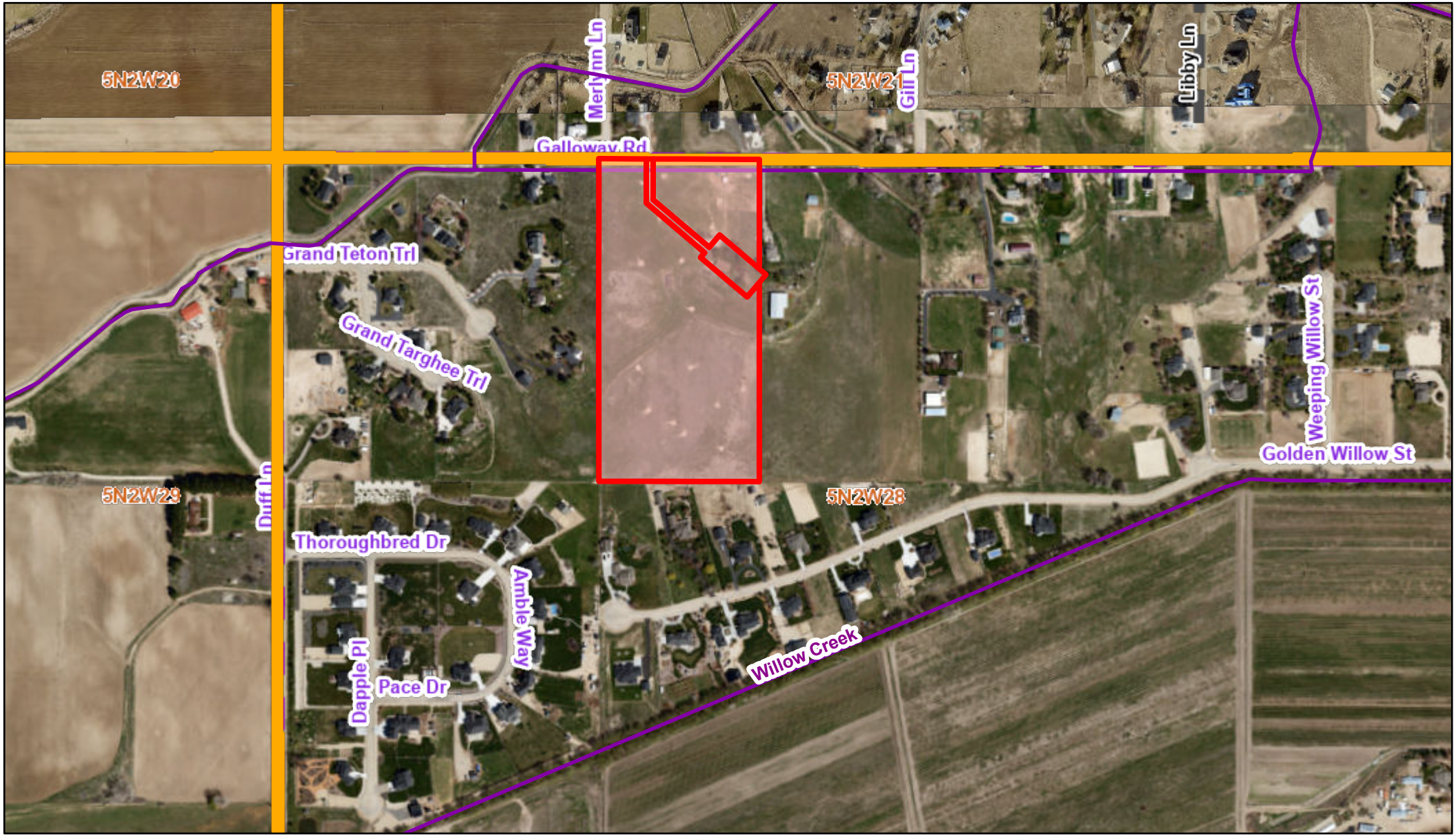
Canyon County, ID Web Map



3/21/2025, 4:06:39 PM

- Multiple Parcel Search _Query result
- Hydro_NHDFlowline
- County Boundary
- Current Impact Area
- City Limits
- Sections
- CC_PrivateRoads

ITDFunctionalClassification
- Major Collector

Urban_2023
- Red: Red

- Green: Green
- Blue: Blue

Imagery_2022
- Red: Band_1

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Bureau of Land Management, State of Oregon, State of Oregon DOT, State of Oregon GEO, Esri Canada, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

Canyon County, ID

Bureau of Land Management, State of Oregon, State of Oregon DOT, State of Oregon GEO, Esri Canada, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA | City of Nampa |

MASTER APPLICATION

CANYON COUNTY DEVELOPMENT SERVICES DEPARTMENT

111 North 11th Avenue, #140, Caldwell, ID 83605

www.canyonco.org/dsd.aspx Phone: 208-454-7458 Fax: 208-454-6633

PROPERTY OWNER	OWNER NAME: Bonnie Vance Vermaas
	MAILING ADDRESS: PO Box 442, Middleton, Idaho 83644
	PHONE: EMAIL:

I consent to this application and allow DSD staff / Commissioners to enter the property for site inspections. If owner(s) are a business entity, please include business documents, including those that indicate the person(s) who are eligible to sign.

X Signature: Bonnie Vermaas Date: 3/15/2025

(AGENT) ARCHITECT ENGINEER BUILDER	CONTACT NAME: Stephanie Hopkins
	COMPANY NAME: KM Engineering, LLP.
	MAILING ADDRESS: 5725 North Discovery Way, Boise, Idaho 83713
	PHONE: 208.639.6939 EMAIL: shopkins@kmengllp.com

SITE INFO	STREET ADDRESS: 9713 Galloway Road, Middleton, Idaho 83644
	PARCEL #: R3751900000 LOT SIZE/AREA: 0.99
	LOT: BLOCK: SUBDIVISION:
	QUARTER: NW SECTION: 28 TOWNSHIP: 5N RANGE: 2W
	ZONING DISTRICT: FLOODZONE (YES/NO):

HEARING LEVEL APPS	_____CONDITIONAL USE	_____COMP PLAN AMENDMENT	__X__CONDITIONAL REZONE
	_____ ZONING AMENDMENT (REZONE)	_____DEV. AGREEMENT MODIFICATION	_____VARIANCE > 33%
	_____MINOR REPLAT	_____VACATION	_____APPEAL
	_____SHORT PLAT SUBDIVISION	__X__ PRELIMINARY PLAT SUBDIVISION	_____FINAL PLAT SUBDIVISION

DIRECTORS DECISION APPS	_____ ADMINISTRATIVE LAND DIVISION	_____EASEMENT REDUCTION	_____SIGN PERMIT
	_____PROPERTY BOUNDARY ADJUSTMENT	_____HOME BUSINESS	_____VARIANCE 33% >
	_____PRIVATE ROAD NAME	_____TEMPORARY USE	_____DAY CARE
	_____OTHER_____		

CASE NUMBER:	DATE RECEIVED:
RECEIVED BY:	APPLICATION FEE: CK MO CC CASH

Revised 1/3/21

PRELIMINARY PLAT
PUBLIC HEARING - CHECKLIST

PRELIMINARY PLAT - CCZO Section 07-17-09

THE FOLLOWING ITEMS MUST BE SUBMITTED WITH THIS APPLICATION TO BE DEEMED COMPLETE (PLEASE CHECK OFF THE ITEMS REQUIRED):

Description	Applicant	Staff
Master Application Completed and Signed	x	
Copy of Preliminary Plat (1 Hard Copy & Digital Copy – Flash Drive Preferred)	x	
Preliminary Drainage Plan, if applicable	x	
Preliminary Irrigation Plan, if applicable	n/a	
Preliminary Grading Plan, if applicable	x	
Completed Preliminary Plat Checklist	x	
Subdivision Worksheet	x	
Irrigation Plan Application	x	
Proof of application with:	x	
Southwest District Health	x	
Irrigation District	x	
Fire District	x	
Highway District/ Idaho Transportation Dept.	x	
Area of City Impact (if applicable)	x	
Deed or evidence of property interest to the subject property	x	
Fee: $1550.00 **+$10.00/lot** **+$100.00 for Area of City Impact** **+$80.00 Private Road** **+$80.00 Easement Reduction**	x	
Fees are non-refundable		

Additional Information	Applicant	Staff
Hillside Development Requirements (07-17-33(1))	x	
Private Road Name Application	n/a	
Easement Reduction Application	n/a	
Floodplain Development Permit	n/a	

*DISCLAIMER: The subject property shall comply with the public nuisance ordinance, the building code, and the zoning code before the Director can accept the application.

CANYON COUNTY DEVELOPMENT SERVICES DEPARTMENT
111 North 11th Avenue, #310, Caldwell, ID 83605
zoninginfo@canyoncounty.id.gov - Phone: 208-454-7458
Revised 3/30/23

Canyon County, 111 North 11th Avenue, #310, Caldwell, ID 83605

▪ Engineering Division ▪

Preliminary Plat Check-List

Applicant: Bonnie Vance Vermaas	**Case Number:**
Subdivision Name: Easy Flyer	**Plat Date (Review #):**

CANYON COUNTY CODE OF ORDINANCES 07-17-09

The information hereinafter required as part of the preliminary plat submitted shall be shown graphically or by note on plans, and may comprise several sheets showing various elements or required data. *Italicized items are supplemental to CCZO 07-17-09.*

GENERAL REVIEW ITEMS	**Meets Code / Comments**
1. Complete initial review of **all** information given graphically and by note on the plat	
2. Check for compliance with FCOs and/or Development Agreement from entitlement process if applicable	
3. Check for compliance with CCO Chapter 9 - Areas of City Impact. Chapter 9 lists requirements unless waived.	
4. Check for applicable agency comment. These comments could have been made at the entitlement stage or after.	
5. Make note of agencies that should be noticed if not typically included on the notice list and pass information along to planner	
Items A through E below are directly from CCZO 07-17-09. Italicized items are checklist items related to requirements found in ordinance and may not be strictly required.	
A. FORM OF PRESENTATION	**Meets Code / Comments**
1. Scale of Drawing (No more than 1"=100' unless approved by DSD prior to submission)	
2. Size of Drawing (No larger than 24' x 36") • *Obtain electronic version of all submittals*	
B. IDENTIFICATION AND DESCRIPTIVE DATA	**Meets Code / Comments**
1. Proposed name of subdivision and its location by section, township, and range	

• *Name of sub needs to be reserved through DSD GIS*	
2. Reference by dimension and bearing to a section corner or quarter section corner	
3. Name, address and phone number of developer	
4. Name address and phone number of the person preparing the plat	
5. North arrow	
6. Date of preparation	
7. Revision block showing dates if any revisions subsequent to the original preparation date. The revision block shall be part of the title block which shall be placed along the right edge of the drawing sheet.	
8. Vicinity map drawn to scale, clearly showing proposed subdivision location in relationship to adjacent subdivisions, main arterial routes, collector streets, etc. • *Check for consistency between pre-plat and vicinity map*	

C. EXISTING CONDITIONS DATA	**<u>Meets Code / Comments</u>**
1. 2 Foot Contours shown unless otherwise approved; show all areas in excess of 15% slope	
2. Location of water wells, streams, canals, irrigation laterals, private ditches, washes, lakes or other water features; direction of flow; location and extent of known areas subject to inundation.	
3. Location, widths and names of all platted streets, railroads, utility rights of way of public record, public areas, permanent structures to remain including water wells and municipal corporation lines within or adjacent to the tract • *Future use of remaining wells, if applicable*	
4. Name, book and page numbers of any recorded adjacent subdivisions having a common boundary with the tract	
5. Existing zoning classification, by note • *Proposed zoning, by note, if new zoning is being proposed concurrently with pre-plat application*	
6. Approximate acreage of the tract, by note	
7. Boundary dimensions of the tract	
8. Names and addresses of adjoining property owners within three hundred (300) feet of the exterior boundary of the tract	

D. PROPOSED CONDITIONS DATA	**Meets Code / Comments**
1. Road layout, including location, width and proposed names of roads, alleys, pathways, easements, and roadway connections, if any, to an adjoining platted tract • *Confirmation that highway district will allow proposed access if new access is on an arterial* • *Check alignment of stub streets with adjacent developments, if applicable* • Private roads shall not have direct access to arterials or local roads within a platted subdivision (ACCHD 2020.040) • Private road names need to be reserved through DSD GIS. Private roads require a separate application. • Public road names must be checked for availability with DSD GIS • *If typical sections are shown make sure they are consistent with what will be required*	
2. Typical lot dimensions including curvilinear data to scale; each lot numbered individually; total number of lots by type and grand total. A private road must be a lot. • *Curve table is present and matches data shown graphically* • *Minimum lot size* • *Average lot size (calculated as total residential area divided by the number of residential lots)* • *Check block numbering* • *Consider any phasing shown*	
3. Location, width and use of easements • *Provide documentation of or reference to any existing easements, especially access easements for existing parcels that are part of the plat.* • *Show easements for all shared infrastructure*	
4. Designation of all land to be dedicated or reserved for public use with use indicated	
5. If plat includes land for which multi-family, commercial, or industrial use is proposed, such areas shall be clearly designated together with existing zoning classification and status of zoning change, if any	
6. If the proposed subdivision is part of a larger area intended for development, a development master plan of the entire area shall be provided	
7. Appropriate information that sufficiently details the proposed development within any special development area such as hillside, PUD, flood plain, cemetery, manufactured home, large scale development, hazardous and unique areas of development • *Check mapping layers for above special development items. Include wetland and natural drainage ways.* • *Consider recommended conditions related to special development areas and related reports*	

8. All roads must be labeled as either "private" or "public" behind or beneath the road name	
E. PROPOSED UTILITY METHODS	**<u>Meets Code / Comments</u>**
1. **Sewage:** A statement as to the type of proposed sanitary sewage facilities • *Preliminary location/layout of proposed sewage facilities* • *Nutrient-Pathogen study if required by SWDH* • *If sewage facilities will be shared, provide preliminary arrangements for future operation and maintenance of the facilities, including financial arrangements. Also include preliminary sewer plan. DSD should complete high level feasibility review of shared utilities*	
2**. Water Supply:** A statement as to the type of proposed water supply facilities • *Preliminary location/layout of proposed potable water facilities* • *If potable water facilities will be shared, provide preliminary arrangements for future operation and maintenance of the facilities, including financial arrangements. Also include preliminary potable water plan. DSD should complete high level feasibility review of shared utilities*	
3. **Storm Water Disposal:** A statement as to the type of storm water disposal facilities which may include evidence as may be required relative to the design and operation of proposed storm water system • *Include statement that all storm water shall be retained on site, if appropriate* • *Consider any required protection for roadside swales during home construction and/or long-term protection from landscaping, roadside parking, regrading/filling swale, ect* • *Maintenance easements for storm drain facilities treating drainage from public roads should be in place*	
4. **Irrigation System:** A statement as to the proposed irrigation system, which may include evidence as may be required relative to the design and operation of any proposed irrigation system • Irrigation Supply And Distribution Systems: The developer shall disclose, pursuant to Idaho Code section 31-3805, and file as part of the preliminary plat with DSD, evidence that an adequate irrigation supply and distribution system to serve the land within the plat to be recorded will be provided and must include consideration of using existing water rights that go with the land being platted. Such evidence shall include, but not be limited to, the following: - Copies of the plans of the proposed distribution system for the lots and areas to be served in the proposed development; and - Copies of the community association's or similar organization's documents which may be required precedent	

to the establishment of an irrigation distribution system within the proposed development.	
5. **Utility Easement:** The utility easement width shall be a minimum of ten (10) feet from the exterior boundaries and five (5) feet from the interior boundaries. Utility easements shall be shown graphically on the plat.	

GENERAL RECOMMENDED CONDITIONS

1. Finish grades at subdivision boundaries shall match existing finish grades. Runoff shall be maintained on subdivision property unless otherwise approved.
2. Development shall comply with requirements of the local highway district. Evidence shall include written correspondence from the highway district prior to the first public hearing held for the preliminary plat and highway district signature on the final plat.
3. Development shall comply with irrigation district requirements. Evidence shall include written correspondence from the irrigation district prior to the first public hearing held for the preliminary plat and prior to Board of County Commissioner's signature on the final plat.
4. Development shall comply with Southwest District Health requirements. Evidence shall include written correspondence from the Southwest District Health prior to the first public hearing held for the preliminary plat and Southwest District Health signature on the final plat.
5. Development shall comply with Fire District requirements. Evidence shall include written correspondence from the Fire District prior to the first public hearing held for the preliminary plat and prior to Board of County Commissioner's signature on the final plat.
6. After preliminary plat approval applicant shall provide GIS data containing georeferenced lot line and roadway linework to be included in Development Services GIS mapping. (Solo pre-plats only)

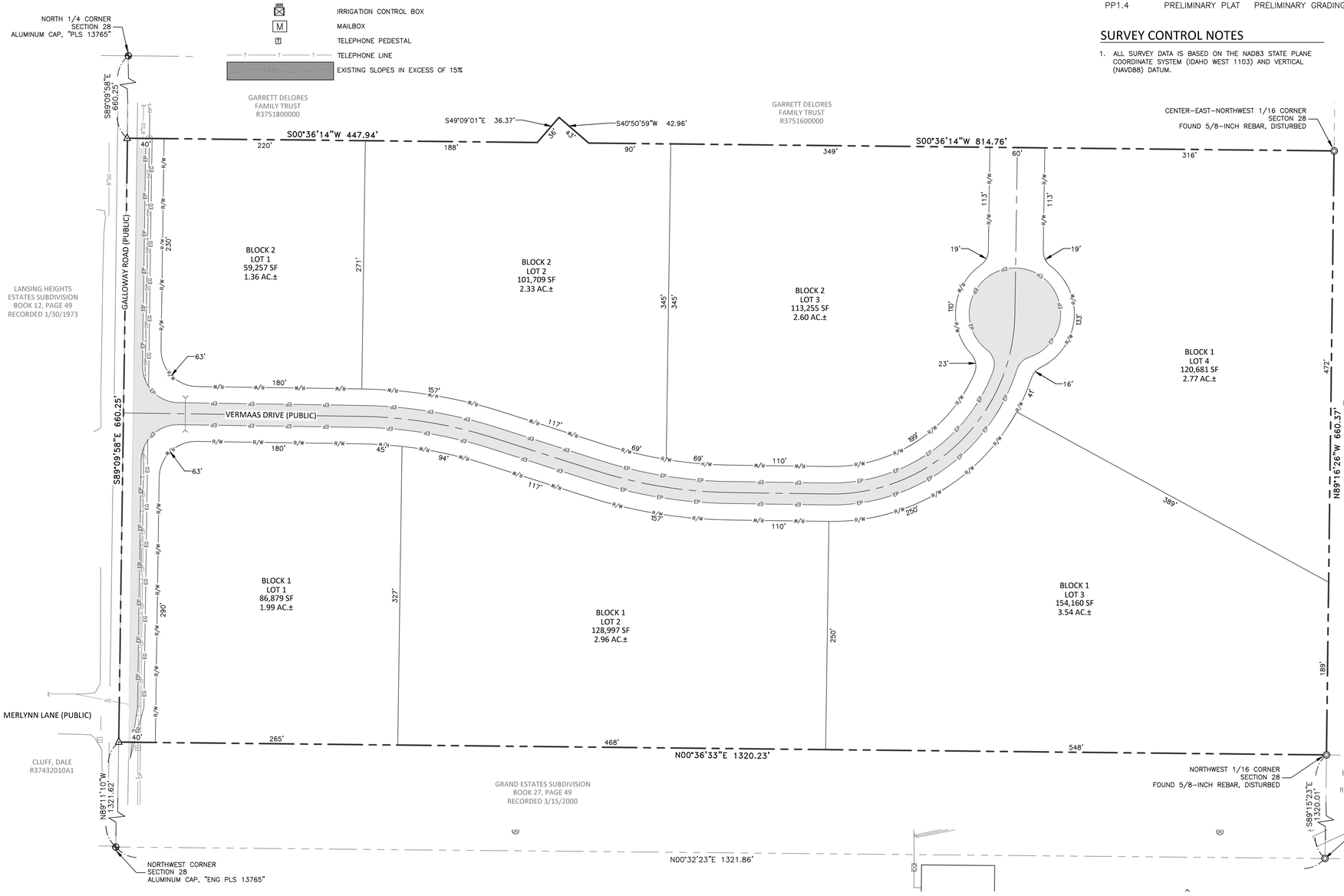
PRELIMINARY PLAT SHOWING
EASY FLYER SUBDIVISION

SITUATED IN A PORTION OF THE NE 1/4 OF THE NW 1/4, SECTION 28, TOWNSHIP 5 NORTH, RANGE 2 WEST, BOISE MERIDIAN, CANYON COUNTY, IDAHO

LEGEND

PROPOSED IMPROVEMENTS
- FLOW LINE
- GRADE BREAK
- LIMITS OF GRADING
- EDGE OF PAVEMENT
- BUILDING SETBACK
- DRAINAGE ARROWS
- BUILDING PAD
- REPLACEMENT AREA
- SEPTIC TANK
- WELL
- DRAINFIELD
- ASPHALT ROADWAY
- SECTION LINE
- BOUNDARY LINE
- OFFSITE BOUNDARY LINE
- PROPOSED EASEMENT
- PROPOSED LOT LINE
- PROPOSED RIGHT-OF-WAY LINE
- PROPOSED CLOSED RIGHT-OF-WAY
- 5/8 INCH REBAR
- ALUMINUM CAP
- CALCULATED POINT

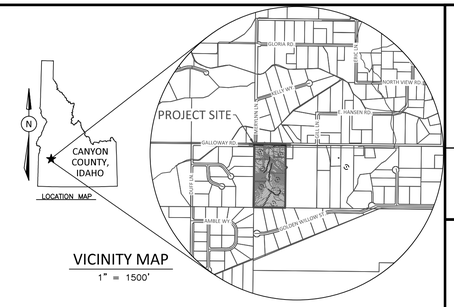
EXISTING FEATURES
- CONTOUR LINE
- OVERHEAD POWER LINE
- EXISTING FENCE
- POWER LINE
- WATER WELL
- WATER VALVE
- POWER POLE
- IRRIGATION CONTROL BOX
- MAILBOX
- TELEPHONE PEDESTAL
- TELEPHONE LINE
- EXISTING SLOPES IN EXCESS OF 15%



INDEX OF DRAWINGS

SURVEY CONTROL NOTES

1. ALL SURVEY DATA IS BASED ON THE NAD83 STATE PLANE COORDINATE SYSTEM (IDAHO WEST 1103) AND VERTICAL (NAVD88) DATUM.



VICINITY MAP
1" = 1500'

PRELIMINARY LOT DATA

SITE DATA

EXISTING ZONING	A
REQUESTED ZONING	R-R
AREA CALCULATIONS	
RESIDENTIAL LOT AREA	±17.56 ACRES
ROW	±2.46 ACRES
TOTAL AREA OF SITE	±20.02 ACRES

OVERALL LOT DATA

SINGLE FAMILY RESIDENTIAL LOTS	7
TOTAL LOTS	7
MINIMUM PROPERTY SIZE	±1.36 ACRES
MAXIMUM PROPERTY SIZE	±3.54 ACRES
AVERAGE PROPERTY SIZE	±2.51 ACRES
GROSS DENSITY	0.35 UNITS/ACRE
NET DENSITY	0.40 UNITS/ACRE

CONTACT INFORMATION

ENGINEER/SURVEYOR
KM ENGINEERING
5725 N. DISCOVERY WAY
BOISE, IDAHO 83713
PHONE: (208) 639-6939
CONTACT: JOE PACHNER, P.E.
EMAIL: joe@kmengllp.com

DEVELOPER/OWNER
BONNIE VANCE VERMAAS
PO BOX 442
MIDDLETON, IDAHO 83644
PHONE: (208) 585-2000
CONTACT: BONNIE VANCE VERMAAS

PRELIMINARY PLAT NOTES

1. ANY RESUBDIVISION OF THIS PLAT SHALL COMPLY WITH THE APPLICABLE REGULATIONS IN EFFECT AT THE TIME OF THE RESUBDIVISION.
2. MINIMUM BUILDING SETBACK DIMENSIONS IN THIS SUBDIVISION SHALL CONFORM TO THE APPLICABLE ZONING REGULATIONS IN EFFECT AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
3. THE SUBDIVSON PROPERTY IS DRY LAND NOT CONNECTED TO A MUNICIPAL OR OTHER DOMESTIC POTABLE WATER SUPPLY OR ANY APPURTENANT SURFACE OR SUBSURFACE IRRIGATION WATER RIGHTS. PURSUANT TO IDAHO CODE SECTION 42-111(1)(a) DOMESTIC WELL MAY BE USED TO IRRIGATE UP TO ONE-HALF ACRES OF LAND, AND MORE LAND IF A WATER RIGHT IS OBTAINED FROM THE IDAHO DEPARTMENT OF WATER RESOURCES. OWNERS MAY IRRIGATE ADDITIONAL LAND AFTER ACQUIRING SUBSURFACE WATER RIGHT FOR IRRIGATION AND OBTAINING A PERMIT FROM THE STATE AGENCY HAVING JURISDICTION. PRESSURIZED IRRIGATION IS REQUIRED FOR THE IRRIGATION OF THE LANDSCAPING INSTALLED ON EACH LOT AND THE COST AND DESIGN OF EACH IRRIGATION SYSTEM IS THE RESPONSIBILITY OF EACH LOT OWNER.
4. THIS DEVELOPMENT RECOGNIZES SECTION 22-4503 OF THE IDAHO CODE, RIGHT TO FARM ACT, WHICH STATES: "NO AGRICULTURAL OPERATION, AGRICULTURAL FACILITY OR EXPANSION THEREOF SHALL BE OR BECOME A NUISANCE, PRIVATE OR PUBLIC, BY ANY CHANGED CONDITIONS IN OR ABOUT THE SURROUNDING NONAGRICULTURAL ACTIVITIES AFTER IT HAS BEEN IN OPERATION FOR MORE THAN ONE (1) YEAR; WHEN THE OPERATION, FACILITY OR EXPANSION WAS NOT A NUISANCE AT THE TIME IT BEGAN OR WAS CONSTRUCTED. THE PROVISIONS OF THIS SECTION SHALL NOT APPLY WHEN A NUISANCE RESULTS FROM THE IMPROPER OR NEGLIGENT OPERATION OF AN AGRICULTURAL OPERATION, AGRICULTURAL FACILITY OR EXPANSION THEREOF".
5. UNLESS OTHERWISE DIMENSIONED, ALL LOT LINES COMMON TO STREET RIGHTS-OF-WAY AND THE SUBDIVISION BOUNDARY CONTAIN A 10.00 FOOT WIDE EASEMENT FOR PUBLIC AND PRIVATE UTILITIES, LOT AND ROAD DRAINAGE, AND IRRIGATION FACILITIES.
6. UNLESS OTHERWISE DIMENSIONED, ALL INTERIOR LOT LINES CONTAIN A 5.00 FOOT WIDE EASEMENT, EACH SIDE, FOR PUBLIC AND PRIVATE UTILITIES, LOT DRAINAGE AND IRRIGATION FACILITIES.
7. DIRECT LOT ACCESS TO GALLOWAY RD IS PROHIBITED.
8. THE HOMEOWNERS ASSOCIATION, UNDERLYING PROPERTY OWNER, OR ADJACENT PROPERTY OWNER IS RESPONSIBLE FOR ALL STORM DRAINAGE FACILITIES, OUTSIDE THE PUBLIC RIGHT OF WAY, INCLUDING ALL ROUTINE AND HEAVY MAINTENANCE.
9. EACH RESIDENTIAL LOT WILL HAVE AN INDIVIDUAL MAILBOX.
10. THE HOMEOWNERS ASSOCIATION, OR ADJACENT PROPERTY OWNER IS RESPONSIBLE FOR MAINTAINING ANY AND ALL AMENITIES (LAWN, SPRINKLERS, SIDEWALKS, PATHWAYS, LANDSCAPING, ETC.) APPROVED BY THE DISTRICT TO BE WITHIN THE PUBLIC RIGHT-OF-WAY.
11. NO PERMANENT STRUCTURES SHALL BE LOCATED CLOSER THAN SEVENTY (70) FEET TO ANY SECTION LINE OR QUARTER SECTION LINE UNLESS THE HIGHWAY DISTRICT SPECIFICALLY WAIVES THE SEVENTY (70) FEET SETBACK REQUIREMENT.
12. FINISH GRADES AT SUBDIVISION BOUNDARIES SHALL MATCH EXISTING FINISH GRADES. RUNOFF SHALL BE MAINTAINED ON SUBDIVISION PROPERTY UNLESS OTHERWISE APPROVED.
13. OBSTRUCTIONS WITHIN THE PROPOSED 40' (HALF-WIDTH) GALLOWAY ROAD RIGHT-OF-WAY WILL BE REMOVED, INCLUDING: TREES, SHRUBS, THE EXISTING FENCE, THE EXISTING APPROACH, AND THE GATE ADJACENT TO GALLOWAY ROAD.

PROFESSIONAL ENGINEER REGISTERED 8628 3/4/25 STATE OF IDAHO JOE N. PACHNER

Digitally signed by Joe Pachner, P.E.
Date: 2025.03.05 13:59:02 -07'00'

REVISIONS

NO.	ITEM	DATE
1	CHDA COMMENTS	1/13/2023
2	CANYON COUNTY AND CHDA COMMENTS	2/28/2023
3	CANYON COUNTY COMMENTS	6/16/2023

EASY FLYER SUBDIVISON
CANYON COUNTY, IDAHO

PRELIMINARY PLAT
COVER SHEET

km ENGINEERING
5725 NORTH DISCOVERY WAY
BOISE, IDAHO 83713
PHONE (208) 639-6939
kmengllp.com

DESIGN BY:	JNP
DRAWN BY:	AJL\BJJ
CHECKED BY:	JNP
DATE:	3/4/2025
PROJECT:	21-184

SHEET NO.
PP1.0

COVER SHEET

0 60 120 180
Plan Scale: 1" = 60'

P:\21-184\CAD\PLAT\PRELIMINARY\21-184 PRE PLAT - COVER.DWG, SCOTT PRILLAMAN, 3/4/2025, CANON IPF755 (BW).PC3, 24X36, L [PDF]

R2378010A0
CASSANDRA F CROWELL
9596 GALLOWAY RD
MIDDLETON, ID 83644

R3751800000
GARRETT DELORES FAMILY TRUST
0 GALLOWAY RD
MIDDLETON, ID 83644

R3751600000
GARRETT DELORES FAMILY TRUST
9645 GALLOWAY RD
MIDDLETON, ID 83644

R3751012700
ROXANNE S JONES
9516 GOLDEN WILLOW ST
MIDDLETON, ID 83644

R3751012600
JASON A SCHROEDER
9564 GOLDEN WILLOW ST
MIDDLETON, ID 83644

R2373001100
ERIK H NANSEN
9658 GALLOWAY RD
MIDDLETON, ID 83644

LANSING HEIGHTS
ESTATES SUBDIVISION
BOOK 12, PAGE 8
RECORDED 1/30/1973

R3751012500
MCCOMB J AND A FAMILY TRUST
9612 GOLDEN WILLOW ST
MIDDLETON, ID 83644

R2373000000
RAYMOND BERTELLI
9680 GALLOWAY RD
MIDDLETON, ID 83644

WILLOWVIEW
SUBDIVISION No. 2
BOOK 38, PAGE 20
RECORDED 8/31/2006

R2373001000
GARY L WAGNER
9716 GALLOWAY RD
MIDDLETON, ID 83644

R3751012400
MARTIN JAMES AND SHERRY LIVING TRUST
9660 GOLDEN WILLOW ST
MIDDLETON, ID 83644

R3751012300
ARIES GANIR
9708 GOLDEN WILLOW ST
MIDDLETON, ID 83644

R37432010A1
DALE CLUFF
9780 GALLOWAY RD
MIDDLETON, ID 83644

R3752051000
JUNE M GREGG
9811 GALLOWAY RD
MIDDLETON, ID 83644

R3752050900
STEVEN K MILLER
9850 GRAND TETON TRL
MIDDLETON, ID 83644

GRAND ESTATES
SUBDIVISION
BOOK 27, PAGE 49
RECORDED 3/15/2000

R3752050800
STEVEN W HATCHETT
9830 GRAND TETON TRL
MIDDLETON, ID 83644

R3752050700
RICHARD JAMES TRUDEAU
9810 GRAND TETON TRL
MIDDLETON, ID 83644

THOROUGHBRED
ESTATES SUBDIVISION
BOOK 44, PAGE 7
RECORDED 10/20/2014

R3751410600
DOUGLAS MARK BENNE
25794 AMBLE WAY
MIDDLETON, ID 83644

R3751410500
MCINELLY FAMILY TRUST
25810 AMBLE WAY
MIDDLETON, ID 83644

R37432010A2
SERGEY Z IVANOV
9790 GALLOWAY RD
MIDDLETON, ID 83644

R3751410400
RICHARD F GUDMUNDSON
25834 AMBLE WAY
MIDDLETON, ID 83644

GALLOWAY ROAD (PUBLIC)

MERLYNN LANE (PUBLIC)

S89°09'58"E 660.25'

N89°16'26"W 660.37'

N00°36'33"E 1320.23'

S00°36'14"W 447.94'

S49°09'01"E 36.37'

S40°50'59"W 42.96'

S00°36'14"W 814.76'

EXISTING STORM DRAIN PIPE TO BE REMOVED

EXISTING 27.45' EP–EP

EXISTING SPEED LIMIT SIGN TO BE PROTECTED AND RELOCATED.

EXISTING TREES AND SHRUBS TO BE REMOVED

EXISTING BUILDING TO BE REMOVED.

EXISTING TREES AND SHRUBS TO BE REMOVED

EXISTING POWER POLE TO BE PROTECTED AND RELOCATED.

EXISTING 25.74' EP–EP

EXISTING 25.00' PRESCRIPTIVE ROW

EXISTING STORM DRAIN PIPE TO BE REMOVED

EXISTING MAILBOX TO BE PROTECTED AND RELOCATED.

EXISTING TREES AND SHRUBS TO BE REMOVED

EXISTING WELL TO BE RETAINED AND PROTECTED.

EXISTING RESIDENTIAL HOME TO BE RETAINED AND PROTECTED.

EXISTING SEPTIC SYSTEM TO BE RETAINED AND PROTECTED.

EXISTING FENCING TO BE REMOVED.

EXISTING FENCING TO BE REMOVED.

LIMITS OF GRADING AND VEGETATION REMOVAL.

EXISTING FENCING TO BE REMOVED.

EXISTING CONDITIONS

0 60 120 180

Plan Scale: 1" = 60'

REVISIONS

NO.	ITEM	DATE
1	CHDA COMMENTS	1/13/2023
2	CANYON COUNTY AND CHDA COMMENTS	2/28/2023
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EASY FLYER SUBDIVISON
CANYON COUNTY, IDAHO

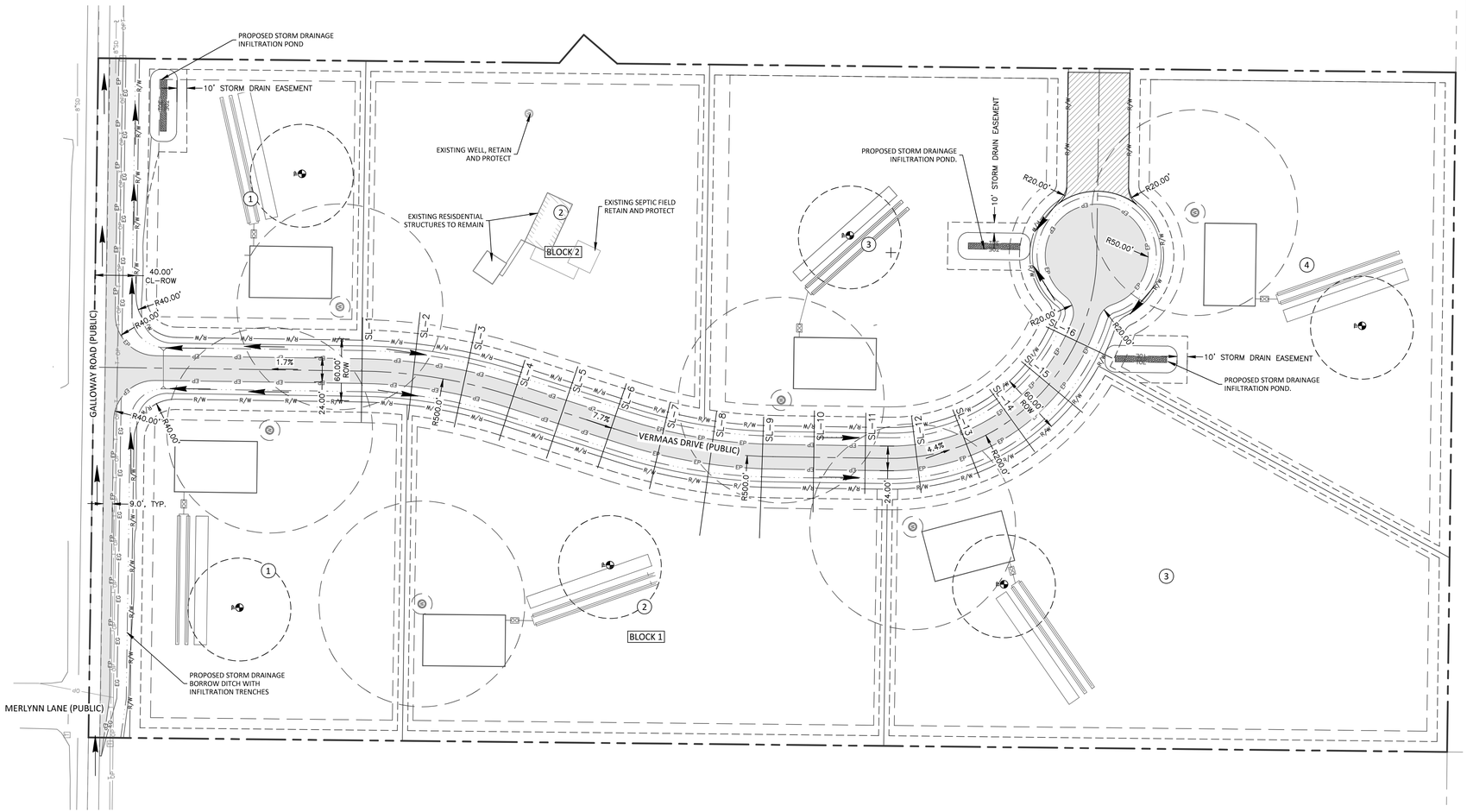
PRELIMINARY PLAT
EXISTING CONDITIONS

km ENGINEERING
5725 NORTH DISCOVERY WAY
BOISE, IDAHO 83713
PHONE (208) 639-6939
kmeng@p.com

DESIGN BY:	JNP
DRAWN BY:	AJL\BJJ
CHECKED BY:	JNP
DATE:	3/4/2025
PROJECT:	21-184

SHEET NO.
PP1.1

P:\21-184\CAD\PLAT\PRELIMINARY\21-184 PRE PLAT - COVER.DWG, SCOTT PRILLAMAN, 3/4/2025, CANON IRP7555 (BW) (PC3_24X36).[PDF]



ENGINEERING & DRAINAGE

0 60 120 180

Plan Scale: 1" = 60'

LEGEND	
WELL SETBACK	
DRAINAGE ARROWS	
BUILDING PAD	
ASPHALT ROADWAY	
REPLACEMENT AREA	
SEPTIC TANK	
WELL	
DRAINFIELD	

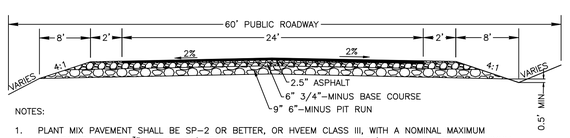
MINIMUM SEPARATIONS	
WELL TO DRAINFIELD	100'
WELL TO DWELLING	10'
SEPTIC TANK TO DWELLING	5'
SEPTIC TANK TO PRIVATE WELL	50'
SEPTIC TANK TO PROPERTY LINE	5'
SEPTIC TANK TO IRRIGATION CANAL	25
SEPTIC TANK TO JUNCTION BOX	6'
SEPTIC TANK TO WATER LINE ELBOW	10'
DRAINFIELD TO DWELLING 10" SLAB/CRAWL BASEMENT	20'
DRAINFIELD TO PROPERTY LINE	5'
DRAINFIELD TRENCH TO REPLACEMENT AREA	6'
DRAINFIELD TRENCH TO DRAINFIELD TRENCH	6'

PRELIMINARY ENGINEERING NOTES

1. DOMESTIC WATER SERVICE FOR EACH LOT WILL BE PROVIDED BY INDIVIDUAL WELLS.
2. WATER AND SEWER LINE SIZES AND LOCATIONS ARE PRELIMINARY AND WILL BE REFINED DURING FINAL DESIGN.
3. SEE SHEET PP1.3 FOR ROAD CROSS SECTIONS WHERE THE PROFILE GRADE EXCEEDS 6% AND WHERE GRADING LIMITS EXTEND OUTSIDE THE PROPOSED RIGHT-OF-WAY.
4. STORM DRAINAGE AND GRADING SHOWN ARE PRELIMINARY AND WILL BE REFINED DURING FINAL DESIGN.

DRAINAGE AND ENGINEERING NOTES

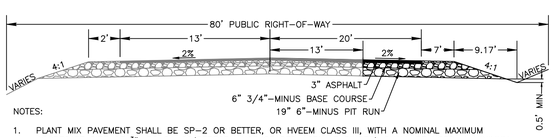
1. STORM DRAINAGE FROM THE ROADWAYS AND LOTS SHALL BE COLLECTED IN ROADSIDE SWALES AND RETAINED WITHIN THE PROPOSED STORMWATER INFILTRATION PONDS SHOWN ON THE PLANS. THE STORMWATER INFILTRATION PONDS WILL SIZED TO ACCOMADATE THESE RATES.
2. BUILDING FOOTPRINTS AND SEWER LAYOUTS ARE SHOWN FOR TYPICAL LAYOUT TO COMPLY WITH SEPARATION REQUIREMENTS. ACTUAL BUILDING PADS AND SEPTIC LAYOUT MAY BE REVISED UPON APPROVAL OF SOUTHWEST DISTRICT HEALTH DEPARTMENT.
3. ALL DOMESTIC WATER WELLS AND SANITARY SEWER SEPTIC SYSTEMS WILL BE INSTALLED IN ACCORDANCE WITH THE IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY AND SOUTHWEST DISTRICT HEALTH REQUIREMENTS.
4. THE OWNERS OF EACH LOT SHALL BE REQUIRED TO RETAIN ALL EXCESS IRRIGATION AND DRAINAGE ON THEIR LOTS. INDIVIDUAL LANDSCAPE PLANS WILL DEMONSTRATE THAT ANY EXCESS IRRIGATION WILL BE RETAINED ON THEIR LOTS.
5. LOT 2, BLOCK 5 HAS AN EXISTING RESIDENTIAL STRUCTURE WITH WELL AND SEPTIC. NO NEW DEVELOPMENT IS PROPOSED FOR THIS LOT AT THIS TIME.



NOTES:

1. PLANT MIX PAVEMENT SHALL BE SP-2 OR BETTER, OR HVEEM CLASS III, WITH A NOMINAL MAXIMUM AGGREGATE SIZE OF ¾". PG 64-28(PERFORMANCE GRADED ASPHALT BINDER) SHALL BE USED. A MINIMUM OF 0.5% ANTI-STRIPPING ADDITIVE IS REQUIRED.

TYPICAL PUBLIC ROAD SECTION (ALL INTERNAL ROADWAYS)
NTS



NOTES:

1. PLANT MIX PAVEMENT SHALL BE SP-2 OR BETTER, OR HVEEM CLASS III, WITH A NOMINAL MAXIMUM AGGREGATE SIZE OF ¾". PG 64-28(PERFORMANCE GRADED ASPHALT BINDER) SHALL BE USED. A MINIMUM OF 0.5% ANTI-STRIPPING ADDITIVE IS REQUIRED.

TYPICAL STREET SECTION GALLOWAY ROAD (PUBLIC)
NTS

PROFESSIONAL ENGINEER REGISTERED 8828 3/4/25 STATE OF IDAHO JOE N. PACHNER

REVISIONS

NO.	ITEM	DATE
1	CHDA COMMENTS	1/13/2023
2	CANYON COUNTY AND CHDA COMMENTS	2/28/2023
3	CANYON COUNTY COMMENTS	6/16/2023

EASY FLYER SUBDIVISON
CANYON COUNTY, IDAHO

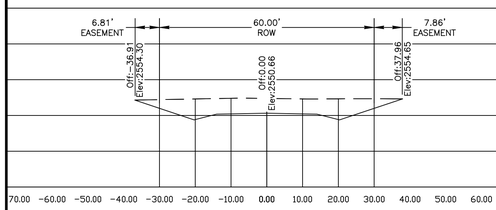
PRELIMINARY PLAT
ENGINEERING & DRAINAGE

km ENGINEERING
5725 NORTH DISCOVERY WAY
BOISE, IDAHO 83713
PHONE (208) 639-6939
kmengllp.com

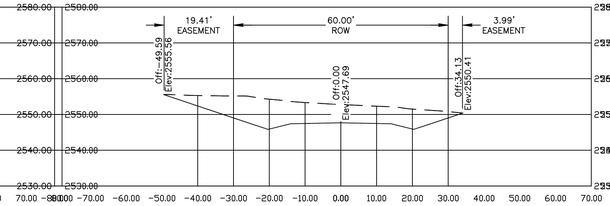
DESIGN BY:	JNP
DRAWN BY:	AJL\BJJ
CHECKED BY:	JNP
DATE:	3/4/2025
PROJECT:	21-184

SHEET NO.
PP1.2

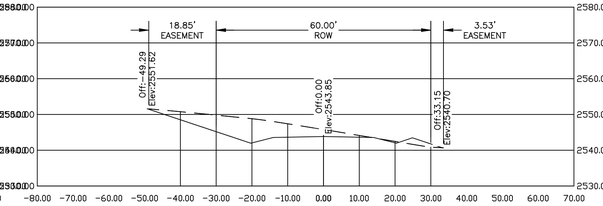
SL–1
3+00.00



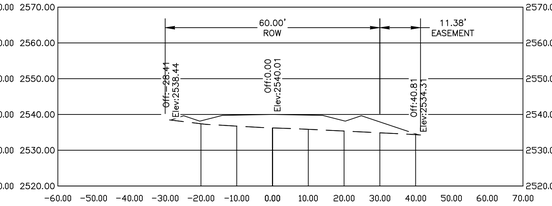
SL–2
3+50.00



SL–3
4+00.00



SL–4
4+50.00



SL–5
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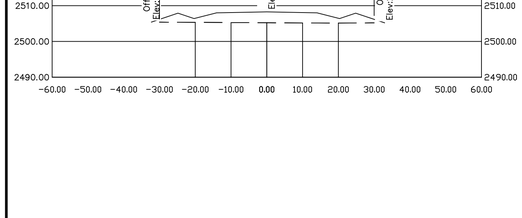

SL–6
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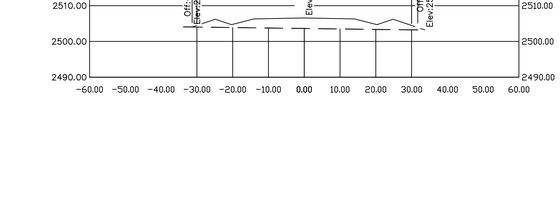

SL–7
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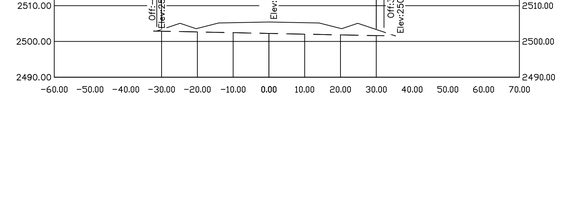

SL–8
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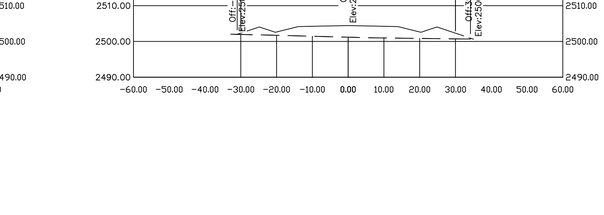

SL–9
7+00.00

SL–10
7+50.00

SL–11
8+00.00

SL–12
8+50.00

SL–13
9+00.00

SL–14
9+50.00

SL–15
10+00.00

SL–16
10+50.00

STREET CROSS SECTIONS

0 20 40 60
Plan Scale: 1" = 20'

PROFESSIONAL ENGINEER
REGISTERED
8528
3/4/25
STATE OF IDAHO
JOE N. PACHNER

REVISIONS

NO.	ITEM	DATE
1	CHDA COMMENTS	1/13/2023
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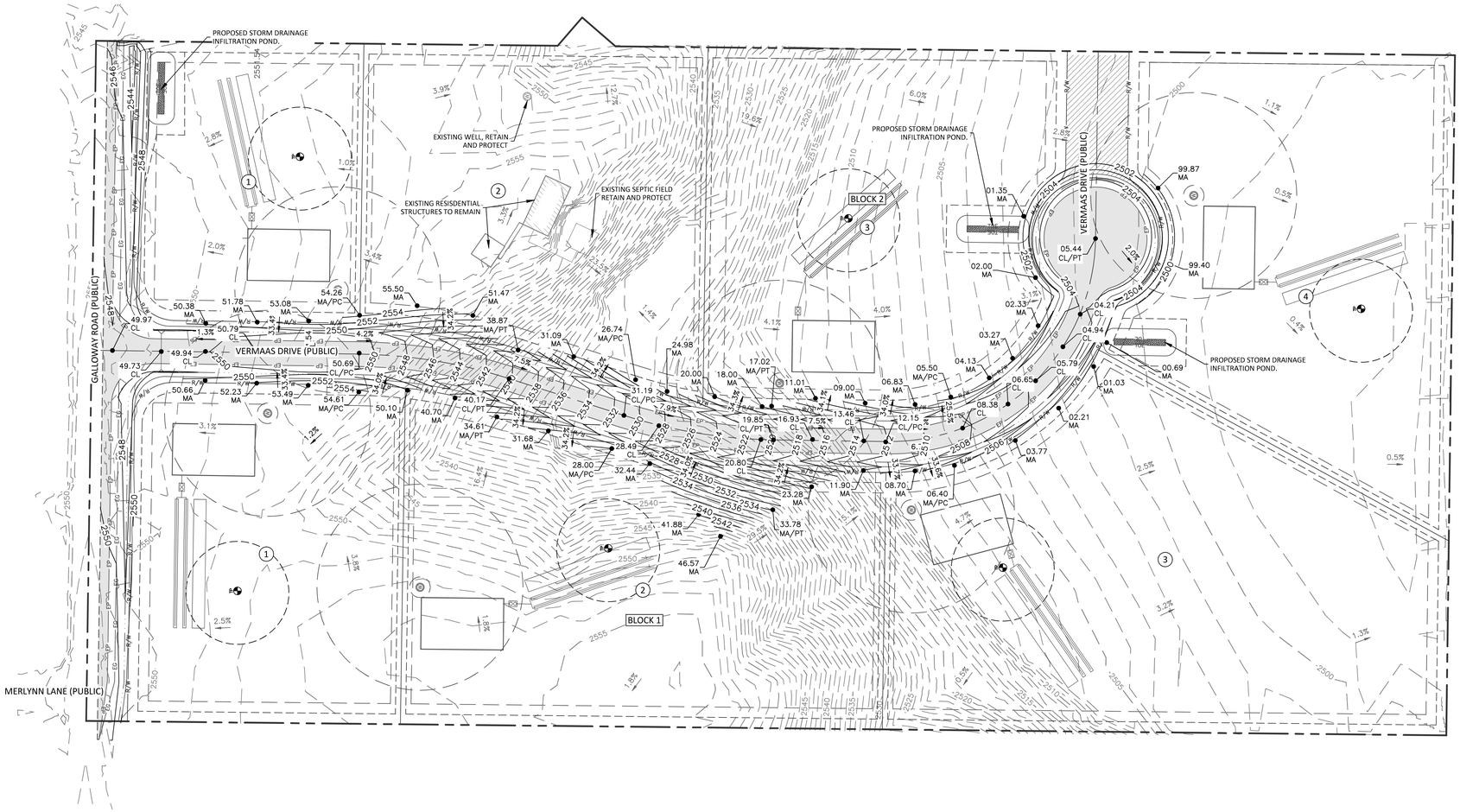
EASY FLYER SUBDIVISON
CANYON COUNTY, IDAHO

PRELIMINARY PLAT
STREET CROSS SECTIONS

km ENGINEERING
5725 NORTH DISCOVERY WAY
BOISE, IDAHO 83713
PHONE (208) 639-6939
kmengllp.com

DESIGN BY:	JNP
DRAWN BY:	AJL\BJJ
CHECKED BY:	JNP
DATE:	3/4/2025
PROJECT:	21-184

SHEET NO.
PP1.3



PRELIMINARY GRADING PLAN

0 60 120 180

Plan Scale: 1" = 60'

REVISIONS		
NO.	ITEM	DATE
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PROFESSIONAL ENGINEER REGISTERED 6028 3/4/25 STATE OF IDAHO JOE N. PACHNER

EASY FLYER SUBDIVISON
CANYON COUNTY, IDAHO

PRELIMINARY PLAT
PRELIMINARY GRADING PLAN

km ENGINEERING
5725 NORTH DISCOVERY WAY
BOISE, IDAHO 83713
PHONE (208) 639-6939
kmengllp.com

DESIGN BY:	JNP
DRAWN BY:	AJL\BJJ
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SHEET NO.
PP1.4

P:\21-184\CAD\PLAT\TYPE\PRELIMINARY\21-184 PRE PLAT - ENGINEERING & DRAINAGE.DWG, SCOTT PRILLAMAN, 3/4/2025, CANON IR7255 (BW) PC3, 24X36 L [PDF]

Canyon County, 111 North 11th Avenue, #310, Caldwell, ID 83605

▪ Engineering Division ▪

Preliminary Plat Check-List

Applicant: Bonnie Vance Vermaas	**Case Number:**
Subdivision Name: Easy Flyer Subdivision	**Plat Date (Review #):**

CANYON COUNTY CODE OF ORDINANCES 07-17-09

The information hereinafter required as part of the preliminary plat submitted shall be shown graphically or by note on plans, and may comprise several sheets showing various elements or required data. *Italicized items are supplemental to CCZO 07-17-09.*

GENERAL REVIEW ITEMS	**Meets Code / Comments**
1. Complete initial review of **all** information given graphically and by note on the plat	X
2. Check for compliance with FCOs and/or Development Agreement from entitlement process if applicable	X
3. Check for compliance with CCO Chapter 9 - Areas of City Impact. Chapter 9 lists requirements unless waived.	n/a
4. Check for applicable agency comment. These comments could have been made at the entitlement stage or after.	X
5. Make note of agencies that should be noticed if not typically included on the notice list and pass information along to planner	
Items A through E below are directly from CCZO 07-17-09. Italicized items are checklist items related to requirements found in ordinance and may not be strictly required.	
A. FORM OF PRESENTATION	**Meets Code / Comments**
1. Scale of Drawing (No more than 1"=100' unless approved by DSD prior to submission)	1" = 60'
2. Size of Drawing (No larger than 24' x 36") • *Obtain electronic version of all submittals*	24" x 36"
B. IDENTIFICATION AND DESCRIPTIVE DATA	**Meets Code / Comments**
1. Proposed name of subdivision and its location by section, township, and range	X

• *Name of sub needs to be reserved through DSD GIS*	X
2. Reference by dimension and bearing to a section corner or quarter section corner	X
3. Name, address and phone number of developer	X
4. Name address and phone number of the person preparing the plat	X
5. North arrow	X
6. Date of preparation	X
7. Revision block showing dates if any revisions subsequent to the original preparation date. The revision block shall be part of the title block which shall be placed along the right edge of the drawing sheet.	X
8. Vicinity map drawn to scale, clearly showing proposed subdivision location in relationship to adjacent subdivisions, main arterial routes, collector streets, etc. • *Check for consistency between pre-plat and vicinity map*	X

C. EXISTING CONDITIONS DATA	**Meets Code / Comments**
1. 2 Foot Contours shown unless otherwise approved; show all areas in excess of 15% slope	X
2. Location of water wells, streams, canals, irrigation laterals, private ditches, washes, lakes or other water features; direction of flow; location and extent of known areas subject to inundation.	X
3. Location, widths and names of all platted streets, railroads, utility rights of way of public record, public areas, permanent structures to remain including water wells and municipal corporation lines within or adjacent to the tract • *Future use of remaining wells, if applicable*	X
4. Name, book and page numbers of any recorded adjacent subdivisions having a common boundary with the tract	X
5. Existing zoning classification, by note • *Proposed zoning, by note, if new zoning is being proposed concurrently with pre-plat application*	X
6. Approximate acreage of the tract, by note	X
7. Boundary dimensions of the tract	X
8. Names and addresses of adjoining property owners within three hundred (300) feet of the exterior boundary of the tract	X

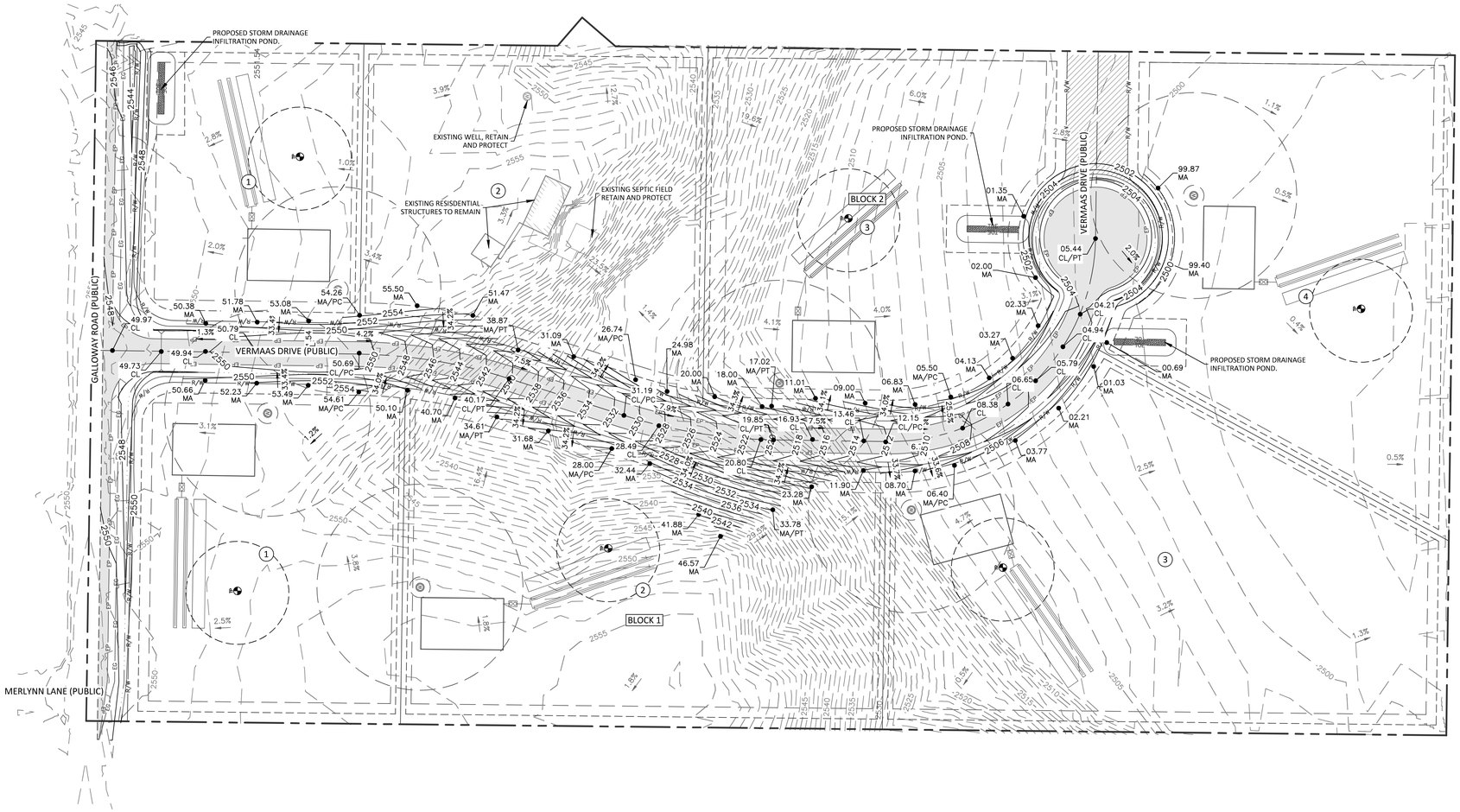
D. PROPOSED CONDITIONS DATA	**Meets Code / Comments**
1. Road layout, including location, width and proposed names of roads, alleys, pathways, easements, and roadway connections, if any, to an adjoining platted tract • *Confirmation that highway district will allow proposed access if new access is on an arterial* • *Check alignment of stub streets with adjacent developments, if applicable* • Private roads shall not have direct access to arterials or local roads within a platted subdivision (ACCHD 2020.040) • Private road names need to be reserved through DSD GIS. Private roads require a separate application. • Public road names must be checked for availability with DSD GIS • *If typical sections are shown make sure they are consistent with what will be required*	Public road has been discussed with HD4 Name reserved with Canyon County
2. Typical lot dimensions including curvilinear data to scale; each lot numbered individually; total number of lots by type and grand total. A private road must be a lot. • *Curve table is present and matches data shown graphically* • *Minimum lot size* • *Average lot size (calculated as total residential area divided by the number of residential lots)* • *Check block numbering* • *Consider any phasing shown*	X
3. Location, width and use of easements • *Provide documentation of or reference to any existing easements, especially access easements for existing parcels that are part of the plat.* • *Show easements for all shared infrastructure*	X
4. Designation of all land to be dedicated or reserved for public use with use indicated	n/a
5. If plat includes land for which multi-family, commercial, or industrial use is proposed, such areas shall be clearly designated together with existing zoning classification and status of zoning change, if any	n/a
6. If the proposed subdivision is part of a larger area intended for development, a development master plan of the entire area shall be provided	n/a
7. Appropriate information that sufficiently details the proposed development within any special development area such as hillside, PUD, flood plain, cemetery, manufactured home, large scale development, hazardous and unique areas of development • *Check mapping layers for above special development items. Include wetland and natural drainage ways.* • *Consider recommended conditions related to special development areas and related reports*	Hillside development application information included

8. All roads must be labeled as either "private" or "public" behind or beneath the road name	X
E. PROPOSED UTILITY METHODS	**Meets Code / Comments**
1. **Sewage:** A statement as to the type of proposed sanitary sewage facilities • *Preliminary location/layout of proposed sewage facilities* • *Nutrient-Pathogen study if required by SWDH* • *If sewage facilities will be shared, provide preliminary arrangements for future operation and maintenance of the facilities, including financial arrangements. Also include preliminary sewer plan. DSD should complete high level feasibility review of shared utilities*	See Sheet PP1.2
2**. Water Supply:** A statement as to the type of proposed water supply facilities • *Preliminary location/layout of proposed potable water facilities* • *If potable water facilities will be shared, provide preliminary arrangements for future operation and maintenance of the facilities, including financial arrangements. Also include preliminary potable water plan. DSD should complete high level feasibility review of shared utilities*	See Sheet PP1.2
3. **Storm Water Disposal:** A statement as to the type of storm water disposal facilities which may include evidence as may be required relative to the design and operation of proposed storm water system • *Include statement that all storm water shall be retained on site, if appropriate* • *Consider any required protection for roadside swales during home construction and/or long-term protection from landscaping, roadside parking, regrading/filling swale, ect* • *Maintenance easements for storm drain facilities treating drainage from public roads should be in place*	See Sheet PP1.2
4. **Irrigation System:** A statement as to the proposed irrigation system, which may include evidence as may be required relative to the design and operation of any proposed irrigation system • Irrigation Supply And Distribution Systems: The developer shall disclose, pursuant to Idaho Code section 31-3805, and file as part of the preliminary plat with DSD, evidence that an adequate irrigation supply and distribution system to serve the land within the plat to be recorded will be provided and must include consideration of using existing water rights that go with the land being platted. Such evidence shall include, but not be limited to, the following: - Copies of the plans of the proposed distribution system for the lots and areas to be served in the proposed development; and - Copies of the community association's or similar organization's documents which may be required precedent	n/a

to the establishment of an irrigation distribution system within the proposed development.	
5. **Utility Easement:** The utility easement width shall be a minimum of ten (10) feet from the exterior boundaries and five (5) feet from the interior boundaries. Utility easements shall be shown graphically on the plat.	X

GENERAL RECOMMENDED CONDITIONS

1. Finish grades at subdivision boundaries shall match existing finish grades. Runoff shall be maintained on subdivision property unless otherwise approved.
2. Development shall comply with requirements of the local highway district. Evidence shall include written correspondence from the highway district prior to the first public hearing held for the preliminary plat and highway district signature on the final plat.
3. Development shall comply with irrigation district requirements. Evidence shall include written correspondence from the irrigation district prior to the first public hearing held for the preliminary plat and prior to Board of County Commissioner's signature on the final plat.
4. Development shall comply with Southwest District Health requirements. Evidence shall include written correspondence from the Southwest District Health prior to the first public hearing held for the preliminary plat and Southwest District Health signature on the final plat.
5. Development shall comply with Fire District requirements. Evidence shall include written correspondence from the Fire District prior to the first public hearing held for the preliminary plat and prior to Board of County Commissioner's signature on the final plat.
6. After preliminary plat approval applicant shall provide GIS data containing georeferenced lot line and roadway linework to be included in Development Services GIS mapping. (Solo pre-plats only)



PRELIMINARY GRADING PLAN

0 60 120 180

Plan Scale: 1" = 60'

REVISIONS		
NO.	ITEM	DATE
1	CHDA COMMENTS	1/13/2023
2	CANYON COUNTY AND CHDA COMMENTS	2/28/2023
3	CANYON COUNTY COMMENTS	6/16/2023

PROFESSIONAL ENGINEER REGISTERED 6028 3/4/25 STATE OF IDAHO JOE N. PACHNER

EASY FLYER SUBDIVISON
CANYON COUNTY, IDAHO

PRELIMINARY PLAT
PRELIMINARY GRADING PLAN

km ENGINEERING
5725 NORTH DISCOVERY WAY
BOISE, IDAHO 83713
PHONE (208) 639-6939
kmengllp.com

DESIGN BY:	JNP
DRAWN BY:	AJL\BJJ
CHECKED BY:	JNP
DATE:	3/4/2025
PROJECT:	21-184

SHEET NO.
PP1.4

P:\21-184\CAD\PLAT\TYPE\PRELIMINARY\21-184 PRE PLAT - ENGINEERING & DRAINAGE.DWG, SCOTT PRILLAMAN, 3/4/2025, CANON IR7255 (BW) PC3, 24X36 L [PDF]

IRRIGATION PLAN APPLICATION

Applicant(s): Vermaas Estates, Inc. / Attn: Tracy V. Vance [redacted]
Name — Daytime Telephone Number
2695 E. Romeo Drive — Meridian, Idaho — 83642
Street Address — City, State — Zip

Representative Name: KM Engineering, LLP. — 208.639.6939 / joe@kmengllp.com
Daytime Telephone Number / E-mail Address
5725 N Discovery Way — Boise, Idaho — 83713
Street Address — City, State — Zip

Location of Subject Property: West of Duff Lane, directly south of Galloway Road
Two Nearest Cross Streets or Property Address — City

Assessor's Account Number(s): R R3751900000, R3751700000 Section 28 Township 5N Range 2W

This land:

- ☐ Has water rights available to it.
- ☒ Is dry and has no water rights available to it. If dry, please sign this document and return to the Development Services Department representative from whom you received it.

Idaho Code 31-3805 states that when all or part of a subdivision is "located within the boundaries of an existing irrigation district or canal company, ditch association, or like irrigation water delivery entity ... **no subdivision plat or amendment to a subdivision plat or any other plat or may recognized by the city or county for the division of land will be accepted, approved, and recorded unless:"**

a. The appropriate water rights and assessment of those water rights have been transferred from said lands or excluded from an irrigation entity by the owner; or

b. The owner, person, firm, or corporation filing the subdivision plat or amendment to a subdivision plat or map has provided underground tile or conduit for lots of one (1) acre or less, or a suitable system for lots of more than one (1) acre which will deliver water to those land owners within the subdivision who are also within the irrigation entity with the appropriate approvals:

1. For proposed subdivisions located within negotiated area of city impact, both city and county zoning authorities must approve such irrigation system in accordance with Idaho Code Section 50-1306. In addition, the irrigation entity charged with the delivery of water to said lands must be advised regarding the irrigation system.

2. For proposed subdivisions outside of negotiated areas of city impact, the delivery system must be approved by the Planning and Zoning Commission and the Board of County Commissioners with the advice of the irrigation entity charged with the delivery of water to said lands.

To better understand your irrigation request, we need to ask you a few questions. A list of the map requirements follows the short questionnaire. **Any information missing information may result in the delay of your request before the Planning and Zoning Commission and ultimately the approval of your irrigation plan by the Board of County Commissioners.**

1. Are you within an area of negotiated City Impact? _____ Yes __X__ No
   If yes, please include a copy of approvals by the City Planning & Zoning Commission and City Council of your Irrigation Plan.

2. What is the name of the irrigation and drainage entities servicing the property?

   Irrigation: BCID - n/a

   Drainage: BCID

3. How many acres is the property being subdivided? +/- 20 acres

4. What percentage of this property has water? 0

5. How many inches of water are available to the property? 0

6. How is the land currently irrigated? n/a ☐ Surface ☐ Irrigation Well
   ☐ Sprinkler ☐ Above Ground Pipe ☐ Underground Pipe

7. How is the land to be irrigated after it is subdivided? ☐ Surface ☒ Irrigation Well
   ☐ Sprinkler ☐ Above Ground Pipe ☐ Underground Pipe

8. Please describe how the head gate/pump connects to the canal and irrigated land and where ditches and/or pipes go.
   n/a, lots will be irrigated via individual well

9. Are there irrigation easement(s) on the property? ☐ Yes ☒ No

10. How do you plan to retain storm and excess water on each lot?
    Grading on each lot will retain all excess water.

11. How do you plan to remove the storm water /excess irrigation water prior to it entering the established drainage system? (i.e. oil, grease, contaminated aggregates)
    Site grading will remove stormwater / excess irrigation water from discharging off the site.

Irrigation Plan Map Requirements

The irrigation plan **must be on a scalable map** and show all of the irrigation system including all supply and drainage structures and easements. Please include the following information on you map:

1. ☐ All canals, ditches, and laterals with their respective names.
2. ☐ Head gate location and/or point if delivery of water to the property by the irrigation entity.
3. ☐ Rise locations and types, if any.
4. ☐ Easements of all private ditches that supply adjacent properties (i.e. supply ditches and drainage ways).
5. ☐ Slope of the property in various locations.
6. ☐ Direction of water flow (use short arrows → on your map to indicate water flow direction).
7. ☐ Direction of wastewater flow (use long arrows --------→ on you map to indicate wastewater direction).
8. ☐ Location of drainage ponds or swales, anywhere wastewater will be retained on the property.
9. ☐ Other information: _____

_____

_____

Also, provide the following documentation:

☐ Copy of any water users' association / agreement (s) that are currently in effect, which outlines water schedules and maintenance responsibilities.

Applicant Acknowledgement

I, the undersigned, agree that prior to the Development Services Department accepting this application I am responsible to have all of the required information and site plans.

I further acknowledge that the irrigation system, as approved by the Planning and Zoning Commission and ultimately the Board of County Commissioners, must be bonded and/or installed prior the Board's signature on the final plat.

Signed: Bonnie Vermaas Date: 3 / 15 / 2025
Property Owner (Application Submitted)

Signed: _____, VP Date: 3 / 15 / 2025
Applicant/Representative (if not property owner) (Application Submitted)

Accepted By: _____ Date: _____/_____/_____
Director / Staff

Canyon County Development Services
111 North 11th Avenue, #310
Caldwell, Idaho 83605
www.canyoncounty.id.gov
208-454-7458

AFFIDAVIT OF LEGAL INTEREST

I, Bonnie Vermaas (name), 9713 Galloway Road (address)

Middleton (city), Idaho (state) 83644 (zip code)

being first duly sworn upon oath, depose and say:

1. That I am the owner of record of the property described on the attached application and I grant my permission to

   KM Engineering, LLP (name), 5725 N Discovery Way Boise, ID 83713 (address)

   to submit the accompanying application pertaining to the subject property.

2. I agree to indemnify, defend and hold Canyon County and its employees harmless from any claims to liability resulting from any dispute as to the statements contained herein or as to the ownership of the property, which is the subject of the application.

Dated this 15th day of March, 20 25.

x Bonnie Vermaas
Bonnie Vermaas (signature)

STATE OF IDAHO)
ss
COUNTY OF CANYON)

On this 15th day of March, in the year 20 25, before me Tracy V. Vance, a notary public, personally appeared Bonnie Vermaas, personally known to me to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same.

TRACY V. VANCE
COMMISSION # 20223849
NOTARY PUBLIC
STATE OF IDAHO
MY COMMISSION EXPIRES 8/12/2028

Notary:

My Commission Expires: 8/12/2028

AGENCY ACKNOWLEDGMENT

Date: 3/6/2025

Applicant: KM Engineering, LLP

Parcel Number: R3751900000 & R3751700000

Site Address: 9713 & 0 Galloway Road Middleton, ID 83633

SIGNATURES DO NOT INDICATE APPROVAL OR COMPLETION OF OFFICIAL REVIEW.

The purpose of this form is to facilitate communication between applicants and agencies so that relevant requirements, application processes, and other feedback can be provided to applicants early in the planning process. Record of communication with an agency regarding the project can be submitted instead of a signature. After the application is submitted, impacted agencies will be sent a hearing notification by DSD staff and will have the opportunity to submit comments.

Southwest District Health:

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized Southwest District Health Representative
(This signature does not guarantee project or permit approval)

Fire District: District: _____

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized Fire District Representative
(This signature does not guarantee project or permit approval)

Highway District: District: _____

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized Highway District Representative
(This signature does not guarantee project or permit approval)

Irrigation District: District: Black Canyon Irrigation District

☒ Applicant submitted/met for informal review.

Date: 3.7.2025 Signed: Donald G. Pogue District Engineer

Authorized Irrigation Representative
(This signature does not guarantee project or permit approval)

Area of City Impact City: _____

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized AOCI Representative
(This signature does not guarantee project or permit approval)

DISCLAIMER: THIS ACKNOWLEDGMENT IS ONLY VALID SIX MONTHS FROM THE DATE ISSUED

AGENCY ACKNOWLEDGMENT

Date: 3/6/2025

Applicant: KM Engineering, LLP

Parcel Number: R3751900000 & R3751700000

Site Address: 9713 & 0 Galloway Road Middleton, ID 83633

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☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized Southwest District Health Representative
(This signature does not guarantee project or permit approval)

Fire District: District: _____

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized Fire District Representative
(This signature does not guarantee project or permit approval)

Highway District: District: _____

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized Highway District Representative
(This signature does not guarantee project or permit approval)

Irrigation District: District: _____

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized Irrigation Representative
(This signature does not guarantee project or permit approval)

Area of City Impact City: Middleton

☐ Applicant submitted/met for informal review.

Date: 3/10/25 Signed: RJ GA

Authorized AOCI Representative
(This signature does not guarantee project or permit approval)

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AGENCY ACKNOWLEDGMENT

Date: 3/7/2025

Applicant: KM Engineering, LLP

Parcel Number: R3751900000 & R3751700000

Site Address: 9713 & 0 Galloway Road Middleton, ID 83633

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Southwest District Health:

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized Southwest District Health Representative
(This signature does not guarantee project or permit approval)

Fire District: District: Middleton RFD

☒ Applicant submitted/met for informal review.

Date: 3/14/25 Signed: _____

Authorized Fire District Representative
(This signature does not guarantee project or permit approval)

Highway District: District: _____

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized Highway District Representative
(This signature does not guarantee project or permit approval)

Irrigation District: District: _____

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized Irrigation Representative
(This signature does not guarantee project or permit approval)

Area of City Impact City: _____

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized AOCI Representative
(This signature does not guarantee project or permit approval)

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AGENCY ACKNOWLEDGMENT

Date: 3/6/2025

Applicant: KM Engineering, LLP

Parcel Number: R3751900000 & R3751700000

Site Address: 9713 & 0 Galloway Road Middleton, ID 83633

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Southwest District Health:

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized Southwest District Health Representative
(This signature does not guarantee project or permit approval)

Fire District: District: _____

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized Fire District Representative
(This signature does not guarantee project or permit approval)

Highway District: District: Highway District No. 4

☒ Applicant submitted/met for informal review.

Date: 3/8/25 Signed: _____

Authorized Highway District Representative
(This signature does not guarantee project or permit approval)

Irrigation District: District: _____

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized Irrigation Representative
(This signature does not guarantee project or permit approval)

Area of City Impact City: _____

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized AOCI Representative
(This signature does not guarantee project or permit approval)

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AGENCY ACKNOWLEDGMENT

Date: 3/6/2025

Applicant: KM Engineering, LLP

Parcel Number: R3751900000 & R3751700000

Site Address: 9713 & 0 Galloway Road Middleton, ID 83633

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Southwest District Health:

☒ Applicant submitted/met for informal review.

Date: 03/13/2025 Signed: Anthony Lee

Authorized Southwest District Health Representative
(This signature does not guarantee project or permit approval)

Fire District: District: _____

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized Fire District Representative
(This signature does not guarantee project or permit approval)

Highway District: District: _____

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized Highway District Representative
(This signature does not guarantee project or permit approval)

Irrigation District: District: _____

☐ Applicant submitted/met for informal review.

Date: _____ Signed: _____

Authorized Irrigation Representative
(This signature does not guarantee project or permit approval)

Area of City Impact City: _____

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Date: _____ Signed: _____

Authorized AOCI Representative
(This signature does not guarantee project or permit approval)

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Public Health
Prevent. Promote. Protect.

Idaho Public Health Districts

Application for Subdivision/Land Development Review

Southwest District Health
13307 Miami Lane, P. O. Box 850
Caldwell, ID 83606
Phone: 208.455.5400, Fax: 208.455.5405

Document # _____

Nexus # _____

For Internal Use Only

Developer/Applicant Name: Tracy Vance Phone #: [redacted] Fax#: _____

Mailing Address: PO Box 442 Middleton Idaho 83644
P.O. Box / City / State / Zip

E-mail address: [redacted]

Name of Subdivision: Easy Flyer Subdivision

City: Middleton County: Canyon

Location of Subdivision: South of Galloway Road and Merlynn Lane.

Legal Description: Township 5 North Range 2 West Section 28 ¼ Section NE 1/4 of NW 1/4

Parent Parcel Number of Site R3751900000 & R3751700000

Property Owner (if different): PLEASE SEE ABOVE Phone #: _____ Fax#: _____

Mailing Address: _____
Street/P.O. Box / City / State / Zip

E-mail address: _____

Engineer: Joe Pachner, KM Engineering 208-639-6939 8628
Name / Phone / License #

Mailing Address: 5725 North Discovery Way Boise Idaho 83713
Street/P.O. Box / City / State / Zip

E-mail address: joe@kmengllp.com / bjjohnson@kmengllp.com Fax#: _____

Surveyor: _____ _____ _____
Name / Phone / License #

Land

Acres +/- 20.02 Total # Lots 7 Buildable 7 Non-buildable 0

Minimum Lot Size in Acres +/- 1.36 Average Lot Size in Acres +/- 2.51

Water

Type of Water: ☐ (Private Water) ☐ Shared Well (Non-Public) ☐ Public Water System

Water Supply: ☐ Surface Water ☐ (Ground Water)

If Public Water System, services provided by: _____

Sewer

Type of sewage disposal system: ☒ Individual Septic ☐ Municipal Sewer
☐ Central Septic &/or LSAS Septic (>2 dwellings or 2500gpd)

If municipal sewer, services provided by:_____

Type of Plat: ☒ Residential ☐ Commercial ☐ Industrial
Location: ☐ City ☒ County ☐ Impact Zone
Directions:_____
Proposed subdivision's NW corner begins immediately SW of the Merlynn Lane and Galloway Road intersection.

Stormwater

Type of Disposal: ☐ Shallow Injection Wells (drywells) ☒ Grassy Swale ☐ N/A
Service for: ☐ Street Only ☒ Street and Lots ☐ Other ☐ N/A

Chemical/Hazardous Materials

(Commercial or Industrial Subdivisions Only)

Are chemicals or petroleum products likely to be stored/handled/used at these sites? ☐ Yes ☐ No ☒ N/A
If yes, please explain: _____
_____
_____

Applicant Signature:_____ Date: March 2025

This Section for Official Use only

If on-site sewage disposal systems used; date predevelopment meeting held with District (if required):
Date of Meeting: _____

Application Date _____	Fee $ _____Date_____
Subdivision # _____	Fee $ _____Date_____
File/Document # _____	Receipt #_____
Instrument # _____	Receipt # _____

Sanitary Restrictions: ☐ In-Force ☐ Satisfied ☐ See Attached Letter

EHS Signature:_____ EHS #:_____Date:_____

km ENGINEERING

MEMORANDUM

TO: **Devin T. Krasowski**
Canyon County Development Services
FROM: **Joe Pachner, P.E.** JP

DATE: **June 2023**

SUBJECT: **Easy Flyer Subdivision (Hillside Development Narrative)**

The proposed Easy Flyer Subdivision is located near the southeast corner of Merlynn Lane and Galloway Road in Canyon County. The existing site topography consists of two (2) areas near the center of the property with grades exceeding 15%. Within these areas we will be constructing a road. No structures will be constructed in areas where grades exceed 15%.

The attached grading plan shows a proposed road being built through areas where the existing topography exceeds 15%. The lots and road were designed to accommodate existing topography where possible and to minimize impacts to the existing site topography. The proposed maximum slope of the road is 7% with the daylight being placed at 3:1 grades or less. The grading plan provides proposed finish contours. Stormwater runoff from the road will be collected in roadside swales and transported to infiltration ponds on the southern half of the property. The owners of each lot shall be required to retain all excess irrigation and drainage on their lots. Individual landscape plans will demonstrate that any excess irrigation will be retained on their lots. Requiring individual lot owners to demonstrate that excess irrigation will be retained on their lots will eliminate any issues with cross lot drainage by showing that no cross lot drainage will occur.

The grading will be completed in the initial project schedule prior to the construction of the road. The existing vegetation within the limits of construction and grading will be removed to prepare the site for the road. Soil that is excavated will be used in conjunction with soil brought onto the site to create the proposed grades on the property. Any vegetation removed during construction will be taken to the county landfill. During construction a silt fence will be erected to prevent any erosion from leaving the site. After site grading has been completed, the fill and all disturbed areas will be seeded with a blend of native grasses to stabilize the slopes. Once the seed is germinated and stabilized in the disturbed areas, the silt fence will be removed. There are no known environmental impacts outside of the typical impacts of a development of this size. The attached geotechnical report allows fill slopes in excess of the proposed grades.

2019-053209
RECORDED
11/04/2019 01:34 PM

After recorded, return to:

Bonnie Vance Vermaas
9819 Galloway Road
Middleton, Idaho 83644

00476887201900532090030036
CHRIS YAMAMOTO
CANYON COUNTY RECORDER
Pgs=3 SDUPUIS $15.00
DEED
BONNIE VERMAAS

WARRANTY DEED

Warranty deed made this 4th day of November, 2019, between Bonnie Vance Vermaas, as trustee of The Bonnie Vance Vermaas Revocable Trust, a trust established under the laws of the State of Idaho by an agreement dated November 18, 1994, ("Grantor"), and Bonnie Vance Vermaas, a married woman dealing with her sole and separate property, whose address is 9819 Galloway Road, Middleton, Idaho 83644 ("Grantee"), witnesseth:

Grantor, for and in consideration of the sum of Ten Dollars ($10.00), and other good and valuable consideration, the receipt whereof is hereby acknowledged, does by these presents, grant bargain, sell, convey, and confirm unto Grantee and her heirs and assigns forever, all of the following described real estate situated in the County of Canyon, State of Idaho:

See **Exhibit A** attached to and made a part hereof

Together with all and singular the tenements, hereditaments, and appurtenances thereunto belonging or in anywise appertaining, the reversion and reversions, remainder and remainders, rents, issues, and profits thereof; and all estate, right, title, and interest in and to the property, as well in law as in equity.

To have and to hold, all and singular the above-described premises together with the appurtenances unto Grantee and her heirs and assigns forever.

Grantor warrants and by these presents forever defend the premises in the quiet and peaceable possession of Grantee, her heirs, and assigns against Grantor against all and every person or persons whomsoever, lawfully claiming the same.

[*Signature and acknowledgment on following page*]

BV

IN WITNESS WHEREOF, Grantor has hereunto set her hand on the day and year first above written.

GRANTOR:

Bonnie Vance Vermaas, as Trustee of the Bonnie Vance Vermaas Revocable Trust a trust established under the laws of the State of Idaho by an agreement dated November 18, 1994

Bonnie Vance-Vermaas

By: Bonnie Vance Vermaas
Its: Trustee

STATE OF IDAHO)
) ss.
County of Ada)

The foregoing instrument was acknowledged before on 11/4, 2019, by **Bonnie Vance Vermaas**, the **Trustee** of **The Bonnie Vance Vermaas Revocable Trust a trust established under the laws of the State of Idaho by an agreement dated November 18, 1994.**

TRACY V. VANCE
COMMISSION #31149
NOTARY PUBLIC
STATE OF IDAHO
MY COMMISSION EXPIRES 12/16/2022

Notary Public for Meridian, ID
My commission Expires: 12-16-2022

EXHIBIT A

Description of Property

Parcel 1

The West Half of the Northeast Quarter of the Northwest Quarter, Section 28, Township 5 North, Range 2 West of the Boise Meridian, Canyon County, Idaho.

EXCEPTING THEREFROM:

Beginning at the West 1/16 corner between Section 21 and 28, Township 5 North, Range 2 West of the Boise Meridian; thence running South 89°46' East, a distance of 196.4 feet to the real point of beginning; thence running South, a distance of 180.35 feet to a point; thence running South 49°45; East a distance of 314.49 feet to a point; thence running South 40°15' West a distance of 26.0 feet to a point; thence running South 49°45' East, a distance of 250.0 feet to a point; thence running North 40°15' East, a distance of 120.0 feet to a point; thence running North 49°45' West, a distance of 250.0 feet to a point; thence running South 40°15' West, a distance of 66.0 feet to a point; thence running North 49°45' West, a distance of 301.51 feet to a point; thence running North a distance of 167.25 feet to a point; thence running North 89°46' West, a distance of 28.0 feet to the real point of beginning.

Parcel 2

Beginning at the West 1/16 corner between Section 21 and 28, Township 5 North, Range 2 West of the Boise Meridian; thence running South 89°46' East, a distance of 196.4 feet to the real point of beginning; thence running South, a distance of 180.35 feet to a point; thence running South 49°45' East, a distance of 314.49 feet to a point; thence running South 40°15' West a distance of 26.0 feet to a point; thence running South 49°45' East, a distance of 250.0 feet to a point; thence running North 40°15' East, a distance of 120.0 feet to a point; thence running North 49°45' West, a distance of 250.0 feet to a point; thence running South 40°15' West, a distance of 66.0 feet to a point; thence running North 49°45' West, a distance of 301.51 feet to a point; thence running North a distance of 167.25 feet to a point; thence running North 89°46' West, a distance of 28.0 feet to the real point of beginning.

15-370

CANYON COUNTY DEVELOPMENT SERVICES DEPARTMENT

111 North 11th Avenue, #140 • Caldwell, Idaho • 83605 • Phone (208) 454-7458
Fax: (208) 454-6633 • www.canyoncounty.org/dsd

APPLICATION FOR HILLSIDE DEVELOPMENT

(Canyon County Zoning Ordinance § 07-17-33)

Applicant(s): Bonnie Vance Vermaas [redacted]
Name — Daytime Telephone Number

9619 Galloway Road — Middleton, Idaho — 83644
Street Address — City, State — Zip

Location of Subject Property: SE Corner of Merlynn Lane and Galloway Road; 0 Galloway Road — Canyon County
Two Nearest Cross Streets or Property Address — City

Assessor's Account Number(s): R 3751700000 Section 28 Township 5N Range 2W

Hillside development is defined by the Canyon County Code of Ordinances §07-02-03: Any development or that portion of a development located in terrain having a maximum slope exceeding fifteen percent (15%), except where evidence is provided that no construction or development shall take place on slopes greater than fifteen percent (15%).

In order to preserve, enhance, and promote the existing and future appearance and resources of hillsides, maximum retention of natural topographic features and qualities of the following shall be considered during the subdivision review process:

- Skyline and ridge tops;
- Rolling grassy land forms, including knolls, ridges, and meadows;
- Tree and shrub masses, grass, wild flowers and topsoil;
- Rock outcroppings;
- Stream beds, draws and drainage swails, especially where tree and plant formations occur; and
- Characteristic vistas and scenic panoramas.

All hillside development proposals shall take into account current application of desirable land use planning, soil mechanics, engineering geology, hydrology, civil engineering, environmental and civic design, architecture and landscape architecture.

Please answer the following questions:

1. Is any portion of your property within a flood way or flood zone? [X] No [ ] Yes

2. Does any portion of your property have slopes of more than fifteen percent (15%)?
   [ ] No [X] Yes If Yes, what percentage ±17%

3. What is the proposed name of your subdivision? Easy Flyer Subdivision

4. How many total nonresidential and residential lots is your proposing?
   Residential 7 Non-residential 0

5. Of the total lots you are requesting, how many lots are affected by the proposed hillside development? Residential 5 Non-residential 0 Road(s) 1

REQUIRED SUBMISSION INFORMATION

The subdivider shall retain professional expertise to obtain the following information:

C. **Grading and Drainage Plan** (CCZO 07-17-33 (1)(C)

Preliminary Grading Plan and Drainage Plan shall be submitted with each hillside preliminary plat proposal and shall include the following information (CCZO 07-17-33(1)(C)):

A. Approximately limiting dimensions, elevations or finish contours to be achieved by the grading, including all cut and fill slopes, proposed drainage channels and related construction;

B. Preliminary plans and approximate locations of all surface and subsurface drainage devices, walls, dams, sediment basins, storage reservoirs and other protective devices to be constructed;

C. A description of methods to be employed in disposing of soil and other material that is removed from the grading site, including the location of the disposal site.

Final Grading Plan shall be submitted with each final plat and include the following information (CCZO 07-17-33(1)(C)(2)):

A. Limiting dimensions, elevations or finish contours to be achieved by the grading, including all proposed cut and fill slopes and proposed drainage channels and related construction;

B. Detailed plans and locations of all surface and subsurface drainage devices, walls, dams, sediment basins, storage reservoirs and other protective devices to be constructed;

C. A schedule showing when each stage of the project will be completed, including the total area of soil surface which is to be disturbed during each stage together with estimated starting and completion dates.

NOTE: *In no event shall existing "natural" vegetative ground cover be destroyed, removed or disturbed more than fifteen (15) days prior to the grading.*

D. **Development Standards (CCZO 07-17-33(1)(D))**

1. **Soils:**

A. Fill areas shall be prepared by removing organic material, such as vegetation and rubbish and any other material which is determined by the soils engineer to be detrimental to proper compaction or otherwise not conducive to stability.

B. Cuts and fills shall be designed to provide safety, stability, and adequate setback from property lines in accordance with county standards drawings and specifications.

2. **Roadways:**

A. Road alignments shall reasonably follow natural terrain and no unnecessary cuts or fills shall be allowed.

B. One-way streets, in interior subdivision roads only, shall be permitted and encouraged where appropriate for terrain and when public safety would not be jeopardized. When approved by the county the one-way street may have a thirty foot (30') right-of-way instead of a sixty foot (60') right-of-way.

C. The width if the graded section shall extend three feet (3') beyond the curb back or edge of pavement on both the cut and fill sides of the roadway. If sidewalks are to be installed parallel to the roadway, the graded section shall be increased by the width if the sidewalk plus one foot (1') beyond the curb back.

D. Ribbon curbing and swales or concrete curb and gutter shall be installed along both sides of paved roadways, when required by the Board.

E. A pedestrian walkway plan may be required.

3. **Driveways and Parking Areas:** Combinations of collective private driveways, cluster parking areas and on-street, parallel parking ways may be used to attempt to optimize the objectives of minimum soil disturbance, minimum impervious cover, and enhance the excellence of design and aesthetic sensitivity.

E. **Vegetation and Revegetation Plan** (CCCO 07-17-33(1)(E)(1-3))

The ***Slope Stabilization and Re-Vegetation Plan*** shall be submitted with the hillside application and include the following:

1. A complete description of the existing vegetation, the description of the vegetation to be removed and the method of disposal, the vegetation to be planted and slope stabilization measures to be installed. The plan shall include an analysis of the environmental effects of such operations, including the effects it may have on slope stability, soil erosion, water quality and fish and wildlife.

2. Vegetation sufficient to stabilize the soils shall be established on all disturbed areas as each stage of grading is completed. Areas not contained within lot boundaries shall be protected with perennial vegetal cover after all construction is completed. Efforts shall be made to plant those species that tend to recover from fire damage and do not contribute to a rapid rate of fire spread.

3. The developer shall be fully responsible for any destruction of native vegetation proposed and approved for retention. He shall carry the responsibility both for his own employees and for all subcontractors from the first day of construction until the notice of completion is filed. The developer shall be responsible for replacing such destroyed vegetation in kind or its

equivalent.

F. **Maintenance Plan** (CCZO 07-17-33(1)(F))

The owner of any private property on which grading or other work has been performed pursuant to a grading plan approved or a building permit granted under the provisions of this ordinance shall continually maintain and repair all graded surfaces and erosion prevention devices, retaining walls, drainage structures or means, and other protective devices, plantings and ground cover installed or completed.

Hillside Development Requirements

The following checklist may be utilized by the Subdivision Review Team when reviewing your Hillside Development application to determine if you comply with Canyon County standards and ordinances. As the applicant, we welcome you to copy this form and use it for your own checklist.

YES	NO	Standard Assessed
☒	☐	Planning of development to fit the topography, soils, geology, hydrology and other conditions existing on the proposed site.
☒	☐	Orienting development to the site so that grading and other site preparation is kept to a minimum.
☒	☐	Shaping essential grading to complement the natural landforms and to minimize padding and terracing of building sites.
☒	☐	Division of land tracts into smaller workable units on which construction can be completed within one construction season so that large areas are not left bare and exposed during the winter-spring runoff period.
☒	☐	Completion of paving as rapidly as possible after grading.
☒	☐	Allocation of areas not well suited for development because of soil, geology or hydrology limitations for open space and recreation uses.
☒	☐	Consideration of view from and of the hills.
☒	☐	Areas having soil, geology or hydrology hazards shall not be developed unless it is shown that their limitation can be overcome.

========== **Applicant Acknowledgement and Signature** ==========

I, the undersigned acknowledge that the required hillside development plans have been submitted according to the requirements outlined in Canyon County Code 07-17-33.

I acknowledge that the Development Services Department may uphold the processing of my plat until all appropriate paperwork has been submitted and approvals obtained.

Signed: _____ Date: 04 / 14 / 2023
Applicant/Property Owner (Application Submitted)

ACCEPTED BY THE DEVELOPMENT SERVICES DEPARTMENT

Signed: _____ Date: _____/_____/_____
Director / Staff

March 17th, 2025
Project No.: 21-184

Mr. Dan Lister
Canyon County Development Services
111 North 11th Avenue
Caldwell, ID 83605

RE: Easy Flyer– Canyon County, ID
Preliminary Plat Application

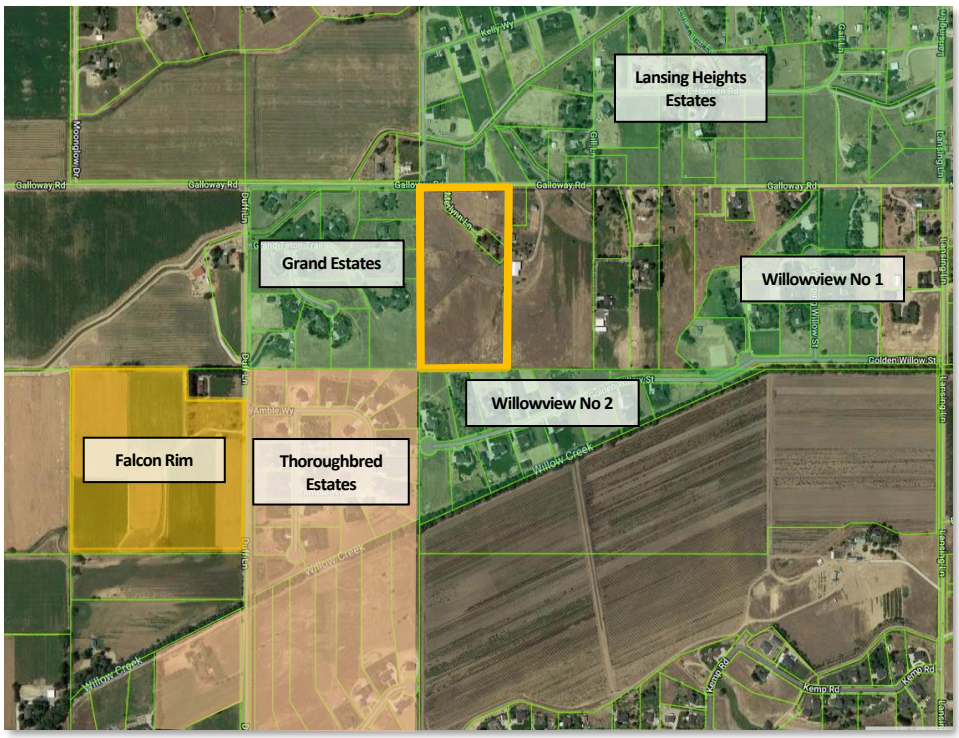
Dear Mr. Lister:

On behalf of Vermaas Estates, Inc., we are pleased to submit the attached applications and required supplements for a preliminary plat application for Easy Flyer Subdivision.

Site Information and Background

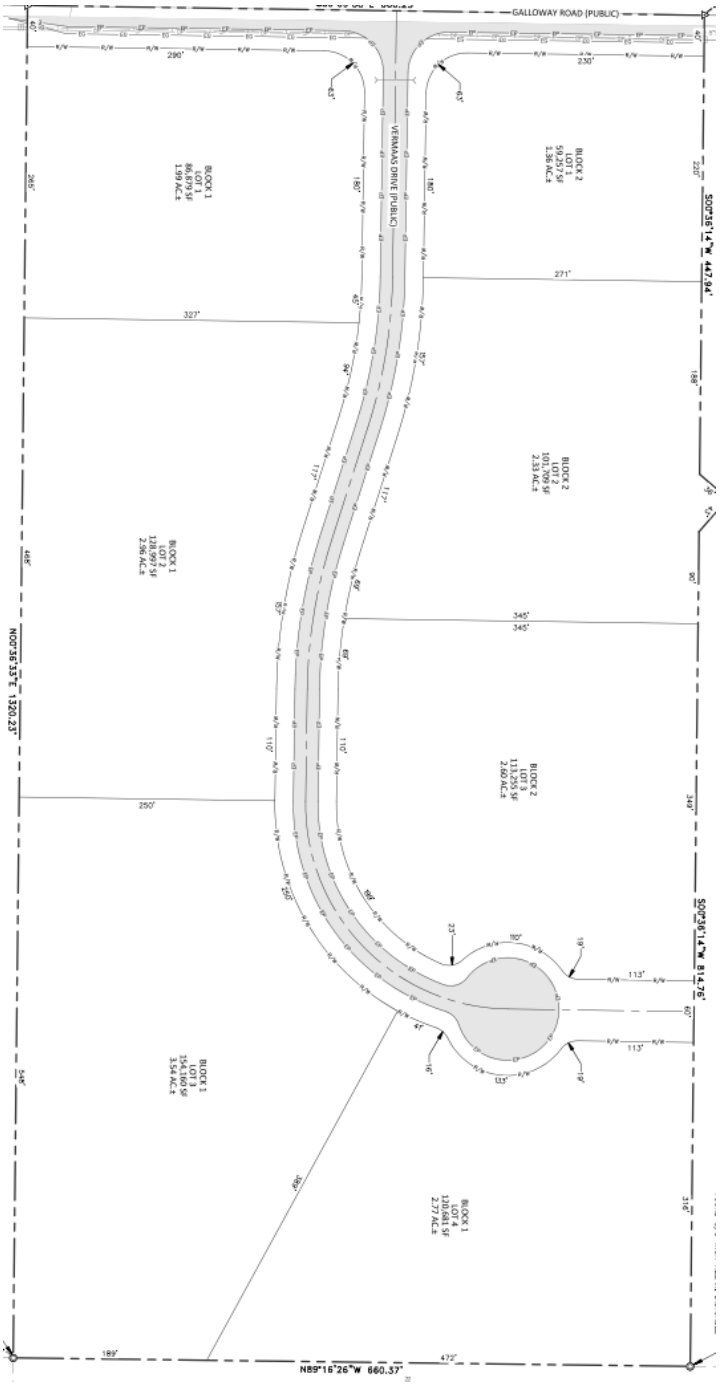
The project site is a +/- 20-acre property identified as parcel nos. R3751900000 & R3751700000, located directly south of Galloway Road and approximately 1,300' east of Duff Lane in Canyon County. The property was recently conditionally rezoned to the Rural Residential (R-R) district and is adjacent to numerous single-family homes with varying lot sizes all within Canyon County's jurisdiction. The Development Agreement associated with the conditional rezone, includes a provision requiring an average lot size of 2.5 acres.

The subject site currently consists of a single-family residence with surrounding pasture land. The applicant is interested in developing a residential subdivision to provide housing for Canyon County residents in close proximity to the City of Middleton's impact area. Single-family residences and other recently developed subdivisions with similar densities exist nearby. As a long-time resident in the area, the property owner's objective is to allow the property to develop in a manner that will be consistent with existing development and will continue to embrace the rural character of the area.



Preliminary Plat

The attached preliminary plat for Easy Flyer Subdivision includes a total of 7 buildable lots on approximately 20 acres. The proposed layout reflects a gross density of 0.35 units per acre with an average lot size of 2.5 acres, which is consistent with the recorded DA and exceeds the minimum required in the R-R zoning district. Buildable lots range in size from approximately 1.4 acres to 3.5 acres, providing large lots with favorable configurations. The lots have been designed to enhance the availability of low-density living options and guide growth in areas where a rural lifestyle may be determined to be suitable, as is an objective of the R-R district.



Building lots have been configured to accommodate the existing topography of the area; all buildable areas will be located outside of slopes exceeding 15%. As such, no hillside development applications will be needed for the proposed lots. Building envelopes have been configured to provide views and accentuate the natural amenities in the area. The developer will coordinate with the County on any requirements related to hillside development as applicable.

Lot 3 has been designed to retain the existing home. The existing home was constructed decades ago and has served as the primary residence for the property owner.

Easy Flyer will develop in one phase. Anticipated construction will depend on market conditions as well as coordination and approval timelines with reviewing agencies.

Access, Transportation and Services

Easy Flyer will take access via Galloway Road via a public road, which will be improved to Highway District No 4's (HD4) standards. The road will terminate with a temporary cul-de-sac with right-of-way dedicated to HD4 stubbed to the east, should redevelopment of the parcel to the east occur. Direct lot access to Galloway Road will be prohibited.

The subdivision will be served by on-site septic and well, future development plans will include more detail as the project goes into final design. Fire suppression requirements will be coordinated with the fire district. Irrigation will be provided via individual wells located on each lot as water is not currently delivered to the property.

Roadway requirements and specifications will be coordinated with HD4 as we finalize the subdivision design. As the project progresses, we will work with other applicable public utilities and associated agencies to ensure that

adequate services are provided, and improvements are made as required. All stormwater facilities are proposed to be built to Canyon Highway District No. 4's standards.

Conclusion

Easy Flyer Subdivision complements surrounding residential uses, is consistent with existing development, maintains the rural character of the surrounding area, and will provide additional housing opportunities needed for growth and for the agricultural workers in this beautiful area of Canyon County. Should you have questions or require further information in order to process these applications, please feel free to contact me.

Sincerely,
KM Engineering, LLP

Jaya Littlewing

Jaya Littlewing
Land Planner

cc: Vermaas Estates, Inc.

SUBDIVISION WORKSHEET

Overview:

Number of Buildable Residential Lots: 7	Number of Non-Buildable Lots: 0
Number of Common Lots:	Total Subdivision Size: +/- 20 acres
Number of Common Lots:	Average Residential Lot Size:

Area of City Impact:

Is the property in an Area of City Impact? ☒No ☐Yes- What City:

Will you be requesting subdivision Improvement Waivers? ☐No ☐Yes n/a

If yes, which waivers will you be requesting?

☐Curbs ☐Gutters ☐Sidewalks ☐Street Lights ☐Landscaping ☐Other

If you are located in an Area of City Impact the following is required:

- Evidence of compliance with IC 31-3805 which could include evidence of irrigation system plan approval by the planning and zoning authority and city council and coordination with the irrigation entity.
- Communication with the City.

Roads:

Roads within the development will utilize:

☒Public ☐Private* ☐Not Applicable

*Private Roads Require: Name approved prior to submittal & a Private Road Application at the Time of submittal.

Hillside Development:

Of the total lots requested how many of each contain slopes +15%?

Residential: 5_____ Non-Buildable: _____ Common: _____

Will the proposed roads be located within any area containing +15% slopes?

☒Yes* ☐No

*If any development or construction activities will occur on slopes > 15% please submit the information required by CCZO 07-17-33

Irrigation:

What is the name of the irrigation and drainage entities servicing the property?

Irrigation: n/a

Drainage: BCID

This property has: ☐Water rights available ☒No water rights available.

If No Water Rights are available, please fill out an Irrigation Plan Worksheet

Irrigation Water is Provided via: ☒Irrigation Well ☐Surface Water

Percentage of property that has water: 0%

Volume of water or diversion rate available at the property: 0

Please describe, in detail, how the property is currently irrigated and how it will be irrigated after it is subdivided:

The property does not currently have water rights as they were not adequate to serve the entire property or proposed development. Water rights have been transferred and proposed development will be irrigated via individual wells.

Are there irrigation easement(s) on the property? ☒Irrigation Well ☐Surface Water

How do you plan to retain storm and excess water on each lot?

Grading on each lot will retain all excess water.

How do you plan to remove the stormwater/excess irrigation water prior to it entering the established drainage system? (i.e. oil, grease, contaminated aggregates):

Site grading will remove stormwater / excess irrigation water from discharging off the site.

Applicant Acknowledgement

I, the undersigned, agree that prior to the Development Services Department accepting this application I am responsible to have all of the required information and site plans.

I further acknowledge that the irrigation system, as approved by the Planning and Zoning Commission and ultimately the Board of County Commissioners, must be bonded and/or installed prior the Board's signature on the final plat.

Signed: Bonnie Vermaas Date: 3 / 15 / 2025
Property Owner (Application Submitted)

Signed: _____, VP Date: 3 / 15 / 2025
Applicant/Representative (if not property owner) (Application Submitted)

Accepted By: _____ Date: _____/_____/_____
Director / Staff

GEOTECHNICAL INVESTIGATION

EASY FLYER SUBDIVISION

9713 Galloway Road
Caldwell, ID

PREPARED FOR:

Tracy Vance
Vermaas Estates, Inc.
2695 East Romeo Drive
Meridian, ID 83642

PREPARED BY:

Atlas Technical Consultants, LLC
2791 South Victory View Way
Boise, ID 83709

April 12, 2023
B230303g

2791 South Victory View Way
Boise, ID 83709
(208) 376-4748 | oneatlas.com

April 12, 2023

Atlas No. B230303g

Tracy Vance
Vermaas Estates, Inc.
2695 East Romeo Drive
Meridian, ID 83642

Subject: **Geotechnical Investigation**
Easy Flyer Subdivision
9713 Galloway Road
Caldwell, ID

Dear Tracy Vance:

In compliance with your instructions, Atlas has conducted a soils exploration and foundation evaluation for the above referenced development. Fieldwork for this investigation was conducted on March 17, 2023. Data have been analyzed to evaluate pertinent geotechnical conditions. Results of this investigation, together with our recommendations, are to be found in the following report. We have provided a PDF copy for your review and distribution.

Often, questions arise concerning soil conditions because of design and construction details that occur on a project. Atlas would be pleased to continue our role as geotechnical engineers during project implementation.

If you have any questions, please call us at (208) 376-4748.

Respectfully submitted,

Max Kasberger, PE
Geotechnical Engineer

Jacob Schlador, PE
Geotechnical Engineer

Monica Saculles, PE
Senior Geotechnical Engineer

PROFESSIONAL ENGINEER
LICENSED
14919
4-12-23
STATE OF IDAHO
MONICA SACULLES

ATLAS

CONTENTS

TABLES

APPENDICES

1. INTRODUCTION

This report presents results of a geotechnical investigation and analysis in support of data utilized in design of structures as defined in the 2018 International Building Code (IBC). Information in support of groundwater and stormwater issues pertinent to the practice of Civil Engineering is included. Observations and recommendations relevant to the earthwork phase of the project are also presented. Revisions in plans or drawings for the proposed development from those enumerated in this report should be brought to the attention of the soils engineer to determine whether changes in the provided recommendations are required. Deviations from noted subsurface conditions, if encountered during construction, should also be brought to the attention of the soils engineer.

1.1 Project Description

The proposed development is in the City of Caldwell, Canyon County, ID, and occupies the west half of the NE¼NW¼ of Section 28, Township 5 North, Range 2 West, Boise Meridian. The site to be developed is approximately 20 acres. Site maps included in the **Appendix** show the project location.

This project will consist of subdividing the existing site into 13 lots ranging from approximately 1.0 to 2.71 acres in size. The existing onsite structure will remain as one of the lots. Single-family residences will be constructed on the remaining lots. These structures will be serviced via individual septic systems. The slopes onsite will be regraded from approximately 38.3 percent to less than 30 percent. Retaining walls are not anticipated as part of the project. A paved roadway will be constructed to access the lots. Drainage is expected to be directed to onsite infiltration facilities. These facilities are expected to consist of a series of infiltration ponds adjacent to the proposed roadways. Atlas was provided a grading plan prepared by KM Engineering and dated February 7, 2023.

1.2 Scope of Investigation

Our scope of work was completed in general accordance with our proposal dated February 14, 2023 and authorized on February 22, 2023. Said authorization is subject to terms, conditions, and limitations described in the Professional Services Contract entered into between Vermaas Estates, Inc. and Atlas.

Atlas' scope of services included the following:

- Subsurface exploration via test pits.
- Field and laboratory testing of materials encountered and collected.
- Preparation of this report, which includes project description, site conditions, and our engineering analysis and evaluation for the project.

2. SITE DESCRIPTION

2.1 Regional Geology

The project site is located within the western Snake River Plain of southwestern Idaho and eastern Oregon. The plain is a northwest trending rift basin, about 45 miles wide and 200 miles long, that developed about 14 million years ago (Ma) and has since been occupied sporadically by large inland lakes. Geologic materials found within and along the plain's margins reflect volcanic and fluvial/lacustrine sedimentary processes that have led to an accumulation of approximately 1 to 2 km of interbedded volcanic and sedimentary deposits within the plain. Along the margins of the plain, streams that drained the highlands to the north and south provided coarse to fine-grained sediments eroded from granitic and volcanic rocks, respectively. About 2 million years ago the last of the lakes was drained and since that time fluvial erosion and deposition has dominated the evolution of the landscape.

The northern half of the project site is underlain by "Gravel of Deer Flat Terrace" as mapped by Othberg and Stanford (1993). Gravel of Deer Flat Terrace extends from Lake Lowell northeast to the area just south of Wilder. The surface of this terrace may have been offset by several northwest trending faults. Deposits include sandy pebble gravel grading at depth to coarse pebbly sand. Deposited on the fourth terrace above the floodplain in the western Boise Valley. North of Caldwell and Middleton Tertiary sediments are exposed between terrace remnants. Terrace sediments are typically greater than 30 feet thick and mantled with loess 1-4 meters (3-13 feet) thick, contain 45% pedogenic clay and very well developed duripans. The southern half of the project site is underlain by the "Gravel of Whitney Terrace" as mapped by Othberg and Stanford (1993). Sediments of the Whitney terrace consist of sandy pebble and cobble gravel. The Whitney terrace is the second terrace above modern Boise River floodplain, is thickest toward its eastern extent, and is mantled with 2-6 feet of loess.

2.2 General Site Characteristics

The following details regarding site conditions are based on visual observations and review of available geologic and topographic maps and imagery:

- **Current Site Conditions:** The site is approximately 20 acres. A residence exists in the northeastern portion of the site with an associated outbuilding in the central portion of the site. The remainder of the northern half of the site consists of pasture land. The southern half of the site consists of undeveloped land. A gravel driveway runs north to south and then southeast through the northern portion of the site, connecting Galloway Road to the residence.
- **Vegetation:** Vegetation on the site consists primarily of landscape trees, shrubs, and grasses adjacent to the residence. The remainder of the site consists of native grasses and brush.

- **Topography:** Based on a topographic map of the site dated February 7, 2023 and prepared by KM Engineers, there is approximately 52 feet of elevation relief from north to south. Slopes on this site range from less than 1 percent to 38.3 percent in the central portion of the site. A south-facing slope exists through the central portion of the site and is roughly 4 feet horizontal to 1 foot vertical (4:1).
- **Drainage:** Stormwater drainage for the site is achieved by both sheet runoff and percolation through surficial soils. Runoff predominates for the steeper slopes while percolation prevails across the gently sloping and near level areas. The site is situated so that it is unlikely that it will receive any drainage from off-site sources.

2.3 Seismic Site Evaluation

2.4 Geoseismic Setting

Soils on site are classed as Site Class D in accordance with Chapter 20 of the American Society of Civil Engineers (ASCE) publication ASCE/SEI 7-16. Structures constructed on this site should be designed per IBC requirements for such a seismic classification. Our investigation revealed low hazard potential resulting from potential earthquake motions including: slope instability, liquefaction, and surface rupture caused by faulting or lateral spreading.

2.5 Seismic Design Parameter Values

The ASCE 7-16 seismic design parameter values have been provided below.

Table 1 – Seismic Design Values

Seismic Design Parameter	Design Value
Site Class	D "Default"
Site Modified Peak Ground Acceleration, PGA_M	0.202
S_s	0.297 (g)
S_1	0.108 (g)
F_a	1.562
F_v	2.383
S_{MS}	0.464
S_{M1}	0.258
S_{DS}	0.309
S_{D1}	0.172

3. SOILS EXPLORATION

3.1 Exploration and Sampling Procedures

Field exploration conducted to determine engineering characteristics of subsurface materials included a reconnaissance of the project site and investigation by test pit. Test pit sites were located in the field by means of a Global Positioning System (GPS) device and are reportedly accurate to within ten feet. Upon completion of investigation, each test pit was backfilled with loose excavated materials. Re-excavation and compaction of these test pit areas are required prior to construction.

Samples obtained have been visually classified in the field, identified according to test pit number and depth, placed in sealed containers, and transported to our laboratory for additional testing. Subsurface materials have been described in detail on logs provided in the **Appendix**. Results of field and laboratory tests are also presented in the **Appendix**. Atlas recommends that these logs **not** be used to estimate fill material quantities.

3.2 Laboratory Testing Program

Along with our field investigation, a supplemental laboratory testing program was conducted to determine additional pertinent engineering characteristics of subsurface materials. Laboratory tests were conducted in accordance with current specifications. The laboratory testing program for this report included:

- Atterberg Limits Testing – ASTM D4318
- Grain Size Analysis – ASTM C117/C136
- Hydrometer – ASTM D422

3.3 Soil and Sediment Profile

The profile below represents a generalized interpretation for the project site. Note that on site soils strata, encountered between test pit locations, may vary from the individual soil profiles presented in the logs.

Table 2 – Typical Soil Profiles

Soil Horizons	Approximate Depths	Soil Types	Consistency/Relative Density
Surficial Soils	0 to 3.5 feet	Lean Clay with Sand	Medium Stiff to Very Stiff
Intermediate Soils[1]	1 to 14 feet	Sandy Silt, Silt	Medium Stiff to Hard
Deeper Soils[1]	3 to 15.5 feet	Silty Sand, Poorly Graded Sand with Silt, Poorly Graded Sand with Silt and Gravel, Clayey Sand	Medium Dense to Dense

[1]**Calcium carbonate cementation and induration noted within portions of these horizons.**

During excavation, test pit sidewalls were generally stable. However, moisture contents will affect wall competency with saturated soils having a tendency to readily slough when under load and unsupported.

3.4 Volatile Organic Scan

Soils obtained during on-site activities were not assessed for volatile organic compounds by portable photoionization detector. Samples obtained during our exploration activities exhibited no apparent odors or discoloration typically associated with this type of contamination. No groundwater was encountered.

4. SITE HYDROLOGY

Existing surface drainage conditions are defined in the **General Site Characteristics** section. Information provided in this section is limited to observations made at the time of the investigation. Either regional or local ordinances may require information beyond the scope of this report.

4.1 Groundwater

During this field investigation, groundwater was not encountered in test pits advanced to a maximum depth of 15.5 feet bgs. During a previous exploration conducted in April 2021 approximately 0.4 mile southwest of the project site, groundwater was not encountered to a depth of 11.7 feet bgs. Furthermore, according to Idaho Department of Water Resources (IDWR) Well Driller's Reports data within approximately ¼-mile of the project site, groundwater was measured at depths ranging between 83 and 109 feet bgs. For construction purposes, groundwater depth can be assumed to remain greater than 20 feet bgs throughout the year.

4.2 Soil Infiltration Rates

Soil permeability, which is a measure of the ability of a soil to transmit a fluid, was not tested in the field. Given the absence of direct measurements, for this report an estimation of infiltration is presented using generally recognized values. Typical infiltration rates comprising the generalized soil profile for this study have been provided in the table below.

Table 3 – Generalized Soil Infiltration Rates

Soil Type	Typical Infiltration Rate (inches per hour)
Lean Clay with Sand	<2
Silt	
Sandy Silt*	2 to 4
Clayey Sand	2 to 6
Silty Sand*	4 to 8
Poorly Graded Sand with Silt**	6 to 10**
Poorly Graded Sand with Silt and Gravel	

***The presence of cementation/induration may reduce infiltration rates to near zero.**
****The presence of clay/indurated/cemented nodules may reduce induce rates to near zero.**

Due to the variability of soil types encountered, Atlas recommends that infiltration testing be conducted once the infiltration facility locations have been determined. However, for preliminary design purposes, an infiltration rate of 2 inches per hour can be assumed for the silty sand and poorly graded sand with silt sediments.

5. FOUNDATION AND SLAB DISCUSSION AND RECOMMENDATIONS

Various foundation types have been considered for support of the proposed structures. Two requirements must be met in the design of foundations. First, the applied bearing stress must be less than the ultimate bearing capacity of foundation soils to maintain stability. Second, total and differential settlement must not exceed an amount that will produce an adverse behavior of the superstructure. Allowable settlement is usually exceeded before bearing capacity considerations become important; thus, allowable bearing pressure is normally controlled by settlement considerations.

5.1 Foundation Loading Information

Loads of up to 5,000 pounds per lineal foot for wall footings, and column loads of up to 50,000 pounds were assumed for settlement calculations. Total settlement should be limited to approximately 1 inch and differential settlement should be limited to approximately ½ inch, provided the following design and construction recommendations are observed.

5.2 Foundation Design Recommendations

Considering subsurface conditions and the proposed construction, it is recommended that the structures be founded upon conventional spread footings and continuous wall footings. Based on data obtained from the site and test results from various laboratory tests performed, Atlas recommends the following guidelines for the net allowable soil bearing capacity:

Table 4 – Soil Bearing Capacity

Footing Depth	ASTM D1557 Subgrade Compaction	Net Allowable Soil Bearing Capacity
Footings must bear on competent, undisturbed, native lean clay with sand soils, sandy silt soils or compacted structural fill. Existing organic materials must be completely removed from below foundation elements.[1] Excavation depths ranging from roughly 0.2 to 0.5 foot bgs should be anticipated to expose proper bearing soils.[2]	Not Required for Native Soil 95% for Structural Fill	1,500 lbs/ft^2 A ⅓ increase is allowable if the alternative basic load combinations of Section 1605.3.2 of the 2018 IBC are used in design.

[1]It will be required for Atlas personnel to verify the bearing soil suitability for each structure at the time of construction.
[2]Depending on the time of year construction takes place, the subgrade soils may be unstable because of high moisture contents. If unstable conditions are encountered, over-excavation and replacement with granular structural fill and/or use of geotextiles may be required.

The following sliding frictional coefficient values should be used: 1) 0.35 for footings bearing on native lean clay with sand soils and sandy silt soils, and 2) 0.45 for footings bearing on granular structural fill. A passive lateral earth pressures of 318 pounds per square foot per foot (psf/ft) should be used for lean clay with sand soils and 349 psf/ft should be used for sandy silt soils. For compacted sandy gravel fill, a passive lateral earth pressure of 496 psf/ft should be used.

Footings should be proportioned to meet either the stated soil bearing capacity or the 2018 IBC minimum requirements. Objectionable soil types encountered at the bottom of footing excavations should be removed and replaced with structural fill. Excessively loose or soft areas that are encountered in the footings subgrade will require over-excavation and backfilling with structural fill. To minimize the effects of slight differential movement that may occur because of variations in the character of supporting soils and seasonal moisture content, Atlas recommends continuous footings be suitably reinforced to make them as rigid as possible. For frost protection, the bottom of external footings should be 24 inches below finished grade. Foundations must be backfilled in accordance with the **Backfill of Walls** section.

5.3 Crawl Space Recommendations

All residences constructed with crawl spaces should be designed in a manner that will inhibit water in the crawl spaces. Atlas recommends that roof drains carry stormwater at least 10 feet away from each residence. Grades should be at least 5 percent for a distance of 10 feet away from all residences. In addition, rain gutters should be placed around all sides of residences, and backfill around stem walls should be placed and compacted in a controlled manner.

5.4 Floor, Patio, and Garage Slab-on-Grade

Organic, loose, or obviously compressive materials must be removed prior to placement of concrete floors or floor-supporting fill. In addition, the remaining subgrade should be treated in accordance with guidelines presented in the **Earthwork** section. Areas of excessive yielding should be excavated and backfilled with structural fill. Fill used to increase the elevation of the floor slab should meet requirements detailed in the **Structural Fill** section. Fill materials must be compacted to a minimum 95 percent of the maximum dry density as determined by ASTM D1557.

A free-draining granular mat should be provided below slabs-on-grade to provide drainage and a uniform and stable bearing surface. This should be a minimum of 4 inches in thickness and properly compacted. The mat should consist of a sand and gravel mixture, complying with Idaho Standards for Public Works Construction (ISPWC) specifications for ¾-inch (Type 1) crushed aggregate. The granular mat should be compacted to no less than 95 percent of the maximum dry density as determined by ASTM D1557.

A moisture-retarder should be placed beneath floor slabs to minimize potential ground moisture effects on moisture-sensitive floor coverings. The moisture-retarder should be at least 15-mil in thickness and have a permeance of less than 0.01 US perms as determined by ASTM E96. Placement of the moisture-retarder will require special consideration with regard to effects on the slab-on-grade and should adhere to recommendations outlined in the ACI 302.1R and ASTM E1745 publications. Upon request, Atlas can provide further consultation regarding installation.

6. PAVEMENT DISCUSSION AND RECOMMENDATIONS

6.1 Pavement Design Parameters

Project specific traffic loading information has not been provided. Based on the character of the proposed construction, Atlas has used a traffic index of 6 for the residential roadway. Atlas can provide a project specific pavement design upon request. Based on experience with soils in the region, a subgrade Resistance Value (R-value) of 9 has been assumed for near-surface lean clay with sand soils on site.

The recommended pavement section provided below is based on a 20-year design life. To achieve this design life a routine maintenance program that includes crack sealing on a regular basis and possible seal coating will be required. The following are minimum thickness requirements for assured pavement function. Depending on site conditions, additional work, e.g. soil preparation, may be required to support construction equipment. These have been listed within the **Soft Subgrade Soils** section.

6.2 Flexible Pavement Section

The Gravel Equivalent Method, as defined in Section 500 of the State of Idaho Department of Transportation (ITD) Materials Manual, was used to develop the pavement section. ITD parameters for traffic index and substitution ratios, which were obtained from the ITD Materials Manual, were also used in the design. Atlas recommends that materials used in the construction of asphaltic concrete pavements meet the requirements of the ISPWC Standard Specification for Highway Construction. Construction of the pavement section should be in accordance with these specifications.

Table 5 – Gravel Equivalent Method Flexible Pavement Specifications

Pavement Section Component	Residential Roadways TI = 6
Asphaltic Concrete	2.5 Inches
Crushed Aggregate Base	6.0 Inches
Structural Subbase	12.0 Inches
Compacted Subgrade[1]	Not Required

- Asphaltic Concrete: Asphalt mix design shall meet the requirements of ISPWC Section 810. Materials shall be placed in accordance with ISPWC Standard Specifications for Highway Construction.

- Aggregate Base: Material complying with ISPWC Standards for Type 1 Crushed Aggregate Materials.
- Structural Subbase: Material complying with ISPWC Section 801 for 3-inch or 6-inch Uncrushed Aggregate Materials. The maximum material diameter cannot exceed $^2/_3$ the component thickness.

6.3 Common Pavement Section Construction Issues

The subgrade upon which above pavement sections are to be constructed must be properly stripped, inspected, and proof-rolled. Proof rolling of subgrade soils should be accomplished using a heavy rubber-tired, fully loaded, tandem-axle dump truck or equivalent. Verification of subgrade competence by Atlas personnel at the time of construction is required. Fill materials on the site must demonstrate the indicated compaction prior to placing material in support of the pavement section. Atlas anticipated that pavement areas will be subjected to moderate traffic. Subgrade clayey and silty soils near and above optimum moisture contents may pump during compaction. Pumping or soft areas must be removed and replaced with structural fill.

Fill material and aggregates, in support of the pavement section must be compacted to no less than 95 percent of the maximum dry density as determined by ASTM D698 for flexible pavements and by ASTM D1557 for rigid pavements. If a material placed as a pavement section component cannot be tested by usual compaction testing methods, then compaction of that material must be approved by observed proof rolling. Minor deflections from proof rolling for flexible pavements are allowable. Deflections from proof rolling of rigid pavement support courses should not be visually detectable.

7. CONSTRUCTION CONSIDERATIONS

7.1 Earthwork

Excessively organic soils, deleterious materials, or disturbed soils generally undergo high volume changes when subjected to loads, which is detrimental to subgrade behavior in the area of pavements, floor slabs, structural fills, and foundations. Mature trees, brush, and thick grasses with associated root systems were noted at the time of our investigation. It is recommended that organic or disturbed soils, if encountered, be removed to depths of 1 foot (minimum), and wasted or stockpiled for later use. However, in areas where trees are/were present, deeper excavation depths should be anticipated. Stripping depths should be adjusted in the field to assure that the entire root zone or disturbed zone or topsoil are removed prior to placement and compaction of structural fill materials. Exact removal depths should be determined during grading operations by Atlas personnel, and should be based upon subgrade soil type, composition, and firmness or soil stability. If underground storage tanks, underground utilities, wells, or septic systems are discovered during construction activities, they must be decommissioned then removed or abandoned in accordance with governing Federal, State, and local agencies. Excavations developed as the result of such removal must be backfilled with structural fill materials as defined in the **Structural Fill** section.

Atlas should oversee subgrade conditions (i.e., moisture content) as well as placement and compaction of new fill (if required) after native soils are excavated to design grade. Recommendations for structural fill presented in this report can be used to minimize volume changes and differential settlements that are detrimental to the behavior of footings, pavements, and floor slabs. Sufficient density tests should be performed to properly monitor compaction.

7.2 Grading

Positive grades must be maintained surrounding structures and pavements, including exterior slabs. The interface of plant bedding materials and underlying soils should be graded to provide drainage away from site elements. Otherwise, bedding materials may direct water to underlying fine-grained soils, which increases the potential for localized heave. Excessive watering of landscaping should be avoided.

7.3 Dry Weather

If construction is to be conducted during dry seasonal conditions, many problems associated with soft soils may be avoided. However, some rutting of subgrade soils may be induced by shallow groundwater conditions related to springtime runoff or irrigation activities during late summer through early fall. Solutions to problems associated with soft subgrade soils are outlined in the **Soft Subgrade Soils** section. Problems may also arise because of lack of moisture in native and fill soils at time of placement. This will require the addition of water to achieve near-optimum moisture levels. Low-cohesion soils exposed in excavations may become friable, increasing chances of sloughing or caving. Measures to control excessive dust should be considered as part of the overall health and safety management plan.

7.4 Wet Weather

If construction is to be conducted during wet seasonal conditions (commonly from mid-November through May), problems associated with soft soils must be considered as part of the construction plan. During this time of year, fine-grained soils such as silts and clays will become unstable with increased moisture content, and eventually deform or rut. Additionally, constant low temperatures reduce the possibility of drying soils to near optimum conditions.

7.5 Soft Subgrade Soils

Shallow fine-grained subgrade soils that are high in moisture content should be expected to pump and rut under construction traffic. During periods of wet weather, construction may become very difficult if not impossible. The following recommendations and options have been included for dealing with soft subgrade conditions:

- Track-mounted vehicles should be used to strip the subgrade of root matter and other deleterious debris. Heavy rubber-tired equipment should be prohibited from operating directly on the native subgrade and areas in which structural fill materials have been placed. Construction traffic should be restricted to designated roadways that do not cross, or cross on a limited basis, proposed roadway or parking areas.

- Soft areas can be over-excavated and replaced with granular structural fill.
- Construction roadways on soft subgrade soils should consist of a minimum 2-foot thickness of large cobbles of 4 to 6 inches in diameter with sufficient sand and fines to fill voids. Construction entrances should consist of a 6-inch thickness of clean, 2-inch minimum, angular drain-rock and must be a minimum of 10 feet wide and 30 to 50 feet long. During the construction process, top dressing of the entrance may be required for maintenance.
- Scarification and aeration of subgrade soils can be employed to reduce the moisture content of wet subgrade soils. After stripping is complete, the exposed subgrade should be ripped or disked to a depth of 1½ feet and allowed to air dry for 2 to 4 weeks. Further disking should be performed on a weekly basis to aid the aeration process.
- Alternative soil stabilization methods include use of geotextiles, lime, and cement stabilization. Atlas is available to provide recommendations and guidelines at your request.

7.6 Frozen Subgrade Soils

Prior to placement of structural fill materials or foundation elements, frozen subgrade soils must either be allowed to thaw or be stripped to depths that expose non-frozen soils and wasted or stockpiled for later use. Stockpiled materials must be allowed to thaw and return to near-optimal conditions prior to use as structural fill.

The onsite, shallow clayey and silty soils are susceptible to frost heave during freezing temperatures. For exterior flatwork and other structural elements, adequate drainage away from subgrades is critical. Compaction and use of structural fill will also help to mitigate the potential for frost heave. Complete removal of frost susceptible soils for the full frost depth, followed by replacement with a non-frost susceptible structural fill, can also be used to mitigate the potential for frost heave. Atlas is available to provide further guidance/assistance upon request.

7.7 Structural Fill

The following table defines the types of fill material that is suitable for use on the project. Refer to the **Fill Placement and Compaction** section for recommended placement locations for each fill type listed below.

Table 6 – Fill Material Criteria

Fill Type	Material	Lift Thickness*
Granular Structural Fill	ISPWC Section 801 for 1-inch, 3-inch, or 6-inch Uncrushed Aggregate and ISPWC Section 802 Aggregate Base	12 inches
Aggregate Base Material	ISPWC Section 802 for Type 1 Crushed Aggregate Base	12 inches
Subbase Material	ISPWC Section 801 for 6-inch Uncrushed Aggregate	12 inches
Suitable Soil**	Onsite/imported ML, SM, and GM soils that are free of organics and debris	6 inches

*** Initial loose thickness, prior to compaction.**
**** Onsite CL soils are unsuitable for use as fill material.**

7.8 Fill Placement and Compaction

Requirements for fill material type and compaction effort are dependent on the planned use of the material. The following table specifies material type and compaction requirements based on the placement location of the fill material.

Table 7 – Fill Placement and Compaction Requirements

Fill Location	Material Type	Compaction
Foundations	Granular Structural Fill	95% of ASTM D1557
Interior Slab-on-Grade	Granular Structural Fill or Suitable Soil	95% of ASTM D1557
Top 4 Inches of Interior and Exterior Slab-on-Grade	Aggregate Base Material	95% of ASTM D1557
Below Pavement Subgrade and Exterior Flatwork Areas	Granular Structural Fill or Suitable Soil	95% of ASTM D698 or 92% of ASTM D1557
Foundation and Retaining Wall Backfill	Granular Structural Fill or Suitable Soil	95% of ASTM D1557
Utility Trench Backfill	Granular Structural Fill or Suitable Soil	Per ISPWC Section 306
Landscape Areas	Granular Structural Fill or Suitable Soil	92% of ASTM D698 or 90% of ASTM D1557

Prior to placement of structural fill materials, surfaces must be prepared as outlined in the **Earthwork** section. Structural fill material must be placed in horizontal lifts not exceeding 6-inches in thickness for fine-grained soils and 12-inches in thickness for granular structural fill, aggregate base material, and subbase material. All fill material must be moisture-conditioned to achieve optimum moisture content prior to compaction.

During placement all fill materials must be monitored and tested to confirm compaction requirements have been achieved, as specified above, prior to placement of subsequent lifts. In addition, compacted surfaces must be in a firm and unyielding condition. Atlas personnel should be onsite to verify suitability of subgrade soil conditions, identify whether further work is necessary, and perform in-place moisture density testing.

Sufficient density tests should be performed to properly monitor compaction. At a minimum, Atlas recommends one test per lift as follows:

- Structures – 1 test every 5,000 square feet
- Pavement and Exterior Flatwork Areas – 1 test every 10,000 square feet
- Foundation and Retaining Wall Backfill – 1 test every 500 square feet
- Utility Trench Backfill – 1 test every 100 linear feet
- Landscape Areas – 1 test every 15,000 square feet

Silty soils require very high moisture contents for compaction, require a long time to dry out if natural moisture contents are too high, and may also be susceptible to frost heave under certain conditions. Therefore, these materials can be quite difficult to work with as moisture content, lift thickness, and compactive effort becomes difficult to control. If silty soil is used for structural fill, lift thicknesses should not exceed 6 inches (loose), and fill material moisture must be closely monitored at both the working elevation and the elevations of materials already placed. Following placement, the exposed surface must be protected from degradation resulting from construction traffic or subsequent construction. It is anticipated that fine-grained soils will not be suitable for reuse during the wet season.

Use of silty soils (GM, SM, and ML) as structural fill below footings is prohibited. For structural fill below footings, areas of compacted backfill must extend outside the perimeter of the footings for a distance equal to the thickness of fill between the bottom of foundation and underlying soils, or 5 feet, whichever is less.

If material contains more than 40 percent but less than 50 percent oversize (greater than ¾-inch) particles, compaction of fill must be confirmed per ISPWC Section 202.3.8.D.3. Material should contain sufficient fines to fill void spaces and must not contain more than 50 percent oversize particles.

7.9 Backfill of Walls

Backfill materials must conform to the requirements of structural fill, as defined in this report. For wall heights greater than 2.5 feet, the maximum material size should not exceed 4 inches in diameter. Placing oversized material against rigid surfaces interferes with proper compaction and can induce excessive point loads on walls. Backfill shall not commence until the wall has gained sufficient strength to resist placement and compaction forces. Further, retaining walls above 2.5 feet in height shall be backfilled in a manner that will limit the potential for damage from compaction methods and/or equipment. It is recommended that only small hand-operated compaction equipment be used for compaction of backfill within a horizontal distance equal to the height of the wall, measured from the back face of the wall.

Backfill should be compacted in accordance with the specifications for structural fill, except in those areas where it is determined that future settlement is not a concern, such as planter areas. In nonstructural areas, backfill must be compacted to a firm and unyielding condition. Atlas recommends in these areas that the top 12 inches must consist of a low permeability (clay or silt) soil to limit surface water infiltration.

Proper grading away from structures is critical. The surface must be graded away from the structure. In addition, Atlas recommends that roof drains carry stormwater at least 10 feet away from the structure.

7.10 Excavations

Shallow excavations that do not exceed 4 feet in depth may be constructed with side slopes approaching vertical. Below this depth, it is recommended that slopes be constructed in accordance with Occupational Safety and Health Administration (OSHA) regulations, Section 1926, Subpart P. Based on these regulations, on-site soils are classified as type "C" soil, and as such, excavations within these soils should be constructed at a maximum slope of 1½ feet horizontal to 1 foot vertical (1½:1) for excavations up to 20 feet in height. Excavations in excess of 20 feet will require additional analysis. Note that these slope angles are considered stable for short-term conditions only, and will not be stable for long-term conditions.

During the subsurface exploration, test pit sidewalls generally exhibited little indication of collapse; however, for deep excavations, native granular sediments cannot be expected to remain in position. These materials are prone to failure and may collapse, thereby undermining upper soil layers. This is especially true when excavations approach depths near the water table. Care must be taken to ensure that excavations are properly backfilled in accordance with procedures outlined in this report.

7.11 Groundwater Control

Groundwater is anticipated to be below the depth of most construction. Excavations below the water table will require a dewatering program. Special precautions may be required for control of surface runoff and subsurface seepage. It is recommended that runoff be directed away from open excavations. Silty and clayey soils may become soft and pump if subjected to excessive traffic during time of surface runoff. Ponded water in construction areas should be drained through methods such as trenching, sloping, crowning grades, nightly smooth drum rolling, or installing a French drain system. Additionally, temporary or permanent driveway sections should be constructed if extended wet weather is forecasted.

8. GENERAL COMMENTS

Based on the subsurface conditions encountered during this investigation and available information regarding the proposed development, the site is adequate for the planned construction. When plans and specifications are complete, and if significant changes are made in the character or location of the proposed development, consultation with Atlas must be arranged as supplementary recommendations may be required. Suitability of subgrade soils and compaction of structural fill materials must be verified by Atlas personnel prior to placement of structural elements. Additionally, monitoring and testing should be performed to verify that suitable materials are used for structural fill and that proper placement and compaction techniques are utilized.

9. REFERENCES

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APPENDIX I WARRANTY AND LIMITING CONDITIONS

Atlas warrants that findings and conclusions contained herein have been formulated in accordance with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics, and engineering geology only for the site and project described in this report. These engineering methods have been developed to provide the client with information regarding apparent or potential engineering conditions relating to the site within the scope cited above and are necessarily limited to conditions observed at the time of the site visit and research. Field observations and research reported herein are considered sufficient in detail and scope to form a reasonable basis for the purposes cited above.

Exclusive Use

This report was prepared for exclusive use of the property owner(s), at the time of the report, and their retained design consultants ("Client"). Conclusions and recommendations presented in this report are based on the agreed-upon scope of work outlined in this report together with the Contract for Professional Services between the Client and Atlas Technical Consultants ("Consultant"). Use or misuse of this report, or reliance upon findings hereof, by parties other than the Client is at their own risk. Neither Client nor Consultant make representation of warranty to such other parties as to accuracy or completeness of this report or suitability of its use by such other parties for purposes whatsoever, known or unknown, to Client nor Consultant. Neither Client nor Consultant shall have liability to indemnify or hold harmless third parties for losses incurred by actual or purported use or misuse of this report. No other warranties are implied or expressed.

Report Recommendations are Limited and Subject to Misinterpretation

There is a distinct possibility that conditions may exist that could not be identified within the scope of the investigation or that were not apparent during our site investigation. Findings of this report are limited to data collected from noted explorations advanced and do not account for unidentified fill zones, unsuitable soil types or conditions, and variability in soil moisture and groundwater conditions. To avoid possible misinterpretations of findings, conclusions, and implications of this report, Atlas should be retained to explain the report contents to other design professionals as well as construction professionals.

Since actual subsurface conditions on the site can only be verified by earthwork, note that construction recommendations are based on general assumptions from selective observations and selective field exploratory sampling. Upon commencement of construction, such conditions may be identified that require corrective actions, and these required corrective actions may impact the project budget. Therefore, construction recommendations in this report should be considered preliminary, and Atlas should be retained to observe actual subsurface conditions during earthwork construction activities to provide additional construction recommendations as needed.

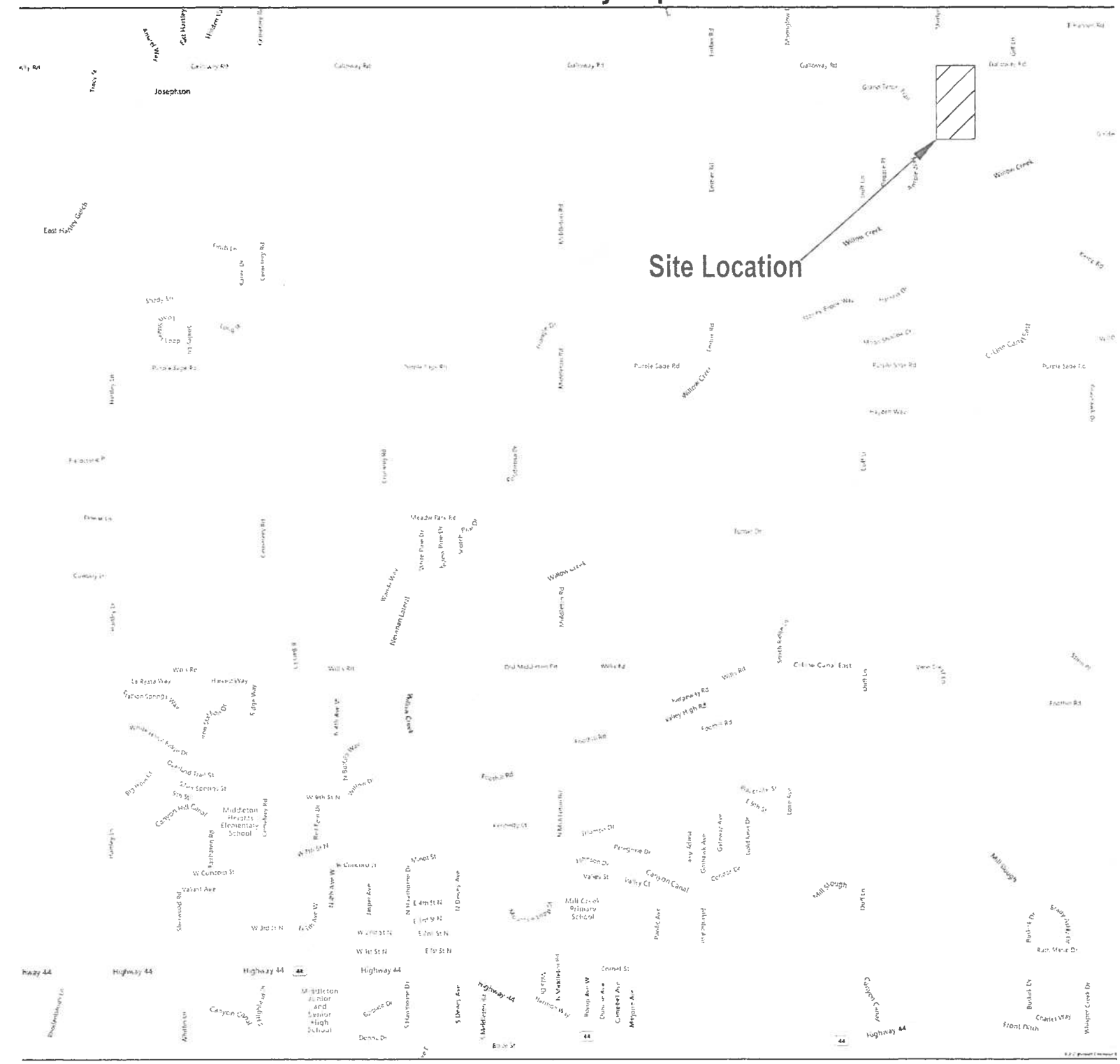
Since geotechnical reports are subject to misinterpretation, **do not** separate the soil logs from the report. Rather, provide a copy of, or authorize for their use, the complete report to other design professionals or contractors. Locations of exploratory sites referenced within this report should be considered approximate locations only. For more accurate locations, services of a professional land surveyor are recommended.

This report is also limited to information available at the time it was prepared. In the event additional information is provided to Atlas following publication of our report, it will be forwarded to the client for evaluation in the form received.

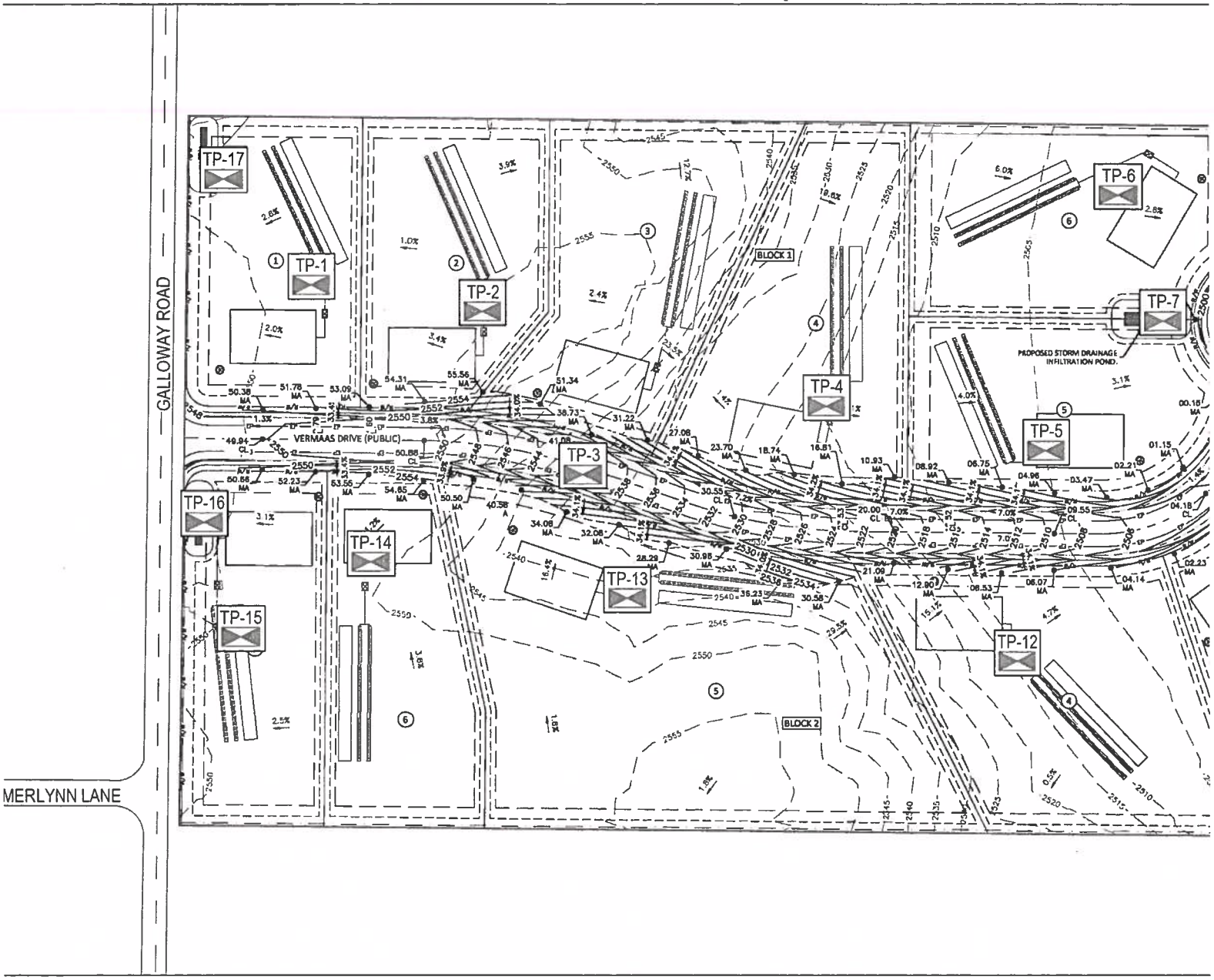
Environmental Concerns

Comments in this report concerning either onsite conditions or observations, including soil appearances and odors, are provided as general information. These comments are not intended to describe, quantify, or evaluate environmental concerns or situations. Since personnel, skills, procedures, standards, and equipment differ, a geotechnical investigation report is not intended to substitute for a geoenvironmental investigation or a Phase II/III Environmental Site Assessment. If environmental services are needed, Atlas can provide, via a separate contract, those personnel who are trained to investigate and delineate soil and water contamination.

Vicinity Map



Site Map



NOTES:

- Not to Scale

LEGEND

Approximate Site Boundary

Approximate Atlas Test Pit Location

Easy Flyer Subdivision
9713 Galloway Road
Middleton, ID

Modified by: MPK
March 18, 2023
Drawing: B230303g

ATLAS

APPENDIX IV GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-1
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.749568
Longitude: -116.585782
Depth to Water Table: Not Encountered
Total Depth: 13.7 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-1.2	Lean Clay with Sand (CL): Brown, slightly moist, stiff, with fine-grained sand. --Organic material encountered to 0.5 foot bgs.	Clay Unsuitable			1.5	
1.2-4.4	Sandy Silt (ML): Light brown, slightly moist, stiff to hard, with fine-grained sand. --Moderate calcium carbonate cemented nodules encountered throughout.	Loam C-1*			2.0-4.5+	
4.4-13.7	Silty Sand (SM): Light brown, dry to slightly moist, medium dense to dense, with fine to coarse-grained sand. --Minor clay content from 4.4 to 5.0 feet bgs. --Weak to moderate induration encountered throughout.	Sandy Loam Unsuitable**				

Notes: See Site Map for test pit location.
***Soil has been lowered one subgroup because of the presence of cemented/indurated nodules.**
****Soil is considered unsuitable because of the presence of calcium carbonate cementation/induration.**

ATLAS

GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-2
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.749266
Longitude: -116.585905
Depth to Water Table: Not Encountered
Total Depth: 15.5 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-1.1	Lean Clay with Sand (CL): Brown, slightly moist, stiff, with fine-grained sand. --Organic material encountered to 0.2 foot bgs.	Clay Unsuitable			1.5	
1.1-5.5	Sandy Silt (ML): Light brown, slightly moist, very stiff to hard, with fine to medium-grained sand. --Weak to moderate calcium carbonate cementation encountered from 4.4 to 5.5 feet bgs.	Loam B-2 (1.1-4.4 feet) Unsuitable* (4.4-5.5 feet)			3.5-4.5+	
5.5-15.5	Silty Sand (SM): Light brown, slightly moist, dense, with fine to coarse-grained sand. --Weak to moderate indurated nodules encountered throughout.	Sandy Loam B-2**				

Notes: See Site Map for test pit location.
***Soil is considered unsuitable because of the presence of calcium carbonate cementation.**
****Soil has been lowered one subgroup because of the presence of cemented/indurated nodules.**

ATLAS

GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-3
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.749266
Longitude: -116.585905
Depth to Water Table: Not Encountered
Total Depth: 14.0 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-1.0	Lean Clay with Sand (CL): Brown, slightly moist, stiff to very stiff, with fine-grained sand. --Organic material encountered to 0.4 foot bgs.	Clay Unsuitable			2.0	
1.0-14.0	Sandy Silt (ML): Light brown, slightly moist, stiff to hard, with fine to medium-grained sand. --Weak calcium carbonate cementation encountered from 1.0 to 2.0 feet bgs. --Intermittent hard silt lenses encountered throughout.	Loam Unsuitable* (1.0-2.0 feet) B-2 (2.0-14.0 feet)			2.0-4.0	

Notes: See Site Map for test pit location.
***Soil is considered unsuitable because of the presence of calcium carbonate cementation.**

ATLAS

GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-4
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.748352
Longitude: -116.586195
Depth to Water Table: Not Encountered
Total Depth: 14.0 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-2.0	Lean Clay with Sand (CL): Brown, slightly moist, medium stiff to stiff, with fine-grained sand. --Organic material encountered to 0.2 foot bgs.	Clay Unsuitable			1.0-1.5	
2.0-5.5	Sandy Silt (ML): Light brown, slightly moist, stiff to very stiff, with fine to medium-grained sand. --Weak calcium carbonate cementation encountered intermittently throughout.	Loam C-1*			2.0	
5.5-14.0	Silty Sand (SM): Light brown, slightly moist, medium dense, with fine to medium-grained sand.	Sandy Loam B-1				

Notes: See Site Map for test pit location.
***Soil has been lowered one subgroup because of the presence of weak calcium carbonate cementation.**

GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-5
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT
Latitude: 43.747697
Longitude: -116.586265
Depth to Water Table: Not Encountered
Total Depth: 14.5 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-2.3	Lean Clay with Sand (CL): Brown, slightly moist, stiff, with fine to medium-grained sand. --Organic material encountered to 0.4 foot bgs.	Clay Unsuitable			1.5	
2.3-11.0	Sandy Silt (ML): Light brown, dry to slightly moist, very stiff, with fine-grained sand.	Loam B-2			1.5-3.0	
11.0-14.5	Silty Sand (SM): Light brown, slightly moist, medium dense, with fine to medium-grained sand.	Sandy Loam B-1				

Notes: See Site Map for test pit location.

ATLAS

GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-6
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.747476
Longitude: -116.585369
Depth to Water Table: Not Encountered
Total Depth: 14.2 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-2.3	Lean Clay with Sand (CL): Brown, slightly moist, medium stiff to stiff, with fine to medium-grained sand. --Organic material encountered to 0.5 foot bgs.	Clay Unsuitable			1.0-1.5	
2.3-8.5	Sandy Silt (ML): Light brown to brown, slightly moist, medium stiff to stiff, with fine-grained sand.	Loam B-2	GS	6.0-7.0	1.0-1.5	A
8.5-14.2	Poorly Graded Sand with Silt (SP-SM): Light brown, dry to slightly moist, medium dense, with fine to coarse-grained sand and minor fine gravel. --Minor clay nodules noted throughout.	Sand A-2a*				

Notes: See Site Map for test pit location.
***Soil has been lowered one subgroup because of the presence of clay nodules.**

Lab Test ID	Moisture (%)	Sieve Analysis (% Passing)				
		#4	#10	#40	#100	#200
A	11.3	100	99	82	63	50.3

Lab Test ID	Sand (%)	Silt (%)	Clay (%)
A	49.7	43.1	7.2

ATLAS

GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-7
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.747340
Longitude: -116.585835
Depth to Water Table: Not Encountered
Total Depth: 13.0 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-2.7	Lean Clay with Sand (CL): Brown, slightly moist, stiff to very stiff, with fine to medium-grained sand. --Organic material encountered to 0.4 foot bgs.	Clay Unsuitable			2.0-2.5	
2.7-5.0	Sandy Silt (ML): Light brown to brown, slightly moist, stiff, with fine-grained sand.	Loam B-2			1.5	
5.0-13.0	Poorly Graded Sand with Silt (SP-SM): Light brown, dry to slightly moist, medium dense, with fine to coarse-grained sand and minor fine gravel. --Minor clay nodules noted throughout.	Sand A-2a*	GS	6.0-7.0		B

Notes: See Site Map for test pit location.
***Soil has been lowered one subgroup because of the presence of clay nodules.**

Lab Test ID	Moisture (%)	Sieve Analysis (% Passing)				
		#4	#10	#40	#100	#200
B	2.1	98	82	23	8	6.3

Lab Test ID	Sand (%)	Silt (%)	Clay (%)
B	93.5	3.1	3.4

ATLAS

GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-8
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.746767
Longitude: -116.585771
Depth to Water Table: Not Encountered
Total Depth: 9.0 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-0.5	Lean Clay with Sand (CL): Brown, slightly moist, medium stiff to stiff, with fine to medium-grained sand. --Organic material encountered throughout.	Clay Unsuitable			1.0-1.5	
0.5-4.5	Sandy Silt (ML): Light brown, slightly moist, medium stiff to stiff, with fine-grained sand.	Loam B-2			1.0-1.5	
4.5-9.0	Poorly Graded Sand with Silt (SP-SM): Light brown, dry to slightly moist, medium dense, with fine to coarse-grained sand and minor fine gravel. --Minor silt content noted in upper 2 feet. --Minor clayey nodules noted throughout.	Loamy Sand B-1*				

Notes: See Site Map for test pit location.
***Soil has been lowered one subgroup because of the presence of clay nodules.**

ATLAS

GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-9
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.746949
Longitude: -116.586318
Depth to Water Table: Not Encountered
Total Depth: 13.0 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-2.3	Lean Clay with Sand (CL): Brown, slightly moist, stiff to very stiff, with fine-grained sand. --Organic material encountered to 0.4 foot bgs.	Clay Unsuitable			1.5-2.0	
2.3-5.6	Sandy Silt (ML): Light brown to brown, slightly moist, medium stiff to stiff, with fine-grained sand	Loam B-2				
5.6-13.0	Silty Sand (SM): Light brown, slightly moist, medium dense, with fine to medium-grained sand and minor fine gravel. --Silt content decreasing with depth. --Sidewall caving noted throughout.	Loamy Sand A-2b				

Notes: See Site Map for test pit location.

ATLAS

GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-10
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.747100
Longitude: -116.586527
Depth to Water Table: Not Encountered
Total Depth: 14.1 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-2.5	Lean Clay with Sand (CL): Brown, slightly moist, stiff to very stiff, with fine-grained sand. --Organic material encountered to 0.3 foot bgs.	Clay Unsuitable			2.0	
2.5-5.0	Sandy Silt (ML): Light brown, slightly moist, very stiff, with fine-grained sand.	Loam B-2			2.5	
5.0-14.1	Silty Sand (SM): Light brown, slightly moist, medium dense, with fine to medium-grained sand. --Minor fine to coarse gravel and less silt content from 6.8 to 14.1 feet bgs. --Sidewall caving noted throughout. --Silt content decreasing with depth.	Sandy Loam B-1 (5.0-6.8 feet) Loamy Sand A-2b (6.8-14.1 feet)				

Notes: See Site Map for test pit location.

ATLAS

GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-11
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.747228
Longitude: -116.586871
Depth to Water Table: Not Encountered
Total Depth: 14.6 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-3.3	Lean Clay with Sand (CL): Brown, slightly moist, medium stiff to stiff, with fine-grained sand. --Organic material encountered to 0.5 foot bgs.	Clay Unsuitable			1.0-1.5	
3.3-10.5	Sandy Silt (ML): Light brown, slightly moist, very stiff to hard, with fine-grained sand. --Weak calcium carbonate cementation encountered from 6.1 to 7.0 feet bgs.	Loam B-2 (3.3-6.1 and 7.0-10.5 feet) Unsuitable* (6.1-7.0 feet)			3.5	
10.5-14.6	Silty Sand (SM): Light brown, slightly moist, medium dense, with fine to medium-grained sand. --Silt content decreasing with depth.	Loamy Sand A-2b				

Notes: See Site Map for test pit location.
***Soil is considered unsuitable due to presence of calcium carbonate cementation.**

ATLAS

GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-12
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT
Latitude: 43.747732
Longitude: -116.587134
Depth to Water Table: Not Encountered
Total Depth: 15.0 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-1.0	Lean Clay with Sand (CL): Brown, slightly moist, medium stiff to stiff, with fine-grained sand. --Organic material encountered to 0.3 foot bgs.	Clay Unsuitable			1.0-1.5	
1.0-10.1	Sandy Silt (ML): Light brown, slightly moist, medium stiff to very stiff, with fine-grained sand.	Loam B-2			1.0-2.0	
10.1-15.0	Silty Sand (SM): Light brown, slightly moist, medium dense, with fine to coarse-grained sand. --Silt content decreasing with depth.	Sandy Loam B-1				

Notes: See Site Map for test pit location.
***Soil is considered unsuitable because of the presence of calcium carbonate cementation.**

ATLAS

GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-13
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.748906
Longitude: -116.587026
Depth to Water Table: Not Encountered
Total Depth: 14.6 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-1.8	Lean Clay with Sand (CL): Brown, slightly moist, very stiff, with fine-grained sand. --Organic material encountered to 0.4 foot bgs.	Clay Unsuitable			1.5	
1.8-14.6	Sandy Silt (ML): Light brown, slightly moist, very stiff to hard, with fine to medium-grained sand. --Weak to moderate induration encountered from 3.8 to 4.8 and 7.0 to 14.6 feet bgs. --Grain size increases with depth.	Loam B-2 (1.8-3.8 and 4.8-7.0 feet) Unsuitable* (3.8-4.8 and 7.0-14.6 feet)			3.0-3.5	

Notes: See Site Map for test pit location.
***Soil is considered unsuitable because of the presence of calcium carbonate cementation.**

ATLAS

GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-14
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.749382
Longitude: -116.586731
Depth to Water Table: Not Encountered
Total Depth: 15.2 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-1.7	Lean Clay with Sand (CL): Brown, slightly moist, stiff to very stiff, with fine-grained sand. --Organic material encountered to 0.3 foot bgs.	Clay Unsuitable			2.0-2.5	
1.7-3.0	Sandy Silt (ML): Light brown, slightly moist, hard, with fine to medium-grained sand. --Weak to moderate calcium carbonate cementation encountered throughout.	Loam Unsuitable*			4.5+	
3.0-8.7	Silty Sand (SM): Light brown, slightly moist, medium dense to dense, with fine to coarse-grained sand. --Moderate indurated nodules encountered throughout.	Sandy Loam B-2**				
8.7-12.0	Silt (ML): Grayish brown, slightly moist, hard. --Moderate induration encountered throughout.	Silt Unsuitable*				
12.0-15.2	Clayey Sand (SC): Grayish brown, slightly moist, medium dense, with fine to medium-grained sand.	Sandy Clay Loam C-1				

Notes: See Site Map for test pit location.
***Soil is considered unsuitable because of the presence of calcium carbonate cementation/induration.**
****Soil has been lowered one subgroup due to the presence of cemented/indurated nodules.**

ATLAS

GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-15
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT
Latitude: 43.749781
Longitude: -116.586994
Depth to Water Table: Not Encountered
Total Depth: 14.1 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-2.2	Lean Clay with Sand (CL): Brown, slightly moist, medium stiff to very stiff, with fine-grained sand. --Organic material encountered to 0.2 foot bgs.	Clay Unsuitable	GS	0.0-1.0	1.0-2.0	C
2.2-12.5	Sandy Silt (ML): Light brown, slightly moist, stiff to hard, with fine-grained sand. --Weak calcium carbonate cementation encountered from 5.0 to 7.0 feet bgs.	Loam B-2 (2.2-5.0 and 7.0 to 12.5 feet) Unsuitable* (5.0-7.0 feet)	GS	7.0-8.0	2.0-4.5	D
12.5-14.1	Poorly Graded Sand with Silt and Gravel (SP-SM): Tan, dry, medium dense, with fine to coarse-grained sand and fine to coarse gravel.	Sand A-1				

Notes: See Site Map for test pit location.
***Soil is considered unsuitable because of the presence of calcium carbonate cementation.**

Lab Test ID	Moisture (%)	LL	PI	Sieve Analysis (% Passing)				
				#4	#10	#40	#100	#200
C	24.9	30	15	100	100	97	88	83.0
D	22.0	N/A	N/A	100	99	88	68	61.9

Lab Test ID	Sand (%)	Silt (%)	Clay (%)
D	38.1	48.7	13.2

GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-16
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT
Latitude: 43.749871
Longitude: -116.586667
Depth to Water Table: Not Encountered
Total Depth: 15.0 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-2.1	Lean Clay with Sand (CL): Brown, slightly moist, medium stiff to very stiff, with fine-grained sand. --Organic material encountered to 0.3 foot bgs.	Clay Unsuitable			1.0-2.5	
2.1-6.5	Sandy Silt (ML): Light brown, slightly moist, stiff to hard, with fine-grained sand. --Moderate calcium carbonate cementation encountered from 4.5 to 6.5 feet bgs.	Loam B-2 (2.1-4.5 feet) Unsuitable* (4.5-6.5 feet)			1.5-4.5+	
6.5-15.0	Silty Sand (SM): Light brown, slightly moist, medium dense to dense, with fine to coarse-grained sand. --Weak to moderate indurated nodules encountered throughout.	Sandy loam B-2**				

Notes: See Site Map for test pit location.
***Soil is considered unsuitable because of the presence of calcium carbonate cementation.**
****Soil has been lowered one subgroup because of the presence of cemented/indurated nodules.**

ATLAS

GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-17
Date Advanced: March 17, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.749917
Longitude: -116.585283
Depth to Water Table: Not Encountered
Total Depth: 15.0 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-1.8	Lean Clay with Sand (CL): Brown, slightly moist, stiff to very stiff, with fine-grained sand. --Organic material encountered to 0.3 foot bgs.	Clay Unsuitable			2.0	
1.8-6.7	Sandy Silt (ML): Light brown, dry to slightly moist, hard, with fine-grained sand. --Moderate calcium carbonate cementation encountered from 1.8 to 4.0 feet bgs.	Loam Unsuitable* (1.8-4.0 feet) B-2 (4.0-6.7 feet)			4.5+	
6.7-15.0	Silty Sand (SM): Light brown, slightly moist, medium dense to dense, with fine to coarse-grained sand and minor fine gravel. --Weak to moderate indurated nodules encountered throughout.	Sandy Loam B-2**				

Notes: See Site Map for test pit location.
***Soil is considered unsuitable because of the presence of calcium carbonate cementation.**
****Soil has been lowered one subgroup because of the presence of cemented/indurated nodules.**

APPENDIX V GEOTECHNICAL GENERAL NOTES

Unified Soil Classification System			
Major Divisions		**Symbol**	**Soil Descriptions**
Coarse-Grained Soils < 50% passes No.200 sieve	Gravel & Gravelly Soils < 50% coarse	GW	Well-graded gravels; gravel/sand mixtures with little or no fines
		GP	Poorly-graded gravels; gravel/sand mixtures with little or no fines
		GM	Silty gravels; poorly-graded gravel/sand/silt mixtures
		GC	Clayey gravels; poorly-graded gravel/sand/clay mixtures
	Sand & Sandy Soils > 50% coarse fraction	SW	Well-graded sands; gravelly sands with little or no fines
		SP	Poorly-graded sands; gravelly sands with little or no fines
		SM	Silty sands; poorly-graded sand/gravel/silt mixtures
		SC	Clayey sands; poorly-graded sand/gravel/clay mixtures
Fine-Grained Soils > 50% passes No.200 sieve	Silts & Clays LL < 50	ML	Inorganic silts; sandy, gravelly or clayey silts
		CL	Lean clays; inorganic, gravelly, sandy, or silty, low to medium-plasticity clays
		OL	Organic, low-plasticity clays and silts
	Silts & Clays LL > 50	MH	Inorganic, elastic silts; sandy, gravelly or clayey elastic silts
		CH	Fat clays; high-plasticity, inorganic clays
		OH	Organic, medium to high-plasticity clays and silts
Highly Organic Soils		PT	Peat, humus, hydric soils with high organic content

Relative Density and Consistency Classification	
Coarse-Grained Soils	**SPT Blow Counts (N)**
Very Loose:	< 4
Loose:	4-10
Medium Dense:	10-30
Dense:	30-50
Very Dense:	> 50
Fine-Grained Soils	**SPT Blow Counts (N)**
Very Soft:	< 2
Soft:	2-4
Medium Stiff:	4-8
Stiff:	8-15
Very Stiff:	15-30
Hard:	> 30

Moisture Content and Cementation Classification	
Description	**Field Test**
Dry	Absence of moisture, dry to touch
Slightly Moist	Damp, but no visible moisture
Moist	Visible moisture
Wet	Visible free water
Saturated	Soil is usually below water table
Description	**Field Test**
Weak	Crumbles or breaks with handling or slight finger pressure
Moderate	Crumbles or breaks with considerable finger pressure
Strong	Will not crumble or break with finger pressure

Particle Size	
Boulders:	> 12 in.
Cobbles:	12 to 3 in.
Gravel:	3 in. to 5 mm
Coarse-Grained Sand:	5 to 0.6 mm
Medium-Grained Sand:	0.6 to 0.2 mm
Fine-Grained Sand:	0.2 to 0.075 mm
Silts:	0.075 to 0.005 mm
Clays:	< 0.005 mm

Acronym List	
GS	grab sample
LL	Liquid Limit
M	moisture content
NP	non-plastic
PI	Plasticity Index
Q_p	penetrometer value, unconfined compressive strength, tsf
V	vane value, ultimate shearing strength, tsf

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are <u>not</u> final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are <u>Not</u> Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will <u>not</u> of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are <u>not</u> building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org