



**DEVELOPMENT SERVICES
CURRENT PLANNING**

410 East Fifth Street • Loveland, CO 80537
(970) 962-2523 • Fax (970) 962-2904
www.cityofloveland.org

PRELIMINARY FINDINGS AND DETERMINATIONS

**Type II Zoning Permit
Bighorn RV Storage
Special Review #951**

Posted: May 24, 2019

TITLE:	Bighorn RV Storage, Special Review #951
LOCATION:	The site is located at the northwest corner of N. Garfield Ave (Hwy 287) and 57 th Street
APPLICANT:	Bighorn Loveland, LLC
STAFF CONTACT:	Noreen Smyth, Current Planning
APPLICATION TYPE:	Combined Special Review and Site Development Plan, Application #18-116
STAFF RECOMMENDATION:	Staff recommends that the Current Planning Manager preliminarily approve this special review allowing for a recreational vehicle storage business, subject to the conditions listed in Sections VIII of this report.

I. ATTACHMENTS

1. Site Development/Special Review Plan
2. Public Improvement Construction Plans
3. Traffic Study (excerpts)

II. SITE DATA

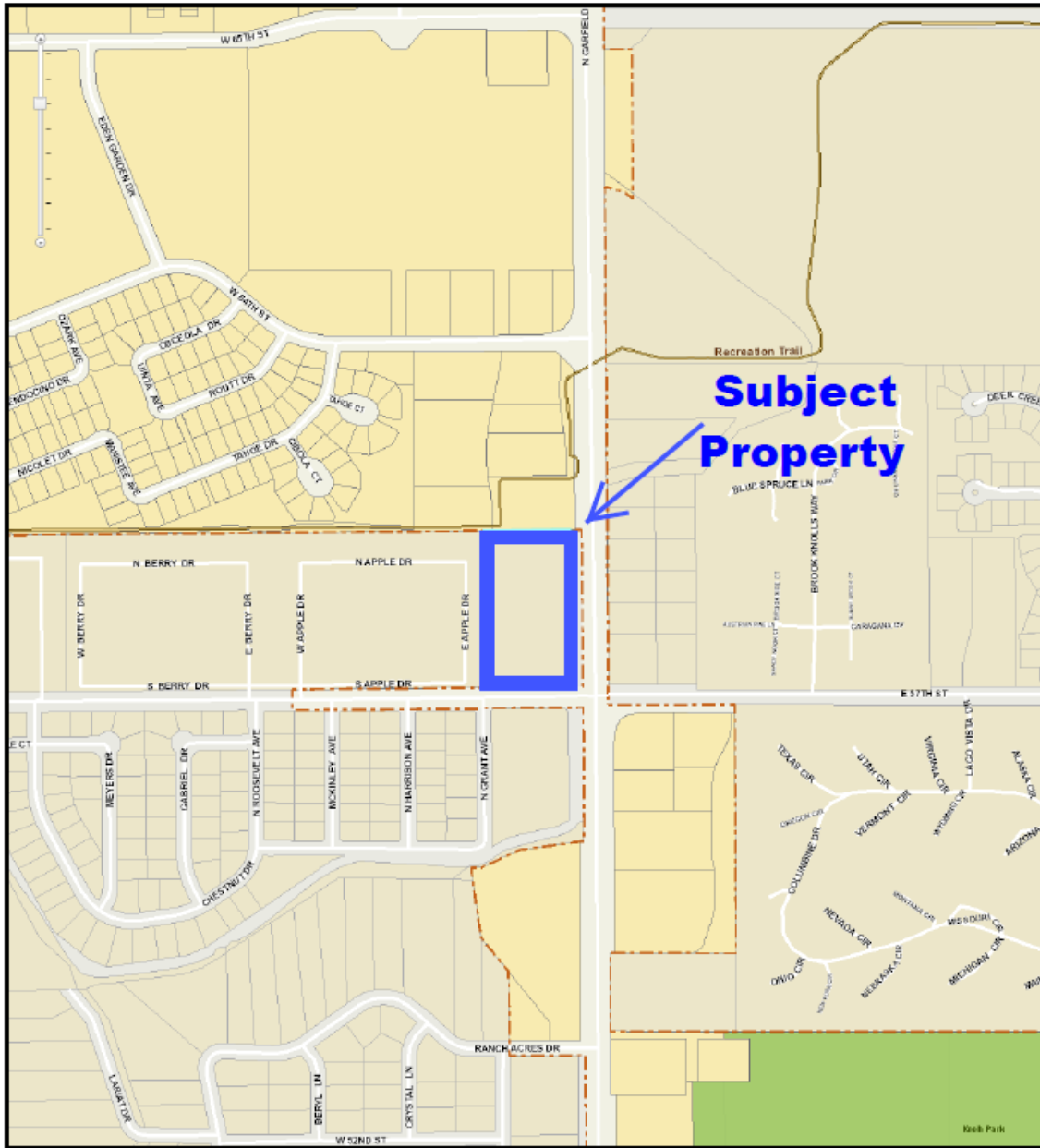
EXISTING USE	Vacant
PROPOSED USE	Indoor Recreational Vehicle Storage
AREA	5.02 acres
EXISTING ZONING.....	Larimer County B Business, to be City of Loveland B Developing Business on annexation
ADJACENT ZONING & USE- North	PUD; Commercial
ADJACENT ZONING & USE - East.....	Larimer County C Commercial; Vacant
ADJACENT ZONING & USE- South	Larimer County B Business; Vacant
ADJACENT ZONING & USE - West	Larimer County MI Multiple Family; Mobile Home Park
UTILITY SERVICE – WATER.....	City of Loveland
UTILITY SERVICE – SEWER	City of Loveland
UTILITY SERVICE – ELECTRIC	Currently Xcel, Upon annexation it will become a part of the City of Loveland service area

III. PROPERTY DESCRIPTION

The 5.02-acre rectangular subject lot is currently undeveloped. It is near the north end the city, at the northwest corner of the intersection of Garfield Ave (Highway 287) and 57th Street. The subject property underwent annexation hearings in 2018. The annexation was approved contingent on the submittal and approval of a special review application, with B-Developing Business zoning assigned. Thus, while the annexation is not yet finalized, if and when the special review that is the topic of this report is approved, the annexation will then be finalized.

The subject property is a rectangular area of land, roughly 400 feet by 600 feet in dimension. The easternmost part of the property, adjacent to N. Garfield Avenue, has a permanent ditch easement for the Loudon Irrigating Canal & Reservoir Company. The Loudon ditch runs through this area in a north-south direction.

IV. VICINTIY MAP



V. PROJECT DESCRIPTION

The proposal under consideration with this report is a recreational vehicle storage facility. Self storage facilities are a special review use in the B-Developing Business district. The facility will include 191 units, 41 of which will be smaller, non-RV storage units.

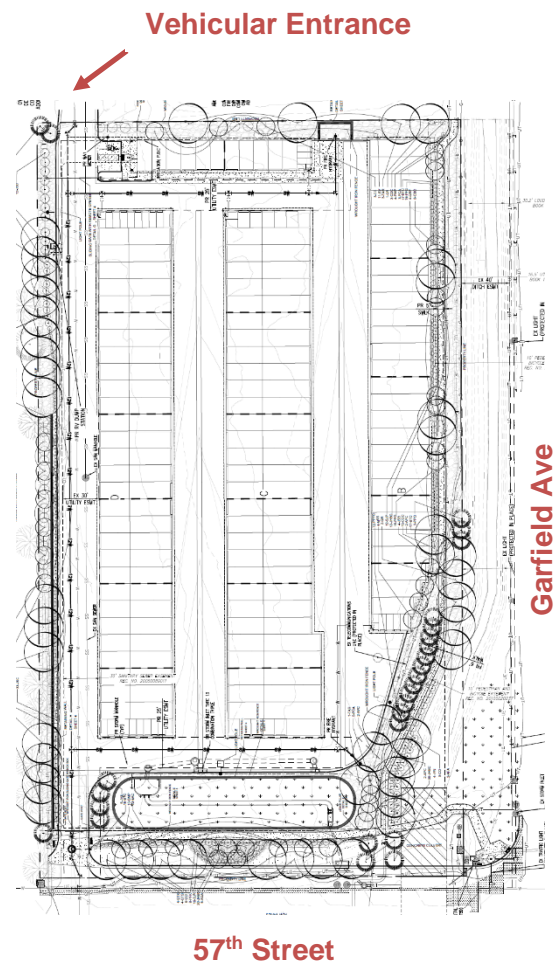
The site plan includes three long storage buildings situated in a north-south direction, a smaller storage building situated in an east-west direction near the north property line, and a detention facility near the south property line. A small office will be attached to the end of one of the storage buildings.

The development will include one vehicular entrance point through the adjacent Peakview Commercial Park; see Finding 2 and 3d below for a detailed description of vehicular access.

Landscape bufferyards will be planted along all property lines. Required street trees and public sidewalk will be installed along the adjacent public streets.

The buildings reflect enhanced architectural design for all elevations visible from public streets, as required by the Highway 287 Corridor Plan; see Finding 3c below for a detailed description of the elevations and associated building materials/colors.

Attached for reference are the Site Development Plan, which includes the site plan, landscape plan, photometric plan, and building elevations. Also attached are the public improvement construction plans.



VI. KEY ISSUES

The city's development review staff has not identified key issues associated with this special review application, nor were any voiced by neighbors at the neighborhood meeting.

VII. BACKGROUND

The annexation of the property under consideration in this staff report was approved by the City Council in June 2018, bring the parcel within the limits of the City of Loveland and the B-Developing Business district as the "Bighorn Addition", contingent on the submittal and approval of a special review application.

VIII. STAFF, APPLICANT, AND NEIGHBORHOOD INTERACTION

- A. Notification:** A letter advertising the neighborhood meeting was sent out by the applicant on April 30, 2019 to all neighbors within the distance defined in the Loveland Municipal Code. Meeting notice signs were also posted on the property on April 30, 2019.
- B. Neighborhood Response:** A neighborhood meeting was held at 5:30 pm on May 15, 2019 in the Development Center. Two attendees were at the meeting along with city staff and the applicant's consultant. Questions from attendees centered on the site and building design, with a couple of questions about traffic and about the adjacent ditch. One attendee voiced support for the proposal and the other attendee did not directly indicate objection or support.
- D. Project Schedule**
1. An application for Special Review #935 was filed with the Current Planning Division on July 30, 2018.
 2. A neighborhood meeting for the special review was held on May 15, 2019 in the City of Loveland Development Center. The applicant's consultant and two neighbors attended the meeting.
 3. The staff preliminary findings and determination will be posted on May 24, 2019.
 8. The public review period for the staff preliminary findings and determination is from May 24, 2019 to June 3, 2019.
 9. The final findings and determination for the special review is anticipated to be posted on June 4, 2019 and the appeal period will be from June 4, 2019 to June 24, 2019.
 10. If the special review is approved, the applicant will proceed to the submittal of the final civil construction plans, followed by site work permit and building permit applications.

IX. FINDINGS AND ANALYSIS

The Municipal Code Title 18 references below relate to the code that was in effect at the time of the submittal of the application that is the subject of this report. Title 18 has been amended since the time of the application submittal, and thus the section numbers and associated text below do not relate to the current Municipal Code Title 18.

Finding 1. *That the proposed special review use meets the purposes set forth in Section 18.04.010 of the Loveland Municipal Code.*

The proposed development of and RV storage business on the subject property will meet the purposes set forth in the Loveland Municipal Code. Unsafe or unhealthy conditions are not

anticipated to be created by the development of the proposed storage business, and the health and welfare of area residents and business owners should not be negatively impacted.

Finding 2. *That the effects of the proposed special review use on the surrounding neighborhood and the public in general will be ameliorated.*

The effects of this use on the surrounding property owners will be lessened through the site layout, landscaping, and screening of the project. An existing six foot privacy fence that provides screening between the subject property and the adjacent mobile home park to the west will be preserved, with additional trees planted along the west property line to partially screen the property to a height taller than the fence. Sidewalk will be added along 57th Street on the south side of the development, and new sidewalk will replace an existing informal asphalt path along Garfield Avenue (Highway 287) on the east side of the development. Landscape bufferyards containing a combination of deciduous trees, evergreen trees, ornamental trees, and shrubs are situated along the north, south, and east property lines, limiting potential impacts of the use to surrounding areas. Higher-quality architectural design than would commonly be included with storage facilities has been required of all building elevations visible from public streets in order to maintain the existing commercial character of Garfield Avenue.

Customers of the business will be required to enter and exit at the northwest corner of the property, accessing this entrance point through an existing drive in the Peakview Commercial Park to the north. There is an established access easement on this drive. While there is a curb cut onto the property off of 57th Street, it is designated for emergency access only, which will be enforced with a locked gate.

Finding 3. *That in assessing the potential effects of the proposed special review use, at a minimum, the following matters have been considered:*

3a. *Type, size, amount, and placement of landscaping;*

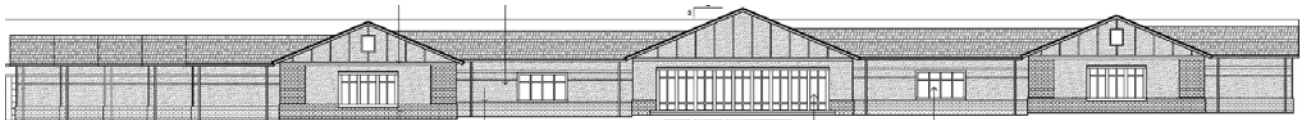
The landscape plan includes the required bufferyards along all property lines, including the required street trees along the two adjacent public streets. Certain leniencies to landscape standards have been sought by the applicant, and are supported by staff, due to the presence of the screening fence along the west property line and the presence of utilities along the south and east property line. The purpose of the bufferyard standards are still met with the proposed plan.

3b. *Height, size, placement, and number of signs;*

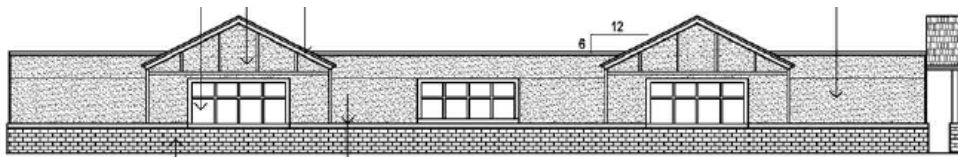
The applicant has not submitted signage information with the special review. Signage will be reviewed at the time of the submittal of a sign permit application, and must meet all code requirements for signage.

- 3c.** *Use, location, number, height, size, architectural design, materials, and colors of buildings;*

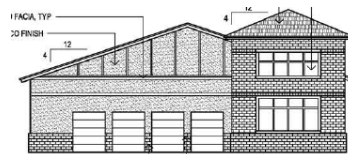
The use, location, number, height, and size of the buildings should not have a negative impact on the neighborhood. The commercial architectural standards of the Municipal Code are met with the elevations that face public streets. These standards require exterior wall articulation, changes in roof line, inclusion of building openings, and inclusion of features providing architectural detail. Of note, the street-facing elevations will include dormers and spandrel glazed storefront windows, and there will be a tower-style element at the end of one of the buildings. The office will include a covered area outside the main door.



Garfield Ave Elevation



North Elevation



57th Street Elevation of building nearest Garfield Ave

The materials will include a CMU wainscot base, stucco walls, and shingle roofing. The colors will be neutral tones of beige, green and dark red. The overhead doors will be metal of a color matching the stucco walls.



3d. *Configuration and placement of vehicular and pedestrian access and circulation;*

Immediately to the north of the subject property is a detention area for the adjacent Peakview Commercial Park, and to the north of it is an existing right in/right out driveway serving Peakview. The driveway has an access easement extending to the northwest corner of the subject property, and visitors to the subject property will utilize this access point. Interior to the development will be three long north-south drive lanes accessing the storage units, with shorter east-west drive lane connecting these.

Public sidewalk will be provided along both 57th Street and Garfield Avenue (Highway 287).

3e. *Amount and configuration of parking;*

The Municipal Code requires one off-street parking space per 300 sq ft of office area plus 1 for every employee. The on-site office, situated just inside the entrance point at the northwest portion of the subject property, is 300 sq ft in size, and the required 2 parking spaces (one of which is accessible) is provided. For storage facilities, customers generally park in front of their unit when they need to park a vehicle. Four bicycle parking spaces are also provided near the office.

3f. *Amount, placement, and intensity of lighting;*

A photometric plan meeting the standards of the code has been submitted. There will be two pole-mounted full cut-off lights near west side of the property and one pole-

mounted light, full cut-off near the southeast side of the property. Wall-mounted lights will be on any sides of building that contain overhead doors.

3g. *Hours of operation;*

The on-site manager will generally keep office hours. However, customers will have key codes that will enable them to access the property at any time. It is not anticipated that there will be extensive interest in overnight access by customers.

3h. *Emissions of noise, dust fumes, glare and other pollutants.*

Traffic noise is not expected to be problematic, as uses of this nature do not generate a large amount of traffic. A noise study demonstrating an anticipated ability to meet the city's noise standards has been submitted. The potential for dust fumes, glare and other pollutants from vehicles on the site should be alleviated by the privacy fence and landscape bufferyards.

Finding 4. *Except as may be varied in accordance with this special review permit, the special review site plan conforms to the restrictions and regulations set forth in the Loveland Municipal Code for the zoning district in which the special review use is located.*

The proposed special review meets this finding. The site plan meets the requirements of the B-Developing district with the exception of the north (side yard) setback. Through the special review, the applicant is requesting a 15 ft north setback instead of the conventionally required 25 ft setback. The adjacent neighbor, the owner and developer of the Peakview Commercial Development, has submitted a letter of no objection to the reduced setback. Given that the immediately adjacent property is a detention facility, staff does not object to the reduced setback at this location. The civil construction plans submitted with the special review are still undergoing staff review for compliance with all code requirements, which are anticipated to be able to be met.

Finding 5. *The special review site plan meets the requirements set forth in the Section 16.41 – Adequate Community Services – of the Loveland Municipal code.*

Transportation: Staff believes that this finding can be met, due to the following:

- A Traffic Impact Study (TIS), prepared by Harris Kocher Smith, has been submitted with the Big Horn RV Storage Special Review/Site Development Plan (SDP) and Public Improvement Construction Plans (PICP) which demonstrates that the existing and proposed transportation system, can adequately serve the proposal.
- Access to the development will be provided at the northwest corner of the development which leads to a right-in/right-out access on US-287 via private streets. A secondary emergency only access will be provided on 57th Street.
- The TIS has demonstrated that all of the proposed accesses, street connections and intersections comply with LCUASS standards and meet the City's Adequate

Community Facilities (ACF) requirements.

- The proposed RV storage development is estimated to generate approximately 178 average daily trips (ADT), 13 weekday AM peak hour trips, and 18 weekday PM peak hour trips.
- In conclusion, the development of the subject property pursuant to any of the uses permitted by right under the zoning district will not adversely impact any existing City infrastructure. A positive determination of adequacy for transportation facilities for the proposed application has been made under the provisions of paragraph i, above.

Fire: Staff believes that this finding can be met, due on the following:

- The development site will comply with the requirements in the ACF Ordinance for response distance requirements from the first due Engine Company.
- The Bighorn RV Storage development will not negatively impact fire protection for the subject development or surrounding properties.

Water/Wastewater: This development is situated within the City's current service area for both water and wastewater. The existing duplex currently has City of Loveland water and wastewater service. Staff believes that this finding can be met, due to the following:

- The proposed development will not negatively impact City water and wastewater facilities.
- The proposed public facilities and services are adequate and consistent with the City's utility planning and provides for efficient and cost-effective delivery of City water and wastewater service.

Stormwater: Staff believes that this finding can be met, due to the following:

- This special review site plan complies with the Adequate Community Services ordinance outlined in the Loveland Municipal Code.

Power: This development is situated within the City's current service area for power. Staff believes that this finding can be met, due to the following:

- The proposed development will not negatively impact City power facilities.
- The proposed public facilities and services are adequate and consistent with the City's utility planning and provides for efficient and cost-effective delivery of City power.

X. CONDITIONS OF APPROVAL

Transportation

1. All public improvements shall comply with the Larimer County Urban Area Street Standards (LCUASS).
2. The developer agrees to acquire and dedicate, at no cost to the City, any rights-of-way necessary for the required street improvements associated with this development.

3. Prior to the issuance of any building permits within the Big Horn First Addition Big Horn/Loveland RV Storage, pursuant to the provisions in Section 16.40.010.B of the Loveland Municipal Code, the Developer shall design and construct the following public improvements unless already designed and constructed by others:

a) All adjacent street improvements on 57th Street to the 4-lane arterial standard including pavement widening, bike lane, curb & gutter and detached sidewalk as shown on the City approved Public Improvement Construction Plans titled Big Horn/Loveland RV Storage prepared by Harris Kocher Smith.

b) All public sidewalk improvements along US-287 as shown on the City approved Public Improvement Construction Plans titled Big Horn/Loveland RV Storage prepared by Harris Kocher Smith.

4. Prior to the issuance of any building permits within the Big Horn First Addition Big Horn/Loveland RV Storage, the Developer shall provide a cash-in-lieu payment to the City for the widening of pavement and new curb & gutter along the adjacent frontage of US-287 for the construction of a bike lane in the future. The cash-in-lieu amount will be determined by the City Public Works Engineering Division based on current construction and material unit costs.

5. City signed Site Development Plans (including any associated Public Improvement Construction Plans), or the issuance of building permits, does not allow any construction within public street or alley rights-of-way or pedestrian easements. A separate City Development Construction Permit or Street right-of-way (ROW) Work Permit must be obtained by the Developer and/or his Contractor at the City Project Engineering office (and approved by Project Engineering) prior to any repair or construction of sidewalk, curb and gutter, driveway accesses, or any other construction in City street or alley rights-of-way or pedestrian easements, (this includes all items proposed in rights-of-way such as utility street cuts, sidewalk ramps, construction staging proposed in street, landscaping, traffic control, etc.). (Call 970-962-2510 to discuss details to obtain a ROW Work Permit).

6. All trees, shrubs, and other plant materials located within clear sight triangles shall be trimmed in accordance with the requirements of Section 7 of the Larimer County Urban Area Street Standards (LCUASS). Under current LCUASS requirements, trees shall be limbed to a height of not less than eight (8) feet and shrubs and other plant materials shall be maintained at a height of not more than thirty (30) inches, and said maintenance shall be conducted in perpetuity. Trees are also required to be kept limbed up a minimum of 8' above all street sidewalks.

Planning

1. Before issuance of a Certificate of Occupancy by the city, the Developer shall install all landscape as shown on the approved landscape plans, unless financial security is filed by the Developer with the city to assure installation at a later date acceptable to the city.

I. EXECUTIVE SUMMARY

Bighorn Loveland, LLC is proposing to develop the vacant property in the northwest corner of US 287 and E 57th Street located in the City of Loveland, CO into a recreational vehicle (RV) storage development of approximately 5 acres tentatively named "Loveland RV Storage".

The proposed project is projected to generate 178 daily vehicle trips of which 13 are projected to be generated during the AM peak hour and 18 are projected to be generated during the PM peak hour.

Access to the project is proposed to be gained by accessing the existing stub-ended commercial access road at the northwest corner of the property with ultimate connectivity with US 287 through an existing RIRO intersection just south of Schwab Tire.

The results of the analysis of intersections affected by this development are as follows:

1. The existing Schwab Tire right-in/right-out intersection on US 287 is projected to continue operate with acceptable operations through 2037.
2. The US 287 and E 57th Street intersection will experience negligible effects from the addition of the traffic from the RV Storage development.

Therefore, based on the analyses contained in this traffic study, it is concluded that the study-area roadway system can accommodate the proposed Loveland RV Storage development with the recommended access improvements with negligible impact on the study-area roadway system.

II. INTRODUCTION

A. Project Overview

Bighorn Loveland, LLC is proposing to develop the vacant property in the northwest corner of US 287 and E 57th Street located in the City of Loveland, CO into a recreational vehicle (RV) storage development of approximately 5 acres named “Loveland RV Storage”.

The parcel is currently undeveloped. The rectangular-shaped property is bounded on the north by a tire store named Les Schwab Tires, on the east by US 287, on the south by E 57th Street, and on the west by mobile home single-family residential.

Access to the project is proposed to be gained by accessing the existing stub-ended commercial access road at the northwest corner of the property with ultimate connectivity with US 287 through an existing RIRO intersection. Also, a chained access point on E 57th Street will be constructed for emergency access only.

See Figure 2 for a graphical representation of the proposed access point.

B. Purpose of Study

The purpose of this study is to evaluate the impact of the vehicular trips projected to be generated by the proposed Loveland RV Storage development on the nearby intersections and roadway system. The study includes 2017, 2019 (year of anticipated build-out), and 2037 (long-range horizon year) analysis horizons.

B. Study Area

The study area encompasses the existing roadway system in the vicinity of the project site. Specifically, the following existing intersections will receive traffic from the project and therefore were evaluated:

- US 287 and Schwab Tires RIRO
- US 287 and E 57th Street

See Figures 1 and 2 for a graphical representation of the general area of the Loveland RV Storage project and the proposed site plan, respectively.

III. EXISTING CONDITIONS

A. Existing Traffic Volumes

Existing (2017) peak-hour intersection turning-movement traffic-volume counts were collected for this study at the following intersections in February, 2017:

- US 287 and Schwab Tires RIRO
- US 287 and E 57th Street

A summary of the existing (2017) peak-hour intersection turning-movement traffic volume counts is graphically illustrated in Figure 3. Detailed traffic-volume-count data are provided in Appendix "A".

B. Existing Roadway System

The existing transportation network in the vicinity of the subject property is graphically illustrated in Figure 1. The following narrative provides a description of the study-area roadways and associated intersections as they exist in 2017:

Study Area Roadways:

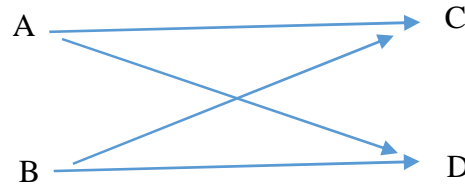
- US 287 is classified as a 4-Lane Arterial in the City of Loveland Transportation Plan. It consists of two travel lanes in each direction with curb-and-gutter on the east and west sides. There are separate left and right turn lanes at major intersections.. The posted speed limit is 55 mph. It is projected to be a six-lane arterial in 2037.
- East 57th Street is classified as a 4-Lane Arterial in the City of Loveland Transportation Plan. It consists of one travel lane in each direction with curb-and-gutter on the north and south sides. There are separate left and right turn lanes at major intersections.. The posted speed limit is 35 mph. It is projected to be a four-lane arterial in 2037.



for two cycle lengths, not the empirical value. The observed value can be found using SimTraffic. The simulation was run for an average of five arrival scenarios over a 60-minute period vs. the two cycle lengths in Synchro. The Queuing and Blocking report for the worst case shows a Maximum Observed Queue of 204 feet on the inside lane and 242 feet on the outside lane. This demonstrates that the reduction in the storage length is acceptable even in the worst case scenario.

Weaving Distance

The distance between the 3/4 movement access and the right in only access is approximately 450 feet. The City staff requested an analysis of the “weaving” of the exiting vehicles from the 3/4 movement and the entering vehicles to the right in only access. Unfortunately, though, no methodology is available in the HCM 2010 to determine the level of service characteristics of a weave section on an arterial highway. If this were a freeway, it would be considered an A type as shown below. This type of weave can be analyzed using the HCS Software.



For the HCS analysis, the following volumes were assumed from the right turn entry volume into the commercial of very conservative 200 vph and an eastbound right turn volume of approximately 200 vph.

- A to C 2100 vph
- B to D 0 vph
- B to C 82 vph
- A to D 68 vph

The weave encompasses three lanes and the travel speed was set at 45 mph. The results indicate that the weave section will operate at LOS B with a mean speed of 35.79 mph and density of 14.55 pc/mi/ln. The HCS report does not print well. It is available for reference from ATC on request.

PEDESTRIAN and BICYCLE IMPACT EVALUATIONS

Presently there are no pedestrian or bicycle facilities on site. Nor are there any on the adjacent properties. They will be installed on the site and along US-287 per Loveland and LCUASS standards.

MITIGATION MEASURES

None are required to meet the ACF requirements.

CONCLUSIONS and RECOMMENDED IMPROVEMENTS SUMMARY

The study and operations analyses contained herein provides sufficient evidence that the recommended access locations and type will function within acceptable traffic engineering parameters promulgated by FHWA, AASHTO, MUTCD, CDOT, and LCUASS. The access locations and type are essential for safe and smooth transitions on and off the highway and to reduce to the greatest extent unnecessary on-site circulation.



57th St. Access

Although Loveland has agreed to a 3/4 movement on 57th St., the analysis shows that a full-movement with a westbound left turn in movement, will function safely and would reduce traffic turning left at US-287 and left again at the 3/4 movement access on US-287. The northbound left turn out will operate at LOS F in the 2021 and 2036 PM Peak Hour conditions. However, the LOS F is acceptable and normal for unsignalized intersections. Also, LOS F is ACF compliant at unsignalized intersections. A variance will be required for the intersection spacing from US-287.

3/4 Movement Access on US-287

This intersection will be located at the southern end of the property and will be shared with the adjacent property owner. The potential trip generation from redevelopment of the adjacent property was included in the trip generation worksheet. The southbound left turn will be created by restriping the existing painted median. Traffic islands will be installed similar to the Wal-Mart entrance on 64th St. They will prohibit the left turn out movement. The critical southbound left turn will function at an acceptable LOS and is ACF compliant.

Right Turn Only Access on US-287

This access located 500 feet south of 57th St. is essential for reasonable access to the lots on the north end of the property. The access will operate very efficiently in all conditions. Note that HCM 2010 does not analyze intersections without a stop condition. The location meets CDOT criteria for spacing, however it will require a variance to the LCUASS spacing standards.

Acceleration and Deceleration Lanes

On US-287 a continuous accel/decel lane will be included for both access locations. The lane will be constructed to CDOT standards. Most of the present shoulder lane can be used for the continuous accel/decel lane. On 57th St., Loveland has recommended a right turn deceleration lane. The analysis shows that it is not warranted. The maximum right turn in peak hour volume is 15. At 35 mph and an approach leg is over 500 vph requires a right turn lane when the right turn in volume exceeds 40 vph. See Figure 8-4 in LCUASS.

Bike Lanes and Sidewalks

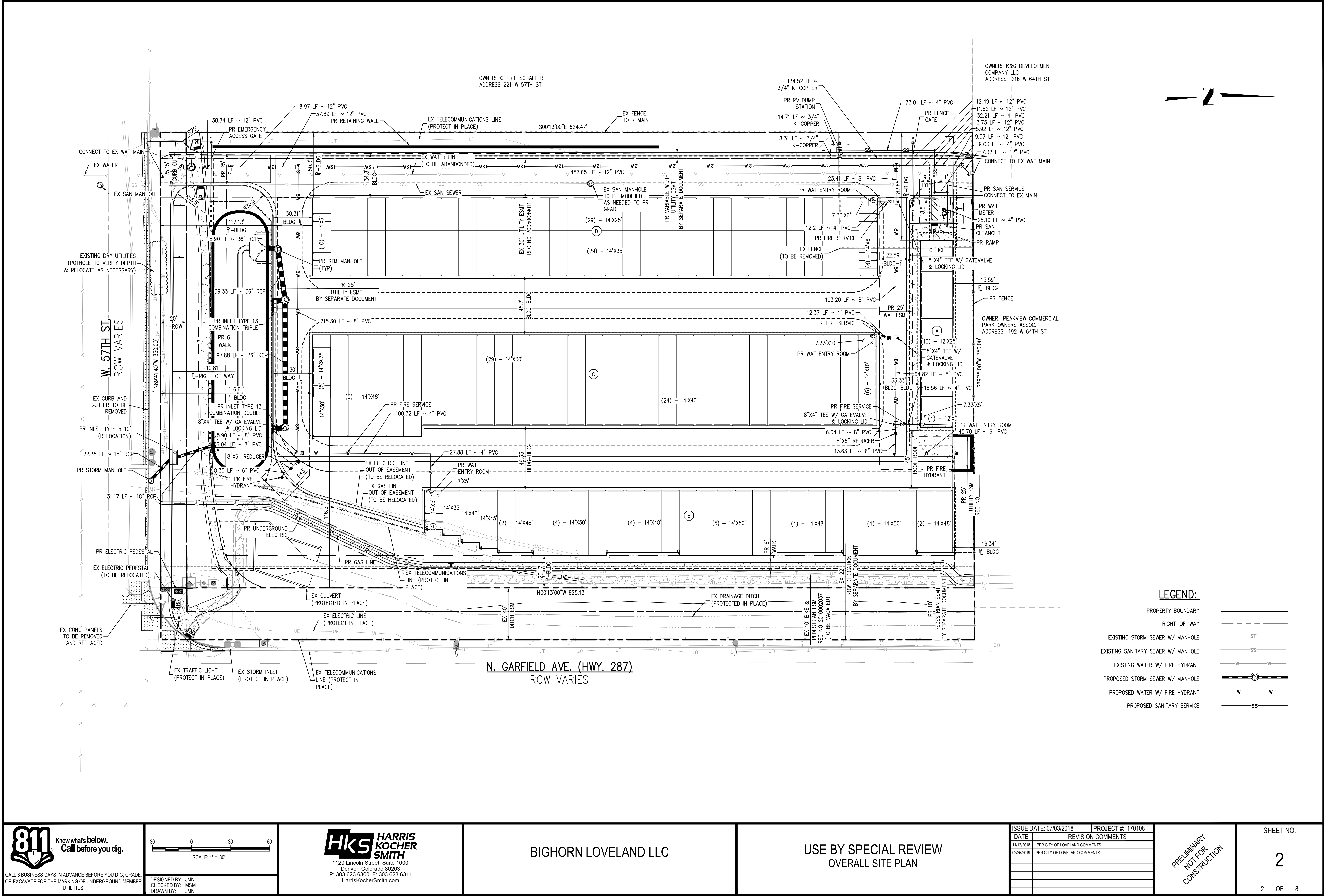
A 7' bike lane will be installed on US-287 frontage per Loveland standards. A detached sidewalk will be constructed as well.

ADEQUACY STATEMENT

In my professional opinion, the transportation facilities will be adequate and available to serve the proposed development within one year of the full build out of the project and that it meets or exceeds the applicable adopted level of service provided in Section 4.5 of the LCUASS standards. Per Title 16.41.110 of the Loveland Municipal Code, the proposed development will adhere to one or all the provisions defined in Paragraphs A through E.

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.

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7/15/2018 10:04:19 AM 5:30:15P BY: TIM HOFFMAN
PLOTTED: MON 03/04/19 5:30:15P BY: TIM HOFFMAN





Know what's below.
Call before you dig.

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE
OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER
UTILITIES.

DESIGNED BY: JMN
CHECKED BY: MSM
DRAWN BY: JMN



**HARRIS
KOCHER
SMITH**

1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

BIGHORN LOVELAND LLC

USE BY SPECIAL REVIEW
OVERALL SITE PLAN

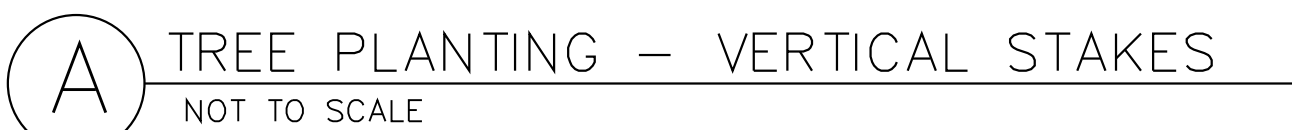
ISSUE DATE: 07/03/2018		PROJECT #: 170108	
DATE	REVISION	COMMENTS	
11/12/2018	PER CITY OF LOVELAND COMMENTS		
02/25/2019	PER CITY OF LOVELAND COMMENTS		

PRELIMINARY
NOT FOR
CONSTRUCTION

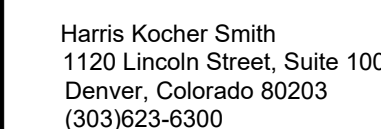
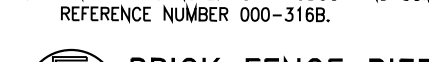
SHEET NO.

2

2 OF 8



1. All living plants required by the City of Loveland Site Development Performance Standards and Guidelines shall be maintained in a live and healthy state. Dead or unhealthy plants shall be immediately replaced with the size and type of plants required on the site development plan and by the City of Loveland Site Development Performance Standards and Guidelines
2. Scheduled sizes stated represent minimum caliper and height. Sizes provided may exceed minimum required, but in no event shall smaller plant material sizes be
3. Plant material shall be in accordance with ANA specifications for #1 grade.
4. The developer shall ensure that the landscape plan is coordinated with the plans done by other consultants so that the proposed grading, storm drainage, or other construction does not preclude installation and maintenance of landscape elements on this plan.
5. Landscape areas, unless otherwise noted shall be irrigated with an automatic underground irrigation system.
6. No shrubs shall be planted within five feet (5') radius or trees within ten feet (10' of water meters, fire hydrants, or sanitary sewer manholes.
7. Existing permanent landscape disturbed or damaged by construction shall be restored to its original condition, prior to final acceptance.
8. Areas designated "turf" shall be sodded with a bluegrass blended sod, installed on a prepared soil subgrade.
9. Soil amendments (including organic matter and fertilizers) that are appropriate for the intended plant materials, design of the site and soil conditions should be selected and used. Soil should be tilled and amendments incorporated to a minimum depth of 6 inches. The following schedule specifies the minimum solid amendment requirements per 1000 square feet of landscape area:
 - Bluegrass and High-Water Plantings: 3 cubic yards
 - Shrubs, Peennials and Moderate to Low-Water Plantings: 2 cubic yards
 - Xeric adn Very Low-Water Plantings (ie. Native Mixes):1 cubic yard or comparable treatment
10. Rock and Bark mulch shall consist of 3" of material laid over stabilized weed barrier except in detention pond area
11. The property owner or business association will be responsible for the maintenance and upkeep of all landscaping on site and within the abutting rights-of-way.
12. Roll top edging shall be used between irrigated turf and mulch areas
13. Developer shall be responsible for all on-site landscaping.
14. Developer shall be responsible for providing irrigation for all landscaping.
15. All trees, shrubs, and other plant materials located within clear sight triangles shall be trimmed in accordance with the requirements of Section 7 of the Larimer County Urban Area Street Standards (LCUASS). Under current LCUASS requirements, trees shall be limbed to a height of not less than eight (8) feet and shrubs and other plant materials shall be maintained at a height of not more than thirty (30) inches, and said maintenance shall be conducted in perpetuity. Trees are also required to be kept limbed up a minimum of 8' above all street sidewalks.
16. Non-irrigated Native Grass Shall be seeded and irrigated with temporary irrigation to establishment.
17. Underground utilities shall be located prior to installation of landscape. Plant material may be adjusted as to not conflict with utilities



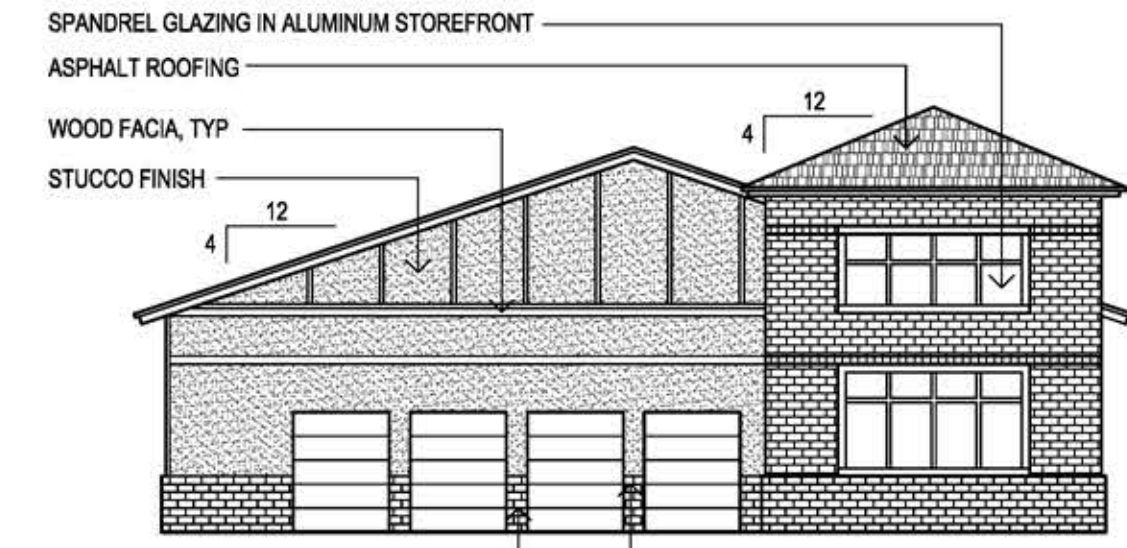
LANDSCAPE DETAILS

DATE	07/24/2018
JOB NO.	
DRAWN	RM
CHECKED	RM
REVISED	11/14/2018
	03/06/2019

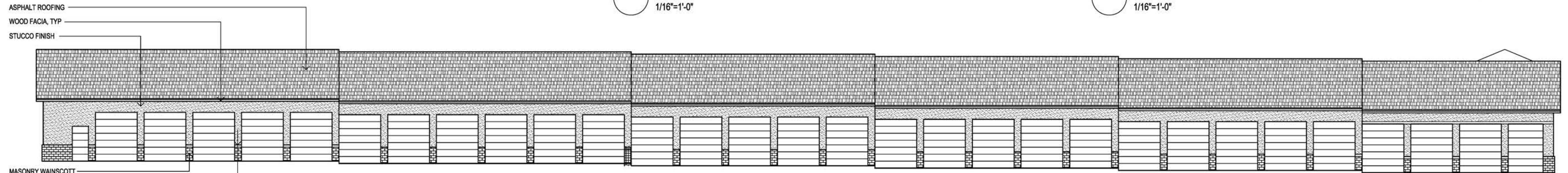
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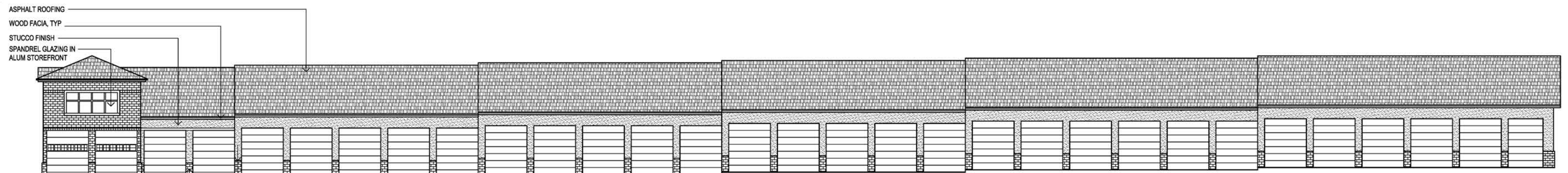
BUILDING C- NORTH ELEVATION
1/16"=1'-0"



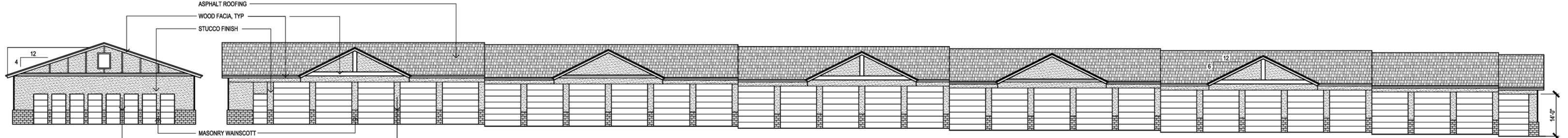
BUILDING C- SOUTH ELEVATION
1/16"=1'-0"



BUILDING C- WEST ELEVATION
1/16"=1'-0"

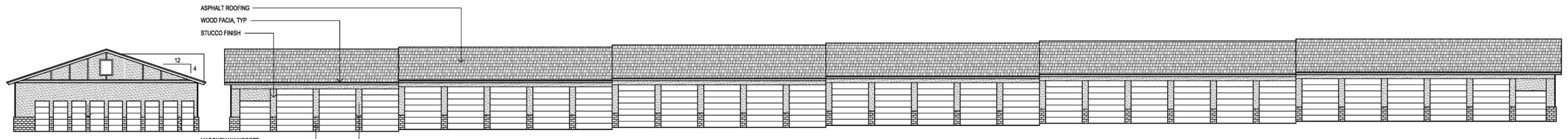


BUILDING C- EAST ELEVATION
1/16"=1'-0"



BUILDING D- SOUTH ELEVATION
1/16"=1'-0"

BUILDING D- WEST ELEVATION
1/16"=1'-0"



BUILDING D- NORTH ELEVATION
1/16"=1'-0"

BUILDING D- EAST ELEVATION
1/16"=1'-0"

FILEPATH: C:\PROJECTS\170108\BIGHORN LOVELAND STORAGE - SDP TITLE BLOCKING LAYOUT LAYOUT1
PLOTTED: MON 02/25/18 1:20:58P BY: TOM SEBERT



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DESIGNED BY: DRAFTER
CHECKED BY: REVIEWER
DRAWN BY: DRAFTER

HKS HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

BIGHORN LOVELAND LLC

USE BY SPECIAL REVIEW
ELEVATIONS

ISSUE DATE: 06-29-2018		PROJECT #: 170108	
DATE	REVISION	COMMENTS	

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CONSTRUCTION

SHEET NO.

5

OF

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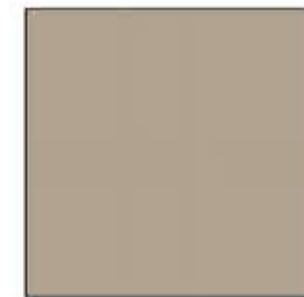
EXTERIOR OVERHEAD
ROLL-UP DOOR
COLOR: SALUTE



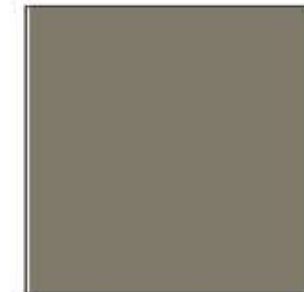
MASONRY
SPLIT FACED CMU
COLOR: MOJAVE BROWN



ASPHALT SHINGLES
COLOR: BLAK OAK



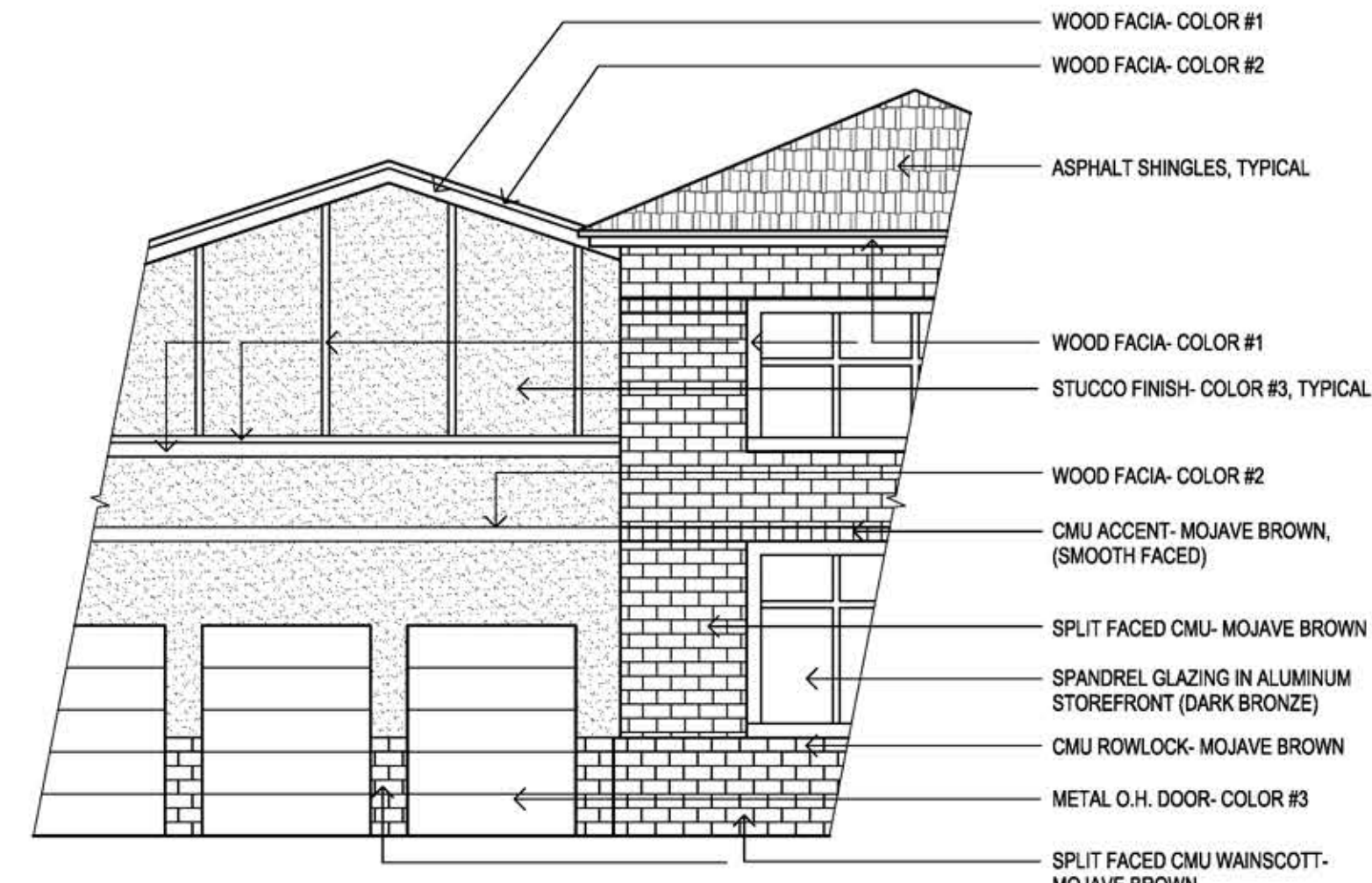
HIGHLIGHT- COLOR #1
PAINT
SW 9166
COLOR: DRIFT OF MIST



HIGHLIGHT- COLOR #2
PAINT
SW 7046
COLOR: ANONYMOS

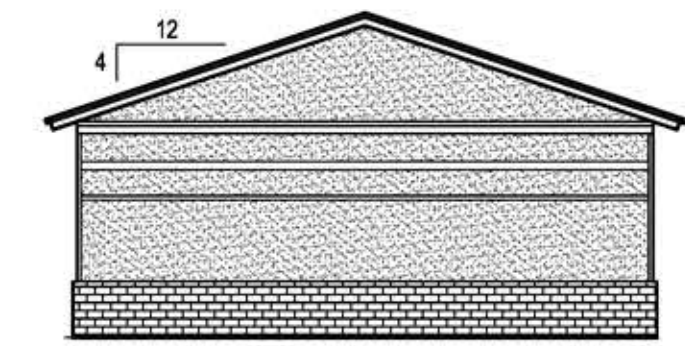


BODY OF BUILDINGS- COLOR #3
STUCCO:
SAND FINISH
PAINT
SW 7582
COLOR: SALUTE



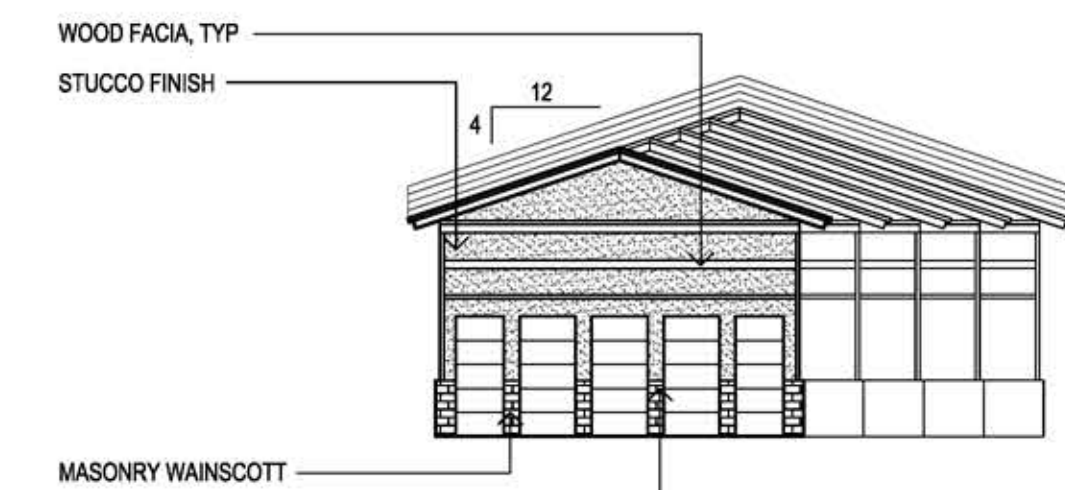
TYPICAL BUILDING MATERIALS/ COLORS

1/16"=1'-0"



BUILDING B- NORTH ELEVATION

1/16"=1'-0"

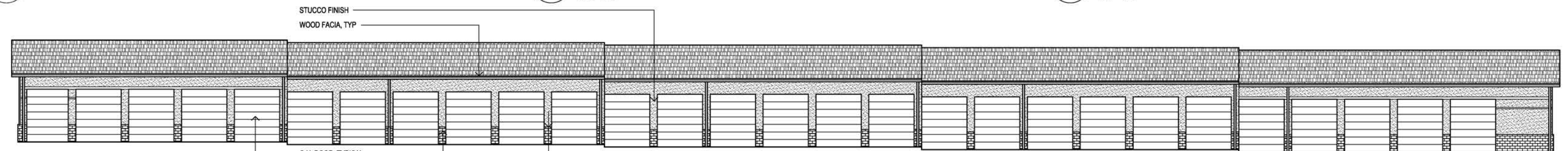


BUILDING B- SOUTH ELEVATION

1/16"=1'-0"

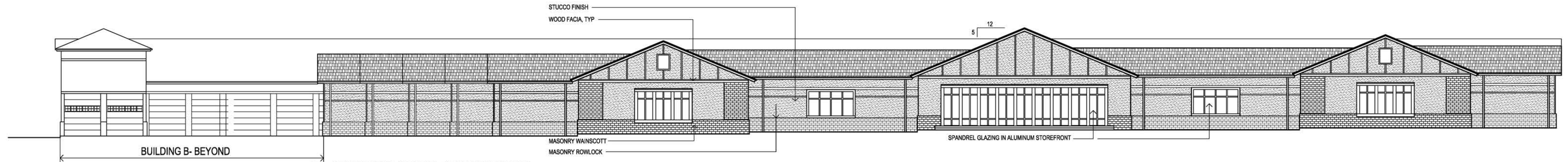
BUILDING MATERIALS

1/16"=1'-0"



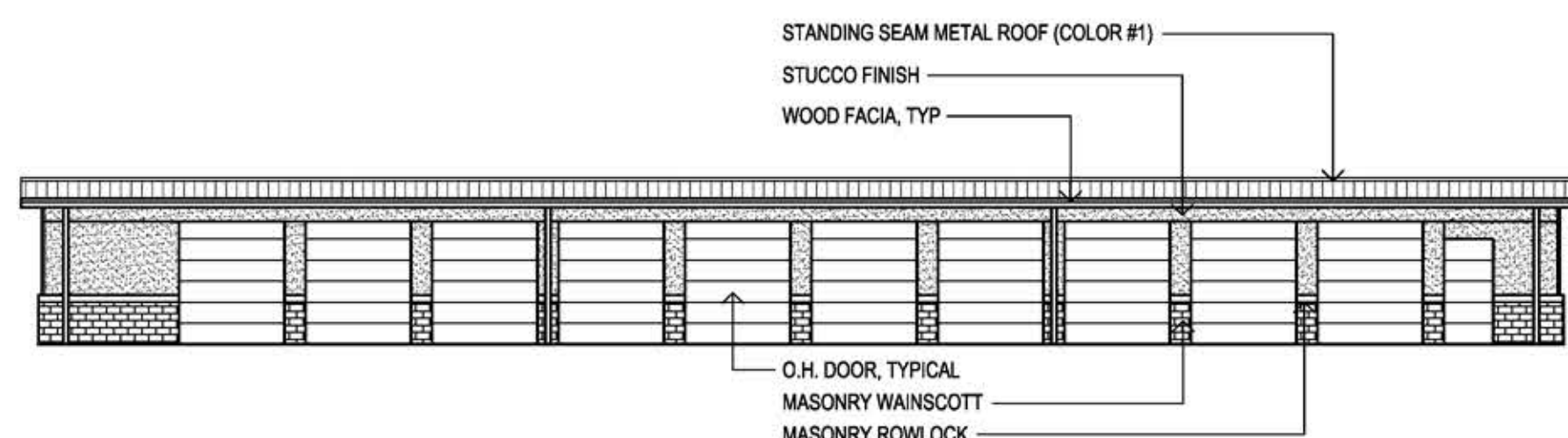
BUILDING B- WEST ELEVATION

1/16"=1'-0"



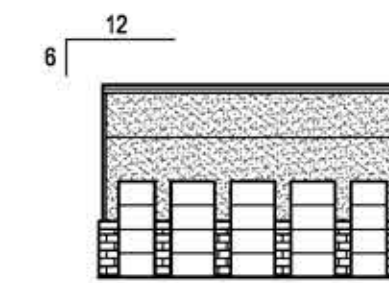
BUILDING B- EAST ELEVATION (US-287)

1/16"=1'-0"

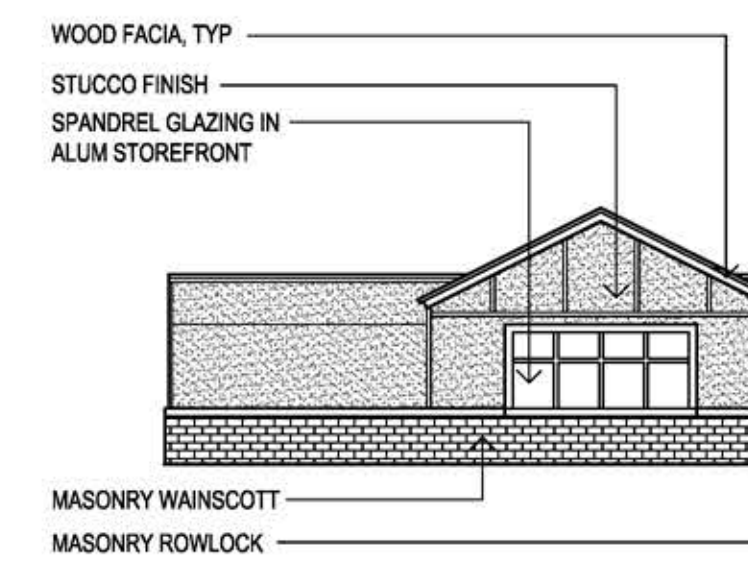


BUILDING A- SOUTH ELEVATION

1/16"=1'-0"

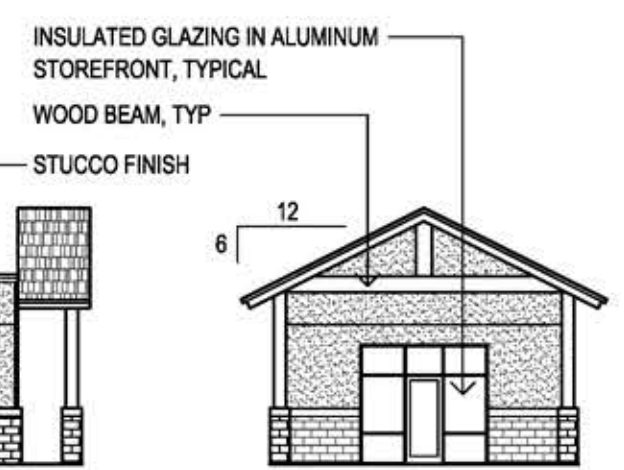


BUILDING A- EAST ELEVATION



BUILDING A- NORTH ELEVATION

1/16"=1'-0"



BUILDING A- WEST ELEVATION



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE,
OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER
UTILITIES.

DESIGNED BY: DRAFTER
CHECKED BY: REVIEWER
DRAWN BY: DRAFTER

HKS HARRIS
KOCHER
SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

BIGHORN LOVELAND LLC

USE BY SPECIAL REVIEW
ELEVATIONS

ISSUE DATE: 06-29-2018		PROJECT #: 170108	
DATE	REVISION	COMMENTS	

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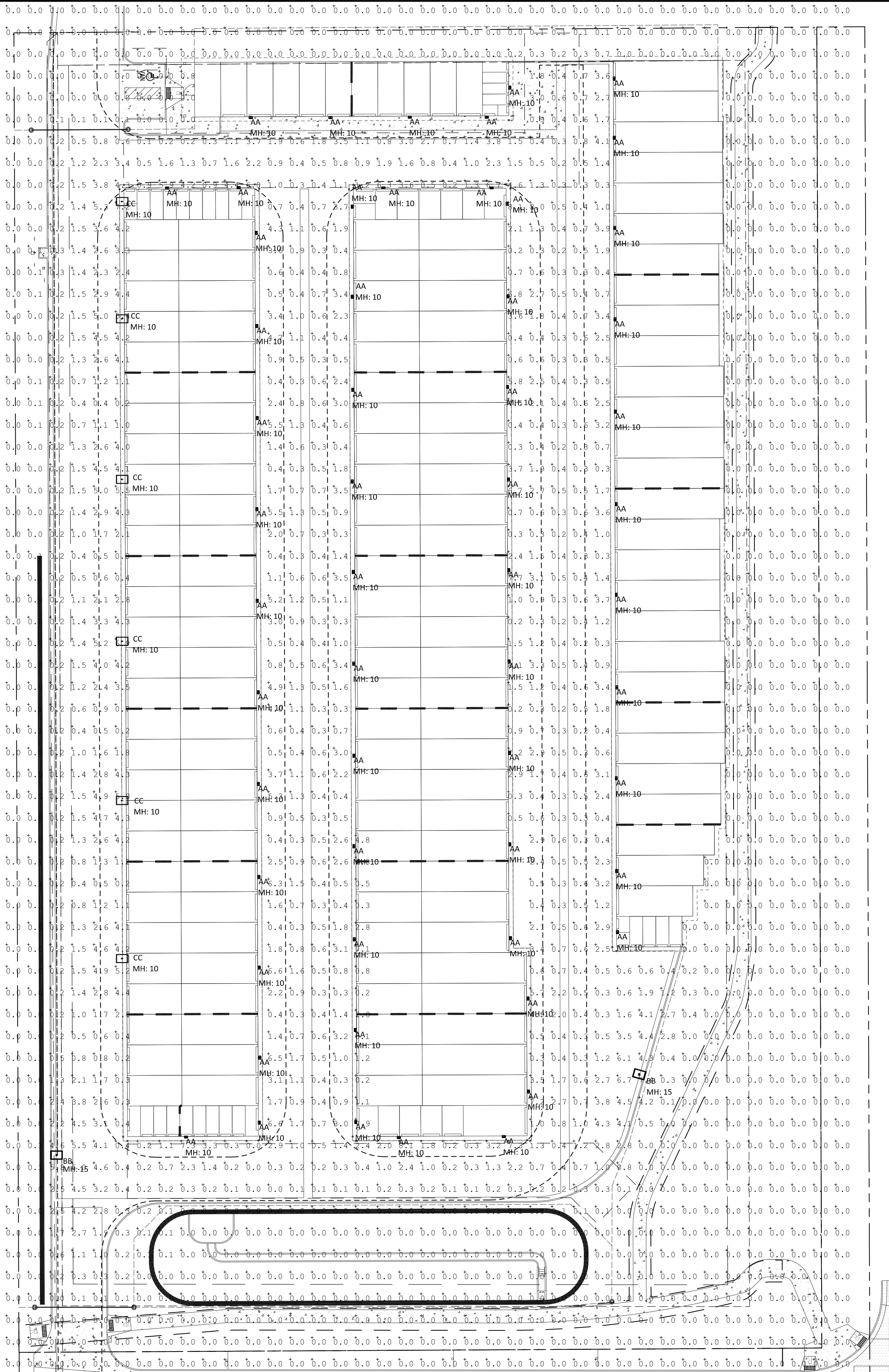
SHEET NO.

6

OF

FILEPATH: C:\PROJECTS\170108\BIGHORN LOVELAND STORAGE - SDP TITLE BLOCKING LAYOUT LAYOUT1
PLOTTED: MON 02/25/19 11:19:02P BY: TOM SEBERT

FILEPATH: C:\USERS\ANDREW\PROX (EE LLO) \PARKER SHARED (1)\19XXXX-BIGHORN STORAGE\ELECTRICAL\PHOTOMETRICS\LOVELAND STORAGE_PHOTO METRIC PLANS REVISED 2.20.19.DWG LAYOUT: 6
NO XREFS PLOTTED: TUE 02/28/19 12:42:33P BY: ANDREW



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG. GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DESIGNED BY: DRAFTER
CHECKED BY: REVIEWER
DRAWN BY: DRAFTER



THE GUGGENHEIM COMPANY

LOVELAND STORAGE
PHOTOMETRICS

ISSUE DATE: 06-29-2018		PROJECT #: 170108	
DATE	REVISION	COMMENTS	
11-12-2018		PER CITY COMMENT	
02-25-2019		PER CITY COMMENT	
#	#		
#	#		
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#	#		
#	#		

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CONSTRUCTION

SHEET NO.

6

6 OF 7

DESCRIPTION

The Galleon™ LED luminaire delivers exceptional performance in a highly scalable, low-profile design. Patented, high-efficiency AccuLED Optics™ system provides uniform and energy conscious illumination to walkways, parking lots, roadways, building areas and security lighting applications. IP66 rated and ULcUL Listed for low locations.

Catalog #

Time

Project

BB

Comments

CC

Prepared by

Date

SPECIFICATION FEATURES

Construction
Extruded aluminum driver enclosure thermally isolated from Light Squares for optimal thermal performance. Heavy-walled, die-cast aluminum and caps enclose housing and die-cast aluminum heat sinks. A unique, patent pending interlocking housing and heat sink provides scalability with superior structural rigidity. 3G vibration tested and rated. Optional tool-less hardware available for ease of entry into electrical chamber. Housing is IP66 rated.

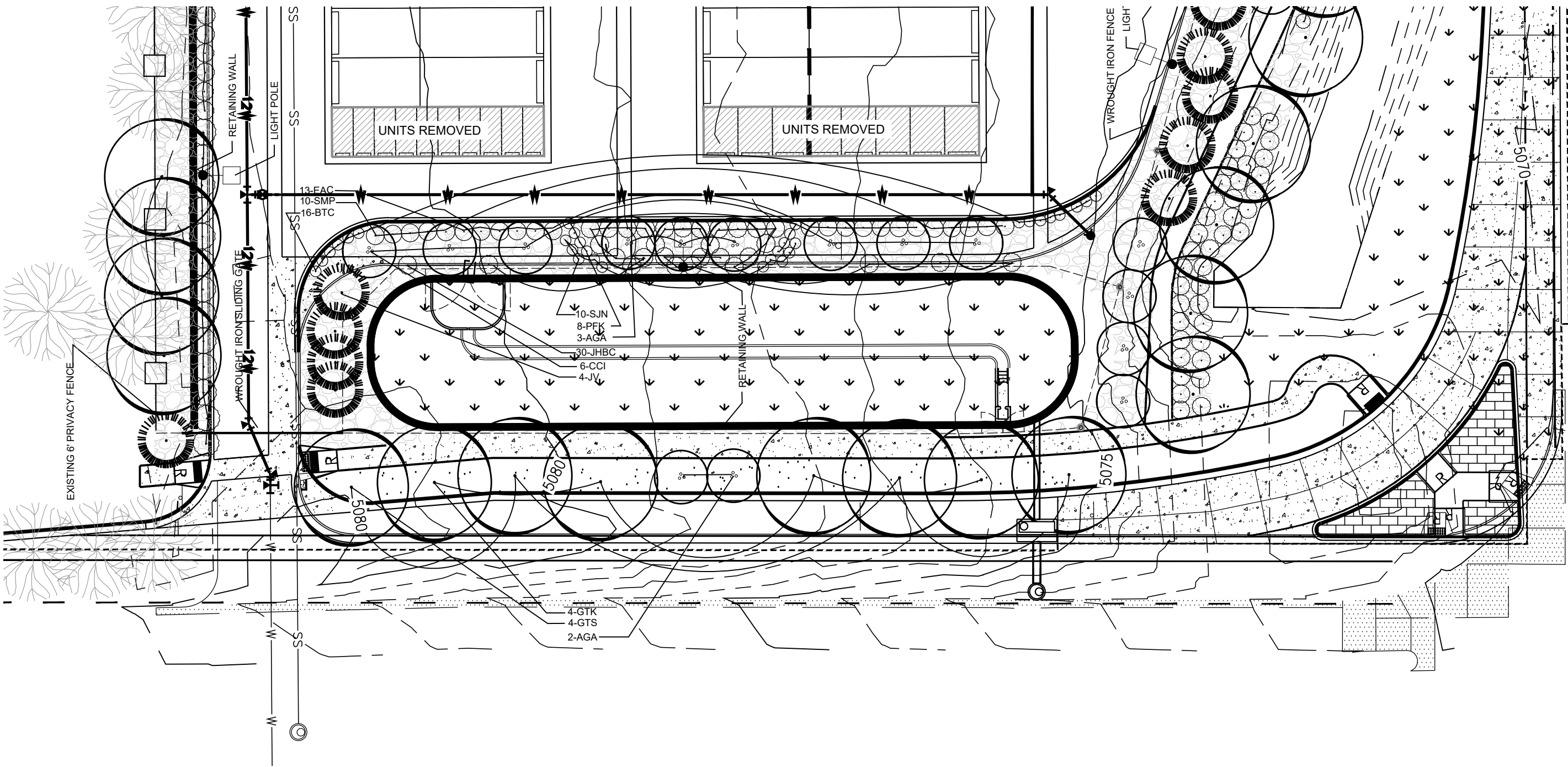
Optics
Patented, high-efficiency injection-molded AccuLED Optics technology. Optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (± 275K) CCT 70 CRI. Optional 3000K, 5000K and 6000K CCT.

Electrical

LED drivers are mounted to removable tray assembly for ease of maintenance. 120-277V 50/60Hz, 307V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Standard with 0-10V dimming. Shipped standard with Eaton proprietary circuit module designed to withstand 10kV of transient line surge. The Galleon LED luminaire is suitable for operation in -40°C to 40°C ambient environments. For applications with ambient temperatures exceeding 40°C, specify the HA (High Ambient) option. Light Squares are IP66 rated. Greater than 90% lumen maintenance expected at 60,000 hours. Available in standard 1A drive current and optional 600mA, 800mA and 1200mA drive currents (nominal).

Mounting
STANDARD ARM MOUNT: Extruded aluminum arm includes internal bolt guides allowing for easy positioning of fixture during mounting. When mounting two or more luminaires at 90° and 120° apart, the EA extended arm may be required. Refer to 1A.

Dimensions



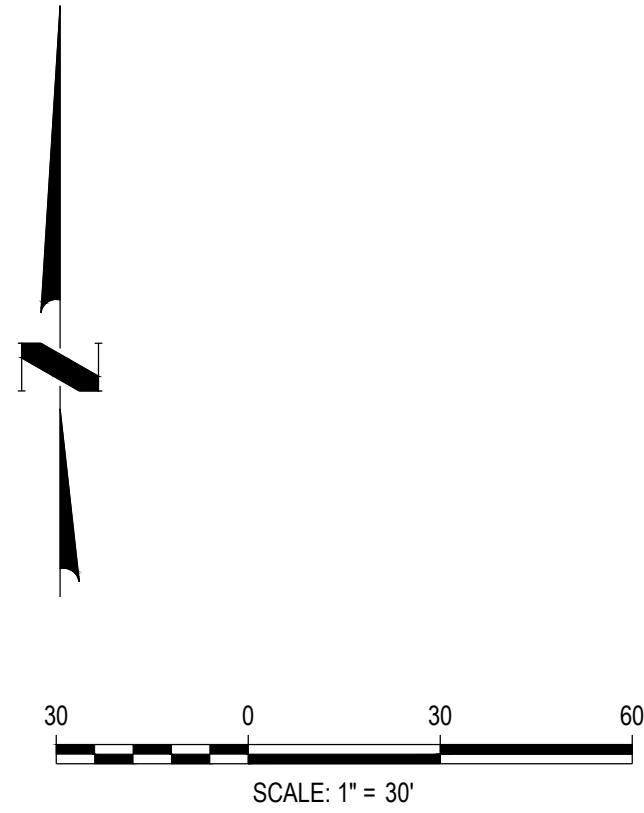
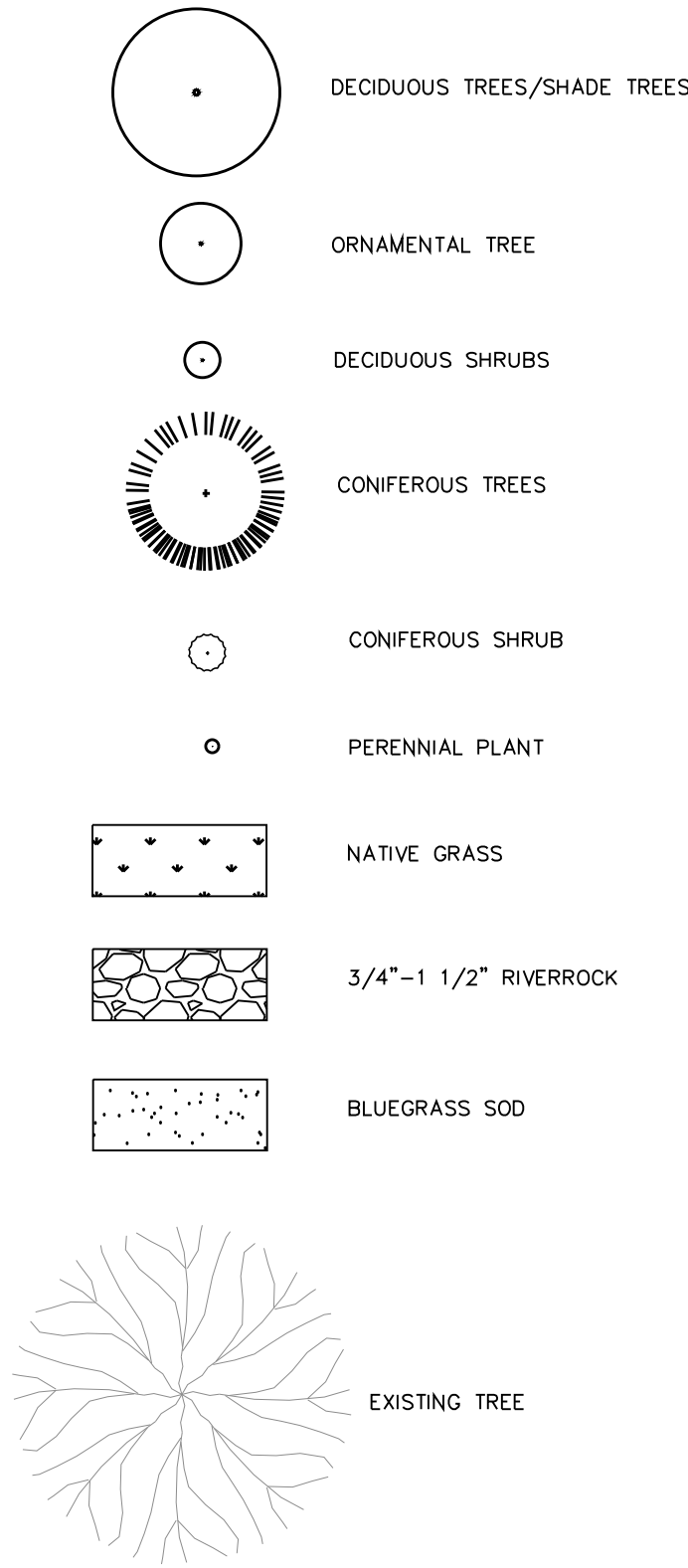
BUFFERYARD REQUIREMENTS					
SOUTH SIDE MAJOR ATRTERIAL 57th STREET - 300' Bufferyard D (Area restricted by ditch easement and utilites and conc. culvert)					
TYPE BASE STANDARD (PLANTS PER 100' LINEAR FEET)	OPTION WIDTH	PLANT MULTIPLIER	PLANTS REQUIRED	PLANTS PROPOSED	
4- CANOPY TREES	15'	1.00	12	8	
4 - ORNAMENTAL	15'	1.00	12	11	
35 - SHRUBS	15'	1.00	105	96	
3 - EVERGREEN TREES	15'	1.00	9	4	

PLANT LIST

KEY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES	QTY
DECIDUOUS TREES					
GTS	Gleditsia tiacanthos inermis' Shadem'	Shademaster Locust	2" cal	B+B	4
GTK	Gleditsia tiacanthos inermis' Skyline'	Skyline Locust	2" cal	B+B	4
ORNAMENTAL TREES					
AGA	Amelanchier graniflora 'Autumn Brill'	Autumn Brilliant Serviceberry	1.5" cal.	B+B	5
CCI	Crataegus crus-galli inermis	Thornless Cockspur Hawthorn	1.5" cal.	B+B	6
EVERGREEN TREES					
JVS	Juniperus virginiana 'Skyrocket'	Skyrocket Juniper	5 gal.	6' o.c.	4
EVERGREEN SHRUBS					
JSB	Juniperus sabina 'Buffalo'	Buffalo Juniper	5 gal.	4' o.c.	0
PMP	Pinus mugo 'Pumilo'	Dwarf Mugo Pine	5 gal.	4' o.c.	0
JHBC	Juniperus horizontalis 'Blue Chip'	Blue Chip Juniper	5 gal.	5' o.c.	30
JSC	Juniperus sabina 'Calgary Carpet'	Calgary Carpet Juniper	5 gal.	5' o.c.	0
DECIDUOUS SHRUBS					
BTC	Berberis thunbergii 'Crimson Pygmy'	Crimson Pygmy Japanese Barberry	5 gal.	5' o.c.	16
SJN	Spiraea japonica 'Neon Flash'	Neon Flash Spiraea	5 gal.	3' o.c.	10
EAC	Eucorymus alata 'Compactus'	Dwarf Burning Bush	5 gal.	3' o.c.	13
SMF	Syringa meyeri 'Palibin'	Dwarf Korean Lilac	5 gal.	4' o.c.	10
PPK	Potentilla fruticosa 'Kathryn Dykes'	Kathryn Dykes Potentilla	5 gal.	3' o.c.	8
NOTE: IN THE EVENT OF A DISCREPANCY BETWEEN THE PLAN GRAPHIC AND THE LANDSCAPE LEGEND, THE PLANT MATERIAL QUANTITY AS DETERMINED BY THE PLAN GRAPHIC SHALL TAKE PRECEDENCE.					

NOTE: SHORT GRASS PRAIRIE NATIVE SEED MIXTURE. THIS MIXTURE IS TO BE USED BETWEEN OCTOBER 15th AND March 30th ONLY AT A RATE OF 30.75 PLS LBS/ACRE

LANDSCAPE LEGEND



OWNER

Bighorn Loveland, LLC
190 Newport Center Dr., #200
Newport Beach, CA 92660

LANDSCAPE ARCHITECT

Planscapes
980 Norway Maple Drive
Loveland, Colorado
970-988-5301

ENGINEER

Harris Kocher Smith
1120 Lincoln Street, Suite 100
Denver, Colorado 80203
(303)623-6300

BIGHORN RV STORAGE LLC
BIGHORN RV STORAGE
SITE DEVELOPMENT PLAN

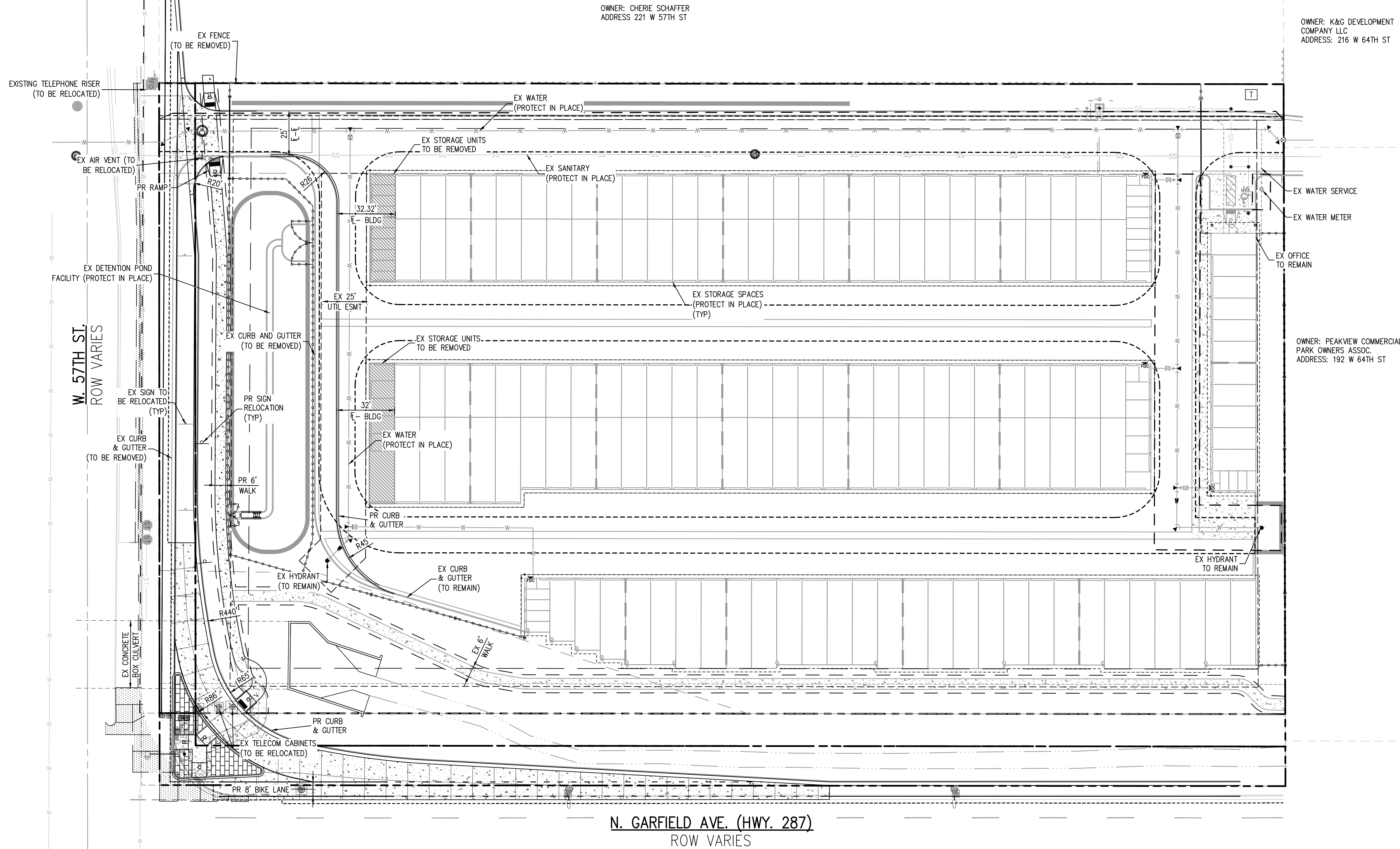
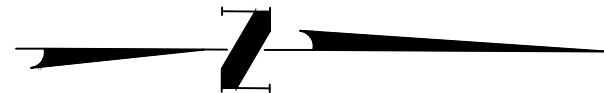
COLORADO

LOVELAND

LANDSCAPE PLAN
FUTURE ROAD WIDENING

DATE	07/24/2018
JOB NO.	
DRAWN	RM
CHECKED	RM
REVISED	11/14/2018
	03/06/2019

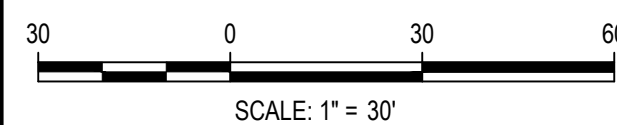
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FILEPATH: P:\170108\ENGINEERING\SDPS\170108 SITE PLAN\170108 SITE PLAN LAYOUT.LAYOUT
7/15/2018 10:00 AM
PLOTTED: MON 03/04/19 5:30:22P BY: TIM HOFFMAN



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DESIGNED BY: JMN
CHECKED BY: MSM
DRAWN BY: JMN

HKS HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

BIGHORN LOVELAND LLC

USE BY SPECIAL REVIEW
SITE PLAN FUTURE ROAD WIDENING

ISSUE DATE: 07/03/2018		PROJECT #: 170108
DATE	REVISION COMMENTS	
11/12/2018	PER CITY OF LOVELAND COMMENTS	
02/25/2019	PER CITY OF LOVELAND COMMENTS	

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CONSTRUCTION

SHEET NO.

10

3 OF 8

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LEGAL DESCRIPTION:

A TRACT OF LAND SITUATED IN THE SOUTHEAST QUARTER (SE¼) OF SECTION TWENTY-SIX (26), TOWNSHIP SIX (6) NORTH, RANGE SIXTY-NINE (69) WEST OF THE SIXTH (6TH) PRINCIPAL MERIDIAN, COUNTY OF LARIMER, STATE OF COLORADO, WHICH CONSIDERING THE SOUTH LINE OF SAID SOUTHEAST QUARTER (SE¼) AS BEARING NORTH 89°41'40" EAST AND WITH ALL BEARINGS CONTAINED HEREIN, RELATIVE THERETO, IS CONTAINED WITHIN THE BOUNDARY LINES WHICH BEGIN AT A POINT WHICH BEARS SOUTH 89°41'40" WEST NINETY (90) FEET, AND AGAIN NORTH 00°13'00" WEST FORTY (40) FEET FROM THE SOUTHEAST CORNER OF SAID SECTION TWENTY-SIX (26) AND RUN THENCE NORTH 00°13' WEST SIX HUNDRED TWENTY-FIVE AND THIRTEEN ONE HUNDREDTHS (625.13) FEET TO A POINT ON THE NORTH LINE OF THE SOUTH ONE-HALF (S½) OF THE SOUTH ONE-HALF (S½) OF THE SOUTHEAST QUARTER (SE¼); THENCE SOUTH 89°35'00" WEST THREE HUNDRED FIFTY (350) FEET ALONG SAID NORTH LINE; THENCE SOUTH 00°13'00" EAST SIX HUNDRED TWENTY-FOUR AND FORTY-SEVEN ONE HUNDREDTHS (624.47) FEET; THENCE NORTH 89°41'40" EAST THREE HUNDRED FIFTY (350) FEET TO THE POINT OF BEGINNING.

COUNTY OF LARIMER,
STATE OF COLORADO.

(LEGAL DESCRIPTION PER RECEPTION NO. 20060037082)

BASIS OF BEARINGS

BEARINGS ARE BASED ON THE ASSUMPTION THAT THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 26, TOWNSHIP 6 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, BEARS NORTH 89°41'40" EAST WITH ALL BEARINGS REFERENCED HEREIN RELATIVE THERETO. THE SOUTH QUARTER CORNER OF SAID SECTION IS MONUMENTED WITH A 3-1/2" BRASS DISK IN MONUMENT BOX WITH ILLEGIBLE STAMPING. THE SOUTHEAST CORNER OF SAID SECTION IS MONUMENTED WITH A STONE AND CHISELED CROSS IN MONUMENT BOX.

BENCHMARK

ALL ELEVATIONS ARE NGVD29 AND RELATIVE TO THE CITY OF LOVELAND 1995 LEVEL NET SURVEY BENCHMARK/ NGS DESIGNATION 'H409' BEING A STAINLESS STEEL ROD ENCASED IN PIPE WITH NGS LOGO LID LOCATED NEAR THE INTERSECTION OF N GARFIELD AVENUE AND 50TH STREET, WHOSE PUBLISHED NGVD29 ELEVATION IS 5055.69 FT WITH ALL ELEVATIONS REFERENCED HEREIN RELATIVE THERETO.

PROPERTY OWNER:

THE UNDERSIGNED AGREE THAT THE REAL PROPERTY DESCRIBED IN THE APPLICATION FOR SPECIAL REVIEW FILED HERewith, AND AS SHOWN ON THIS SITE PLAN, SHALL BE SUBJECT TO THE REQUIREMENTS OF CHAPTER 18.40 OF THE MUNICIPAL CODE OF THE CITY OF LOVELAND, COLORADO, AND ANY OTHER ORDINANCES OF THE CITY OF LOVELAND THERETO. THE UNDERSIGNED UNDERSTANDS THAT IF CONSTRUCTION OF ALL IMPROVEMENTS IS NOT COMPLETED AND IT THE SPECIAL REVIEW USES ARE NOT ESTABLISHED WITHIN THREE YEARS OF THE DATE OF APPROVAL, OR OTHER COMPLETIONS DATE OR DATES ESTABLISHED IN A DEVELOPMENT AGREEMENT APPROVED BY THE CITY, THE CITY MAY TAKE AN ACTION TO DECLARE THE PERMIT AND SPECIAL REVIEW PLANS ABANDONED AND NULL AND VOID. THE UNDERSIGNED ALSO AGREES TO ALL CONDITIONS OF APPROVAL, IDENTIFIED ON THE SITE PLAN OR IN A DEVELOPMENT AGREEMENT. SUCH CONDITIONS MAY BE MORE OR LESS STRICT THAN THOSE SET FORTH GENERALLY FOR EACH ZONING DISTRICT. THESE CONDITIONS SHALL RUN WITH THE PROPERTY FOR AS LONG AS THE SPECIAL REVIEW REMAINS VALID.

STATE OF COLORADO)
COUNTY OF LARIMER)
THE FOREGOING AGREEMENT WAS ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____, 20____.

BY _____

WITNESS MY HAND AND OFFICIAL SEAL.

MY COMMISSION EXPIRES _____ NOTARY PUBLIC

CURRENT PLANNING MANAGER APPROVAL CERTIFICATE:

THIS SPECIAL REVIEW IS APPROVED, SUBJECT TO ALL CONDITIONS SET FORTH HEREON, BY THE CURRENT PLANNING MANAGER OF THE CITY OF LOVELAND, LARIMER COUNTY, COLORADO, THIS _____ DAY OF _____, 20____.

CURRENT PLANNING MANAGER

PLANNING COMMISSION APPROVAL CERTIFICATE

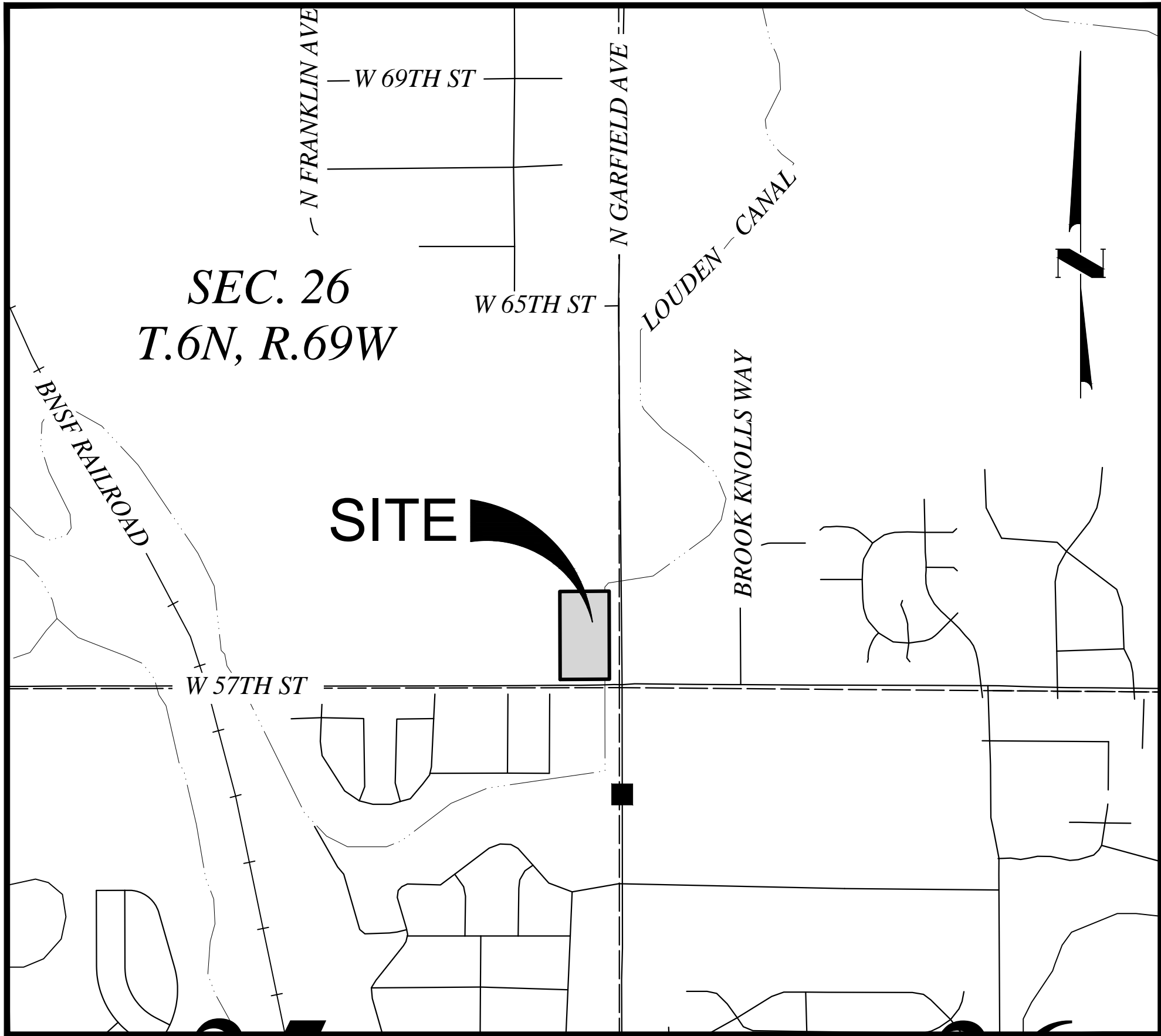
(FOR USE IF THE SPECIAL REVIEW REQUIRED A PLANNING COMMISSION PUBLIC HEARING)
THIS SPECIAL REVIEW IS APPROVED, SUBJECT TO ALL CONDITIONS SET FORTH HEREON, BY THE PLANNING COMMISSION OF THE CITY OF LOVELAND, LARIMER COUNTY, COLORADO, THIS _____ DAY OF _____, 20____.

PLANNING COMMISSION CHAIR

PUBLIC IMPROVEMENTS
CONSTRUCTION PLANS

TRACT B BIGHORN FIRST ADDITION
SITUATED IN THE SOUTHEAST 1/4 OF SECTION 26, TOWNSHIP 6 NORTH,
RANGE 69 WEST OF THE 6TH P.M.

BIGHORN RV STORAGE LLC



VICINITY MAP

SCALE: 1" = 800'

SHEET INDEX

- | | | | |
|----|--------------------------------------|----|------------------------------------------|
| 1 | COVER SHEET | 19 | DETAILED GRADING PLAN |
| 2 | NOTES | 20 | RV DETAILS & SANITARY SERVICE PLAN |
| 3 | OVERALL SITE PLAN | 21 | WATER LINE A PLAN & PROFILE |
| 4 | OVERALL UTILITY PLAN | 22 | WATER LINE A PLAN & PROFILE |
| 5 | OVERALL GRADING PLAN | 23 | WATER LINE B & C PLAN & PROFILE |
| 6 | DRY UTILITY PLAN | 24 | WATER DETAILS |
| 7 | STORMWATER MANAGEMENT PLAN - INITIAL | 25 | WATER DETAILS |
| 8 | STORMWATER MANAGEMENT PLAN - INTERIM | 26 | EXTENDED DETENTION POND PLAN |
| 9 | STORMWATER MANAGEMENT PLAN - FINAL | 27 | LANDSCAPE DRAIN PLAN |
| 10 | STORMWATER MANAGEMENT PLAN - DETAILS | 28 | STORM PLAN & PROFILE |
| 11 | STORMWATER MANAGEMENT PLAN - DETAILS | 29 | STORM DETAILS |
| 12 | WALL PLAN & ELEVATIONS | 30 | STORM DETAILS |
| 13 | WALL NOTES & DETAILS | 31 | 57TH STREET PLAN & PROFILE |
| 14 | DETAILED GRADING PLAN | 32 | 57TH STREET CROSS SECTIONS |
| 15 | DETAILED GRADING PLAN | 33 | PAVING, SIGNAGE & STRIPING PLAN |
| 16 | DETAILED GRADING PLAN | 34 | 57TH STREET PAVING, SIGNAGE & STRIPING |
| 17 | DETAILED GRADING PLAN | 35 | ROAD DETAILS |
| 18 | DETAILED GRADING PLAN | 36 | LANDSCAPE PLAN |
| | | 37 | LANDSCAPE DETAILS (FOR INFORMATION ONLY) |

LEGEND:

EXISTING	PROPOSED
PROPERTY BOUNDARY	
RIGHT-OF-WAY	
CONTOURS	
FIRE ACCESS EASEMENT	
UTILITY EASEMENT	
PEDESTRIAN EASEMENT	
RETAINING WALL	
FENCE (PER LANDSCAPE PLAN)	
SAWCUT	
EXPOSED FOUNDATION	
PEDESTRIAN RAMP	
HANDICAP PARKING	
BUILDING NUMBER	
FIRE HYDRANT	
STREET LIGHT	
BOLLARD	
UNDERGROUND TELEPHONE	
UNDERGROUND ELECTRIC	
GAS LINE	
STORM SEWER W/ MANHOLE & INLET	
SANITARY SEWER W/ MANHOLE	
SANITARY SERVICE W/ CLEANOUT	
WATER MAIN	
FULLY RESTRAINED WATER LINE	
WATER SERVICE	
WATER METER	
GATE VALVE, BENDS, TEE	
FIRE DEPARTMENT CONNECTION	
ELECTRIC METER	
ELECTRIC PULL BOX	
TELECOM RISER	
TRANSFORMER	

ABBREVIATIONS

BOP	BOTTOM OF PIPE
BS	BOTTOM OF STEP
BW	BOTTOM OF WALL (FG)
CONC	CONCRETE
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DR	DOOR
DS	DOWNSPOUT
E	EAST, EASTING
EGL	ENERGY GRADE LINE
EL	ELEVATION
EOA	EDGE OF ASPHALT
EOC	EDGE OF CONCRETE
EOP	EDGE OF PAVEMENT
ESMT	EASEMENT
EX	EXISTING
FES	FLARED END SECTION
FF	FINISHED FLOOR
FG	FINISHED GRADE
FI	FIRE HYDRANT
FL	FLOW LINE
GB	GRADE BREAK
GV	GATE VALVE
HC	HANDICAP
HGL	HYDRAULIC GRADE LINE
HORZ	HORIZONTAL
HP	HIGH POINT
INV	INVERT
LP	LOW POINT
LSD	LANDSCAPE DRAIN
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
N	NORTH, NORTHING
PR	PROPOSED
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
SAN	SANITARY
SS	SANITARY SEWER
STA	STATION
STM	STORM
TB	THRUST BLOCK
TBC	TOPIBACK OF CURB
TOP	TOP OF PIPE
TS	TOP OF STEP
TW	TOP OF WALL (FG)
TYP	TYPICAL
UGE	UNDERGROUND ELECTRIC
UGT	UNDERGROUND TELEPHONE
VERT	VERTICAL
WAT	WATER

REVIEWED BY:

CITY OF LOVELAND - TRANSPORTATION ENGINEERING DIVISION

BY: _____ DATE: _____

CITY OF LOVELAND - WATER/WASTEWATER ENGINEERING DIVISION

BY: _____ DATE: _____

CITY OF LOVELAND - FIRE DEPARTMENT

BY: _____ DATE: _____

CITY OF LOVELAND - ELECTRICAL ENGINEERING DIVISION

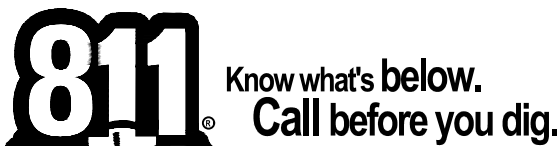
BY: _____ DATE: _____

CITY OF LOVELAND - STORM DRAINAGE ENGINEERING DIVISION

BY: _____ DATE: _____

THE CITY OF LOVELAND REVIEW CONSTITUTES COMPLIANCE WITH THE CITY'S DEVELOPMENT STANDARD SUBJECT TO THESE PLANS BEING STAMPED, SIGNED, AND DATED BY PROFESSIONAL ENGINEER OF RECORD. REVIEW BY THE CITY DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE ENGINEER OF RECORD.

THE REVIEW DOES NOT CONSTITUTE REVIEW/APPROVAL OF ANY PRIVATE ON-SITE IMPROVEMENTS WHICH MAY BE SHOWN. THESE PLANS ARE INTENDED TO BE FOR CITY REVIEW OF PUBLIC IMPROVEMENTS ADJACENT TO THE PROPERTY. CONSTRUCTION OF NON-SITE PRIVATE IMPROVEMENTS CANNOT COMMENCE UNTIL ALL REQUIRED TRAFFIC WORKSHEET OR STUDY(S), FINAL DEVELOPMENT PLAN(S), SPECIAL REVIEW(S), AND BUILDING PERMIT(S) ARE COMPLETE, APPROVED AND ON FILE WITH THE CITY OF LOVELAND.



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG. GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



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ARCHITECT



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SWMP COORDINATOR

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ISSUE DATE: 07-03-2018	PROJECT #: 170108
DATE	REVISION COMMENTS
11-12-2018	PER CITY OF LOVELAND COMMENTS
02-25-2019	PER CITY OF LOVELAND COMMENTS

PRELIMINARY
NOT FOR
CONSTRUCTION

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.

FILE PATH: P:\170108\ENGINEERING\CG000 - COVER SHEET DWG LAYOUT NOTES
5/16/2019 11:11:11 AM
PLOTTED: WED 02/27/19 7:37:38A BY: TIM HOFFMAN

GENERAL NOTES

1. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION OF PUBLIC IMPROVEMENTS SHALL MEET OR EXCEED THE STANDARDS AND SPECIFICATIONS SET FORTH IN THE LARIMER COUNTY URBAN AREA STREET STANDARDS AND APPLICABLE STATE AND FEDERAL REGULATIONS. WHERE THERE IS CONFLICT BETWEEN THESE PLANS AND THE SPECIFICATIONS, OR ANY APPLICABLE STANDARDS, THE MOST RESTRICTIVE STANDARD SHALL APPLY. ALL WORK SHALL BE INSPECTED AND APPROVED BY THE LOCAL ENTITY.
2. THE DEVELOPER IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE ENGINEER SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT 1-800-922-1987, AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING EXCAVATION OR GRADING, TO HAVE ALL REGISTERED UTILITY LOCATIONS MARKED. OTHER UNREGISTERED UTILITY ENTITIES (I.E. DITCH / IRRIGATION COMPANY) ARE TO BE LOCATED BY CONTACTING THE RESPECTIVE REPRESENTATIVE. UTILITY SERVICE LATERALS ARE ALSO TO BE LOCATED PRIOR TO BEGINNING EXCAVATION OR GRADING. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO RELOCATE ALL EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.
3. NO WORK MAY COMMENCE WITHIN ANY IMPROVED PUBLIC RIGHT-OF-WAY UNTIL A RIGHT-OF-WAY PERMIT OR DEVELOPMENT CONSTRUCTION PERMIT IS OBTAINED, IF APPLICABLE. THE DEVELOPER SHALL SUBMIT A CONSTRUCTION TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH MUTCD, TO THE APPROPRIATE RIGHT-OF-WAY AUTHORITY, (LOCAL ENTITY, COUNTY OR STATE), FOR APPROVAL, PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN, OR AFFECTING, THE RIGHT-OF-WAY. THE DEVELOPER SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED BY THE CONSTRUCTION ACTIVITIES.
4. THE DEVELOPER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FOR ALL APPLICABLE AGENCIES. THE DEVELOPER SHALL NOTIFY THE LOCAL ENTITY ENGINEER AT LEAST 2 WORKING DAYS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITY, OR CONSTRUCTION ON ANY AND ALL PUBLIC IMPROVEMENTS. IF THE LOCAL ENTITY ENGINEER IS NOT AVAILABLE AFTER PROPER NOTICE OF CONSTRUCTION ACTIVITY HAS BEEN PROVIDED, THE DEVELOPER MAY COMMENCE WORK IN THE ENGINEER ABSENCE. HOWEVER, THE LOCAL ENTITY RESERVES THE RIGHT NOT TO ACCEPT THE IMPROVEMENT IF SUBSEQUENT TESTING REVEALS AN IMPROPER INSTALLATION.
5. THE ENGINEER WHO HAS PREPARED THESE PLANS, BY EXECUTION AND/OR SEAL HEREOF, DOES HEREBY AFFIRM RESPONSIBILITY TO THE CITY OF LOVELAND, AS BENEFICIARY OF SAID ENGINEER'S WORK, FOR ANY ERRORS AND OMISSIONS CONTAINED IN THESE PLANS, AND APPROVAL OF THESE PLANS BY THE CITY ENGINEER SHALL NOT RELIEVE THE ENGINEER WHO HAS PREPARED THESE PLANS OF ALL SUCH RESPONSIBILITY. FURTHER, TO THE EXTENT PERMITTED BY LAW, THE ENGINEER HEREBY AGREES TO HOLD HARMLESS AND INDEMNIFY THE CITY, AND ITS OFFICERS AND EMPLOYEES, FROM AND AGAINST ALL LIABILITIES, CLAIMS, AND DEMANDS WHICH MAY ARISE FROM ANY ERRORS AND OMISSIONS CONTAINED IN THESE PLANS.
6. ALL UTILITY INSTALLATIONS WITHIN OR ACROSS THE ROADBED OF NEW RESIDENTIAL ROADS MUST BE COMPLETED PRIOR TO THE FINAL STAGES OF ROAD CONSTRUCTION. FOR THE PURPOSES OF THESE STANDARDS, ANY WORK EXCEPT C/C ABOVE THE SUBGRADE IS CONSIDERED FINAL STAGE WORK. ALL SERVICE LINES MUST BE STUBBED TO THE PROPERTY LINES AND MARKED SO AS TO REDUCE THE EXCAVATION NECESSARY FOR BUILDING CONNECTIONS.
7. THE DEVELOPER SHALL COORDINATE AND COOPERATE WITH THE LOCAL ENTITY, AND ALL UTILITY COMPANIES INVOLVED, WITH REGARD TO RELOCATIONS, ADJUSTMENTS, EXTENSIONS AND REARRANGEMENTS OF EXISTING UTILITIES DURING CONSTRUCTION, AND TO ASSURE THAT THE WORK IS ACCOMPLISHED IN A TIMELY FASHION AND WITH A MINIMUM DISRUPTION OF SERVICE. THE DEVELOPER SHALL BE RESPONSIBLE FOR CONTACTING, IN ADVANCE, ALL PARTIES AFFECTED BY ANY DISRUPTION OF ANY UTILITY SERVICE AS WELL AS THE UTILITY COMPANIES.
8. NO WORK MAY COMMENCE WITHIN ANY PUBLIC STORM WATER, SANITARY SEWER OR POTABLE WATER SYSTEM UNTIL THE DEVELOPER NOTIFIES THE UTILITY PROVIDER. NOTIFICATION SHALL BE A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF ANY WORK. AT THE DISCRETION OF THE WATER UTILITY PROVIDER, A PRE-CONSTRUCTION MEETING MAY BE REQUIRED PRIOR TO COMMENCEMENT OF ANY WORK.
9. THE DEVELOPER SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES DURING CONSTRUCTION AND FOR COORDINATING WITH THE APPROPRIATE UTILITY COMPANY FOR ANY UTILITY CROSSINGS REQUIRED.
10. THE TYPE, SIZE, LOCATION AND NUMBER OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK BEFORE COMMENCING NEW CONSTRUCTION. THE DEVELOPER SHALL BE RESPONSIBLE FOR UNKNOWN UNDERGROUND UTILITIES.
11. WHEN APPLICABLE, THE DEVELOPER SHALL HAVE ONSITE AT ALL TIMES, EACH OF THE FOLLOWING:
 - THE NOTICE OF INTENT (NOI)
 - BEST MANAGEMENT PRACTICES (BMP) MAINTENANCE FOLDER
 - UP TO DATE STORMWATER MANAGEMENT PLAN (SWMP) THAT ACCURATELY REPRESENTS CURRENT FIELD CONDITIONS
 - ONE (1) SIGNED COPY OF THE APPROVED PLANS
 - ONE (1) COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS
 - A COPY OF ANY PERMITS AND EXTENSION AGREEMENTS NEEDED FOR THE JOB.
12. THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY INCLUDING, BUT NOT LIMITED TO, EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, AND SECURITY. REFER TO OSHA PUBLICATION 2226, EXCAVATING AND TRENCHING.
13. IF, DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE DEVELOPER SHALL CONTACT THE DESIGNER AND THE LOCAL ENTITY ENGINEER IMMEDIATELY.
14. ALL REFERENCES TO ANY PUBLISHED STANDARDS SHALL REFER TO THE LATEST REVISION OF SAID STANDARD, UNLESS SPECIFICALLY STATED OTHERWISE.
15. THE DEVELOPER SHALL SUBMIT A CONSTRUCTION TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH MUTCD TO THE APPROPRIATE RIGHT-OF-WAY AUTHORITY, (LOCAL ENTITY, COUNTY OR STATE), FOR APPROVAL, PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN, OR AFFECTING, THE RIGHT-OF-WAY. THE DEVELOPER SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED BY THE CONSTRUCTION ACTIVITIES.
16. THE DEVELOPER IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS NECESSARY FOR THE COMPLETION OF THE INTENDED IMPROVEMENTS, SHOWN ON THESE DRAWINGS, OR DESIGNATED TO BE

- PROVIDED, INSTALLED, OR CONSTRUCTED, UNLESS SPECIFICALLY NOTED OTHERWISE.
17. THE DEVELOPER SHALL BE RESPONSIBLE FOR INSURING THAT NO MUD OR DEBRIS SHALL BE TRACKED ONTO THE EXISTING PUBLIC STREET SYSTEM. MUD AND DEBRIS MUST BE REMOVED BY THE END OF EACH WORKING DAY BY AN APPROPRIATE MECHANICAL METHOD (I.E. MACHINE BROOM SWEEP, LIGHT DUTY FRONT-END LOADER, ETC.) OR AS APPROVED BY THE LOCAL ENTITY STREET INSPECTOR.
 18. THE DEVELOPER SHALL BE RESPONSIBLE FOR RECORDING AS-BUILT INFORMATION ON A SET OF RECORD DRAWINGS KEPT ON THE CONSTRUCTION SITE, AND AVAILABLE TO THE LOCAL ENTITY'S INSPECTOR AT ALL TIMES.
 19. DIMENSIONS FOR LAYOUT AND CONSTRUCTION ARE NOT TO BE SCALED FROM ANY DRAWING. IF PERTINENT DIMENSIONS ARE NOT SHOWN, CONTACT THE DESIGNER FOR CLARIFICATION, AND ANNOTATE THE DIMENSION ON THE AS-BUILT RECORD DRAWINGS.
 20. THE DEVELOPER SHALL COMPLY WITH ALL TERMS AND CONDITIONS OF THE COLORADO PERMIT FOR STORM WATER DISCHARGE, THE STORM WATER MANAGEMENT PLAN, AND THE EROSION CONTROL PLAN.
 21. ALL STRUCTURAL EROSION CONTROL MEASURES SHALL BE INSTALLED, AT THE LIMITS OF CONSTRUCTION AND AT AREAS WITH DISTURBED SOIL, ON-OR OFF-SITE, PRIOR TO ANY OTHER GROUND-DISTURBING ACTIVITY. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD REPAIR BY THE DEVELOPER, UNTIL SUCH TIME AS THE ENTIRE DISTURBED AREAS IS STABILIZED WITH HARD SURFACE OR LANDSCAPING. TO MITIGATE EROSION, THE DEVELOPER SHALL USE STANDARD EROSION CONTROL TECHNIQUES DESCRIBED IN THE URBAN STORM DRAINAGE CRITERIA MANUAL, VOLUME 3 – BEST MANAGEMENT PRACTICES, AS PUBLISHED BY THE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT (UDFCO).
 22. THE DEVELOPER SHALL SEQUENCE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO MINIMIZE POTENTIAL UTILITY CONFLICTS. IN GENERAL, STORM SEWER AND SANITARY SEWER SHOULD BE CONSTRUCTED PRIOR TO INSTALLATION OF THE WATER LINES AND DRY UTILITIES.
 23. THERE SHALL BE NO SITE CONSTRUCTION ACTIVITIES ON SATURDAYS, UNLESS SPECIFICALLY APPROVED BY THE LOCAL ENTITY ENGINEER, AND NO SITE CONSTRUCTION ACTIVITIES ON SUNDAYS OR HOLIDAYS, UNLESS THERE IS PRIOR WRITTEN APPROVAL BY THE LOCAL ENTITY.
 24. THE DESIGNER SHALL PROVIDE, IN THIS LOCATION ON THE PLAN, THE LOCATION AND DESCRIPTION OF THE NEAREST SURVEY BENCHMARK FOR THE PROJECT AS WELL AS THE BASIS OF BEARINGS. THE INFORMATION SHALL BE AS FOLLOWS:
 25. BENCHMARK--LOVELAND'S 1995 LEVEL NET SURVEY.
 26. B.M. NUMBER H409, ELEV.= 5055.69.
 27. DESCRIPTION: STAINLESS STEEL ROD ENCASED IN PIPE WITH NGS LOGO LID LOCATED NEAR THE INTERSECTION OF N GARFIELD AVENUE AND 50TH STREET.
 28. UPON COMPLETION OF CONSTRUCTION, THE SITE SHALL BE CLEANED AND RESTORED TO A CONDITION EQUAL TO, OR BETTER THAN, THAT WHICH EXISTED BEFORE CONSTRUCTION, OR TO THE GRADES AND CONDITION AS REQUIRED BY THESE PLANS.
 29. EXISTING FENCES, TREES, STREETS, SIDEWALKS, CURBS AND GUTTERS, LANDSCAPING, STRUCTURES, AND IMPROVEMENTS DESTROYED, DAMAGED OR REMOVED DUE TO CONSTRUCTION OF THIS PROJECT SHALL BE REPLACED OR RESTORED IN LIKE KIND AT THE DEVELOPER'S EXPENSE, UNLESS OTHERWISE INDICATED ON THESE PLANS.
 30. OVERLOT GRADING CONSTRUCTION MUST COMPLY WITH THE STATE OF COLORADO PERMITTING PROCESS FOR "STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY." CONTACT THE COLORADO DEPARTMENT OF PUBLIC HEALTH & ENVIRONMENT, WATER QUALITY CONTROL DIVISION, PHONE (303) 692-3500.
 31. A STATE CONSTRUCTION DOWATERING WASTEWATER DISCHARGE PERMIT IS REQUIRED IF DOWATERING IS REQUIRED IN ORDER TO INSTALL UTILITIES OR BEFORE WATER IS DISCHARGED INTO A STORM SEWER, CHANNEL, IRRIGATION DITCH OR ANY WATERS OF THE UNITED STATES.
 32. THE DEVELOPER IS RESPONSIBLE FOR FIELD LOCATING AND VERIFYING ELEVATIONS OF ALL EXISTING SEWER MAINS, WATER MAINS, CURBS, GUTTERS AND OTHER UTILITIES AT THE POINTS OF CONNECTION SHOWN ON THE PLANS, AND AT ANY UTILITY CROSSINGS PRIOR TO INSTALLING ANY OF THE NEW IMPROVEMENTS. IF A CONFLICT EXISTS AND/OR A DESIGN MODIFICATION IS REQUIRED, THE DEVELOPER SHALL COORDINATE WITH THE ENGINEER TO MODIFY THE DESIGN. DESIGN MODIFICATION(S) MUST BE APPROVED BY THE LOCAL ENTITY PRIOR TO BEGINNING CONSTRUCTION.
 33. AFTER ACCEPTANCE BY THE LOCAL ENTITY, PUBLIC IMPROVEMENTS DEPICTED IN THESE PLANS SHALL BE GUARANTEED TO BE FREE FROM MATERIAL AND WORKSMANSHIP DEFECTS FOR A PERIOD OF TWO YEARS FROM THE DATE OF ACCEPTANCE.
 34. THESE PUBLIC IMPROVEMENT CONSTRUCTION PLANS SHALL BE VALID FOR A PERIOD OF THREE YEARS FROM THE DATE OF APPROVAL BY THE LOCAL ENTITY ENGINEER. USE OF THESE PLANS AFTER THE EXPIRATION DATE WILL REQUIRE A NEW REVIEW AND APPROVAL PROCESS BY THE LOCAL ENTITY PRIOR TO COMMENCEMENT OF ANY WORK SHOWN IN THESE PLANS.
 35. PAVING SHALL NOT START UNTIL A SOILS REPORT AND PAVEMENT DESIGN IS ACCEPTED BY THE LOCAL ENTITY ENGINEER AND SUBGRADE COMPACTION TESTS ARE TAKEN AND ACCEPTED BY THE LOCAL ENTITY ENGINEER.
 36. THE DEVELOPER SHALL BE RESPONSIBLE FOR OBTAINING SOILS TESTS WITHIN THE PUBLIC RIGHT-OF-WAY AFTER RIGHT OF WAY GRADING AND ALL UTILITY TRENCH WORK IS COMPLETE. IF THE FINAL SOILS/PAVEMENT DESIGN REPORT DOES NOT CORRESPOND WITH THE RESULTS OF THE ORIGINAL GEOTECHNICAL REPORT, THE DEVELOPER SHALL BE RESPONSIBLE FOR A RE-DESIGN OF THE SUBJECT PAVEMENT SECTION OR, THE DEVELOPER MAY USE THE LOCAL ENTITY'S DEFAULT PAVEMENT THICKNESS SECTION(S). REGARDLESS OF THE OPTION USED, ALL FINAL SOILS/PAVEMENT DESIGN REPORTS SHALL BE PREPARED BY A LICENSED PROFESSIONAL ENGINEER. THE FINAL REPORT SHALL BE SUBMITTED TO THE INSPECTOR A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO PLACEMENT OF BASE AND ASPHALT. PLACEMENT OF BASE AND ASPHALT SHALL NOT OCCUR UNTIL THE ENGINEERING DIVISION APPROVES THE FINAL REPORT.
 37. ALL ROAD CONSTRUCTION IN AREAS DESIGNATED AS WILD FIRE HAZARD AREAS SHALL BE DONE IN ACCORDANCE WITH THE CONSTRUCTION CRITERIA AS ESTABLISHED IN THE WILD FIRE HAZARD AREA MITIGATION REGULATIONS IN FORCE AT THE TIME OF FINAL PLAT APPROVAL.
 38. PORTIONS OF LARIMER COUNTY ARE WITHIN OVERLAY DISTRICTS. THE LARIMER COUNTY FLOODPLAIN RESOLUTION SHOULD BE REFERRED TO FOR ADDITIONAL CRITERIA FOR ROADS WITHIN THESE DISTRICTS.
 39. STANDARD HANDICAP RAMPS ARE TO BE CONSTRUCTED AT ALL CURB RETURNS AND AT ALL "T" INTERSECTIONS.
 40. ALL STATIONING IS BASED ON CENTERLINE OF ROADWAYS UNLESS OTHERWISE NOTED.
 41. THE LOCAL ENTITY SHALL NOT BE RESPONSIBLE FOR THE MAINTENANCE OF ROADWAY AND APPURTENANT IMPROVEMENTS, INCLUDING STORM DRAINAGE STRUCTURES AND PIPES, FOR THE FOLLOWING PRIVATE STREETS: (LIST).
 42. APPROVED VARIANCES ARE LISTED AS FOLLOWS: (PLAN SET MUST HAVE A LIST OF ALL APPLICABLE VARIANCES FOR THE PROJECT)

STREET IMPROVEMENTS NOTES

1. ALL STREET CONSTRUCTION IS SUBJECT TO THE GENERAL NOTES ON THE COVER SHEET OF THESE PLANS AS WELL AS THE STREET IMPROVEMENTS NOTES LISTED HERE.
2. A PAVING SECTION DESIGN, SIGNED AND STAMPED BY A COLORADO LICENSED ENGINEER, MUST BE SUBMITTED TO THE LOCAL ENTITY ENGINEER FOR APPROVAL, PRIOR TO ANY STREET CONSTRUCTION ACTIVITY. (FULL DEPTH ASPHALT SECTIONS ARE NOT PERMITTED AT A DEPTH GREATER THAN 8 INCHES OF ASPHALT). THE JOB MIX SHALL BE SUBMITTED FOR APPROVAL PRIOR TO PLACEMENT OF ANY ASPHALT.
3. WHERE PROPOSED PAVING ADJOINS EXISTING ASPHALT, THE EXISTING ASPHALT SHALL BE SAW CUT, A MINIMUM DISTANCE OF 12 INCHES FROM THE EXISTING EDGE, TO CREATE A CLEAN CONSTRUCTION JOINT. THE DEVELOPER SHALL BE REQUIRED TO REMOVE EXISTING PAVEMENT TO A DISTANCE WHERE A CLEAN CONSTRUCTION JOINT CAN BE MADE. WHEEL CUTS SHALL NOT BE ALLOWED UNLESS APPROVED BY THE LOCAL ENTITY ENGINEER IN LOVELAND.
4. STREET SUBGRADES SHALL BE SCARIFIED THE TOP 12 INCHES AND RE-COMPACTED PRIOR TO SUBBASE INSTALLATION. NO BASE MATERIAL SHALL BE LAID UNTIL THE SUBGRADE HAS BEEN INSPECTED AND APPROVED BY THE LOCAL ENTITIES ENGINEER.
5. WHEN AN EXISTING ASPHALT STREET MUST BE CUT, THE STREET MUST BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN ITS ORIGINAL CONDITION. THE EXISTING STREET CONDITION SHALL BE DOCUMENTED BY THE INSPECTOR BEFORE ANY CUTS ARE MADE. CUTTING AND PATCHING SHALL BE DONE IN CONFORMANCE WITH CHAPTER 25, RECONSTRUCTION AND REPAIR. THE FINISHED PATCH SHALL BLEND SMOOTHLY INTO THE EXISTING SURFACE. THE DETERMINATION OF NEED FOR A COMPLETE OVERLAY SHALL BE MADE BY THE LOCAL ENTITY ENGINEER. ALL OVERLAY WORK SHALL BE COORDINATED WITH ADJACENT LANDOWNERS SUCH THAT FUTURE PROJECTS DO NOT CUT THE NEW ASPHALT OVERLAY WORK.
6. ALL TRAFFIC CONTROL DEVICES SHALL BE IN CONFORMANCE WITH THESE PLANS OR AS OTHERWISE SPECIFIED IN M.U.T.C.D. (INCLUDING COLORADO SUPPLEMENT) AND AS PER THE RIGHT-OF-WAY WORK PERMIT TRAFFIC CONTROL PLAN.
7. THE DEVELOPER IS REQUIRED TO PERFORM A GUTTER WATER FLOW TEST IN THE PRESENCE OF THE LOCAL ENTITY INSPECTOR AND PRIOR TO INSTALLATION OF ASPHALT. GUTTERS THAT HOLD MORE THAN ¼ INCH DEEP OR 5 FEET LONGITUINALLY, OF WATER, SHALL BE COMPLETELY REMOVED AND RECONSTRUCTED TO DRAIN PROPERLY.
8. PRIOR TO PLACEMENT OF H.B.P. OR CONCRETE WITHIN THE STREET AND AFTER MOISTURE/DENSITY TESTS HAVE BEEN TAKEN ON THE SUBGRADE MATERIAL (WHEN A FULL DEPTH SECTION IS PROPOSED) OR ON THE SUBGRADE AND BASE MATERIAL (WHEN A COMPOSITE SECTION IS PROPOSED), A MECHANICAL "PROOF ROLL" WILL BE REQUIRED. THE ENTIRE SUBGRADE AND/OR BASE MATERIAL SHALL BE ROLLED WITH A HEAVILY LOADED VEHICLE HAVING A TOTAL GWV OF NOT LESS THAN 50,000 LBS. AND A SINGLE AXLE WEIGHT OF AT LEAST 18,000 LBS. WITH PNEUMATIC TIRES INFLATED TO NOT LESS THAN 90 P.S.I.G. "PROOF ROLL" VEHICLES SHALL NOT TRAVEL AT SPEEDS GREATER THAN 3 M.P.H. ANY PORTION OF THE SUBGRADE OR BASE MATERIAL WHICH EXHIBITS EXCESSIVE PUMPING OR DEFORMATION, AS DETERMINED BY THE LOCAL ENTITY ENGINEER, SHALL BE REMOVED, REPLACED OR OTHERWISE MODIFIED TO FORM A SMOOTH, NON-YIELDING SURFACE. THE LOCAL ENTITY ENGINEER SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO THE "PROOF ROLL." ALL "PROOF ROLLS" SHALL BE PREFORMED IN THE PRESENCE OF AN INSPECTOR.

WATERLINE NOTE

1. THE MINIMUM COVER OVER WATER LINES IS 4.5 FEET AND THE MAXIMUM COVER IS 5.5 FEET UNLESS OTHERWISE NOTED IN THE PLANS AND APPROVED BY THE WATER UTILITY.

PUBLIC WATER/WASTEWATER STANDARD NOTES

1. IN ADDITION TO MEETING APPLICABLE LCUASS, STATE OR FEDERAL STANDARDS, ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION OF PUBLIC WATER AND WASTEWATER SYSTEM IMPROVEMENTS SHALL MEET OR EXCEED THE STANDARDS SET FORTH IN THE CITY OF LOVELAND WATER AND WASTEWATER DEVELOPMENT STANDARDS.
2. IN CASES OF CONFLICT BETWEEN THESE SIGNED PICP'S AND APPLICABLE STANDARDS, THE MOST RESTRICTIVE STANDARD SHALL APPLY.
3. IN CASES OF CONFLICT BETWEEN THE CITY OF LOVELAND WATER AND WASTEWATER DEVELOPMENT STANDARDS AND LCUASS, RELATING TO WATER AND/OR WASTEWATER SYSTEMS, THE CITY OF LOVELAND WATER AND WASTEWATER DEVELOPMENT STANDARDS SHALL TAKE PRECEDENCE.
4. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM ALL APPLICABLE AGENCIES. THE DEVELOPER SHALL NOTIFY THE DEPARTMENT OF WATER AND POWER (970-962-3000) AT LEAST 2 WORKING DAYS PRIOR TO THE START OF ANY PUBLIC WATER AND/OR WASTEWATER SYSTEM IMPROVEMENTS.
5. A PRE-CONSTRUCTION MEETING SHALL BE REQUIRED PRIOR TO COMMENCEMENT OF ANY WORK.
6. THE DEVELOPER/CONTRACTOR SHALL HAVE, ONSITE AT ALL TIMES, TWO (2) SIGNED COPIES OF THE APPROVED PICP'S (ONE FOR CONSTRUCTION ACTIVITIES AND ONE FOR RECORD DRAWINGS), ONE (1) COPY OF THE CITY OF LOVELAND WATER AND WASTEWATER DEVELOPMENT STANDARDS, AND COPIES OF ANY APPLICABLE PERMITS AND AGREEMENTS.
7. PRIOR TO INITIAL ACCEPTANCE, THE DEPARTMENT OF WATER AND POWER SHALL APPROVE RECORD DRAWINGS FOR ALL PUBLIC WATER AND/OR WASTEWATER SYSTEM IMPROVEMENTS.

STORM DRAINAGE NOTES

1. THE CITY OF LOVELAND SHALL NOT BE RESPONSIBLE FOR THE MAINTENANCE OF STORM DRAINAGE FACILITIES LOCATED ON PRIVATE PROPERTY. MAINTENANCE OF ONSITE DRAINAGE FACILITIES SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER(S).
2. ALL RECOMMENDATIONS OF THE FINAL DRAINAGE AND EROSION CONTROL STUDY (STORMWATER MANAGEMENT PLAN (SWMP) FEBRUARY 5, 2019) REPORT BY HARRIS KOCHER SMITH SHALL BE FOLLOWED AND IMPLEMENTED.
3. PRIOR TO FINAL INSPECTION AND ACCEPTANCE BY THE CITY OF FORT COLLINS, CERTIFICATION OF THE DRAINAGE FACILITIES, BY A REGISTERED ENGINEER, MUST BE SUBMITTED TO AND APPROVED BY THE STORMWATER UTILITY DEPARTMENT. CERTIFICATION SHALL BE SUBMITTED TO THE STORMWATER UTILITY DEPARTMENT AT LEAST TWO WEEKS PRIOR TO THE RELEASE OF A CERTIFICATE OF OCCUPANCY FOR SINGLE FAMILY UNITS. FOR COMMERCIAL PROPERTIES, CERTIFICATION SHALL BE SUBMITTED TO THE STORMWATER UTILITY DEPARTMENT AT LEAST TWO WEEKS PRIOR TO THE RELEASE OF ANY BUILDING PERMITS IN EXCESS OF THOSE ALLOWED PRIOR TO CERTIFICATION PER THE DEVELOPMENT AGREEMENT.

GRADING DRAINAGE AND SEDIMENT/EROSION CONTROL NOTES


1. THE EROSION CONTROL INSPECTOR MUST BE NOTIFIED AT LEAST TWENTY-FOUR (24) HOURS PRIOR TO ANY CONSTRUCTION ON THIS SITE.
2. THERE SHALL BE NO EARTH-DISTURBING ACTIVITY OUTSIDE THE LIMITS DESIGNATED ON THE ACCEPTED PLANS.
3. ALL REQUIRED PERIMETER SILT AND CONSTRUCTION FENCING SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITY (STOCKPILING, STRIPPING, GRADING, ETC). ALL OTHER REQUIRED EROSION CONTROL MEASURES SHALL BE INSTALLED AT THE APPROPRIATE TIME IN THE CONSTRUCTION SEQUENCE AS INDICATED IN THE APPROVED PROJECT SCHEDULE, CONSTRUCTION PLANS, AND EROSION CONTROL REPORT.
4. AT ALL TIMES DURING CONSTRUCTION, THE DEVELOPER SHALL BE RESPONSIBLE FOR PREVENTING AND CONTROLLING ON-SITE EROSION INCLUDING KEEPING THE PROPERTY SUFFICIENTLY WATERED SO AS TO MINIMIZE WIND BLOWN SEDIMENT. THE DEVELOPER SHALL ALSO BE RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL EROSION CONTROL FACILITIES SHOWN HEREIN.
5. PRE-DISTURBANCE VEGETATION SHALL BE PROTECTED AND RETAINED WHEREVER POSSIBLE. REMOVAL OR DISTURBANCE OF EXISTING VEGETATION SHALL BE LIMITED TO THE AREA(S) REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATIONS, AND FOR THE SHORTEST PRACTICAL PERIOD OF TIME.
6. ALL SOILS EXPOSED DURING LAND DISTURBING ACTIVITY (STRIPPING, GRADING, UTILITY INSTALLATIONS, STOCKPILING, FILLING, ETC.) SHALL BE KEPT IN A ROUGHENED CONDITION BY RIPPING OR DISKING ALONG LAND CONTOURS UNTIL MULCH, VEGETATION, OR OTHER PERMANENT EROSION CONTROL BMPs ARE INSTALLED. NO SOILS IN AREAS OUTSIDE PROJECT STREET RIGHTS-OF-WAY SHALL REMAIN EXPOSED BY LAND DISTURBING ACTIVITY FOR MORE THAN THIRTY (30) DAYS BEFORE REQUIRED TEMPORARY OR PERMANENT EROSION CONTROL (E.G. SEED/MULCH, LANDSCAPING, ETC.) IS INSTALLED, UNLESS OTHERWISE APPROVED BY THE LOCAL ENTITY.
7. IN ORDER TO MINIMIZE EROSION POTENTIAL, ALL TEMPORARY (STRUCTURAL) EROSION CONTROL MEASURES SHALL:
 - a. BE INSPECTED AT A MINIMUM OF ONCE EVERY TWO (2) WEEKS AND AFTER EACH SIGNIFICANT STORM EVENT AND REPAIRED OR RECONSTRUCTED AS NECESSARY IN ORDER TO ENSURE THE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.
 - b. REMAIN IN PLACE UNTIL SUCH TIME AS ALL THE SURROUNDING DISTURBED AREAS ARE SUFFICIENTLY STABILIZED AS DETERMINED BY THE EROSION CONTROL INSPECTOR.
 - c. BE REMOVED AFTER THE SITE HAS BEEN SUFFICIENTLY STABILIZED AS DETERMINED BY THE EROSION CONTROL INSPECTOR.
8. WHEN TEMPORARY EROSION CONTROL MEASURES ARE REMOVED, THE DEVELOPER SHALL BE RESPONSIBLE FOR THE CLEAN UP AND REMOVAL OF ALL SEDIMENT AND DEBRIS FROM ALL DRAINAGE INFRASTRUCTURE AND OTHER PUBLIC FACILITIES.
9. THE CONTRACTOR SHALL CLEAN UP ANY INADVERTENT DEPOSITED MATERIAL IMMEDIATELY AND MAKE SURE STREETS ARE FREE OF ALL MATERIALS BY THE END OF EACH WORKING DAY.
10. ALL RETAINED SEDIMENTS, PARTICULARLY THOSE ON PAVED ROADWAY SURFACES, SHALL BE REMOVED AND DISPOSED OF IN A MANNER AND LOCATION SO AS NOT TO CAUSE THEIR RELEASE INTO ANY WATERS OF THE UNITED STATES.
11. NO SOIL STOCKPILE SHALL EXCEED TEN (10) FEET IN HEIGHT. ALL SOIL STOCKPILES SHALL BE PROTECTED FROM SEDIMENT TRANSPORT BY SURFACE ROUGHENING, WATERING, AND PERIMETER SILT FENCING. ANY SOIL STOCKPILE REMAINING AFTER THIRTY (30) DAYS SHALL BE SEEDED AND MULCHED.
12. THE STORMWATER VOLUME CAPACITY OF DETENTION PONDS WILL BE RESTORED AND STORM SEWER LINES WILL BE CLEANED UPON COMPLETION OF THE PROJECT AND BEFORE TURNING THE MAINTENANCE OVER TO THE LOCAL ENTITY OR HOMEOWNERS ASSOCIATION (HOA).
13. CITY ORDINANCE AND COLORADO DISCHARGE PERMIT SYSTEM (CDPS) REQUIREMENTS MAKE IT UNLAWFUL TO DISCHARGE OR ALLOW THE DISCHARGE OF ANY POLLUTANT OR CONTAMINATED WATER FROM CONSTRUCTION SITES. POLLUTANTS INCLUDE, BUT ARE NOT LIMITED TO DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, OIL AND GAS PRODUCTS, LITTER, AND SANITARY WASTE. THE DEVELOPER SHALL AT ALL TIMES TAKE WHATEVER MEASURES ARE NECESSARY TO ASSURE THE PROPER CONTAINMENT AND DISPOSAL OF POLLUTANTS ON THE SITE IN ACCORDANCE WITH ANY AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
14. A DESIGNATED AREA SHALL BE PROVIDED ON SITE FOR CONCRETE TRUCK CHUTE WASHOUT. THE AREA SHALL BE CONSTRUCTED SO AS TO CONTAIN WASHOUT MATERIAL AND LOCATED AT LEAST FIFTY (50) FEET AWAY FROM ANY WATERWAY DURING CONSTRUCTION. UPON COMPLETION OF CONSTRUCTION ACTIVITIES THE CONCRETE WASHOUT MATERIAL WILL BE REMOVED AND PROPERLY DISPOSED OF PRIOR TO THE AREA BEING RESTORED.
15. TO ENSURE THAT SEDIMENT DOES NOT MOVE OFF OF INDIVIDUAL LOTS ONE OR MORE OF THE FOLLOWING SEDIMENT/EROSION CONTROL BMPs SHALL BE INSTALLED AND MAINTAINED UNTIL THE LOTS ARE SUFFICIENTLY STABILIZED, AS DETERMINED BY THE EROSION CONTROL INSPECTOR, (WITHIN LOVELAND GMA AND CITY LIMITS ONLY).
 - a. BELOW ALL GUTTER DOWNSPOUTS.
 - b. OUT TO DRAINAGE SWALES.
 - c. ALONG LOT PERIMETER.
 - d. OTHER LOCATIONS, IF NEEDED.
16. CONDITIONS IN THE FIELD MAY WARRANT EROSION CONTROL MEASURES IN ADDITION TO WHAT IS SHOWN ON THESE PLANS. THE DEVELOPER SHALL IMPLEMENT WHATEVER MEASURES ARE DETERMINED NECESSARY, AS DIRECTED BY THE CITY/COUNTY.
17. A VEHICLE TRACKING CONTROL PAD SHALL BE INSTALLED WHEN NEEDED FOR CONSTRUCTION EQUIPMENT, INCLUDING BUT NOT LIMITED TO PERSONAL VEHICLES EXITING EXISTING ROADWAYS. NO EARTHEN MATERIALS, I.E. STONE, DIRT, ETC. SHALL BE PLACED IN THE CURB & GUTTER OR ROADWAY AS A RAMP TO ACCESS TEMPORARY STOCKPILES, STAGING AREAS, CONSTRUCTION MATERIALS, CONCRETE WASHOUT AREAS, AND/OR BUILDING SITES.
18. ADD NOTES TO REFLECT THE STORMWATER RUNOFF CONTROL PLAN OF THE INDIVIDUAL DEVELOPMENT.

TRAFFIC SIGNING AND PAVEMENT MARKING CONSTRUCTION NOTES

1. ALL SIGNAGE AND MARKING IS SUBJECT TO THE GENERAL NOTES ON THE COVER SHEET OF THESE PLANS, AS WELL AS THE TRAFFIC SIGNING AND MARKING CONSTRUCTION NOTES LISTED HERE.
2. ALL SYMBOLS, INCLUDING ARROWS, ONLYS, CROSSWALKS, STOP BARS, ETC. SHALL BE PRE-FORMED THERMO-PLASTIC.
3. ALL SIGNAGE SHALL BE PER LOCAL ENTITY STANDARDS AND THESE PLANS OR AS OTHERWISE SPECIFIED IN LCUASS.
4. ALL LANE LINES FOR ASPHALT PAVEMENT SHALL RECEIVE TWO COATS OF LATEX PAINT WITH GLASS BEADS.
5. PRIOR TO PERMANENT INSTALLATION OF TRAFFIC STRIPING AND SYMBOLS, THE DEVELOPER SHALL PLACE TEMPORARY TABS OR TAPE DEPICTING ALIGNMENT AND PLACEMENT OF THE SAME. THEIR PLACEMENT SHALL BE APPROVED BY THE LOCAL ENTITY ENGINEER PRIOR TO PERMANENT INSTALLATION OF STRIPING AND SYMBOLS.
6. PRE-FORMED THERMO-PLASTIC APPLICATIONS SHALL BE AS SPECIFIED IN THESE PLANS AND/OR THESE STANDARDS.
7. EPOXY APPLICATIONS SHALL BE APPLIED AS SPECIFIED IN CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
8. ALL SIGN POSTS SHALL UTILIZE BREAK-AWAY ASSEMBLIES AND FASTENERS PER THE STANDARDS.
9. A FIELD INSPECTION OF LOCATION AND INSTALLATION OF ALL SIGNS SHALL BE PERFORMED BY THE LOCAL ENTITY ENGINEER. ALL DISCREPANCIES IDENTIFIED DURING THE FIELD INSPECTION MUST BE CORRECTED BEFORE THE 2-YEAR WARRANTY PERIOD WILL BEGIN.
10. THE DEVELOPER INSTALLING SIGNS SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND UTILITIES.
11. SPECIAL CARE SHALL BE TAKEN IN SIGN LOCATION TO ENSURE AN UNOBSTRUCTED VIEW OF EACH SIGN.
12. SIGNAGE AND STRIPING HAS BEEN DETERMINED BY INFORMATION AVAILABLE AT THE TIME OF REVIEW. PRIOR TO INITIATION OF THE WARRANTY PERIOD, THE LOCAL ENTITY ENGINEER RESERVES THE RIGHT TO REQUIRE ADDITIONAL SIGNAGE AND/OR STRIPING IF THE LOCAL ENTITY ENGINEER DETERMINES THAT AN UNFORESEEN CONDITION WARRANTS SUCH SIGNAGE ACCORDING TO THE MUTCD OR THE LCUASS STANDARDS. ALL SIGNAGE AND STRIPING SHALL FALL UNDER THE REQUIREMENTS OF THE 2-YEAR WARRANTY PERIOD FOR NEW CONSTRUCTION (EXCEPT FAIR WEAR ON TRAFFIC MARKINGS).
13. SLEEVES FOR SIGN POSTS SHALL BE REQUIRED FOR USE IN ISLANDS/MEDIANS. REFER TO CHAPTER 14, TRAFFIC CONTROL DEVICES, FOR ADDITIONAL DETAIL.
14. PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY THAT WILL INVOLVE ANY EXISTING OR PROPOSED STREET SIGNS OR TRAFFIC CONTROL DEVICES WITHIN THE PUBLIC RIGHT-OF-WAY (ROW), THE CONTRACTOR SHALL CONTACT THE CITY TRAFFIC DIVISION AT (970) 962-2535 TO COORDINATE THE REMOVAL, RELOCATION, INSTALLATION, AND/OR PROPER STORING OF THE SIGN(S) OR TRAFFIC CONTROL DEVICE(S) AND OBTAIN A ROW WORK PERMIT FROM THE CITY PUBLIC WORKS ENGINEERING DIVISION TO DO SUCH WORK. ANY EXISTING STREET SIGNS SHALL BE REMOVED AND REPLACED BY THE CITY TRAFFIC DIVISION. ANY EXISTING STREET SIGNS DETERMINED TO HAVE BEEN REMOVED BY THE CONTRACTOR OR SUBCONTRACTORS WILL RESULT IN A STOP WORK ORDER. IF THE CONTRACTOR REMOVES OR RELOCATES ANY EXISTING STREET SIGN(S) OR TRAFFIC CONTROL DEVICE(S) WITHIN THE PUBLIC ROW, THE CONTRACTOR WILL BE CHARGED FOR THE LABOR, MATERIALS, AND EQUIPMENT TO REINSTALL THE SIGN(S) OR TRAFFIC CONTROL DEVICE(S) AS DEEMED NECESSARY BY THE CITY. THE CONTRACTOR WILL ALSO BE CHARGED TO REPLACE ANY EXISTING STREET SIGNS OR TRAFFIC CONTROL DEVICES THAT WERE DAMAGED OR BLEMISHED DURING ANY CONSTRUCTION ACTIVITY AS DEEMED NECESSARY BY THE CITY. THE CONTRACTOR MAY ALSO BE SUBJECT TO ADDITIONAL FINES AS PER THE LOVELAND MUNICIPAL CODE. ADDITIONALLY, ANY WORK WITHIN THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) ROW WILL ALSO NEED TO OBTAIN A ROW WORK PERMIT FROM CDOT.

BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
NOTES



Know what's below.
Call before you dig.

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG. GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DESIGNED BY: JMN
CHECKED BY: MSM
DRAWN BY: JMN



HARRIS
KOCHER
SMITH

1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

ISSUE DATE: 07-03-2018		PROJECT #: 170108	
DATE		REVISION COMMENTS	
11-12-2018		PER CITY OF LOVELAND COMMENTS	
02-25-2019		PER CITY OF LOVELAND COMMENTS	

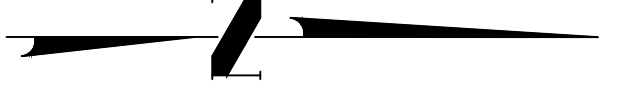
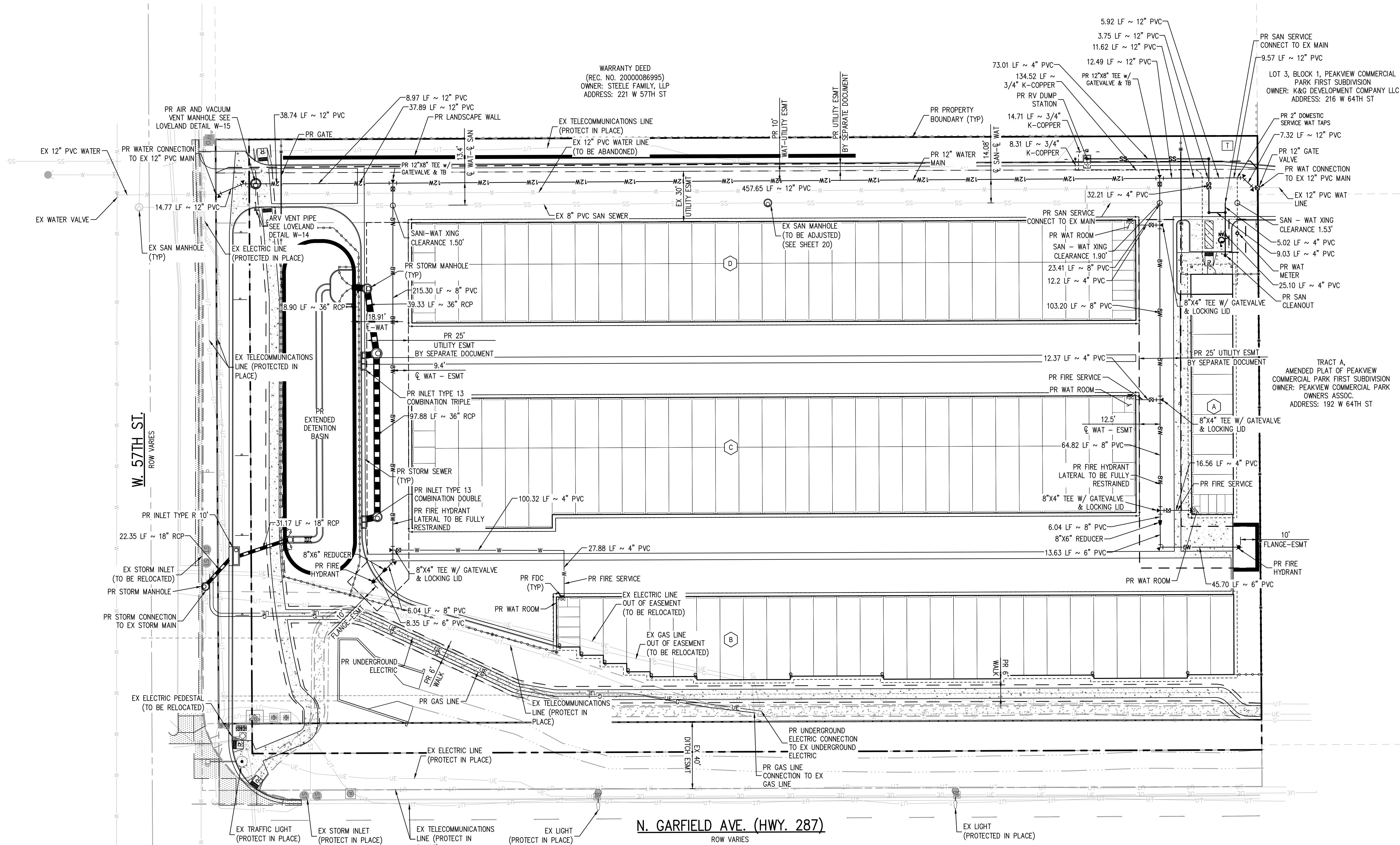
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SHEET NO.

2

2 OF 37

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.



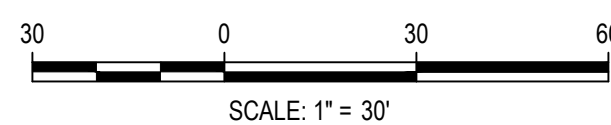
NOTE:

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE VERTICAL/HORIZONTAL LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

FILEPATH: P:\170108\ENGINEERING\UTILITIES\CD - OVERALL UTILITY PLANDWG LAYOUT LAYOUT1
7/15/2018 10:00 AM
PLOT DATE: 02/27/19 7:38:07A BY: TIM HOFFMAN



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG. GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



DESIGNED BY: JMN
CHECKED BY: MSM
DRAWN BY: JMN

HKS HARRIS KOCHER SMITH
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Denver, Colorado 80203
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BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
OVERALL UTILITY PLAN

ISSUE DATE: 07-03-2018		PROJECT #: 170108
DATE	REVISION	COMMENTS
11-12-2018	PER CITY OF LOVELAND COMMENTS	
02-25-2019	PER CITY OF LOVELAND COMMENTS	

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CONSTRUCTION

SHEET NO.

4

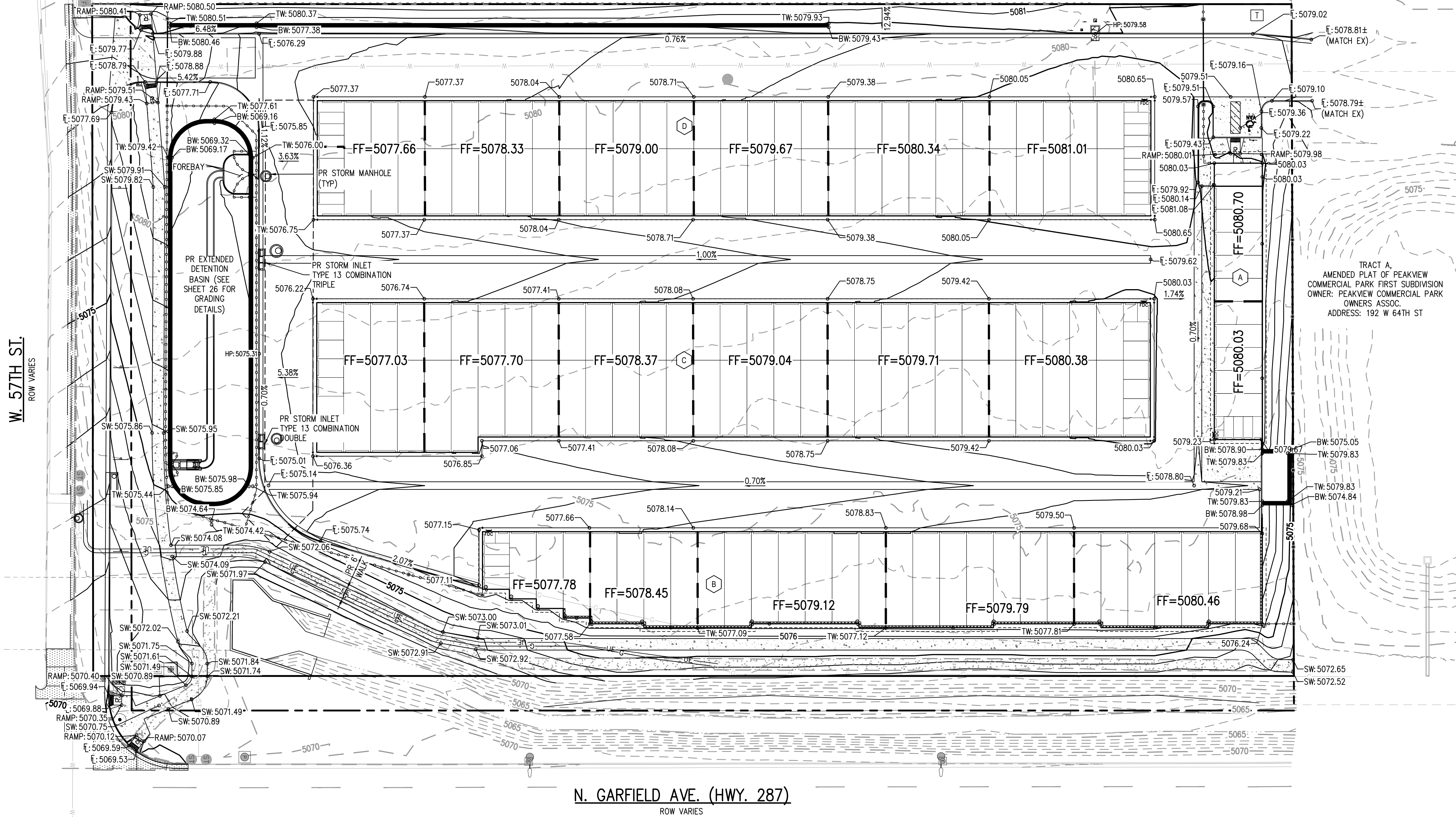
4 OF 37

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.

FILEPATH: P:\170108\ENGINEERING\GRADING\CD - OVERALL GRADING PLAN.DWG LAYOUT: LAYOUT1
7:38:58 PM 02/25/2019 BY: T.H. HOFFMAN
PLOT DATE: 02/25/2019 7:38:58 PM BY: T.H. HOFFMAN

WARRANTY DEED
(REC. NO. 20000086995)
OWNER: STEELE FAMILY, LLP
ADDRESS: 221 W 57TH ST

LOT 3, BLOCK 1, PEAKVIEW COMMERCIAL
PARK FIRST SUBDIVISION
OWNER: K&G DEVELOPMENT COMPANY LLC
ADDRESS: 216 W 64TH ST



NOTES:

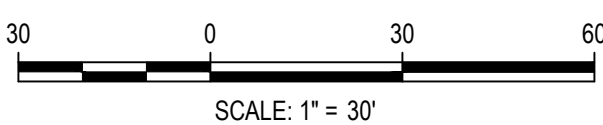
- THE TOP OF FOUNDATION ELEVATIONS SHOWN ARE THE MINIMUM ELEVATIONS REQUIRED FOR PROTECTION FROM THE 100 YEAR STORM. THE LOWEST OPENING ELEVATIONS SHOWN ARE AT LEAST ONE FOOT ABOVE THE 100 YEAR STORM ELEVATION OF ADJACENT STREETS, CHANNELS, DITCHES, SWALES OR OTHER DRAINAGE FACILITIES. MINIMUM FINISHED FLOOR ELEVATIONS ABOVE 100 YEAR WATER SURFACE IN STREETS, CHANNELS, DITCHES, SWALES, OR OTHER DRAINAGE FACILITIES, AS ILLUSTRATED BY THE MASTER GRADING PLAN ARE TO BE SHOWN.
- CONTRACTOR TO FIELD VERIFY ROADWAY WIDENING IMPROVEMENTS CLEARANCE WITH EXISTING BOX CULVERT.

GENERAL GRADING NOTES:

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT HANDRAILS, STAIRS, CURB RAMPS, AND RAMPS ARE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE LOCAL STATE AND/OR FEDERAL REGULATIONS AND STANDARDS, INCLUDING BUT NOT LIMITED TO, THE AMERICANS WITH DISABILITIES ACT (ADA), THE FAIR HOUSING ACT (FHA) AND THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
- CROSS SLOPES ALONG THE ACCESSIBLE ROUTE OR AT LANDINGS SHALL NOT EXCEED 2% IN ANY DIRECTION.
- LONGITUDINAL SLOPES ALONG THE ACCESSIBLE ROUTE SHALL NOT EXCEED 5% LONGITUDINAL SLOPES ON RAMPS SHALL NOT EXCEED 8.33% RAMPS, EXCEPT CURB RAMPS, SHALL HAVE HANDRAILS ON BOTH SIDES.
- GUTTER SLOPES AT THE CURB RAMPS SHALL NOT EXCEED 5%.
- GUTTER PANS SURROUNDING HANDICAP SPACES SHALL MATCH THE SLOPE OF THE ADJACENT PAVEMENT WITH A MAXIMUM 2% SLOPE IN ALL DIRECTIONS.
- ALL GRADES ARE FINISHED GRADE, UNLESS OTHERWISE NOTED.
- ROCK MULCH, IF PLACED UPSTREAM OF CONCRETE FLATWORK OR GRASSED AREA, SHALL BE PLACED ON TOP OF FINISHED GRADE SHOWN ON THESE PLANS. ROCK MULCH AREAS SHALL BE DESIGNED AND CONSTRUCTED TO ADEQUATELY DRAIN AND NOT RETAIN WATER. ALL LANDSCAPE EDGE MATERIALS SHALL NOT PREVENT DRAINAGE TO PASS THROUGH.
- ALL GRADES ADJACENT TO THE BUILDINGS SHALL BE AT MINIMUM 8-INCHES BELOW FINISHED FLOOR ELEVATION, UNLESS OTHERWISE NOTED.
- NON-PAVED GRADES ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM ALL BUILDINGS AT A MINIMUM OF 10% FOR 10'. ALL PAVED GRADES ATTACHED TO BUILDINGS SHALL SLOPE AWAY FROM ALL BUILDINGS AT A MINIMUM OF 1%, UNLESS OTHERWISE NOTED.
- ALL GRADES FOR WALLS ARE FINISHED GRADE ELEVATIONS AT BOTTOM OF FRONT FACE (BW) AND TOP-BACK OF WALL (TW). THE WALL ELEVATIONS DO NOT INDICATE FOUNDATION DEPTHS OR ELEVATIONS. RETAINING WALL DETAILS SHALL BE PROVIDED BY OTHERS.
- REFER TO STRUCTURAL PLANS FOR BUILDING FOUNDATION STEP LOCATIONS WHEN APPLICABLE.
- FINISH FLOOR ELEVATIONS ARE REPRESENTATIVE OF THE HIGHEST POINT ON SLAB AT THE BACK OF STORAGE UNIT AND ARE FOR INFORMATION ONLY. REFER TO STRUCTURAL PLANS FOR BUILDING SLAB GRADES.
- PORTIONS OF STAIRS THAT DO NOT MEET THE MINIMUM 4-INCH RISER HEIGHT (DUE TO AN ADJACENT SLOPING PUBLIC WAY) SHALL HAVE A DISTINCTIVE MARKING STRIPE, 1-INCH TO 2-INCHES IN WIDTH, WITH A SLIP-RESISTANT SURFACE, IN ACCORDANCE WITH CURRENT INTERNATIONAL BUILDING CODE REGULATIONS.
- SEE LANDSCAPE ARCHITECT PLANS FOR HEIGHT AND TOP OF COURTYARD AMENITIES (PLANTER CURBS, SEAT WALLS, BENCHES, FIRE WALL, MEDIA WALL, BARS, AND GRILLS).
- TOP STEP ELEVATIONS FOR STOOPS AND PATIOS ARE SHOWN FOR REFERENCE ONLY. TOP OF STEPS AND PATIO ELEVATIONS SHALL BE COORDINATED WITH ARCHITECTURAL PLANS/DETAILS AND AS-BUILT STOOP/PATIO ELEVATIONS.
- ELECTRICAL TRANSFORMER PADS AND AC-UNIT PADS ARE TO BE SET A MINIMUM OF 2-INCHES ABOVE THE ADJACENT FINISHED GRADE AROUND THE PERIMETER OF THE PAD. CONTRACTOR SHALL PROVIDE A CONCRETE TURNDOWN AS NECESSARY. CONTRACTOR IS TO VERIFY POSITIVE DRAINAGE AWAY FROM, AND AROUND, ALL ELECTRICAL PADS AND AC-UNIT PADS.
- SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS, AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL ENGINEERING REPORT.
- CONTRACTOR SHALL ENSURE ACCESSIBLE EXTERIOR DOORS AND GATES ARE CONSTRUCTED WITH ADEQUATE LANDING WIDTH AND DEPTH TO COMPLY WITH APPLICABLE AMERICANS WITH DISABILITIES ACT (ADA) AND AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) MANEUVERING CLEARANCES AT DOOR REQUIREMENTS (BASED ON THE DIRECTION OF APPROACH OF THE SIDEWALK).



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG. GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



DESIGNED BY: JMN
CHECKED BY: MSM
DRAWN BY: JMN

HKS HARRIS KOCHER SMITH
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HarrisKocherSmith.com

BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
OVERALL GRADING PLAN

ISSUE DATE: 07-03-2018		PROJECT #: 170108
DATE	REVISION	COMMENTS
11-12-2018	PER CITY OF LOVELAND COMMENTS	
02-25-2019	PER CITY OF LOVELAND COMMENTS	

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SHEET NO.

5

5 OF 37

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.

FILE PATH: P:\170108\ENGINEERING\UTILITIES\CD - DRY UTILITY PLANNING LAYOUT LAYOUT1
REVISED: 11-12-2018 BY: T.M. HOFFMAN
PLOTTED: WED 02/27/19 7:38:26A BY: T.M. HOFFMAN

WARRANTY DEED
(REC. NO. 20000086995)
OWNER: STEELE FAMILY, LLP
ADDRESS: 221 W 57TH ST

EXISTING DRY UTILITIES
(POTHOLE TO VERIFY DEPTH
& RELOCATE AS NECESSARY)

W. 57TH ST.
ROW VARIES

PR EXTENDED
DETENTION
BASIN

EX UNDERGROUND ELECTRIC
(OUT OF EASEMENT)
(TO BE RELOCATED)

EX GAS LINE
(OUT OF EASEMENT)
(TO BE RELOCATED)

EX PULL BOXES
(TO BE RESET)

PR ELECTRIC
PR GAS

PR TRANSFORMER

TRACT A,
AMENDED PLAT OF PEAKVIEW
COMMERCIAL PARK FIRST SUBDIVISION
OWNER: PEAKVIEW COMMERCIAL PARK
OWNERS ASSOC.
ADDRESS: 192 W 64TH ST

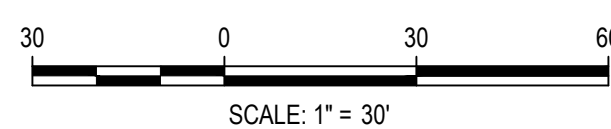
NOTE:

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE VERTICAL/HORIZONTAL LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

N. GARFIELD AVE. (HWY. 287)
ROW VARIES



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE
OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER
UTILITIES.



DESIGNED BY: VEJ
CHECKED BY: MSM
DRAWN BY: VEJ

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HarrisKocherSmith.com

BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
DRY UTILITY PLAN

ISSUE DATE: 07-03-2018 PROJECT #: 170108	
DATE	REVISION COMMENTS
11-12-2018	PER CITY OF LOVELAND COMMENTS
02-25-2019	PER CITY OF LOVELAND COMMENTS

PRELIMINARY
NOT FOR
CONSTRUCTION

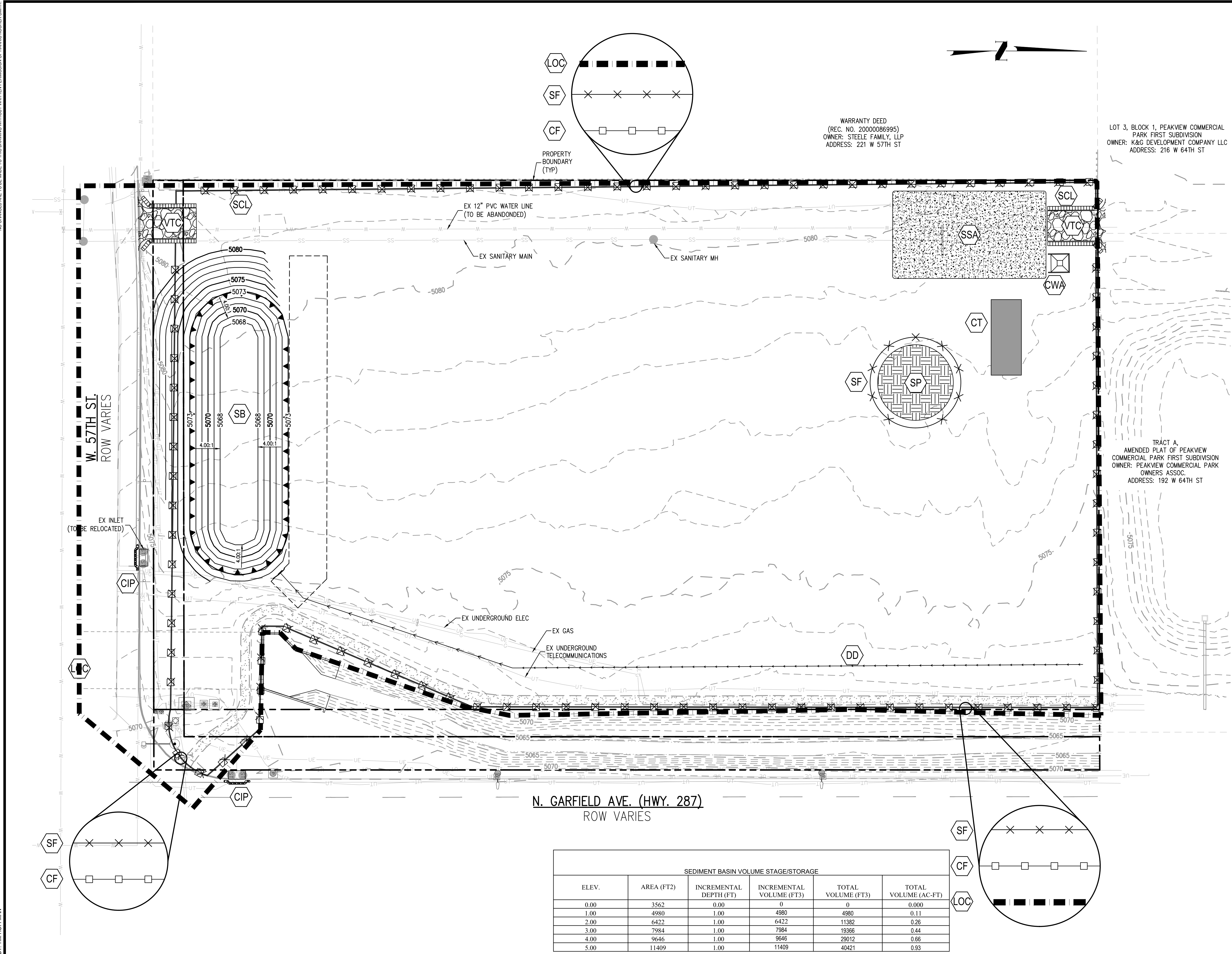
SHEET NO.

6

6 OF 37

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.

FILE PATH: P:\170108\ENGINEERING\CONCD - STORMWATER MANAGEMENT PLAN - INITIAL.DWG LAYOUT: LAYOUT1
DESIGNED BY: JMN
CHECKED BY: MSM
PLOTTED: WED 02/27/19 7:38:37A BY: TIM HOFFMAN

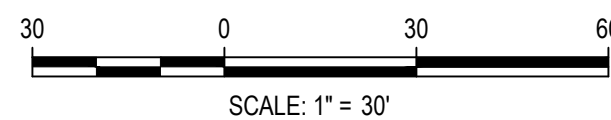


EROSION CONTROL BMP LEGEND:

- LIMITS OF CONSTRUCTION (LOC)
- CONSTRUCTION FENCE (6" CHAIN LINK W/ MESH PRIVACY SCREEN) (CF)
- SILT FENCE (SF)
- SEDIMENT CONTROL LOG (SCL)
- STABILIZED STAGING AREA (SSA)
- CONSTRUCTION TRAILER (CT)
- STOCKPILE AREA (SP)
- VEHICLE TRACKING CONTROL (VTC)
- CONCRETE WASHOUT AREA (CWA)
- SEDIMENT BASIN (SB)
- CURB INLET PROTECTION (CIP)
- DIVERSION DITCH (DD)



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



DESIGNED BY: JMN
CHECKED BY: MSM
DRAWN BY: JMN

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HarrisKocherSmith.com

BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
STORMWATER MANAGEMENT PLAN - INITIAL

ISSUE DATE: 07-03-2018		PROJECT #: 170108	
DATE	REVISION	COMMENTS	
11-12-2018	PER CITY OF LOVELAND COMMENTS		
02-25-2019	PER CITY OF LOVELAND COMMENTS		

PRELIMINARY
NOT FOR
CONSTRUCTION

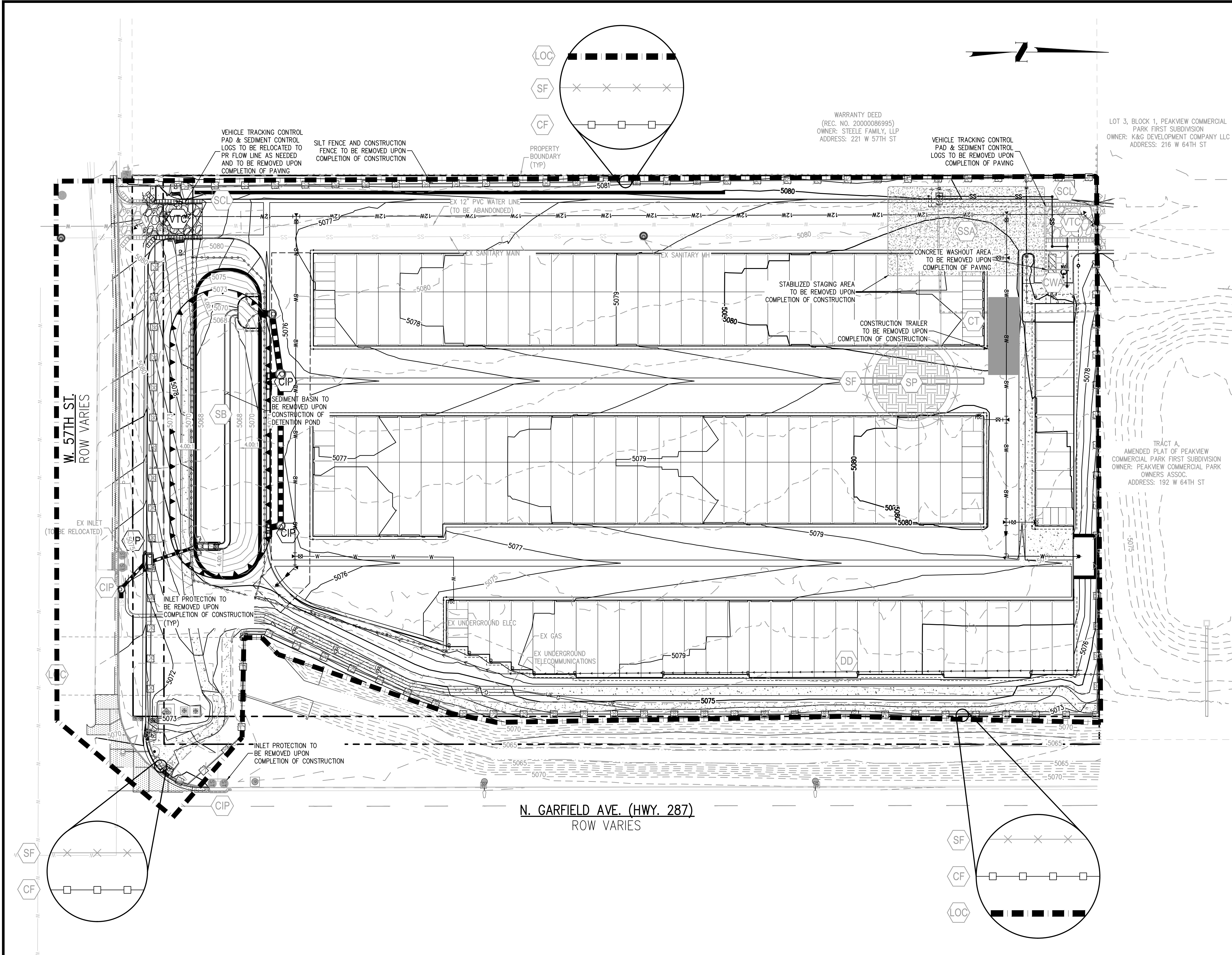
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7

7 OF 37

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FILEPATH: P:\170108\ENGINEERING\CD - STORMWATER MANAGEMENT PLAN - INTERIM\FINAL.DWG LAYOUT: LAYOUT1
DESIGNED BY: JMN
CHECKED BY: MSM
PLOTTED: WED 02/27/19 7:38:50A BY: TIM HOFFMAN



EROSION CONTROL BMP LEGEND:

- LIMITS OF CONSTRUCTION (LOC) [Symbol: Dashed line]
- CONSTRUCTION FENCE (6" CHAIN LINK W/ MESH PRIVACY SCREEN) (CF) [Symbol: Line with squares]
- SILT FENCE (SF) [Symbol: Line with crosses]
- SEDIMENT CONTROL LOG (SCL) [Symbol: Line with vertical bars]
- STABILIZED STAGING AREA (SSA) [Symbol: Stippled area]
- CONSTRUCTION TRAILER (CT) [Symbol: Rectangle with internal lines]
- STOCKPILE AREA (SP) [Symbol: Area with diagonal hatching]
- VEHICLE TRACKING CONTROL (VTC) [Symbol: Circle with internal lines]
- CONCRETE WASHOUT AREA (CWA) [Symbol: Square with internal lines]
- SEDIMENT BASIN (SB) [Symbol: Oval with internal lines]
- CURB INLET PROTECTION (CIP) [Symbol: Square with internal lines]

NOTE:
THE TOP OF FOUNDATION ELEVATIONS SHOWN ARE THE MINIMUM ELEVATIONS REQUIRED FOR PROTECTION FROM THE 100 YEAR STORM. THE LOWEST OPENING ELEVATIONS SHOWN ARE AT LEAST ONE FOOT ABOVE THE 100 YEAR STORM ELEVATION OF ADJACENT STREETS, CHANNELS, DITCHES, SWALES OR OTHER DRAINAGE FACILITIES. MINIMUM FINISHED FLOOR ELEVATIONS ABOVE 100 YEAR WATER SURFACE IN STREETS, CHANNELS, DITCHES, SWALES, OR OTHER DRAINAGE FACILITIES, AS ILLUSTRATED BY THE MASTER GRADING PLAN ARE TO BE SHOWN.

811 Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

30 0 30 60
SCALE: 1" = 30'
DESIGNED BY: JMN
CHECKED BY: MSM
DRAWN BY: JMN

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1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
STORMWATER MANAGEMENT PLAN - INTERIM

ISSUE DATE: 07-03-2018		PROJECT #: 170108
DATE	REVISION	COMMENTS
11-12-2018	PER CITY OF LOVELAND COMMENTS	
02-25-2019	PER CITY OF LOVELAND COMMENTS	

PRELIMINARY
NOT FOR
CONSTRUCTION

SHEET NO.
8
8 OF 37

7 XREFs: cd - stamp, e-base, e-legal, e-util, p-base, p-legal, p-util
 PLOTTED: WED 02/27/19 7:38:57A BY: TIM HOFFMAN

EROSION CONTROL BMP LEGEND:

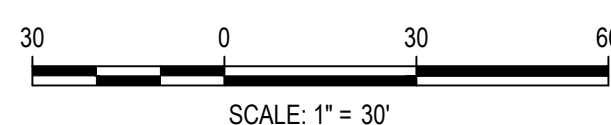
LIMITS OF CONSTRUCTION	LOC	
CONSTRUCTION FENCE (6' CHAIN LINK W/ MESH PRIVACY SCREEN)	CF	
EXTENDED DETENTION BASIN	EDB	
SILT FENCE	SF	
SEEDING AND MULCHING	SM	

W. 57TH ST.
ROW VARIES

N. GARFIELD AVE. (HWY. 287)
ROW VARIES



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



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BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
STORMWATER MANAGEMENT PLAN - FINAL

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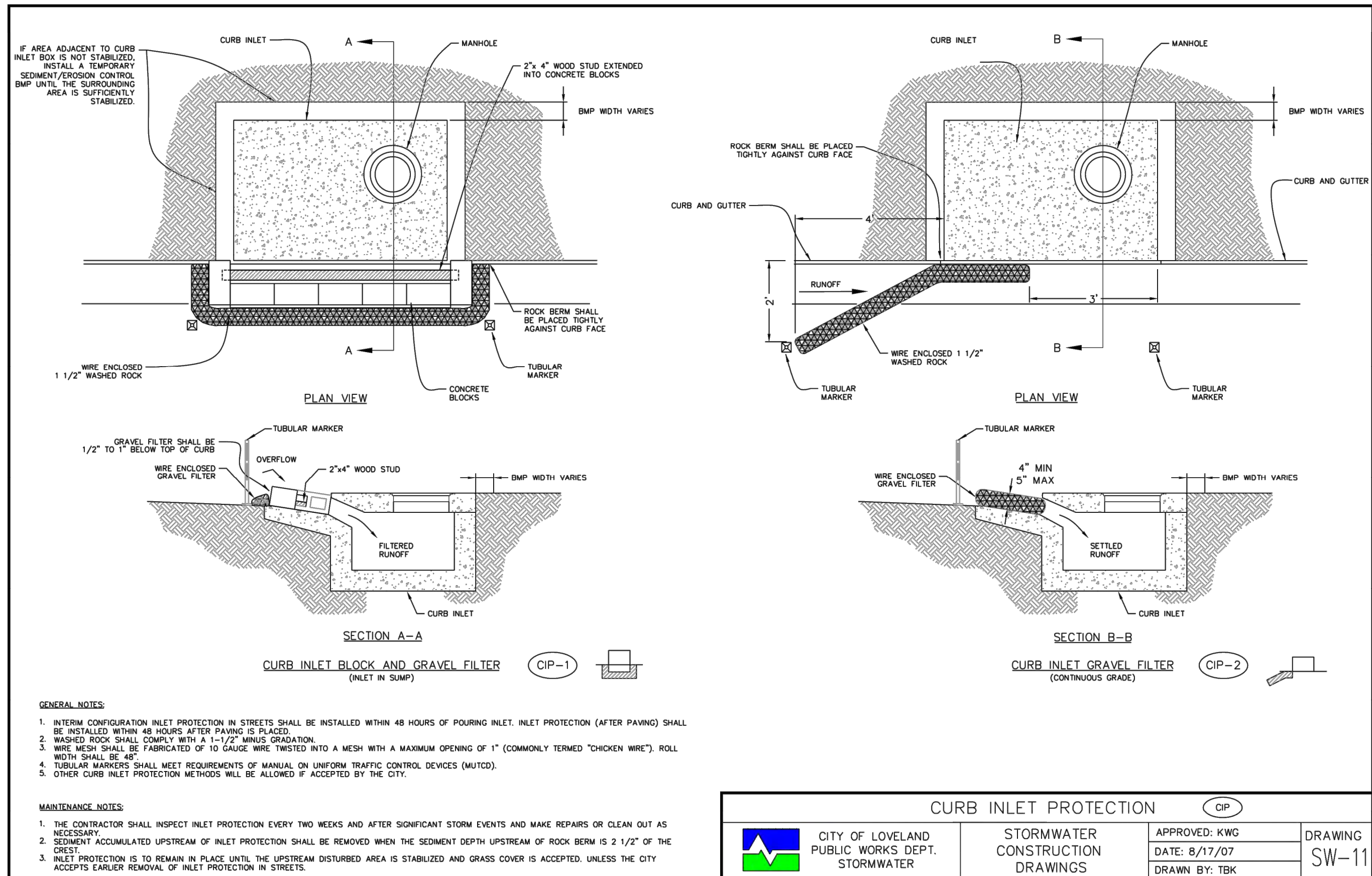
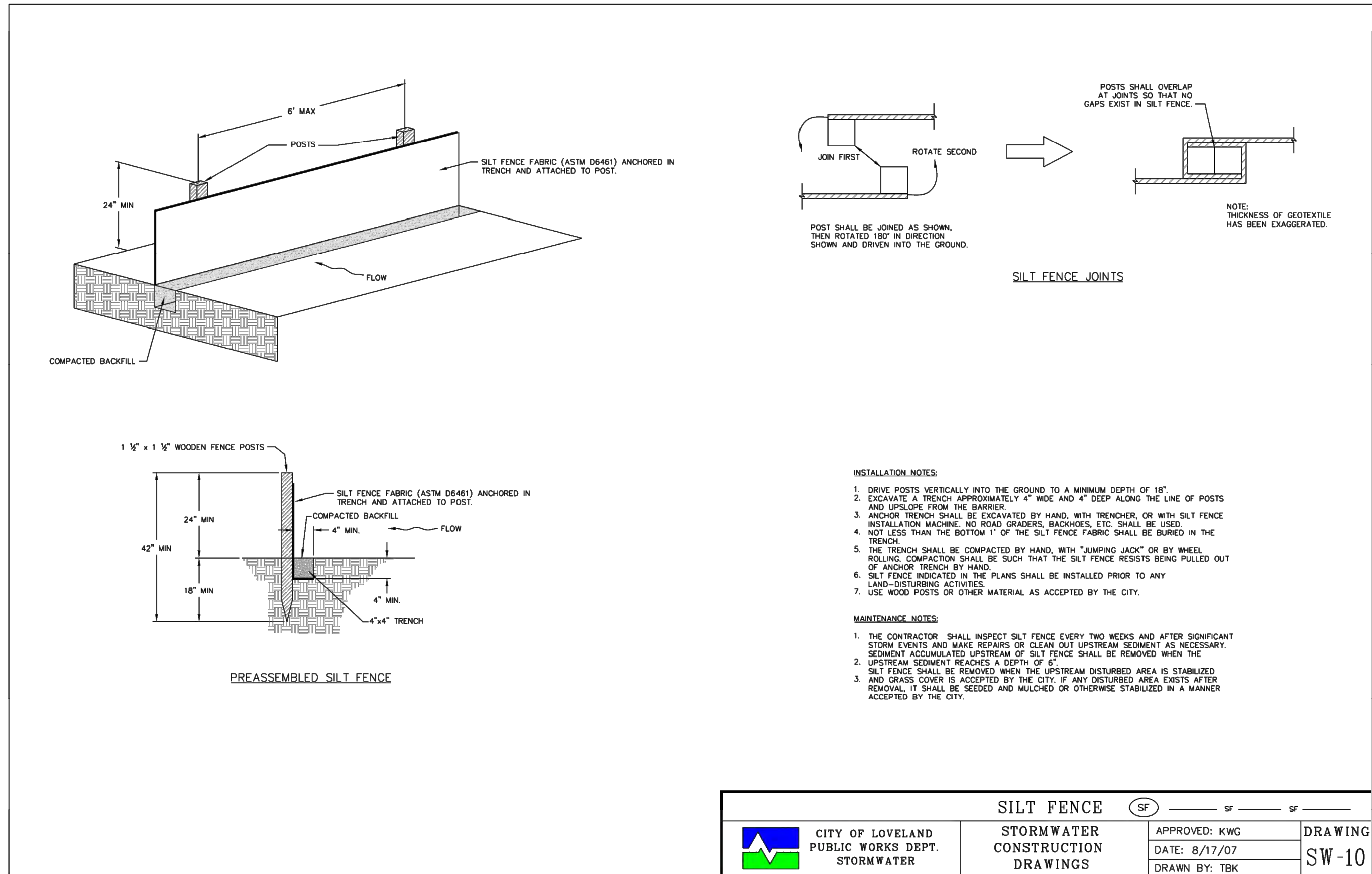
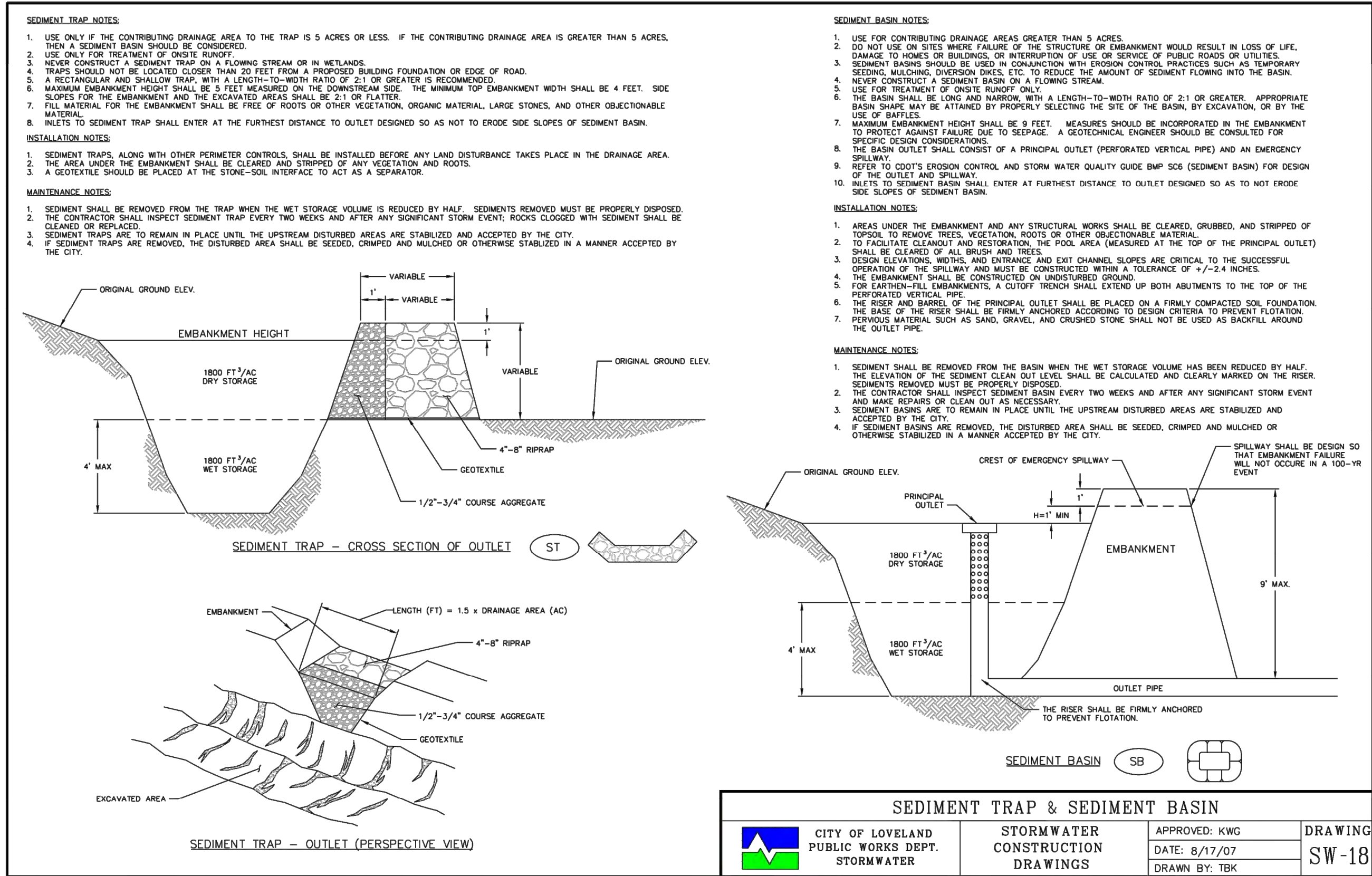
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9 OF 37

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CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

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CHECKED BY: MSM
DRAWN BY: JMN

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BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
STORMWATER MANAGEMENT PLAN - DETAILS

ISSUE DATE: 07-03-2018	PROJECT #: 170108
DATE	REVISION COMMENTS
11-12-2018	PER CITY OF LOVELAND COMMENTS
02-25-2019	PER CITY OF LOVELAND COMMENTS

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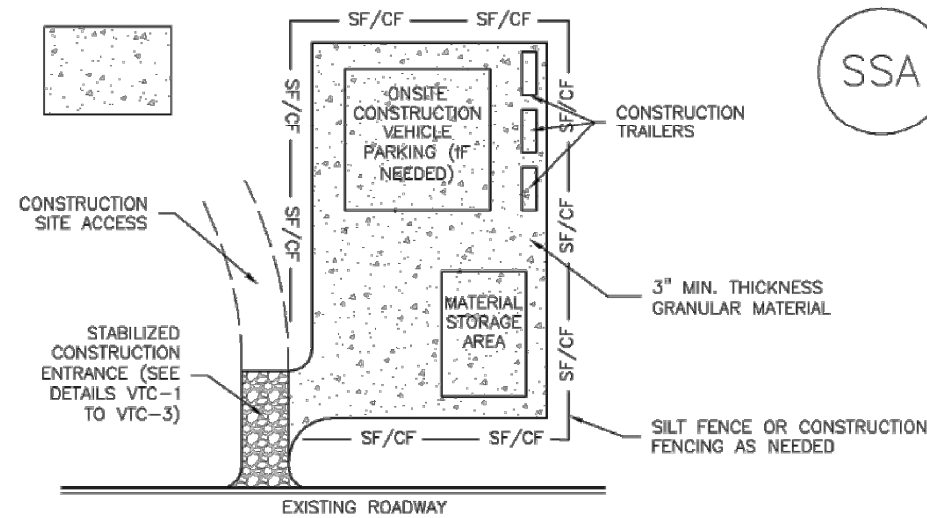
10 OF 37

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.

FILE PATH: P:\170108\ENGINEERING\CONCD - STORMWATER MANAGEMENT PLAN - DETAILS.DWG LAYOUT: LAYOUT4
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PLOTTED: WED 02/27/19 7:39:16A BY: TIM HOFFMAN

Stabilized Staging Area (SSA)

SM-6



SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
-LOCATION OF STAGING AREA(S).
-CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

November 2010 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

SSA-3

SM-6

Stabilized Staging Area (SSA)

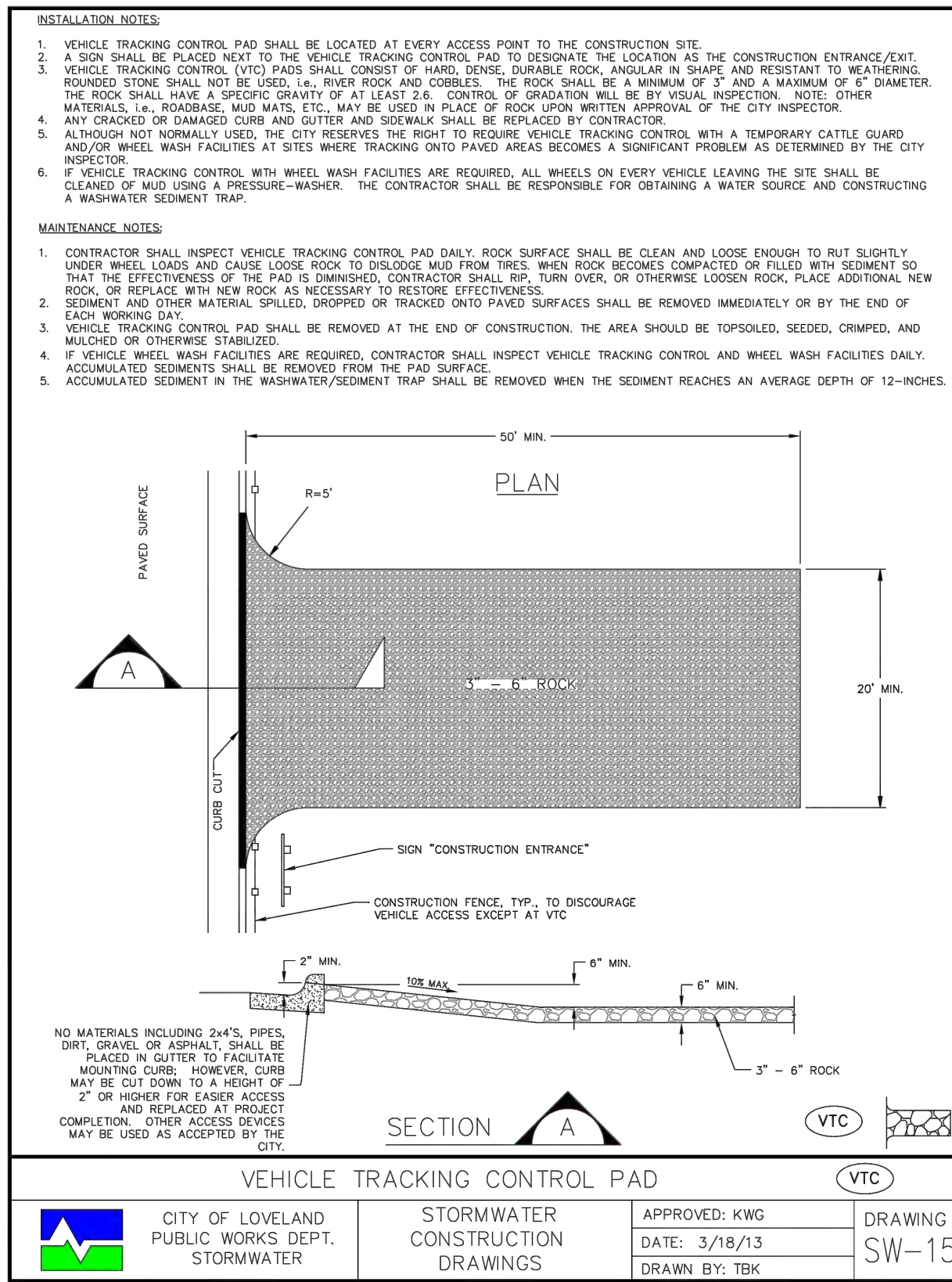
STABILIZED STAGING AREA MAINTENANCE NOTES

5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
 6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEED, AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.
- NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

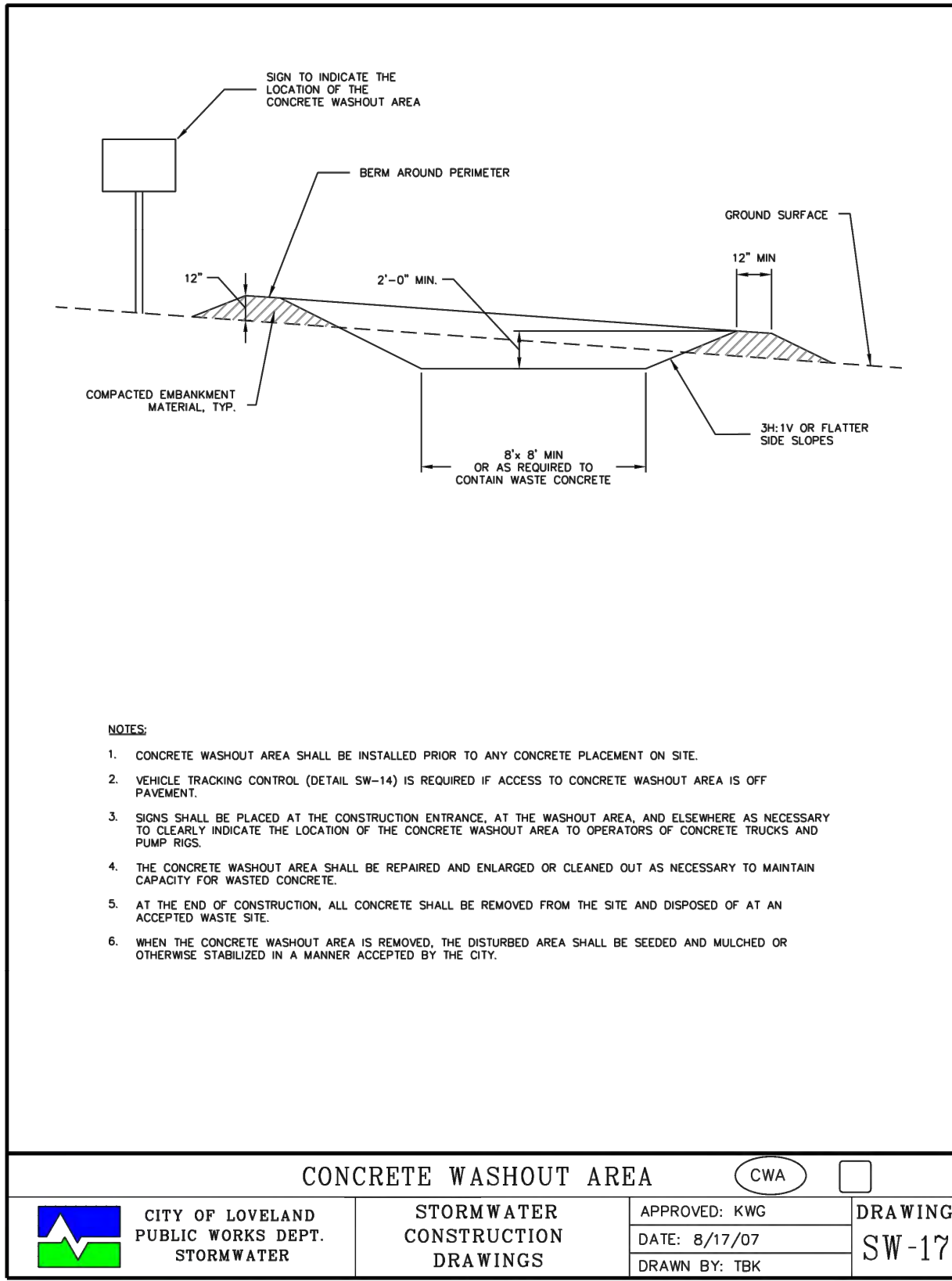
(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)


SSA-4 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

November 2010



VEHICLE TRACKING CONTROL PAD				VTC
	CITY OF LOVELAND PUBLIC WORKS DEPT. STORMWATER	STORMWATER CONSTRUCTION DRAWINGS	APPROVED: KWG DATE: 3/18/13 DRAWN BY: TBK	DRAWING SW-15



CONCRETE WASHOUT AREA				CWA	
	CITY OF LOVELAND PUBLIC WORKS DEPT. STORMWATER	STORMWATER CONSTRUCTION DRAWINGS	APPROVED: KWG DATE: 8/17/07 DRAWN BY: TBK	DRAWING SW-17	



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BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
STORMWATER MANAGEMENT PLAN - DETAILS

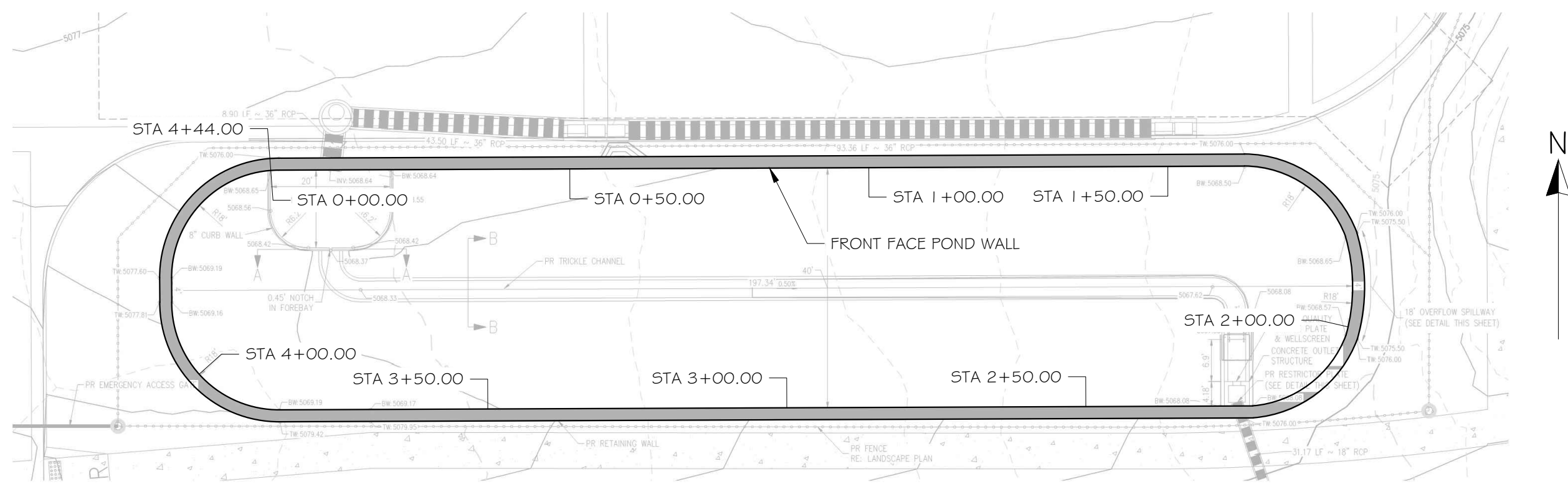
ISSUE DATE: 07-03-2018		PROJECT #: 170108
DATE	REVISION COMMENTS	
11-12-2018	PER CITY OF LOVELAND COMMENTS	
02-25-2019	PER CITY OF LOVELAND COMMENTS	

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SHEET NO.

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BLOCK PROPERTIES	
BLOCK TYPE	KEYSTONE
BLOCK STYLE	COMPAC

WALL PROPERTIES		
BACKSLOPE	H:V	DEGREES
TOESLOPE	H:V	DEGREES
BATTER	8	DEGREES
SETBACK	1.25	INCHES
SURCHARGE		
DEAD LOAD	0	PSF
LIVE LOAD	100	PSF

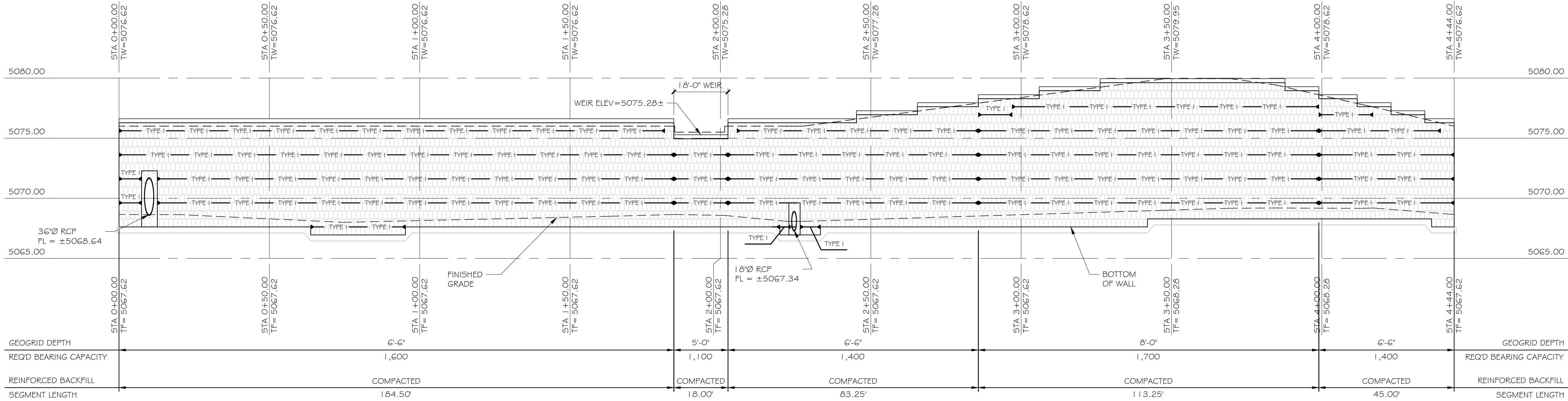
ASSUMED DESIGN SOIL PARAMETERS			
	DESCRIPTION	ϕ (DEGREES)	γ (PCF)
FOUNDATION SOIL	LEAN CLAY	25	120
RETAINED SOIL	LEAN CLAY	25	120
REINFORCED BACKFILL	COMPACTED*	34	125

*SEE NOTES FOR ADDITIONAL INFORMATION

1 PLAN VIEW OF POND WALL

SCALE: 1"=20'-0"

THIS WALL PLAN IS INTENDED FOR GENERAL LOCATION PURPOSES ONLY. REFER TO PROJECT SITE PLANS FOR SPECIFIC DIMENSIONS.



WALL ELEVATION NOTES:

- GEOGRID DEPTH IS MEASURED FROM THE FRONT FACE OF BLOCK.
- SEGMENT LENGTH IS THE DISTANCE BETWEEN GRID DEPTH TRANSITIONS
- REINFORCED BACKFILL - SEE DETAIL 1/14
- REQ'D BEARING CAPACITY IS IN PSF

2 POND WALL ELEVATION

SCALE: 1"=20'-0" HORIZONTAL
SCALE: 1"=5'-0" VERTICAL

STRUCTURAL DESIGN HEREIN REPRESENTS A FINISHED STRUCTURE. THE GENERAL CONTRACTOR/OWNER SHALL PROVIDE ALL INTERIM BRACING, SHORING, INTERIM DRAINAGE PROVISIONS, DRAINAGE DIVERSION AND EROSION PROTECTION REQUIRED UNTIL FINAL CAPPING, PAVING, CURBING AND COMPLETION OF FINAL STORM DRAIN SYSTEM IS COMPLETE.



ROSCH ENGINEERING
720 S CO BLVD PENTHOUSE N
DENVER, CO 80246
PHONE: 303-900-8714
FAX: 636-532-7773



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

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CHECKED BY: SK
DRAWN BY: MPV

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HarrisKocherSmith.com

BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
WALL PLAN & ELEVATIONS

ISSUE DATE: 2/18/2019	PROJECT #: 19-010
DATE	REVISION COMMENTS

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12 OF 37

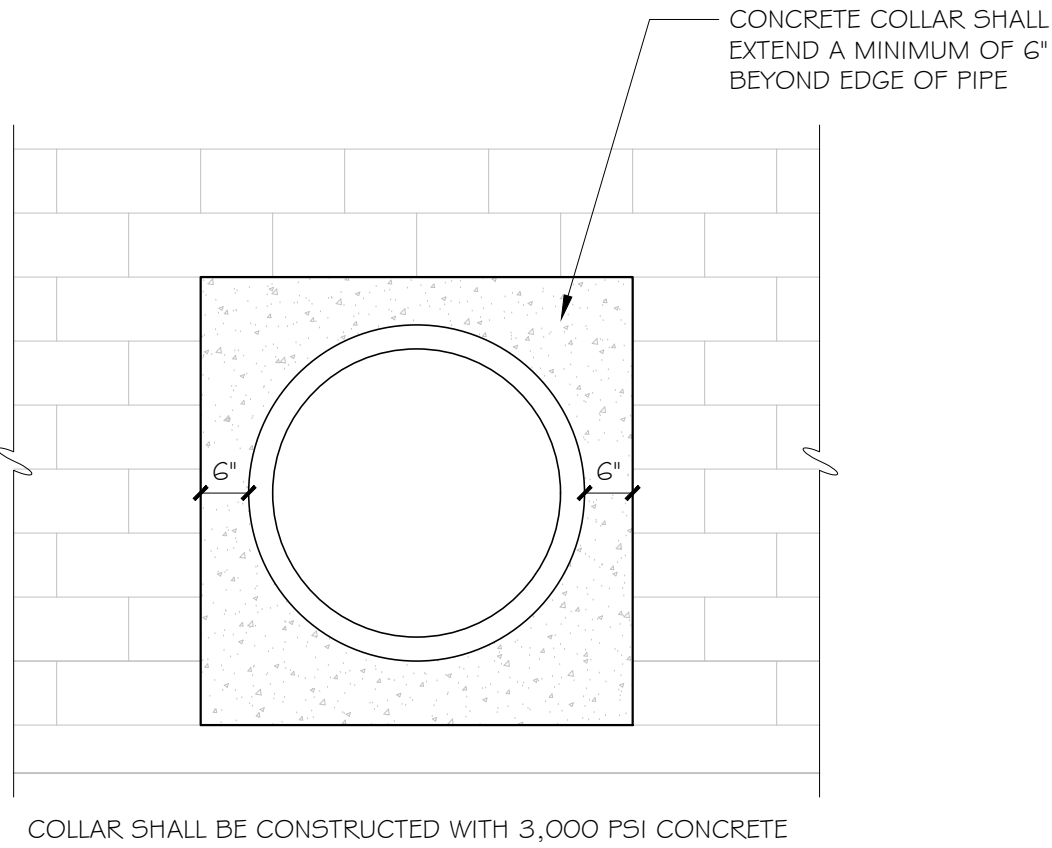
GENERAL NOTES:

1. RETAINING WALL DESIGN:
- 1.1. STRUCTURAL DESIGN HEREIN REPRESENTS A FINISHED STRUCTURE. THE GENERAL CONTRACTOR/OWNER SHALL PROVIDE ALL INTERIM BRACING, SHORING, INTERIM DRAINAGE PROVISIONS, DRAINAGE DIVERSION AND EROSION PROTECTION REQUIRED UNTIL FINAL CAPPING, PAVING, CURBING AND COMPLETION OF FINAL STORM DRAIN SYSTEM IS COMPLETE.
- 1.1.1. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR/OWNER TO ENSURE THAT THE FINISHED SITE DRAINAGE IS DIRECTED AWAY FROM THE RETAINING WALL SYSTEM.
- 1.1.2. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR/OWNER TO ENSURE THAT THE SURFACE WATER RUNOFF FROM ADJACENT CONSTRUCTION AREAS IS NOT ALLOWED TO ENTER THE RETAINING WALL AREA OF THE CONSTRUCTION SITE.
- 1.2. THE DESIGN OF THE SEGMENTAL RETAINING WALLS IS IN ACCORDANCE WITH NCMA DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS 3RD EDITION AND INCLUDES EXTERNAL STABILITY, SLIDING AND OVERTURNING OF THE REINFORCED MASS, AND INTERNAL STABILITY, PULLOUT, CONNECTION STRENGTH AND TENSILE STRENGTH OF THE GEOGRID AS WELL AS FACIAL STABILITY OF THE FACE UNITS. THE APPLIED BEARING PRESSURES ARE LISTED ON THE INDIVIDUAL ELEVATIONS.
- 1.3. THE DESIGN OF THE SEGMENTAL RETAINING WALLS IS BASED ON THE FOLLOWING DOCUMENTS:
- DRAWING SHEET 24 DATED 2/20/2019 PREPARED BY HARRIS KOCHER SMITH.
- GEOTECHNICAL REPORT DATED 6/15/2017 PREPARED BY PICKERING, COLE & HIVNER, LLC.
- 1.4. THE DESIGN OF THE SEGMENTAL RETAINING WALL IS BASED ON THE INDIVIDUAL SOIL PROPERTIES AS LISTED ON THE ELEVATIONS AS WELL AS THE FOLLOWING CRITERIA:
- SEISMIC ACCELERATION = N/A
- GROUND WATER LOCATION = 2H/3 BELOW THE TOP OF LEVEL PAD (WHERE H = HEIGHT OF WALL)
- HYDROSTATIC LOADING = NONE
- SURCHARGE LOADING = SEE WALL ELEVATION(S)
2. SETTLEMENT:
- 2.1. SEGMENTAL RETAINING WALLS ARE FLEXIBLE MASSES THAT CAN TOLERATE MINOR SETTLEMENT. ROSCH ENGINEERING SHALL BE NOTIFIED OF ANY SETTLEMENT SENSITIVE RIGID MASSES FOUNDED ON OR ABOVE THE SEGMENTAL RETAINING WALL.
3. MATERIAL PROPERTIES:
- 3.1. SEGMENTAL CONCRETE WALL UNITS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C1372 HAVING A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,000 PSI AND A MAXIMUM MOISTURE ABSORPTION OF 8%. ALL UNITS SHALL BE SOUND AND FREE OF CRACKS OR OTHER DEFECTS THAT WOULD INTERFERE WITH THE PROPER PLACING OF THE UNIT OR SIGNIFICANTLY IMPAIR THE STRENGTH OR PERFORMANCE OF THE CONSTRUCTION.
- 3.2. DRAINAGE ROCK SHALL BE A CLEAN CRUSHED STONE OR GRANULAR FILL SUCH AS 1" CLEAN MEETING THE FOLLOWING GRADATION AS DETERMINED IN ACCORDANCE WITH ASTM D 422:
- | SIEVE SIZE
INCH | PERCENT PASSING |
|--------------------|-----------------|
| 1/4 | 100 |
| NO. 4 | 75-100 |
| NO. 40 | 0-50 |
| NO. 200 | 0-5 |
- 3.3. COMPACTED ROCK SHALL BE FREE OF ORGANIC MATERIAL. THE ROCK SHALL BE A WELL GRADED GRAVEL OR LIMESTONE WITH A MAXIMUM PARTICLE SIZE OF 2" AND A MAXIMUM OF 20% PASSING A NO. 200 SIEVE. LIMESTONE SCREENINGS MEETING THESE REQUIREMENTS ARE ACCEPTABLE.
- 3.4. LOW PERMEABLE SOIL SHALL CONSIST OF MATERIAL HAVING A MINIMUM PLASTICITY INDEX OF 1.0. NO MORE THAN 10% SHALL BE RETAINED ON A NO. 4 SIEVE AND NO LESS THAN 35% SHALL PASS A NO. 200 SIEVE. MATERIAL WITH A USC DESIGNATION OF ML, CL, OR OL ARE ACCEPTABLE FOR USE AS LOW PERMEABLE SOIL.
- 3.5. THE GEOGRID SHALL BE A HIGH DENSITY POLYETHYLENE EXPANDED SHEET OR POLYESTER WOVEN FIBER MATERIAL, SPECIFICALLY FABRICATED FOR USE AS SOIL REINFORCEMENT. ACCEPTABLE GEOGRID TYPES AND MANUFACTURER AS FOLLOWS:
- TYPE I:
- SF35 BY SYNTEEN TECHNICAL FABRICS, INC.
- STRATAGRID 200 BY STRATA SYSTEMS, INC.
- TYPE II:
- SF55 BY SYNTEEN TECHNICAL FABRICS, INC.
- STRATAGRID 350 BY STRATA SYSTEMS, INC.
- TYPE III:
- SF80 BY SYNTEEN TECHNICAL FABRICS, INC.
- STRATAGRID 550 BY STRATA SYSTEMS, INC.
- 3.6. GEOTEXTILE FILTER FABRIC SHALL BE A NONWOVEN GEOTEXTILE COMPOSED OF POLYPROPYLENE FIBERS WITH A MINIMUM FLOW RATE OF 140 GPM/FT² WHEN TESTED ACCORDING TO ASTM D 4491.
- 3.7. DRAINAGE PIPE SHALL BE A 4"Ø PERFORATED OR SLOTTED PVC OR CORRUGATED HDPE PIPE.
- 3.8. DRAINAGE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM F 405 OR ASTM F 758.
- 3.9. CONSTRUCTION ADHESIVE SHALL BE EXTERIOR GRADE ADHESIVE AS RECOMMENDED BY THE SEGMENTAL CONCRETE WALL UNIT MANUFACTURER.
4. EXCAVATION:
- 4.1. THE CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE PLANS. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO MINIMIZE OVER-EXCAVATION.
- 4.2. EXCAVATION SUPPORT, INCLUDING THE STABILITY OF THE EXCAVATION AND ITS INFLUENCE ON ADJACENT PROPERTY IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. FOUNDATION SOIL PREPARATION:
- 5.1. FOLLOWING EXCAVATION FOR THE LEVELING PAD AND THE REINFORCED SOIL ZONE, FOUNDATION SOIL SHALL BE EXAMINED BY THE OWNER'S GEOTECHNICAL ENGINEER TO ASSURE THE ACTUAL FOUNDATION SOIL STRENGTH MEETS OR EXCEEDS THE ASSUMED DESIGN BEARING STRENGTH. SOIL NOT MEETING THE REQUIRED STRENGTH SHALL BE REMOVED AND REPLACED WITH SOIL MEETING THE DESIGN CRITERIA, AS DIRECTED BY THE OWNER'S GEOTECHNICAL ENGINEER.
- 5.2. FOUNDATION SOIL IS DEFINED AS THE SOIL UNDER THE SEGMENTAL RETAINING WALL VOLUME, EXTENDING FROM THE TOE OF THE LEVELING PAD TO THE BACK OF THE REINFORCED MASS.

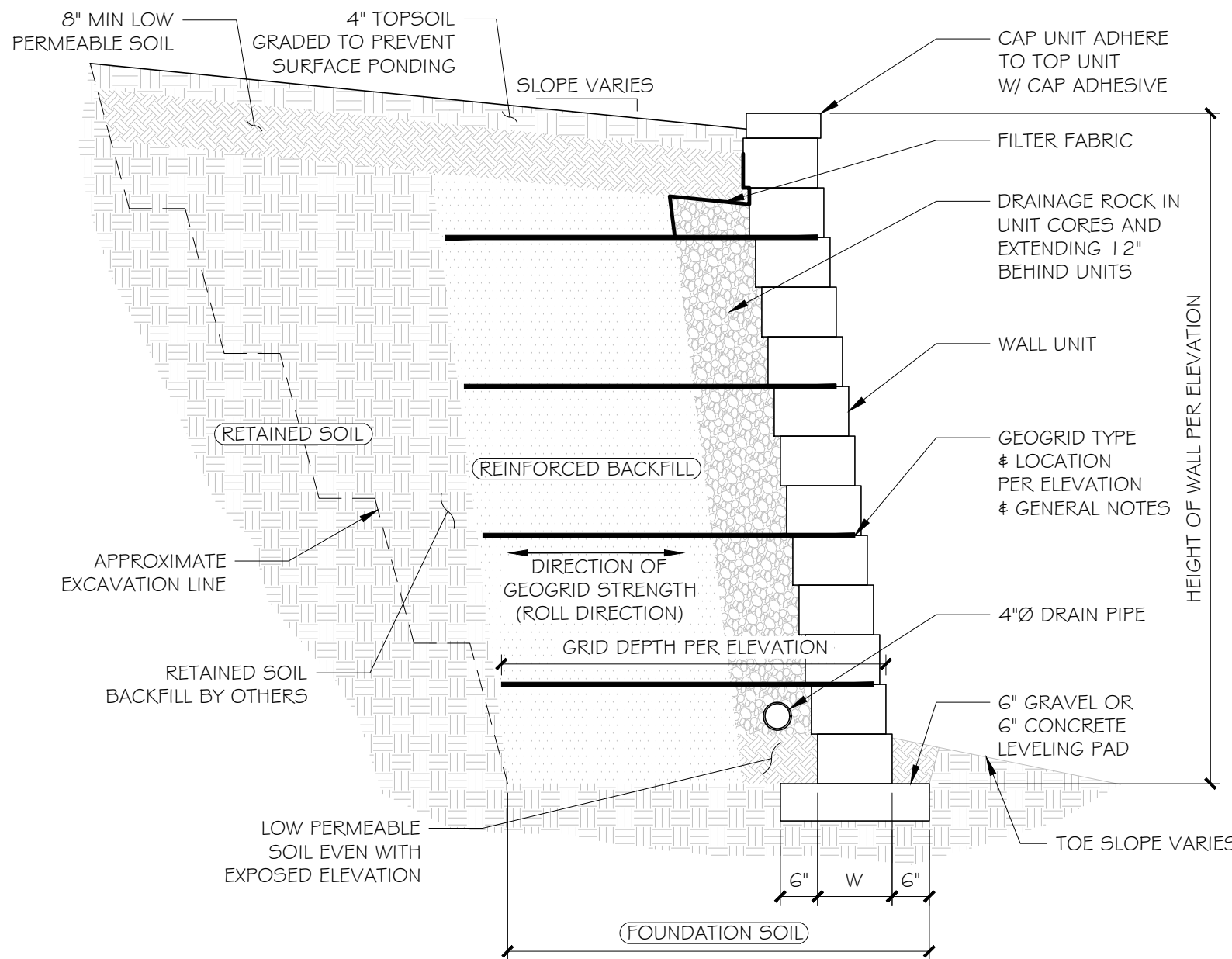
ROSCH ENGINEERING HAS PERFORMED DESIGN CALCULATIONS BASED ON THE DESIGN CRITERIA, ASSUMED SOIL PARAMETERS, AND KNOWN LOADING CONDITIONS AS LISTED IN THESE DRAWINGS. THE OWNER'S REPRESENTATIVE, INDEPENDENT THIRD PARTY SPECIAL INSPECTOR AND INSTALLER SHALL NOTIFY ROSCH ENGINEERING OF ANY CHANGES OR DIFFERENCES IN ACTUAL SITE CONDITIONS WHICH VARY FROM THOSE LISTED, PRIOR TO CONSTRUCTING THE WALL.

STRUCTURAL DESIGN HEREIN REPRESENTS A FINISHED STRUCTURE. THE GENERAL CONTRACTOR/OWNER SHALL PROVIDE ALL INTERIM BRACING, SHORING, INTERIM DRAINAGE PROVISIONS, DRAINAGE DIVERSION AND EROSION PROTECTION REQUIRED UNTIL FINAL CAPPING, PAVING, CURBING AND COMPLETION OF FINAL STORM DRAIN SYSTEM IS COMPLETE.

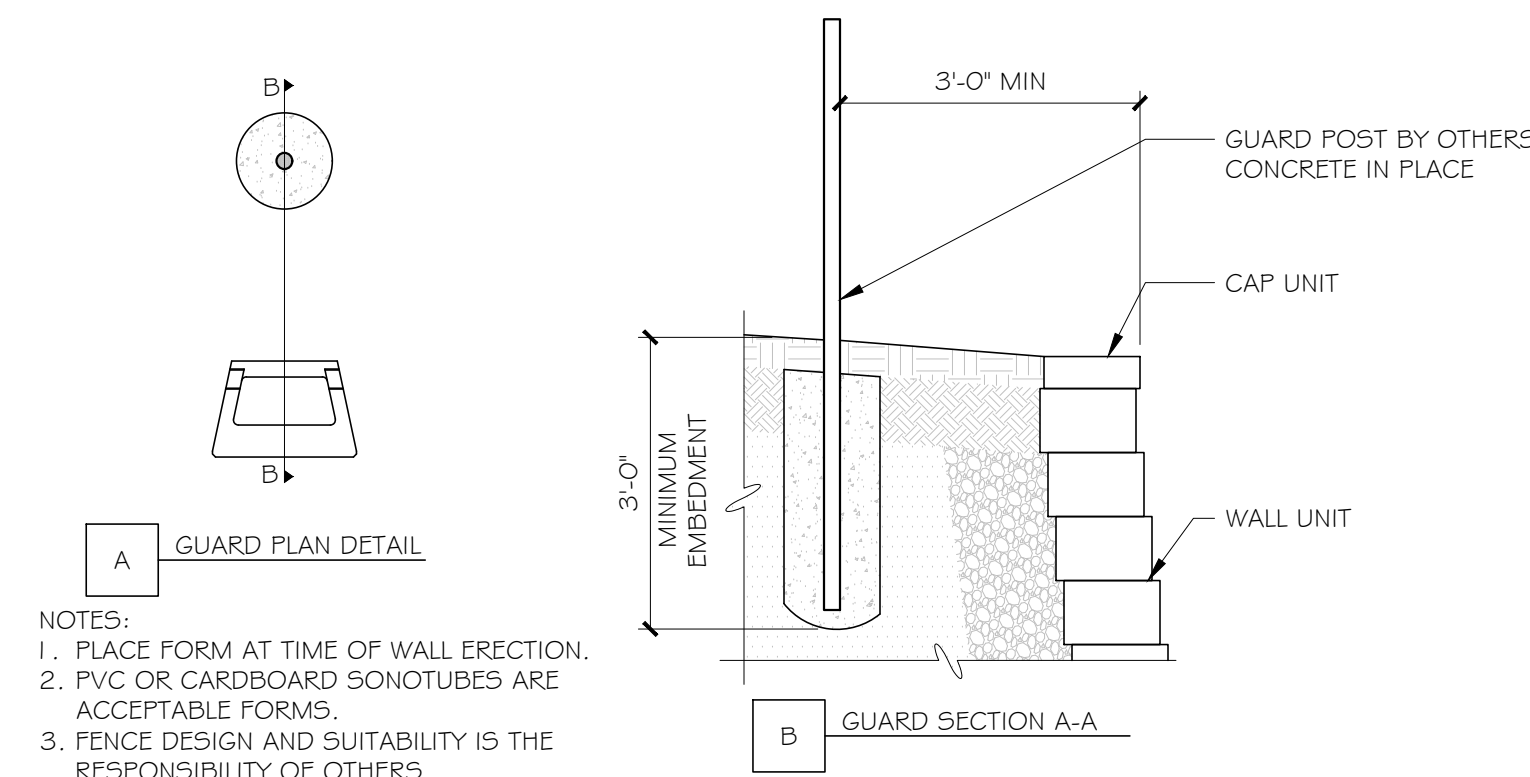
6. BASE LEVELING PAD INSTALLATION:
- 6.1. LEVELING PAD SHALL BE PLACED AS SHOWN ON THE DRAWINGS AND CONSIST OF EITHER:
- LEAN CONCRETE (2,000 PSI) - 6" MINIMUM THICK
- WELL GRADED 1" GRAVEL WITH FINES - 6" MINIMUM THICK
- 6.2. SAND OR GRAVEL BASE SHALL BE COMPACTED WITH 3 PASSES OF A VIBRATORY COMPACTOR TO PROVIDE A FIRM, LEVEL BEARING PAD.
- 6.3. LEAN CONCRETE SHALL CURE A MINIMUM OF 12 HOURS PRIOR TO UNIT PLACEMENT.
- 6.4. LEVELING PAD SHALL BE CONSTRUCTED TO INSURE FULL BEARING OF RETAINING WALL UNITS.
7. UNIT INSTALLATION:
- 7.1. THE FIRST COURSE OF SEGMENTAL CONCRETE WALL UNITS SHALL BE PLACED ON THE LEVELING PAD AND CHECKED FOR LEVEL, ALIGNMENT, AND FULL CONTACT WITH BASE.
- 7.2. UNITS SHALL BE PLACED SIDE BY SIDE FOR FULL LENGTH OF WALL. ALIGNMENT SHALL BE DONE BY MEANS OF A STRING LINE OR OFFSET MEASUREMENT FROM BASE LINE.
- 7.3. PLACE DRAINAGE AGGREGATE A MINIMUM OF 12" DIRECTLY BEHIND AND BETWEEN THE UNITS AND LEVEL WITH THE TOP OF THE UNIT. PLACE REINFORCED BACKFILL DIRECTLY AGAINST DRAINAGE FILL. COMPACT DRAINAGE AGGREGATE WITH 2 PASSES OF A VIBRATORY COMPACTOR. COMPACTION TESTING OF DRAINAGE AGGREGATE IS NOT REQUIRED. EXCESS MATERIAL SHALL BE REMOVED FROM TOP OF UNITS PRIOR TO INSTALLATION OF NEXT COURSE.
- 7.4. LAY UP EACH COURSE INSURING POSITIVE CONTACT BETWEEN PREVIOUS COURSE IS ACHIEVED.
8. GEOGRID INSTALLATION:
- 8.1. GEOGRID SHALL BE LAID AT THE PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE DRAWINGS.
- 8.2. THE GEOGRID REINFORCEMENT SHALL BE LAID HORIZONTALLY ON LEVEL, COMPACTED BACKFILL, AND EMBEDDED IN THE BLOCK.
- 8.3. PLACE GEOGRID ON CONCRETE WALL UNITS, PLACE THE NEXT COURSE OF UNITS, PLACE THE DRAINAGE FILL, PULL GEOGRID TIGHT PRIOR TO BACKFILLING.
- 8.4. GEOGRID SHALL BE LAID AT THE PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE DRAWINGS.
- 8.5. CORRECT ORIENTATION OF THE GEOGRID SHALL BE VERIFIED.
- 8.6. 3' OF REINFORCED BACKFILL SHALL BE PLACED BETWEEN ALL LOCATIONS OF OVERLAPPING GEOGRID.
9. BACKFILL PLACEMENT:
- 9.1. REINFORCED BACKFILL MATERIAL SHALL BE PLACED IN 8" MAXIMUM LIFTS AND COMPACTED TO A MINIMUM 95% OF STANDARD PROCTOR DENSITY (ASTM D 698).
- 9.2. DRAINAGE ROCK SHALL BE COMPACTED WITH A MINIMUM OF 2 PASSES OF A VIBRATORY COMPACTOR. FIELD DENSITY TESTING WILL NOT BE REQUIRED FOR DRAINAGE ROCK.
- 9.3. ONLY LIGHTWEIGHT HAND-OPERATED COMPACTION EQUIPMENT SHALL BE USED OVER THE REINFORCED ZONE UNLESS NOTED OTHERWISE.
- 9.4. REINFORCED BACKFILL SHALL BE PLACED, SPREAD, AND COMPACTED IN SUCH A MANNER THAT ELIMINATES THE DEVELOPMENT OF WRINKLES AND/OR MOVEMENT OF THE GEOGRID.
- 9.5. REINFORCED BACKFILL SHALL BE PLACED AND COMPACTED FROM THE BACK OF THE WALL REARWARD INTO THE EMBANKMENT TO INSURE THAT THE GEOGRID REMAINS TIGHT.
- 9.6. TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON THE GEOGRID. A MINIMUM BACKFILL THICKNESS OF 6" SHALL BE MAINTAINED TO OPERATE TRACKED VEHICLES OVER THE GEOGRID. TURNING OF TRACKED CONSTRUCTION EQUIPMENT SHALL BE KEPT TO A MINIMUM TO PREVENT TRACKS FROM DISPLACING THE FILL AND DAMAGING THE GEOGRID.
- 9.7. AT THE END OF EACH DAY'S OPERATION, SLOPE THE LAST LEVEL OF COMPACTED BACKFILL AWAY FROM THE INTERIOR (CONCEALED) FACE OF THE WALL TO DIRECT SURFACE WATER RUNOFF FROM THE WALL FACE.
10. DRAIN PIPE INSTALLATION:
- 10.1. DRAINAGE COLLECTION PIPES SHALL BE INSTALLED TO MAINTAIN GRAVITY FLOW OF WATER OUTSIDE OF THE REINFORCED SOIL ZONE. THE DRAINAGE COLLECTION PIPE SHOULD CONNECT INTO A STORM SEWER MANHOLE OR DAYLIGHT THROUGH THE FACE OF THE WALL.
11. CAP INSTALLATION:
- 11.1. CAP UNITS SHALL BE ADHERED TO THE TOP UNITS USING MANUFACTURER SUPPLIED ADHESIVE BY PLACING TWO 1/4" BEADS OF ADHESIVE ON EACH UNIT ALONG THE ENTIRE LENGTH OF THE WALL. PRESS THE CAP UNITS FIRMLY INTO THE ADHESIVE AND ALLOW TO CURE.
12. FIELD QUALITY CONTROL:
- 12.1. THE OWNER OR OWNER'S REPRESENTATIVE IS RESPONSIBLE FOR ENGAGING THE SERVICES OF AN INDEPENDENT THIRD PARTY INSPECTOR TO OBSERVE AND VERIFY ALL SOIL PROPERTIES AS WELL AS VERIFY CORRECT INSTALLATION OF ALL SYSTEM COMPONENTS TO MEET THE REQUIREMENTS OF THESE GENERAL NOTES AND DRAWINGS.
- 12.2. TESTING METHODS, FREQUENCY AND VERIFICATION OF MATERIAL SPECIFICATIONS SHALL BE THE RESPONSIBILITY OF THE INDEPENDENT THIRD PARTY INSPECTOR.
13. ABBREVIATIONS:
- TF TOP OF FOOTING ELEVATION
- TW TOP OF WALL ELEVATION
- STA STATION



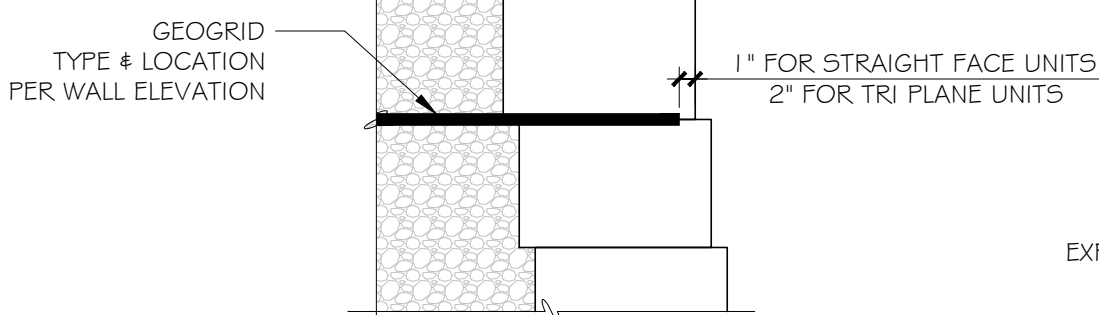
5 TYPICAL CONCRETE COLLAR
1/3 NTS



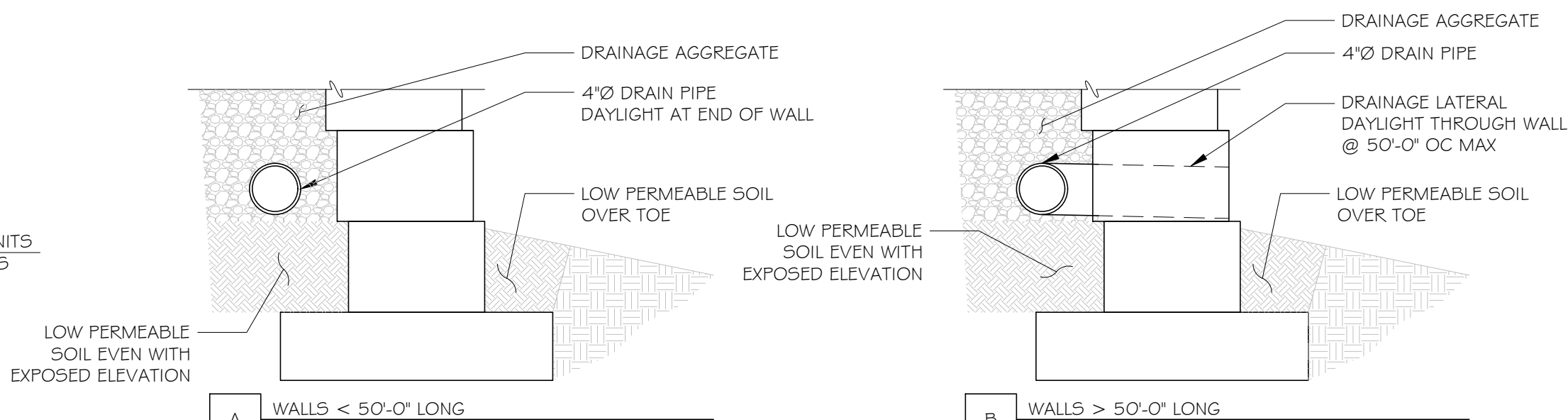
1 TYPICAL SECTION - COMPACTED ROCK
1/3 NTS



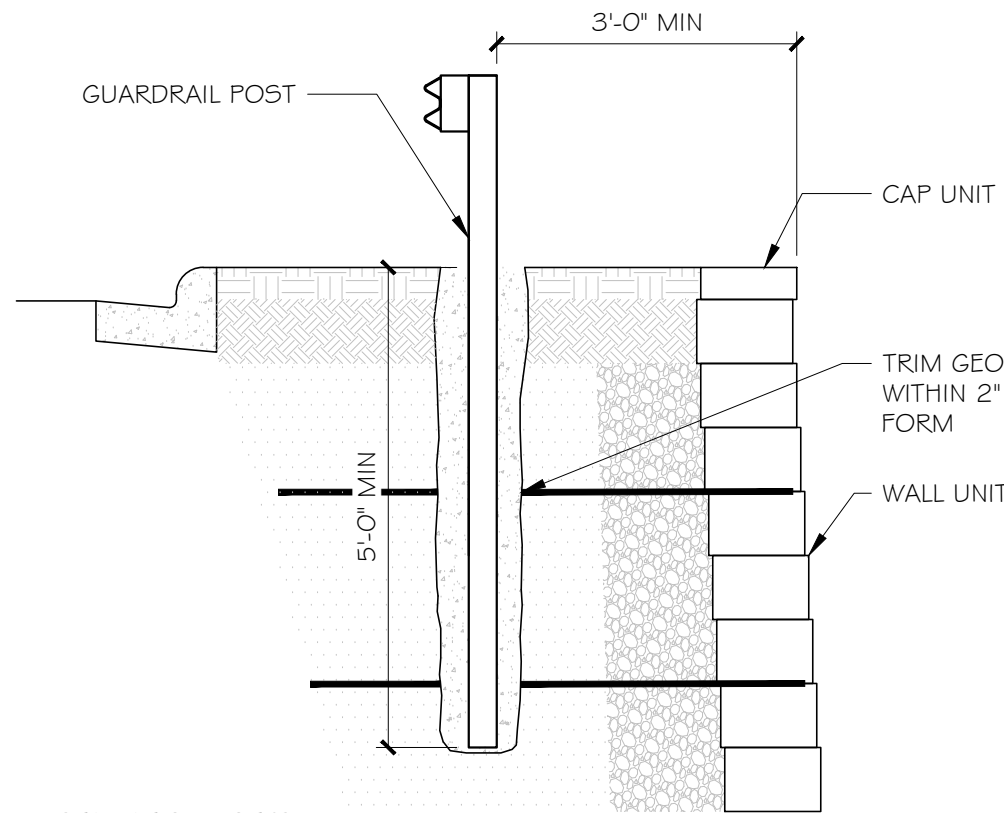
3 TYPICAL POST AT UNREINFORCED WALL
1/3 NTS



6 GEOGRID PLACEMENT
1/3 NOT TO SCALE

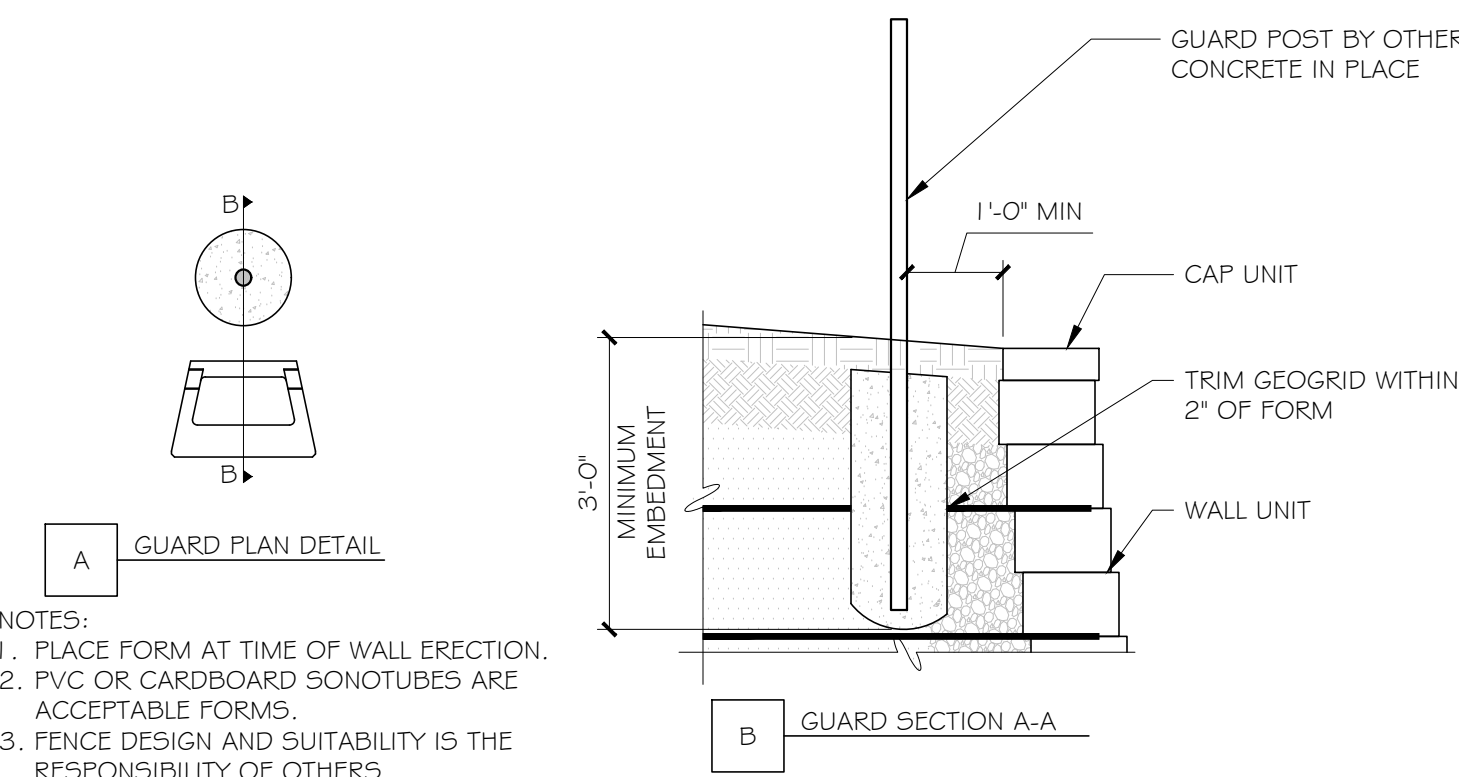


7 DRAIN PIPE INSTALLATION
1/3 NOT TO SCALE



- INSTALLATION NOTES:
1. POST OR FORM TO BE SET DURING WALL ERECTION. DO NOT DRILL THROUGH GEOGRID AFTER INSTALLATION.
 2. METAL BEAM POSTS CAN BE DRIVEN AFTER COMPLETION OF THE WALL.

2 TYP TRAFFIC BARRIER AT WALL
1/3 NTS



4 TYPICAL POST AT REINFORCED WALL
1/3 NTS



ROSCH ENGINEERING
720 S CO BLVD PENTHOUSE N
DENVER, CO 80246
PHONE: 303-900-8714
FAX: 636-532-7773



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CHECKED BY: SK
DRAWN BY: MPV

HKS HARRIS KOCHER SMITH
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Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

BIGHORN RV STORAGE LLC

**PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
WALL NOTES & DETAILS**

ISSUE DATE: 2/18/2019	PROJECT #: 19-010
DATE	REVISION COMMENTS

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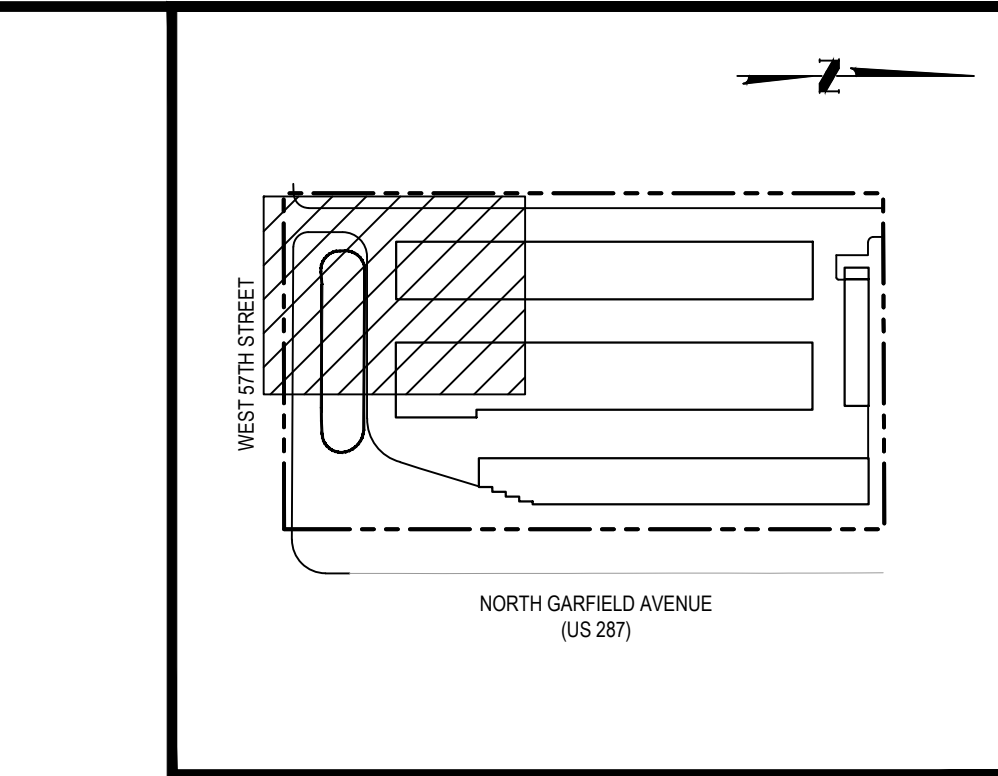
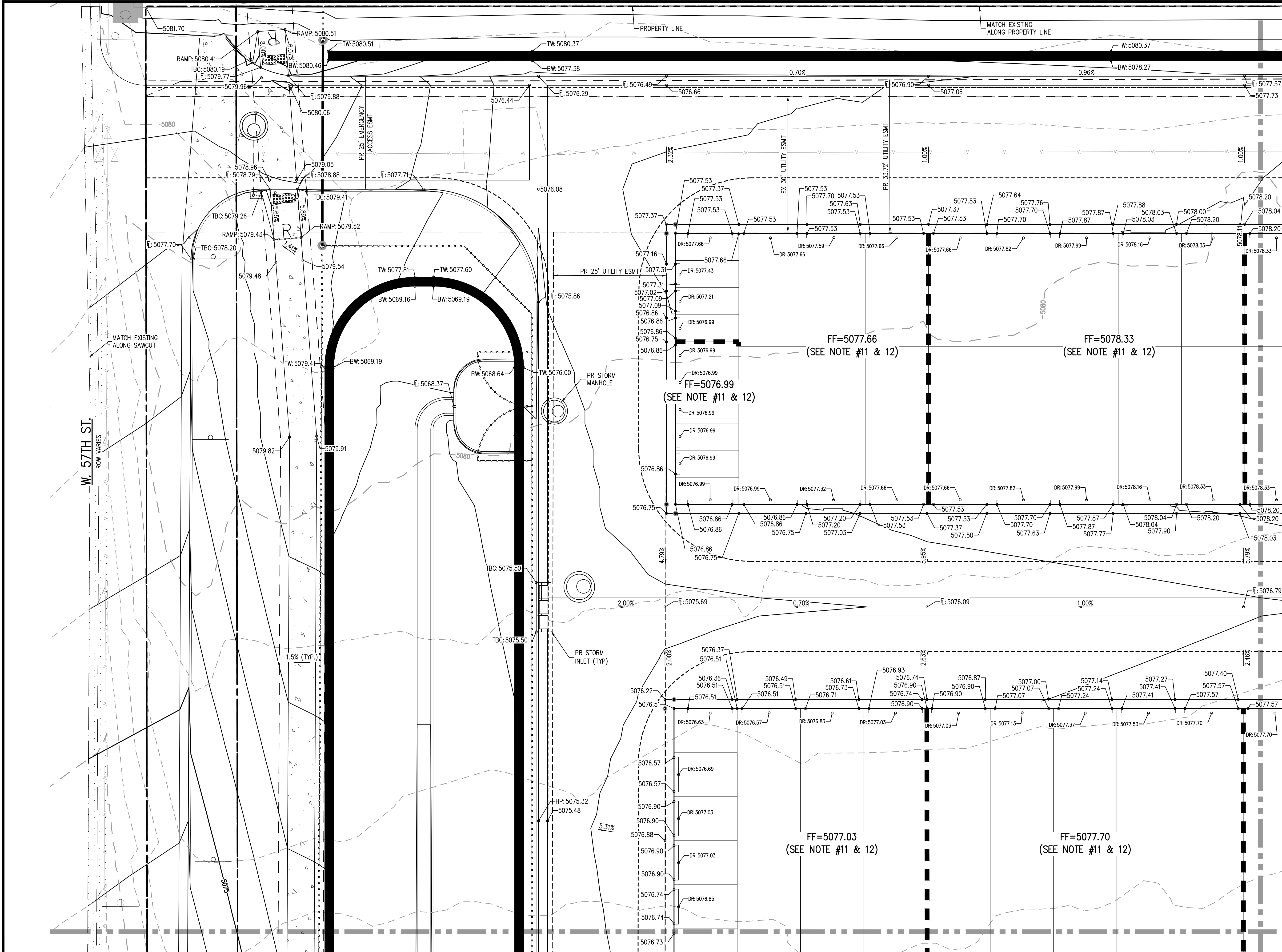
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FILE PATH: P:\170108\ENGINEERING\GRADING\CD - DETAIL GRADING PLAN\DWG LAYOUT: LAYOUT1
DESIGNED BY: TEH
CHECKED BY: MSM
PLOTTED: WED 02/27/19 7:39:26A BY: TIM HOFFMAN



GENERAL GRADING NOTES:

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CHECKED BY: MSM
DRAWN BY: JMN

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Denver, Colorado 80203
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HarrisKocherSmith.com

BIGHORN RV STORAGE LLC

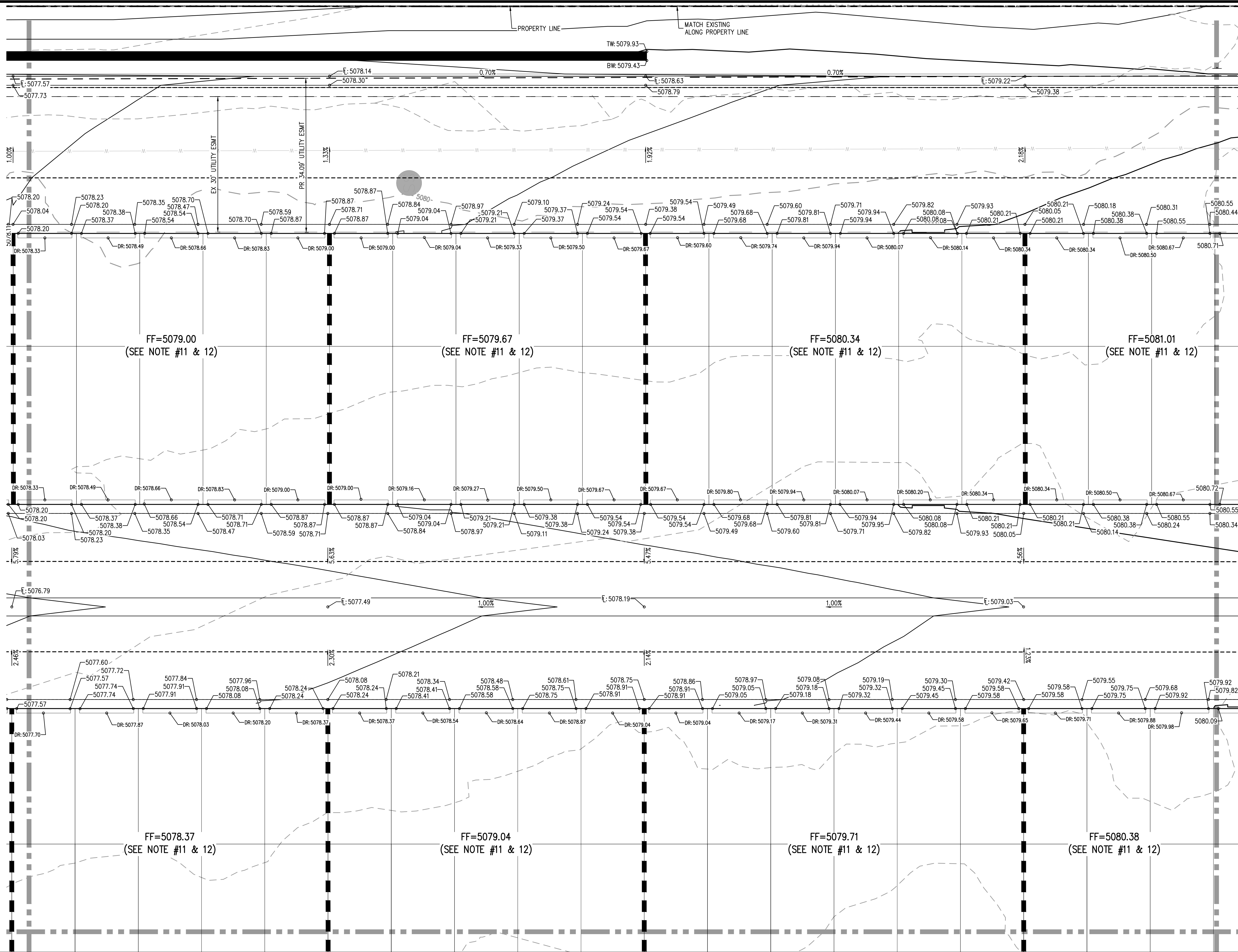
PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
DETAILED GRADING PLAN

ISSUE DATE: 07-03-2018	PROJECT #: 170108
DATE	REVISION COMMENTS
11-12-2018	PER CITY OF LOVELAND COMMENTS
02-25-2019	PER CITY OF LOVELAND COMMENTS

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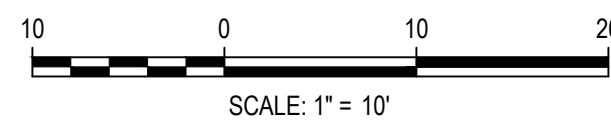
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REVISED: 02-25-2019 7:36:34A BY: TIM HOFFMAN
PLOT: 02-25-2019 7:36:34A BY: TIM HOFFMAN



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CHECKED BY: MSM
DRAWN BY: JMN

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Denver, Colorado 80203
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HarrisKocherSmith.com

BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
DETAILED GRADING PLAN

ISSUE DATE: 07-03-2018		PROJECT #: 170108	
DATE	REVISION	COMMENTS	
11-12-2018	PER CITY OF LOVELAND COMMENTS		
02-25-2019	PER CITY OF LOVELAND COMMENTS		

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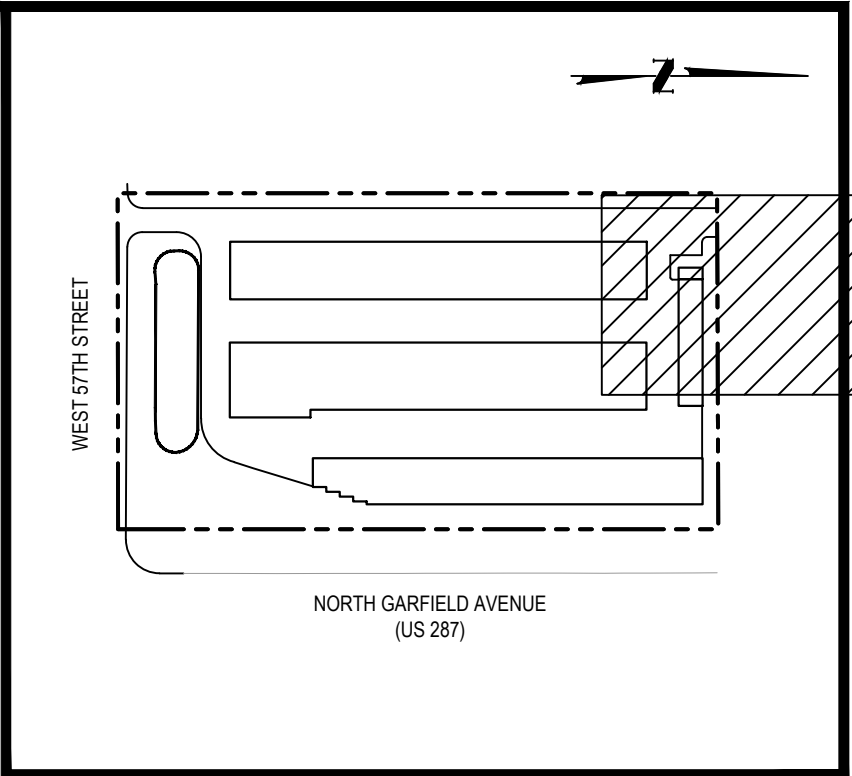
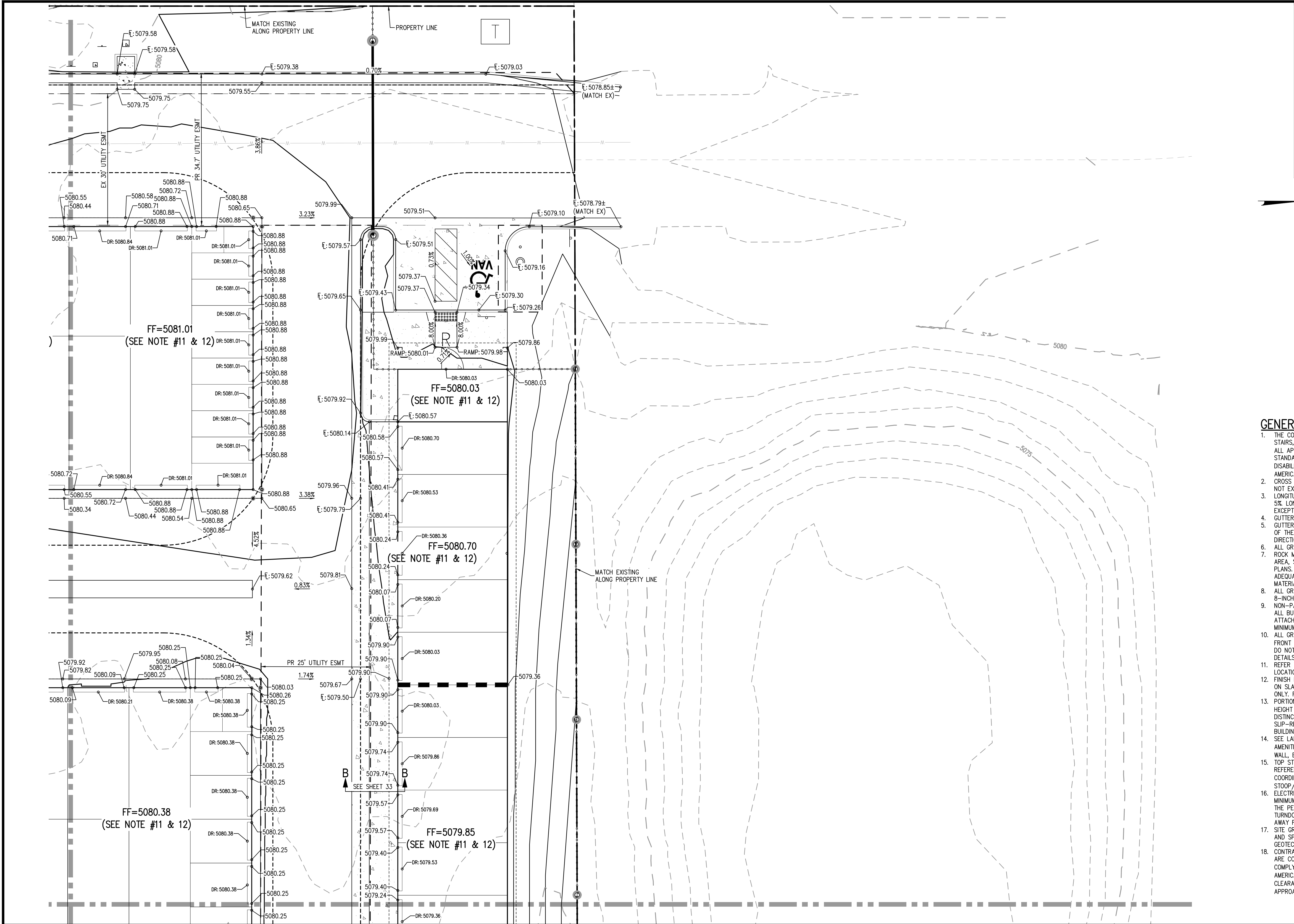
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REVISED: 11-12-2018 BY: T.H. HOFFMAN
PLOTTED: WED 02/27/19 7:38:39A BY: TIM HOFFMAN




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CHECKED BY: MSM
DRAWN BY: JMN



HARRIS KOCHER SMITH

1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
DETAILED GRADING PLAN

ISSUE DATE: 07-03-2018		PROJECT #: 170108	
DATE	REVISION	COMMENTS	
11-12-2018	PER CITY OF LOVELAND COMMENTS		
02-25-2019	PER CITY OF LOVELAND COMMENTS		

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HKS

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BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
DETAILED GRADING PLAN

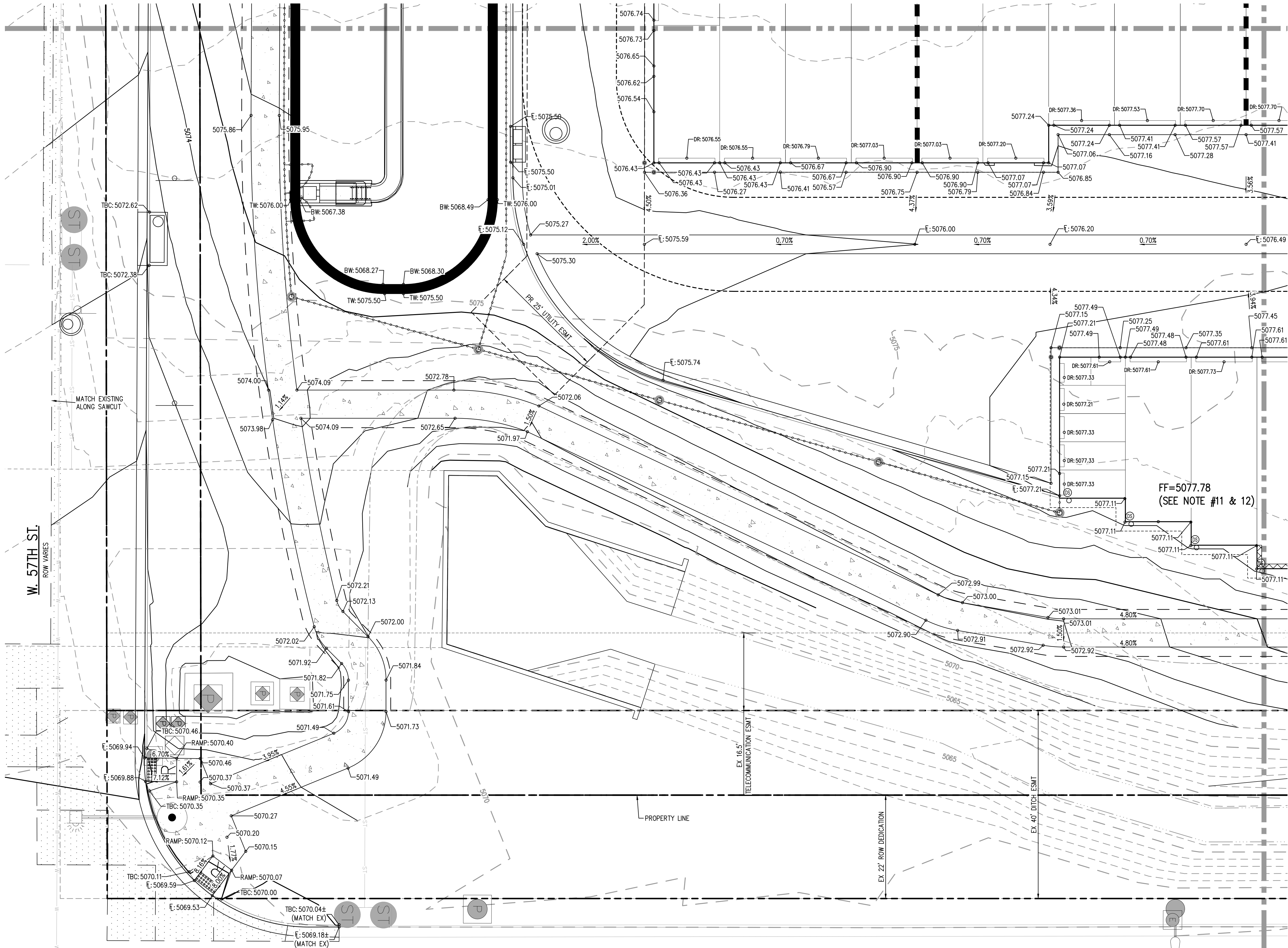
ISSUE DATE: 07-03-2018		PROJECT #: 170108	
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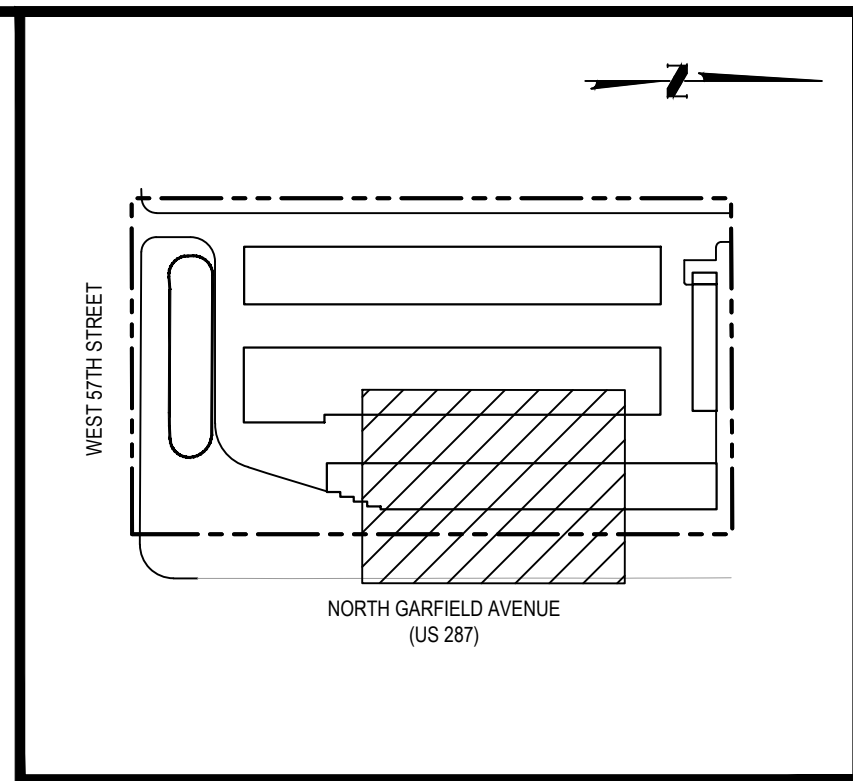
17 OF 37



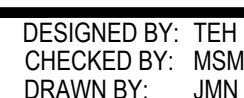
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- TOP STEP ELEVATIONS FOR STOOPS AND PATIOS ARE SHOWN FOR REFERENCE ONLY. TOP OF STEPS AND PATIO ELEVATIONS SHALL BE COORDINATED WITH ARCHITECTURAL PLANS/DETAILS AND AS-BUILT STOOP/PATIO ELEVATIONS.
- ELECTRICAL TRANSFORMER PADS AND AC-UNIT PADS ARE TO BE SET A MINIMUM OF 2-INCHES ABOVE THE ADJACENT FINISHED GRADE AROUND THE PERIMETER OF THE PAD. CONTRACTOR SHALL PROVIDE A CONCRETE TURNDOWN AS NECESSARY. CONTRACTOR IS TO VERIFY POSITIVE DRAINAGE AWAY FROM, AND AROUND, ALL ELECTRICAL PADS AND AC-UNIT PADS.
- SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS, AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL ENGINEERING REPORT.
- CONTRACTOR SHALL ENSURE ACCESSIBLE EXTERIOR DOORS AND GATES ARE CONSTRUCTED WITH ADEQUATE LANDING WIDTH AND DEPTH TO COMPLY WITH APPLICABLE AMERICANS WITH DISABILITIES ACT (ADA) AND AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) MANEUVERING CLEARANCES AT DOOR REQUIREMENTS (BASED ON THE DIRECTION OF APPROACH OF THE SIDEWALK).

8 XREFs: cd - stamp, e-base, e-legal, e-util, keymap, p-base, p-legal, p-util
PLOTTED: WED 02/27/19 7:39:53A BY: TIM HOFFMAN



1. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT HANDRAILS, STAIRS, CURB RAMPS, AND RAMPS ARE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE LOCAL STATE AND/OR FEDERAL REGULATIONS AND STANDARDS, INCLUDING BUT NOT LIMITED TO, THE AMERICANS WITH DISABILITIES ACT (ADA), THE FAIR HOUSING ACT (FHA) AND THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
2. CROSS SLOPES ALONG THE ACCESSIBLE ROUTE OR AT LANDINGS SHALL NOT EXCEED 2% IN ANY DIRECTION.
3. LONGITUDINAL SLOPES ALONG THE ACCESSIBLE ROUTE SHALL NOT EXCEED 5% IN ANY DIRECTION. LONGITUDINAL SLOPES FINISHED NOT EXCEED 8.33% RAMPS, EXCEPT CURB RAMPS, SHALL HAVE HANDRAILS ON BOTH SIDES.
4. GUTTER SLOPES AT THE CURB RAMPS SHALL NOT EXCEED 5%.
5. GUTTER PANS SURROUNDING HANDICAP SPACES SHALL MATCH THE SLOPE OF THE ADJACENT PAVEMENT WITH A MAXIMUM 2% SLOPE IN ALL DIRECTIONS.
6. ALL GRADES ARE FINISHED GRADE, UNLESS OTHERWISE NOTED.
7. ROCK MULCH, IF PLACED UPSTREAM OF CONCRETE FLATWORK OR GRASSED AREAS, SHALL BE PLACED ON TOP OF FINISHED GRADE SHOWN ON THESE PLANS. ROCK DRAIN DECKS SHALL BE DESIGNED AND CONSTRUCTED TO ADEQUATELY DRAIN AND NOT RETAIN WATER, ALL LANDSCAPE EDGE MATERIALS SHALL NOT PREVENT DRAINAGE TO PASS THROUGH.
8. ALL GRADES ADJACENT TO THE BUILDINGS SHALL BE AT MINIMUM 8-INCHES BELOW FINISHED FLOOR ELEVATION, UNLESS OTHERWISE NOTED.
9. NON-PAVED GRADES ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM ALL BUILDINGS AT A MINIMUM OF 10% FOR 10' FROM ALL PAVED GRADES ATTACHED TO BUILDINGS. SLOPE AWAY FROM ALL BUILDINGS AT A MINIMUM OF 1% UNLESS OTHERWISE NOTED.
10. ALL GRADES FOR WALLS ARE FINISHED GRADE ELEVATIONS AT BOTTOM OF FRONT FACE (BW) AND TOP-BACK OF WALL (TW). THE WALL ELEVATIONS DO NOT INDICATE FOUNDATION DEPTHS OR ELEVATIONS. RETAINING WALL DETAILS SHALL BE PROVIDED BY OTHERS.
11. REFER TO STRUCTURAL PLANS FOR BUILDING FOUNDATION STEP LOCATIONS WHEN APPLICABLE.
12. FINISH FLOOR ELEVATIONS ARE REPRESENTATIVE OF THE HIGHEST POINT ON SLAB AT THE TOP OF STORAGE AREA AND ARE FOR INFORMATION ONLY. REFER TO STRUCTURAL PLANS FOR BUILDING SLAB GRADES.
13. PORTIONS OF STAIRS THAT DO NOT MEET THE MINIMUM 4-INCH RISER HEIGHT (DUE TO AN ADJACENT SLOPING PUBLIC WAY) SHALL HAVE A DISTINCTIVE MARKING STRIPE, 1-INCH TO 2-INCHES IN WIDTH, WITH A SLIP-RESISTANT SURFACE, IN ACCORDANCE WITH CURRENT INTERNATIONAL BUILDING CODE REGULATIONS.
14. SEE LANDSCAPE ARCHITECT PLANS FOR HEIGHT AND TOP OF COURTYARD AMENITIES (PLANTER CURBS, SEAT WALLS, BENCHES, FIRE WALL, MEDIA WALL, BARS, AND GRILLS).
15. ROOF TOP ELEVATIONS FOR STOPS AND PATIO ARE SHOWN FOR REFERENCE ONLY. TOP OF STOPS AND PATIO ELEVATIONS SHALL BE COORDINATED WITH ARCHITECTURAL PLANS/DETAILS AND AS-BUILT STOOP/PATIO ELEVATIONS.
16. ELECTRICAL TRANSFORMER PADS AND AC-UNIT PADS ARE TO BE SET A MINIMUM OF 2-INCHES ABOVE THE ADJACENT FINISHED GRADE AROUND THE PERIMETER OF THE PAD. CONTRACTOR SHALL PROVIDE A CONCRETE TURNDOWN AS NECESSARY. CONTRACTOR IS TO VERIFY POSITIVE DRAINAGE AWAY FROM, AND AROUND, ALL ELECTRICAL PADS AND AC-UNIT PADS.
17. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS, AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL EXTERIOR FOUNDATION REPORT.
18. CONTRACTOR SHALL ENSURE ACCESSIBLE EXTERIOR DOORS AND GATES ARE CONSTRUCTED WITH ADEQUATE LANDING WIDTH AND DEPTH TO COMPLY WITH APPLICABLE AMERICANS WITH DISABILITIES ACT (ADA) AND AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) MANEUVERING CLEARANCES AT DOOR REQUIREMENTS (BASED ON THE DIRECTION OF APPROACH OF THE SIDEWALK).



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PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
DETAILED GRADING PLAN

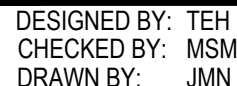
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CONSTRUCTION

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PLOTTED: WED 02/27/19 7:40:03A BY: TIM HOFFMAN



1. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT HANDRAILS, STAIRS, CURB RAMPS, AND RAMPS ARE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE LOCAL STATE AND/OR FEDERAL REGULATIONS AND STANDARDS, INCLUDING BUT NOT LIMITED TO, THE AMERICANS WITH DISABILITIES ACT (ADA), THE FAIR HOUSING ACT (FHA) AND THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
2. CROSS SLOPES ALONG THE ACCESSIBLE ROUTE OR AT LANDINGS SHALL NOT EXCEED 2% IN ANY DIRECTION.
3. LONGitudINAL SLOPES ALONG THE ACCESSIBLE ROUTE SHALL NOT EXCEED 5% LONGITUDINAL SLOPES ON RAMPS SHALL NOT EXCEED 8.33% RAMPS, EXCEPT CURB RAMPS, SHALL HAVE HANDRAILS ON BOTH SIDES.
4. CUTTER SLOPES AT THE CURB RAMPS SHALL NOT EXCEED 5%.
5. GUTTER PANS SURROUNDING HANDICAP SPACES SHALL MATCH THE SLOPE OF THE ADJACENT PAVEMENT WITH A MAXIMUM 2% SLOPE IN ALL DIRECTIONS.
6. ALL GRADES ARE FINISHED GRADE, UNLESS OTHERWISE NOTED.
7. ROCK MULCH, IF PLACED UPSTREAM OF CONCRETE FLATWORK OR GRASSED AREAS, SHALL BE PLACED ON TOP OF FINISHED GRADE SHOWN ON THESE PLANS. ROCK MULCH AREAS SHALL BE DESIGNED AND CONSTRUCTED TO ADEQUATELY DRAIN AND NOT RETAIN WATER. ALL LANDSCAPE EDGE MATERIALS SHALL NOT PREVENT DRAINAGE TO PASS THROUGH.
8. ALL GRADES ADJACENT TO THE BUILDINGS SHALL BE AT MINIMUM 8-INCHES BELOW FINISHED FLOOR ELEVATION, UNLESS OTHERWISE NOTED.
9. NON-PAVED GRADES ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM ALL BUILDINGS AT A MINIMUM OF 10% FOR 10'. ALL PAVED GRADES ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM ALL BUILDINGS AT A MINIMUM OF 1%, UNLESS OTHERWISE NOTED.
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11. REFER TO STRUCTURAL PLANS FOR BUILDING FOUNDATION STEP LOCATIONS WHEN APPLICABLE.
12. FINISH FLOOR ELEVATIONS ARE REPRESENTATIVE OF THE HIGHEST POINT ON THE BASE FLOOR STORAGE UNIT AND ARE FOR INFORMATION ONLY. REFER TO STRUCTURAL PLANS FOR BUILDING SLAB GRADES.
13. PORTIONS OF STAIRS THAT DO NOT MEET THE MINIMUM 4-INCH RISER HEIGHT (DUE TO AN ADJACENT SLOPING PUBLIC WAY) SHALL HAVE A DISTINCTIVE MARKING STRIPE, 1-INCH TO 2-INCHES IN WIDTH, WITH A SLIP-RESISTANT SURFACE, IN ACCORDANCE WITH CURRENT INTERNATIONAL BUILDING CODE REGULATIONS.
14. SEE LANDSCAPE ARCHITECT PLANS FOR HEIGHT AND TOP OF COURTYARD AMENITIES (PLANTER CURBS, SEAT WALLS, BENCHES, FIRE WALL, MEDIA WALL, BARS, AND GRILLS).
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17. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS, AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL ENGINEERING REPORT.
18. CONTRACTOR SHALL ENSURE ACCESSIBLE EXTERIOR DOORS AND GATES ARE CONSTRUCTED WITH ADEQUATE LANDING WIDTH AND DEPTH TO COMPLY WITH APPLICABLE AMERICANS WITH DISABILITIES ACT (ADA) AND AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) MANEUVERING CLEARANCES AT DOOR REQUIREMENTS (BASED ON THE DIRECTION OF APPROACH OF THE SIDEWALK).



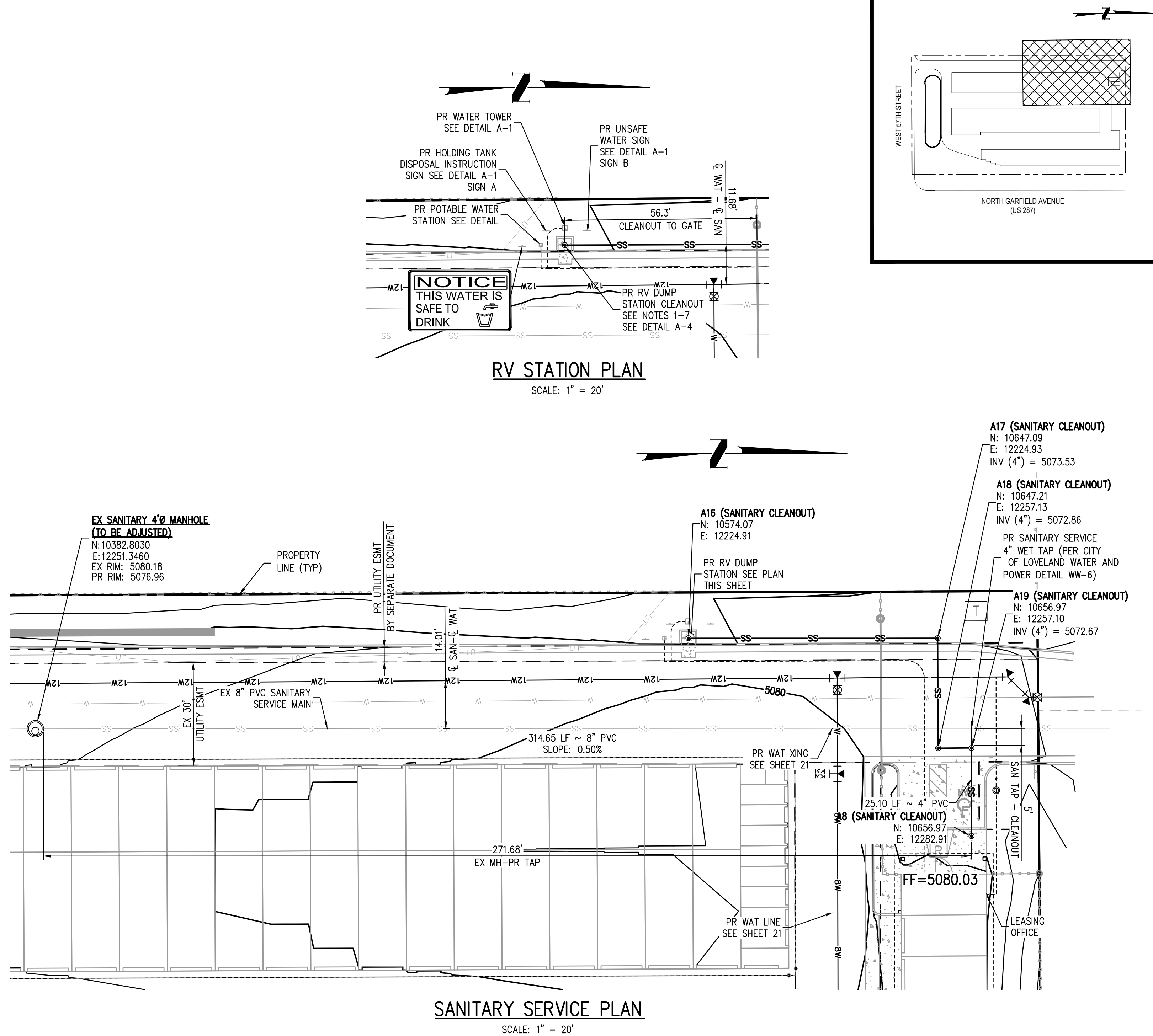
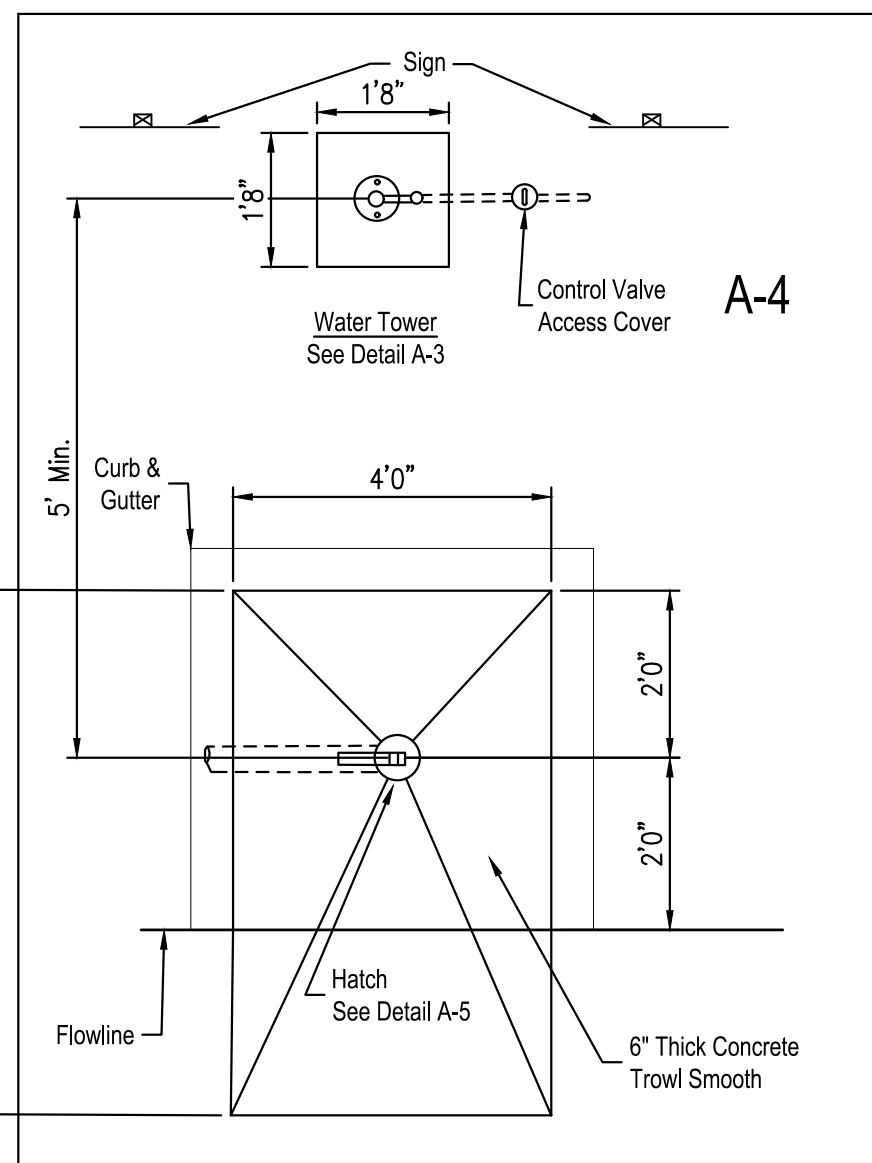
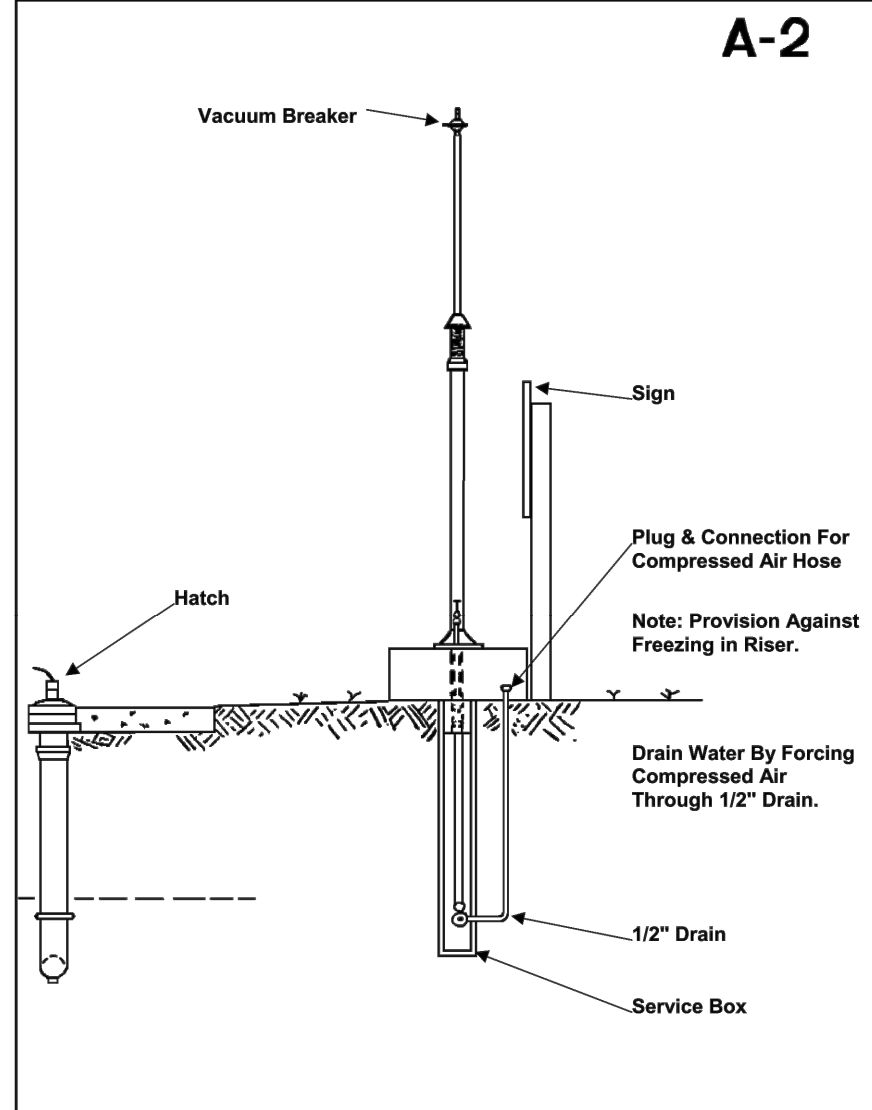
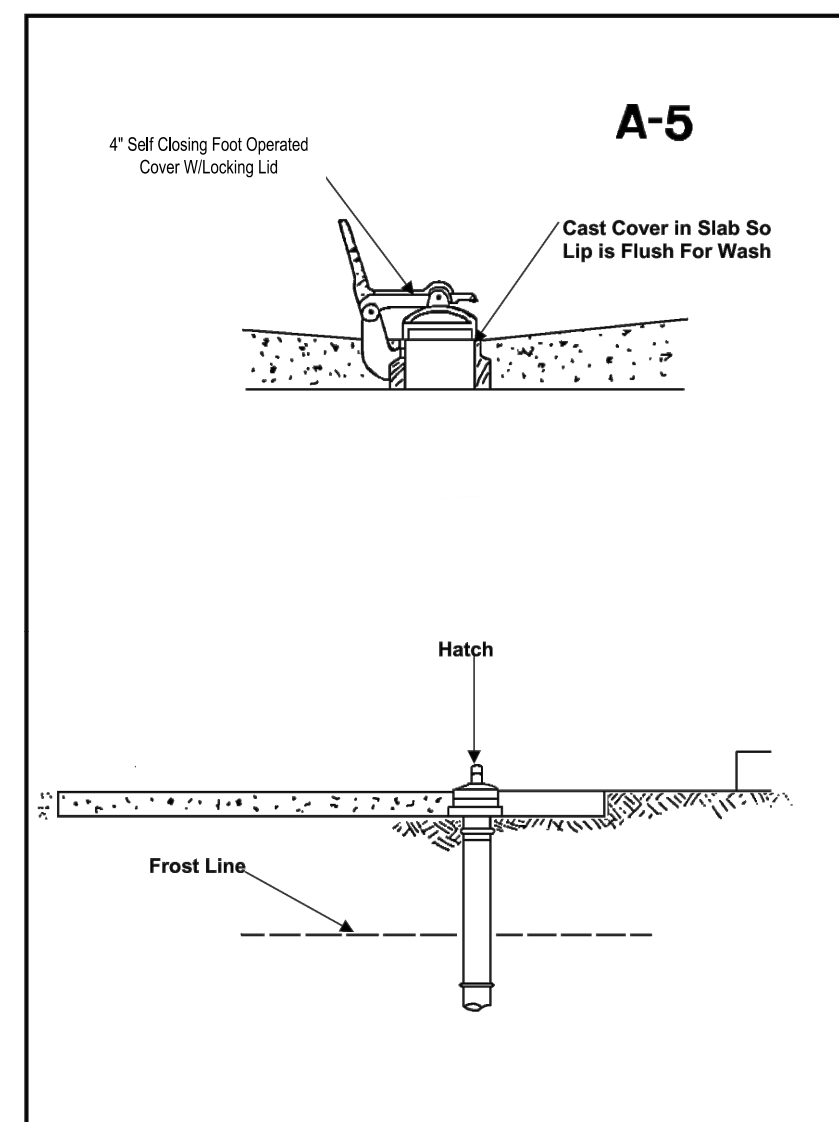
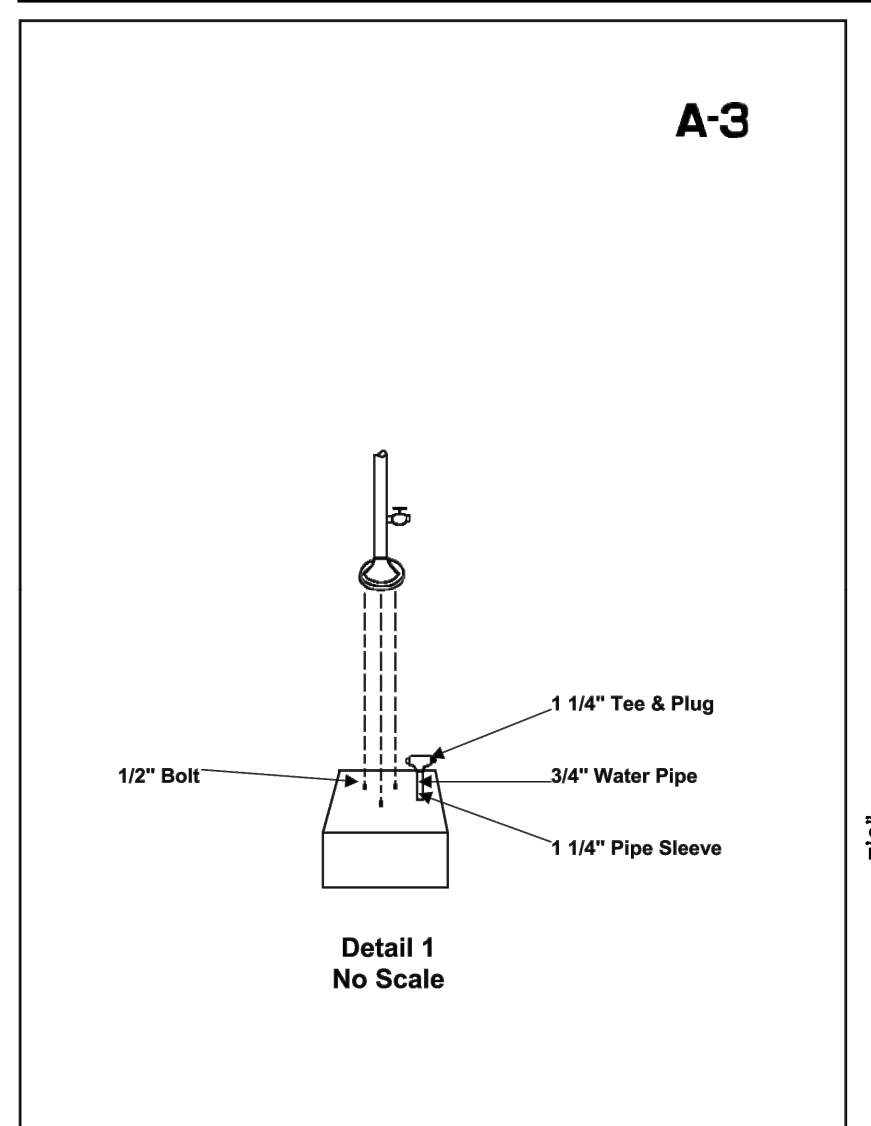
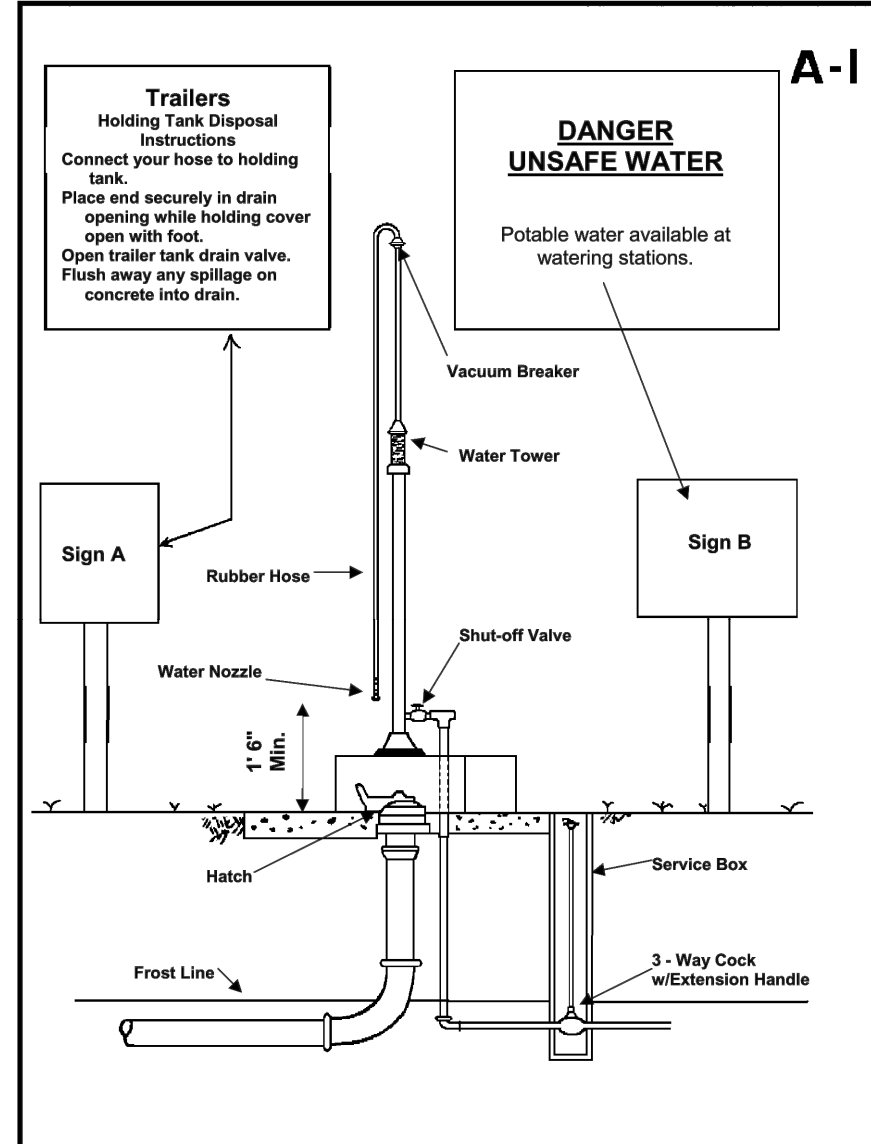
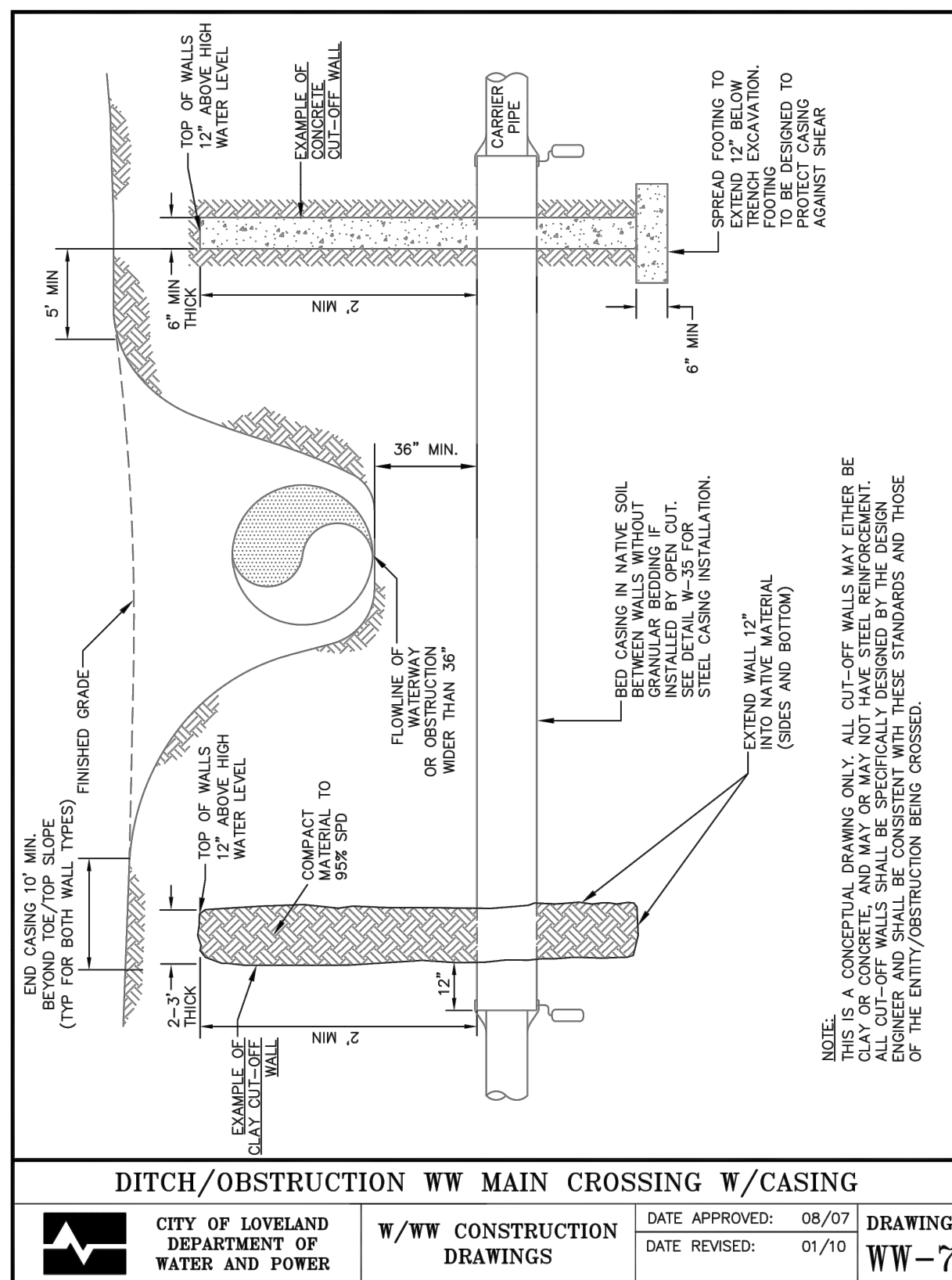
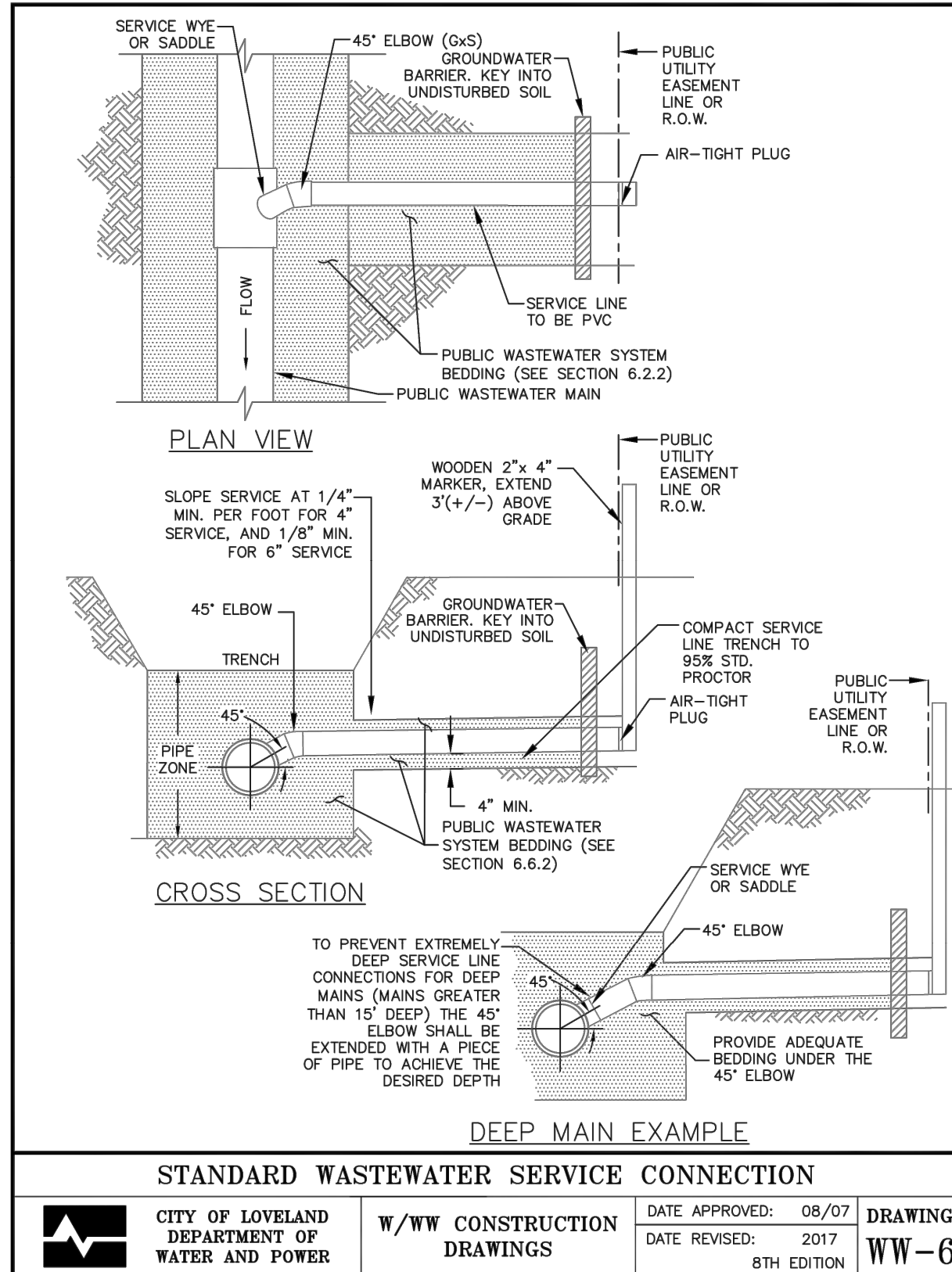
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PUBLIC IMPROVEMENTS CONSTRUCTION PLANS

DETAILED GRADING PLAN

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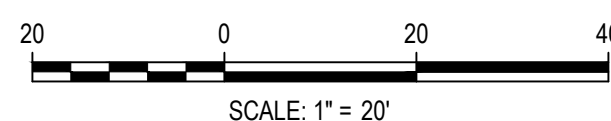
RV DUMPING STATION NOTES:

1. A SLOPED CONCRETE APRON WITH A DRAIN NO GREATER THAN 4 INCHES IN DIAMETER AT THE LOW POINT NEAR THE CENTER OF THE PAD.
2. A TIGHT FITTING DRAIN COVER W/LOCKING LID (TO PREVENT THE ESCAPE OF ODORS) EQUIPPED WITH A FOOT OPERATED ATTACHMENT OR SIMILAR DEVICE, TO OPEN THE DRAIN COVER WITHOUT DIRECTLY CONTAINING WASTE MATERIAL.
3. AN APPROVED WATER OUTLET OR HYDRANT ADJACENT TO THE DUMPING STATION FOR FLUSHING DOWN THE DRAIN PAD AFTER USE.
4. AN APPROVED ATMOSPHERIC VACUUM BREAKER ATTACHED TO THE WATER OUTLET TO PREVENT POSSIBLE BACK-SIPHONAGE INTO THE WATER SUPPLY SYSTEM. THE VACUUM BREAKER MUST BE INSTALLED DOWNSTREAM FROM THE SHUTOFF VALVE AND AT THE HIGHEST POINT.
5. AN ADEQUATE LENGTH OF FLEXIBLE HOSE FOR FLUSHING THE CONCRETE APRON AND DRAIN. A MEANS MUST BE PROVIDED TO RETRACT THE HOSE WHEN NOT IN USE SO IT DOES NOT CONTACT THE CONCRETE PAD OR REST ON THE GROUND SURFACE.
6. A SIGN MUST BE POSTED AT THE SANITARY DUMPING STATION STATING THAT THE ADJACENT WATER OUTLET IS "UNSAFE FOR DRINKING".
7. WATER AT THE DUMPING STATION MUST DISCHARGE TO AN APPROVED WASTEWATER DISPOSAL SYSTEM.

SANITARY SERVICE TABLE								
BLDG SERVICE	SAN STA MAIN	INV OF MAIN (⊕ TAP)	INV OF SERVICE (⊕ TAP)	INV BLDG CLEANOUT	BLDG FF	LENGTH (FT)	SLOPE (%)	SIZE (DIA. IN.)
LEASING OFFICE	EX MAIN IN DRIVE	5071.58	5072.58	5073.19	5078.65	30.12	2.08	4"
RV DUMP STATION	EX MAIN IN DRIVE	5071.58	5072.58	5075.05	5078.51	119.27	2.08	4"



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



DESIGNED BY: JMN
CHECKED BY: MSM
DRAWN BY: JMN



BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS

RV DETAILS & SANITARY SERVICE PLAN

ISSUE DATE: 07-03-2018		PROJECT #: 170108	
DATE		REVISION COMMENTS	
11-12-2018		PER CITY OF LOVELAND COMMENTS	
02-25-2019		PER CITY OF LOVELAND COMMENTS	

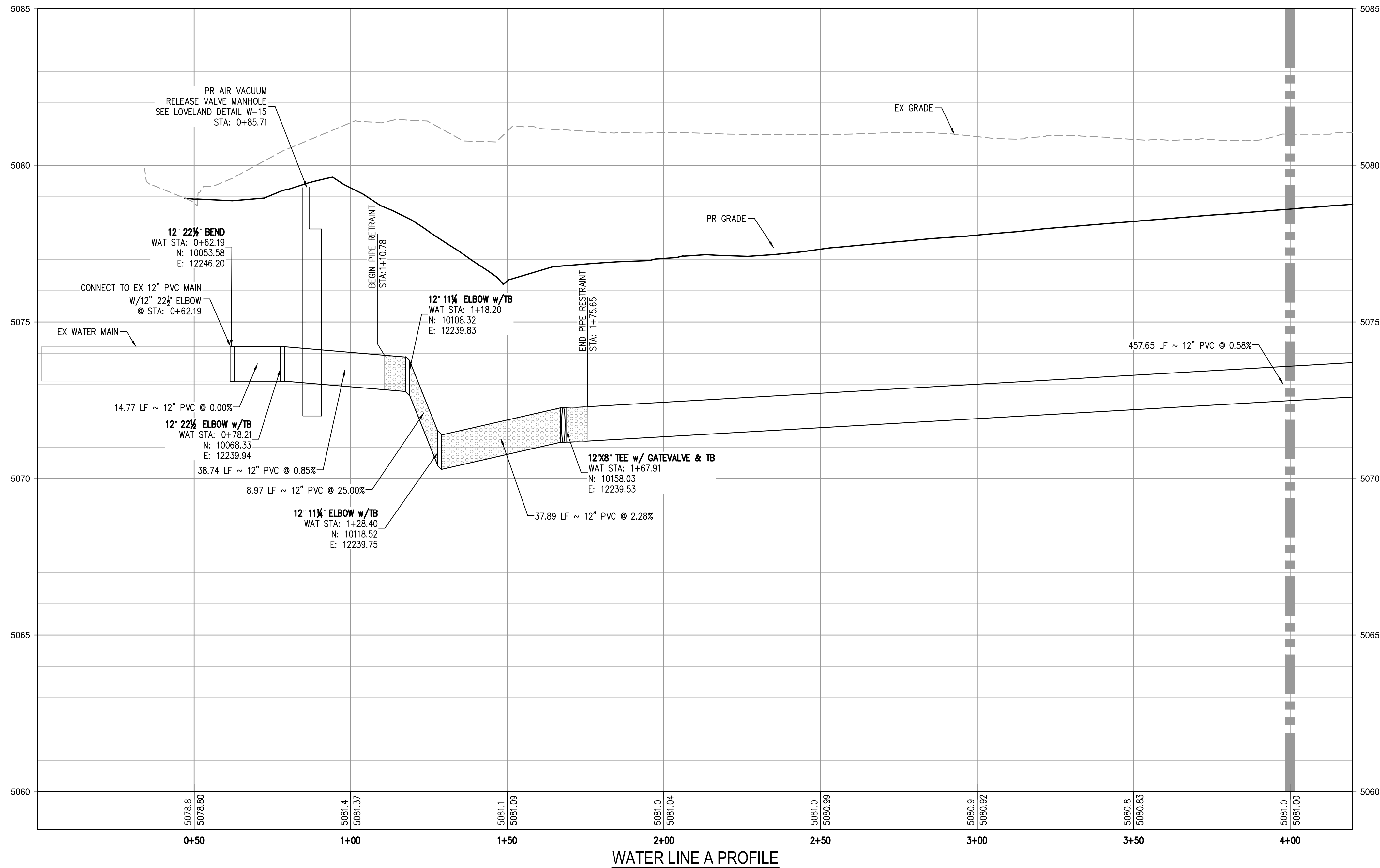
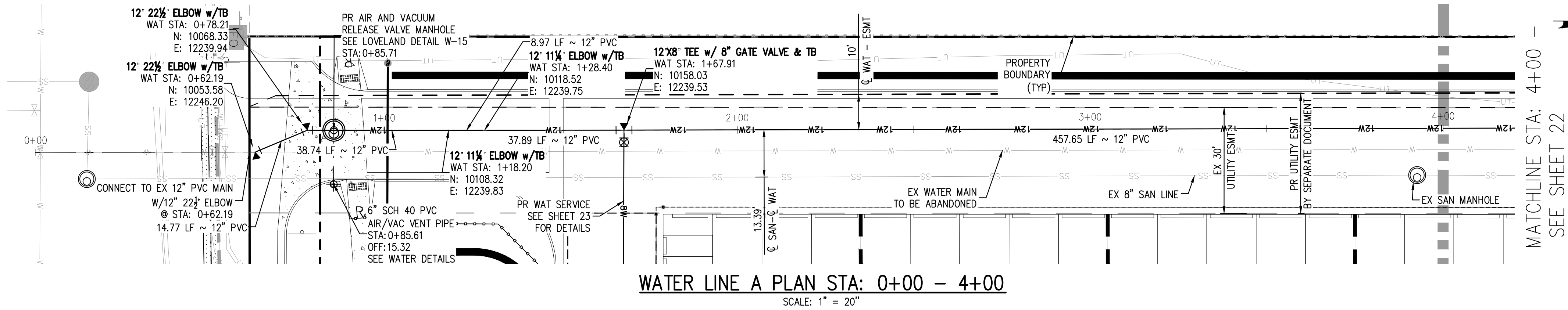
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SHEET NO.

20

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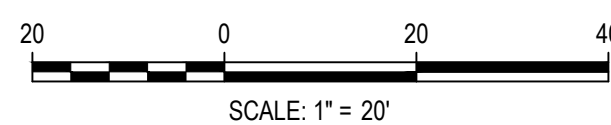
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.



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PLOTTED: WED 02/27/19 7:40:33A BY: TIM HOFFMAN



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG. GRADE
OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER
UTILITIES.



DESIGNED BY: JMN
CHECKED BY: MSM
DRAWN BY: JMN

HKS HARRIS
KOCHER
SMITH

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BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
WATER LINE A PLAN & PROFILE

ISSUE DATE: 07-03-2018		PROJECT #: 170108
DATE	REVISION COMMENTS	
11-12-2018	PER CITY OF LOVELAND COMMENTS	
02-25-2019	PER CITY OF LOVELAND COMMENTS	

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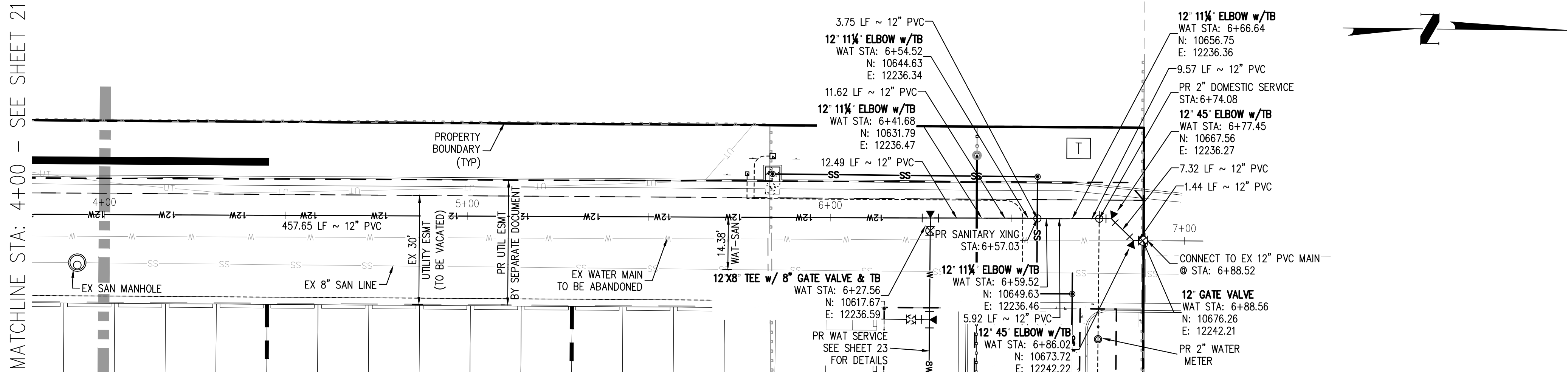
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21

21 OF 37

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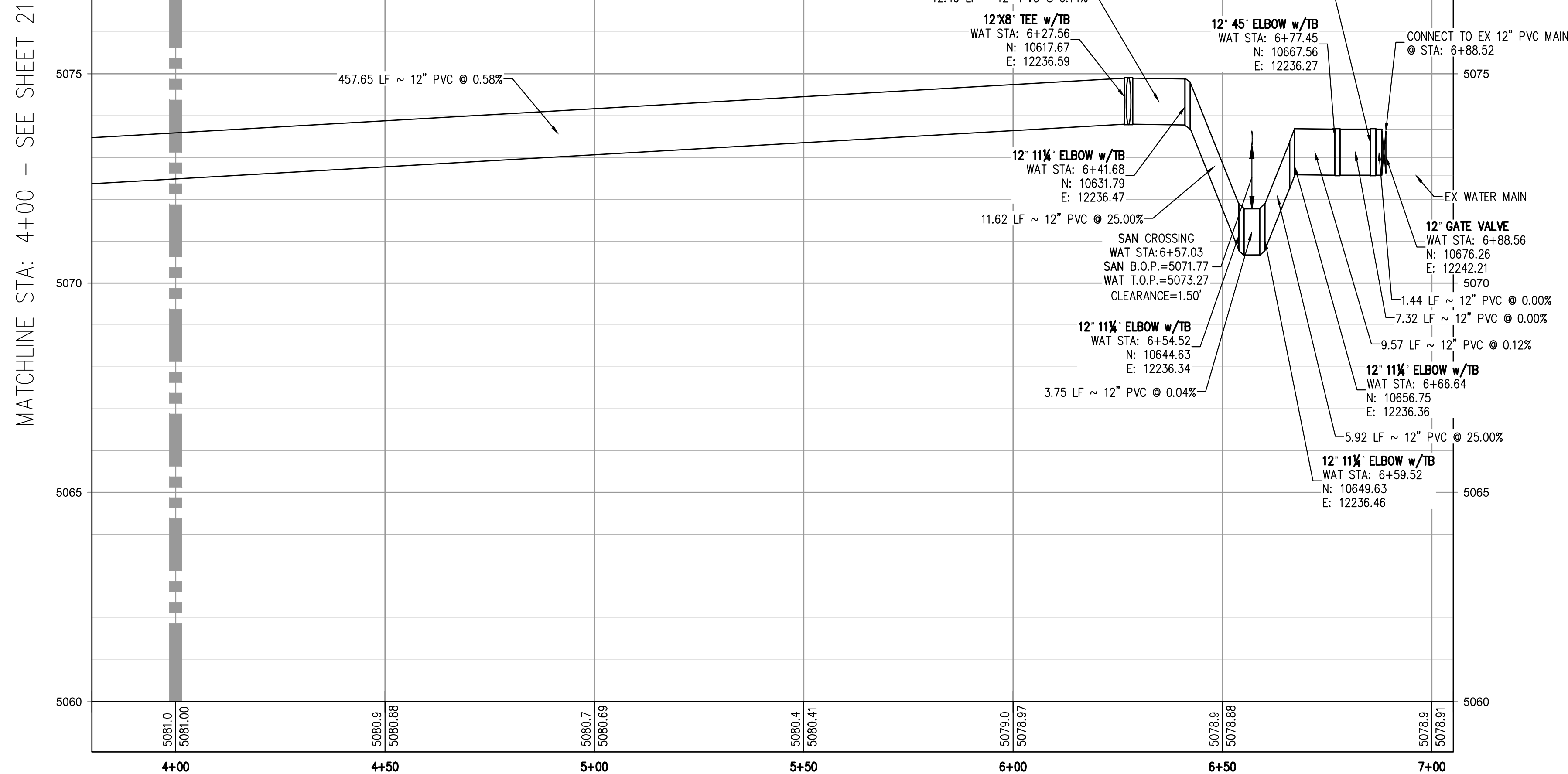
MATCHLINE STA: 4+00 - SEE SHEET 21



WATER LINE A PLAN STA: 4+00 - 7+06

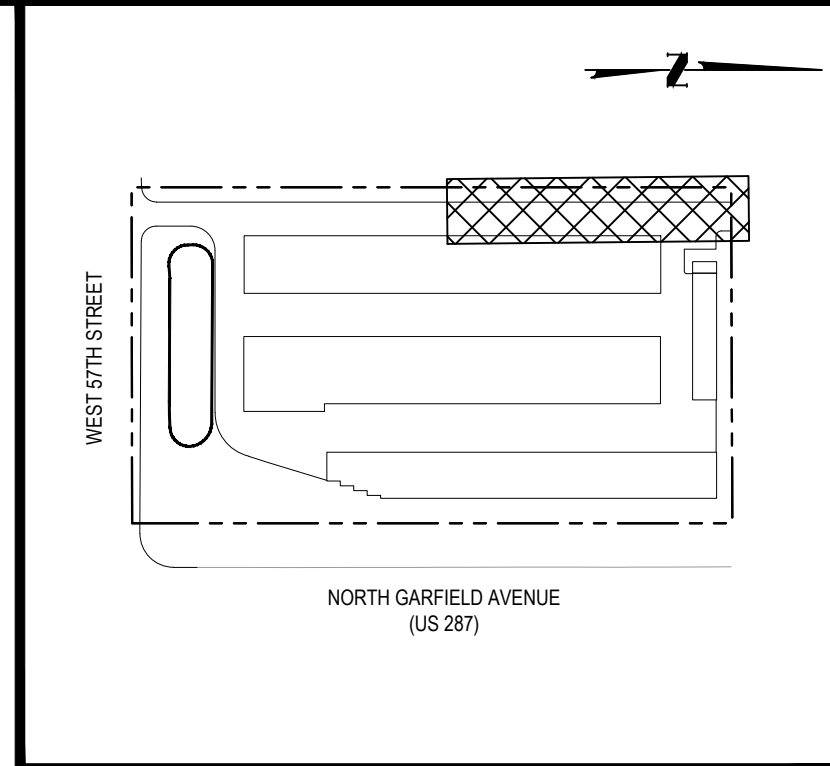
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MATCHLINE STA: 4+00 - SEE SHEET 21



WATER LINE A PROFILE

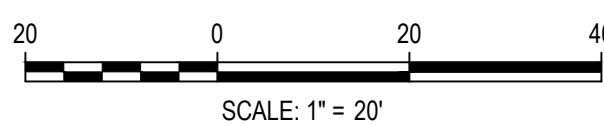
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'



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2-15-2018 10:00 AM
PLOTTED: WED 02/27/19 7:40:00A BY: TIM HOFFMAN



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PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
WATER LINE A PLAN & PROFILE

ISSUE DATE: 07-03-2018		PROJECT #:
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02-25-2019	PER CITY OF LOVELAND COMMENTS	

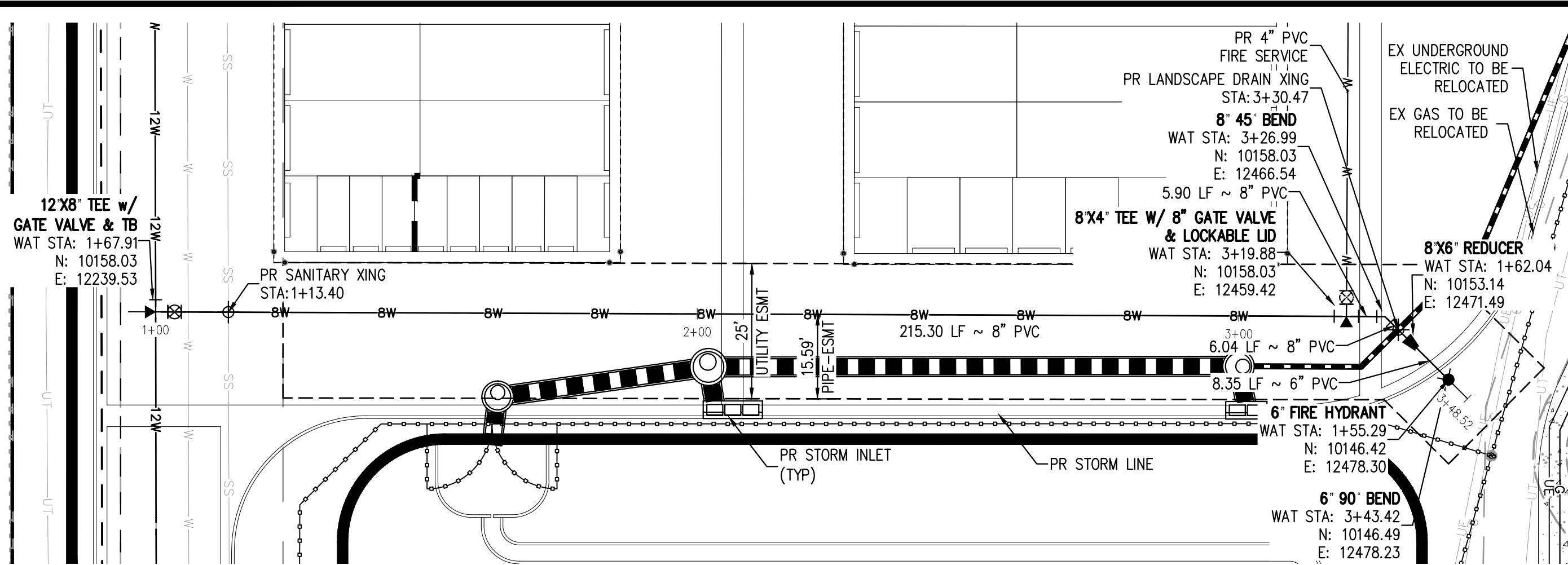
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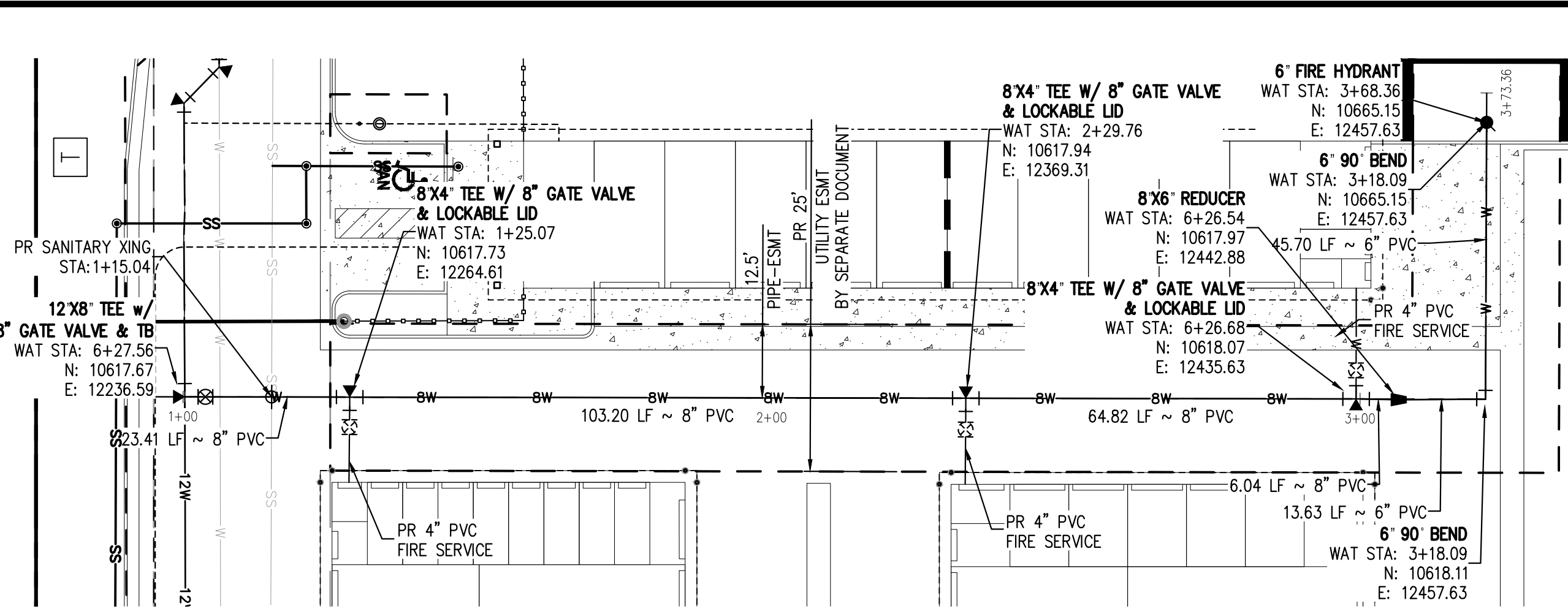
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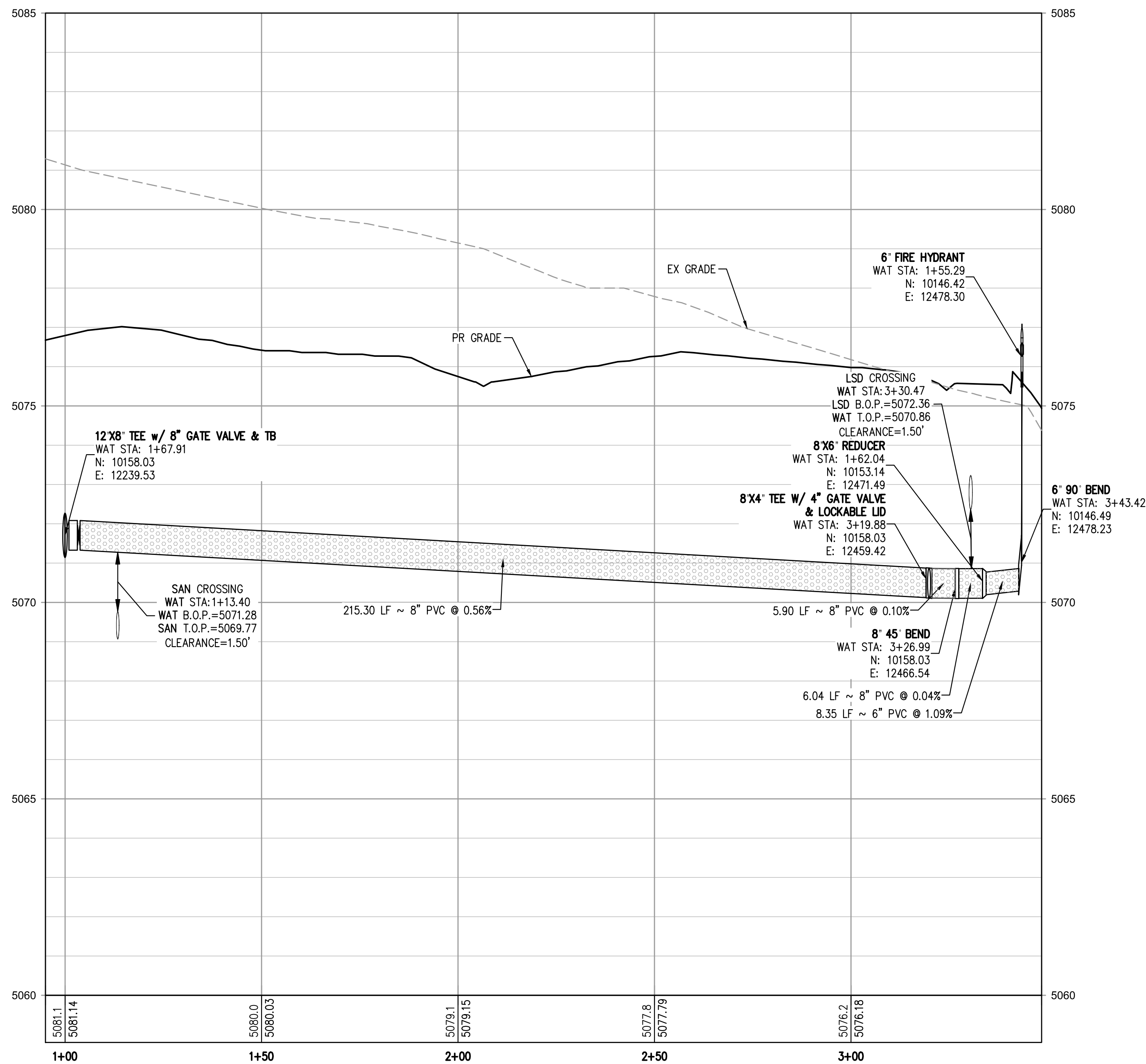
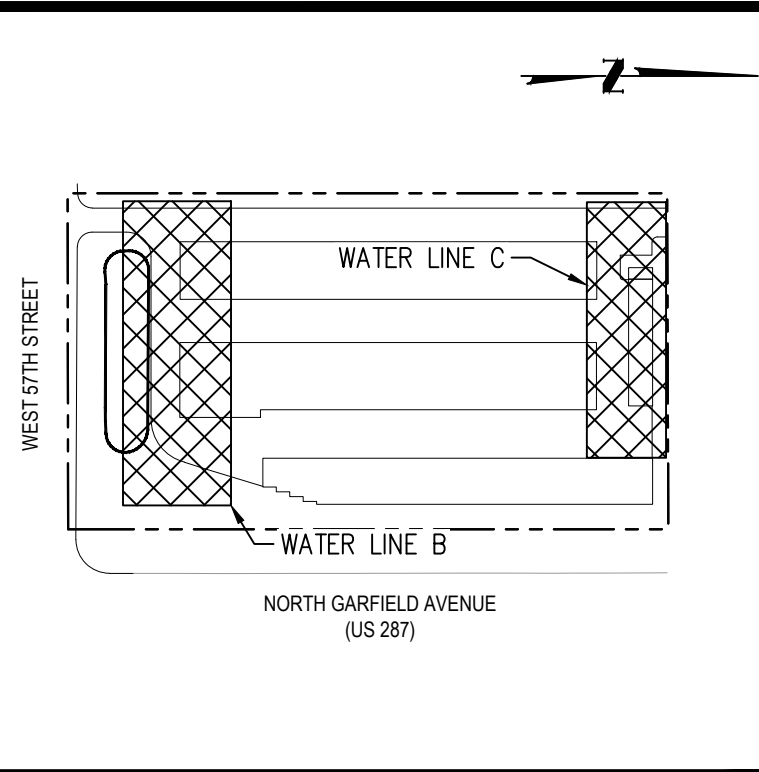
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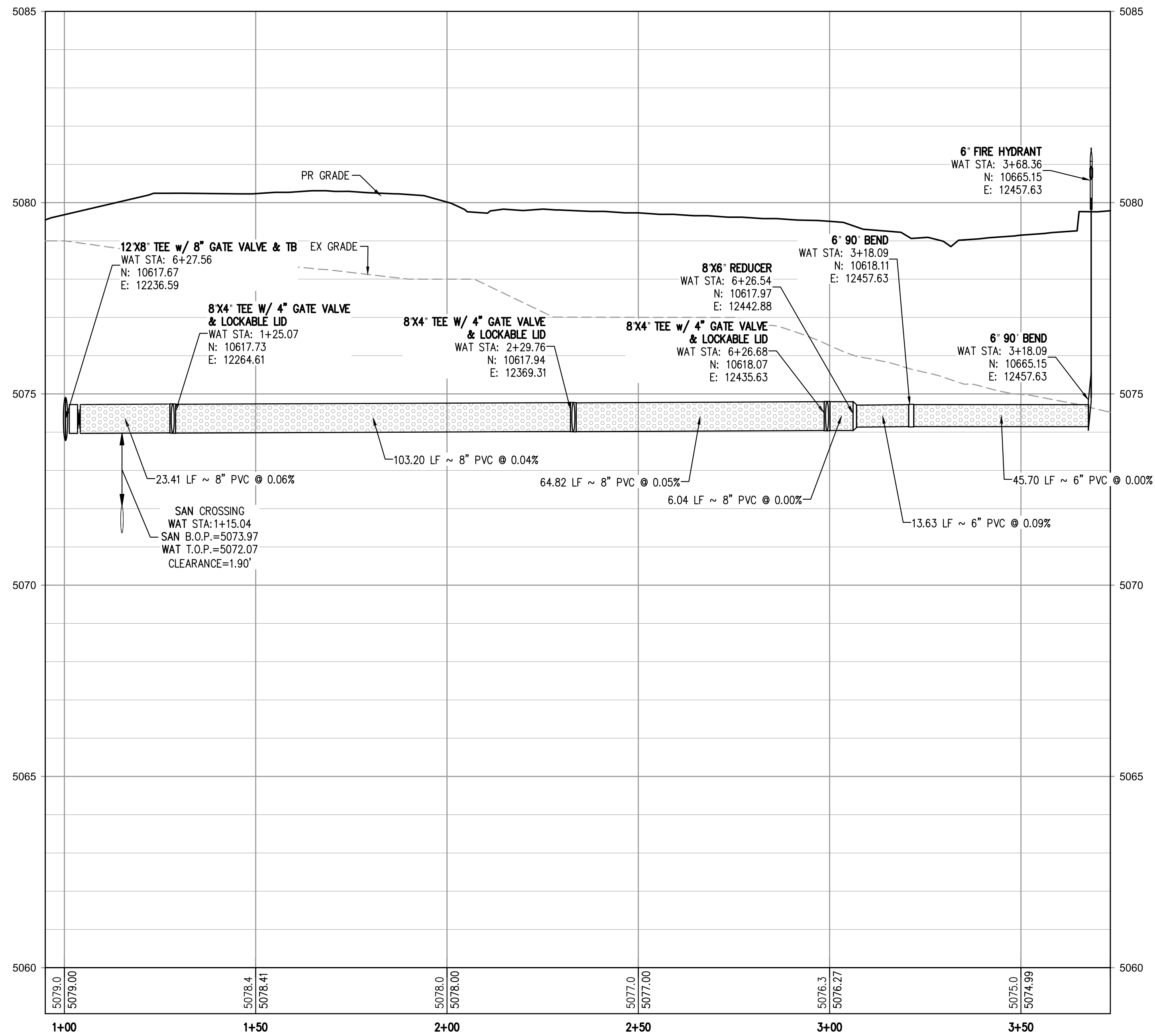
WATER LINE B PLAN
SCALE: 1" = 20'



WATER LINE C PLAN
SCALE: 1" = 20'



WATER LINE B PROFILE
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

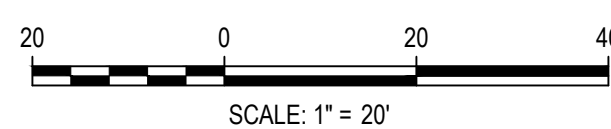


WATER LINE C PROFILE
HORIZONTAL SCALE: 1" = 20'
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REVISED: 11-12-2018 BY: JMN
PLOTTED: WED 02/27/19 7:40:45A BY: TIM HOFFMAN



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE
OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER
UTILITIES.



DESIGNED BY: JMN
CHECKED BY: MSM
DRAWN BY: JMN

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BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
WATER LINE B & C PLAN & PROFILE

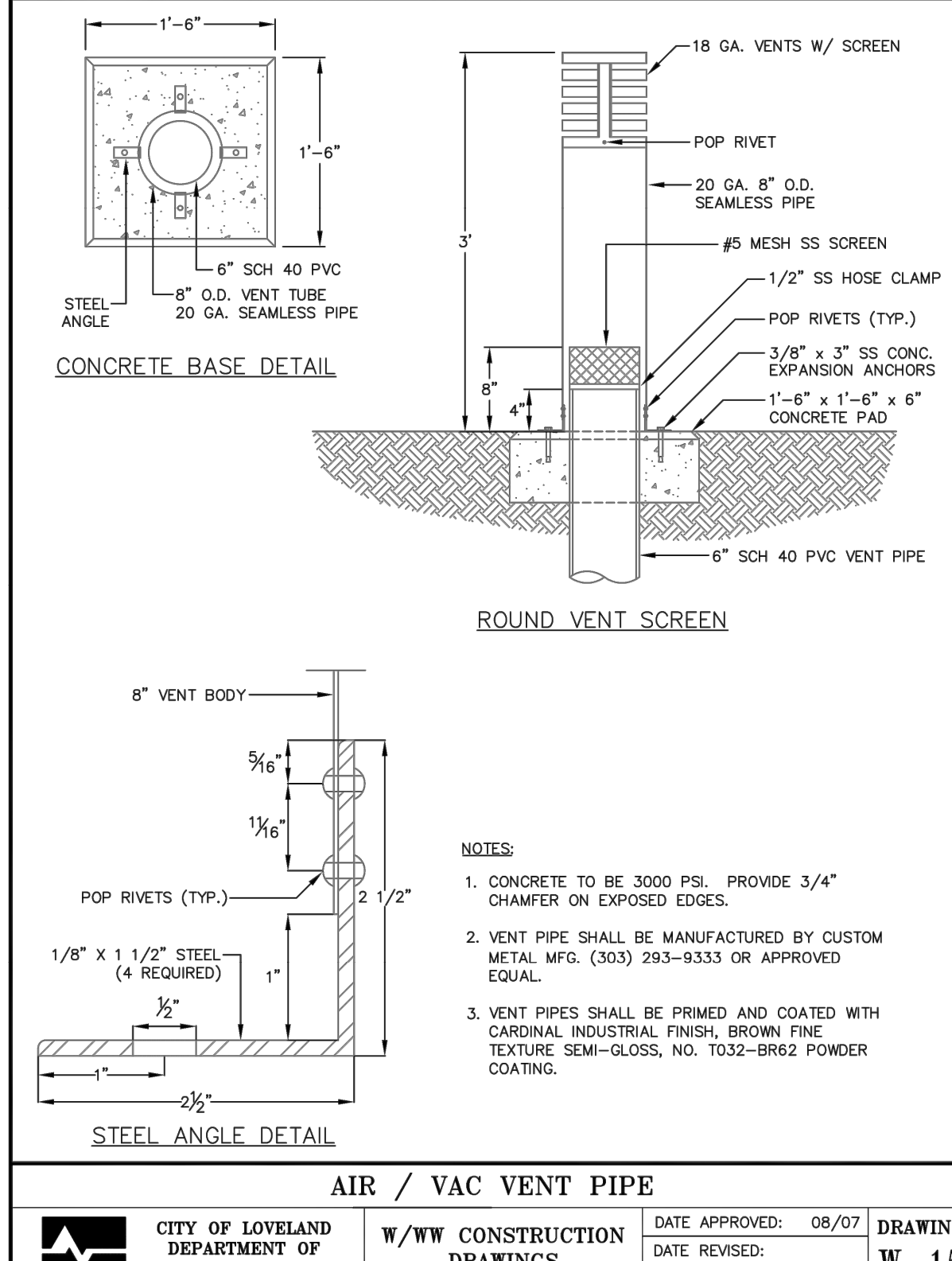
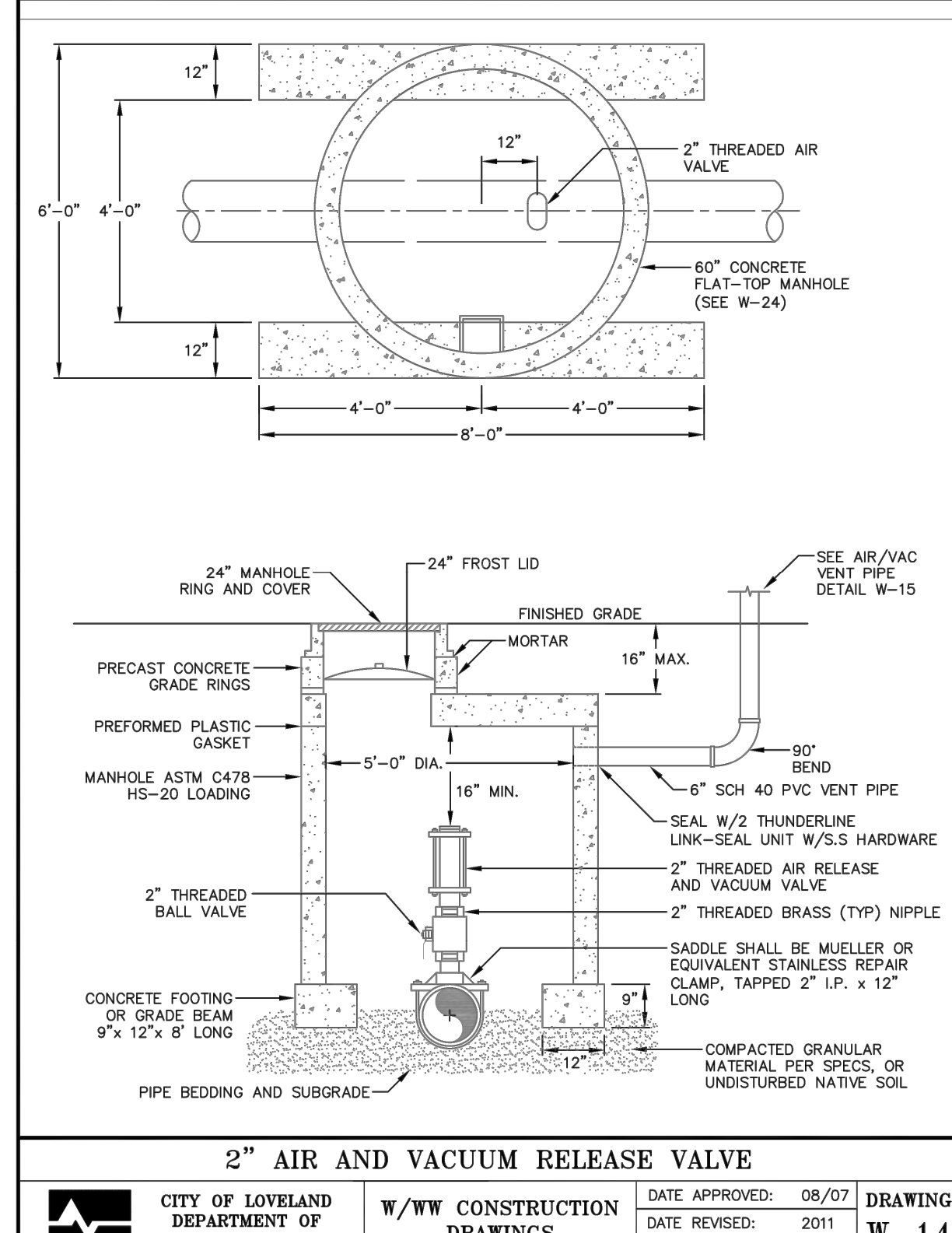
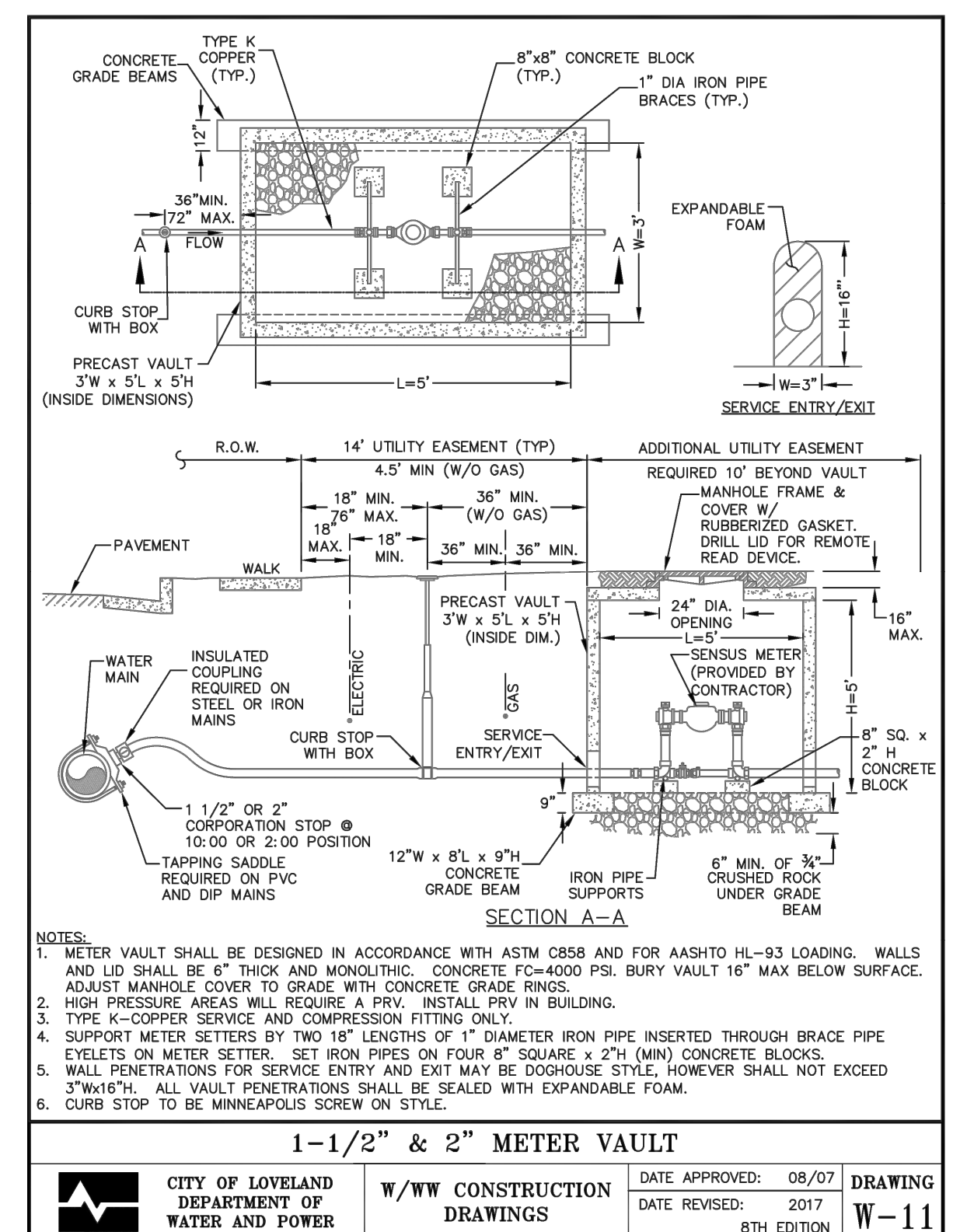
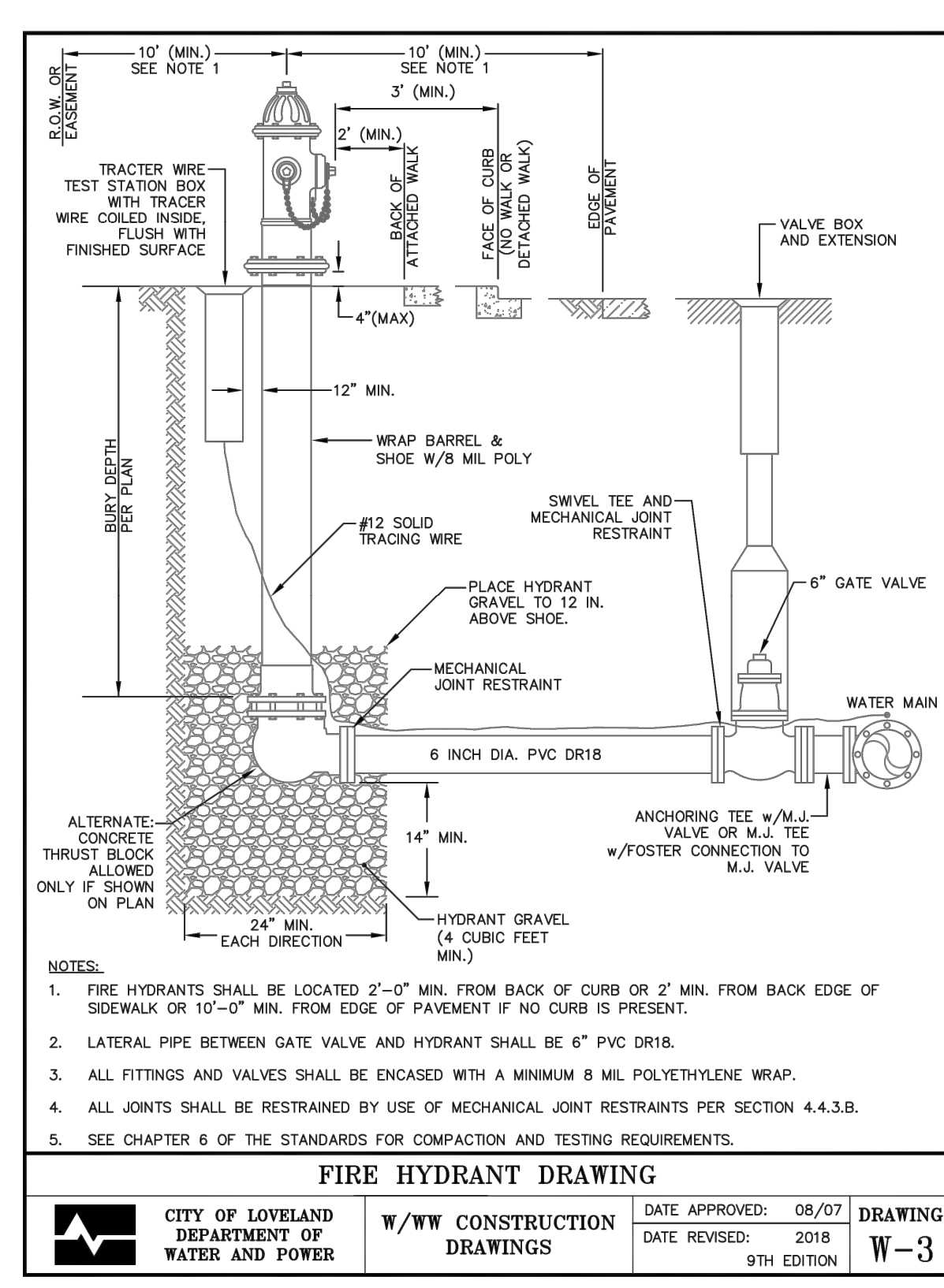
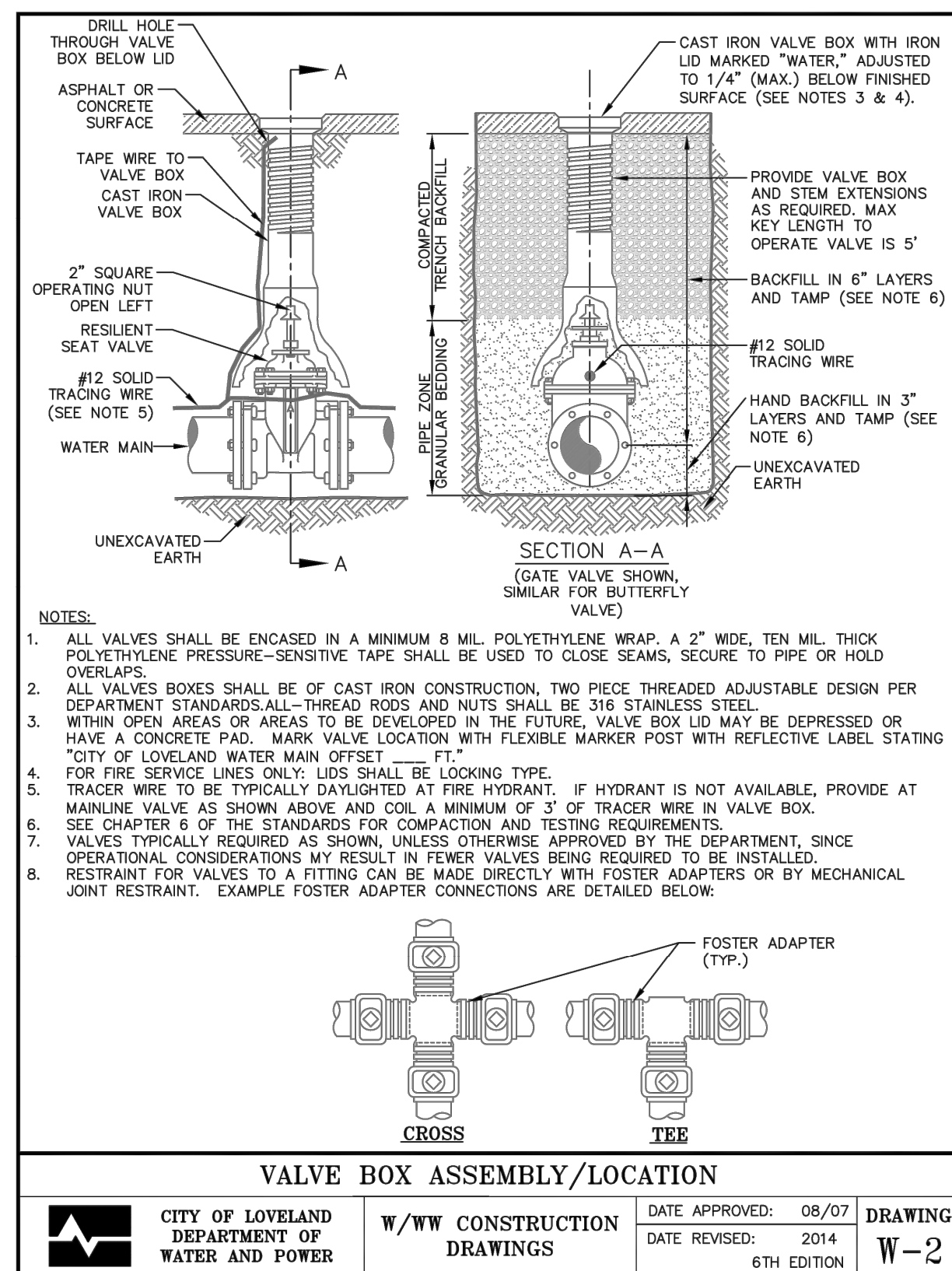
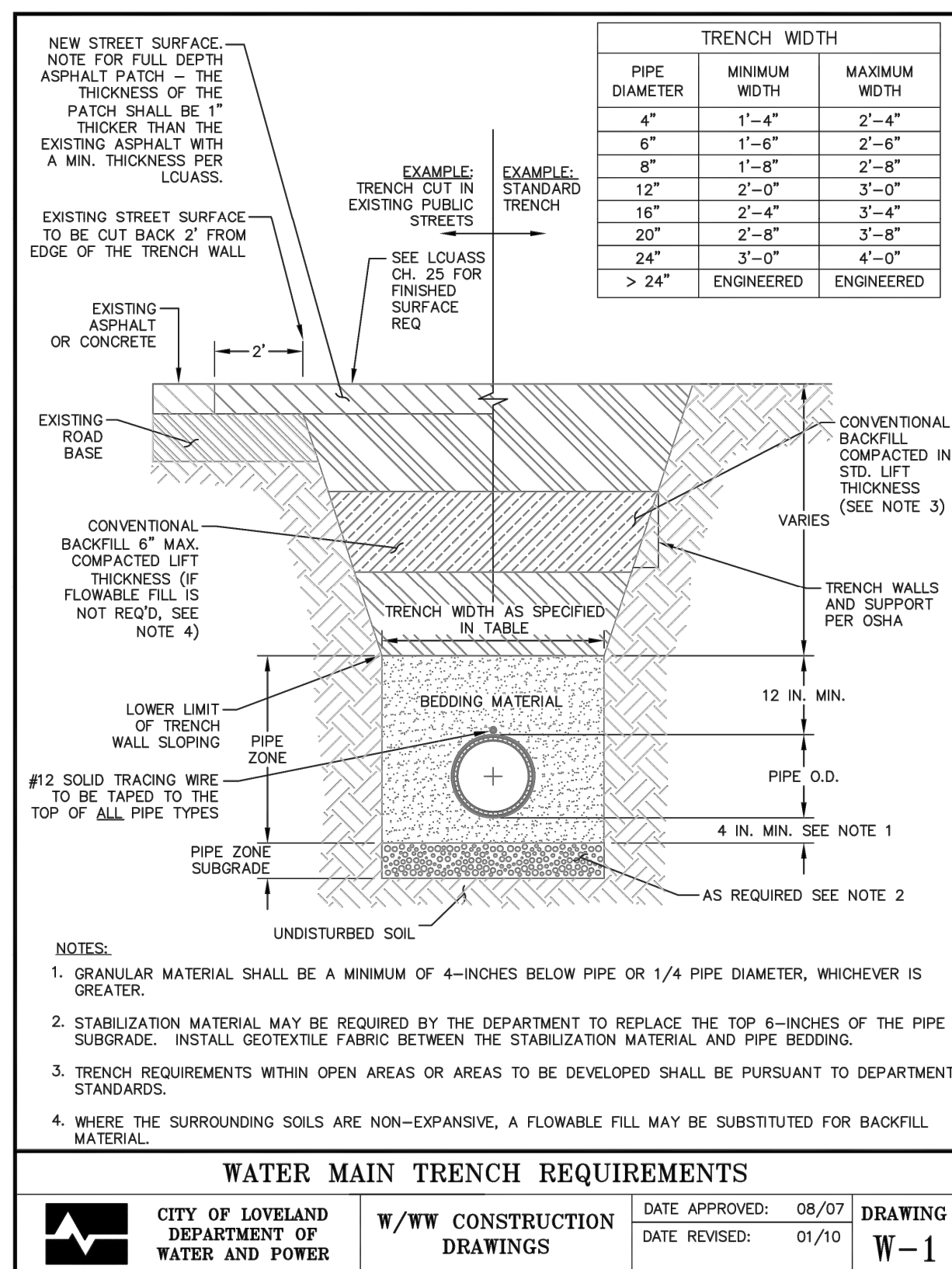
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DATE	REVISION	COMMENTS	
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02-25-2019	2	PER CITY OF LOVELAND COMMENTS	

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23

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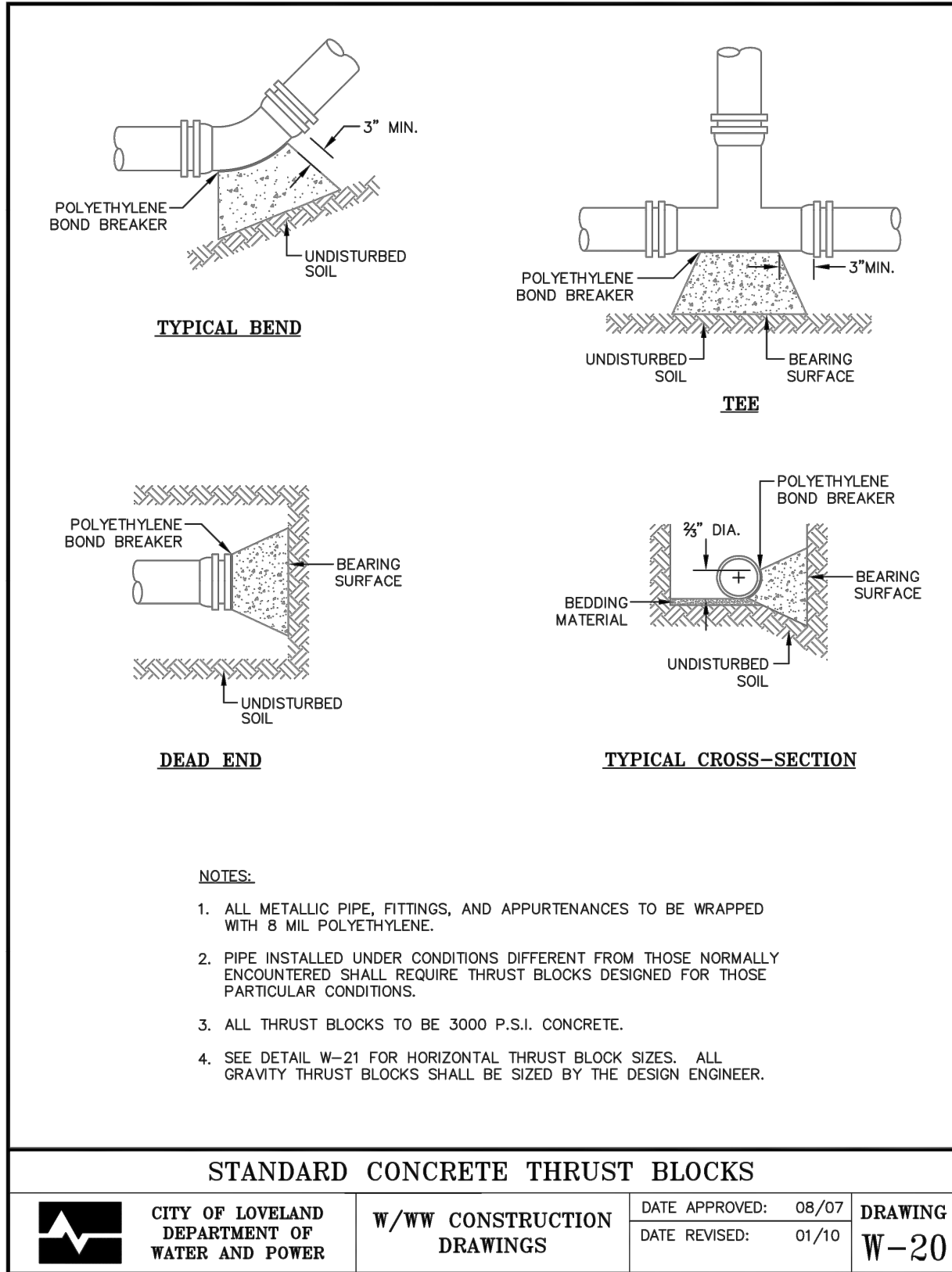
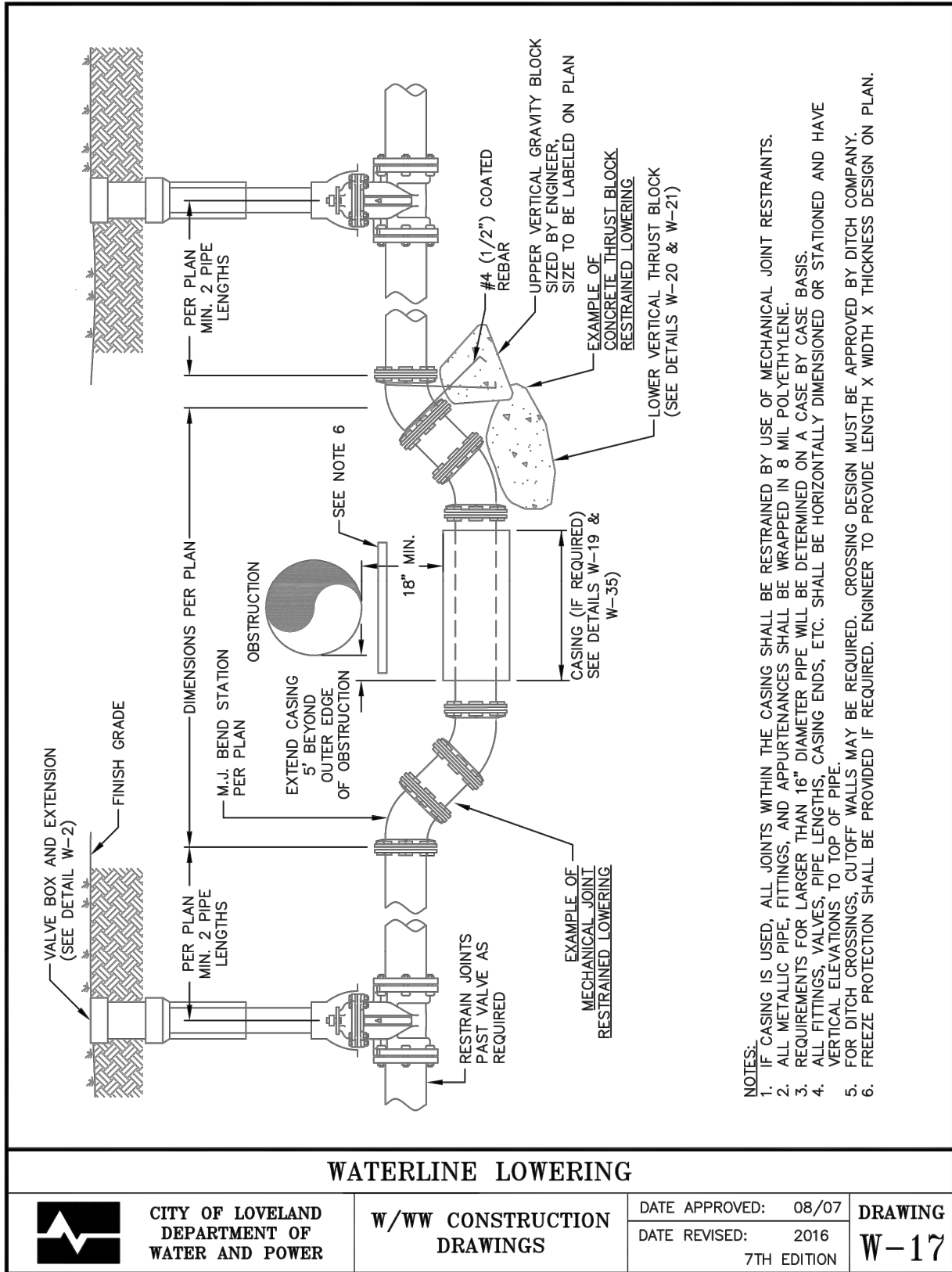


TABLE OF TAPS REQUIRING CONCRETE THRUST BLOCKS

	MAIN SIZE (INCHES)															
	4	6	8	10	12	14	16	18	20	22	24	26	28	30	36	42
TAP SIZE (INCHES)	4															
	6															
	8															
	10															
	12															
	14															
	16															
	18															
	20															
	22															
	24															

LEGEND.

- ✗ INDICATES CONCRETE THRUST BLOCK REQUIRED
- INDICATES CONCRETE THRUST BLOCK SIZE THAT REQUIRES SPECIAL DESIGN APPROVAL BY THE DEPARTMENT.

TABLE OF REQUIRED BEARING AREAS (SQ. FT.) FOR CONCRETE THRUST BLOCKS

PIPE SIZE	HORIZONTAL BENDS				TEES/DEAD ENDS
	90°	45°	22-1/2°	11-1/4°	
3"	2.0	1.1	0.6	0.3	1.4
4"	3.1	1.7	0.8	0.4	2.2
6"	6.8	3.7	1.9	0.9	4.8
8"	12.2	6.6	3.4	1.7	8.6
10"	18.6	10.1	5.1	2.6	13.2
12"	26.6	14.4	7.3	3.7	18.8
14"	36.2	19.6	10.0	5.0	25.6
16"	47.0	25.4	13.0	6.5	33.3
18"	58.4	32.1	16.4	8.2	42.0
20"	71.1	39.5	20.2	10.1	51.7
24"	105.3	57.0	29.1	14.6	74.5
30"	163.4	88.4	45.1	22.7	115.6
36"	234.8	127.1	64.8	32.5	166.0

NOTES:

1. CALCULATIONS MADE FOR THIS TABLE ASSUME 100 P.S.I. INTERNAL STATIC PRESSURE AND 1,000 LBS./SQ.FT. SOIL BEARING CAPACITY AND A SAFETY FACTOR OF 1.5.
2. FOR STATIC PRESSURES GREATER THAN 100 P.S.I. AND/OR SOIL BEARING CAPACITY LESS THAN 1000 LBS/SQ. FT., THE DESIGN ENGINEER SHALL PROVIDE SPECIFIC CALCULATIONS FOR DEPARTMENTAL REVIEW AND APPROVAL.
3. LOWER VERTICAL GRAVITY BLOCKS MAY BE SIZED FROM THIS TABLE. UPPER VERTICAL GRAVITY BLOCKS SHALL BE SIZED BY THE DESIGN ENGINEER.

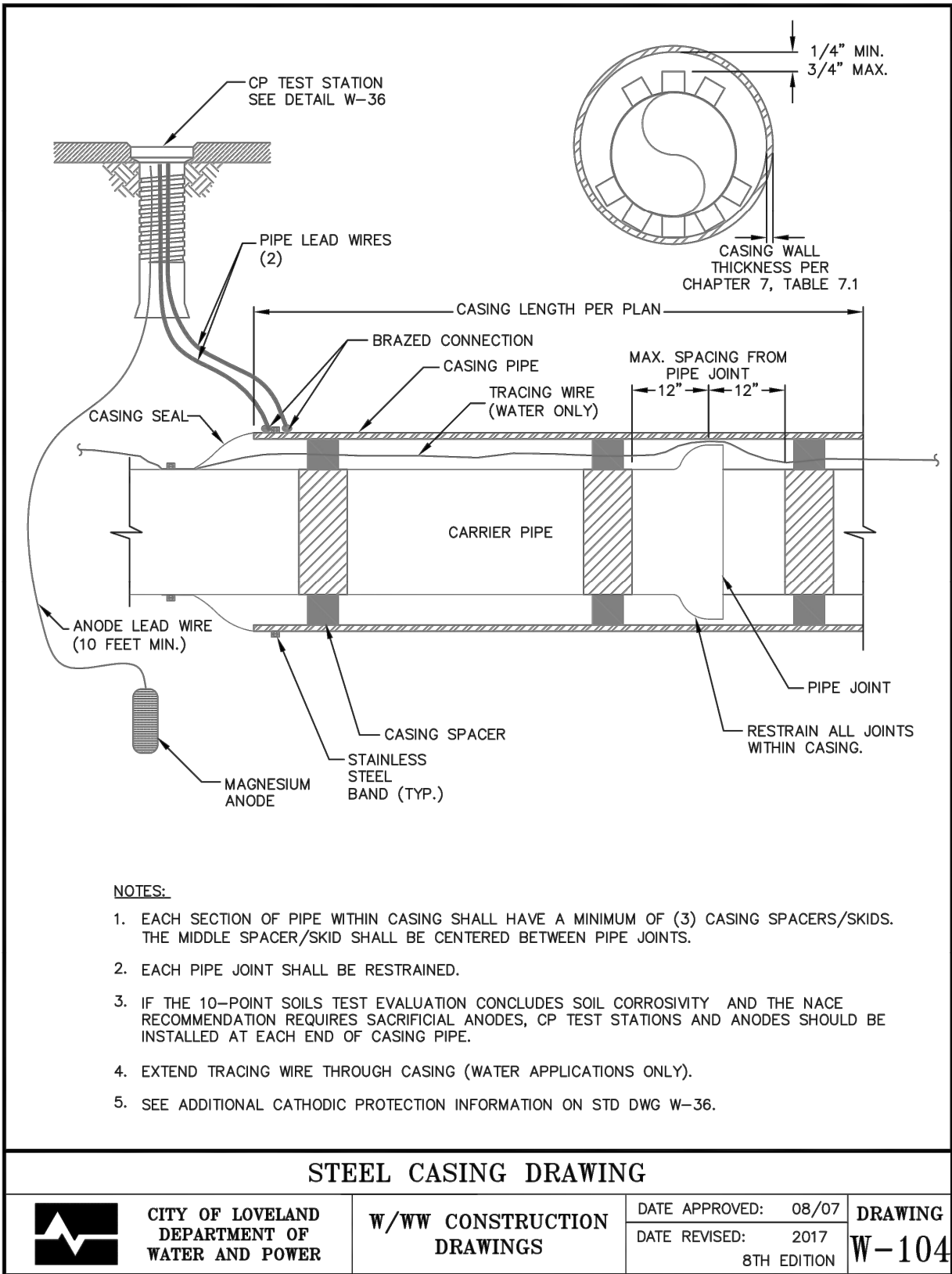
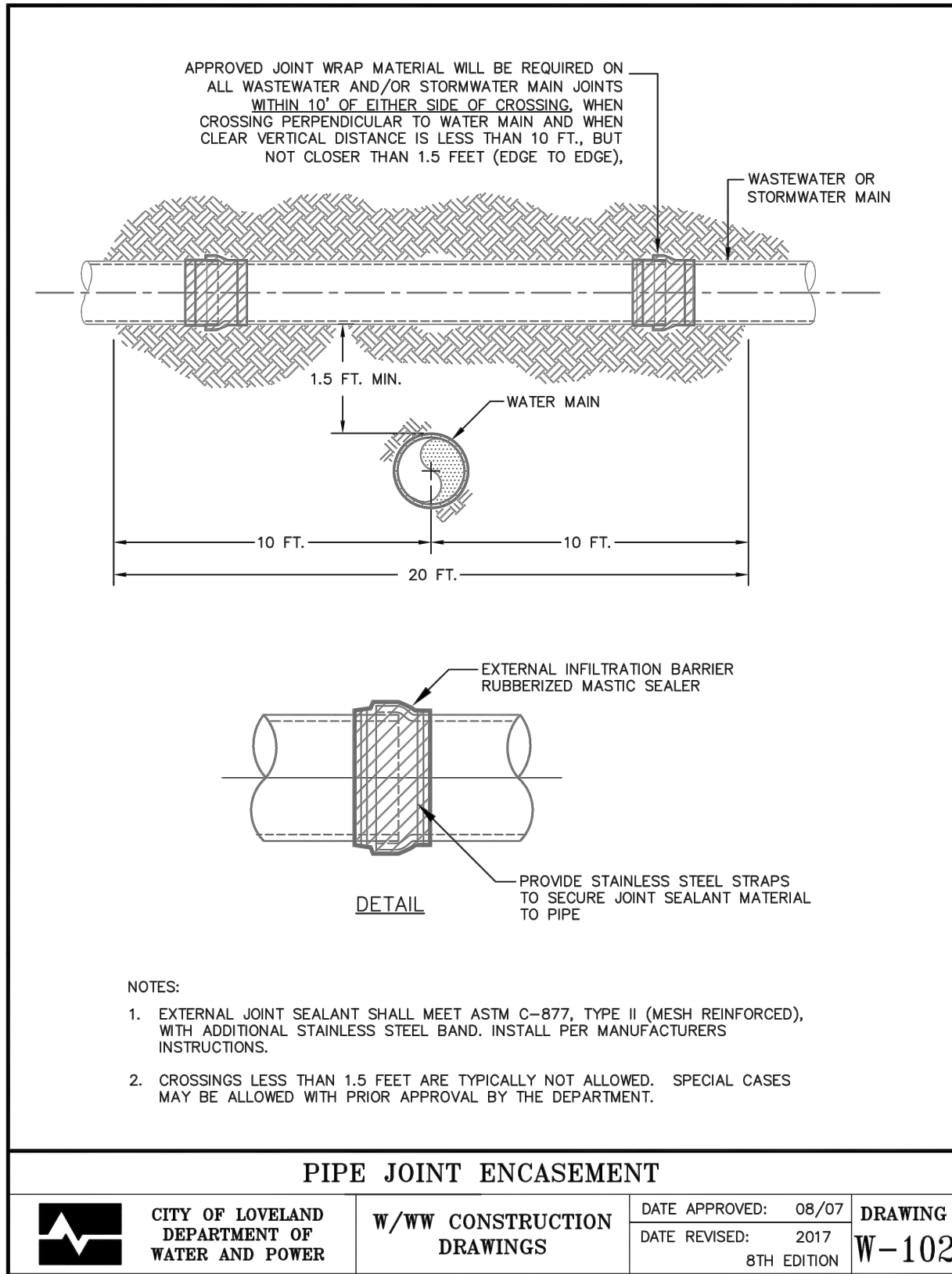
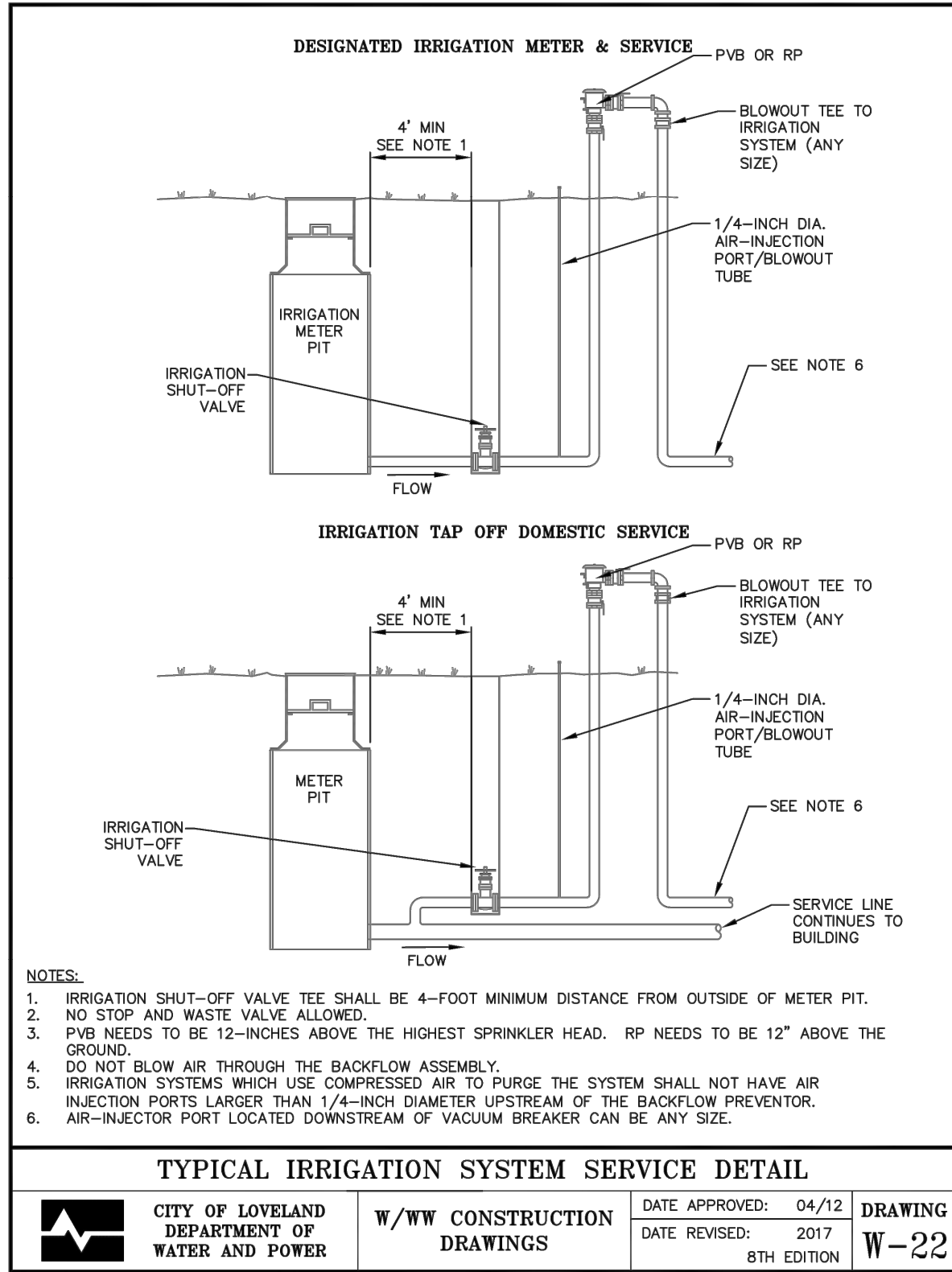
CONCRETE THRUST BLOCK TABLES

CITY OF LOVELAND
DEPARTMENT OF
WATER AND POWER

W/WW CONSTRUCTION
DRAWINGS

DATE APPROVED: 08/07
DATE REVISED: 01/10

DRAWING
W-21



FILE PATH: P:\170108\ENGINEERING\UTILITIES\WATERCD - WATER DETAILS.DWG LAYOUT: LAYOUT1 (2)
NO SCALE
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CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG. GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

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BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
WATER DETAILS

ISSUE DATE: 07-03-2018		PROJECT #: 170108	
DATE	REVISION	COMMENTS	
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02-25-2019	2	PER CITY OF LOVELAND COMMENTS	

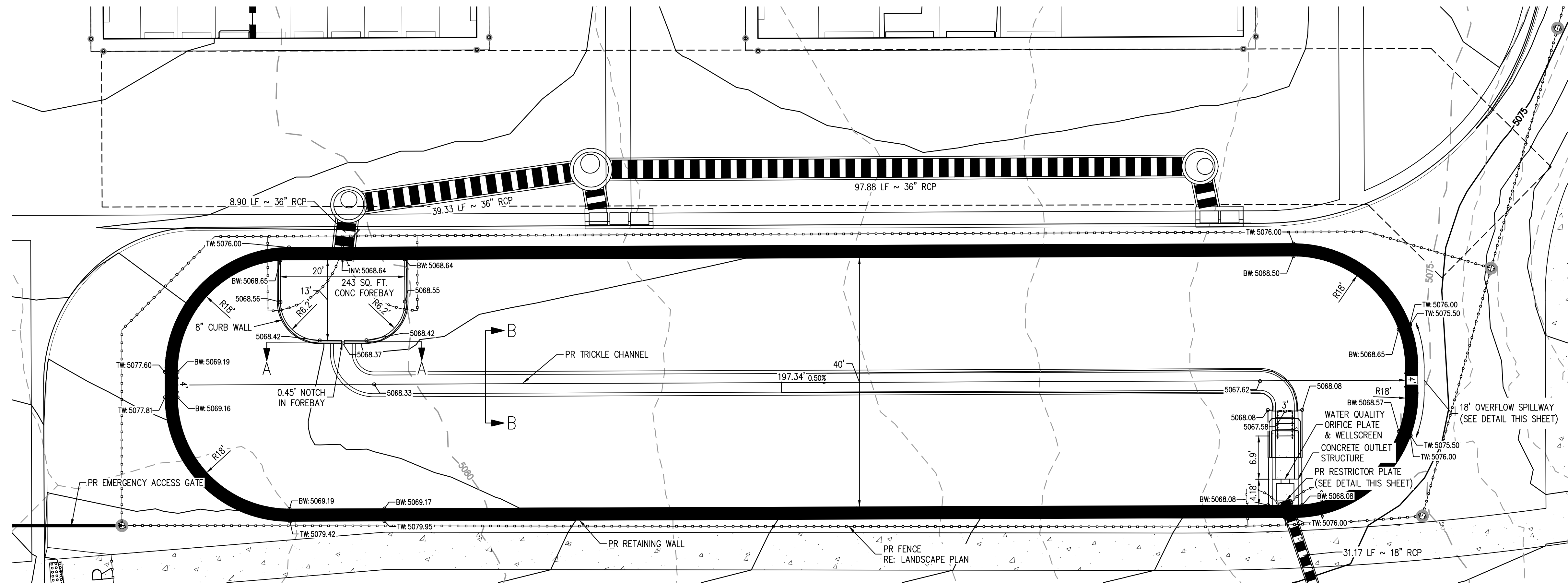
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SHEET NO.

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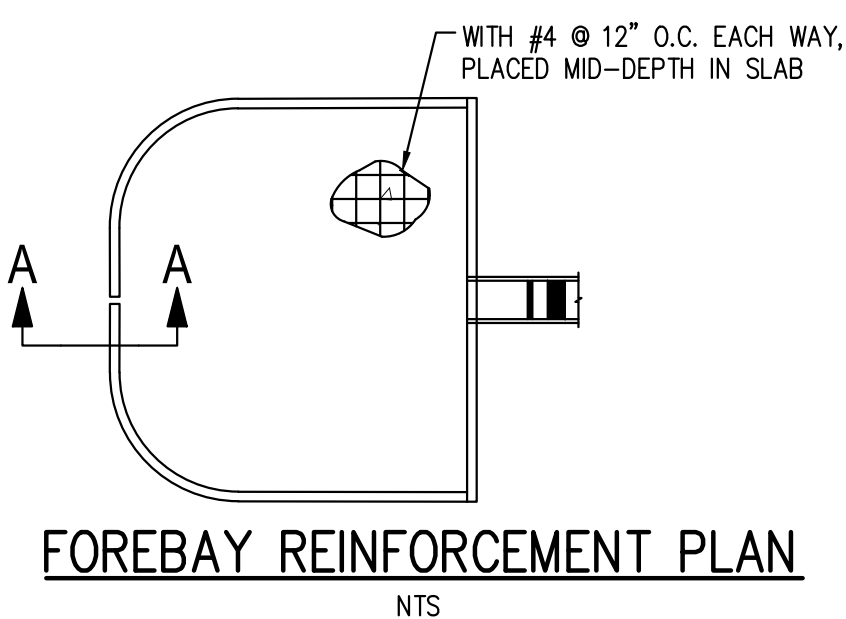
25 OF 37

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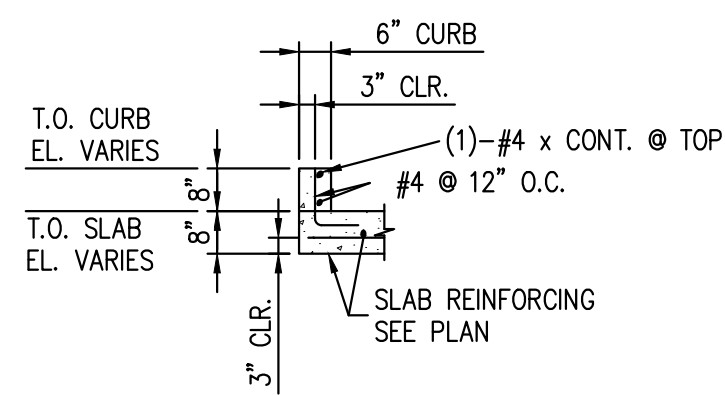


EXTENDED DETENTION POND PLAN

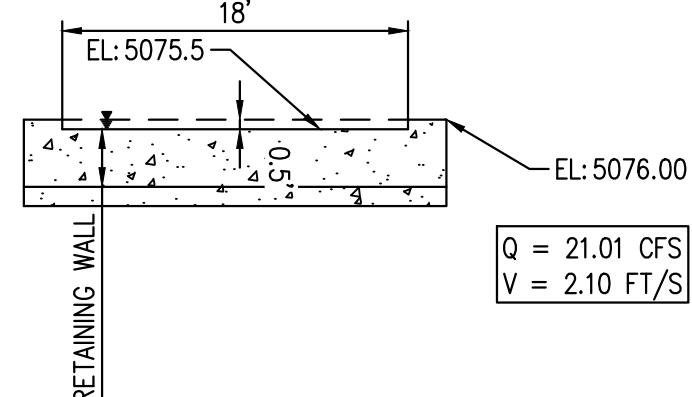
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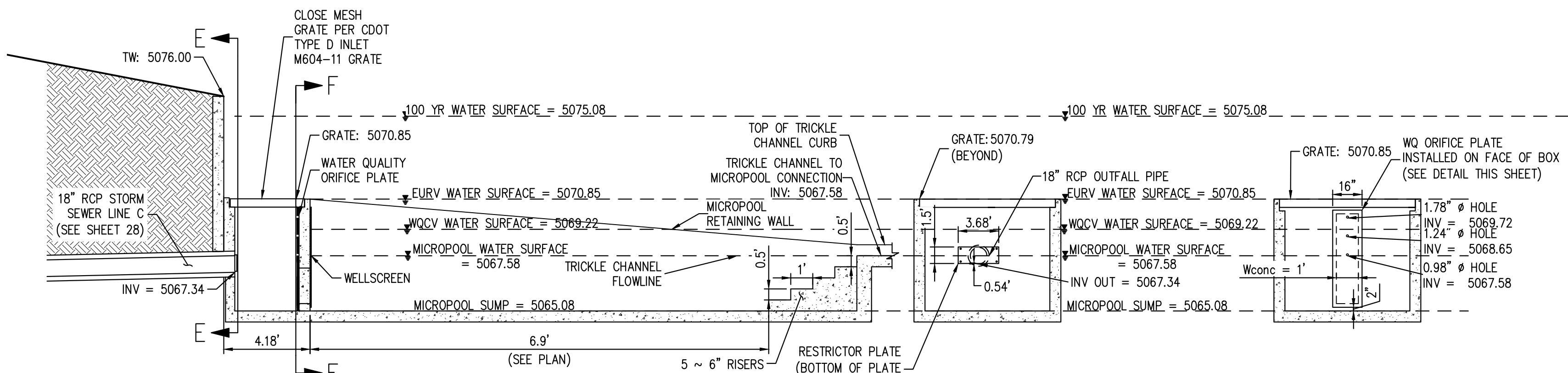
FOREBAY REINFORCEMENT PLAN



SECTION C-C
FOREBAY CURB



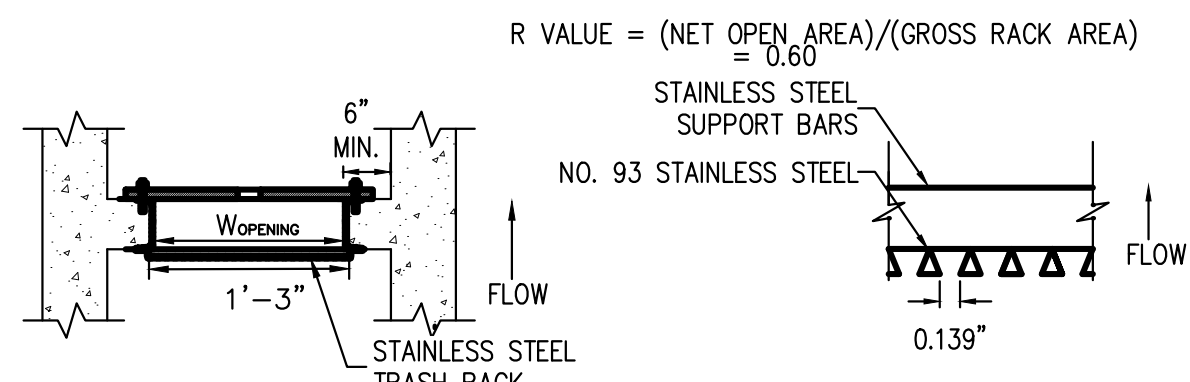
OVERFLOW SPILLWAY DETAIL



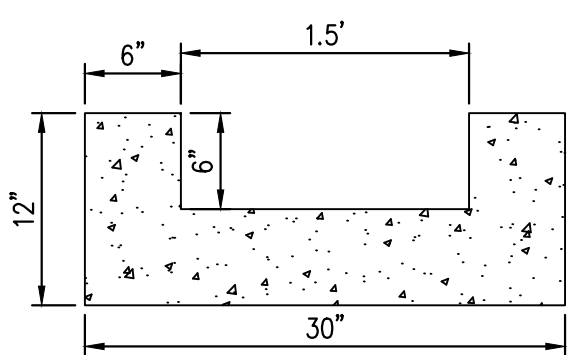
OUTLET STRUCTURE DETAIL

OUTLET STRUCTURE
SECTION E-E

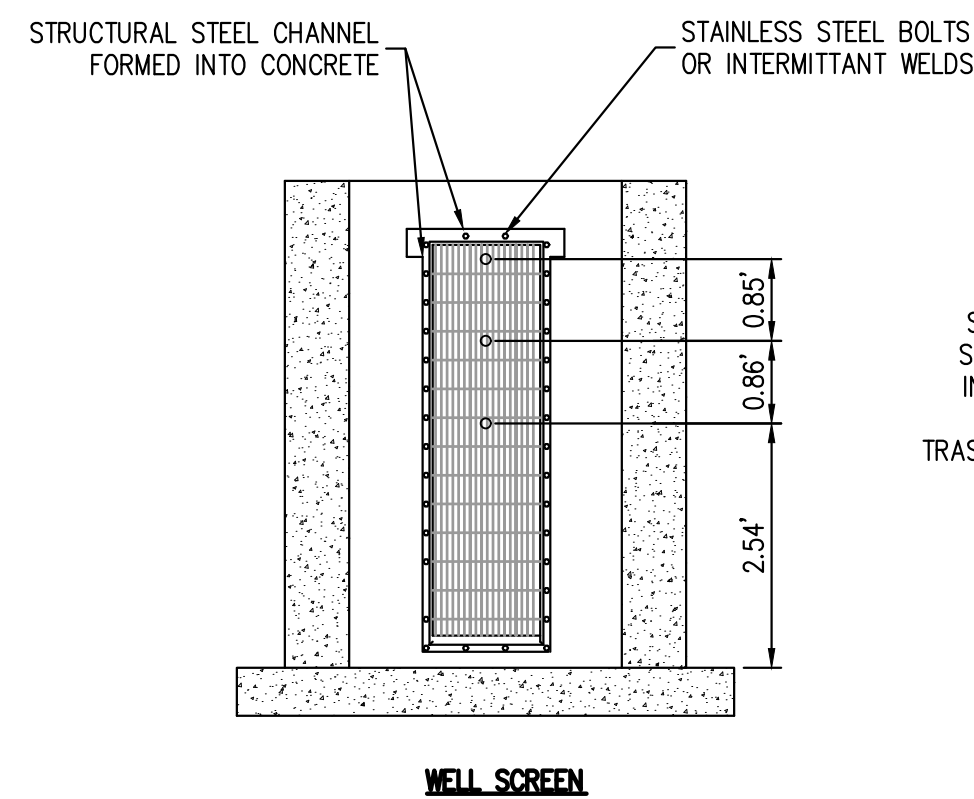
OUTLET STRUCTURE
ORIFICE PLATE



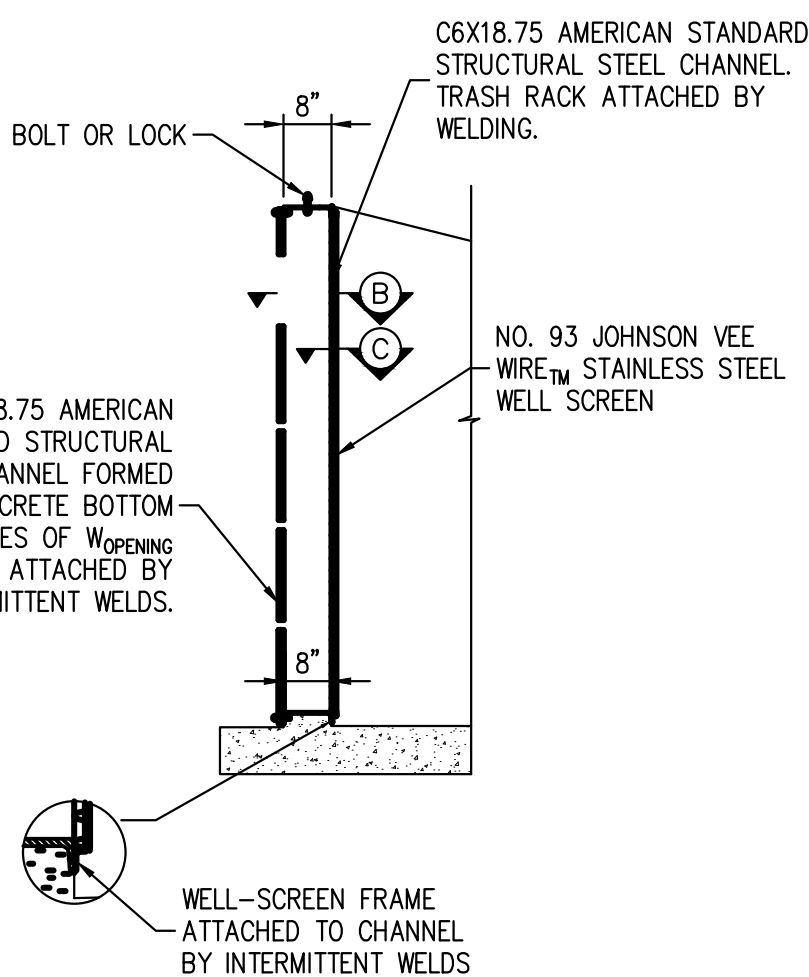
TRASH RACK & ORIFICE PLATE
SECTION F-F



SECTION B-B
2' TRICKLE CHANNEL



WELL SCREEN



TRASH RACK NOTES:

ORIFICE PLATE NOTES:

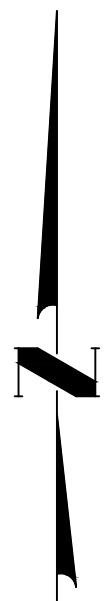
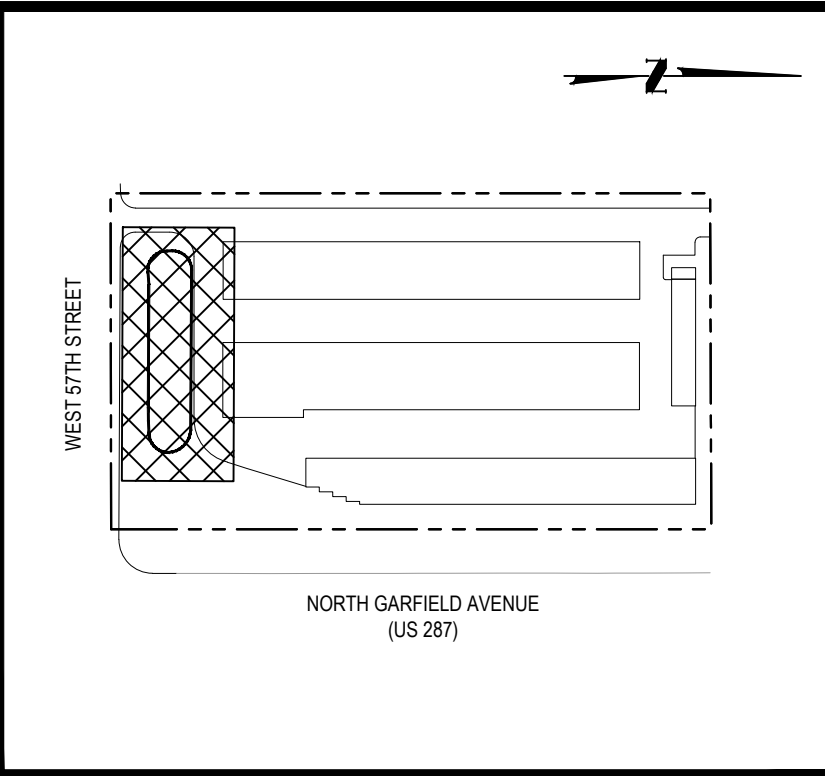
1. PROVIDE CONTINUOUS NEOPRENE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE.
2. BOLT PLATE TO CONCRETE 12" MAX. ON CENTER.

EURV AND WQCV TRASH RACKS:

1. WELL-SCREEN TRASH RACKS SHALL BE STAINLESS STEEL AND SHALL BE ATTACHED BY INTERMITTENT WELDS ALONG THE EDGE OF THE MOUNTING FRAME.
2. BAR GATE TRASH RACKS SHALL BE ALUMINUM AND SHALL BE BOLTED USING STAINLESS STEEL HARDWARE.
3. TRASH RACK OPEN AREAS ARE FOR SPECIFIED TRASH RACK MATERIALS. TOTAL TRASH RACK SIZE MAY NEED TO BE ADJUSTED FOR MATERIALS HAVING DIFFERENT OPEN AREA/GROSS AREA RATIO (R VALUE).
4. STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.

OVERFLOW SAFETY GRATES:

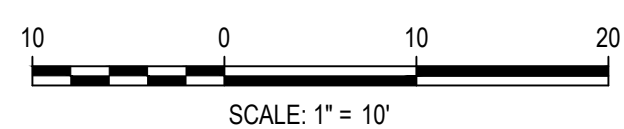
1. ALL SAFETY GRATES SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
2. SAFETY GRATES SHALL BE STAINLESS STEEL, ALUMINUM, OR STEEL. STEEL GRATES SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.
3. SAFETY GRATES SHALL BE DESIGNED SUCH THAT THE DIAGONAL DIMENSION OF EACH OPENING IS SMALLER THAN THE DIAMETER OF THE OUTLET PIPE.
4. STRUCTURAL DESIGN OF SAFETY GRATES SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.



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6/15/2018 11:11:11 AM
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BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
EXTENDED DETENTION POND PLAN

ISSUE DATE: 07-03-2018	PROJECT #: 170108
DATE	REVISION COMMENTS
11-12-2018	PER CITY OF LOVELAND COMMENTS
02-25-2019	PER CITY OF LOVELAND COMMENTS

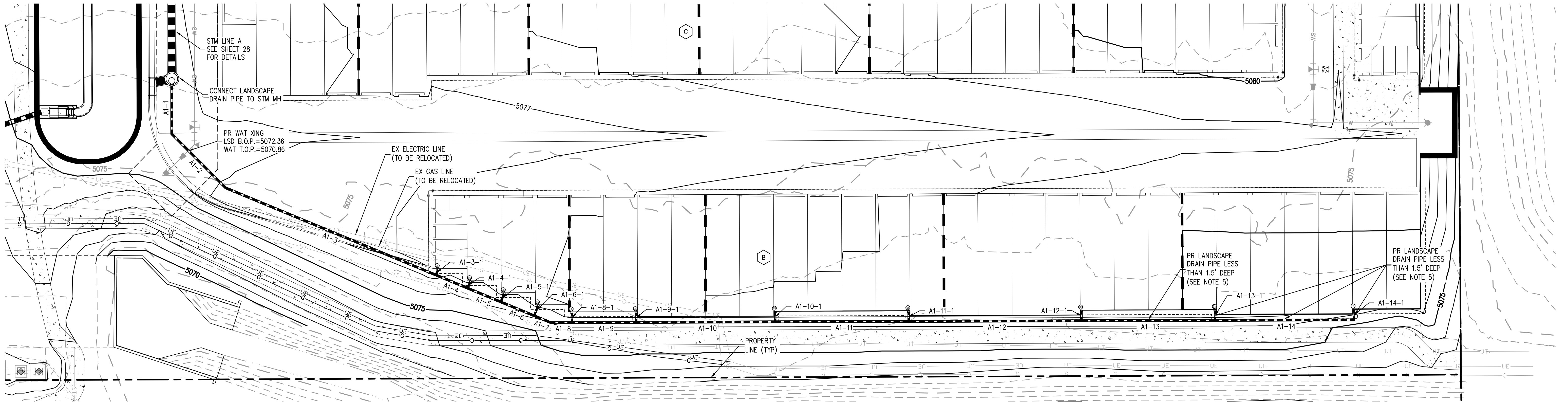
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LANDSCAPE DRAIN PLAN
SCALE: 1" = 20'

PIPE TABLE						
NAME	SIZE	LENGTH	SLOPE	INV UP	INV DOWN	
A1-1	10"	19.72'	0.5%	5072.33	5072.24	
A1-2	10"	31.37'	0.5%	5072.49	5072.33	
A1-3	10"	93.50'	0.5%	5072.96	5072.49	
A1-3-1	8"	2.31'	1.0%	5073.07	5073.05	
A1-4	10"	14.15'	0.5%	5073.03	5072.96	
A1-4-1	8"	2.81'	1.0%	5073.14	5073.12	
A1-5	10"	14.74'	0.5%	5073.10	5073.03	
A1-5-1	8"	3.56'	1.0%	5073.22	5073.19	
A1-6	10"	14.83'	0.5%	5073.18	5073.10	
A1-6-1	8"	4.35'	1.0%	5073.31	5073.27	
A1-7	10"	7.40'	0.5%	5073.22	5073.18	
A1-8	10"	8.73'	0.5%	5073.26	5073.22	
A1-8-1	8"	3.87'	1.0%	5073.39	5073.35	

PIPE TABLE						
NAME	SIZE	LENGTH	SLOPE	INV UP	INV DOWN	
A1-9	10"	26.39'	0.5%	5073.39	5073.26	
A1-9-1	8"	3.88'	1.0%	5073.52	5073.48	
A1-10	10"	57.16'	0.5%	5073.68	5073.39	
A1-10-1	8"	3.90'	1.0%	5073.81	5073.77	
A1-11	10"	54.89'	0.5%	5073.95	5073.68	
A1-11-1	8"	3.92'	1.0%	5074.08	5074.04	
A1-12	10"	71.05'	0.5%	5074.31	5073.95	
A1-12-1	8"	3.95'	1.0%	5074.44	5074.40	
A1-13	10"	54.95'	0.5%	5074.58	5074.31	
A1-13-1	8"	3.97'	1.0%	5074.71	5074.67	
A1-14	10"	57.05'	0.5%	5074.87	5074.58	
A1-14-1	8"	3.99'	0.5%	5074.97	5074.95	


- GENERAL LANDSCAPE DRAIN NOTES:
- CONTRACTOR SHALL USE 90-DEGREE WYES AT PERPENDICULAR JOINTS WHERE POSSIBLE.
 - CONTRACTOR SHALL USE CONCENTRIC REDUCERS UNLESS OTHERWISE NOTED. WHERE ECCENTRIC REDUCERS ARE USED THE INVERTS MUST MATCH.
 - CONTRACTOR SHALL USE STANDARD PVC FITTINGS WHEN POSSIBLE UNLESS OTHERWISE NOTED ON THE PLAN. ALL LANDSCAPE DRAIN PIPES SHALL BE WATER-TIGHT PVC, RIGID HDPE WITH SMOOTH INNER WALL, OR ENGINEER APPROVED EQUIVALENT.
 - ALL LANDSCAPE DRAIN PIPES SHALL BE A MINIMUM OF 1.5-FT DEEP (UNLESS OTHERWISE NOTED) AND SHALL HAVE A 0.50% MINIMUM SLOPE.
 - LANDSCAPE DRAIN CONNECTIONS TO ROOF DOWNSPOUTS SHALL BE INSTALLED WITH A RISER AND 90 DEGREE BEND MATCHING THE SIZE OF THE PIPE CONNECTING TO THE ROOF DRAIN AS CALLED OUT IN THE LANDSCAPE DRAIN TABLE.
 - ALL LANDSCAPE DRAIN CONNECTIONS TO INLETS & MANHOLES SHALL BE MADE WITH KOR-N-TEE CONNECTIONS ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
 - LANDSCAPE DRAIN CONNECTIONS TO RCP STORM PIPE SHALL BE MADE WITH A KOR-N-TEE CONNECTION ACCORDING TO MANUFACTURER'S SPECIFICATIONS WITH A RISER IF NECESSARY.
 - AT ANY LOCATION WHERE MORE THAN TWO LANDSCAPE DRAIN PIPES INTERSECT AND CANNOT BE CONNECTED WITH STANDARD FITTINGS, A DRAIN BASIN SHALL BE INSTALLED. THE DRAIN BASIN SHALL BE SIZED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

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PLOT DATE: 02/25/2019 PLOT TIME: 7:56:21A BY: TIM HOFFMAN



Know what's below.
Call before you dig.

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SCALE: 1" = 20'

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CHECKED BY: TEH
DRAWN BY: VEJ



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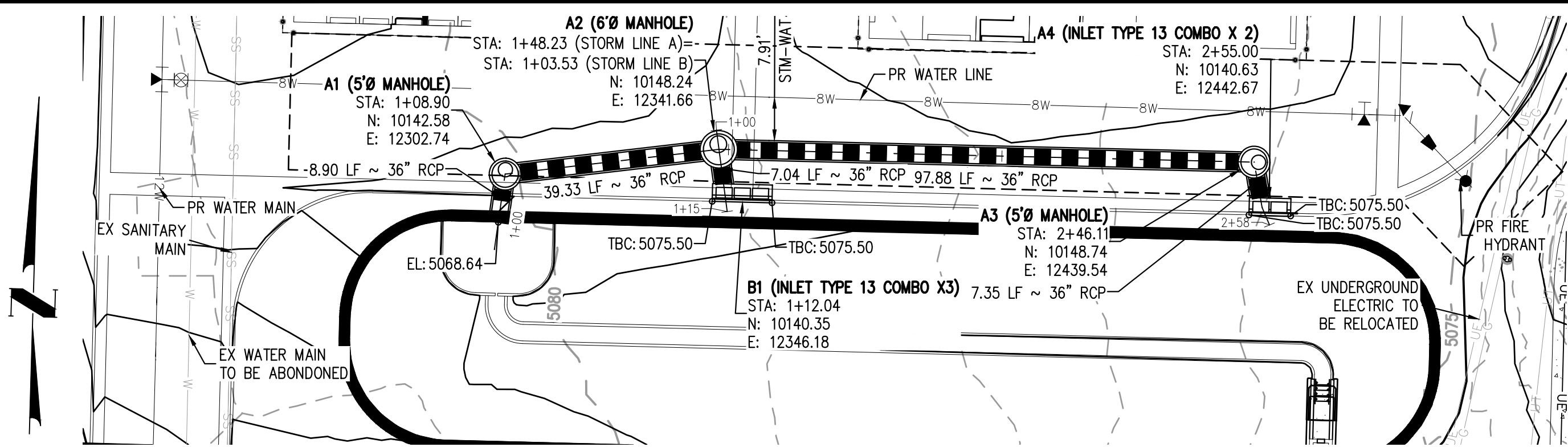
BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
LANDSCAPE DRAIN PLAN

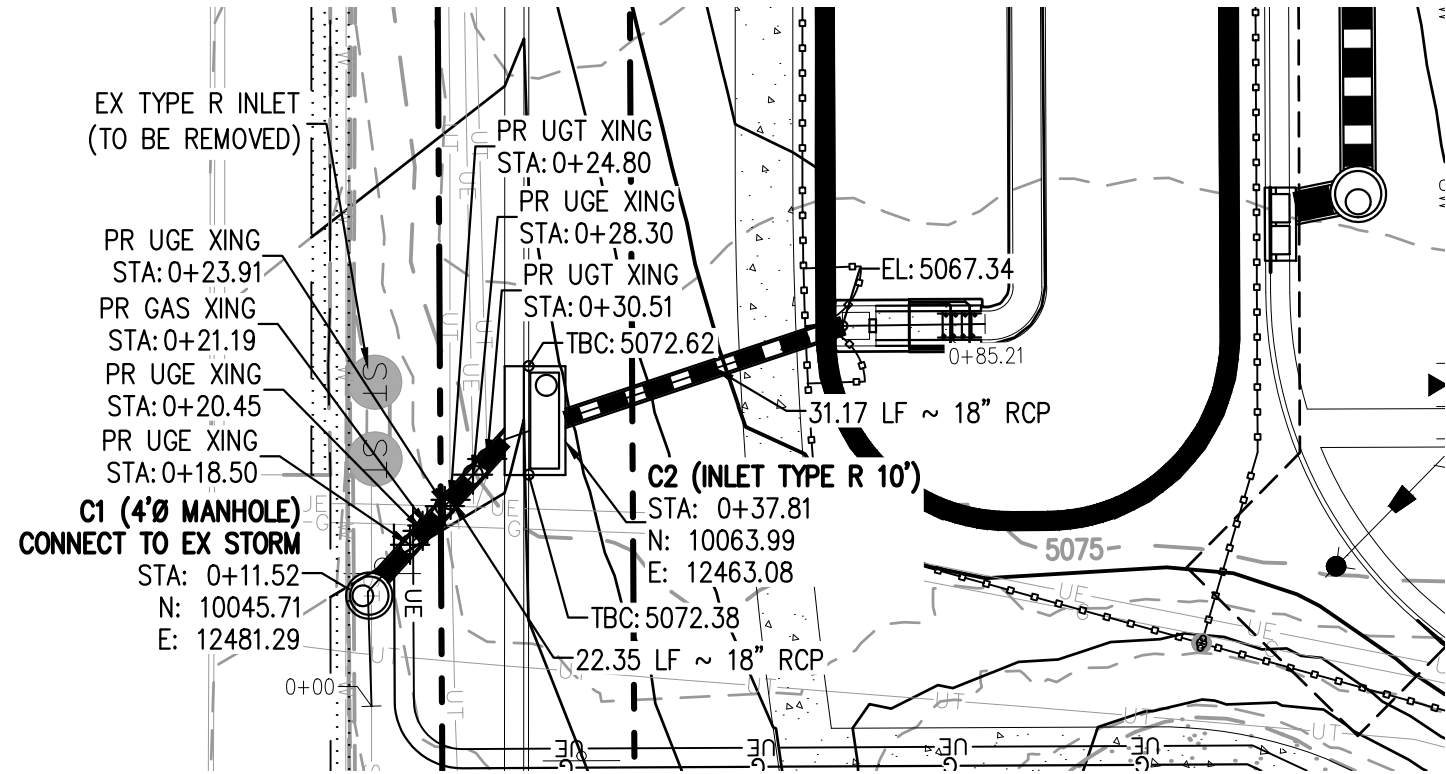
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DATE	REVISION	COMMENTS	
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02-25-2019	PER CITY OF LOVELAND COMMENTS		

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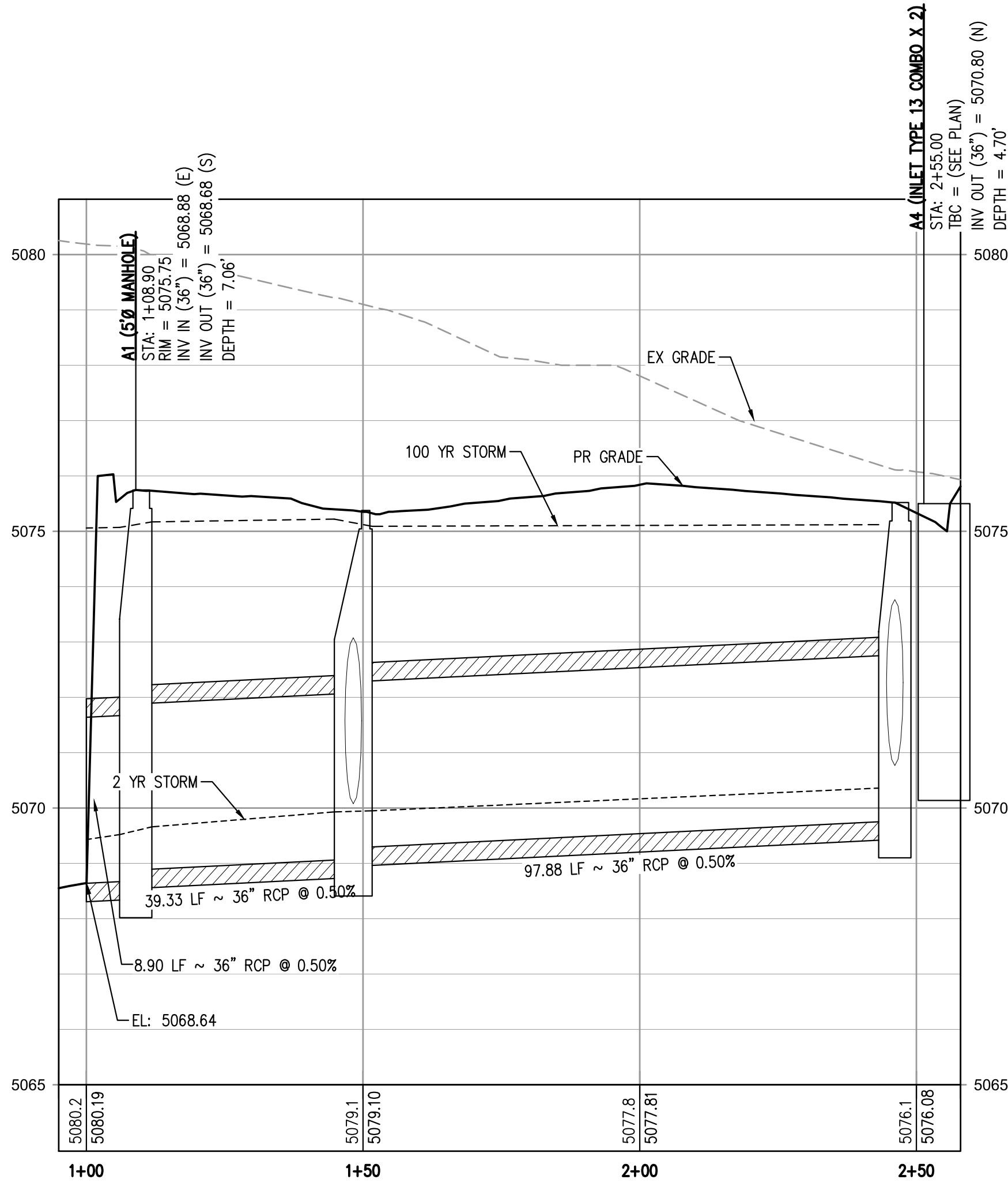
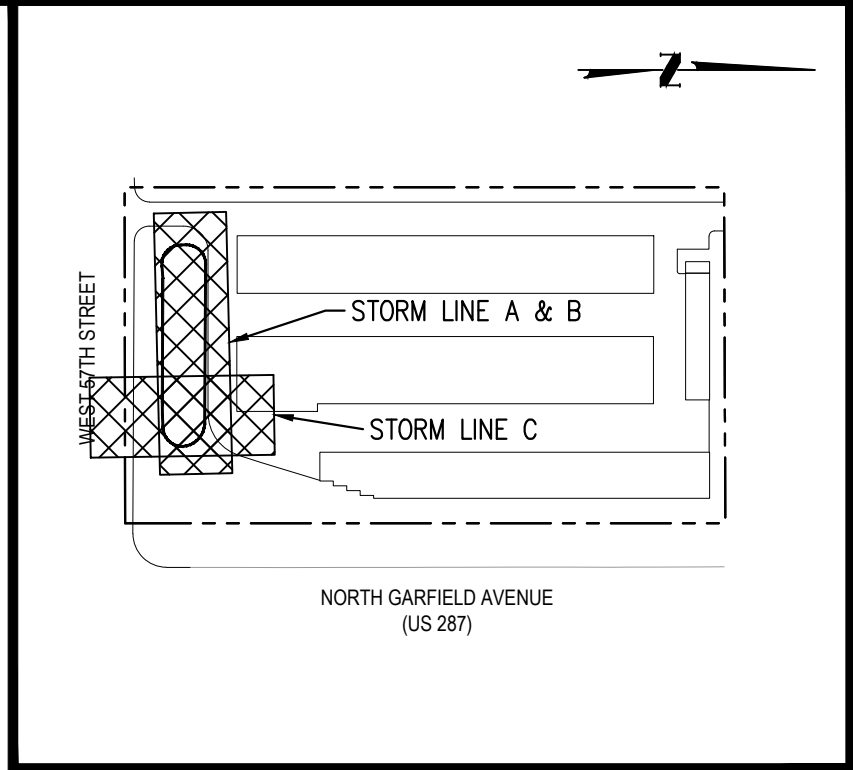
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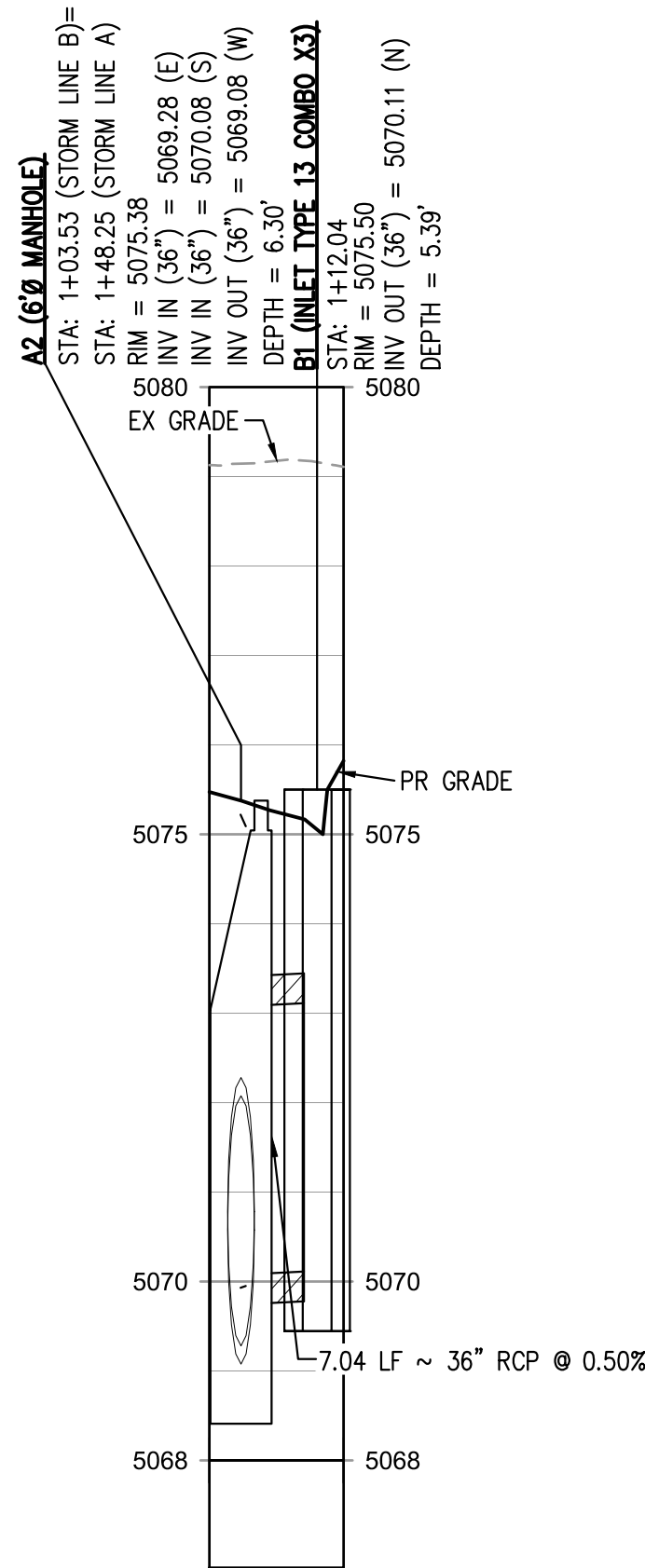
STORM LINE A & B PLAN
SCALE: 1" = 20"



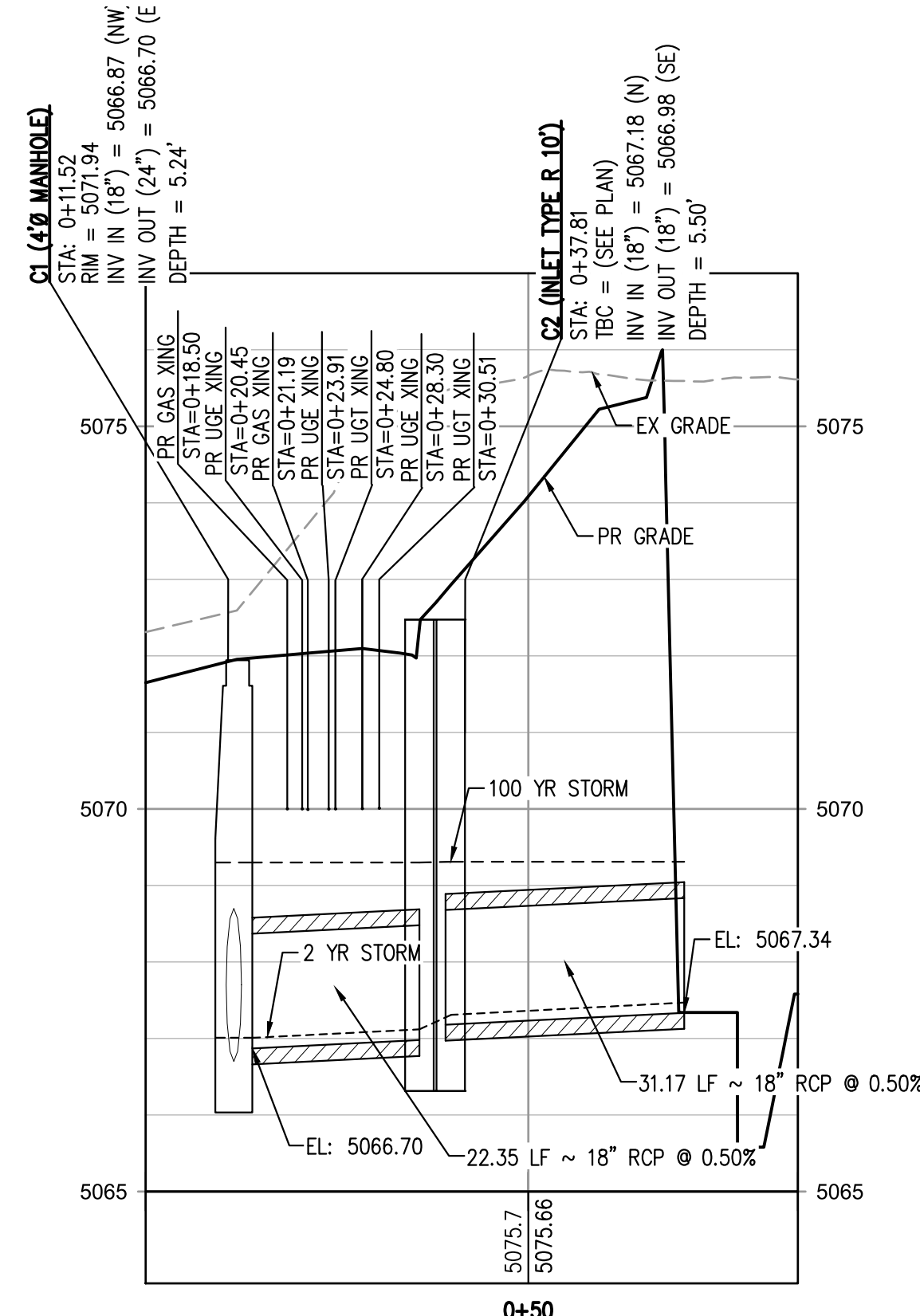
STORM LINE C PLAN
SCALE: 1" = 20"



STORM LINE A PROFILE
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'



STORM LINE B PROFILE
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'



STORM LINE C PROFILE
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

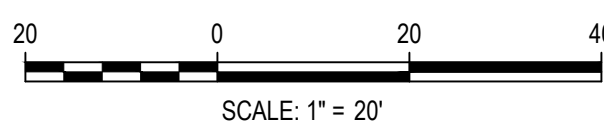
NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH CITY OF LOVELAND PUBLIC WORKS STORMWATER DEVELOPMENT STANDARDS.
2. ALL ON-SITE STORM SEWER AND DETENTION FACILITIES TO BE PRIVATELY OWNED AND MAINTAINED.
3. EXISTING UNDERGROUND UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN VERTICAL/HORIZONTAL LOCATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
4. COORDINATES ARE GIVEN AT CENTER OF STRUCTURE UNLESS OTHERWISE INDICATED.
5. STATIONING IS GIVEN ALONG CENTER LINE OF PIPES UNLESS OTHERWISE INDICATED. STATIONS OF INLETS SHOWN IN PROFILES ARE AT CENTER OF STRUCTURE.
6. PIPE LENGTHS ARE GIVEN FROM CENTER OF BARREL TO CENTER OF BARREL FOR CYLINDRICAL MANHOLES, AND INSIDE FACE OF STRUCTURE TO INSIDE FACE OF STRUCTURE FOR INLETS & OTHER BOX STRUCTURES.
7. STORM SEWER PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP) CLASS III, IN ACCORDANCE WITH CITY OF LOVELAND PUBLIC WORKS STORMWATER DEVELOPMENT STANDARDS.
8. ALL STANDARD INLETS SHALL BE IN ACCORDANCE WITH COLORADO DEPARTMENT OF TRANSPORTATION M STANDARDS, CURRENT EDITION.
9. CONTRACTOR SHALL INSTALL MODIFIED INLETS AS NEEDED IN ORDER TO ENSURE ALL STORM PIPES CONNECT PROPERLY TO THE INLET.
10. ALL MANHOLES ARE ECCENTRIC UNLESS OTHERWISE NOTED. ECCENTRIC MANHOLE RIMS SHALL BE ROTATED AS SHOWN ON PLAN.
11. ALL PROPOSED DRY UTILITIES (E.G. GAS, ELECTRIC, CABLE, AND TELECOMMUNICATIONS, ETC) DEPTHS AND LOCATIONS, SHALL BE INSTALLED BY THEIR RESPECTIVE UTILITY CONTRACTORS ACCORDING TO CITY OF LOVELAND STANDARDS AND REGULATIONS.
12. TYPE R INLETS SHALL BE INCORPORATED INTO THE SIDEWALK WHERE APPLICABLE, AND HAVE A MAXIMUM LID CROSS SLOPE OF 1.5%.
13. ALL TYPE D INLETS SHALL HAVE CLOSE-MESH GRATES, UNLESS OTHERWISE INDICATED.

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REVISED: 11-12-2018 BY: JMN
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PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
STORM PLAN & PROFILE

ISSUE DATE: 07-03-2018		PROJECT #: 170108
DATE	REVISION	COMMENTS
11-12-2018	PER CITY OF LOVELAND COMMENTS	
02-25-2019	PER CITY OF LOVELAND COMMENTS	

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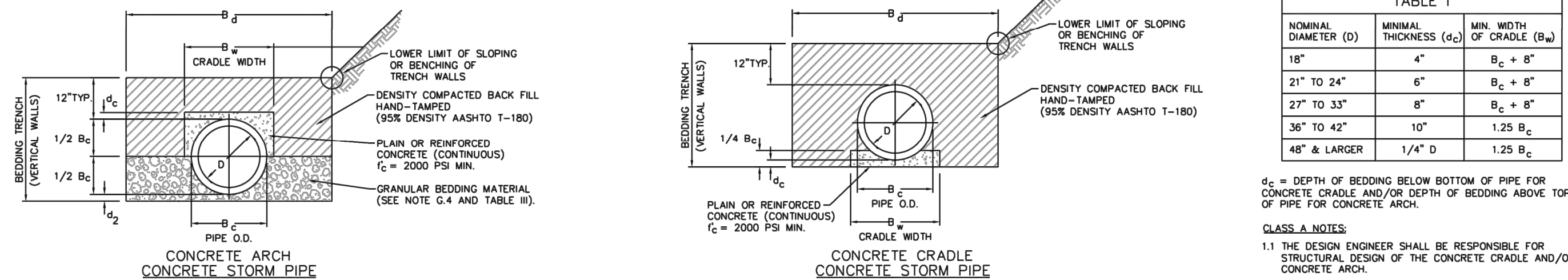
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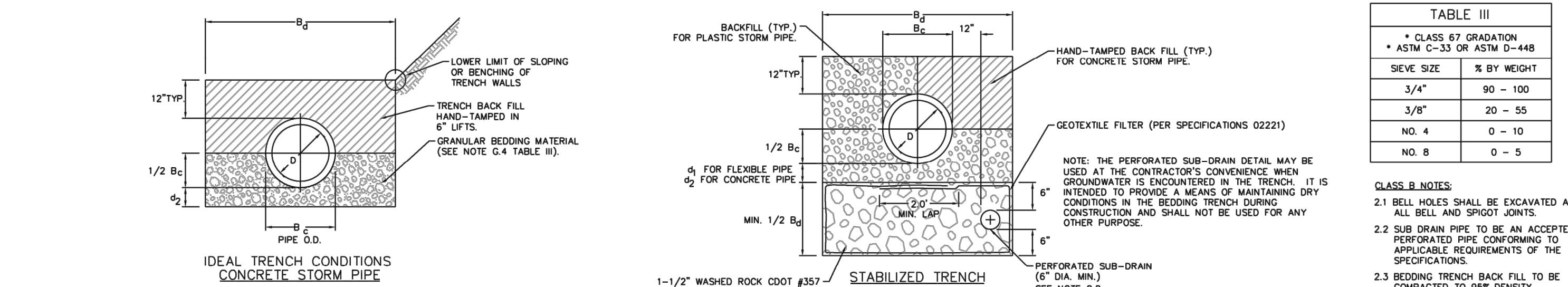
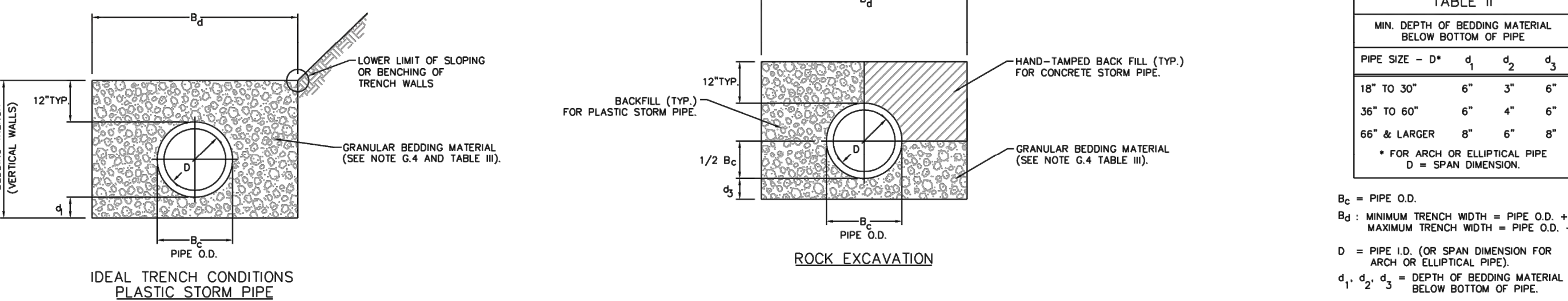
28 OF 37

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CLASS "A" BEDDING REQUIREMENTS

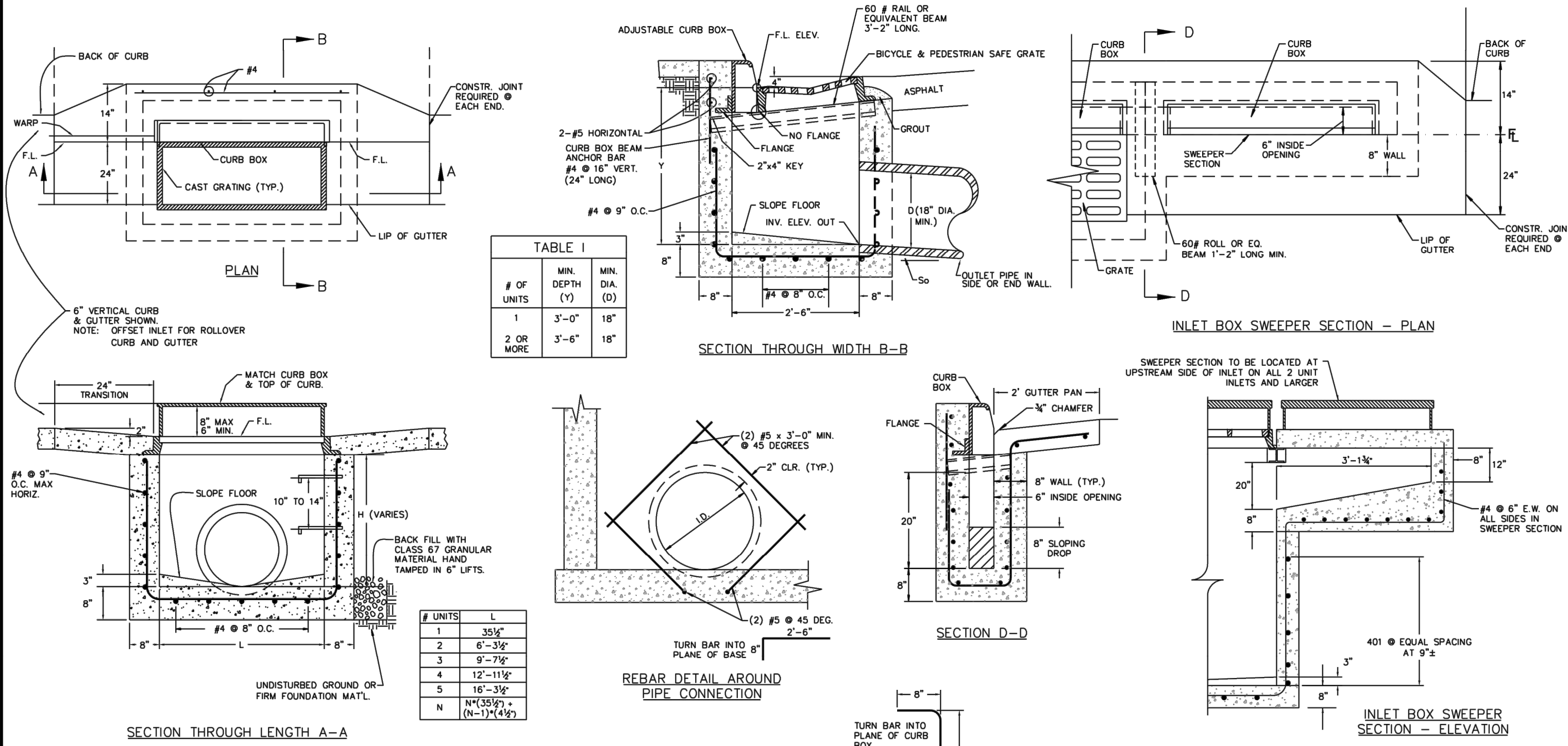


CLASS "B" BEDDING REQUIREMENTS -- GRANULAR BEDDING



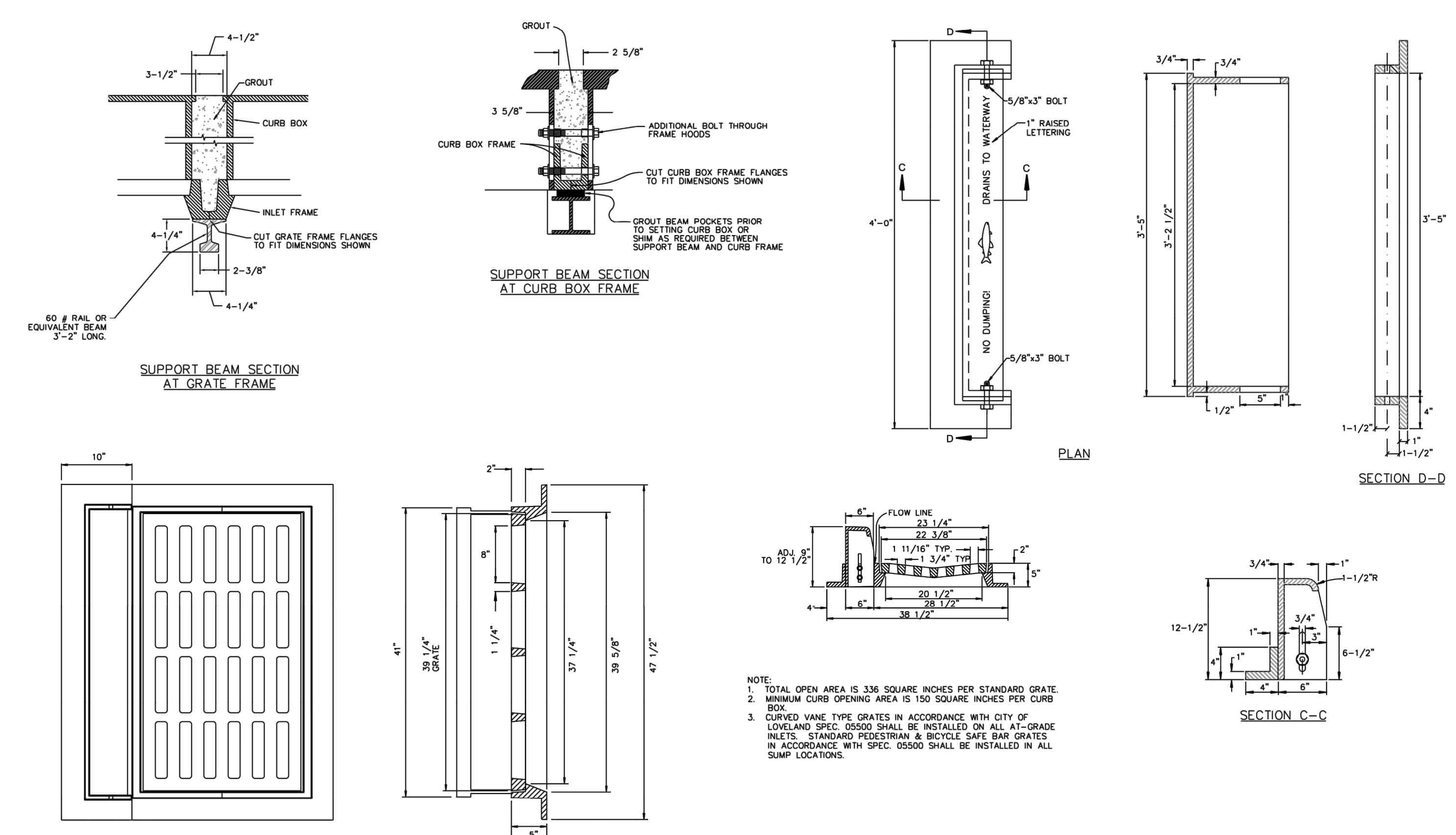
GENERAL NOTES:
G.1 THESE DETAILS ARE TYPICAL FOR NORMAL CONDITIONS. FOR INSTALLATIONS OTHER THAN THESE (SUCH AS EMBANKMENT, UNUSUAL OR UNSTABLE SOIL CONDITIONS OR TUNNEL INSTALLATIONS, ETC.) EXCAVATION, BEDDING AND BACK FILL REQUIREMENTS SHALL BE DETAILED ON THE CONSTRUCTION DRAWINGS.
G.2 ULTIMATE BACK FILL LOADS AND STRUCTURAL DESIGN OF PIPE OR CONDUIT SHALL BE BASED UPON B₂ > TRANSITION WIDTH AS SET FORTH IN THE AMERICAN CONCRETE PIPE ASSOCIATION DESIGN MANUAL.
G.3 FOR INSTALLATION OTHER THAN TYPICAL CONDITIONS, EXCAVATION, BEDDING AND STRUCTURAL REQUIREMENTS SHALL BE DESIGNED IN ACCORDANCE WITH THE REFERENCES NOTED (DESIGN AND CONSTRUCTION OF SANITARY AND STORM SEWERS WPCF MANUAL OF PRACTICE NO. 9, ASCE MANUAL ON ENGINEERING PRACTICE NO. 37, LATEST EDITION) AND AS ACCEPTED BY THE CITY.
G.4 GRANULAR BEDDING SHALL BE HAND TAMPED IN 6" LIFTS AND SHALL CONFORM TO ASTM C-22 OR ASTM D-488 GRADATION SIZE #67 (PER TECHNICAL SPECIFICATIONS, SECTION 02221 AND TABLE II ABOVE).

TRENCHING & BEDDING (CLASS "A" & "B")	
CITY OF LOVELAND PUBLIC WORKS DEPT. STORMWATER	STORMWATER CONSTRUCTION DRAWINGS
APPROVED: KWG DATE: 8/17/07 DRAWN BY: TBK	DRAWING SW-1

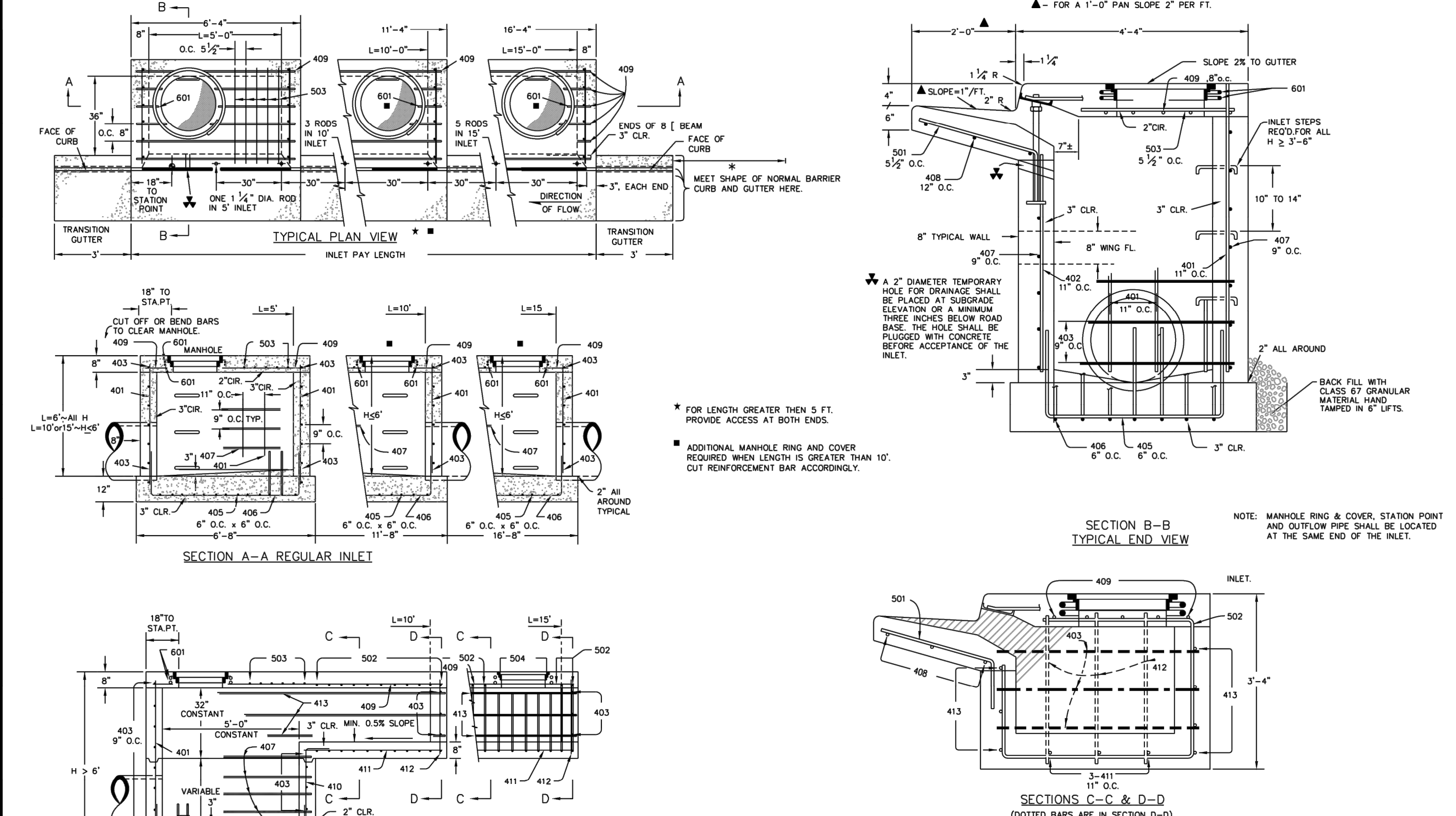


NOTES:
1. FOR PAYMENT PURPOSES, INLET STRUCTURES SHALL ALSO INCLUDE 2'-0" CURB & GUTTER TRANSITION SECTION AT EACH END OF INLET PLUS SIDEWALK SECTIONS WHERE REQUIRED BEHIND INLET STRUCTURE AND TRANSITION SECTIONS.
2. FLOOR SLOPE MAY BE POURED MONOLITHIC WITH BASE.
3. OUTLET PIPE(S) TO BE SET FLUSH WITH INSIDE FACE OF INLET WALL.
4. UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS OR OTHERWISE APPROVED, ALL TYPE 13 COMBINATION INLETS SHALL BE CONSTRUCTED WITH AN ADJUSTABLE C.I. CURB BOX.
5. STD. INLET DEPTHS AND PIPE SIZES ARE NOTED IN TABLE 1.
6. ALL DIMENSIONS ARE FOR C.I.P. - PRECAST MAY DIFFER.
7. CONCRETE SHALL BE CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST.
8. CAST-IN-PLACE CONCRETE WALLS SHALL BE FORMED ON BOTH SIDES. NO FORMWORK SHALL REMAIN INSIDE STRUCTURE WHEN COMPLETED.
9. DISPOSED CONCRETE CORNERS SHALL BE CHAMFERED 3/4".
10. REINFORCING BARS SHALL BE DEFORMED #4 AND #5 BARS AND SHALL HAVE A 2 IN. MINIMUM CLEARANCE.
11. STEPS SHALL BE PROVIDED WHEN INLET DIMENSION "H" EXCEEDS 3 FT. - 6 IN. AND SHALL BE IN ACCORDANCE WITH AASHTO M 199.
12. ALL GRATES AND FRAMES SHALL BE GRAY OR DUCTILE CAST IRON CONFORMING TO CITY OF LOVELAND SPEC. 05500. GRATES AND FRAMES SHALL BE DESIGNED TO WITHSTAND HS 20 LOADING. CURB BOX - EAST JORDAN IRON WORKS NO. 75881 OR EQUAL.
13. ANY CONCRETE OR OTHER MATERIAL SHALL BE REMOVED FROM TOP OF CURB BOX SO LETTERING "NO DUMPING DRAINS TO WATERWAY" CAN BE CLEARLY READ. SWEEPER SECTION SHALL BE INSTALLED ON ALL COMBINATION TYPE 13 INLETS THAT ARE TWO UNITS AND LARGER. ONLY SINGLE UNIT INLETS MAY BE CONSTRUCTED WITHOUT THE SWEEPER SECTION.
14. SWEEPER SECTION SHALL BE INSTALLED AT THE UPSTREAM END OF THE INLET.
15. CURVED TYPE GRATES IN ACCORDANCE WITH CITY OF LOVELAND SPEC. 05500 SHALL BE INSTALLED ON ALL AT-GRADE INLETS. STANDARD BAR GRATES IN ACCORDANCE WITH SPEC. 05500 SHALL BE INSTALLED IN ALL SUMP LOCATIONS.

LOVELAND COMBINATION INLET	
CITY OF LOVELAND PUBLIC WORKS DEPT. STORMWATER	STORMWATER CONSTRUCTION DRAWINGS
APPROVED: KWG DATE: 8/17/07 DRAWN BY: CAC	DRAWING SW-3A



LOVELAND COMBINATION INLET	
CITY OF LOVELAND PUBLIC WORKS DEPT. STORMWATER	STORMWATER CONSTRUCTION DRAWINGS
APPROVED: KWG DATE: 8/17/07 DRAWN BY: CAC	DRAWING SW-3B



CURB INLET TYPE R	
CITY OF LOVELAND PUBLIC WORKS DEPT. STORMWATER	STORMWATER CONSTRUCTION DRAWINGS
APPROVED: KWG DATE: 8/17/07 DRAWN BY: TBK	DRAWING SW-5A



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG. GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DESIGNED BY: JMN
CHECKED BY: MSM
DRAWN BY: JMN



BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
STORM DETAILS

ISSUE DATE: 07-03-2018	PROJECT #: 170108
DATE	REVISION COMMENTS
11-12-2018	PER CITY OF LOVELAND COMMENTS
02-25-2019	PER CITY OF LOVELAND COMMENTS

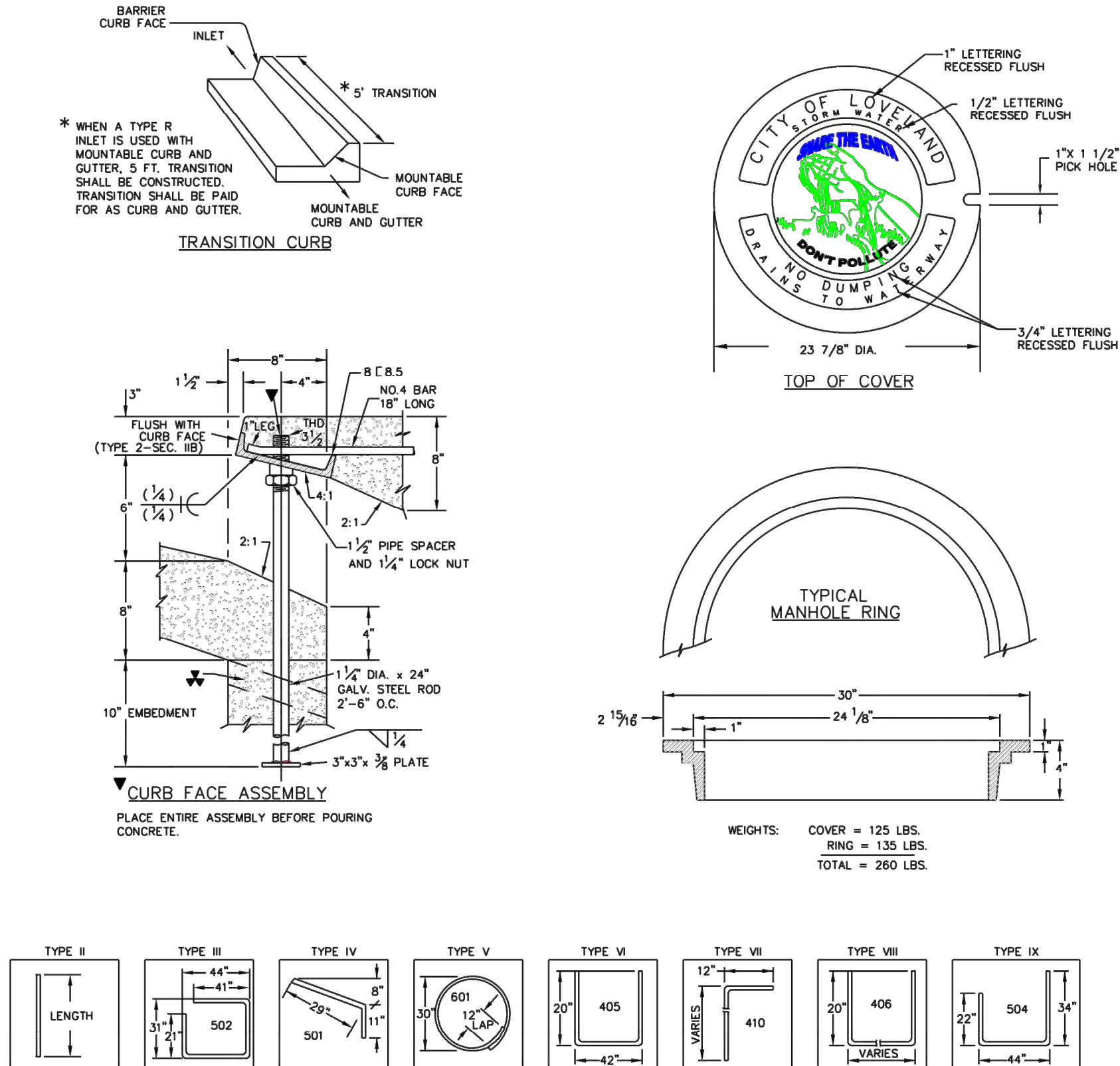
PRELIMINARY
NOT FOR
CONSTRUCTION

SHEET NO.

29

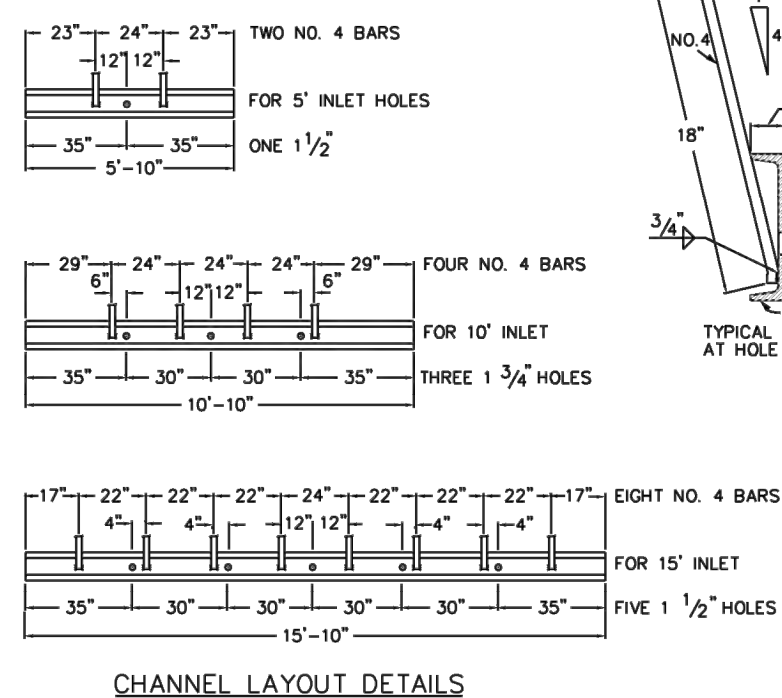
29 OF 37

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.



GENERAL NOTES:

1. ALL CONCRETE SHALL BE CLASS B.
2. CONCRETE WALLS SHALL BE FORMED ON BOTH SIDES AND SHALL BE 8 IN. THICK.
3. INLET STEPS SHALL BE SPACED 10" TO 14" O.C. AND SHALL CONFORM TO CITY OF LOVELAND SPECIFICATIONS.
4. CURB FACE ASSEMBLY SHALL BE GALVANIZED AFTER WELDING.
5. EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 3/4" IN. CURB AND GUTTER SECTIONS SHALL BE FINISHED TO MATCH THE EXISTING CURB AND GUTTER BEYOND THE TRANSITION GUTTER.
6. REINFORCING BARS SHALL BE DEFORMED AND SHALL HAVE A 2 IN. MINIMUM CLEARANCE.
7. DIMENSIONS AND WEIGHTS OF TYPICAL MANHOLE RING AND COVER ARE NOMINAL.
8. ALL COVERS AND FRAMES SHALL BE GRAY OR DUCTILE IRON CONFORMING TO CITY OF LOVELAND SPEC. 05500. MANHOLE COVER - EAST JORDAN IRON WORKS NO. 2405A OR EQUAL.
9. SINCE PIPE ENTRIES INTO THE INLET ARE VARIABLE, THE DIMENSIONS SHOWN ARE TYPICAL. ACTUAL DIMENSIONS AND QUANTITIES FOR CONCRETE AND REINFORCEMENT SHALL BE AS REQUIRED IN THE WORK.
10. STRUCTURAL STEEL SHALL BE GALVANIZED AND SHALL CONFORM TO THE REQUIREMENTS OF CITY OF LOVELAND SPEC. 05500.
11. INFORMATION FROM CDD STANDARD PLAN M-604-12 IS REFERENCED IN THIS DETAIL.



CHANNEL LAYOUT DETAILS

CURB INLET TYPE R

CITY OF LOVELAND
PUBLIC WORKS DEPT.
STORMWATER

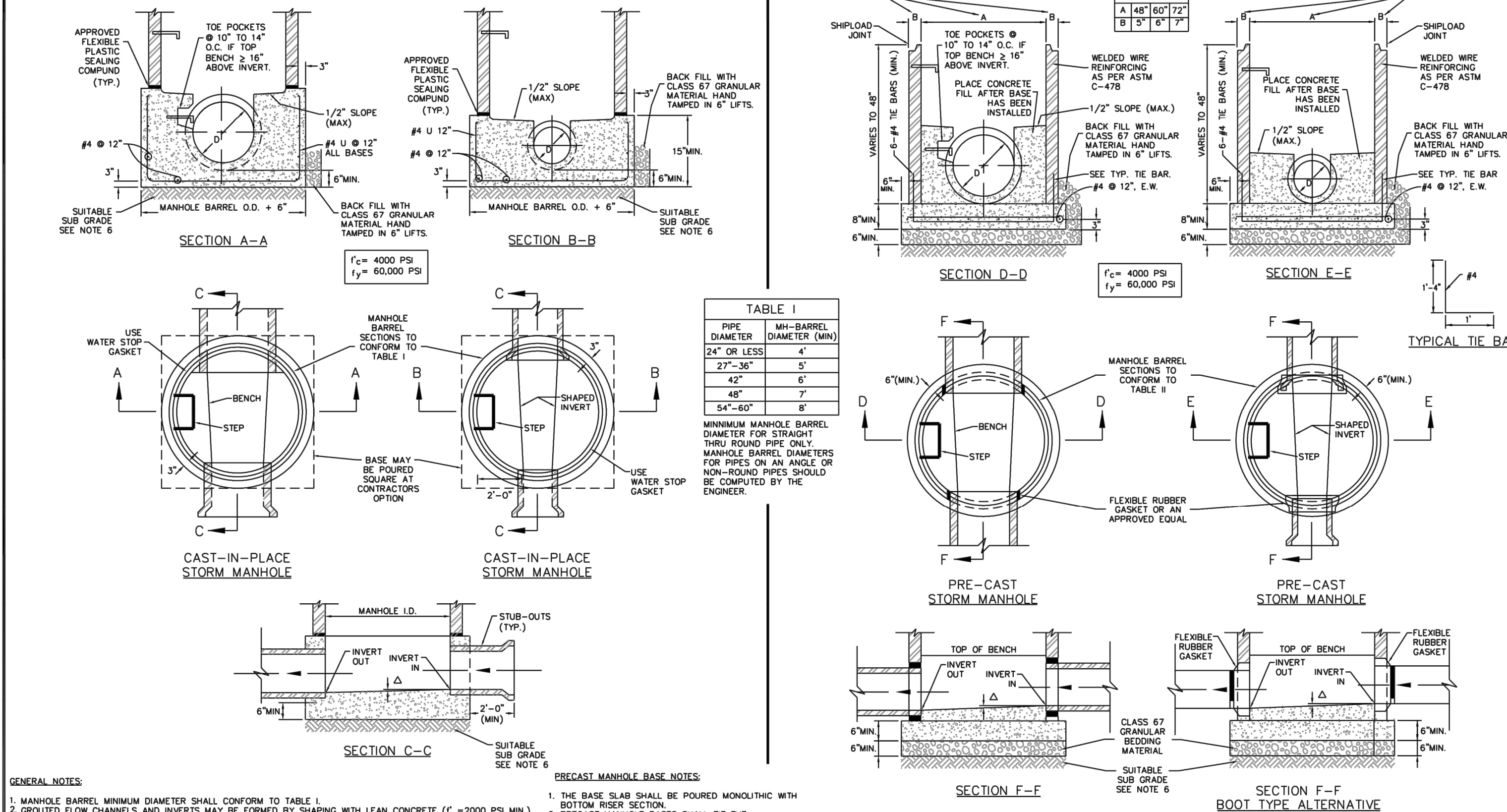
STORMWATER
CONSTRUCTION
DRAWINGS

APPROVED: KGW
DATE: 8/17/07
DRAWN BY: TDK

DRAWING
SW-5B

GENERAL NOTES:

1. MANHOLE BARREL MINIMUM DIAMETER SHALL CONFORM TO TABLE I.
2. GROUDED FLOW CHANNELS AND INVERTS MAY BE FORMED BY SHAPING WITH LEAN CONCRETE ($f' = 2000$ PSI MIN.).
3. MANHOLE STEPS SHALL BE SPACED 10" TO 14" O.C. AND SHALL CONFORM TO THE CITY OF LOVELAND'S SPECIFICATIONS.
4. STUB-OUTS SHALL EXTEND 2'-0" MIN. PAST MANHOLE O.D. AND BE SATISFACTORILY PLUGGED.
5. REINFORCING IS REQUIRED FOR ALL MANHOLE BASES.
6. ALL MANHOLE BASES SHALL BE PLACED ON SUITABLE SUB GRADE MATERIAL. AT THE DIRECTION OF THE ENGINEER OR INSPECTOR, THE SUB GRADE SHALL BE OVER EXCAVATED AND STABILIZED WITH CLASS 67 GRANULAR BEDDING MATERIAL, COMPACTED TO 95% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-698.
7. ALL PIPE OPENINGS SHALL BE CONSTRUCTED WITH AN APPROVED FLEXIBLE WEDGE-TYPE GASKET CONFORMING TO ASTM C-443 WHICH SHALL BE CAPABLE OF PROVIDING A WATER TIGHT JOINT WITH ZERO LEAKAGE AROUND THE INSTALLED PIPE. AN APPROVED FLEXIBLE BOOT TYPE SLEEVE MAY ALSO BE USED FOR PRECAST INSTALLATIONS.
8. PRECAST BARREL SECTIONS, CONES, RISERS, ETC. SHALL CONFORM TO ASTM C-478, LATEST REVISION.
9. INVERT SHAPING AT THE DIRECTION OF THE DESIGN ENGINEER.



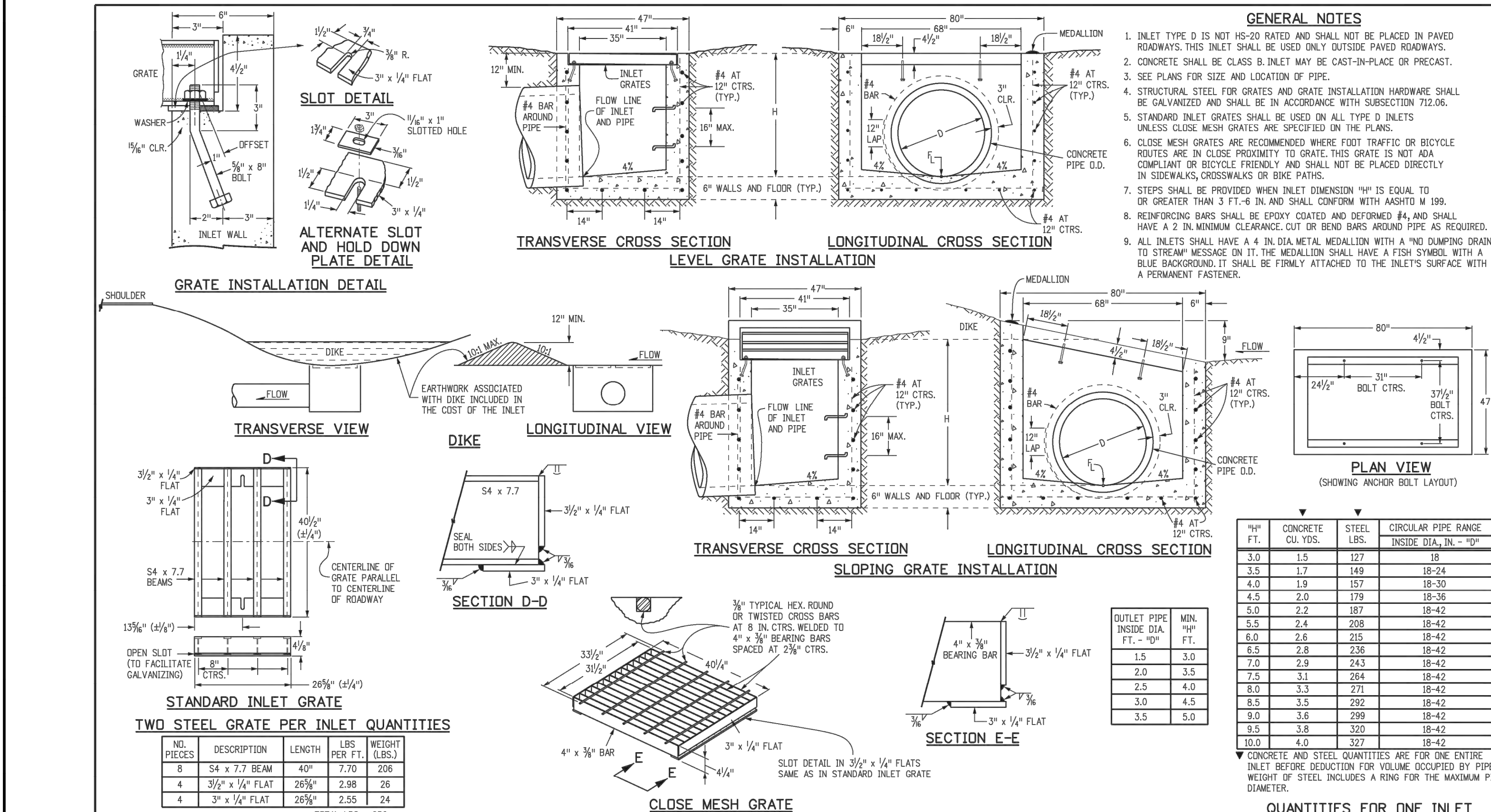
MANHOLES

CITY OF LOVELAND
PUBLIC WORKS DEPT.
STORMWATER

STORMWATER
CONSTRUCTION
DRAWINGS

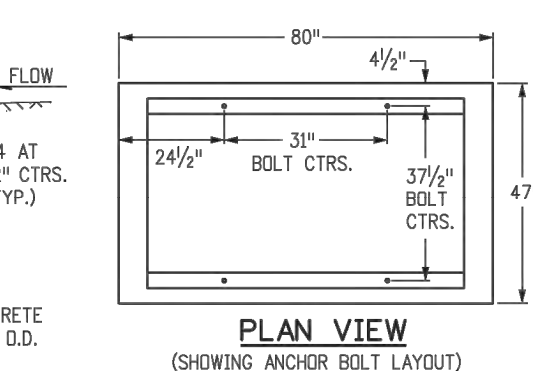
APPROVED: KGW
DATE: 8/17/07
DRAWN BY: TDK

DRAWING
SW-6



GENERAL NOTES:

1. INLET TYPE D IS NOT HS-20 RATED AND SHALL NOT BE PLACED IN PAVED ROADWAYS. THIS INLET SHALL BE USED ONLY OUTSIDE PAVED ROADWAYS.
2. CONCRETE SHALL BE CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST.
3. SEE PLANS FOR SIZE AND LOCATION OF PIPE.
4. STRUCTURAL STEEL FOR GRATES AND GRATE INSTALLATION HARDWARE SHALL BE GALVANIZED AND SHALL BE IN ACCORDANCE WITH SUBSECTION 712.00.
5. STANDARD INLET GRATES SHALL BE USED ON ALL TYPE D INLETS UNLESS CLOSE MESH GRATES ARE SPECIFIED ON THE PLANS.
6. CLOSE MESH GRATES ARE RECOMMENDED WHERE FOOT TRAFFIC OR BICYCLE ROUTES ARE IN CLOSE PROXIMITY TO GRATE. THIS GRATE IS NOT ADA COMPLIANT OR BICYCLE FRIENDLY AND SHALL NOT BE PLACED DIRECTLY IN SIDEWALKS, CROSSWALKS OR BIKE PATHS.
7. STEPS SHALL BE PROVIDED WHEN INLET DIMENSION "H" IS EQUAL TO OR GREATER THAN 3 FT. 6 IN. AND SHALL CONFORM WITH ASTM M 199.
8. REINFORCING BARS SHALL BE EPOXY COATED AND DEFORMED #4, AND SHALL HAVE A 2 IN. MINIMUM CLEARANCE, CUT OR BEND BARS AROUND PIPE AS REQUIRED.
9. ALL INLETS SHALL HAVE A 4 IN. DIA. METAL MEDALLION WITH A "NO DUMPING GRAINS TO STREAM" MESSAGE ON IT. THE MEDALLION SHALL HAVE A FISH SYMBOL WITH A BLUE BACKGROUND. IT SHALL BE FIRMLY ATTACHED TO THE INLET'S SURFACE WITH A PERMANENT FASTENER.



PLAN VIEW (SHOWING ANCHOR BOLT LAYOUT)

INLET TYPE	CONCRETE CU. YDS.	STEEL LBS.	CIRCULAR PIPE RANGE INSIDE DIA. IN. - 10"
3.0	1.5	127	18
3.5	1.7	149	18-24
4.0	1.9	157	18-30
4.5	2.0	179	18-36
5.0	2.2	187	18-42
5.5	2.4	208	18-42
6.0	2.6	215	18-42
6.5	2.8	236	18-42
7.0	2.9	243	18-42
7.5	3.1	264	18-42
8.0	3.3	271	18-42
8.5	3.5	292	18-42
9.0	3.6	298	18-42
9.5	3.8	320	18-42
10.0	4.0	327	18-42

CONCRETE AND STEEL QUANTITIES ARE FOR ONE ENTIRE INLET BEFORE REDUCTION FOR VOLUME OCCUPIED BY PIPE. WEIGHT OF STEEL INCLUDES A RING FOR THE MAXIMUM PIPE DIAMETER.

QUANTITIES FOR ONE INLET

INLET, TYPE D

STANDARD PLAN NO.

M-604-11

Sheet No. 1 of 1

Computer File Information

Creation Date: 07/04/12 Initials: DD
Last Modification Date: 07/04/12 Initials: LTA
Full Path: www.coloradodot.info/business/designsupport
Drawing File Name: 604010101.dgn
CAD Ver: MicroStation V8 Scale: Not to Scale Units: English

Sheet Revisions

Date: Comments

Colorado Department of Transportation

4201 East Arkansas Avenue
Denver, Colorado 80222
Phone: (303) 757-9083
Fax: (303) 757-9820
Project Development Branch DD/LTA

Issued By: Project Development Branch July 4, 2012

ISSUE DATE: 07-03-2018

PROJECT #: 170108

DATE	REVISION COMMENTS
11-12-2018	PER CITY OF LOVELAND COMMENTS
02-25-2019	PER CITY OF LOVELAND COMMENTS

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SHEET NO.

30

30 OF 37



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG. GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

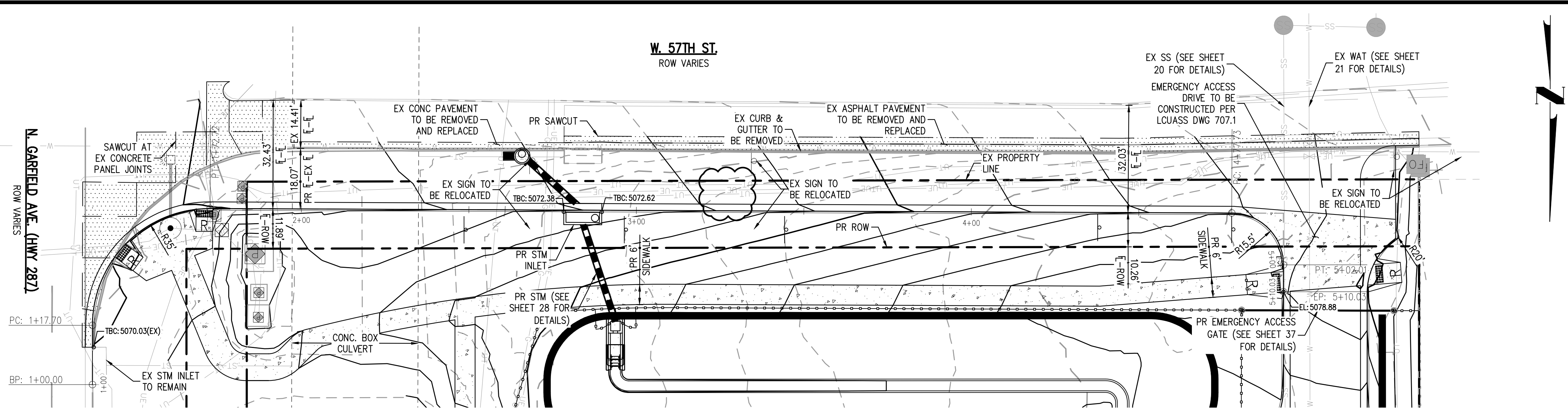
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BIGHORN RV STORAGE LLC

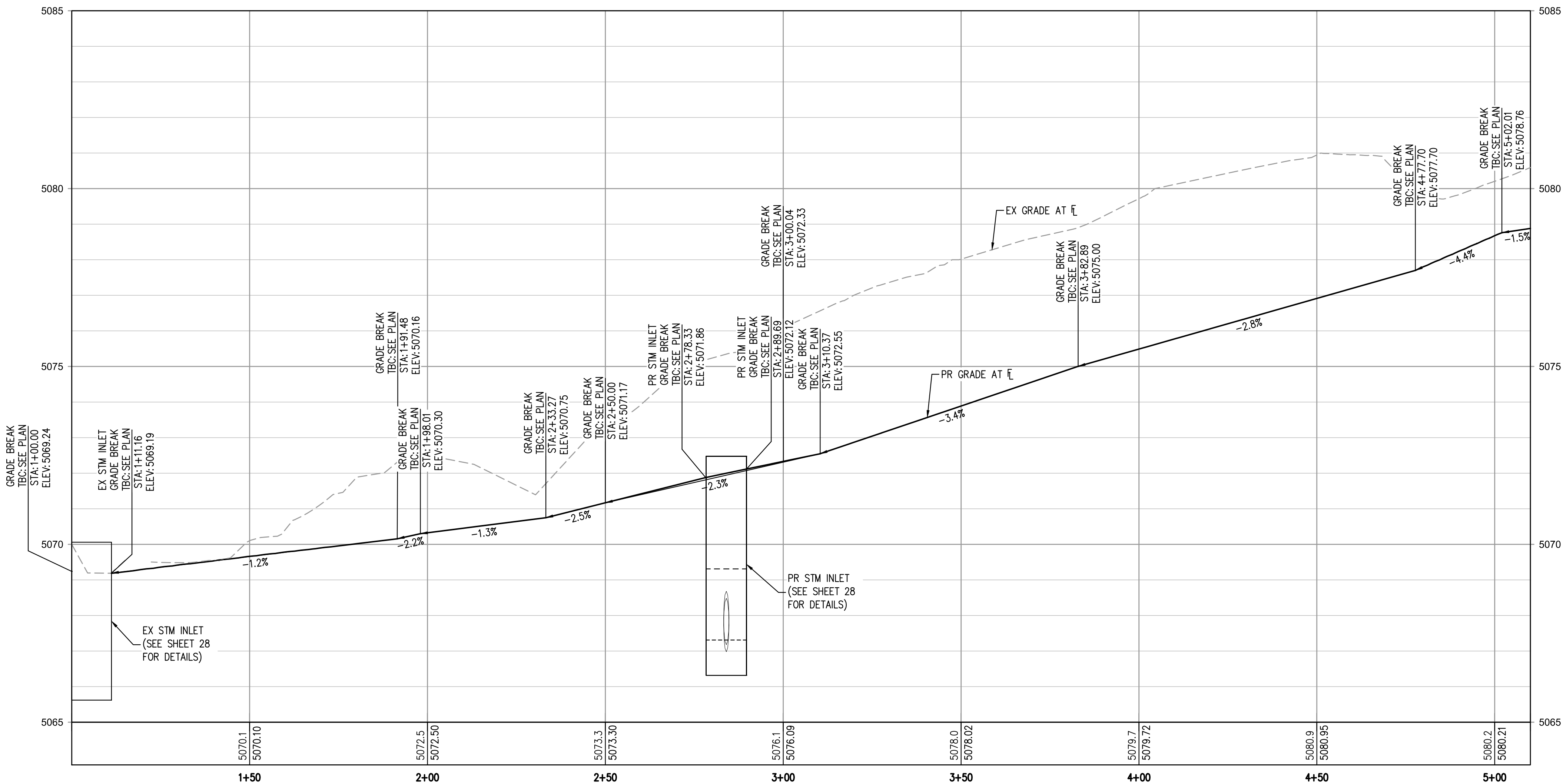
PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
STORM DETAILS

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.



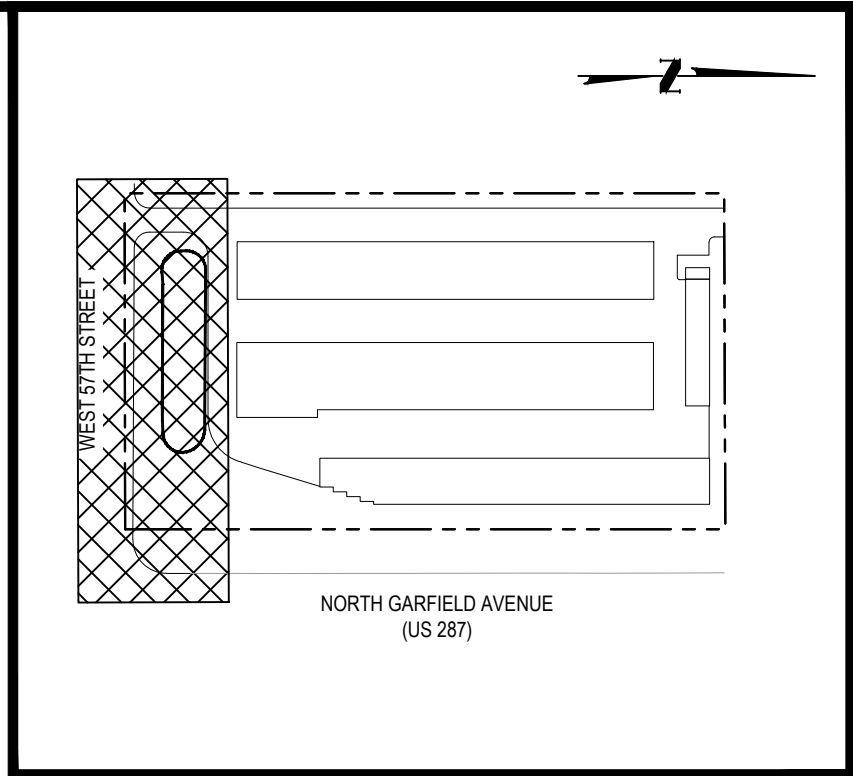
57TH STREET FLOWLINE PLAN

SCALE: 1"=20'



57TH STREET FLOWLINE PROFILE

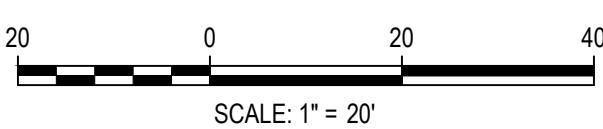
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VERTICAL SCALE: 1"=2'



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6/25/2018 10:00 AM
PLOTTED: WED 02/27/19 7:42:53A BY: TIM HOFFMAN



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG. GRADE
EVERY 5 FEET.
OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER
UTILITIES.



DESIGNED BY: JMN
CHECKED BY: MSM
DRAWN BY: JMN

HKS HARRIS
KOCHER
SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
57TH STREET PLAN & PROFILE

ISSUE DATE: 07-03-2018		PROJECT #: 170108
DATE	REVISION COMMENTS	
11-12-2018	PER CITY OF LOVELAND COMMENTS	
02-25-2019	PER CITY OF LOVELAND COMMENTS	

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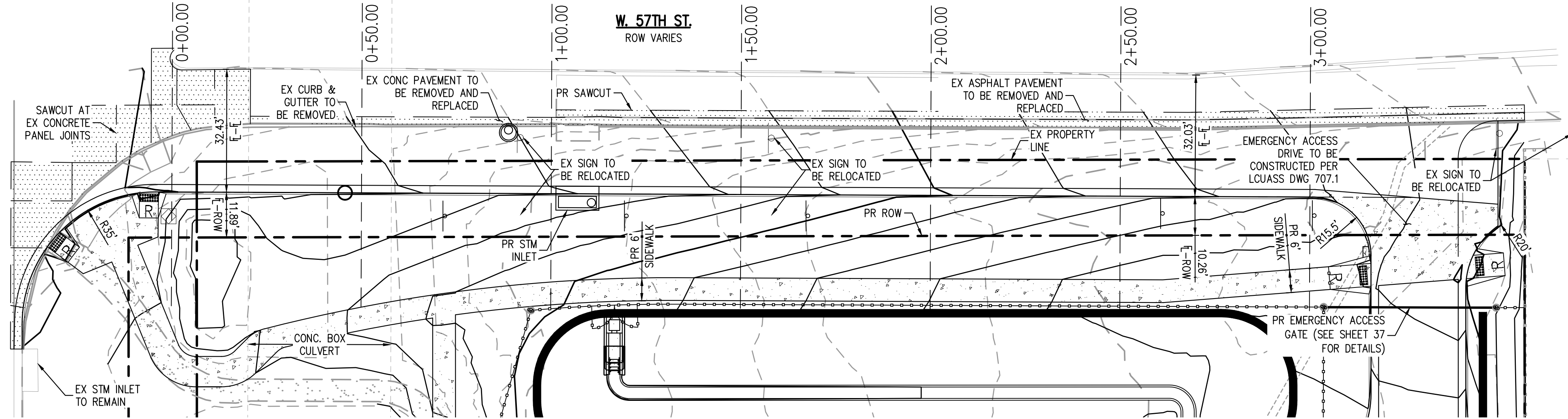
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31

31 OF 37

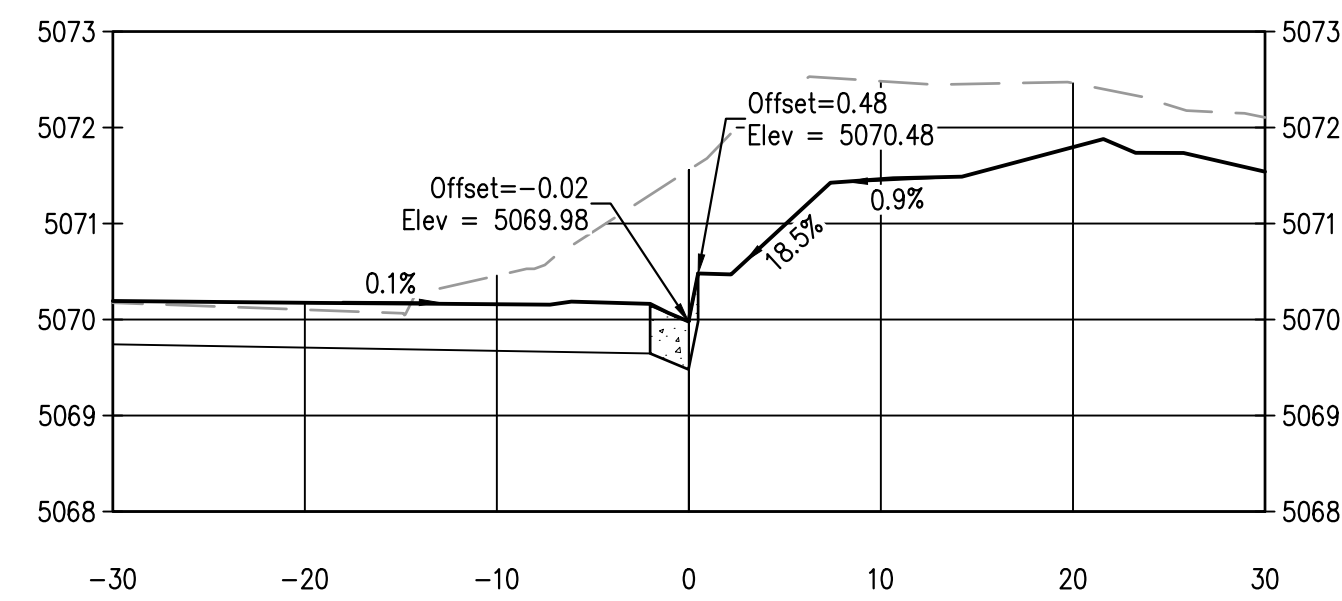
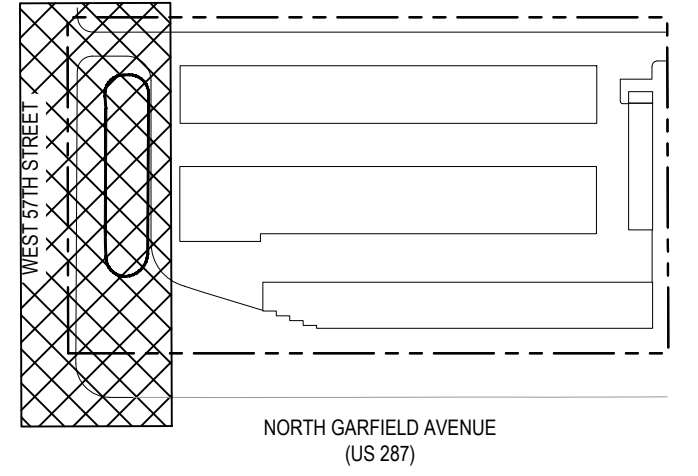
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N. GARFIELD AVE. (HWY 287)
ROW VARIES



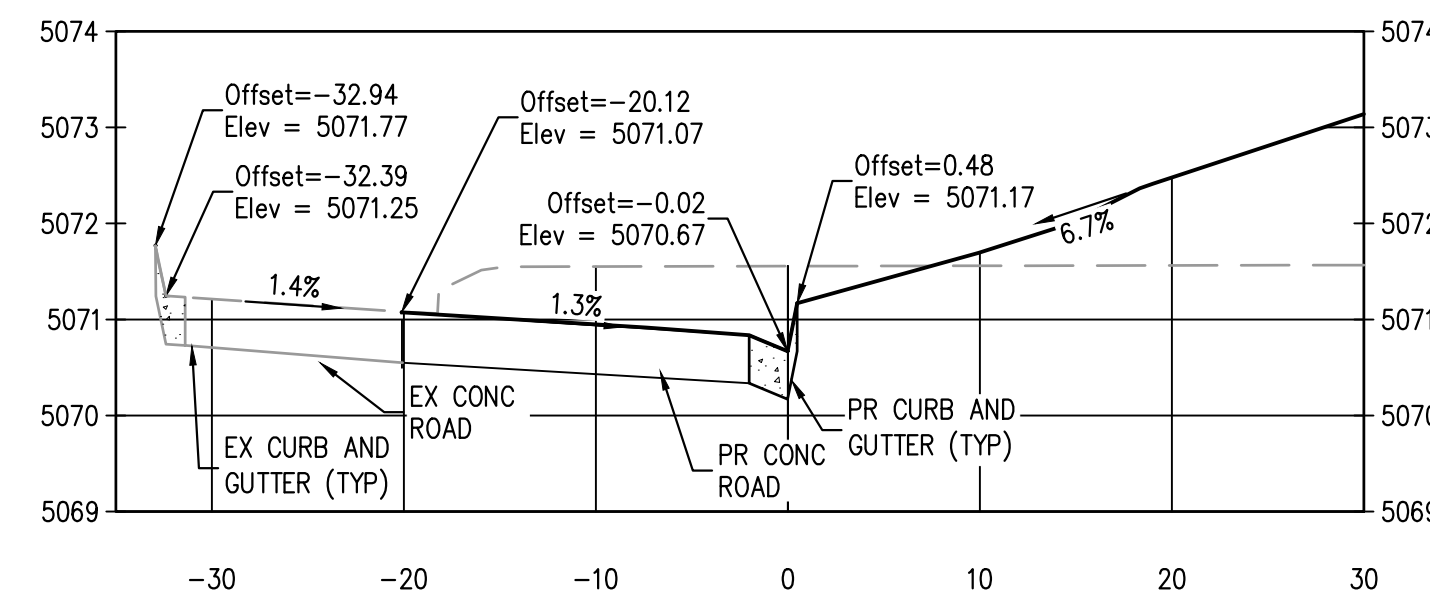
57TH STREET FLOWLINE PLAN

SCALE: 1"=20'



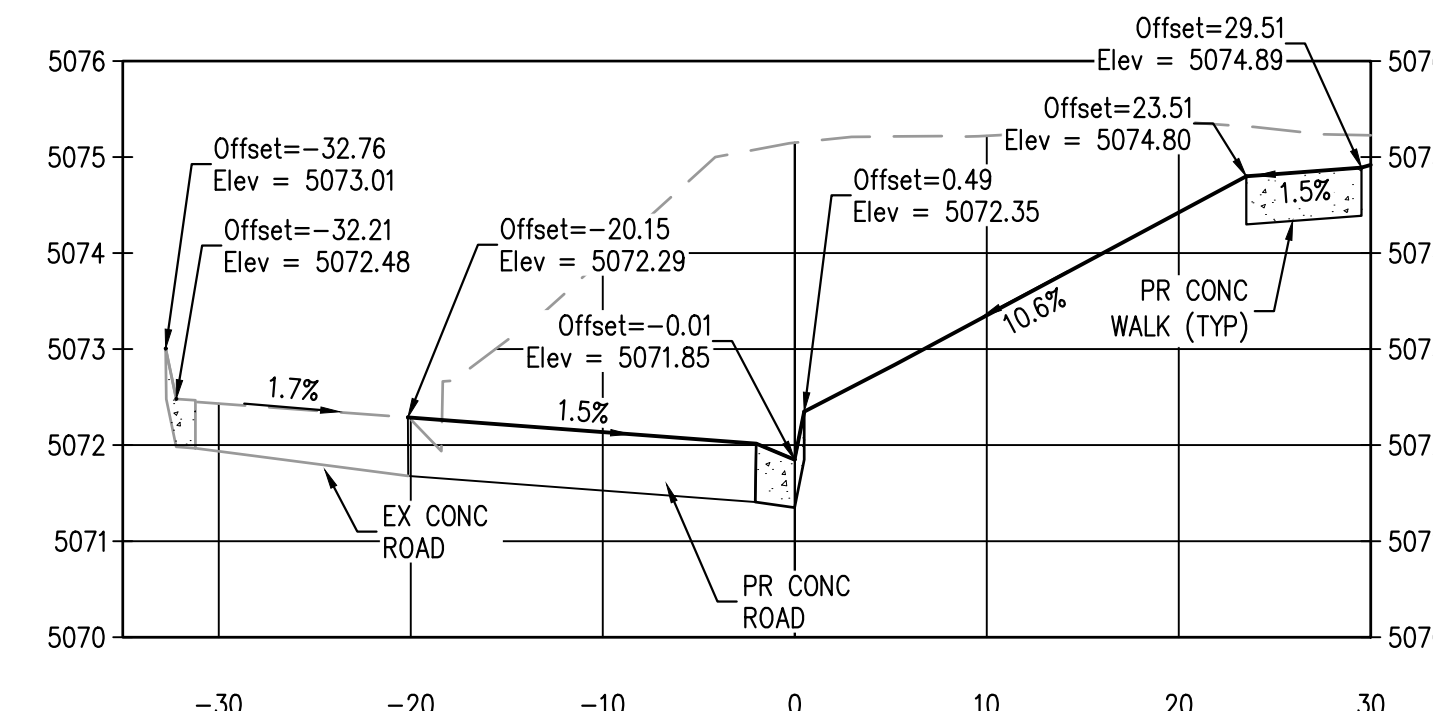
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VERTICAL SCALE: 1" = 2'



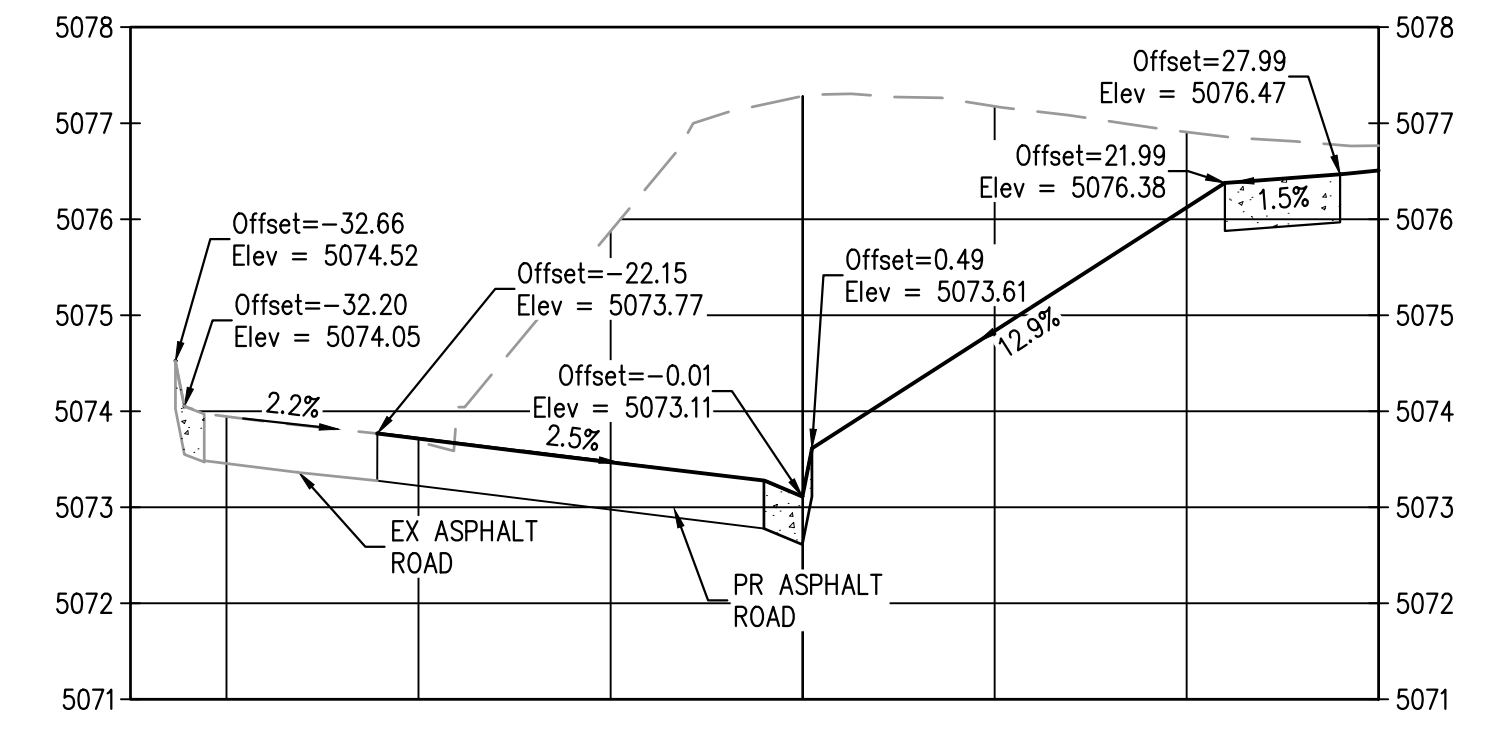
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VERTICAL SCALE: 1" = 2'



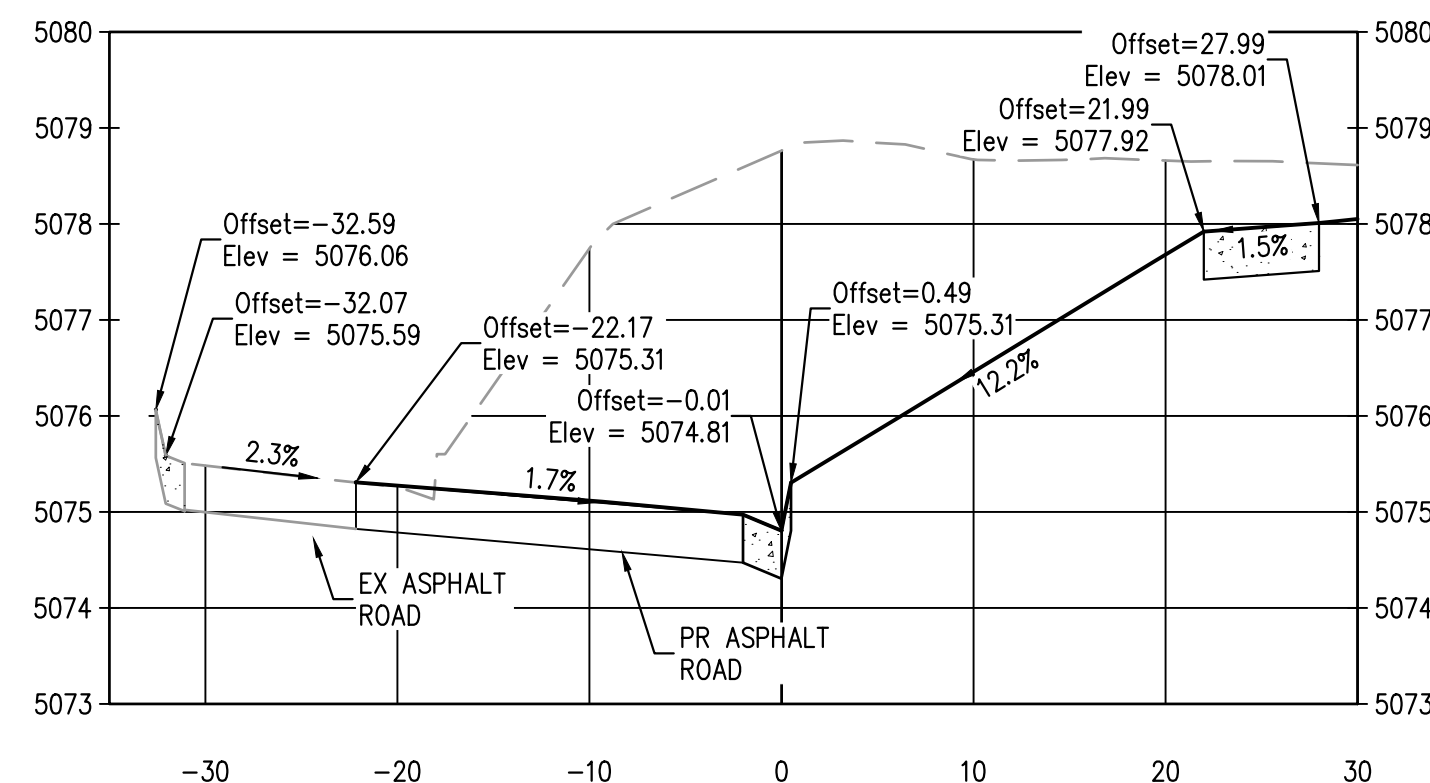
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HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 2'



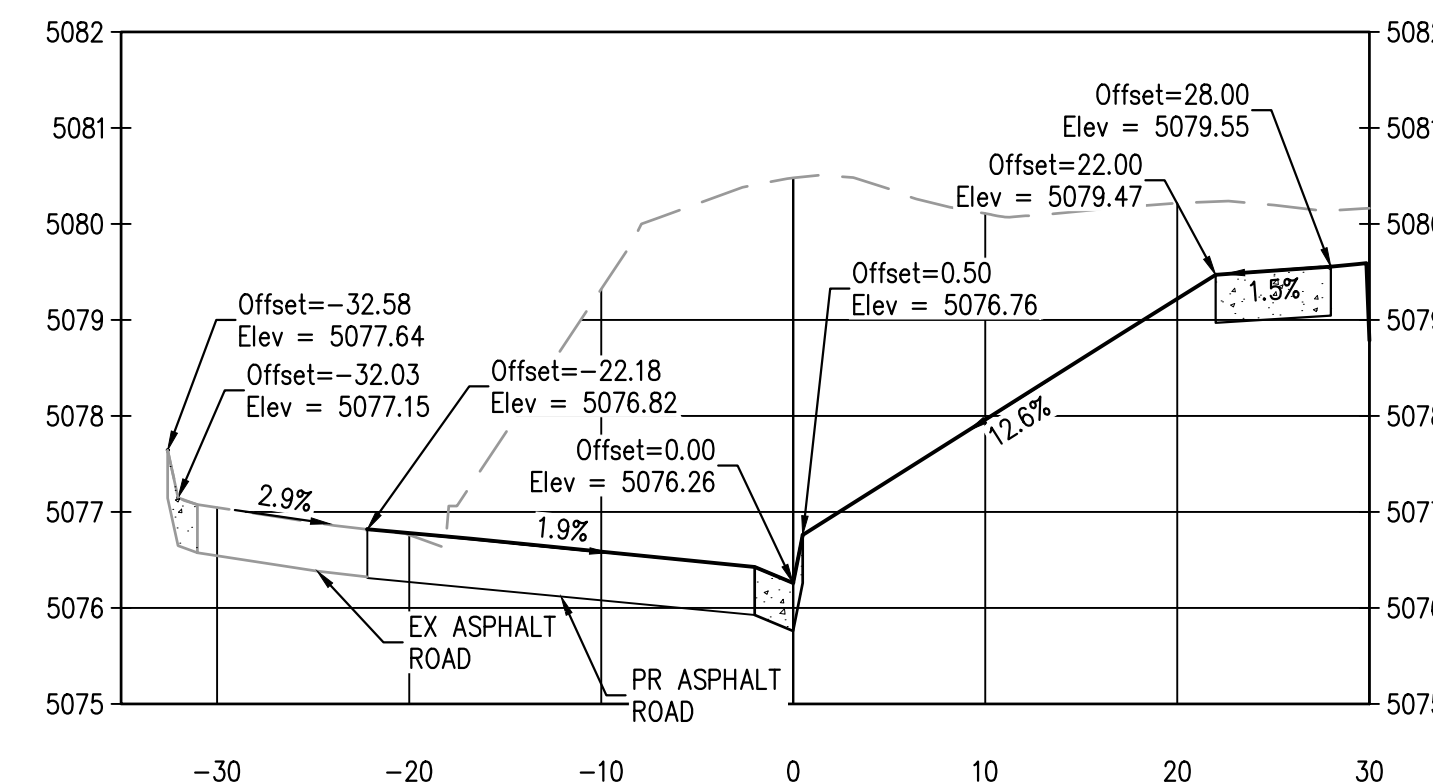
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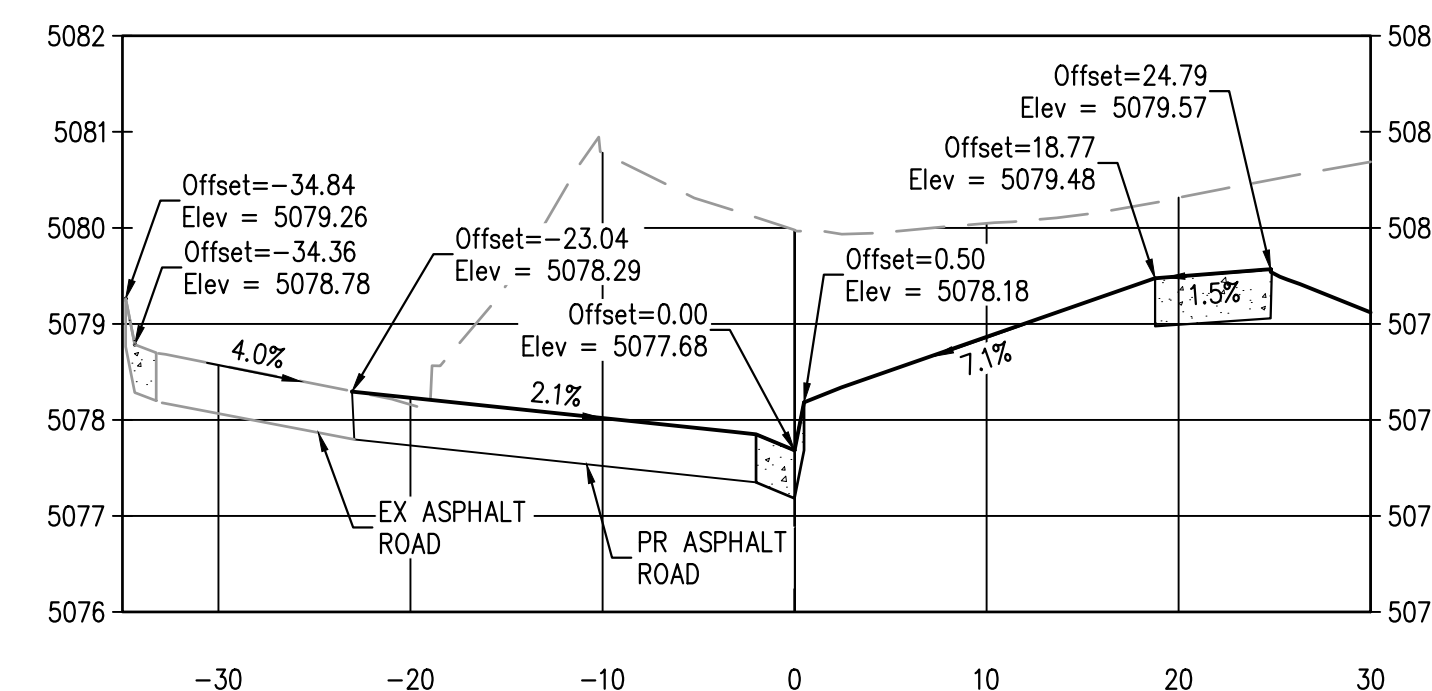
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2+50.00

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 2'



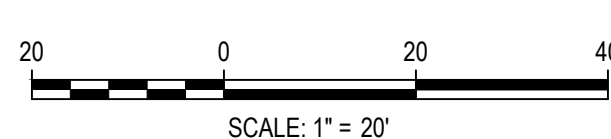
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HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 2'



Know what's below.
Call before you dig.

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG. GRADE, ELEVATION, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



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CHECKED BY: MSM
DRAWN BY: VEJ



1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
57TH STREET CROSS SECTIONS

ISSUE DATE: 07-03-2018	PROJECT #: 170108
DATE	REVISION COMMENTS
11-12-2018	PER CITY OF LOVELAND COMMENTS
02-25-2019	PER CITY OF LOVELAND COMMENTS

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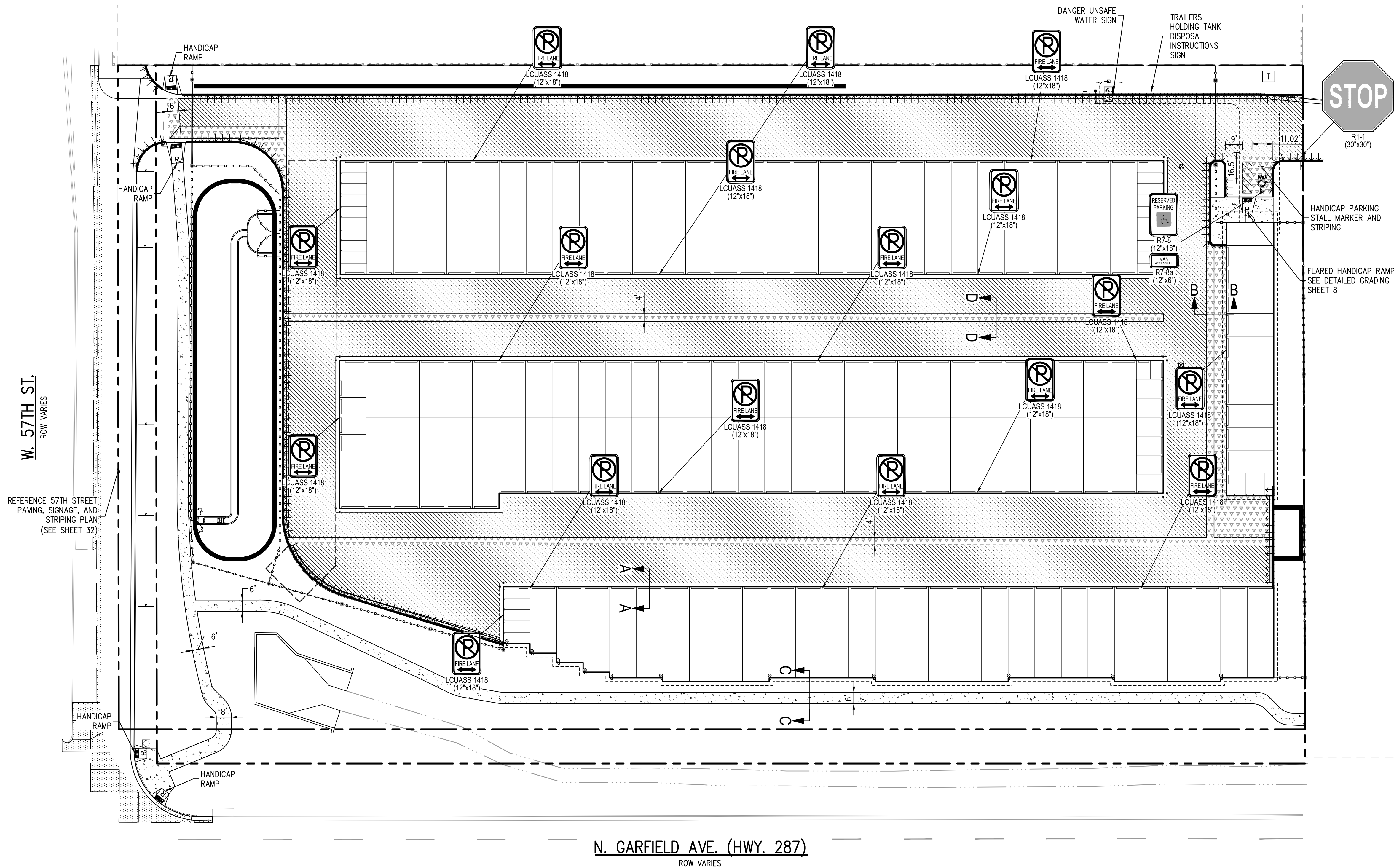
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32

32 OF 37

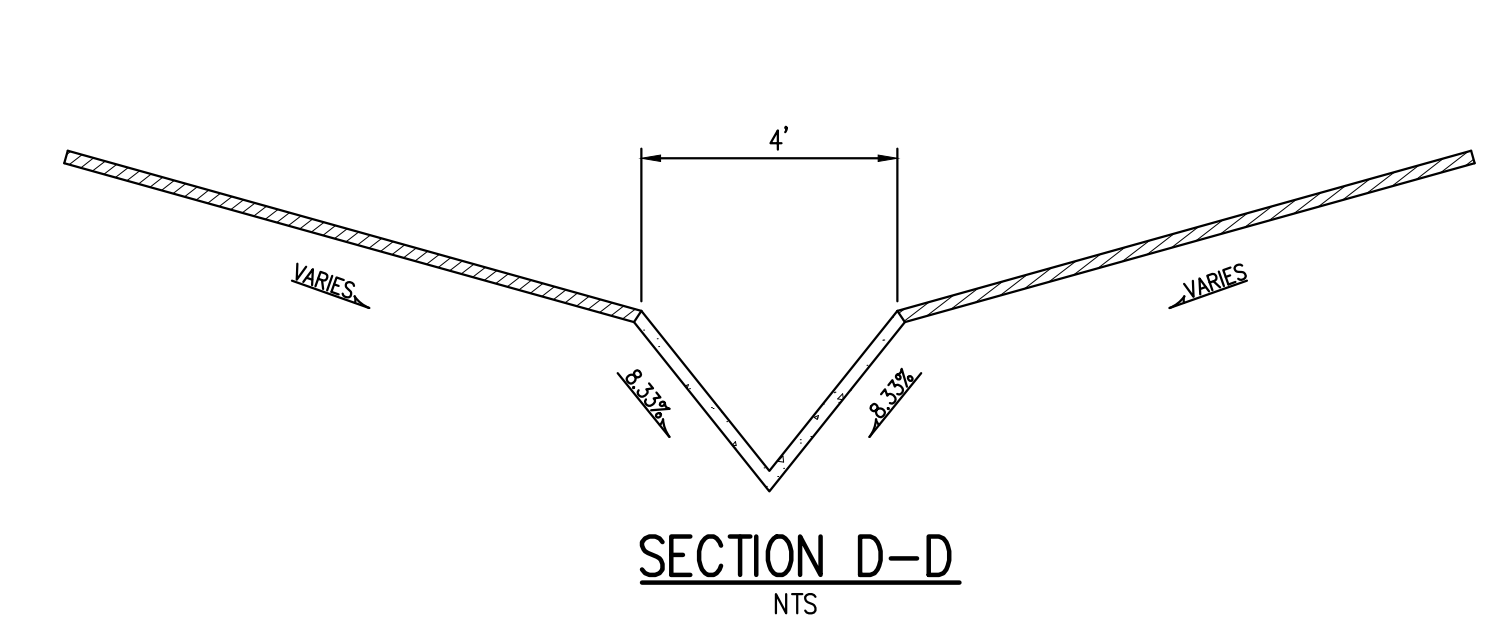
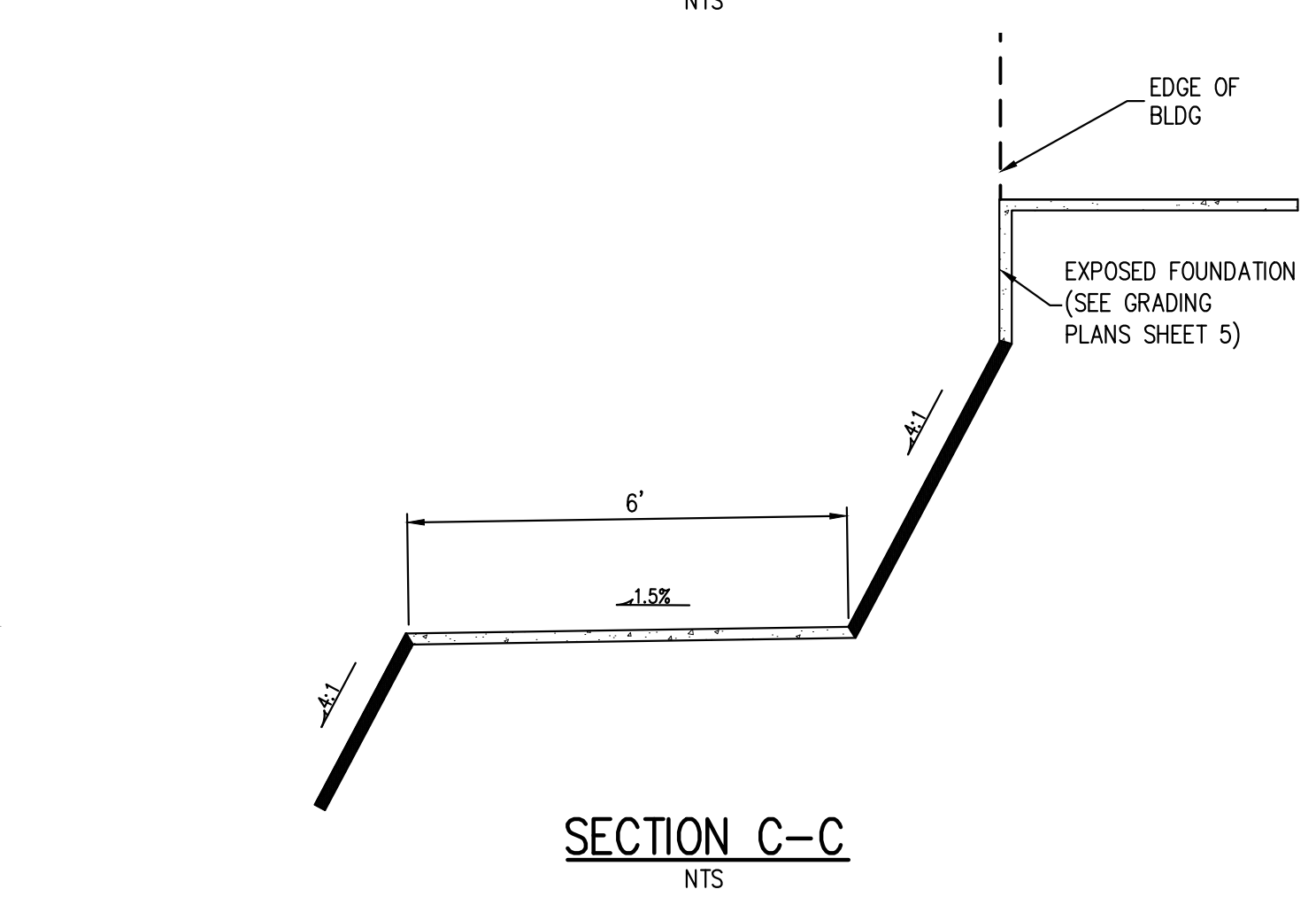
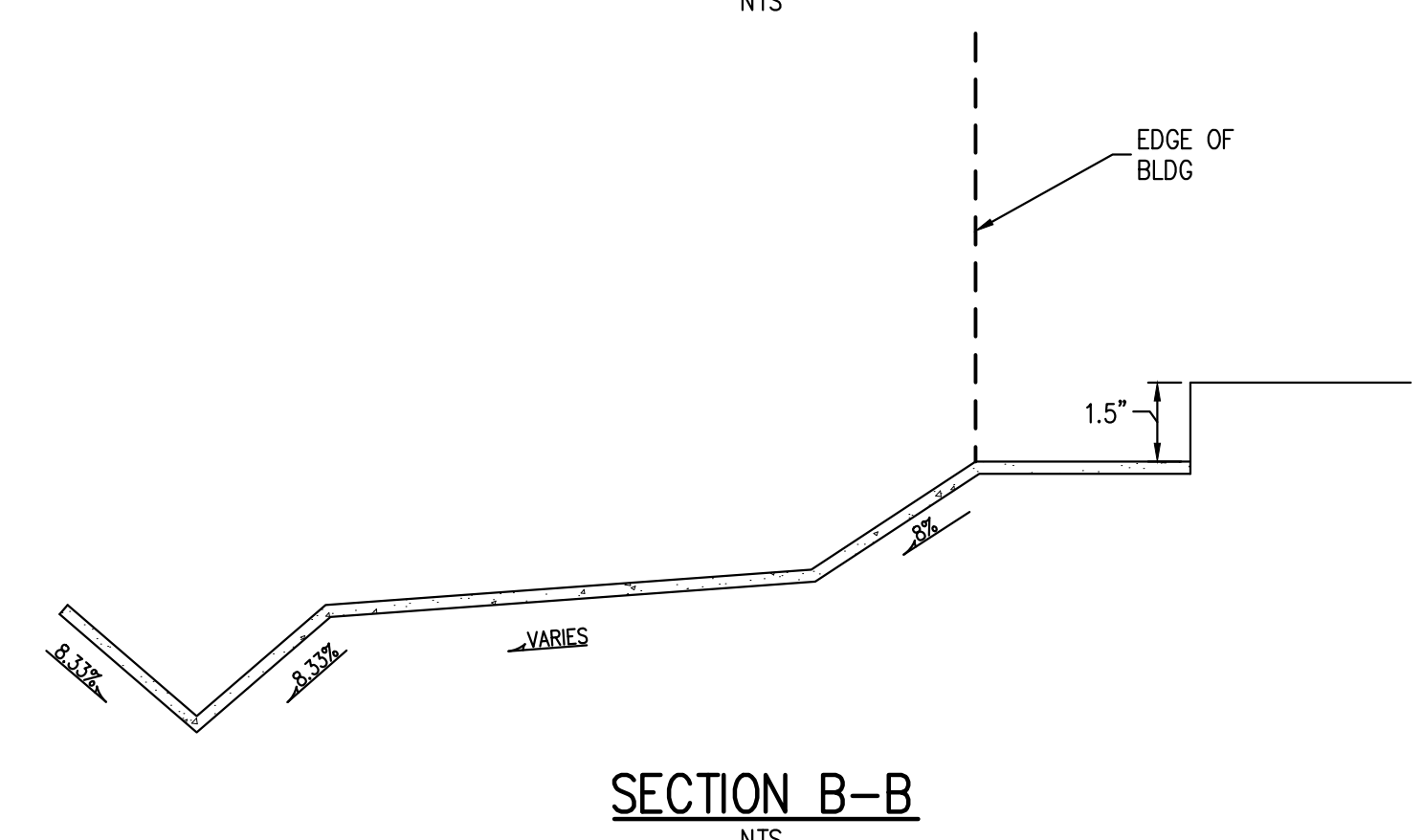
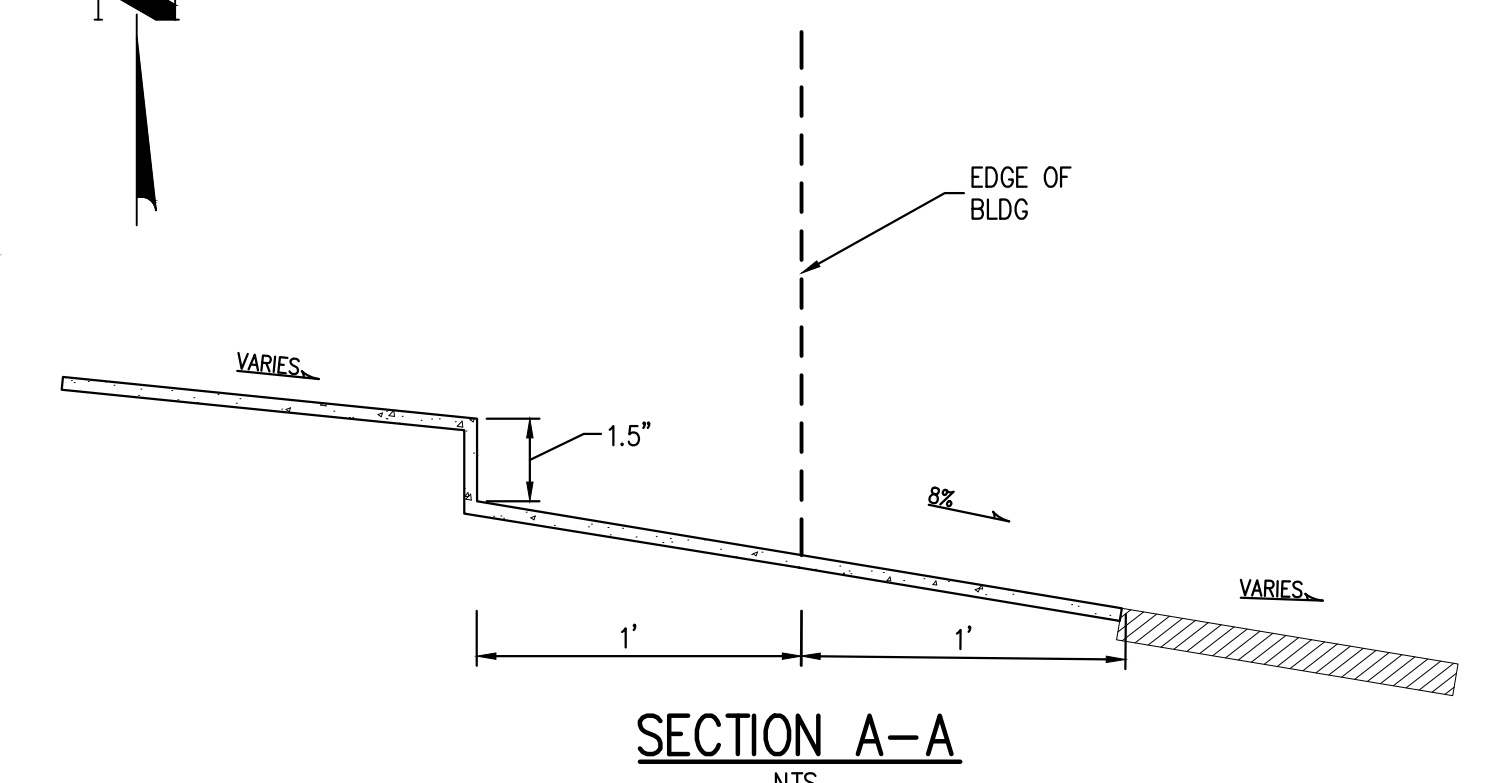
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PLOTTED: WED 02/27/19 7:43:56A BY: TIM HOFFMAN

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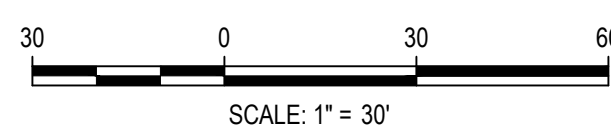
- 4" PORTLAND CEMENT CONCRETE SIDEWALK
- 6" PORTLAND CEMENT CONCRETE (PER GEOTECHNICAL REPORT PREPARED BY PICKERING, COLE & HIVNER, LLC. ON 06/15/2017)
- 6.5" HOT MIX ASPHALT (PER GEOTECHNICAL REPORT PREPARED BY PICKERING, COLE & HIVNER, LLC. ON 06/15/2017)
- PROPOSED 6" VERTICAL CURB & GUTTER (2' CATCH)
- PROPOSED 6" VERTICAL CURB & GUTTER (2' SPILL)



FILEPATH: P:\70108\ENGINEERING\ROADWAY\CD - PAVING SIGNAGE & STRIPING PLAN.DWG LAYOUT: LAYOUT1
DESIGNED BY: JMN
CHECKED BY: MSM
PLOTTED: WED 02/27/19 7:43:17A BY: TIM HOFFMAN



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



DESIGNED BY: JMN
CHECKED BY: MSM
DRAWN BY: JMN

HKS HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
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HarrisKocherSmith.com

BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
PAVING, SIGNAGE & STRIPING PLAN

ISSUE DATE: 07-03-2018		PROJECT #: 170108
DATE	REVISION COMMENTS	
11-12-2018	PER CITY OF LOVELAND COMMENTS	
02-25-2019	PER CITY OF LOVELAND COMMENTS	

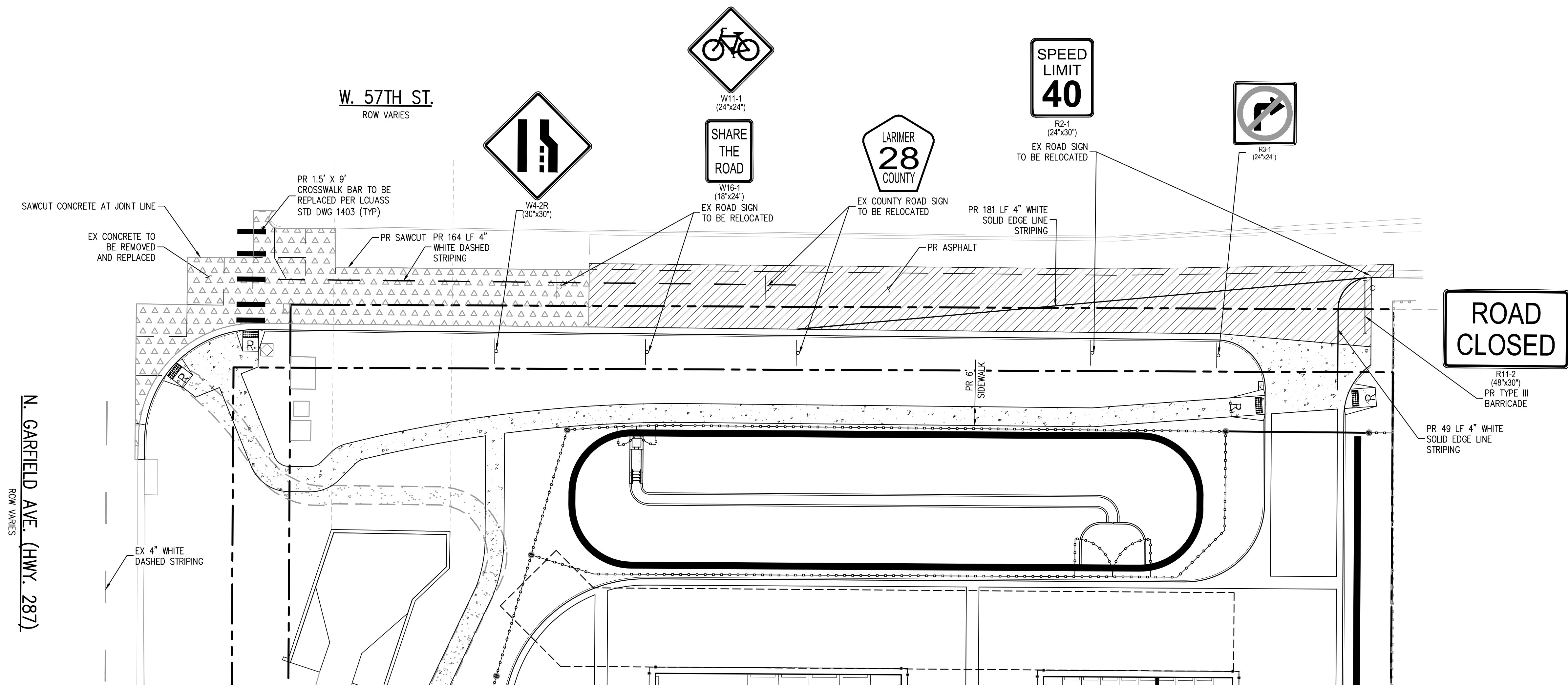
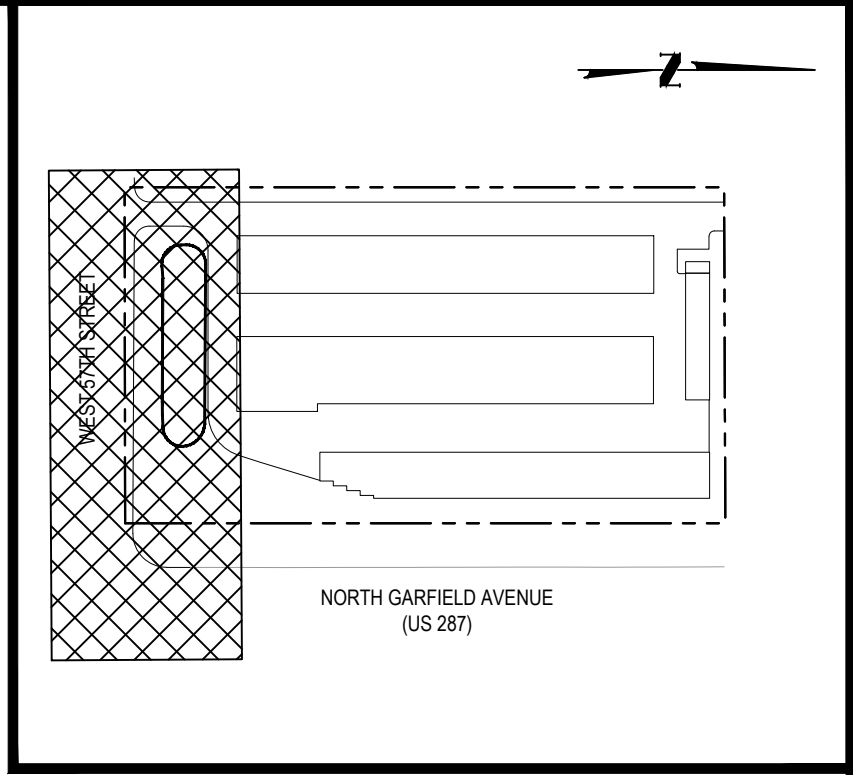
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CONSTRUCTION

SHEET NO.

33

33 OF 37

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.



LEGEND:

- 6" PORTLAND CEMENT CONCRETE
(PER GEOTECHNICAL REPORT PREPARED BY
PICKERING, COLE & HIVNER, LLC. ON 06/15/2017)
- 6.5" HOT MIX ASPHALT
(PER GEOTECHNICAL REPORT PREPARED BY
PICKERING, COLE & HIVNER, LLC. ON 06/15/2017)

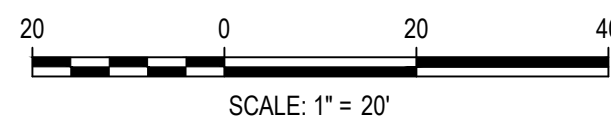
NOTE:

THE LAYOUT OF ALL SIGNING AND STRIPING USING 3-M TEMPORARY TAPE
AT A MINIMUM OF 50' SPACING SHALL BE APPROVED BY THE CITY
STREET INSPECTOR PRIOR TO THE INSTALLATION.

FILE: 1710108-ENGINEERING-ROADWAY-CD - 57TH STREET SIGNAGE AND STRIPING.DWG LAYOUT: LAYOUT1
5/26/2018 10:00 AM
PLOTTED: WED 02/27/19 7:43:29A BY: TIM HOFFMAN



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OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER
UTILITIES.



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DRAWN BY: JMN

HKS HARRIS
KOCHER
SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS
57TH STREET PAVING, SIGNAGE & STRIPING

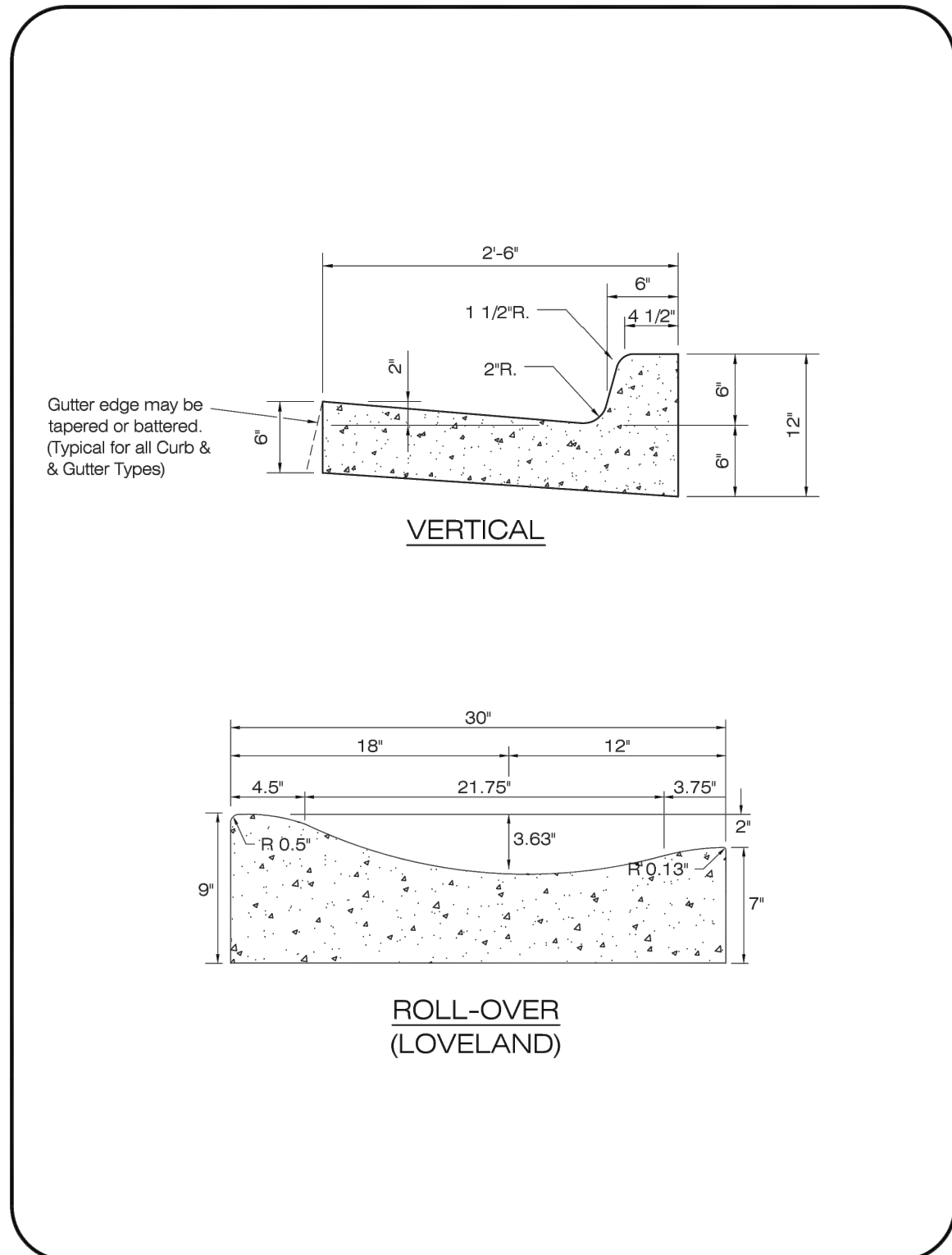
ISSUE DATE: 07-03-2018		PROJECT #:	170108
DATE	REVISION COMMENTS		
11-12-2018	PER CITY OF LOVELAND COMMENTS		
02-25-2019	PER CITY OF LOVELAND COMMENTS		

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CONSTRUCTION

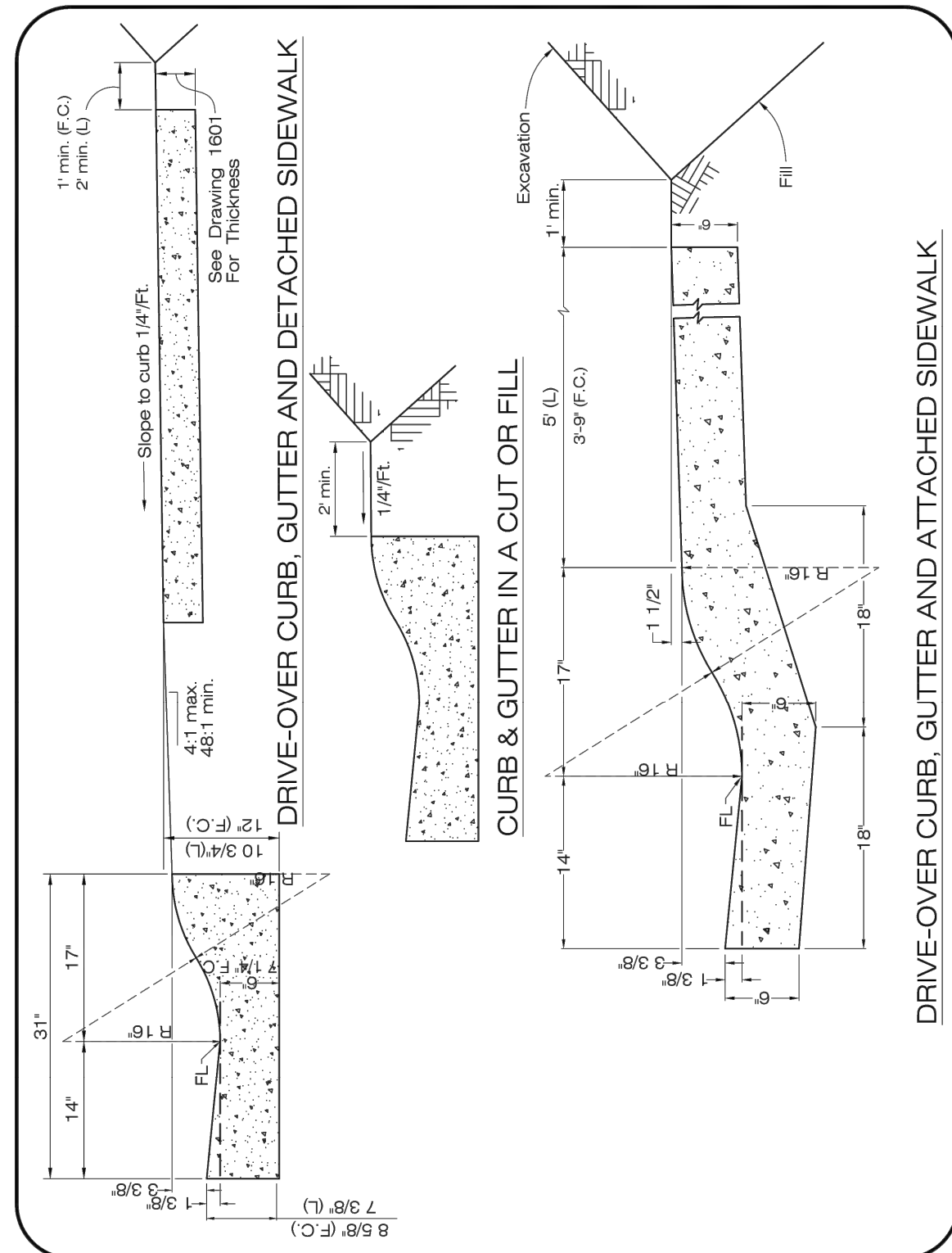
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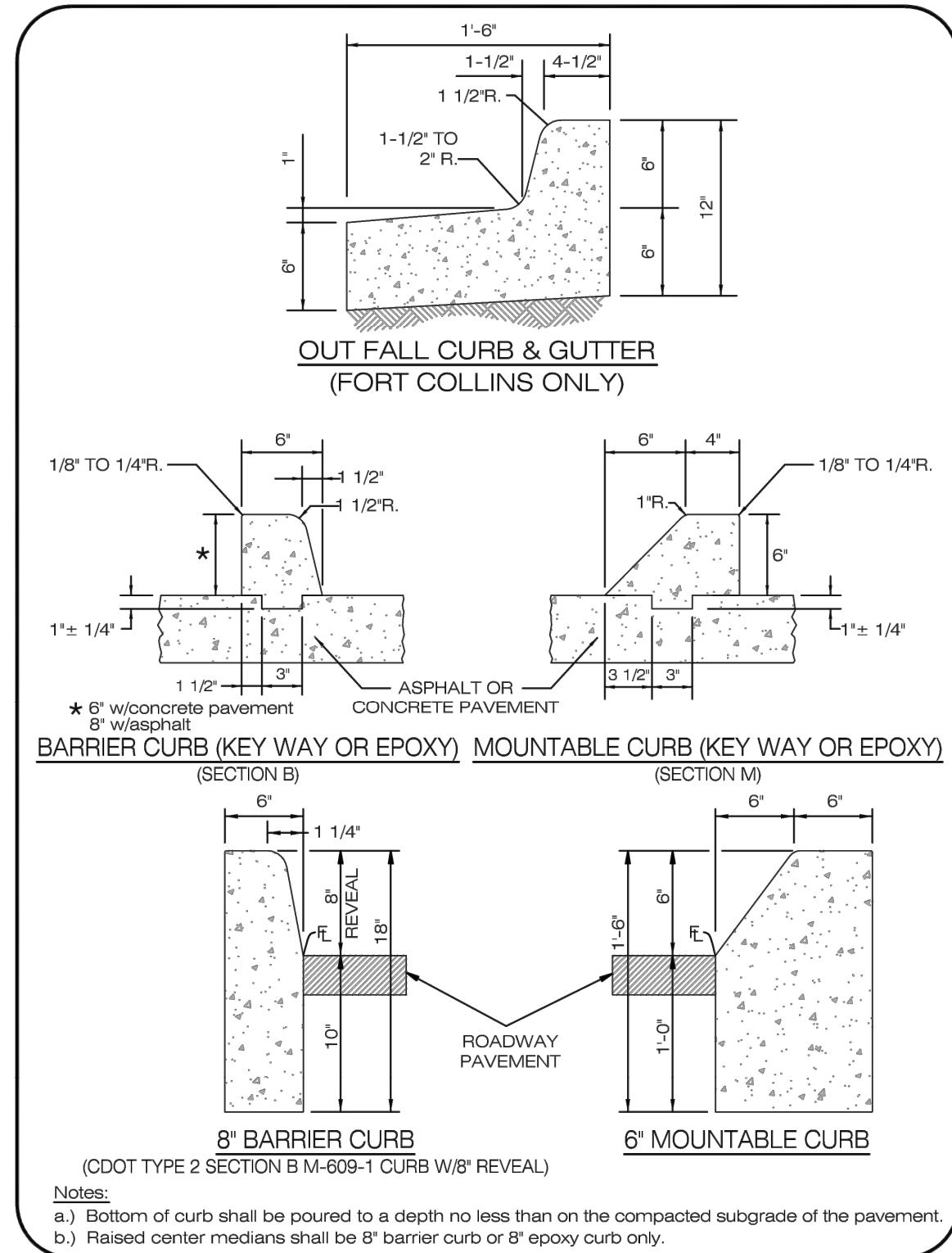
34 OF 37



CURB AND GUTTER			
LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1	DRAWING 701
		DATE: 03/01/02	

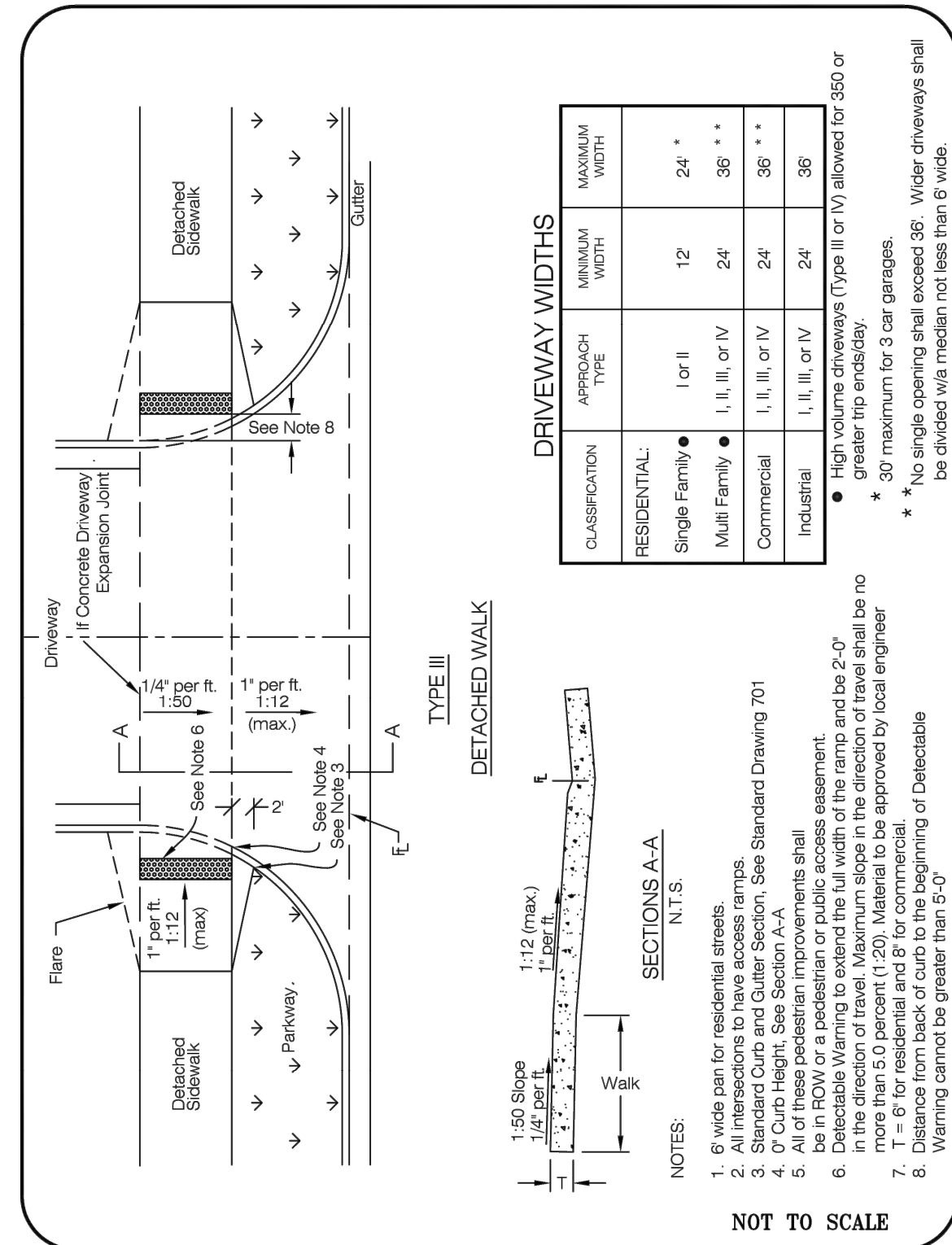


CURB AND GUTTER/SIDEWALK			
LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1	DRAWING 702
		DATE: 03/01/02	

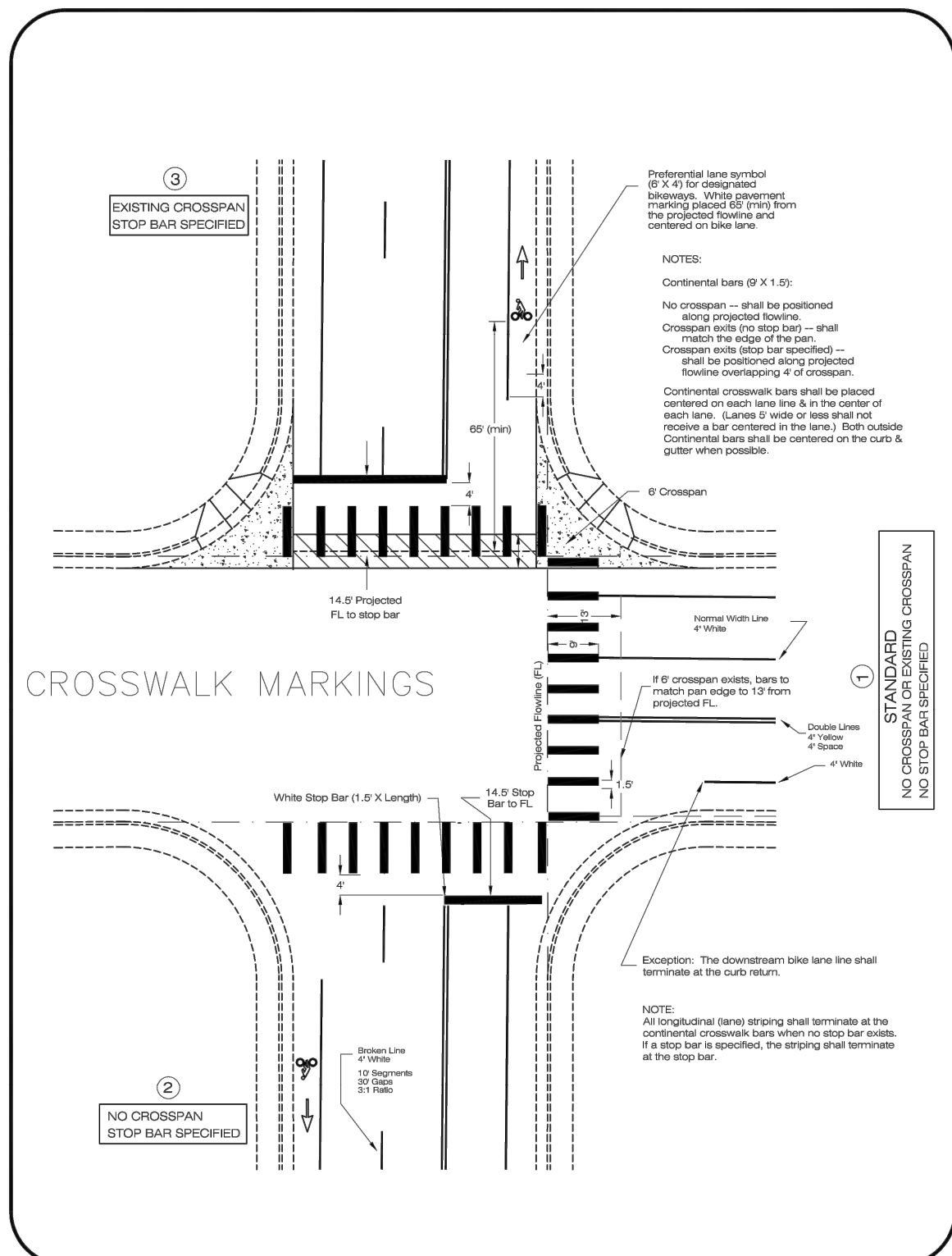


MEDIAN (ISLAND CURBS)			
LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 2	DRAWING 703
		DATE: 04/01/07	

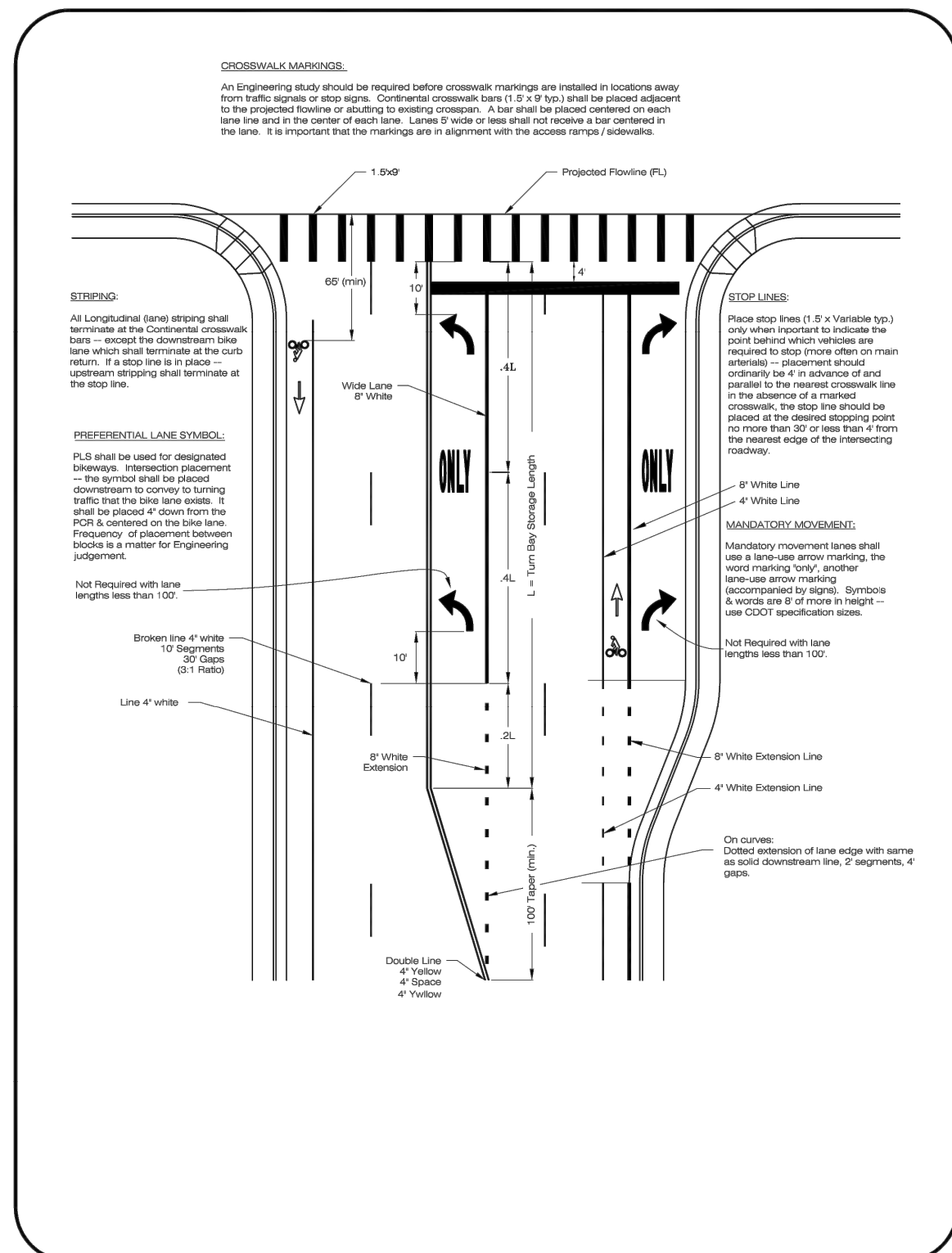
57TH STREET EMERGENCY ACCESS DRIVEWAY



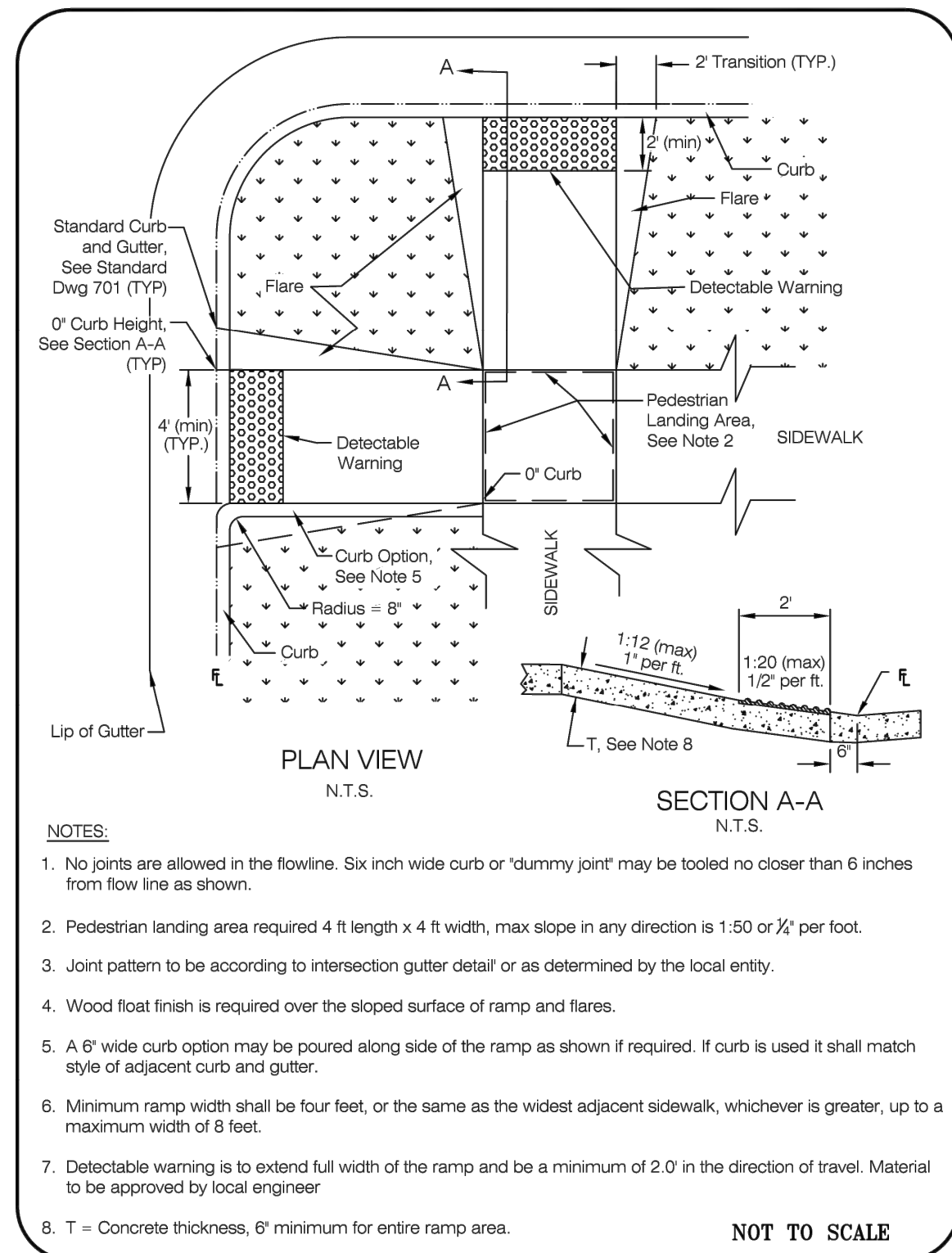
STANDARD DRIVEWAY APPROACH (HIGH VOLUME DRIVE TYPE III)			
LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1	DRAWING 707.1
		DATE: 02/17/15	



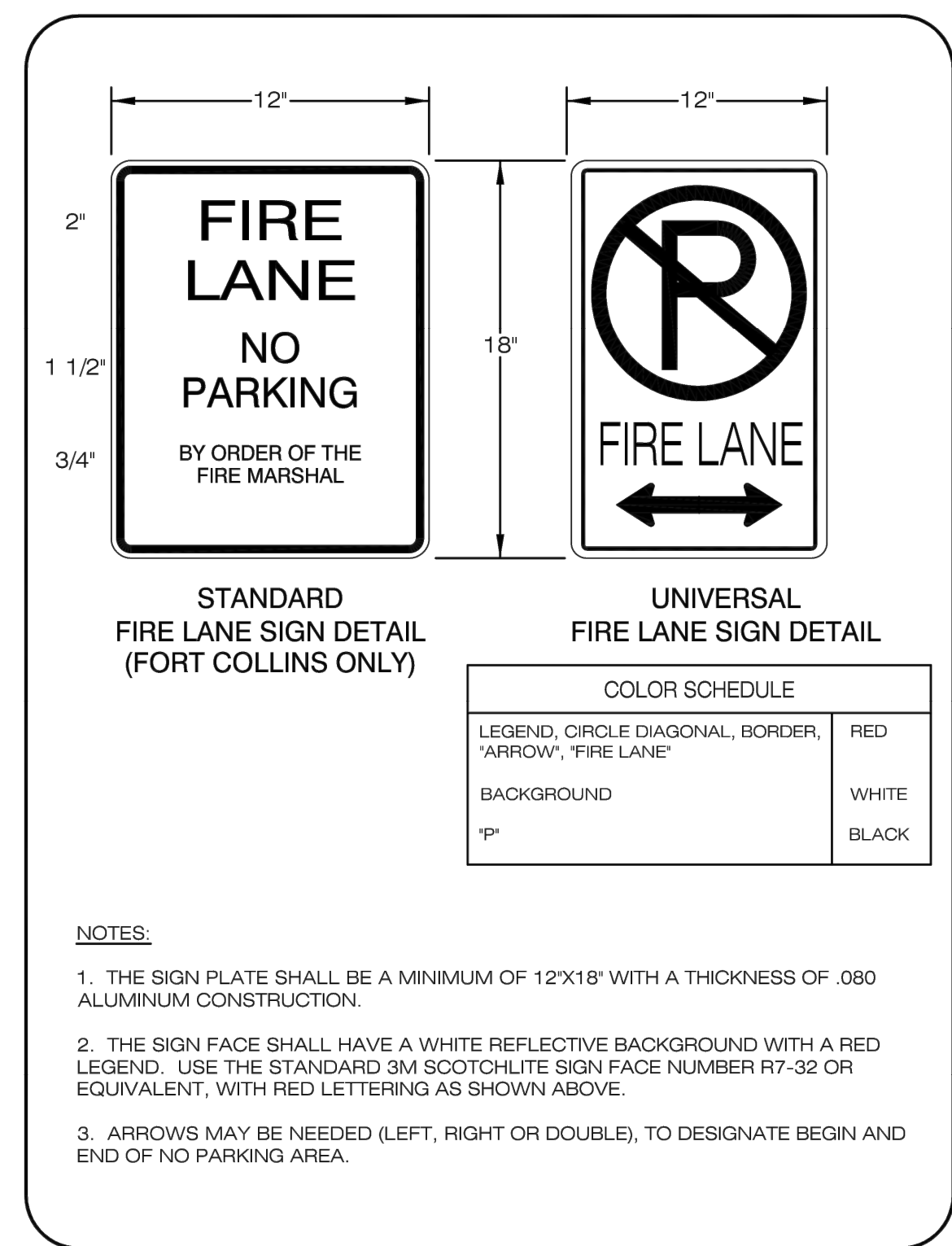
STANDARD PAVEMENT MARKINGS			
LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1	DRAWING 1403
		DATE: 03/01/02	



STANDARD PAVEMENT MARKINGS W/TURN LANE			
LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1	DRAWING
		DATE: 03/02/01	1404



DIRECTIONAL ACCESS RAMP DETAIL & DETACHED SIDEWALK			
LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 2	DRAWING
		DATE: 02/17/15	1606



FIRE ACCESS ROAD SIGNS			
LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 2	DRAWING 1418
		DATE: 04/01/07	



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DESIGNED BY: JMN
CHECKED BY: MSM
DRAWN BY: JMN



BIGHORN RV STORAGE LLC

PUBLIC IMPROVEMENTS CONSTRUCTION PLANS

ROAD DETAILS

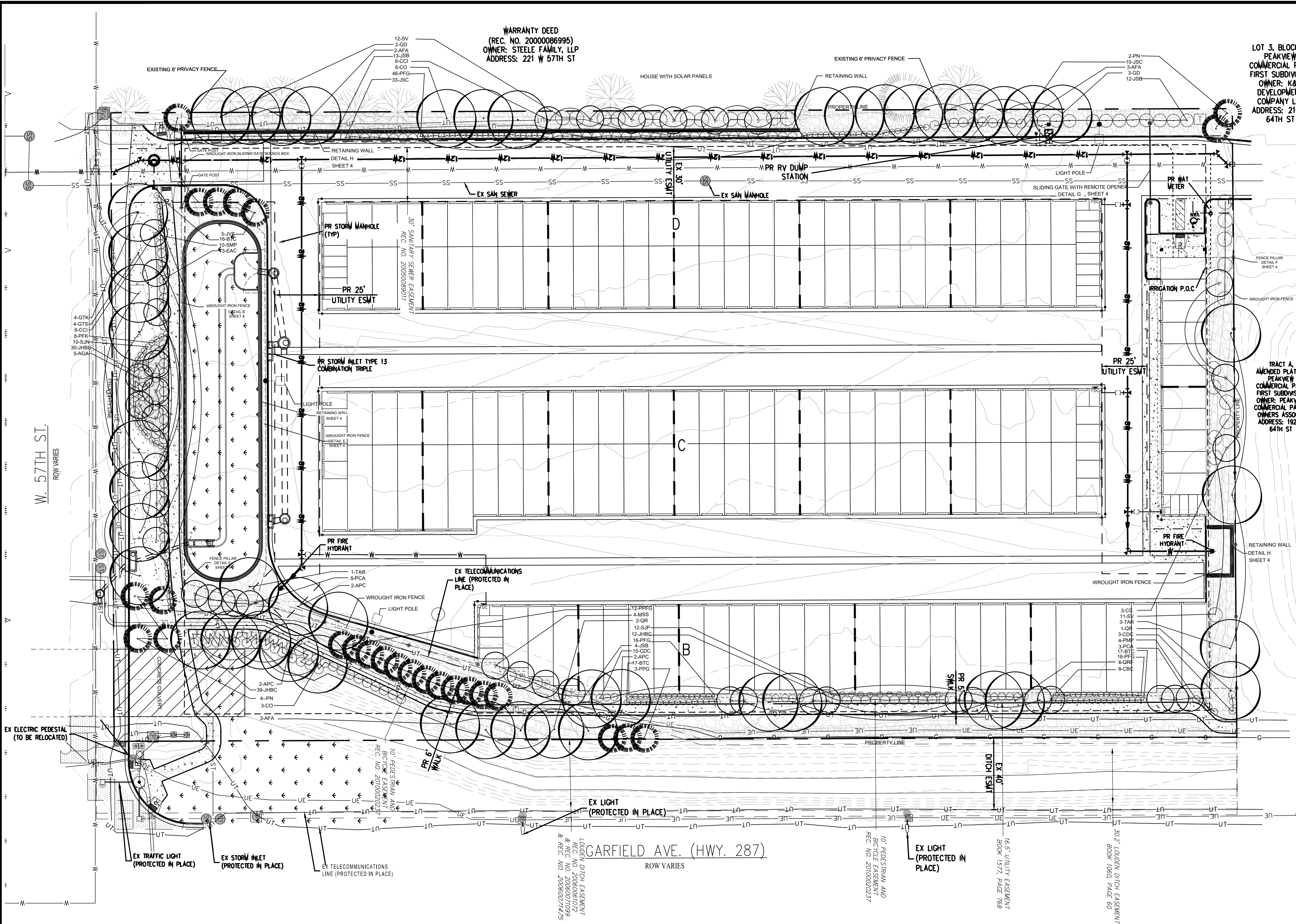
ISSUE DATE: 07-03-2018		PROJECT #: 170108
DATE	REVISION COMMENTS	
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02-25-2019	PER CITY OF LOVELAND COMMENTS	

PRELIMINARY
NOT FOR
CONSTRUCTION

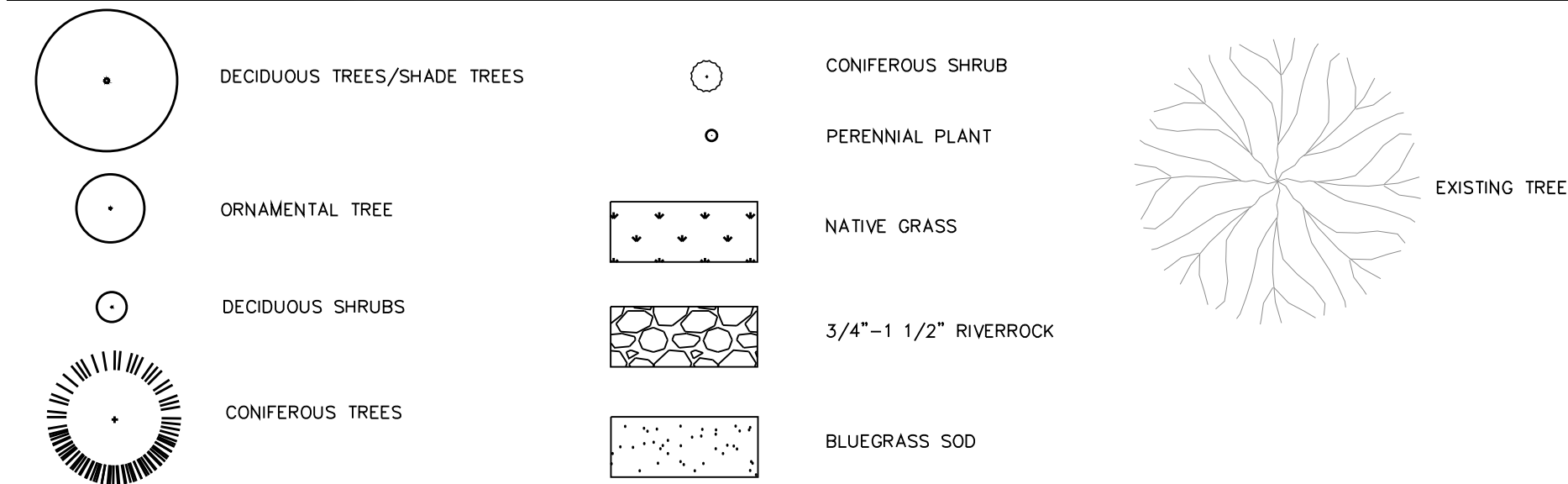
SHEET NO.

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LANDSCAPE LEGEND



PLANT LIST

KEY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES	QTY
DECIDUOUS TREES					
GTS	Gleditsia tiananthos inermis 'Shadem'	Shademaster Locust	2" cal	B+B	4
GD	Gymnocladus dioica	Kentucky Coffee Tree	2" cal	B+B	5
GTK	Gleditsia tiananthos inermis 'Skyline'	Skyline Locust	2" cal	B+B	4
TAR	Tilia americana 'Greenspire'	Greenspire Linden	2" cal	B+B	4
QR	Quercus robur	English Oak	2" cal	B+B	3
AFA	Acer x freemannii 'Autumn Blaze'	Autumn Blaze Maple	2" cal	B+B	8
CO	Celtis occidentalis	Western Hackberry	2" cal	B+B	9
APC	Acer platanoides 'Columnar'	Columnar Norway Maple	2" cal	B+B	6
QRF	Quercus robur 'Crimschmidt'	Crimson Spire Columnar Oak	2" cal	B+B	4
ORNAMENTAL TREES					
AGA	Amelanchier graniflora 'Autumn Brill'	Autumn Brilliant Serviceberry	1.5' cal	B+B	5
CCI	Crataegus crus-galli inermis	Thornless Cockspur Hawthorn	1.5' cal	B+B	12
CC	Cercis canadensis	Eastern Redbud	1.5' cal	B+B	3
MSS	Malus Spring Snow	Spring Snow Crab	1.5' cal	B+B	4
CBC	Carpinus betulus 'Columnaris'	European Columnar Hornbeam	1.5' cal	B+B	8
PCA	Pyrus calleryana 'Autumn Blaze'	Autumn Blaze Pear	1.5' cal	B+B	8
EVERGREEN TREES					
PPFG	Picea pungens 'Fastigiata'	Columnar Blue Spruce	6' ht.	B+B	12
PPG	Picea pungens glauca	Colorado Blue Spruce	6' ht.	B+B	3
PN	Pinus nigra	Austrian Pine	6' ht.	B+B	6
JVS	Juniperus virginiana 'Skyrocket'	Skyrocket Juniper	5 gal.	6' o.c.	1
EVERGREEN SHRUBS					
JSB	Juniperus sabina 'Buffalo'	Buffalo Juniper	5 gal.	4' o.c.	35
PMP	Pinus mugo 'Pumilo'	Dwarf Mugo Pine	5 gal.	4' o.c.	4
JHBC	Juniperus horizontalis 'Blue Chip'	Blue Chip Juniper	5 gal.	5' o.c.	80
JSC	Juniperus sabina 'Calgary Carpet'	Calgary Carpet Juniper	5 gal.	5' o.c.	43
DECIDUOUS SHRUBS					
BTC	Berberis thunbergii 'Crimson Pygmy'	Crimson Pygmy Japanese Barberry	5 gal.	5' o.c.	50
SJN	Spiraea japonica 'Neon Flash'	Neon Flash Spiraea	5 gal.	3' o.c.	0
EAC	Euonymus alata 'Compactus'	Dwarf Burning Bush	5 gal.	3' o.c.	13
SMP	Syringa meyeri 'Palibin'	Dwarf Korean Lilac	5 gal.	4' o.c.	10
SV	Syringa vulgaris	Albert Holden Lilac	5 gal.	8' o.c.	23
PFK	Potentilla fruticosa 'Kathryn Dykes'	Kathryn Dykes Potentilla	5 gal.	3' o.c.	8
CDC	Cotoneaster dammeri 'Coral Beauty'	Coral Beauty Cotoneaster	5 gal.	5' o.c.	18
PFG	Potentilla fruticosa 'Gold Drop'	Gold Drop Potentilla	5 gal.	3' o.c.	78
SJP	Spiraea japonica 'Little Princess'	Little Princess Spiraea	5 gal.	3' o.c.	12
SKV	Spiraea vanhouttei 'Renaissance'	Vanhoutte Spiraea	5 gal.	6' o.c.	18

NOTE: IN THE EVENT OF A DISCREPANCY BETWEEN THE PLAN GRAPHIC AND THE LANDSCAPE LEGEND, THE PLANT MATERIAL QUANTITY AS DETERMINED BY THE PLAN GRAPHIC SHALL TAKE PRECEDENCE.

NOTE: SHORT GRASS PRAIRIE NATIVE SEED MIXTURE. THIS MIXTURE IS TO BE USED BETWEEN OCTOBER 15th AND March 30th ONLY AT A RATE OF 30.75 PLS LBS/ACRE

BUFFERYARD REQUIREMENTS

EAST Side Zoned HIGHWAY 287 - 600' Bufferyard D (Area restricted by ditch easement, utilities, and pedestrian path easement)					
TYPE BASE STANDARD (PLANTS PER 100' LINEAR FEET)	OPTION WIDTH	PLANT MULTIPLIER	PLANTS REQUIRED	PLANTS PROPOSED	
4- CANOPY TREES	25'	.8	20	20	
4 - ORNAMENTAL	25'	.8	20	20	
35 - SHRUBS	25'	.8	168	168	
3 - EVERGREEN TREES	25'	.8	15	15	

NORTH Side Empty Lot 300' Bufferyard A					
TYPE BASE STANDARD (PLANTS PER 100' LINEAR FEET)	OPTION WIDTH	PLANT MULTIPLIER	PLANTS REQUIRED	PLANTS PROPOSED	
1 - CANOPY TREES	15'	1.00	3	3	
1 - ORNAMENTAL	15'	1.00	3	3	
3 - SHRUBS	15'	1.00	9	11	

SOUTH SIDE MAJOR ATRTERIAL 57th STREET - 300' Bufferyard D (Area restricted by ditch easement and utilities and conc. culvert)					
TYPE BASE STANDARD (PLANTS PER 100' LINEAR FEET)	OPTION WIDTH	PLANT MULTIPLIER	PLANTS REQUIRED	PLANTS PROPOSED	
4- CANOPY TREES	15'	1.00	12	8	
4 - ORNAMENTAL	15'	1.00	12	11	
35 - SHRUBS	15'	1.00	105	96	
3 - EVERGREEN TREES	15'	1.00	9	7	

WEST SIDE MOBILE HOME PARK - 635' Bufferyard E (Area restricted by solar panel locations on neighboring property)					
TYPE BASE STANDARD (PLANTS PER 100' LINEAR FEET)	OPTION WIDTH	PLANT MULTIPLIER 6' PRIVACY FENCE	PLANTS REQUIRED	PLANTS PROPOSED	PLANTS EXISTING
5- CANOPY TREES	15'	1.25	40	16	10 LOCATED ALONG THE FENCE BOTH SIDE OF PROPERTY LINE
6 - ORNAMENTAL	15'	1.25	47.7	6	
30 - SHRUBS	15'	1.25	239	126	
4 - EVERGREEN TREES	15'	1.25	31.8	3	1

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DESIGNED BY: DRAFTER
CHECKED BY: REVIEWER
DRAWN BY: DRAFTER

HKS HARRIS KOCHER SMITH

1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

BIGHORN RV STORAGE LLC

USE BY SPECIAL REVIEW LANDSCAPE PLAN

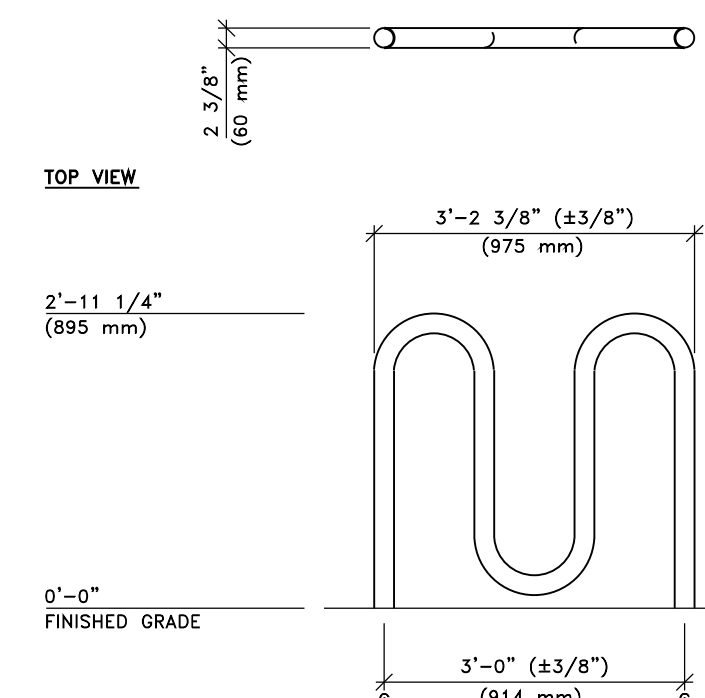
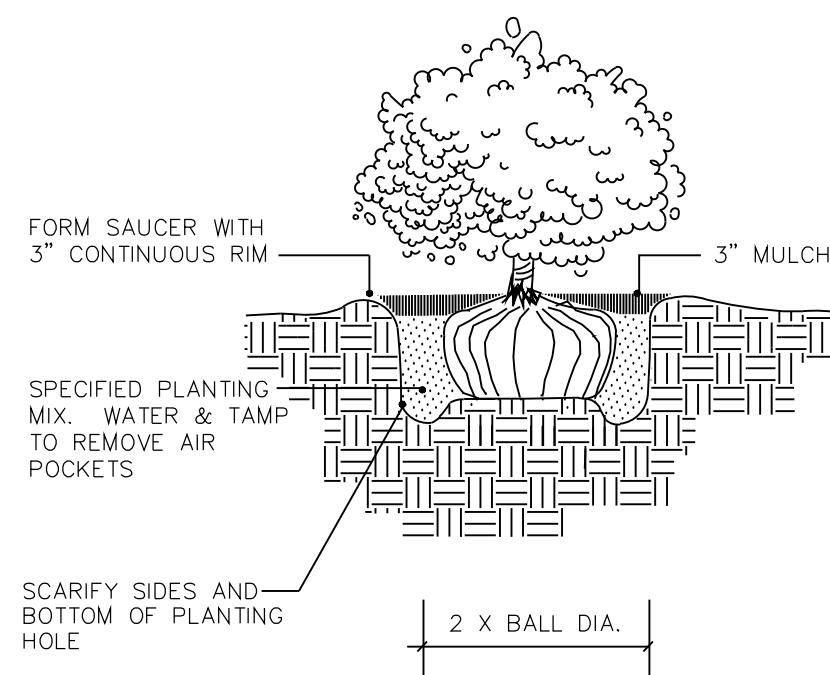
ISSUE DATE: 06-29-2018		PROJECT #: 170108	
DATE	REVISION COMMENTS		
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SHEET NO.

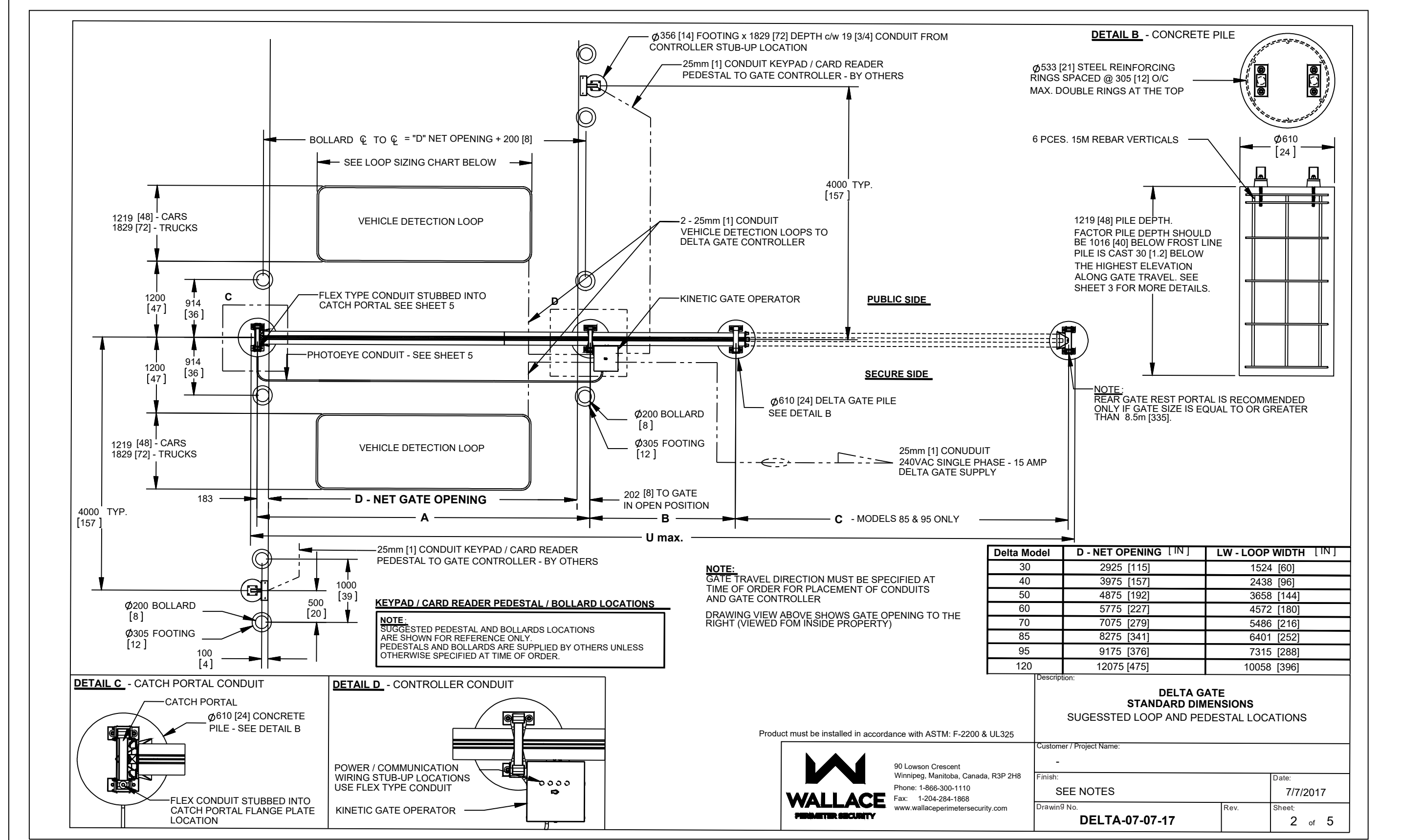
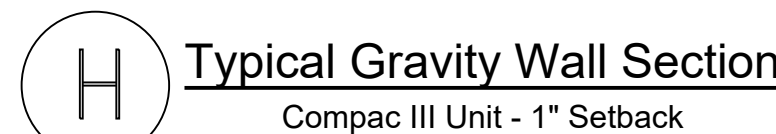
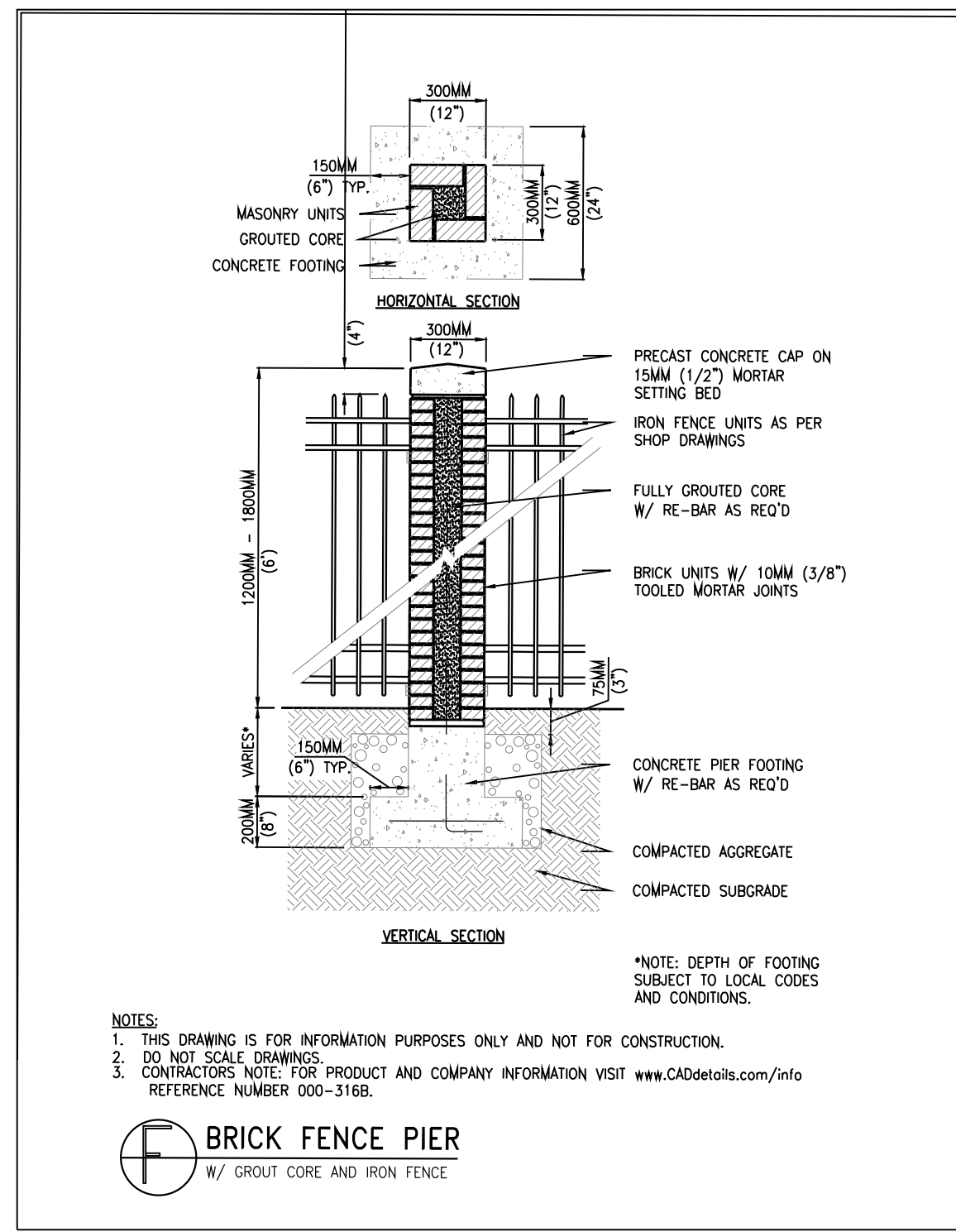
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1. All living plants required by the City of Loveland Site Development Performance Standards and Guidelines shall be maintained in a live and healthy state. Dead or unhealthy plants shall be immediately replaced with the size and type of plants required on the site development plan and by the City of Loveland Site Development Performance Standards and Guidelines
2. Scheduled sizes stated represent minimum caliper and height. Sizes provided may exceed minimum required, but in no event shall smaller plant material sizes be
3. Plant material shall be in accordance with ANA specifications for #1 grade.
4. The developer shall ensure that the landscape plan is coordinated with the plans done by other consultants so that the proposed grading, storm drainage, or other construction does not preclude installation and maintenance of landscape elements on this plan.
5. Landscape areas, unless otherwise noted shall be irrigated with an automatic underground irrigation system.
6. No shrubs shall be planted within five feet (5') radius or trees within ten feet (10') of water meters, fire hydrants, or sanitary sewer manholes.
7. Existing permanent landscape disturbed or damaged by construction shall be restored to its original condition, prior to final acceptance.
8. Areas designated "turf" shall be sodded with a bluegrass blended sod, installed on a prepared soil subgrade.
9. Soil amendments (including organic matter and fertilizers) that are appropriate for the intended plant materials, design of the site and soil conditions should be selected and used. Soil should be tilled and amendments incorporated to a minimum depth of 6 inches. The following schedule specifies the minimum solid amendment requirements per 1000 square feet of landscape area:
 - Bluegrass and High-Water Plantings: 3 cubic yards
 - Shrubs, Peennials and Moderate to Low-Water Plantings: 2 cubic yards
 - Xeric adn Very Low-Water Plantings (ie. Native Mixes):1 cubic yard or comparable treatment
10. Rock and Bark mulch shall consist of 3" of material laid over stabilized weed barrier except in detention pond area
11. The property owner or business association will be responsible for the maintenance and upkeep of all landscaping on site and within the abutting rights-of-way.
12. Roll top edging shall be used between irrigating turf and mulch areas
13. Developer shall be responsible for all on-site landscaping.
14. Developer shall be responsible for providing irrigation for all landscaping.
15. All trees, shrubs, and other plant materials located within clear sight triangles shall be trimmed in accordance with the requirements of Section 7 of the Larimer County Urban Area Street Standards (LCUASS). Under current LCUASS requirements, trees shall be limbed to a height of not less than eight (8) feet and shrubs and other plant materials shall be maintained at a height of not more than thirty (30) inches, and said maintenance shall be conducted in perpetuity. Trees are also required to be kept limbed up a minimum of 8' above all street sidewalks.
16. Non-irrigated Native Grass Shall be seeded and irrigated with temporary irrigation to establishment.
17. Underground utilities shall be located prior to installation of landscape. Plant material may be adjusted as to not conflict with utilities



© SHRUB PLANTING
NOT TO SCALE

[illegible]

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DESIGNED BY: DRAFTER
CHECKED BY: REVIEWER
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LANDSCAPE DETAILS