STORMWATER MANAGEMENT PLAN
(SWMP)

SUMMERFIELD NORTH SUBDIVISION

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 26,
TOWNSHIP 2 NORTH, RANGE 64 WEST OF THE 6TH P.M.
TOWN OF KEENESBURG
COUNTY OF WELD
STATE OF COLORADO

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October 18, 2021

BASELINE
Engineering · Planning · Surveying

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Stormwater Management Plan (SWMP) General Requirements

The Federal Clean Water Act and the Colorado Water Quality Control Act require stormwater discharge permits during construction at development sites that disturb one or more acres of land.

A. Colorado Department of Public Health and Environment (CDPHE) General Requirements

1. A stormwater management plan (SWMP) shall be developed for each construction site covered by the Construction Stormwater Permit prior to commencement of construction activities.
    - For public emergency related sites, a plan shall be created no later than days after the commencement of construction activities.

2. The SWMP shall be prepared in accordance with good engineering, hydrologic and pollution control practices.
    - The plan need not be prepared by a registered engineer.

3. **The permittee need only submit the SWMP to the CDPHE upon request, it is not required with the application for the Construction Stormwater Permit.**

4. The permittee must implement the provisions of the SWMP as written and updated, from commencement of construction activity until final stabilization is complete.

5. A copy of the SWMP must be retained onsite or be onsite when construction activities are occurring at the site unless the permittee specifies another location and obtains approval from the CDPHE.

B. Signatory Requirements for Documents Submitted to the CDPHE

Documents required for submittal to the CDPHE in accordance with the Construction Stormwater Permit, including applications for permit coverage and other documents as requested by the CDPHE, must include signatures by both the **owner** and the **operator**, except for instances where the duties of the owner and operator are managed by the owner.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Marcus Palkowitsh (Applicant/Owner)
MSP Investment CO, LLP

TBD (Operator)
TBD

C. Consistency with Other Plans

The permittee may incorporate, by reference, applicable portions of plans prepared for other purposes at their facility. Plans or portions of plans incorporated by reference must be available along with the SWMP, the Erosion Control Plans are located under **Appendix D**.

D. Required SWMP Modifications

At nearly every site, the implemented control measures will have to be modified to adapt to changing site conditions, or to ensure that potential pollutants are consistently and properly managed. The pollutant sources and management practices at a site must be reviewed on an ongoing basis. When control measures or other site conditions change, the SWMP must be modified to accurately reflect the actual field conditions. Examples include, but are not limited to, removal of control measures, identification of new potential pollutant sources, addition of control measures, modification of control measure installation and implementation criteria or maintenance procedures, and changes in items included in the site map and/or description. The plan should be viewed as a living document that is continuously being reviewed and modified as part of the overall process of assessing and managing stormwater quality issues at the site. The SWMP must be amended when the following occurs:

- A change in design, construction, operation, or maintenance of the site requiring implementation of new or revised control measures;
- The plan proves ineffective in controlling pollutants in stormwater runoff in compliance with the permit conditions;
- Control measures identified in the SWMP are no longer necessary and are removed; and
- Corrective actions are taken onsite that result in a change to the SWMP.

For SWMP revisions made prior to or following a change(s) onsite, including revisions to sections addressing site conditions and control measures, a notation must be included in the plan that identifies:

- The date of the site change, the control measure removed, or modified,
- The locations(s) of those control measures, and
- Any changes to the control measures(s).

The permittee must ensure the site changes are reflected in the SWMP. The permittee is noncompliant with the Construction Stormwater Permit until the plan revisions have been made.

Stormwater Management Plan Site Specific Requirements

A. Qualified Stormwater Manager

An individual knowledgeable in the principles and practices of erosion and sediment control and pollution prevention, and with the skills to assess conditions at construction sites that could impact stormwater quality and to assess the effectiveness of stormwater controls implemented to meet the requirements of this permit.

TBD (Qualified Stormwater Manager)
TBD

B. Spill Prevention and Response Plan

Procedures for preventing, responding to and reporting spills and leaks.

1. Stored soils shall be kept in a designated area on the SWMP away from drainage areas.
   - Soil Storage area shall have a covered enclosure installed at the perimeter of the area.
2. Vehicle Tracking of Sediment
   - A vehicle tracking control pad shall be installed at all entrances to the staging areas.
3. Management of Contaminated soils
   - Contaminated soil shall be removed from the site and treated as required.
   - Soil shall be contained by earth dike during removal.
4. Loading and unloading operations
   - All loading and uploading activities shall be in the stabilized staging area as designated on the SWMP
5. Outdoor storage area
   - Chemical storage shall be in the area designated on the SWMP.
   - Storage area shall have a covered enclosure to protect area.
   - Any and all hazardous materials used will be contained in an area specified by the contractor, and Material Safety Data Sheets (MSDS) will be available for inspection at any point during construction.
6. On-site waste management
   - All waste piles, dumpster, etc. shall be contained in the chemical storage area designated on the SWMP.
7. Concrete truck/equipment washing

- A concrete washout area will be constructed at the staging area and constructed according to the Mile-High Flood District.

8. Vehicle Equipment
   - Fueling and vehicular maintenance will be performed on the jobsite as needed, but there will be limited storage of vehicles on site.
   - A secondary berm area shall be constructed to contain any spills that may occur.
9. Significant dust or particulate generating processes
   - Potable water shall be used to prevent airborne particulate matter.
10. Routine maintenance activities involving fertilizers, pesticides, detergents, fuel, solvents, oils, etc.
    - Routine maintenance activities shall be conducted in the Chemical storage area if possible
    - If conducted outside of the Chemical storage area, then care should be taken to minimize the potential pollutant with the use of ground cover over dirt areas, such as tarps.
11. Wastes from geo-technical testing
    - All testing waste shall be removed for the site and/or disposed of in appropriate waste disposal containers.
12. Non-industrial waste sources – worker trash, portable toilets, etc.
    - Worker trash shall be placed in appropriate trash receptacles.
    - Daily site inspection should be conducted to ensure site is free from trash.
    - All portable toilets shall be secured to the ground to insure against tip over.

Should any spills occur, the SWMP administrator must take appropriate measures to assure complete, proper and legal cleanup.

1. For non-hazardous materials such as gasoline, paint, or oil that may be spilled in small quantities, the following measures shall be implemented:
   - Personal safety is the primary importance
   - Use absorbent materials to contain spills and clean the area of residuals.
   - Dispose of the absorbent material, soil, and/or rotomill properly.
   - Do not hose down spill area with water.
2. For non-hazardous materials that qualify as a significant spill, the following measures shall be implemented:
   - Contact the Colorado Department of Public Health and Environment (CDPHE) 24-hour Environmental Emergency Spill Reporting Line (1-877-518-5608) within 24 hours of the spill event. A written notification to CDPHE is necessary within 5 days.

- Contact the County of Larimer Health Department Emergency Response (970-498-6739).
- Contact the Qualified Stormwater Manager, TBD (XXX-XXX-XXXX).
- Clean up spills immediately. Use absorbent materials if the spill is on an impermeable surface. Construct a slightly compacted earth dike to contain a spill on dirt areas. If rainfall is present at the time of the spill, cover the spill with a tarp to prevent contaminating runoff.

3. For spills involving hazardous materials, the following measures shall be implemented:
   - Personal safety is the primary importance. Stay upwind and at a safe distance/secure the area from anyone being harmed.
   - Contact the local emergency response team by dialing 911.
   - Contact the Colorado Department of Public Health and Environment (CDPHE) 24-hour Environmental Emergency Spill Reporting Line (1-.877-518-5608) within 24 hours of the spill event. A written notification to CDPHE is necessary within 5 days.
   - Contact Weld County Environmental Health Services (970)304-6415.
   - Contact the Qualified Stormwater Manager, TBD (XXX)XXX-XXXX.
   - A licensed contractor or a Hazmat team shall be used to properly clean up spills

C. Materials Handling

Control measures implemented at the site to minimize impacts from handling significant materials that could contribute pollutants to runoff:

1. Concrete Washout Area with Masonry Mixing Station – designated bermed area appropriately labeled and maintained within Stabilized Staging Area.
2. Stockpile Management – designated stockpile locations surrounded by silt fence.
3. Stabilized Staging Area – clearly designated area on the south end of the site, where construction equipment and vehicles, and other materials are stored and temporary dedicated concrete or asphalt batch plants will be located (if needed).

D. Potential Sources of Pollution

Potential pollutant sources for this site include the following:

1. All disturbed and stored soils – to be mitigated by the use of silt fence, temporary or permanent seeding, and erosion control blankets;
2. Vehicle tracking of sediments - to be mitigated by vehicle tracking control measures at the entrances to the site;
3. Management of contaminated soils – not anticipated for this site;

4. Loading and unloading operations – to be mitigated by use of a designated stabilized staging area;
5. Outdoor storage activities (building materials, fertilizers, chemicals, etc.) – to be mitigated by use of designated stabilized staging area;
6. Vehicle and equipment maintenance and fueling – to be mitigated by use of a designated stabilized staging area;
7. Significant dust or particulate generating processes – to be mitigated by road watering as needed;
8. Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, oils, etc. – to be mitigated by limiting use and proper storage within the stabilized staging area;
9. On-site waste management practices (waste piles, liquid wastes, dumpsters, etc.) – to be mitigated by having a designated location for waste;
10. Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment – to be mitigated by use of a concrete washout area located within the stabilized staging area;
11. Dedicated asphalt and concrete batch plants – to be mitigated by containing within the stabilized staging area;
12. Non-industrial waste sources such as worker trash and portable toilets – to be mitigated by having a designated location for each;
13. Other areas or procedures where potential spills can occur – to be mitigated by having a spill procedure in place and containment provided by silt fencing around the site.

E. Implementation of Control Measures

1. Structural Practices for Erosion and Sediment Control:
    a. Silt Fence (SF) – a sediment barrier designed to intercept sheet flow runoff from disturbed areas.
    b. Construction Fence (CF) – restricts site access to designated entrances and exits, delineates construction site boundaries, and keep construction out of sensitive areas.
    c. Culvert Inlet Protection and Inlet Protection (IP) – permeable barriers installed around an inlet to filter runoff and remove sediment prior to entering a storm drain system.
    d. Rock Socks (RS) – rock socks placed along roadways after construction in the curb and gutter systems to reduce sediment traveling downstream.
    e. Temporary Sediment Basin (TSB) – a temporary pond built on a construction site to capture eroded or disturbed soil transported in storm runoff prior to discharge from the site.

f. Vehicle Tracking Control (VTC) – provides stabilized construction site access where vehicles exit the site onto paved public roads.
g. Stabilized Staging Area (SSA) – a clearly designated area where construction equipment and vehicles, stockpiles, waste bins, and other construction related materials are stored.
h. Concrete Washout Area (CWA) – a properly maintained area of the construction site designed to receive wash water from washing of tools, concrete mixer chutes, liquid concrete waste from dump trucks, mobile batch mixers, or pump trucks.
i. Diversion Ditch (DD) – used to reroute water from a stream or restrict flows to a designated portion of the stream channel to allow for construction activities to take place in the stream, along the banks or beneath the active channel.

2. Non-Structural Practices for Erosion and Sediment Control:
   a. Permanent Seeding (PS) – an erosion control method used to stabilize disturbed areas that will be inactive for an extended period or are at final grade and will not be otherwise stabilized.
   b. Erosion Control Blanket (ECB) – manufactured products, made of biodegradable natural materials, designed to control erosion and enhance vegetation establishment and survivability on slopes.
3. Phased Implementation:
   a. Pre-disturbance and Site Access Phase (Initial Phase) includes installation of construction fencing, silt fencing, and vehicle tracking control at site entrances.
   b. Site Clearing and Grubbing Phase (Initial Phase) includes the designation of stockpile locations with perimeter control, installation of stabilized staging areas, establishment of concrete washout areas with masonry mixing stations, grading temporary sediment basins, and diversion ditches.
   c. Utility and Infrastructure Installation Phase (Interim Phase) includes inlet protection, slope protection, and rock sock.
   d. Final Stabilization Phase (Final Phase) includes temporary or permanent seeding and removing all temporary control measures (VTC, SSA, CWA, SF, CF, TSB, IP, RS, DD) when site has reached final stabilization.
4. Vehicle Tracking Control will be implemented during the initial phase at the site entrance to help remove sediment from vehicles, reducing tracking onto paved surfaces.
5. Street Sweeping – will be implemented throughout construction to reduce and remove sediment on roadways.
6. Wind Erosion / Dust Control – site watering will be utilized throughout construction to keep soil particles from entering the air.
7. Groundwater and Stormwater Dewatering – not anticipated for this site.

F. Site Description

- Site Acreage
  - Total Site Area = 61.14 acres
- Existing Site Conditions:
  Historical ground cover for the site consists of native grasses which generally slope from the northwest corner of the site to the southeast corner with slopes ranging from 1.8% to 10%. The hydrologic soil group is type 'B' (Colby loam). A soil map for the entire drainage area, developed using the online NRCS Web Soil Survey mapping tool, can be found in **Appendix A** (***Reference 6***). In historic conditions, all the flows are transmitted overland via sheet flow across the property. There is an existing wetland area to the south of the site.

- Proposed Development
  - The proposed improvements consist of 190 single-family residential homes, with lot sizes varying from 5,500 SF to 10,500 SF, as well as future multi-family townhomes on 8.33 acres at a maximum of 10 DU/acre. Additional improvements include the associated roadways, trail system, community park, open space, and several proposed detention ponds.
  - The area of disturbance is approximately 57.90 acres including the construction staging areas
  - Site Earthwork (adjusted)
    - Total estimated cut = 89,902 CY
    - Total estimated fill = 143, 517 CY
    - Net (FILL) = +53,615 CY
  - The developed site will consist of single-family residences with piped roof drainage and associated private driveways, proposed roadways and right-of-way improvements, and the open space & trail network. The site will consist of public streets with curb & gutter, infrastructure, and open space tracts.

- Soil Characteristics
  92.4% of the soil on-site is composed of a Colby Loam, 1% to 5% slope and 6.1% of the site is composed of a Haverson Loam 1% to 3% slopes. On-site hydraulic soil grouping is primarily type 'B' (Colby loam). Refer to **Appendix A** for the soil map.

G. Final Stabilization and Long-term Stormwater Management

Final stabilization will include temporary or permanent seeding on all disturbed areas left unpaved. Final stabilization will be achieved once uniform vegetation of at least 70% has been established. During final stabilization, all temporary control measures will

be removed. Long-term stormwater management will include maintenance of the subdivision sediment basin.

H. Site Inspection Reports

Inspection and maintenance should be performed on all control measures periodically and after every significant storm event. The minimum inspection schedule of the stormwater management system must be performed and documented at least every 7 days, and within 24 hours of any precipitation or snowmelt event. If more frequent inspections are required to ensure that control measures are properly maintained and operated, the inspection schedule must be modified to meet this need. A Site Inspection Report must be completed for each inspection, this report is included in Appendix C of this report.

References

1. *Urban Storm Drainage Criteria Manual, Volumes 1 & 2*; Urban Drainage and Flood Control District, Denver, CO. Updated March 2017, with updates on September 2017.

2. *Urban Storm Drainage Criteria Manual, Volumes 3*; Urban Drainage and Flood Control District, Denver, CO. November 2010, with updates on January 2021.

3. *Weld County Engineering and Construction Guidelines*; Weld County, CO. April 2012, with updates on July 2017.

4. *Stormwater Management Plan Preparation Guidance*, Colorado Department of Public Health and Environment, 2018.

5. *Town of Keenesburg Design Standards,* Town of Keenesburg, September 21, 2020.

6. *Natural Resources Conservation Center Web Soil Survey, United States Department of Agriculture,* site visited August 2021.

Appendix A

Vicinity Map

Site Map

Hydrologic Soils Group


E Kiser Ave
Kipp Ave
Woodward Ave
PROJECT SITE
16
Crawford Ave
Spring St

LEGEND

EXISTING LINETYPES	PROPOSED LINETYPES	
		PROPERTY BOUNDARY
		RIGHT-OF-WAY
		LOT LINE
		EASEMENT
		BUILDING SETBACK
		EDGE OF ASPHALT
		EDGE OF GRAVEL
		CURB AND GUTTER (SPILL/CATCH)
		FLOODPLAIN
		WETLANDS

EXISTING SYMBOLS	PROPOSED SYMBOLS	
		150' X 70' LOTS
		120' X 50' LOTS
		115' X 50' LOTS
		110' X 50' LOTS
		110' X 60' LOTS
		OPEN SPACE/PARKS
		TRAILS/SIDEWALKS
		ASPHALT ROADWAY
		MULTI-FAMILY

LAND USE

COVERAGE	AREA (ACRES)	PERCENT TOTAL
OPEN SPACE, PARKS, TRAILS	14.81	24.22%
PROPOSED RIGHT-OF-WAY	10.58	17.30%
MULTI-FAMILY	6.61	10.81%
50'x110' LOTS	8.47	13.85%
50'x120' LOTS	7.28	11.91%
60'x110' LOTS	6.94	11.35%
50'x115' LOTS	3.31	5.41%
70'x150' LOTS	1.96	3.21%
30' ADDITION ROW DEDICATED FOR CO RD-59	1.18	1.93%
OVERALL SITE AREA	61.14	100.00%

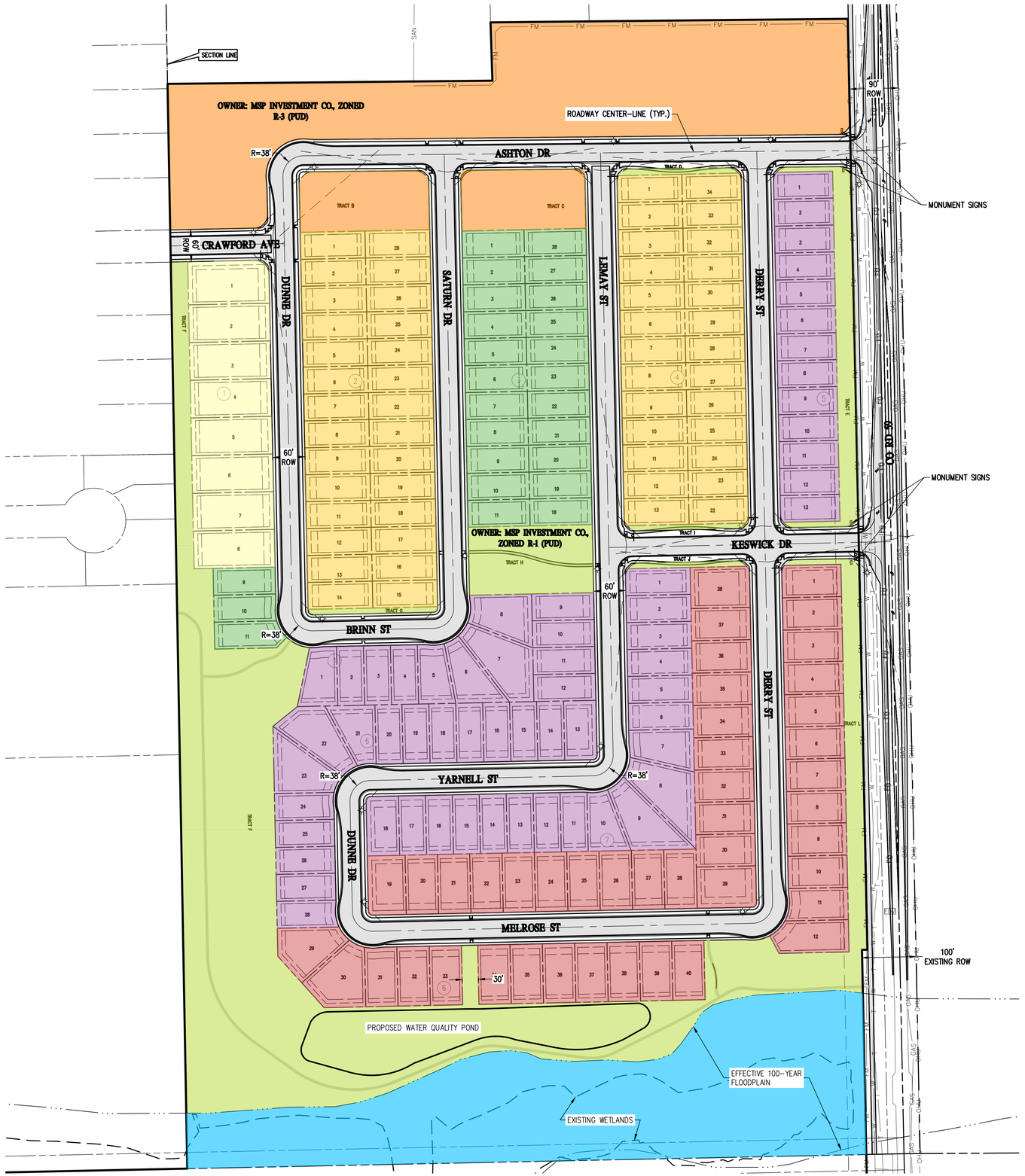
LOT SUMMARY

LOT TYPE	NUMBER OF SINGLE FAMILY LOTS
50'x110' LOTS	59
50'x120' LOTS	54
60'x110' LOTS	44
50'x115' LOTS	25
70'x150' LOTS	8
TOTAL	190

N

GRAPHIC SCALE
100 0 100 200
(IN FEET)
1 INCH = 100 FT

1 SP01 | SP01 SITE PLAN



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DESIGNED BY	DRAWN BY	CHECKED BY
MBR	MBR	MLL

REVISION DESCRIPTION	PREPARED BY	DATE

MSP INVESTMENT CO, LLP

WELD COUNTY

TOWN OF KEENESBURG

SUMMERFIELD
SKETCH PLAN
SITE PLAN

PREPARED UNDER THE DIRECT SUPERVISION OF

PRELIMINARY NOT FOR CONSTRUCTION

FOR AND ON BEHALF OF BASELINE CORPORATION

INITIAL SUBMITTAL	09/08/2021
DRAWING SIZE	24" X 36"
SURVEY FIRM	FLATIRONS
SURVEY DATE	05/06/2021
JOB NO.	C03519
DRAWING NAME	3519 Site Plan.dwg
SHEET	03 OF 11

SP01

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United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Weld County, Colorado, Southern Part

August 16, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:3,720 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Weld County, Colorado, Southern Part
Survey Area Data: Version 19, Jun 5, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 19, 2018—Aug 10, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
15	Colby loam, 1 to 3 percent slopes	30.3	48.9%
16	Colby loam, 3 to 5 percent slopes	26.8	43.3%
18	Colby-Adena loams, 3 to 9 percent slopes	0.1	0.2%
26	Haverson loam, 1 to 3 percent slopes	3.8	6.1%
85	Water	0.9	1.4%
Totals for Area of Interest		**61.9**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Weld County, Colorado, Southern Part

15—Colby loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 361q
Elevation: 4,850 to 5,050 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 48 to 50 degrees F
Frost-free period: 135 to 155 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Colby and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Colby

Setting

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous eolian deposits

Typical profile

H1 - 0 to 7 inches: loam
H2 - 7 to 60 inches: silt loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: High (about 10.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Minor Components

Wiley

Percent of map unit: 9 percent
Hydric soil rating: No

Keith

Percent of map unit: 6 percent

Hydric soil rating: No

16—Colby loam, 3 to 5 percent slopes

Map Unit Setting

National map unit symbol: 361r
Elevation: 4,850 to 5,050 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 48 to 50 degrees F
Frost-free period: 135 to 155 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Colby and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Colby

Setting

Landform: Ridges, hills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous eolian deposits

Typical profile

H1 - 0 to 7 inches: loam
H2 - 7 to 60 inches: silt loam

Properties and qualities

Slope: 3 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: High (about 10.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Minor Components

Wiley

Percent of map unit: 8 percent
Hydric soil rating: No

Keith

Percent of map unit: 7 percent
Hydric soil rating: No

18—Colby-Adena loams, 3 to 9 percent slopes

Map Unit Setting

National map unit symbol: 361t
Elevation: 4,750 to 4,900 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Colby and similar soils: 55 percent
Adena and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Colby

Setting

Landform: Ridges, hills, plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous eolian deposits

Typical profile

H1 - 0 to 7 inches: loam
H2 - 7 to 60 inches: silt loam

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: High (about 10.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: R067BY008CO - Loamy Slopes
Hydric soil rating: No

Description of Adena

Setting

Landform: Plains, ridges, hills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous eolian deposits

Typical profile

H1 - 0 to 6 inches: loam
H2 - 6 to 9 inches: clay loam
H3 - 9 to 60 inches: silt loam

Properties and qualities

Slope: 3 to 7 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Minor Components

Kim

Percent of map unit: 5 percent
Hydric soil rating: No

Keith

Percent of map unit: 4 percent
Hydric soil rating: No

Wiley

Percent of map unit: 3 percent
Hydric soil rating: No

Weld

Percent of map unit: 3 percent
Hydric soil rating: No

26—Haverson loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2tlq0
Elevation: 4,140 to 5,080 feet
Mean annual precipitation: 13 to 17 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 135 to 160 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Haverson, rarely flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Haverson, Rarely Flooded

Setting

Landform: Terraces, flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stratified alluvium derived from mixed sources

Typical profile

Ap - 0 to 4 inches: loam
A - 4 to 11 inches: loam
C1 - 11 to 19 inches: loam
C2 - 19 to 80 inches: stratified sandy loam to loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.1 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: B

Ecological site: R067BY036CO - Overflow
Hydric soil rating: No

Minor Components

Bijou
Percent of map unit: 10 percent
Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY024CO - Sandy Plains
Hydric soil rating: No

85—Water

Map Unit Composition
Water: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Aquolls
Percent of map unit: 5 percent
Landform: Marshes
Hydric soil rating: Yes

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Appendix B

Site Inspection Reports

CONSTRUCTION STORMWATER SITE INSPECTION REPORT

Facility Name		Permittee	
Date of Inspection		Weather Conditions	
Permit Certification #		Disturbed Acreage	
Phase of Construction		Inspector Title	
Inspector Name			

	YES	NO
Is the above inspector a qualified stormwater manager? (permittee is responsible for ensuring that the inspector is a qualified stormwater manager)	☐	☐

INSPECTION FREQUENCY	
Check the box that describes the minimum inspection frequency utilized when conducting each inspection	
At least one inspection every 7 calendar days	☐
At least one inspection every 14 calendar days, with post-storm event inspections conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosions	☐
• This is this a post-storm event inspection. Event Date: _____	☐
Reduced inspection frequency - Include site conditions that warrant reduced inspection frequency	☐
• Post-storm inspections at temporarily idle sites	☐
• Inspections at completed sites/area	☐
• Winter conditions exclusion	☐

	YES	NO
Have there been any deviations from the minimum inspection schedule? If yes, describe below.	☐	☐

INSPECTION REQUIREMENTS*
i. Visually verify all implemented control measures are in effective operational condition and are working as designed in the specifications
ii. Determine if there are new potential sources of pollutants
iii. Assess the adequacy of control measures at the site to identify areas requiring new or modified control measures to minimize pollutant discharges
iv. Identify all areas of non-compliance with the permit requirements, and if necessary, implement corrective action
*Use the attached **Control Measures Requiring Routine Maintenance** and **Inadequate Control Measures Requiring Corrective Action** forms to document results of this assessment that trigger either maintenance or corrective actions

AREAS TO BE INSPECTED			
Is there evidence of, or the potential for, pollutants leaving the construction site boundaries, entering the stormwater drainage system or discharging to state waters at the following locations?			
	NO	YES	If "YES" describe discharge or potential for discharge below. Document related maintenance, inadequate control measures and corrective actions **Inadequate Control Measures Requiring Corrective Action** form
Construction site perimeter	☐	☐	
All disturbed areas	☐	☐	
Designated haul routes	☐	☐	
Material and waste storage areas exposed to precipitation	☐	☐	
Locations where stormwater has the potential to discharge offsite	☐	☐	
Locations where vehicles exit the site	☐	☐	
Other: _____	☐	☐	

CONTROL MEASURES REQUIRING ROUTINE MAINTENANCE

Definition: Any control measure that is still operating in accordance with its design and the requirements of the permit, but requires maintenance to prevent a breach of the control measure. These items are not subject to the corrective action requirements as specified in Part I.B.1.c of the permit.

Are there control measures requiring maintenance?	NO	YES	
	☐	☐	If "YES" document below

Date Observed	Location	Control Measure	Maintenance Required	Date Completed

INADEQUATE CONTROL MEASURES REQUIRING CORRECTIVE ACTION

Definition: Any control measure that is not designed or implemented in accordance with the requirements of the permit and/or any control measure that is not implemented to operate in accordance with its design. This includes control measures that have not been implemented for pollutant sources. If it is infeasible to install or repair the control measure immediately after discovering the deficiency the reason must be documented and a schedule included to return the control measure to effective operating condition as possible.

	NO	YES	
Are there inadequate control measures requiring corrective action?	☐	☐	If "YES" document below

	NO	YES	
Are there additional control measures needed that were not in place at the time of inspection?	☐	☐	If "YES" document below

Date Discovered	Location	Description of Inadequate Control Measure	Description of Corrective Action	Was deficiency corrected when discovered? YES/NO if "NO" provide reason and schedule to correct	Date Corrected

REPORTING REQUIREMENTS

The permittee shall report the following circumstances orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances, and shall mail to the division a written report containing the information requested within five (5) working days after becoming aware of the following circumstances. The division may waive the written report required if the oral report has been received within 24 hours.

All Noncompliance Requiring 24-Hour Notification per Part II.L.6 of the Permit

a. Endangerment to Health or the Environment

Circumstances leading to any noncompliance which may endanger health or the environment regardless of the cause of the incident (See Part II.L.6.a of the Permit)

This category would primarily result from the discharge of pollutants in violation of the permit

b. Numeric Effluent Limit Violations

- o Circumstances leading to any unanticipated bypass which exceeds any effluent limitations (See Part II.L.6.b of the Permit)
- o Circumstances leading to any upset which causes an exceedance of any effluent limitation (See Part II.L.6.c of the Permit)
- o Daily maximum violations (See Part II.L.6.d of the Permit)

Numeric effluent limits are very uncommon in certifications under the COR400000 general permit. This category of noncompliance only applies if numeric effluent limits are included in a permit certification.

Has there been an incident of noncompliance requiring 24-hour notification?	NO	YES	
	☐	☐	If "YES" document below

Date and Time of Incident	Location	Description of Noncompliance	Description of Corrective Action	Date and Time of 24 Hour Oral Notification	Date of 5 Day Written Notification *

*Attach copy of 5 day written notification to report. Indicate if written notification was waived, including the name of the division personnel who granted waiver.

After adequate corrective action(s) and maintenance have been taken, or where a report does not identify any incidents requiring corrective action or maintenance, the individual(s) designated as the Qualified Stormwater Manager, shall sign and certify the below statement:

"I verify that, to the best of my knowledge and belief, all corrective action and maintenance items identified during the inspection are complete, and the site is currently in compliance with the permit."

Name of Qualified Stormwater Manager	Title of Qualified Stormwater Manager
Signature of Qualified Stormwater Manager	Date

Notes/Comments

Control Measure Name

Description

Describe the control measure and what pollutant sources it will provide effective treatment for (part I.C.2.a.iv of the permit). Include the mechanism used for treatment of the pollutant source.

Implementation

Describe how the control measure will be implemented in accordance with good engineering, hydrologic and pollution control practices. Include the phase(s) of construction the control measure will be implemented for.

Installation Procedures

Describe the process required to install the control measure and have it adequately treat the intended pollutant source. Include specific depths, lengths, materials, and any other applicable information necessary to properly install the control measure.

Inspection Expectations

Describe how often the control measure will be inspected and what key features should be checked during each inspection (is the silt fence tail entrenched, are the straw wattles staked ever 4 feet, etc.)

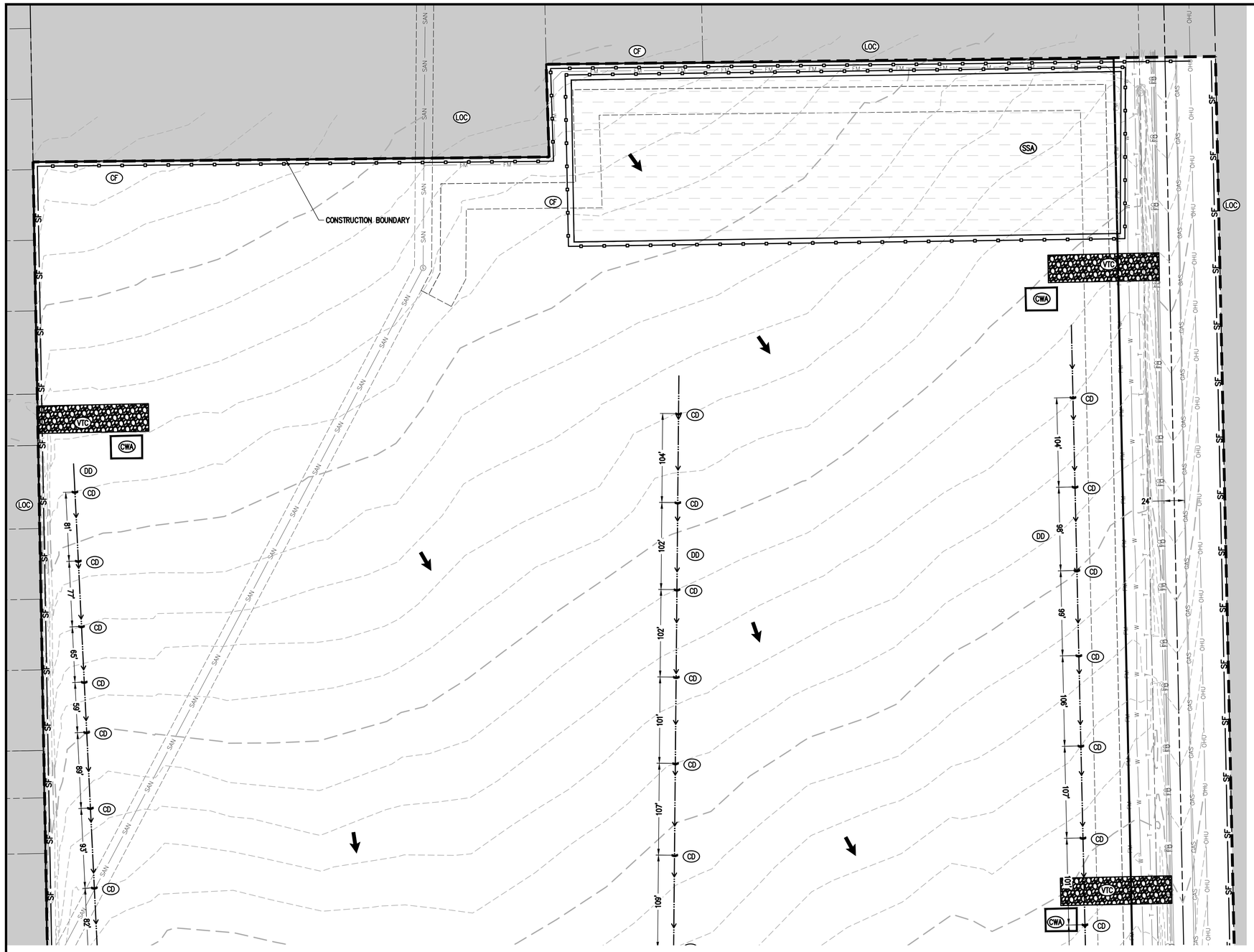
Maintenance Requirements

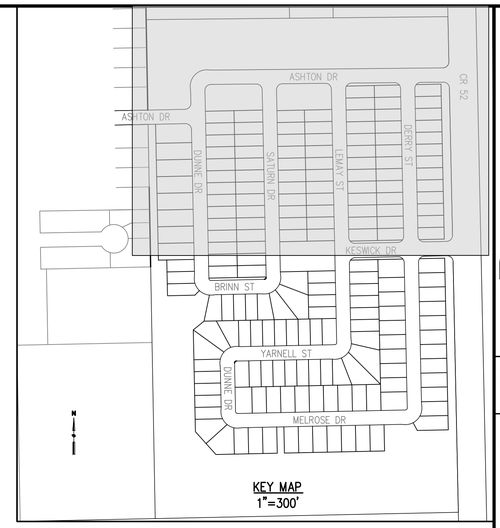
Describe maintenance requirements, such as how to repair damaged sections, what qualifies as a failed control measure and when it needs to be replaced. Also include criteria that would trigger maintenance (i.e. 50% capacity of the control measure has been reached).

Control Measure Diagram

Appendix C

Erosion Control Plans





KEY MAP
1"=300'

LEGEND

EXISTING LINETYPES	PROPOSED LINETYPES	
81	81	MINOR CONTOUR (1' INTERVAL)
5280	5280	MAJOR CONTOUR (5' INTERVAL)
		RIGHT-OF-WAY
		LOT LINE
		EASEMENT
		DITCH FLOWLINE

EROSION AND SEDIMENT CONTROL LEGEND

LOC	LIMITS OF CONSTRUCTION
CF	CONSTRUCTION FENCE
SF	SILT FENCE
IP	INLET PROTECTION
SSA	STABILIZED STAGING AREA
CWA	CONCRETE WASHOUT AREA
SP	STOCKPILE
VTC	VEHICLE TRACKING CONTROL
DD	DRAINAGE DITCH
CD	CHECK DAMS
RS	ROCK SOCKS
SM	SEEDING AND MULCHING AREA
TSB	TEMPORARY SEDIMENT BASIN
	FLOW DIRECTION

N

GRAPHIC SCALE
60 0 60 120
(IN FEET)
1 INCH = 60 FT

GRADING, EROSION AND SEDIMENT CONTROL NOTE:

1. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO OBTAIN PERMITS FROM THE LOCAL AND STATE AGENCIES PRIOR TO THE START OF CONSTRUCTION.
2. ALL BMPS SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS HEREIN AND THE LOCAL AGENCIES STANDARDS AND DETAILS. IF THE LOCAL AGENCY STANDARDS DO NOT INCLUDE A REQUIRED BMP ON THESE PLANS, REFERENCE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT STANDARD DETAILS.
3. THESE PLANS DO NOT REFLECT ALL BMPS THAT MAY BE NEEDED FOR SITE EROSION AND SEDIMENT CONTROL DUE TO FIELD CHANGES NOT ANTICIPATED IN THE DESIGN OF THE PLAN. CONTRACTOR SHALL INSTALL ADDITIONAL BMPS AS NEEDED TO MAINTAIN SITE STABILIZATION AND MITIGATE ANY SEDIMENT TRANSPORT OFF SITE OR ONTO ADJACENT PROPERTY.
4. ALTERNATE BMPS MAY BE USED FROM THOSE SHOWN HEREON. CONTACT ENGINEER AND LOCAL AGENCY INSPECTOR WITH PROPOSED CHANGES.
5. GUIDELINES WITH THE LOCAL AGENCY PERMIT AND STANDARDS AND SPECIFICATIONS SHALL BE FOLLOWED AND MAINTAINED.
6. AN APPROVED COPY OF THE EROSION AND SEDIMENT CONTROL PLAN AND STORMWATER MANAGEMENT PLAN SHALL BE KEPT ON SITE AT ALL TIMES.
7. LOCATION OF BMPS MAY VARY BASED ON THESE PLANS DUE TO PROGRESS AND PHASING OF CONSTRUCTION ACTIVITIES.
8. SITE BMPS SHALL BE MAINTAINED AND REPAIRED IF DAMAGED IMMEDIATELY, SITE INSPECTIONS SHALL OCCUR EVERY 7-DAYS, AND WITHIN 24-HOURS OF ANY PRECIPITATION EVENT.
9. REFER TO STORMWATER MANAGEMENT PLAN (SWMP) FOR EROSION AND SEDIMENT CONTROL REQUIREMENTS.
10. INSTALL CHECK DAMS EVERY 200 FT IN DIVERSION DITCH.

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

BASELINE
Engineering · Planning · Surveying
102 N. RUBEY DRIVE, SUITE 210 · GOLDEN, COLORADO 80403
P: 3033403868 · F: 3033403869 · www.baselinecorp.com

DESIGNED BY MLL | DRAWN BY MBR | CHECKED BY MBR

REVISION DESCRIPTION | PREPARED BY | DATE

MSP INVESTMENT CO. LLP

WELD COUNTY
TOWN OF KEENESBURG

SUMMERFIELD NORTH
CONSTRUCTION DOCUMENTS
INITIAL EROSION CONTROL

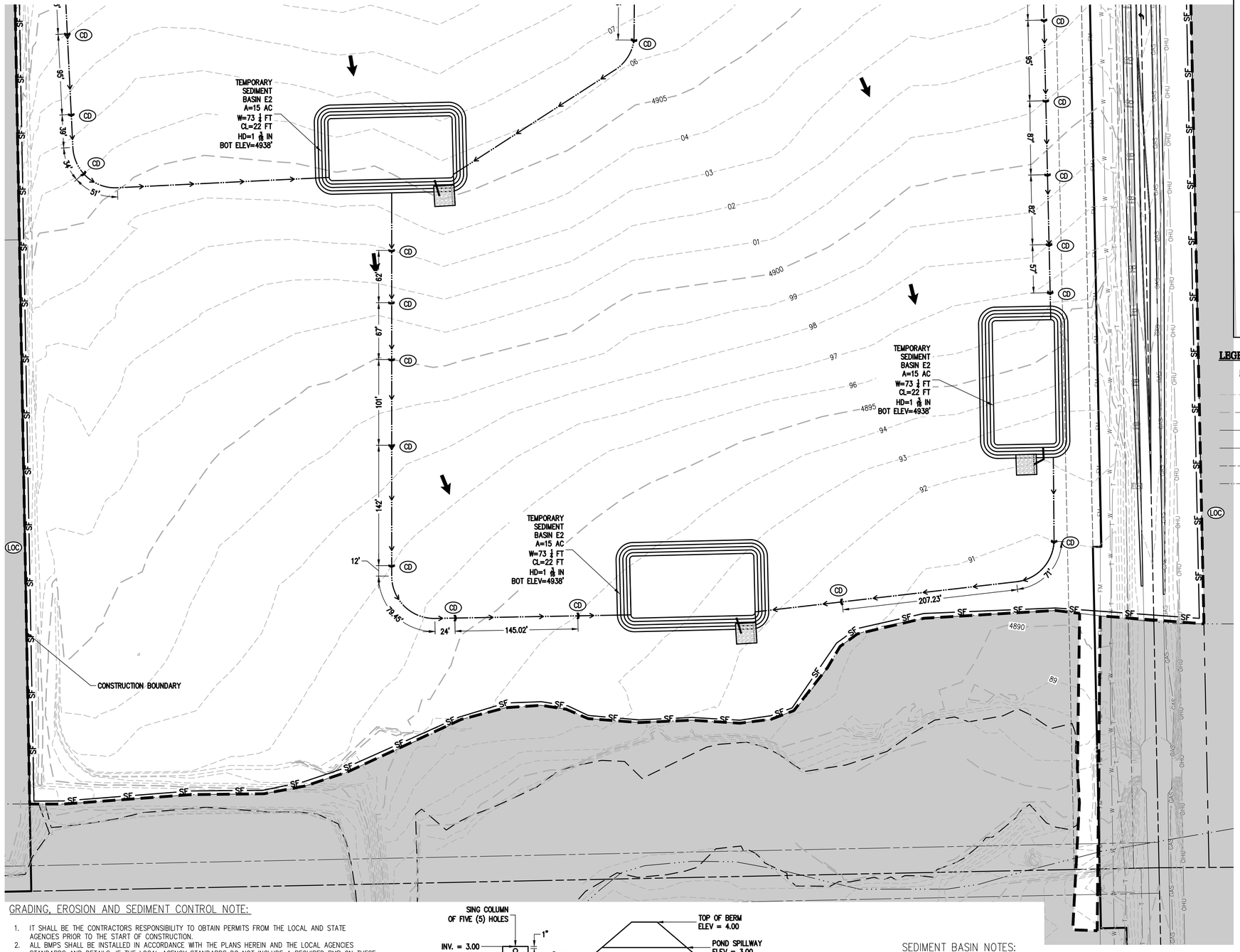
PREPARED UNDER THE DIRECT SUPERVISION OF

PRELIMINARY NOT FOR CONSTRUCTION

FOR AND ON BEHALF OF BASELINE CORPORATION

INITIAL SUBMITTAL	10/19/2021
DRAWING SIZE	24" X 36"
SURVEY FIRM	SURVEY DATE
FLATIRONS	05/06/2021
JOB NO.	C03519
DRAWING NAME	3519 GSEC Initial_Interum_Final.dwg
SHEET 6 OF 88	

EC01



LEGEND

EXISTING LINETYPES	PROPOSED LINETYPES	
81	81	MINOR CONTOUR (1' INTERVAL)
5280	5280	MAJOR CONTOUR (5' INTERVAL)
		RIGHT-OF-WAY
		LOT LINE
		EASEMENT
		DITCH FLOWLINE

EROSION AND SEDIMENT CONTROL LEGEND

LOC	LIMITS OF CONSTRUCTION
CF	CONSTRUCTION FENCE
SF	SILT FENCE
IP	INLET PROTECTION
SSA	STABILIZED STAGING AREA
CWA	CONCRETE WASHOUT AREA
SP	STOCKPILE
VTC	VEHICLE TRACKING CONTROL
DD	DRAINAGE DITCH
CD	CHECK DAMS
RS	ROCK SOCKS
SM	SEEDING AND MULCHING AREA
TSB	TEMPORARY SEDIMENT BASIN
	FLOW DIRECTION

N

GRAPHIC SCALE
60 0 60 120
(IN FEET)
1 INCH = 60 FT

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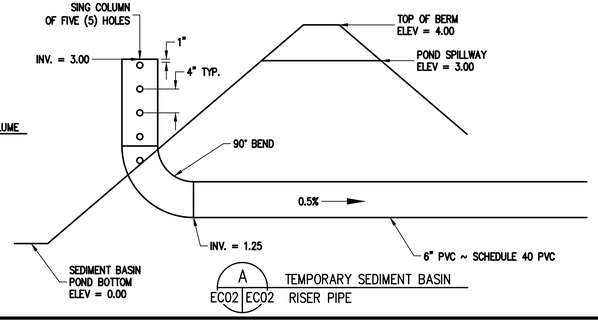

SEDIMENT BASIN NOTES:

TEMPORARY SEDIMENT BASINS HAVE BEEN IDENTIFIED IN THIS PLAN SET. HOWEVER, IF THE PHASING OF THE OVERALL PROJECT ALLOWS FOR CONSTRUCTION OF THE EXTENDED DETENTION BASINS PRIOR TO LAND DISTURBANCE ACTIVITIES IN THE ASSOCIATED TEMPORARY SEDIMENT BASIN AREA, THE EXTENDED DETENTION BASIN MAY BE USED AS THE ASSOCIATED TEMPORARY SEDIMENT BASIN.
IN LIEU OF THE TRASH RACK, PACK UNIFORMLY SIZED 1 ½ TO 2-INCH GRAVEL IN FRONT OF THE ORIFICE PLATE. THIS GRAVEL WILL NEED TO BE CLEANED OUT FREQUENTLY DURING THE CONSTRUCTION PERIOD AS SEDIMENT ACCUMULATES WITHIN IT. THE GRAVEL PACK WILL NEED TO BE REMOVED AND DISPOSED OF FOLLOWING CONSTRUCTION TO RECLAIM THE SEDIMENT BASIN FOR USE AS AN EXTENDED DETENTION BASIN.
WHEN THE BASIN IS TO BE USED AS AN EXTENDED DETENTION BASIN FOR THE SITE, A TRASH RACK WILL NEED TO BE INSTALLED, ONCE CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED AND THE GRAVEL PACK AND ACCUMULATED SEDIMENT HAVE BEEN REMOVED. (SEE UDFCD VOL. 3 SC-7 FOR REFERENCE). REFER TO SHEETS PD01 AND PD02 FOR PERMANENT OUTLET STRUCTURE DESIGN.

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MLL	MBR	MBR

REVISION DESCRIPTION	PREPARED BY	DATE

MSP INVESTMENT CO. LLP

TOWN OF KEENESBURG — WELD COUNTY

SUMMERFIELD NORTH
CONSTRUCTION DOCUMENTS
INITIAL EROSION CONTROL

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FOR AND ON BEHALF OF BASELINE CORPORATION

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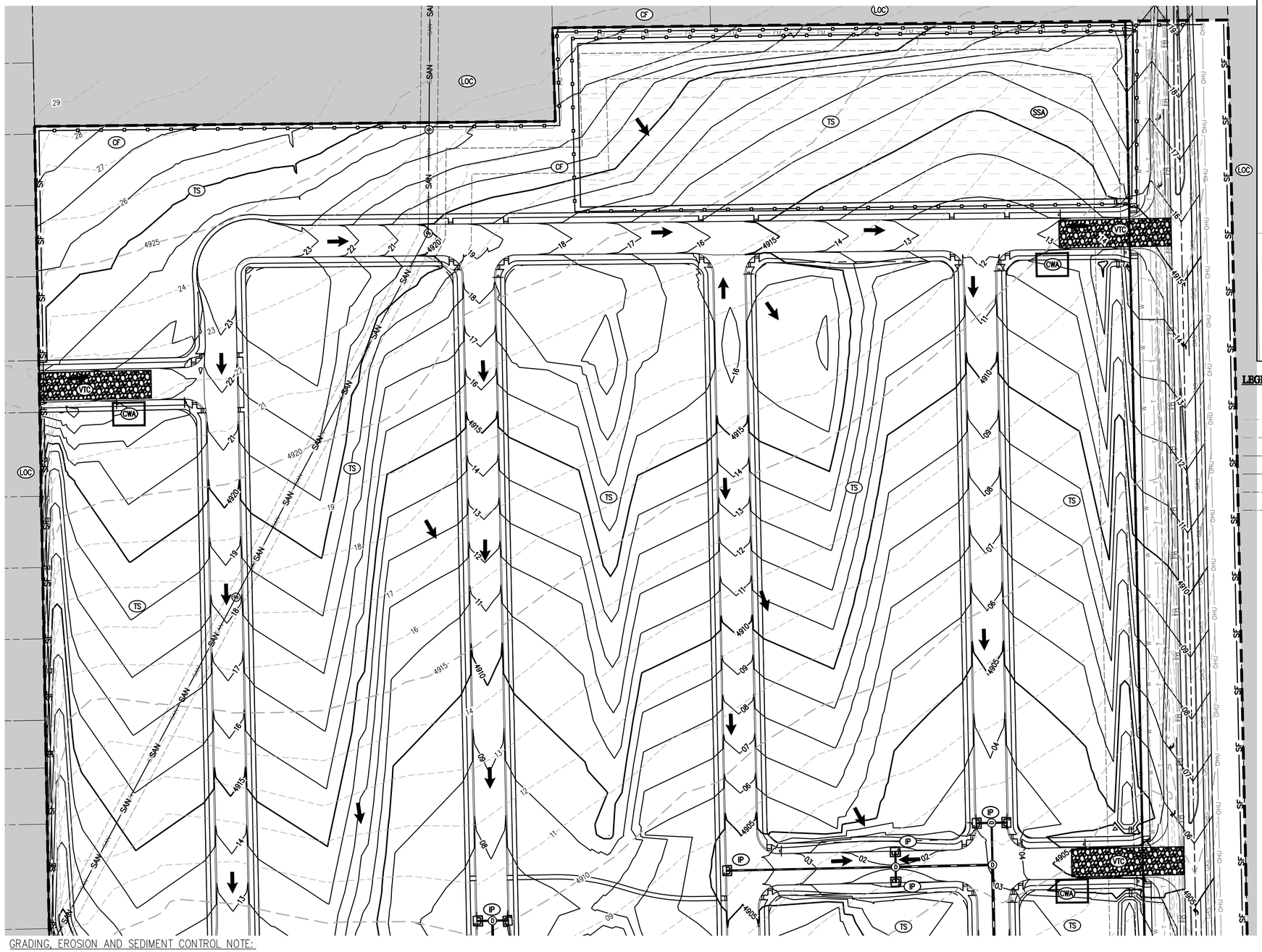
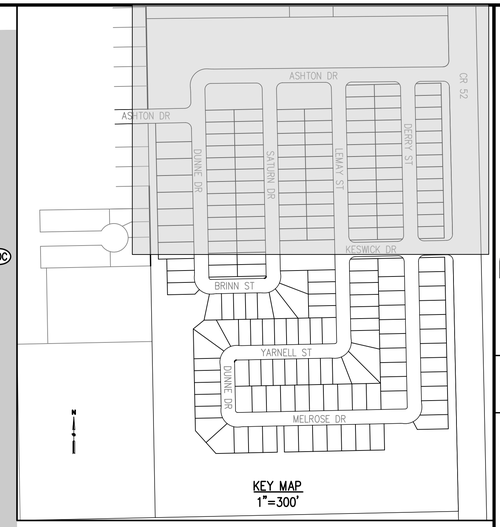
SHEET	7 OF 88

EC02





KEY MAP
1"=300'

LEGEND

EXISTING LINETYPES / PROPOSED LINETYPES

- MINOR CONTOUR (1' INTERVAL)
- MAJOR CONTOUR (5' INTERVAL)
- RIGHT-OF-WAY
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- FLOW DIRECTION

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GRAPHIC SCALE
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MSP INVESTMENT CO. LLP

TOWN OF KEENESBURG · WELD COUNTY

SUMMERFIELD NORTH
CONSTRUCTION DOCUMENTS
INTERIM EROSION CONTROL

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FOR AND ON BEHALF OF BASELINE CORPORATION

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SURVEY FIRM: FLATIRONS	SURVEY DATE: 05/06/2021
JOB NO.	C03519
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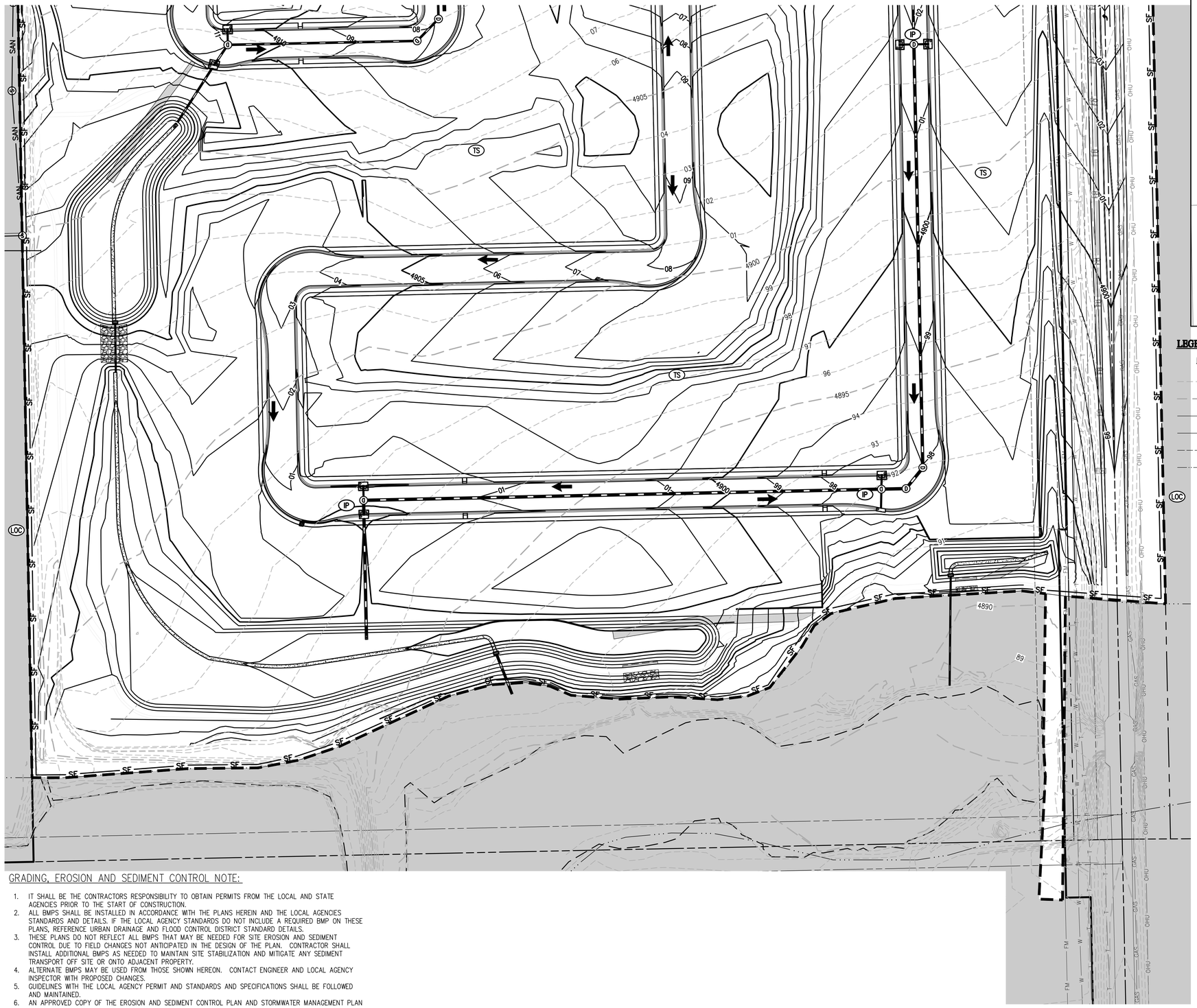
SHEET 8 OF 88	

EC03



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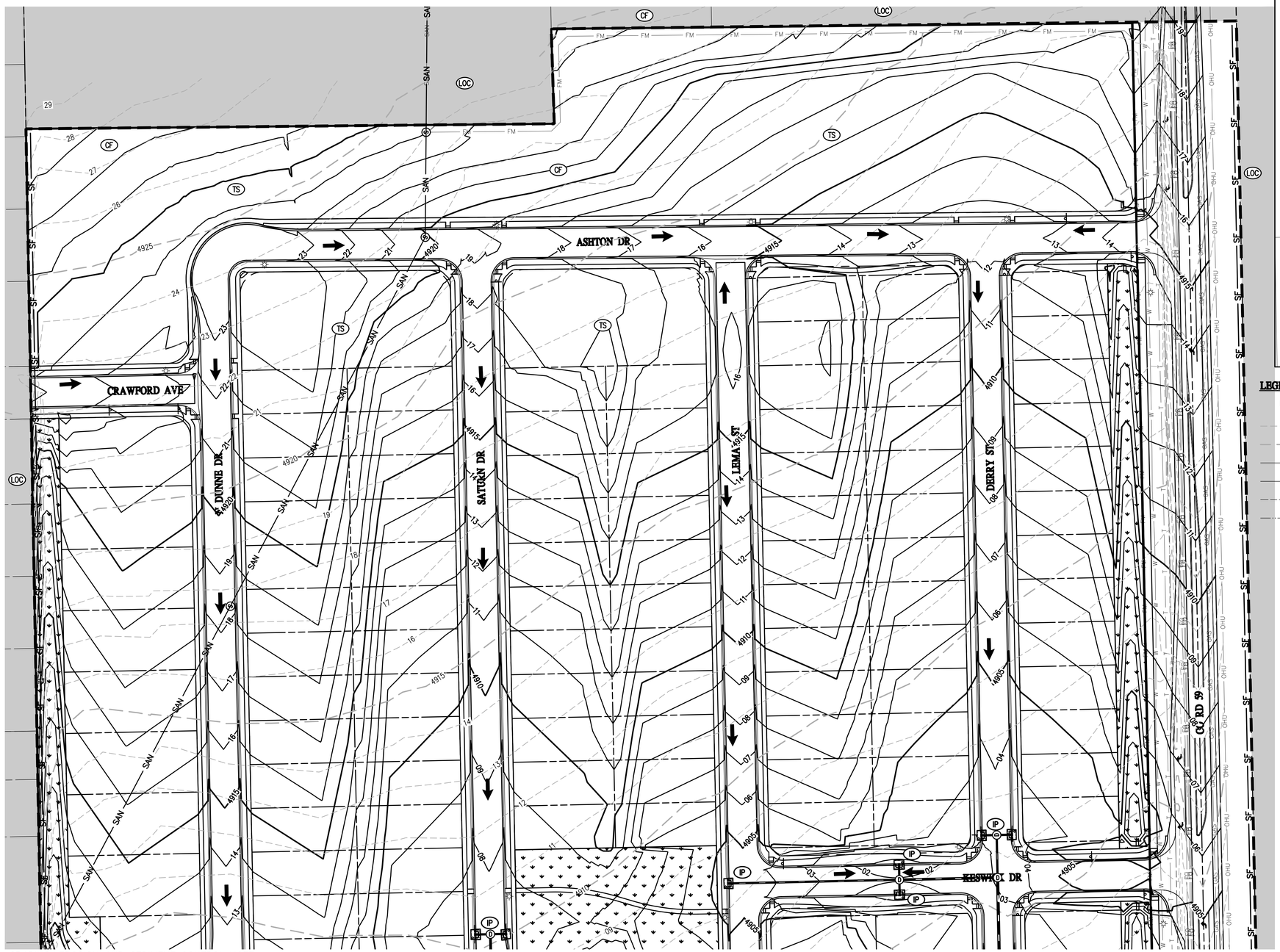

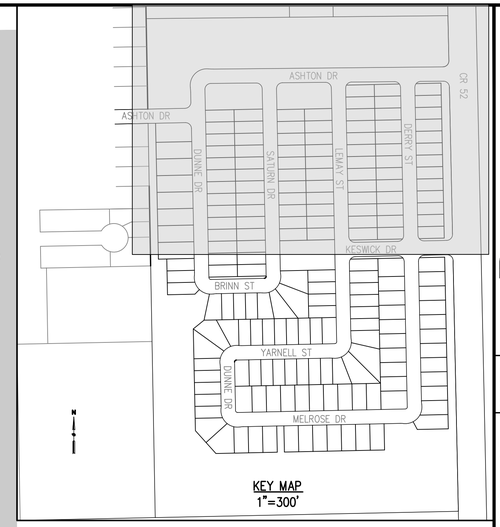

KEY MAP
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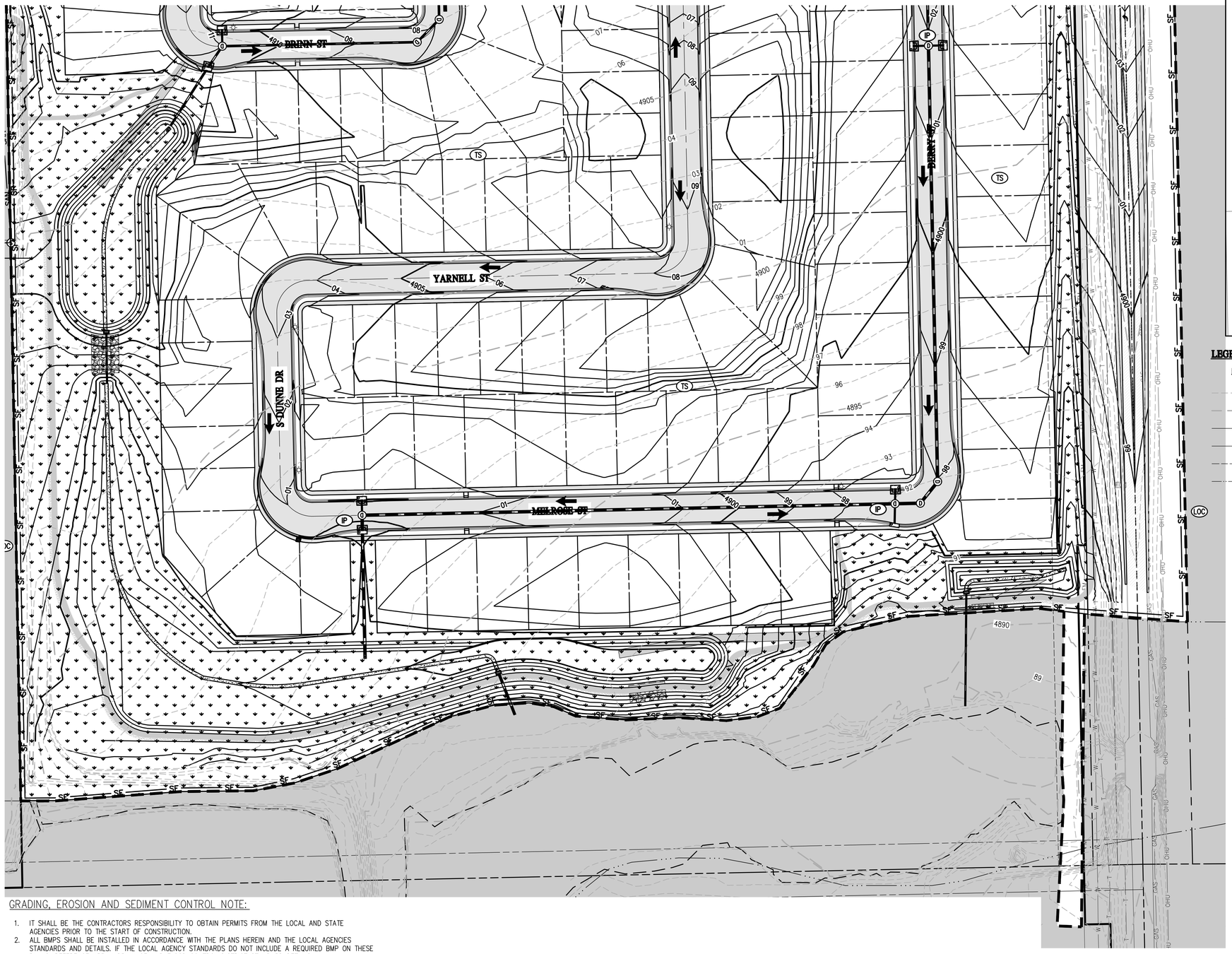
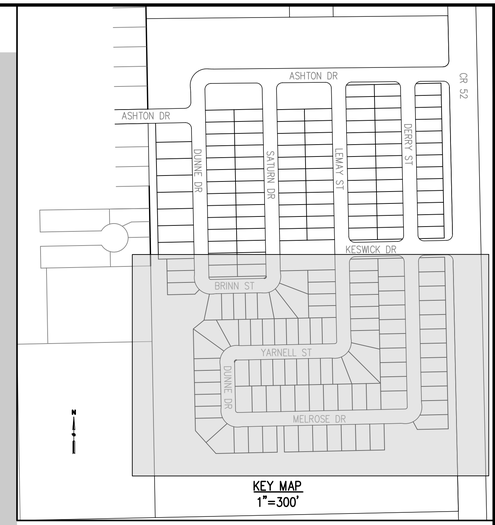
EC05





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EC06