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April 23, 2020

Skip Bailey
20100 E 32nd Parkway, Suite 150
Aurora, CO 80011

Re: Initial Submission Review: Picadilly Road at 38th Avenue – Infrastructure Site Plan
Application Number: DA-2226-00
Case Number: 2020-6010-00

Dear Mr. Bailey:

Thank you for your initial submission, which we started to process on March 30, 2020. We reviewed it and attached our comments along with this cover letter. The first section of our review highlights our major comments. The following sections contain more specific comments, including those received from other city departments and outside agencies.

Since several important issues still remain, you will need to make another submission. Please revise your previous work and send us a new submission on or before May 14, 2020.

Note that all our comments are numbered. When you resubmit, include a cover letter specifically responding to each item. The Planning Department reserves the right to reject any resubmissions that fail to address these items. If you have made any other changes to your documents other than those requested, be sure to also specifically list them in your letter.

As always, if you have any comments or concerns, please give me a call. I may be reached at (phone number).

Sincerely,

Ryan Loomis, Senior Planner
City of Aurora Planning Department

Attachments: Xcel Energy Letter, April 16, 2020; Mile High Flood District, April 13, 2020

cc: Erik Morse, Ware Malcomb, 990 S Broadway, Suite 230, Denver, CO 80209
Scott Campbell, Neighborhood Services
Jacob Cox, ODA
Filed: K:\\$DA\2226-00rev1.rtf



Initial Submission Review

SUMMARY OF KEY COMMENTS FROM ALL DEPARTMENTS

- ✓ Provide a Phasing Plan Sheet and update the Letter of Introduction with a phasing description (Planning and Public Works)
- ✓ Provide property owner authorizations (Planning)
- ✓ Preliminary Drainage Report approval required (Public Works)
- ✓ Provide a Type 1 Mobility Hub near the 38th Avenue and Picadilly Road intersection (Transportation Planning)
- ✓ Landscape Plans required for the streetscape and detention pond (Landscape Design)
- ✓ Show and label proposed drainage easements for the ponds (Public Works)
- ✓ Fire hydrant locations and spacing (Fire / Life Safety)
- ✓ Median design and maintenance (PROS)
- ✓ Work with PROS to resolve regional trail alignments through Majestic Commerce Center
- ✓ Address and respond to comments from Xcel Energy and Mile High Flood District

PLANNING DEPARTMENT COMMENTS

- 1. Zoning and Land Use Comments** ([Ryan Loomis / 303-739-7220 / rloomis@auroragov.org](mailto:rylan@auroragov.org) / Comments in teal)
- 1A. Provide authorization from all underlying property owners. It appears, for example, that the project may include land owned by Green Valley Aurora, LLC, Clayton Properties Group II Inc., Picadilly Property 26th Avenue, and Public Service CO of Colorado. This must be uploaded with the next submittal.
- 1B. Include details about the phasing of the project in the Letter of Introduction.
- 1C. As discussed in Landscape Design Issues, landscaping must be included with the next submittal or staff will not accept the application.

ISP

Cover Sheet

- 1D. Update the title of the ISP to Picadilly Road at 38th Avenue to match the DA name and to be more specific.
- 1E. Identify where the future 38th Avenue intersection with Picadilly is on the vicinity map.
- 1F. Provide Signature Blocks for each underlying property owner or explain the method and timing of dedication that would preclude the need for their signatures.
- 1G. Include a legal description for the proposed right-of-way.
- 1H. Add the Mobility Hub note as provided in comment 2A below.
- 1I. Please provide an Amendment Block.
- 1J. Provide a Phasing Plan, such as what was provided for the 38th Ave - Odessa Street to E-470 ISP. See also comment 4B below from Public Works.

(Various Sheets)

- 1K. Please update Sheets C2, C3, C4, and C5 for correct property owners.
- 1L. Please add adjacent subdivision plat information on all sheets, where applicable.
- 1M. Please provide information and reference to the ISP for 38th Avenue, where applicable. It appears to be the 38th Ave - Odessa Street to E-470 ISP. Include the case number for this project as part of the reference.
- 1N. Please show the jurisdictional boundaries of Denver and Aurora on this map and as applicable on other sheets.
- 1O. On Sheet C9, the street cross sections need to more clearly identify the sidewalk and curbside landscape area. Include the dimensions of each in the cross section.
- 1P. On Sheet C9, label which cross-section is A and B, per the plan view section.

**2. Transportation Planning** (Tom Worker-Braddock / 303-739-7340 / tworker@auroragov.org)

2A. Please add the following note in Required Site Plan Notes on Cover Sheet: “NEATS Refresh (2018) identifies a future Type 1 Mobility Hub in the vicinity of the 38th Avenue and Picadilly Road intersection to support future high frequency transit routes along both Picadilly Road and 38th Avenue. Notes on project documents should specifically mention that Picadilly Road and 38th Avenue will have transit stops in future, specific locations to be determined with future coordination with RTD. These notes should also acknowledge that a mobility hub will be located in the vicinity of the Picadilly Road and 38th Avenue intersection, and that circulation will support walking and biking to the mobility hub. Mobility hubs would incorporate a combination of areas on the far side of intersections reserved for transit stops, long term bike parking such as bike lockers, parking locations for docked or dockless shared mobility vehicles (i.e. bike share or e-scooter share), information kiosks, and parking spaces reserved for publicly-available electric vehicle charging, and car sharing.”

3. Landscape Design Issues (Kelly Bish / kbish@auroragov.org / 303-739-7189 / Comments in bright teal)

Redlines to Cover Sheet and Notes (Sheet C1)

3A. A landscape plan shall be submitted with this Infrastructure Site Plan. See additional commentary in this plan set.

3B. Update the Site Plan Notes per the comment provided.

Redlines to Infrastructure Site Plan (Sheet C9, C10 and C11)

3C. Add the required street trees per code. While the letter of introduction and the response to the pre-application review comments indicates that the adjoining developer will be responsible for this, in this case there will not be an immediate adjoining developer as this streetscape along the east side contains detention pond areas that also require landscaping and cannot be further developed by an adjoining applicant.

3D. Provide landscaping for the detention ponds per code.

Redlines to Infrastructure Site Plan (Sheet 17)

3E. Landscaping needs to be provided for the regional pond with this application as this pond is being constructed with this application.

REFERRAL COMMENTS FROM OTHER DEPARTMENTS AND AGENCIES**4. Civil Engineering** (Kristin Tanabe / 303-739-7306 / ktanabe@auroragov.org / Comments in green)

4A. The Infrastructure Site Plan will not be approved by Public Works until the Preliminary Drainage Report is approved.

Redlines to Sheet C2

4B. Please include notes regarding phasing of improvements. Why is this portion of Picadilly included if it is not being designed with this ISP?

Redlines to Sheet C5

4C. Show/label proposed drainage easements for the ponds.

Redlines to Sheet C9, C10, and C11

4D. Please add the following note: A floodplain permit is required for any grading or construction within the floodplain, typical.

4E. Please clarify location of Pavement Inset, as not found. Please note that a pavement design will be required.

4F. Please label slopes, typical.

4G. Regarding the ponds, please show the following:

- Show/label proposed drainage easements, with access easement from drainage easements to public right of way;
- Show/label pond maintenance access;
- Show/label 100-year water surface elevations



4H. Please include BFEs. Please address same comment on Sheet C16 and C17.

4I. Please include FIRM panel and effective date. Please address same comment on Sheet C16 and C17.

4J. Please include a typical section detail of the bridge.

Redlines to Sheet C16

4K. Please note that this exhibit does not match the grading shown in the Olsson plans included in the drainage report.

4L. Please show pan for the trickle channel, typical.

4M. Refer to Comment 4G, as same comment applies to Sheet C16.

5. Traffic Engineering (Brianna Medema / 303-739-7336 / bmedema@auroragov.org / Comments in orange)

Please contact Brianna Medema for Traffic Engineering comments.

6. Fire / Life Safety (William Polk / 303-739-7371 / wpolk@auroragov.org / Comments in blue)

Redlines to Overall Site Plan (Sheet C6)

6A. Fire hydrants shall be placed between 3'6" and 8'0" from the edge of the fire lane easement or public way. Also, fire hydrants must be placed at least one foot in front or behind a sidewalk while still meeting the minimum back of curb clearance requirements. Please relocate these fire hydrants to be within the required distance.

6B. Place a fire hydrant at the shown location.

6C. Rotate all fire hydrants to face the adjacent road. See examples.

6D. Show the fire hydrant located on 26th.

6E. Show the location of all existing and proposed water mains and fire hydrants within or abutting this site. The location and bearing of existing fire hydrants located (within 400') outside the plan area shall utilize a fire hydrant symbol with an arrow identifying the distance from the symbol to the existing fire hydrant.

6F. Please relocate the noted label.

Redlines to Infrastructure Site Plan (Sheet C9)

6G. Please add this fire hydrant symbol to the legend.

7. Aurora Water (Stephen Dekoskie / 303-739-7490 / sdekoski@auroragov.org / Comments in red)

Redlines to Sheet C9

7A. The water main under First creek will have to be installed in a casing pipe. Will there be first creek channel improvements or bank stabilization?

Redlines to Sheet C10

7B. Please include inlet sizes and pipe sizes. Please also include on Sheet C11.

7C. Please note that vehicle maintenance access is required to the bottom of the pond and must also extend to the top of the outlet structure. If this is not going to be a tract, then A drainage easement with maintenance access is required for both ponds, I&M plans required. Regional ponds are to be designed and constructed to be MEP eligible by the MHFD.

Redlines to Sheet C14

7D. Please note that stockpiles can't be located over the sanitary manholes. SF is required around this stock pile.

Redlines to Sheet C15

7E. Please address if there has been coordination with the GMT well pad site. The proposed access to that site is through this area.

Redlines to Sheet C16

7F. Please delineate the floodplain.

7G. Please note the stock pile cannot be within the utility easement for the sanitary sewer interceptor. Access through the U.E. must remain open at all times. Stockpiles must be outside of all floodplains and will require additional BMPs.

**8. Real Property** (Maurice Brooks / 303-739-7294 / mbrooks@auroragov.org / Comments in magenta)

8A. See the red line comments on Sheets C9, C10 and C11 regarding easement dedications and licensing agreements. Contact Andy Niquette for the R.O.W. and easement dedications. Contact Grace Gray on the License Agreement process for the encroachment in the proposed easements.

9. PROS (Curt Bish / 303-739-7131 / cbish@auroragov.org / Comments in purple)

Redlines to Sheet C2

9A. Is ownership accurately identified at this northeast corner of the Picadilly Road and 26th Avenue intersection?

Redlines to Sheet C9

9B. Please note that because the sidewalk on the eastern side of Picadilly Road will serve as an important link for bicyclists to ride to nearby regional trails, a 2 foot wide shoulder should be provided at the same grade as the sidewalk with a maximum 2% cross slope that is free of obstructions.

9C. Please note the slope along Picadilly from the point shown up to 38th Avenue is too steep if maintenance access and regional trail access interfaces with the sidewalk somewhere here.

9D. The median design shall comply with PROS standards.

9E. Please note that no proposed facility is depicted to serve as the First Creek Trail access. Show the sanitary sewer access road as the connection from the regional trail to the sidewalk.

Redlines to Sheet C17

9F. For context, the planned First Creek Drainage Improvements should be shown, particularly in the event that grading for the pond takes place after the channel work is completed.

9G. Please address the following question: What consideration has been given to the impact that the shown detention ponds could have on the potential alignment of the Triple Creek and First Creek Trails? Please work with PROS to resolve regional trail alignments through Majestic Commerce Center.

Redlines to Sheet C18

9H. Please address the following questions: Is the elevation of the trail above the 10-year floodplain? What will be the 10-year flood elevation based on the drainageway planning and design? What would it take to mitigate flooding hazards for the trail?

10. Regional Transportation Authority (Clayton Woodruff / 303-299-2943 / clayton.woodruff@RTD-Denver.com)

10A. RTD has no comments on this project at this time as RTD does not currently have service in this area, but ideally the key is to make sure that for future service the tree lawns of all developments stay less than 2% to limit the amount of reconstruction necessary to install bus stops in the future.

11. Xcel Energy (Donna George / 303-571-3306 / donna.l.george@xcelenergy.com)

11A. See attached letter addressing coordination with Xcel regarding existing natural gas and electric distribution and transmission facilities within the proposed project area.

12. Mile High Flood District (Teresa Patterson / 303-455-6277)

12A. Please see the attached letter, which requests the following:

- Sheets C15 and C17 appear to indicate that a sanitary sewer alignment runs through the stockpile area and crosses First Creek several times. Please show this alignment on plan and profile sheets to better understand how it interacts with proposed development.
- The northern WQ pond appears to have two outlet structures. Is this accurate?
- It is understood, per the MOU with Aurora, that designs may change as needed to accommodate First Creek channel improvements. Based on the proximity of both the stockpile and regional detention pond to the First Creek corridor, changes may be needed to avoid constricting the stream.
- Please provide supporting calculations and design for the Picadilly bridge improvements when they are available so that the District can verify the channel will be sufficiently protected.

MAINTENANCE ELIGIBILITY PROGRAM (MEP)

MHFD Referral Review Comments

For Internal MHFD Use Only.	
MEP ID:	108101
Submittal ID:	10004620
MEP Phase:	Referral

Date: April 13, 2020
To: Ryan Loomis
Via email
RE: MHFD Referral Review Comments

Project Name:	Picadilly Road at 38 th Avenue (RSN # 1436123)
Drainageway:	First Creek

This letter is in response to the request for our comments concerning the referenced project. We have reviewed this proposal only as it relates to maintenance eligibility of major drainage features, in this case:

- WQ Pond (west of Picadilly Road) outfalls and spillways
- Picadilly Road Bridge Improvements (First Creek Channel Improvements)
- Regional Detention Basin

We understand that the information provided is preliminary. Additional information will be required for all of the above MEP Improvements before design approval. The review provided at this point is high level, so more detailed comments should be expected in the future. We have the following comments to offer:

- 1) Sheets C15 and C17 appear to indicate that a sanitary sewer alignment runs through the stockpile area and crosses First Creek several times. Please show this alignment on plan and profile sheets to better understand how it interacts with proposed development.
- 2) The northern WQ pond appears to have two outlet structures. Is this accurate?
- 3) We understand, per the MOU with Aurora, that designs may change as needed to accommodate First Creek channel improvements. Based on the proximity of both the stockpile and regional detention pond to the First Creek corridor, changes may be needed to avoid constricting the stream.
- 4) Please provide supporting calculations and design for the Picadilly bridge improvements when they are available so that the District can verify the channel will be sufficiently protected.

We appreciate the opportunity to review this proposal. Please feel free to contact me with any questions or concerns.

Sincerely,



Teresa Patterson, P.E., CFM
Project Manager, Watershed Services
Mile High Flood District



Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

April 16, 2020

City of Aurora Planning and Development Services
15151 E. Alameda Parkway, 2nd Floor
Aurora, CO 80012

Attn: Ryan Loomis

Re: Picadilly Road at 38th Avenue, Case # DA-2226-00

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has reviewed the infrastructure site plans for **Picadilly Road at 38th Avenue**. Please be aware PSCo owns and operates existing natural gas and electric distribution and *transmission* facilities within the proposed project area. Relating to the high-pressure natural gas transmission pipeline facilities, there must be an engineering review. PSCo is requesting that, prior to any final approval of the plans, it is the responsibility of the property owner/developer/contractor to contact PSCo's Encroachment Team for development plan review and execution of a License Agreement (upload all files in PDF format) at:

https://www.xcelenergy.com/working_with_us/builders/encroachment_requests and click on Colorado if necessary. An engineer will then be in contact to request specific plan sheets. Please see the attached Exhibit B for more information.

Should the project require any modification to the existing *distribution* facilities, the property owner/developer/contractor must complete the application process via [xcelenergy.com/InstallAndConnect](https://www.xcelenergy.com/InstallAndConnect).

As a safety precaution, PSCo would like to remind the developer to call the Utility Notification Center by dialing 811 for utility locates prior to construction.

Donna George
Right of Way and Permits
Public Service Company of Colorado dba Xcel Energy
Office: 303-571-3306 – Email: donna.l.george@xcelenergy.com

Exhibit B

Minimum Requirements for Grading and Excavation near Public Service Company of Colorado Transmission Pipeline(s)

1) General

- a. Colorado State Law Requires notification before excavation around utilities occurs. Requestor or Requestor's Contractor must call the Utility Notification Center of Colorado (UNCC) 1-800-922-1987 (811 when calling within Colorado) 48 hours prior to excavation, including the grading of the right of way, begins. Public Service Company of Colorado (PSCo) representatives provide these construction locates at its' cost as a participant in the one call system.
- b. All costs for labor, equipment and materials required to repair any damage to the pipeline(s) caused by Requestor or its' Contractors will be the responsibility of the Requestor and/or its Contractors for reimbursement to PSCo.
- c. Requestor's Contractor shall provide access to PSCo facilities on the project site for inspection by PSCo Personnel. Open excavations that need to be entered by PSCo Personnel shall conform to all federal, state and local jurisdictional codes and regulations governing safe entry and exit from open excavations.
- d. A fully executed agreement, applicable to the type of right being requested, between the Requestor and PSCo must be completed prior to construction activity within the PSCo ROW.
- e. Requests for installation of improvements by Requestor within the PSCo ROW must be reviewed and approved by PSCo High Pressure (HP) Gas Engineering and Operations. Installation of, and all costs associated with any improvements, are the responsibility of the Requestor. All costs associated with repairs or relocation of these improvements to accommodate PSCo Operations and Maintenance work on the existing pipeline(s) or installation of a new pipeline will be the responsibility of the Owner of record of the property at the time the work is performed.
- f. In the mutual interest of project coordination and scheduling of PSCo resources for your project, PSCo requests invitation to the Pre-Construction Meeting to obtain actual schedules and construction plans, make introductions and address any site specific conditions or project changes that have occurred between Final Design Review and Construction.
- g. Any exceptions to the Minimum Requirements stated in this document must be requested in writing and reviewed by PSCo HP Gas Engineering and Operations before approval for construction activity on the PSCo pipeline(s) permitted ROW is given.
- h. Any change in Requestor's construction plan and or scope of work that was agreed to between the Requestor and PSCo prior to, or during, construction must be presented to PSCo HP Gas Engineering and Operations for additional review and modification of requirements.
- i. Additional requirements may apply to address issues not foreseen during review of Requestor's proposal.

2) Engineering

- a. Specifications of weight and type of any heavy equipment or trucks planned to be run over or along the pipeline(s) are required to be submitted to PSCo HP Gas Engineering for analysis of excessive live load stresses induced on the pipeline(s) prior to approval for crossing is given.
 - i. Should calculated allowable stresses induced by Requestor equipment traveling over the PSCo pipeline(s) be exceeded, Requestor will be required to install additional temporary fill over the pipeline(s).
 - ii. If calculated allowable combined stress on the pipeline(s) can not be reduced below limits by adding additional protective fill over the pipeline(s) or the depth of additional fill is deemed impractical, a temporary bridging structure installed over the pipeline(s) will be required to mitigate the excess stress on the pipeline(s).
 1. This bridging structure must be constructed of timbers, plates or other material that does not allow the driving surface to come in contact with the ground surface. The supports for the driving surface of the bridging structure may be of dirt or other material with the inside edges of the supports placed a minimum of 5 feet from the center line of the PSCo pipeline(s).
- b. Requestor's Plans must contain surveyed horizontal location of the PSCo pipeline(s) throughout the project area based on current field locates. Surveyed vertical location of the PSCo pipeline(s) based on pothole information must be presented on the Proposed Construction Drawings Profile Sheets at all Requestor facility crossing locations of the pipeline(s) prior to final comment and approval of the plans.
- c. Locates and or potholing for the purpose of Requestor's engineering, design and construction drawings to establish the horizontal and vertical locations of PSCo facilities and all associated costs will be the responsibility of Requestor. A PSCo representative will be required to be on site during any pothole operations.
 - i. Potholing with excavation equipment during frost conditions will not be allowed unless contractor thaws ground prior to excavation. Potholing with vac-truck will be allowed under any conditions
- d. **Any excavator acting in a reckless manner while working in the area of Xcel Energy pipelines shall be asked to stop their work in that area. Work will not be allowed to continue until Xcel Energy personnel deem the situation has returned to a safe situation.**

e. Blasting Near PSCo Facilities

i. Notification

1. In accordance with Article 7 of Title 9 of CRS “Explosive Act”, Section 6.1.7, Utilities must be notified at least 24 hours prior to commencement of blasting activity. If Blasting is anticipated for this project an “Explosive Use Application and Notification” and the associated Agreement Document must be processed before blasting activities may commence near the PSCo pipeline(s). It is recommended that this notification be made at least one month in advance of actual blasting activities to allow for processing of these documents and any studies that may need to be performed to access the applicants blasting plan.

ii. Limits

1. Buried Pipe - Total Combined (Effective) Stresses on the pipe must not exceed **50%** of the specified minimum yield strength of the pipe.
 2. Above Ground Pipe –Blasting operations must not generate Peak Particle Velocity (PPV) greater than 1 in/sec.
- f. Vibrations from dynamic compaction equipment or other sources must be maintained at a peak particle velocity of not greater than 1 in /sec as measured in any one of the three components of a seismographic reading.

3) Inspection

- a. PSCo will require that one of its Field Operators be on site during the potholing, excavation, site grading, backfill operations, compaction, and installation of your facilities when working within the pipeline(s) easement and/or a minimum of fifteen (15) Ft from the outer limits of the locate marks for the PSCo pipeline(s). This standby expense is covered by PSCo during a normal 8 hour day Monday - Friday. Any time required in excess of 8 hours per day or weekend and holidays will be billed to the Third Party of the facilities under construction at the applicable PSCo Labor Overtime Rates and Equipment/Vehicle Rates.
- b. Requests for standby will be filled on a first-come, first-served basis, consistent with the number of personnel available for standby and Xcel Energy workload at that time. It is not our intent to unnecessarily impede the work schedule of the installation contractor, and we will strive to be as available as possible.
- c. Appointments for standby excavations shall be scheduled to minimize the amount of time Xcel Energy personnel are waiting during contractor setup. Contractors will be charged at the applicable straight time or overtime PSCo labor rate and Equipment/Vehicle per hour for time between appointment time and actual start time (i.e. a call for an 8:00 A.M. standby and actual construction start time of 10:00 A.M. will result in 2 hours of the applicable straight time or overtime PSCo labor and Equipment/vehicle charges)
- d. Frequency and duration of Field Operator Standby will be determined during the initial site visit with the Requestor’s Construction Contractor based on construction schedule and phasing of construction activities as they relate to work near the PSCo pipeline(s).

- e. Potholing frequency during construction will be at the discretion of the PSCo Inspector on site on an as needed basis based on field conditions and proximity of the excavation to the pipe.
- f. Potholing with excavation equipment during frost conditions will not be allowed unless contractor thaws ground prior to excavation. Potholing with vac-truck will be allowed under any conditions.

4) Construction

a. Grading, Excavation, Installation, Backfill

- i. A “Method of Construction Plan” shall be provided to PSCo HP Gas Engineering and Operations for review and approval prior to the beginning of construction.
- ii. For Parallel Encroachments, the recommended method of construction is to place the trench spoils between the Requestor line and the PSCo line and set the working side on the opposite side of the trench from the spoil pile.
 - 1. Alternate Method of Construction
 - a. Install a layer of straw or some other method of identifying the top of the existing ground elevation then place trench spoils on top of the line. During backfill operations, removal of the spoil shall stop at the level of the warning material.
 - b. Requests to work above existing PSCo pipeline(s), either on top of existing ground elevation or top of spoil pile, will be reviewed on a case by case basis. Requestor must provide specs for all equipment that will be traveling on top of the line for calculation of combined stresses for determination if allowable combined stress levels are exceeded prior to approval of this method
- iii. The maximum unsupported length of PSCo's 2” and larger diameter High Pressure Natural Gas pipeline(s) is **15** feet.
 - 1. Specific calculations can be made for pipe diameter’s greater than 2” in outside diameter to determine greater free span lengths.
 - 2. Should Requestor excavation require a greater length of the pipe be exposed than allowable stress limits dictate, plans for providing support will be required to be submitted to PSCo HP Gas Engineering for review and approval. This support system can be provided by the third party’s contractor and installed under the supervision of the on-site PSCo Energy Employee. A list of qualified pipeline contractors to perform this work, if needed, can be supplied to you if so requested.
- iv. If site re-grading leaves less than 36" of cover over the PSCo pipeline(s), the pipe will have to be lowered or additional protection measures installed over the pipe such as concrete capping or steel plating. Any mitigation measures, including engineering of such structures, will be at the expense of the Third Party of the facilities being constructed.
- v. Backfill operations around exposed sections of PSCo’s pipeline(s) shall be inspected by a PSCo representative.

- vi. Any sections of the PSCo pipeline(s) that are exposed during construction must be padded with material passing ¾” minus screens that is non-angular in shape to a depth of one (1) foot above the top of pipe before native material passing 6” minus screens or two (2) feet above the top of pipe before native material passing greater than 6” plus screens can be used for the remaining backfill. Bedding material of an angular nature and/or passing 2” minus screens may be used if rock shield, epoxy coating applied to a thickness of 30 mils or greater, or other abrasion resistant coating, is installed around the pipe over the entire exposed length. Installation of any such additional protective coating installation shall be inspected by a PSCo representative.
- vii. Utilization of flowable fill with cement or fly ash binder material may be utilized once one (1) foot of cover is established over the PSCo pipeline(s) with consolidated, non-abrasive, bedding material. The flowable fill must be able to be excavated with a shovel. The flowable fill shall extend ten feet on either side of the PSCo pipe and extend to the trench walls. The use of flowable fills is subject to approval of the local government authorities.
- viii. Other backfill material not requiring additional compactive effort to obtain required dry densities of the project specifications may be utilized around the pipe. Submittal of a backfill plan and material specifications shall be presented to PSCo HP Gas Engineering and local government authorities for review before approval is granted.
- ix. Permanently added fill over PSCo pipeline(s) shall not exceed a typical depth of cover of four (4) feet over the top of PSCo’s pipeline(s) at final grade. Exceptions due to terrain, grading requirements and re-establishment of slopes must be reviewed with PSCo HP Gas Engineering but shall not exceed eight (8) feet of cover over the top of the PSCo pipeline(s).

b. Compaction over PSCo Pipelines

- i. No heavy vibratory compaction equipment (driver operated) will be allowed over or along the length of the PSCo pipeline(s) in the area requiring compaction and for a distance of ten (10) feet on either side of the outside wall of the pipe and ten (10) feet from the ends of the pipe length at the compaction area limits if less than three (3) feet of cover is left over the pipe after sub excavation work is completed.
- ii. Light vibratory compaction equipment (jumping jacks, walk behind or remote control rollers) may be utilized once the minimum one (1) foot of bedding material cover over the top of the PSCo pipeline(s) is established.

c. Facility Crossings

- i. Buried Facility Crossings of the PSCo pipeline(s) will be required to go under or over the PSCo pipeline(s) with a minimum clearance of two (2) feet to the bottom or top respectively of the PSCo pipeline(s).
- ii. Buried facilities installed parallel to the PSCo pipeline(s) must maintain a minimum horizontal separation of ten (10) feet from the pipeline(s). If this minimum horizontal separation cannot be maintained, the top of the facility being installed will be required to be one (1) feet below the bottom of the PSCo pipeline(s) for every foot closer than ten (10) feet to the pipeline(s).

d. Improvements/Structure/Facility Placement

- i. No surface or sub-grade structures or utility facilities will be allowed within the PSCo ROW limits without plan review approval from PSCo HP Gas Engineering and Operations. Potential ignition source facilities shall be a minimum of fifteen (15) feet from the outside wall of the pipe

e. Landscape Installation

- i. No planting of vegetation will be allowed within the PSCo ROW limits without plan review approval from PSCo HP Gas Engineering and Operations. Under no circumstances will trees be allowed to be planted over the pipeline(s) within the PSCo ROW limits and shall be no closer than fifteen (15) feet from the outside wall of the pipe.

f. Cathodic Protection

- i. A copy of the Requestor Cathodic Protection (CP) System design shall be provided to PSCo for review prior to construction. .
- ii. At crossing locations, Stray Current Mitigation will be required if either pipeline is cathodically protected from a rectified ground bed system. At a minimum this shall consist of a run of two # 8 wires from Public Service Company (PSCo) pipe and 2 # 8 wires up from the third party facility pipe into a common or separate test station for bonding of the two systems together if necessary. The wires could either run to the test station in a common conduit or separate conduits. In addition, four 17# or larger anodes are to be placed in each quadrant of the crossing pipes and placed vertically equidistant between the two pipelines. PSCo will provide the material for its CP test station and assist **Requestor's** contractor with installation of the test station.
- iii. For parallel encroachments, at locations where third party is installing a CP Test Station, the third party will be required to expose the PSCo pipeline(s) for installation of a CP test station for monitoring of interference. PSCo will provide the material for its CP test station and assist the third party's contractor with installation of the test station.

5) Post Construction

a. Permanent Private Road Crossings

- i. Permanent private access roads intended for use by vehicles with a loaded single axle rating of less than or equal to CDOT load limits, must provide and maintain a minimum of **4** feet of cover over the PSCo pipeline(s). Any party needing to cross the PSCo pipeline(s) with vehicles in excess of the CDOT Load Limits per single axel must contact PSCo for additional requirements or place bridging structures over the located pipeline(s).
 - ii. Permanent private access roads intended for use by vehicles with a loaded single axle rating of less than or equal to 20,000 lb per axle, must provide and maintain a minimum of **4 (four)** feet of cover over the PSCo pipeline(s).
 - iii. Tracked equipment crossings of the PSCo pipeline(s) must be made via tractor/lowboy transport adhering to the restrictions of section 5.a.i. and 5.a.ii. If it is desired to track the equipment over the PSCo pipeline(s), PSCo must be contacted to calculate the limits for the specific piece of equipment or provide a bridging structure over the pipeline(s) in accordance with Section 2.a.ii.1.
- b. Four wheel all terrain sport and utility vehicles and dirt bikes are exempt from this section's restrictions. A minimum cover of twelve (12") inches of dirt over the pipe must be present before these vehicles can cross over the pipe.
 - c. It is recommended that Requestor install and maintain load limit signage at all road crossings of the PSCo pipeline(s).
 - d. PSCo will place pipeline markers at all permanent road crossings that are to remain at the conclusion of the installation of the Requestor pipeline.