



Date: February 25th, 2022

To: Aja Tibbs

From: Garrett Graham
PCS Group Inc.
P.O. Box 18287
Denver, CO 80218

This document is a response to the Jamaso (DA-2243-00) second submission comments submitted on October 4th, 2021 by the Office of Development Assistance. Responses are below in **RED**:

Second Submission Review

SUMMARY OF KEY COMMENTS FROM ALL DEPARTMENTS

- Update and resubmit the letter of introduction as requested. (Planning)
PCS Response: An updated letter of introduction has been submitted.

- Address phasing of each PA in the land use matrix in Tab 8. This chart should be consistent with the PIP and reflect a general list of improvements. (Planning)
PCS Response: Acknowledged, land use matrix has been updated per the redlines to match the PIP with general list of improvements.

- Add bike and pedestrian circulation to Tab 9. Where will amenities and transit spaces generally be? Consider transit access. (Planning)
PCS Response: General locations of pedestrian & bike circulation have been added to Tab 9. Per our conversation with the City on Nov 22, 2021, Colfax Ave is now being shown as E. 12th Avenue and our team has confirmed that no transit in the near future will be planned for this section of roadway.

- Add information about the sidewalk and bicycle improvements within the urban design standards. Coordinate these standards with the landscaping standards and the circulation plan. Provide general principles for the design, placement and priorities of site amenities and street furniture throughout the site. Require amenities for areas with high frequency and visibility such as along transit stops, and bike/ped routes. (Planning)



PCS Response: Acknowledged, extra information for sidewalks and bicycle improvements have been added to the Urban Design standards to address site furniture as high traffic areas along Powhaton Rd, plaza spaces, etc.

- The buffer along the north side of 12th avenue should be a minimum of 12' to meet the UDO. The UDO is the minimum standard. (Landscaping)

PCS Response: Per email coordination with Kelly Bish on Nov 2, 2021, we determined that that the current 10ft buffer as shown is correct. In this case, this ROW buffer along non-arterial E. 12th Ave is screening an adjacent industrial use. color

- There needs to be building perimeter and parking lot landscaping standards. The graphics found in Tab 10 do not discuss what the intended standards are. What are the standards for parking lots. Will there be berming required to screen with landscaping and if so, what quantities and types of plant material? What are the requirements for building perimeter landscaping? (Landscaping)

PCS Response: Acknowledged, perimeter and park lot landscape standards have been addressed with Tab 11.

- While the UDO states 50% of the tree species shall be evergreen in the buffer, in this case I believe the MP should be more restrictive and require 75% evergreen species. (Landscaping)

PCS Response: We have updated the buffer to require 75% evergreens. This note has been added to line item 8 of the Landscape Design Standards on Tab 11.1.

- Add note in PA-2, PA-4, PA-8 that transit stop improvements (requiring a depth of at least 8') can be accommodated on Powhaton when and if RTD extends service to this area. Specific layout and locations of those transit stops can be determined at that time. (Transportation Planning)

PCS Response: Acknowledged, this note has been added to the Land Use Map.

ILC Response: Text updated in the Public Improvement Plan narrative for PA-4 and PA-5 in accordance with planning documents and traffic engineers.

- Repeated comment: Providing a vicinity map or showing beyond the site will give context to the roadway network. It would be easier to see the improvements represented if there was a separate exhibit for each planning area. Not all of the roads are clearly identified and the narrative is not clear between collector streets and local roads. (Public Works)

ILC Response: A vicinity map is provided in the text portion of the Public Improvement Plan. The surrounding roads (arterial and highway) are labeled in a similar font size to the other text in the Public Improvement Plan.



- Identify potential future signalized intersections based on the traffic study. (Public Works)
LSC Response: The updated traffic study shows the potential future traffic signal locations within the study area.

- The section for Powhaton does not match typical sections in the Roadway Manual or any of the recommended sections from NEATS. (Public Works)
ILC Response: The Powhaton Road cross-section was updated after agreement during the November 19, 2021 meeting with the City.

- A local type 3 section is more appropriate for commercial/industrial development. (Public Works)
ILC Response: The cross-section was updated accordingly.

- Additional comments with management staff are required to determine if public roads are acceptable with in the development. (Public Works)
ILC Response: Noted.

- Interim improvements for Powhaton need to address bike lanes in each direction if the section is to indeed have on street bike facilities. (Public Works)
ILC Response: The Powhaton Road cross-section was updated to include a combined walk/bike path outside of the street pavement.

- Please contact Tony Tran at atran@auroragov.org to discuss the waterline connection on east side of site. (Water)
ILC Response: Tony Tran met with the ILC Team on October 7, 2021 to discuss the waterline. Coordination is ongoing.

- Provide more project information on the existing sanitary sewer system. What is/was the completion date? (Water)
ILC Response: At this time, there is no anticipated completion date for this future project.

- Proposed alignment is not a looped system. Can't serve any more than 1 hydrant from a dead-end line, and/or fire suppression line from a dead end main. P-4 by itself is not sufficient to provide this by itself. (Water & Life Safety)
ILC Response: A waterline has been added to adequately loop the system.



- Clarification is needed along with concurrence from Public Works. The PIP shows Powhaton to be a 144' of right-of-way but with a 4-lane, minor arterial cross section. If the road will be constructed to that standard with a painted median, language on the Land Use Map is not applicable and should be deleted. (PROS)
ILC Response: A meeting with the City on November 19, 2021 allowed for concurrence as to the Powhaton Road cross-section.
- The city would prefer to see the public art plan as a part of the master plan. A revision of the public art plan (Tab 7) was not included with this resubmittal. (Roberta Bloom/ Public Art)
PCS Response: A Public Art Plan has been coordinated with Roberta and has been submitted for review.
- Please coordinate with the County Transportation Division of the Engineering Services Division on roadway alignment through the properties in the County. (Arapahoe County Public Works)
ILC Response: The Team met with the County on November 8, 2021 to discuss the conceptual alignment. The County was scheduled to meet with the adjacent property's team shortly thereafter in which the County expected to discuss this alignment further for development considerations of the unincorporated land to the east.

PLANNING DEPARTMENT COMMENTS

1. **General Planning** (Aja Tibbs / atibbs@auroragov.org / 303-739-7227 / Comments in dark teal)

FDP Narrative – Tab 6

1A. Repeat Comment (a revised FDP Narrative was not included with this submittal): Please update the terms to match current standards and process requirements. Again, the FDP is now known as the Master Plan, the preliminary plat stage is now the site plan stage, the waiver process is now known as an adjustment, and there are no E-470/Eastern Plains regulations (just reference the Unified Development Ordinance – UDO)

PCS Response: An updated letter of introduction has been submitted.

Land Use Map – Tab 8

1B. How will PA-8 be accessed? There is no intersection or access drive drawn on the plan.

PCS Response: Per discussions with Aja, PA-8 will be accessed from the local road connection on the northeast corner of the planning area. PA-8 will not be accessed from Powhaton.

1C. Why are there two different acreages listed for PA-7 within the land use matrix?

PCS Response: Per discussions with Aja, 14.4 acres is the current working boundary of the oil and gas site that is temporary. Our client has worked with the O&G group to determine that PA-7's permanent / final boundary will be 8.7 acres.



1D. Please note in the land use matrix that areas PA-4 and PA-5 are planned for roughly ____ (fill-in) acres of detention.

PCS Response: Acknowledged, approximate detention acreages have been added to land use matrix in the comments section.

1E. Clarify the development planning area that each of the land dedication areas will be constructed within. For example, PA-10 will be required with the development of PA-5.

PCS Response: Acknowledged, Land Use Matrix has been updated to reflect development phasing for these landscape buffers.

1F. Remove zoning notes from the “Phasing, Details, and Comments” column and add phasing notes to be consistent with the PIP.

PCS Response: Rezone notes have been removed from the land use matrix comments.

1G. Correct the title of land use item #3 – there is no E-470 Subzone any longer.

PCS Response: E-470 subzone text has been removed from item 3.

1H. Remove note 12 if no adjustments will be requested.

PCS Response: Note 12 has been remove since we are currently not proposing any adjustments.

Open Space and Circulation Plan – Tab 9

1I. Add bike and ped circulation. Where will amenities and transit spaces generally be? Consider transit access to the development and how the pedestrian and bicycles will move throughout the site.

PCS Response: General locations of pedestrian and bike circulation have been added to Tab 9. Per discussions with City, no RTD transit will be anticipated along E 12th Ave.

1J. How will PA-8 be accessed? There is no intersection or access drive drawn on the plan.

PCS Response: Per discussions with Aja, PA-8 will be accessed from the local road connection on the northeast corner of the planning area. PA-8 will not be accessed from Powhatan.

Urban Design Standards – Tab 10

1K. Add information about the sidewalk and bicycle networks. Coordinate these standards with the landscaping standards and the circulation plan.

PCS Response: Acknowledged, Tab 10 has been updated to include sidewalk and bicycle networks within the street furniture standards in line item 6.



1L. Address design standards for employee plaza and other outdoor amenity spaces. Identify that brick pavers, tiles or other high quality, urban design elements will be provided ___ (where - on private property) These details should be present in areas with high pedestrian and visible locations - identify them in this plan. Also, what should the general style of these materials be?

PCS Response: Outdoor amenity paving has been addressed within the Urban Design standards and design imagery has been provided on Tab 10.17, specific locations will be identified on the site plan.

1M. Colfax is intended to be a high transit corridor in the long-term. Please address future placement of transit stops and amenities in the area.

ILC & PCS Response: Per conversations with Traffic, it was discussed that Colfax has been renamed to E 12th Ave per discussions with CDOT. E 12th Ave is not identified as a high transit corridor per the NEATS Study and will not have transit stops. This has been confirmed by ILC's conversations as well with RTD that there are not transit stops planned for this area.

1N. Provide guidelines that prioritize locations for the placement of street furniture. Identify priority routes and locations for these types of amenities.

PCS Response: More guidelines have been provided on the Urban Design Standards to identify priority locations for site furniture and amenities, specific locations will be identified on the site plan.

1O. Provide more information regarding the entry monument design concepts. Some examples might be to address the landscaping or ground conditions, also, will the buildings in this area have increased architectural features or highlights to address the development entry? Will public art or other types of monuments be provided outside of the monument sign?

PCS Response: Entry monument design concepts have been updated per the comments above. An updated sign concept has been provided on Tab 10.2.

1P. Provide guidelines to address where the different fence/wall types will be used and for what purpose.

PCS Response: Fence guidelines have been provided.

1Q. Remove tenant/landlord process and design review items from the sign standards. Unless an ACC or design review board will be formed, these details can be kept in the lease between the tenant and landlord. Please also note that any sign standards in this document will be reviewed and enforced by city staff. Remove language that implies all standards will be regulated, reviewed, and/or enforced by the landlord.

PCS Response: Tenant / landlord process have been removed from sign standards.

1R. Suspended canopy blade signs are only appropriate for canopy or recessed entry locations. Standards should not require BOTH a projecting blade AND canopy sign for every tenant.



PCS Response: Acknowledged, sign standards have been updated.

Architectural Design Standards – Tab 12

1S. Confirm/clarify that all structures within the master planned area (including the indoor self-storage) will be required to meet the architectural standards. It is clear that the canopies have been addressed separately, but the generic title of “commercial area standards” could be construed as only applicable to the commercially designated uses on the land use map.

PCS Response: All structures within the master plan area will meet architectural standards and this note has been added to the architectural design standards.

Public Improvement Plan (PIP) – Tab 13

1T. Since the open space buffers have been identified as their own planning area they will also need to be tied to another planning area with development. This will help to ensure that the buffer areas are constructed at the appropriate time to buffer development as it occurs. By my review, it appears that planning areas 6, 9, and 10 should be installed with the development of PA-5, and planning area 1 should be installed with the development of PA-3 or PA-4 – whichever is to occur first. Please outline this is the PIP narrative and in the land use matrix in Tab 8.

PCS Response: The land use matrix has been updated to identify triggers for the open space planning area’s construction.

2. Landscape Design (Kelly K. Bish, PLA, LEED AP / kbish@auroragov.org / 303-739-7189 / Comnts in red/teal)

Land Use Map and Matrix – Tab 8

2A. The buffer along the north side of 12th avenue should be a minimum of 12’ to meet the UDO. The UDO is the minimum standard.

PCS Response: Per discussions with Kelly, it’s been determined that the 10ft buffer as shown is correct. The E. 12th Ave ROW is adjacent to an industrial use (the pump station to the north of the Jamaso property) and requires a 10ft ROW landscape ROW buffer when adjacent to this non-arterial roadway (E. 12th Ave is a collector).

Landscape Design Standards – Tab 11

Tab 11.1

2B. There needs to be building perimeter and parking lot landscaping standards. The graphics found in Tab 10 do not discuss what the intended standards are. What are the standards for parking lots. Will there be berming required to screen with landscaping and if so, what quantities and types of plant material? What are the requirements for building perimeter landscaping?

PCS Response: Acknowledged, perimeter and park lot landscape standards have been addressed with Tab 11..



2C. Will there be drive thru retail establishments? Will they conform to the UDO requirements in terms of layout and orientation?

PCS Response: Per discussions with Kelly, it's been noted that this master plan could contain drive thru retail establishments, gas stations, fast food restaurants and other permitted commercial uses typical for commercial areas like this. Any commercial establishments will conform to the UDO at the time a separate site plan is developed for any individual pad site and its specific use. We have added a note that "All commercial development shall conform to the UDO at the time a site plan is submitted for individual pad sites." to cover this item.

2D. What quantities of plant material are expected for the buffers along the arterial, collector and local streets?

PCS Response: Plant buffer quantities are expected to meet the UDO buffer requirements for landscape along these sections of roadways.

2F. What about outdoor screening E.12th Avenue and the internal streets? There is some mention of buffering for the collector/arterial streets as it pertains to buffer widths, but what plant quantities are being proposed?

PCS Response: Plant buffer quantities are expected to meet or the UDO buffer requirements for landscape along these sections of roadways including E. 12th Ave and internal streets..

2G. Why does the 75' wide buffer along the south taper to only 25' even though it is technically still adjacent to future residential?

- a) The existing oil and gas pad already has an approved site plan with landscape buffers that are already established. We don't have control over the oil and gas operation either and won't be able to modify their existing buffer to match our 75ft wide buffer.
- b) The PA-8 commercial buffer along Powhaton will meet the UDO's requirement of a 25ft wide buffer adjacent to residential property. If we were to increase to 75ft, the usable area for a commercial pad site would be greatly reduced. As well, we don't feel this commercial pad site will be as intrusive visually to the southerly neighbors as compared to the outdoor self-storage planned to the east of the oil and gas in PA-5 – which is why we are proposing a 75ft buffer in that location.

2H. While the UDO states 50% of the tree species shall be evergreen in the buffer, in this case I believe the MP should be more restrictive and require 75% evergreen species.

PCS Response: We have updated the buffer to require 75% evergreens. This note has been added to line item 8 of the Landscape Design Standards on Tab 11.1.



Tab 11.2

2I. Identify the missing buffer widths.

PCS Response: Missing buffer widths have been added.

2J. There are existing easements encumbering several of the streets. Will those prohibit the installation of the required buffer (trees) plant material? This will be critical for the self-storage being proposed.

PCS Response: Updated landscape standards will be provided at commercial uses to provide a more robust landscape buffer in lieu of being able to show street trees within the tree lawns. This will be addressed at the site plan level when more is known about specific site constraints.

2K. Why is the buffer being reduced along the south side between the existing oil and gas facility and the future residential from 75' to 25'?

PCS Response: The existing oil and gas already has an approved site plan with landscape buffers that are already established. We don't anticipate modifying this site plan landscape buffer or landscaping with the oil and gas pad limits. The 75' landscape buffer is to screen any views from residential to the proposed outdoor self-storage facilities.

Tab 11.3

2L. While understood to be general graphic, the buffer should contain evergreen trees to truly screen this area. Ornamental grasses and a fence will not suffice.

PCS Response: The buffer graphic has been updated to contain evergreen trees.

Tab 11.12

2M. Update title reflect "Landscape Buffer between outdoor storage and the Sky Ranch Subdivision"

PCS Response: This cross-section title text has been updated.

3. Transportation Planning (Tom Worker-Braddock / tworker@auroragov.org / 303-739-7340 / Comments in teal)

Public Improvement Plan (PIP) – Tab 13

3A. Separated bike lanes would be most appropriate given expected speed, volume, and laneage of powhaton.

ILC Response: Text updated in the Public Improvement Plan narrative for PA-4 and PA-5 in accordance with planning documents and traffic engineers.

3B. Add note in PA-2, PA-4, PA-8 that transit stop improvements (requiring a depth of at least 8') can be accommodated on Powhaton when and if RTD extends service to this area. Specific layout and locations of those transit stops can be determined at that time.



ILC Response: Text updated in the Public Improvement Plan narrative for PA-4 and PA-5 in accordance with planning documents and traffic engineers.

REFERRAL COMMENTS FROM OTHER DEPARTMENTS AND AGENCIES

4. Public Works / Kristin Tanabe / ktanabe@auroragov.org / 303-739-7306 / comments in green)

Urban Design Standards – Tab 10

4A. Drive aisles and fire lanes must be paved. Any area accessed by vehicles must be paved.

ILC Response: The use of road base or recycled asphalt is no longer being considered for areas accessed by vehicles in the outdoor self-storage area.

Public Improvement Plan (PIP)

4B. Repeated comment: Providing a vicinity map or showing beyond the site will give context to the roadway network.

ILC Response: A vicinity map is provided in the text portion of the Public Improvement Plan. The surrounding roads (arterial and highway) are labeled in a similar font size to the other text in the Public Improvement Plan.

4C. Please move the exhibit(s) after the text.

ILC Response: OK.

4D. It would be easier to see the improvements represented if there was a separate exhibit for each planning area. Not all of the roads are clearly identified and the narrative is not clear between collector streets and local roads.

ILC Response: Updated the text portion of the Public Improvement Plan for clarity.

4E. Identify potential future signalized intersections based on the traffic study.

LSC Response: The updated traffic study shows the potential future traffic signal locations within the study area.

4F. Per drainage comments, remove the proposed drainage easements. The detailed pond layout and analysis is not part of the master drainage study.

ILC Response: Easements were removed.

4G. The ultimate improvements are required along the full extent of the frontage with the transitions starting at the property line.

ILC Response: The Powhaton Road improvements were updated.



4H. The section for Powhaton does not match typical sections in the Roadway Manual or any of the recommended sections from NEATS.

ILC Response: A meeting with the City on November 19, 2021 allowed for concurrence as to the Powhaton Road cross-section. The Powhaton Road cross-section was updated.

4I. A local type 3 section is more appropriate for commercial/industrial development.

ILC Response: The cross-section was updated accordingly.

4J. Additional comments with management staff are required to determine if public roads are acceptable with in the development.

ILC Response: Noted.

4K. The master plan will not be approved by public works until the drainage report is approved.

ILC Response: Noted.

4L. Interim improvements for Powhaton need to address bike lanes in each direction if the section is to indeed have on street bike facilities.

ILC Response: The Powhaton Road cross-section was updated with a detached walk/bike path.

4M. Include the detention pond required in each planning area, typical.

ILC Response: Text updated accordingly.

4N. Verify with Aurora Water. Utilities are required to be installed prior to roadway paving. Typical.

ILC Response: Watermain will be installed prior to roadway paving.

4O. Is 12th Avenue being constructed across this frontage with another planning area?

ILC Response: Text updated accordingly.

5. Utilities Dpt. /Aurora Water (Nina Khanzadeh / rkhanzad@auroragov.org / 303-303-883-2060 / comnts. in red)

Public Improvement Plan (PIP) – Tab 13

5A. Show locations of septic tanks and leach field.

ILC Response: Septic systems will be provided by individual site developments that require sanitary collection, as a temporary measure, should the development occur prior to the sanitary sewer extension.



5B. Include sanitary lines on PIP- include flow arrows

ILC Response: The future sanitary sewer extension is shown along E. 12th Avenue. More labels and flow arrows were added for clarity.

Master Utilities Plan

5B. Repeat Comment: Contact Nina to attain MUS checklist.

ILC Response: The MUS Checklist has been filled out and submitted with this report.

5C. Need to include COA approval block on cover.

ILC Response: Added.

5D. The September submission is when the City first reviewed. Edit.

ILC Response: Comments from the City on the 1st submittal were dated May 25, 2021 from Nina Khanzadeh and May 31, 2021 from Mark Apodaca. Submittal dates are accurate.

5E. Where is a signature line for supervising PE of this report?

ILC Response: Added.

5F. Please make street names more apparent on the vicinity map.

ILC Response: Updated.

5G. Can you please include a figure indicating the different land uses on this site?

ILC Response: Added.

5H. Include a statement that any work near or in the vicinity of the Powhaton ROW will require Aurora Water's Watch and Protect Team to be notified 10 days in advance. Please include this exhibit in the appendix as well.

ILC Response: Added.

5J. Please contact Tony Tran at atran@auroragov.org to discuss the waterline connection on east side of site.

ILC Response: Tony Tran met with the ILC Team on October 7, 2021 to discuss the waterline.

5K. Include a narrative that waterline connection in Powhaton, will require a minimum of 5 FT vertical separation from 60" line.

ILC Response: Added.



5L. Provide more project information on the existing sanitary sewer system. What is/was the completion date?

ILC Response: At this time, there is no anticipated completion date for this future project.

5M. Provide narrative that recognizes extension from Aurora Crossroads.

ILC Response: Added.

5N. Include capacity of the mobile home park to the north of site- as they are also on septic in analysis of sewer main extensions.

ILC Response: It is our understanding that the septic system for Foxridge Farm mobile home park outlets to the north along Colfax Ave., adjacent to the access drive. The mobile home park was established in the early 70's, and therefore the record information for the sanitary sewer system is not available. It is likely that the sanitary sewer system extension that serves the park will be along Colfax and not outfall to the Jamaso sanitary sewer extension being proposed.

5O. What about offsite basins when sanitary sewer mains extended?

ILC Response: Currently, there are no offsite basins anticipated.

5P. Capacity of the tanks? How large will leach system be? Flow rates?

ILC Response: Leach system size and septic tank locations will be determined with the design of the individual lots and the buildings within each lot. Capacity and flow rates have been added.

5Q. Multiple system- each building to individual system or will they be shared? Elaborate in previous section.

ILC Response: This will be determined with the design of the individual lots when building locations (and size) are determined.

5R. Offsite basins of this line?

ILC Response: Currently, there are no offsite basins anticipated.

5S. -Who will own/maintain these systems? -This permitting will be done through Tri-County- need coordination- and subject to approval -What will future build-out (offsite sewer) scenario look like with this system?

ILC Response: Narrative added stating septic systems would be privately owned by the owner of the lot in which the system resides. Narrative added stating that permitting shall be sought with the development of each individual lot, when building locations are determined. Narrative has been added to describe the future build-out scenario.



5T. We require sanitary exhibits- septic tank locations (temporary solution) and buildout of sewer system showing potential sizing, offsite basins, and design points, and a depiction of the ultimate sewer scenario.

ILC Response: Septic tank size and locations will be determined during the design of the individual lots. Until building locations are proposed, the septic tank locations are unknown. Any and all necessary plans, reports, or calculations will be provided with the design of the individual lots.

5U. Need a sanitary exhibit.

ILC Response: Until the completion of the future sanitary sewer extension from the Aurora Crossroads development (the location of which is currently unknown) or until such time that the individual lots are being designed and buildings are being proposed for the site, there is no sanitary infrastructure to exhibit.

5V. This is not a looped system. Can't serve any more than 1 hydrant from a dead-end line, and/or fire suppression line from a dead end main. P-4 by itself is not sufficient to provide this by itself.

ILC Response: A waterline has been added to adequately loop the system.

5W. This is exceeding our criteria, a second point of connection might result in all pipes becoming 8".

ILC Response: The additional waterline does reduce the flow velocity. Note per the 'Master Utility Design Criteria for Water and Sanitary Sewer' memo from Aurora Water Planning and Engineering dated April 19, 2018, the Max Hour Velocity and Head Loss Criteria are defined during the Peak Hour scenario. Also note that 12" waterlines are necessary to adequately supply commercial fire flow demand.

5X. Please also include the 60" RW line in Powhatan.

ILC Response: Added.

5Y. Sheet 22 needs a signature block- reference MUS checklist that was sent to ILC team on different project- signature block should include fire department

ILC Response: Added.

6. Traffic Engineering (Brianna Medema / bmadema@auroragov.org / 303-739-7336 / Comments in gold)

6A. Review has not yet been completed. Comments will be forthcoming by separate cover.

LSC Response: Acknowledged.



7. Real Property (Maurice Brooks / mbrooks@auroragov.org / 303-739-7294 / comments in magenta)

7A. If there are any easements or Right of Ways that need to be dedicated by separate documents. Show and label the existing easement in this Site area. Contact Andy Niquette at dedicationproperty@auroragov.org to start the processes by separate document

ILC Response: Easements were removed per the drainage report comments. Streets are typically dedicated on the Final Plat.

8. Life Safety (Mark Apodaca / mapodaca@auroragov.org / 303-739-7656 / comments in blue)
Public Improvement Plan (PIP) – Tab 13

8A. See comment to provide cul-de-sac turnarounds.

ILC Response: Street length along 12th Avenue after intersection adjusted to be shorter. Connecting street added between, along south border, to be shared with property to the south, if the adjacent property develops.

8B. See comment to show secondary access points for planning areas.

ILC Response: Street added.

Master Utility Report

8C. See comment to provide a looped water supply on sheet 4 of 20

ILC Response: Added.

9. Parks and Open Space (Curtis Bish, AICP / cbish@auroragov.org / 303-739-7131 / Comments in purple)

Land Use Map – Tab 8

9A. Clarification is needed along with concurrence from Public Works. The PIP shows Powhaton to be a 144' of right-of-way but with a 4-lane, minor arterial cross section. If the road will be constructed to that standard with a painted median, language on the map is not applicable and should be deleted.

ILC & PCS Response: Per discussions with Public Works, this section of roadway will in fact be constructed with a painted median so this language had been removed from the map.

9B. The statements on Line 22 should be moved to Line 23.

PCS Response: This statement has been moved to line 23.

10. Public Art Plan (Roberta Bloom / rbloom@auroragov.org / 303-739-6747)

10A. Repeat Comment: The city would prefer to see the public art plan as a part of the master plan. A revision of the public art plan (Tab 7) was not included with this resubmittal.

PCS Response: A Public Art Plan has been provided.



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

11A. Public Service Company of Colorado's Right of Way & Permits Referral Desk acknowledges the first referral comment responses, and has no additional concerns at this time.

ILC Response: Noted.

12. Arapahoe County Public Works and Development (Sue Liu / sliu@arapahoegov.com / 720-874-6500)

12A. Engineering Services Division of Arapahoe County Public Works and Development (staff) thanks you for the opportunity to review the outside referral for the proposed project located in the City of Aurora. The purpose of this letter is to inform you that we have the following comments regarding the referral at this time based on the information submitted:

1. The E. 12th Ave. is proposing to extend into the parcel north of the site, located in the County (Figure 9 of the Traffic Impact Study). Is this the conceptual roadway design per an agreement? Has there been coordination with the property owners about this roadway alignment?

ILC Response: The Team met with the County on November 8, 2021 to discuss the conceptual alignment. The conceptual roadway has not been coordinated with the adjacent property owners nor is it in an agreement. The Team showed the roadway to the north offsite, as the half-section collector may not continue north through the Aurora Prairie Waters to the Foxridge Farm mobile home park. The County may make its own considerations as to road connectivity in unincorporated areas.

2. Will this 12th Ave. be intersected with Monaghan Rd.? If so, how close (to) the intersection of E. 12th Ave/Monaghan Rd. will (it) be to the proposed interchange?

ILC Response: This was briefly discussed in the November 8, 2021 meeting with the County. The considerations are not ours to make on adjacent properties in unincorporated areas.

3. Please coordinate with the County Transportation Division of the Engineering Services Division on roadway alignment through the properties in the County.

ILC Response: The County stated in the November 8, 2021 meeting that coordination is occurring with the adjacent property in this regard.

13. Colorado Department of Transportation (Steve Loeffler / steven.loeffler@state.co.us / 303-757-9891)

13A. I agree with the findings of the TIS. Commercial/Retail developments will largely serve the surrounding communities and no impacts to the I-70 interchanges are anticipated.

LSC Response: Comment noted.



13B. Neither the TIS of the Public Improvement Plan graphics offer context or indication to the timing of the connective roadway network planned for this property. Of most interest and concern is the timing and function of 12th Avenue across the entirety of the property and to what (existing) roadways will it connect to? Noted the TIS states the City of Aurora NEATS shows arterial status west of Powhaton, it lessens to a collector status east of Powhaton extending 1 mile to Monaghan. While there is no direct impact to CDOT highways, this alternative E-W route is important in providing accessibility to the larger eastern community flanking the southern edge of the I-70. A notion on the public improvement (phasing) plans regarding this connection is recommended.

LSC Response: The extension of E. 12th Avenue west of Powhaton Road and east of the eastern site boundary will be by others. The section west of Powhaton Road is in Aurora and the section east of the eastern site boundary is in Arapahoe County.



SEMSWA Comments

September 20, 2021

City of Aurora Engineering

RE: JAMASO

SEMSWA Case No. DPR21-00065/D21-00087

Dear City of Aurora Engineering,

Thank you for your referral request to the Southeast Metro Stormwater Authority (SEMSWA) regarding the proposed JAMASO project. SEMSWA appreciates the opportunity to review the Drainage Report and Plans and offers the following comments:

General Comments:

SEMSWA has only reviewed the referred documents in regard to the interface between the proposed project and the adjacent unincorporated Arapahoe County properties. Our review and comments focus on the stormwater discharge points between the two jurisdictions.

ILC Response: Noted.

On the Drainage Plans please clearly show and label the jurisdiction boundaries and label Unincorporated Arapahoe County.

ILC Response: Unincorporated Arapahoe County labels were added adjacent to the property lines.

On the Preliminary Drainage Plan please show preliminary proposed contours.

ILC Response: The City requested proposed contours not be provided for the master drainage plan.

The existing swale will convey flows from Arapahoe County. Please consider placing this swale/tributary in an easement. Show and note accordingly.

ILC Response: The City requested proposed easements not be provided for the master drainage plan.

There are two outfalls into Detention Pond A that may short circuit. Can these outfalls be moved further from the outlet structure to avoid short circuiting? Please reevaluate and revise accordingly.

ILC Response: A conceptual pond was added in the southwest corner of the site to capture these flows.

In the Drainage Report the Basin OS3 basin description does not appear to be correct. Please reevaluate and revise accordingly.

ILC Response: Revised.

Thank you for the opportunity to review and comment on this application. We look forward to continued



coordination on this project. Please feel free to contact me if you have any questions.

Sincerely,

Tiffany Clark, PE, CFM

Land Development Manager



Arapahoe County Engineering Services Division Comments

September 23, 2021

City of Aurora Planning & Development Services

RE: JAMASO DRAINAGE SUBMITTAL

RSN 1538256

Engineering Services Division of Arapahoe County Public Works and Development (Staff) thanks you for the opportunity to review the outside referral for the proposed project located in the City of Aurora. The purpose of this letter is to inform you that we have the following comments regarding the referral at this time based on the information submitted:

1. Drainage Plans
 - a. Show and label N Powhaton Rd Right-of-Way
ILC Response: The N Powhaton Rd Right-of-Way extends to the property line. Further detail is provided in the Public Improvement Plan.
2. Drainage Report: Add discussion of the unlabeled flared end section on the north side of the project adjacent to Powhaton Rd. Is this to convey offsite flows through the site and bypass the pond? Confirm with City of Aurora that this is acceptable within the terms of their MS4 permit.
ILC Response: N. Powhaton Road has an existing ditch on the east side. The stormwater collecting in the existing ditch at the northwest corner of the project will be conveyed to the southwest corner of the project.
3. Section 2.a. of Drainage Report: "Offsite temporary street transitions drain to existing ditches with low longitudinal slopes, and respective adjacent properties will be required to provide water quality for that portion of the street. These flows will continue south along N. Powhaton Road to First Creek."
 - a. Is this referring to the above storm sewer or is there another roadside ditch (if so is it being modified?)
ILC Response: This is referring to the existing ditch on the east side of N. Powhaton Road at the southwest corner of the project.
4. Section 2.c. of Drainage Report: "Existing conditions cause stormwater onsite to pool in the low point and overtop N. Powhaton Road (refer to the First Creek (Upstream of Buckley Road) Major Drainageway Plan)"
 - a. Please include the referenced portion of the above study. In only 100-yr event? What kind of depth is there in the roadway? Does the major drainageway plan not indicate this should be corrected?



ILC Response: The draft major drainageway plan, Conceptual Design Report, First Creek Tributaries (Upstream of I-70), Master Drainageway Plan, prepared by: Merrick and dated February 2021, changes direction of the outfall from the west across Powhatan Road to south along the Powhatan Road existing ditch. In consultation with the City and MHFD, the outfall for Jamaso was revised to match the draft MDP, in the east ditch of Powhatan Road down to First Creek.

5. Section 2.d. of Drainage Report: "The emergency overflow path for the on-site detention pond is southwest to DP8 then to N. Powhatan Road ROW at DP2."
 - a. This is not reflected in the drainage map. Flow arrows at Design Point 8 indicate flow is directed to the south, when does it go to Powhatan Rd? Confirm appropriate protection of overflow path in final design.

ILC Response: Noted.

6. Required Arapahoe County Permits

- a. A Street Cut and Right of Way Use Permit is required for the new accesses onto N. Powhatan Road.
- b. A Public Improvement Construction Permit is required for all construction in and improvements of County ROW, including the storm sewer shown as Storm A2, the outfall at Design Point 2 and the widening of Powhatan Rd. Arapahoe County will need to review final roadway design.
- c. If not already established, License Agreement with Arapahoe County will be required to have non-County storm sewer within County ROW.
- d. Visit <https://www.arapahoe.gov.com/561/Permitting-and-Inspections> for more information and to apply for permits.

ILC Response: Jurisdiction will be further investigated as design progresses. Current online ArapaMAP GIS seems to indicate that N Powhatan Rd is within the City limits west of the site as well as continuing south down to First Creek.

Please know that other Divisions in the Public Works Department may submit comments as well.

Thank you,
Emily Gonzalez, P.E.
Engineer II
Arapahoe County Public Works & Development
Engineering Services Division



MHFD Review Comments

September 23, 2021

This is in response to the request for our comments concerning the referenced project. We appreciate the opportunity to review this proposal and have no official comment, as this project does not contain any maintenance eligible features since it does not impact a Floodplain or include any major drainage features. We were not able to verify the accuracy of the detention pond calculations since a non-standard spreadsheet was used and only a PDF was provided for our review. As a courtesy comment, we recommend that a UD_Detention worksheet is completed as design progresses. We do not need to receive any future submittals on this project unless the release conditions downstream change. Please feel free to contact me at cpajares@mhfd.org with any questions or concerns.

Thanks,

Charlie A. Pajares

Project Engineer MHFD

ILC Response: The ILC Team met with the City of Aurora and MHFD on September 29, 2021 to discuss the Master Drainage Outfall at Powhaton Road. The latest MDP that MHFD presented is expected to be approved by the MHFD Board with some minor adjustments. The MDP changes direction of the outfall from the west across Powhaton Road to south along the Powhaton Road existing ditch. MHFD shared the draft MDP, Conceptual Design Report, First Creek Tributaries (Upstream of I-70), Master Drainageway Plan, prepared by: Merrick and dated February 2021, with the ILC Team on September 30, 2021. The outfall for Jamaso was revised to match the draft MDP, in the east ditch of Powhaton Road down to First Creek.



Responses by Chris McGranahan
LSC Transportation Consultants, Inc.
January 28, 2022

1889 York Street
Denver, CO 80206
(303) 333-1105
FAX (303) 333-1107
E-mail: lsc@lscdenver.com

September 8, 2021

Mr. Kevin J. Smith
JAMASO, LLC
4100 E. Mississippi Avenue, Suite 500
Denver, CO 80246

Re: JAMASO
Aurora, CO
LSC #190960

Dear Mr. Smith:

In response to your request, LSC Transportation Consultants, Inc. has prepared this updated traffic impact analysis for the proposed JAMASO development to address City comments. As shown on Figure 1, the site is located north of E. 6th Avenue and east of N. Powhatan Road in the City of Aurora, Colorado.

REPORT CONTENTS

The report contains the following: the existing roadway and traffic conditions in the vicinity of the site including the lane geometries, traffic controls, posted speed limits, etc.; the existing weekday peak-hour traffic volumes; the existing daily traffic volumes in the area; the typical weekday site-generated traffic volume projections for the site; the assignment of the projected traffic volumes to the area roadways; the projected short-term and long-term background and resulting total traffic volumes on the area roadways; the site’s projected traffic impacts and recommended roadway improvements to mitigate the site’s traffic impacts.

noted that there is an increase in this land use size. 2

LAND USE AND ACCESS

The site is proposed to include about 48,000 square feet of commercial space, about 51,000 square feet of indoor self-storage, and about 24.7 acres of outdoor RV/Boat Storage space. Access is proposed from a full movement access to N. Powhatan Road along the future E. 12th Avenue alignment. Secondary right-in/right-out access is proposed to N. Powhatan Road to the north and south of the E. 12th Avenue alignment. The existing oil and gas operation on the site will be provided access through the site to N. Powhatan Road. Figure 2 shows the conceptual site plan.

All values have been updated based on the current plan. 3

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

The major roadways in the site’s vicinity are shown on Figure 1 and are described below.

Summary of Comments on RTC-JAMASO_TIS-090821 (002).pdf

Page: 1

☰ Number: 1 Author: Waltraud Subject: Text Box Date: 1/20/2022 2:49:06 PM

Responses by Chris McGranahan
LSC Transportation Consultants, Inc.
January 28, 2022

☰ Number: 2 Author: cassie Subject: Callout Date: 10/5/2021 7:50:21 AM -06'00'

noted that there is an increase in this land use size.

☰ Number: 3 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:01:34 PM

All values have been updated based on the current plan.

- **E. 6th Avenue** is an east-west, two-lane arterial roadway south of the site. The intersection with N. Powhatan Road is stop-sign controlled. The posted speed limit is 40 mph in the vicinity of N. Powhatan Road. E. 6th Avenue is planned to be widened to a six-lane major arterial by 2040 and connect east to Monaghan Road.
- **N. Powhatan Road** is a north-south, two-lane roadway west of the site. The intersection with E. 6th Avenue is stop-sign controlled. The posted speed limit is 45 mph in the vicinity of the site. N. Powhatan Road is planned to be widened to a four-lane major arterial by 2040.
- **E. 12th Avenue** is planned as a four-lane minor arterial west of N. Powhatan Road and a two-lane collector east of N. Powhatan Road per the NEATS study.

Existing Traffic Conditions

Figure 3 shows the existing traffic volumes, lane geometries, and traffic controls in the site's vicinity on a typical weekday. The weekday peak-hour traffic volumes and daily traffic counts are based on the attached traffic counts conducted by Counter Measures in May, 2020 with an adjustment factor of 1.40 based on coordination with City staff to account for the ongoing pandemic.

2025 and 2040 Background Traffic

Figures 4 and 5 show the estimated 2025 and 2040 background traffic. The 2040 background traffic assumes the projections in the NEATS study less site traffic and the 2025 background traffic was factored between the existing and 2040 background traffic. Figures 4 and 5 also show the recommended 2025 and 2040 lane geometry and traffic control.

Existing, 2025, and 2040 Background Levels of Service

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A is indicative of little congestion or delay and LOS F is indicative of a high level of congestion or delay. Attached are specific level of service definitions for signalized and unsignalized intersections.

The intersections in Figures 3, 4, and 5 were analyzed to determine the existing, 2025, and 2040 background levels of service using Synchro. Table 1 shows the level of service analysis results. The level of service reports are attached.

1. **N. Powhatan Road/RIRO Site Access:** All movements at this unsignalized intersection are expected to operate at LOS "B" or better during both morning and afternoon peak-hours through 2040.
2. **N. Powhatan Road/E. 12th Avenue:** This future intersection is expected to be signalized by 2040 and is expected to operate at LOS "C" during both morning and afternoon peak-hours. and all movements are expected to operate at LOS D or better. Comment noted¹
3. **E. 12th Avenue/RIRO Site Access:** This intersection was analyzed only in the total traffic scenarios.

☰ Number: 1 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:02:55 PM

[Comment noted](#)

☰ Number: 2 Author: cassie Subject: Callout Date: 10/5/2021 9:55:21 AM -06'00'

[and all movements are expected to operate at LOS D or better.](#)

TRIP ASSIGNMENT

Figure 7a shows the estimated assignment of 2025 site-generated traffic volumes based on the trip generation estimate (from Table 2) and the 2025 directional distribution shown in Figure 6 assuming no passby trips to maintain a conservative analysis. Figure 7b shows the estimated assignment of 2040 primary site-generated trips based on the trip generation estimate (from Table 2) and the 2040 directional distribution shown in Figure 6. Figure 7c shows the estimated assignment of 2040 passby site-generated trips.

2025 AND 2040 TOTAL TRAFFIC

B Updated 1

Figure 8 shows the estimated 2025 total traffic which is the sum of the 2025 background traffic volumes (from Figure 4) and the 2025 site-generated traffic volumes (from Figure 7a). Figure 8 also shows the recommended 2025 lane geometry and traffic control and details on the recommended turn lanes based on the NR-C requirements of the *State Highway Access Code*.

Figure 9 shows the estimated 2040 total traffic which is the sum of the 2040 background traffic volumes (from Figure 5) and the 2040 site-generated traffic volumes (from Figures 7b and 7c). Figure 9 also shows the recommended 2040 lane geometry and traffic control.

PROJECTED LEVELS OF SERVICE

The intersections in Figures 8 and 9 were analyzed to determine the 2025 and 2040 total levels of service. Table 1 shows the level of service analysis results. The level of service reports are attached.

1. **N. Powhatan Road/RIRO Site Access:** All movements at this unsignalized intersection are expected to operate at LOS “B” or better during both morning and afternoon peak-hours through 2040.
2. **N. Powhatan Road/E. 12th Avenue:** All movements at this future unsignalized intersection are expected to operate at LOS “C” or better during both morning and afternoon peak-hours through 2025 with the following exception: The westbound left-turn is expected to operate at LOS “F” in the 2025 afternoon peak-hour prior to traffic signal control. This intersection is expected to be signalized by 2040 and is expected to operate at LOS “C” during both morning and afternoon peak-hours with or without the addition of site traffic.
3. **E. 12th Avenue/RIRO Site Access:** All movements at this unsignalized intersection are expected to operate at LOS “B” or better during both morning and afternoon peak-hours through 2040.

← all movements are expected to operate at LOS D or better 3

6 Comment noted 5
4. **E. 12th Avenue/Site Access:** All movements at this unsignalized intersection are expected to operate at LOS “C” or better during both morning and afternoon peak-hours through 2040.
5. **E. 12th Avenue/W. Site Access:** All movements at this unsignalized intersection are expected to operate at LOS “B” or better during both morning and afternoon peak-hours through 2040.

 Number: 1	Author: Waltraud	Subject: Text Box	Date: 1/12/2022 4:04:06 PM
Updated			
 Number: 2	Author: cassie	Subject: Callout	Date: 10/5/2021 7:58:18 AM -06'00'
B			
 Number: 3	Author: cassie	Subject: Callout	Date: 10/5/2021 8:01:05 AM -06'00'
all movements are expected to operate at LOS D or better			
 Number: 4	Author: Waltraud	Subject: Line	Date: 1/12/2022 4:05:47 PM
 Number: 5	Author: Waltraud	Subject: Text Box	Date: 1/12/2022 4:04:57 PM
Comment noted			
 Number: 6	Author: Waltraud	Subject: Line	Date: 1/12/2022 4:05:07 PM

- 6. **E. 12th Avenue/South Connector:** All movements at this unsignalized intersection are expected to operate at LOS “B” or better during both morning and afternoon peak-hours through 2040.
- 7. **E. 12th Avenue/North Connector:** All movements at this unsignalized intersection are expected to operate at LOS “B” or better during both morning and afternoon peak-hours through 2040.
- 8. **N. Powhatan Road/RIRO Site Access:** All movements at this unsignalized intersection are expected to operate at LOS “B” or better during both morning and afternoon peak-hours through 2040.
- 9. **N. Powhatan Road/E. 6th Avenue:** All movements at this unsignalized intersection are expected to operate at LOS “D” or better during both morning and afternoon peak-hours through 2025 with the following exception: The eastbound left-turn movement is expected to operate at LOS “F” in the 2025 afternoon peak-hour prior to traffic signal control. By 2040 this intersection is expected to be signalized and operate at LOS “D” during both morning and afternoon peak-hours with or without the addition of site traffic.

add discussion on the movements that will be LOS E in the future and if mitigation is warranted or necessary.

95TH PERCENTILE QUEUE LENGTHS

Table 3 shows the projected 2040 95th percentile queue lengths at the study area intersections along with the existing and recommended turn lane lengths.

This section has been updated

TRAFFIC SIGNAL WARRANTS

Tables 4a through 5b show the intersection of N. Powhatan Road/E. 12th Avenue and N. Powhatan Road/E. 6th Avenue will meet traffic signal warrants over time.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

- 1. The proposed JAMASO site is projected to generate about 4,112 net external vehicle-trips on the average weekday, with about half entering and half exiting during a 24-hour period. During the morning peak-hour, about 72 vehicles would enter and about 59 vehicles would exit the site. During the afternoon peak-hour, about 242 vehicles would enter and about 261 vehicles would exit. These estimates assume 34 percent passby trips for the commercial land use in the long-term scenario.

Projected Levels of Service

- 2. All movements at the unsignalized intersections analyzed are expected to operate at LOS “C” or better during both morning and afternoon peak-hours through 2040 with the recommended improvements.
- 3. All signalized intersections are expected to operate at overall acceptable levels of service through 2040 with the recommended improvements.

 Number: 1 Author: cassie Subject: Callout Date: 10/5/2021 8:02:14 AM -06'00'

add discussion on the movements that will be LOS E in the future and if mitigation is warranted or necessary.

 Number: 2 Author: Waltraud Subject: Line Date: 1/12/2022 4:09:01 PM

 Number: 3 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:08:10 PM

This section has been updated

 Number: 4 Author: Waltraud Subject: Line Date: 1/12/2022 4:08:26 PM

Conclusions

- 4. The impact of the site can be accommodated by the existing and planned roadway improvements with the following recommended improvements.

Recommendations

- 5. The recommended improvements are shown in Figures 8 and 9 with specific turn lane recommendation details shown in Figure 8 and detailed in Table 3.
- 6. The intersection of N. Powhatan Road/E. 12th Avenue will need to be signalized once warrants are met. ←
- 7. The intersection of N. Powhatan Road/E. 6th Avenue will need to be signalized once warrants are met. ←
- 8. Both E. 6th Avenue (six lanes) and N. Powhatan Road (four lanes) will need to be widened to the buildout section by 2040 per the City of Aurora NEATS study.

short-term, long-term, or with project timeline? 1

Additional detail has been added 4 5

* * * * *

We trust our findings will assist you in gaining approval of the proposed JAMASO development. Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By 
 Christopher S. McGranahan, PE, PTOE
 Principal



CSM/wc

9-8-21

- Enclosures:
- Tables 1 - 5b
 - Figures 1 - 9
 - Traffic Counts
 - Traffic Count Adjustment Correspondence
 - Level of Service Definitions
 - Level of Service Reports
 - Queuing Reports

Page: 6

 Number: 1 Author: cassie Subject: Callout Date: 10/5/2021 8:04:11 AM -06'00'
[short-term, long-term, or with project timeline?](#)

 Number: 2 Author: cassie Subject: Line Date: 10/5/2021 8:04:15 AM -06'00'

 Number: 3 Author: Waltraud Subject: Line Date: 1/12/2022 4:11:55 PM

 Number: 4 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:10:30 PM
[Additional detail has been added](#)

 Number: 5 Author: Waltraud Subject: Line Date: 1/12/2022 4:11:21 PM

**Table 3
95th Percentile Queue Lengths
JAMASO
Aurora, CO
LSC #190960; September, 2021**

thank you for adding

Comment noted

Add the COA requirement for each lane which is the State Highway Access Code (NR-B)

Additional detail was added

Intersection No. & Location	Turn Lane Lengths			95th Percentile Queue Lengths	
	Existing (feet)	Assumed Posted Speed Limit (mph)	Proposed (feet)	2040 Total Traffic	
				AM	PM
1) <u>N. Powhatan Road/North RIRO Site Access</u>				<25	<25
<u>2th Avenue</u>					
Right	--	40	415' + 144' transition taper	226	185
WB Left	--	40	225' + 144' transition taper	68	66
NB Left	--	35	200' + 120' transition taper	70	138
NB Right	--	45	520' + 162' transition taper	65	85
SB Left	--	45	273' + 162' transition taper	m2	m0
SB Right	--	45	360' + 162' transition taper	21	52
			273' + 162' transition taper	34	95
3) <u>E. 12th Avenue/RIRO Site Access</u>				<25	<25
NB Right	--		--	<25	<25
SB Right	--			<25	<25
4) <u>E. 12th Avenue/Site Access</u>				<25	<25
EB Left	--	35	100' + 120' transition taper	<25	<25
WB Left	--	35	100' + 120' transition taper	<25	<25
5) <u>E. 12th Avenue/Site Access</u>				<25	<25
WB Left	--	35	100' + 120' transition taper	<25	<25
6) <u>E. 12th Avenue/South Connector</u>				<25	<25
WB Left	--	35	100' + 120' transition taper	<25	<25
7) <u>E. 12th Avenue/North Connector</u>				<25	25
EB Left	--	35	100' + 120' transition taper	<25	25
8) <u>N. Powhatan Road/South RIRO Site Access</u>				<25	<25
WB Right	--	25	--	<25	<25
9) <u>N. Powhatan Road/E. 6th Avenue</u>					
EB Left	210	45	1 @ 160'; 1 @ 435' + 13.5:1 transition taper	101	120
EB Right	--	45	273' + 162' transition taper	44	96
WB Left	--	45	1 @ 125'; 1 @ 400' + 13.5:1 transition taper	70	87
WB Right	--	45	273' + 162' transition taper	35	30
NB Left	290	45	1 @ 275'; 1 @ 550' + 13.5:1 transition taper	165	165
NB Right	--	45	273' + 162' transition taper	56	53
SB Left	--	45	1 @ 135'; 1 @ 410' + 13.5:1 transition taper	59	86
SB Right	--	45	273' + 162' transition taper	59	48

m = metered by adjacent signals

why are these dual left-turns different lengths?

There are two lanes for the required vehicle storage but the deceleration length is only provided for one lane which results in the different lengths.

-
- ☰ Number: 1 Author: cassie Subject: Callout Date: 10/5/2021 7:35:52 AM -06'00'
thank you for adding
-
- ☰ Number: 2 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:12:32 PM
Comment noted
-
- ☰ Number: 3 Author: cassie Subject: Callout Date: 10/5/2021 7:36:33 AM -06'00'
Add the COA requirement for each lane which is the State Highway Access Code (NR-B)
-
- ☰ Number: 4 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:13:17 PM
Additional detail was added
-
- ☰ Number: 5 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:13:52 PM
Updated
-
- ☰ Number: 6 Author: cassie Subject: Callout Date: 10/5/2021 7:42:17 AM -06'00'
226' storage or 145' taper for a total of 370'
-
- ☰ Number: 7 Author: cassie Subject: Callout Date: 10/5/2021 7:42:13 AM -06'00'
reduce to 250'
-
- ☰ Number: 8 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:13:42 PM
Updated
-
- ☰ Number: 9 Author: cassie Subject: Callout Date: 10/5/2021 7:39:17 AM -06'00'
190' storage
-
- ☰ Number: 10 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:14:04 PM
Updated
-
- Number: 11 Author: cassie Subject: Line Date: 10/5/2021 7:40:33 AM -06'00'
-
- ☰ Number: 12 Author: cassie Subject: Callout Date: 10/5/2021 7:40:30 AM -06'00'
OK to be 273'
-
- ☰ Number: 13 Author: Waltraud Subject: Text Box Date: 1/13/2022 10:06:51 AM
NR-B requires a deceleration component for speed limits over 40 mph
-
- Number: 14 Author: cassie Subject: Line Date: 10/5/2021 7:44:13 AM -06'00'
-
- Number: 15 Author: cassie Subject: Line Date: 10/5/2021 7:44:17 AM -06'00'
-
- Number: 16 Author: cassie Subject: Line Date: 10/5/2021 7:44:21 AM -06'00'
-
- ☰ Number: 17 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:16:23 PM
There are two lanes for the required vehicle storage but the deceleration length is only provided for one lane which results in the different lengths.
-
- ☰ Number: 18 Author: cassie Subject: Callout Date: 10/5/2021 7:44:07 AM -06'00'
why are these dual left-turns different lengths?
-
- Number: 19 Author: Waltraud Subject: Line Date: 1/12/2022 4:16:51 PM

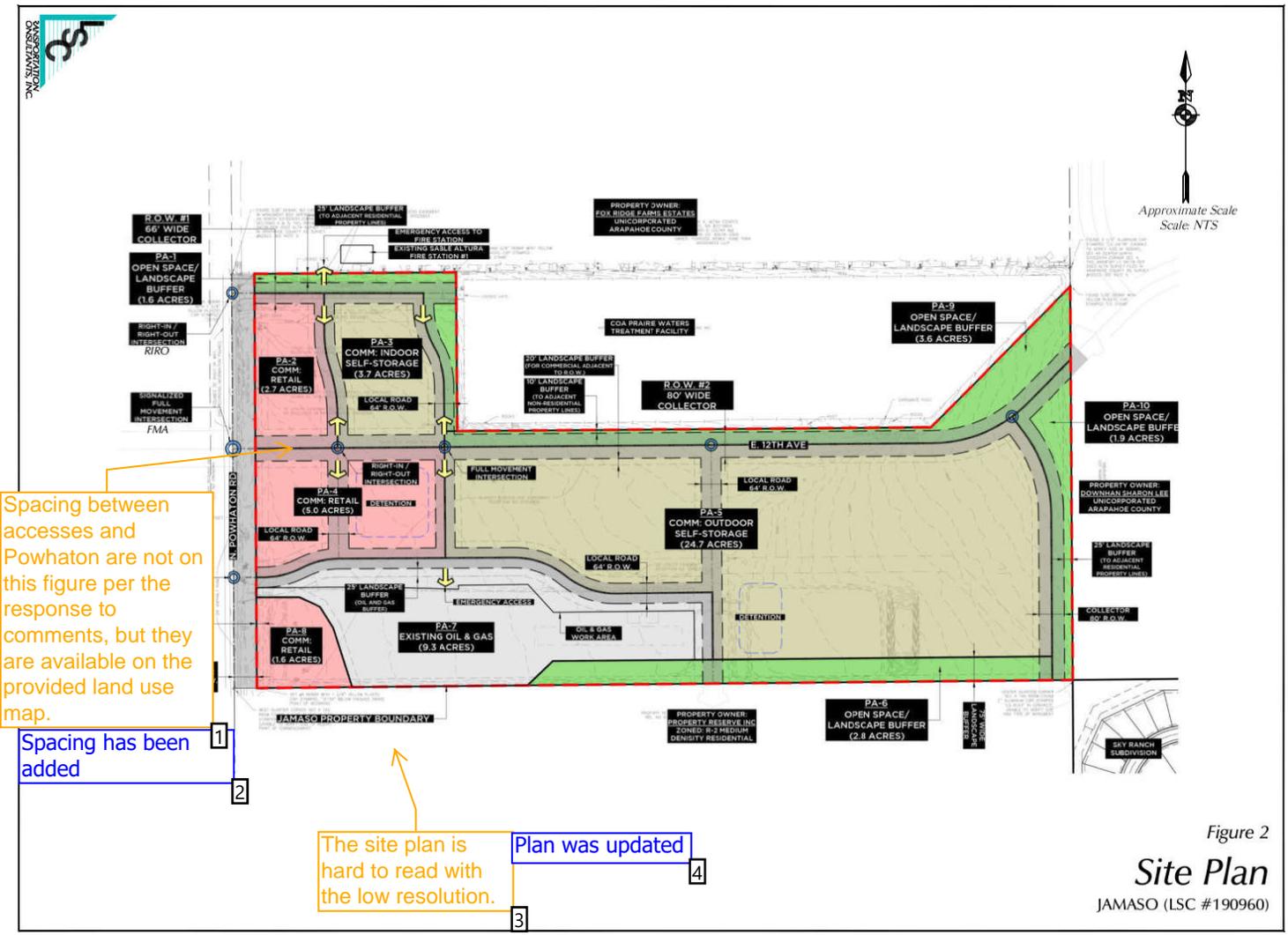
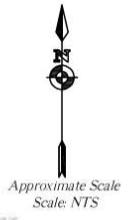


Figure 2
Site Plan
 JAMASO (LSC #190960)

☰ Number: 1 Author: cassie Subject: Callout Date: 10/5/2021 9:08:20 AM -06'00'

Spacing between accesses and Powhatan are not on this figure per the response to comments, but they are available on the provided land use map.

☰ Number: 2 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:18:01 PM

Spacing has been added

☰ Number: 3 Author: cassie Subject: Callout Date: 10/4/2021 5:27:28 PM -06'00'

The site plan is hard to read with the low resolution.

☰ Number: 4 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:18:23 PM

Plan was updated

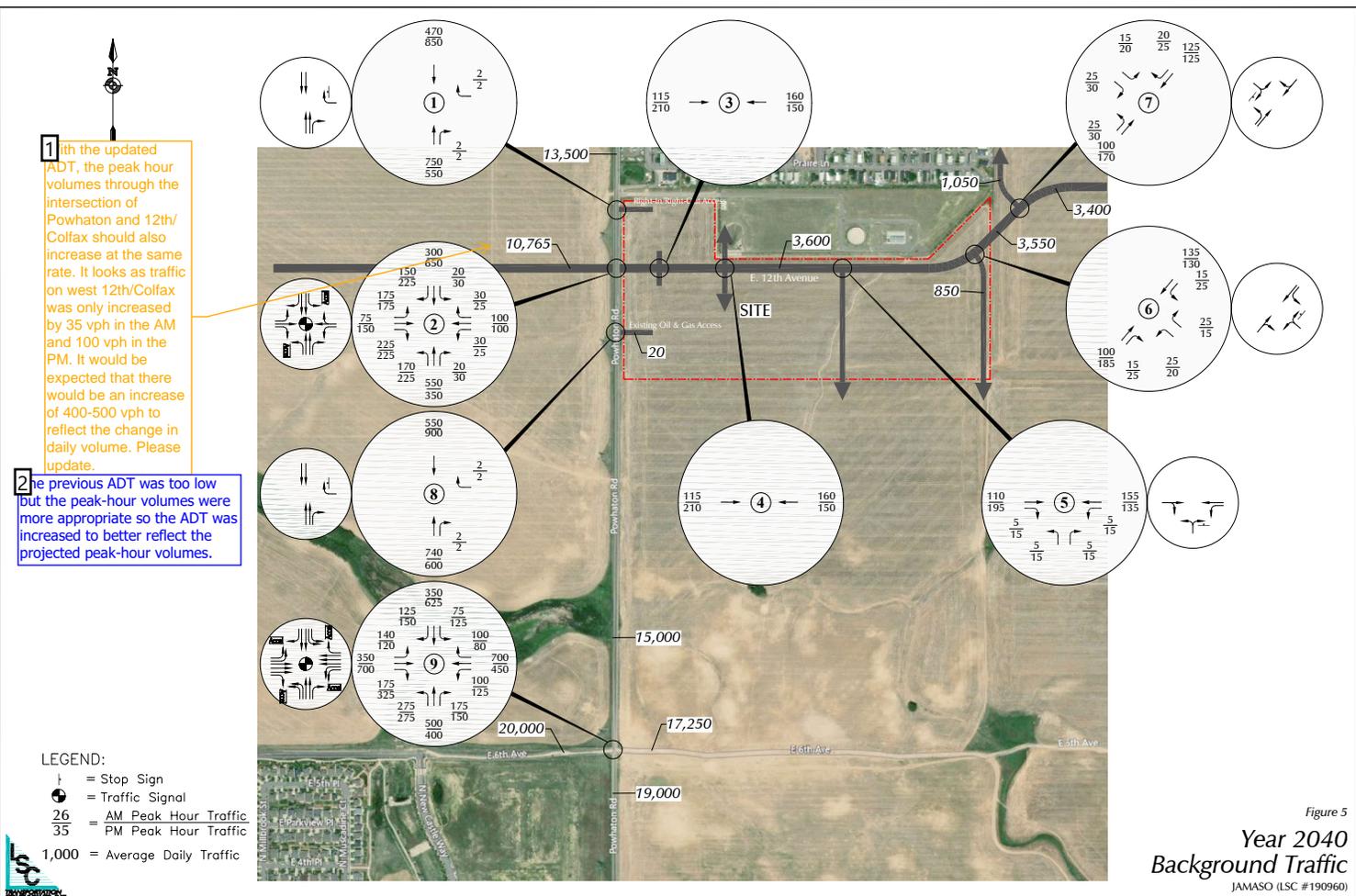


Figure 5
 Year 2040
 Background Traffic
 JAMASO (LSC #190960)

☰ Number: 1 Author: cassie Subject: Callout Date: 10/5/2021 6:31:44 AM -06'00'

With the updated ADT, the peak hour volumes through the intersection of Powhatan and 12th/Colfax should also increase at the same rate. It looks as traffic on west 12th/Colfax was only increased by 35 vph in the AM and 100 vph in the PM. It would be expected that there would be an increase of 400-500 vph to reflect the change in daily volume. Please update.

☰ Number: 2 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:19:35 PM

The previous ADT was too low but the peak-hour volumes were more appropriate so the ADT was increased to better reflect the projected peak-hour volumes.

☰ Number: 1 Author: cassie Subject: Callout Date: 10/5/2021 7:04:55 AM -06'00'
why is there pass-by here and no subtraction on 12th?

☰ Number: 2 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:20:20 PM
This figure has been updated

☰ Number: 3 Author: cassie Subject: Callout Date: 10/5/2021 6:52:04 AM -06'00'
PM=14

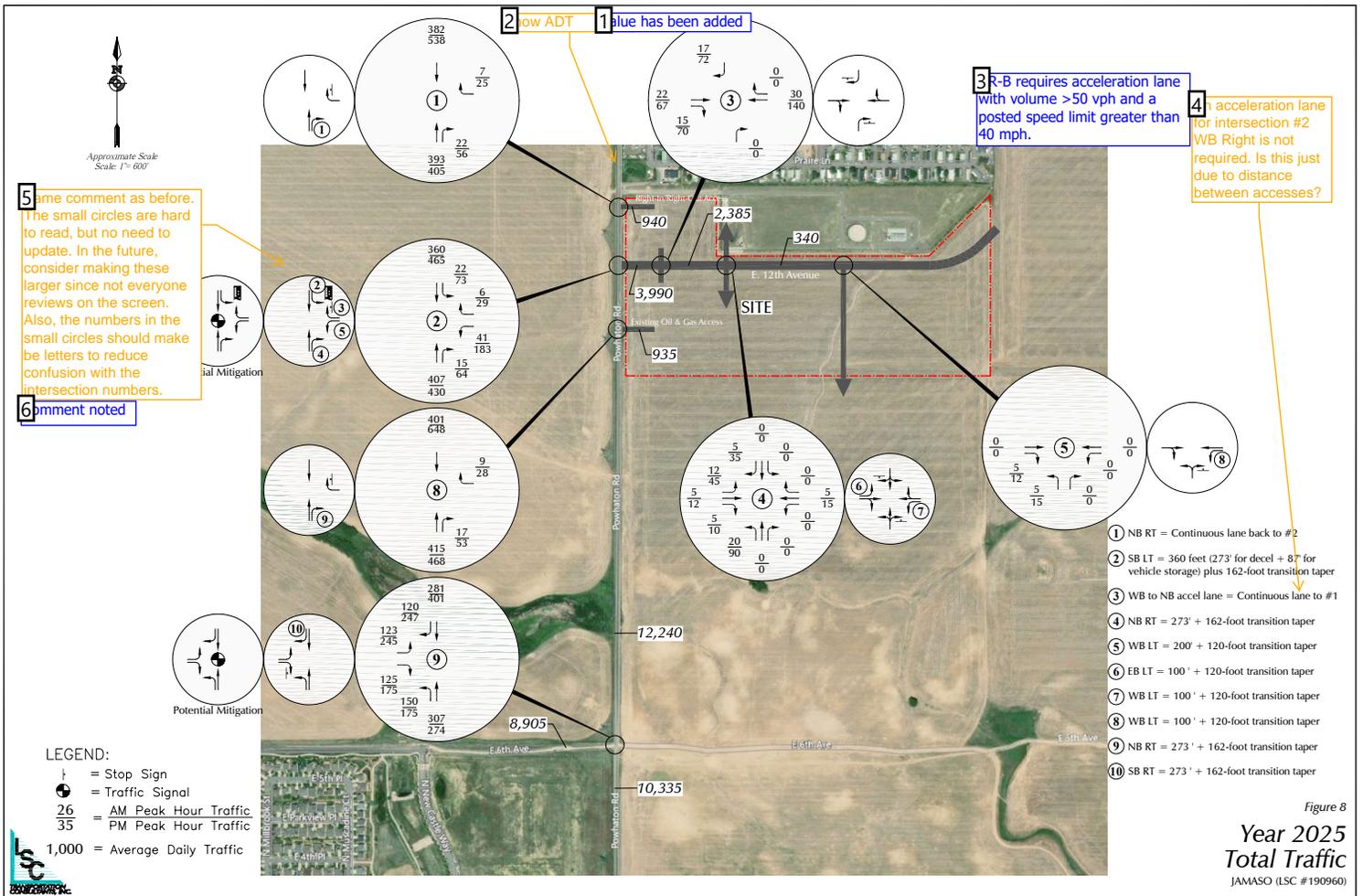


Figure 8
Year 2025
Total Traffic
JAMASO (LSC #190960)

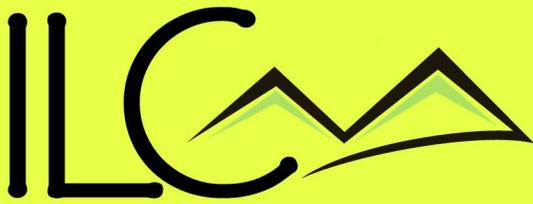
-
- ☰ Number: 1 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:21:26 PM
[Value has been added](#)
-
- ☰ Number: 2 Author: cassie Subject: Callout Date: 10/5/2021 7:18:25 AM -06'00'
[show ADT](#)
-
- ☰ Number: 3 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:22:33 PM
[NR-B requires acceleration lane with volume >50 vph and a posted speed limit greater than 40 mph.](#)
-
- ☰ Number: 4 Author: cassie Subject: Callout Date: 10/5/2021 7:22:45 AM -06'00'
[An acceleration lane for intersection #2 WB Right is not required. Is this just due to distance between accesses?](#)
-
- ☰ Number: 5 Author: cassie Subject: Callout Date: 10/5/2021 7:11:16 AM -06'00'
[Same comment as before. The small circles are hard to read, but no need to update. In the future, consider making these larger since not everyone reviews on the screen. Also, the numbers in the small circles should make be letters to reduce confusion with the intersection numbers.](#)
-
- ☰ Number: 6 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:20:48 PM
[Comment noted](#)

☰ Number: 1 Author: cassie Subject: Callout Date: 10/5/2021 7:33:55 AM -06'00'

Are the auxiliary lane lengths listed in Year 2025 adequate and/or the same for Year 2040? Since auxiliary lanes are listed on the previous figure, consider making a note to reference Table 3 since there are several intersections in Year 2040 that have new lanes and no auxiliary lane length recommendations.

☰ Number: 2 Author: Waltraud Subject: Text Box Date: 1/12/2022 4:26:00 PM

[Comment noted](#)



Innovative Land Consultants, Inc.

Innovative Land Consultants, Inc.
Response

12071 Tejon Street, Suite 470
Tim Pyle
tim@innovativelandinc.com
303-421-4224 x107

www.innovativelandinc.com

Contact
Nina to
attain MUS
checklist

The MUS Checklist has
been filled out and
submitted with this
report.

Master Utilities Report

Jamaso

Aurora, Colorado

Project No. 1022-02

Submittal: 1st: April 23, 2021
2nd: September 8, 2021

the
September
submission
is when the
City first
reviewed.
Edit.

Comments from
the City on the 1st
submittal were
dated May 25,
2021 from Nina
Khanzadeh and
May 31, 2021 from
Mark Apodaca.
Submittal dates
are accurate.

Need to
include
COA
approval
block on
cover

Added.

Prepared For:

Westside Investment Partners, Inc.
4100 E. Mississippi Avenue, Suite 500
Denver, CO 80246
(303) 984-9800

Prepared By:

Innovative Land Consultants, Inc.
12071 Tejon Street, Suite 470
Westminster, CO 80234
(303) 421-4224

Signature line for supervising
PE of this report?

Added.

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B. Water Hydraulic Computations 10
C. Water Distribution Map 21

I. Introduction

A. Site Location

The Jamaso project site is located in the northwest quarter of Section 4, Township 4 South, Range 65 West of the 6th Principal Meridian, City of Aurora, County of Arapahoe, State of Colorado. See Exhibit A, below, for a vicinity map of the area.

Exhibit A – Vicinity Map



B. Description of Property

The site is approximately 56.88 acres of land which is bounded by N. Powhatan Road to the west, Foxridge Farm mobile home park, Sable Altura Fire Station #1, and Aurora Water Pumping Station #3 to the north, Sky Ranch Subdivision to the southeast and undeveloped land to the east and south. The proposed site is divided into ten (10) planning areas which account for 5.65 acres of commercial area, 28.45 acres of self-storage area, 6.41 acres of existing oil & gas, 6.12 acres of open-space/ landscape buffer, 0.54 acres of buffer containing an existing emergency access, 3.85 acres of detention area, 4.90 acres of public Right of Way (ROW) for E. 12th Avenue, and 0.96 acres to improve the existing Aurora Water Pumping Station #3 access. Currently, the majority of the project site is zoned for Mixed Use – Corridor (MU-C) and will be rezoned to Mixed Use – Airport (MU-A) concurrently. 14.4 acres on the southwest are zoned R-2 (Medium-Density

Can you please include a figure indicating the different land uses on this site?

Added.

Residential) which is not allowed this close to oil and gas and will be rezoned to MU-A concurrently.

C. Existing Infrastructure

Currently, there are existing utilities in N. Powhatan Road. They include a cable television line, fiber optic line, and a 16" waterline in N. Powhatan Road. In addition to the in-ground utilities listed at the west of N. Powhatan Road. In the area there is a 16" waterline and a 60" pipe considered critical infrastructure.

Include a statement that any work near or in the vicinity of the Powhatan ROW will require Aurora Water's Watch and Protect Team to be notified 10 days in advance

II. Water Distribution System

Added.

A. Water Design Criteria

Per sheet 05Y of Fire Hydrants from Aurora Water, the site is located within Pressure Zone 4 of the City of Aurora's Water Master Plan. The table below provides the Hydraulic Grade Line (HGL) of Zone 4 and provides elevations with their corresponding pressure range.

Please include this exhibit in the appendix

Pressure Zone	Static HGL	Site Elev. Range	Static Pressure Range
Zone 4	5850	5615-5585	102-115

As mentioned, this site incorporates 5.65 acres of commercial area and 28.45 acres of self-storage area. This site does not include any residential development due to the proximity to existing oil and gas on site.

Added.

Per the City of Aurora's Water, Sanitary Sewer & Storm Drainage Infrastructure Standards & Specifications, below is a list of the demand criteria that was used:

- Average Day Demand (ADD) - Commercial = 1500 gpd/acre
- Max Day Peaking Factor = 2.8x
- Max Hour Peaking Factor = 2.8x
- Maximum Day Demand = 1500 gpd/acre x 2.8x = 4200 gpd/acre
- Peak Hour Demand (PHD) = 4200 gpd/acre / 2.8x = 1500 gpd/acre
- Fire Flow - Commercial = 1500 gpm
- During Maximum Hourly Demand

Please contact Tony Tran at atran@auroragov.org to discuss the waterline connection on east side of site

D. Proposed Water System

The proposed water system will be a 12" waterline loop from the existing 16" waterline in the east side of Planning Area 2, through Planning Area 4, and along the north side of Planning Area 7. Water will be distributed through Planning Areas 2, 3, 4, and 8 from the aforementioned 12" loop. There will also be a 12" waterline loop from the proposed E. 12th Avenue ROW to the southeast corner of Planning Area 7, then

Tony Tran met with ILC on October 7, 2021 to discuss the waterline.

Include a narrative that waterline connection in Powhatan, will require a minimum of 5 FT vertical separation from 60" line

Added.

to the southeast corner of Planning Area 5 before connecting with the 12" waterline in E. 12th Avenue adjacent to Planning Area 10. All water mains are to be buried a minimum of 5 ft below the proposed surface elevation. See the Appendix C for a detailed water system map of the project.

Water System Analysis

On-site water demand calculations are provided in Appendix A. Per the City's criteria, the water system was analyzed under the following scenarios:

- Average Day Demand
- Maximum Hour Demand
- Maximum Day Demand plus Fire Flow

Model Summary

The highest pressure observed for each scenario occurs at Junction J-2, which is the southernmost junction. The lowest pressure observed for each scenario occurs at Junction J-1, which is the northernmost junction. A maximum pressure of 115 psi is reported at junction J-2 during all scenarios. The lowest pressure of 90 psi is reported at junction J-7 during the maximum day demand plus commercial fire flow scenario. During the maximum hour demand scenario, flows meet all the demand criteria. All modelling data is provided in Appendix A.

III. Sanitary Sewer System

A. Existing System

Provide more project information on this. completion date?

existing

This is the section for existing infrastructure. I will expressly state this where indicated as well.

The project lies within the First Creek sanitary sewer connection is a 12" sanitary sewer main at Prologis Park 70 which is located at E-470 and E. 19th Avenue. The Prologis lift station is located to the east of E-470 and is planned to be removed and replaced by a 30" sanitary sewer main which will gravity flow to the existing First Creek lift station. At this time, there is no anticipated completion date for this future project. The lift station is approximately 1.5 miles away.

Provide narrative that recognizes extension from Aurora Crossroads

B. Sanitary Design Criteria

Per the City of Aurora's Water, Sanitary Sewer & Storm Drainage Standards and Specifications, sanitary loading is defined below: Added.

- Average Day Loading (Commercial) = 1500 gpd/acre
- Equivalent Population per Acre (Commercial) = 22
- Peaking Factor (PF) = $5 / p^{0.167}$, where p = population in the thousands
- Maximum Peaking Factor = 4.0
- Minimum Peaking Factor = 1.7
- Maximum Velocity = 10 ft/s

Include capacity of the mobile home park to the north of site- as they are also on septic in analysis of sewer main extensions

What about offsite basins when sanitary sewer mains extended?

c. Proposed Sanitary Sewer

Currently, there are no offsite basins anticipated.

Until such time that sanitary sewer mains are extended and serviced via a septic system which may include sanitary tank(s) with an associated leach bed, as a temporary measure, the main will eventually extend within E. 12th Avenue from east property boundary.

Leach system size and septic tank locations will be determined with the design of the individual lots and the buildings within each lot. Capacity and flow rates have been added.

Capacity of the tanks? How large will leach system be? Flow rates?

d. Sanitary Sewer Analysis

It is our understanding that the septic system for Foxridge Farm mobile home park outlets to the north along Colfax Ave., adjacent to the access drive. The mobile home park was established in the early 70's, and therefore the record information for the sanitary sewer system is not available. It is likely that the sanitary sewer system extension that serves the park will be along Colfax and not outfall to the Jamaso sanitary sewer extension being proposed.

will produce sanitary flows. Sanitary Design table in

multiple system- each building to individual system or will they be shared? Elaborate in previous section

Offsite basins of this line?

The proposed water systems conform to the Water, Sanitary Sewer, and Stormwater Drainage Infrastructure Standards & Specifications from Aurora. The proposed septic system is an acceptable temporary measure until sanitary sewer mains are extended closer to service the project.

Currently, there are no offsite basins anticipated.

v. References

-Who will own/maintain these systems?
-This permitting will be done through Tri-County- need coordination- and subject to approval
-What will future build-out (offsite sewer) scenario look like with this system?

Narrative added stating septic systems would be privately owned by the owner of the lot in which the system resides.

Narrative added stating that permitting shall be sought with the development of each individual lot, when building locations are determined.

Narrative has been added to describe the future build-out scenario.

This will be determined with the design of the individual lots when building locations (and size) are determined.

Septic tank size and locations will be determined during the design of the individual lots. Until building locations are proposed, the septic tank locations are unknown. Any and all necessary plans, reports, or calculations will be provided with the design of the individual lots.

We require sanitary exhibits- septic tank locations (temporary solution) and buildout of sewer system showing potential sizing, offsite basins, and design points, and a depiction of the ultimate sewer scenario.

APPENDIX A

Demand and Flow Calculations

Jamaso Water Demand Calculations					
Commercial/Self Storage			Average Day Demand (gpd / acre)	Maximum Day Demand (gpd / acre)	Peak Hour Demand (gpd / acre)
			1500	4200	6750
Junction	Planning Area	Contributing Area (acre)	Average Day Demand (gpm)	Maximum Day Demand (gpm)	Peak Hour Demand (gpm)
	PA-1	0.00	0.00	-	-
J-1	PA-2	2.04	2.13	5.95	9.56
J-1	PA-3	3.91	4.07	11.40	18.33
J-1	PA-4	2.00	2.08	5.83	9.38
	PA-5	0.00	0.00	-	-
	PA-5	0.00	0.00	-	-
	PA-6	0.00	0.00	-	-
	PA-7	0.00	0.00	-	-
J-2	PA-8	1.61	1.68	4.70	7.55
Total =			9.96	27.88	44.81

Include total number of acres

Added Total Area in acres for each planning area.

Need a sanitary exhibit

Until the completion of the future sanitary sewer extension from the Aurora Crossroads development (the location of which is currently unknown) or until such time that the individual lots are being designed and buildings are being proposed for the site, there is no sanitary infrastructure to exhibit.

Proposed Sanitary Design				
Planning Area	PA-2	PA-3	PA-4	PA-8
Contributions	2.04 Acres (Commercial)	3.91 Acres (Self Storage)	2.00 Acres (Commercial)	1.61 Acres (Commercial)
Peak Factor (PF)	4.00	4.00	4.00	4.00
Peak Sanitary Flow	0.012 MGD 0.019 cfs	0.023 MGD 0.036 cfs	0.012 MGD 0.019 cfs	0.010 MGD 0.015 cfs

APPENDIX B

Water Hydraulic Computations

Jamaso Nodal Diagram



This is not a looped system. Can't serve any more that 1 hydrant from a dead-end line, and/or fire suppression line from a dead end main. P-4 by itself is not sufficient to provide this by itself

A waterline has been added to adequately loop the system.

Scenario: ADD
Current Time Step: 0.000 h
FlexTable: Junction Table

Label	Elevation (ft)	GIS-IDs	ID	Demand Collection	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	5,587.40	<Collection: 0 items>	48	<Collection: 3 items>	8	5,850.00	114
J-2	5,585.00	<Collection: 0 items>	45	<Collection: 1 item>	2	5,850.00	115
J-3	5,599.00	<Collection: 0 items>	53	<Collection: 0 items>	0	5,850.00	109
J-4	5,589.30	<Collection: 0 items>	55	<Collection: 0 items>	0	5,850.00	113
J-5	5,604.10	<Collection: 0 items>	57	<Collection: 0 items>	0	5,850.00	106
J-6	5,609.20	<Collection: 0 items>	59	<Collection: 0 items>	0	5,850.00	104
J-7	5,614.60	<Collection: 0 items>	62	<Collection: 0 items>	0	5,850.00	102

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Scenario: ADD
Current Time Step: 0.000 h
FlexTable: Pipe Table

ID	Label	Start Node	Stop Node	Diameter (in)	Material	Hazen-Williams C	Minor Loss Coefficient (Local)	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Length (ft)
52	P-1	R-1	J-1	12.0	PVC	130.0	0.000	5	0.01	0.000	480
51	P-2	J-2	J-1	12.0	PVC	130.0	0.000	3	0.01	0.000	350
46	P-3	R-2	J-2	12.0	PVC	130.0	0.000	5	0.01	0.000	340
54	P-4	J-1	J-3	12.0	PVC	130.0	0.000	0	0.00	0.000	1,180
56	P-5	J-3	J-4	12.0	PVC	130.0	0.000	0	0.00	0.000	760
58	P-6	J-4	J-5	12.0	PVC	130.0	0.000	0	0.00	0.000	1,070
60	P-7	J-5	J-6	12.0	PVC	130.0	0.000	0	0.00	0.000	880
61	P-8	J-6	J-3	12.0	PVC	130.0	0.000	0	0.00	0.000	960
63	P-9	J-6	J-7	12.0	PVC	130.0	0.000	0	0.00	0.000	265

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Scenario: ADD
Current Time Step: 0.000 h
FlexTable: Reservoir Table

ID	Label	Elevation (ft)	Zone	Flow (Out net) (gpm)	Hydraulic Grade (ft)
30	R-1	5,850.00	<None>	5	5,850.00
44	R-2	5,850.00	<None>	5	5,850.00

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Scenario: MDD+FF
Current Time Step: 0.000 h
FlexTable: Junction Table

Label	Elevation (ft)	GIS-IDs	ID	Demand Collection	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	5,587.40	<Collection: 0 items>	48	<Collection: 3 items>	23	5,847.77	113
J-2	5,585.00	<Collection: 0 items>	45	<Collection: 1 item>	5	5,848.90	114
J-3	5,599.00	<Collection: 0 items>	53	<Collection: 0 items>	0	5,831.45	101
J-4	5,589.30	<Collection: 0 items>	55	<Collection: 0 items>	0	5,829.84	104
J-5	5,604.10	<Collection: 0 items>	57	<Collection: 0 items>	0	5,827.57	97
J-6	5,609.20	<Collection: 0 items>	59	<Collection: 0 items>	0	5,825.70	94
J-7	5,614.60	<Collection: 0 items>	62	<Collection: 1 item>	2,500	5,822.03	90

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Scenario: MDD+FF
Current Time Step: 0.000 h
FlexTable: Pipe Table

ID	Label	Start Node	Stop Node	Diameter (in)	Material	Hazen-Williams C	Minor Loss Coefficient (Local)	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Length (ft)
52	P-1	R-1	J-1	12.0	PVC	130.0	0.000	1,386	3.93	0.005	480
51	P-2	J-2	J-1	12.0	PVC	130.0	0.000	1,137	3.23	0.003	350
46	P-3	R-2	J-2	12.0	PVC	130.0	0.000	1,142	3.24	0.003	340
54	P-4	J-1	J-3	12.0	PVC	130.0	0.000	2,500	7.09	0.014	1,180
56	P-5	J-3	J-4	12.0	PVC	130.0	0.000	909	2.58	0.002	760
58	P-6	J-4	J-5	12.0	PVC	130.0	0.000	909	2.58	0.002	1,070
60	P-7	J-5	J-6	12.0	PVC	130.0	0.000	909	2.58	0.002	880
61	P-8	J-6	J-3	12.0	PVC	130.0	0.000	-1,591	4.51	0.006	960
63	P-9	J-6	J-7	12.0	PVC	130.0	0.000	2,500	7.09	0.014	265

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This is exceeding our criteria, a second point of connection might result in all pipes becoming 8"

The additional waterline does reduce the flow velocity.

Note: Per the 'Master Utility Design Criteria for Water and Sanitary Sewer' memo from Aurora Water Planning and Engineering dated April 19, 2018, the Max Hour Velocity and Head Loss Criteria are defined during the Peak Hour scenario.

Also note that 12" waterlines are necessary to adequately supply commercial fire flow demand.

Scenario: MDD+FF
Current Time Step: 0.000 h
FlexTable: Reservoir Table

ID	Label	Elevation (ft)	Zone	Flow (Out net) (gpm)	Hydraulic Grade (ft)
30	R-1	5,850.00	<None>	1,386	5,850.00
44	R-2	5,850.00	<None>	1,142	5,850.00

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Scenario: PHD
Current Time Step: 0.000 h
FlexTable: Junction Table

Label	Elevation (ft)	GIS-IDs	ID	Demand Collection	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	5,587.40	<Collection: 0 items>	48	<Collection: 3 items>	37	5,850.00	114
J-2	5,585.00	<Collection: 0 items>	45	<Collection: 1 item>	8	5,850.00	115
J-3	5,599.00	<Collection: 0 items>	53	<Collection: 0 items>	0	5,850.00	109
J-4	5,589.30	<Collection: 0 items>	55	<Collection: 0 items>	0	5,850.00	113
J-5	5,604.10	<Collection: 0 items>	57	<Collection: 0 items>	0	5,850.00	106
J-6	5,609.20	<Collection: 0 items>	59	<Collection: 0 items>	0	5,850.00	104
J-7	5,614.60	<Collection: 0 items>	62	<Collection: 0 items>	0	5,850.00	102

I:\Job Folders\1022\1022-02\Documents\Utility\Calcs\Water\Model\Jamaso - Water Model.wtg

Scenario: PHD
Current Time Step: 0.000 h
FlexTable: Pipe Table

ID	Label	Start Node	Stop Node	Diameter (in)	Material	Hazen-Williams C	Minor Loss Coefficient (Local)	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Length (ft)
52	P-1	R-1	J-1	12.0	PVC	130.0	0.000	23	0.06	0.000	480
51	P-2	J-2	J-1	12.0	PVC	130.0	0.000	15	0.04	0.000	350
46	P-3	R-2	J-2	12.0	PVC	130.0	0.000	22	0.06	0.000	340
54	P-4	J-1	J-3	12.0	PVC	130.0	0.000	0	0.00	0.000	1,180
56	P-5	J-3	J-4	12.0	PVC	130.0	0.000	0	0.00	0.000	760
58	P-6	J-4	J-5	12.0	PVC	130.0	0.000	0	0.00	0.000	1,070
60	P-7	J-5	J-6	12.0	PVC	130.0	0.000	0	0.00	0.000	880
61	P-8	J-6	J-3	12.0	PVC	130.0	0.000	0	0.00	0.000	960
63	P-9	J-6	J-7	12.0	PVC	130.0	0.000	0	0.00	0.000	265

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Scenario: PHD
Current Time Step: 0.000 h
FlexTable: Reservoir Table

ID	Label	Elevation (ft)	Zone	Flow (Out net) (gpm)	Hydraulic Grade (ft)
30	R-1	5,850.00	<None>	23	5,850.00
44	R-2	5,850.00	<None>	22	5,850.00

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APPENDIX C

Water Distribution Map

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FOXTRIDGE FARM MOBILE HOME COMMUNITY
BLOCK 4, AETNA ESTATES
OWNER: FOXTRIDGE MOBILE HOME PARK ASSOCIATES LLLP

Per conversations with Tony Tran from the City of Aurora, this will be the point where the future Zone 4 30" WL that is being proposed by the City's master plan for the 'Eastern Utility Extension Zone 4 Waterline' enters/exits the site.

What is this serving?

A waterline connection here may help reduce the amount of waterline needed.
Due to the locations of the Fire Hydrants, this is not a beneficial revision.

This connection would provide a looped waterline for the site.

This image needs a signature block- reference MUS checklist that was sent to ILC team on different projet- signature block should include fire depart

Please also include the 60" RW line

Added.

Added.

Added.

AURORA PUMPING STATION NO. 3 SUBDIVISON FILING NO. 1
LOT 1, BLOCK 1

PROPERTY RESERVE INC
UNDEVELOPED

PA-9
OPEN SPACE /
LANDSCAPE
BUFFER

PA-10
OPEN SPACE /
LANDSCAPE
BUFFER

PA-5
COMMERCIAL: OUTDOOR
SELF STORAGE

PA-1
OPEN SPACE /
LANDSCAPE
BUFFER

PA-2
COMMERCIAL:
RETAIL

PA-3
COMMERCIAL:
SELF STORAGE

PA-4
COMMERCIAL:
RETAIL

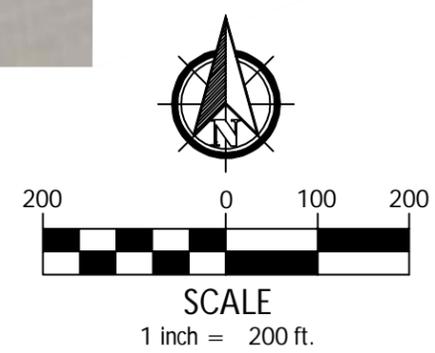
PA-8
COMMERCIAL:
RETAIL

PA-7
EXISTING OIL & GAS

PA-6
OPEN SPACE /
LANDSCAPE
BUFFER

LEGEND

- Proposed Waterline
- Existing Waterline
- Planning Area Boundary



12071 Tejon Street, Suite 470
Westminster, CO 80234
303.421.4224
www.innovativelandinc.com

Proj. Name: Jamaso
Location: Aurora, Colorado
Plan Set: Water Distribution System Map
Sheet Name:

Date: August 27, 2021
Job No.: 1022-02
Scale H: 1" = 200'
Scale V: N/A

Prepared By: TRP
Approved By: TRH



Sheet: 1



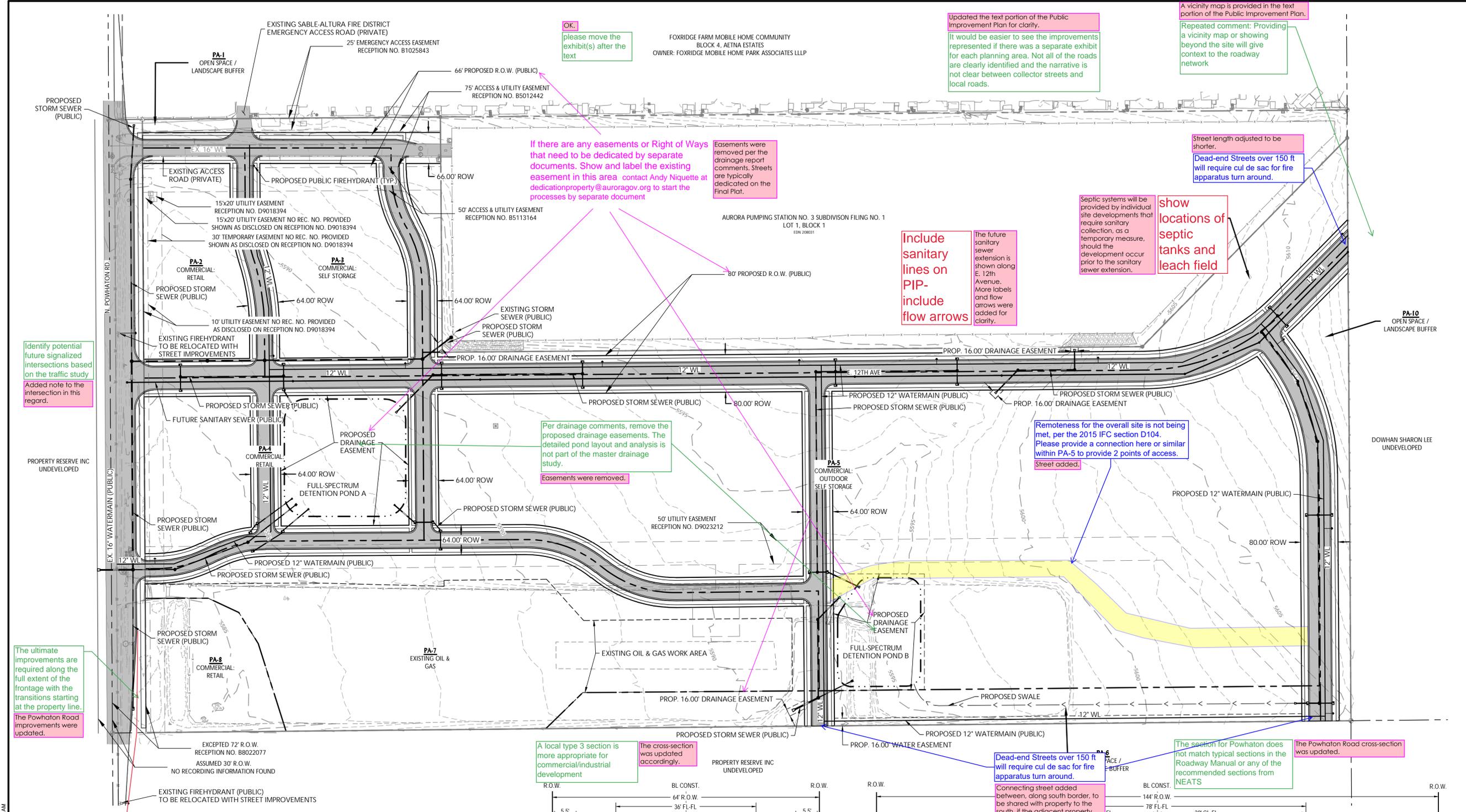
12071 Tejon Street, Suite 470
Westminster, CO 80234
303.421.4224
www.innovativelandinc.com

Revision Type:	1 of 1
Date:	September 8, 2021
Horiz. Scale:	1" = 100'
Vert. Scale:	N/A
Designed By:	ACS
Prepared By:	TRP
Approved By:	TRH

Project Name: **Jamaso**
Location: **Aurora, Colorado**
Plan Set:
Sheet Name:

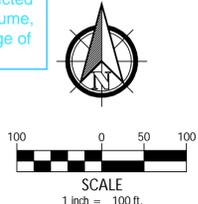
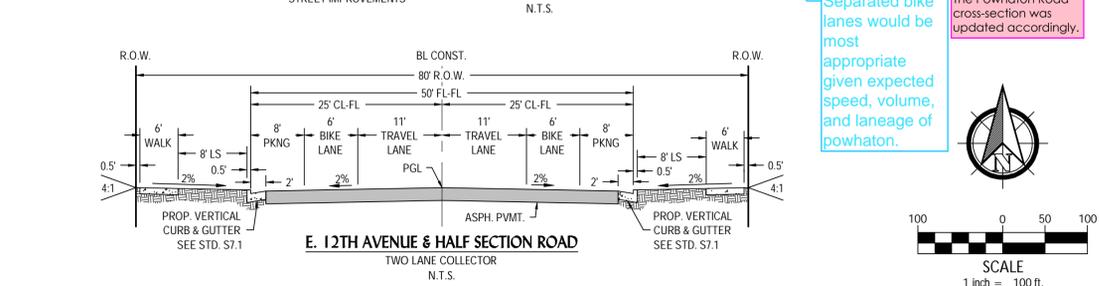
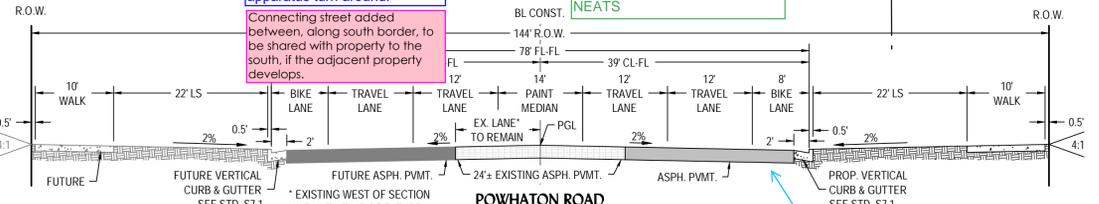
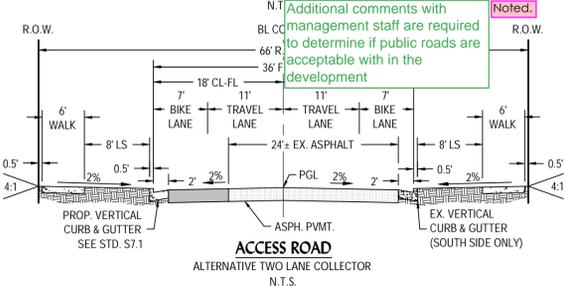
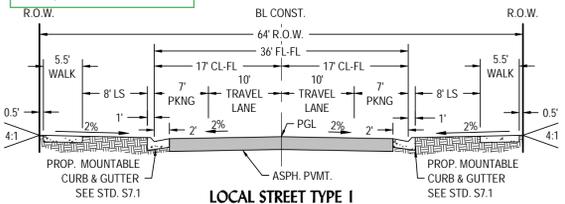
NOT FOR CONSTRUCTION

Know what's below.
Call before you dig.



LEGEND

--- Planning Area Boundary	- - - - - Ex. Water Line
- - - - - Right of Way Line	- - - - - Ex. Storm Sewer Line
- - - - - Centerline	- - - - - Ex. Gas
- - - - - Lot Line	- - - - - Ex. Underground Electric
- - - - - Easement Line	- - - - - Ex. Overhead Electric
- - - - - Swale Line	- - - - - Ex. Fence
● Storm Manhole	○ Existing Major Contour
○ Type 'R' Inlet	○ Existing Minor Contour
● Sanitary Sewer Manhole	
▲ Fire Hydrant	
--- Storm Sewer Line	
--- Water Line	
--- Sanitary Sewer Line	



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Since landscaping buffers have been placed in their own PA, please note when they will be constructed as they relate to the improvements required for other PAs. For example, buffers should be constructed at the time of the adjacent PA for commercial use.

Jamaso Public Improvements Plan Narrative
City of Aurora, Colorado
09/08/2021

The master plan will not be approved by public works until the drainage report is approved

Noted.

unincorporated property to the east of the site due to conflicts with the existing COA Prairie Waters treatment facility and Foxridge Farms mobile home community to the north.

Specific Development Improvements

Planning Area #1 – PA-1:

Planning Area #1 is approximately 1.6 acres in size identified as open space / landscape buffer. Street per the City of Aurora’s landscape standards shall access to the City of Aurora Prairie Waters Treatment Facility and the existing emergency access to Sable Altura Fire Station #1 must be maintained at all times. The storm sewer collection system includes the outfall for the City of Aurora Prairie Waters Treatment Facility existing pond routing to N. Powhatan Road.

What will be the timing of this improvement? At a minimum this should be completed with PA-2 and/or PA-3

Text updated accordingly.

west portion of the Jamaso site. The land use is buffers and other landscape elements required way development and construction. The existing emergency access to Sable Altura Fire Station #1 must be maintained at all times. The storm sewer collection system includes the outfall for the City of Aurora Prairie Waters Treatment Facility existing pond routing to N. Powhatan Road.

Planning Area #2 – PA-2:

Planning Area #2 is approximately 2.7 acres in size and is located in the northwest portion of the Road. The land use is identified as commercial retail.

Roadway Improvements

Street improvements along N. Powhatan Road adjacent to Planning Area #2 from E. 12th Avenue will consist of an additional north-bound lane, the eastern half of a painted median, a bicycle lane. Required transition from the east section of N. Powhatan Road will begin at the property north to match the existing 2-lane road. Completion of the existing access road and the north (minimum) along Planning Area #2 will be required to access the lot. Coordination efforts with fire station would provide for a larger turn radius for fire trucks and a combined access to N. Powhatan Road. A local road to the east of Planning Area #3 will assist with internal circulation. Street trees, tree lawns, landscape buffers and other landscape elements required per the City of Aurora’s landscape standards shall be included as part of roadway development and construction.

Interim improvements for Powhatan need to address bike lanes in each direction if the section is to indeed have on street bike facilities

The Powhatan Road cross-section was updated with a detached walk/bike path.

Storm Drainage Improvements

Storm sewer collection at E. 12th Avenue ditch water collection into storm sewer from the full cross-section to existing.

Include the detention pond required in each planning area, typical

Text updated accordingly.

for detention. The N. Powhatan Road existing will facilitate the required roadway transition

Water Improvements

Waterline connection to the existing 16” waterline within the existing access will be extended between Planning Areas #2 and #3 to E. 12th Avenue. Waterline extension is part of overall looping to support commercial land uses and therefore is planned to be 12” waterline internal to the site. Fire hydrants adjacent to the existing access and E. 12th Avenue will be provided for the nearby fire station to access in emergency situations.

Sanitary Improvements

Until such times as future sanitary sewer will be provided in E. 12th Avenue, a septic system may include a sanitary vault or septic tank with an associated leach bed, as a temporary measure under direction of the health department. Future sanitary sewer is expected to support onsite commercial areas as well as undeveloped, unincorporated, uphill areas east of the site, and therefore is planned to be 8” sanitary sewer internal to the site. Future sanitary sewer is expected along E. 12th Avenue within the site extents.

Verify with Aurora Water. Utilities are required to be installed prior to roadway paving. Typical

Watermain will be installed prior to roadway paving.

Planning Area #3 – PA-3:

Planning Area #3 is approximately 3.7 acres in size and is located identified as commercial indoor self-storage.

Roadway Improvements

Completion of the existing access road and E. 12th Avenue along Planning Area #3 will assist with internal circulation to the west and east of Planning Area #3 will assist with internal circulation. Street trees, tree lawns, landscape buffers and other landscape elements required per the City of Aurora’s landscape standards shall be included as part of roadway development and construction.

Storm Drainage Improvements

Storm sewer collection for Planning Area #3 crossing under E. 12th Avenue to Planning Area #4 will be required for detention.



Vicinity Map
NTS

Text updated for PA-4 and PA-5 in accordance with planning documents and traffic engineers.

Add note in PA-2, PA-4, PA-8 that transit stop improvements (requiring a depth of at least 8') can be accommodated on Powhatan when and if RTD extends service to this area. Specific layout and locations of those transit stops can be determined at that time.

Jamaso Project Location & Description

The purpose of this Public Improvements Plan narrative is to discuss relevant issues regarding infrastructure for Jamaso Development. More specifically this report will discuss each identified Planning Area and the drainage, water and sanitary sewer infrastructure necessary to facilitate them as standalone developments.

The proposed Jamaso Development is approximately 60 acres of land with the land use designations of Commercial and R-2 Medium Density Residential. The site is located just south of Interstate 70 & east of E-4 Foxridge Farms Community / an existing COA Prairie Waters treatment facility to the north, vacant land to the east, Foxridge Farms Ranch Subdivision to the east and N. Powhatan Road / vacant land to the west. The property has an existing oil and gas operation on the southern portion and the remaining portion is undeveloped.

As part of this Master Plan, Jamaso will be rezoned to a Mixed-Use Airport zoning designation to allow for more flexibility in commercial uses. The predominant land uses will be indoor & outdoor self-storage facilities and commercial retail spaces.

A Master Traffic Impact Study (TIS) was prepared by LSC Transportation Consultants, Inc. for the proposed Jamaso Development. Future Traffic Signal Escrow responsibility for a future signalized intersection is expected at N. Powhatan Road and E. 12th Avenue, according to the TIS. Additional offsite improvements for planning areas may be required based on traffic or life safety needs. The half section collector road extending north of E. 12th Avenue will have to be accommodated with the

