL SUCH TIME AS THE EROSION CONTROL PLAN IS PROPERLY COMPLETED, OFFICIALLY MODIFIED, OR VOIDED.
- 1. ALL WATER MATERIALS, CONSTRUCTION, AND TESTING SHALL MEET THE REQUIREMENTS OF BERTHOUD STANDARDS AND SPECIFICATIONS AND THE BERTHOUD FIRE PROTECTION DISTRICT SPECIFICATIONS.
- 2. FIRE HYDRANT SPECIFICATIONS:
- a. ALL FIRE HYDRANTS WILL BE MUELLER.
- b. ALL HYDRANTS WILL HAVE A FIVE AND ONE-QUARTER (5-1/4) INCH OR LARGER VALVE OPENING, TWO (2) TWO AND ONE-HALF (2-1/2) INCH HOSE NOZZLES, ONE (1) PUMPER NOZZLE AND SIX (6) INCH OR LARGER MECHANICAL JOINT INLET.
- c. ALL NOZZLES SHALL HAVE NATIONAL STANDARD THREADS. d. THE HYDRANT SHALL BE OF TRAFFIC HAZARD TYPE WITH SAFETY FEATURES WHICH WILL PREVENT BARREL BREAKAGE.
- e. SPECIFICATIONS FOR THE OPERATING NUT AND STUBS AND CUPS SHALL BE ONE (1) INCH SQUARE OR PENTAGON AND OPEN

- WATER SERVICE LINE SPECIFICATIONS:
- CORPORATION STOPS SHALL HAVE INLET THREADED CC TYPE, OUTLET COPPER COMPRESSION OR FLARE. NO SOLDERING WILL BE ALLOWED.
- b. SERVICE SADDLES SHALL BE "O" RING GASKET, DOUBLE BAND, OR HINGE PIN CC THREAD, 3/4 INCH - 2 INCH COPPER.
- CURB STOP STYLE SHALL BE COMPRESSION OR FLARED COPPER BOTH ENDS. MINNEAPOLIS PATTERN VALVE-THREADS AROUND TO ALLOW MINNEAPOLIS STYLE CURB BOX.
- d. CURB BOX SHALL HAVE MINNEAPOLIS BASE EXTENSION TYPE CURB BOXES, CAST IRON LID AND BASE WITH BRASS PENTAGON HEAD PLUG USING A 1 1/2 INCH UPPER SECTION 4. ALL WATER VALVES SHALL OPEN LEFT.
- 5. THE MINIMUM COVER OVER THE WATER LINE IS 5 FEET AND THE MAXIMUM COVER IS 6 FEET UNLESS OTHERWISE NOTED IN THE PLANS AND APPROVED BY THE TOWN.
- 6. PRIOR TO INSTALLATION OF WATER MAINS, ROAD/DRIVE CONSTRUCTION MUST HAVE PROGRESSED TO AT LEAST THE "SUB-GRADE" STATE. SUB-GRADE IS DEFINED AS AN ELEVATION OF NO MORE THAN SEVEN (7) INCHES BELOW THE FINISHED STREET GRADE. ALL VALVE BOXES AND FIRE HYDRANTS WILL BE ADJUSTED TO THE FINAL FINISHED GRADE BY THE CONTRACTOR.
- 7. BEFORE ANY TAPS ARE MADE FROM MAINS, APPLICATIONS FOR THE TAPS MUST BE RECEIVED AND APPROVED BY THE TOWN.
- 8. TRACER WIRE SHALL BE USED FOR ALL NON-METALLIC WATER MAINS. TRACER WIRE SHALL BE BROUGHT UP TO TEST STATIONS AT ALL FIRE HYDRANTS.
- 9. PVC WATER MAINS SHALL BE AWWA C900, DR 18
- 10. ALL WATER SERVICES SHALL BE TYPE K COPPER.
- 11. CONTRACTOR TO CONTACT BUILDING DEPARTMENT PRIOR TO INSTALLATION OF METER SETTER.

#### d. SANITARY NOTES

MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE LATEST EDITION OF THE TOWN OF BERTHOUD STANDARDS AND SPECIFICATIONS AND WORK SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY AUTHORIZED TOWN OF BERTHOUD PERSONNEL.

- 2. NEW SEWER MAINS SHALL BE POLYVINYL CHLORIDE (PVC) ASTM D3034 SDR-35 PIPE AND IN ACCORDANCE WITH THE ABOVE REFERENCED SPECIFICATIONS.
- 3. CONTRACTOR TO VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES PRIOR TO COMMENCING ANY CONSTRUCTION.
- 4. THE CONTRACTOR SHALL NOTIFY THE TOWN A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO STARTING CONSTRUCTION OR PRIOR TO RESUMING CONSTRUCTION AFTER A
- 5. MAINTAIN A MINIMUM OF 10 FEET HORIZONTAL SEPARATION OUTSIDE DIAMETER TO OUTSIDE DIAMETER BETWEEN WATER MAINS AND ALL SEWER MAINS AND MANHOLES.
- 6. ALL SEWER MAINS CROSSING WATER MAINS WITH LESS THAN 18 INCHES OF SEPARATION SHALL BE ENCASED IN CONCRETE.
- 7. RIM ELEVATIONS SHOWN ARE APPROXIMATE AND SHOULD NOT BE TAKEN AS ALL MANHOLES SHALL BE FINAL ADJUSTED AFTER PAVING SUCH THAT THE RIM IS 1/4 TO 1/2 INCH BELOW FINISHED ASPHALT. MANHOLES IN UNPAVED AREAS SHALL BE SET SO THAT THE RIM IS 0.5' ABOVE FINISHED GRADE. BURIED MANHOLES ALLOWED IN CULTIVATED FIELDS AS APPROVED BY TOWN ENGINEER. AS-BUILTS SHALL ALLOW FINAL NORTHING/EASTING AND RIM ELEVATION OF ALL BURIED
- 8. INVERT (AS-BUILT) DATA SHALL BE COLLECTED BY A LICENSED SURVEYOR ON EACH PIPE INVERT IN A MANHOLE. CENTER OF MANHOLE SURVEYING IS NOT ACCEPTABLE FOR SLOPE CALCULATIONS. RECORD DRAWINGS (AS-BUILTS) MUST DEMONSTRATE CONFORMANCE TO TOWN STANDARDS.
- 9. THE CONTRACTOR SHALL HAVE A SET OF APPROVED PLANS ON SITE AT ALL THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING ACTUAL RECORD DRAWING DIMENSIONS AND DISTANCES AS WELL AS SERVICE LOCATIONS ON THESE PLANS AND SUBMITTING THEM TO THE ENGINEER FOR PREPARATION OF RECORD DRAWINGS. THESE DRAWINGS SHALL BE KEPT CURRENT AT ALL TIMES.
- 10. BEFORE ANY CONSTRUCTION COMMENCES, A PLUG SHALL BE INSTALLED TO PREVENT DRAINAGE THROUGH THE NEW SEWER LINE FROM ENTERING THE EXISTING SEWER LINE. THIS PLUG WILL BE INSTALLED IN THE MANHOLE, WHICH CONNECTS NEW WORK WITH THE EXISTING AND MAY NOT BE REMOVED UNTIL SUBSTANTIAL
- 11. UNDERDRAINS, IF INSTALLED, ARE THE RESPONSIBILITY OF THE DEVELOPER. THE TOWN ASSUMES NO LIABILITY FOR ANY PORTION OF OR ANY DAMAGE CAUSED BY UNDERDRAINS. ABSOLUTELY NO PART OF AN UNDERDRAIN SYSTEM, INCLUDING CLEAN OUTS, WILL BE ALLOWED INSIDE OF SANITARY SEWER MANHOLES. ALL UNDERDRAINS SHALL BE INSTALLED BELOW THE SANITARY SEWER AND OFFSET TO THE SIDE. PIPE MATERIAL SHALL BE DIFFERENT COLOR THAN SANITARY SEWER.
- 12. NO SERVICE LATERALS SMALLER THAN 8-INCH IN DIAMETER SHALL ENTER MANHOLES.
- 13. SERVICE CROSSINGS OF CURB SHALL BE MARKED WITH A CUT "S" IN CURB FACE. PAINT IS NOT ACCEPTABLE. SERVICE SHALL BE EXTENDED INTO THE LOT A MINIMUM OF 10 FEET.
- 14. CONTRACTOR SHALL MARK THE END OF ALL SEWER SERVICES AND MAIN STUBS WITH A CARBONITE COMPOSITE UTILITY MARKER WITH MINIMUM OF FOUR FEET ABOVE GRADE, PAINTED GREEN.
- 15. ALL 8-INCH PIPES SHALL HAVE SQUEEGEE (CDOT #8 BEDDING) UNLESS OTHERWISE SHOWN OR THE TOWN MAY APPROVE AN ALTERNATE BEDDING IN SPECIAL CASES. LARGER PIPES REQUIRE WASHED OR CRUSED ROCK AS SHOWN IN THE CONSTRUCTION SPECIFICATIONS.
- 16. PRIOR TO APPROVAL, ALL SANITARY SEWER PIPES SHALL BE PRESSURE-TESTED PER ASTM C924. ALL MANHOLES SHALL BE VACUUM-TESTED PER UNI-B-98.
- 17. PRIOR TO REMOVAL OF PLUGS AT MANHOLES, PIPE SHALL BE JET-CLEANED AND VACUUMED TO REMOVE DEBRIS AND VIDEOED. NOTICE SHALL BE GIVEN TO THE TOWN INSPECTOR ONE (1) WEEK PRIOR TO CLEANING. INSPECTOR MUST BE PRESENT DURING THE OPERATION. ONCE APPROVAL HAS BEEN GIVEN BY INSPECTOR, PLUGS MAY ONLY BE REMOVED AFTER CONDITIONAL ACCEPTANCE BY THE

18. THE FINAL RECORDED PLAT AND RECORDED ADDRESS PLAT SHALL BE PROVIDED TO THE TOWN FOR CONDITIONAL ACCEPTANCE.L

19. TWENTY (20) MONTHS AFTER CONSTRUCTION AND PRIOR TO THE EXPIRATION OF WARRANTY. THE DEVELOPER SHALL CAMERA/VIDEO THE SANITARY SEWER LINES AND PROVIDE A DVD TO THE TOWN FOR A DIVISION OF HABERER CARPENTRY INC.

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REVISIONS: No. Date: Description: 1 | 11.01.24 | 1st Submittal 2 | 02.18.25 | 2nd Submittal 3 | 04.18.25 | 3rd Submittal

Project No: 24 15 Drawn By: GJB Checked By: CCH Date Issued: 01/05/2025

TOB NOTES

Number:

11/202

- 1. TREE REMOVAL/RELOCATION SHALL BE COORDINATED WITH LANDSCAPE PLANS AND OWNER'S REPRESENTATIVE.
- 2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND VERIFY THE EXTENTS OF REQUIRED DEMOLITION PRIOR TO CONSTRUCTION. ADDITIONAL SCOPE MAY BE REQUIRED THAN SHOWN HEREON. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION WITH STRUCTURAL MECHANICAL, ELECTRICAL, PLUMBING, LANDSCAPING AND ARCHITECTURAL DRAWINGS.
- 3. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR BURIED UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES PRIOR TO CONSTRUCTION.
- 4. THESE PLANS ARE BASED ON THE SURVEY BY GILLIANS LAND CONSULTANTS DATED 06/14/2022. HCI ENGINEERING HAS NOT CONDUCTED ANY ON SITE INVESTIGATION FOR EXISTING UTILITIES. ADDITIONAL UTILITIES, IN USE OR ABANDONED, MIGHT EXIST ON, NEAR OR CROSSING THE SUBJECT PROPERTY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT ON SITE INVESTIGATION FOR UNKNOWN UTILITIES AND CONFIRM UTILITY LOCATIONS SHOWN HEREON. THE CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCY.
- 5. CONTRACTOR SHALL PRESERVE EXISTING VEGETATION OUTSIDE OF THE PROJECT LIMITS. ANY DAMAGE TO VEGETATION OR SITE IMPROVEMENTS OUTSIDE OF THE PROJECT LIMITS DUE TO CONSTRUCTION ACTIVITIES SHALL BE REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.
- 6. BARRIERS/FENCING SHALL BE PROVIDED PRIOR TO SITE DEMOLITION TO PROVIDE FOR SAFETY OF WORKERS AND PASSERSBY. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN ROUTES DURING CONSTRUCTION.
- 7. THE CONTRACTOR SHALL SUBMIT A DETAIL DEMOLITION PLAN OUTLINING REMOVAL.
- 8. THE CONTRACTOR SHALL PROVIDE FOR DUST CONTROL DURING DEMOLITION TO INCLUDE COVERING TRUCKS HAULING DEBRIS OFFSITE, PERIODICALLY CLEANING AND SWEEPING ADJACENT STREETS AND DRIVES AND/OR USING DUST PALLIATIVE AS NEEDED.
- 9. THE CONTRACTOR SHALL SAW CUT EXISTING ASPHALT PAVEMENT AT DEMOLITION LIMITS. APPLY SS-1 TACKCOAT AT EDGE PRIOR TO PLACING NEW ASPHALT.
- 10. EXISTING CONCRETE AT DEMOLITION LIMITS SHALL BE SCORED THEN BROKEN AT THE JOINT TO CREATE A ROUGH SURFACE TO ACCEPT NEW CONCRETE.
- 11. THE CONTRACTOR SHALL REFER TO PROJECT SPECIFICATIONS FOR THE DISPOSAL OF ALL DEMOLISHED ITEMS.
- 12. THOROUGHLY CLEAN ALL AREAS, SURFACES, BUILDINGS AND STRUCTURES IMPACTED BY DEMOLITION ACTIVITIES PRIOR TO START OF NEW CONSTRUCTION.
- 13. DEMOLITION SHALL INCLUDE (AT A MINIMUM):
- REMOVAL OF ASPHALT, CONCRETE, AND OR GRAVEL SURFACES.
- REMOVAL OR TREES, BUSHES AND FOLIAGE, AS DIRECTED BY LANDSCAPE. TREE REMOVAL OR TRANSPLANTING SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE AND LANDSCAPE.
- REMOVAL OF FENCE.
- REMOVAL OF ANY UNSATISFACTORY SOIL, AS IDENTIFIED BY THE GEOTECHNICAL ENGINEER.

#### **GRADING NOTES:**

11/2024

- 1. ALL EARTHWORK REQUIRED OF THIS CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH ALL APPLICABLE SECTIONS OF THE PROJECT SPECIFICATIONS, GEOTECHNICAL INVESTIGATION FOR THE SITE AND THE APPROPRIATE GOVERNING AGENCIES STANDARDS AND SPECIFICATIONS.
- A PRE CONSTRUCTION MEETING SHALL BE SCHEDULED WITH THE DEVELOPER, ENGINEER, CONTRACTOR AND THE APPROPRIATE GOVERNING AGENCY PRIOR TO ANY CONSTRUCTION.
- REFER TO THE GEOTECHNICAL REPORT AND STRUCTURAL DRAWINGS FOR COMPACTION AND EARTHWORK REQUIREMENTS FOR THE BUILDING PADS AND ADJACENT AREAS. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS.
- 4. IF THE SUBGRADE SHOULD BECOME FROZEN, DESICCATED, SATURATED, OR DISTURBED, THE AFFECTED MATERIAL SHOULD BE REMOVED OR THESE MATERIALS SHOULD BE SCARIFIED, MOISTURE CONDITIONED, AND RECOMPACTED PRIOR TO FOUNDATION, FLOOR SLAB AND PAVEMENT CONSTRUCTION.
- 5. FILL SHOULD BE PLACED AND COMPACTED IN HORIZONTAL (8") LIFTS, USING EQUIPMENT AND PROCEDURES THAT WILL PRODUCE RECOMMENDED MOISTURE CONTENTS AND DENSITIES THROUGHOUT THE LIFT. REFER TO GEOTECHNICAL REPORT FOR COMPACTION REQUIREMENTS.
- 6. THE PLACEMENT AND COMPACTION OF FILL AND BACKFILL SHOULD BE OBSERVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER. REFER TO THE COMPACTION REQUIREMENTS IN THE GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS.
- 7. ALL SOILS USED FOR FILL AND BACKFILL MUST BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO INSTALLATION. THE GEOTECHNICAL ENGINEER SHALL OBSERVE AND TEST THE FILL COMPACTION, APPROVE THE FILL MATERIALS AND COMMENT, AS NEEDED, ON THE METHOD OF PLACING AND COMPACTION, IN WRITING, TO THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY THE GEOTECHNICAL ENGINEER WHEN TESTS ARE TO BE MADE. THE GEOTECHNICAL ENGINEER SHALL APPROVE ALL FOUNDATION EXCAVATIONS AND GIVE WRITTEN APPROVAL OF THE COMPLETED FOUNDATIONS TO THE ARCHITECT. QUALITY CONTROL BY AN INDEPENDENT TESTING AGENCY AND GEOTECHNICAL ENGINEER SHALL IN NO WAY RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR PERFORMING ALL WORK IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS.
- 8. NO RUBBLE OR DEBRIS INCLUDING TIMBER, CONCRETE RUBBLE, TREES, BRUSH, AND ASPHALT SHALL BE PLACED IN THE BACKFILL UNDER ANY OF THE PROPOSED BUILDINGS, STREETS, CURB & GUTTER, SIDEWALK, DRAINAGE STRUCTURES, WITHIN FIVE (5) FEET OF A BUILDING FOOTPRINT OR BE IN THE PLACEMENT OF ANY UNCLASSIFIED FILL. PROPERLY GRADED RUBBLE MAY BE USED IN SOME LOCATIONS AS SPECIFIED AND VERIFIED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND HAULING OF SUCH MATERIALS TO A SUITABLE SPOIL AREA. COSTS ASSOCIATED WITH THE REMOVAL OF SUCH MATERIALS SHALL BE PAID FOR AS DOCUMENTED IN THE PROJECT SPECIFICATIONS.
- 9. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, MAINTENANCE AND OPERATION OF ANY REQUIRED DEWATERING SYSTEM. THE CONTRACTOR SHALL PERFORM SUCH INDEPENDENT INVESTIGATION AS DEEMED NECESSARY TO DETERMINE THE SUBSURFACE GROUNDWATER CONDITIONS AND UNSTABLE SOIL CONDITIONS TO BE ENCOUNTERED THROUGHOUT THE CONSTRUCTION.
- 10. IMMEDIATELY PUMP OR BAIL OUT WATER FOUND IN EXCAVATIONS, WHETHER RAIN OR SEEPAGE. EXCAVATIONS MUST BE KEPT FREE FROM WATER AT ALL TIMES. TAKE ALL MEASURES AND FURNISH ALL EQUIPMENT AND LABOR NECESSARY TO CONTROL THE FLOW, DRAINAGE AND ACCUMULATION OF WATER AS REQUIRED TO PERMIT COMPLETION OF THE WORK AND TO AVOID DAMAGE TO THE WORK. CONTRACTOR SHALL COMPLY WITH ALL CDPHE AND OSHA RULES AND REGULATIONS AT ALL TIMES.
- 11. WHEN FREEZING TEMPERATURES MAY BE EXPECTED, DO NOT EXCAVATE TO THE FULL DEPTH INDICATED UNLESS THE FOOTING OR SLABS ARE TO BE POURED IMMEDIATELY AFTER THE EXCAVATION HAS BEEN COMPLETED. IF PLACING OF CONCRETE IS DELAYED, PROTECT THE BOTTOMS OF EXCAVATIONS FROM FROST UNTIL CONCRETE IS PLACED.
- 12. NO FILL MATERIAL SHALL BE PLACED, SPREAD OR ROLLED WHILE IT IS FROZEN OR THAWING OR DURING UNFAVORABLE WEATHER CONDITIONS. WHEN THE WORK IN PROGRESS IS INTERRUPTED BY HEAVY RAIN, FILL OPERATIONS SHALL NOT BE RESUMED UNTIL THE GEOTECHNICAL ENGINEER INDICATES THAT THE MOISTURE CONTENT AND DENSITY OF THE PREVIOUSLY PLACED FILL ARE AS SPECIFIED.
- 13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION OF ADEQUATE SHORING AND/OR BRACING NECESSARY TO FACILITATE THE EXCAVATION ASSOCIATED WITH THE CONSTRUCTION OF THE WALLS, PIPELINES AND FOUNDATIONS. THE BRACING AND/OR SHORING OF EXCAVATED WALLS OR TRENCHES SHALL BE IN COMPLIANCE WITH OSHA REGULATIONS AND SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER. THE COST OF SHORING AND/OR BRACING SHALL BE INCLUDED IN THE COST OF THE SPECIFIC CONSTRUCTION ITEM REQUIRING THE SHORING AND/OR BRACING.
- 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND HAULING OF UNSUITABLE FILL MATERIALS TO A SUITABLE SPOIL AREA. EXCESS EXCAVATION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE. THE COST OF HAULAGE AND SPOILING OF EXCESS EXCAVATED MATERIALS SHALL BE PAID FOR AS DOCUMENTED IN THE PROJECT SPECIFICATIONS.
- 15. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE SITE PRIOR TO BIDDING TO VERIFY SITE CONDITIONS.

- 16. PROPOSED GRADING CONTOURS SHOWN ON THE PLAN ARE TO FINAL GRADE.
- 17. ALL SLOPES EQUAL TO OR GREATER THAN 4:1 SHALL REQUIRE EROSION CONTROL BLANKET, NORTH AMERICAN GREEN SC150BN DOUBLE NETTED OR EQUAL AS A TEMPORARY STABILIZATION MEASURE.
- 18. ALL SURFACES NOT RECEIVING PAVEMENT OR OTHER TREATMENT SHALL BE SEEDED OR MULCHED.
- 19. BUILDING CONTRACTOR(S) WILL BE RESPONSIBLE FOR CONSTRUCTING POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES.
- 22. THESE PLANS HAVE BEEN PREPARED BY HCI ENGINEERING IN ACCORDANCE WITH AND IN RELIANCE UPON THE GEOTECHNICAL STUDY AND RECOMMENDATIONS. THE CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT FOR PAVEMENT DESIGN AND RECOMMENDATIONS REGARDING EXCAVATION, COMPACTION, MATERIALS, EMBANKMENT, PAVEMENT SUBEXCAVATION, MOISTURE CONTROL, AND TOPSOIL REMOVAL AND REPLACEMENT. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF DISCREPANCIES BETWEEN THE GEOTECHNICAL REPORT RECOMMENDATIONS AND REQUIREMENTS OF THESE CONSTRUCTION DRAWINGS.
- 23. VERTICAL SPOT ELEVATIONS LABELED T.O.W. OR B.O.W. REPRESENT THE FINISHED GRADE AT THE TOP OR BOTTOM OF THE RESPECTIVE WALL.
- 24. CONTRACTOR TO VERIFY ELEVATION OF CONNECTION LOCATION TO ALL FLOWLINES, SIDEWALKS, DRIVES AND PROPERTY LINES PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
- 25. APPROXIMATE AREA TO BE DISTURBED = 0.99 ACRES

#### PAVING NOTES:

- 1. SIDEWALK SLOPES SHALL NOT EXCEED 2.0% MAXIMUM CROSS SLOPES AND 5.0% MAXIMUM LONGITUDINAL SLOPES, UNLESS OTHERWISE NOTED. THE SLOPE IN THE HANDICAP PARKING SPACES AND ASSOCIATED STRIPED ISLAND SHALL NOT EXCEED 2.0%.
- 2. CONTRACTOR SHALL PROVIDE A 2-FOOT MINIMUM ASPHALT PATCH AT ALL NEW FLATWORK (SIDEWALK, CURB AND GUTTER, CROSS PANS, ETC..) TO EXISTING PAVEMENT LOCATIONS. THE PATCH SHALL MATCH EXISTING PAVEMENT THICKNESS, RECOMMENDATIONS PER GEOTECHNICAL REPORT OR JURISDICTIONAL STANDARDS WHICHEVER IS MOST CONSERVATIVE. IF REQUIRED, THE PATCH SHALL BE UP-SIZED AS NEED TO ENSURE GRADE SLOPES BETWEEN FLATWORK AND EXISTING PAVEMENT ARE NOT GREATER THAN 5% AND LESS THAN 2.0%. CONTRACTOR SHALL COMPLETE A FIELD INSPECTION TO DETERMINE IS ADDED PAVEMENT PATCH WORK IS NEEDED.
- 3. GRADING AND FORM CHECK SHALL BE PROVIDED TO ENGINEER PRIOR TO INSTALLATION AND POURING OF ADA RAMPS AND PARKING STALLS.
- ALL VERTICAL SPOT ELEVATIONS SHOWN ON THE GRADING PLAN ARE FLOWLINE OF CURB (FL), UNLESS OTHERWISE NOTED.
- 5. CONTRACTOR SHALL PROVIDE ENGINEER WITH TOPOGRAPHIC AS-BUILT SURVEY OF ALL CRITICAL PEDESTRIAN PATHS, RAMPS AND STRUCTURE THRESHOLDS TO ENSURE CONFORMANCE WITH ADA

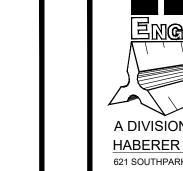
#### SIGNAGE AND STRIPING NOTES:

- 1. ALL TRAFFIC CONTROL, TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVISES (MUTCD), THE CURRENT COLORADO SUPPLEMENT AND THE APPROVED PLANS.
- 2. THE PAVEMENT MARKING PAINT SHALL BE ALKYD-RESIN TYPE, READY MIXED COMPLYING WITH AASHTO M248, TYPE I, COLOR AS NOTED ON PLANS OR CHLORINATED-RUBBER BASE TRAFFIC LANE MARKING PAINT, FACTORY-MIXED, QUICK-DRYING AND NON-BLEEDING.
- 3. INSTALL THE PAVEMENT MARKING PAINT PER THE MANUFACTURER'S RECOMMENDATIONS.
- 4. APPLY PAINT WITH MECHANICAL EQUIPMENT TO PRODUCE UNIFORM STRAIGHT EDGES. APPLY IN TWO COATS AT MANUFACTURER'S RECOMMENDED RESULTS. SWEEP AND CLEAN SURFACE PRIOR TO PAINTING TO ELIMINATE LOOSE MATERIAL AND DUST.
- 5. STRIPING SHALL BE DONE WHEN THE AIR AND PAVEMENT TEMPERATURES ARE AT LEAST 50F OR AS RECOMMENDED BY THE MANUFACTURER. THE PAVEMENT SURFACE AND WEATHER CONDITIONS SHALL BE CONDUCIVE TO SATISFACTORY RESULTS.
- 6. STOP SIGN PLACEMENT LOCATIONS SHALL BE PER SECTION 2B-9
  OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES,
  LATEST EDITION AND CDoT S-614-1.
- 7. EXISTING PAVEMENT MARKINGS CONFLICTING WITH PROPOSED DESIGN SHALL BE REMOVED BY A WATER OR SAND BLAST METHOD THAT WILL NOT DETERIORATE THE PAVEMENT, AS APPROVED BY THE ENGINEER.
- 8. HANDICAP PARKING SIGNS SHALL BE LOCATED AT EACH HANDICAP PARKING SPACE.
- 9. ALL PAVEMENT MARKINGS FOR PARKING SPACES AND PAINTED ISLANDS SHALL BE 4-INCH WIDE WHITE STRIPES, UNLESS OTHERWISE NOTED.
- 10. STRIPED ISLANDS: 4" WIDE WHITE PAINTED STRIPES @ 36" O.C. TYPICAL, PAINTED AT A 45 DEGREE ANGLE TO PARKING SPACE LINE.
- CONTRACTOR TO VERIFY FIRE LANE PAINT AND SIGN LOCATIONS WITH FIRE DEPARTMENT PRIOR TO INSTALLATION.

#### **HCI GENERAL UTILITY NOTES:**

- 1. ALL WATER, SANITARY SEWER AND STORM SEWER WORK SHALL COMPLY WITH THE APPROPRIATE GOVERNING AGENCIES' STANDARDS AND SPECIFICATIONS, CURRENT EDITION, PERTINENT TO EACH LITHITY
- 2. THE CONTRACTOR AND SURVEY CREW SHALL VERIFY ELEVATIONS OF EXISTING SANITARY SEWER, STORM SEWER, WATER LINES AND MANHOLES TO BE TIED TO PRIOR TO CONSTRUCTION OR STAKING OF PIPE. THE CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCY.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AS-BUILT INFORMATION ON A SET OF RECORD DRAWINGS.
- 4. THE CONTRACTOR SHALL CONTACT ALL APPROPRIATE UTILITY COMPANIES AND THE APPROPRIATE GOVERNING AGENCY PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ANY EXISTING UTILITY (INCLUDING DEPTHS) WHICH MAY CONFLICT WITH THE PROPOSED CONSTRUCTION. ALL EXISTING UTILITIES SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR. DAMAGED UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- 5. THE LOCATIONS OF EXISTING UTILITIES ARE BASED UPON THE BEST AVAILABLE INFORMATION, ARE SHOWN IN AN APPROXIMATE WAY ONLY, AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.
- 6. LOCATION OF ALL EXISTING UTILITIES (PRIVATE OR PUBLIC) SHALL BE IDENTIFIED AND VERIFIED BY CONTRACTOR PRIOR TO MOBILIZATION, CONSTRUCTION, OR ORDERING OF MATERIALS. THE CONTRACTOR SHALL BEAR THE FULL COST OF REMOVAL, REPLACEMENT AND DELAY RELATED TO UNVERIFIED EXISTING CONDITIONS. WHERE THE CONTRACTOR FINDS CONFLICTS OR DISCREPANCIES THEY SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.
- 7. THE CONTRACTOR SHALL OBTAIN, AT HIS EXPENSE, ALL PERMITS THAT ARE NECESSARY TO PERFORM THE PROPOSED WORK.
- 8. PIPE BACKFILLING SHALL NOT OCCUR UNTIL PIPE HAS BEEN INSPECTED.
- 9. BEGIN LAYING PIPE AT THE LOWEST POINT, WITH THE BELLS POINTING UPHILL. LAY THE PIPE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. LAY PIPE TRUE TO LINE AND GRADE AS SHOWN ON THE DRAWINGS.
- 10. ALL STORM SEWER AND SANITARY SEWER PIPE LENGTHS AND SLOPES ARE FIGURED FROM CENTER OF MANHOLE, BEND, WYE AND THE INSIDE WALL OF INLETS. PIPE LENGTHS ARE GIVEN AS A HORIZONTAL LENGTH AND ARE APPROXIMATE. PIPE LENGTHS INCLUDE THE FLARED END SECTION.
- 11. ALL STORM SEWER AND SANITARY SEWER PIPE BEDDING TO BE CLASS B BEDDING ALTERNATE, UNLESS OTHERWISE NOTED.
- 12. RCP STORM SEWER PIPE SHALL BE CLASS III, UNLESS OTHERWISE NOTED.
- 13. ALL RCP SECTIONS SHALL BE JOINED IN SUCH A MANNER THAT THE ENDS ARE FULLY ENTERED AND THE INNER SURFACES ARE REASONABLY FLUSH. RUBBER GASKETS SHALL BE USED ON ALL PIPE JOINTS CONFORMING TO ASTM C-433. AVERAGE JOINT GAP THAT EXCEEDS ½ INCH SHALL BE FILLED WITH AN APPROVED FLEXIBLE PLASTIC SEALANT.
- 14. PVC STORM SEWER PIPES AND SANITARY MAIN / SERVICES SHALL CONFORM TO ASTM D3034 SDR 35 FOR SIZES 4-INCHES TO 15-INCHES IN DIAMETER (SOLID WALL), UNLESS OTHERWISE NOTED. GASKETS SHALL COMPLY WITH ASTM F477, CONSISTING OF A PROPERLY VULCANIZED HIGH GRADE ELASTOMERIC COMPOUND. LUBRICANTS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. JOINTS SHALL BE IN CONFORMANCE WITH ASTM D3212. C900 PIPE USED FOR STORM SEWER CONSTRUCTION SHALL BE DR18
- 15. CONSTRUCTION AND MATERIALS USED IN ALL STORM SEWER CONSTRUCTION SHALL BE PER THE APPROPRIATE GOVERNING AGENCIES STANDARDS. ALL MANHOLES SHALL HAVE SHAPED INVERTS.
- 16. CONSTRUCTION AND MATERIALS USED IN ALL SANITARY SEWER OR WATER MAIN CONSTRUCTION SHALL BE PER THE APPROPRIATE GOVERNING AGENCIES STANDARDS AND SPECIFICATIONS. ALL MANHOLES SHALL HAVE SHAPED INVERTS.
- 17. MANHOLE RIM ELEVATIONS SHOWN ARE APPROXIMATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATIONS. RING AND COVER SHALL BE SET IN CENTERED CONCRETE RINGS WITH RAM-NECK FOR ADJUSTMENT TO MATCH FINAL PAVEMENT ELEVATIONS.
- 18. SANITARY AND STORM SEWER PIPE SHALL BE CONSTRUCTED A MINIMUM OF TEN-FEET FROM THE CENTER OF WATER LINES. EXCEPT WHERE THEY CROSS.
- 19. ALL WATER AND SANITARY SEWER SERVICES MUST BE INSPECTED BY THE APPROPRIATE GOVERNING AGENCIES INSPECTOR.
- 20. SANITARY SEWER CLEAN OUTS SHALL BE THE SAME SIZE AS THE HOST PIPE. CLEAN OUTS TO HAVE THREADED CAPS. COVERS TO BE TRAFFIC RATED AND FLUSH WITH FINISHED GRADE.
- 21. WATER SERVICE PIPING SHALL BE TYPE K COPPER, SOFT, UNLESS OTHERWISE NOTED. ALL WATER SERVICE PIPE SHALL BE INSTALLED WITH 5.0-FT COVER TYPICAL (4.5-FT MINIMUM) BELOW FINISHED GRADE. THE MAXIMUM COVER IS 5.5 FEET UNLESS OTHERWISE NOTED IN THE PLANS AND APPROVED BY APPROPRIATE GOVERNING AGENCY.
- 22. REFER TO LIGHTING PLAN FOR LOCATIONS OF LIGHT POLES.

- 23. WHERE APPROPRIATE, NEATLY SAW CUT ALL EXISTING CONCRETE AND ASPHALT, THE PLACEMENT OF ADDITIONAL PAVING SHALL BE DONE TO A NEAT WORK LINE, SAW CUTTING A MINIMUM OF ONE (1) FOOT. SAW CUTTING WILL NOT BE PAID FOR SEPARATELY BUT WILL BE CONSIDERED INCIDENTAL TO THE WORK. REPAIR/REPLACE ALL DISTURBED EXISTING ITEMS WITH LIKE MATERIALS AND THICKNESSES. ANY ASPHALT REMOVED IS TO BE REPLACED TO MEET THE SPECIFICATIONS OF THE COLORADO DEPT OF TRANSPORTATION. EXISTING CONCRETE PAVEMENT SHALL BE SCORED THEN BROKEN AT JOINT TO CREATE A ROUGH SURFACE FOR THE CONSTRUCTION JOINT.
- 24. ALL ASPHALT WORK REQUIRING PATCHING WILL BE PERFORMED TO A NEAT WORK LINE. THE EXISTING ASPHALT SHALL BE SAW CUT. ALL ASPHALT PATCH WORK SHALL BE AT LEAST 2' WIDE AFTER THE COMPLETION OF WORK. NEW CURB CAN BE PLACED FLUSH WITH THE EXISTING ASPHALT IF IT IS TO A NEAT WORK LINE.
- 25. ALL UTILITIES ARE BASED UPON SURFACE LOCATES AND OR RECORD MAPS. ENGINEER IS NOT RESPONSIBLE FOR INCONSISTENCIES DUE TO INACCURATE LOCATES OR RECORDS. ENGINEER RECOMMENDS ALL UTILITIES BE POTHOLED AND FIELD SURVEYED TO VERIFY THIS INFORMATION.
- 26. CONTRACTOR SHALL COORDINATE ALL DRY UTILITIES SERVICE AND RELOCATIONS WITH THE PROVIDERS.
- 27. CONTRACTOR SHALL COORDINATE RIMS OF ALL MANHOLES AND SURFACE STRUCTURES WITH ANY CHANGE IN GRADE. CONTRACTOR SHALL INCLUDE COST TO LOWER OR RAISE ALL RIMS AS NEEDED FOR NEW GRADES.
- 28. ALL SANITARY SEWER CLEAN OUTS (C.O.) TO BE 2-WAY AND HAVE HS-25 RATED COVERS.
- 29. ALL WATER INSTALLATION SHALL COMPLY WITH APPROVED PLANS.
- 30. ALL SANITARY SEWER FITTINGS SHALL BE AS MANUFACTURED AND FURNISHED BY THE PIPE SUPPLIER OR APPROVED EQUAL AND HAVE BELL AND / OR SPIGOT CONFIGURATIONS COMPATIBLE WITH THE PIPE.
- 31. 4" SANITARY SEWER SERVICE SHALL HAVE A MINIMUM SLOPE OF 2.0% (1/2" PER FOOT). 6" SANITARY SEWER SERVICES SHALL HAVE A MINIMUM SLOPE OF 1.0% (1/4" PER FOOT).
- 32. CONTRACTOR TO VERIFY EXISTING SEWER SERVICE DEPTH AND SIZE BEFORE STARTING ANY WORK. NOTIFY ENGINEER IF ANY MODIFICATIONS NEED TO BE MADE. ALL CONNECTIONS TO EXISTING SEWER LINES SHALL BE CONFIRMED.
- 33. WATER LINES, METERS, TAPS AND FIRE HYDRANTS MUST BE IN CONFORMANCE WITH THE APPROPRIATE GOVERNING AGENCIES STANDARDS AND SPECIFICATIONS OR SUPPLEMENTARY STANDARDS AND SPECIFICATIONS.
- 34. ALL SANITARY SEWER IMPROVEMENTS MUST BE IN CONFORMANCE WITH THE APPROPRIATE GOVERNING AGENCIES STANDARDS AND SPECIFICATIONS OR SUPPLEMENTARY STANDARDS AND SPECIFICATIONS.
- 35. DRY UTILITY IMPROVEMENTS SHALL BE COORDINATED WITH THE PROVIDER PRIOR TO CONSTRUCTION.
- 36. CONTRACTOR IS RESPONSIBLE FOR COORDINATION, COMPLETION AND SUBMITTAL OF ALL DRY UTILITY (GAS, ELECTRIC, PHONE, CABLE, AND OTHER) APPLICATIONS.



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## TE, LLC NT PLAN NUE 30513

CJW REAL ESTATE, SITE DEVELOPMENT F 1231 LAKE AVENUE BERTHOUD, CO 8051

REVISIONS:

No. Date: Description:

1 11.01.24 1st Submittal

2 02.18.25 2nd Submittal

3 04.18.25 3rd Submittal

Project No: 24\_15

Drawn By: GJB

Checked By: CCH

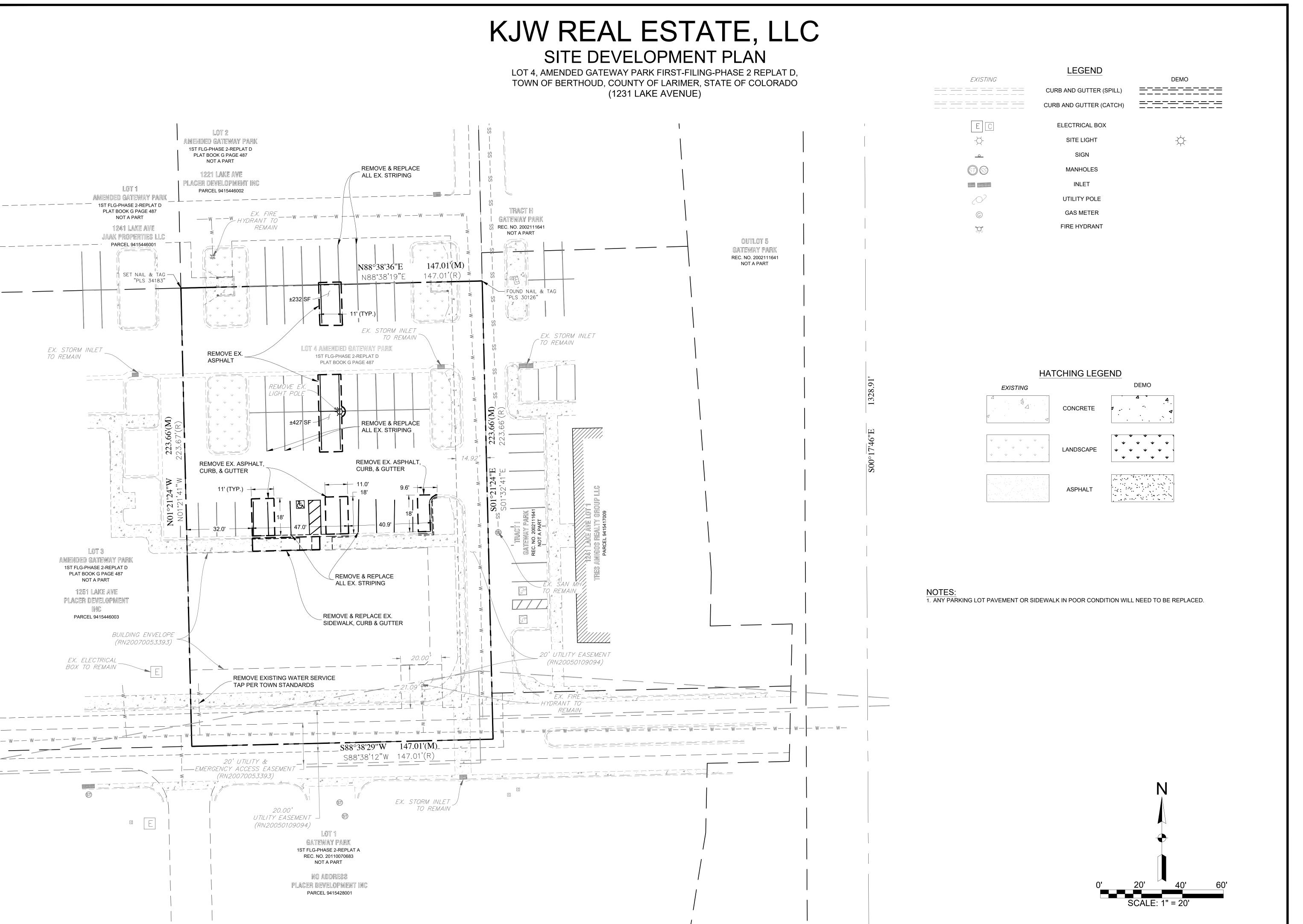
Date Issued: 01/05/2025

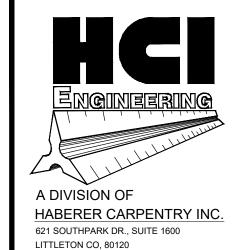
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HCI NOTES





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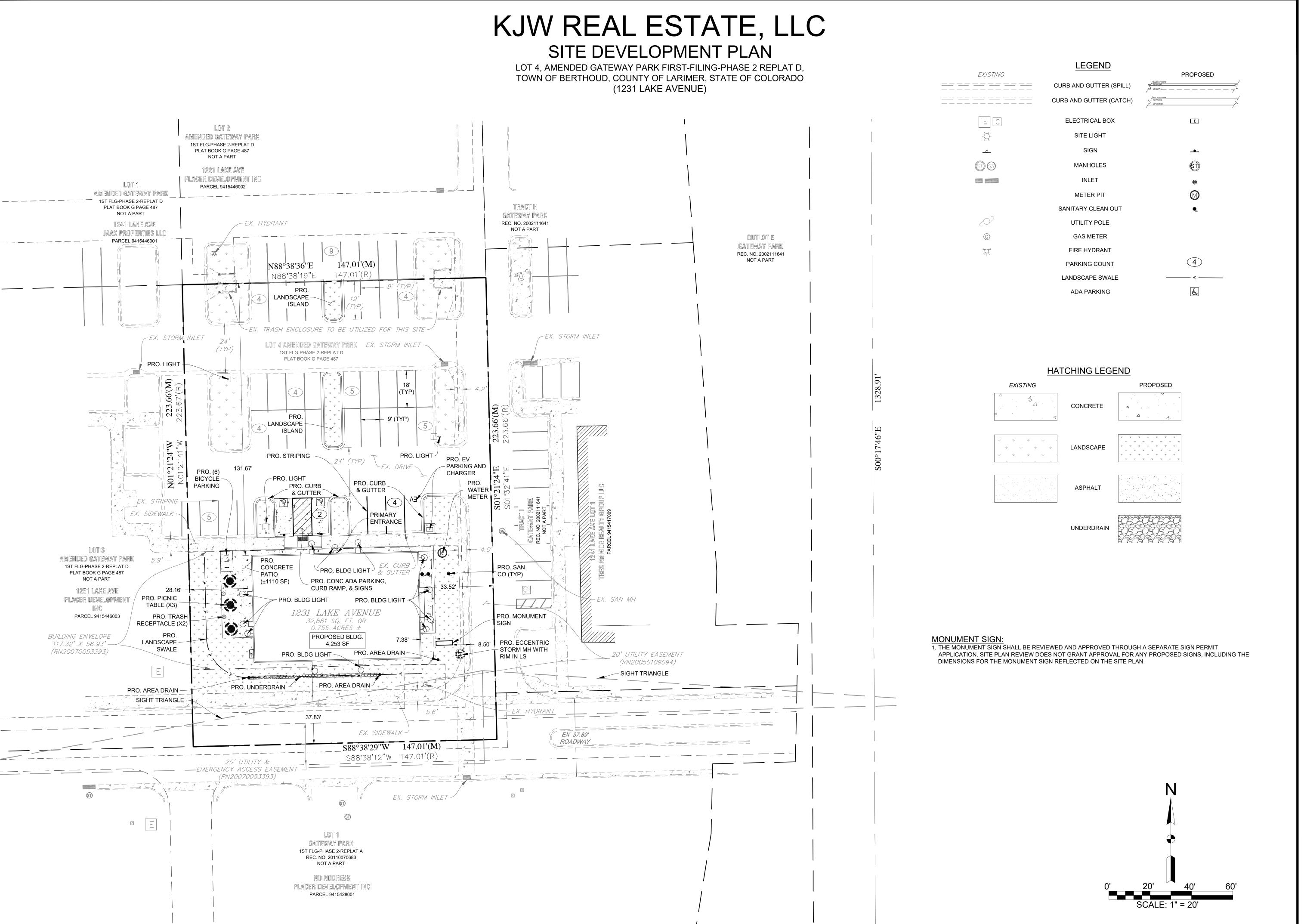
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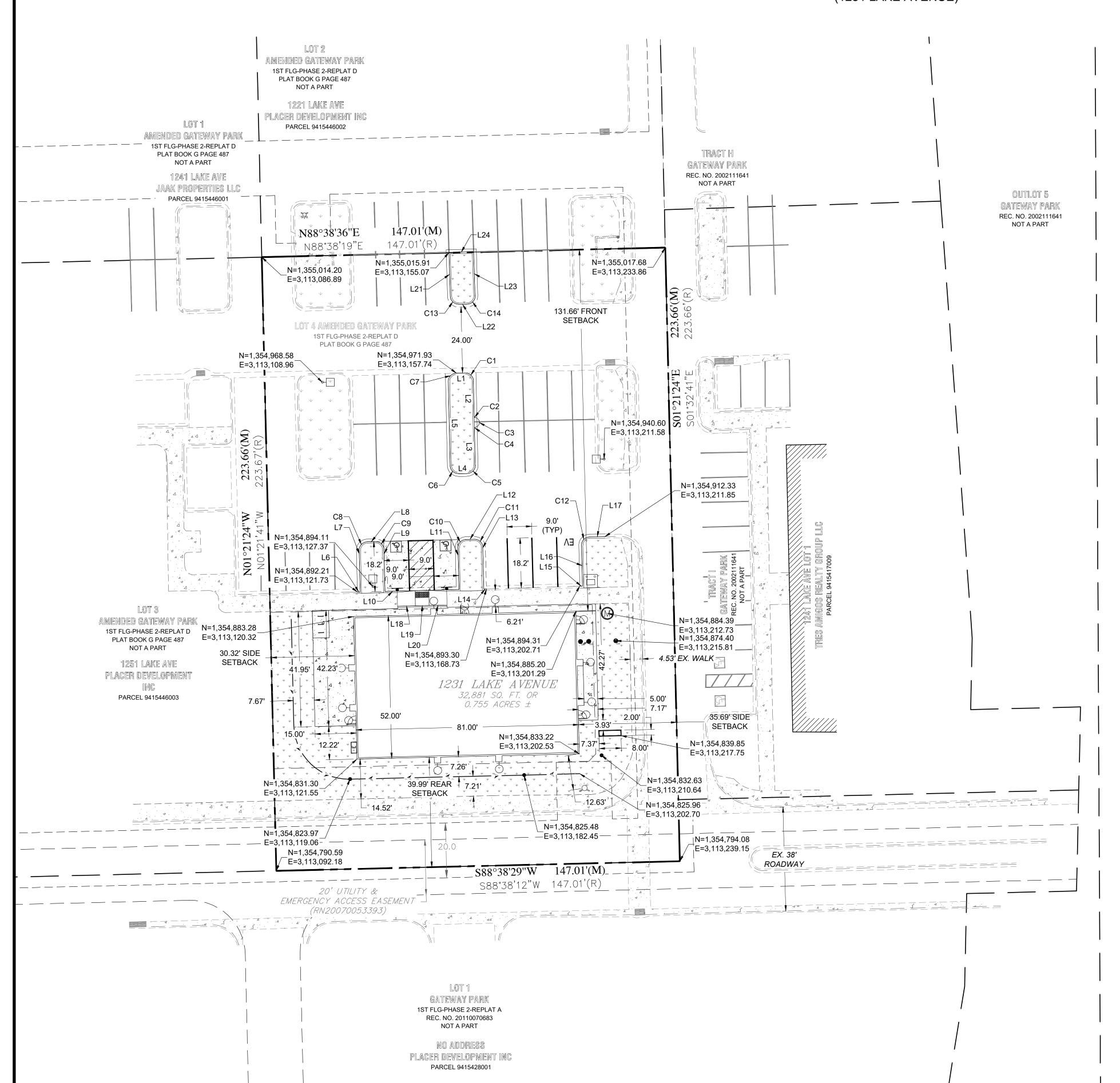
SITE PLAN

Sheet Number:

C2.1

#### SITE DEVELOPMENT PLAN

LOT 4, AMENDED GATEWAY PARK FIRST-FILING-PHASE 2 REPLAT D, TOWN OF BERTHOUD, COUNTY OF LARIMER, STATE OF COLORADO (1231 LAKE AVENUE)



	CURVE TABLE				
CURVE#	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	4.74	3.00	90°32'23"	N46°29'29"W	4.26
C2	0.68	0.50	78°05'46"	S40°16'11"E	0.63
C3	4.77	1.75	156°11'32"	S01°13'18"E	3.42
C4	0.68	0.50	78°05'46"	S37°49'35"W	0.63
C5	4.72	3.00	90°03'32"	N43°48'28"E	4.24
C6	4.71	3.00	89°58'38"	S46°10'28"E	4.24
C7	4.68	3.00	89°25'28"	S43°31'35"W	4.22
C8	4.71	3.00	90°00'00"	N43°34'39"E	4.24
C9	4.71	3.00	90°00'00"	S46°25'21"E	4.24
C10	4.71	3.00	90°00'00"	N43°34'39"E	4.24
C11	4.71	3.00	90°00'00"	S46°25'21"E	4.24
C12	4.76	3.00	90°52'57"	N44°01'07"E	4.28
C13	4.62	3.00	88°18'53"	S45°50'33"E	4.18
C14	4.81	3.00	91°48'21"	N44°05'49"E	4.31

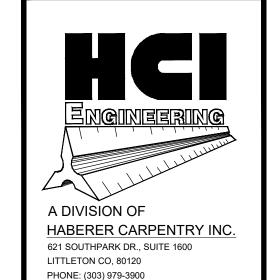
LINE TABLE

LINE # | BEARING | DISTANCE

LINE TABLE		
LINE#	BEARING	DISTANCE
L1	S88°14'19"W	3.14
L2	N01°13'18"W	12.97
L3	N01°13'18"W	13.32
L4	N88°50'14"E	3.16
L5	S01°11'09"E	30.66
L6	N88°46'24"E	1.00
L7	N01°25'21"W	15.15
L8	N88°34'39"E	3.00
L9	S01°25'21"E	15.18
L10	N88°42'23"E	27.00
L11	N01°25'21"W	15.24
L12	N88°34'39"E	3.00
L13	S01°25'21"E	15.22
L14	N88°28'44"E	1.00
L15	N88°07'31"E	1.00
L16	N01°25'21"W	14.86
L17	N89°27'36"E	5.54
L18	N88°44'48"E	6.50
L19	N88°44'48"E	5.00

L20 N88°44'48"E 6.50

_1	S88°14'19"W	3.14		L21	S01°41'07"E	16.03
2	N01°13'18"W	12.97		L22	N90°00'00"E	3.02
.3	N01°13'18"W	13.32		L23	N01°48'21"W	16.07
.4	N88°50'14"E	3.16		L24	S88°32'37"W	8.98
.5	S01°11'09"E	30.66				
.6	N88°46'24"E	1.00				
.7	N01°25'21"W	15.15				
.8	N88°34'39"E	3.00				
.9	S01°25'21"E	15.18				
10	N88°42'23"E	27.00				
11	N01°25'21"W	15.24				
12	N88°34'39"E	3.00				
13	S01°25'21"E	15.22				
			1			



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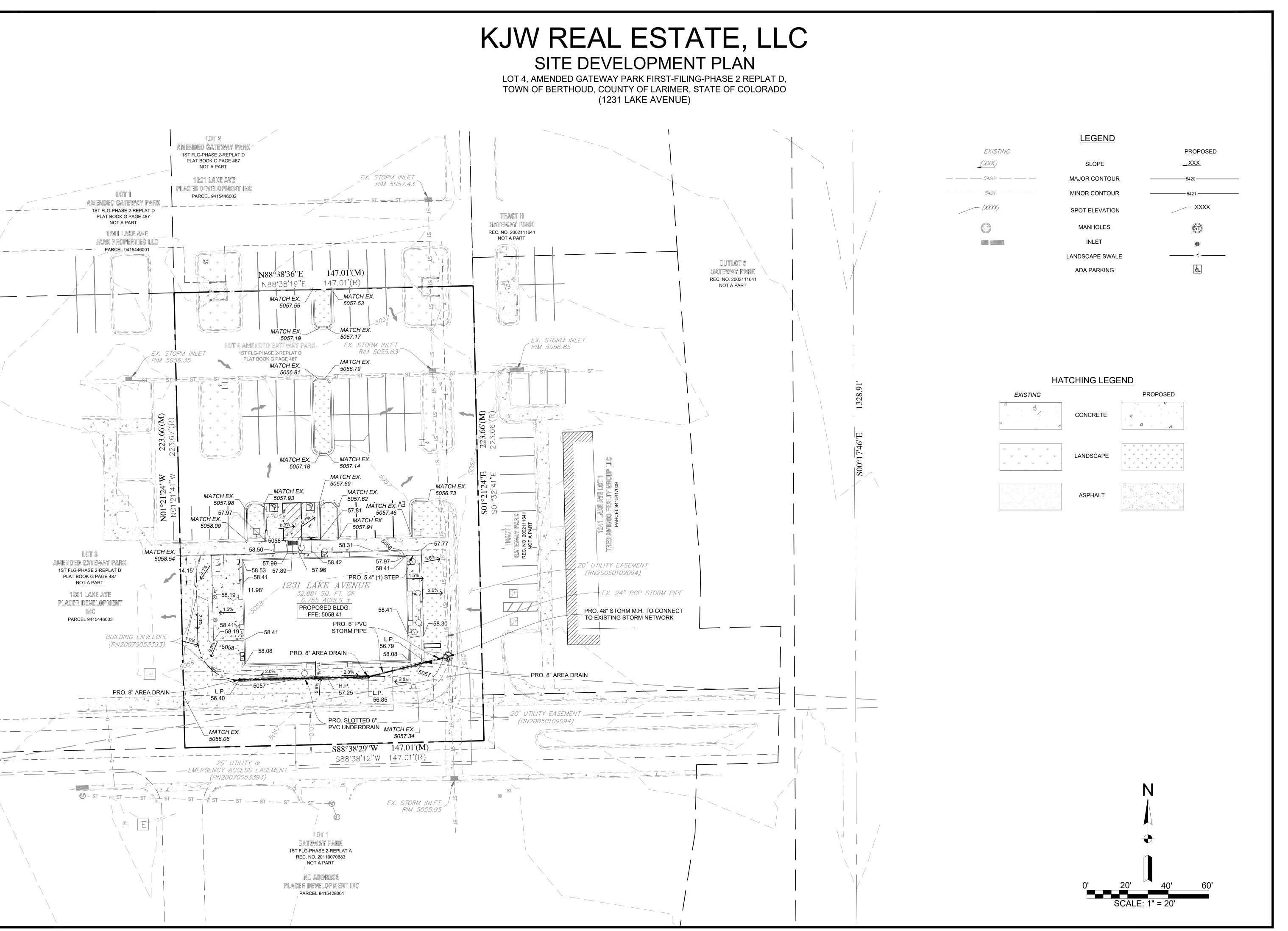
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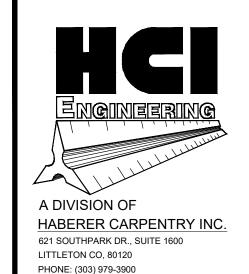
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**REVISIONS:** No. Date: Description: 1 | 11.01.24 | 1st Submittal 2 02.18.25 2nd Submittal 3 | 04.18.25 | 3rd Submittal Drawn By: GJB Checked By: CCH Date Issued: 01/05/2025

CONTROL PLAN Sheet Number:

Sheet Name: HORIZONTAL





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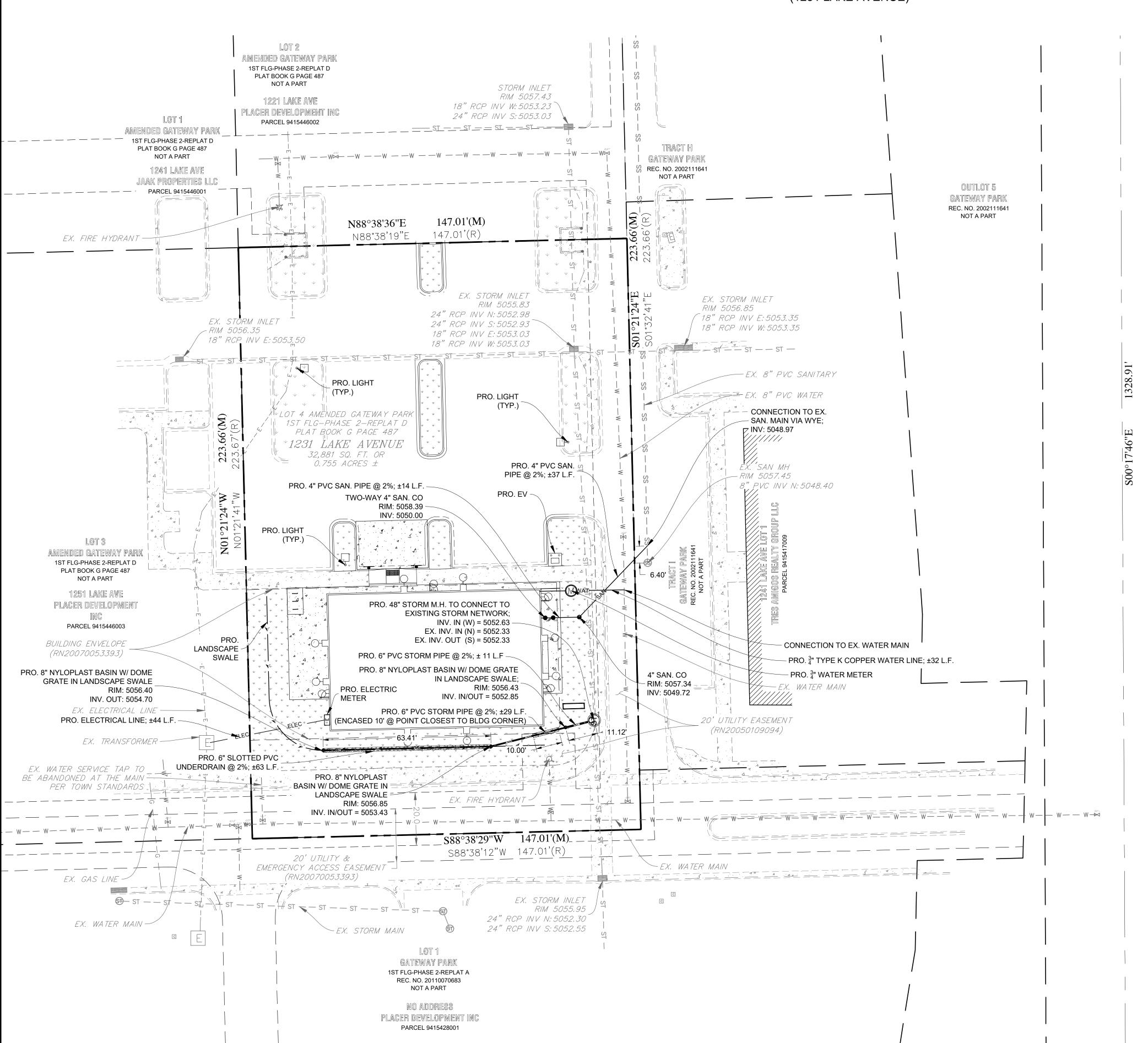
GRADING PLAN

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Number:

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#### SITE DEVELOPMENT PLAN

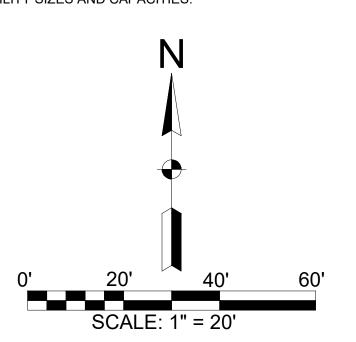
LOT 4, AMENDED GATEWAY PARK FIRST-FILING-PHASE 2 REPLAT D, TOWN OF BERTHOUD, COUNTY OF LARIMER, STATE OF COLORADO (1231 LAKE AVENUE)



<i>EXISTING</i>	MASTER LEGEND	PROPOSED
	CURB AND GUTTER (SPILL)	BACK OF CURB FLOWINE  UP (SPILL)
	CURB AND GUTTER (CATCH)	BACK OF CURB FLOWLINE LIP (CATCH)
———— ST ——— ST ——	STORM SEWER	
——————————————————————————————————————	SANITARY SEWER	
w w w w-	WATER LINE	WATWAT
G $$ G $$ G $$ G $$	GAS LINE	
—— E——— E——— E——	ELECTRICAL	— ELEC — ELEC —
———— FO —— FO ——	FIBER OPTIC LINE	
EC	ELECTRICAL BOX	E
->>-	SITE LIGHT	
	SIGN	
	MANHOLES	
	INLET	
	METER PIT	
<i>MAT</i> <b>⋈</b>	GATE VALVE	
ı <u>▼</u> ı	THRUST BLOCK	
	CLEAN OUT	$lackbox{lack}{lack}$
©	GAS METER	
<b>&gt;</b>	FIRE HYDRANT	
	LANDSCAPE SWALE	<del></del>

#### **UTILITIES NOTE:**

- 1. PROPOSED DRY UTILITIES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL
- COORDINATE FINAL DESIGN WITH UTILITY PROVIDER AS NEEDED. 2. CONTRACTOR SHALL RE-VERIFY EXISTING UTILITY LOCATIONS, INVERTS, AND
- MATERIALS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
- 3. PRIOR TO CONSTRUCTION CONTRACTOR SHALL CONFIRM WITH FIRE DESIGNER THAT EXISTING SIZE IS SUFFICIENT FOR PROJECT DEMANDS.
- 4. REFER TO GATEWAY PARK SUBDIVISION FINAL DEVELOPMENT PLAN, APPROVED 2002, BER (20070053393), FOR ALL EXISTING UTILITY SIZES AND CAPACITIES.



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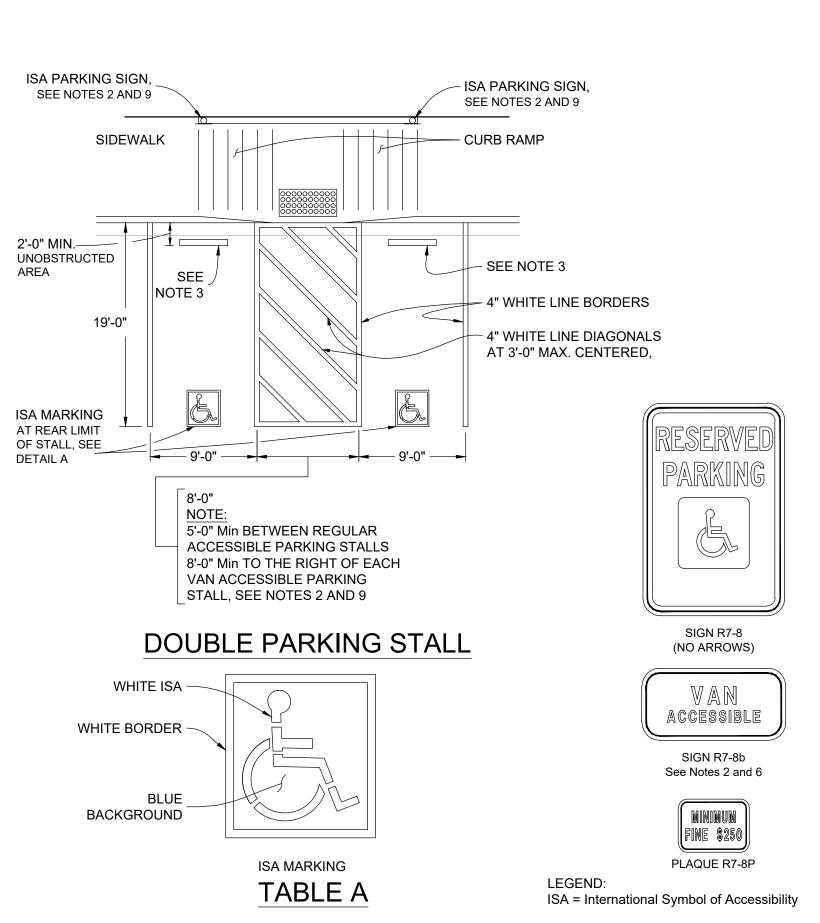
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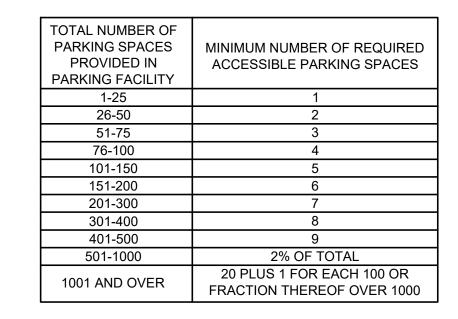
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UTILITY PLAN Sheet Number:



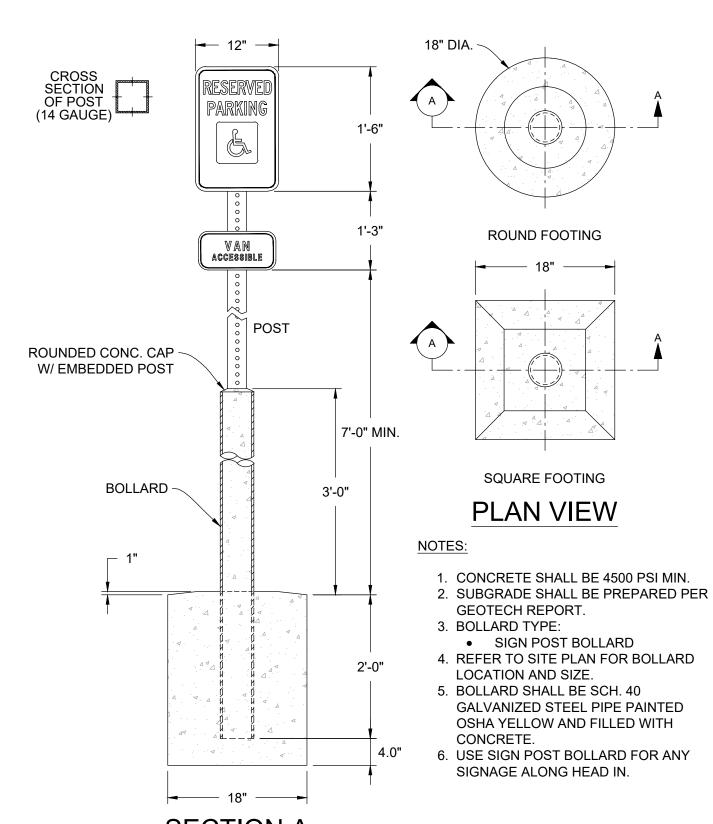
ADA RAMP AND PARKING DETAILS

PRIVATE ADA RAMP



- 1. ACCESSIBLE PARKING SPACES SERVING A PARTICULAR BUILDING SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTE OF TRAVEL FROM ADJACENT PARKING TO AN ACCESSIBLE ENTRANCE. IN PARKING FACILITIES THAT DO NOT SERVE A PARTICULAR BUILDING, ACCESSIBLE PARKING SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTE OF TRAVEL TO AN ACCESSIBLE PEDESTRIAN ENTRANCE OF THE PARKING FACILITY.
- 2. ONE IN EVERY SIX ACCESSIBLE OFF-STREET PARKING STALLS, BUT NOT LESS THAN ONE, SHALL BE SERVED BY AN ACCESSIBLE AISLE OF 8'-0" MINIMUM WIDTH AND SHALL BE SIGNED VAN ACCESSIBLE. THE R7-8B SIGN SHALL BE MOUNTED BELOW THE R7-8P PLAQUE OR THE R7-8 SIGN.
- . IN EACH PARKING STALL, A CURB OR PARKING BUMPER SHALL BE PROVIDED IF REQUIRED TO PREVENT ENCROACHMENT OF VEHICLES OVER THE REQUIRED WIDTH OF WALKWAYS. PARKING STALLS SHALL BE SO LOCATED THAT PERSONS WITH DISABILITIES ARE NOT COMPELLED TO WHEEL OR WALK BEHIND PARKED VEHICLES OTHER
- 4. PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 2.0% IN ALL DIRECTIONS.
- 5. TABLE A SHALL BE USED TO DETERMINE THE REQUIRED NUMBER OF ACCESSIBLE PARKING STALLS IN EACH PARKING LOT OR GARAGE. 6. WHERE PLAQUE R7-8P, SIGN R7-8 OR SIGN R7-8b ARE INSTALLED, THE
- BOTTOM OF THE SIGN OR PLAQUE PANEL SHALL BE A MINIMUM OF 7'-0" ABOVE THE SURROUNDING SURFACE. 7. WHERE A SINGLE (NON-VAN) ACCESSIBLE PARKING SPACE IS
- PROVIDED, THE LOADING AND UNLOADING ACCESS AISLE SHALL BE ON THE PASSENGER SIDE OF THE VEHICLE AS THE VEHICLE IS GOING FORWARD INTO THE PARKING SPACE. 8. WHERE A VAN ACCESSIBLE PARKING SPACE IS PROVIDED, THE
- LOADING AND UNLOADING ACCESS AISLE SHALL BE 8'-0" WIDE MINIMUM, AND SHALL BE ON THE PASSENGER SIDE OF THE VEHICLE AS THE VEHICLE IS GOING FORWARD INTO THE PARKING SPACE. 9. ACCESSIBLE PARKING ONLY SIGN SHALL BE SIGN R7-8 WITH PLAQUE





**SECTION A** TYPICAL BOLLARD W/ ADA MOUNTED SIGN DETAIL Scale: N.T.S.

7" INSIDE -



Elegant trash can for patios, gardens or walkways. Recommended for hotels and shopping centers. Glossy, premium powder-coated finish is weather resistant and long lasting. Durable, heavy-duty steel bar construction. Reusable rigid plastic liner. Easy to empty and clean. OR APPROVED EQUAL. (THIS DETAIL IS A GENERAL DETAIL. REFER TO THE ARCHITECT PRIOR TO INSTALLING FOR APPROVAL)

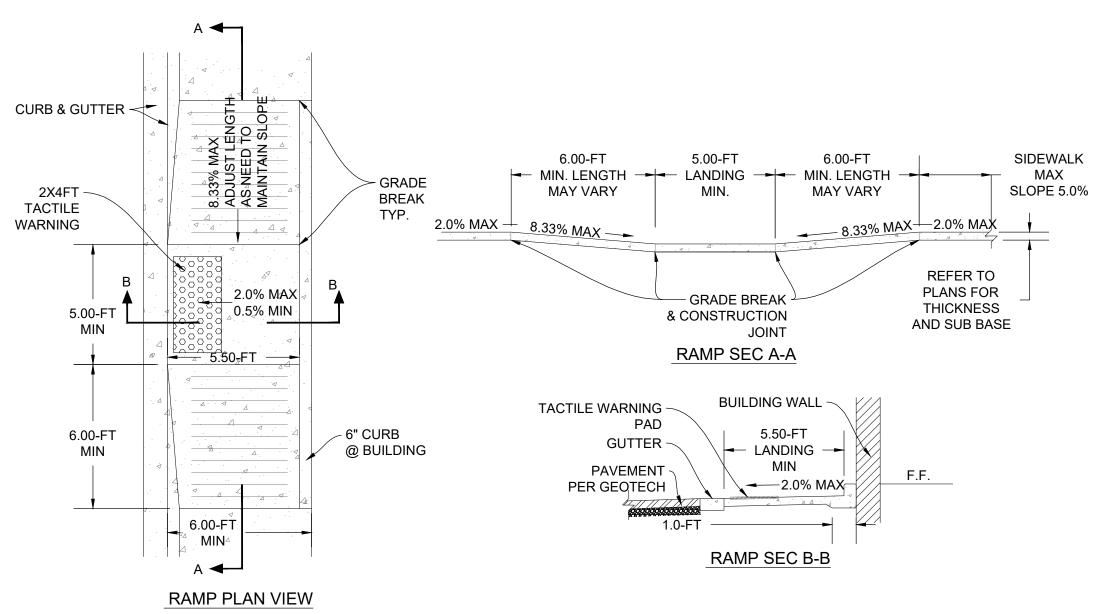
SPILL

**CATCH** 

- 1. 4500 PSI CONCRETE WITH FIBERMESH REINFORCEMENT
- 2. BRUSHED FINISH ON ALL EXPOSED CONCRETE.

PRIVATE CURB & GUTTER

Scale: N.T.S.



ICC/ANSI A117.1-2009 RAMP NOTES:

1. 4500 PSI CONCRETE WITH FIBERMESH REINFORCEMENT, OR 4X4 WWM WITH 2" MIN COVER.

2. BRUSHED FINISH ON ALL EXPOSED CONCRETE TOOL CONTRACTION JOINT IN EVERY 10FT O.C.

Scale: N.T.S.

4. COMPACT SUBGRADE PER GEOTECHNICAL RECOMMENDATIONS, COMPACT TO 95% STANDARD PROCTOR

5. CONCRETE THICKNESS PER GEOTECHNICAL RECOMMENDATIONS - 4" MIN.

6. PROVIDE SUBGRADE BASE COARSE PER GEOTECHNICAL RECOMMENDATIONS.

7. TACTILE WARNING TO BE 2X4' PAD WITH RAISED DOMES. PROVIDE ADHESIVE YELLOW TYPE AS THE MINIMUM. REFER TO GOVERNING JURISDICTION OR ARCHITECT FOR ADDITIONAL REQUIREMENTS.

8. PROVIDE  $\frac{1}{2}$ " RADIUS ON ALL EDGES.

9. SIDEWALK SLOPE AT THE TOP OF THE RAMP SHALL BE NO

10. ADJUST RAMP LENGTH AS NEEDED TO MAINTAIN A MAX SLOPE

11. ANY RAMP LONGER THAN 10FT WILL REQUIRE A HANDRAIL

BUILT TO ADA STANDARDS 12. ADJUST RAMP WIDTH TO MATCH SIDEWALK.

Scale: N.T.S.

**RADIUS** 119.70°' (TYP) BASE PLATE FLUSH MOUNT ~ BASE PLATE

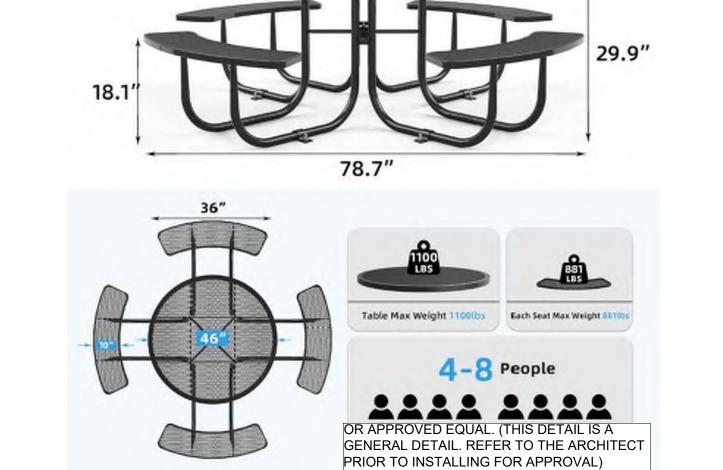
#### DIMENSIONS:

1. HIEGHT - 33" FROM THE GROUND. 2. CONTINUOUS BEND INSIDE RADIUS = 7".

#### MATERIALS AND CONSTRUCTION:

- MINIMUM OR 1  $\frac{1}{4}$ " SCHEDULE 40 STEEL PIPE (1  $\frac{5}{8}$ " OUTSIDE DIAMETER). MAXIMUM 1 ½" SCHEDULE 40 STEEL PIPE (2" OUTSIDE DIAMETER).
- SOLID ONE-PIECE CONSTRUCTION; CONTINUOUS BEND; LEGS 14" 18" APART
- GALVANIZED WITH BLACK POWDER COAT FINISH.
- FLUSH MOUNTED WITH WELDED BASE PLATES (6" DIAMETER,  $\frac{3}{16}$ " THICK BASE PLATE). HIDDEN OR VANDAL-RESISTENT FASTENERS (SCREWS OR EXPANSION BOLTS).





**PRODUCT SIZE** 

Scale: N.T.S.

Scale: N.T.S.

No. Date: Description: 1 | 11.01.24 | 1st Submittal 2 | 02.18.25 | 2nd Submittal 3 | 04.18.25 | 3rd Submittal Project No: 24 15 Drawn By: GJB Checked By: CCH Date Issued: 01/05/2025

**REVISIONS:** 

Number:

A DIVISION OF

LITTLETON CO, 80120

Scale: N.T.S.

PHONE: (303) 979-3900

HABERER CARPENTRY INC.

621 SOUTHPARK DR., SUITE 1600

INFO@HABERERGROUP.COM

Know what's below,

Call before you dig.

CALL 811 2-BUSINESS DAYS IN

ADVANCE BEFORE YOU DIG,

GRADE, OR EXCAVATE FOR THE

MARKING OF UNDERGROUND

MEMBER UTILITIES.

DETAILS (1)

ELECTRIC VEHICLE PARKING

CAST IRON FRAME & COVER RE: BERTHOUD DTL D4.04 FINISHED GRADE 4" PVC SEWER PIPE -- 4" PVC SEWER PIPE 30° CURVE -30° CURVE 4" PVC SEWER PIPE

#### NOTES:

Scale: N.T.S.

- 1. CLEANOUT SHALL BE CONSTRUCTED SO THAT SURFACE LOAD WILL NOT BE TRANSFERRED TO MAIN. 2. SERVICE LINE CLEANOUT MAY BE INSTALLED APPROXIMATELY 5 FEET OUTSIDE THE BUILDING
- FOUNDATION. 3. A CLEANOUT IS REQUIRED ON ALL SERVICE LINES EVERY 100 FEET, AT EVERY 'Y' OR AFTER A
- COMBINED TOTAL OF 145° OF BEND.

4. USE PRE-FABRICATED WYE FITTINGS TO CONSTRUCT CLEANOUT ASSEMBLIES

Scale: N.T.S.

## **Technical Note**

TWO-WAY SEWER C.O.

TN 1.01 Dual Wall HDPE Perforation Patterns

#### Overview

Perforated pipe plays an integral role in many applications of HDPE pipe. Generally, perforated pipe is used to accelerate the removal of subsurface water in soils or to allow storm water to percolate into the soil. Currently, two classifications of perforations are specified in the AASHTO material specifications for HDPE pipe: Class I, and Class II. The Class II perforation pattern comes standard when perforated pipe is ordered. Class One perforated pipe has limited availability. Please check with a local representative to determine availability. Both classes are explained in more detail in the AASHTO materials specifications (M294 and M252). AASHTO M252 covers pipe diameters 3- through 10-inch (75 - 250 mm) while M294 covers 12-inch through 60-inch (300 - 1500 mm).

#### **Standard Perforation Patterns**

#### **AASHTO Class II Perforation**

The following terminology for perforations is derived from the applicable AASHTO specification. Differences between the specifications are covered in the table below. Class II perforations shall be located in the outside valleys of the corrugations, be circular and/or slotted and evenly spaced around the circumference and length of the pipe. The perforations shall be located in the outside valleys of the corrugations. The water inlet area shall be no less than 0.945 in<sup>2</sup>/ft (20 cm<sup>2</sup>/m) for pipe diameters 4- through 10-inch (100 - 250mm), 1.42 in<sup>2</sup>/ft (30 cm²/m) for pipe diameters 12- through 18-inch (300 - 450 mm) and 1.89 in²/ft (40 cm²/m) for pipe diameters larger than and equal to 24 inches (600 mm). Table 1 below represents ADS standard perforation patterns for AASHTO Class II

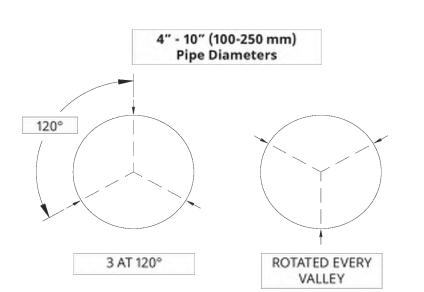
Nominal I.D.	Type	Length or Diameter	Width	Minimum Inlet Area
4" (100 mm)	Slot	0.875" (22 mm)	0.125" (3 mm)	1.0 in <sup>2</sup> /ft (21 cm <sup>2</sup> /m)
6" (150 mm)	Slot	0.875" (22 mm)	0.125" (3 mm)	1.0 in <sup>2</sup> /ft (21 cm <sup>2</sup> /m)
8" (200 mm)	Slot	1.18" (30 mm)	0.125" (3 mm)	1.0 in <sup>2</sup> /ft (21 cm <sup>2</sup> /m)
10" (250 mm)	Slot	1.18" (30 mm)	0.125" (3 mm)	1.0 in <sup>2</sup> /ft (21 cm <sup>2</sup> /m)
12" (300 mm)	Circular	0.313" (8 mm)	-	1.5 in <sup>2</sup> /ft (32 cm <sup>2</sup> /m)
15" (375 mm)	Circular	0.313" (8 mm)	-	1.5 in <sup>2</sup> /ft (32 cm <sup>2</sup> /m)
18" (450 mm)	Circular	0.313" (8 mm)	-	1.5 in <sup>2</sup> /ft (32 cm <sup>2</sup> /m)
24" (600 mm)	Circular	0.313" (8 mm)	-	2.0 in <sup>2</sup> /ft (42 cm <sup>2</sup> /m)
30" (750 mm)	Circular	0.375" (9.5 mm)	-	2.0 in <sup>2</sup> /ft (42 cm <sup>2</sup> /m)
36" (900 mm)	Circular	0.375" (9.5 mm)		2.0 in <sup>2</sup> /ft (42 cm <sup>2</sup> /m)
42" (1050 mm)	Circular	0.375" (9.5 mm)	-	2.0 in <sup>2</sup> /ft (42 cm <sup>2</sup> /m)
48" (1200 mm)	Circular	0.375" (9.5 mm)		2.0 in <sup>2</sup> /ft (42 cm <sup>2</sup> /m)
54" (1350 mm)	Circular	0.375" (9.5 mm)	-	2.0 in <sup>2</sup> /ft (42 cm <sup>2</sup> /m)
60" (1500 mm)	Circular	0.375" (9.5 mm)		2.0 in <sup>2</sup> /ft (42 cm <sup>2</sup> /m)



requirements for the open inlet area.

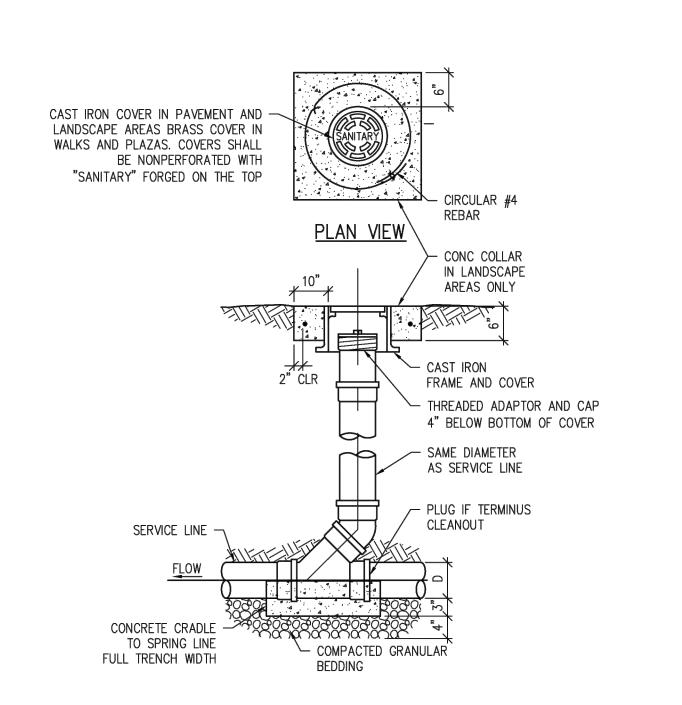
adspipe.com 800-821-6710

Figure 1: AASHTO Class II Perforation Patterns Note: Actual pattern may vary by region, however all patterns meet the AASHTO and ASTM minimum



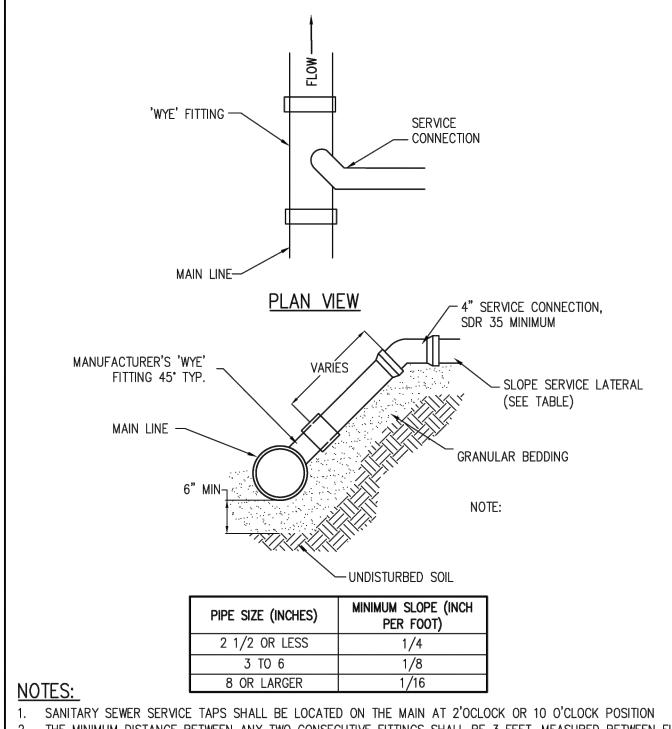
ADS PERFORATED PIPE

### Scale: N.T.S.



- CLEANOUT SHALL BE CONSTRUCTED SO THAT SURFACE LOAD WILL NOT BE TRANSFERRED TO MAIN. SERVICE LINE CLEANOUT MAY BE INSTALLED APPROXIMATELY 5 FEET OUTSIDE THE BUILDING FOUNDATION. A CLEANOUT IS REQUIRED ON ALL SERVICE LINES EVERY 100 FEET, AT EVERY "Y" OR AFTER A COMBINED
- TOTAL 135 DEGREES OF BEND. SCALE: NTS

: NIS		
OF BEAT	TOWN OF BERTHOUD STANDARD DESIGN CRITERIA SANITARY SEWER DETAILS	D4.04
	SANITARY CLEANOUT	DATE: 12/2020



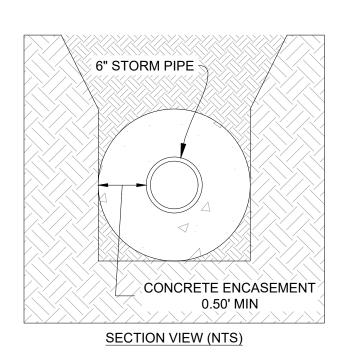
THE MINIMUM DISTANCE BETWEEN ANY TWO CONSECUTIVE FITTINGS SHALL BE 3 FEET, MEASURED BETWEEN FITTING CENTERLINES

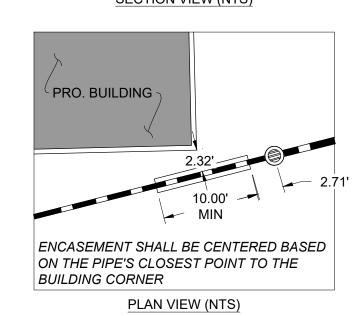
SANITARY SEWER SERVICE TAPS SHALL NOT BE MADE WITHIN 3 FEET OF A PIPE JOINT, OR 5 FEET FROM EDGE OF MANHOLE BASE.

4. A MAXIMUM OF FOUR SERVICE TAPS ARE ALLOWED PER 20-FOOT LENGTH OF PIPE

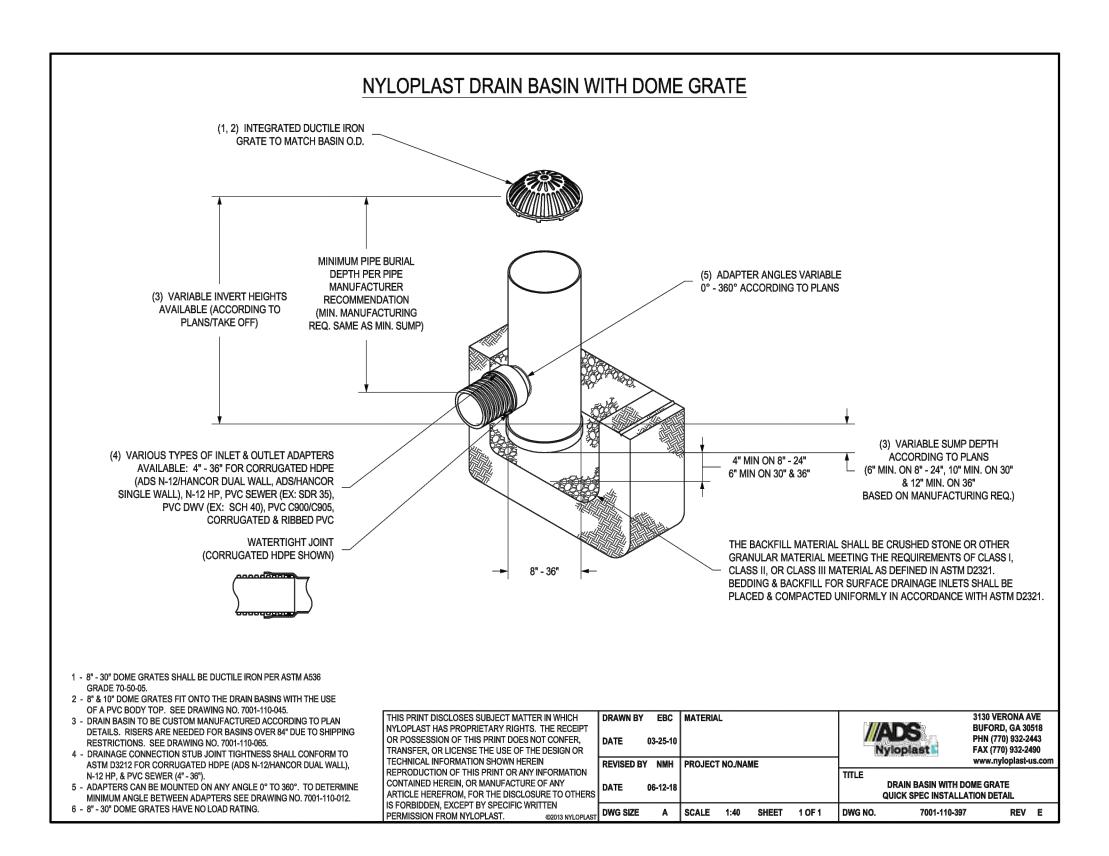
5. USE SDR 35 'WYE'. 'TEE'S NOT ALLOWED. SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA  SANITARY SEWER DETAILS	
TYPICAL SERVICE CONNECTION	DATE: 12/2020









DRAIN BASIN DETAIL

A DIVISION OF HABERER CARPENTRY INC. 621 SOUTHPARK DR., SUITE 1600 LITTLETON CO, 80120 PHONE: (303) 979-3900 INFO@HABERERGROUP.COM

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NUE 805  $\Box$ 

**REVISIONS:** No. Date: Description: 1 | 11.01.24 | 1st Submittal 2 02.18.25 2nd Submittal 3 | 04.18.25 | 3rd Submittal Project No: 24 15 Drawn By: GJB Checked By: CCH Date Issued: 01/05/2025 Sheet Name:

DETAILS (2) Number:

Scale: N.T.S.

**VARIES** PROVIDE 1/2" - 3/4" WASHED CRUSHED GRAVEL - 6" ADS PERFORATED PIPE, SLOPE TO FOLLOW SWALE LINE MIN. SWALE 1.0%

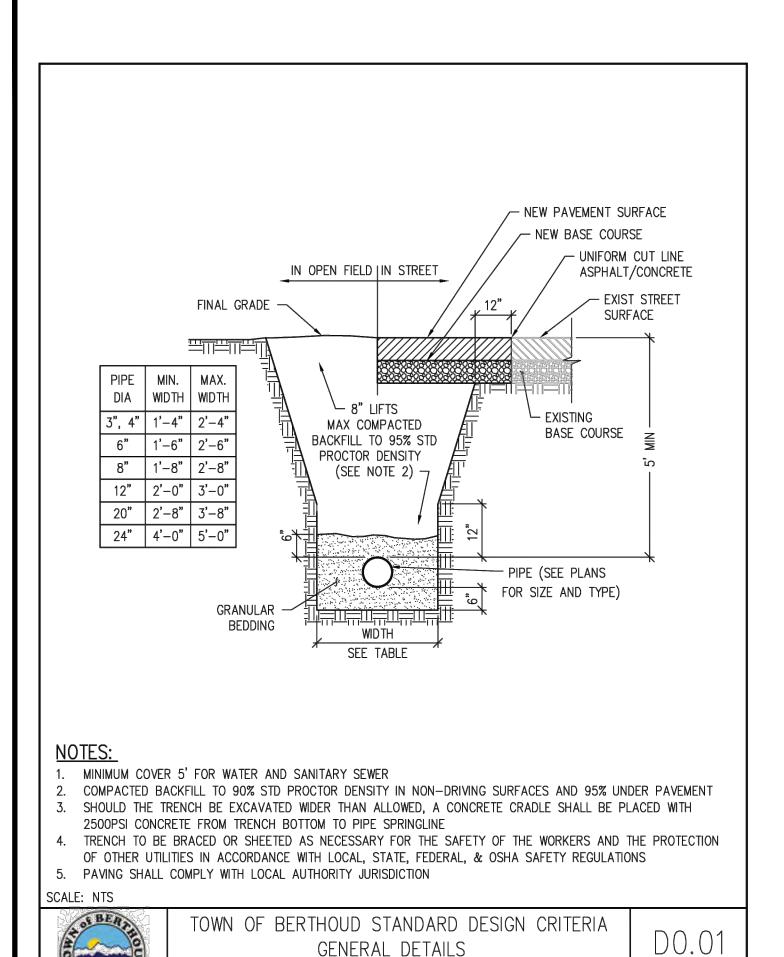
NOTES:

1. COMPACT SUB-GRADE PER GEOTECH REPORT

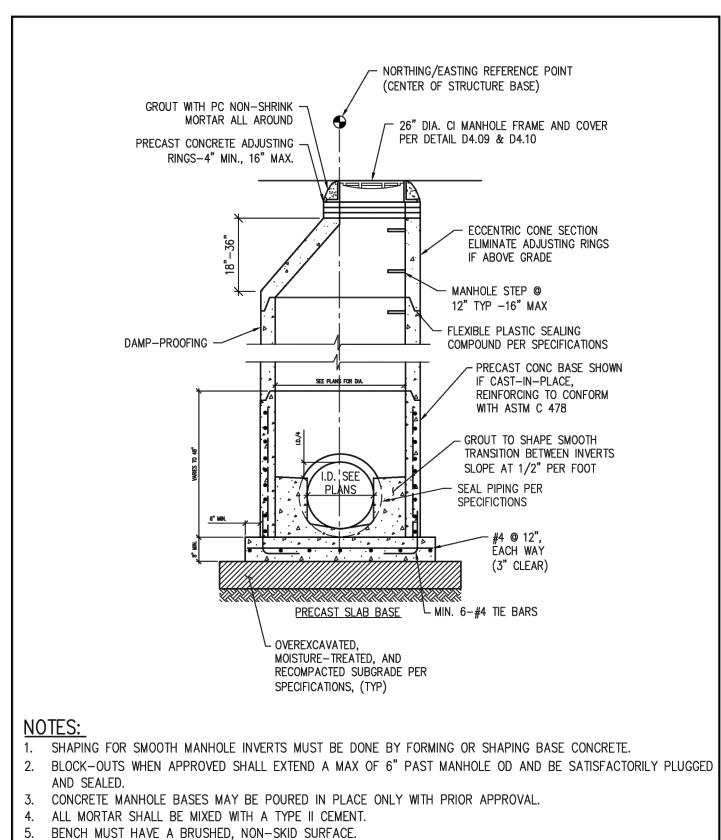
2. LINE TRENCH WITH PERMEABLE GEOTEXTILE. 3. LINE SWALE WHERE SLOPES ARE LESS THAN 1.0%.

' SWALE UNDERDRAIN

Scale: N.T.S.



TYPICAL TRENCH DETAIL



TOWN OF BERTHOUD STANDARD DESIGN CRITERIA

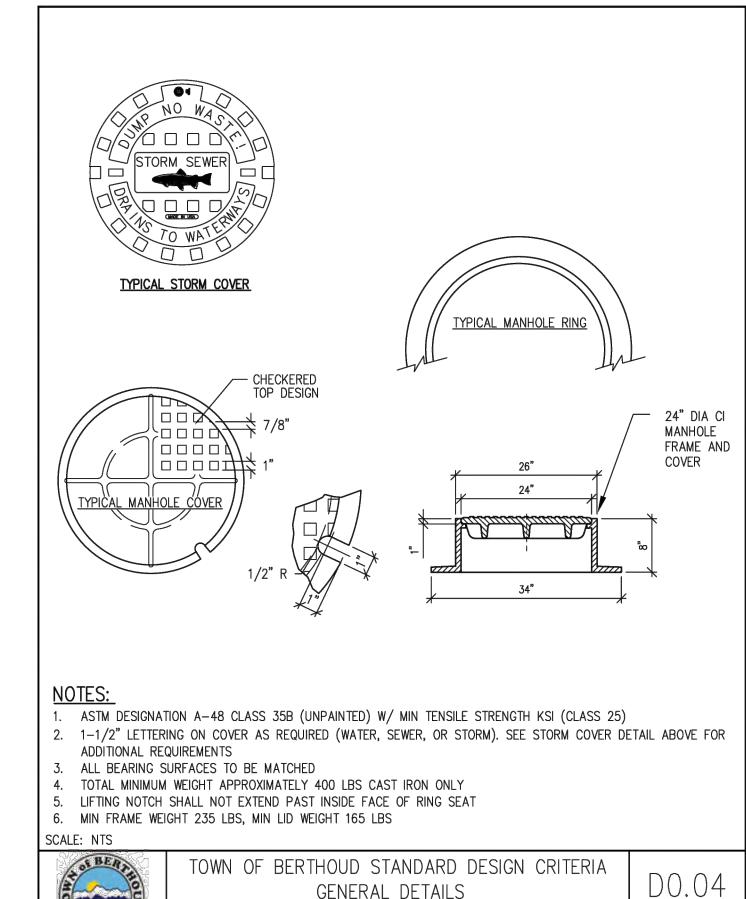
DATE: 12/2020

GENERAL DETAILS

STANDARD MANHOLE

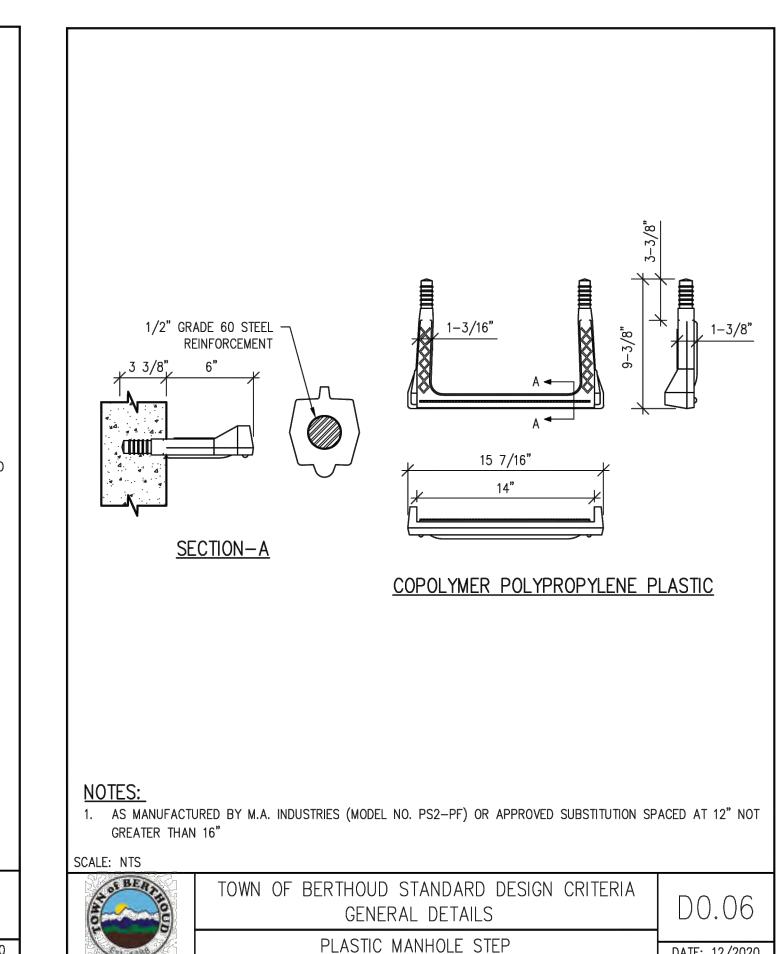
SCALE: NTS

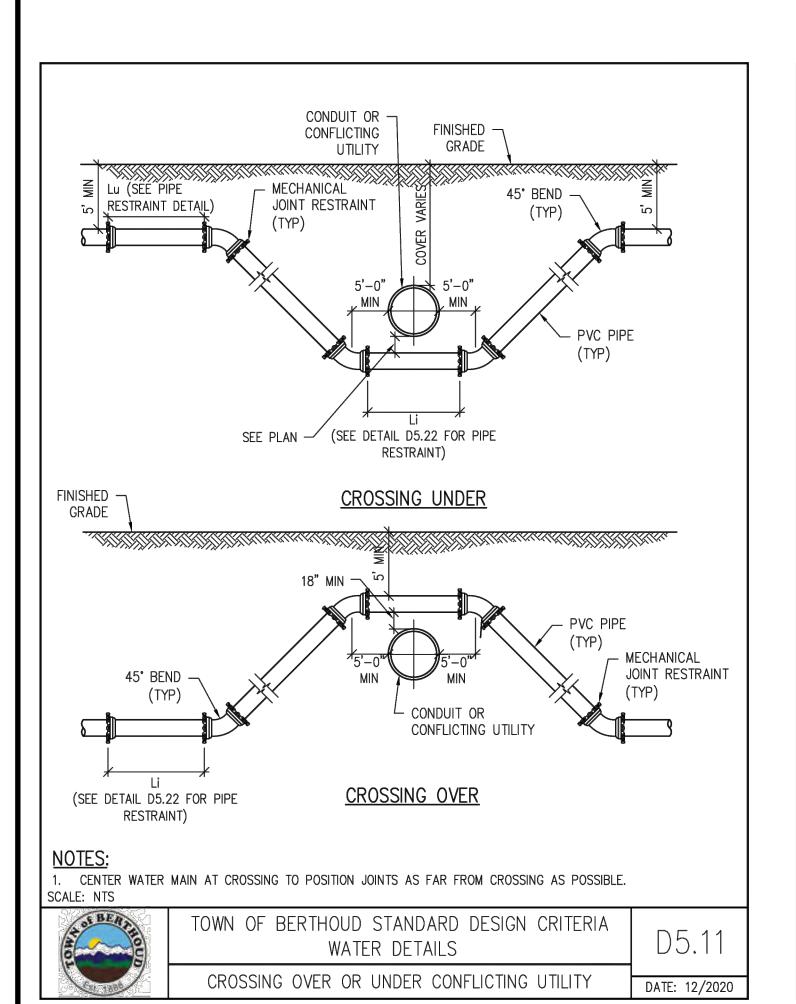
DATE: 12/2020

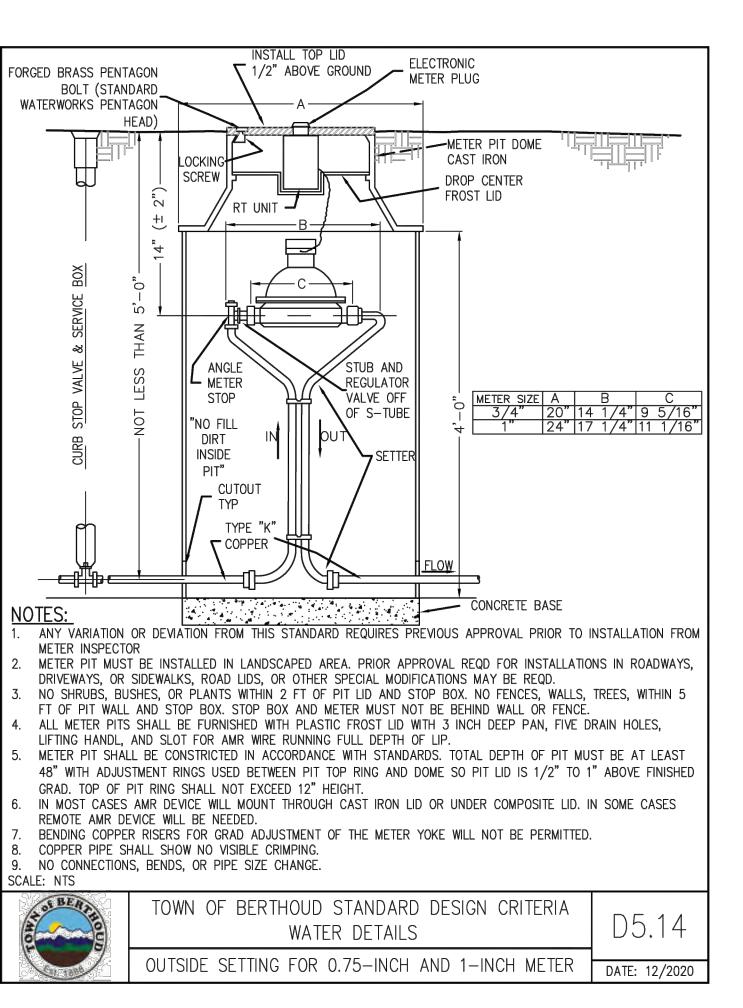


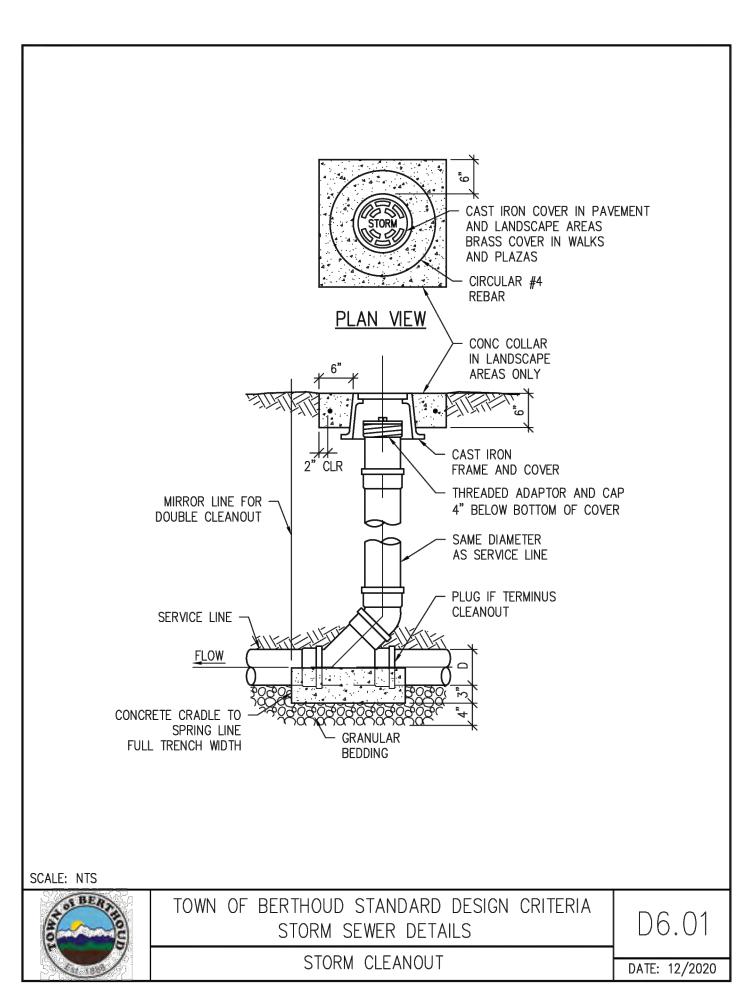
MANHOLE RING AND COVER - NON-BOLTED

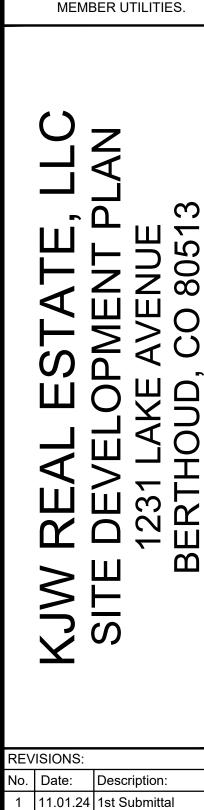
DATE: 12/2020











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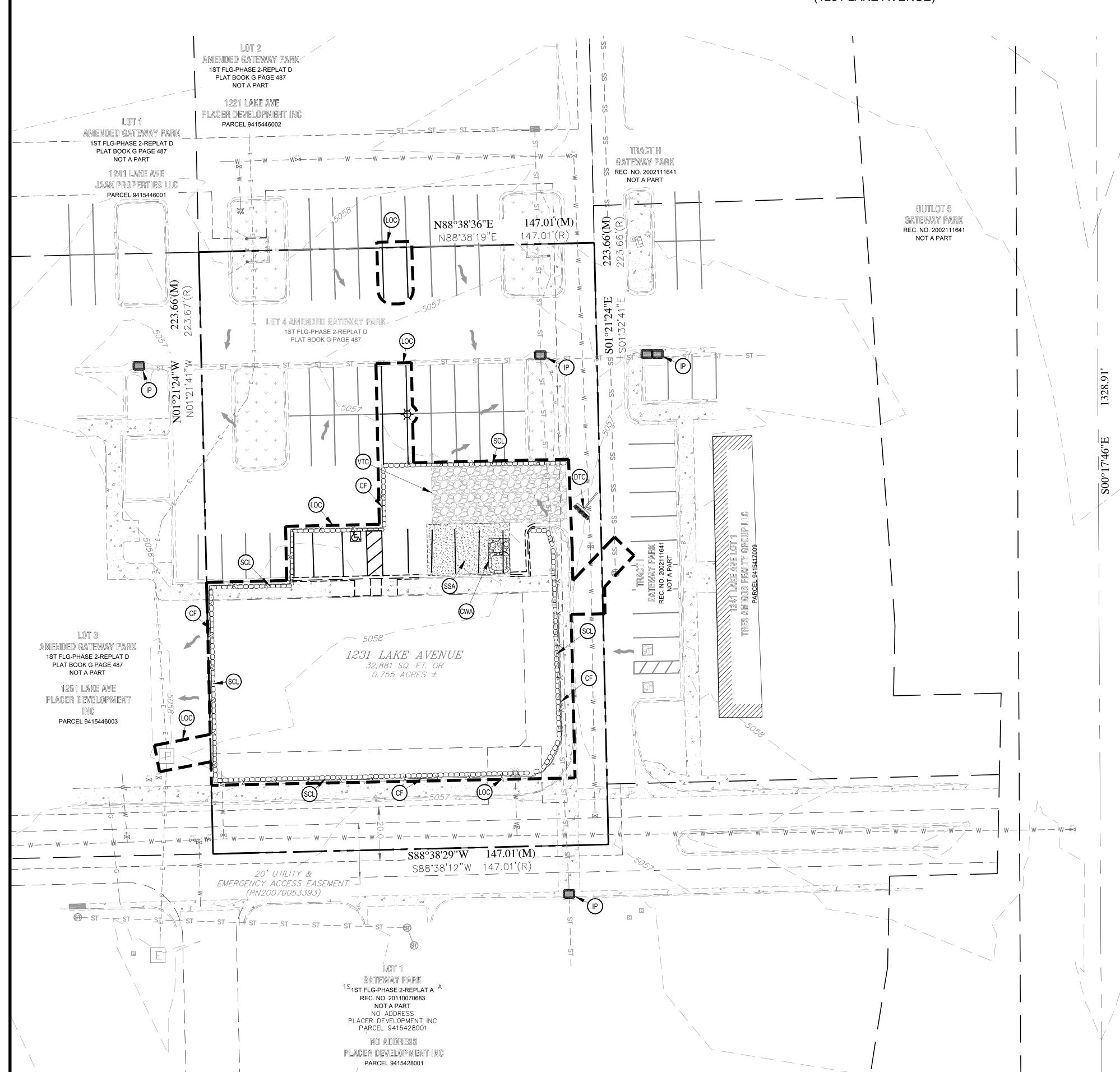
DATE: 12/2020

2 | 02.18.25 | 2nd Submittal 3 | 04.18.25 | 3rd Submittal Project No: 24 15 Drawn By: GJB Checked By: CCH Date Issued: 01/05/2025

DETAILS (3) Number:

#### SITE DEVELOPMENT PLAN

LOT 4, AMENDED GATEWAY PARK FIRST-FILING-PHASE 2 REPLAT D, TOWN OF BERTHOUD, COUNTY OF LARIMER, STATE OF COLORADO (1231 LAKE AVENUE)



BMP'S TAKEOFF			
BMP	QUANTITY		
CF	479 LF		
VTC	1 EA		
SSA	582 SF		
CWA	1 EA		
IP	5 EA		
SCL	779 LF		
LOC	0.35 AC / 15,207 SF		

#### SUMMARY TABLE

IMPERVIOUS AREAS
ROOFS: 4,253 SF (90%)
PAVEMENT: 6,042 SF (100%)
TOTAL IMPERVIOUS AREA: 10,295 SF
AREA OF DISTURBANCE: 15,207 SF (0.35 AC)
STEEPEST EXISTING SLOPE: 4.6%
STEEPEST PROPOSED SLOPE: 22.7%

CUT/ FILL VOLUMES				
CUT (C.Y.)	FILL (C.Y.)	NET (C.Y.)		
34 119 85 (FILL)				
TOTAL AREA OF DISTURBANCE = 0.35 AC CUT/FILL VOLUMES FOR REFERENCE ONLY,				

TOTAL AREA OF DISTURBANCE = 0.35 AC CUT/FILL VOLUMES FOR REFERENCE ONLY CONTRACTOR TO PERFORM OWN EARTH WORK CALCULATIONS.

**BMP LEGEND** 

CWA

**DESCRIPTION** 

CONSTRUCTION FENCE

INLET PROTECTION

SEDIMENT CONTROL LOG

CONCRETE WASHOUT AREA

STABILIZED STAGING AREA

VEHICLE TRACING CONTROL

LIMITS OF CONSTRUCTION

#### SWMP NOTE

- RETAIN A COPY OF THE SWMP ONSITE WHEN CONSTRUCTION ACTIVITIES ARE OCCURRING UNLESS ANOTHER

  THE SWMP MUST BE MADE AVAILABLE TO EPA. STATE AND LOCAL INSPECTORS FOR
- REVIEW.

  THROUGHOUT CONSTRUCTION, THE SWMP MUST BE REGULARLY LIPDATED AND
- THROUGHOUT CONSTRUCTION, THE SWMP MUST BE REGULARLY UPDATED AND REFLECT SITE CONDITIONS AT ALL TIMES.
- 4. POSSIBLE UPDATES MAY INCLUDE MODIFYING, REPLACING, OR ADDING BMPS AND IDENTIFYING ADDITIONAL POTENTIAL SOURCES OF POLLUTION.
- 5. HAND-WRITTEN NOTATIONS, INCLUDING THE DATE, DESCRIPTION AND LOCATION OF THE CHANGE, ARE ADEQUATE FOR MOST PLAN UPDATES.
- 3. WHEN DEVIATIONS FROM THE SPECIFIC REQUIREMENTS LISTED BELOW OCCUR, THE PERMITTEE MUST TAKE ALL NECESSARY STEPS TO PREVENT THE DISCHARGE OF
- POLLUTANTS AND DOCUMENT THE FOLLOWING INFORMATION:
  . WHEN IT IS INFEASIBLE TO IMMEDIATELY TAKE CORRECTIVE ACTIONS TO INSTALL
- OR REPLACE A CONTROL MEASURE:

  1. WHY THE INSTALLATION OR REPAIR OF A DEFICIENT BMP CANNOT BEGIN
- 1. WHY THE INSTALLATION OR REPAIR OF A DEFICIENT BMP CANNOT BEGIN IMMEDIATELY;
- .2. PROVIDE A SCHEDULE FOR THE INSTALLATION OR REPAIR OF THE DEFICIENT BMP TO RESTORE FUNCTION AS SOON AS POSSIBLE.
- WHEN IT IS INFEASIBLE TO INSTALL TEMPORARY STABILIZATION BMPS WITHIN 14 DAYS:
- .1. THE CONSTRAINTS NECESSITATING AN ALTERNATIVE SCHEDULE;
- . THE ALTERNATE STABILIZATION SCHEDULE; AND
- ALL LOCATIONS TO WHICH THE ALTERNATIVE SCHEDULE IS APPLICABLE.
   CHANGES INVOLVING DESIGN, SITE HYDROLOGY, PROJECT SCOPE OR ADDITIONAL DISTURBED AREA MUST BE SUBMITTED FOR REVIEW PRIOR TO MAKING SUCH
- 4. NOTE OTHER PERMITS ASSOCIATED WITH THE PROJECT, SUCH AS A CDPS

\*RETAIN COPIES OF ALL DOCUMENTS FOR AT LEAST THREE YEARS FROM THE DATE THE

PERMIT IS TERMINATED.

#### MAINTENANCE PROCEDURES:

- PERFORM MAINTENANCE AND REPAIRS IMMEDIATELY ON ITEMS OR AREAS IDENTIFIED IN THE INSPECTION REPORT. MOST REPAIRS SHOULD BE COMPLETED WITHIN 24 TO 48 HOURS. UNTIL THE ITEMS ARE COMPLETED, THE SITE IS IN NON-COMPLIANCE.
- 2. PERFORM MAINTENANCE AS REQUIRED, PER
  MANUFACTURER'S SPECIFICATIONS, OR OTHER SOURCES
  DETERMINED TO BE ACCEPTABLE.

#### **INSPECTION PROCEDURES:**

- 1. BEGIN INSPECTIONS WITHIN 7 DAYS OF COMMENCEMENT OF SITE WORK.
- 2. INSPECTIONS MUST BE PERFORMED BY THE DESIGNATED
- AUTHORIZED AGENT(S).

  PERFORM INSPECTIONS THROUGHOUT CONSTRUCTION IN
- ACCORDANCE WITH ONE OF THE FOLLOWING SCHEDULES:
  3.1. EVERY 14 DAYS, AND WITHIN 24 HOURS OF A STORM
  EVENT THAT CAUSES EROSION
- 3.1.1. A POST-EVENT INSPECTION CAN FULFILL A 14 DAY INSPECTION
- WITHIN 72 HOURS OF A STORM EVENT IF THERE IS
  NO SITE ACTIVITY DURING THE 72 HOURS;
  4. EVERY 7 DAYS.
  5. PERFORM INSPECTIONS ONCE EVERY 30 DAYS AT SITES WHERE

A POST-EVENT INSPECTION CAN BE PERFORMED

- CONSTRUCTION IS COMPLETE, BUT FINAL STABILIZATION IS
- 6. DURING EACH INSPECTION, OBSERVE DISTURBED AREAS, THE SITE PERIMETER, MATERIAL STORAGE AREAS, AND BMPS (SCL &

#### INSPECTION REPORTS:

- COMPLETE AN INSPECTION REPORT FOR EACH INSPECTION
- KEEP INSPECTION REPORTS, MAINTENANCE RECORDS, SPILL RESPONSE, ETC. ON-SITE AS PART OF THE SWMP.
- USE OF THE TOWN'S INSPECTION FORM IS NOT REQUIRED, HOWEVER, THE REPORT MUST INCLUDE ALL INFORMATION ON THE TOWN'S FORM.
- THE DESIGNATED AUTHORIZED AGENT(S) IS REQUIRED TO SIGN ALL INSPECTION REPORTS WITH THE FOLLOWING STATEMENT: "I VERIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT IF ANY CORRECTIVE ACTION ITEMS WERE IDENTIFIED DURING THE INSPECTION, THOSE CORRECTIVE ACTIONS ARE COMPLETE, AND THE SITE IS CURRENTLY IN COMPLIANCE WITH THE PERMIT."

#### BMP INSTALLATION SCHEDULE ORDER INSTALLATION ORDER / TIME LINE INSTALLATION OF PERIMETER CONTROLS: CONSTRUCTION FENCE (CF) & SEDIMENT CONTROL LOGS (SCL) WHERE STORMWATER CAN FLOW OFFSITE. INSTALLATION OF INLET PROTECTION (IP) ON EXISTING ADJACENT INLETS. INSTALLATION OF THE SITE VEHICLE TRACKING CONTROL (VTC) INSTALLATION OF THE SITE STABILIZED STAGING AREA (SSA) ONCE THE AREA FOR THE SSA HAS BEEN CLEARED AND GRUBBED, SURFACE ROUGHENING ALL SOILS INSTALLATION OF THE SITE CONCRETE WASHOUT AREA (CWA), THE CWA SHALL BE ACCESSIBLE FROM THE SSA INSTALLATION OF INLET PROTECTION ON NEW INLETS (IP) REMOVE THE SSA, VTC, & SCL TO ALLOW FOR PAVING. PAVING SHOULD COMMENCE IMMEDIATELY ALLOWING NO LAG TIME FOR EROSION CONTAMINATION DUE TO THE REMOVAL OF THESE BMP'S. REMOVE CF, SCL, AND IP ONCE THE FINAL STABILIZATION IS COMPLETE AS CONFIRMED BY CITY INSPECTOR AND NO DISTURBED SOILS ARE EXPOSED TEMPORARY STABILIZATION MUST BE IMPLEMENTED FOR EARTH DISTURBING ACTIVITIES ON ANY PORTION OF THE SITE WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED, OR TEMPORARILY

**GRADING LEGEND** 

— — 5280 — — EXISTING CONTOURS MAJOR

-----5279---- EXISTING CONTOURS MINOR

TRANSITION FROM CUT TO FILL

- 5280 ----- PROPOSED CONTOURS MAJOR

5279 — PROPOSED CONTOURS MINOR

DRAINAGE FLOW ARROW

NOTES:

 FINAL STABILIZATION OF SITE SHALL ESTABLISHED BY BUILDING AND PAVEMENT COVER AND FINAL LANDSCAPING.

CEASED FOR MORE THAN 14 CALENDAR DAYS.

20' 40' 60' SCALE: 1" = 20' A DIVISION OF

HABERER CARPENTRY INC.

621 SOUTHPARK DR., SUITE 1600

LITTLETON CO, 80120

PHONE: (303) 979-3900

INFO@HABERERGROUP.COM

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# EAL ESTATE, LEVELOPMENT PLATICATE AVENUE THOUD, CO 80513

REVISIONS:

No. Date: Description:

1 11.01.24 1st Submittal

2 02.18.25 2nd Submittal

3 04.18.25 3rd Submittal

Project No: 24\_15

Drawn By: GJB

Checked By: CCH

lame: EC PLAN - INITIAL

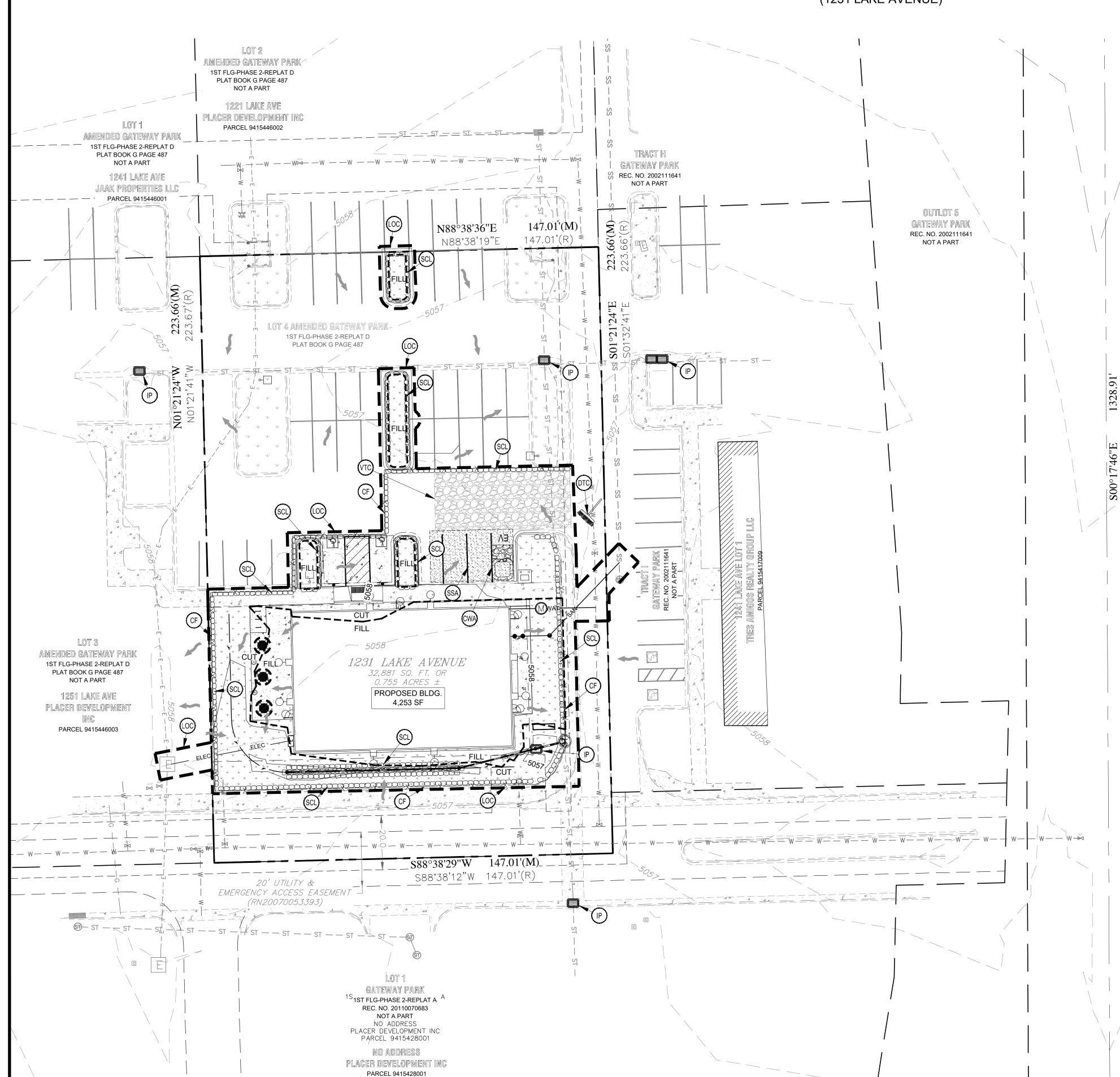
Number:

Date Issued: 01/05/2025

C7.0

#### SITE DEVELOPMENT PLAN

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VTC	1 EA	
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34	119	85 (FILL)		
TOTAL AREA OF DISTURBANCE = 0.35 AC CUT/FILL VOLUMES FOR REFERENCE ONLY.				

CONTRACTOR TO PERFORM OWN EARTH WORK CALCULATIONS.

**BMP LEGEND** 

CWA

**DESCRIPTION** 

CONSTRUCTION FENCE

INLET PROTECTION

SEDIMENT CONTROL LOG

CONCRETE WASHOUT AREA

STABILIZED STAGING AREA

VEHICLE TRACING CONTROL

LIMITS OF CONSTRUCTION

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A POST-EVENT INSPECTION CAN BE PERFORMED

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- COMPLETE AN INSPECTION REPORT FOR EACH INSPECTION
- 2. KEEP INSPECTION REPORTS, MAINTENANCE RECORDS, SPILL RESPONSE, ETC. ON-SITE AS PART OF THE SWMP.
- USE OF THE TOWN'S INSPECTION FORM IS NOT REQUIRED, HOWEVER, THE REPORT MUST INCLUDE ALL INFORMATION ON THE TOWN'S FORM.
- THE DESIGNATED AUTHORIZED AGENT(S) IS REQUIRED TO SIGN ALL INSPECTION REPORTS WITH THE FOLLOWING STATEMENT: "I VERIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT IF ANY CORRECTIVE ACTION ITEMS WERE IDENTIFIED DURING THE INSPECTION, THOSE CORRECTIVE ACTIONS ARE COMPLETE, AND THE SITE IS CURRENTLY IN COMPLIANCE WITH THE PERMIT."

#### BMP INSTALLATION SCHEDULE ORDER INSTALLATION ORDER / TIME LINE INSTALLATION OF PERIMETER CONTROLS: CONSTRUCTION FENCE (CF) & SEDIMENT CONTROL LOGS (SCL) WHERE STORMWATER CAN FLOW OFFSITE. INSTALLATION OF INLET PROTECTION (IP) ON EXISTING ADJACENT INLETS. INSTALLATION OF THE SITE VEHICLE TRACKING CONTROL (VTC) INSTALLATION OF THE SITE STABILIZED STAGING AREA (SSA) ONCE THE AREA FOR THE SSA HAS BEEN CLEARED AND GRUBBED, SURFACE ROUGHENING ALL SOILS INSTALLATION OF THE SITE CONCRETE WASHOUT AREA (CWA), THE CWA SHALL BE ACCESSIBLE FROM THE SSA INSTALLATION OF INLET PROTECTION ON NEW INLETS (IP) REMOVE THE SSA, VTC, & SCL TO ALLOW FOR PAVING. PAVING SHOULD COMMENCE IMMEDIATELY ALLOWING NO LAG TIME FOR EROSION CONTAMINATION DUE TO THE REMOVAL OF THESE BMP'S. REMOVE CF, SCL, AND IP ONCE THE FINAL STABILIZATION IS COMPLETE AS CONFIRMED BY CITY INSPECTOR AND NO DISTURBED SOILS ARE EXPOSED TEMPORARY STABILIZATION MUST BE IMPLEMENTED FOR EARTH DISTURBING ACTIVITIES ON ANY PORTION OF THE SITE WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED, OR TEMPORARILY

**GRADING LEGEND** 

— — 5280 — — EXISTING CONTOURS MAJOR

-----5279---- EXISTING CONTOURS MINOR

TRANSITION FROM CUT TO FILL

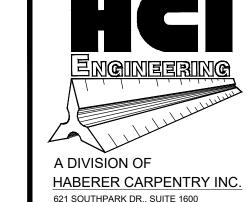
— 5280 — PROPOSED CONTOURS MAJOR

5279 — PROPOSED CONTOURS MINOR

DRAINAGE FLOW ARROW

1. FINAL STABILIZATION OF SITE SHALL ESTABLISHED BY BUILDING AND PAVEMENT COVER AND FINAL LANDSCAPING.

CEASED FOR MORE THAN 14 CALENDAR DAYS.



LITTLETON CO, 80120

PHONE: (303) 979-3900

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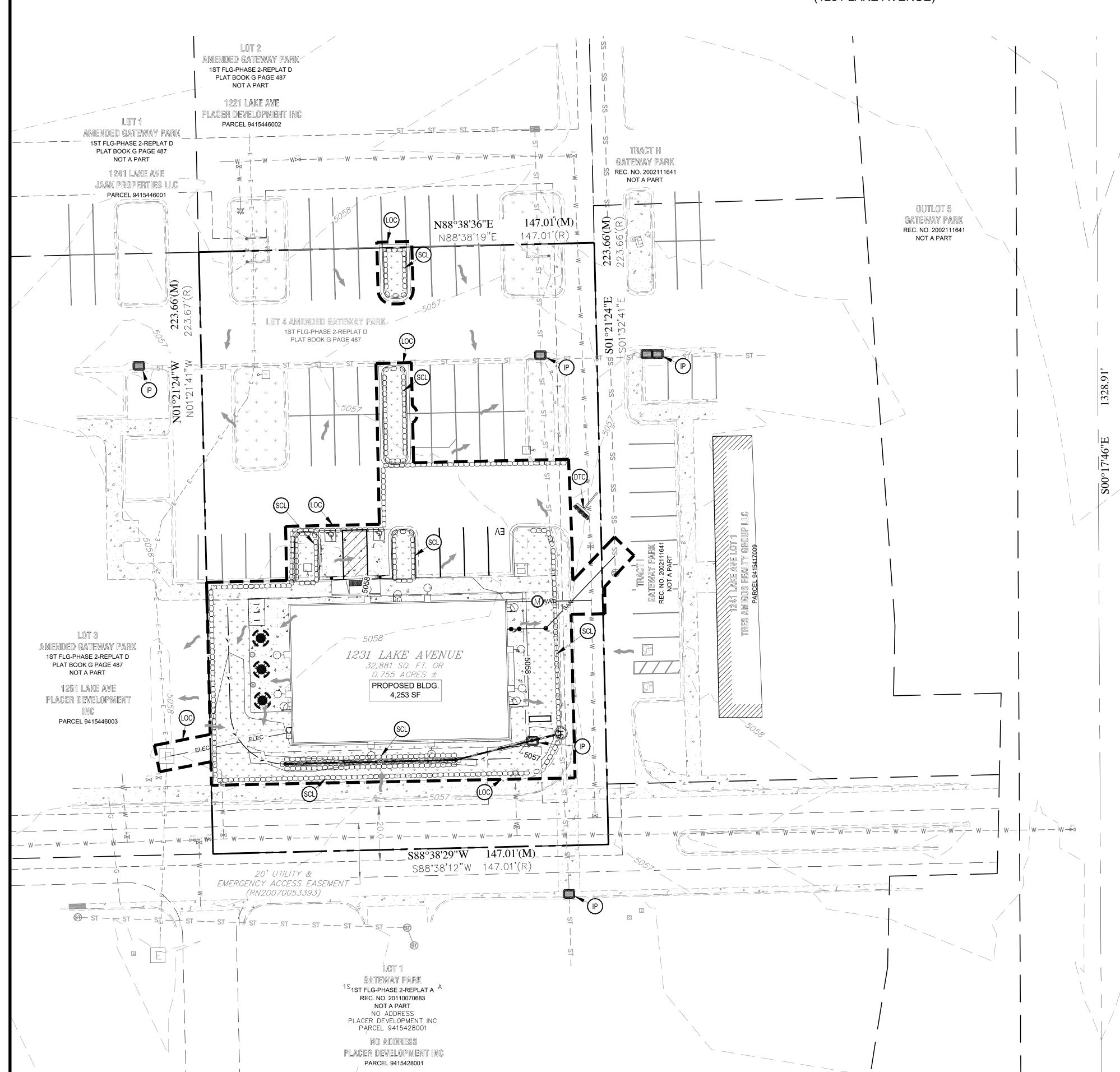
CALL 811 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

**REVISIONS:** No. Date: Description: 1 | 11.01.24 | 1st Submittal 2 | 02.18.25 | 2nd Submittal 3 | 04.18.25 | 3rd Submittal Drawn By: GJB Checked By: CCH Date Issued: 01/05/2025

EC PLAN - INTERIM Number:

#### SITE DEVELOPMENT PLAN

LOT 4, AMENDED GATEWAY PARK FIRST-FILING-PHASE 2 REPLAT D, TOWN OF BERTHOUD, COUNTY OF LARIMER, STATE OF COLORADO (1231 LAKE AVENUE)



BMP'S TAKEOFF				
BMP	QUANTITY			
CF	479 LF			
VTC	1 EA			
SSA	582 SF			
CWA	1 EA			
IP	4 EA			
SCL	779 LF			
LOC	0.35 AC / 15,207 SF			

#### SUMMARY TABLE

**IMPERVIOUS AREAS** ROOFS: 4,253 SF (90%) PAVEMENT: 6,042 SF (100%) TOTAL IMPERVIOUS AREA: 10,295 SF AREA OF DISTURBANCE: 15,207 SF (0.35 AC) STEEPEST EXISTING SLOPE: 4.6% STEEPEST PROPOSED SLOPE: 22.7%

CUT/ FILL VOLUMES					
CUT (C.Y.)	FILL (C.Y.)	NET (C.Y.)			
34	119	85 (FILL)			
TOTAL AREA OF DISTURBANCE = 0.35 AC CUT/FILL VOLUMES FOR REFERENCE ONLY,					

CONTRACTOR TO PERFORM OWN EARTH WORK CALCULATIONS.

**BMP LEGEND** 

CWA

**DESCRIPTION** 

CONSTRUCTION FENCE

INLET PROTECTION

SEDIMENT CONTROL LOG

CONCRETE WASHOUT AREA

STABILIZED STAGING AREA

VEHICLE TRACING CONTROL

LIMITS OF CONSTRUCTION

- RETAIN A COPY OF THE SWMP ONSITE WHEN CONSTRUCTION ACTIVITIES ARE OCCURRING UNLESS ANOTHER THE SWMP MUST BE MADE AVAILABLE TO EPA. STATE AND LOCAL INSPECTORS FOR
- THROUGHOUT CONSTRUCTION, THE SWMP MUST BE REGULARLY UPDATED AND REFLECT SITE CONDITIONS AT ALL TIMES.
- POSSIBLE UPDATES MAY INCLUDE MODIFYING, REPLACING, OR ADDING BMPS AND
- IDENTIFYING ADDITIONAL POTENTIAL SOURCES OF POLLUTION. HAND-WRITTEN NOTATIONS, INCLUDING THE DATE, DESCRIPTION AND LOCATION OF THE
- CHANGE, ARE ADEQUATE FOR MOST PLAN UPDATES. WHEN DEVIATIONS FROM THE SPECIFIC REQUIREMENTS LISTED BELOW OCCUR, THE
- PERMITTEE MUST TAKE ALL NECESSARY STEPS TO PREVENT THE DISCHARGE OF POLLUTANTS AND DOCUMENT THE FOLLOWING INFORMATION: WHEN IT IS INFEASIBLE TO IMMEDIATELY TAKE CORRECTIVE ACTIONS TO INSTALL
- OR REPLACE A CONTROL MEASURE:
- WHY THE INSTALLATION OR REPAIR OF A DEFICIENT BMP CANNOT BEGIN
- PROVIDE A SCHEDULE FOR THE INSTALLATION OR REPAIR OF THE DEFICIENT BMP TO RESTORE FUNCTION AS SOON AS POSSIBLE.
- WHEN IT IS INFEASIBLE TO INSTALL TEMPORARY STABILIZATION BMPS WITHIN 14
- THE CONSTRAINTS NECESSITATING AN ALTERNATIVE SCHEDULE;
- THE ALTERNATE STABILIZATION SCHEDULE; AND
- ALL LOCATIONS TO WHICH THE ALTERNATIVE SCHEDULE IS APPLICABLE. CHANGES INVOLVING DESIGN, SITE HYDROLOGY, PROJECT SCOPE OR ADDITIONAL

DISTURBED AREA MUST BE SUBMITTED FOR REVIEW PRIOR TO MAKING SUCH

NOTE OTHER PERMITS ASSOCIATED WITH THE PROJECT, SUCH AS A CDPS

\*RETAIN COPIES OF ALL DOCUMENTS FOR AT LEAST THREE YEARS FROM THE DATE THE PERMIT IS TERMINATED.

#### **MAINTENANCE PROCEDURES:**

- PERFORM MAINTENANCE AND REPAIRS IMMEDIATELY ON ITEMS OR AREAS IDENTIFIED IN THE INSPECTION REPORT. MOST REPAIRS SHOULD BE COMPLETED WITHIN 24 TO 48 HOURS. UNTIL THE ITEMS ARE COMPLETED, THE SITE IS IN NON-COMPLIANCE
- PERFORM MAINTENANCE AS REQUIRED, PER MANUFACTURER'S SPECIFICATIONS, OR OTHER SOURCES DETERMINED TO BE ACCEPTABLE.

#### **INSPECTION PROCEDURES:**

- BEGIN INSPECTIONS WITHIN 7 DAYS OF COMMENCEMENT OF
- INSPECTIONS MUST BE PERFORMED BY THE DESIGNATED AUTHORIZED AGENT(S).
- PERFORM INSPECTIONS THROUGHOUT CONSTRUCTION IN ACCORDANCE WITH ONE OF THE FOLLOWING SCHEDULES:
- 3.1. EVERY 14 DAYS, AND WITHIN 24 HOURS OF A STORM EVENT THAT CAUSES EROSION
- A POST-EVENT INSPECTION CAN FULFILL A 14 DAY

A POST-EVENT INSPECTION CAN BE PERFORMED

- WITHIN 72 HOURS OF A STORM EVENT IF THERE IS NO SITE ACTIVITY DURING THE 72 HOURS: 5. PERFORM INSPECTIONS ONCE EVERY 30 DAYS AT SITES WHERE
- 6. DURING EACH INSPECTION, OBSERVE DISTURBED AREAS, THE SITE PERIMETER, MATERIAL STORAGE AREAS, AND BMPS (SCL &

#### **INSPECTION REPORTS:**

- COMPLETE AN INSPECTION REPORT FOR EACH INSPECTION
- 2. KEEP INSPECTION REPORTS, MAINTENANCE RECORDS, SPILL RESPONSE, ETC. ON-SITE AS PART OF THE SWMP.
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#### BMP INSTALLATION SCHEDULE ORDER INSTALLATION ORDER / TIME LINE INSTALLATION OF PERIMETER CONTROLS: CONSTRUCTION FENCE (CF) & SEDIMENT CONTROL LOGS (SCL) WHERE STORMWATER CAN FLOW OFFSITE. INSTALLATION OF INLET PROTECTION (IP) ON EXISTING ADJACENT INLETS. INSTALLATION OF THE SITE VEHICLE TRACKING CONTROL (VTC) INSTALLATION OF THE SITE STABILIZED STAGING AREA (SSA) ONCE THE AREA FOR THE SSA HAS BEEN CLEARED AND GRUBBED, SURFACE ROUGHENING ALL SOILS INSTALLATION OF THE SITE CONCRETE WASHOUT AREA (CWA), THE CWA SHALL BE ACCESSIBLE FROM THE SSA INSTALLATION OF INLET PROTECTION ON NEW INLETS (IP) REMOVE THE SSA, VTC, & SCL TO ALLOW FOR PAVING. PAVING SHOULD COMMENCE IMMEDIATELY ALLOWING NO LAG TIME FOR EROSION CONTAMINATION DUE TO THE REMOVAL OF THESE BMP'S. REMOVE CF, SCL, AND IP ONCE THE FINAL STABILIZATION IS COMPLETE AS CONFIRMED BY CITY INSPECTOR AND NO DISTURBED SOILS ARE EXPOSED TEMPORARY STABILIZATION MUST BE IMPLEMENTED FOR EARTH DISTURBING ACTIVITIES ON ANY PORTION OF THE SITE WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED, OR TEMPORARILY CEASED FOR MORE THAN 14 CALENDAR DAYS.

**GRADING LEGEND** 

— — 5280 — — EXISTING CONTOURS MAJOR

-----5279---- EXISTING CONTOURS MINOR

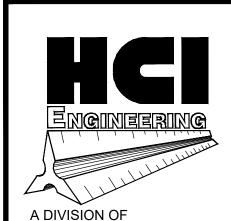
TRANSITION FROM CUT TO FILL

— 5280 — PROPOSED CONTOURS MAJOR

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DRAINAGE FLOW ARROW

1. FINAL STABILIZATION OF SITE SHALL ESTABLISHED BY BUILDING AND PAVEMENT COVER AND FINAL LANDSCAPING.



HABERER CARPENTRY INC.

621 SOUTHPARK DR., SUITE 1600

LITTLETON CO, 80120

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Number:

EC PLAN - FINAL

CF-2

DISCOVERY OF THE FAILURE.

CONSTRUCTION FENCE MAINTENANCE NOTES

EROSION, AND PERFORM NECESSARY MAINTENANCE.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.

MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS

POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON

EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE

4. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF

INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL

DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

5. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE

 ${\underline{\sf NOTE:}}$  MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

(WIDTH CAN BE

LESS IF CONST.

VEHICLES ARE

CONFINED ON

BOTH SIDES)

UNLESS OTHERWISE SPECIFIED

BY LOCAL JURISDICTION, USE

- CDOT SECT. #703, AASHTO #3

NON-WOVEN GEOTEXTILE

COARSE AGGREGATE OR 6"

NON-WOVEN GEOTEXTILE FABRIC BETWEEN SOIL AND ROCK

UNLESS OTHERWISE SPECIFIED BY LOCAL

\$3 COARSE AGGREGATE

OR 6" MINUS ROCK

VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

— SF/CF —— SF/CF —

ONSITE CONSTRUCTION

VEHICLE

PARKING (IF

NEEDED)

JURISDICTION, USE COOT SECT. #703, AASHTO

CONSTRUCTION

3" MIN. THICKNESS

GRANULAR MATERIAL

SILT FENCE OR CONSTRUCTION

TRAILERS

PHYSICALLY

**SM-4** 

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

-LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).

WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.

-TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH,

2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE

USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH)

4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND

6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.

MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS

5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND

MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS.

AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED

POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED

NOTE: MANY JURISDICTIONS HAVE HIMP DETAILS THAT VALLE FROM DETAIL SHOULD BE USED WHEN

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.

5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED

CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.

SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

EROSION, AND PERFORM NECESSARY MAINTENANCE.

ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.

3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS

1. SEE PLAN VIEW FOR

DISTURBING ACTIVITIES.

CONSTRUCTION MAT OR TRM).

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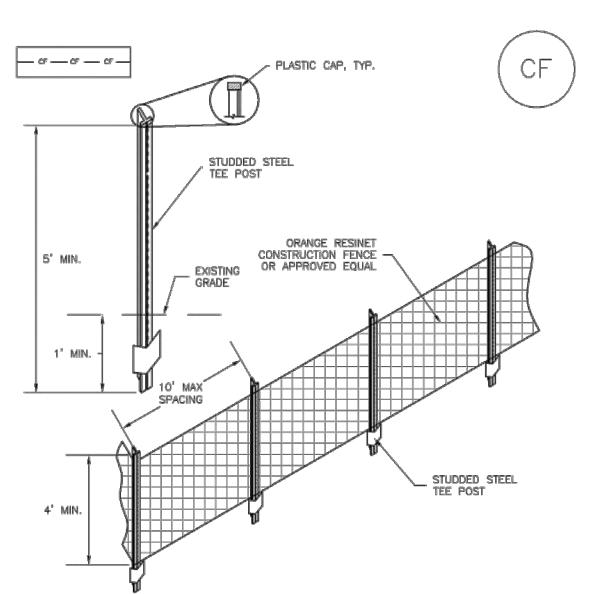
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Drawn By: GJB Checked By: CCH Date Issued: 01/05/2025

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Number:

EC DETAILS (1)



CF-1. PLASTIC MESH CONSTRUCTION FENCE

CONSTRUCTION FENCE INSTALLATION NOTES

1. SEE PLAN VIEW FOR: -LOCATION OF CONSTRUCTION FENCE.

**Concrete Washout Area (CWA)** 

8 X 8 MIN.

COMPACTED BERM AROUND

THE PERIMETER

2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR-GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY. 4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.

5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

> Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

> > CONCRETE WASHOUT

November 2010

**MM-1** 

CWA

VEHICLE TRACKING

CONTROL (SEE

VTC DETAIL) OR OTHER STABLE SURFACE

2% SLOPE

DETAIL )

VEHICLE TRACKING

CONTROL (SEE VTC -

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 CF-3

**Stabilized Staging Area (SSA)** 

November 2010

CONSTRUCTION

SITE ACCESS

**Vehicle Tracking Control (VTC)** 

SIDEWALK OR OTHER

PUBLIC

COMPACTED SUBGRADE :

INSTALL ROCK FLUSH WITH

OR BELOW TOP OF PAVEMENT

ROADWAY

PAVED SURFACE

50 FOOT (MIN.)

**SM-6** 

VTC-3

**SM-6** 

5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING,

USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR

OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION,

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

STABILIZED STAGING AREA MAINTENANCE NOTES

STORAGE, AND UNLOADING/LOADING OPERATIONS.

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

VTC-6

**Stabilized Staging Area (SSA)** 

November 2010

November 2010

**MM-1** 

**Concrete Washout Area (CWA)** 

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON

4. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.

IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.

6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD).  ${\color{red} {\rm NOTE:}}$  MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

#### CWA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION, INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE

DISCOVERY OF THE FAILURE.

5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS

7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

#### AREA CONSTRUCTION ENTRANCE (SEE DETAILS VTC-1 TO VTC-3) — SF/CF —— SF/CF —

SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

STABILIZED STAGING AREA MAINTENANCE NOTES

1. SEE PLAN VIEW FOR

-LOCATION OF STAGING AREA(S). -CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.

2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE.

OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION. 3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE. 4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR

5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.

EROSION, AND PERFORM NECESSARY MAINTENANCE. 2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN

EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

Urban Drainage and Flood Control District

SSA-4

SSA-3

Urban Drainage and Flood Control District

November 2010

#### CWA INSTALLATION NOTES

CONCRETE WASHOUT AREA PLAN

8 X 8 MIN.

CWA-1. CONCRETE WASHOUT AREA

1. SEE PLAN VIEW FOR: -CWA INSTALLATION LOCATION.

UNDISTURBED OR 1

COMPACTED SOIL

2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.

3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.

4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.

5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.

6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.

7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.

8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

#### November 2010 Urban Drainage and Flood Control District

CWA-4

#### November 2010

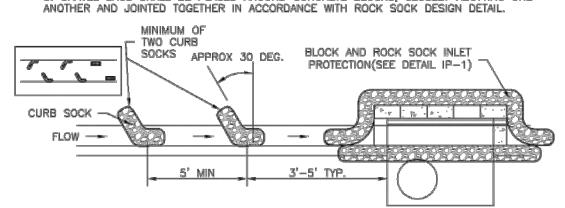
**SC-6** 

IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB. 3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE



IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

- 1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
- 2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR
- IN THE OPPOSITE DIRECTION OF FLOW. 3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.
- 4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.

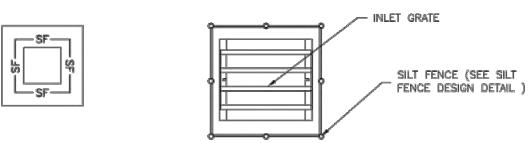
SEE ROCK SOCK DETAIL FOR JOINTING ROCK SOCK

IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.



IP-4. SILT FENCE FOR SUMP INLET PROTECTION

SILT FENCE INLET PROTECTION INSTALLATION NOTES

- 1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- 2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.
- 3. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 August 2013

GENERAL INLET PROTECTION INSTALLATION NOTES

INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.

EROSION, AND PERFORM NECESSARY MAINTENANCE.

-TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6)

2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING

IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST,

3. MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.

MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON

4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES

50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR 1/4 OF THE HEIGHT FOR

PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF

5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS

6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE

COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWAP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS

NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET

-LOCATION OF INLET PROTECTION

INLET PROTECTION MAINTENANCE NOTES

1. SEE PLAN VIEW FOR:

DIFFERENCES ARE NOTED.

DISCOVERY OF THE FAILURE.

INLET PROTECTION IN STREETS.

APPROVED BY THE LOCAL JURISDICTION.

IN THE MANUFACTURER'S DETAILS.

PROTECTION IS ACCEPTABLE.

**Sediment Control Log (SCL)** 

SC-2

AT PERIMETER OF

**▼** VERTICAL SPACING VARIES DEPENDING

SCL-3, SEDIMENT CONTROL LOGS TO CONTROL SLOPE LENGTH

TO ANY UPGRADIENT LAND-DISTURBING ACTIVITIES.

FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.

HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS.

A DEPTH OF APPROXIMATELY % OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING, COMPOST LOGS THAT ARE 8 LB/FT DO NOT NEED TO BE TRENCHED.

FILTER MATERIAL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER OR BLOWN IN PLACE.

7. FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND, 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED. COMPOST LOGS SHOULD BE STAKED 10' ON CENTER.

MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

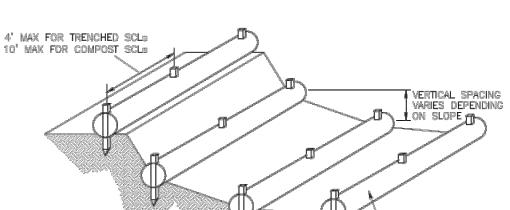
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

4, SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.

5. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION.COMPOST FROM COMPOST LOGS MAY BE LEFT IN PLACE AS LONG AS BAGS ARE REMOVED AND THE AREA SEEDED, IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, DOUGLAS COUNTY, COLORADO, AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. DIFFERENCES ARE NOTED.



SEDIMENT CONTROL LOG INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.

2. SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR

3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT

4. SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES.

5. IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO

6. THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL OR

SEDIMENT CONTROL LOG MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

August 2013

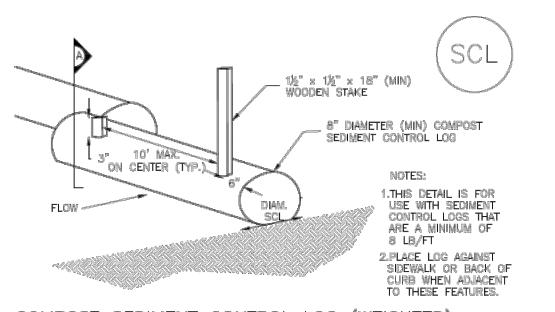
August 2013

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

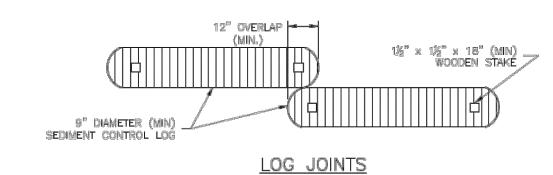
SC-2

IP-8

**Sediment Control Log (SCL)** 



COMPOST SEDIMENT CONTROL LOG (WEIGHTED) · CENTER STAKE IN CONTROL LOG 9" DIAMETER (MIN) COMPOST SEDIMENT CONTROL LOG BLOWN/PLACED FILTER\_ MEDIA OR SOIL FLOW ----



SCL-2, COMPOST SEDIMENT CONTROL LOG (WEIGHTED)

SCL-4

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2015

**REVISIONS:** No. Date: Description: 1 | 11.01.24 | 1st Submittal 2 02.18.25 2nd Submittal 3 | 04.18.25 | 3rd Submittal

A DIVISION OF

LITTLETON CO, 80120

PHONE: (303) 979-3900 INFO@HABERERGROUP.COM

HABERER CARPENTRY INC.

621 SOUTHPARK DR., SUITE 1600

Know what's **below**.

Call before you dig.

CALL 811 2-BUSINESS DAYS IN

ADVANCE BEFORE YOU DIG,

GRADE, OR EXCAVATE FOR THE

MARKING OF UNDERGROUND

MEMBER UTILITIES.

S P

Project No: 24 15 Drawn By: GJB Checked By: CCH

Date Issued: 01/05/2025

Sheet Name: EC DETAILS (2)

Number:

#### SITE DEVELOPMENT PLAN

LOT 4, AMENDED GATEWAY PARK FIRST-FILING-PHASE 2 REPLAT D, COUNTY OF LARIMER, STATE OF COLORADO (1231 LAKE AVENUE)



2 METAL GUTTERS AND DOWNSPOUTS, DARK GREEN 3 WOOD FASCIA, DARK GREEN 4 WOOD ACCENTS AND TRUSSES, NATURAL COLOR 5 WOOD SHAKE SHINGLE SIDING, SAGE GREEN 6 PAINTED HOLLOW METAL DOOR, BLEND WITH STONE 7 PRECAST CONCRETE CAPS OR TRIM, BEIGE 8 CODE REQUIRED EGRESS LIGHT, DARK BRONZE 9 ARCHITECTURAL ACCENT LIGHT, DARK BRONZE 10 STONE VENEER, BLEND OF EARTH TONES II ALUMINUM STOREFRONT DOORS AND WINDOWS, DARK BRONZE 12 ELECTRICAL GEAR, PAINTED TO BLEND WITH STONE 13 GAS METER, PAINTED TO BLEND WITH STONE

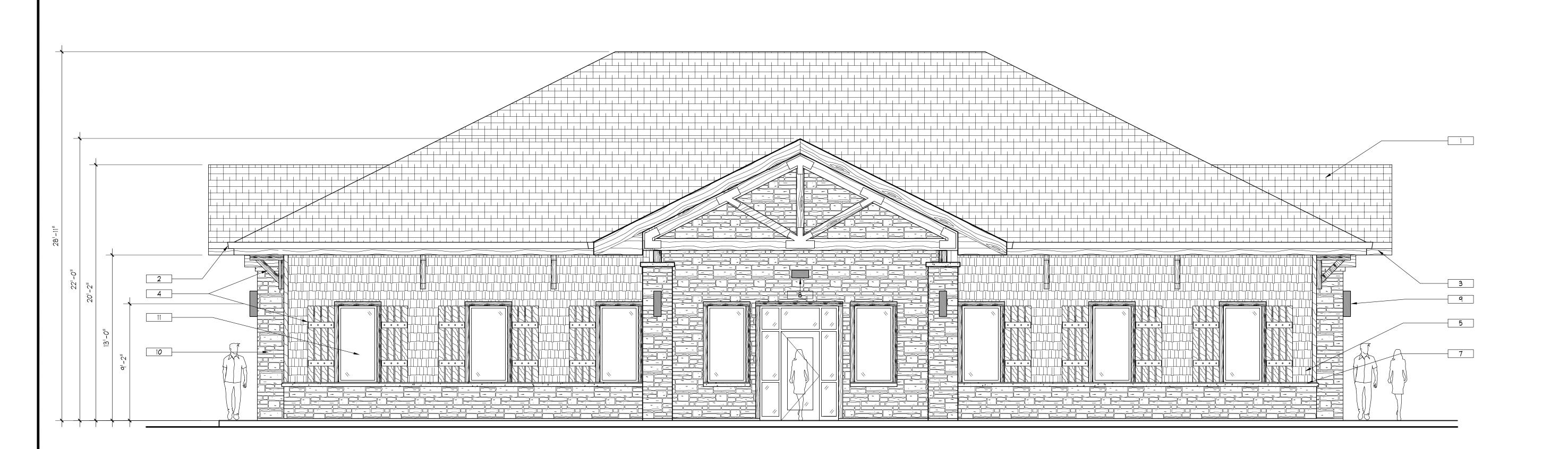
1 DIMENSIONAL ASPHALT SHINGLES, BROWN TONES

KEYNOTES:

**EAST ELEVATION** 1/4"=1'-0"

NORTH ELEVATION

1/4"=1'-0"



REVISIONS: 1 | 11.06.24 | 1st Submittal 2 | 02.18.25 | 2nd Submittal 3 | 04.18.25 | 3rd Submittal

Checked By: CCH Date Issued: 14/02/2025

EXTERIOR ELEVATIONS

Sheet Number:

LITTLETON CO, 80120 PHONE: (303) 979-3900 INFO@HABERERGROUP.COM

621 SOUTHPARK DR., SUITE 1600

Wheat Ridge, Colorado 80033 Fax: 303-428-5472 Email: info@battistadesign.n

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

CALL 811 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

#### SITE DEVELOPMENT PLAN

LOT 4, AMENDED GATEWAY PARK FIRST-FILING-PHASE 2 REPLAT D, COUNTY OF LARIMER, STATE OF COLORADO (1231 LAKE AVENUE)



1 DIMENSIONAL ASPHALT SHINGLES, BROWN TONES 2 METAL GUTTERS AND DOWNSPOUTS, DARK GREEN 3 WOOD FASCIA, DARK GREEN

4 WOOD ACCENTS AND TRUSSES, NATURAL COLOR 5 WOOD SHAKE SHINGLE SIDING, SAGE GREEN

KEYNOTES:

6 PAINTED HOLLOW METAL DOOR, BLEND WITH STONE

7 PRECAST CONCRETE CAPS OR TRIM, BEIGE

8 CODE REQUIRED EGRESS LIGHT, DARK BRONZE

9 ARCHITECTURAL ACCENT LIGHT, DARK BRONZE

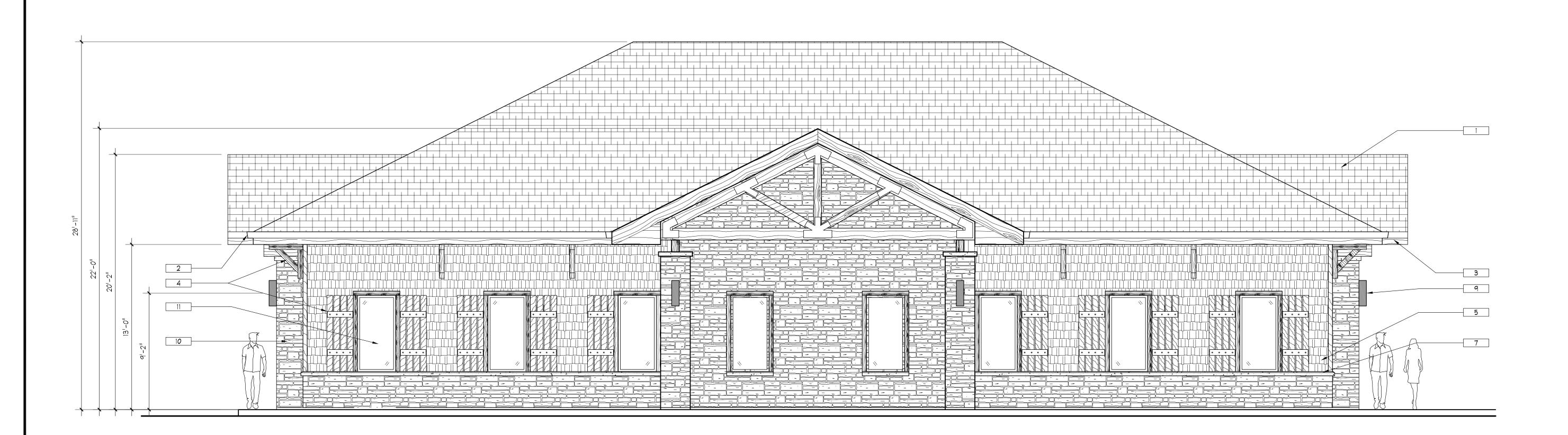
10 STONE VENEER, BLEND OF EARTH TONES

II ALUMINUM STOREFRONT DOORS AND WINDOWS, DARK BRONZE

13 GAS METER, PAINTED TO BLEND WITH STONE

12 ELECTRICAL GEAR, PAINTED TO BLEND WITH STONE

WEST ELEVATION 1/4"=1'-0"



**SOUTH ELEVATION** 1/4"=1'-0"

A DIVISION OF 621 SOUTHPARK DR., SUITE 1600 LITTLETON CO, 80120 PHONE: (303) 979-3900 INFO@HABERERGROUP.COM



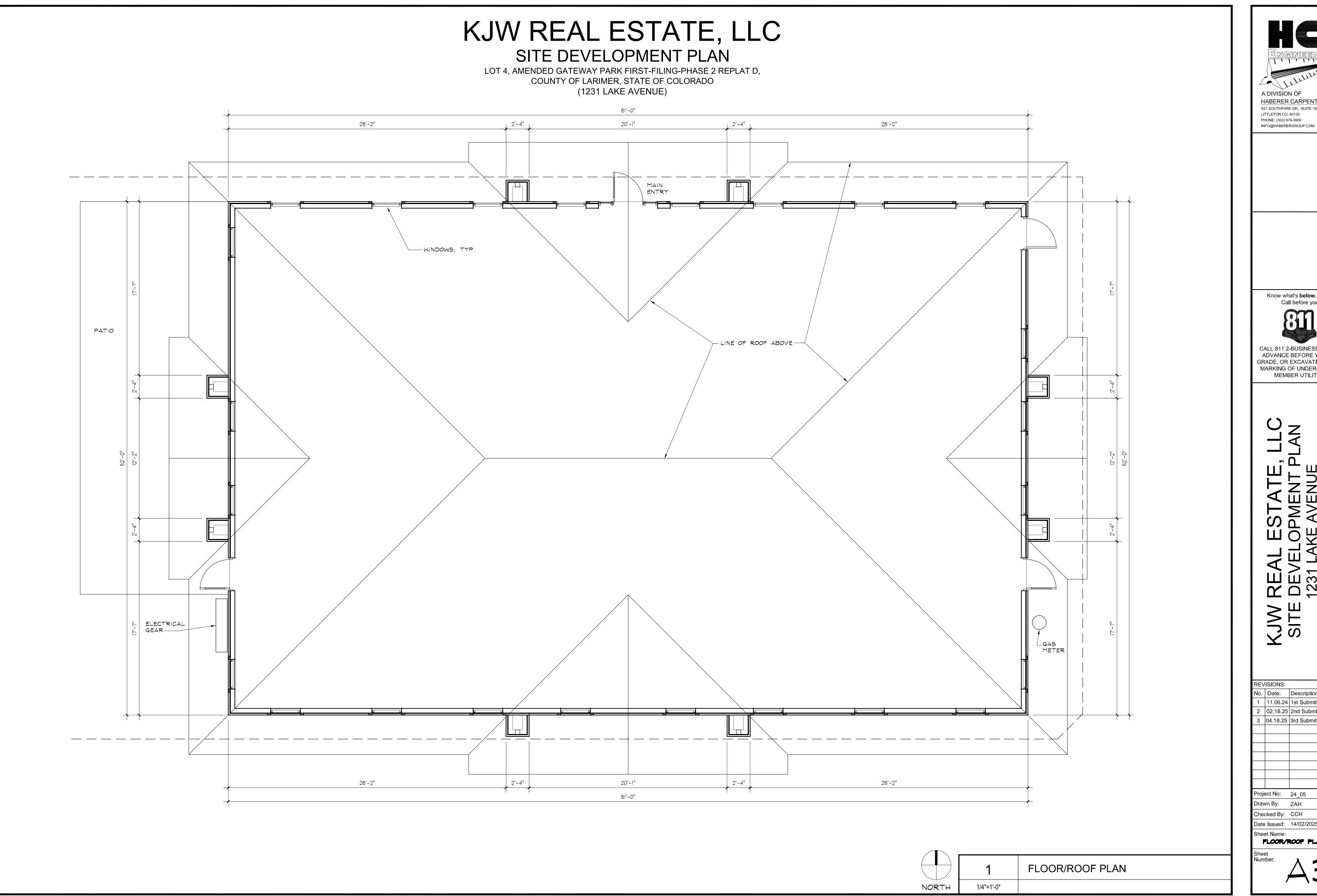
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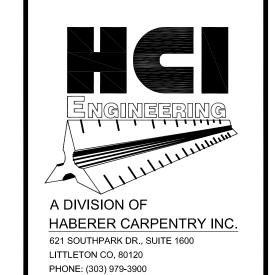
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No.	Date:	Description:
1	11.06.24	1st Submittal
2	02.18.25	2nd Submittal
3	04.18.25	3rd Submittal
Proje	ect No:	24_05
Drav	vn By:	ZAH
Che	cked By:	ССН

Date Issued: 14/02/2025

EXTERIOR ELEVATIONS





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

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Drawn By:		ZAH		
Checked By:		ССН		
Date Issued:		14/02/2025		
Sheet Name:				

FLOOR/ROOF PLAN

#### SITE DEVELOPMENT PLAN

LOT 4, AMENDED GATEWAY PARK FIRST-FILING-PHASE 2 REPLAT D, COUNTY OF LARIMER, STATE OF COLORADO (1231 LAKE AVENUE)

	DECIDUOUS TREE	SIZE 2" CAL	CONTAINER B&B	HYDROZONE MODERATE	
	EVERGREEN TREE	6'-8' HT.	B&B	MODERATE	
	ORNAMENTAL TREE	1.5" CAL OR 6' HT. MULTI-STEM	B&B	MODERATE	
+ 0	DECIDUOUS SHRUBS	#5	CONT.	MODERATE	
and in the state of the state o	EVERGREEN SHRUBS	#5	CONT.	MODERATE	
* 000	ORNAMENTAL GRASS & PERENNIALS	#1	CONT.	MODERATE	
+	EXISTING ORNAMENTAL GRASS				
	1-1/2" GLACIER WHITE RO	CK MULCH			
$\begin{smallmatrix} & & & & & & & & & & & & & & & & & & &$	EXISTING ROCK MULCH				
\$1111111111111111111111111111111111111					

EXISTING EVERGREEN SHRUBS

LEGEND

#### PLANT SCHEDULE

						=	
CODE	<u>QTY</u>	BOTANICAL NAME	COMMON NAME	CONT	CAL	REMARKS	HYDROZON
DECIDI	IOLIO TI	DEE0				HXW	
DECIDU GLTR		REES GLEDITSIA TRIACANTHOS INERMIS `SHADEMASTER`	SHADEMASTER LOCUST	B & B	2"CAL	45' X 30'	MODEDATE
QUGA	, ,	QUERCUS GAMBELII	GAMBEL OAK	B&B	2"CAL	40' X 30'	MODERATE
TIAM	, ,	TILIA AMURENSIS	AMURE LINDEN	B&B	2"CAL	60' X 40'	LOW
ULMO	, ,	ULMUS X 'MORTON'	ACCOLADE ELM	B&B	2"CAL	40' X 30'	LOW
ULIVIO	2(1070)	OLMOS A MORTON	ACCOLADE ELIVI	БαБ	2 CAL	40 A 30	LOW
EVERG							
PIHE	3 (27%)	PINUS HELDREICHII 'ISELI FASTIGIATE'	ISELI FASTIGIATE BOSNIAN PINE	B & B	6` HT	20' X 10'	LOW
ORNAM	1ENTAL	TREES					
CRCG		CRATAEGUS CRUS-GALLI INERMIS	THORNLESS COCKSPUR HAWTHORN	B & B	MULTI-STEM	20' X 15'	LOW
MASS	1 (9%)		SPRING SNOW CRABAPPLE	B & B	1.5"CAL	20' X 15'	MODERATE
TOTAL	<u>11</u> ` ´						
CODE	<u>QTY</u>	BOTANICAL NAME	COMMON NAME	CONT		<b>REMARKS</b>	HYDROZON
DEOIDI	10110 0	LIPLIDO				HXW	
DECIDU			DANICI IITO MARIZANITA	μг			LOW
ARCO	5	ARCTOSTAPHYLOS X COLORADENSIS 'PANCHITO'	PANCHITO MANZANITA	#5 #5		2' X 5'	LOW
CHMI	4	CHAMAEBATIARIA MILLEFOLIUM `FERNBUSH`	FERNBUSH	#5 #5		4' X 4'	LOW
HEBR	8	HESPERALOE PARVIFLORA 'BRAKELIGHTS'	BRAKELIGHTS RED YUCCA	#5 #5		3' X 3'	LOW
PEAT	4	PEROVSKIA ATRIPLICIFOLIA	RUSSIAN SAGE	#5 #5		4' X 4'	LOW
PRBE	11	PRUNUS BESSEYI 'PAWNEE BUTTES'	PAWNEE BUTTES SAND CHERRY	#5 #5		2' X 5'	LOW
RTAA	7	RHUS TRILOBATA 'AUTUMN AMBER'	AUTUMN AMBER SUMAC	#5 #5		1' X 5'	MODERATE
RONW	3 42 (65%	ROSA X 'NEARLY WILD' 6)	NEARLY WILD FLORIBUNDA ROSE	#5		4' X 4'	MODERATE
EVERG	REEN S	SHRUBS					
JUCA	6	JUNIPERUS CHINENSIS 'ARMSTRONGII'	ARMSTRONG JUNIPER	#5		1' X 4'	LOW
JSCC	14	JUNIPERUS SABINA `CALGARY CARPET`	CALGARY CARPET JUNIPER	#5		1' X 5'	LOW
JUSG	3	JUNIPERUS X MEDIA `SEA GREEN`	SEA GREEN JUNIPER	#5		6' X 6'	LOW
	23 (35%						
		GRASSES	CTANDING OVATION LITTLE DI LICOTEM	Ш.А		0.51.7.0.51	1.014/
SSSO	16	SCHIZACHYRIUM SCOPARIUM 'STANDING OVATION'	STANDING OVATION LITTLE BLUESTEM	#1 #4		2.5' X 3.5'	LOW
SPHE	20 <u>36</u>	SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED	#1		2' X 3'	LOW
PERENI	NIALS						
AGRS	18	AGASTACHE RUPESTRIS `SUNSET`	SUNSET HYSSOP	#1		1.5' X 1.5'	LOW
ECCS	31	ECHINACEA X 'CHEYENNE SPIRIT'	CHEYENNE SPIRIT CONEFLOWER	#1		2' X 3'	LOW
SAMA	19	SALVIA SYLVESTRIS X `MAINACHT`	MAY NIGHT SALVIA	#1		1.5' X 1.5'	LOW
	68						- •

#### EXISTING PLANT MATERIAL SCHEDULE: (PARKING LOT AREA)

18 ORNAMENTAL GRASSES 471 SQFT. EVERGREEN SHRUBS

#### LANDSCAPE INVENTORY CHART

LANDSCAPE AREA	TREES REQUIRED	TREES PROVIDED (OVERALL SITE)	TREE RATIO	SHRUBS REQUIRED (OVERALL SITE)	SHRUBS PROVIDED (OVERALL SITE)	SHRUB RATIO (OVERALL SITE)
SITE TOTAL 6,095 SF	6,095 SF / 1000 SF = 6 TREES	11 TREES	54% SHADE TREES 27% EVERGREEN TREES 18% ORNAMENTAL TREES	6,095 SF/ 150 SF= 40.6 SHRUBS	65 SHRUBS	65% DECIDUOUS SHRUBS 35% EVERGREEN SHRUBS

#### PARKING LOT LANDSCAPE INVENTORY CHART

LANDSCAPE AREA	TREES REQUIRED	TREES PROVIDED	TREE RATIO	SHRUBS / GROUNDCOVER REQUIRED	SHRUBS / GROUNDCOVER PROVIDED (PARKING LOT ONLY)	SHRUB / GROUNDCOVER RATIO (PARKING LOT ONLY)
PARKING AREA 2,503 SF	SEE BELOW	SEE BELOW	SEE BELOW	5% (125 SQFT.)	17 SHRUBS 471 SQFT. EXIST. GC	59% DECIDUOUS SHRUBS 41% EVERGREEN SHRUBS 19% EVERGREEN GC
PARKING AREA 36 SPACES	1 TREE / 5 SPACES = 7.2 TREES	6 TREES*	100% SHADE TREES	N/A	N/A	N/A

<sup>\*</sup> UTILITY CONFLICTS WITHIN THE PARKING LOT MAKE IT UNFEASIBLE TO MEET THE REQUIRED TREE PLANTING GUIDELINES / REQUIREMENTS

#### **MONUMENT SIGN NOTE:**







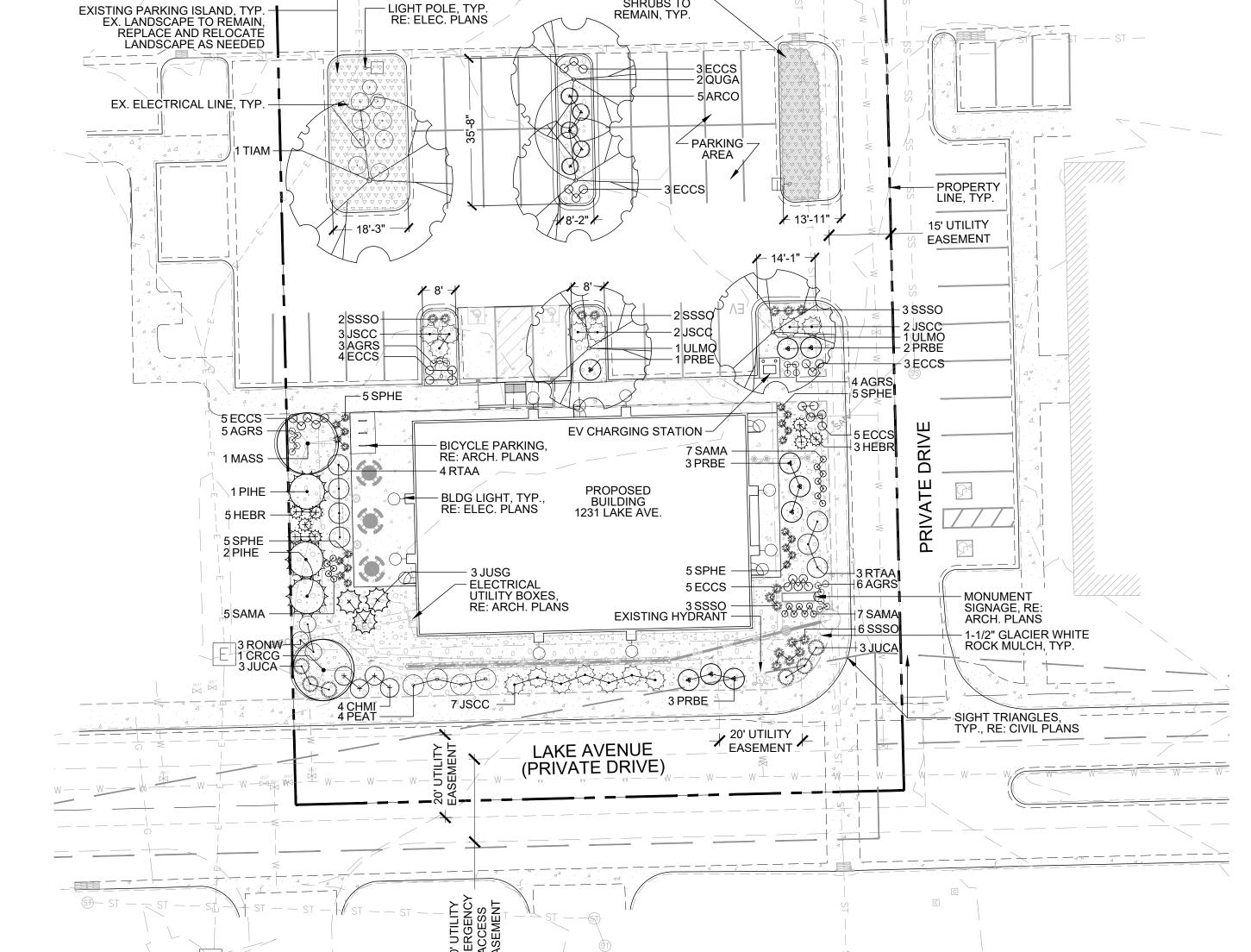
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**REVISIONS:** No. Date: Description: 1 | 11.06.24 | 1st Submittal 2 02.17.25 2nd Submittal 3 | 04.30.25 | 3rd Submittal

Checked By: BK Date Issued: 11-06-2024

LANDSCAPE PLAN

Number:



SHRUBS TO

– LIGHT POLE, TYP. RE: ELEC. PLANS

LANDSCAPE PLAN

**−** 21'-5" **★** 

─**├**─ ĖX. STORM LINE, TYP.

<sup>1.</sup> THE MONUMENT SIGN (BY OTHERS) SHALL BE REVIEWED AND APPROVED THROUGH A SEPARATE SIGN PERMIT APPLICATION. SITE PLAN REVIEW DOES NOT GRANT APPROVAL FOR ANY PROPOSED SIGNS.

#### SITE DEVELOPMENT PLAN

LOT 4, AMENDED GATEWAY PARK FIRST-FILING-PHASE 2 REPLAT D, COUNTY OF LARIMER, STATE OF COLORADO

#### (1231 LAKE AVENUE)

- VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK. BE AWARE OF ANY UNDERGROUND UTILITIES. PROTECT ALL EXISTING SITE FEATURES TO REMAIN FROM POTENTIAL DAMAGE BY SITE CONSTRUCTION OPERATIONS. AVOID ANY
- COORDINATE ALL DISCIPLINES AND SITE CONSTRUCTION THAT WILL BE NEEDED TO COMPLETE THE PROJECT IN THE TIME FRAME GIVEN AND WITHIN BUDGET. ALL ACCESS TO SITE, USE OF UTILITIES, STORAGE, AND OTHER REQUIREMENTS SHALL BE COORDINATED PRIOR TO BEGINNING WORK. CONTRACTOR IS RESPONSIBLE TO INSPECT AND CONFIRM SITE CONDITIONS PRIOR TO BEGINNING WORK. COMMENCEMENT OF WORK SHALL SIGNIFY ALL CONDITIONS ARE ACCEPTABLE AND NO ALLOWANCE WILL BE MADE FOR UNRECOGNIZED.
- NOTIFY OWNER/LANDSCAPE ARCHITECT IMMEDIATELY UPON DISCOVERY OF UNFORESEEN SITE CONDITIONS OR PLAN DISCREPANCIES. NO CHANGE TO SPECIFIED WORK SHALL BE COMPLETED WITHOUT VERIFICATION OF EXISTING CONDITIONS

#### **CLEARING & GRADING:**

**GENERAL NOTES:** 

- ALL CONSTRUCTION MUST BE IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL CODES AND DEVELOPMENT STANDARDS; UNIFORM BUILDING CODES; PERMIT CONDITIONS; AND ALL OTHER APPLICABLE CODES, ORDINANCES, STANDARDS, AND POLICIES.
- A COPY OF THE APPROVED PLANS MUST BE ON-SITE WHENEVER CONSTRUCTION IS IN PROGRESS THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY OTHER RELATED OR REQUIRED PERMITS PRIOR TO BEGINNING CONSTRUCTION.

AND WRITTEN APPROVAL OF MODIFICATION BY THE LANDSCAPE ARCHITECT.

ALL LOCATIONS OF EXISTING UTILITIES HAVE BEEN ESTABLISHED BY FIELD SURVEY OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD, THEREFORE, BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR (1) TO INDEPENDENTLY VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS AND (2) TO DISCOVER AND AVOID ANY OTHER UTILITIES NOT SHOWN WHICH MAY BE AFFECTED BY THE IMPLEMENTATION OF THIS

#### **SOIL SPECIFICATIONS:**

- ANY PLANTING AREA THAT DOES NOT MEET THE FOLLOWING SOIL PREPARATION REQUIREMENTS ARE SUBJECT TO REJECTION AT OWNER/OWNERS REPRESENTATIVES DISCRETION LANDSCAPE CONTRACTOR IS REQUIRED TO NOTIFY OWNER/OWNERS REPRESENTATIVE A MINIMUM OF 24 HOURS PRIOR TO BEGINNING SOIL PREP WORK. SOIL PREP NOT INSPECTED BY OWNER/OWNERS REPRESENTATIVE IS SUBJECT TO REJECTION AT ANYTIME PRIOR TO INITIAL ACCEPTANCE.
- LANDSCAPE CONTRACTOR SHALL SUBMIT DELIVERY (TRIP) TICKETS TO OWNER/OWNERS REPRESENTATIVE FOR ALL ORGANIC SOIL AMENDMENTS WITHIN 24 HOURS AFTER DELIVERY
- IMPORTED TOPSOIL SHALL BE FERTILE, FRIABLE, SANDY LOAM FROM THE 'A' HORIZON AND SHALL BE FREE OF STONES OVER .75" IN DIAMETER, REFUSE, PLANTS OR THEIR ROOTS, STICKS, NOXIOUS WEEDS, SALTS, SOIL STERILANTS, OR OTHER MATERIAL WHICH WOULD BE DETRIMENTAL TO PLANT GROWTH.
- ORGANIC SOIL AMENDMENT SHALL CONSIST OF DRY, WELL-ROTTED, PULVERIZED, AGED MINIMUM ONE YEAR ORGANIC COMPOST CLASS I TYPE SUCH AS AVAILABLE FROM A-1 COMPOST, JENSEN SALES. PULVERIZED HORSE, SHEEP OR DAIRY COW MANURE NOT ACCEPTABLE. SUBMIT DATED RECENT MATERIAL ANALYSIS TO OWNER/OWNERS REPRESENTATIVE TO GUARANTEE PRODUCT CONDITION AND PROOF NO LIVE WEED SEEDS AND CHEMICAL ADDITIVES ARE PRESENT.
- SOIL PREPARATION FOR AREAS TO BE SODDED SHALL INCLUDE TOPSOIL AND ORGANIC MATTER ADDED AT A RATE OF FIVE CUBIC YARDS PER ONE THOUSAND SQUARE FEET AND TILLED EIGHT (8) INCHES INTO THE SOIL. PREPARED BACKFILL FOR TREE/SHRUB PLANTING SHALL BE A MIX OF 2/3 IMPORTED/ SALVAGED TOPSOIL AND 1/3 ORGANIC SOIL AMENDMENT. WHERE TREES AND SHRUBS ARE LOCATED IN LARGE BEDS PROVIDE SOIL AMENDMENT AT A RATE OF FIVE CUBIC YARDS PER ONE THOUSAND SQUARE FEET AND TILL EIGHT INCHES INTO THE SOIL THROUGHOUT THE ENTIRE PLANTING BED, NOT JUST IN EXCAVATED PLANTING HOLES.

#### EDGING:

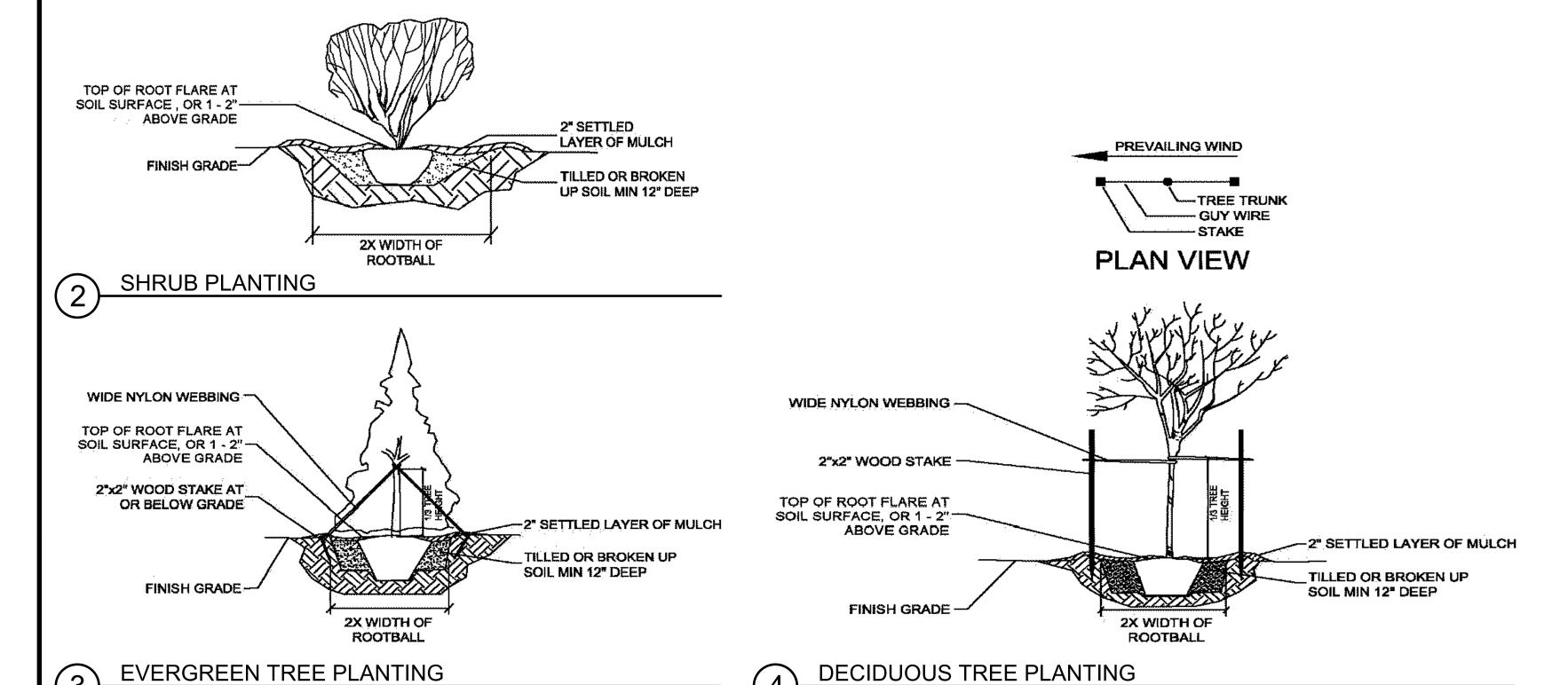
1. ALL EDGING SHALL BE 1/8" X 4" BLACK PAINTED ROLLED TOP METAL EDGING AND ANCHOR STAKES PER MANUFACTURE'S SPECIFICATIONS OR EQUAL

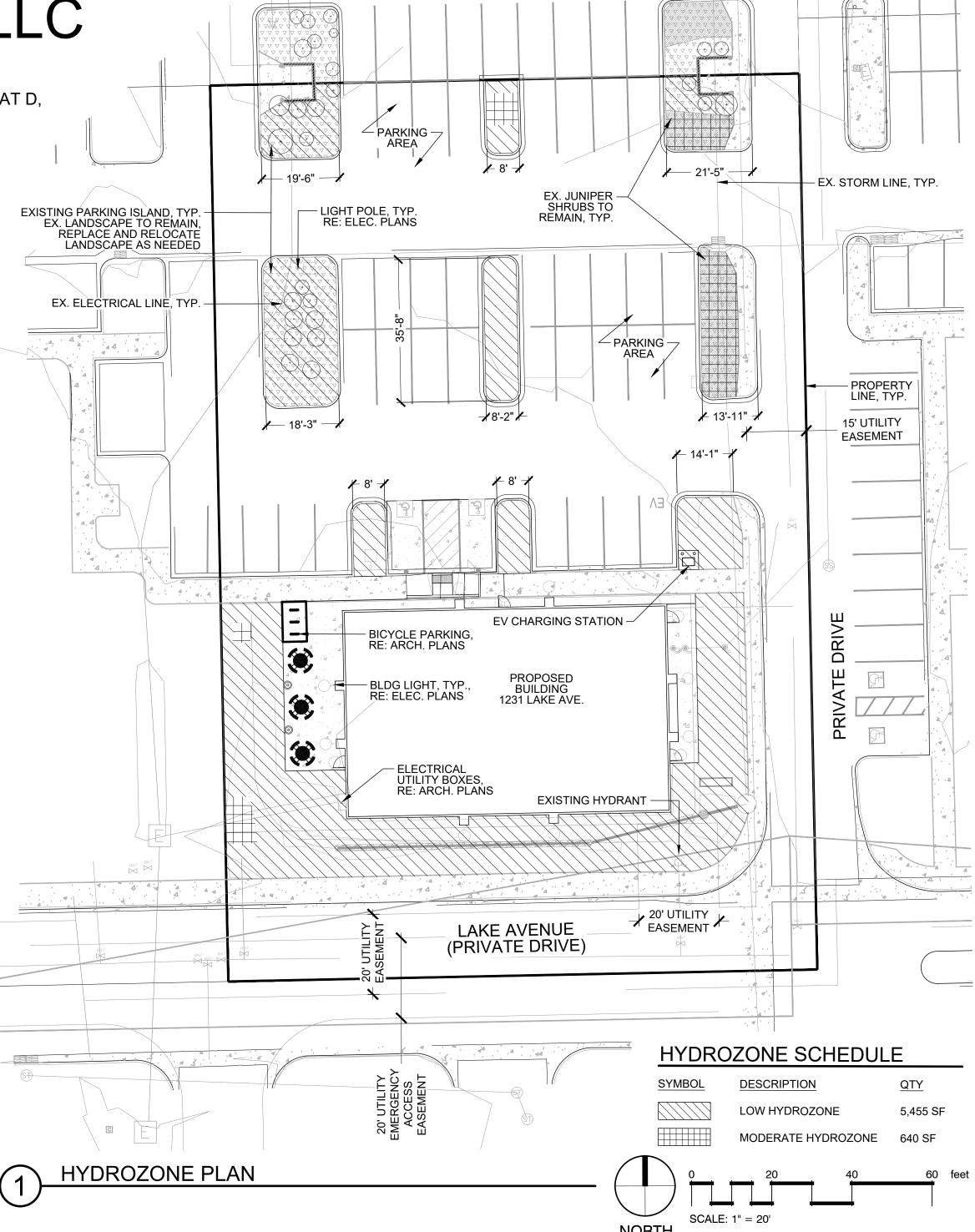
#### MULCH:

- 1. PLANTING BEDS (AS SPECIFIED) SHALL CONTAIN 1-1/2" GLACIER WHITE ROCK MULCH OVER FABRIC AT A MINIMUM DEPTH OF 3" WITH A DOUBLE SHREDDED CEDAR MULCH RING AROUND EACH TREE, SHRUB, GRASS, AND PERENNIAL. WOOD MULCH RING SHALL BE 1.5X THE CONTAINER SIZE OF THE SHRUB, GRASS OR PERENNIAL. SUPPLIER-PIONEER SAND AND GRAVEL WWW.PIONEERCO.COM OR APPROVED EQUAL
- 2. TREE MULCH RING SHALL BE GREEN INDUSTRY STANDARD SIZE ANDS CONTAIN WOOD MULCH, NON-DYED SHREDDED CEDAR MULCH OR APPROVED EQUAL. 3. GEOTEXTILE FABRIC (FILTER FABRIC) UNDERLAYMENT SHALL BE MIRAFI, MIRASCAPE, DUPONT TYPAR 3301 OR APPROVED EQUAL (SUBMIT SAMPLE).

#### **PLANTING NOTES:**

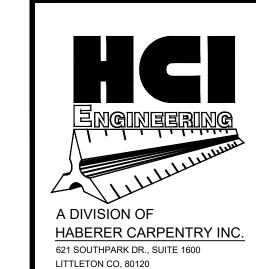
- LANDSCAPE CONTRACTOR SHALL LOCATE ALL TREES, SHRUBS AND PLANTING BEDS ACCORDING TO LOCATIONS SHOWN ON DRAWINGS. ALL PLANTING LOCATIONS SHALL BE SUBJECT TO REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO THE START OF PLANTING OPERATIONS. LANDSCAPE CONTRACTOR SHALL MAKE MODIFICATIONS IN LOCATIONS AS DIRECTED BY LANDSCAPE ARCHITECT.
- THE PLANT SCHEDULE IS FOR CONTRACTOR'S CONVENIENCE ONLY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS AND REPORTING IN WRITING TO THE LANDSCAPE ARCHITECT ANY CONFLICTS RELATIVE TO IMPLEMENTATION OF THE LANDSCAPE CONSTRUCTION DOCUMENTS. VALERIAN LLC. SHALL NOT ASSUME ANY ERRORS OR OMISSIONS IN THE PLANT SCHEDULE LISTED HEREIN. THE PLANT SYMBOLS SHOWN ON THE LANDSCAPE PLAN SHALL PREVAIL SHOULD THERE BE ANY DISCREPANCIES IN QUANTITIES BETWEEN THE PLAN AND PLANT SCHEDULE.
- LANDSCAPE CONTRACTOR SHALL PROVIDE PLANT PROTECTION AND MAINTENANCE THROUGHOUT INSTALLATION AND UNTIL FINAL ACCEPTANCE OF LANDSCAPE INSTALLATION AS FOLLOWS A) ALL PLANT MATERIAL SHALL BE PROTECTED, FROM TIME OF DIGGING TO TIME OF FINAL ACCEPTANCE, FROM INJURY, EXCESSIVE DRYING FROM WINDS, IMPROPER VENTILATION, OVER-WATERING, FREEZING,
- HIGH TEMPERATURES, OR ANY OTHER CONDITION DAMAGING TO PLANTS. B) PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY IF POSSIBLE. ALL PLANTS NOT PLANTED ON THE DAY OF DELIVERY SHALL BE PLACED IN A TEMPORARY NURSERY AND KEPT MOIST, SHADED,
- AND PROTECTED FROM THE SUN AND WIND. EACH ROOTBALL SHALL BE COVERED ENTIRELY WITH MULCH. ALL PLANT MATERIALS SHALL BE INSTALLED PER THE PLAN DRAWINGS AND SPECIFICATIONS C) LANDSCAPE CONTRACTOR SHALL PROVIDE PLANT MATERIALS THAT COMPLY WITH THE REQUIREMENTS OF THE MOST RECENT ANSI Z 60.1 "STANDARDS FOR NURSERY STOCK"" UNLESS OTHERWISE SPECIFIED. CALIPER OF B&B TREES SHALL BE TAKEN 6 INCHES ABOVE THE GROUND UP TO AND INCLUDING 4 INCH CALIPER SIZE, AND 12 INCHES ABOVE THE GROUND FOR LARGER SIZES.
- D) PLANTING MAINTENANCE SHALL INCLUDE WATERING, WEEDING, CULTIVATING, RESETTING PLANTS TO PROPER GRADES OR POSITION, REESTABLISHING SETTLED GRADES. HERBICIDE IS NOT RECOMMENDED FOR ONE YEAR FOLLOWING LANDSCAPE INSTALLATION.
- E) PLANT MAINTENANCE SHALL INCLUDE THOSE OPERATIONS NECESSARY TO PROPER GROWTH AND SURVIVAL OF ALL PLANT MATERIALS. CONTRACTOR SHALL PROVIDE THIS WORK IN ADDITION TO SPECIFIC
- CONTRACTOR SHALL VERIFY AND MAINTAIN ALL SETBACKS, CLEAR ZONES AND SIGHT TRIANGLES REQUIRED BY ALL LOCAL AND MUNICIPAL CODES WHERE APPLICABLE LANDSCAPE CONTRACTOR SHALL ENSURE THAT THE LANDSCAPE INSTALLATION IS COORDINATED WITH THE PLANS PREPARED BY OTHER CONSULTANTS SO THAT THE PROPOSED GRADING, STORM DRAINAGE OR
- OTHER PROPOSED CONSTRUCTION DOES NOT CONFLICT WITH NOR PRECLUDE INSTALLATION AND MAINTENANCE OF LANDSCAPE ELEMENTS AS DESIGNATED ON THIS PLAN. ALL LANDSCAPE AREAS SHALL BE IRRIGATED BY AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM. THE SYSTEM SHALL BE PROPERLY ZONED TO SEPARATE PLANT MATERIAL BY WATER REQUIREMENT. ALL
- SHRUB BEDS AND TREES IN NATIVE SEED AREAS SHALL BE IRRIGATED BY USING LOW WATER/DRIP TECHNIQUES. ALL TURF AREAS SHALL BE IRRIGATED USING POP-UP SPRAY OR ROTARY APPLICATION
- STREET AND ORNAMENTAL TREES SHALL BE PLANTED NO CLOSER THAN FORTY (40) FEET AND FIFTEEN (15) FEET RESPECTIVELY FROM STREET LIGHTS. NO TREE SHALL BE PLANTED WITHIN TEN (10) FEET FROM WATER, SEWER, OR STROM DRAIN MAINLINES, FOUR (4) FEET FROM GAS, TELEPHONE AND ELECTRIC UTILITIES, FIVE (5) FEET AWAY FROM DRIVEWAY OR ALLEY, AND MINIMUM OF FIVE (5) FEET FROM WATER OR





#### HYDROZONE CHART

HYDROZONE TYPE	IRRIGATION METHOD	TOTAL AREA SF / AC	WATER USEAGE (ACRE FEET)	WATER CONSUMPTION (AF X AC)
HIGH	ROTARY / SPRAY HEADS	0/0	3 AF	0 AF
MODERATE	DRIP / BUBBLERS	6,095 / 0.140	1.33 AF	0.186 AF
LOW	DRIP	0/0	0.8 AF	0 AF



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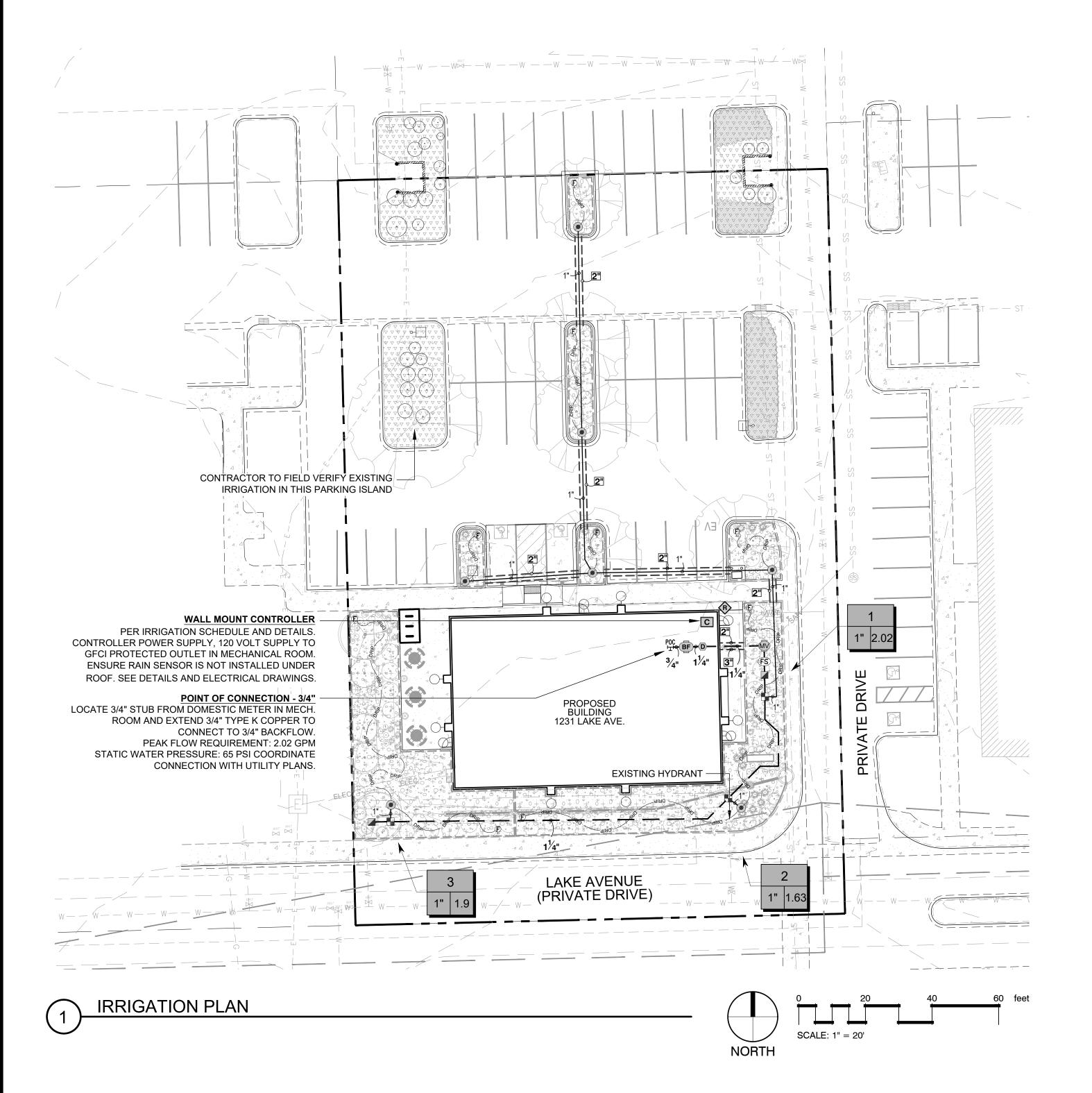
REV	ISIONS:	
No.	Date:	Description:
1	11.06.24	1st Submittal
2	02.17.25	2nd Submittal
3	04.30.25	3rd Submittal

Checked By: BK Date Issued: 11-06-2024 Sheet Name: LANDSCAPE

NOTES & DETAILS

#### SITE DEVELOPMENT PLAN

LOT 4, AMENDED GATEWAY PARK FIRST-FILING-PHASE 2 REPLAT D, COUNTY OF LARIMER, STATE OF COLORADO (1231 LAKE AVENUE)



#### IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	DRIP ZONE CONTROL KIT RAIN BIRD XCZ-100-IVMQ - WIDE FLOW IVM DRIP CONTROL KIT FOR COMMERCIAL APPLICATIONS. PESBIVM SMART VALVE W/ FACTORY INSTALLED IVM-SOL DECODER. OPERATING FLOW 0.3-20 GPM WITH 1IN. PRESSURE REGULATING 40PSI QUICK-CHECK BASKET FILTER 0.3-20 GPM	3
	PIPE TRANSITION POINT PIPE TRANSITION FROM PVC LATERAL TO DRIP TUBING WITH RISER IN 6" DRIP BOX.	7
Ē	FLUSH VALVE 3/4" PVC BALL VALVE IN 10" VALVE BOX.	9
+ + + DRIP+ + + + + + + + + + + + + + + + + + +	AREA TO RECEIVE DRIP EMITTERS AREA FOR DRIP EMITTERS RAIN BIRD XB-PC SINGLE OUTLET, PRESSURE COMPENSATING DRIP EMITTERS. FLOW RATES OF 0.5GPH=BLUE, 1.0GPH=BLACK, AND 2.0GPH=RED. COMES WITH A SELF-PIERCING BARB INLET X BARB OUTLET. USE 3/4" POLY DRIP PIPE AS INDICATED ON PLAN. Emitter Notes: 0.5 GPH emitters (2 assigned to each #1 plant)	4,210 SF
	1.0 GPH emitters (2 assigned to each #5 plant)	
	2.0 GPH emitters (6 assigned to each B & B, 2"Cal plant)	
	2.0 GPH emitters (6 assigned to each B & B, 6` HT plant)	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	QUICK COUPLER VALVE RAIN BIRD 44-RC 1" BRASS QUICK-COUPLING VALVE, WITH CORROSION-RESISTANT STAINLESS STEEL SPRING, THERMOPLASTIC RUBBER COVER, AND 2-PIECE BODY.	2
	MASTER VALVE - NORMALLY CLOSED 1"	
	RAIN BIRD EFB-CP BRASS MASTER VALVE, THAT IS CONTAMINATION PROOF W/SELF-FLUSHING FILTER SCREEN AND FD-101TURF DECODER. GLOBE CONFIGURATION, RECLAIMED WATER COMPATIBLE.	1
<b>D</b>	MANUAL DRAIN VALVE MUELLER ORISEAL #H-10283, WITH BRASS SWING JOINT ASSEMBLY. INSTALL PER INSTALLATION DETAIL.	1
BF	REDUCED PRESSURE BACKFLOW PREVENTER 3/4" FEBCO 825YA	1
C	CONTROLLER RAIN BIRD ESPLXME2 W/ (1) ESPLXMSM12 24 STATION, TRADITIONALLY-WIRED, COMMERCIAL CONTROLLER. (1) ESPLXME2 12-STATION, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE W/ (1) ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1
R	RAIN SENSOR RAIN BIRD WR2-RFC - WIRELESS RAIN AND FREEZE SENSOR COMBO, INCLUDES 1 RECEIVER AND 1 RAIN/FREEZE SENSOR TRANSMITTER.	1
(FS)	FLOW SENSOR	1
POC	RAIN BIRD FS-100-B - 1 IN. FLOW SENSOR, BRASS MODEL.	
다.	POINT OF CONNECTION 3/4"	1
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21	248.2 LF
	IRRIGATION MAINLINE: PVC CLASS 200 SDR 21	190.1 LF
	IRRIGATION MAINLINE: TYPE K COPPER PIPE	4.7 LF
=======	PIPE SLEEVE: PVC CLASS 160 SDR 26	133.6 LF
,	Valve Callout	
# •	Valve Number	
#"	Valve Flow	
	Valve Size	

#### **GENERAL NOTES:**

- 1. PRIOR TO BEGINNING WORK VERIFY THE CONTRACT DRAWINGS AGAINST ALL APPLICABLE EXISTING CONDITIONS, NOTIFY THE DESIGNER IMMEDIATELY UPON DISCOVERY OF UNFORESEEN SITE CONDITIONS OR PLAN DISCREPANCIES.
- 2. CONTRACTOR IS RESPONSIBLE TO INSPECT AND CONFIRM SITE CONDITIONS PRIOR TO BEGINNING WORK.
- 3. VERIFY LOCATION OF ALL ABOVE AND BELOW GRADE MECHANICAL, PLUMBING, ELECTRICAL/UTILITY LINES AND EQUIPMENT AND ADHERE TO ALL FEDERAL, MUNICIPAL, UTILITY PURVEYOR REQUIRED EASEMENTS, MINIMUM OFFSETS AND SETBACKS.
- 4. ALL ACCESS TO SITE, USE OF UTILITIES, STORAGE, AND OTHER REQUIREMENTS SHALL BE COORDINATED PRIOR TO BEGINNING WORK.

#### **IRRIGATION NOTES:**

- 1. THE CONTRACTOR IS TO INSTALL AN AUTOMATIC IRRIGATION SYSTEM THAT WILL PROVIDE COVERAGE FOR ALL LANDSCAPED AREAS AS SHOWN ON CONTRACT DRAWINGS.
- 2. REFER TO DETAILS FOR INSTALLATION INSTRUCTIONS.
- 3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND MUNICIPAL CODES FOR WORK NECESSARY IN IRRIGATION SYSTEM INSTALLATION.
- 4. POINT OF CONNECTION SHOWN ON THE IRRIGATION PLANS ARE PER THE CIVIL DOCUMENTS. REPORT ANY DISCREPANCIES IN THE LOCATION TO THE DESIGNER FOR CLARIFICATION OR REVISION
- 5. CONTRACTOR IS TO PROVIDE ALL NECESSARY PIPE, VALVES, ETC. DOWNSTREAM FROM POINT OF CONNECTION NOT INSTALLED BY OTHER DISCIPLINES.
- 6. WORK SHALL BE DONE IN FULL ACCORDANCE WITH THE RULES AND REGULATIONS OF THE 2009 INTERNATIONAL PLUMBING CODE (IPC) AND ALL OTHER STATE OR LOCAL MUNICIPAL REGULATIONS CURRENT UPON THE SIGNING OF THIS CONTRACT.
- 7. CONTRACT DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. IT IS THE INTENT OF THIS DESIGN THAT ALL IRRIGATION EQUIPMENT BE INSTALLED IN LANDSCAPED AREAS WHEREVER POSSIBLE AND WITHIN THE PROPERTY LIMITS. ANY EQUIPMENT SHOWN OUTSIDE OF THESE LIMITS IS SHOWN IN THAT LOCATION FOR GRAPHICAL CLARITY ONLY.
- 8. LATERAL AND MAINLINE PIPE, CONTROL WIRES AND SLEEVES ARE SHOWN ON CONTRACT DRAWINGS SPACED HORIZONTALLY ON PLAN FOR GRAPHIC CLARITY ONLY. CONTRACTOR SHALL CONSOLIDATE IRRIGATION LATERALS, MAINLINES AND COMPONENTS WHEREVER POSSIBLE. IRRIGATION PIPING SHALL BE INSTALLED WITH A MINIMUM OF 4 INCHES CLEAR ON ALL SIDES.
- 9. CONTRACTOR SHALL MAINTAIN THE MINIMUM DEPTHS DETAILED AND SPECIFIED FOR ALL IRRIGATION EQUIPMENT.
- 10. CONTRACTOR IS TO VERIFY AVAILABLE PRESSURE AND FLOW AT POINT OF CONNECTION PRIOR TO INSTALLATION OF IRRIGATION SYSTEM EQUIPMENT.
- 11. CONTRACTOR TO COORDINATE INSTALLATION OF SLEEVING WITH OVERALL SITE CONSTRUCTION AND INSTALLATION OF PAVING AND SIDEWALKS. ALL SLEEVING UNDER PAVED SURFACES SHOWN ON CONTRACT DRAWINGS IS BY CONTRACTOR UNLESS OTHERWISE NOTED. ALL MAINLINES, LATERAL LINES, DRIP LINES AND CONTROL WIRES UNDER PAVED SURFACES ARE TO BE INSTALLED IN SLEEVING. INSTALL SLEEVING AS PER DETAIL, NOTES, SCHEDULES AND SPECIFICATIONS.
- 12. ALL PIPING, PVC ELECTRICAL SLEEVES, ETC. UNDER PAVING SHALL BE INSTALLED PRIOR TO PAVING WORK. NO TEES, ELLS OR OTHER TURNS IN PIPING SHALL BE LOCATED UNDER PAVING. CAP ALL ENDS HAND TIGHT PRIOR TO BACKFILL.
- 13. EACH MAINLINE SLEEVE REPRESENTED IN THE DRAWINGS SHALL CONSIST OF TWO SLEEVES: ONE FOR MAINLINE PIPING AND ONE FOR FIELD WIRING.
- 14. CONTRACTOR IS TO PROVIDE ELECTRICAL POWER TO THE AUTOMATIC CONTROLLER, SEE ELECTRICAL DRAWINGS.
- 15. INSTALL ALL MATERIALS AND EQUIPMENT AS SHOWN IN DETAILS. USE TEFLON TAPE OR TEFLON PIPE DOPE ON ALL MALE PIPE THREADS ON ALL IRRIGATION SWING JOINT AND VALVE
- 16. BACKFILLING SHALL BE DONE IN LIFTS AND COMPACTED.
- 17. MAINTENANCE AND OPERATION REQUIREMENTS: A SEASONAL MAINTENANCE SCHEDULE BEGINNING ON APRIL 1 THROUGH OCTOBER 1 SHALL ESTABLISH PROCEDURES FOR OPTIMUM IRRIGATION EFFICIENCY AND PREVENTIVE MAINTENANCE PRACTICES THAT WILL CONSERVE WATER RESOURCES. THE MAINTENANCE SCHEDULE SHOULD INCLUDE THE FOLLOWING ITEMS:
  - VERIFY COVERAGE OF HEADS (BI-MONTHLY)\*
     CHECK FOR BROKEN HEADS OR LEAKAGE (BI-MONTHLY)\*
  - REPROGRAM CONTROLLERS ACCORDING TO THE SEASONAL NEEDS (MONTHLY)\*
     VERIFY WATER SUPPLY AND PRESSURE (UPON SYSTEM STARTUP, THEN TWO
  - ADDITIONAL TIMES)
  - INSPECT THE BACKFLOW PREVENTER DEVICE (UPON SYSTEM STARTUP)
     VERIFY SENSOR FUNCTIONALITY (BI-MONTHLY)\*
- \*ALL ITEMS SHALL BE PERFORMED UPON SYSTEM START UP AND THEN AT A MINIMUM OF THE PERIOD STATED, INSPECTIONS SHALL BE PERFORMED MORE FREQUENTLY AS REQUIRED.

#### POINT OF CONNECTION (P.O.C.) NOTES:

P.O.C. '1' - CONNECT TO 3/4" STUB FROM DOMESTIC WATER LINE. EXTEND AND CONNECT 3/4" TYPE-K COPPER LINE TO 3/4" BACKFLOW DEVICE. REFER TO CIVIL PLANS FOR CONNECTION LOCATION.

AVAILABLE WATER PRESSURE: THE ASSUMED AVAILABLE PSI AT THE POINT OF CONNECTION IS - 70 PSI. CONTRACTOR SHALL TEST PRIOR TO INSTALLATION.

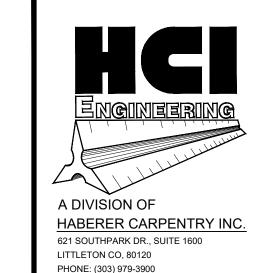
DESIGN PRESSURE: 65 PSI

DESIGN FLOW: 2.02 GPM MAX, (SINGLE VALVE OPERATION)

INFORMATION TO OWNERS REPRESENTATIVE.

- 1. THE IRRIGATION SYSTEMS ARE DESIGNED WITHIN A WATER WINDOW AND SIZED TO ACCOMMODATE SINGLE VALVE STARTS NOT TO EXCEED DESIGN FLOW LISTED. CONTRACTOR TO PROGRAM CONTROLLER ACCORDINGLY.
- 2. CONTRACTOR TO INSTALL ALL REQUIRED EQUIPMENT IN ACCORDANCE WITH ALL LOCAL WATER
- PURVEYORS REQUIREMENTS.

  3. CONTRACTOR TO FIELD LOCATE REQUIRED IRRIGATION EQUIPMENT DOWNSTREAM FROM METER FOR APPROVAL PRIOR TO INSTALLATION. ALL ATTEMPTS SHALL BE MADE TO INSTALL EQUIPMENT
- 4. ALL ENCLOSURES SHALL BE SECURELY MOUNTED AND LOCKABLE TO PREVENT VANDALISM, DAMAGE AND/OR THEFT. TURN KEYS OVER TO OWNERS REPRESENTATIVE AT COMPLETION OF WORK AS PER SPECIFICATIONS.
- 5. CONTRACTOR TO COORDINATE CONTROLLER LOCATIONS WITH OWNERS REPRESENTATIVE PRIOR TO INSTALLATION.
- 6. RAIN SENSOR, MOUNT WIRELESS RAIN SENSOR WITHIN OPTIMAL RANGE FROM CONTROLLER, PER MANUFACTURERS RECOMMENDATIONS. INSTALL SENSOR ON LIGHT/UTILITY POLE A MINIMUM OF 10' ABOVE GRADE TO MINIMIZE DAMAGE/VANDALISM, CLEARLY NOTE LOCATION AND PROVIDE
- 7. IRRIGATION ZONES HAVE BEEN CREATED TO PROPERLY HYDROZONE THE SITE BASED ON SITE CONDITIONS AND MICROCLIMATES. IF FIELD ADJUSTMENTS ARE TO BE MADE IRRIGATION EQUIPMENT IRRIGATING A NORTH AND EAST EXPOSURE SHOULD NOT BE INSTALLED ON THE SAME ZONE AS IRRIGATION EQUIPMENT ON THE SOUTH AND WEST EXPOSURES TO ALLOW FOR MICROCLIMATE ADJUSTMENTS IN THE CONTROLLER PROGRAMMING.



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MEMBER UTILITIES.

# ITE DEVELOPMENT PLA 1231 LAKE AVENUE BERTHOUD, CO 80537

REVISIONS:

No. Date: Description:

1 11.06.24 1st Submittal

2 02.17.25 2nd Submittal

3 04.30.25 3rd Submittal

Project No: 24\_052

Drawn By: MA

Checked By: BK

Date Issued: 11-06-2024

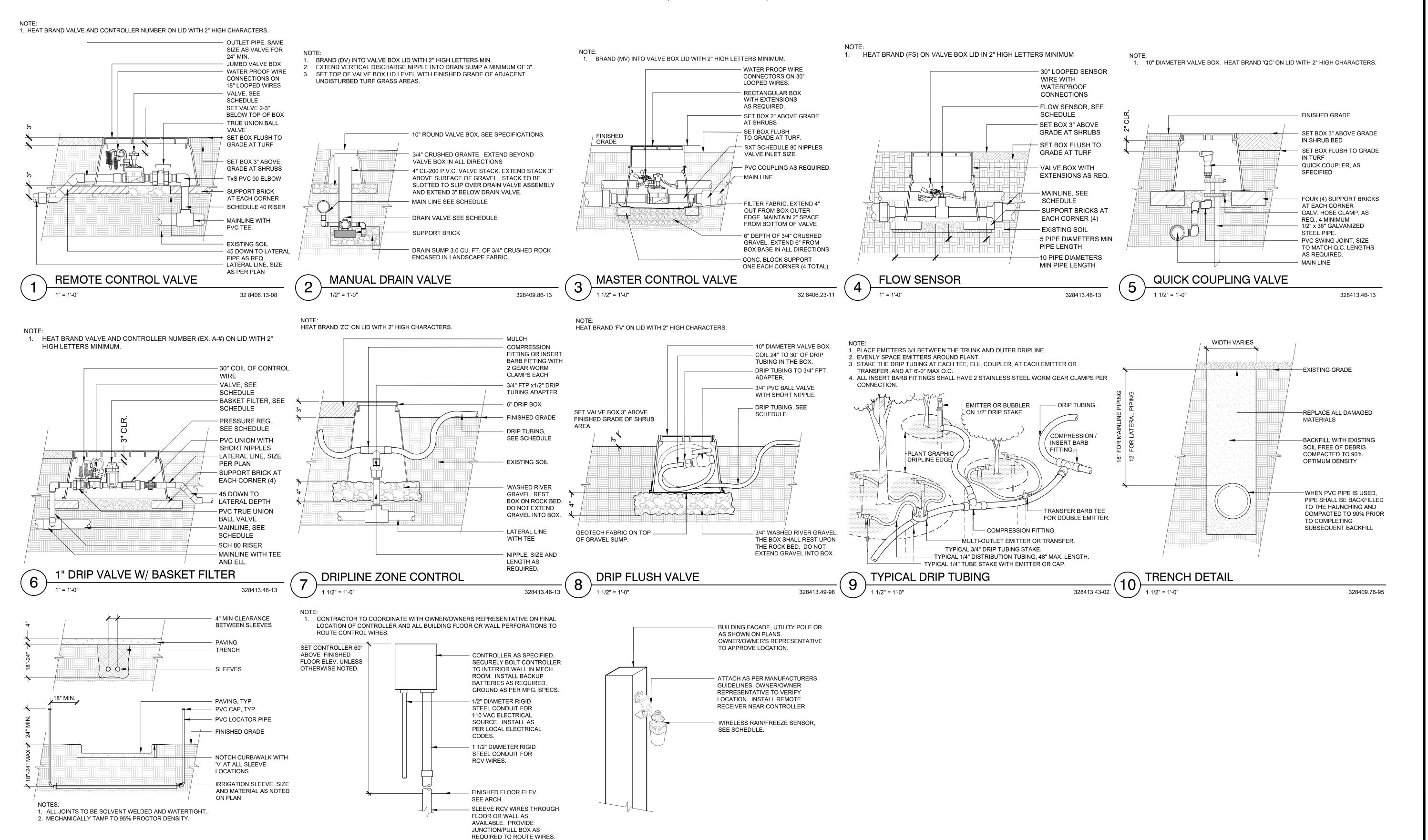
Sheet Name:

IRRIGATION PLAN
Sheet
Number:

1 -3

#### SITE DEVELOPMENT PLAN

LOT 4, AMENDED GATEWAY PARK FIRST-FILING-PHASE 2 REPLAT D, COUNTY OF LARIMER, STATE OF COLORADO (1231 LAKE AVENUE)



WIRELESS RAIN/FREEZE SENSOR

328409.66-13

328409.66-13

WALL MOUNT CONTROLLER

328409.66-13





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# $\Box$

**REVISIONS:** No. Date: Description: 1 | 11.06.24 | 1st Submittal 2 | 02.17.25 | 2nd Submittal 3 04.30.25 3rd Submittal

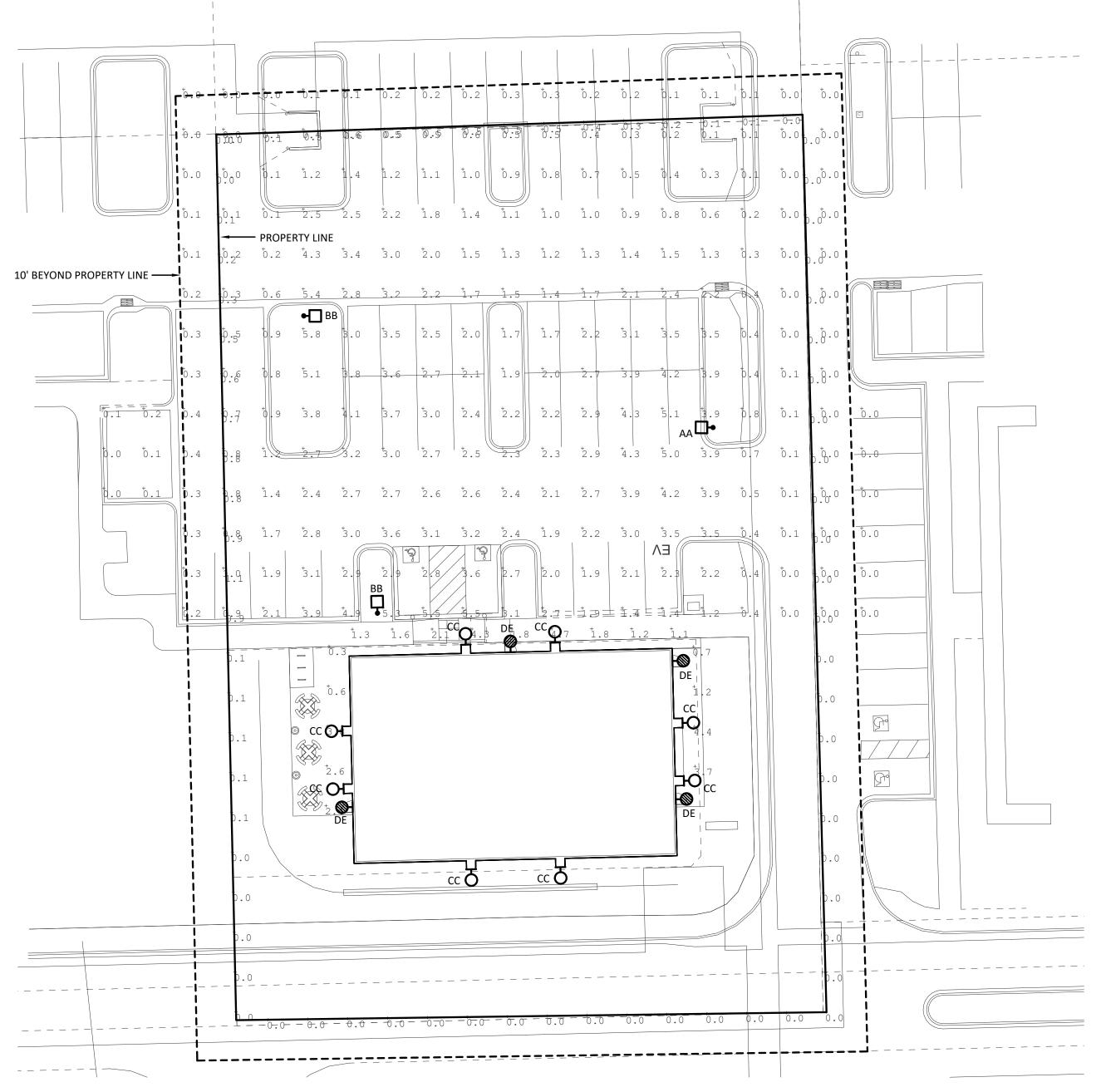
Drawn By: MA Checked By: BK Date Issued: 11-06-2024 Sheet Name:

IRRIGATION DETAILS

Number:

#### SITE DEVELOPMENT PLAN

LOT 4, AMENDED GATEWAY PARK FIRST-FILING-PHASE 2 REPLAT D, COUNTY OF LARIMER, STATE OF COLORADO (1231 LAKE AVENUE)



SITE	<b>PHOTOMETRICS</b>	PLAN
1" = 20'-0"		

				Light	Fixture Sched	ule					
Designation	Lamps		Fixture Characteristics	Fixture Mounting				Fixture Specification			
	# of lamps	Lamp Type	Description	Finish	Method	Ceiling Type	Recess Depth	Manufacturer	Catalog #	Voltage	
AA	1	166W (14,330 Lumens) LED 3000K	20' Full Cutoff Site Pole Light With Type III Optics With House Side Shield	Black	Pole Mounted: 18'-0" Pole With 2'-0" Base	N/A	N/A	McGraw Edison	GLEON SA3 C 730 U T3 BK HSS	208	
ВВ	1	166W (22,684 Lumens) LED 3000K	20' Full Cutoff Site Pole Light With Type IV Forward Throw Optics With House Side Shield	Black	Pole Mounted: 18'-0" Pole With 2'-0" Base	N/A	N/A	McGraw Edison	GLEON SA3 C 730 U T4FT BK HSS	208	
СС	1	12W (1,180 Lumens) LED 3000K	18" Decorative Exterior Wall Sconce - Full Cut-Off - Dark Sky Compliant	Satin Black	Wall @ 8'-6"	N/A	N/A	Lightway	618-LED-F2B-2-A-B1	120	
DE	1	14W LED 3000K	Full Cut-Off Exterior Egress Light With 90 Minutes of Battery Backup	Black	Above Door	N/A	N/A	Lumark	AXCS1A W BK	120	

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Building Perimeter Walkway	Illuminance	Fc	2.20	4.7	0.3	7.33	15.67
Parking Lot	Illuminance	Fc	1.52	5.8	0.0	N.A.	N.A.
Property Line	Illuminance	Fc	0.16	1.1	0.0	N.A.	N.A.



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5376 S. GIBRALTAR CT.
CENTENNIAL, CO 80015

VROSSI@ROSSIENGINEERING.NE

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# JW REAL ESTATE, LLC SITE DEVELOPMENT PLAN 1231 LAKE AVENUE BERTHOUD, CO 80537

REVISIONS:						
No.	Date:	Description:				
1	11.06.24	1st Submittal				
2	02.18.25	2nd Submittal				
3	04.18.25	3rd Submittal				
REI Project No: 24-084						
Drawn By: JH						

Drawn By: JH

Checked By: VJR

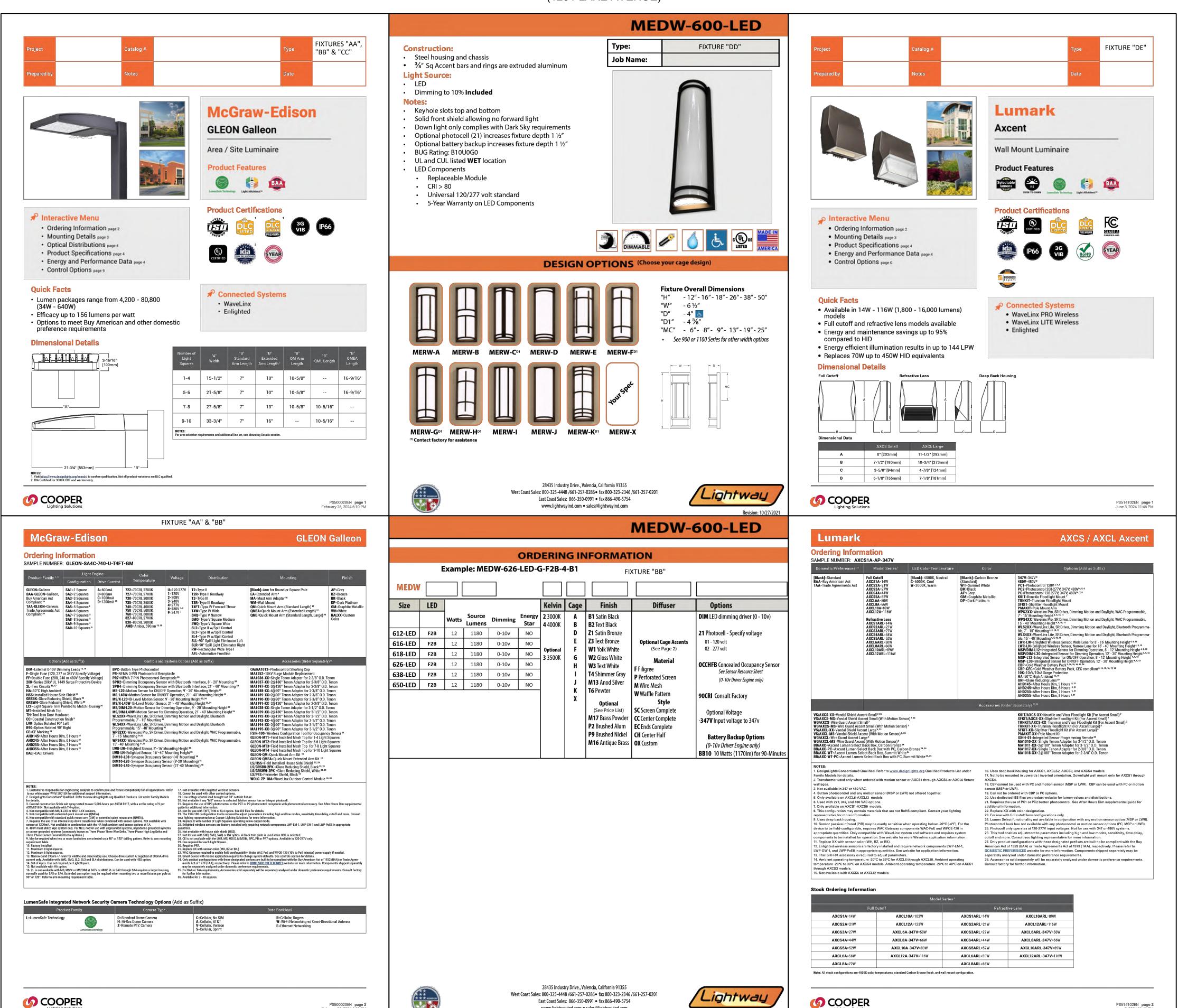
Date Issued: 01-27-2025

SITE PHOTOMETRICS PLAN

PH1

#### SITE DEVELOPMENT PLAN

LOT 4, AMENDED GATEWAY PARK FIRST-FILING-PHASE 2 REPLAT D, COUNTY OF LARIMER, STATE OF COLORADO (1231 LAKE AVENUE)



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GRADE, OR EXCAVATE FOR MARKING OF UNDERGROU MEMBER UTILITIES.

# JW REAL ESTATE, LL ITE DEVELOPMENT PLAI 1231 LAKE AVENUE BERTHOUD, CO 80537

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No. Date: Description:

1 11.06.24 1st Submittal

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3 04.18.25 3rd Submittal

REI Project No: 24-084

REI Project No: 24-084

Drawn By: JH

Checked By: VJR

Date Issued: 01-27-2025

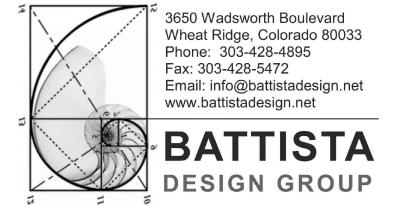
Sheet Name: SITE FIXTURE SPECIFICATIONS

PH2

# Project:

# KJW Site & Shell and Wolfenden Family Dental Project

# Vicinity Map



#### 1231 Lake Ave.

### Berthoud, CO 80513

#### **Project Directory**

#### Owner:

KJW Real Estate LLC Justine Wolfenden 329 Bronco Ct., Berthoud, CO 80513 Phone: (970) 292-7334

#### Architecture:

Battista Design Group, P.C. 3650 Wadsworth Blvd. Wheat Ridge, CO 80033 Phone: (303) 428-4895 Fax: (303) 428-5472

#### Civil Engineer:

HCI Engineering 621 Southpark Dr., Suite 1600 Littleton CO, 80120 Phone: (303) 979-3900

#### Landscape Design:

Valerian, LLC 970 Yuma St., Suite 130 Denver, CO 80204 Phone: (303) 865-4918

#### Structural Engineer:

Next Level, Inc. 7186 S. Forest Lane Centennial, CO 80122 Phone: (303) 260-9456

#### Mechanical Engineer:

Swanson-Levary Engineering 10080 E 112th Way Henderson, CO 80640 Phone: (720) 737-1733 Fax: (303) 660-5999

#### Electrical Engineer:

Rossi Engineering, Inc. 5376 South Gibraltar Court Centennial, CO 80015 Phone: (303) 720-9827

#### Geotechnical Engineer:

Ground Engineering 41 Inverness Drive East Englewood, CO 80112 Phone: (303) 289-1989 Job Number: 24-3033

#### General Contractor:

To Be Selected

#### Public Agencies

#### Building Department:

Town of Berthoud 807 Mountain Ave Berthoud, CO 80513 Phone: (970) 858-0786

ProCode - SAFEbuilt Phone: (970) 305-3161 x1

Phone: (970) 532-2264

#### Fire Protection District:

Berthoud Fire Protection District 248 Welch Avenue Berthoud, CO 80513

#### Electric/Gas:

Excel Energy
Builders Call Line
Phone: 1-800-628-2121
Fax: 1-800-628-2521
Hours 7:00 a.m. - 4:00 p.m.
E-mail: BCLCO@xcelenergy.com

#### Water-Sanitation Districts:

Town of Berthoud 807 Mountain Avenue Berthoud, CO 80513 Phone: (970) 532-2643

#### Sheet index

#### GENERAL

G0.0 Cover Sheet
G1.1 General Information, Abbreviations, Code Data
Symbols

For Bidding Purposes

Only

05/29/2025 9:42:34 AM

#### ARCHITECTURAL

Door Window Types, Schedules A0.1 A1.0 Foundation-Slab Plan A1.1 Exterior Wall Floor Plan A1.2 Interior Wall Floor Plan A1.2.1 Finish Floor plan A1.2.2 Reflected Ceiling Plan Equipment Plan A1.2.3 Roof Plan A1.3 A2.1 **Building Elevations Building Elevations** A3.1 **Building Sections** 

Interior Elevations

Interior Elevations

**Interior Details** 

A4.1 Wall Sections
A4.2 Wall Sections
A5.1 Details
A6.1 Interior Elevations
A6.2 Interior Elevations

#### A7.1

A6.4

STRUCTURAL

S1.0 Cover Sheet, Design Criteria & Project Notes
S1.1 Structural Special Inspections
S1.2 Typical Details & Schedules
S2.1 Foundation/Floor Plan
S2.2 Roof Framing Plan

#### MECHANICAL/PLUMBING

M-1 Mechanical Information Plan
 M-2 Mechanical Plan
 P-1 Plumbing Information Plan
 P-2 Plumbing Plan
 P-3 Dental Specialities Plan

Details

#### **ELECTRICAL**

S3.1

E1 Site Electrical Plan, Pole Base Detail
E2 Symbols, One-Line, Schedules & ISC Calcs

E3 Lighting Plan E4 Power Plan

E5 Mechanical & Lighting Schedules
E6 Electrical Specifications

E6 Electrical Specifications
E7 Comcheck

#### NOTE:

FULL SUBMITTALS/SHOP DRAWINGS REQUIRED FROM ALL TRADES/DISCIPLINES

SUBMIT ALL R.F.I.'S IN WRITING

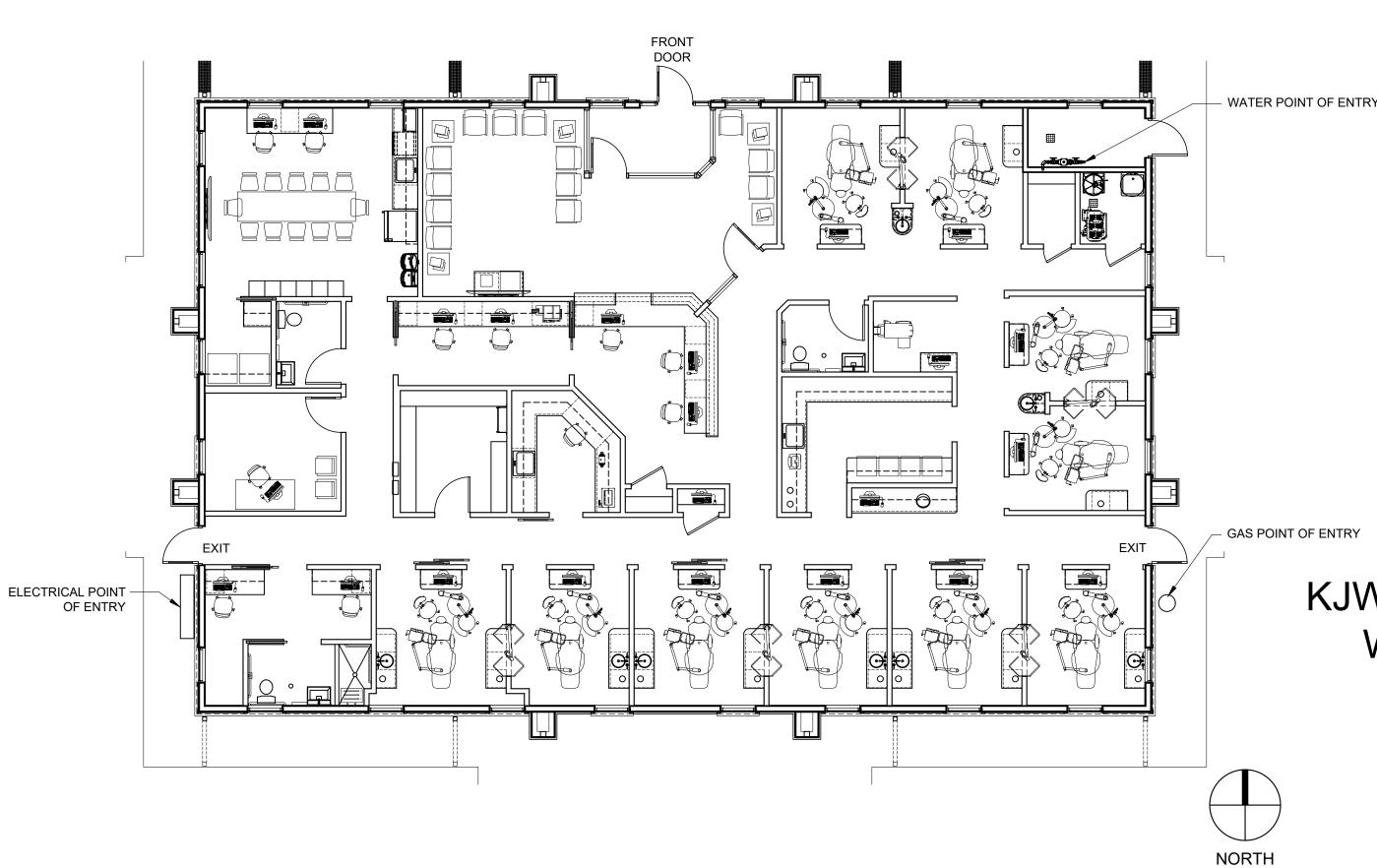
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ONLY COMPLETE SETS OF DRAWINGS TO BE
DISTRIBUTED TO SUB-CONTRACTORS DO
NOT BREAK APART DRAWING SETS\*

# PROJECT LOCATION 1231 Lake Ave. Berthoud, CO 80513 West County Book 8 West County Bo

# Building Key Plan Single Story Building, Slab on Grade



May, 2025

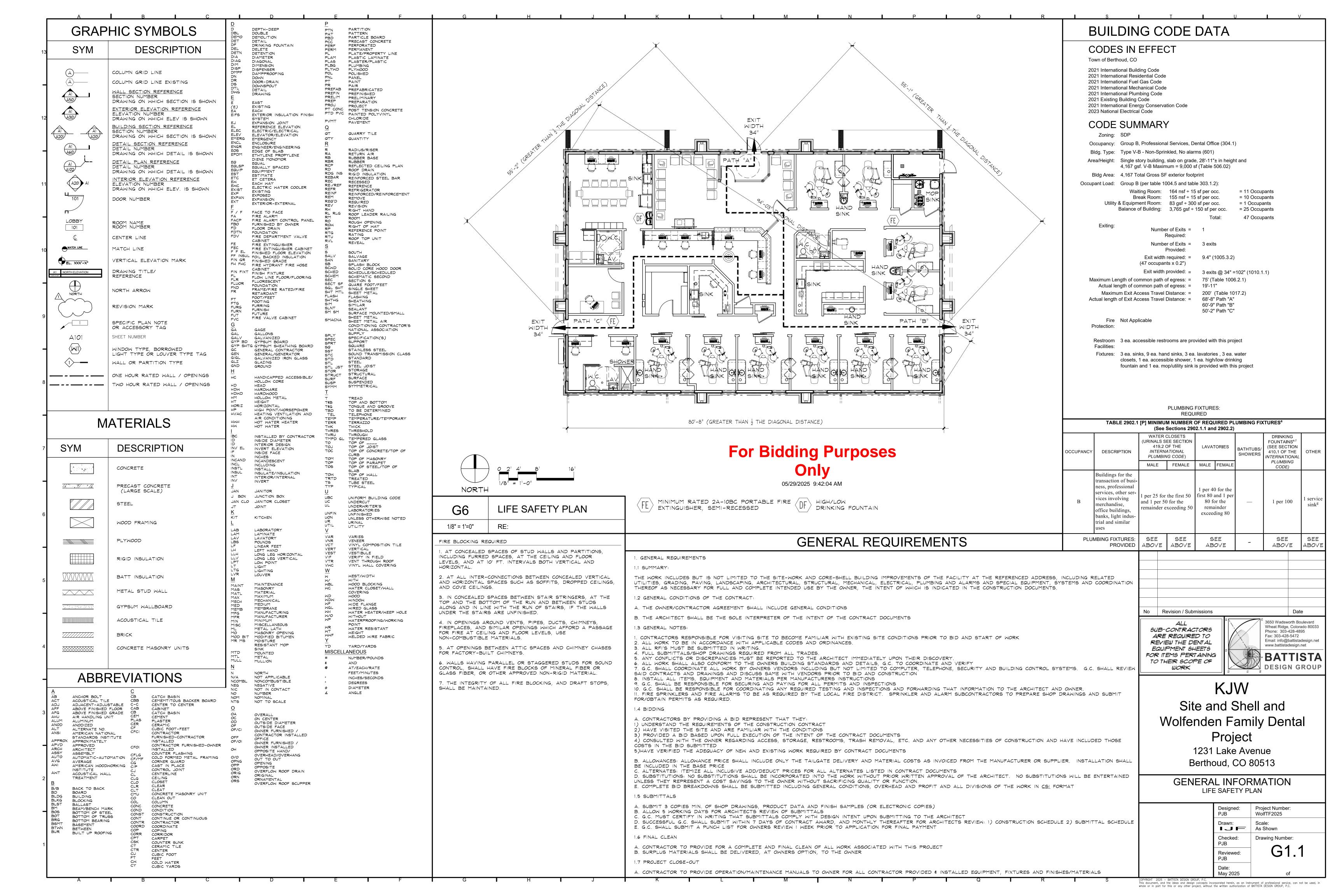
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1231 Lake Ave.. Berthoud, CO 80513

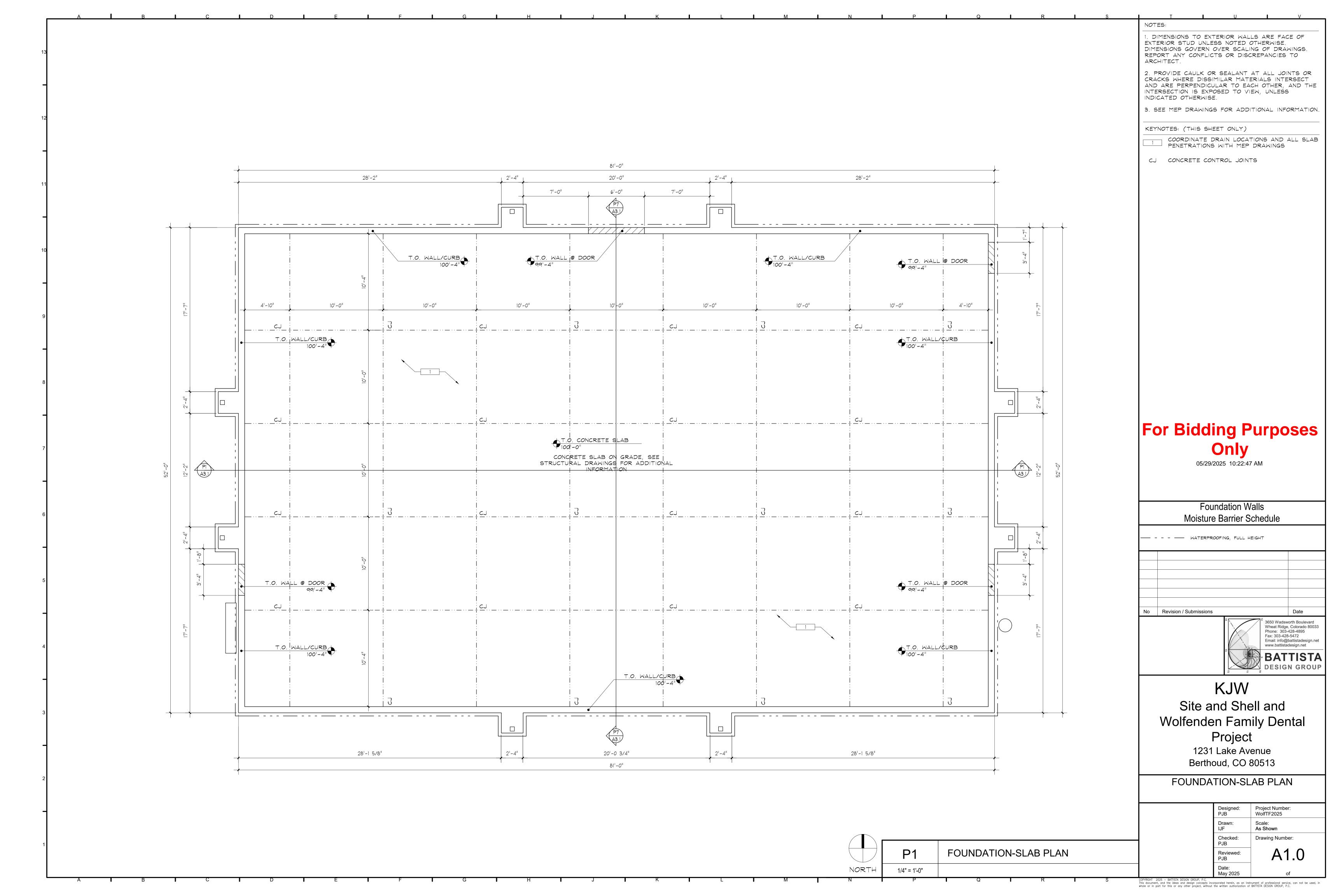
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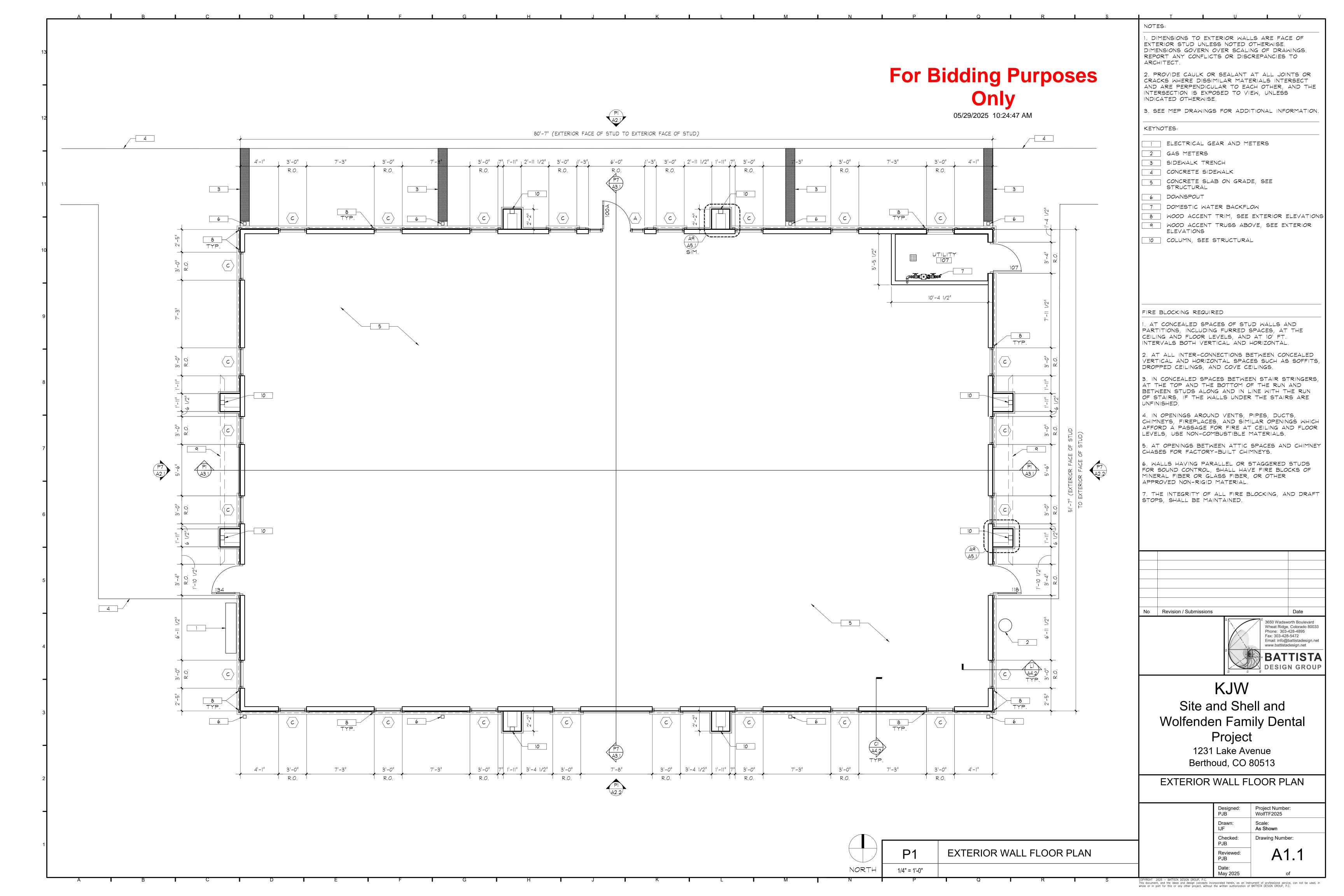
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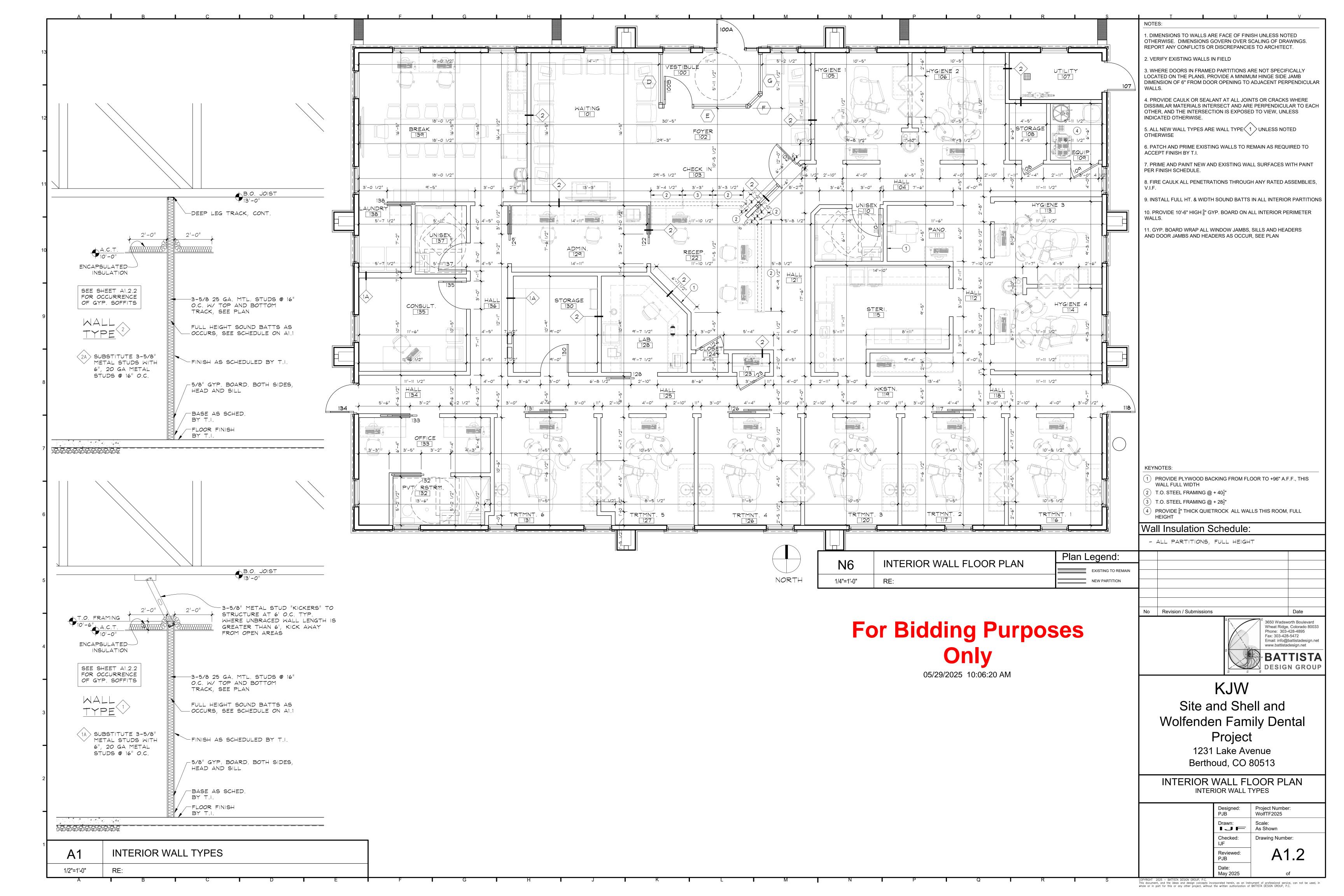
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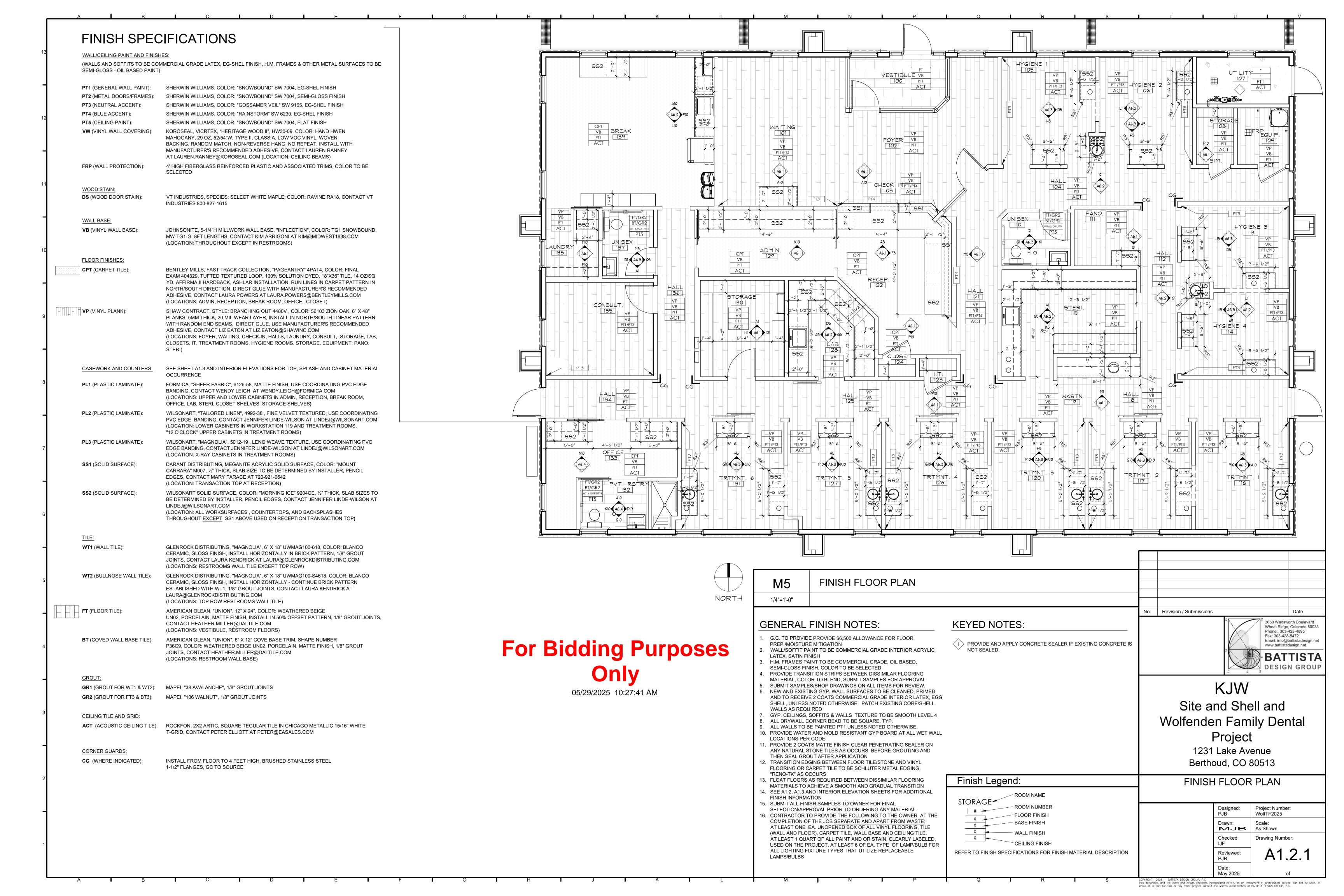


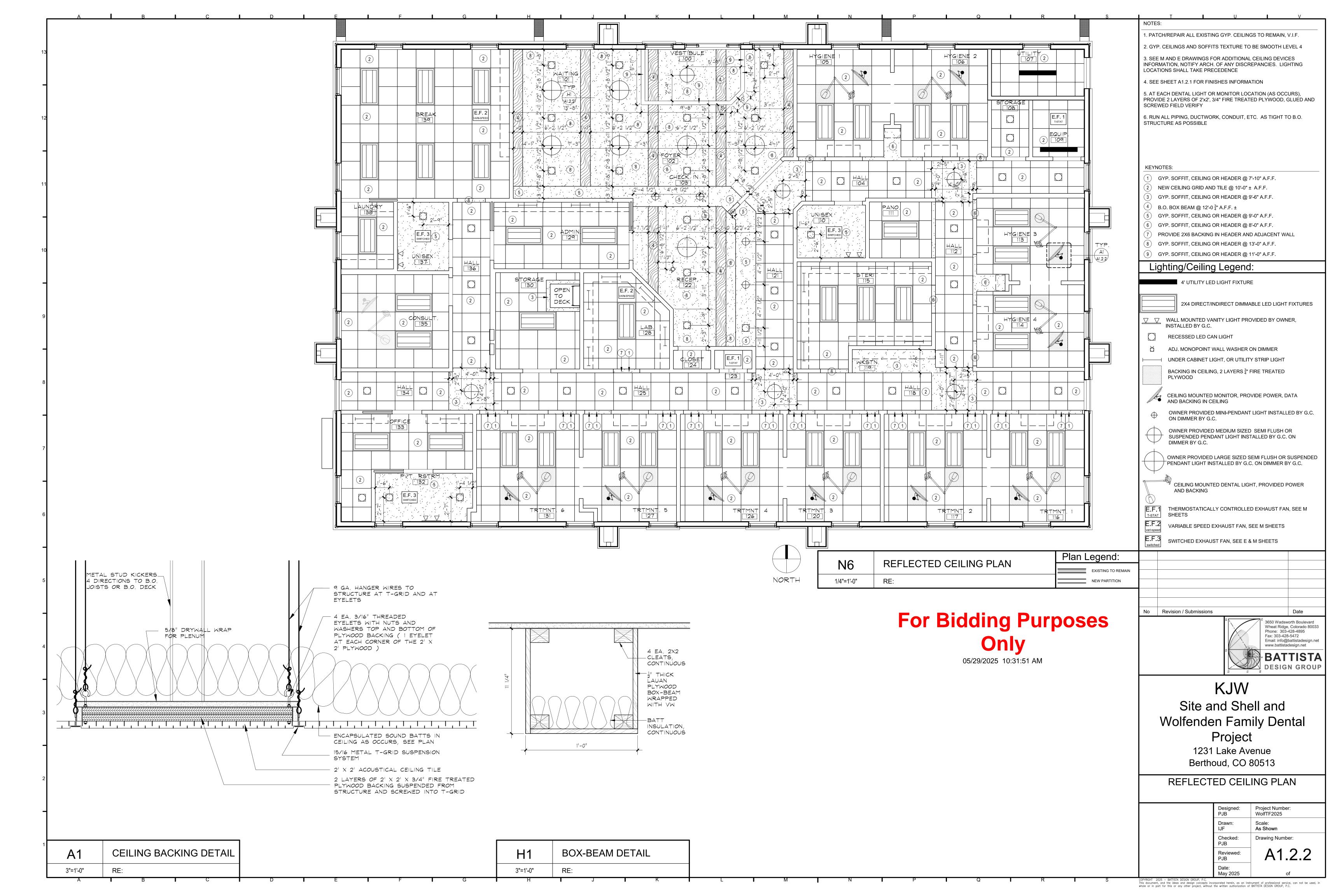
DOOR HARDWARE SCHEDULE	DOOR AND FRAME SCHEDULE	Q R S T U V  GENERAL NOTES  1. SEE A1.2.1 AND INTERIOR ELEVATION SHEETS FOR ADDITIONAL FINISH INFORMATION
HW SET: 01 DOORS: 100A, 118 1 EA DOORS: 100A, 118 1 EA HONG HER HONG HE HONG HER HONG HE HONG HER HONG HER HONG HER HONG HER HONG HER HONG HER HONG HE HONG HER HONG HE	SIZE DOOR FRAME DETAILS  NO. WIDTH X HEIGHT X THICK TYPE MATERIAL FINISH GLASS TYPE MATERIAL FINISH HEAD JAMB(S) SILL RATING W REMARKS  100A 3'-0" 7'-0" 1-3/4" A ALU ANO 2,T 1 ALU ANO 01 ENTRANCE LOCK, KEYED CYLINDER LOCK ON OUTSIDE & PANIC	2. SUBMIT ALL FINISH SAMPLES TO OWNER FOR FINAL SELECTION/APPROVAL PRIOR TO ORDERING ANY MATERIAL  IC BAR ON INSIDE  DOOR AND FRAME NOTES:
1 EA SURFACE CLOSER 4050 SCUSH 1 SET CLOSER BRACKET(S) 1 SET SEALS 1 EA DOOR SWEEP 1 THRESHOLD  1 EA THRESHOLD  1 EA STOREROOM LOCK  1 SET SEALS 1 EA SEALS 1 EA THRESHOLD  1 EA STOREROOM LOCK  1 SET SEALS 1 EA STOREROOM LOCK  4050 SCUSH AS REQ. TO INSTALL CLOSER BY ALUM DOOR/FRAME MFR. BY ALUM DOOR/FRAME MFR. A ZER  689 LCN  689 LCN  WITH SPRING STOP  689  689 LCN  WITH SPRING STOP  689  689 LCN  WITH SPRING STOP  689  689  689  689  689  689  689  68	100B 3'-0" 8'-0" 1-3/4" A ALU ANO 3,T 1 ALU ANO 02 ENTRANCE LOCK, KEYED CYLINDER LOCK ON OUTSIDE & PANION 102 3'-0" 8'-0" 1-3/4" D WD STN GL1 6 HM PNT Q1 Q1 - 07 PASSAGE SET  107 3'-0" 7'-0" 1-3/4" B HM PNT - 2 HM PNT 02 STOREROOM LOCK  108 2'-4" 8'-0" 1-3/4" C WD STN - 2 HM PNT Q1 Q1 08 CLASSROOM LOCK WITH OVERHEAD STOP	1. FRAMES TO BE WELDED HOLLOW METAL FRAMES - SHOP PRIMED AND FIELD PAINTED WITH SEMI-GLOSS OIL BASED PAINT, OR KYNAR FINISH ALUMINUM STOREFRONT, SEE SCHEDULE  2. SUBMIT SHOP DRAWINGS AND SAMPLES FOR REVIEW
1 EA LOCK GUARD LG12 630 IVE 1 EA SURFACE CLOSER 4050 SCUSH 689 LCN WITH SPRING STOP 1 EA PROTECTION PLATE 8400 10" X 2" LDW B-CS 630 IVE 1 EA RAIN DRIP 142AA A ZER 1 EA GASKETING 429A @ HEAD & JAMBS A ZER 1 EA DOOR SWEEP 39A A ZER 1 EA THRESHOLD 655A - OR AS REQ. BY SILL DET. A ZER	109 3'-0" 8'-0" 1-3/4" C WD STN - 2 HM PNT Q1 Q1 10 CLASSROOM LOCK, CLOSER, KICK PLATE, AUTOMATIC DOOR B 110 3'-0" 8'-0" 1-3/4" C WD STN - 2 HM PNT Q1 Q1 12 PRIVACY SET  117 PR. 3'-0" 8'-0" 1-3/4" D WD STN GL1 4 04 BY-PASSING SLIDING BARN DOORS  118 3'-0" 7'-0" 1-3/4" A ALU ANO 2,T 1 ALU ANO 01 ENTRANCE LOCK, KEYED CYLINDER LOCK ON OUTSIDE & PANIC CLOSER, KICK PLATE, AUTOMATIC DOOR B 119 PR. 3'-0" 1-3/4" A ALU ANO STN GL1 3 WD STN - G1 11 POCKET DOOR WITH SOFT CLOSE HARDWARE AND OFFICE LOCK	3. DOORS TO BE KYNAR FINISH ALUMINUM OR PAINTED HOLLOW METAL, SEE SCHEDULE  4. ALL INTERIOR GLASS DOORS TO RECEIVE 3M YAMOTO FILM, CONFIRM WITH OWNER
HW SET: 03 DOORS: 100B  1 EA PANIC HARDWARE 1 EA MORTISE CYLINDER 20-001 (CAM/COLLAR AS REQ.) 1 EA RIM CYLINDER 1 EA 90 DEG OFFSET PULL 1 EA SURFACE CLOSER 1 SET CLOSER BRACKET(S)  212HD CD-9847-NL-OP-110MD 626 626 VON PANIC HARDWARE DEVICE LATCH MAY BE WECHANICALLY HELD IN RETRACTED STATE BY MECHANICAL CYLINDER DOGGING FEATURE FOR PUSH/PULL OPERATION. WITH SPRING STOP  WITH SPRING STOP	123 3'-0" 8'-0" 1-3/4" C WD STN - 2 HM PNT Q1 Q1 08 CLASSROOM LOCK WITH OVERHEAD STOP  124 3'-0" 8'-0" 1-3/4" C WD STN - 2 HM PNT Q1 Q1 09 CLASSROOM LOCK  126 PR. 3'-0" 8'-0" 1-3/4" D WD STN GL1 4 04 BY-PASSING SLIDING BARN DOORS  128 3'-0" 8'-0" 1-3/4" D WD STN GL2 5 11 SLIDING BARN DOOR HARDWARE	GLAZING TYPES
1 SET 1 SEALS BY ALUM DOOR/FRAME MFR.  HW SET: 04 DOORS: 117, 126  10 131  HEAVY DUTY BYPASS BARN DOOR HARDWARE 6' TRACK LENGTH PRE-DRILLED HOLES STAG HANGERS FALCON STYLE OUTER PULL, 10"  BRUSHED STEEL FINISH FOR ALL PARTS INSTALL PULLS BACK TO BACK RUSTICA HARDWARE: 1-800-891-8312	129       3'-2"       8'-0"       1-3/4"       D       WD       STN       GL1       3       WD       STN       -       G1       -       -       11       POCKET DOOR WITH SOFT CLOSE HARDWARE AND OFFICE LOG         130       3'-0"       8'-0"       1-3/4"       C       WD       STN       -       2       HM       PNT       Q1       -       -       08       CLASSROOM LOCK         131       PR. 3'-0"       8'-0"       1-3/4"       D       WD       STN       GL1       4       -       -       -       -       -       04       BY-PASSING SLIDING BARN DOORS         132       3'-2"       8'-0"       1-3/4"       C       WD       STN       -       G1       -       -       11       POCKET DOOR WITH SOFT CLOSE HARDWARE AND OFFICE LOG         133       3'-2"       8'-0"       1-3/4"       D       WD       STN       G1       -       -       11       POCKET DOOR WITH SOFT CLOSE HARDWARE AND OFFICE LOG	1 1" INSULATED GLASS, LOW 'E'. CLEAR/CLEAR  LOCK FUNCTION 2 1/4" LOW 'E' GLASS. CLEAR  DCK FUNCTION 1 1/4" LOW 'E' GLASS. CLEAR
HW SET: 05 DOORS: 128  BARN DOOR HARDWARE BLACK NYLON ROLLERS 6' TRACK LENGTH PRE-DRILLED HOLES FALCON STYLE INNER PULL, 10" MODERN STYLE INNER PULL, 8"  BRUSHED STEEL FINISH FOR ALL PARTS INSTALL PULLS BACK TO BACK RUSTICA HARDWARE: 1-800-891-8312	134 3'-0" 7'-0" 1-3/4" A ALU ANO 2,T 1 ALU ANO 01 ENTRANCE LOCK, KEYED CYLINDER LOCK ON OUTSIDE & PANION 135 3'-0" 8'-0" 1-3/4" D WD STN GL1 2 HM PNT Q1 Q1 06 PASSAGE SET  137 3'-0" 8'-0" 1-3/4" C WD STN - 2 HM PNT Q1 Q1 12 PRIVACY SET  138 3'-0" 8'-0" 1-3/4" C WD STN - 3 WD STN - G1 11 POCKET DOOR WITH SOFT CLOSE HARDWARE AND PASSAGE F	GL1 1/4" CLEAR TEMPERED GLASS WITH 3M FILM
HW SET: 06 DOORS: 135		TYPES
1 EA		S BARN DOOR PROVIDE BACKING HDWR  DRYWALL WRAPPED OPENING OPEN SHORTER  NARROWER THAN DOOR  SAME AND TRACK HDWR  DRYWALL WRAPPED OPENING OPEN SHORTER THAN DOOR  AND TRACK HDWR  THAN DOOR  STORY  SHORTER THAN DOOR  AND TRACK HDWR  THAN DOOR  STORY  SHORTER THAN DOOR  AND TRACK HDWR  THAN DOOR  STORY  STORY THAN DOOR  AND TRACK HDWR  THAN DOOR  STORY THAN DOOR  STORY THAN DOOR  THAN DOOR  STORY THAN DOOR  THAN DOOR
HW SET: 10	DOOR A DARK BRONZE ANODIZED ALUMINUM STOREFRONT  DOOR B INSULATED, PAINTED HM STOREFRONT  DOOR C FLUSH FLUSH S.C. WHITE MAPLE  FRAME 1 FRAME 2 FRAME 3 DARK BRONZE HOLLOW METAL ANODIZED ANODIZED FRAME, SHOP POCKET OPENING SHORTER NARROWER FRAME  DOOR SI	HOLLOW METAL  OPENING (2"  SHORTER AND  NARROWER THAN  PAINTED  HOLLOW METAL  FRAME, SHOP  PRIMED, FIELD  PAINTED
6 HW SET: 12	WINDOW/STOREFRONT TYPES  5'-11"  9'-8"  2" 1'-4" 3'-0" 1'-2" 2" 2" 3'-0"  2" 2'-8" 2" 2" 2" 5   5" 7" 2" 2" 5" 7" 2" 2" 5" 7" 2" 2" 5" 7" 2" 2" 5" 7" 2" 2" 5" 7" 2" 2" 5" 7" 2" 2" 5" 7" 2" 2" 5" 7" 2" 2" 5" 7" 2" 5" 7" 2" 5" 7" 2" 5" 7" 2" 5" 7" 2" 5" 7" 2" 5" 7" 2" 5" 7" 2" 5" 7" 2" 5" 7" 2" 5" 7" 2" 5" 7" 2" 5" 7" 2" 5" 7" 2" 5" 7" 7" 7" 7" 7" 7" 7" 7" 7" 7" 7" 7" 7"	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
DOOR HARDWARE SCHEDULE NOTES AND LEGEND:  Manufacturer Legend: Substitutions:  (GLY) Glynn Johnson Rixson, ABH (IVE) Ives Hinges Stanley, McKinney (IVE) Ives Trimco, Rockwood (LCN) LCN No Substitution (PEM) Pemko National Guard Products, Zero International (SCH) Schlage No Substitution (TRI) Trimco No Substitution (HAF) Hafele No Substitution (ALH) Accurate Lock & Hardware No Substitution (PRL) PRL Glass Systems (CRL) C.R. Laurence Co., Inc. (CAS) Cavity Sliders, USA  Schedule Notes:  A. General:	DARK BRONZE ANODIZED ALUMINUM STOREFRONT, DOUBLE GLAZED	No Revision / Submissions  Date  DARK BRONZE  ANODIZED  ALUMINUM  STOREFRONT
1. Intent of Hardware Groups a. The following schedule of hardware groups shall be considered a guide only. It shall be the hardware supplier's responsibility to furnish all required hardware. b. Where items of hardware aren't definitely or correctly specified, are required for completion of the Work, a written statement of such omission, error, or other discrepancy to Architect, prior to date specified for receipt of bids for clarification by addendum; or, furnish such items in the type and quality established by this specification, and appropriate to the service intended. c. Adjustments to the Contract Sum will not be allowed for omissions or items of hardware not clarified prior to bid opening. 2. Furnish all items in US26D (BHMA 626/652), Satin Chrome unless otherwise specified, Closers shall be Powder Coated Aluminum. Trim and Flat Goods may be furnished in US32D (BHMA 630), Satin Stainless Steel.  B. Lock and Latchsets: 1. Hardware supplier shall verify all lock functions with Owner prior to ordering material.	3'-0" (OR 3'-10" AS OCCURS, SEE SCHEDULE)  2 1/2"  2 1/2"  DOOR EDGE TO CASING  HARDWOOD TRIM  ADA COMPLIANT PULLS	SEE PLAN FOR PARTITION TYPE  Site and Shell and Wolfenden Family Dental Project 1231 Lake Avenue
<ol> <li>Provide strikes with extended lips where required to protect trim from being marred by latch bolt. Provide strike lips that do not project more than 1/8" beyond doorframe trim.</li> <li>Door Closers:         <ol> <li>Door Closers shall have fully hydraulic, full rack and pinion action with a high strength cast iron cylinder.</li> <li>Spring power shall be continuously adjustable over the full range of closer sizes, and allow for reduced opening force for the physically handicapped. Closers shall have separate adjustment for latch speed, general speed, and backcheck.</li> <li>Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with</li> </ol> </li> </ol>	S.C. WOOD DOOR	Berthoud, CO 80513  DOOR AND HARDWARE SCHEDULE DOOR AND WINDOW TYPES
accessibility requirements. 4. Door control devices backcheck shall be properly located for protection of the door, frame, and applied hardware.  D. Cylinders and Keying: 1. Hardware supplier shall meet with the Owner to finalize keying requirements and obtain keying instructions in writing. All cylinders shall be masterkeyed by supplier as directed by Owner. Quantities of permanent keys will be as determined by the Owner. Permanent keys shall be stamped with the applicable key mark as determined by the Owner for identification and stamped "Do Not Duplicate". Deliver all permanent keys direct to Owner from supplier by secure courier return receipt requested. All cylinders shall be construction keyed, furnish 5 construction keys.	POCKET DOOR FRAMING KIT  5/8" GYP. BOTH SIDES  POCKET DOOR JAMB  3"=1'-0" RE:	Designed: Project Number: WolfTF2025  Drawn: Scale: As Shown  Checked: Drawing Number:  Reviewed: AO.1  3"=1'-0" RE: AT HEAD (JAMB SIMILAR)  Q R S COPPRIGHT 2025 - BATTISTA DESIGN GROUP, P.C. This document, and the ideas and design concepts incorporated herein, as an instrument of professional service, can not be used, in whole or in part for this or any other project, without the written outhorization of BATTISTA DESIGN GROUP, P.C.

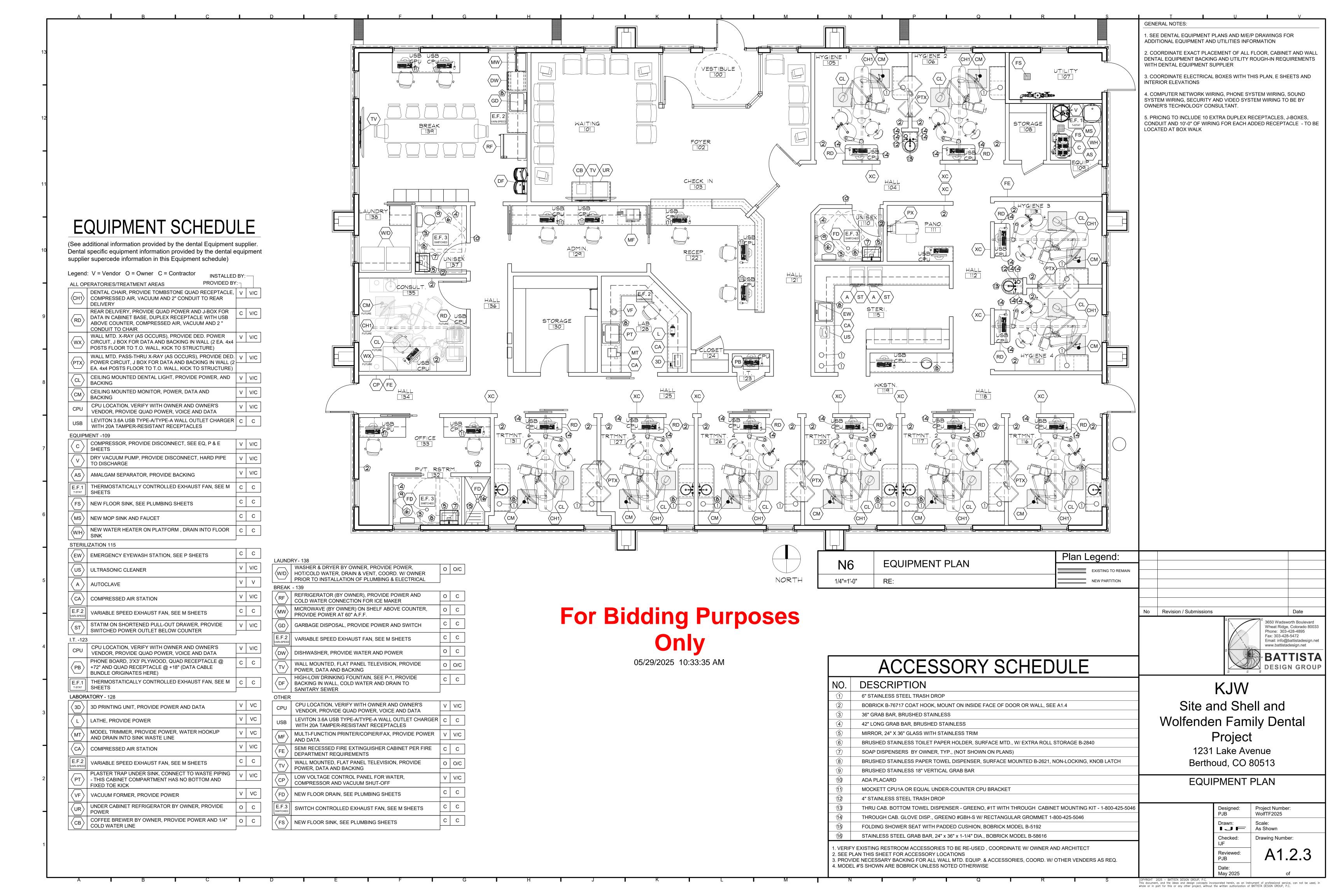


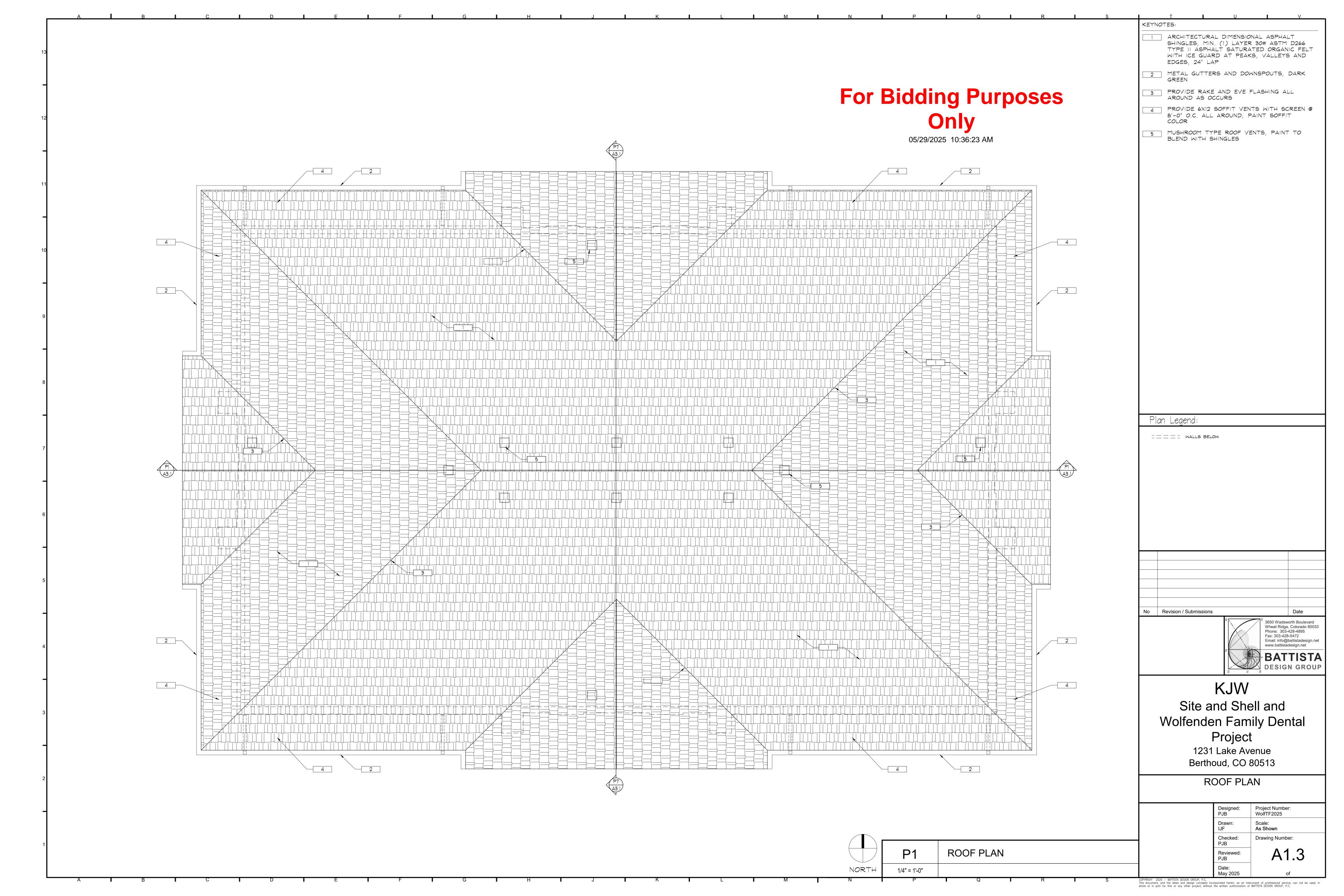


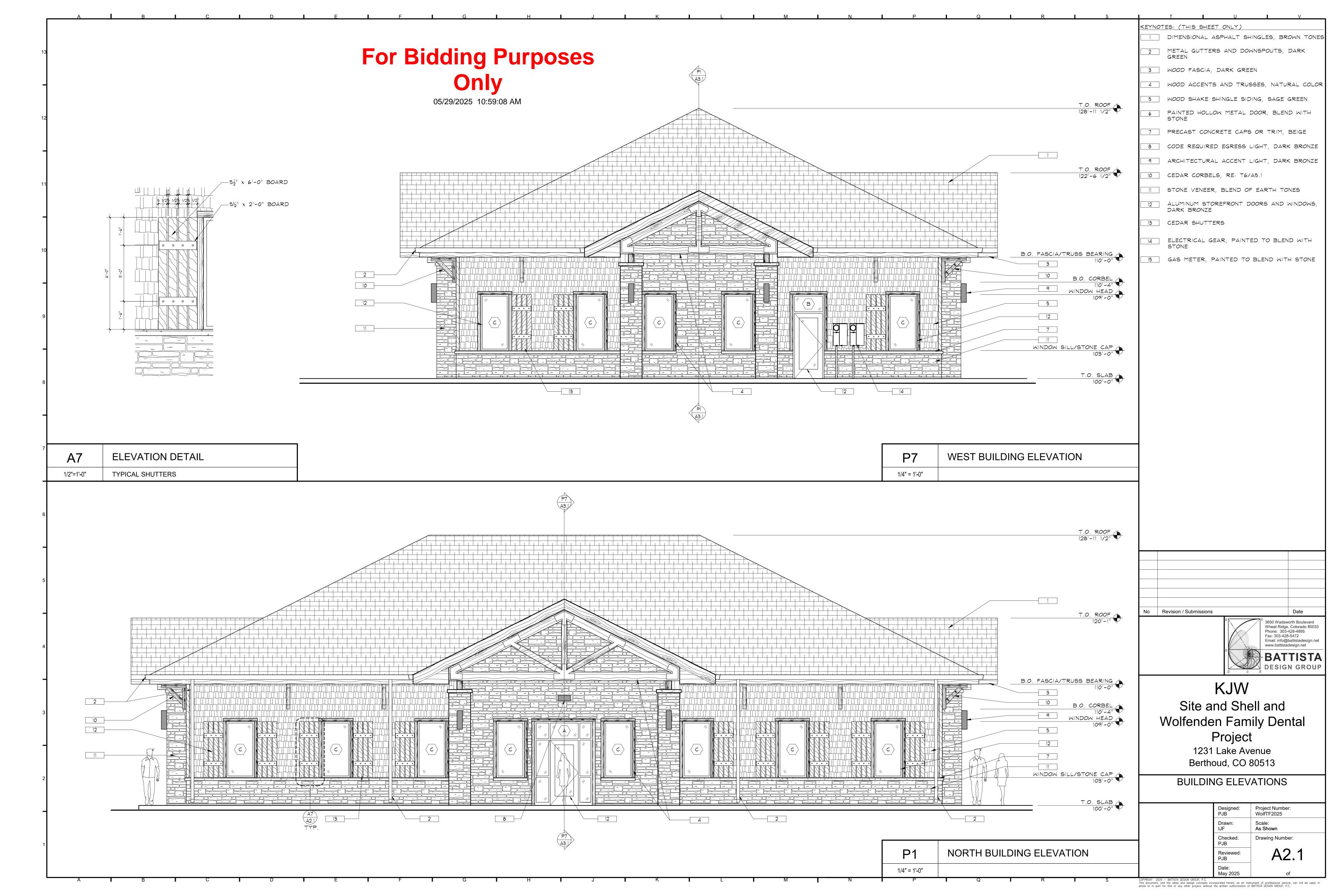


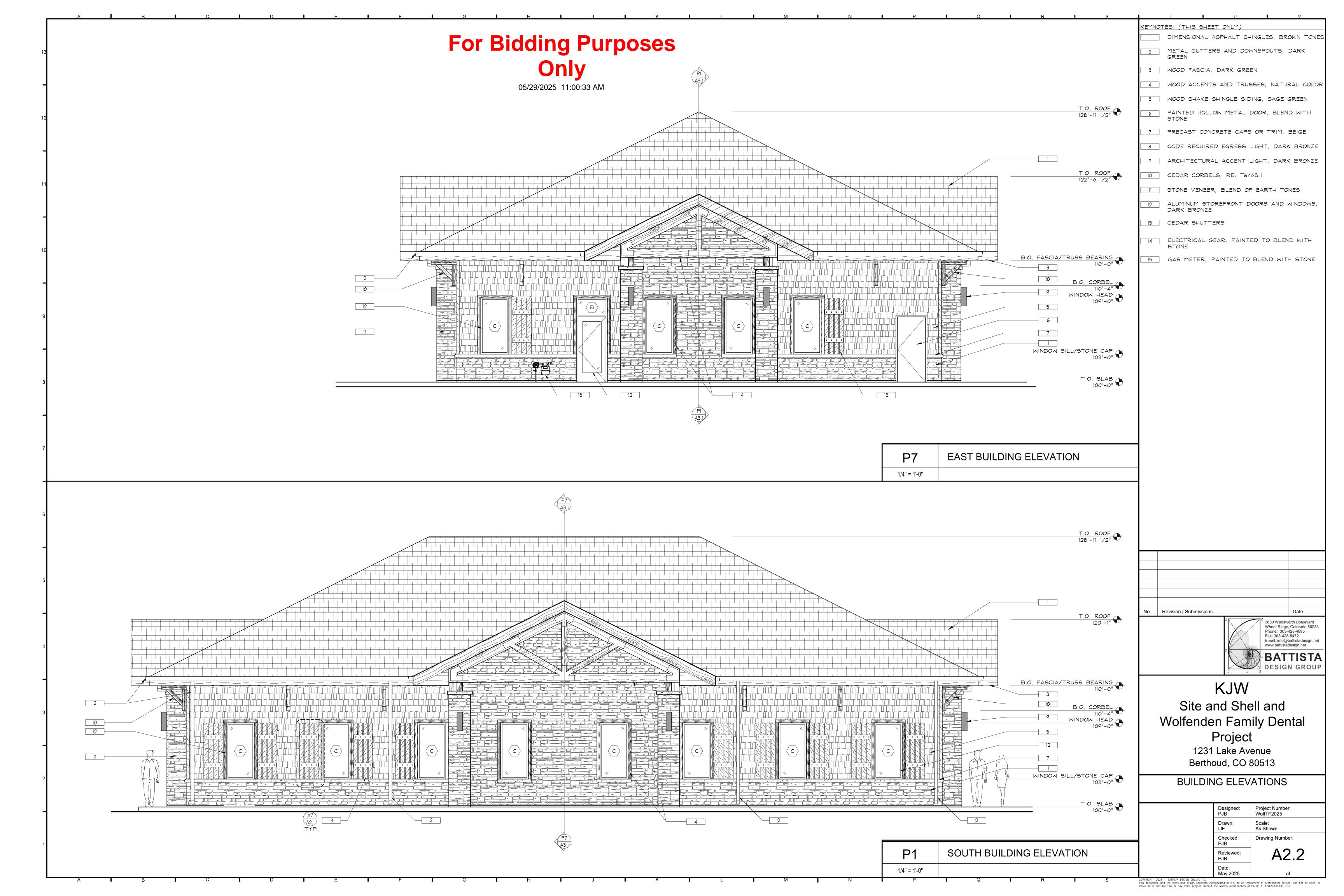


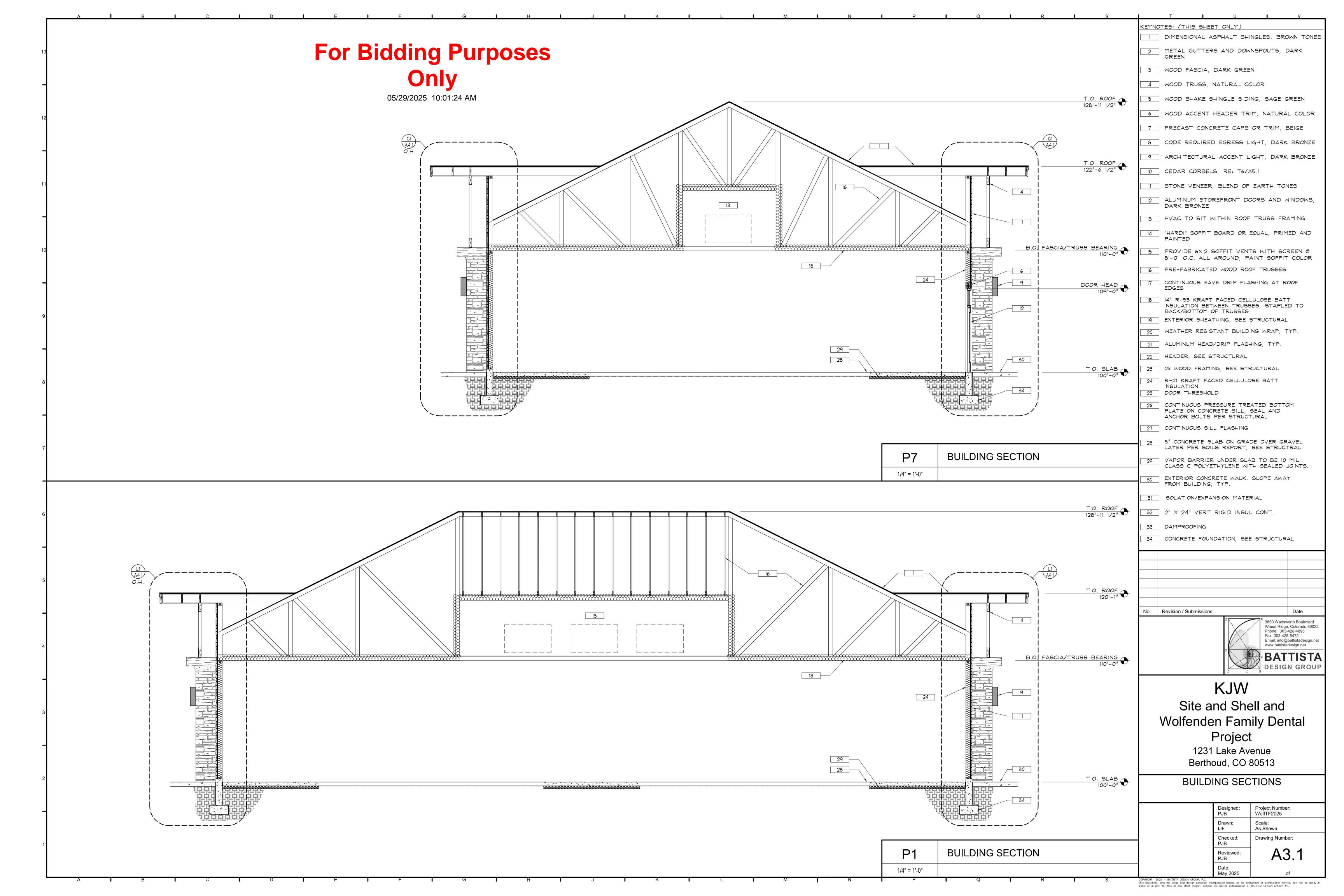


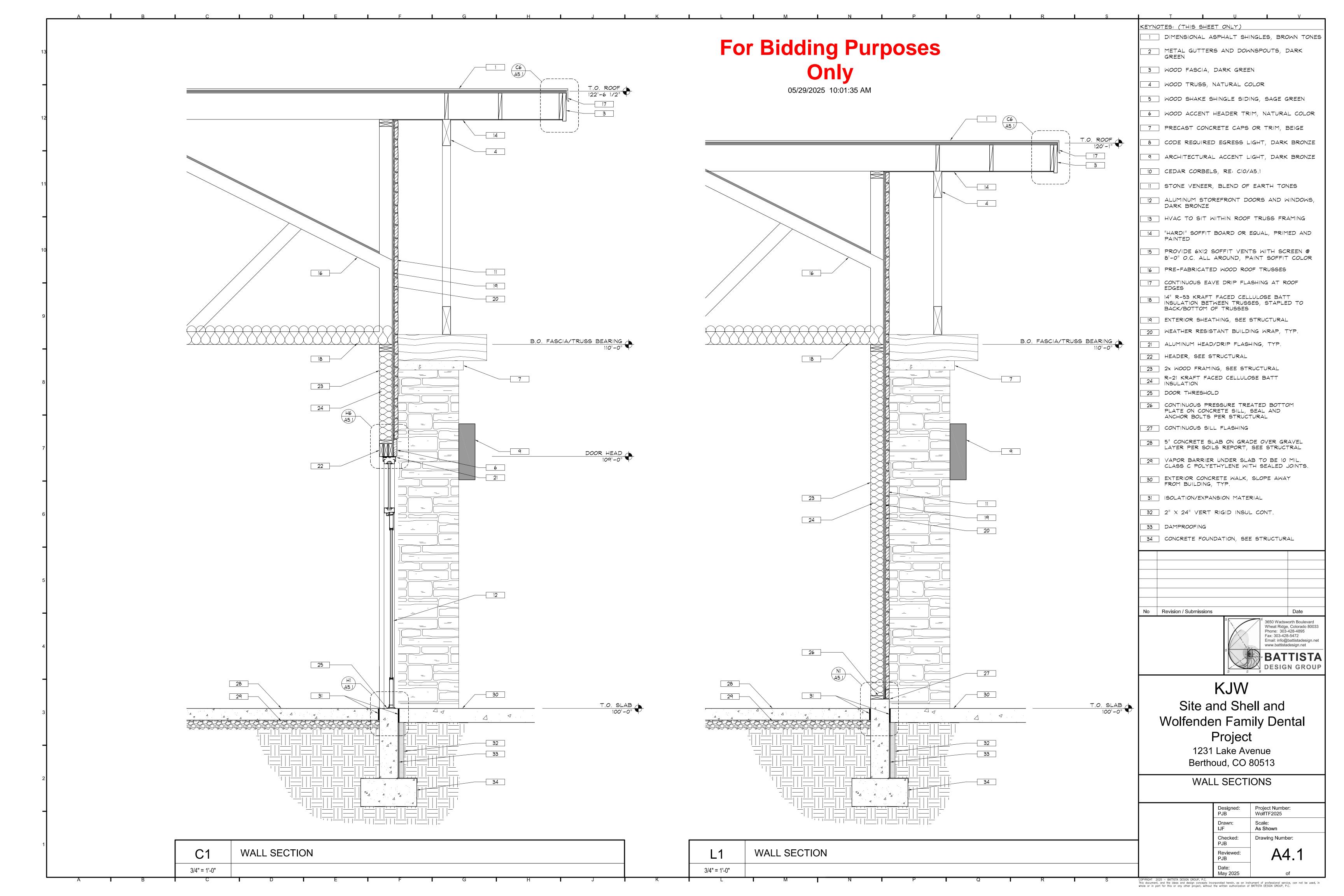


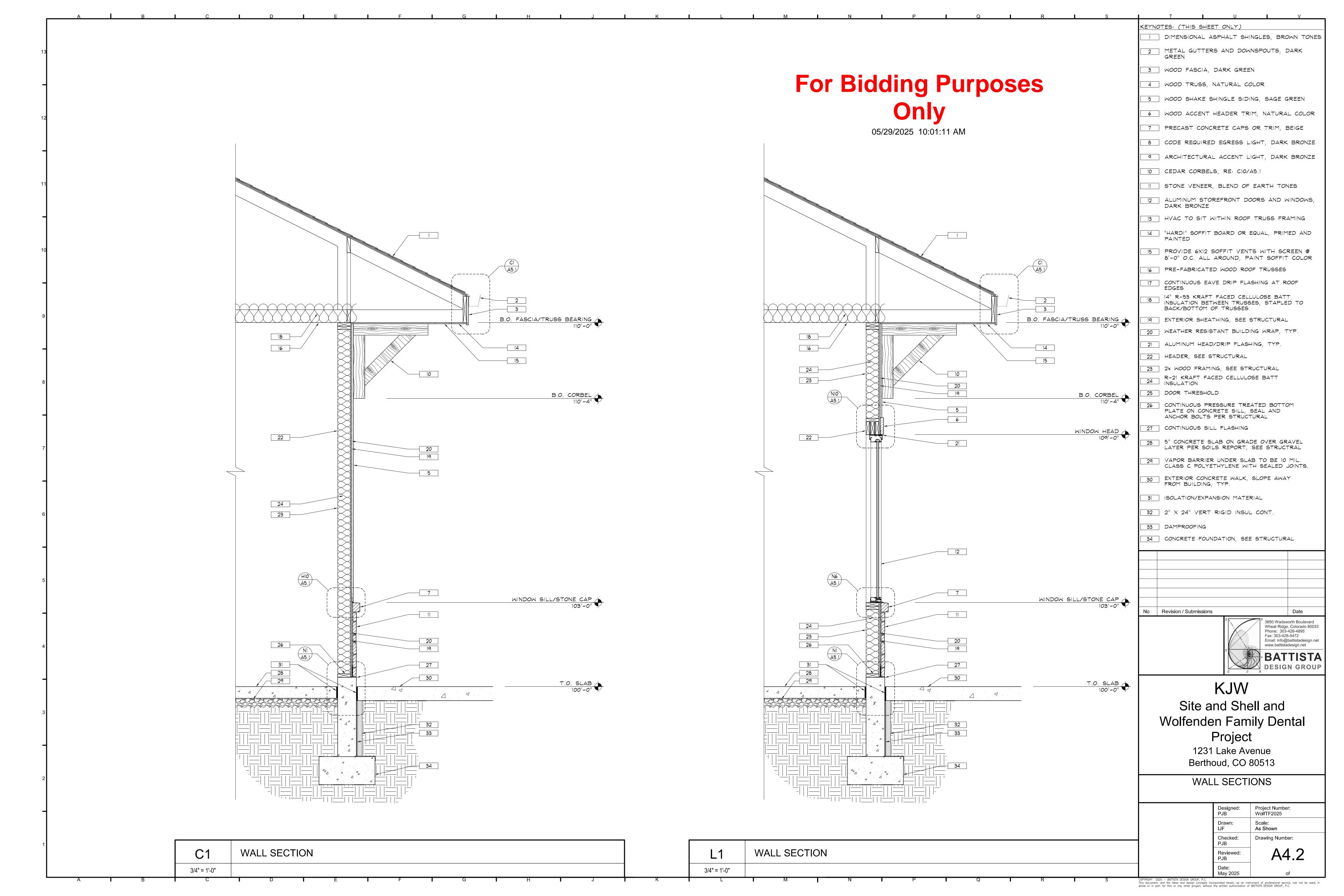


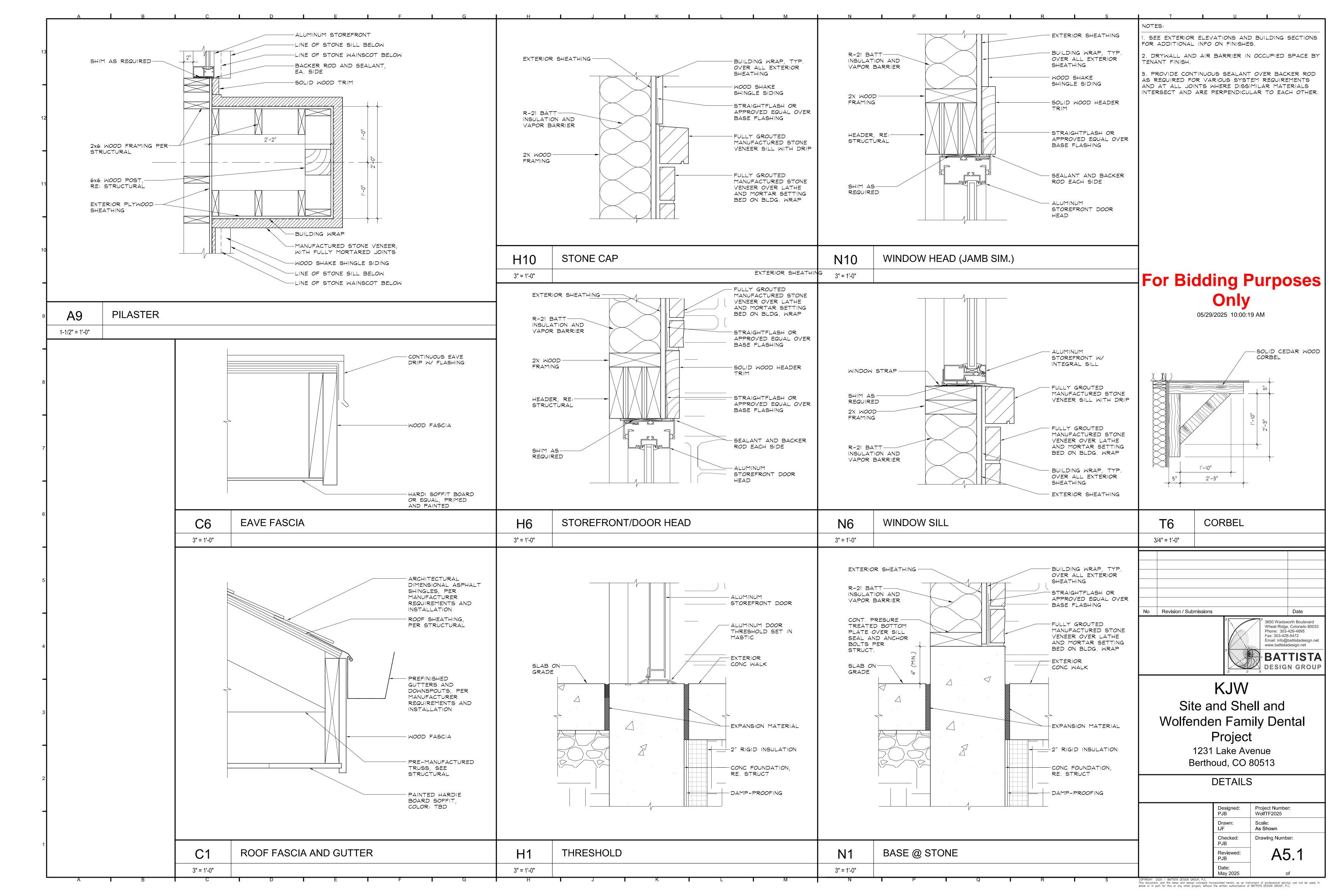


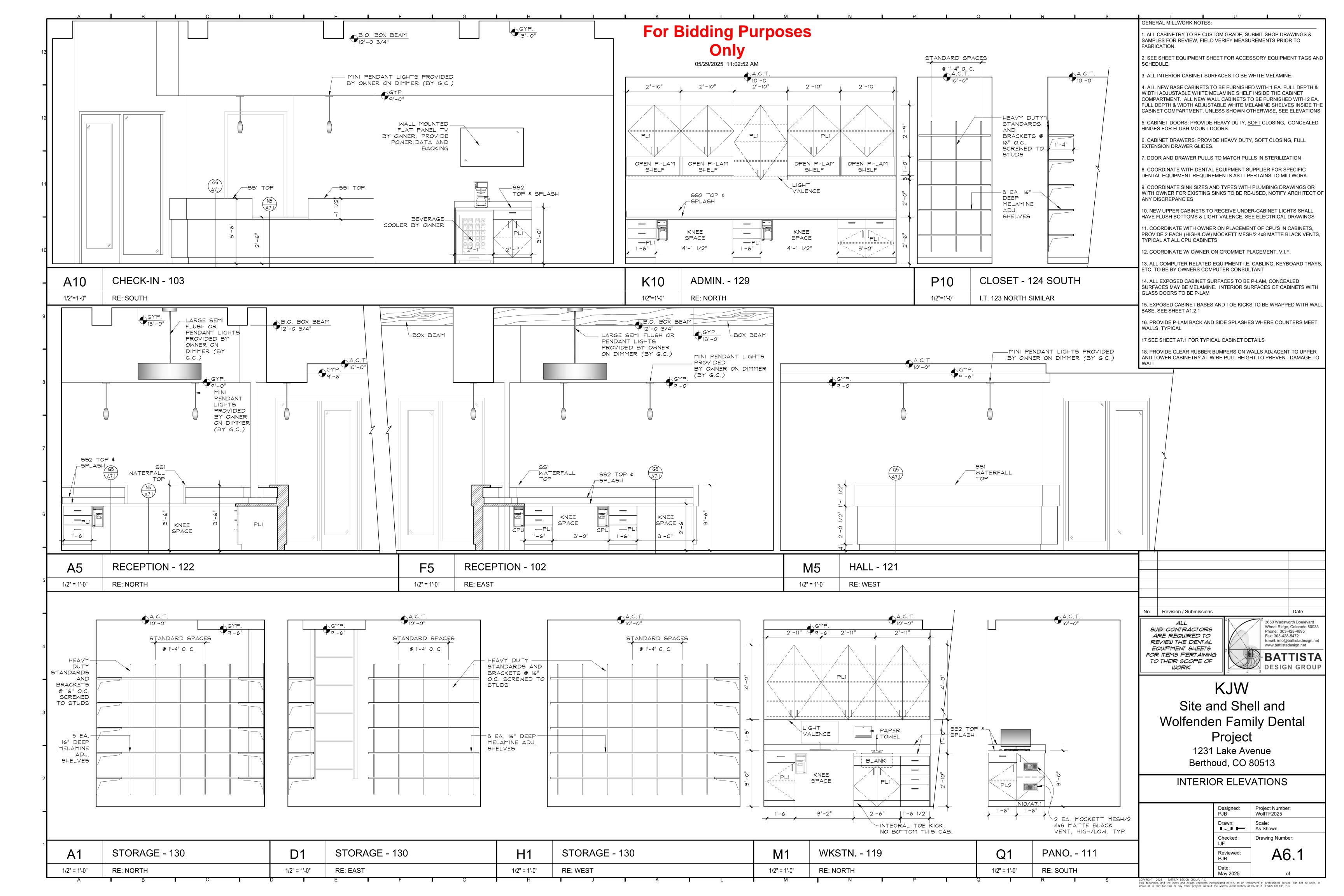


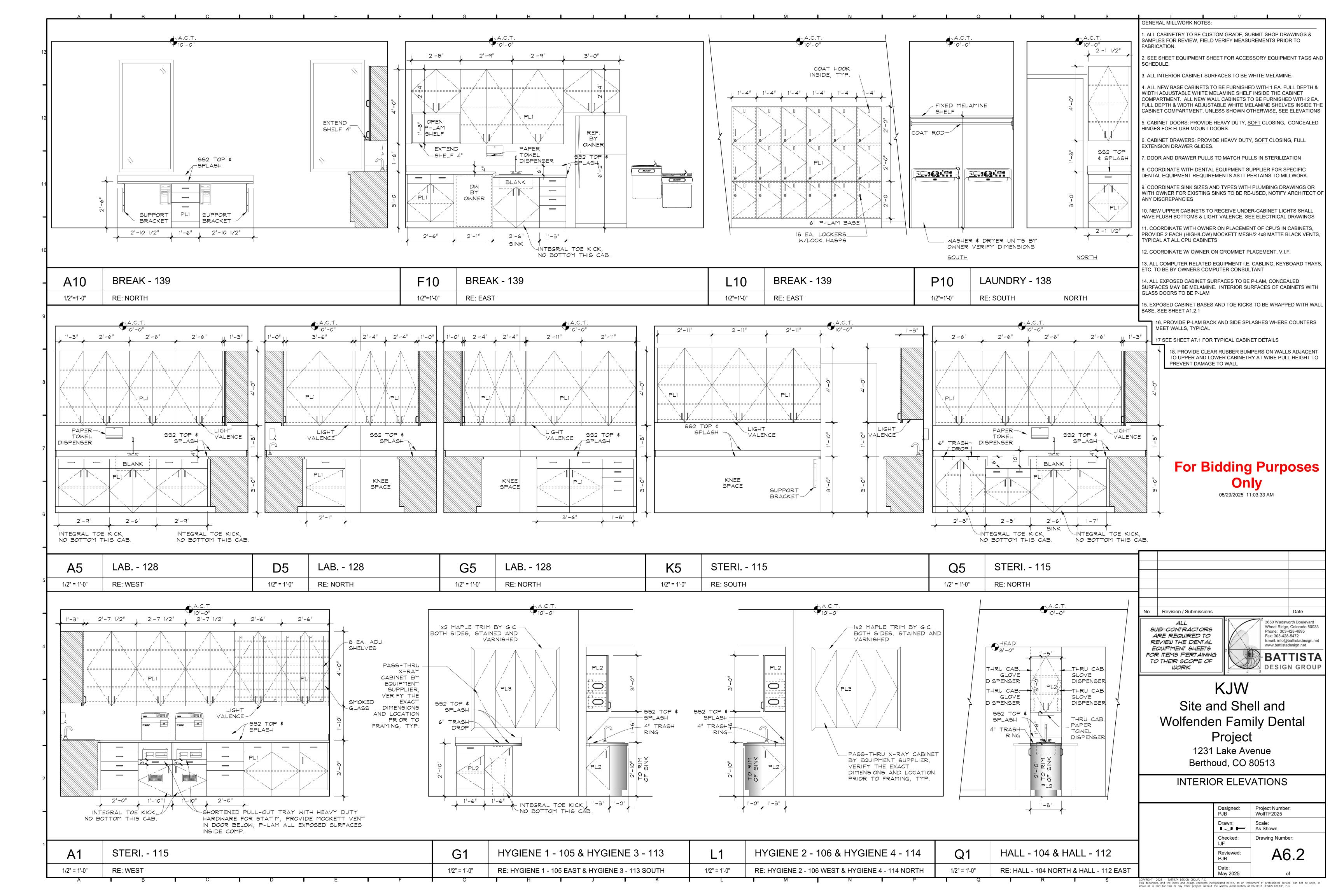


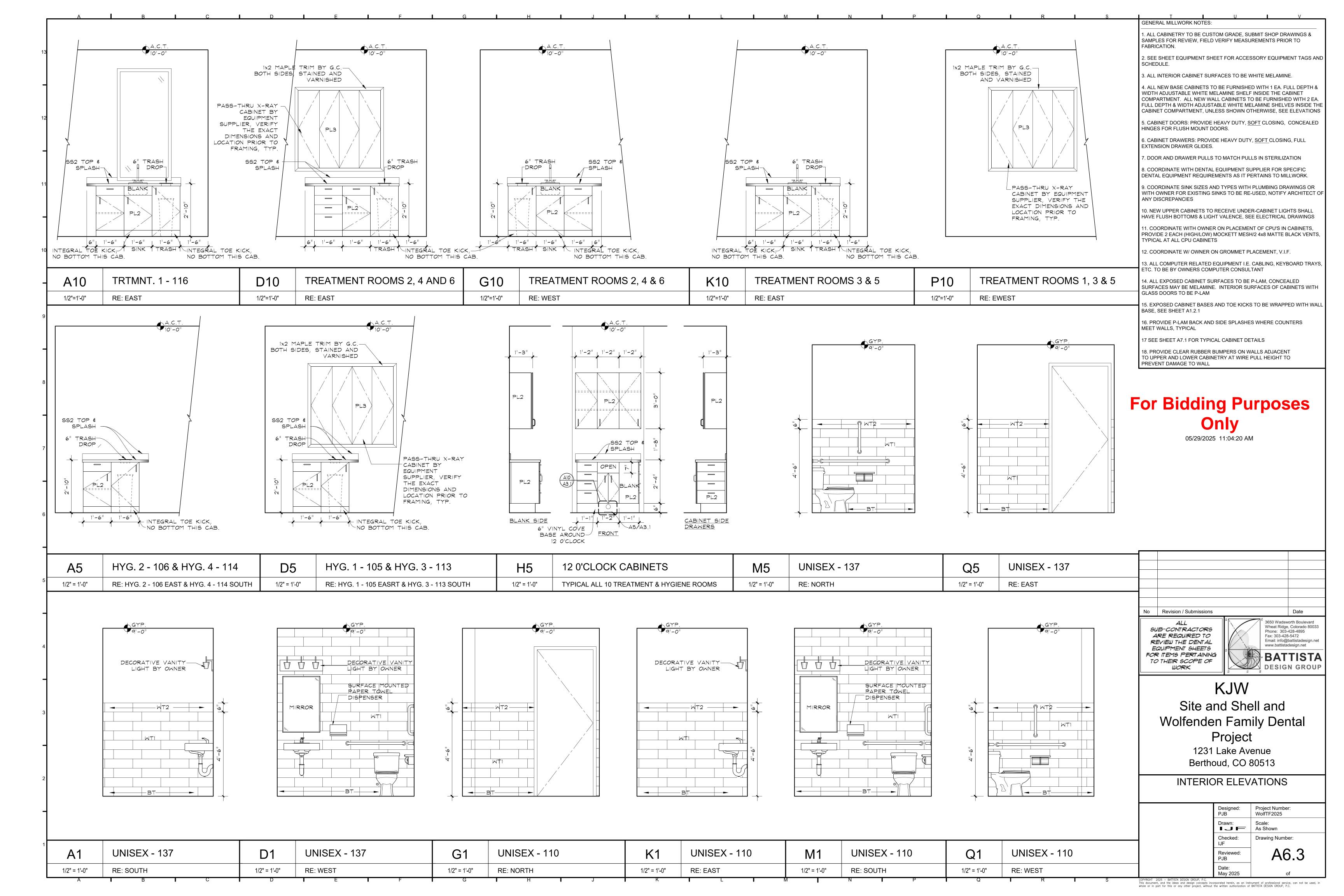


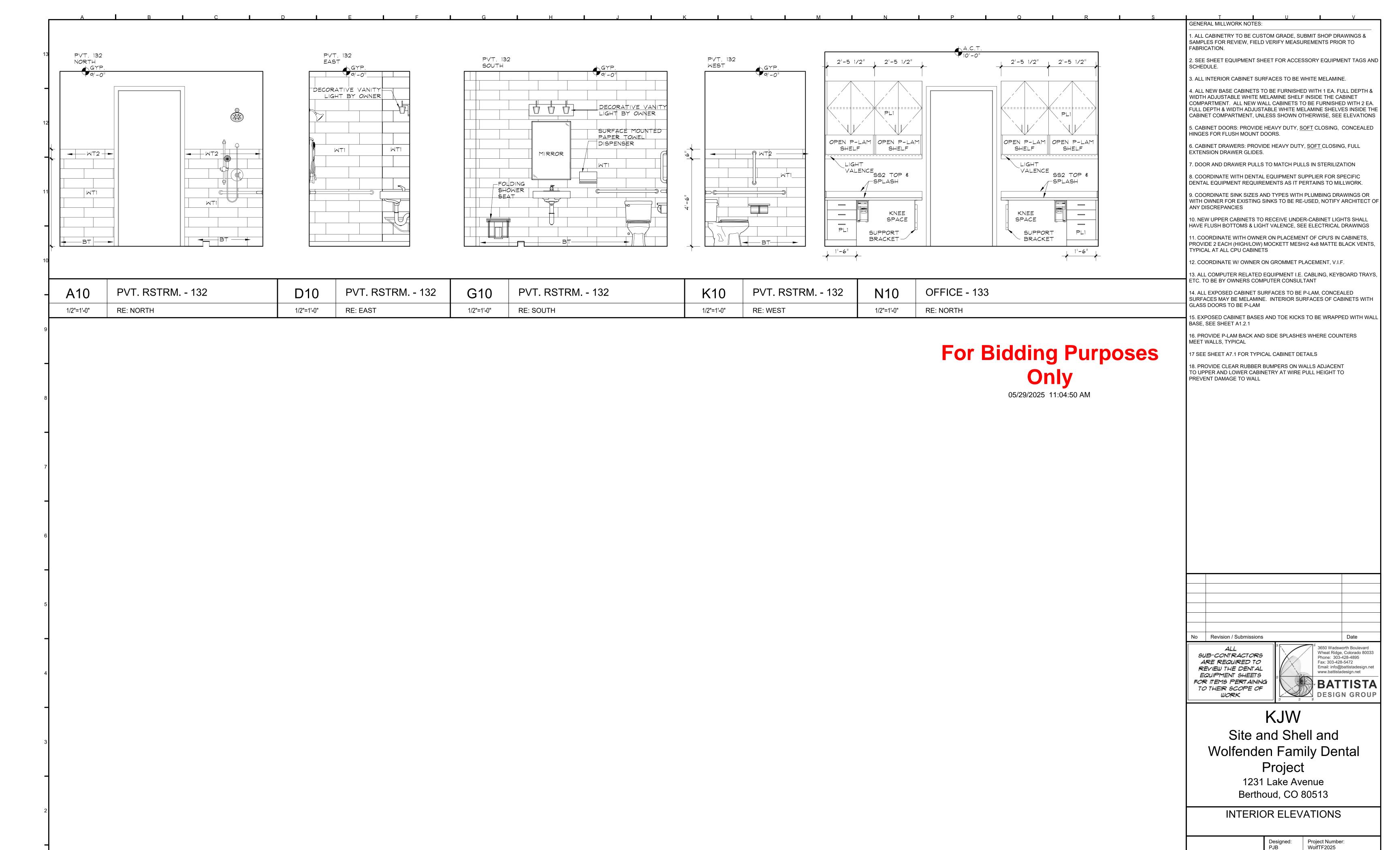












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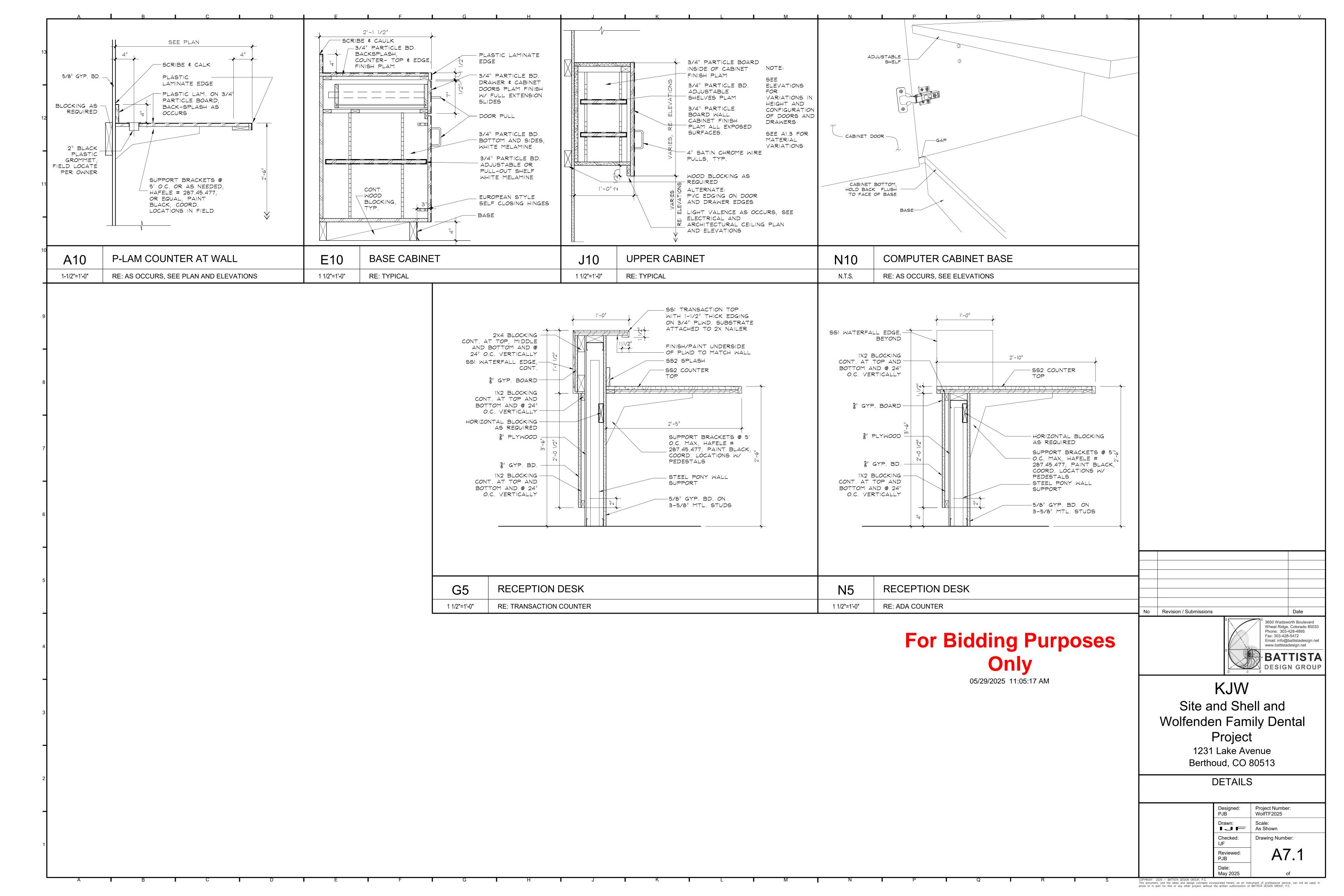
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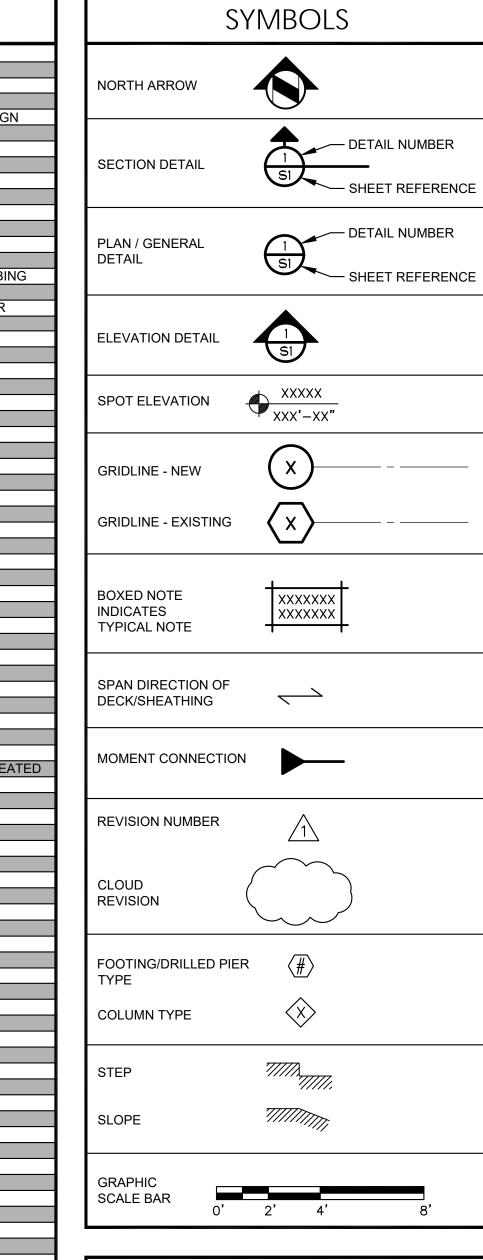
May 2025

Scale: As Shown

Drawing Number:

A6.4





# **MATERIALS CAST-IN-PLACE CONCRETE** PRECAST OR EXISTING CONCRETE STEEL **CONCRETE MASONRY BRICK MASONRY** SOIL SUBGRADE **GRAVEL FILL** RIGID INSULATION

## SHEET INDEX SHEET # | SHEET NAME COVER SHEET, DESIGN CRITERIA & PROJECT NOTES STRUCTURAL SPECIAL INSPECTIONS S1.2 TYPICAL DETAILS & SCHEDULES FOUNDATION/FLOOR PLAN ROOF FRAMING PLAN S2.2 S3.1 DETAILS

# For Bidding Purposes

# **DESIGN CRITERIA**

## **CODES & STANDARDS:**

- INTERNATIONAL BUILDING CODE 2021 EDITION
- BERTHOUD, COLORADO CODE AMENDMENTS ASCE/SEI 7-16 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
- ACI 318-19 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
- ANSI/AWC NDS-2018 NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION

## **GRAVITY LOADS USED IN DESIGN:**

- ROOF SNOW LOAD 15 psf
- SUPERIMPOSED ROOF DEAD LOAD TRUSS BOTTOM CHORD DEAD LOAD
- 5 psf MECH. ATTIC SPACE LIVE LOAD
- 20 psf MECHANICAL EQUIPMENT LOADS RE: MECHANICAL DRAWINGS
- SNOW LOAD DESIGN CRITERIA I. GROUND SNOW LOAD, Pg = 35 psf
- 2. SNOW EXPOSURE FACTOR, Ce = 1.0
- 3. SNOW LOAD IMPORTANCE FACTOR, Is = 1.0 4. THERMAL FACTOR, Ct = 1.0

## **WIND LOAD DESIGN CRITERIA:**

- A. BUILDING RISK CATEGORY II
- B. BASIC DESIGN WIND SPEED = 140 mph C. EXPOSURE CATEGORY C

## **SEISMIC LOAD DESIGN CRIERIA:**

- A. BUILDING RISK CATEGORY II B. SEISMIC IMPORTANCE FACTOR, le = 1.0
- C. SITE CLASS D
- D. SITE SPECTRAL RESPONSE ACCELERATIONS:
- 1. Ss = 0.197
- 2. S1 = 0.057 3. SDs = 0.210
- 4. SD1 = 0.091
- SEISMIC DESIGN CATEGORY B
- BASIC SEISMIC FORCE RESISTING SYSTEM: WOOD-FRAMED SHEARWALLS WITH WOOD PANELS RESPONSE MODIFICATION FACTOR, R = 6.5
- SEISMIC RESPONSE COEFFICIENT, Cs = 0.0323
- ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE PROCEDURE

### LATERAL FORCE RESISTING SYSTEM DESCRIPTION:

LOADS TO THE BUILDING FOUNDATIONS.

- LATERAL FORCE RESISTANCE AND STABILITY OF THE BUILDING IN THE COMPLETED STRUCTURE IS PROVIDED BY VERTICAL WOOD-FRAMED SHEARWALLS.
- B. THE WOOD ROOF DECKS SERVE AS HORIZONTAL DIAPHRAGMS THAT DISTRIBUTE LATERAL WIND AND SEISMIC FORCES TO THE VERTICAL LATERAL ELEMENTS. THE VERTICAL LATERAL ELEMENTS CARRY APPLIED LATERAL

## **FOUNDATIONS:**

- A. SOIL DATA WAS TAKEN FROM RECOMMENDATIONS SET FORTH IN PROJECT GEOTECHNICAL REPORT BY GROUND ENGINEERING DATED AUGUST 29, 2024 (JOB NUMBER 24-3033). REFER TO GEOTECHNICAL REPORT FOR COMPLETE SOILS INFORMATION.
- MAXIMUM TOTAL LOAD SOIL BEARING PRESSURE CAPACITY USED IN DESIGN IS 1,000 psf.

# **GENERAL NOTES**

- CONTRACTOR RESPONSIBILITY DURING CONSTRUCTION/ERECTION:
- A. THE STRUCTURE IS DESIGNED TO FUNCTION AS A COMPLETED UNIT, WITH ALL SPECIFIED ELEMENTS AND CONNECTIONS IN PLACE AND FULLY INSTALLED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, SPECIFICATION, AND IMPLEMENTATION OF ANY AND ALL TEMPORARY BRACING OR SHORING REQUIRED TO ACCOMMODATE THE CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION AND SEQUENCES OF ERECTION. SUCH BRACING OR SHORING SHALL BE LEFT IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY AND UNTIL ALL STRUCTURAL FRAMING AND DIAPHRAGMS ARE IN PLACE WITH CONNECTIONS COMPLETED.
- THE COMPLETED STRUCTURE HAS BEEN DESIGNED ONLY FOR APPLICABLE CODE-PRESCRIBED LOADS ANTICIPATED DURING ITS SERVICE LIFE AS INDICATED HEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL ENGINEERING AND OTHER MEASURES REQUIRED TO ACHIEVE THE CONTRACTOR'S MEANS, METHODS, AND SEQUENCES OF CONSTRUCTION AND TO WITHSTAND ALL TEMPORARY CONSTRUCTION LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING BUT NOT LIMITED TO ERECTION LOADING AND STOCKPILING OF MATERIALS AND EQUIPMENT.
- ALL DIMENSIONS ON STRUCTURAL DRAWINGS SHALL BE CHECKED AGAINST ARCHITECTURAL. STRUCTURAL DRAWINGS ARE NOT TO BE SCALED TO DETERMINE DIMENSIONAL INFORMATION, TO VERIFY OR
- COORDINATE ANY INFORMATION PRESENTED OR FOR ANY OTHER PURPOSE.
- WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, AND GENERAL NOTES, THE MORE STRINGENT
- REQUIREMENT SHALL GOVERN. STRUCTURAL ENGINEER'S APPROVAL MUST BE SECURED FOR ALL SUBSTITUTIONS.
- VERIFY ALL OPENINGS THROUGH FLOOR, ROOF AND WALLS WITH MECHANICAL AND ELECTRICAL CONTRACTORS.
- STRUCTURAL SPECIAL INSPECTIONS SHALL BE PROVIDED AS SPECIFIED AND IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.
- THE STRUCTURAL ENGINEER'S PERIODIC OBSERVATIONS OR PRESENCE ON SITE DOES NOT REPLACE OR PRECLUDE THE NEED FOR ANY INDEPENDENT THIRD PARTY STRUCTURAL SPECIAL INSPECTIONS SPECIFIED HEREIN. SIGNIFICANT PERMANENT EQUIPMENT SIZES, WEIGHTS, AND LOCATIONS INDICATED ON THE DRAWINGS ARE AS

PROVIDED TO THE STRUCTURAL ENGINEER DURING DESIGN. CHANGES IN SIZES, WEIGHTS, OR LOCATIONS FROM

- THAT INDICATED MUST BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER. REQUIRED SUPPORTS OR BRACES NOT SHOWN ON THE DRAWINGS ARE THE RESPONSIBILITY OF THE EQUIPMENT THE FOLLOWING IS A LIST OF DELEGATED DESIGN AND/OR PERFORMANCE-SPECIFIED ELEMENTS TO BE DESIGNED
- BY OTHERS AND PRESENTED FOR APPROVAL AS A DEFERRED SUBMITTAL. A. PREFABRICATED WOOD ROOF TRUSSES
- B. PRE-ENGINEERED TIMBER ROOF TRUSSES

# **CONTRACTOR SUBMITTALS**

- GENERAL CONTRACTOR SHALL PROVIDE THE FOLLOWING MATERIAL SPECIFICATION AND SHOP DRAWING SUBMITTALS TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PROCEEDING WITH EACH APPLICABLE PORTION OF THE WORK.
  - ITEMS TO BE SUBMITTED AS SPECIFIED IN THE DRAWINGS:
  - A. CONCRETE DESIGN MIXTURES
  - B. CONCRETE REINFORCING SHOP DRAWINGS
- DELEGATED DESIGN AND/OR PERFORMANCE-SPECIFIED ELEMENTS TO BE DESIGNED AND PROVIDED BY THE CONTRACTOR:
- [SUBMITTALS ARE TO INCLUDE SUPPORTING CALCULATIONS STAMPED AND SIGNED BY A QUALIFIED STRUCTURAL ENGINEER LICENSED IN THE STATE OF COLORADO. DRAWINGS AND CALCULATIONS ARE TO INCLUDE THE INDICATED ELEMENTS AND THEIR ATTACHMENTS TO THE MAIN BUILDING STRUCTURE.] A. PREFABRICATED WOOD ROOF TRUSSES
- B. PRE-ENGINEERED TIMBER ROOF TRUSSES
- GENERAL CONTRACTOR SHALL REVIEW EACH SUBMITTAL AND CHECK FOR COORDINATION WITH OTHER WORK AND FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS, AND SHALL AFFIX THEIR STAMP INDICATING APPROVAL PRIOR TO SENDING TO THE ARCHITECT AND STRUCTURAL ENGINEER.
- SUBMITTALS THAT DO NOT BEAR THE CONTRACTOR'S APPROVAL STAMP WILL NOT BE REVIEWED AND WILL BE RETURNED WITHOUT ACTION.DO NOT REPRODUCE CONTRACT DOCUMENTS, COPY STANDARD PRINTED INFORMATION, OR USE ELECTRONIC DRAWING FILES AS THE BASIS FOR SHOP DRAWINGS.
- GENERAL CONTRACTOR SHALL PROVIDE COPIES OF ALL FINAL, APPROVED, FOR CONSTRUCTION MATERIAL SPECIFICATION AND SHOP DRAWING SUBMITTALS TO THE ARCHITECT AND STRUCTURAL ENGINEER.

# MATERIAL SPECIFICATIONS & NOTES

## CONCRETE:

**WOOD - GENERAL:** 

- A. CONCRETE SHALL BE MADE WITH STONE AGGREGATE (NORMAL-WEIGHT CONCRETE) AND SHALL DEVELOP THE FOLLOWING 28 DAY COMPRESSIVE STRENGTHS (F'C) WITH THE INDICATED DESIGN MIXTURE PROPERTIES:
- 2. FOUNDATION WALLS & PILASTERS
  - 3,500 psi; 0.55 MAX W/C RATIO; 5% AIR
- 3. INTERIOR SLABS ON GRADE 3,500 psi RE: CIVIL FOR CONCRETE MIXTURES TO BE USED FOR EXTERIOR SITE SLAB, PAVING, AND FLATWORK, ETC. PROPORTIONS OF MATERIALS IN CONCRETE MIXTURES SHALL BE ESTABLISHED TO PROVIDE WORKABILITY AND
- CONSISTENCY TO PERMIT CONCRETE TO BE PLACED READILY INTO FORMS AND AROUND REINFORCEMENT. UNDER CONDITIONS OF PLACEMENT TO BE EMPLOYED, WITHOUT SEGREGATION OR EXCESSIVE BLEEDING. CONTRACTOR SHALL SELECT AN APPROPRIATE SLUMP. AND ADMIXTURES MAY BE USED AS NEEDED TO OBTAIN ACCEPTABLE RESULTS. TYPE I/II PORTLAND CEMENT SHALL BE USED, UNLESS NOTED OTHERWISE.
- FOR CONCRETE MIXTURES USED FOR FLOOR SLABS. THE MINIMUM CEMENTITIOUS CONTENT SHALL BE 540 lbs. PER CUBIC YARD. WHEN FLY ASH IS USED AS A SUPPLEMENTARY CEMENTITIOUS MATERIAL, QUANTITY SHALL NOT BE LESS THAN 15% NOR MORE THAN 25% BY WEIGHT OF TOTAL CEMENTITIOUS MATERIAL
- FOR CONCRETE PLACED BY PUMPING, THE DESIGN MIXTURE SHALL BE PROPORTIONED TO ENSURE FLOWABILITY TO FACILITATE PUMPING. ENTRAINED AIR MAY BE USED TO FACILITATE PUMPING, SUBJECT TO THE PROVISIONS AND LIMITS INCLUDED HEREIN.
- WHERE AIR CONTENT IS INDICATED ABOVE, PROVIDE AIR ENTRAINING ADMIXTURES. AIR CONTENT VALUE INDICATED INCLUDES BOTH ENTRAINED AND ENTRAPPED AIR, AND MAY BE PROVIDED WITHIN A RANGE OF +/- 1.5%. AIR CONTENT INDICATED IS BASED ON A NOMINAL AGGREGATE SIZE OF 3/4". IF ANOTHER AGGREGATE SIZE IS TO BE USED, ADJUST REQUIRED AIR CONTENT PER ACI 318 TABLE 19.3.3.1.
- THE ADDITION OF ENTRAINED AIR IS NOT PERMITTED IN MIXTURES TO BE USED AS FLOOR SLABS, UNLESS THE CONTRACTOR CAN DEMONSTRATE TO THE ARCHITECT THAT SUCH SLAB MIXTURES WITH ENTRAINED AIR WILL PROVIDE AN ACCEPTABLE
- FINISH WITHOUT BLISTERS. VERIFY ALKALINITY OF CONCRETE SLAB SURFACE, SLAB VAPOR TRANSMISSION AND SLAB FLATNESS/LEVELNESS ARE COMPATIBLE WITH FLOOR SYSTEMS AND ADHESIVES PRIOR TO INSTALLING FLOORING.
- NO CHLORIDE ADMIXTURES SHALL BE ADDED TO CONCRETE WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.
- ALL REINFORCING BARS SHALL BE ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE. WELDED WIRE REINFORCING SHALL CONFORM TO ASTM A185 OR ASTM A497.
- CONCRETE PROTECTION FOR REINFORCEMENT (UNLESS NOTED OTHERWISE):
- I. CONCRETE POURED AGAINST EARTH 2. CONCRETE POURED IN FORMS BUT EXPOSED TO WEATHER OR EARTH
- #5 BARS OR SMALLER 1-1/2"
- BARS LARGER THAN #5 3. SLABS AND WALLS NOT EXPOSED TO WEATHER OR EARTH 3/4"
- NO SPLICES OF REINFORCEMENT SHALL BE MADE AND NO WELDING TO REINFORCING SHALL BE PERMITTED EXCEPT AS DETAILED OR AUTHORIZED BY THE STRUCTURAL ENGINEER. REINFORCING LAP SPLICES ARE TO BE A MINIMUM OF 48 BAR DIAMETERS, UNLESS NOTED OTHERWISE. WIRE FABRIC REINFORCEMENT MUST LAP ONE FULL MESH PLUS 2" AT SIDE AND END LAPS, BUT NOT LESS THAN 6", AND SHALL BE WIRED TOGETHER. MAKE ALL BARS CONTINUOUS AT CORNERS OR PROVIDE CORNER BARS OF EQUAL SIZE AND SPACING.
- DETAIL BARS IN ACCORDANCE WITH THE ACI DETAILING MANUAL AND ACI BUILDING CODE REQUIREMENTS FOR
- O. PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING AT POSITIONS SHOWN.
- P. PLACE 2-#5 BARS (1 EACH FACE) WITH 2'-0" PROJECTION AROUND ALL OPENINGS AND RE-ENTRANT CORNERS IN CONCRETE SLABS AND WALLS, UNLESS NOTED OTHERWISE.
- Q. CONCRETE WORK SHALL NOT HAVE JOINTS IN A HORIZONTAL PLANE. ALL CONSTRUCTION JOINTS SHALL BE AS DETAILED OR AS APPROVED BY THE STRUCTURAL ENGINEER.
- R. ALLOW FOR ADDITIONAL CONCRETE THICKNESS TO COMPENSATE FOR STRUCTURAL MEMBER AND FORMWORK DEFLECTIONS S. SLAB-ON-GRADE CONTROL JOINTS ARE TO BE SPACED A MAXIMUM OF 12'-0" ON CENTER AND ARE TO COINCIDE WITH COLUMN CENTERLINES AND RE-ENTRANT CORNERS
- A. ALL SAWN DIMENSION LUMBER FOR STRUCTURAL FRAMING SHALL BE VISUALLY-GRADED, SURFACED DRY HEM FIR, NO.2 GRADE OR BETTER.
- TIMBER CONNECTORS SPECIFIED ARE AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY. CONNECTORS BY OTHER MANUFACTURERS MAY BE USED IF THEY HAVE A CURRENT ICC-ES EVALUATION REPORT AND THEIR LOAD CAPACITY IS EQUAL TO OR GREATER THAN THE CONNECTOR SPECIFIED. USE MANUFACTURER'S FURNISHED FASTENERS.
- INSTALL A CONTINUOUS ROW OF HORIZONTAL BLOCKING AT MID-HEIGHT OF SINGLE STORY WALLS OVER 10'-0" TALL
- GLUE AND NAIL TOGETHER ALL PLIES OF BUILT-UP MEMBERS. PROVIDE FULL-HEIGHT 2x KING STUD AT ALL BEAM AND HEADER BEARING LOCATIONS, UNLESS NOTED OTHERWISE.
- SHEATHING SHALL BE APA RATED WITH EXPOSURE 1 BOND CLASSIFICATION, AND SHALL CONFORM TO THE PROVISIONS OF APA PRP-108 OR VOLUNTARY PRODUCT STANDARD PS 1-07.
- G. SHEATHING THICKNESS AND FASTENING REQUIREMENTS SHALL BE AS FOLLOWS:
- SHEARWALLS: ALL DESIGNATED SHEARWALLS SHALL HAVE THE SHEATHING THICKNESS AND NAILING SPECIFIED IN THE DRAWINGS. ALL SHEARWALL PANEL EDGES SHALL BE SOLID BLOCKED AT INTERMEDIATE FRAMING MEMBERS. 2. NON SHEARWALLS: TYPICAL WALLS NOT DESIGNATED AS SHEARWALLS SHALL HAVE ONE LAYER OF 15/32"
- SHEATHING FASTENED WITH 10D NAILS @ 6" O.C. ALONG PANEL EDGES AND @ 12" O.C. AT INTERMEDIATE FRAMING MEMBERS. NON SHEARWALL PANEL EDGES NEED NOT BE BLOCKED AT INTERMEDIATE FRAMING MEMBERS.
- 3. ROOF DIAPHRAGMS: ONE LAYER OF 19/32" SHEATHING FASTENED WITH 10D NAILS SPACED @ 6" O.C. ALONG PANEL EDGES AND @ 12" O.C. AT INTERMEDIATE FRAMING MEMBERS. 4. MECH. ATTIC SPACE: ONE LAYER OF 15/32" SHEATHING FASTENED WITH 10D NAILS SPACED @ 6" O.C. ALONG PANEL
- EDGES AND @ 12" O.C. AT INTERMEDIATE FRAMING MEMBERS. SMOOTH COMMON NAILS SHALL BE USED ON ALL ROOF AND WALL SHEATHING.
- PLACE SHEATHING WITH 8'-0" DIMENSION PERPENDICULAR TO SPAN OF FRAMING MEMBERS AND WITH END JOINTS STAGGERED. ROOF DIAPHRAGMS SHALL NOT BE GLUED.
- FASTEN ALL WOOD MEMBERS PER IBC TABLE 2304.10.1, UNLESS NOTED OTHERWISE. PREFABRICATED WOOD ROOF TRUSSES:

# A. MANUFACTURER SHALL DESIGN AND FABRICATE TRUSSES IN ACCORDANCE WITH THE DIMENSIONS, SLOPES, SPACINGS, AND

- SUPERIMPOSED LOADS INDICATED. TRUSS MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS STAMPED AND SIGNED BY A COLORADO LICENSED PROFESSIONAL ENGINEER FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER PRIOR TO FABRICATING UNITS.
- B. TRUSS DESIGN LOADS SHALL BE AS FOLLOWS:
- TOP CHORD: ROOF SNOW LOAD + SUPERIMPOSED ROOF DEAD LOAD (SPECIFIED ABOVE)
- 2. BOTTOM CHORD: 5 psf DEAD LOAD; 20 psf LL + EQUIPMENT WEIGHTS WITHIN MECH. ATTIC SPACE C. TRUSSES SHALL BE DESIGNED TO PROVIDE FOR MAXIMUM VERTICAL DEFLECTIONS AS FOLLOWS:
- MAXIMUM TOTAL LOAD DEFLECTION: L/240 OF TRUSS SPAN 2. MAXIMUM SNOW LOAD DEFLECTION: L/360 OF TRUSS SPAN
- D. ALL TRUSSES SHALL BE ERECTED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS, INCLUDING CONSIDERATIONS FOR TEMPORARY BRACING. ALL BRIDGING AND BLOCKING SHALL BE INSTALLED PRIOR TO INSTALLING SHEATHING.
- ALL ROOF TRUSSES SHALL BE SECURED TO SUPPORTING ELEMENTS WITH STEEL HURRICANE/SEISMIC TIES OR ANCHORS, AS SPECIFIED. G. TRUSSES SHALL BE DESIGNED AND FABRICATED IN CONFORMANCE WITH ANSI/TP 1 - NATIONAL DESIGN STANDARD FOR
- METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION AS PREPARED BY THE TRUSS PLATE INSTITUTE.
- MINIMUM MEMBER SIZES FOR THE TRUSSES SHALL BE 2x4 (NOMINAL)
- METAL CONNECTING PLATES SHALL BE AT LEAST 20 GAGE GALVANIZED STEEL. TRUSS MANUFACTURER SHALL SUPPLY TRUSS AND GIRDER HANGERS FOR ALL TRUSS-TO-TRUSS CONNECTIONS.
- POST-INSTALLED ANCHORS: A. POST-INSTALLED ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ALL MANUFACTURER'S RECOMMENDATIONS, SPECIFICATIONS AND PRINTED INSTALLATION INSTRUCTIONS (MPII), AND SHALL BE INSTALLED ONLY INTO DRY BASE MATERIALS
- B. FOR EXPANSION ANCHORS INSTALLED INTO CONCRETE, THE CONCRETE BASE MATERIAL SHALL REACH THE REQUIRED MINIMUM COMPRESSIVE STRENGTH (F'C) SPECIFIED IN THE DRAWINGS PRIOR TO ANCHOR INSTALLATION.
- FOR ADHESIVE ANCHORS INSTALLED INTO CONCRETE, THE CONCRETE BASE MATERIAL AT THE TIME OF ANCHOR INSTALLATION SHALL HAVE A MINIMUM AGE OF 21 DAYS, A MINIMUM CONCRETE TEMPERATURE OF 50 DEGREES F, AND SHALL REACH THE REQUIRED MINIMUM COMPRESSIVE STRENGTH (F'C) SPECIFIED IN THE DRAWINGS PRIOR TO ANCHOR INSTALLATION.

# NOTE TO CONTRACTOR

READ ALL STRUCTURAL NOTES AND COORDINATE WITH THE STRUCTURAL ENGINEER TO RESOLVE ANY QUESTIONS, DISCREPANCIES, OR CONFLICTS PRIOR TO COMMENCING WITH CONSTRUCTION OPERATIONS.

CONTRACTOR SHALL INFORM AND UPDATE THE STRUCTURAL ENGINEER AS TO THE STATUS AND SCHEDULE OF CONSTRUCTION, AND SHALL COORDINATE WITH THE STRUCTURAL ENGINEER TO SCHEDULE PERIODIC SITE VISITS TO OBSERVE COMPLETED AND ONGOING PORTION OF THE WORK.

STRUCTURAL ENGINEER'S APPROVAL OF ALL REQUIRED SUBMITTALS INDICATED IN THE GENERAL NOTES SHALL BE PROCURED PRIOR TO FABRICATION OR CONSTRUCTION OF EACH APPLICABLE PORTION OF THE WORK.

COORDINATE ALL REQUIRED STRUCTURAL SPECIAL INSPECTIONS AND TESTS WITH THE INSPECTION AGENCY ENGAGED BY THE OWNER.





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Project Number	25-013
	05.23.2025

Date **Rev** Description

COVER SHEET, DESIGN **CRITERIA & PROJECT NOTES** 

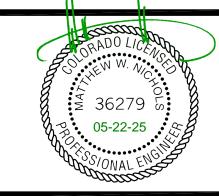
# For Bidding Purposes Only

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	STATEMENT OF STRU	ICTURAL :	SPECIAL INSPECTIONS & TESTS	
1	GENERAL		4 INSPECTION OF POST-INSTALLED ANCHORS [ANCHOR BOLTS, RODS & REINFORCING STEEL]	
Α.	SPECIAL INSPECTIONS AND TESTS SHALL BE PROVIDED IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CO		ITEM	FREQUENCY
	THE OWNER OR THE OWNER'S AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED A TO PERFORM SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION ON THE TYPES OF WORK OUTLINED HEREIN.	AGENCIES	1. MANUFACTURER, TYPE, DIAMETER, LENGTH AND FINISH OF ANCHOR	[P]
<b>.</b>	APPROVED AGENCIES SHALL PROVIDE ALL INFORMATION AS NECESSARY FOR THE BUILDING OFFICIAL TO DETERMINE THAT THE	AGENCY	2. MAXIMUM SPECIFIED IMPACT WRENCH TORQUE RATING MAINTAINED FOR SCREW ANCHORS	[P]
	MEETS OR EXCEEDS THE APPLICABLE CODE-SPECIFIED REQUIREMENTS.		3. ACCEPTABILITY OF BASE MATERIAL	[P]
).	PRIOR TO THE START OF CONSTRUCTION, THE APPROVED AGENCIES SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDIN ARCHITECT AND STRUCTURAL ENGINEER, DEMONSTRATING THE COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION.	,	4. INSPECTION DURING ANCHOR INSTALLATION VERIFY DRILLING METHOD, HOLE DIMENSIONS, HOLE CLEANING, ANCHOR AND ADHESIVE PLACEMENT, ANCHOR EMBEDMENT, WRENCH TORQUE, EDGE DISTANCES AND SPACING.	[P]
	THE CONSTRUCTION OR WORK FOR WHICH SPECIAL INSPECTION OR TESTING IS REQUIRED SHALL REMAIN ACCESSIBLE AND EXP SPECIAL INSPECTION OR TESTING PURPOSES UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS OR TESTS.	OSED FOR	5. INSPECTION AFTER INSTALLATION OF ATTACHED ASSEMBLY	
Ŧ.	APPROVED AGENCIES SHALL KEEP RECORDS OF SPECIAL INSPECTIONS AND TESTS AND SHALL SUBMIT REPORTS OF SPECIAL INSPECTIONS AND TESTS AND SHALL SUBMIT REPORTS OF SPECIAL INSPECTIONS AND TESTS CONFORMING TO CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE TO THE BUILDING OFFICIAL, ARCHITECT AND SENGINEER.		VERIFY ANCHOR LOCATIONS, SPACING, EDGE DISTANCES, AND ANCHOR FLUSH WITH AND PERPENDICULAR TO THE RECEIVING SURFACE. VERIFY ANCHOR HEADS HAVE NOT BEEN CUT OFF AND THAT MANUFACTURER'S STAMP MARK IS READABLE AND HAS NOT BEEN DAMAGED OR OBSCURED.	[P]
Э.	DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF NOT CORRECTED DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL, ARCHITECT AND STRUCTURAL ENGINEER PROMPLETION OF THE APPLICABLE PHASE OF THE WORK.  SPECIAL INSPECTIONS SHALL BE PROVIDED ON A PERIODIC OR CONTINUOUS BASIS, AS STATED OR INDICATED BELOW.  [P] PERIODIC INSPECTION – PART-TIME OR INTERMITTENT OBSERVATION BY THE SPECIAL INSPECTOR OF WORK BEING PERFORMI	RIOR TO	NOTES:  A. MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII) AND RELEVANT ICC-ES REPORTS SHALL BE USED ALONG WITH CONSTRUCTION DOCUMENTS TO DETERMINE COMPLIANCE.  B. CONTINUOUS INSPECTION OF ALL POST-INSTALLED ANCHORS SHALL BE REQUIRED, REGARDLESS OF WHETHER PERIODIC INSP IS PERMITTED BY THE RELEVANT ICC-ES REPORTS.	
	SPECIAL INSPECTOR SHALL BE PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. OBSERVATION OF ALL WORK (10 SHALL BE MADE AT THE COMPLETION OF THE WORK.  [C] CONTINUOUS INSPECTION – FULL-TIME OBSERVATION BY THE SPECIAL INSPECTOR OF WORK BEING PERFORMED. SPECIAL INSPECTOR OF WORK BEING PERFORMED.	00% VISUAL) SPECTOR	C. PRIOR TO ANCHOR INSTALLATION, REVIEW AND VERIFY CONTRACTOR'S INSTALLATION PROCEDURE.  D. VERIFY THAT THE FULL CURE TIME AS OUTLINED IN THE GENERAL NOTES HAS ELAPSED PRIOR TO APPLICATION OF TORQUE OF TO ANCHOR.	R LOAD
	SHALL BE PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. OBSERVATION OF ALL WORK (100% VISUAL) SHALL BE THE COMPLETION OF THE WORK.	= MADE A I	5 INSPECTION OF WOOD CONSTRUCTION	
<u> </u>	INSPECTION OF CONCRETE CONSTRUCTION		ITEM	FREQUENC
ΙT	EM	FREQUENCY	1. ROOF DIAPHRAGMS:	
	INSPECTION OF REINFORCING STEEL AND PLACEMENT		A. SHEATHING THICKNESS AND GRADE	[P]
	VERIFY GRADE, FINISH, SIZE, BAR QUANTITY, LOCATION, SPACING, COVER, HOOK LENGTHS,	[P]	B. NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES	[P]
	SPLICE LENGTHS, SPLICE LOCATIONS, BEND DIAMETERS, SURFACE CONDITIONS AND SUPPORTS.  INSPECTION OF ANCHORS CAST IN CONCRETE		C. NAIL DIAMETER AND LENGTH	[P]
•	VERIFY TYPE, FINISH, DIAMETER, LENGTH, QUANTITY, EMBEDMENT LENGTH, SPACING AND EDGE DISTANCES.  VERIFY USE OF PLACING TEMPLATE WHERE SPECIFIED.	[P]	D. NUMBER OF FASTENER LINES  E. SPACING BETWEEN FASTENERS IN EACH LINE AND AT PANEL EDGES	[P] [P]
3.	VERIFY USE OF APPROVED DESIGN MIXTURE FOR EACH TRUCK LOAD		2. SHEARWALLS:	
<i>-</i>	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND	IC1	A. SHEATHING THICKNESS AND GRADE	[P]
	AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	[C]	B. NOMINAL SIZE AND SPACING OF TYPICAL FRAMING MEMBERS AND AT ADJOINING PANEL EDGES	[P]
	INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES PER ACI 318 26.5.2	[C]	C. NAIL DIAMETER AND LENGTH  D. NUMBER OF FASTENER LINES	[P] [P]
	INSPECTION OF FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	[P]	E. SPACING BETWEEN FASTENERS IN EACH LINE AND AT PANEL EDGES	[P]
	TESTING OF STRUCTURAL CONCRETE		F. LOCATION, SIZE AND TYPE OF HOLDOWNS	[P]
	SAMPLES FOR PREPARING STRENGTH TEST SPECIMENS OF EACH CONCRETE MIXTURE PLACED EACH DAY SHALL BE OBTAINED A	T THE DOINT OF	3. NAILING, BOLTING, ANCHORING AND FASTENING OF:    A	
	PLACEMENT AND SHALL AT A MINIMUM BE TAKEN AS FOLLOWS: (A) AT LEAST ONCE A DAY (B) AT LEAST ONCE FOR EACH 100 CU. Y		A. DRAG STRUTS AND COLLECTORS	[P]
	CONCRETE (C) AT LEAST ONCE FOR EACH 5,000 S.F. OF SURFACE AREA FOR SLABS OR WALLS. SAMPLING OF CONCRETE SHALL E		B. HOLD-DOWNS	[P]
	ACCORDANCE WITH ASTM C172. WHEN FREQUENCY OF TESTING WILL PROVIDE FEWER THAN FIVE COMPRESSIVE-STRENGTH TESTS FOR EACH CONCRETE MIXTUI	•	6 INSPECTION OF SOILS	
; <u>.</u>	SHALL BE CONDUCTED FROM AT LEAST FIVE RANDOMLY SELECTED BATCHES OR FROM EACH BATCH IF FEWER THAN FIVE ARE US SLUMP: ASTM C143; ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH		ITEM	FREQUENC
	OF EACH CONCRETE MIXTURE. PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE.		1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE REQUIRED BEARING CAPACITY	[P]
	AIR CONTENT: ASTM C231; TEST EACH COMPOSITE SAMPLE PER ASTM C231 (PRESSURE METHOD) FOR NORMAL-WEIGHT CONCRETE.	EIEUK	2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	[P]
	TEMPERATURE: ASTM C1064; TEST EACH COMPOSITE SAMPLE AND AT 60-MINUTE INTERVALS. REQUIRED WHEN AIR TEMPERATURE	RE	3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	[P]
	IS 40°F AND BELOW OR 80°F AND ABOVE.	IENI A DAULY	4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF FILL	[P]
	COLD WEATHER CURING: ASTM C1074; RECORD MAXIMUM AND MINIMUM CONCRETE TEMPERATURE DURING CURING PERIOD WH AVERAGE AIR TEMPERATURE OF 40°F OR BELOW IS EXPECTED FOR 3 SUCCESSIVE DAYS DURING CURING PERIOD.	IEN A DAILY	5. PRIOR TO PLACEMENT OF CONTROLLED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	[P]
	COMPRESSION TEST SPECIMENS: ASTM C31; CAST AND CURE FOUR (4) 6X12 CYLINDER SPECIMENS OR SIX (6) 4X8 CYLINDER SPECIMENS FOR EACH COMPOSITE SAMPLE. COMPRESSIVE STRENGTH TESTS: ASTM C39; TEST ONE (1) 6X12 OR ONE (1) 4X8 SPECIMEN AT 7 DAYS		NOTES:  A. THE APPROVED PROJECT GEOTECHNICAL REPORT SHALL BE USED ALONG WITH THE CONSTRUCTION DOCUMENTS TO DETERMINE COMPLIANCE.  B. DURING FILL PLACEMENT, THE SPECIAL INSPECTOR SHALL DETERMINE THAT PROPER MATERIALS AND PROCEDURES ARE	







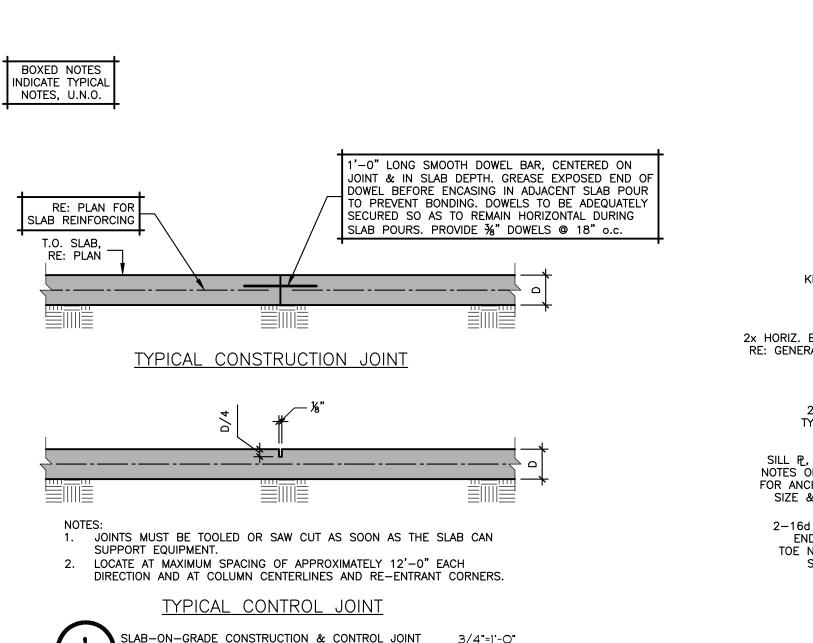
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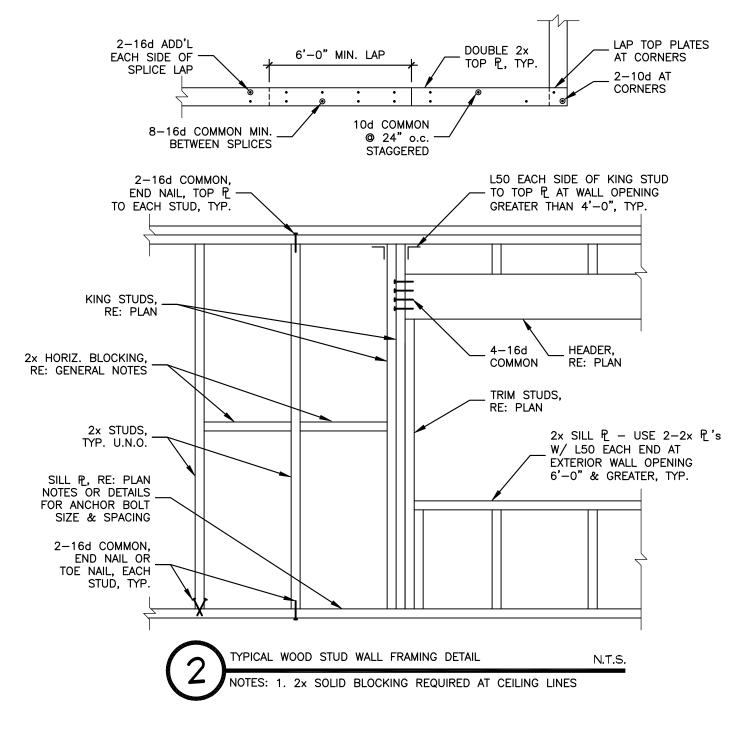
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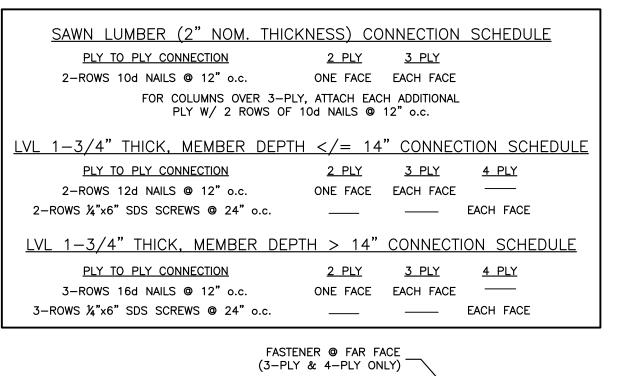
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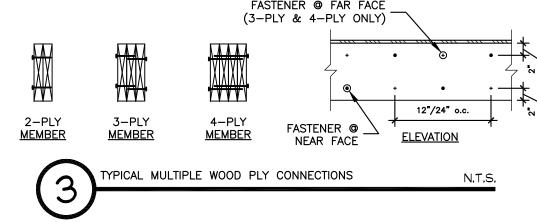
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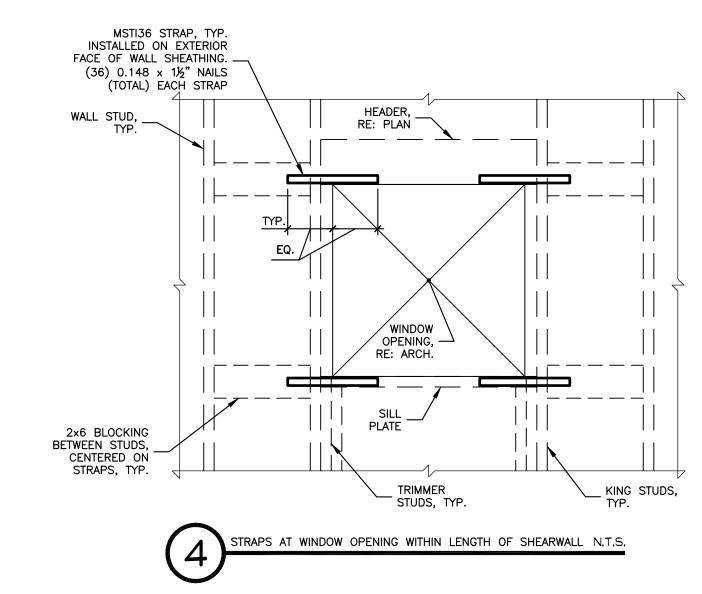
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Rev	Description	Date











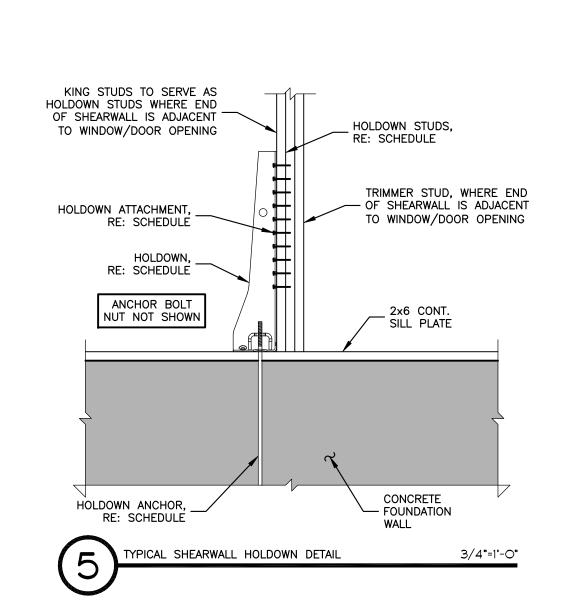


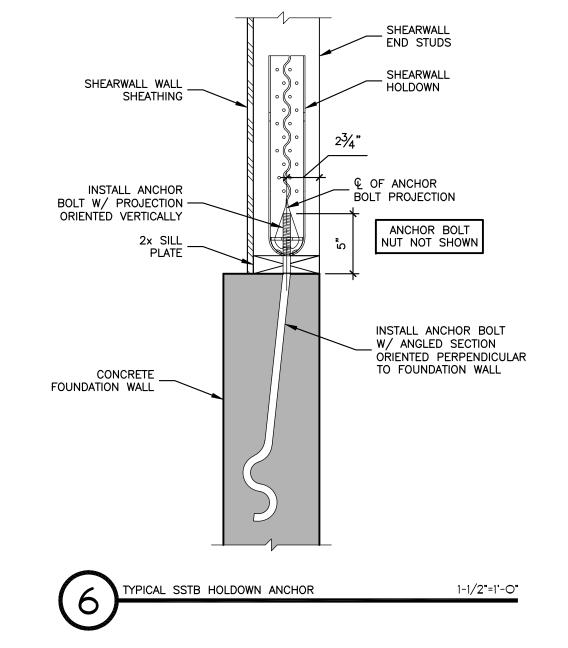
Structural Engineer Next Level, Inc. 7186 S. Forest Lane Centennial, CO 80122

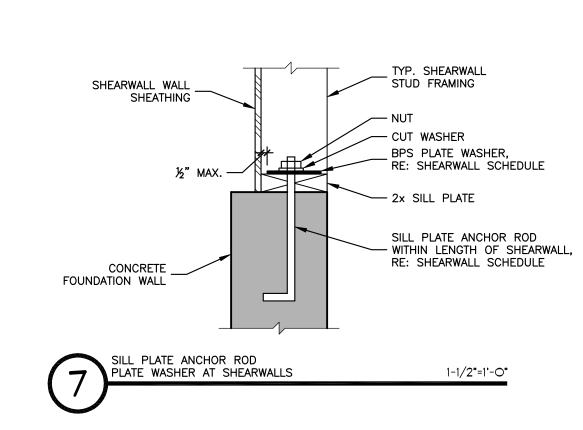
Architect

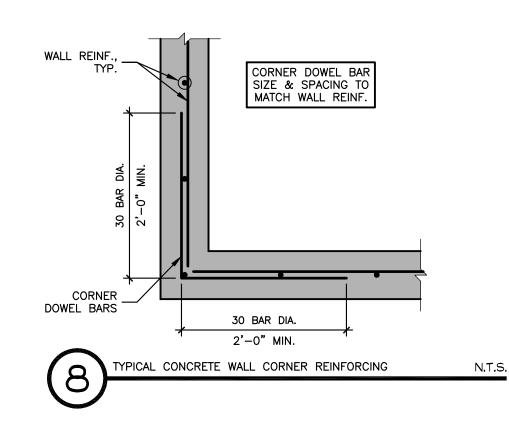
303.260.9456

Battista Design Group, P.C. 3650 Wadsworth Blvd. Wheat Ridge, CO 80033 Paul Battista 303.428.4895









USING SUPPLIER PROVIDED FASTENERS AND ACCESSORIES.

12. RE: 7/S1.2 FOR SILL ANCHOR PLATE WASHER INSTALLATION AT LATERAL SHEARWALLS.

# For Bidding Purposes Only

05/29/2025 11:09:46 AM

Principal Matt Nichols, P.E. 303.260.9456

matt@nlengineers.com

-	REINFORCIN AP SPLICE SC	
BAR SIZE	'TOP BAR' SPLICE LENGTH	'OTHER BAR' SPLICE LENGTH
#3	27"	21"
#4	35"	27"
<b>#</b> 5	44"	34"
#6	52"	40"
<b>#</b> 7	77"	59"
-		

. 'TOP BARS' ARE HORIZONTAL BARS PLACED SUCH THAT 12" OF FRESH CONCRETE IS CAST BELOW THE BAR.

2. ALL BARS THAT ARE NOT 'TOP BARS' ARE 'OTHER BARS'.

3. REFER TO THE CONCRETE MATERIAL AND SPECIFICATION NOTES FOR ADDITIONAL INFORMATION AND REQUIREMENTS

ı			LATERAL WOO	DD SHEARWALL S	SCHEDULE		
	MARK	APA RATED SHEATHING	SHEATHING NAILING	SILL PLATE ANCHORS	HOLDOWN	HOLDOWN ANCHOR	HOLDOWN END STUDS/POST
	SW	15%2" (EXTERIOR FACE)	10d @ 3" o.c. (PANEL EDGES) 10d @ 12" o.c. (FIELD)	%"ø x 1'−0" (HOOKED) @ 24" o.c. W/ BPS5/8−6 PLATE WASHERS (RE: NOTE 12 BELOW)	HDU8-SDS2.5 W/ (20) ¼" x 2½" SDS SCREWS INTO END STUDS	%"ø SSTB28	(2) 2x6
	2. RE: PL 3. SHEARV 4. PANEL 5. RE: 5/ 6. RE: 6/ 7. SET HE 8. SECURE	VALL STUDS SHALL BE 2x6 M EDGES AT SHEARWALLS SHAL S1.2 FOR TYPICAL SHEARWAL S1.2 FOR TYPICAL SSTB HOL CIGHT OF SSTB ANCHORS USI E ANCHORS TO FORMWORK A	NAL REQUIREMENTS AND DIMENSIONAL MINIMUM © 16" MAX. o.c. L BE FULLY BLOCKED WITH 2×6 MAT L HOLDOWN DETAIL. DOWN ANCHOR DETAIL. NG EMBEDMENT MARK INDICATED TO ND ADJACENT REINFORCING BARS TO	ERIAL.		NCRETE POUR.	

HOLDOWN ANCHORS SHALL BE AS SPECIFIED AND SHALL BE CAST-IN-PLACE. POST-INSTALLED WEDGE OR EPOXIED ANCHOR ALTERNATES ARE NOT ACCEPTABLE.

RE: 4/S1.2 FOR ADDITIONAL LATERAL STRAPS TO BE INSTALLED AT CORNERS OF OPENINGS LOCATED WITHIN LENGTH OF SHEARWALLS.

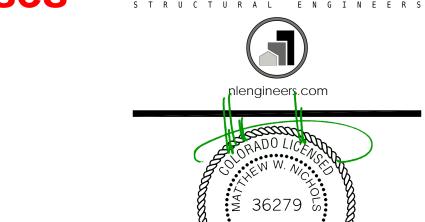
13. SHEATHING SHALL BE PROVIDED IN 4x8 PANELS AND INSTALLED WITH LONG DIMENSION ORIENTED HORIZONTALLY.

Rev Description Da	
Rev Description Da	Rev Description Da

TYPICAL DETAILS & SCHEDULES

# For Bidding Purposes





Structural Engineer Next Level, Inc. 7186 S. Forest Lane Centennial, CO 80122 303.260.9456

**Architect**Battista Design Group, P.C. 3650 Wadsworth Blvd. Wheat Ridge, CO 80033 Paul Battista 303.428.4895

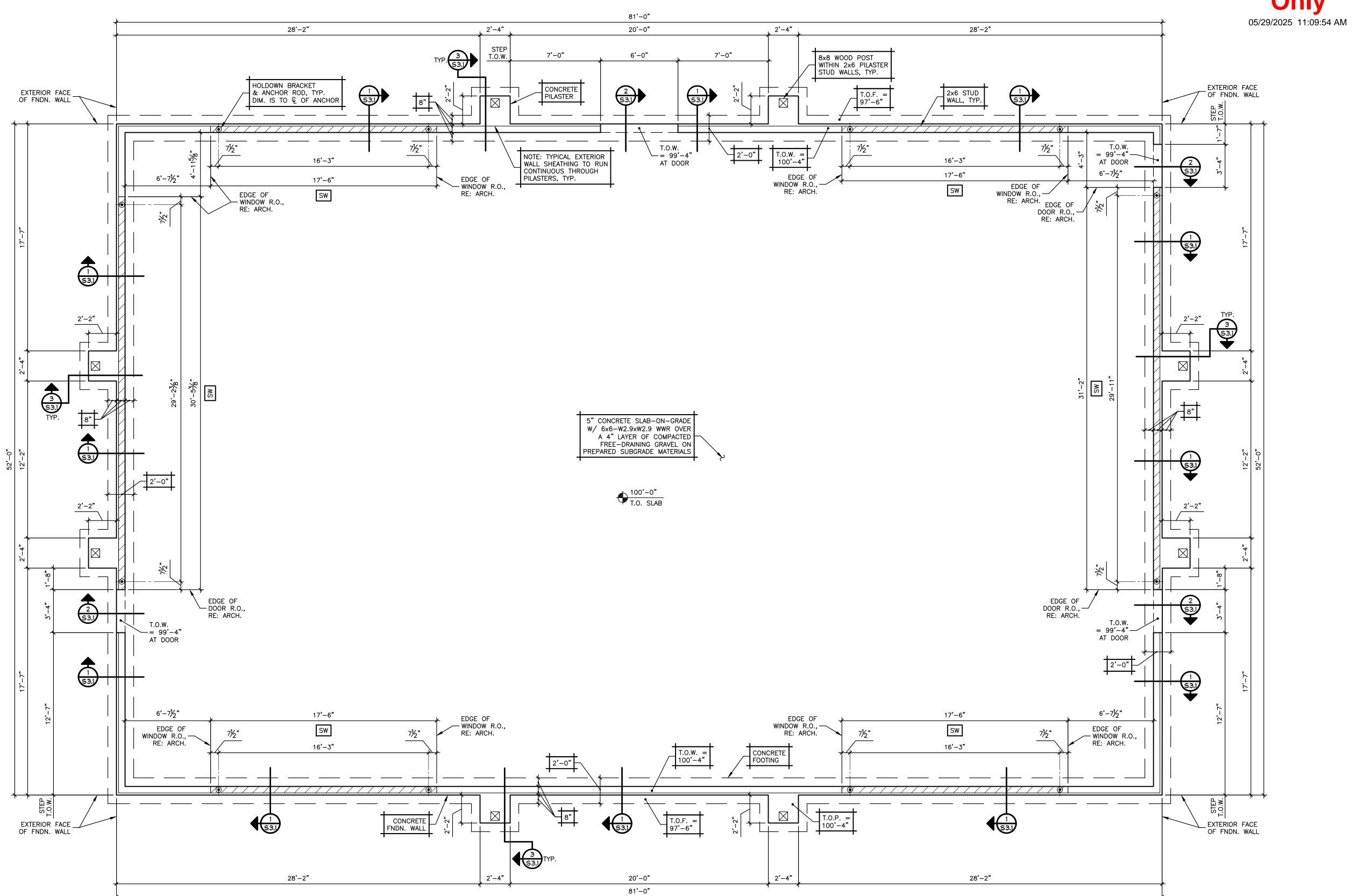
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**Principal**Matt Nichols, P.E. 303.260.9456 matt@nlengineers.com

25-013
05.23.2025
Date

FOUNDATION / FLOOR PLAN





# FOUNDATION/FLOOR PLAN

1. BOXED TINDICATE TYPICAL NOTES, UNLESS NOTED OTHERWISE.

2. TOP OF SLAB ELEVATION = 100'-0". RE: CIVIL PLANS FOR U.S.G.S. ELEVATION. 3. RE: GENERAL NOTES AND DETAIL 1/S1.2 FOR TYPICAL SLAB-ON-GRADE CONSTRUCTION AND CONTROL JOINT REQUIREMENTS.

4. TOP OF CONCRETE WALL WALL (T.O.W.) = 100'-4", UNLESS NOTED OTHERWISE.

TOP OF PILASTER ELEVATION (T.O.P.) = 100'-4", UNLESS NOTED OTHERWISE.

6. ALL FOOTINGS AND FLOOR SLABS SHALL BE CONSTRUCTED OVER PROPERLY CONDITIONED AND COMPACTED SUBGRADE MATERIALS. A REMEDIAL FILL SECTION IS TO BE CONSTRUCTED TO A DEPTH OF AT LEAST 6 FEET BELOW EXISTING GRADE, AND EXTENDING 6 FEET BEYOND THE PLAN EXTENT OF ALL BUILDING FOOTINGS. THE REMEDIAL FILL SECTION IS TO CONSIST OF EITHER SITE SOILS REWORKED AS FILL, OR SELECT GRANULAR FILL MATERIALS. REFER TO THE PROJECT GEOTECHNICAL REPORT FOR ADDITIONAL SUBGRADE PREPARATION REQUIREMENTS AND RECOMMENDATIONS.

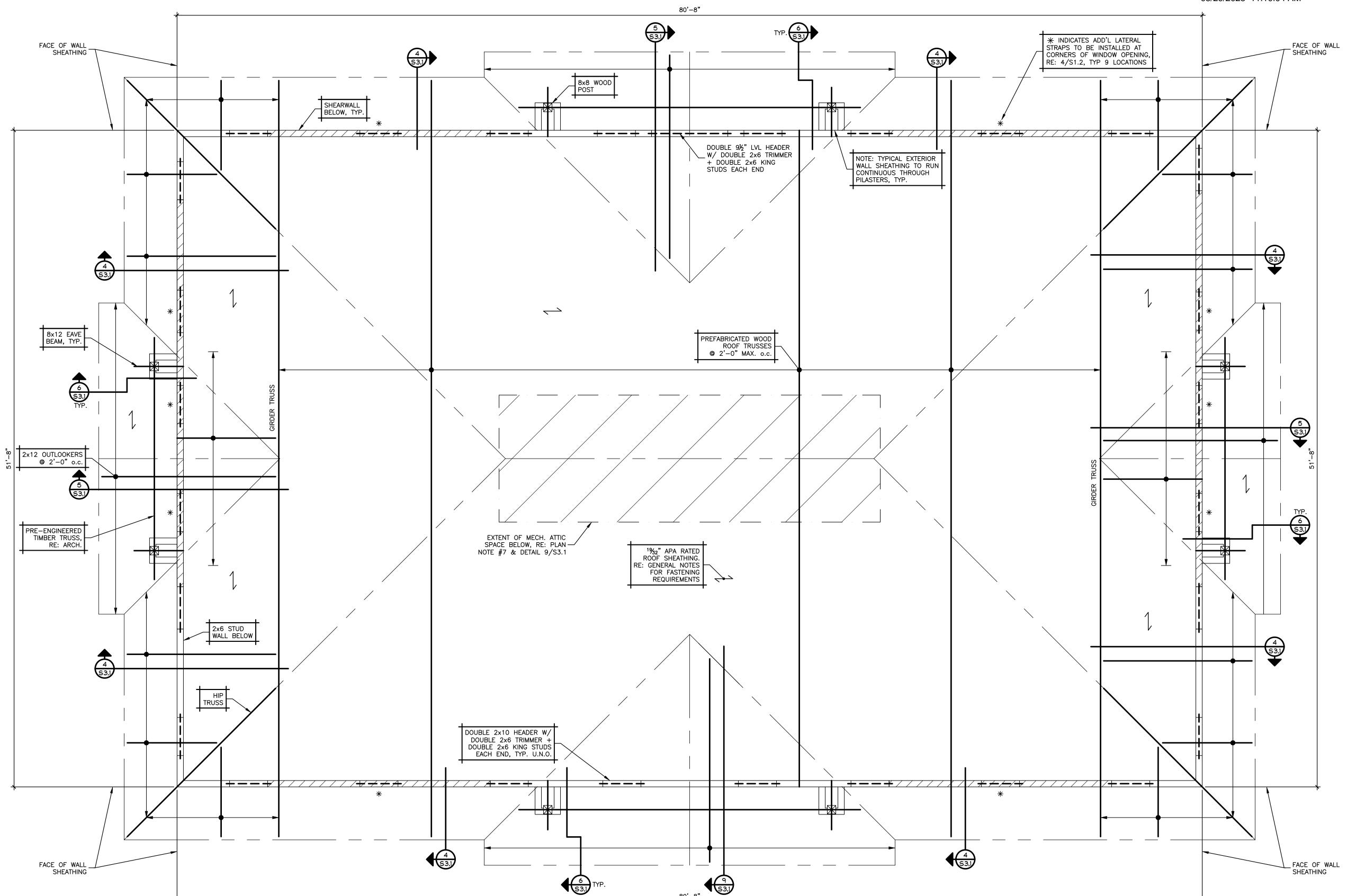
7. COMPLETED FOUNDATION EXCAVATION SHALL BE OBSERVED BY A QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO FOUNDATION CONSTRUCTION TO VERIFY SUBGRADE CONDITIONS SPECIFIED IN THE PROJECT GEOTECHNICAL REPORT.

8. CENTER ALL STRIP FOOTINGS UNDER FOUNDATION WALLS, UNLESS NOTED OTHERWISE. 9. RE: ARCHITECTURAL AND M/E/P DRAWINGS FOR REQUIRED SLEEVES OR BLOCKOUTS IN FOUNDATION WALLS AND FLOOR SLABS.

10. RE: ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEVATIONS NOT SHOWN.

# For Bidding Purposes Only

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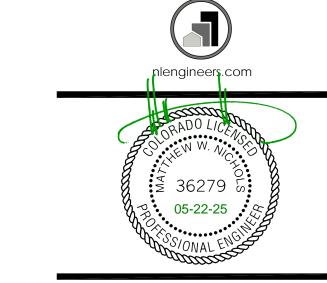


# ROOF FRAMING PLAN



- COORDINATE SIZE AND LOCATION OF MECHANICAL UNITS AND ROOF PENETRATIONS FOR MECHANICAL DUCTWORK WITH ARCHITECT, MECHANICAL ENGINEER AND SUPPLIER.
- 4. RE: ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEVATIONS NOT SHOWN. 5. ROOF TRUSS LAYOUT SHOWN IS PRELIMINARY AND SCHEMATIC. FINAL ROOF TRUSS LAYOUT TO BE ESTABLISHED BY THE TRUSS SUPPLIER.
- 6. TRUSS BEARING ELEVATION = 113'-0", RE: ARCH. 7. ROOF TRUSSES ARE TO BE CONFIGURED TO PROVIDE A MECHANICAL ATTIC SPACE TO ACCOMMODATE HVAC FURNACE EQUIPMENT, AND SHALL BE DESIGNED TO SUPPORT AN ACCESS LIVE LOAD OF 20 psf + APPLICABLE EQUIPMENT LOADS. COORDINATE LAYOUT WITH ARCH. & EQUIPMENT LOCATIONS AND WEIGHTS WITH MECH.





Structural Engineer Next Level, Inc. 7186 S. Forest Lane Centennial, CO 80122

303.260.9456

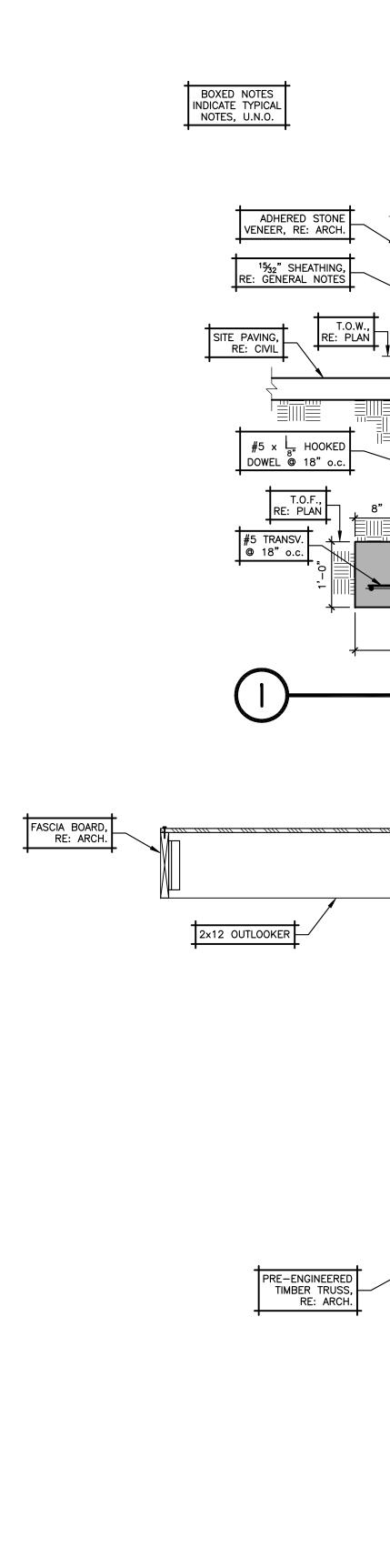
**Architect**Battista Design Group, P.C. 3650 Wadsworth Blvd. Wheat Ridge, CO 80033 Paul Battista 303.428.4895

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**Principal**Matt Nichols, P.E. 303.260.9456 matt@nlengineers.com

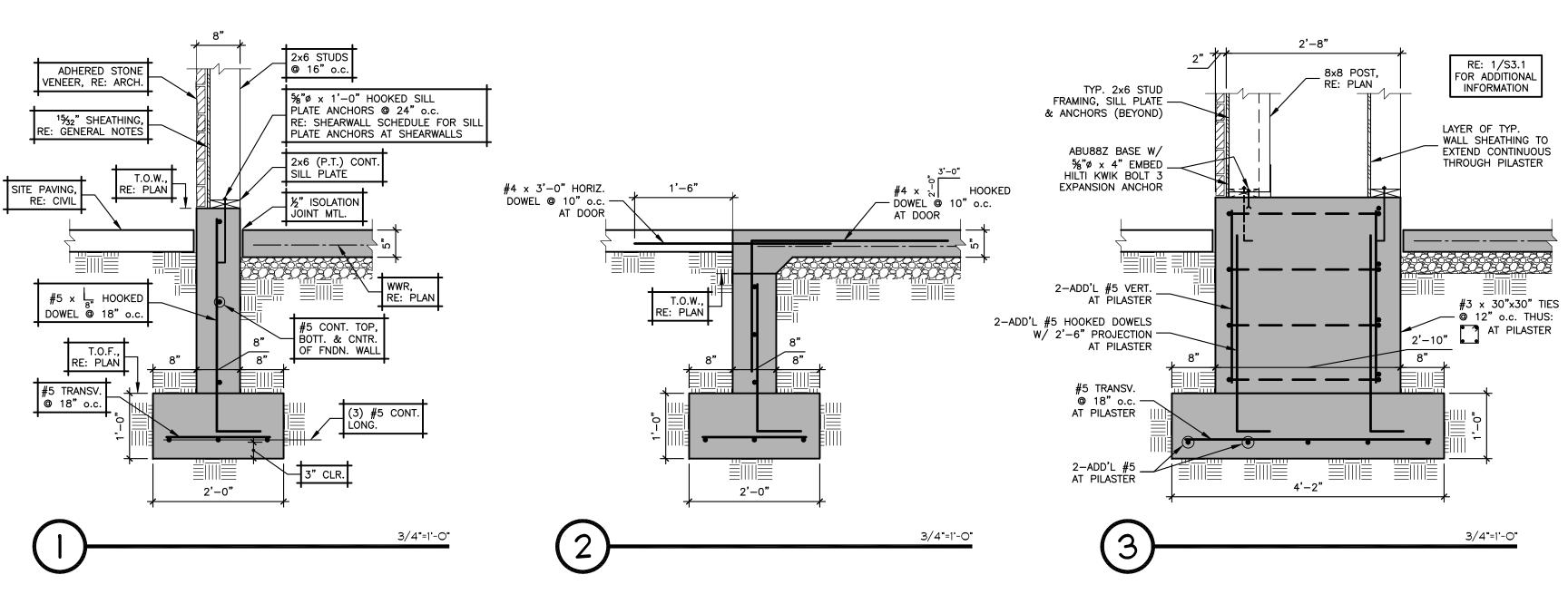
Project Number	25-013
	05.23.2025
Rev Description	Date

ROOF FRAMING PLAN



2x6 SOLID BLOCKING —

2x6 CONT. © 16" o.c. AT — MECH. ATTIC



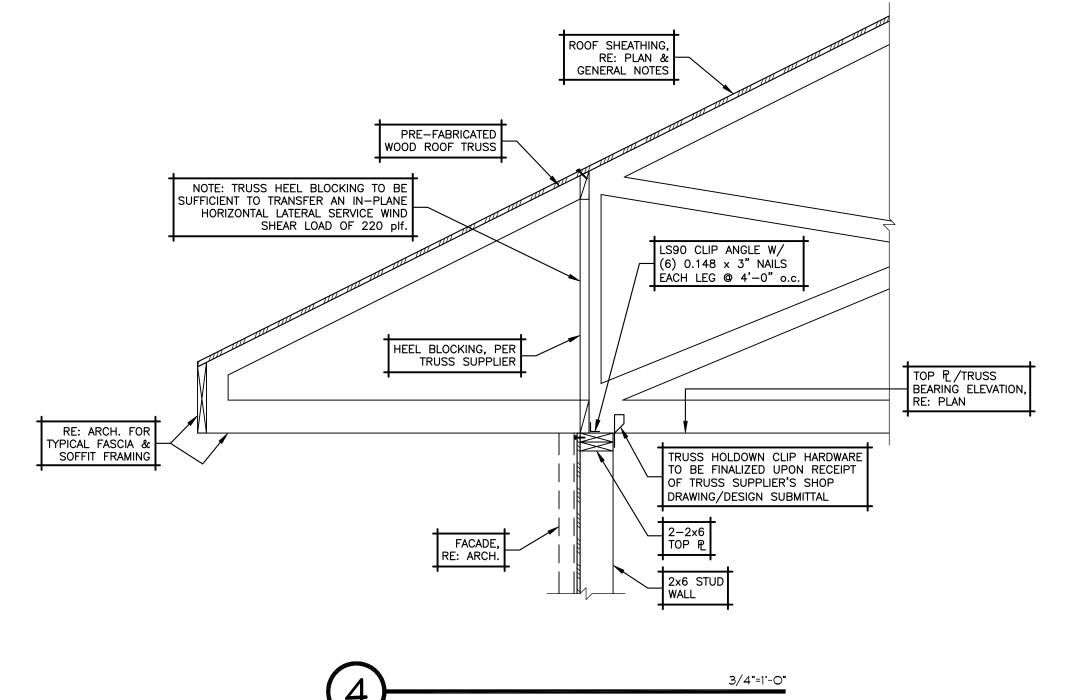
15/32" APA RATED SHEATHING. ATTACH TO FRAMING W/
10d NAILS @ 6" o.c. (EDGES)

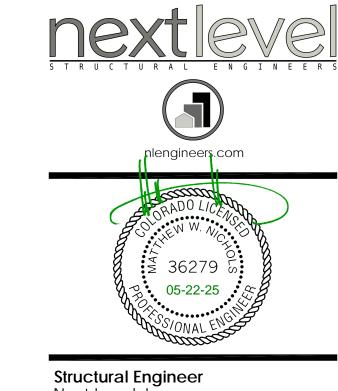
& 12" o.c. (FIELD)

ROOF TRUSS BOTTOM CHORD

3/4"=1'-0"

– H2.5A TIE, TYP.





Next Level, Inc. 7186 S. Forest Lane Centennial, CO 80122 303.260.9456

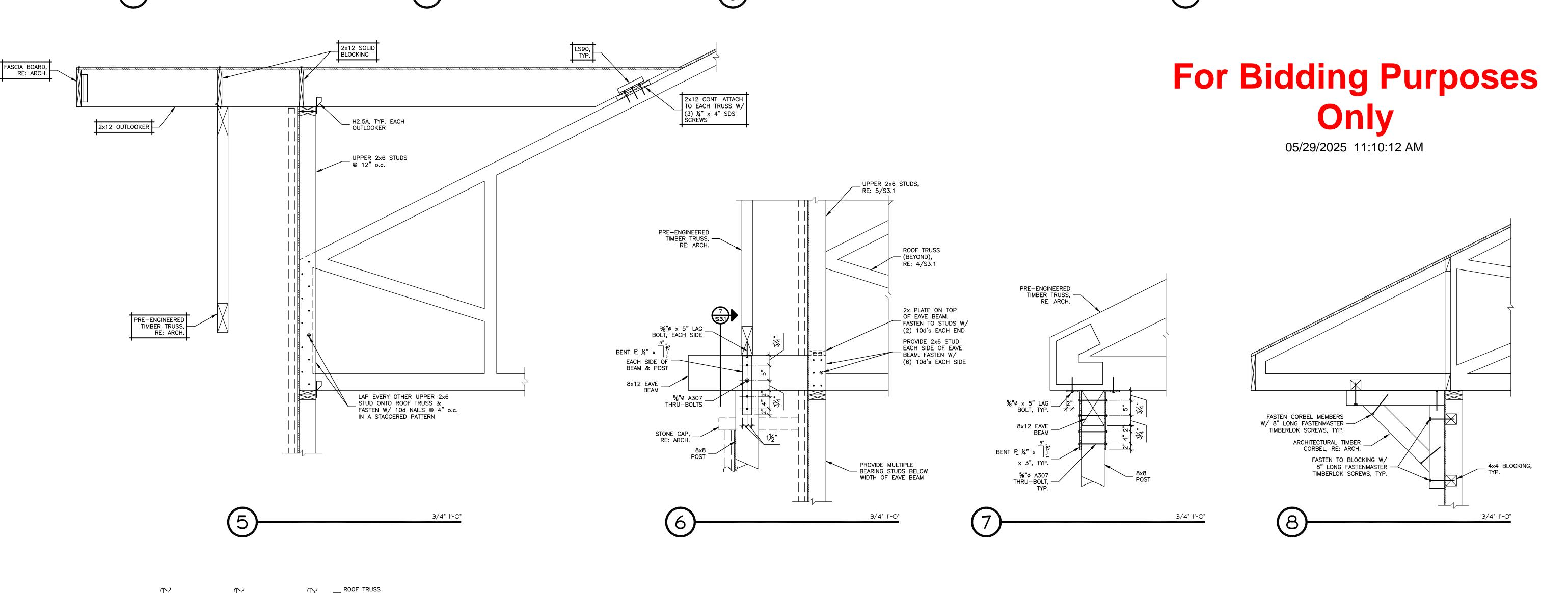
**Architect**Battista Design Group, P.C. 3650 Wadsworth Blvd. Wheat Ridge, CO 80033 Paul Battista 303.428.4895

ST

**Principal**Matt Nichols, P.E. 303.260.9456 matt@nlengineers.com

25-013
05.23.2025
Date

DETAILS



B. One (1) copy to the Architect.

- I. All work shall be installed in accordance with the base building specifications and standards, or the existing building standards as evidenced
- All work shall be in accordance with local codes. These codes shall be followed as a minimum, providing higher grades of materials and workmanship where required. All work shall conform to the requirements of authorities having jurisdiction, and local regulatory agencies.
- 3. This Contractor is responsible for all aspects of job-site safety. The Engineer is not responsible for means, methods and safety measures employed by the Contractor in the installation of the work depicted on these drawings. 4. Contractor shall become familiar with the structure, and verify that there is adequate clearance for the proposed mechanical installation. In the contractor has observed a discrepancy, or foresees a problem, he must notify the Engineer immediately when such conditions
- 5. Contractor shall verify existing conditions prior to the fabrication of ductwork and piping components. Carefully coordinate location of equipment and ductwork with ceiling, light fixtures, structural elements, pipes, conduits, and the work of other trades.
- 6. The mechanical drawings indicate general design and arrangement of pipes, ductwork, equipment, and systems. Drawings are diagrammatic in nature, and do not indicate every required offsets, fittings, etc. Follow drawings as close as actual construction and the work of other
- 7. Refer to the Architectural drawings and existing conditions at the site for exact location of partitions, walls, plumbing fixtures and general construction. Coordinate all grilles, registers, and diffuser locations with the Architectural drawings.

# Contractor shall place filters on the return air openings to the return air duct of the existing packaged rooftop HVAC unit prior to commencement of construction. Filters shall be removed at completion of the construction phase.

- 2. Existing HVAC equipment and ductwork are shown in dashed lines. Existing sizes and locations shown are not precise, and may be slightly different than actual conditions; Contractor <u>must</u> verify exact location and size of ducts at the site as necessary.
- 3. The work included under these construction documents consists of providing all equipment, labor, supervision, and construction procedures necessary for the installation of complete mechanical system(s) required by, or shown on these drawings. Contractor shall pay for all
- 4. All work shall be installed in accordance with local codes. All work shall conform to the requirements of authorities having jurisdiction, and
- 5. This Contractor is responsible for all aspects of job-site safety. The Engineer is not responsible for means, methods and safety measures employed by the Contractor in the installation of the work depicted on these drawings.
- 6. The mechanical drawings indicate general design and arrangement of pipes, ductwork, equipment, and systems. Drawings are diagrammatic in nature, and not indicate every required offsets, fittings, etc. Follow drawings as close as actual construction and the work of other
- 7. All work shall be installed from field dimensions to assure that it can be installed as shown. Any conflicts shall be brought to the attention of the Architect and the Engineer immediately for resolution prior to fabrication of components, or installation of equipment. Carefully coordinate location of equipment and ductwork with celling, light fixtures, existing systems, structural elements, and the work of other trades.
- 8. Contractor shall verify the proper operation of the existing packaged rooftop HVAC units and thermostats serving this tenant space. Existing packaged rooftop HVAC units are assumed to be in good operating condition for bid purposes. The Contractor shall bring to the attention of the Building Owner/Building Manager all observed needs for repair or replacement of existing HVAC equipment, components and systems. Repair or replacement of existing HVAC equipment shall be done at the discretion of the building management as a separate portion of the work, based on the Building Owner/Building Management's prior approval. Notify the Building Owner/Building Management, and obtain approval prior to commencement of work. Replace the HVAC units' filters.
- 9. Provide and connect all appliances, equipment, ductwork, piping, and accessories as specified and indicated for this project, in accordance with all applicable codes, manufacturer's published installation instructions, and as specified. Provide complete mechanical connections and terminations as indicated, and as required for complete and functional system(s). Coordinate with other trades, the Architect and conditions at the site to establish the actual location of each system
- 10. The Contractor is responsible to coordinate all work under his contract, with the work of all other trades
- 11. The equipment specified on these drawings has been selected as the basis for the design. The use of specified, or approved equals shall be coordinated by the Contractor as to space, configuration, and performance. Materials, equipment, and installation shall be guaranteed for a period of one (1) year after Building Owner acceptance.
- 12. All equipment shall be installed in accordance with the manufacturer's recommendations and published installation instructions, maintaining all necessary clearances for service and repair.
- 13. Installation of equipment on the roof, and all roof penetrations shall be coordinated with the structure, and with the Roofing Contractor. Access to the unit shall meet the requirements of current codes as adopted by the local authority having jurisdiction for roof access.
- 14. Contractor shall verify existing conditions at the site prior to the purchase or fabrication of materials, components, equipment, and the commencement of work. The bid shall serve as evidence of the Contractor's knowledge of the existing conditions. Notify Architect and Engineer of any conflicts requiring resolution as soon as such conflicts become apparent. Carefully coordinate location of equipment and ductwork with ceiling, light fixtures, structural elements, piping, conduits, and the work of other trades.
- 15. All ductwork shall be sheetmetal, fabricated and installed in accordance with SMACNA Standard for low velocity ducts. <u>Dimensions shown are outside sheetmetal</u>. Provide I" acoustic duct liner in rectangular ducts. Exhaust ductwork shall not be acoustically lined. <u>Rigid round ducts shall be spiral or Snap-Lock type</u>. Snap-lock type round duct may be used provided it is sealed along entire seam with plenum approved duct sealant. Duct tape is not acceptable as sealant. <u>All</u> ductwork shall be sealed with Rexcel, high velocity duct sealer 644600WB as made by Rexcel Coatings Corporation of El Paso, Texas, "Iron Grip", "Flexigrip" or equal. Rigid round ductwork shall be externally insulated, and wrapped with aluminized outer jacket. Flexible ducts shall be U.L. approved, have 1.5" thick fiberglass insulation with aluminized mular lines and outer jacket or aluminized mular outer jacket. aluminized mylar inner and outer jacket, or aluminized mylar outer and polyester inner jacket, and comply with the requirements of U.L. 181 and current codes as adopted by the local authority having jurisdiction. Splicing of flexible ducts is not permitted.
- 16. Contractor shall adjust and balance supply air diffusers, return air grilles, and exhaust and ventilation fans, to the air quantities shown on the plan. Packaged rooftop HVAC units are constant volume devices. Contractor shall balance supply air diffusers and return air grilles proportionally to the air quantities shown on the drawings. Contractor shall notify Engineer immediately, while at the site, if unable to obtain air quantities called for on the drawings. Balancing work shall be performed in accordance with AABC, NEBB or TABB standards, by a Certified Contractor. All balancing work shall be performed prior to tenant occupancy of the space. Submit a Test and Balance Report within 15 days of completion to the following: A. One (1) copy to the Building Owner.
- 17. All duct and pipe penetrations through walls shall be properly sealed.
- 18. Use turning vanes in <u>all</u> 90 and 45 degree duct turns in rectangular ducts,
- 19. Adjust rooftop HVAC unit outside air quantity based on outside air requirements as specified with the unit or shown on the drawings for each
- 20. Provide and install electronic programmable thermostats specified, complete with averaging sensors to control the rooftop HVAC units.
- 21. Line voltage wiring, and wiring required to be in conduit, by the Electrical Contractor. Low voltage wiring not required to be in conduit, by the Mechanical Contractor.
- 22. Materials within return air plenums shall be noncombustile or shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 50' when tested in accordance with ASTM E 84 or UL 723. [602.2.1 IMC 2018]

### GRILLES REGISTERS AND DIFFUSERS

- SD-I Titus architectural four way square plaque supply air diffuser model OMNI, in 24"x 24" module for installation in lay-in ceiling complete with round neck and white factory finish. Neck size and air quantities as shown. Coordinate frame/border and mounting type with the ceiling
- SD-2 Titus model TBDI-80 adjustable slot type supply air diffuser, complete with I" slot(s), lined sheet-metal plenum and duct collar. Length, number of slots, neck diameter and air quantity as shown. Factory white finish. Coordinate frame/border and mounting type with the ceiling
- SD-3 ACUTHERM "Therma-Fuser" model TF-HC stand alone thermally powered integrated VAV terminal/diffuser. Square panel supply air diffuser in a 24" × 24" panel for installation in lay-in ceiling, complete with round neck. Neck size and air quantities as shown. Factory white finish. Coordinate frame/border and mounting type with the ceiling type.
- RG-1 Titus model PAR perforated face return air grille for installation in lay-in celling, complete with square to round neck adaptor. Size/neck /TG-1 size and air quantities as shown for applicable grille. Factory white finish. Coordinate frame/border and mounting type with the HYAC EQUIPMENT

EXHAST FAN (EF-1, 2 and 6)
PennBarry Zephyr series ceiling exhaust fan model Z-8-5. 199 CFM at 0.5" S.P. 1050 RPM, 1.0 Amps at 120-1-60,, complete with intake grille, backdraft damper, PennBarry model LT-30 speed control switch, and PennBarry model WCC08 curb mounted roof discharge cap. Fan shall be suspended from structure with vibration isolators. Variable speed switch provided by the Mechanical Contractor, installed and wired by the Electrical Contractor. Approximate dimensions: 24"L x 14"W x 14"H. Approximate operating weight: 30 lbs.

PennBarry Zephyr series ceiling exhaust fan model Z-8-5. 199 CFM at 0.5" S.P. 1050 RPM, I.O Amps at 120-1-60, complete with intake grille, backdraft damper, and PennBarry model WCC-08 curb mounted roof discharge cap where the exhaust duct exists through the roof, and PennBarry wall cap model WC-10 when exhaust duct exits through the wall. Fan shall be suspended from structure with vibration isolators. Fan shall be activated by the occupancy sensor controlling the light in the restroom. Approximate dimensions:  $24"L \times 14"W \times 14"H$ . Approximate

UTILITY EXHAUST FAN (EF-6)
PennBarry Zephyr series ceiling ventilation fan model Z-10-5. 423 CFM at 0.25" S.P. 1050 RPM, 2.5 Amps at 120-1-60, complete with line voltage thermostat, intake grille, backdraft damper, and PennBarry model WCC08 curb mounted roof discharge cap. Fan shall be suspended from structure with vibration isolators, and activated by the reverse acting cooling only line voltage thermostat located where shown.

Contractor shall verify that fan is activated when the thermostat set-point is lowered. Line voltage thermostat provided by the Mechanical Contractor, installed and wired by the Electrical Contractor. Approximate dimensions: 24"L x 14"W x 14"H. Approximate operating weight: 25 like

IT ROOM VENTILATION FAN (VF-I)
PennBarry Zephyr series ceiling exhaust fan model Z-8-5. 231 CFM at 0.25" S.P. 1050 RPM, I.O Amps at 120-1-60, complete with line voltage thermostat, intake grille, backdraft damper, and PennBarry model WCCO8 curb mounted roof discharge cap. Fan shall be suspended from structure with vibration isolators, and activated by the reverse acting cooling only line voltage thermostat located where shown. Contractor shall verify that fan is activated when the thermostat set-point is lowered. Line voltage thermostat provided by the Mechanical Contractor, installed and wired by the Electrical Contractor. Approximate dimensions: 24"L x 14"H. Approximate operating weight: 25 lbs.

AIR COOLED CONDENSING UNIT (ACCU-I)
Carrier model 24ABB
Cooling:59 mbh, Refrigerant R-454B
Ambient Temp: 95 deg F
Electrical: 208/3, MCA 22, MOCP 30
Weight: 230 lbs.
Derovide with unit mounted discornect GAS FURNACE (FURN-1)
Carrier model CNPV
Nominal CFM @ ALT:1,950 cfm
Heating:95% AFUE effic., 120 mbh input @ S.L. Cooling: 59 MBH Voltage: 120/1, )Próvide with unit mounted disconnect. MOCF 20, MCA 11.9 2) Refrigerant piping sizing per manufacturer's

Weight: 100 lbs. 1)Provide with ECM Motor 3)Provide with hail guard 2)Head Pressure control 3)Horizontal Suspension kit

4)High Altitude Pressure switch GAS FURNACE (FURN-2, 3 \$ 4)
Carrier model CNPV
Nominal CFM @ ALT: 1,200 cfm AIR COOLED CONDENSING UNIT (ACCU-2, 3 \$ 4)
Carrier model 24ABB Cooling: 36 mbh, Refrigerant R-454B Ambient Temp: 95 deg F Electrical: 208/3, MCA 14.5, MOCP 20 Heating: 95% AFUE effic., Cooling: 36 MBH Voltage: 120/1, MOCP 20, MCA 11.9 I)Próvide with unit mounted disconnect 2) Refrigerant piping sizing per manufacturer's

Weight: 100 lbs. 1)Provide with ECM Motor 2)Head Pressure control 3)Horizontal Suspension kit 4)High Altitude Pressure switch

 $\overline{\text{QMark model MUH-03-81}}$  with adjustable discharge louvers, built-in integral thermostat and optional wall bracket model MMB-10. Install unit suspended from the wall, immediately below the ceiling. 3.0 kW at 208 V-1-60, 350 CFM. Bottom of unit heater shall be at no more that 8'-0" AFF. Approximate dimensions: 14" W x 16" H x 7.5" D. Approximate operating weight: 27 lbs. Thermostat shall be set to 50°F (Adjustable).

ELECTRIC CABINET UNIT HEATER (CUH-1): Marley Engineered Products Architectural semi-recessed wall mounted heater model AWH-4000 with tamper proof integral thermostat and integral disconnect. Install unit with bottom at 12" AFF. 1.5 kW at 120-1-60.

# OUTSIDE AIR VENTILATION NOTE

Air supply to the rooms listed below has been calculated to provide outside air per the requirements of Section 403 and Table 403.3.1.1 of the International Mechanical Code (IMC) based on supply air containing a minimum of 25% outside air.

# OUTSIDE AIR CALCULATIONS

<u>WAITING/RECEPT</u> 700 S.F. x 30 people per 1,000 S.F. = 21 people 21 people x 5 CFM per person = 110 CFM 700 S.F. x 0.06 CFM/S.F. = 42 CFM

110 CFM + 42 CFM 0.25 (O.A. ratio)  $\times$  0.8 (effectiveness ratio) = 760 CFM Air quantity shown to be delivered to the room: 1200 CFM

Air quantity shown to be delivered to the room: 150 CFM MIN

# OPERATORY (TYP)

2 people x 5 CFM per person = 10 CFM 110 S.F. × 0.06 CFM/S.F. = 7 CFM

10 CFM + 7 CFM 0.25 (O.A. ratio) x 0.8 (effectiveness ratio) = 68 CFM

For Bidding Purposes

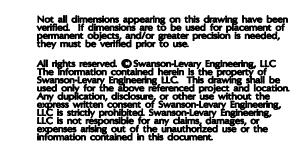
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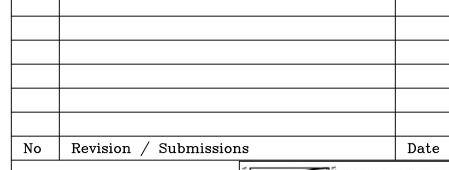
ALL SUB-CONTRACTORS ARE REQUIRED TO REVIEW THE DENTAL EQUIPMENT SHEETS FOR ITEMS PERTAINING TO THEIR SCOPE OF WORK.

# **SWANSON-LEVARY** ENGINEERING, LLC

10080 EAST 112TH WAY HENDERSON, CO 80640 303-660-3535

ryan@swansoneng.com









KJW Site and Shell and Wolfenden Family Dental Project 1231 Lake Avenue

MECHANICAL INFORMATION PLAN

Berthoud, CO 80513



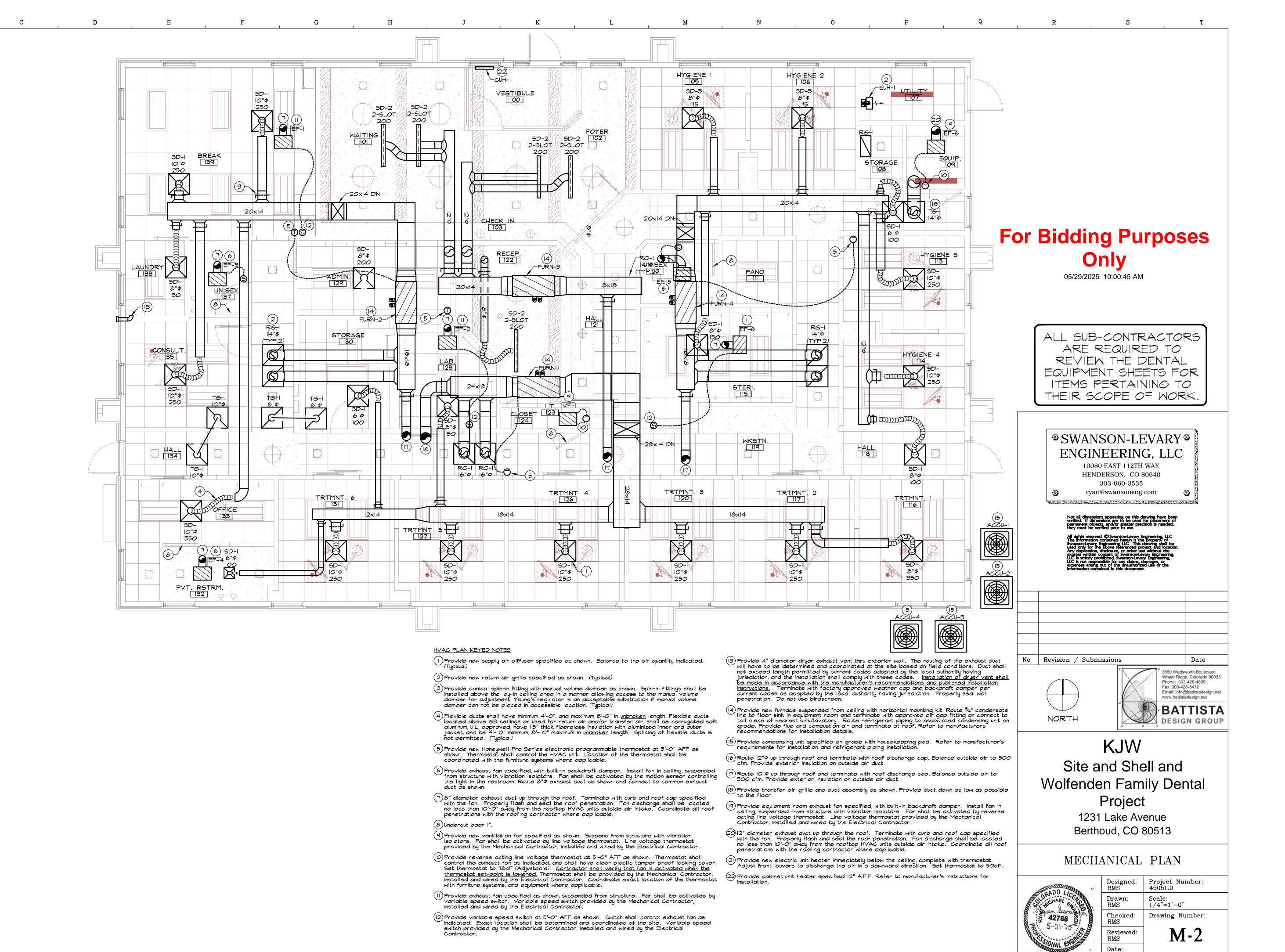
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Drawing Number: RMS Reviewed: RMS

M-1 1 of 2

Project Number: 45051.0

1/4"=1'-0"



2 of 2

MAY 2025

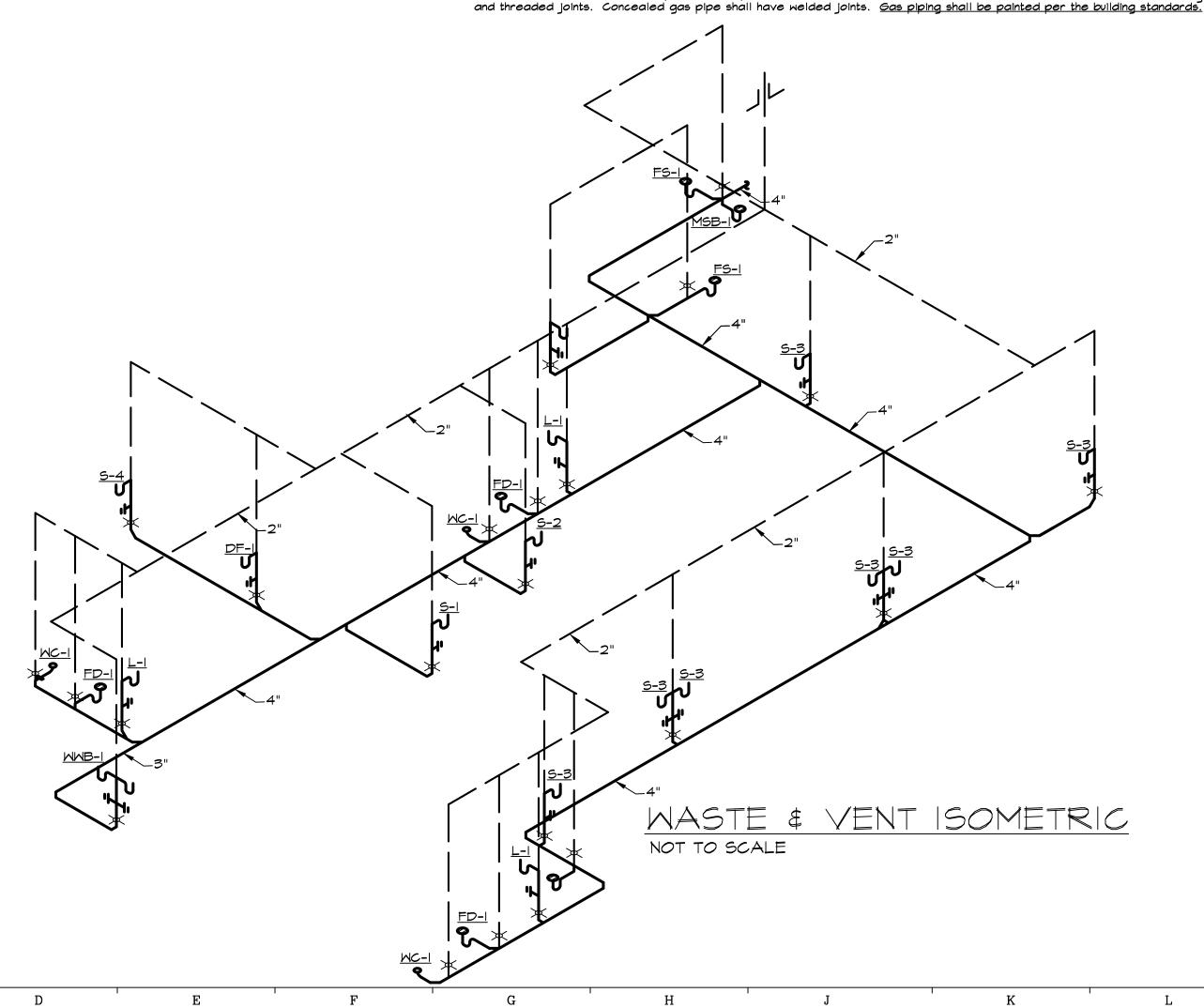
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# For Bidding Purposes

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PLUMBING SPECIFICATIONS AND GENERAL NOTES

- I. All plumbing work shall be performed in accordance with the latest edition of the International Plumbing Code (IPC), International Mechanical Code (IMC), International Fuel Gas Code (IFGC), and as adopted by the local authorities having jurisdiction, as required by the State of Colorado and the amendments of local authorities having jurisdiction.
- 2. Prior to installation of any piping, this Contractor shall verify that the piping can be routed as shown in coordination with Contractors of other divisions of the work and the physical constraints of the Structural and Architectural work.
- 3. This Contractor shall furnish all labor, materials, tools, supervision and equipment required to complete the plumbing work as shown on the plumbing drawings. Provide all items such as fittings, hangers, insulation, and accessories required as part of the work even though not indicated. Drawings are diagrammatic in nature, and do not show all fittings, riser nipples, arm-overs, hangers, etc. Plumbing drawings are schematic and are not to be scaled. Refer to the Architectural Drawings for dimensions.
- 4. This Contractor shall maintain at the site one (1) copy of all drawings in good order and record changes made during the construction. Upon completion of work, this Contractor shall prepare and submit to the Owner a reproducible
- 5. Provide sleeves for all pipes passing through concrete walls and floors. Provide chrome plated escutcheons for piping penetrations through cellings, walls and floors where piping is exposed, in order to connect to equipment or fixtures in finished areas. Conceal all other work in finished areas.
- 6. This Contractor shall not cut through structural members without written consent from the Structural Engineer and the
- 7. This Contractor shall secure and maintain for the term of this contract all insurance policies or coverage as required by contract and the laws of the State.
- 8. Coordinate all work with the work of other trades to insure that all work can be installed in an expedient and workmanlike manner. This Contractor shall cooperate with other Contractors in the placement of work to avoid conflicts and to maintain project progress. The General Contractor shall be advised of all conflicts.
- 9. This Contractor shall obtain permits and pay fees associated with the plumbing system installation. This Contractor shall also be responsible for arranging plumbing inspections with the appropriate building officials.
- 10. This Contractor is responsible for excavation required for plumbing work. When in-filling excavations, compact to 95% AASHTO Proctor density in 6 inch maximum layers at optimum moisture content. Should any settlement occur within the first year, this Contractor shall rework to original elevation and resolve any damage incurred to the Owner's satisfaction.
- II. All materials, equipment and devices furnished by this Contractor shall be guaranteed to be free from mechanical defects or faulty workmanship for a period of one year from date of accéptance by Owner.
- 12. Permanently seal around all pipe penetrations through foundation walls.
- 13. Provide testing in accordance with the International Plumbing Code and General Conditions of the Contract. Conduct testing on piping and related systems in accordance with the referenced code, the State of Colorado, local jurisdiction and the latest standards.
- 14. Hangers, supports, and components shall be factory fabricated according to MSS-SP-2009. Pipe supports shall be adjustable band hangers, similar and equal to B Line Fig. B 3172 and Fig. B 3172 CT, with zinc electroplating for steel pipe, and copper electroplating for copper tube.
- 15. All condensing appliances located inside the building shall have condensate drainage properly piped into the adjacent
- l6. Insulation shall have a flame spread rating of 25 or less and a smoke developed rating of 50 or less and shall be manufactured by Certainteed, Knauf or Owens-Corning. All potable cold water shall be insulated with 1/2" thick and all potable hot water shall be insulated with 1" thick fiberglass pipe insulation and vapor barrier. Minimum thermal conductivity shall be 0.3 at 2000F
- 17. Soil, waste and vent pipes and fittings below grade shall be service weight hub and spigot cast iron with neoprene gaskets or schedule 40 PVC pipe.
- 18. Soil and Waste above grade: DMV copper, service weight cast iron soil pipe with no-hub fittings.
- 19. Potable water piping routed within the building shall be type "L" copper tube with wrought copper fittings and 95% tin, 5% antimony soldered joints. All potable water piping within the building shall be insulated. Insulation shall be covered with all-service jacket. Potable water piping under the floor slab and outside the building shall be type K copper without joints. When joints are necessary, they shall be braised. It may be necessary to install vinyl wrapping for copper pipes below grade if there is reason to believe that the soil is corrosive.
- 20.Provide valves with proper pressure rating and application determined by the system type and working pressure. The following manufactures are acceptable: Apollo, Milwaukee, Nibco, Dezurik or equal.
- 21. Provide a pressure reducing station with strainers and ball valves at the domestic water service entry if the water service pressure exceeds 60 psi.
- 22. Soil, waste and vent systems shall be air pressure tested at 10 psig for 30 minutes with no leaks. Potable water pipes, valves, and fittings shall be disinfected, and air pressure tested at 125 psig for 60 minutes with no drop in pressure. Natural gas systems shall be tested at 100 psig air pressure for three (3) hours with no drop in pressure, with joints tested ušing standard soap and brush inspection.
- 20. Natural gas piping 2" and larger shall be black steel Sch. 40 ASTM A53, type S grade B pipe for butt weld, and fittings to be seamless carbon steel butt weld, ASTM A234; I-I/2" and smaller: Sch. 40 black steel ASTM with 150 lb. malleable iron fittings



PLUMBING FIXTURES AND EQUIPMENT

NOTE: Final selection, and approval of all plumbing fixtures is the responsibility of the Building Owner. The following fixture specifications represent the Engineers understanding of the required fixtures. These specifications shall be reviewed by the Building Owner. Contractor shall not place any purchase orders for the fixtures prior to obtaining written approval from the Building Owner.

<u>MATER CLOSET (MC-I):</u> American Standard pressure assisted 3042.109 white elongated "Cadet IT" EL 1.28/PA floor mounted with 4086.025 flush tank 1.28 GPF water closet, meeting ADA requirements, with white open front seat without cover; Olsonite #95. Provide complete with 1/2" polished chrome wheel handle angle supply and stop valve and riser, one piece chrome plated metal escutcheon. Floor to rim height: 18". Approved equal: Eljer Aquasaver with PF/2 energizer flushing system.

LAVATORY (L-I): CeraStyle 037100-U lavatory, 18.9"  $M \times 23.6$ " L O.D. with integral grid drain and I-1/4" "P" trap with drain tubing to wall, slip inlet and chrome plated escutcheon. 1/2" nominal inlet polished chrome wheel handle angle supply and stop valve and riser, one piece chrome plated metal escutcheon. Faucet: Nameek's Remer LIIUSNL-CR single hole with aerator and 0.5 GPM restrictor. Tailpiece shall offset "P" trap out of knee space. Floor to rim height: 34".

FLOOR DRAIN (FD-I): J.R. Smith model 2005-A or equal, 2" floor drain with cast iron body, adjustable strainer complete with deep seal cast iron "P" trap, connection for J.R. Smith, Prime Eze Water Saver Trap Primer model No. 2698ADA, and Nickel Bronze adjustable strainer head. Floor drain shall be connected to a trap primer.

TRAP PRIMER: J.R. Smith, Prime Eze Water Saver Trap Primer model No. 2698ADA or equal. Connect to the tailpiece fittina at the lavatoru.

5<u>INK (G-I) Lab</u>: Elkay model DLR-2522-IO. 25"  $\times$  22" O.D.  $\times$  IO" deep, single compartment I $\otimes$  gauge stainless steel self-rimming sink with polished chrome finish, and three faucet holes. Complete with waste fitting, crumb cup strainer with removable basket and I-I/2" tailpiece, I-I/4" "P" trap with drain tubing to wall, slip inlet and chrome plated escutcheon. I/2" nominal inlet polished chrome wheel handle angle supply and stop valve and riser, one piece chrome plated metal escutcheon. <u>Faucet:</u> Delta "Trinsic" series model 9159-DST chrome neck faucet with single lever (3 hole installation) complete with separate spray, aerator, and 0.5 GPM restrictor. Sink waste shall be routed through plaster trap. Plaster trap supplied by dental equipment supplier, installed by this Contractor.

<u>PLASTER TRAP (PT-I)</u>: GLECO model GT-64 with filter medium for plaster. Approximate dimensions:  $II"W \times 9"D \times 12"H$ . Approximate operating weight: 70 lbs.

SINK (S-2) Sterilization: Elkay model DLR-2522-IO. 25" x 22" O.D. x IO" deep, single compartment I8 gauge stainless steel self-rimming sink with polished chrome finish, and three faucet holes. Complete with waste fitting, crumb cup strainer with removable basket and I-I/2" tailpiece, I-I/4" "P" trap with drain tubing to wall, slip inlet and chrome plated escutcheon. 1/2" nominal inlet polished chrome wheel handle angle supply and stop valve and riser, one piece chrome plated metal escutcheon. Faucet: Delta "Trinsic" series model 9159-DST chrome neck faucet with single lever (3 hole installation) complete with separate spray, aerator, and 0.5 GPM restrictor.

EYE WASH FOUNTAIN (EWF-I): Guardian model G-5022-TMV deck mounted dual purpose eye wash/drench hose with two gentle spray outlet heads angled at 45 degrees, and squeeze valve with locking clip. Furnish complete with tempering

EYE WASH FOUNTAIN TEMPERING VALVE (TV-I): Guardian emergency fixture mixing valve model G-3600. Outlet temperature range: 800F to 1200F. Valve shall meet the requirements of ASSE Standard 1016-96 and 1070 and ANSI *Z-358.1-200*9.

SINK (S-3) Operatories: Elkay model ELUH-12FB round undermount 18 gauge stainless steel sink. 14-3/8" diameter with integral grid drain, and cup strainer. I-1/4" "P" trap with drain tubing to wall, slip inlet and chrome plated escutcheon. I/2" nominal inlet polished chrome wheel handle angle supply and stop valve and riser, one piece chrome plated metal escutcheon, complete with all trim. Faucet: Chicago Faucet model 895-317 gooseneck faucet with wrist blades and 4" inlet centers, complete with aerator, and 0.5 GPM restrictor. Faucet shall be installed in the counter, bordering the sink ledge.

SINK (S-4) Break Room: Elkay model GECR-252I-L single compartment self rimming stainless steel sink,  $25" \times 2I-I/4"$  O.D.  $21" \times I5-3/4"$  I.D., 5-3/8" deep with "P" trap with drain tubing to wall, slip inlet and chrome plated escutcheon. I/2" nominal inlet polished chrome wheel handle angle supply and stop valve and riser, one piece chrome plated metal escutcheon, complete with all trim. Faucet:Delta "Trinsic" series model 9159-DST chrome neck faucet with single lever (3 hole installation) complete with separate spray, aerator, and 0.5 GPM restrictor. <u>Disposer:</u> In-Sink-Erator model Badger V, I/2 HP, I20-I-60.

<u>MASHER WALL BOX (WWB-I):</u> Symmons model W-602 "Laundry Mate" with supplies and drain. Acceptable equal: Oatey, or Guy Gray, with single lever, and dual ball valves.

SHOWER (SH-1): Crane one piece acrylic shower model MSI-321. 36" x 36-1/8" x 78-1/4" fiberglass recessed shower compartment with slip resistant bottom, stainless steel strainer plate, and 2" drain body outlet. Provide thermostatically controlled mixing valve model T-167AA with check stops, curtain and curtain rod, and water saver shower head. Color: White, unless instructed otherwise by tenant, and Architect. Contractor shall observe right hand or left hand configuration based on the Architectural drawings prior to placing purchase orders.

ELECTRIC WATER HEATER (EWH-I): A.O. Smith point of use electric water heater model DEN-40. 40 gallon capacity. 4.5 kW single element. Voltage provided is 277-1-60. Water heater shall be installed on stand, complete with drain pan. Drain pan shall drain into the adjacent floor drain. Drain line from drain pan shall be sized two (2) pipe sizes larger than the pressure relief valve diameter. Pipe pressure relief valve to the adjacent floor drain. Plumbing connections with dielectric unions. Approximate dimensions: 20-1/2" Diameter x 45-1/8" H. Approximate operating weight: 460 lbs. Install expansion tank at potable water inlet to the water heater per the requirements of current codes as adopted by the local authority having jurisdiction. (Amtrol model ST-12 or equal). Install check valve and vacuum relief valve at the cold water inlet to the water heater. Install mixing valve (MV-1) specified below.

 $\underline{\text{MIXING VALVE (MV-I)}}. \text{ Heatguard IIO-HX series. High flow: 20.0 GPM. Low flow: I.O GPM. Set system to IIOoF.}$ 

<u>POTABLE HOT WATER CIRCULATION PUMP (CP-I):</u> Taco cartridge circulator model OOIO or equal. 5.0 GPM at IO.0 feet head. 1/15 HP at 120-1-60. Pump shall be activated from and interlocked with the operation of solenoid valve. Approved equals: Bell & Gossett, Wilo, Grundfos.

SERVICE SINK (MSB-1): Fiat Products, Inc. model MSB-2424 molded stone mop service basin, complete with model 830-AA faucet with vacuum breaker nozzle and hose thread-on outlet, pail hook, and wall support bracket. 874 cast brass drain body with stainless steel 1453-BB strainer. Provide and install model 889-CC mop hanger above sink, model E-77-AA threshold quard, and model 832-AA hose and bracket.

FLOOR SINK (FS-1): Josam model 49000 indirect floor sink waste receptor. 8" square by 6" deep acid resistant porcelain enameled interior, and nickel bronze grate. Flashing flange and removable Lumaloy dome bottom strainer. Provide complete with cast iron "P" trap, and half grate configuration, unless specified otherwise.

BACKFLOW PREVENTION DEVICE (BFP-I): Febco I-I/2" reduced pressure backflow preventer model 825-Y complete with discharge drain funnel, test cocks and optional ball valve shut-offs. Install bronze Y strainer upstream of the device.

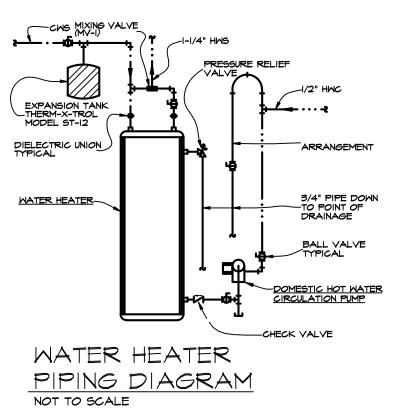
HOSE BIBB (HB-I): Woodford Model B-65 freezeless wall hydrant with chrome finish brass casing with hinged locking cover and 3/4" hose connection outlet and integral vacuum breaker.

SOLENOID VALVE WITH BYPASS AND FILTER: Midmark I-1/2" solenoid valve system with filter and bypass model No.

<u>DRINKING FOUNTAIN (DF-I):</u> Elkay drinking fountain and bottle filling station with filter EZH2O model EMABFTLDDWSLK two level ADA compliant stainless steel with vandal resistant bubbler. Provide with commercial carrier.

All plumbing fixtures must be approved by the Building Owner prior to placement of the purchase order. Provide and install all anchors, supports, traps and trim, for a complete installation. Provide stop valves on all hot and cold water connections to fixtures. Properly caulk around fixtures with silicone based caulking compound.

Note: Fixtures shall be installed to meet all current ADA requirements where applicable. Where plumbing equipment and trim protrude into knee space below ADA designated lavatories and sinks, they shall be covered with safety covers as made by Brocar Products, Inc. of Cincinnati, Ohio under the trade name Trap Wrap, or as made by Truebro, Inc. of Ellington, Connecticut, under the trade name Handi-Lay-Guard.

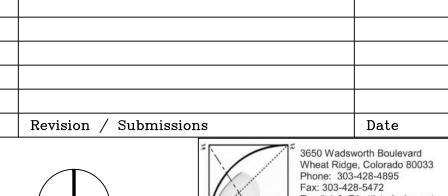


ALL SUB-CONTRACTORS ARE REQUIRED TO REVIEW THE DENTAL EQUIPMENT SHEETS FOR ITEMS PERTAINING TO THEIR SCOPE OF WORK.

# **SWANSON-LEVARY** ENGINEERING, LLC

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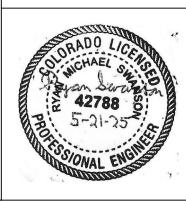




Site and Shell and Wolfenden Family Dental Project 1231 Lake Avenue

Berthoud, CO 80513

# PLUMBING INFORMATION PLAN



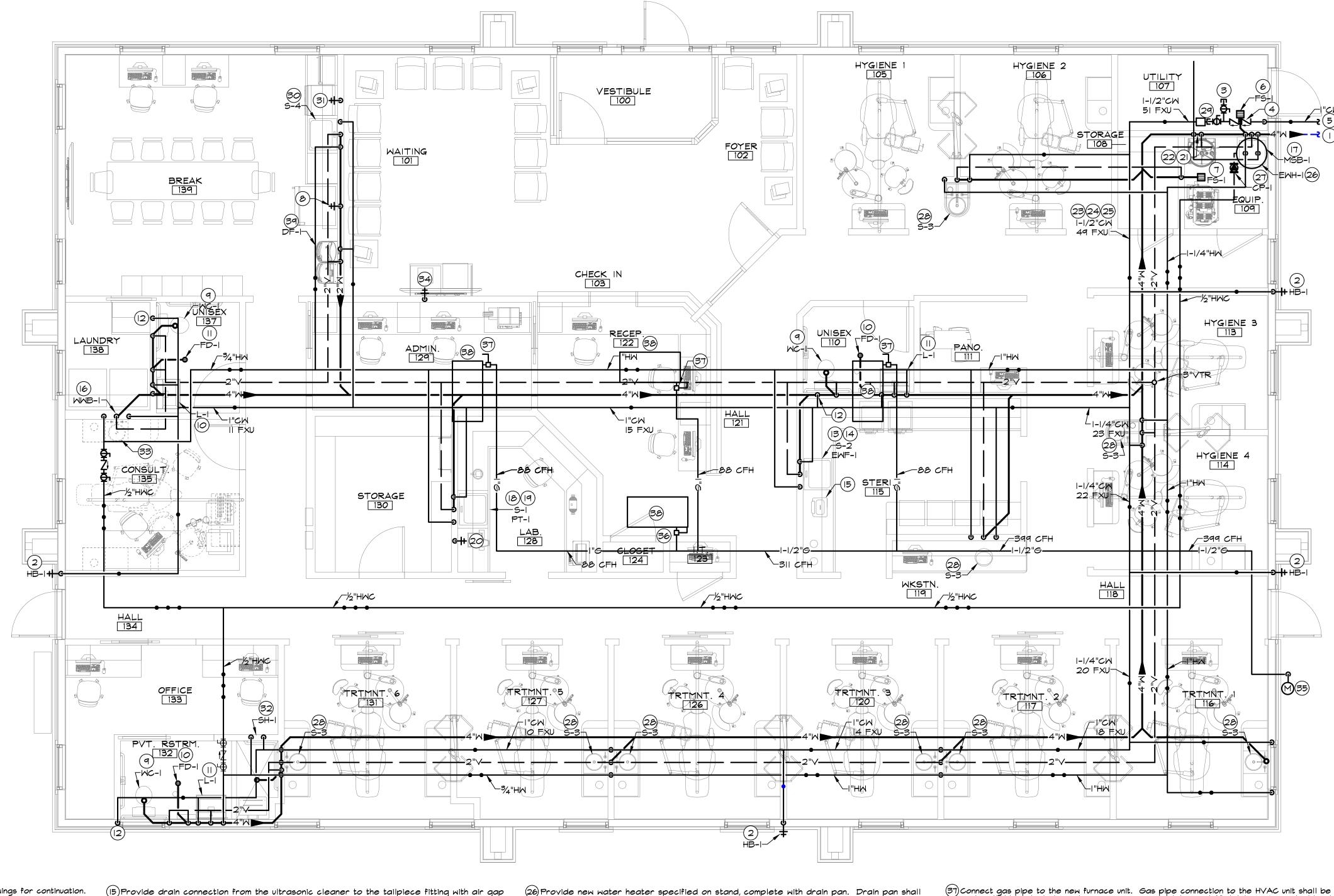
Project Number: 45051.0 Designed: Drawn: Scale: 1/4"=1'-0" RMS Checked: RMS

MAY 2025

Reviewed: RMS

Drawing Number: P-1

1 of 3



# MECHANICAL PLAN KEYED NOTES

- (1)4" sanitary waste pipe 5'-0" outside the building. Refer to the Civil drawings for continuation. Pipe shall slope at a minimum of 1/8" per L.F. Coordinate exact invert elevation with the Civil
- (2) Rough-in and connect 1/2" CW to hose bibb specified.
- (3)Provide and install full port ball type valve and cap for future connection to serve landscape irrigation. Coordinate with the civil drawings and the landscaping contractor for exact location. Landscape contractor responsible for backflow prevention device, freeze protection, and water distribution outside the building.
- (4)Provide I-I/2" Febco model 825-Y or equal, reduced pressure backflow preventer as shown. Dumping port of backflow prevention device shall be piped into the adjacent floor sink. Install bronze Y strainer upstream of the device
- (5)Connect new I" potable cold water pipe the potable water service as shown. See the Civil drawings and actual conditions at the site for additional information.
- (6)Rough-in and connect 4" waste and I-I/2" vent to the floor sink specified.
- $\left[7
  ight)$ Rough-in and connect 2" waste and I-I/2" vent to the floor sink specified.
- $(oldsymbol{arphi})$ Provide valved 1/4" soft copper water supply connection with recessed quarter turn MIP shut-off valve (as made by Oatey or equal) to the refrigerator. Install recessed valve under the sink at location to be determined and coordinated at the site. Saddle valves are not acceptable. Install 1/4" soft copper connection through the cabinet to the refrigerator. Refrigerator provided by the tenant, connected by the Mechanical

(IO)Rough-in and connect 2" waste, I-I/2" vent, I/2" HW and I/2" CW to the lavatory specified

- (9)Rough-in and connect 4" waste, 2" vent, and 1/2" CW to the water closet specified as
- as shown. Install trap primer: J.R. Smith, Prime Eze Water Saver Trap Primer model No. 2698-ADA or equal, connected to the tailpiece fitting at the lavatory. Provide ASSE 1070 approved mixing valve.
- (II) Rough-in and connect 2" waste and I-1/2" vent to the floor drain specified. Install trap primer: J.R. Smith, Prime Eze Water Saver Trap Primer model No. 2698-ADA or equal, connected to the tailpiece fitting at the lavatory.
- (12)Provide shock arrester at end of pipe as shown. Shock arrester shall be as made by Sioux Chief, Watts, or equal, and shall be sized in accordance with the pipe it is
- (13) Rough-in and connect 2" waste, 1-1/2" vent, 1/2" HW and 1/2" CW to sink. <u>Provide drain</u> connection for the ultrasonic cleaner at the tailpiece fitting of the sink, complete with air
- (14) Provide emergency eye wash fountain specified (EWF-1) at the sink ledge. Rough-in and connect 1/2" potable hot and cold water through tempering valve specified (TV-1) to the eye wash fountain. Tempering valve (TV-I) shall be set to 800F (adjustable)

- connection at the adjacent sink.
- (16) Rough-in and connect 2" waste, I-1/2" vent, I/2" HW and I/2" CW to the washer wall box specified.
- (17) Rough-in and connect 1/2" HW, 1/2" CW, 1-1/2" VENT, AND 3" WASTE to mop service sink (18)Rough-in and connect 2" waste, I-I/2" vent, I/2" HW and I/2" CW to sink specified. Sink
- waste shall be routed through plaster trap. Plaster trap supplied by dental equipment supplier, installed by this Contractor. Offset hot and cold water through cabinet space as
- (19)Provide plaster trap specified under the sink. Waste from the sink shall be routed through the plaster trap. Install a tailpiece fitting for the model trimmer drain
- 20)Provide 1/2" potable cold water up in wall. Terminate with recessed quarter turn MIP shut-off valve (as made by Oatey or equal) with 1/4" soft copper tubing above counter for connection to model trimmer. Install Watts model SD-2MN backflow prevention device prior to connection to the model trimmer. Coordinate exact location with dental equipment supplier. Provide drain connection for the model trimmer at the tailpiece fitting of the sink, or directly into the plaster trap.
- (21) Rough-in and connect 2" waste, 1-1/2" vent and "P" trap. Exact location and height above floor shall be determined and coordinated with the Dental Equipment Supplier at the site based on the exact location of the vacuum pump and the requirements of the vacuum pump manufacturer. Vacuum pump shall drain directly into the "P" trap per NFPA 5.3.3.6.3.1 and Section 713.7 of the International Plumbing Code (IPC).
- 22)Provide 3/8" potable cold water to the vacuum pump if required by the Dental Equipment Supplier. If installed, the connection shall consist of 3/8" recessed quarter turn MIP shut-off valve (as made by Oatey or equal) with 3/8" soft copper tubing for connection to the vacuum pump. Install Watts model SD-2MN backflow prévention device prior to connection to the vacuum pump. Saddle valves are not acceptable. Coordinate exact location with the Dental Equipment Supplier. Provide drain connection for the vacuum pump as stated above, and as directed by the Dental Equipment Supplier.
- 23) Potable cold water piping shall be insulated with 1/2" formed fiberglass insulation with minimum conductivity of k-0.27 for all cold water piping operating between 40-60 deg F and service jacket.
- (24) Potable hot water piping shall be insulated with 1" formed fiberglass insulation with with minimum conductivity of K-0.28 for all hot water piping operating between 105-140 deg F and service jacket.
- 25) Potable hot water circulation return piping shall be insulated with 1" formed fiberglass insulation with with minimum conductivity of k-0.28 for all hot water piping operating between 105-140 deg F. See water heater piping diagram for additional information.

- (26) Provide new water heater specified on stand, complete with drain pan. Drain pan shall drain into the adjacent mop'sink. Pipe pressure relief valve to the adjacent mop sink. Install expansion tank at potable water inlet to the water heater per the requirements of current codes as adopted by the local authority having jurisdiction. (Amtrol model ST-12 or equal). Hot and cold water pipe connections to the electric water heater shall be made with full port ball valve, and dielectric union. Install check valve at cold water inlet to the water heater, and heat trap fittings as made by Rheem, or equal at hot and
- 27) Provide potable hot water circulation pump (CP-1) adjacent to the water heater and connect the potable hot water circulation return pipe to the water heater and the pump. Circulation pump shall be activated by the Air-Water-Vac dental control panel in conjunction with the solenoid valve. See the electrical drawings and the architectural sheet Al.4 for the location of the Air-Water-Vac control panel
- (28) Rough-in and connect 2" waste, I-1/2" vent, I/2" HW and I/2" CW to the sink specified. Provide with ASSE 1070 approved mixing valve.

cold water connections to the water heater.

- Provide I-1/2" solenoid valve with water purifier/filter and bypass specified. Solenoid valve shall be operated from the dental equipment air-water-vacuum control panel. See the electrical drawings and the Architectural drawing, sheet Al.4 for the location of the
- (30) Rough-in and connect 2" waste, I-I/2" vent, I/2" HW and I/2" CW to the sink specified.
- (31) Connect waste, and 1/2" valved hot water to dishwasher. Connect dishwasher waste with dishwasher air gap fitting to "P" trap tailpiece fitting.
- (32) Rough-in and connect 2" waste, I-I/2" vent, I/2" HW and I/2" CW to the shower specified. (33) Rough-in 2" waste, I-1/2" vent, I/2" HW and I/2" CW for future sink.
- (34)Install valved 1/4" soft copper water supply connection with recessed quarter turn MIP shut-off valve (as made by Oatey or equal) to the coffee maker. Saddle valves are not acceptable. Coffee maker provided by tenant, connected by the Mechanical Contractor. Install recessed valve under the sink at location to be determined and coordinated at the site. Vendor shall extend 1/4" soft copper pipe up through the counter to desired location of coffee maker, and connect. Install Watts model SD-2MN double check valve backflow prevention device prior to connection to the appliance.
- (35) Contractor shall coordinate with the local utility company to install gas service. Design service for 354 MBTUH (399 CFH) capacity. Gas pipe sizing is based on 0.5" w.g. pressure drop and total developed length as noted in accordance with Table 402.4(2) of the International Fuel Gas Code (IFGC). Install gas meter bank in this location. Installation of the gas meters by the local utility company. Gas piping downstream of the meter, by this contractor. Connection to the gas meter shall occur after appliances have been connected to the gas pipe.
- (36) Connect gas pipe to the new furnace unit. Gas pipe connection to the HVAC unit shall be made with lubricated plug valve, gas pressure regulator and 6" dirt leg. Connected load: 120

(37) Connect gas pipe to the new furnace unit. Gas pipe connection to the HVAC unit shall be made with lubricated plug valve, gas pressure régulator and 6" dirt leg. Connected load: 78 MBH/88 CFH. Total developed length: 150 feet.

B) Provide  $\frac{3}{4}$ " condensate line to floor sink in equipment room and terminate with approved air gap fitting or connect to tail piece of nearest sink/lavatory. (39) Rough-in and connect 2" waste, I-I/2" vent, I/2" HW and I/2" CW to the drinking fountain

# For Bidding Purposes

05/29/2025 9:59:15 AM

ALL SUB-CONTRACTORS ARE REQUIRED TO REVIEW THE DENTAL EQUIPMENT SHEETS FOR ITEMS PERTAINING TO THEIR SCOPE OF WORK

# **⊗** SWANSON-LEVARY **⊗** ENGINEERING, LLC

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Revision / Submissions

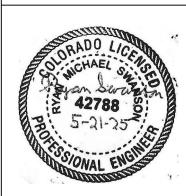




# KJW Site and Shell and Wolfenden Family Dental Project

1231 Lake Avenue Berthoud, CO 80513

# PLUMBING PLAN



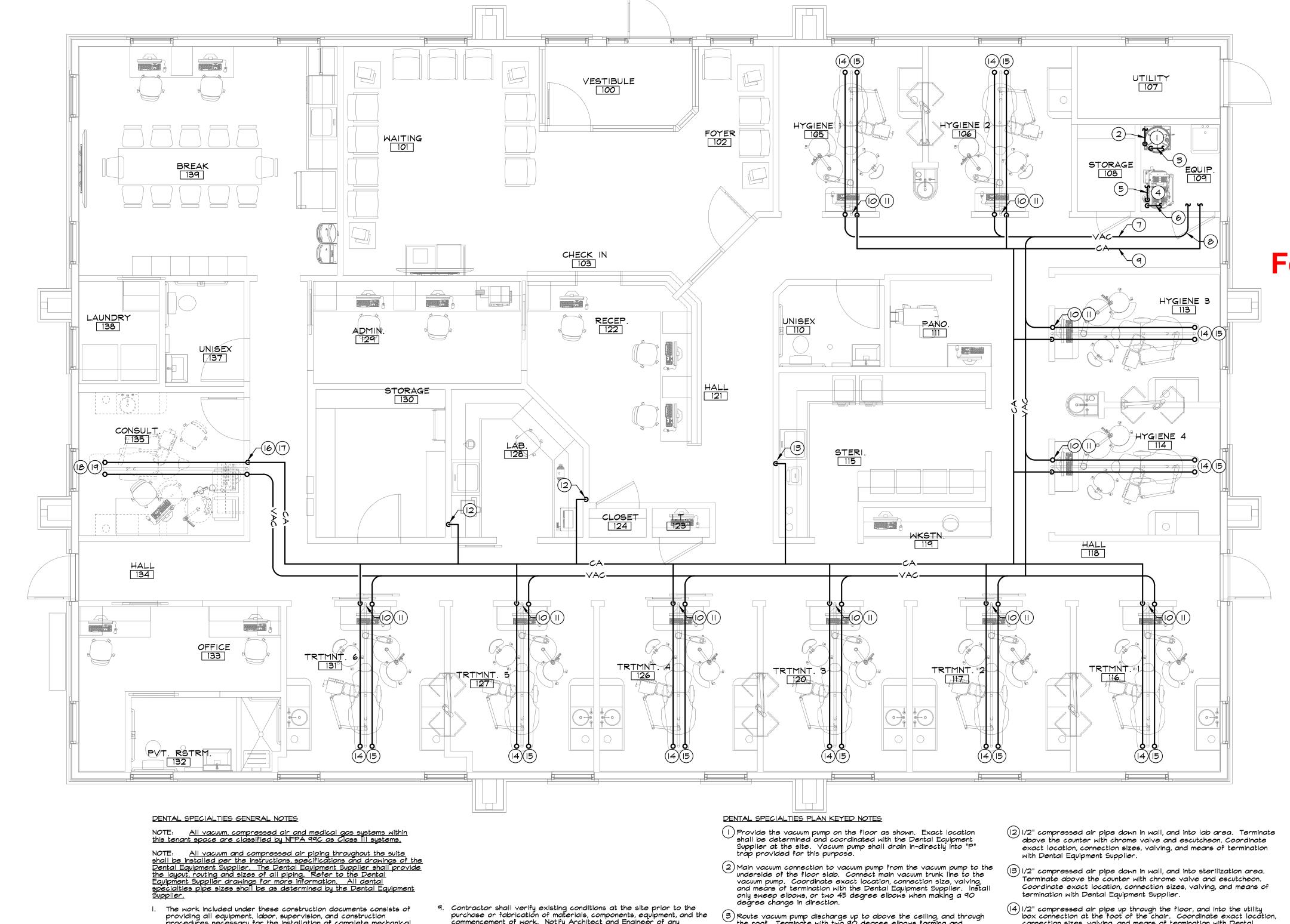
Project Number: 45051.0 Designed: RMS Drawn: Scale: 1/4"=1'-0" RMS Checked: RMS

Reviewed: RMS

Drawing Number:

2 of 3

MBH/135 CFH. Total developed length: 150 feet.



- procedures necessary for the installation of complete mechanical system(s) required by, or shown on these drawings. Contractor shall pay for all permits and/or fees required for the work.
- 2. All work shall be in accordance with local codes. These codes shall be followed as a minimum, providing higher grades of materials and workmanship where required. All work shall conform to the requirements of authorities having jurisdiction, and local regulatory
- 3. This Contractor is responsible for all aspects of job-site safety. The Engineer is not responsible for means, methods and safety measures employed by the Contractor in the installation of the work
- 4. The drawings indicate general design and arrangement of pipes, equipment, and systems. Drawings are diagrammatic in nature, and do not indicate every required offsets, fittings, etc. Follow drawings as close as actual construction and the work of other trades permits.
- 5. Provide and connect all appliances, equipment, piping, and accessories as specified and indicated for this project, in accordance with all applicable codes, manufacturer's published installation instructions, and as specified. Provide complete mechanical connections and terminations as indicated, and as required for complete and functional system(s). Coordinate with other trades, the Architect and conditions at the site to establish the actual location of equipment.
- 6. The contractor is responsible to coordinate all work under his contract with the work of all other trades.
- 7. All work shall be installed from field dimensions to assure that it can be installed as shown. Any conflicts shall be brought to the attention of the Architect and the Engineer immediately for resolution prior to fabrication of components, or installation of equipment. Carefully coordinate location of equipment and piping with ceiling, light fixtures, existing systems, structural elements, and the work of other trades.
- 8. All equipment shall be installed in accordance with the manufacturer's recommendations, and published installation instructions, maintaining all necessary clearances for service and

- commencement of work. Notify Architect and Engineer of any conflicts requiring resolution as soon as such conflicts become apparent. The bid shall serve as evidence of the Contractor's
- Refer to the Architectural drawings for exact location of partitions, walls, plumbing fixtures and general construction.
- All vacuum pipes below the floor shall be schedule 40 PVC. Contractor shall install only sweep elbows, or two 45 degree elbows when making a 90 degree change in direction.
- 12. Compressed air piping shall be type "L" copper tubing with wrought copper fittings with 95% Tin, 5% Antimony soldered joints. Piping shall be tested to 150 PSI, and show no leaks. Compressed air piping shall be clearly labeled per NFPA 99C.
- 13. Plumbing Contractor shall coordinate installation with dental equipment supplier/installer. All utility and medical gases requirements and connections as applicable for this project, whether shown on the drawings, or not, shall be cross-referenced with the Dental Equipment Specification Sheet to be provided by the Dental Equipment Supplier.
- Plumbing Contractor shall make all final connections to equipment as directed by, and coordinated with the Dental Equipment Supplier. Final locations of all connections to be determined by the dental equipment supplier.
- 15. All piping shall be properly, and legibly labeled.

- Route vacuum pump discharge up to above the ceiling, and through the roof. Terminate with two 90 degree elbows forming and inverted "U" shaped pipe with open end facing down. Properly flash and seal roof penetration. Coordinate all roof penetrations with the structure. Point of termination shall be no less than 10'-0" away from any outside air intake. All roof penetrations shall be coordinated with the building's roofing contractor where applicable. Pipe size shall be determined by the Dental Equipment Supplier. (Tupical of 2)
- (4) Provide the air compressor on the floor as shown. Exact location shall be determined and coordinated with the Dental Equipment
- (5) Route 2" intake pipe for compressor up to ceiling. Terminate with two 90 degree elbows forming inverted "U" shaped pipe with open end facing down. Install air filter as required. 6 1/2" compressed air pipe up, and routed above ceiling. Coordinate exact location, connection size, valving, and means of termination
- with Dental Equipment Supplier. 7) Vacuum piping routed below the floor. Slope at 1/4" per 10 L.F. toward the vacuum pump. Vacuum pipe sizing shall be in accordance with the dental equipment supplier drawings and specifications.
- 8 Provide only sweep elbows, or two 45 degree elbows when making a 90 degree change in direction. (Typical of all vacuum piping) 9 1/2" compressed air routed above ceiling. Exact height above the ceiling shall be determined and coordinated at the site. Pipe shall
- 5/8" O.D. vacuum pipe up through the floor, and into the rear delivery unit. Coordinate exact location, connection sizes, valving, and means of termination with Dental Equipment Supplier. Install only sweep elbows, or two 45 degree elbows when making a 90 degree change in direction.

slope at 1/4" per L.F. toward the compressor.

1) 1/2" compressed air pipe down in wall, and into the rear delivery unit. Coordinate exact location, connection sizes, valving, and means of termination with Dental Equipment Supplier.

- connection sizes, valving, and means of termination with Dental Equipment Supplier. (15) 5/8" O.D. vacuum pipe up through the floor, and into the utility box connection at the foot of the chair. Coordinate exact location,
- connection sizes, valving, and means of termination with Dental Rough-in 5/8" O.D. vacuum pipe up through the floor for future rear delivery unit. Coordinate exact location, connection sizes, valving, and means of termination with Dental Equipment Supplier. Install only sweep elbows, or two 45 degree elbows when making a 90 degree
- change in direction. Rough-in 1/2" compressed air pipe down in wall for future rear delivery unit. Coordinate exact location, connection sizes, valving, and means of termination with Dental Equipment Supplier.
- Rough-in 1/2" compressed air pipe up through the floor for future utility box connection at the foot of the chair. Coordinate exact location, connection sizes, valving, and means of termination with Dental Equipment Supplier.
- Rough-in 5/8" O.D. vacuum pipe up through the floor for future utility box connection at the foot of the chair. Coordinate exact location, connection sizes, valving, and means of termination with Dental Equipment Supplier.

# For Bidding Purposes Only

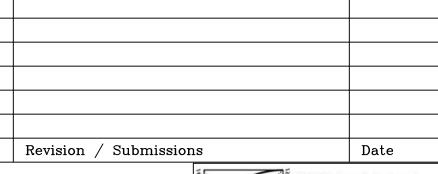
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ALL SUB-CONTRACTORS ARE REQUIRED TO ITEMS PERTAINING TO THEIR SCOPE OF WORK

# **SWANSON-LEVARY** ENGINEERING, LLC

10080 EAST 112TH WAY HENDERSON, CO 80640 303-660-3535

ryan@swansoneng.com







# KJW Site and Shell and Wolfenden Family Dental

Project 1231 Lake Avenue Berthoud, CO 80513

DENTAL SPECIALTIES PLAN



*	Designed: RMS
<b>A</b> .	Drawn: RMS
	Checked: RMS

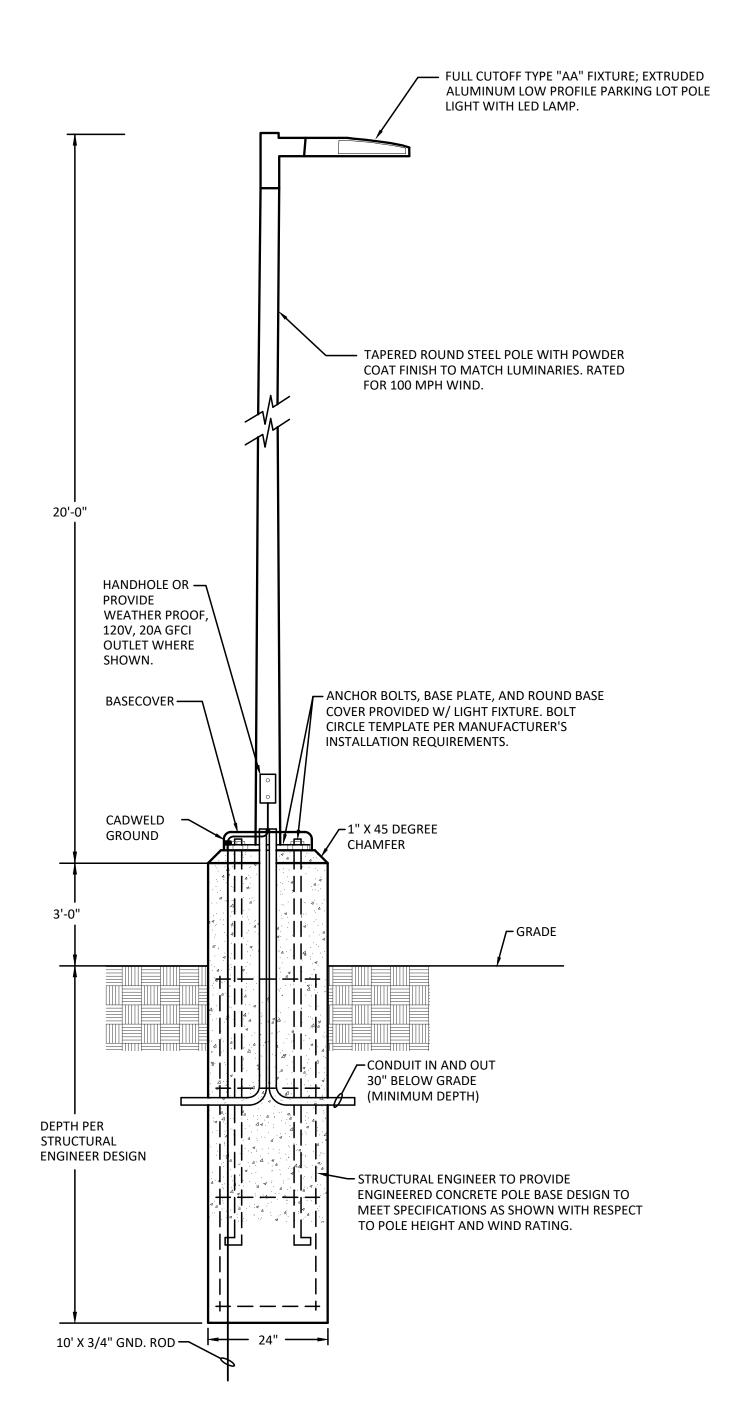
1/4"=1'-0" Drawing Number: Reviewed

Project Number: 45051.0

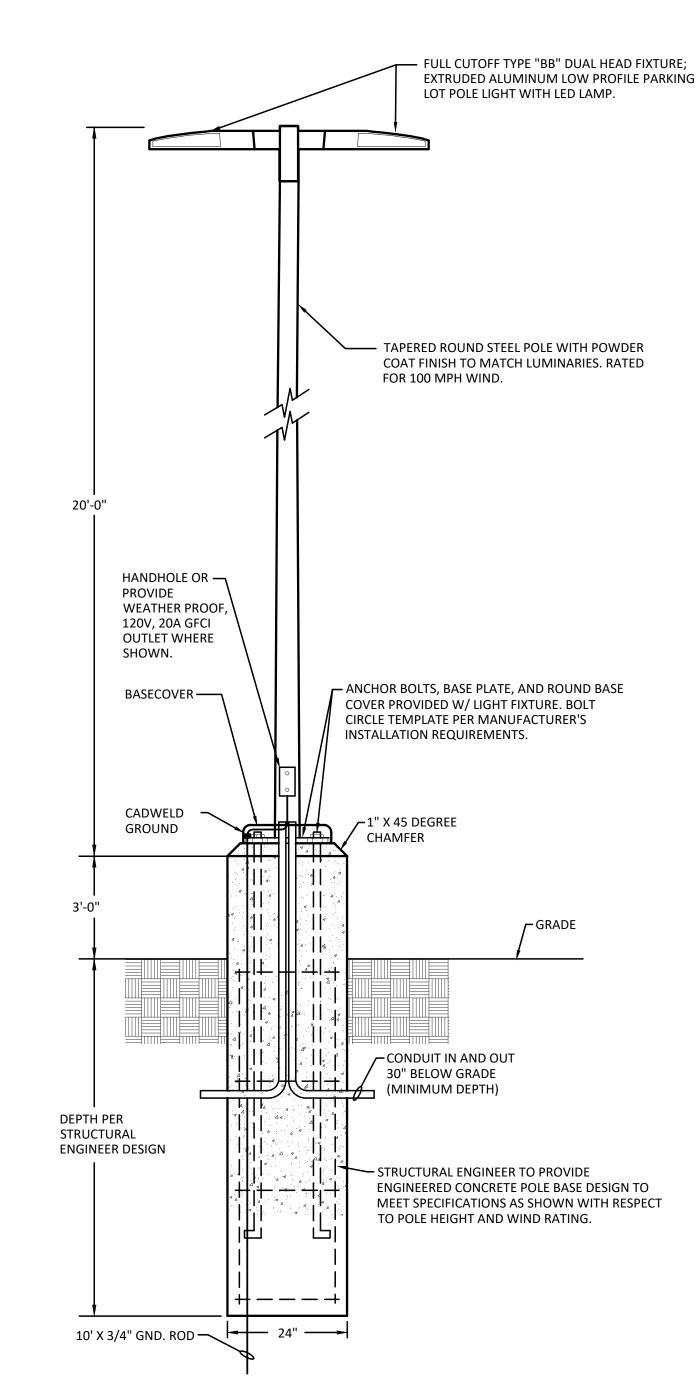
3 of 3

(Typical of all vacuum piping)

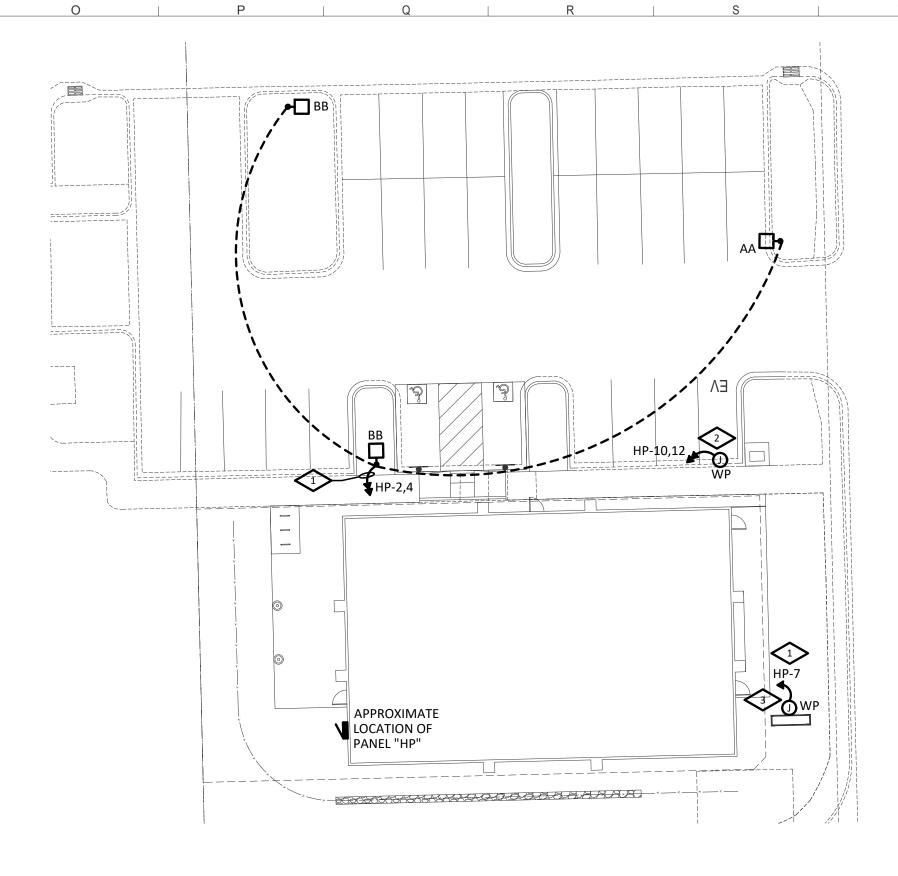
RMSDate: MAY 2025

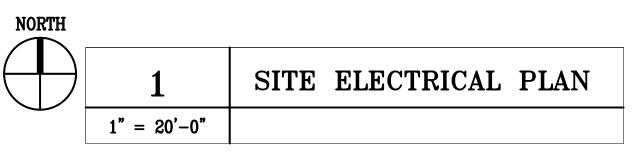






FIXTURE TYPE "BB" POLE BASE DETAIL



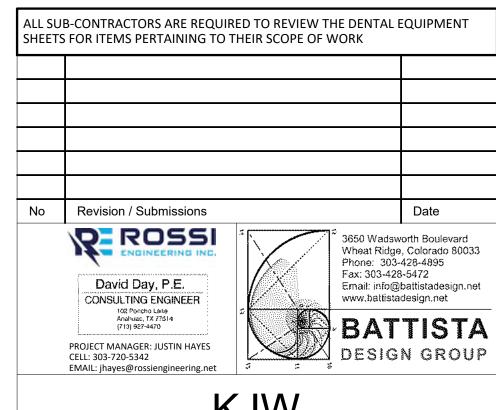


# **DETAIL NOTES**

- PROVIDE (2 #10 THWN CU & #10 CU GND) 1/2"C. HOME RUN.
- PROVIDE 208V, 32A, SINGLE-PHASE CONNECTION FOR "OPERATIONAL" DUAL PORT ELECTRIC VEHICLE CHARGING STATION. PROVIDE CHARGE POINT "STANDARD POWER SHARE" MODEL # CT4021-GW1 OR EQUAL. (2 #6 THWN CU & #10 CU GND) 3/4"C.
- PROVIDE 120V CONNECTION FOR MONUMENT SIGN. COORDINATE EXACT LOCATION IN THE FIELD.

# For Bidding Purposes Only

05/29/2025 9:59:54 AM



KJW
Site and Shell and
Wolfenden Family Dental
Project

1231 Lake Avenue Berthoud, CO 80513

SITE ELECTRICAL PLAN & POLE BASE DETAIL



VJR

Reviewed:
DWD

Date:
05/23/2025

1 of 7

Project Number:

Drawing Number:

As Shown

2024 — BATTISTA DESIGN GROUP, P.C. nent, and the idea and design concepts incorporated herein, as an instrument of professional service, can not be used in part for this or any other project, without the written authorization of BATTISTA DESIGN GROUP, P.C.

ا ما مدد	Description
Symbol	Description
Ž	Distribution Equipment; Switchgear, Panelboards
	Branch Circuit Panel Telephone Terminal
	Transformer
	Fused Disconnect Switch (Non-Fused When Fusing Not Required)
$\boxtimes$	Combination Starter/Disconnect Sw.
	Magnetic Starter or Contactor Meter
	Motor Outlet and Connection
~~~	Fused Disconnect Sw., Diagrammatic Circuit Breaker, Diagrammatic
2	Indicates Detail Note
RTU 21	Indicates Mechanical Equipment Indicates Kitchen Equipment, Riser,
22	or Room Number
	Circuit Run; In Walls and Above Ceiling (Concealed)
	Circuit Run; Underground or in Floor
-·-	Circuit Run; Exposed Circuit Risers; Up,Down
<b>→</b>	Home Run; Arrows Indicate Number
₽	of Circuits Overhead Service Entrance
<b>О</b> в	Letter Indicates Fixture Type, See
$O_{B_a}$	Schedule for Description  Lower Case Subscript Indicates
- a	Switching
<i>///.</i>	Shading Indicates Connection to Emergency, Egress, or Night-Light
	Circuit
	Fixtures Surface Mounted on Ceiling
0	
	Fixtures Recessed in Ceiling
<u>Б</u>	Wall Mounted Fixtures
南	vvan iviounteu rixtures
<b>8</b>	Exit Lights; Mounting Faces and
1 <b>⊕</b> ↑ ❷	Arrows as Indicated
Ø	Porcelain Keyless Lampholder with 100W A19 Lamp; PC Indicates Pull
_	Chain
₩	Duplex Receptacle; Wall Double Duplex Receptacle
<b>P P</b>	Switched Receptacle; Half, Full
<b>P</b> IG	Isolated Ground Receptacle
<b>₽</b> AC	Above Counter Receptacle; +4" Above Top Of Backsplash
<b>P</b> WP	Weatherproof Duplex Receptacle
<b>∯</b> GFI	Ground Fault Interrupt Duplex Receptacle
<b>₽</b> AG	Ground Fault Interrupt Duplex Receptacle; Above Counter
<b>₽</b> TR	Tamper Resistant Duplex Receptacle
<del>*</del>	Ceiling Mtd. Duplex Receptacle
<b>ቇ</b> ⊙	Special Configuration Receptacle Duplex Receptacle; Floor
о Ф.С	Recessed Clock Style Receptacle
9	Junction Box; Wall Junction Box; Ceiling
<b>⊙</b> ▼	Telephone Outlet; Wall
$\nabla$	Computer Data Outlet; Wall
▼	Combination Telephone & Computer Data Outlet; Wall
$\nabla$	Telephone Outlet; Floor
<b>\omega</b>	Special Configuration Combination Floor Outlet/Box
$\Phi$	T.V. Outlet
Sa	Single Pole Switch; Subscripts Indicate Switching
<b>S</b> <sup>2</sup>	Double Pole Switch
S <sup>3</sup> S <sup>4</sup> S <sup>P</sup>	Three and Four Way Switching Switch with Pilot Light
$S^{\kappa}$	Key Operated Switch
S LV S OS	Low Voltage Switch Occupancy Sensor Switch
OS)	Ceiling Mounted Occupancy Sensor
Ŝ	Gang Mounted Switching
Ŝ <b>P</b>	Combination Switch and Duplex Receptacle
S <sup>TO</sup>	Thermal Overload Switch
D TC	Dimmer Switch Time Clock
®	Photo Cell
(H)	Hood Outlet and Connection Disposer Receptacle and Connection
-WM-	Surface Raceway
	Pushbutton Stations
	Tele-Power Pole

SYMBOL LEGEND

	VOLTS: 208/120V,3 MAINS: 100A M.L.C	-	N								IFGR: CH	I/ITE	SURFACE SQD/GE
ŀ	A.I.C.: 22KA  DESCRIPTION	Тт	KVA	BKR	1	CKT	#	BKR	KVA	Тт			BOLT-ON CRIPTION
Н	RRIGATION CNTRLR	R	0.18	20A1P	1		2	20A /	0.25	H			SITE LIGHTING
⊢	TTB	R	0.18	20A1P	3	+	4	20A 2F		H			SITE LIGHTING
⊢	FACP	R	0.30	20A1P	5	$\perp$	• 6	20A	1.50	H			 UH-1
⊢	MONUMENT SIGN	<del>                                     </del>	1.20	20A1P	7 (		8	2F		Н.			
$\vdash$	EXTERIOR RECS	R	0.72	20A1P	9		10	40A	3.33	S			EV CHARGER
⊢	EXTERIOR RECS	R	0.90	20A1P	11		• 12	2F		S			-
⊢	EXTERIOR BLDG LTG		0.10	20A1P	13 •	,	14	20A1P	1	Ť			SPARE
1	SPARE			20A1P	15	•	16	20A1P					SPARE
Ţ	SPARE			20A1P	17		• 18	20A1P					SPARE
1	SPACE				19	,	20						SPACE
Ţ	SPACE				21	•	22						SPACE
5	SPACE				23		• 24						SPACE
Γ	LOAD KVA	LT	G	REC	HTR		SPC	L TO	TAL				
ı	CONNECTED	1.		2.3	3.0		6.		.3.8				
	NEC DEMAND AMPS	2.	2	2.3	3.0		8.	3 1	.5.9 44				
r	PHASE KVA PHASE IMBALANCE			A A/B	=	3.2 44		B B/C	= 4.7 = 26.		C C/A	=	5.9 83.2

<sup>\*\*</sup> ROUTE CIRCUIT THROUGH TIMECLOCK AND PHOTOCELL; SEE ONE-LINE DIAGRAM. \* PROVIDE LOCKABLE BREAKER FOR FACP.

							4 1 4 1		The second second	
POINT	· #1	ΔΊ	THE NEW	150K\/	A TRANSFOR	MER.		:		
	,			sc	26,000			•		
					20,000			2		
POINT	#2	Δ٦	THE NEW	400Δ Ε	BUSSED GUT	TER.				
<b>U</b>	,, <del>, ,</del>			100/11						
f = 1	.73	x	Length	x	isc (source)	1	L-L Volts	х	Wire Factor	
			-		26000		208	х	25724	
f≂			0.42							
			*****					4.1		
M =	1	1	1+f = 1/	1+	0.42	=	0.70			
lsc =	М	Х	lsc (source)	<b>)</b> =	0.70	х	26000	A =	18,306	A
POINT	#3,	A٦	THE PANE	EL "HP	" <u>.</u>				: : :	
					isc (source)			Х	Wire Factor	
f = 1	.73	X		X	18306	A /	208	х	2425	
f =			0.63	<u></u> .						
M =	1	1	1+1 = 1	1 1+	0.63		0.61	<u>.</u> · · · .		
									P	
isc =	M	X	Isc (source)	) ==	0.61	Х	18306	A =	11,245	ΑΑ
	- 414		THE DANK	-1 054	P.			<del></del>		
PUINI	#4,	A	INE PANE	<b></b> P1	,					
f - 1	73		Lanath	v	lsc (source)	,	L I Molte	v	Mira Endor	
			-		18306			X	24244	
. – . f =	.73		0.16		10300	<b>^</b> /	200	^	24244	
' -				· ·						
M =	1	į	1+f = 1	/ 1+	0.16	=	0.86			
III	•	′		,	0.10					
lsc =	М	X	lsc (source)	} ==	0.86	X	18306	A =	15,822	А
			(	,		"		<del></del> ' '		······································
POINT	#6.	Αī	THE PANE	EL "P2"	F <sub>4</sub>	:				
	,				•					
f = 1	.73	x	Length	х	lsc (source)	1	L-L Volts	х	Wire Factor	
f = 1	.73		5	х	15822	A /	208	х	4774	
f =			0.14			: .				
					·			100		
M =	1	1	1+f = 1	/ 1+	0.14	<del>=</del>	0.88			
						-		-		
		ų.	lsc (source)	\ m	0.88	x	15822	Α=	13,905	Α

VOLTS: 208/120V,3 MAINS: 100A M.L.O A.I.C.: 22KA		N								MTG: FLUSH NEMA 1 IFGR: CH/ITE/SQD/GE TYPE: BOLT-ON
DESCRIPTION	Т	KVA	BKR	С	KΤ	#	BKR	KVA	Т	DESCRIPTION
TRT 1 RECS	R	0.90	20A1P	1 •		2	20A1P	0.90	R	TRT 4 RECS
TRT 1 RECS	R	0.72	20A1P	3	•	4	20A1P	0.72	R	TRT 3/4 XRAY
HYG 4 RECS	R	0.90	20A1P	5		• 6	20A1P	0.72	R	TRT 4 RECS
HYG 4 RECS	R	0.72	20A1P	7 •		8	20A1P	0.90	R	TRT 2 RECS
HYG 3/4 XRAY	R	0.72	20A1P	9	•	10	20A1P	0.72	R	TRT 1/2 XRAY
PANO PC RECS	R	0.54	20A1P	11		• 12	20A1P	0.72	R	TRT 2 RECS
HYG 3 RECS	R	0.90	20A1P	13 •		14	20A1P	0.72	R	HALL RECS
HYG 3 RECS	R	0.72	20A1P	15	•	16	20A1P	1.66	С	CP-1/EF-6/SLND
HYG 2 RECS	R	0.90	20A1P	17		• 18	20A1P	0.72	R	PANOREX
HYG 2 RECS	R	0.72	20A1P	19 •		20	20A1P	0.90	R	WAITING RECS
HYG 1/2 XRAY	R	0.72	20A1P	21	•	22	20A1P	0.90	R	HYG 1 RECS
UC FRIDGE REC	R	0.18	20A1P	23		• 24	20A1P	0.72	R	HYG 1 RECS
TV REC	R	0.18	20A1P	25 •		26	20A1P	0.18	R	COPIER
COFFEE	R	0.72	20A1P	27	•	28	20A1P	0.54	R	RECEPTION RECS
DENTAL TASK LIGHT	L	0.30	20A1P	29		• 30	20A1P	1.08	R	RECEPTION RECS
DENTAL TASK LIGHT	L	0.30	20A1P	31 •		32	20A1P			SPARE
DENTAL TASK LIGHT	L	0.40	20A1P	33	•	34	20A1P			SPARE
SPARE			20A1P	35		• 36	20A1P			SPARE
SPARE			20A1P	37 •		38	20A1P			SPARE
SPARE			20A1P	39	•	40	20A1P			SPARE
SPARE			20A1P	41		• 42	20A1P			SPARE
SPARE			20A1P	43 •		44	20A1P			SPARE
SPARE			20A1P	45	•	46	20A1P			SPARE
SPARE			20A1P	47		• 48	20A1P			SPARE
SPACE				49 •		50				SPACE
SPACE				51	•	52				SPACE
SPACE				53		• 54				SPACE
SPACE				55 •		56				SPACE
SPACE				57	•	58				SPACE
SPACE				59		• 60				SPACE
LOAD KVA CONNECTED NEC DEMAND AMPS	LT( 1. 1.	0	REC 20.2 15.1	MTR 1.2 1.5		HTI 0.: 0.:	3 2	ΓAL 2.6 8.1 50		

<sup>\*\*</sup> PROVIDE SINGLE SECTION 60 CIRCUIT PANEL.

\*\* LOAD SUMMARY INCLUDES PANELS "HP" AND "P1".

#6 GND. TO

WATER PIPE

1

**TELEPHONE RISER** 

OR IBT

40	OA SE	ERVICE	EL	OAD	SUN	ИМ	ARY	**		
LOAD KVA CONNECTED NEC DEMAND AMPS	LTG 7.9 9.8	REC 44.8 27.4	MTR 38.8 40.5	14.8		SPCL 6.7 8.3	TOT/ 112 100 28	.9 .9		
PHASE KVA PHASE IMBALANC	E (%)	A A/B		37.4 2.7	B B/C		38.4 3.7	C C/A	37.0 0.9	

VERIFY LOCATION W/

COMMUNICATIONS

PROVIDER PRIOR TO

PANEL "P1"

CKT# | BKR | KVA | T |

28 2P 3.33 M 30 20A 1.66 M

| | 42 | 20A1P | 1.28 | N

20A1P | 1.28 N

20A1P 1.28 N

20A1P 1.28 N

20A1P 0.30 (

20A1P 0.54 F

20A1P 0.48

20A1P 1.20

20A1P 1.39

20A1P 1.59

20A1P 0.72 R

37 • 38 30A 2.50

| 57 | ♦ | 58 | 20A1P | 0.36 | I

59 | •60 20A1P 1.50 I

65 | 66 20A1P 0.88

20A1P

20A1P

20A1P

**♦** 48

∮ 54

∮ 72

75 | • | 76 | 20A1P

◆ 78 20A1P

79 | | 80 | 100A | 7.32 |

T KVA BKR

R 0.72 20A1P

0.48

R 0.18

R 0.18

0.18

R 0.18

R 0.18

R 0.18

20A1P

20A1P

20A1P

20A1P 20A1P

20A1P

20A1P

20A1P

20A1P

20A1P

20A1P

20A1P

20A1P

20A1P 20A1P

20A1P

20A1P

20A1P

20A1P

20A1P

20A1P

20A1P

20A1P

20A1P

R 0.18 20A1P

R 0.18 20A1P

R 0.90 20A1P

R 0.90 20A1P

0.72 20A1P

R 0.72 20A1P R 0.72 20A1P

20A1P

20A1P

20A1P

20A1P

20A1P

20A1P

R 0.72 20A1P 67 68

R 0.90 20A1P 69 • 70

20A1P 63 + 64

LTG REC MTR HTR TOTAL

R 0.18 20A1P

VOLTS: 208/120V,3PH,4W MAINS: 400A M.L.O.

A.I.C.: 22KA

DESCRIPTION

STORAGE/RR RECS

ADMIN RECS

EF-1/EWC/TV

FRIDGE

WASHER BREAK DISPOSAL

BREAK REC

BREAK REC

**BREAK MW** BREAK DW

LAB REC

LAB REC LAB REC

LAB REC

LAB REC

LAB REC

LAB REC

LAB REC

STERI REC

OFFICE RECS

OFFICE RECS

TRT 5 RECS

TRT 5 RECS

TRT 3 RECS

TRT 3 RECS

TRT 6 RECS

TRT 6/7 XRAY TRT 6 RECS

**AMPS** 

LOAD KVA CONNECTED

PHASE KVA

**CONSULT RECS** 

**CONSULT XRAY CONSULT RECS** 

EF-2/HALL RECS

BREAK PC RECS

STORAGE/HALL RECS

MTG: FLUSH NEMA 1

TYPE: BOLT-ON

DESCRIPTION

ACCU-

ACCU-2

ACCU-3

ACCU-4

EWH-1

DRYER

FURN-1

FURN-2

FURN-3

FURN-4

STERI REC

STERI REC

IT REC/VF-1

EXTERIOR SIGN ++

IT REC

CUH-1

SPARE

SPARE

SPARE

SUBFEED P2

**WORKSTATION RECS** 

HALL/STER/HYG LTG

WTG/RECEP/HYG LTG

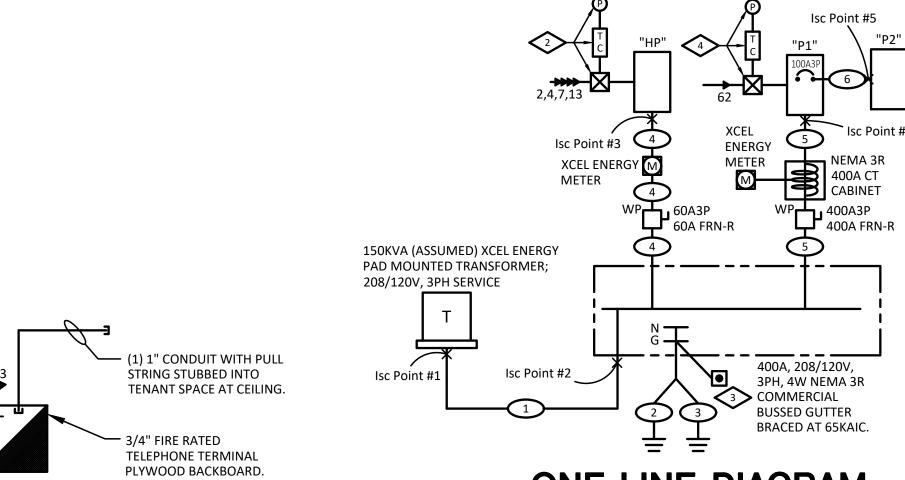
BREAK/TRT/CONS LTG

AIR COMPRESSOR

VACUUM PUMP

MFGR: CH/ITE/SQD/GE

# Only 05/29/2025 11:10:55 AM



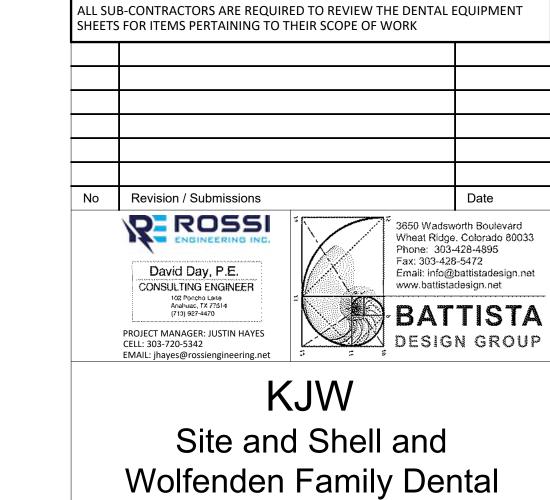
# **DETAIL NOTES**

- (1) 4" CONDUIT WITH PULL ROPE RUN TO TELEPHONE PEDESTAL. VERIFY EXACT LOCATION OF TELEPHONE PEDESTAL PRIOR TO BID. 36" MINIMUM RADIUS SWEEPS. COORDINATE MAXIMUM LENGTHS AND PULL BOX REQUIREMENTS WITH PROVIDER PRIOR TO BIDS.
- 6-POLE MECHANICALLY HELD CONTACTOR IN NEMA-1 ENCLOSURE, TORK MODEL DGUM-100A AND TORK ROOF MOUNTED PHOTOCELL MODEL #EPC1. MOUNT PHOTOCELL ON ROOF AND FACE NORTH. LOCATE TIMECLOCK AS CLOSE AS POSSIBLE TO PANEL.
- PROVIDE INTERSYSTEM BONDING TERMINATION (IBT) DEVICE PER 2015 NEC 250.94. IBT IS TO BE ACCESSIBLE FOR CONNECTION AND INSPECTION, SHALL CONSIST OF A SET OF TERMINALS WITH THE CAPACITY FOR CONNECTION OF NOT LESS THAN (3) INTERSYSTEM BONDING CONDUCTORS AND NOT INTERFERE WITH OPENING THE ENCLOSURE FOR A SERVICE, BUILDING OR STRUCTURE DISCONNECTING MEANS, OR METERING EQUIPMENT. CONNECT VIA #6 AWG CU CONDUCTOR TO NEUTRAL-GROUND CONNECTION IN MAIN DISCONNECT.
- 2-POLE MECHANICALLY HELD CONTACTOR IN NEMA-1 ENCLOSURE, TORK MODEL DGUM-100A AND TORK ROOF MOUNTED PHOTOCELL MODEL #EPC1. MOUNT PHOTOCELL ON ROOF AND FACE NORTH. LOCATE TIMECLOCK AS CLOSE AS POSSIBLE TO PANEL.

# **ONE-LINE DIAGRAM** 36"W x 48"H — COMMUNICATIONS NOTE: ALL ITEMS ARE NEW TELEPHONE PEDESTAL

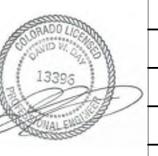
# FEEDER SCHEDULE

- 2 SETS OF (4-250 KCMIL XHHW AL) 2-1/2"C. (400A)
- #2 CU GND TO BLDG STEEL, UFER & COLD WATER PIPE
- 3 #6 CU TO 5/8" X 8' CLAD STEEL GROUND ROD
- (4 #6 THWN CU & #8 CU GND) 1"C. (60A)
- 5 2 SETS OF (4-250 KCMIL XHHW AL & #1 AL GND) 2-1/2"C. (400A)
- 6 (4 #3 THWN CU & #8 CU GND) 1-1/4"C. (100A)



Project 1231 Lake Avenue Berthoud, CO 80513

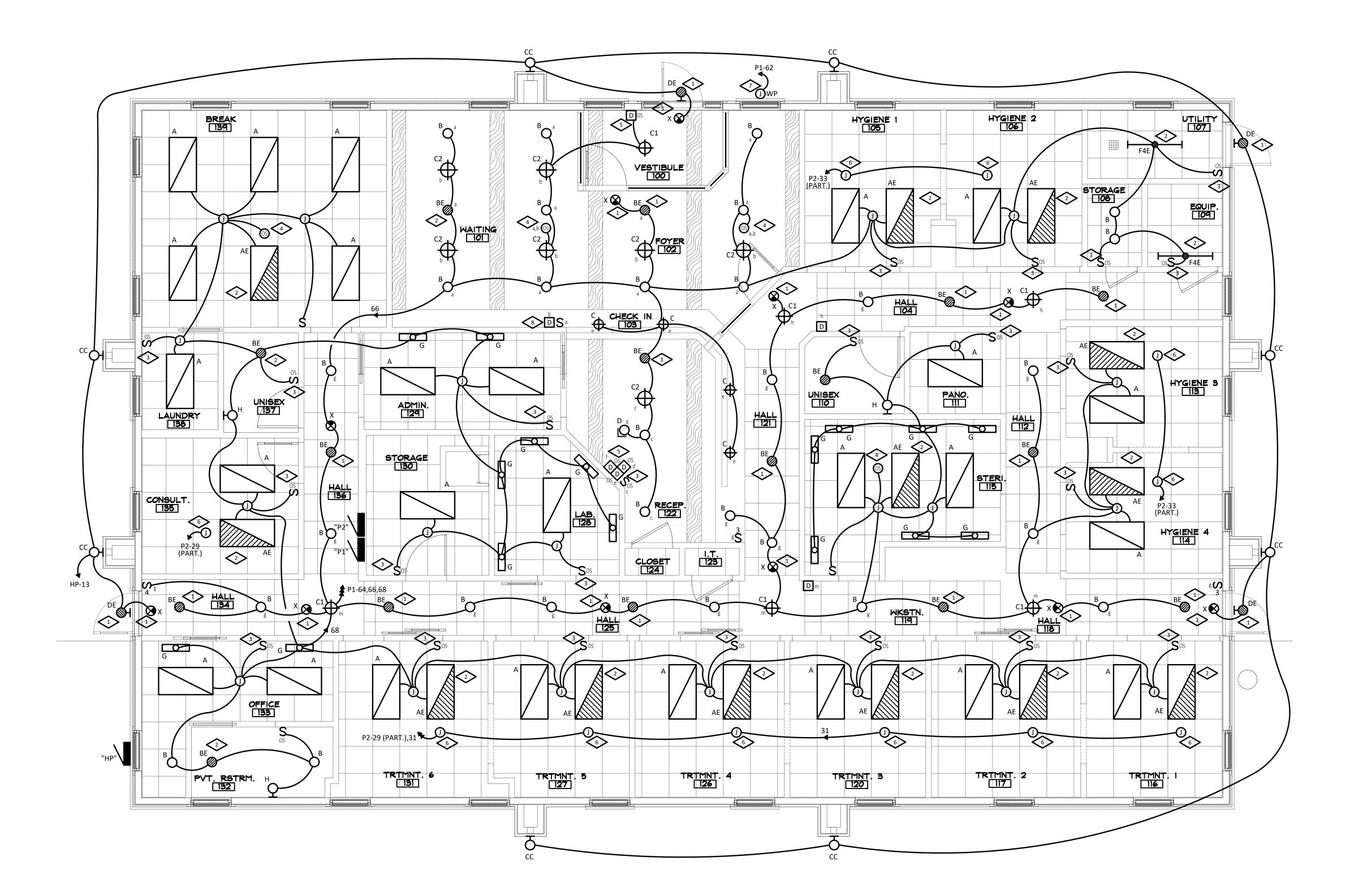
SYMBOLS, ONE-LINE, PANEL SCHEDULES & ISC CALCS



Designed: Project Number: 25-037 Drawn: Scale: As Shown Checked: Drawing Number: Reviewed: DWD 05/23/2025 2 of 7

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<sup>6.1 42.5 38.8 11.8 99.1</sup> **NEC DEMAND** 7.6 26.2 40.5 11.8 86.1 239 A = 34.2 B = 33.8 C = 31.1 PHASE IMBALANCE (%) A/B = 1.2 B/C = 8.4 C/A = 9.7\*\* PROVIDE SINGLE SECTION 84 CIRCUIT PANEL AS SHOWN. \* PROVIDE GFCI BREAKER AS SHOWN. ++ ROUTE CIRCUIT THROUGH TIMECLOCK AND PHOTOCELL; REFER TO ONE-LINE DIAGRAM. **For Bidding Purposes** 

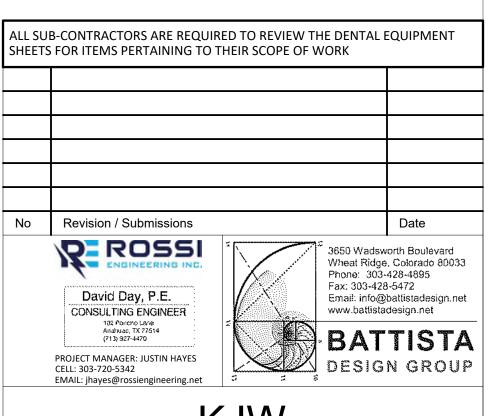


# **DETAIL NOTES**

- CONNECT ALL EXIT LIGHTS, EMERGENCY BATTERY PACKS AND SHADED FIXTURES AHEAD OF SWITCHING FOR CONTINUOUS EGRESS/NIGHTLIGHT FUNCTIONS, (TYPICAL).
- EMERGENCY BATTERY PACK TO OPERATE ONLY UNDER POWER OUTAGE. FIXTURE TO OPERATE NORMALLY UNDER NORMAL CONDITIONS, (NOT A NIGHT LIGHT). RUN SWITCHED AND UNSWITCHED POWER TO BATTERY PACK.
- PROVIDE DUAL TECHNOLOGY WALL MOUNTED OCCUPANCY SENSOR FOR FIXTURES IN THIS ROOM. WATTSTOPPER CAT# DSW-301 OR EQUAL, (TYPICAL FOR THIS SYMBOL). SET TIME DELAY TO 15 MINUTES IN RESTROOMS.
- PROVIDE DUAL TECHNOLOGY CEILING MOUNTED OCCUPANCY SENSOR(S) FOR CONTROL OF FIXTURES IN THIS AREA AS SHOWN; WATTSTOPPER DT-355 OR EQUAL. MULTIPLE SENSORS TO BE CONNECTED IN PARALLEL WHEN SHOWN (REFER TO MANUFACTURERS INSTRUCTIONS FOR WIRING). SET TIME DELAY TO 20 MINUTES. WIRE ANY ADDITIONAL SWITCHING SHOWN AHEAD OF CEILING MOUNTED OCCUPANCY SENSOR FOR MANUAL CONTROL.
- PROVIDE DUAL TECHNOLOGY WALL MOUNTED OCCUPANCY SENSOR AND DIMMER FOR FIXTURES IN THIS ROOM. WATTSTOPPER DW-311-W OR EQUAL, (TYPICAL FOR THIS SYMBOL). SET TIME DELAY TO 15 MINUTES.
- 120V, 20A CONNECTION FOR TASK LIGHT. COORDINATE EXACT LOCATION AND CONTROL REQUIREMENTS WITH MANUFACTURER.
- 120V, 20A CONNECTION FOR EXTERIOR SIGN. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
- PROVIDE 120V, 20A DIMMER COMPATIBLE WITH FIXTURE.

# For Bidding Purposes Only

05/29/2025 11:10:48 AM



# KJW Site and Shell and Wolfenden Family Dental Project

1231 Lake Avenue Berthoud, CO 80513

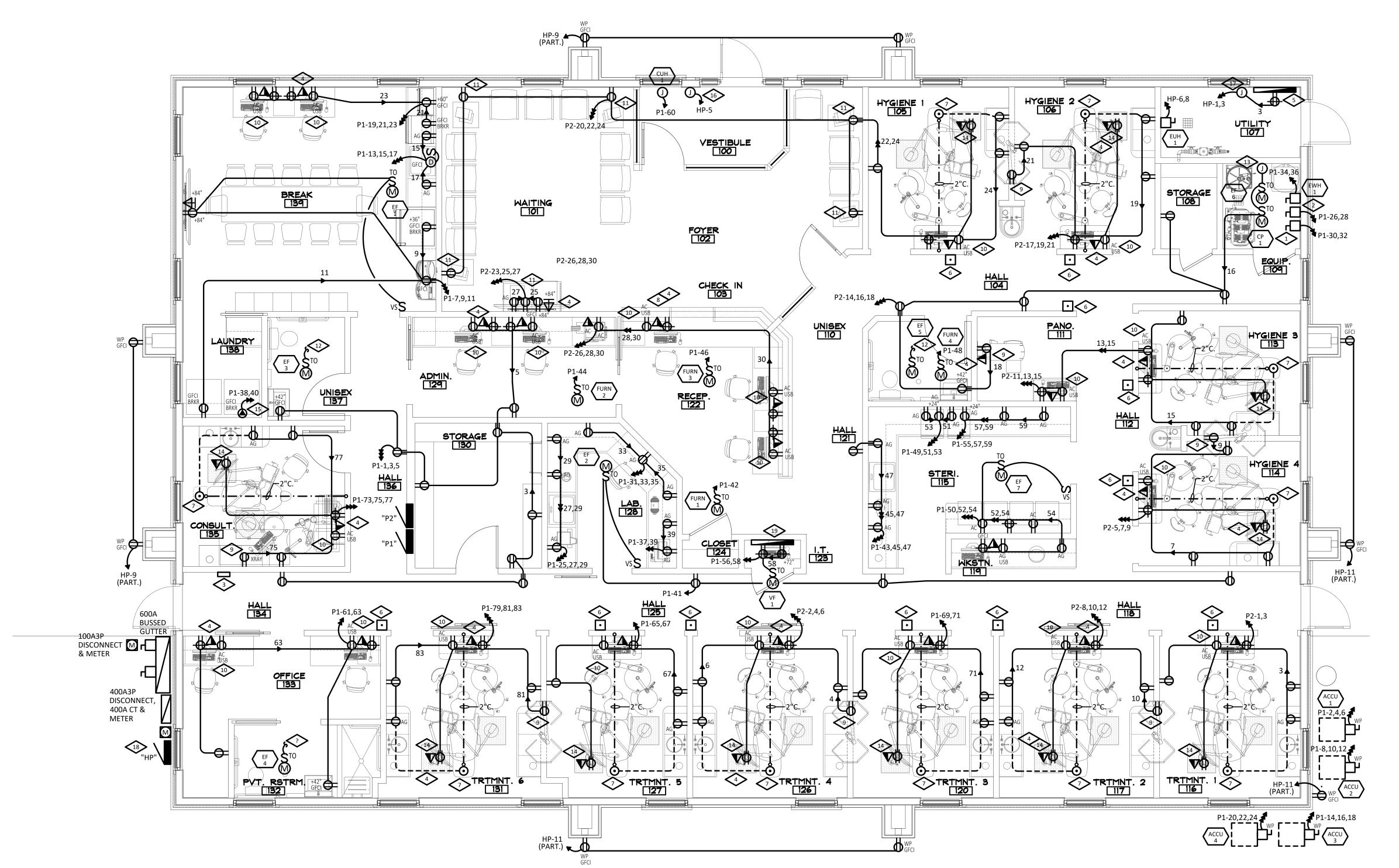
# LIGHTING PLAN



	Designed: JH	Project Number: 25-037
	Drawn: JH	Scale: As Shown
>	Checked: VJR	Drawing Number:
	Reviewed: DWD	E3

3 of 7

05/23/2025



# **DETAIL NOTES**

- 20A2P NON-FUSED DISCONNECT FOR VACUUM PUMP. PROVIDE (2 #10 CU THWN & 1 #10 CU GND.)1/2"C. TO DEVICE VERIFY POWER REQUIREMENTS WITH DENTAL EQUIPMENT PRIOR TO ROUGH IN. PROVIDE BOOST TRANSFORMER IF REQUIRED. PROVIDE ONE ADDITIONAL JUNCTION BOX WITH 3/4"C TO ABOVE ACCESSIBLE CEILING IN DENTAL SUITE AT VACCUM FOR WIRING FROM CONTROL PANEL. REFER TO DETAIL NOTE #3 THIS SHEET FOR ADDITIONAL INFORMATION.
- 60A2P NON-FUSED DISCONNECT FOR AIR COMPRESSOR. PROVIDE (2 #8 CU THWN & 1 #10 CU GND.)1/2"C. TO DEVICE. VERIFY POWER REQUIREMENTS WITH DENTAL EQUIPMENT PRIOR TO ROUGH IN. PROVIDE BOOST TRANSFORMER IF REQUIRED. PROVIDE ONE ADDITIONAL JUNCTION BOX WITH 3/4"C TO ABOVE ACCESSIBLE CEILING IN DENTAL SUITE AT COMPRESSOR FOR WIRING FROM CONTROL PANEL. REFER TO DETAIL NOTE #3 THIS SHEET FOR ADDITIONAL
- AIR, WATER AND VACUUM CONTROL PANEL. FURNISH AND INSTALL 4 #18 CU FROM EACH VACUUM, WATER SOLENOID AND AIR COMPRESSOR IN MECHANICAL ROOM TO CONTROL PANEL. CONTROL PANEL LOCATION AND FINAL TERMINATIONS BY EQUIPMENT SUPPLIER. COORDINATE EXACT WIRING REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. REFER TO 'AIR/WATER/VACUUM CONTROL PANEL DETAIL THIS SHEET FOR ADDITIONAL INFORMATION. INSTALL AT +60" A.F.F.
  - FOR ALL TELEPHONE/DATA/TV OUTLETS SHOWN PROVIDE DOUBLE GANG JUNCTION BOX WITH SINGLE GANG PLASTER RING AND 3/4" CONDUIT STUBBED UP TO ABOVE LAY-IN CEILING. PROVIDE A NYLON PULL WIRE IN CONDUIT AND PLASTIC BUSHINGS AT CONDUIT TERMINATIONS. CABLE TO BE INSTALLED BY OTHERS, (TYPICAL).
  - BUILDING MAIN TELEPHONE BOARD; REFER TO TELEPHONE RISER DETAIL ON SHEET E2 FOR ADDITIONAL INFORMATION. COORDINATE FINAL LOCATION WITH ARCHITECT.
- JUNCTION BOX FOR X-RAY/PANOREX MOMENTARY CONTACT SWITCH SUPPLIED BY OTHERS WITH 3/4"C. TO SECOND JUNCTION BOX AT X-RAY EQUIPMENT. MOMENTARY CONTACT AND WIRE SUPPLIED BY DENTAL EQUIPMENT SUPPLIER AND INSTALLED BY ELECTRICAL CONTRACTOR. VERIFY EXACT LOCATION.
  - PROVIDE TOMBSTONE STYLE QUADPLEX RECEPTACLE AND 2"C. TO REAR DELIVARY. COORDINATE EXACT REQUIREMENTS AND LOCATIONS WITH DENTAL EQUIPMENT SUPPLIER PRIOR TO ROUGH- IN AND INSTALLATION.
- DUPLEX/QUADPLEX RECEPTACLES AND TELEPHONE/DATA OUTLETS MOUNTED IN ARCHITECTURAL MILLWORK. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
- PROVIDE 120V, 20 AMP DUPLEX RECEPTACLE FOR PANOREX (2 #12 THWN CU & #12 CU GND) 1/2"C. CONFIRM ELECTRICAL REQUIREMENTS WITH MANUFACTURER AND NOTIFY ENGINEER IF PANOREX IS 208-VOLT, SINGLE-PHASE. PROVIDE 20A2P BREAKER FOR PANOREX IF IT IS 208-VOLT, SINGLE-PHASE. PROVIDE ONE ADDITIONAL JUNCTION BOX FOR WIRING TO MOMENTARY CONTACT IN DETAIL NOTE #5.
  - PROVIDE NEW 120-VOLT, 20-AMP TAMPER RESISTANT DUPLEX RECEPTACLE WITH (1) USB-A AND (1) USB-C PORTS. LEVITON CAT# T5833-W FOR ALL NON GFCI OUTLETS AND LEVITON CAT# GUAC2-W FOR ALL GFCI OUTLETS OR EQUALS, (TYPICAL). COORDINATE EXACT REQUIREMENT WITH TENANT REPRESENTATIVE.
- ALL NEW RECEPTACLES IN THIS PROJECT ARE TAMPER RESISTANT; SEE GENERAL NOTE #4 ON SHEET E1.
- CONNECT TO 120V LIGHTING CIRCUIT AND CONTROLS SERVING THIS ROOM.
- PROVIDE 120V, 20A CONNECTION FOR WATER SOLENOID. VERIFY EXACT REQUIREMENTS AND LOCATION IN THE FIELD
- PROVIDE 120V, 20A DUPLEX RECEPTACLE AND TELE/DATA MOUNTED IN CEILING; COORDINATE EXACT LOCATION WITH
- PROVIDE 250V, 30A RECEPTACLE FOR DRYER. COORDINATE EXACT PLUG REQUIREMENTS WITH MANUFACTURER PRIOR TO INSTALLATION. (3 #10 THWN CU & #10 CU GND) 1/2"C.
- PROVIDE 120V CONNECTION FOR FIRE ALARM PANEL; COORDINATE EXACT LOCATION IN FIELD.
- PROVIDE 120-VOLT, 20-AMP CONNECTION FOR IRRIGATION CONTROLLER. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO INSTALLATION.
- COORDINATE FINAL LOCATION OF PANEL "HP" WITH ARCHITECT PRIOR TO ROUGH-IN.
- SEE TELE BACKBOARD; SEE DETAIL THIS SHEET FOR FURTHER INFORMATION. VERIFY EXACT LOCATION WITH ARCHITECT.

# **For Bidding Purposes**

05/29/2025 11:10:43 AM



# KJW Site and Shell and Wolfenden Family Dental Project

1231 Lake Avenue Berthoud, CO 80513

# POWER PLAN



Project Number: Designed: Drawn: As Shown Checked: Drawing Number: E4 Reviewed: DWD

TELE BACKBOARD DETAIL

#6 CU TO COLD

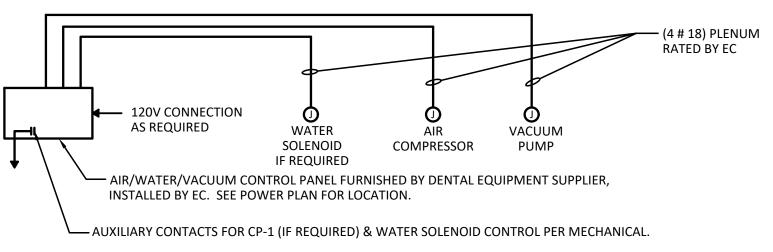
LEAVE 5' PIGTAIL

PROVIDE 1" C. FROM BACKBOARD TO MAIN TELE/COMMUNICATIONS

SQUARE x 3/4"D FIRE TREATED

PLYWOOD TELEPHONE BACKBOARD

PAINTED TO MATCH SURROUNDING



AIR/WATER AND VACUUM CONTROL PANEL

4 of 7

				Light Fi	xture Sche	edule				
Designation	La	emps	Fixture Characteristics		Fixture Mou	nting		T	Fixture Specification	
				<u> </u>			Recess			
	# of lamps	Lamp Type	Description	Finish	Method	Ceiling Type	Depth	Manufacturer	Catalog #	Voltage
AA	1	166W (21,598	20' Full Cutoff Site Pole Light With Type III Optics	Black	Pole Mounted:	N/A	N/A	McGraw Edison	GLEON SA3 C 730 U T3 BK HSS	208
	:	Lumens) LED	With House Side Shield		18'-0" Pole With					
		3000K			2'-0" Base					
88	1	166W (22,684		Black	Pole Mounted:	N/A	N/A	McGraw Edison	GLEON SA3 C 730 U 5MQ BK	208
		Lumens) LED	Medium Optics		18'-0" Pole With			:		
		3000K			2'-0" Base					
. cc	1	12W (1,180	18" Decorative Exterior Wall Sconce - Full Cut-Off -	Satin Black	Wall @ 8'-6"	N/A	N/A	Lightway	618-LED-F28-2-A-81	120
		Lumens) LED	Dark Sky Compliant	· .						
	1	3000K	nival minus Budinas Lengtha	1815.14	Dunana and	Les de Coda	C11	D. G. A. I. L.	2450 50 1150 1040 004 15	120
A	1	50W (5,168	2'X4' Direct/Indirect LED Fixture	White	Recessed	Lay-In Grid	6"	Metalux	24RDI-50-UNV-L840-CD1-U	120
		Lumens) LED 4000K		•						<b>1</b>
. AE	1	50W (5,168	2'X4' Direct/Indirect LED Fixture with 90 Minutes of	White	Recessed	Lay-In Grid	6"	Metalux	24RDI-50-UNV-L840-CD1-U-EL14W	120
<b>6 6 6</b>	*	Lumens) LED	Emergency Battery Backup	VVIIICE	110003500	Lay III Gila		I Wictards	\$1(D)-D0-0144-10-001-0-1114-444	1 140
		4000K	Entergoiney Successy Sucreap	·						
8	1	16.2W (1,500	6" LED Downlight	White	Recessed	Lay-In Grid	5.7"	Portfolio	LD6C-15-90-40-D010-M-0-LI	120
		Lumens) LED	g			, ///		Lighting		
		4000K	·	• *						
BE	1	16.2W (1,500	6" LED Downlight With 90 Minutes of Battery	White	Recessed	Lay-In Grid	5.7"	Portfolio	LD6C-15-90-40-D010-M-0-LI-IEM14	120
		Lumens) LED	8ackup .		· .			Lighting		
		4000K				1.				
С	1	15W LED	Decorative LED Pendant	By Owner	Pendant Per	Lay-In Grid	N/A	By Owner	By Owner	120
	t .	4000K			Arch					
C1	1	15W LED	Decorative LED Pendant	By Owner	Pendant Per	Lay-In Grid	N/A	By Owner	By Owner	120
	_	4000K			Arch					
C2	1	15W LED	Decorative LED Pendant	By Owner	Pendant Per	Lay-In Grid	N/A	By Owner	By Owner	120
	1	4000K	One was been ble AA in AAI ab Cil Chara	Caria Mialas	Arch	M:	61/6	1516	700 FLION C.S.	120
D	1	9W MR16 LED	Decorative Dimmable Monopoint With 6" Stem	Satin Nickel	Ceiling Per Arch	Varies	N/A	Visual Comfort	700-FJ-JON-6-S	120
		4000K Wide Angle Beam	·							
F4E	1	35W (4,718	4' LED Strip Light	White	Surface	N/A	N/A	Metalux	4SNLED-LD5-46SL-LC-UNV-L840-CD1-U-EL14W	120
'	_	Lumens) LED	4 teb Strip tight	VVIIICC	Justace	17/2	'*/^	Metulux	+51425 255 4032 2C 5114 2040 CD1 6 2214W	1 120
		4000K								
G	1	11W LED	2' Under Cabinet	White	Under Cabinet	N/A	N/A	Halo	HU30-BSC-24-P	120
		4000K								
Н	1	10W LED	Decorative Restroom Vanity	TBD	Wall	N/A	N/A	By Owner	By Owner	120
		4000K							-	
X	. +=	LED	Universal Mount LED Exit Sign with 90 Minute	White/Green	Varies	Varies	N/A	Sure-Lites	LPX70GWH	120
			Emegency Battery Backup							
Z1	1	14W LED	Full Cut-Off Exterior Egress Light With 90 Minutes	Black	Above Door	N/A	N/A	Lumark	AXCS1A W BK	120
		3000K	of Battery Backup							

				ME	C	HANICAL EQ	UIPM	ENT	SCH	HEDULE						
		CHA	ARACTE	RISTICS	,		SUP	PLY DA	ГА			FIRE PI	ROVIS	SION	IS	
$\bigcirc$	DESCRIPTION	LOAD	LOAD	VOLTS	PH	FEEDER	CIRCU	IT PROTE	CTION	CONTROL				ECTIC	N	COMMENTS
		FORM					BREAKER	DISC. SW.	FUSE		BY	CFM	SMOKE	FURN.	INSTALL	
ACCU 1	AIR COOLED CONDENSING UNIT	FLA	19.8	208	3	(3 # 10 THWN CU & 1 # 10 CU GND)1/2" C.	30A3P	30A3P	30 FRN-R	T-STAT	MC					
ACCU-2 TO ACCU-4	AIR COOLED CONDENSING UNIT	FLA	13.1	208	3	(3 # 12 THWN CU & 1 # 12 CU GND)1/2" C.	20A3P	30A3P	20 FRN-R	T-STAT	MC					
CP 1	HOT WATER CIRCULATION PUMP	НР	1/2	120	1	(2 # 12 THWN CU & 1 # 12 CU GND)1/2" C.	20A1P			INTEGRAL	MC					
CUH 1	CABINET UNIT HEATER	KVA	1.50	120	1	(2 # 12 THWN CU & 1 # 12 CU GND)1/2" C.	20A1P			T-STAT	МС					
EF-1 & EF-2	EXHAUST FAN	FLA	1.0	120	1	(2 # 12 THWN CU & 1 # 12 CU GND)1/2" C.	20A1P			VS SWITCH	МС					
EF-3 TO EF-5	EXHAUST FAN	FLA	1.0	120	1	(2 # 12 THWN CU & 1 # 12 CU GND)1/2" C.	20A1P			OCC SENSOR	MC & EC					
EF 6	EXHAUST FAN	FLA	2.5	120	1	(2 # 12 THWN CU & 1 # 12 CU GND)1/2" C.	20A1P			T-STAT	MC					
EF 7	EXHAUST FAN	FLA	1.0	120	1	(2 # 12 THWN CU & 1 # 12 CU GND)1/2" C.	20A1P			VS SWITCH	MC					
EWH 1	ELECTRIC WATER HEATER	KVA	4.50	208	1	(2 # 10 THWN CU & 1 # 10 CU GND)1/2" C.	30A2P	30A2P		INTEGRAL	MC					
FURN-1 TO FURN-4	GAS FURNACE	FLA	10.7	120	1	(2 # 12 THWN CU & 1 # 12 CU GND)1/2" C.	20A1P			T-STAT	МС					
UH 1	ELECTRIC UNIT HEATER	KVA	3.00	208	1	(2 # 12 THWN CU & 1 # 12 CU GND)1/2" C.	20A2P			T-STAT	МС					
VF 1	IT ROOM VENTILATION FAN	FLA	1.0	120	1	(2 # 12 THWN CU & 1 # 12 CU GND)1/2" C.	20A1P			T-STAT	MC					

# For Bidding Purposes Only

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No	Revision / Submissions		Date
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	1231 Bertho	Project Lake Ave oud, CO 86 ICAL & LI CHEDULE Designed:	nue 0513 GHITNG
	1231 Bertho	Project Lake Ave oud, CO 8  ICAL & LI CHEDULE  Designed: JH Drawn:	nue 0513 GHITNG S Project Number: 25-037 Scale:
	1231 Bertho	Project Lake Ave Dud, CO 8  ICAL & LI CHEDULE  Designed: JH  Drawn: JH  Checked:	nue 0513 GHITNG S Project Number: 25-037
	1231 Bertho MECHAN SC	Project Lake Ave oud, CO 86 ICAL & LI CHEDULE  Designed: JH Drawn: JH	nue 0513 GHITNG S Project Number: 25-037 Scale: As Shown

### **ELECTRICAL SYSTEMS**

## PART 1 - GENERAL 1.01 CONDITIONS AND REQUIREMENTS

REFER TO THE GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, AND DIVISION 1 - GENERAL

PROVISIONS OF THIS SECTION SHALL APPLY TO ALL OF DIVISION 16 WORK.

### 1.02 SCOPE OF WORK

FURNISH AND INSTALL ALL MATERIALS AND EQUIPMENT, AND PROVIDE ALL LABOR REQUIRED AND NECESSARY TO COMPLETE THE WORK SHOWN ON THE DRAWINGS AND/OR AS SPECIFIED IN DIVISION 16, AND ALL OTHER WORK AND MISCELLANEOUS ITEMS, NOT SPECIFICALLY MENTIONED, BUT REASONABLY INFERRED FOR A COMPLETE INSTALLATION INCLUDING ALL ACCESSORIES AND APPURTENANCES REQUIRED FOR OPERATING AND TESTING THE SYSTEM. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS THAT ALL SYSTEMS BE COMPLETE AND READY FOR OPERATION.

### 1.03 CODES, REGULATIONS, AND STANDARDS

ALL WORK SHALL BE IN STRICT ACCORDANCE WITH LOCAL BUILDING CODES, GOVERNING LAWS, ORDINANCES AND REGULATIONS, 2017 NATIONAL ELECTRICAL CODE, INTERNATIONAL BUILDING CODE, AND RULES AND REGULATIONS OF THE LOCAL POWER COMPANY.

## 1.04 MATERIAL STANDARDS

ALL MATERIAL SUPPLIED SHALL BE NEW AND SHALL BE EQUAL TO OR EXCEED MINIMUM REQUIREMENTS OF NEMA,

### IEEE, AND/OR UL. ALL MATERIALS SHALL BEAR THE UNDERWRITERS' LABORATORIES, INC., LABEL PROVIDED A STANDARD HAS BEEN ESTABLISHED FOR THE MATERIAL IN QUESTION.

### 1.05 PERMITS AND FEES

THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LOCAL FEES, PERMITS, AND SERVICES OF INSPECTION AUTHORITIES REQUIRED BY WORK HEREUNDER. THE CONTRACTOR SHALL COORDINATE FULLY WITH THE LOCAL UTILITY COMPANIES WITH RESPECT TO THEIR SERVICES.

1.06 CONSTRUCTION DRAWINGS THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF ELECTRICAL WORK. LOCATIONS ARE APPROXIMATE AND SHALL BE SUBJECT TO MINOR MODIFICATIONS AS DICTATED BY FIELD CONDITIONS AND AS DIRECTED BY ARCHITECT AND/OR ENGINEER.

### 1.07 COORDINATION OF WORK

CONTRACTOR SHALL BE RESPONSIBLE FOR EXACT FITTING OF ALL MATERIALS, EQUIPMENT, ETC., IN BUILDING. ALL DIMENSIONS SHALL BE VERIFIED ON JOB.

### 1.08 SPECIFIED ITEMS AND BID ALTERNATES

EQUIPMENT OR MATERIALS SPECIFIED EXCLUSIVELY BY TRADE, NAME OF MANUFACTURER, OR BY CATALOG

### REFERENCE SHALL FORM BASIS OF WORK AND CONTRACT THEREFORE. CONTRACTORS DESIRING TO USE ALTERNATE EQUIPMENT OR MATERIALS; MANUFACTURERS OR SUPPLIERS DESIRING TO FURNISH ALTERNATE MATERIALS OR EQUIPMENT IN LIEU OF THOSE SPECIFIED; SHALL SUBMIT REQUESTS FOR

DATE FOR RECEIPT OF BIDS OR PROPOSALS. REQUESTS FOR APPROVAL OF PROPOSED ALTERNATES SHALL BE MADE IN WRITING AND SHALL INCLUDE COMPLETE

APPROVAL OF ALTERNATES TO ARCHITECT NOT LESS THAN SEVEN CALENDAR DAYS PRIOR TO SCHEDULED CLOSING

- DATA SHEETS, CATALOG CUTS, SAMPLES, AND APPROPRIATE CALCULATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION, COMPLETE IN ALL RESPECTS, AND OPERATION OF
- ALL EQUIPMENT OR MATERIALS USED AS RESULT OF APPROVAL OF REQUESTS TO SUBSTITUTE. NO ADDITIONAL PAYMENT WILL BE ISSUED DUE TO THE INCORPORATION OF APPROVED SUBSTITUTIONS.

### 1.09 SHOP DRAWINGS

FURNISH SIX COPIES OF SHOP DRAWINGS AND MATERIAL LISTS, AS HEREIN CALLED FOR, TO ARCHITECT PRIOR TO COMMENCEMENT OF WORK. MATERIAL LISTS SHALL INCLUDE CATALOG CUTS, DIAGRAMS AND OTHER DESCRIPTIVE MATERIAL, AND SHALL BE SUBMITTED AT THE SAME TIME IN BROCHURE ARRANGEMENT WITH ONE OF EACH REQUESTED ITEM IN EACH OF THE SIX BROCHURES. SHOP DRAWINGS SHALL BE SUBMITTED FOR THE FOLLOWING:

### PANELBOARDS DISCONNECT SWITCHES

APPROVAL

LIGHTING FIXTURES THE CONTRACTOR SHALL REVISE AND RESUBMIT SHOP DRAWINGS AND MATERIAL LISTS AS REQUIRED FOR

1.10 OPERATION AND MAINTENANCE MANUALS PROVIDE TWO COPIES OF OPERATING AND MAINTENANCE MANUALS FOR ALL EQUIPMENT AND/OR SYSTEMS.

## 1.11 GUARANTEE

THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND EQUIPMENT FURNISHED AND INSTALLED HEREUNDER AGAINST ALL DEFECTS AND FAULTY INSTALLATION FOR A PERIOD OF 365 CALENDAR DAYS FROM DATE OF FINAL ACCEPTANCE OF WORK BY OWNER.

# 1.12 AS-BUILT DOCUMENTS

THE CONTRACTOR SHALL MAINTAIN ON THE JOB AN UP-TO-DATE SET OF WORKING DRAWINGS AND SPECIFICATIONS, MARKED UP TO SHOW ELECTRICAL SYSTEMS AS INSTALLED. THESE DRAWINGS AND SPECIFICATIONS SHALL BE AVAILABLE FOR INSPECTION BY THE ARCHITECT OR THEIR REPRESENTATIVE.

### UPON COMPLETION OF THE WORK, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE OWNER WITH ONE SET OF AS-BUILT DRAWINGS AND MARKED UP SPECIFICATIONS, CERTIFIED ACCURATE BY ENDORSEMENT.

THE ELECTRICAL CONTRACTOR SHALL EXAMINE PROJECT SITE AND ALL CONDITIONS THEREON AND SHALL TAKE INTO CONSIDERATION ALL SUCH CONDITIONS AS MAY AFFECT THE WORK HEREUNDER.

PROVIDE TEMPORARY POWER AND LIGHTING FOR CONSTRUCTION IN ACCORDANCE WITH STATE AND LOCAL SAFETY LAWS AND IN PARTICULAR FEDERAL OSHA REQUIREMENTS AND THE NATIONAL ELECTRICAL CODE.

# 1.15 SLEEVES, INSERTS, AND EMBEDDED ITEMS

SLEEVES, INSERTS, HANGERS, ETC., FURNISHED UNDER THIS DIVISION AND INSTALLED UNDER ANOTHER DIVISION SHALL BE SUPPLIED IN SUCH MANNER AS WILL PERMIT ORDERLY PROGRESS OF WORK BY OTHERS.

# 1.16 CUTTING AND PATCHING

THE ELECTRICAL CONTRACTOR SHALL CUT, CHANNEL, CHASE, AND/OR DRILL FLOORS, WALLS, PARTITIONS, CEILINGS, OR OTHER SURFACES AS REQUIRED FOR INSTALLATION, SUPPORT, ANCHORAGE, ETC., OF THE WORK. ALL PATCHING SHALL BE DONE BY THE GENERAL CONTRACTOR.

# 1.17 DELIVERY AND STORAGE

ELECTRICAL CONTRACTOR SHALL MAKE PROVISIONS FOR DELIVERY AND SAFE STORAGE OF MATERIALS FOR THIS CONTRACT AND SHALL ASSUME FULL RESPONSIBILITY FOR CONDITION AND/OR SAFEKEEPING OF MATERIALS FURNISHED BY OTHERS ON ACCEPTANCE OF MATERIALS.

# 1.18 INSPECTIONS AND TESTS

WORK SHALL BE SUBJECT TO INSPECTION BY ARCHITECT AND/OR ENGINEER AT ALL TIMES. AFTER ELECTRICAL INSTALLATION IS COMPLETED AND AT SUCH TIME AS THE ARCHITECT OR ENGINEER MAY DIRECT, THE CONTRACTOR SHALL CONDUCT AN OPERATING TEST FOR APPROVAL. INSTALLATION SHALL BE DEMONSTRATED TO BE IN ACCORDANCE WITH REQUIREMENTS OF THE DRAWINGS AND THIS SPECIFICATION. ANY DEFECTS REVEALED SHALL BE CORRECTED PROMPTLY AND THE TESTS RECONDUCTED.

THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ALL DEFECTIVE AND/OR FAULTY WORKMANSHIP, MATERIALS, AND/OR EQUIPMENT AND SHALL REPAIR AND/OR REPLACE ALL OTHER WORK DAMAGED AS A RESULT OF SUCH DEFECTIVE AND/OR FAULTY INSTALLATION, MATERIALS AND/OR EQUIPMENT WITHOUT CHARGE TO OWNER DURING

# PARTIAL OCCUPANCY OF SITE BY OWNER SHALL NOT BE CONSTRUED AS FINAL ACCEPTANCE OF WORK.

# PART 2 - PRODUCTS 2.01 BRANCH CIRCUIT PANELS

CIRCUIT BREAKER TYPE PANELBOARDS WITH MAIN LUGS OR MAIN CIRCUIT BREAKERS WHERE SHOWN, WITH NUMBER AND SIZE OF FULL WIDTH THERMAL MAGNETIC BOLTED BRANCH CIRCUIT BREAKERS WITH MINIMUM AIC RATING AS INDICATED. CIRCUIT BREAKERS SHALL BE LABELED FOR USE WITH CONDUCTORS WITH MINIMUM OF 75° INSULATION. PANELBOARDS ARE TO BE SURFACE OR FLUSH MOUNTED WITH SIZE OF BUS AS INDICATED. TWO AND THREE POLE BREAKERS SHALL HAVE COMMON TRIP AND SINGLE OPERATING HANDLE. PROVIDE SEPARATE GROUND BUS IN EACH PANELBOARD.

- PANELBOARDS SHALL BE CONSTRUCTED OF CODE GAUGE GALVANIZED STEEL. FRONTS ARE TO BE COMPLETE WITH DOOR IN DOOR, LATCH AND MASTER-KEYED LOCKS. FRONTS SHALL HAVE ADJUSTABLE TRIM CLAMPS AND DIRECTORY
  - LIGHTING AND MISCELLANEOUS POWER PANELS: 208V OR 240V, 3 PHASE 208/120V, SINGLE OR 3 PHASE 240/120V, SINGLE PHASE 10,000 AIC MINIMUM CUTLER-HAMMER TYPE PRL1 OR EQUIVALENT BY SQUARE D OR

# 2.02 DISCONNECT SWITCHES

MAIN DISCONNECT SWITCHES RATED 800 AMPERES AND ABOVE SHALL BE BOLTED PRESSURE CONTACT TYPE,

CUTLER-HAMMER OR EQUAL BY SQUARE D OR SIEMENS.

PROVIDE ENCLOSED, HEAVY DUTY, FUSIBLE OR NON-FUSIBLE SAFETY SWITCHES WHERE REQUIRED. EACH ENCLOSURE SHALL BE NEMA TYPE SUITABLE FOR THE SURROUNDING AREA AND CONDITIONS, AND SHALL BE LABELED FOR USE WITH CONDUCTORS HAVING MINIMUM OF 75° INSULATION. CONSULT MECHANICAL DRAWINGS AND SPECIFICATIONS OF MECHANICAL EQUIPMENT. DISCONNECTS AS APPROPRIATE FOR ACTUAL EQUIPMENT PROVIDED TO THE PROJECT. ALL SWITCHES SHALL BE LABELED FOR FEEDER OR MOTOR SUPPLIED.

PROVIDE FUSE REJECTION KITS FOR ALL FUSIBLE SWITCHES RATED 600 AMPERES AND BELOW.

FUSES SHALL BE OF THE TIME DELAY TYPE; CLASS "R" WITH REJECTION FEATURE UP TO 600 AMPERES, BOLT-IN CLASS "L" ABOVE 600 AMPERES. "FUSETRON", "LOW PEAK", OR "HI-CAP" AS MANUFACTURED BY THE BUSSMAN

MANUFACTURING COOMPANY OR EQUIVALENT BY GOULD, INC. (GOULD SHAWMUTT FUSES). THE CONTRACTOR SHALL FURNISH AND INSTALL ONE COMPLETE SET OF FUSES FOR ALL FUSE HOLDING DEVICES SIZED IN ACCORDANCE WITH THE ASSOCIATED MOTOR AND/OR CONDUCTORS TO BE PROTECTED. FURNISH TO OWNER A MINIMUM OF THREE SPARES FOR EACH SIZE INSTALLED. PROVIDE A SPARE FUSE CABINET MOUNTED IN MAIN ELECTRICAL ROOM FOR FUSE STORAGE. PROVIDE A NAMEPLATE ON THE CABINET WHICH READS "SPARE FUSES".

## 2.04 CONDUIT AND FITTINGS

PROVIDE CONDUIT AND FITTINGS AS INDICATED AND AS REQUIRED PER PART 3 - INSTALLATION OF THIS

GALVANIZED RIGID STEEL CONDUIT (GRC): ZINC COATED, THREADED TYPE CONFORMING TO UL 6. PROVIDE ZINC COATING FUSED TO INSIDE AND OUTSIDE WALLS. PROVIDE CLOSED-END THREAD PROTECTORS.

INTERMEDIATE METALLIC TUBING (IMC): ZINC COATED THREADED TYPE CONFORMING TO UL PROVIDE ZINC COATING FUSED TO INSIDE AND OUTSIDE WALLS. PROVIDE CLOSED-END THREAD PROTECTORS.

ELECTRIC METALLIC TUBING (EMT): COMPLY WITH UL 794. PVC EXTERNALLY COATED RIGID STEEL CONDUIT (PVC COATED GRC): PROVIDE RIGID STEEL ZINC COATED WITH AN ADDITIONAL 40 MIL. THICK COATING OF PVC AND INTERNAL GALVANIZED SURFACE. PVC COATING SHALL BE BONDED

TO THE CONDUIT. EXTRUDED EXTERIOR COATING IS NOT ACCEPTABLE. FLEXIBLE STEEL CONDUIT: FORMED FROM CONTINUOUS LENGTH OF SPIRALLY-WOUND, INTERLOCKED ZINC-COATED STRIP STEEL

DOUBLE-WRAPPED STEEL; GALVANIZED INSIDE AND OUTSIDE; COATED WITH LIQUID-TIGHT JACKET OF FLEXIBLE

LIQUID-TIGHT, FLEXIBLE METAL CONDUIT: FORMED FROM A CONTINUOUS LENGTH OF FLEXIBLE, INTERLOCKED, AND

POLYVINYL CHLORIDE (PVC). RIGID METAL CONDUIT FITTINGS: CAST-MALLEABLE IRON, GALVANIZED.

INTERMEDIATE METALLIC TUBING FITTINGS: ELECTRIC METALLIC TUBING FITTINGS: STEEL OR IRON, COMPRESSION (SET SCREW).

FLEXIBLE METALLIC CONDUIT FITTINGS: STEEL THREADLESS HINGED CLAMP TYPE.

FLEXIBLE NON-METALLIC CONDUIT FITTINGS: PLASTIC CONDUIT BODIES: GALVANIZED STEEL CONDUIT BODIES OF TYPES, SHAPES, AND SIZES AS REQUIRED TO FULFILL JOB REQUIREMENTS AND NEC REQUIREMENTS. CONDUIT BODIES SHALL HAVE THREADED CONDUIT ENTRANCE ENDS,

REMOVABLE COVERS, EITHER CAST OR GALVANIZED STEEL, AND CORROSION-RESISTANT SCREWS.

### 2.06 CONDUCTORS

UNLESS OTHERWISE INDICATED, ALL CONDUCTORS SHALL BE COPPER. THE USE OF ALUMINUM WILL BE ACCEPTED ONLY TO THE EXTENT SPECIFICALLY INDICATED ON THE DRAWINGS. CONDUCTORS SIZED #10 AWG AND SMALLER

SHALL BE SOLID ANNEALED COPPER, #8 AWG AND LARGER SHALL BE STRANDED. MINIMUM CONDUCTOR SIZES SHALL BE #12 AWG FOR WIRING AT 120 VOLTS AND ABOVE. AND #18 AWG FOR SIGNAL AND CONTROL CIRCUITS. FOR 120 VOLT CIRCUITS 75 FEET OR LONGER TO THE FIRST OUTLET, MINIMUM SIZE SHALL

BE INCREASED TO #10 AWG (FOR 277 VOLT CIRCUITS 150 FEET). CONDUCTORS SHALL HAVE INSULATION RATED AT 600 VOLTS UNLESS OTHERWISE NOTED. THE FOLLOWING

INSULATION STANDARDS SHALL APPLY: UNDERGROUND AND WET LOCATIONS: TYPE THW OR THWN FOR #8 AWG AND LARGER; TW OR THWN FOR #10 AWG

AND SMALLER. INDOORS: TYPE THW, THWN, OR THHN FOR #8 AWG AND LARGER; TW, THWN, OR THHN FOR #10 AWG AND

SMALLER. AMPACITIES: CONDUCTOR AMPACITIES SHALL BE APPLIED PER NEC TABLE 310-16. RATINGS FOR CONDUCTORS HAVING 75°C INSULATION SHALL NOT BE EXCEEDED REGARDLESS OF WHICH INSULATION TYPE IS USED.

CONNECTORS SHALL BE 3-M "SCOTCHLOCK", BUCHANAN "B-CAPS", IDEAL "WING NUT", OR BUCHANAN SPLICE CAPS. ALL CONNECTORS SHALL BE RATED AT 600 VOLTS FOR GENERAL USE, OR 1000 VOLTS FOR USE WITHIN FLUORESCENT OR HIGH INTENSITY DISCHARGE (HID) LIGHTING FIXTURES.

### 2.07 CABINETS AND WIREWAYS

CODE GAUGE GALVANIZED STEEL. CABINETS TO HAVE HINGED COVERS AND MASTER KEYED LOCKS. PROVIDE CABINET SIZES AS INDICATED, AND WIREWAY SIZED FOR APPLICATION PER NEC ARTICLE 362. PROVIDE APPROVED NEMA TYPE ENCLOSURE SUITABLE FOR LOCATION AND CONDITIONS ENCOUNTERED. FINISH SHALL BE ANSI 61 GRAY ENAMEL.

## 2.08 OUTLET BOXES

CAST METAL BOXES FOR EXPOSED CONDUIT AND IN EQUIPMENT ROOMS. ALL OUTLETS FOR EXTERIOR APPLICATION SHALL BE CAST, WEATHERPROOF TYPE, WITH GASKET AND CAST COVER PLATE. PROVIDE GALVANIZED OR ZINC COATED, COMPRESSED STEEL OUTLET BOXES FOR ALL OTHER APPLICATIONS. BOXES TO BE 4 INCHES SQUARE OR OCTAGONAL UNLESS OTHERWISE REQUIRED FOR SPECIFIC OUTLET OR STRUCTURAL CONDITIONS, AND OF DEPTH AS REQUIRED.

PROVIDE SPECIFICATION GRADE DEVICES IN ALL AREAS. HUBBELL, LEVITON, BRYANT, OR PASS AND SEYMOUR. ALL DEVICES SHALL BE OF THE SAME MANUFACTURER.

SWITCHES SHALL BE RATED FOR THE LOAD CONTROLLED. SWITCHES SHALL BE LEVITON #1201 (15 AMP) OR #1221 (20 AMP) OR EQUAL. ALL OTHER SWITCHES SHALL BE OF SIMILAR PREMIUM SPECIFICATION GRADE QUALITY.

THERMAL OVERLOAD SWITCHES SHALL BE PROPERLY SIZED OVERLOAD HEATER ELEMENTS. RECEPTACLES SHALL BE RATED FOR THE CIRCUIT LOAD SERVED. RECEPTACLES SHALL BE LEVITON #5252 (15 AMP) OR

#5352 (20 AMP) OR EQUAL. ALL OTHER RECEPTACLES SHALL BE OF SIMILAR PREMIUM SPECIFICATION GRADE PROVIDE STAINLESS STEEL COVERPLATES FOR ALL DEVICES IN KITCHEN AREAS AND AREAS WITH SURFACE MOUNTED RACEWAY AND BOXES. PROVIDE 0.140 INCH SMOOTH NYLON MATCHING COVERPLATES FOR ALL OTHER SWITCHES, RECEPTACIES TELEPHONE ILLNCTION AND LINUSED OUTLETS. DEVICE AND PLATE COLORS SHALL BE WHITE OR LIGHT COLOR ON LIGHT FINISHED SURFACES, AND BLACK, BROWN, OR OTHER DARK COLOR ON DARK FINISHED

SURFACES. VERIFY COLOR OF DEVICES AND COVERPLATES WITH ARCHITECT BEFORE ORDERING.

# 2.10 LIGHTING FIXTURES AND LAMPS

ALL FIXTURES SHALL BEAR THE UNDERWRITERS LABORATORIES SEAL OF APPROVAL. FIXTURE TYPES ARE INDICATED ON THE DRAWINGS BY MEANS OF LETTERS. REFER TO THE FIXTURE SCHEDULE FOR FIXTURE SPECIFICATIONS. WHEN A FIXTURE TYPE IS INDICATED IN A ROOM OR AREA, ALL OTHER FIXTURES IN THE

ROOM OR AREA SHALL BE OF THE SAME TYPE UNLESS NOTED OTHERWISE. ALL FLUORESCENT LAMPHOLDERS SHALL BE WHITE PHENOLIC COMPOUND, POSITIVE SPRING ACTION TYPE. FLUORESCENT FIXTURES WITH RAPID START LAMPS SHALL BE EQUIPPED WITH HIGH POWER FACTOR ETL/CBM APPROVED ENERGY SAVING CLASS "P" BALLASTS (UNIVERSAL "SLH" OR ADVANCE MARK III). ALL BALLASTS SHALL BE GUARANTEED FOR TWO YEARS OR MORE.

CLASS P, CERTIFIED CBM, HIGH POWER FACTOR, PREMIUM LOW HEAT, HIGH FREQUENCY ELECTRONIC BALLAST WITH AUTOMATIC RESET THERMAL PROTECTION. BALLAST SHALL OPERATE AT 10 PERCENT OR LESS TOTAL HARMONIC

DISTORTION. ADVANCE MARK V OR EQUAL BY MOTOROLA OR MAGNETEK. FIXTURES EXPOSED TO COLD WEATHER AND COLD TEMPERATURE SHALL BE WEATHERPROOF AND OF THE LOW TEMPERATURE TYPE SUITABLE FOR OPERATION AT CONDITIONS ENCOUNTERED.

ALL FIXTURES SHALL BE SO MANUFACTURED THAT ALL METALLIC PARTS WILL BE CONTINUOUSLY GROUNDED. WHERE ACRYLIC LENSES ARE SPECIFIED, THICKNESS OF SUCH LENS SHALL BE NOMINAL 0.125 INCH. INCANDESCENT LAMPS SHALL BE RATED 110 VOLTS. FLUORESCENT LAMPS SHALL BE F32T8 RAPID START TYPE OR AS NOTED ON DRAWINGS. NO SUBSTITUTIONS WILL BE ALLOWED FOR HIGH INTENSITY DISCHARGE (HID) AND FLUORESCENT LAMPS LISTED BY SPECIFIC MANUFACTURERS. ALL LAMPS SHALL BE GENERAL ELECTRIC, SYLVANIA, OR

# 2.11 FIRE ALARM SYSTEM

PHILLIPS UNLESS OTHERWISE NOTED.

FURNISH AND INSTALL A COMPLETE DESIGN/BUILD, ELECTRICALLY SUPERVISED, CLASS B MULTIPLE-ZONE, CONTINUOUS RINGING FIRE ALARM SYSTEM AS DESCRIBED HEREIN PER LOCAL FIRE DEPARTMENT REQUIREMENTS. SYSTEM SHALL BE CAPABLE OF SUPPORTING ENTIRE BUILD-OUT OF FACILITY AND SHALL INCLUDE NECESSARY REQUIREMENTS FOR MEDICAL OFFICE TYPE TENANTS. ALL COMPONENTS OF THE ENTIRE SYSTEM SHALL BE NEW AND LISTED, LABELED, AND APPROVED FOR ITS APPLICATION AS FIRE ALARM EQUIPMENT FOR NFPA 72A BY UNDERWRITERS LABORATORIES, INC., AND FACTORY MUTUAL. ACTUATION OF ANY MANUAL OR AUTOMATIC ALARM INITIATING DEVICE SHALL CAUSE DESIGNATED ALARM SIGNALING UNITS TO RING CONTINUOUSLY, LIGHT THE RESPECTIVE ZONE ALARM LAMP ON THE REMOTE ANNUNCIATOR, AND PROVIDE AN ALARM SIGNAL SUITABLE FOR MONITORING BY AN APPROVED CENTRAL STATION.

PRIMARY POWER SHALL BE 120 VAC MONITORED, AND A POWER-ON LAMP SHALL BE PROVIDED. UPON POWER OUTAGE, THE SYSTEM SHALL LIGHT A POWER TROUBLE CONDITION LAMP, INDICATE A TROUBLE CONDITION, AND AUTOMATICALLY TRANSFER POWER SUPPLY TO STANDBY BATTERIES. THE CONTROL PANEL SHALL ALSO MONITOR THE BATTERIES, AND UPON A LOW BATTERY CONDITION, LIGHT THE LOW BATTERY LAMP AND INDICATE A TROUBLE CONDITION. UPON GROUND FAULT DETECTION, THE GROUND DETECTION LAMP SHALL LIGHT AND A TROUBLE SIGNAL SHALL BE INDICATED. PROVIDE A LAMP TEST SWITCH TO TEST ALL LAMPS ON THE CONTROL PANEL.

PROVIDE A MUNICIPAL TRIP CIRCUIT THAT IS A DISTINCT SEPARATE CIRCUIT UTILIZED FOR NO OTHER PURPOSE. A MUNICIPAL TRIP DISCONNECT TEST SWITCH SHALL BE PROVIDED. THE MUNICIPAL TRIP DISCONNECT LAMP SHALL INDICATE THAT THE MUNICIPAL TRIP IS DISCONNECTED.

MANUAL STATIONS SHALL BE DESIGNED FOR SEMI-FLUSH MOUNTING. PLASTIC STATIONS WILL NOT BE ACCEPTABLE. STATIONS SHALL BE OF THE BREAK-GLASS DESIGN, AND MUST BE OPENED TO BE RESET. IT SHALL BE POSSIBLE, FOR TESTING PURPOSES, TO INITIATE AN ALARM WITHOUT BREAKING THE GLASS. PROVIDE A MINIMUM OF ONE SPARE GLASS ROD PER MANUAL STATION. SMOKE DETECTORS SHALL BE LOW VOLTAGE, TWO WIRE, DUAL CHAMBER, IONIZATION TYPE. EACH DETECTOR SHALL

BE SELF-COMPENSATING FOR THE EFFECTS OF AIR VELOCITY, TEMPERATURE, HUMIDITY AND ATMOSPHERIC PRESSURE. EACH DETECTOR SHALL CONTAIN AN INTEGRAL, VISUAL INDICATION OF ALARM VISIBLE FOR 360°. ALARM HORNS SHALL BE SUITABLE FOR INDOOR OR OUTDOOR APPLICATION. ALL HORNS SHALL BE 24 VDC POLARIZED. THE MINIMUM SOUND LEVEL SHALL BE 95 DB AT 10 FEET. HORNS SHALL BE SEMI-FLUSHED MOUNTED.

VISUAL SIGNALS SHALL BE PROVIDED WITH EACH FIRE SIGNALING DEVICE. ONE ENCLOSURE SHALL INCORPORATE BOTH DEVICES. THE VISUAL SIGNAL SHALL FLASH ON ALARM OCCURRENCE. THE BEZEL SHALL EXTEND 1-1/2 INCHES MINIMUM FROM THE FINISHED WALL, AND BE APPROXIMATELY 3-1/2 INCHES BY 5 INCHES ENGRAVED "FIRE". EQUIPMENT SHALL BE AS FOLLOWS AS MANUFACTURED BY EDWARDS, INC., OR PRIOR APPROVED EQUAL:

CONTROL PANEL: 5751B **IONIZATION SMOKE DETECTOR: 5250B** 

ALARM HORN: 894B REMOTE LIGHT: RL-85 REMOTE ANNUNCIATOR: G1344

THERMAL DETECTOR: 285A

# PART 3 - EXECUTION

ALL WIRING SHALL BE INSTALLED IN CONDUIT. CONDUIT SHALL BE OF SIZE REQUIRED BY NEC OR LARGER AS

INDICATED ON DRAWINGS, AND SHALL BE INSTALLED ACCORDING TO NEC. BENDS SHALL BE MADE WITH AN APPROVED HICKEY OR CONDUIT BENDING MACHINE. FACTORY BENDS OVER 1-1/4 INCHES ARE APPROVED.

UNDERGROUND CONDUITS SHALL BE INSTALLED IN SELECT BACKFILL IN ACCORDANCE WITH THE EARTHWORK

EXPOSED CONDUIT SHALL NOT BE INSTALLED IN FINISHED AREAS UNLESS PRIOR APPROVED BY ARCHITECT. EXPOSED CONDUIT MAY BE INSTALLED IN EQUIPMENT ROOMS AND AT SURFACE MOUNTED EQUIPMENT. ALL EXPOSED CONDUIT SHALL BE RUN AT RIGHT ANGLES AND PARALLEL TO THE BUILDING LINES. ALL UNDERGROUND CONDUIT SHALL BE INSTALLED AT A MINIMUM OF 30 INCHES BELOW FINISHED GRADE. CONDUITS INSTALLED BELOW CONCRETE SLABS SHALL BE A MINIMUM OF 12 INCHES BELOW SLAB. ALL

SECTION OF THESE SPECIFICATIONS. ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC, WITH PVC COATED GRC ELBOWS FOR ALL RADIUS BENDS. D. USE APPROVED TYPE COUPLINGS AND CONNECTORS IN ALL CONDUIT RUNS, AND MAKE ALL JOINTS TIGHT. PROVIDE PREMIUM QUALITY COMPRESSION (SET SCREW) TYPE COUPLINGS. PROVIDE INSULATED BUSHINGS FOR ALL TERMINATIONS IN PIPE SIZES 1-1/4 INCHES AND LARGER. PROVIDE WEATHERPROOF FITTINGS FOR RUNS EXPOSED TO WEATHER AND HIGH HUMIDITY. AND CONCRETE TIGHT FITTINGS FOR CONDUITS INSTALLED IN CONCRETE SLABS.

PROVIDE SEAL-OFF FITTINGS WHERE CONDUITS ENTER OR LEAVE HAZARDOUS WIRING AREA OR AREAS OF WIDELY DIFFERENT TEMPERATURE AND/OR HUMIDITY. MAXIMUM CONDUIT SIZE FOR INSTALLATION IN CONCRETE SLABS OR WALLS SHALL BE 1 INCH.

PRIOR TO PULLING OF CONDUCTORS, CONDUITS SHALL BE CLEANED OF ALL FOREIGN MATTER. PROVIDE 200 POUND TEST NYLON PULL-LINES IN ALL CONDUITS INTENDED FOR FUTURE USE (E.G. TELEPHONE, ETC.). PROVIDE CONDUIT WITH APPROPRIATE FITTINGS INSTALLED AS REQUIRED PER THE FOLLOWING CRITERIA:

BELOW GRADE IN EARTH: USE PVC OR PVC COATED RIGID STEEL CONDUIT. GRC IS REQUIRED WHERE UNDERGROUND OR

UNDERSLAB CONDUITS PENETRATE A CONCRETE SLAB OR FOUNDATION WALL.

ABOVE GRADE, EXTERIOR (EXCEPT ROOFS): USE GRC, IMC, OR EMT WITH WEATHERPROOF FITTINGS.

ON ROOFS: USE GRC. 4. ABOVE GRADE, INTERIOR:

a. IN LOCATIONS SUBJECT TO DAMAGE: USE GRC WITH THREADED GRC FITTINGS.

b. IN WET OR DAMP LOCATIONS: USE GRC WITH WEATHERPROOF FITTINGS. c. IN HAZARDOUS LOCATIONS: USE GRC, IMC, OR EMT AS REQUIRED FOR THE CLASSIFICATION OR THE AREA WITH

d. IN DRY LOCATIONS, BLOCK WALLS, OR CONCRETE WALLS: USE GRC, IMC, OR EMT WITH COMPRESSION (SET-SCREW)

5. IN SLAB ON GRADE: USE PVC OR PVC COATED GRC.

MATCHING COMPRESSION OR THREADED FITTINGS.

6. IN CONCRETE SLABS ABOVE THE GROUND FLOOR: USE PVC, GRC, IMC, OR EMT. (ALT. -- NO CONDUITS ARE ALLOWED IN

CONCRETE SLABS.)

7. USE FLEXIBLE METALLIC CONDUIT IN THE FOLLOWING APPLICATIONS: RECESSED LIGHTING FIXTURES

b. MOTOR CONNECTIONS

CONNECTION BETWEEN FAN PLENUM AND STRUCTURE d. AT EXPANSION JOINTS

e. AT TRANSFORMER AND OTHER EQUIPMENT WHICH PRODUCES VIBRATION

8. USE FLEXIBLE NON-METALLIC CONDUIT IN THE FOLLOWING APPLICATIONS: a. AT ALL LOCATIONS LISTED ABOVE FOR FLEXIBLE METALLIC CONDUIT WHERE EXPOSED TO MOISTURE IN WET OF DAMP

LOCATIONS. H. PROVIDE SLEEVES WHERE CONDUIT PENETRATES A FIRE RATED WALL. SLEEVE SHALL BE RATED AS REQUIRED TO

MAINTAIN THE FIRE RATING OF THE WALL THAT IS BEING PENETRATED I. USE PVC COATED OR BITUMINOUS COATED GALVANIZED RIGID METAL ELBOWS FOR STUB UPS AND 900 BENDS IN UNDERGROUND CONDUITS AND FOR ALL RISERS TO GRADE AND ENTRY FROM BUILDING EXTERIOR.

A. NO WIRE SHALL BE INSTALLED PRIOR TO COMPLETION OF WORK WHICH MIGHT CAUSE DAMAGE TO CONDUCTORS. ALL SERVICE CONDUCTORS, FEEDERS, AND BRANCH CIRCUITS SHALL BE COLOR CODED IN ACCORDANCE WITH ARTICLE 210-5 OF THE NEC. COLOR CODING SHALL BE VIA COLORED INSULATION OR TAPE AT ALL TERMINATION LOCATIONS. WIRING FOR SPECIAL SYSTEMS SUCH AS MECHANICAL EQUIPMENT, ETC., SHALL BE IN ACCORDANCE WITH MANUFACTURERS

WIRING DIAGRAMS FURNISHED. WIRING SHALL BE CONTINUOUS FROM OUTLET TO OUTLET OR JUNCTION BOX. SPLICES SHALL BE HELD TO A MINIMUM, AND SHALL BE MADE ONLY AT READILY ACCESSIBLE PULL BOX, JUNCTION BOX, OR OUTLET BOX. THE INSULATION VALUE OF THE JOINT SHALL EQUAL THAT OF THE CONDUCTOR. SPLICES AND CONNECTION SHALL BE MADE BY TWISTING TIGHT AND INSTALLING INSULATED PRESSURE OR WIRE NUT CONNECTORS FOR #10 AWG AND SMALLER, AND WITH STEEL CRIMP-ON SLEEVES AND OVERALL NYLON INSULATOR FOR #8 AWG AND LARGER.

WHERE ALUMINUM CONDUCTORS ARE INDICATED, ALL TERMINATIONS SHALL BE ACCOMPLISHED WITH APPROVED COMPRESSION TERMINATORS (BURNDY HYPLUG OR EQUAL). ALL ALUMINUM TERMINATIONS SHALL BE TREATED WITH DEOXIDIZING SOLUTION (BURNDY PENETROX OR EQUAL).

D. COLOR CODE ALL CONDUCTORS. WIRE SIZES #8 AWG OR SMALLER SHALL HAVE INTEGRAL COLOR-CODED INSULATION. WIRE SIZES #6 AWG AND LARGER MAY HAVE BLACK INSULATION BUT IDENTIFIED BY COLOR-CODED ELECTRICAL TAPE AT ALL JUNCTION, SPLICE, PULL, OR TERMINATION POINTS. COLOR TAPE SHALL BE APPLIED TO AT LEAST 6 INCHES OF THE CONDUCTOR.

E. COLOR CODE WIRES AS FOLLOWS: 208/120 VOLTS PHASES: A-BLACK, B-RED, C-BLUE, NEUTRAL-WHITE, GROUND-GREEN

F. COLOR CODING OF WIRES USED FOR SIGNAL AND COMMUNICATION SYSTEMS ARE SPECIFIED UNDER THE RESPECTIVE SECTIONS FOR THESE SYSTEMS.

A. PROVIDE GROUNDING ELECTRODE CONDUCTORS SIZED IN ACCORDANCE WITH THE DRAWINGS BETWEEN THE SERVICE GROUND BUS AND THE FOLLOWING GROUNDING ELECTRODES FOR THE MAIN SERVICE GROUNDING SYSTEM:

THE METAL FRAME OR STRUCTURE OF THE BUILDING.

FOUNDATION OR FOOTING THAT IS IN DIRECT CONTACT WITH EARTH. ELECTRODE SHALL BE CADWELDED, OR EQUAL, TO ALL VERTICAL REINFORCING BARS, AND SHALL BE ENCASED BY AT LEAST 2 INCHES OF CONCRETE. B. THE SERVICE NEUTRAL SHALL BE CONNECTED TO THE GROUND BUS WITH AN UNSPLICED CLASS B STRANDED COPPER

A MINIMUM OF 20 INCHES OF #2 AWG BARE SOLID COPPER CONDUCTOR LOCATED NEAR THE BOTTOM OF THE CONCRETE

CONDUCTOR SIZED PER NEC TABLE 250-66. PROVIDE AN EQUIPMENT BONDING JUMPER TO THE NON-CURRENT CARRYING PARTS OF THE MAIN SERVICE SIZED PER NEC TABLE 250-112. C. ALL ELECTRICAL NEUTRALS, RACEWAYS, AND NON-CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT AND ASSOCIATED ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH NEC ARTICLE 250. AN IDENTIFIED GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL FLEXIBLE METALLIC OR PVC CONDUITS. CONNECT GROUND WIRE TO THE GROUND TERMINAL OF ALL DEVICES. PROVIDE GROUND BOND JUMPER FROM GROUNDING TERMINAL TO OUTLET BOX

# WHERE GROUND WIRE IS NOT PULLED.

3.04 OUTLET BOXES A. BOXES SHALL BE SUITABLE FOR REQUIREMENTS OF EACH OUTLET AND OF SUCH DIMENSIONS AS WILL FIT STRUCTURAL CONDITIONS. BOXES SHALL BE INSTALLED IN RIGID MANNER USING EXPANSION SHIELDS, POWER ACTUATED FASTENERS,

ETC., ON CONCRETE OR MASONRY AS REQUIRED. PROVIDE SINGLE GANG (OR AS REQUIRED FOR OUTLET) PLASTER OR TILE RINGS FOR ALL FLUSH OUTLETS INSTALLED AT FINISHED WALL AND CEILING SURFACES (TILE, GYPSUM BOARD, PLASTER, ETC.).

C. OUTLETS SHOWN "BACK-TO-BACK" ARE TO BE INSTALLED WITH A MINIMUM OF 6 INCHES HORIZONTAL SEPARATION TO

MINIMIZE SOUND TRANSMISSION. "THROUGH-THE-WALL" TYPE BOXES ARE NOT PERMITTED.

WALL SWITCH OUTLETS: 48"

A. WALL SWITCH OUTLETS SHOWN AT DOOR LOCATIONS SHALL BE INSTALLED ON LATCH SIDE OF DOOR. ALL DEVICES SHALL BE MOUNTED VERTICALLY. THE FOLLOWING MOUNTING HEIGHTS TO CENTERLINE OF DEVICE FROM FINISHED FLOOR

GENERAL PURPOSE RECEPTACLES: 16" RECEPTACLE OUTLETS IN UTILITY AND EQUIPMENT ROOMS: 42"

4. TELEPHONE OUTLET: 16" TELEPHONE OUTLET FOR WALL TELEPHONE: 54"

SHALL APPLY UNLESS OTHERWISE NOTED:

# B. PROVIDE COVERPLATES FOR ALL OUTLETS.

A. ALL LIGHTING FIXTURES AND EQUIPMENT AS INDICATED ON THE DRAWINGS AND AS DESCRIBED HEREIN SHALL BE

FURNISHED AND INSTALLED. ALL FIXTURES SHALL BEAR THE UL SEAL OF APPROVAL B. ALL FIXTURES SHALL BE SECURELY SUPPORTED AND ALL OUTLETS SHALL BE SECURELY ANCHORED. FURNISH ALL

SWITCHBOARD. DOORS AND TRIM INSTALLED IN FINISHED AREAS SHALL BE PRIME COATED.

SUPPORTS NECESSARY FOR INSTALLATION INCLUDING STRUCTURAL MEMBERS WHERE REQUIRED. PROVIDE SEPARATE JUNCTION BOX AND WIRE TO RECESSED FIXTURES, IN FLEXIBLE CONDUIT WITH TYPE AF WIRE UNLESS UL APPROVED PREWIRED FIXTURES ARE USED. OPENINGS CUT IN CEILINGS FOR RECESSED FIXTURES SHALL BE COMPLETELY CONCEALED AFTER FIXTURE TRIM IS INSTALLED. WHERE FLEXIBLE CONDUIT IS USED WITH THREE OR FOUR LAMP FLUORESCENT FIXTURES, PROVIDE SEPARATE LEADS FOR EACH BALLAST, WITH INBOARD LAMPS CONNECTED TO ONE BALLAST, AND OUTBOARD LAMP(S) CONNECTED TO THE OTHER BALLAST. ALL INTERIOR LIGHTING SHALL BE LOCALLY

3.08 BRANCH CIRCUIT PANELS A. A TYPED DIRECTORY, PROPERLY IDENTIFYING EACH CIRCUIT, SHALL BE MOUNTED IN EACH DIRECTORY FRAME. INSTALL PANELS UP 6 FOOT, 6 INCHES TO TOP OF TRIM OR AS DIRECTED BY ARCHITECT. FOR BRANCH CIRCUIT PANELS, PROVIDE ENGRAVED LAMINATED PLASTIC NAMEPLATES (1 INCH BY 3 INCHES WITH 1/4 INCH HIGH BLACK LETTERS ON WHITE

BACKGROUND) LISTING NAME, VOLTAGE, AND AMPACITY RATING IN ACCORDANCE WITH IDENTIFICATIONS ON SERVING

SECTION OF THESE SPECIFICATIONS. CURBS TO BE 2 INCHES LONGER, IN ALL DIMENSIONS, THAN EQUIPMENT MOUNTED

A. PROVIDE 4 INCH HIGH CONCRETE CURBS FOR ALL FLOOR MOUNTED EQUIPMENT IN ACCORDANCE WITH THE CONCRETE

# 3.09 TELEPHONE RACEWAYS

A. FURNISH AND INSTALL COMPLETE TELEPHONE RACEWAYS SYSTEM AS INDICATED ON THE DRAWINGS. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH ALL REQUIREMENTS AND RECOMMENDATIONS OF THE TELEPHONE COMPANY PROVIDE PLASTIC BUSHINGS FOR ALL ROUGH CONDUIT TERMINATIONS, AND 200 POUND TEST NYLON PULL-LINES IN ALL CONDUITS INTENDED FOR FUTURE USE. VERIFY ALL CONDUIT SIZES, TERMINAL SIZES, AND LOCATIONS WITH THE TELEPHONE COMPANY. 3.10 WIRING FOR MECHANICAL EQUIPMENT

FURNISH AND INSTALL CIRCUITS, FEEDERS, DISCONNECT SWITCHES, OUTLETS AND MAKE ALL CONNECTIONS TO MOTORS

AND/OR CONTROLS FOR HEATING, VENTILATING, AIR CONDITIONING, AND PLUMBING EQUIPMENT AS CALLED FOR IN THE DRAWINGS AND SPECIFICATIONS. B. FLEXIBLE CONDUIT SHALL BE USED FOR CONNECTIONS TO MOTORS AND/OR OTHER EQUIPMENT WHERE VIBRATION IS

ENCOUNTERED AND/OR AS CALLED FOR ON THE DRAWINGS. EVERY EFFORT SHALL BE MADE TO MAINTAIN A MAXIMUM FLEXIBLE CONDUIT LENGTH OF 3 FEET. C. INSTALL AND CONNECT ALL MAGNETIC STARTERS AND LINE VOLTAGE CONTROLLERS, PUSHBUTTON STATIONS,

THERMOSTATS, ETC., FURNISHED BY OTHERS. LOCATE AS DIRECTED BY MECHANICAL CONTRACTOR. REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ALL POWER AND CONTROL OUTLETS AND REQUIRED WIRING

D. LINE VOLTAGE CONTROL WIRING, INCLUDING INTERLOCKS WITH OTHER MECHANICAL EQUIPMENT, SHALL BE BY ELECTRICAL CONTRACTOR, AT THE DIRECTION OF AND UNDER THE SUPERVISION OF THE MECHANICAL CONTRACTOR. E. PROVIDE WEATHERPROOF SWITCHES FOR ALL EQUIPMENT LOCATED ON ROOF OR WHERE EXPOSED TO WEATHER.

### END OF SECTION 26000

# For Bidding Purposes

Revision / Submissions

**®** ROSSI

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CONSULTING ENGINEER

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LL SUB-CONTRACTORS ARE REQUIRED TO REVIEW THE DENTAL EQUIPMENT SHEETS FOR ITEMS PERTAINING TO THEIR SCOPE OF WORK

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# **ELECTRICAL SPECIFICATIONS**

05/23/2025

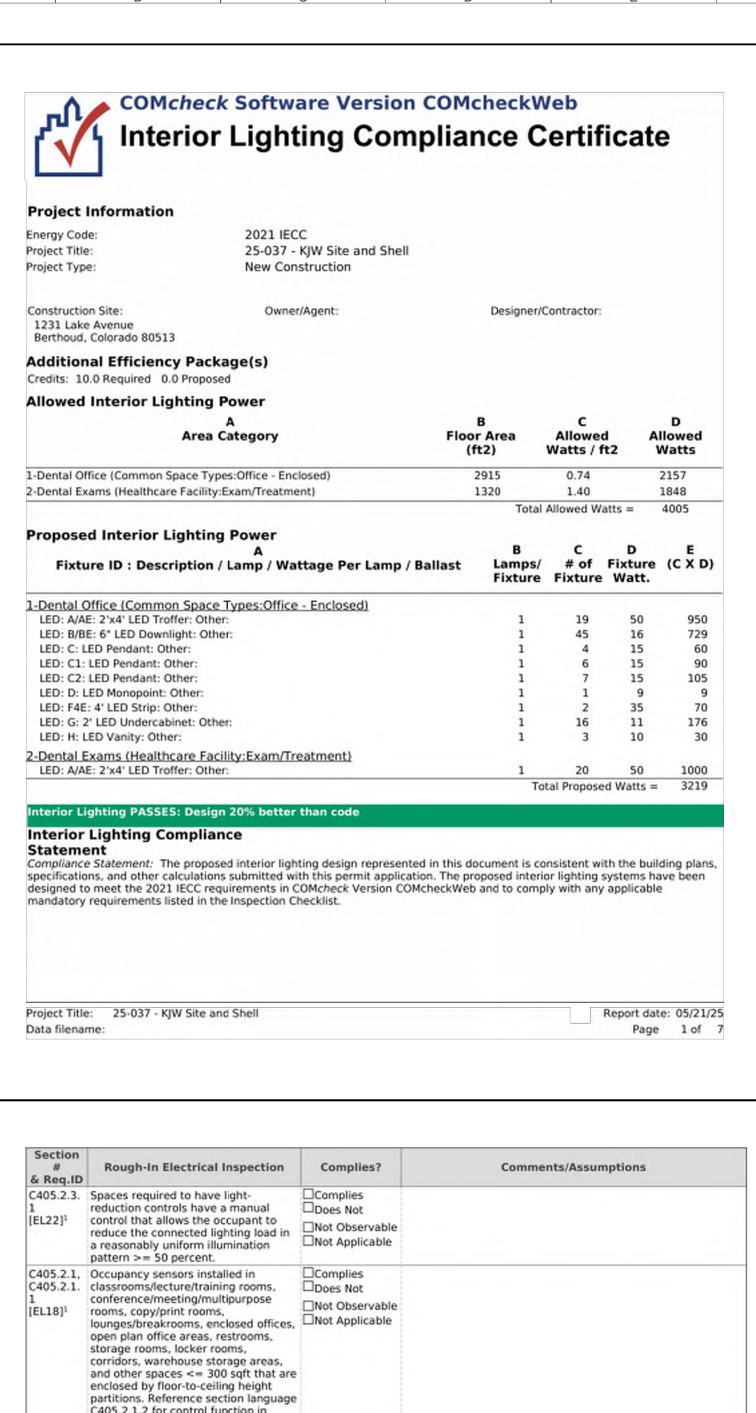
1231 Lake Avenue

Berthoud, CO 80513



Designed: Project Number: Drawn: Scale: As Shown Checked: Drawing Number Reviewed: DWD

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ustin H	ayes - Project Manager Title	JUSTIN HAYES Signature	05-23-2025 Date
roject	Title: 25-037 - KJW Site a	nd Shell	Report date: 05/21/25

2021 IECC 25-037 - KJW Site ar New Construction 2 (Residential mixed Owner/Agent:  Power  Ory  Index wall or surface)  Wed between tradable are I to 400 watts may be ap  Power A Lamp / Wattage Per	B Quantity  5340 ft2 10980 ft2  Total Allowed	C Allowed Watts / 0.07 0.04 Total Tradable Total Allo Supplementa	No Yes e Watts (a) = owed Watts = ol Watts (b) =	40 43 43 84 40
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submitted with this perm	it application. The p	roposed exte	rior lighting s	systems hav
			05-2 Date	23-2025
	41% better than code  d exterior lighting design submitted with this perm irements in COMcheck Vernspection Checklist.  JUSTIN 1	41% better than code  d exterior lighting design represented in this submitted with this permit application. The pricements in COMcheck Version COMcheckWe	1 1 1 1 Total Trada  41% better than code  d exterior lighting design represented in this document is a submitted with this permit application. The proposed exterior ments in COMcheck Version COMcheckWeb and to complements in COMcheckWeb and to	Total Tradable Wattage  1 1 1 2  Total Tradable Proposed  41% better than code  d exterior lighting design represented in this document is consistent wis submitted with this permit application. The proposed exterior lighting sirements in COMcheck Version COMcheckWeb and to comply with any Inspection Checklist.  JUSTIN HAYES  05-2

	Energy Code: 2021 IE nents: 0.0% were addressed dire		shock software
Text in th	e "Comments/Assumptions" columnent, the user certifies that a code re	n is provided by the	e user in the COMcheck Requirements screen. met and how that is documented, or that an e able, a reference to that table is provided.
Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR4] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	□Complies □Does Not □Not Observable □Not Applicable	
C103.2 [PR8] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	□Complies □Does Not □Not Observable □Not Applicable	
C406 [PR9] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	□Complies □Does Not □Not Observable □Not Applicable	
	al Comments/Assumptions:		

Section #	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
& Req.ID C405.2.3. 1 [EL22] <sup>1</sup>	Spaces required to have light- reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern >= 50 percent.	□Complies □Does Not □Not Observable □Not Applicable	
C405.2.1, C405.2.1. 1 [EL18] <sup>1</sup>	Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, corridors, warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces.	□Complies □Does Not □Not Observable □Not Applicable	
C405.2.1. 2 [EL19] <sup>1</sup>	Occupancy sensors control function in warehouses: In warehouses, the lighting in aisleways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more within 20 minutes of when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor. Lights not turned off by occupant sensors is done so by timeswitch.	□Complies □Does Not □Not Observable □Not Applicable	
C405.2.1. 3 [EL20] <sup>1</sup>		□Complies □Does Not □Not Observable □Not Applicable	
	Each area not served by occupancy sensors (per C405.2.1.1) have timeswitch controls and functions detailed in sections C405.2.2.1.	□Complies □Does Not □Not Observable □Not Applicable	

Report date: 05/21/25

Page 5 of 7

Project Title: 25-037 - KJW Site and Shell

Data filename:

& Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.4,	individual controls that control the lights independent of general area	□Complies □Does Not □Not Observable □Not Applicable	
C405.2.5 [EL27] <sup>1</sup>	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	□Complies □Does Not □Not Observable □Not Applicable	
C405.2.7 [EL28] <sup>1</sup>	Automatic lighting controls for exterior lighting installed. Controls will be daylight controlled, set based on business operation time-of-day, or reduce connected lighting > 30%.	□Complies □Does Not □Not Observable □Not Applicable	
C405.7 [EL26] <sup>2</sup>	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	□Complies □Does Not □Not Observable □Not Applicable	
C405.8 [EL27] <sup>2</sup>	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	□Complies □Does Not □Not Observable □Not Applicable	
C405.9.1, C405.9.2 [EL28] <sup>2</sup>	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	□Complies □Does Not □Not Observable □Not Applicable	
C405.10 [EL29] <sup>2</sup>	Total voltage drop across the combination of feeders and branch circuits <= 5%.	□Complies □Does Not □Not Observable □Not Applicable	
C405.1.1 [EL30] <sup>2</sup>	At least 90% of dwelling unit permanently installed lighting shall have lamp efficacy >= 65 lm/W or luminaires with efficacy >= 45 lm/W or comply with C405.2.4 or C405.3.	□Complies □Does Not □Not Observable □Not Applicable	
C405.11, C405.11.1 [EL31] <sup>2</sup>	50% of 15/20 amp receptacles installed in enclosed offices, conference rooms, copy rooms, break rooms, classrooms and workstations and > 25% of branch circuit feeders for modular furniture will have automatic receptacle control in accordance with C405.11.1.	□Complies □Does Not □Not Observable □Not Applicable	
Addition	al Comments/Assumptions:		
	1 High Impact (Tier 1)	2 Medium Impact (Ti	er 2) 3 Low Impact (Tier 3)  Report date: 05/21/25

# & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5. 2 [FI17] <sup>3</sup>	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	□Complies □Does Not □Not Observable □Not Applicable	
C405.5.1 [FI19] <sup>1</sup>	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	□Complies □Does Not □Not Observable □Not Applicable	See the Exterior Lighting fixture schedule for values.
C408.1.1 [FI57] <sup>1</sup>	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	□Complies □Does Not □Not Observable □Not Applicable	
C408.2.5 [FI16] <sup>3</sup>	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	□Complies □Does Not □Not Observable □Not Applicable	
C408.3 [FI33] <sup>1</sup>	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	□Complies □Does Not □Not Observable □Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: 25-037 - KJW Site and Shell

Data filename:

EMAIL: jhayes@rossiengineering.net Site and Shell and

> Report date: 05/21/25 Page 7 of 7

Wolfenden Family Dental Project 1231 Lake Avenue

KJW

For Bidding Purposes

05/29/2025 11:10:27 AM

ROSSI ENGINEERING INC.

David Day, P.E.

CONSULTING ENGINEER

PROJECT MANAGER: JUSTIN HAYES CELL: 303-720-5342

SHEETS FOR ITEMS PERTAINING TO THEIR SCOPE OF WORK

ALL SUB-CONTRACTORS ARE REQUIRED TO REVIEW THE DENTAL EQUIPMENT

Date

3650 Wadsworth Boulevard Wheat Ridge, Colorado 80033

Emait: info@battistadesign.ne

BATTISTA

Phone: 303-428-4895 Fax: 303-428-5472

www.battistadesign.net

Berthoud, CO 80513

É	ORADO LICE	Dr.
	Commercial Contraction	SAM
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C	OMCHEC	CK
	Designed: JH	Project Number: 25-037
	Drawn: JH	Scale: As Shown
	Checked: VJR	Drawing Number:
	Reviewed: DWD	E7
	Date: 05/23/2025	7 of 7

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DA001	GENERAL NOTES
DA111	LVL 1 FLOOR PLAN
DA113	LVL 1 BACKING PLAN
DA310	LVL 1 DENTAL ELEVATIONS
DB110	LVL 1 DENTAL UTILITIES IN FLOOR
DE110	LVL 1 ELECTRICAL & LOW VOLTAGE
DP110	LVL 1 PLUMBING
DX110	DETAILS

## **ABBREVIATION LEGEND**

- AFF ABOVE FINISHED FLOOR
- DR SUPPLIED BY DOCTOR
  EC ELECTRICAL CONTRACTOR
- ER EXISTING RELOCATED
- EX EXISTING
- FT FUTURE
- GC GENERAL CONTRACTOR
- MTD MOUNTED
- NC NO CHANGE
- NIC NOT INCLUDED NIS NOT IN SCOPE
- NW NEW
- PC PLUMBING CONTRACTOR
- PD PATTERSON DENTAL TYP TYPICAL
- VFY VERIFY
- VIF VERIFY IN FIELD

## **PATTERSON DENTAL:**

# PATTERSON DENTAL'S RESPONSIBILITIES WILL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

- PATTERSON DENTAL WILL PROVIDE A SET OF DENTAL SPECIFIC SHOP DRAWINGS TO AID THE CONTRACTOR AND/OR ARCHITECT OF THE OWNER'S CHOOSING IN THE CONSTRUCTION OF THE OWNER'S DENTAL OFFICE. THESE DRAWINGS WILL PROVIDE CRITICAL DENTAL LOCATIONS OF ALL DENTAL EQUIPMENT. WRITTEN DIMENSIONS WILL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
- 2. PATTERSON DENTAL WILL ASSUME NO RESPONSIBILITY FOR DEVIATIONS FROM THE DENTAL DRAWINGS AND SPECIFICATIONS WITHOUT PRIOR WRITTEN ENDORSEMENT.
- PATTERSON DENTAL'S REPRESENTATIVES WILL PROVIDE ASSISTANCE AS NEEDED TO THE CONTRACTOR AND/OR ARCHITECT WITH PROPER ADVANCE NOTICE.
- 4. A PRE-CONSTRUCTION MEETING BETWEEN PATTERSON DENTAL'S REPRESENTATIVES AND THE CONTRACTOR, ARCHITECT, AND SUB-CONTRACTORS TO INCLUDE MECHANICAL, PLUMBING, AND ELECTRICAL IS REQUIRED. DENTAL SPECIFIC TEMPLATES AND SPECIFIC CONSTRUCTION REQUIREMENTS WILL BE PROVIDED DURING THIS MEETING.
- 5. PATTERSON DENTAL'S REPRESENTATIVES WILL MAKE PERIODIC VISITS TO THE JOB SITE AT CRITICAL POINTS IN THE CONSTRUCTION PROCESS. THE CONTRACTOR IS REQUIRED TO INFORM PATTERSON WHEN INSPECTIONS OF PLUMBING, WIRING, AND BACKING IN THE WALLS CAN BE PERFORMED PRIOR TO BACKFILLING TRENCHES, POURING OF THE SLAB, SEALING PARTITIONS AND INSTALLING CEILINGS.
- 6. PATTERSON DENTAL'S REPRESENTATIVES WILL COORDINATE WITH THE CONTRACTOR TO INSTALL THE DENTAL EQUIPMENT AS LAID OUT IN THE INSTALLATION GUIDELINES AT A DATE AGREED UPON BY THE CONTRACTOR AND PATTERSON. A FINAL INSPECTION PRIOR TO THE INSTALLATION OF THE DENTAL EQUIPMENT WILL BE PERFORMED TO ENSURE THAT ALL PLUMBING, ELECTRICAL AND MECHANICAL CONSTRUCTION IS COMPLETE. ALL FLOORING, PAINTING AND CEILING WORK MUST BE COMPLETED PRIOR TO EQUIPMENT INSTALLATION.
- 7. THE CONTRACTOR AND SUB-CONTRACTORS ARE TO PROVIDE FINAL HOOK UP TO ALL DENTAL EQUIPMENT AS SET FORTH THE INSTALLATION GUIDELINES.

# BUILDING CONTRACTOR:

- 1. THE BUILDING CONTRACTOR WHO HAS ENTERED INTO A CONSTRUCTION CONTRACT WITH THE OWNER IS RESPONSIBLE FOR ALL WORK DEFINED BY THAT CONTRACT. IF THE PROJECT IS LET UNDER SEPARATE CONTRACTS TO MORE THAN ONE CONTRACTOR, THE RESPONSIBILITIES LISTED BELOW APPLY TO EACH CONTRACTOR.
- 2. THE CONTRACTOR IS RESPONSIBLE FOR THE COMPLETION OF THE PROJECT IN THE TRUE INTENT OF THE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR IS TO FURNISH ALL MATERIALS AND LABOR REQUIRED TO COMPLETE THE PROJECT, THAT IS NOT SPECIFICALLY PROVIDED BY PATTERSON DENTAL, WHETHER OR NOT EACH AND EVERY ITEM IS SPECIFICALLY MENTIONED.
- 3. THE CONTRACTOR SHALL ADVISE THE OWNER OF ANY CONFLICT BETWEEN THESE DRAWINGS AND THE FIELD CONDITIONS BEFORE PROCEEDING WITH THE JOB. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR THE ACCURACY OF FIELD MEASUREMENTS AND CONDITIONS AND SHALL BE RESPONSIBLE FOR THE PROPER MODIFICATIONS TO ANY EXISTING WORK, PREVIOUSLY INSTALLED WORK, AND/OR OTHER TRADES. WRITTEN APPROVAL MUST BE OBTAINED FROM THE PATTERSON EQUIPMENT SPECIALIST ASSIGNED TO THE PROJECT BEFORE ANY CHANGES AND/OR DEVIATIONS FROM THE DRAWINGS AND SPECIFICATIONS ARE MADE. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR THE EXECUTION OF HIS/HER WORK AND FOR ANY CHANGES AND/OR DEVIATIONS FROM THE DRAWINGS OR SPECIFICATIONS MADE WITHOUT PRIOR WRITTEN APPROVAL FROM THE OWNER AND/OR THE PATTERSON EQUIPMENT SPECIALIST. ANY COSTS RESULTING FROM CHANGES AND/OR DEVIATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 4. A COMPLETE SET OF DRAWINGS MUST BE KEPT AT THE JOB SITE AT ALL TIMES AND ANY CHANGES MUST BE NOTED THEREON AND INITIALED AT THE TIME THE CHANGE OR DEVIATION IS PERFORMED.
- THE GENERAL CONTRACTOR SHALL DO ALL PATCHING TO CONFORM TO MATERIAL, TEXTURE AND SURFACE ALIGNMENT WITH THE ADJOINING SURFACE AND FINAL TOUCH UP/APPEARANCE OF ALL FINISHED SURFACES. THE CONTRACTOR SHALL ENSURE THE PROTECTION OF ALL EQUIPMENT FURNISHED UNDER HIS/HER CONTRACT AND BY OTHERS PRESENT AT THE JOB SITE.
- 6. THE CONTRACT AND BY OTHERS PRESENT AT THE SOB SITE.

  CLEAN AT ALL TIMES. DEBRIS IS TO INCLUDE, BUT NOT LIMITED TO SHIPPING CARTONS, BOXES, ETC., RESULTING FROM THE INSTALLATION OF DENTAL AND OTHER EQUIPMENT BY CONTRACTORS CONCURRENTLY ENGAGED.
- 7. THE CONTRACTOR SHALL PARTICIPATE AT ALL JOB COORDINATION MEETINGS WITH PATTERSON DENTAL AND ENSURE THE ATTENDANCE OF APPLICABLE TRADES.
- 8. THE CONTRACTOR IS REQUIRED TO INFORM PATTERSON DENTAL REPRESENTATIVES OF KEY EVENTS IN THE CONSTRUCTION PROCESS WITH REASONABLE ADVANCE NOTICE, TO FACILITATE THE INSPECTION OF SAID EVENTS, I.E. BACKFILLING TRENCHES, CLOSING WALLS, POURING CONCRETE TO BURY PLUMBING AND ELECTRICAL WORK IN FLOORS AND INSTALLING CEILING TILES.
- 9. THE CONTRACTOR SHALL AFFORD THE OWNER AND SEPARATE CONTRACTORS
  REASONABLE OPPORTUNITY FOR THE INTRODUCTION AND/OR STORAGE OF THEIR
  MATERIALS AND EQUIPMENT AND EXECUTION OF THEIR WORK.

## **GENERAL NOTES:**

- 1. THE ITEMS LISTED HERE IN THE GENERAL NOTES ARE INTENDED TO CLARIFY OVERALL GENERAL CONDITIONS FOR A SMOOTH TRANSITION BETWEEN ALL SUBCONTRACTORS, THE GENERAL CONTRACTOR, EQUIPMENT INSTALLERS, PATTERSON DENTAL AND THE OWNER FOR FINAL APPROVAL OF ALL WORK PERFORMED BY THE RESPECTIVE TRADES. THROUGHOUT THESE PLANS ARE VARIOUS DETAILS, REQUIREMENTS AND SPECIFICATIONS TO AID IN THIS PROCESS. IT IS THE RESPONSIBILITY OF EACH TRADE, CONTRACTOR AND THE OWNER TO READ ALL NOTES AND ILLUSTRATIONS THAT PERTAIN TO THEIR SPECIFIC TASK IN THE PROCESS.
- 2. MOST OF THE DENTAL UTILITY AND SPECIFICATION REQUIREMENTS ARE OUTLINED IN THE TEMPLATES AND DOCUMENTATION THAT PATTERSON WILL PROVIDE TO THE CONTRACTOR. QUESTIONS WILL ARISE ON THE JOB SITE AND MOST CAN BE ANSWERED BY TELEPHONE. THE CONTRACTOR WILL BE PROVIDED CONTACT NUMBERS FOR PATTERSON DENTAL REPRESENTATIVES TO FACILITATE TIMELY ANSWERS TO THOSE QUESTIONS. IN SOME CASES IT WILL BE NECESSARY FOR THE PATTERSON REPRESENTATIVE TO BE PRESENT AT THE JOB SITE TO ANSWER QUESTIONS OR SPOT LOCATIONS FOR DENTAL SPECIFIC ITEMS. IN THESE CASES AN APPOINTMENT WILL BE REQUIRED WITH REASONABLE ADEQUATE NOTIFICATION.
- 3. IF A JOB SITE APPOINTMENT IS REQUIRED, ALL TRADES SHOULD BE NOTIFIED OF THE APPOINTMENT SO THE OPTION OF BEING PRESENT WITH ANY QUESTIONS CONCERNING THEIR PORTION OF THE JOB CAN BE ADMINISTERED AT THAT APPOINTMENT. THE PATTERSON DENTAL REPRESENTATIVE SHOULD BE INFORMED AS TO THE MAGNITUDE OF THE APPOINTMENT PRIOR TO ARRIVAL ON THE JOB SITE IN ORDER TO ALLOW ENOUGH TIME IN THE APPOINTMENT.
- 4. THE GENERAL CONTRACTOR MUST SIGN THIS SHEET STIPULATING THAT THEY UNDERSTAND AND WILL COMPLY WITH ALL SPECIFICATIONS BEFORE ANY WORK WILL COMMENCE. A SIGNED COPY OF THE PLANS ARE TO BE RETURNED TO PATTERSON DENTAL AND A SECOND SIGNED COPY KEPT ON THE JOB SITE AT ALL TIMES.
- 5. THE PATTERSON DENTAL REPRESENTATIVE SHALL GIVE INSTRUCTIONS TO THE GENERAL CONTRACTOR ONLY. ALL COMMUNICATIONS AND COORDINATION WITH TRADESMEN SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR UNLESS PREDETERMINED TO BE OTHERWISE.
- 6. ALL ELECTRICAL, MECHANICAL AND PLUMBING CONNECTIONS TO DENTAL EQUIPMENT WILL BE PERFORMED BY THE APPLICABLE TRADE RESPONSIBLE. INSTALLATION PERMITS, IF REQUIRED, WILL BE OBTAINED BY THE TRADES THAT PROVIDE THAT SERVICE.
- 7. IF NECESSARY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROCURING A MED GAS CERTIFIED PLUMBING SUB-CONTRACTOR FOR ANY LEVEL 3 NITROUS-OXYGEN CONSCIOUS SEDATION SYSTEM DETAILED IN THESE PLANS. ANY NITROUS OXIDE SYSTEM DESIGN SHOWN ON THESE PLANS IS TO BE USED AS AN ILLUSTRATION ONLY FOR THE PURPOSE OF LOCATING END USER OUTLET STATIONS, CYLINDER ROOM MANIFOLD AND ALARM PANEL. THE FINAL TRUNK SYSTEM INSTALLATION SHALL STRICTLY ADHERE TO ONLY MECHANICALLY ENGINEERED DRAWINGS, IF SUPPLIED.
- 8. THE PLUMBING SUB-CONTRACTOR SHALL PROVIDE MED GAS CERTIFICATION IN ACCORDANCE WITH ANY REQUESTS BY THE OWNER, CONTRACTOR, BUILDING DEPARTMENT OR PATTERSON DENTAL PRIOR TO COMMENCING WORK ON ANY TYPE OF CUSTOMER INSTALLED NITROUS OXIDE SYSTEM BEING USED IN THE CONSTRUCTION PROJECT.
- 9. ALL PLUMBING AND ELECTRICAL LINES TO BE CONCEALED UNLESS OTHERWISE
- 10. ALL LABOR AND MATERIALS NECESSARY FOR CHANGES IN EXISTING PLUMBING, CARPENTRY, AND ELECTRICAL WORK MUST BE DONE AND SUPPLIED BY THE
- CONTRACTOR AND IS NOT INCLUDED IN THE COST OF THE DENTAL EQUIPMENT.

  11. THE CONTRACTOR SHALL REMOVE ALL RUBBISH AND DO ALL PATCHING AFTER ROUGHING IN IS COMPLETED.
- 12. ALL ROUGH IN AND FINISH WORK FOR DENTAL EQUIPMENT IS TO BE ACCORDING TO TEMPLATES FURNISHED BY THE MANUFACTURERS OF THE EQUIPMENT BEING INSTALLED. A REPRESENTATIVE OF PATTERSON DENTAL WILL POSITION THE TEMPLATES IN THEIR PROPER LOCATIONS, AT WHICH TIME ALL SPECIFICATIONS ON THE PLANS WILL BE EXPLAINED TO THE CONTRACTOR OR SUB-CONTRACTOR(S). ALL SPECIFIED SIZES OF PIPES, TUBING, AND/OR FITTINGS, ETC., MUST BE RIGIDLY FOLLOWED AS WELL AS PROPER HEIGHTS MARKED. ANY INFRACTIONS ON SIZES OR HEIGHTS OF PIPES, TUBING AND/OR FITTINGS WILL HAVE TO BE CORRECTED BEFORE THE EQUIPMENT CAN BE INSTALLED AND SUCH EXTRA EXPENSE WILL BE
- THE RESPONSIBILITY OF THE CONTRACTOR AND/OR SUB-CONTRACTOR.

  13. THE DOCTOR/OWNER SHALL DESIGNATE RESPONSIBILITY FOR PROVIDING AND INSTALLING CABINETS AND COUNTERTOPS (OTHER THAN THOSE SPECIFIED AND/OR CONTRACTED BY PATTERSON DENTAL).
- 14. THE DOCTOR SHALL MAKE ARRANGEMENTS FOR INSTALLATION OF NON-DENTAL SYSTEMS BEFORE WALLS ARE CLOSED.
- 15. PATTERSON DENTAL SHALL NOT BE HELD RESPONSIBLE FOR MULTIMEDIA SYSTEMS SUCH AS ENTERTAINMENT TVS, MONITORS, NETWORK COMPUTER SYSTEMS OR ANY ITEMS NOT SHOWN ON THESE PLANS.
- 16. GC MUST CONFIRM ALL MEASUREMENTS OF SPACE CONDITIONS PRIOR TO STARTING DEMOLITION
- 17. GC SHOULD NOTIFY PATTERSON EQUIPMENT SPECIALIST 1(ONE GC MUST CONFIRM ALL MEASUREMENTS OF SPACE CONDITIONS PRIOR TO STARTING DEMOLITION) WEEK PRIOR TO CLOSING OF ALL WALLS, CEILINGS, FLOORS TO ALLOW FINAL INSPECTION OF INSTALLATION.
- 18. GC IS RESPONSIBLE FOR CONFIRMING ALL UTILITIES FOR EXISTING EQ BEING MOVED FROM EXISTING LOCATION OR EQUIPMENT NOT SUPPLIED BY PATTERSON
- 19. GC IS RESPONSIBLE FOR CONFIRMING ALL UTILITIES FOR EXISTING EQ BEING MOVED FROM EXISTING LOCATION OR EQUIPMENT NOT SUPPLIED BY PATTERSON
- 20. RADIATION PROTECTION: THE DOCTOR'S ARCHITECT/GC ARE REQUIRED TO REVIEW ALL LOCAL AND NATIONAL RADIATION AND XRAY SHIELDING REQUIREMENTS AND SUBMIT AN APPLICATION FOR REGISTRATION OF IONIZING RADIATION SOURCES. PLANS MUST BE SUBMITTED TO RADIATION CONTROL PROGRAM, IF APPLICABLE, ALONG WITH OTHER INFORMATION THEY WILL PROVIDE A LETTER OF ACCEPTABLE X-RAY PROTECTION OR ADVISE OTHERWISE. THIS APPLICATION AND PLAN SHOULD BE SUBMITTED PRIOR TO WALLS GOING UP. COPY OF APPROVAL LETTER FROM LOCAL GOVERNING BODY MUST BE PROVIDED TO PATTERSON EQUIPMENT SPECIALIST AND SERVICE TECHNICIAN. NOTE: IF EXISTING X-RAYS TO BE REPLACED WITH NEW AND EXISTING SHIELDING IS TO BE REUSED ARCHITECT/GC MUST VERIFY NEEDS WITH LOCAL CODE OFFICER.



1031 MENDOTA HEIGHTS ROAD MENDOTA HEIGHTS, MN

MOTE:

MODIFICATIONS TO THIS SPACE TO ALLOW THE PROPER FIT & FUNCTION OF THE EQUIPMENT SUPPLIED BY PATTERSON DENTAL SHALL BE THE RESPONSIBILITY OF THE OWNER/TENANT/LANDLORD/CONTRACTOR IN REGARDS TO CODE COMPLIANCE OF STRUCTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING ISSUES. THIS INCLUDES, BUT IS NOT LIMITED TO, SUPPORT STRUCTURE FOR EQUIPMENT AND CLEARANCES IN REGARD TO SPRINKLER HEADS AND/OR ANY DEVICE OR STRUCTURE WHICH MAY IMPEDE OR CONFLICT WITH THE FUNCTION OF PATTERSON SUPPLIED EQUIPMENT. PATTERSON DENTAL SHALL NOT BEAR ANY COST TO CORRECT THESE ISSUES. PLEASE CONSULT PATTERSON FOR ASSISTANCE IN EQUIPMENT SUPPORT STRUCTURE &

CLEARANCE QUESTIONS.

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF PATTERSON DENTAL SUPPLY AND THE USE LIMITED TO A SPECIFIED PROJECT FOR THE PERSON OR PERSONS NAMED HEREON FOR THE CONSTRUCTION OF ONE BUILDING ONLY. ANY USE OR REPRODUCTIONS OF THESE DRAWINGS ARE STRICTLY PROHIBITED WITHOUT THE WRITTEN PERMISSION OF PATTERSON DENTAL SUPPLY, INC.

WRITTEN DIMENSIONS SHALL TAKE PREFERENCE OVER SCALE DIMENSIONS AND SHALL BE VERIFIED ON THE JOB SITE.

ANY DISCREPANCIES OR CHANGES SHALL BE BROUGHT TO THE ATTENTION OF PATTERSON DENTAL SUPPLY PRIOR TO THE COMMENCEMENT OF ANY WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CURRENT AMERICAN DISABILITIES ACT, (ADA) ACCESSABILITY GUIDELINES.

THE CONTRACTOR SHALL ALSO BE RESPOSIBLE FOR ALL REQUIRED BACKFLOW PREVENTERS.
THE CONTRACTOR SHALL COMPLY WITH ALL STATE,
CITY AND LOCAL CODES, PERTAINNG TO THE
CONSTRUCTION OF THIS PROJECT.

CONCEPT PURPOSES ONLY. THESE DRAWINGS IS FOR CONCEPT PURPOSES ONLY. THESE DRAWINGS ARE NO TO BE USED FOR CONSTRUCTION AND DO NOT TAKE THE PLACE OF CONSTRUCTION PLANS AND SPECIFICATIONS THESE DRAWINGS ARE NOT TO SCALE; NOR HAVE FIELD CONDITIONS BEEN VERIFIED. PATTERSON WILL NOT BE HELD RESPONSIBLE FOR THE USE OR MISUSE OF THE INFORMATION CONTAINED IN THESE DRAWINGS.

OWNER:

# Wolfenden Family Dental PLLC

LOCATION:

1231 Lake Avenue

Berthoud, CO. 80513

<u>DRAWN BY</u>	EQUIPMENT REP:		EQUIPMENT REP #:
KWK	Lo	onnie Gwynn	(509) 999-5349
PROJECT 410-21484		ISSUE DATE: 04/11/2025	

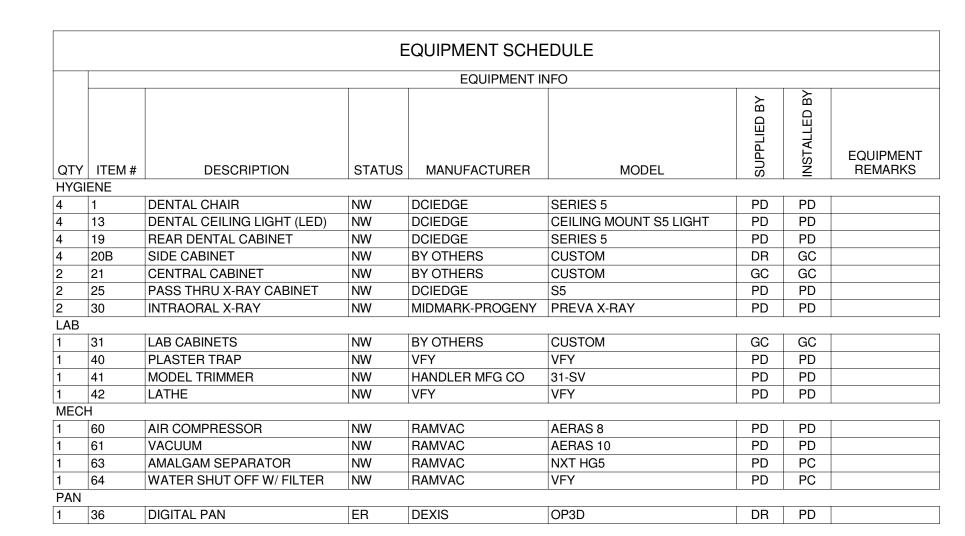
		REVISIO	ONS	
	REV #	SCOPE	DRAWN BY	DATE
١				

SHEET NO.

,	WALL LEGEND					
	EXISTING WALL					
	DEMO WALL					
	NEW WALL					
	SOUND PROOFING IN WALL					
	LEAD LINED WALL					



1 LVL 1 FLOOR PLAN 1/4" = 1'-0"



			E	QUIPMENT SCH	DULE			
				EQUIPMENT II	NFO			
	ITEM #	DESCRIPTION	STATUS	MANUFACTURER	MODEL	SUPPLIED BY	INSTALLED BY	EQUIPMENT REMARKS
1	22	STERILIZATION CABINET	NW	BY OTHERS	CUSTOM	GC	GC	
1	51	STERILIZER	NW	MIDMARK	M11-020	PD	PD	
1	52	ULTRASONIC CLEANER	NW	MIDMARK	QUICKCLEAN	PD	PD	
1	54	STATIM	NW	SCICAN	STATIM G4	PD	PD	
1	55	HANDPIECE MAINTENANCE	NW	KAVO	QUATTROCARE	PD	PD	
1	56	WATER TREATMENT	NW	VISTA	PURE	PD	PD	
1	57	VISTACOOL	NW	SCICAN	V7501	PD	PD	
TREA	TMENT					·		
6	1	DENTAL CHAIR	NW	DCIEDGE	SERIES 5	PD	PD	
1	1A	DENTAL CHAIR	FT	DCIEDGE	SERIES 5	PD	PD	
6	13	DENTAL CEILING LIGHT (LED)	NW	DCIEDGE	CEILING MOUNT S5 LIGHT	PD	PD	
1	13A	DENTAL CEILING LIGHT (LED)	FT	DCIEDGE	CEILING MOUNT S5 LIGHT	PD	PD	
6	19	REAR DENTAL CABINET	NW	DCIEDGE	SERIES 5	PD	PD	
1	19A	REAR DENTAL CABINET	FT	DCIEDGE	SERIES 5	PD	PD	
6	20	SIDE CABINET	NW	BY OTHERS	CUSTOM	DR	PC	
3	20A	SIDE CABINET	NW	BY OTHERS	CUSTOM	DR	GC	
1	20C	SIDE CABINET	FT	BY OTHERS	CUSTOM	DR	PC	
1	20D	SIDE CABINET	FT	BY OTHERS	CUSTOM	DR	GC	
3	25	PASS THRU X-RAY CABINET	NW	DCIEDGE	S5	PD	PD	
3	30	INTRAORAL X-RAY	NW	MIDMARK-PROGENY	PREVA X-RAY	PD	PD	
1	30A	INTRAORAL X-RAY	FT	MIDMARK-PROGENY	PREVA X-RAY	PD	PD	

MENDOTA HEIGHTS, MN

NOTE:
MODIFICATIONS TO THIS SPACE TO ALLOW THE PROPER

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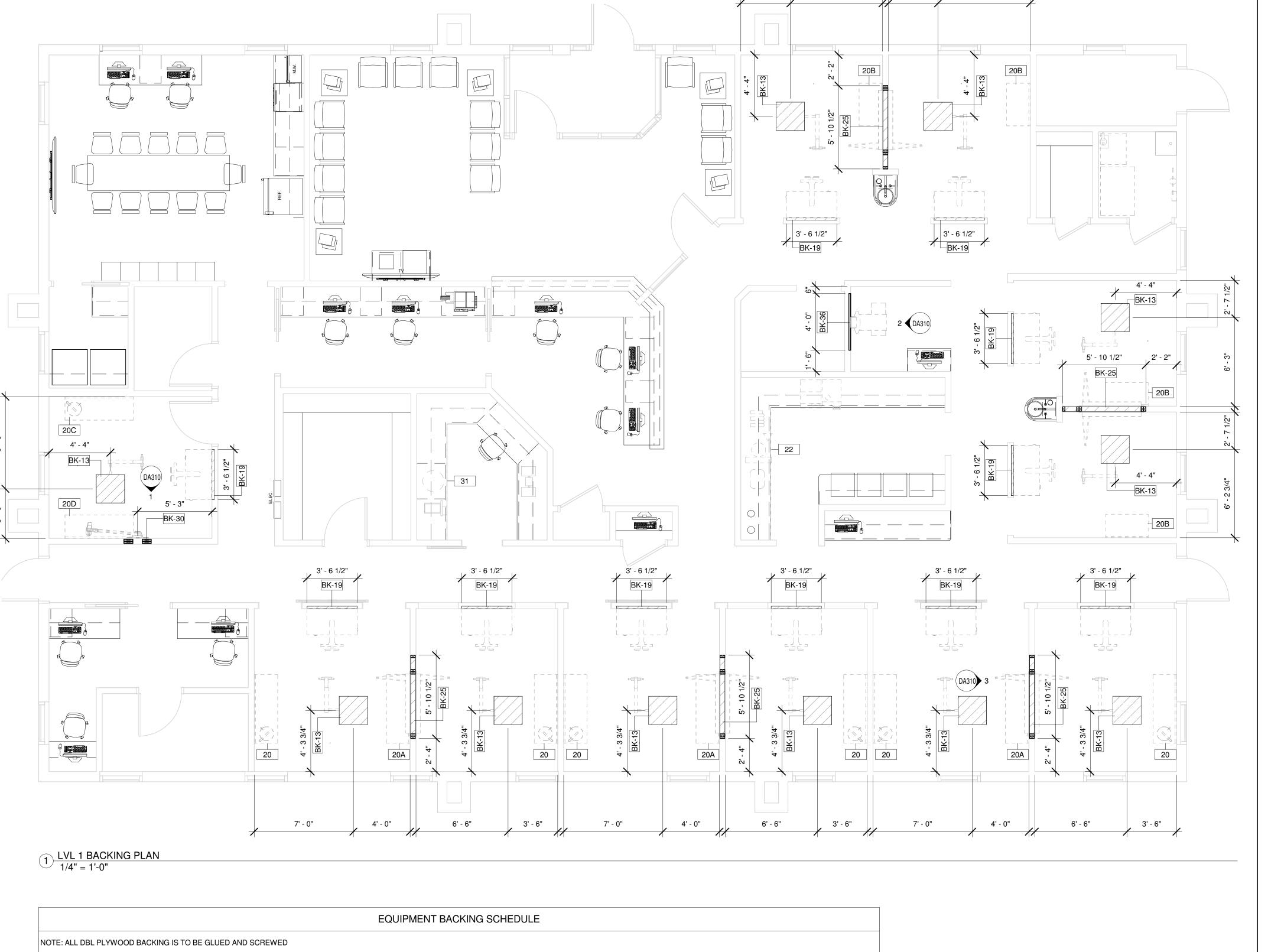
# Wolfenden Family Dental PLLC

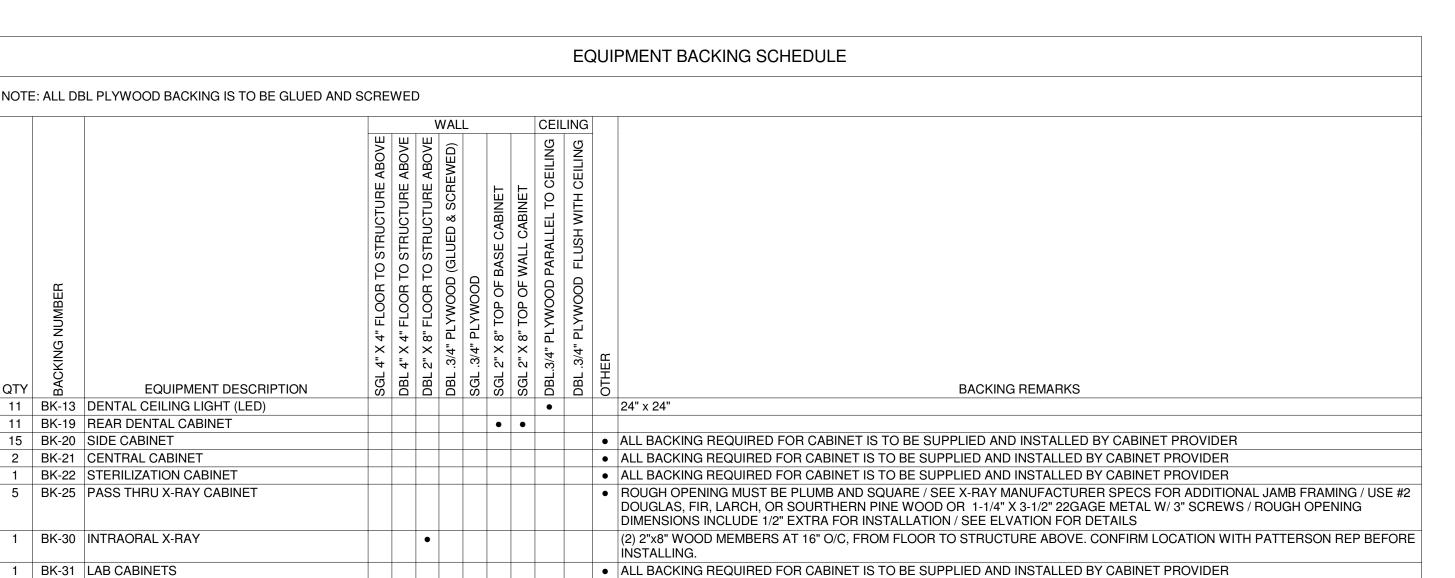
LOCATION:

1231 Lake Avenue Berthoud, CO. 80513

<u>DRAWN BY</u>	EQUIPMENT REP:		EQUIPMENT REP #:
KWK	Lo	onnie Gwynn	(509) 999-5349
PROJECT 410-21484		ISSUE DATE: 04/11/2025	

REVISIONS					
REV		DRAWN			
#	SCOPE	BY	DATE		





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1 BK-36 DIGITAL PAN



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# OWNER:

# Wolfenden Family Dental PLLC

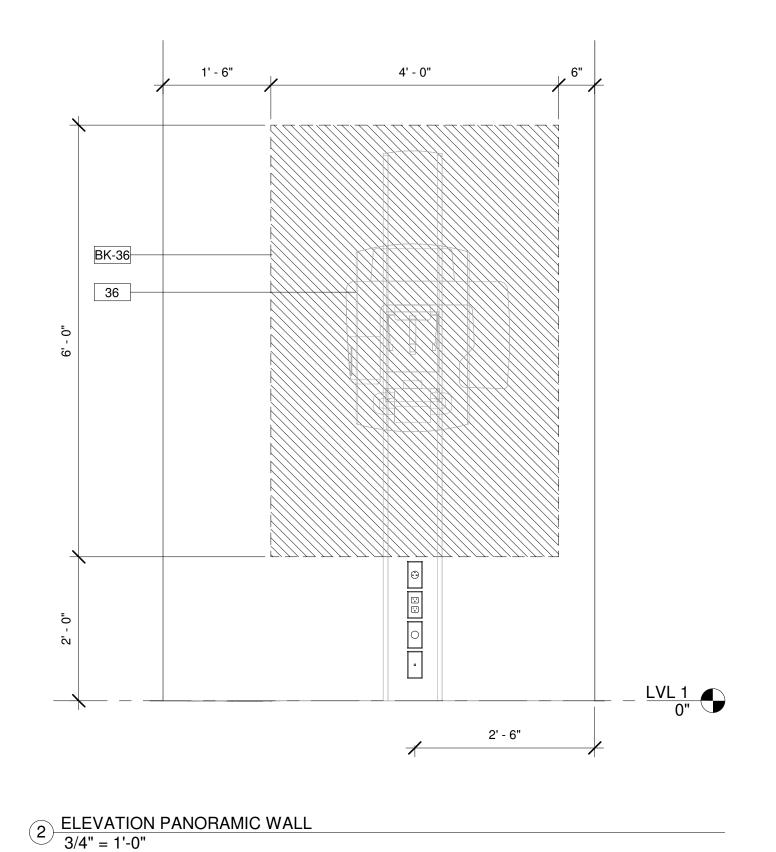
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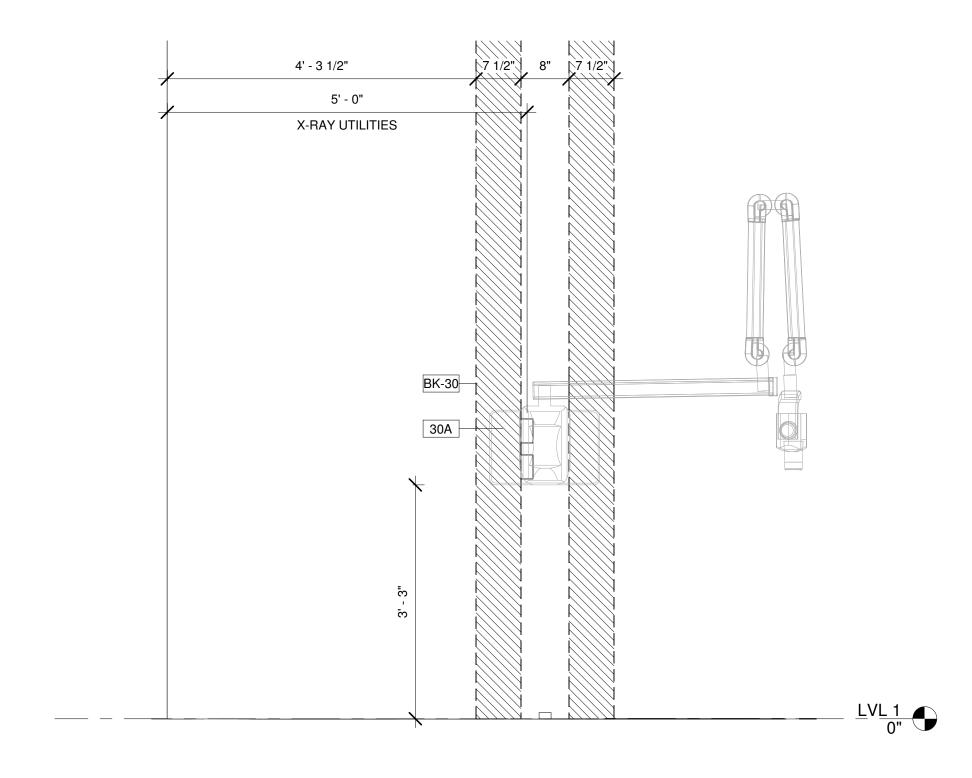
1231 Lake Avenue Berthoud, CO. 80513

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KWK	Lonnie Gwynn		(509) 999-5349
PROJECT	PROJECT #:		
410-2148427		04/11/2025	

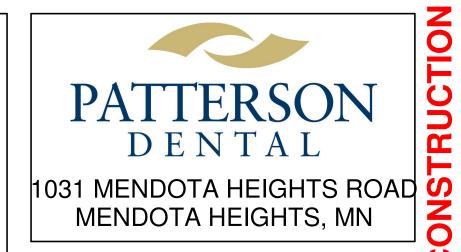
**REVISIONS** DRAWN BY DATE SCOPE

CONSTRUCTION





1 ELEVATION INTRA ORAL X-RAY WALL 3/4" = 1'-0"



MOTE:

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# Wolfenden Family Dental PLLC

LOCATION:

1231 Lake Avenue

Berthoud, CO. 80513

DRAWN BY	EQU	IPMENT REP:	EQUIPMENT REP #:
KWK	Lo	onnie Gwynn	(509) 999-5349
PROJECT #:		ISSUE DATE:	
410-2148427		04/11/2025	

**REVISIONS** DRAWN BY DATE

ELECTRICAL, MECHANICAL, AND PLUMBING ISSUES. THIS INCLUDES, BUT IS NOT LIMITED TO, SUPPORT STRUCTURE FOR EQUIPMENT AND CLEARANCES IN

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Wolfenden Family Dental PLLC

1231 Lake Avenue

<u>DRAWN BY</u> KWK

PROJECT #:

410-2148427

Berthoud, CO. 80513

SCOPE

**EQUIPMENT REP:** 

Lonnie Gwynn

ISSUE DATE:

04/11/2025

**REVISIONS** 

DRAWN

BY

EQUIPMENT REP #:

(509) 999-5349

DATE

# **ELECTRICAL SYMBOLS IN FLOOR**

ALL DEVICES SHALL BE INSTALLED PER STATE AND LOCAL CODE. ALL LOCATIONS SHOULD BE VERIFIED WITH PATTERSON REP OR OWNER PRIOR TO PLACEMENT.

+XX" - INDICATES HEIGHT FROM FINISHED FLOOR TO CENTER OF DEVICE UNLESS OTHERWISE NOTED BELOW, IF ITEM NOT TAGGED HEIGHT IS 18" A.F.F.

QTY. SYM. DESCRIPTION 120v QUAD OUTLET FLOOR, MOUNTED ON FLOOR

# LOW VOLTAGE SYMBOLS

J-BOX FLOOR, IF TAG NOT PRESENT HEIGHT IS 1" A.F.F.

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+XX" - INDICATES HEIGHT FROM FINISHED FLOOR TO CENTER OF DEVICE UNLESS OTHERWISE NOTED BELOW, IF ITEM NOT TAGGED HEIGHT IS 18" A.F.F. DESCRIPTION

CONDUIT FLOOR STUB OUT, IF TAG NOT PRESENT HEIGHT IS 1" A.F.F. DATA DEVICE FLOOR, IF TAG IS NOT PRESENT HEIGHT IS 1"

# PLUMBING SYMBOLS IN FLOOR

ALL DEVICES SHALL BE INSTALLED PER STATE AND LOCAL CODES. ALL LOCATIONS SHOULD BE VERIFIED WITH PATTERSON REP OR OWNER PRIOR

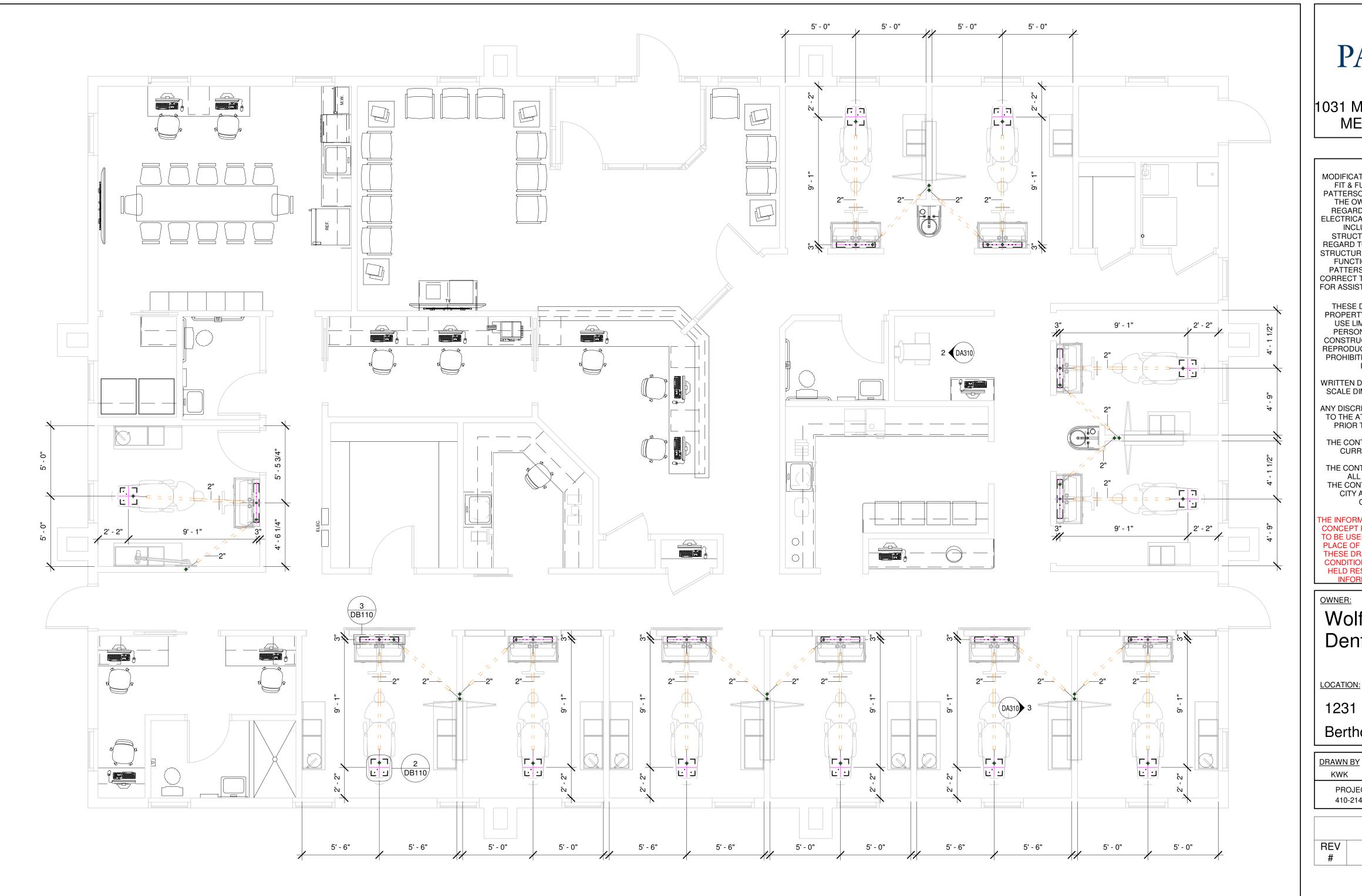
+XX" - INDICATES HEIGHT FROM FINISHED FLOOR TO CENTER OF DEVICE UNLESS OTHERWISE NOTED BELOW, IF ITEM NOT TAGGED HEIGHT IS 18" A.F.F.

QTY. SYM.

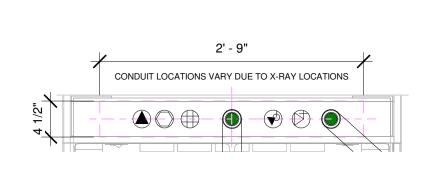
1/2" OD. TO 3/8" OD.SHUT OFF AIR CONNECTION FLOOR HEIGHT 3" A.F.F. TO CENTER UNLESS OTHERWISE NOTED VACUUM PIPE CONNECTION FLOOR

DESCRIPTION

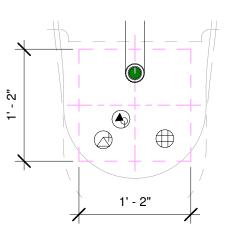
ELECTRICAL LEGEND					
18/3 WIRE, CABLE RUN IN WALLS OR ABOVE FINISHED CEILING					
	18/4 WIRE, WIRES RUN IN WALLS OR ABOVE FINISHED CEILING				
	CAT5e OR BETTER CABLE, CABLE RUN IN WALLS OR ABOVE FINISHED CEILING				
, , , , , , , , , , , , , , , , , , , ,	MANUFACTURER CABLE, CABLE RUN IN WALLS OR ABOVE FINISHED CEILING				
_ = =	ELECTRICAL CONDUIT UNDER FLOOR, SIZE AS INDICATED ON PLAN				
=======	ELECTRICAL CONDUIT ABOVE CEILING, SIZE AS INDICATED ON PLAN				



1) LVL 1 UNDER FLOOR UTILITY PLAN
1/4" = 1'-0"



3 ENLARGED REAR TREATMENT UTILITY ITEM #19 AND #19A 1" = 1'-0"



2 ENLARGED CHAIR UTILITY ITEM #1 AND #1A 1" = 1'-0"

DRAWN BY	EQUIPMENT REP:		EQUIPMENT REP #:
KWK	Lo	onnie Gwynn	(509) 999-5349
PROJECT	#:	ISSUE DATE:	

PROJECT #: 410-2148427	ISSUE DATE: 04/11/2025	
	REVISIONS	

PATTERSON DENTAL
1031 MENDOTA HEIGHTS ROAD MENDOTA HEIGHTS, MN
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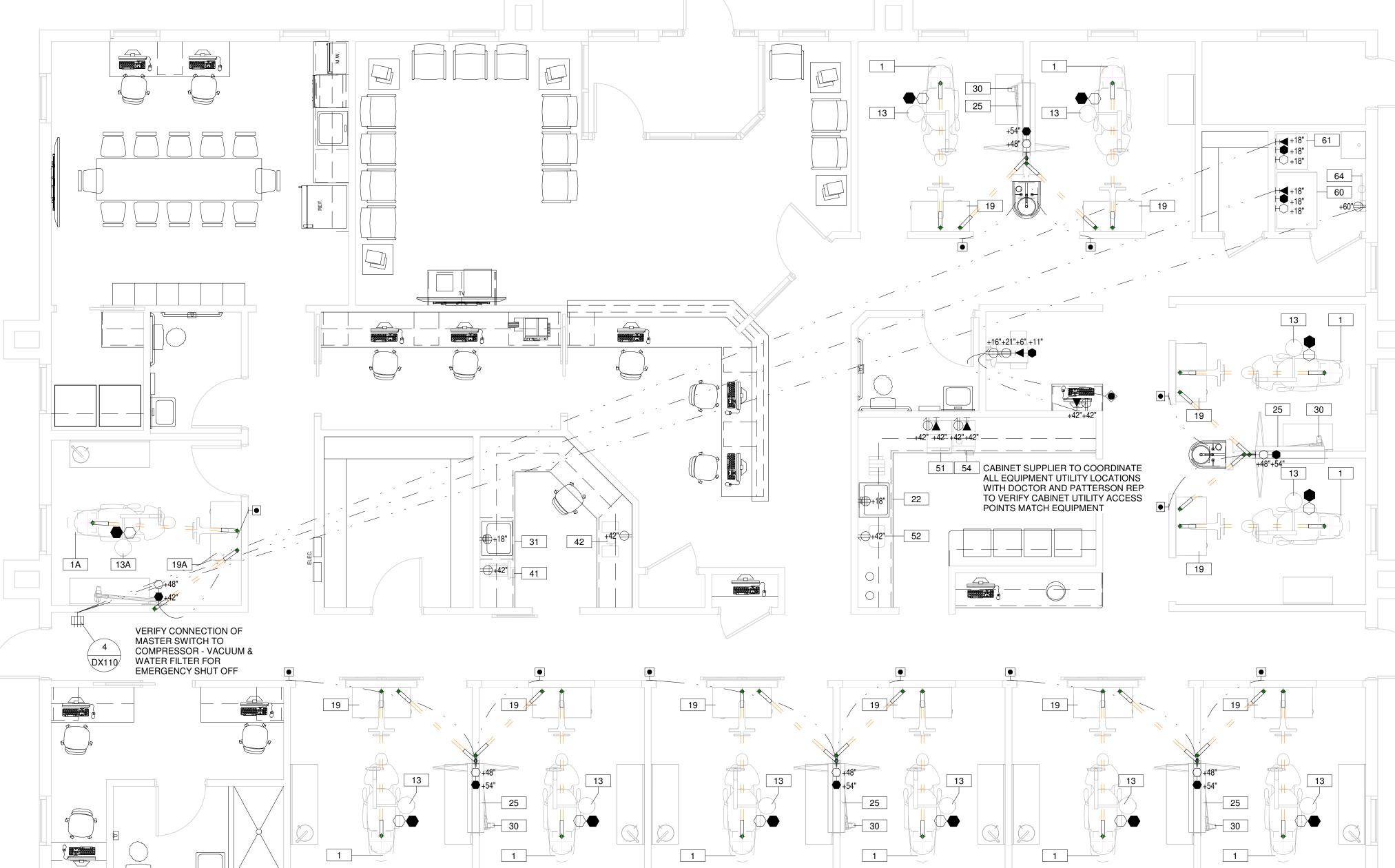
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# Wolfenden Family Dental PLLC

Berthoud, CO. 80513

DRAWN BY	<u>EQU</u>	IPMENT REP:	EQUIPMENT REP #:
KWK	Lo	onnie Gwynn	(509) 999-5349
PROJECT #: 410-2148427		ISSUE DATE: 04/11/2025	

			•	
		REVISIO	ONS	
EV #	SCOF	o=	DRAWN BY	DATE
#	300r	<b>-</b>		DATE



1 LVL 1 POWER & LOW VOLTAGE PLAN 1/4" = 1'-0"

						EQUIPMENT POWER & LOW VOLTAGE SCHEDULE						
NERAL N	OTES											
DEVICE	S ARE TO BE INSTALLED PER STATE AND	LOCAL CODES										
	EQUIPMENT INFO					ELECTRICAL INFO						LOW VOLTAGE INFO
			POWER CONNECTION TYPE									
Y ITEM #	# DESCRIPTION	STATU	EC CONNECTION BY	LTS AMP	SINGLE OUTLET	DIRECT WIRE DEDICATED POWER DEDICATED BOX ELECTRICAL REMARKS	LV CONNECTION BY	2" EMPTY CONDUIT 3/4" EMPTY CONDUIT 1" EMPTY CONDUIT	18/3 WIRE		CAT5e OR BETTER MFG CABLE	
1	DENTAL CHAIR	NW	EC 120				EC	•		11		
1A	DENTAL CHAIR	FT	EC 120	v 7.0		•	EC	•			•	
3	DENTAL CEILING LIGHT (LED)	NW	EC 120	v 3	•	EC TO PROVIDE ELECTRICAL WHIP FROM ELECTRICAL BOX TO LIGHT FIXTURE.	EC	•	•	•		JBOX TO BE MOUNTED ABOVE FINISHED CEILING WITHIN 2' OF FIXTURE
3A	DENTAL CEILING LIGHT (LED)	FT	EC 120	v 3	•	EC TO PROVIDE ELECTRICAL WHIP FROM ELECTRICAL BOX TO LIGHT FIXTURE.	EC	•	•	•		JBOX TO BE MOUNTED ABOVE FINISHED CEILING WITHIN 2' OF FIXTURE
19	REAR DENTAL CABINET	NW	EC 120	V 20		EC TO LEAVE MIN 3' FLEXIBLE WHIP	EC	•		•	•	2" EMPTY CONDUIT FROM REAR CABINET TO TOE BOX OF DENTAL CHAIR.
9A	REAR DENTAL CABINET	FT	EC 120	V 20		EC TO LEAVE MIN 3' FLEXIBLE WHIP	EC	•		•	•	2" EMPTY CONDUIT FROM REAR CABINET TO TOE BOX OF DENTAL CHAIR.
22	STERILIZATION CABINET	NW	EC 120	v 20.0	•	GC PROVIDED CABINET, ALL UTILITY LOCATIONS FOR DENTAL EQUIPMENT TO BE COORDINATED BY GC. VERIFY LOCATIONS WITH CABINET MFG, OWNER, AND PATTERSON EQUIPMENT SPECIALIST.	EC					GC PROVIDED CABINET, ALL UTILITY LOCATIONS FOR DENTAL EQUIPMENT TO BE COORDINATED BY GC. VERIFY LOCATIONS WITH CABINET MFG, OWNER, AND PATTERSON EQUIPMENT SPECIALIST.
30	INTRAORAL X-RAY	NW	EC 120	20.0	)	• • •	EC	•	•	•		RUN WIRES TO REMOTE SWITCH AS INDICATED ON PLAN
0A	INTRAORAL X-RAY	FT	EC 120	20.0	)		EC	•	•	•		
1	LAB CABINETS	NW	EC 120	v 20.0	•	GC PROVIDED CABINET, ALL UTILITY LOCATIONS FOR DENTAL EQUIPMENT TO BE COORDINATED BY GC. VERIFY LOCATIONS WITH CABINET MFG, OWNER, AND PATTERSON EQUIPMENT SPECIALIST.	EC					GC PROVIDED CABINET, ALL UTILITY LOCATIONS FOR DENTAL EQUIPMENT TO BE COORDINATED BY GC. VERIFY LOCATIONS WITH CABINET MFG, OWNER, AND PATTERSON EQUIPMENT SPECIALIST.
3	DIGITAL PAN	ER	EC 120	20.0	•	•	EC	•	•	•	•	
	MODEL TRIMMER	NW	EC 120	V 10.0	•							
2	LATHE	NW	EC 120	v 5.0	•							
1	STERILIZER	NW	EC 120	v 12.0	) •	DEDICATED POWER	EC					
2	ULTRASONIC CLEANER	NW	EC 120	v 2.0	•		EC					
1	STATIM	NW	EC 120	v 11.0	) •		EC					
5	HANDPIECE MAINTENANCE	NW	EC 120									
60	AIR COMPRESSOR	NW	EC 220			BREAKER SIZE 40.0 AMPS / IF SERVICE IS ABOVE OR BELOW VOLT AGE INDICATED IN STALL A BUCK/BOOST TRANSFORMER AS REQUIRED. COORDINATE WITH EQUIPMENT SPECIALIST.	EC	•	•		•	
61	VACUUM	NW	EC 220	v 20.0	) •	DISCONNECT REQUIRED IF UNIT IS NOT LOCATED IN SAME ROOM AS ELECTRICAL PANEL	EC	•	•			
64	WATER SHUT OFF W/ FILTER	NW	EC 115		•		EC			•		

**ELECTRICAL SYMBOLS** 

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+XX" - INDICATES HEIGHT FROM FINISHED FLOOR TO CENTER OF DEVICE UNLESS OTHERWISE

DESCRIPTION

120v DUPLEX DEDICATED OUTLET WALL, IF TAG NOT PRESENT HEIGHT IS 18" A.F.F. TO CENTER OF DEVICE

120v FLUSH DUPLEX OUTLET WALL, IF TAG NOT PRESENT HEIGHT IS 18" A.F.F. TO CENTER OF DEVICE

120v QUAD OUTLET WALL, IF TAG NOT PRESENT

220v SINGLE OUTLET WALL, IF TAG NOT PRESENT HEIGHT IS 18" A.F.F. TO CENTER OF DEVICE

J-BOX CLG, IF TAG NOT PRESENT HEIGHT IS 6" ABOVE

HEIGHT IS 18" A.F.F. TO CENTER OF DEVICE

J-BOX WALL, IF TAG NOT PRESENT HEIGHT IS 18" A.F.F.

LOW VOLTAGE SYMBOLS

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DESCRIPTION

DATA DEVICE WALL, IF TAG NOT PRESENT HEIGHT IS 18"

J-BOX CLG LV, IF TAG NOT PRESENT HEIGHT IS 6" ABOVE FINISHED CEILING

J-BOX WALL,LOW VOLTAGE, IF TAG NOT PRESENT HEIGHT IS

MASTER SWITCH WALL, IF TAG NOT PRESENT HEIGHT IS 60" A.F.F. TO CENTER

REMOTE PAN SWITCH IN WALL, IF TAG NOT PRESENT HEIGHT

REMOTE X-RAY SWITCH WALL, IF TAG NOT PRESENT HEIGHT

+XX" - INDICATES HEIGHT FROM FINISHED FLOOR TO CENTER OF DEVICE UNLESS OTHERWISE NOTED BELOW, IF ITEM NOT TAGGED HEIGHT IS 18" A.F.F.

PDSI\_Vent And Exhaust PDSI\_Exhaust

Remarks Comments

NOTED BELOW, IF ITEM NOT TAGGED HEIGHT IS 18" A.F.F.

FINISHED CEILING

IS 60" A.F.F.

========

ELECTRICAL LEGEND

18/3 WIRE, CABLE RUN IN WALLS OR ABOVE FINISHED CEILING

18/4 WIRE, WIRES RUN IN WALLS

CAT5e OR BETTER CABLE, CABLE RUN IN WALLS OR ABOVE FINISHED CEILING

MANUFACTURER CABLE, CABLE RUN IN WALLS OR ABOVE FINISHED CEILING

ELECTRICAL CONDUIT UNDER FLOOR, SIZE AS INDICATED ON PLAN

ELECTRICAL CONDUIT ABOVE CEILING, SIZE AS INDICATED ON PLAN

OR ABOVE FINISHED CEILING

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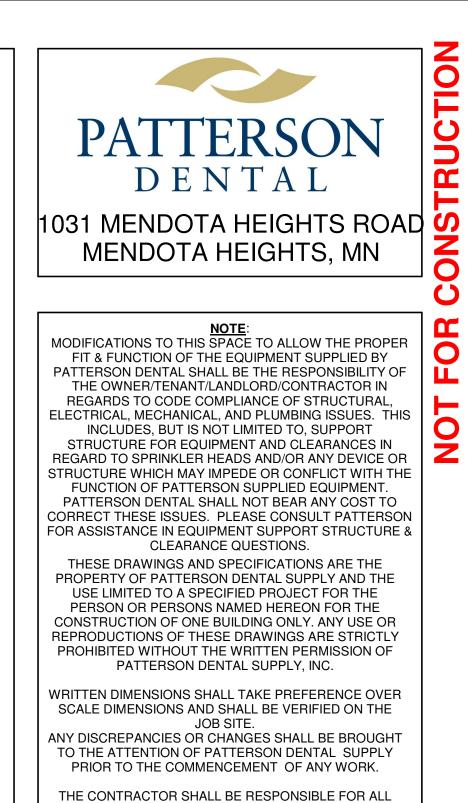
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# OWNER:

1231 Lake Avenue

L			
<u>DRAWN BY</u>	EQU	IPMENT REP:	EQUIPMENT REP #:
l kwk	1.4	onnie Gwynn	(500) 000 5040
IXVIX	L	onine Gwynn	(509) 999-5349
PROJECT	#:	ISSUE DATE:	
410-21484	27	04/11/2025	

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V	SCORE	DRAWN	DATE
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Wolfenden Family Dental PLLC

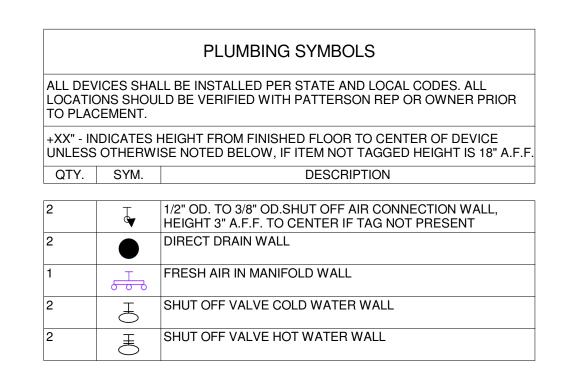
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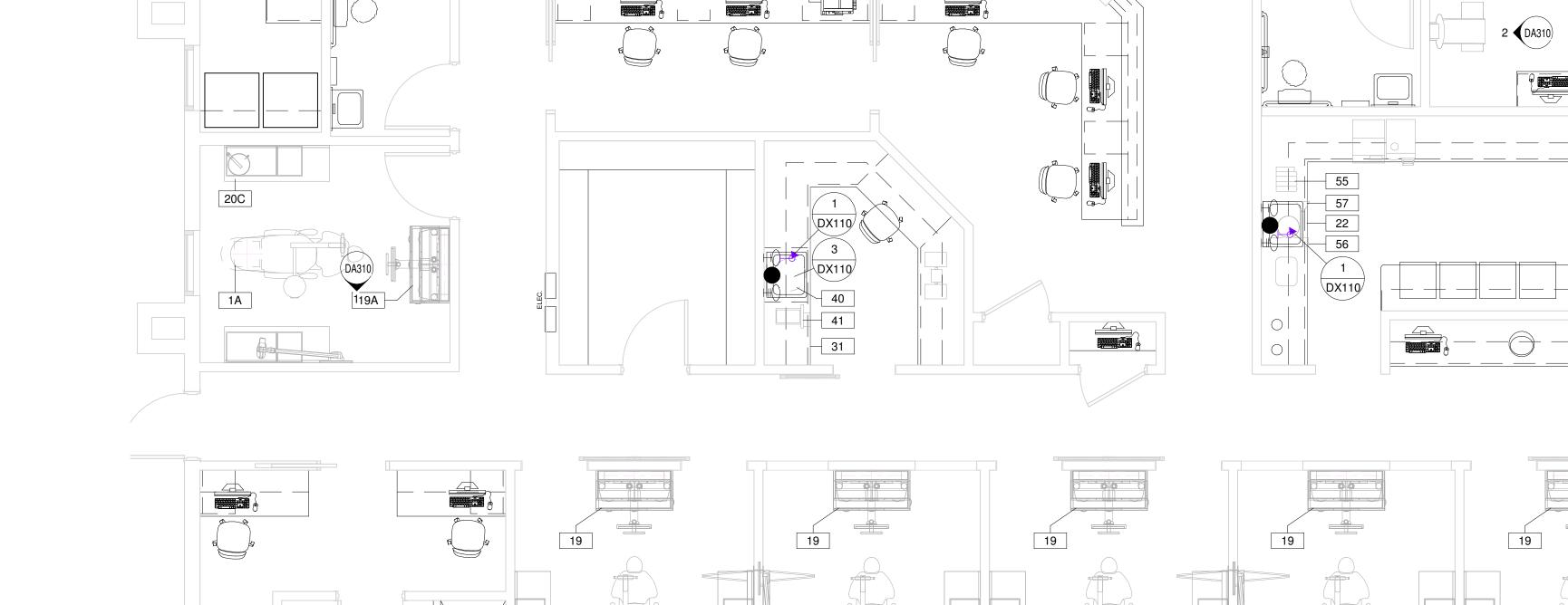
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KWK	Lo	onnie Gwynn	(509) 999-5349	
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410-2148427		04/11/2025		

REVISIONS								
REV		DRAWN						
#	SCOPE BY DATE							

NOT FOR CONSTRUCTION



		EQUI	PMENT	EXHAUST SCHEDULE						
GEN	ERAL NO	OTES::								
	ALL ITEMS IDENTIFED AS "FT" WILL BE INSTALLED AT A FUTURE DATE. ALL UTILITIES NEED TO BE CAP AND CONCEALED FOR FUTURE USE									
ALL	ALL ITEMS WILL BE INSTALLED PER STATE AND LOCAL CODES									
		EQUIPMENT INFO	)							
QTY	TY ITEM# DESCRIPTION S		STATUS	VENT EXHAUST REMARKS						
1	60	AIR COMPRESSOR	NW	COMPRESSOR DESIGNED TO OPERATE AT UTILITY ROOM TEMPERATURES BETWEEN 50 AND 90 DEGREES FAHRENHEIT. MAX. ALLOWABLE INTERMITTENT UTILITY ROOM TEMPERATURE IS 100 DEGREES FAHRENHEIT						
1	61	VACUUM	NW	2" PVC SCHEDULE 80 FRESH AIR VENT REQUIRED TO OUTSIDE. / ROOM TEMP MUST NOT BE BELOW 35° OR ABOVE 100° / SEE DETAIL AN INDICATED ON PLAN						



1 LVL 1 PLUMBING PLAN 1/4" = 1'-0"

GENERAL NOTES:
SENETAL NOTES.

L ITEMS TO BE INSTALLED PER STATE AND LOCAL	CODES								
PLUMBING				PLUMBING INFO			VAC INFO		DENTAL COMPRESSED AIR
FEOMBING				r Lowibling IIII O		MAIN &	VAC INI O		DENTAL GOWN RESSED AIR
		NECTION BY ER FLEX TUBING ER COPPER	OT WATER COPPER OLD WATER COPPER TO WATER COPPER OF WATER COPPER	DIRECT INDIRECT STAND PIPE STAND PIPE	CHEDULE 40	PVC SCHEDULE 40  2" PVC SCHEDULE 40  VC SCHEDULE 40  VC SCHEDULE 40  STATEMENT AND THE ADDRESS		COPPER TYPE L OR K	
DESCRIPTION	STATUS		3/4" CC 3/4" HC 1" COL	PLUMBING REMARKS PLUMBING REMARKS	1/2" P\ 5/8" P\	3/4" Pv 1-1/2" 2" PVC 3" PVC	VAC REMARKS	1/2" C	COMPRESCED AID DEMARKS
0 1 DENTAL CHAIR	NW	PC			•			•	
1A DENTAL CHAIR	FT	PC			•			•	
0 19 REAR DENTAL CABINET	NW	PC			•			•	
19A REAR DENTAL CABINET	FT	PC			•			•	
20 SIDE CABINET	NW	PC •	•	GC PROVIDED CABINET, ALL UTILITY LOCATIONS FOR DENTAL EQUIPMENT TO BE COORDINATED BY GC. VERIFY LOCATIONS WITH CABINET MFG, OWNER, AND PATTERSON EQUIPMENT SPECIALIST.					
20C SIDE CABINET	FT	PC •	•	• GC PROVIDED CABINET, ALL UTILITY LOCATIONS FOR DENTAL EQUIPMENT TO BE COORDINATED BY GC. VERIFY LOCATIONS WITH CABINET MFG, OWNER, AND PATTERSON EQUIPMENT SPECIALIST.					
21 CENTRAL CABINET	NW		•						
22 STERILIZATION CABINET	NW	PC •	•					•	
31 LAB CABINETS	NW	PC •	•					•	
40 PLASTER TRAP	NW	PC		INSTALL FOR LAB SINK AND MODEL TRIMMER. BRACE TRAP TO SUPPORT WEIGHT OF FULL TRAP AN TO SIMPLIFY THE REMOVAL OF CANISTER FOR CLEANING.					
41 MODEL TRIMMER	NW			CONNECT WATER LINE TO SINK COLD WATER SUPPLY, CONNECT DRAIN TO SINK DRAIN					
56 WATER TREATMENT	NW	PC •	•						
57 VISTACOOL	NW	PC							
60 AIR COMPRESSOR	NW	PC		REQUIRES FRESH AIR INTAKE FROM OUTSIDE UTILITY ROOM, 2" PVC PIPE AND FLEXIBLE HOSE WITH 70 IN. OF CLEAR TUBING FOR CONNECTION TO THE AIR INTAKE OF EACH COMPRESSOR. / SEE DETAIL AS INDICATED ON PLAN.		• •		•	IF PIPE VOLUME IS TO GREAT MORE THAN 235 IN3 OR MORE THAN 100 FT. OF DIAMETER PIPE, A PRESSURE REGULATOR SHOULD BE INSTALLED BETWEEN MAIN TANK AND THE DISTRIBUTION PIPING AND SET TO 80 PSI.
61 VACUUM	NW	PC •		REQUIRES FLOOR SINK OR STAND PIPE PER LOCAL CODES PROVIDED BY OTHERS,		•			
63 AMALGAM SEPARATOR	NW	PC				•			
			<del>+ + + + + + + + + + + + + + + + + + + </del>			<del>                                     </del>			

EQUIPMENT PLUMBING-DENTAL COMPRESSED AIR-VAC SCHEDULE

1 64 WATER SHUT OFF W/ FILTER

CORRECT THESE ISSUES. PLEASE CONSULT PATTERSON

FOR ASSISTANCE IN EQUIPMENT SUPPORT STRUCTURE &

CLEARANCE QUESTIONS. THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF PATTERSON DENTAL SUPPLY AND THE USE LIMITED TO A SPECIFIED PROJECT FOR THE PERSON OR PERSONS NAMED HEREON FOR THE CONSTRUCTION OF ONE BUILDING ONLY. ANY USE OR REPRODUCTIONS OF THESE DRAWINGS ARE STRICTLY PROHIBITED WITHOUT THE WRITTEN PERMISSION OF PATTERSON DENTAL SUPPLY, INC.

WRITTEN DIMENSIONS SHALL TAKE PREFERENCE OVER SCALE DIMENSIONS AND SHALL BE VERIFIED ON THE JOB SITE. ANY DISCREPANCIES OR CHANGES SHALL BE BROUGHT TO THE ATTENTION OF PATTERSON DENTAL SUPPLY

PRIOR TO THE COMMENCEMENT OF ANY WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CURRENT AMERICAN DISABILITIES ACT, (ADA)

ACCESSABILITY GUIDELINES. THE CONTRACTOR SHALL ALSO BE RESPOSIBLE FOR ALL REQUIRED BACKFLOW PREVENTERS. THE CONTRACTOR SHALL COMPLY WITH ALL STATE, CITY AND LOCAL CODES, PERTAINNG TO THE CONSTRUCTION OF THIS PROJECT.

THE INFORMATION CONTAINED IN THESE DRAWINGS IS FOR CONCEPT PURPOSES ONLY. THESE DRAWINGS ARE NO TO BE USED FOR CONSTRUCTION AND DO NOT TAKE THI PLACE OF CONSTRUCTION PLANS AND SPECIFICATIONS THESE DRAWINGS ARE NOT TO SCALE; NOR HAVE FIELD CONDITIONS BEEN VERIFIED. PATTERSON WILL NOT BE HELD RESPONSIBLE FOR THE USE OR MISUSE OF THE

# Wolfenden Family Dental PLLC

LOCATION:

1231 Lake Avenue

Berthoud, CO. 80513

DRAWN BY	<u>EQU</u>	IPMENT REP:	EQUIPMENT REP #:
KWK	L	onnie Gwynn	(509) 999-5349
PROJECT	#:	ISSUE DATE:	
410-21484	27	04/11/2025	

	REVISIONS							
REV		DRAWN						
#	SCOPE	BY	DATE					

AIR OUTLET PLUMBING: A. PROVIDE SHORT STUBBED OUT LINE FROM WALL -TERMINATE WITH RIGHT ANGLE STOP VALVE THAT AS A 3/8" O.D. CDOMPRESSION OUTLET FITTING. ELEVATION ON PRINT. AIR VALVE BY PLUMBER

1/2" MALE PIPE THREAD 1/2" OUT FROM FINISHED WALL TRIM RING FURNISHED WITH VALVE 3/8" COMPRESSION

FITTING

CONNECT TO

REMOTE SWITCH PANEL

1 AIR OUTLET 3" = 1'-0"

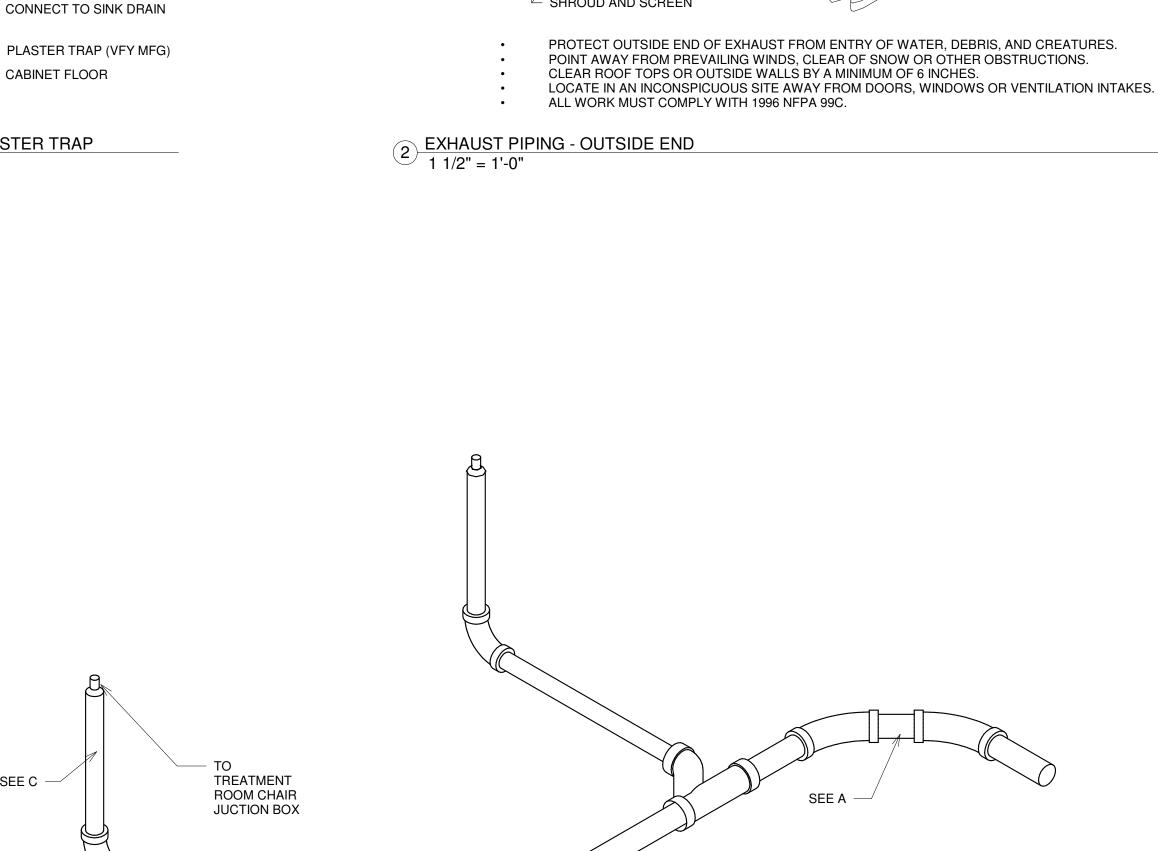
WATER

OUTLET

INLET AND OUTLET MAY BE REVERSED. CHECK WITH

5 WATER FILTER MANIFOLD
1 1/2" = 1'-0"

SUPPLIER.



SEE C

VACUUM LINE SUB FLOOR NOTES:

STANDARD TEE)

ALL BRANCH LINES TO BE STAGGERED.

SLOPE A MINIMUM OF 1/4" IN 10 FEET WITH LOW END TOWARDS

IF AN INLINE LOW SPOT IS UNAVOIDABLE, PLACE IT IN A KNOWN

USE 45 DEGREE ELBOWS - IF NECESSARY 90 DEGREE DWV ELBOWS CAN BE USED. CONSULT WITH MANUFACTURER. BRANCH LINES TO BE CONNECTED TO MAIN LINES USING PVC SWEEPING WYE AND/OR 45 DEGREE ELBOW (DO NOT USE

SHROUD AND SCREEN

OUTSIDE END FOR

CHECK VALVES

WITH IN-LINE EXHAUST

BULLDOG AND OTHER MODELS

OUTSIDE END FOR

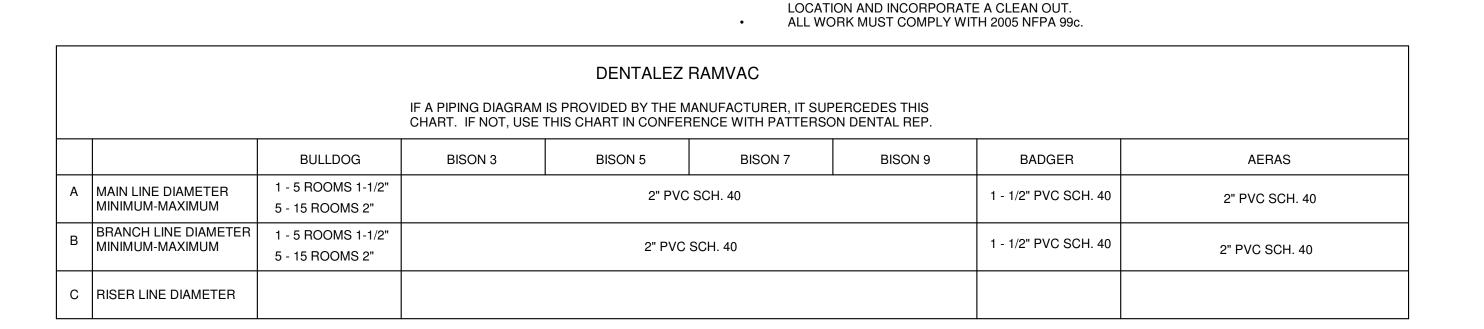
RAMVAC SUPPLIED

HORIZONTAL RUN

HORIZONTAL RUN

MODELS WITH

FLAPPER VALVE



SEE A

NOTE:

specifications.

REMOTE CONTROL PANEL
3" = 1'-0"

All wires to be class B low voltage. For "runs" under 150', wire to be 18

Contractor to provide wire from mechanical room to remote control panel.

OPEN SITE

WASTE LEVEL

W/COUNTERTOP

BY CONTRACTOR

MODELTRIMMER

SHUTOFF VFY

LOCATION WITH

TRIMMER

OWNER

SEE C

VACCUM

SEPARATING

TANK

MODEL TRIMMER W/ PLASTER TRAP

DRAIN FROM MODEL

<u>Caution!</u> Local codes may dictate changes to the above

gage. For "runs" over 150', wires should be 16 gage.

6 VACUUM LINE - SUB FLOOR (DENTALEZ RAMVAC)
1 1/2" = 1'-0"

