

OFFICIAL MINUTES
SUMMERSET PLANNING AND ZONING COMMISSION
REGULAR MEETING
TUESDAY, NOVEMBER 12th, 2024 @ 6:00 P.M.

The meeting was called to order by Chairman Brody Oldfield at 6:00 p.m.

ROLL CALL: Dustin Hirsch, Mitchell Woldt, Casey Kenrick, Brittni Bjorum and Brody Oldfield were present. Also present was the City Administrator and City Attorney.

CALL FOR CHANGES: Motion by Kenrick, second by Hirsch to approve the agenda of the meeting for November 12th, 2024. Motion carried.

CONSENT CALENDAR: Motion by Woldt, second by Bjorum to approve the minutes of the regular meeting of October 7th, 2024. Motion carried.

PRELIMINARY/FINAL PLAT – LYON LLC

Motion by Hirsch, second by Woldt, to open discussion. Motion carried.

City Administrator Lisa Schieffer presented to the Board the Preliminary/Final Plat of Lyon LLC. Additional documentation was provided including street improvements. In attendance was Kristi Lyon representing Lyon LLC.

Motion by Hirsch, second by Kenrick to close discussion. Motion carried.

Motion by Kenrick, second by Bjorum to recommend approval of the preliminary/final plat of Lyon LLC to the Board of Commissioners. Motion carried.

PRELIMINARY PLAT – NORMAN RANCH

Motion by Kenrick, second by Woldt, to open discussion on the Design Exception Request and Preliminary Plat. Motion carried.

Megan Kingsbury from Vanocker Development along with Kyle Treloar (via zoom) presented to the Planning and Zoning Board their request for the Design Exception Request and Preliminary Plat. Ian Garduna from Renner Associates was also on-hand to answer engineering questions. The Board was informed that meetings have taken place between Vanocker Development, Renner & Associates, and the City's engineers HDR.

Chris Robinson from HDR did a breakdown on the comments that were presented to Vanocker Development and the Planning & Zoning Board. The two key issues were 1) size of the force main and velocity per second, and 2) capacity of existing Summerset Lift Station.

Mr. Treloar explained to the Board the feasibility of the project with the different phasing and when improvements would be done on the same.

Discussion ensued on back up plans and/or contingencies regarding air valves, pumps, overloading on the lift station and whose responsibility it would be during, and once the project is completed.

Lindsay Shagla from HDR discussed pigging the sewer lines or running a camera through the same, but it is difficult to get a camera through because of the bends in the lines. There are no current records at Meade County regarding the original sanitation system when it was built.

Anthony Kayl, Public Works Director, stated that he would be replacing one of the valves and they would conduct a test.

Discussion turned towards flow meters and flow tests to record the data. The Board ensued discussion on backup plans and legal implications if something were to not work correctly.

The Board ended discussion about the exception request and asked if any items were still needed to be addressed on the preliminary plat. Ms. Shagla stated that they would still need to have a letter from the US Army Corp of Engineers regarding the wetlands.

Motion by Kenrick, second by Hirsch to close discussion. Motion carried.

Motion was made by Woldt, second by Kenrick to recommend to the Board of Commissioners approving the Design Exception Request and Preliminary Plat contingent upon the following items:

- 1) Extended warranty on Norman Ranch pump and lift station to three (3) years;
- 2) Air valves working to increase adequate flow;
- 3) Plan between the developer and city in case it is overloaded;
- 4) Letter from US Army Corp of Engineers for work in wetland area.

Motion carried.

ADJOURNMENT

Motion by Kenrick, second by Bjorum to adjourn the meeting at 7:27 p.m. Motion carried.

Brielle Schrock, Finance Officer

Brody Oldfield, Chairman

**REQUEST FOR EXCEPTION TO
SUMMERSET DESIGN STANDARD / CRITERIA / REGULATIONS**

PROJECT Norman Ranch Subdivision Phase 1A & 1B

DATE: 7-24-24

SUBMITTED BY:
(Include Name, Company Name,
Email Address & Phone Number)

Ian Garduna, Renner Associates,

PIN #: _____

[REDACTED]

LEGAL DESCRIPTION: SW 1/4 of Section 32, T3N, R7E, BHM, Summerset, Meade County,
South Dakota

EXCEPTION REQUESTED: SECTION 3.12.6.1 STD / CRITERIA / REG IDCM

DESCRIPTION OF REQUEST: _____

Allow Qpeak velocity of lower than 2 ft/sec.

JUSTIFICATION:

(Please use back of sheet if additional room is needed) Please see attached narrative.

SUPPORTING DOCUMENTATION: Yes No

PROPERTY OWNER'S SIGNATURE**: _____ DATE: _____

**Or Agent, if previously designated by the Owner in writing.

.....FOR STAFF ONLY

STAFF COMMENTS: _____

STAFF RECOMMENDATION: _____

REVIEWED BY: _____ DATE: _____

AUTHORIZATION:

APPROVED DENIED

COMMUNITY PLANNING DIRECTOR _____ DATE _____
 APPROVED DENIED

PUBLIC WORKS DIRECTOR _____ DATE _____

Revised 07/1/14

FILE #: _____

ASSOCIATED FILE#: _____

Justification

The proposed 8" force main would experience velocities lower than the 2 ft/sec for the initial Phase 1A & 1B portion of Norman Ranch Subdivision. The lower velocities are due to constraints at the existing Summerset Lift Station. The Summerset lift station has capacity to allow Norman Ranch to pump at a peak of approximately 80 gpm. The proposed 8" FM would flow at a rate of approximately 0.5 ft/sec.

It is likely once the Air Release Valves (ARV's) are installed on the existing 6" FM that the existing lift station will have a higher capacity to allow Norman Ranch to pump at a higher rate and increase the velocities in the proposed 8"FM. The table below illustrates the theoretical capacity of the Summerset lift station and the proposed flows for each phase of Norman Ranch.

The 8" FM would meet the 2 ft/sec when approximately 50% of Phase 2 would be constructed.

A 6" FM was evaluated and the smaller size limited the pump availability to only service 1A & 1B only. The contributing flows for 1A & 1B would still not bring the velocities to 2ft/sec similarly to the 8" FM that is being proposed.

The requested exception would be a temporary allowance to operate the 8" FM at lower velocities until the upgrades to the existing Summerset lift station are constructed during Phase 2.

Norman Ranch Sanitary Phasing Plan

Phase	Cumulative Sanitary Flows (GPM)		Schedule
	Average	Peak	
1A	14	58	To be constructed jointly
1B	27	108	
2	118	365	
3	241	967	

Summer Set Lift Station

The capacity of the Summerset Lift station is currently	160 gpm
Theoretical capacity upon repairs is	275 gpm
Existing Flows	50 84
Current available capacity of Summerset Lift Station	76 gpm
Upon Repairs available capacity of Summerset Lift Station	191 gpm

If repairs are not completed on the existing Summerset Lift Station (SLS) then improvements will need to be made at Phase 1B of the Norman Ranch Subdivision

If the SLS air release valve improve the system to 275 gpm then the SLS improvements will need to be made at Phase 2 of the Norman Ranch Subdivision.

PLAT OF
 LOTS 1A & 1B-7A & 7B OF BLOCK 1, LOTS 1A, 1B, 1C, 1D-4A, 4B, 4C, 4D OF BLOCK 2,
 LOTS 1A & 1B-13A & 13B OF BLOCK 3,
 LOTS 1-27 OF BLOCK 4, LOTS 1-3 OF BLOCK 5 &
 MACALLAN WAY, MORAY MIST LANE, HIGHLANDS WAY, & NORMAN AVENUE RIGHT-OF-WAYS
 UTILITY EASEMENT AND MAJOR DRAINAGE EASEMENT,
 NORMAN RANCH SUBDIVISION

(formerly a portion of the SW1/4 of SW1/4 of Section 32, T3N, R7E and Gov't Lots 3 & 4 of Section 5, T2N, R7E, BHM)
 LOCATED IN SECTION 32, T3N, R7E AND SECTION 5, T2N, R7E, BHM,
 CITY OF SUMMERSET, MEADE COUNTY, SOUTH DAKOTA

THE SUBJECT PROPERTY FALLS IN FLOOD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAN) AS SHOWN IN THE FLOOD INSURANCE RATE MAP (FIRM), MAP NUMBER 4600X17161, EFFECTIVE DATE OF SEPTEMBER 14, 2011.

CERTIFICATE OF OWNERSHIP

I, the undersigned, do hereby certify that I am the owner of the tract of land shown and described herein, that said land is free from any encumbrances, that I did acquire and do hereby approve the survey and within plot of said land for the purpose hereof herein. I further certify that the development of this land shall conform to all existing applicable zoning, subdivision, erosion and sediment control regulations.

Any land shown on the within plot as dedicated to public right-of-way is hereby dedicated to public use and public utility use as such, forever, but with dedication shall not be construed to be a donation of the fee of such land.

In witness whereof, I have set my hand and seal.

OWNER: NORMAN RANCH SUBDIVISION, LLC

BY _____

ACKNOWLEDGMENT OF OWNERSHIP

State of South Dakota
 County of Meade S.S.

On the _____ day of _____, 20____, before me, a Notary Public, personally appeared _____ at Norman Ranch Subdivision, LLC, known to me to be the person described in the foregoing instrument and acknowledged to me that he signed the same.

NOTARY PUBLIC: _____

My commission expires _____

APPROVAL BY HIGHWAY OR STREET AUTHORITY

The location of the proposed access to the Highway or Street as shown herein is hereby approved. Any change in the location of the proposed access shall require additional approval.

Dated this _____ day of _____, 20____

Highway or Street Authority _____

CERTIFICATE OF HIGHWAY OR STREET AUTHORITY

State of South Dakota
 County of Meade S.S.

The location of the proposed access road to the County or State Highway or City Street as shown herein, is hereby approved. Any change in the location of the proposed access shall require additional approval.

Dated this _____ day of _____, 20____

Highway or Street Authority _____

CERTIFICATE OF COUNTY TREASURER

I, Treasurer of Meade County, South Dakota, do hereby certify that all taxes which are due upon the within described lands are fully paid according to the records in my office.

Dated this _____ day of _____, 20____

Meade County Treasurer _____

CERTIFICATE OF REGISTER OF DEEDS

State of South Dakota
 County of Meade S.S.

Filed for record this _____ day of _____, 20____ at _____ o'clock _____ P.M. in Book _____ of Plats, Page _____

Register of Deeds _____



CERTIFICATE OF SURVEYOR

State of South Dakota
 County of Pennington S.S.

I, Eric D. Herold, Registered Land Surveyor No. 9231 in the State of South Dakota, do hereby certify that at the request of the owner stated herein, I have surveyed the tract of land above, and to the best of my knowledge and belief, the within plot is a representation of said survey, easements or restrictions of whatsoever record or public easements that are not known to me are not shown herein.

In witness whereof, I have hereunto set my hand and seal.

Eric D. Herold, Registered Land Surveyor _____ Date _____

CERTIFICATE OF PLANNING COMMISSION

The City of Summerset Planning and Zoning Commission certifies it has reviewed the final plat and hereby recommends approval to the City Commission of the City of Summerset, South Dakota.

Dated this _____ day of _____, 20____

Planning Commission Member _____

CERTIFICATE OF DIRECTOR OF REGISTRATION

I, Director of Registration of Meade County, South Dakota, do hereby certify that I have on record in my office a copy of the within described plat.

Dated this _____ day of _____, 20____

Meade County Director of Registration _____

CERTIFICATE OF CITY FINANCE OFFICER

I, Finance Officer of the City of Summerset, South Dakota, do hereby certify that the foregoing instrument is a true and correct copy of the resolution adopted by the City Commission of the City of Summerset, South Dakota, at a meeting held on the _____ day of _____, 20____.

Finance Officer _____ Date _____

CERTIFICATE OF CITY FINANCE OFFICER

I, Finance Officer of the City of Summerset, South Dakota, do hereby certify that all special assessments which are due upon the within described lands are fully paid according to the records of my office.

Dated this _____ day of _____, 20____

Finance Officer _____

RESOLUTION OF CITY COMMISSION

Whereas there has been presented to the City Commission of the City of Summerset, South Dakota, the within plat of the above described lands, and it appears to the Council of Commissioners that:

- a. The system of streets set forth therein conforms to the system of streets of the existing plat of the City.
- b. All provisions of the City subdivision regulations have been complied with.
- c. All taxes and special assessments upon the tract or subdivision have been fully paid, and
- d. Each plot and survey thereof have been executed according to law.

NOW THEREFORE, BE IT RESOLVED that said plat is hereby approved in all respects,

Dated at Summerset, South Dakota this _____ day of _____, 20____

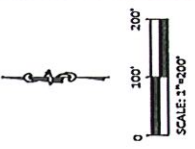
Mayor _____ Date _____



Norman Ranch Subdivision Phase 1A

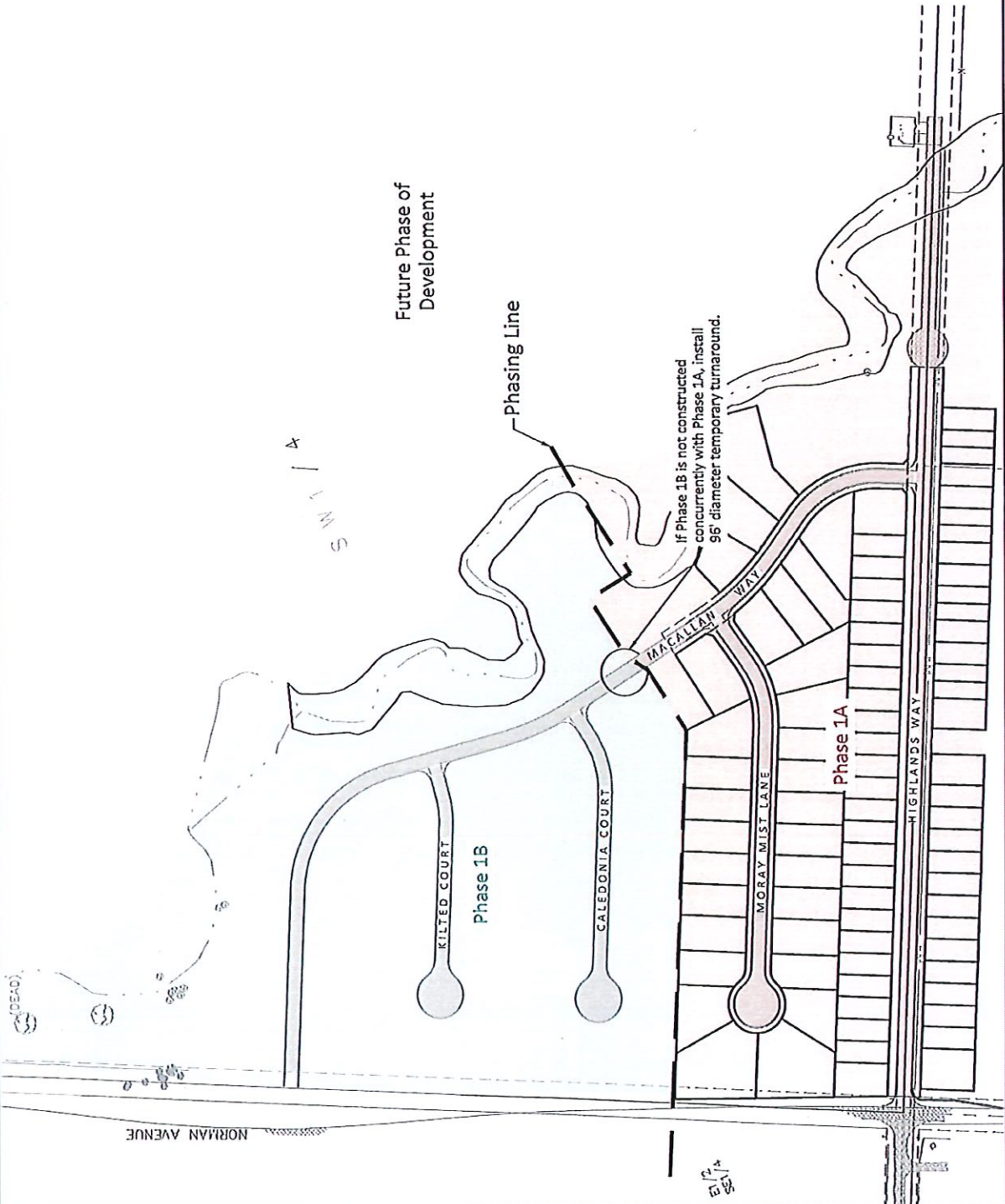
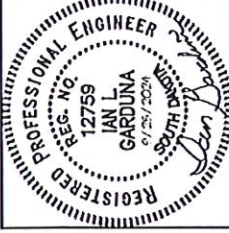
Project No.	IR01900
Client	Norman Ranch, LLC
Design Date	9/25/24
Issue Date	9/25/24
Revision No.	02/2022
Version:	9/25/24
Revised 100% CD	
Prepared For:	Norman Ranch, LLC 1624 Concourse Dr Raleigh, NC 27603

Internal Job No:	2493.01
Sheet Title:	Phasing Plan
Scale:	3:1



Legend

- Phase 1A
- Phase 1B



Norman Ranch Design Exception Request (11-01-24)

Review Comments (11/05/24)

1. Utility report states "The proposed 8" force main would experience velocities lower than the 2 ft/sec for the initial Phase 1A &1B portion of Norman Ranch Subdivision."
 - a. An 8" FM would experience a 0.5 ft/s velocity until the pumps are replaced. It is not clear when pump replacement is proposed.
 - b. **Norman Ranch Response: Pumps would be ordered spring of 2025 with City review of shop drawings. Ideally – the Summerset Lift Station forcemain air release valves would be replaced prior to this time and a new pump test conducted. In which case upgraded pumps would be ordered with the initial installation. Otherwise new pumps would be ordered at phase 2.**
2. Utility Report States "The lower velocities are due to constraints at the existing Summerset Lift Station."
 - a. Velocity is a function of pipe size and flow rate. A 4" diameter pipe could achieve a 2 ft/s velocity with a similar pump as proposed.
 - b. **Norman Ranch Response: Agreed. The essence of the request is that a 4" or 6" main limit the potential for growth downstream without the installation of a second force main. By installing an 8" (or 10" as originally proposed) line initially it allows us to budget for Summerset Lift Station Improvements and Norman ranch Pump Upgrades with Phase 2. Our ability to do all three (upgrade summerset lift station, Norman ranch pumps and force main) is not possible within current lot value/improvements conditions.**
3. Utility Report states "The Summerset lift station has capacity to allow Norman Ranch to pump at a peak of approximately 80 gpm."
 - a. The existing Summerset Lift Station capacity is 160 gpm. The calculated current peak inflow from its existing service area is 165 gpm. The only available existing capacity is associated with actual vs calculated peak flow rates which are unknown. It appears the average day flow is being utilized to determine available capacity.
4. Utility Report states "The proposed 8" FM would flow at a rate of approximately 0.5 ft/sec."
5. Utility Report states "It is likely once the Air Release Valves (ARV's) are installed on the existing 6" FM that the existing lift station will have a higher capacity to allow Norman Ranch to pump at a higher rate and increase the velocities in the proposed 8"FM."
 - a. Are larger Norman Ranch Lift Station pumps proposed to be installed after improvements are made to the Summerset Lift Station as this statement implies?
 - b. **Norman Ranch Response: Yes, and ideally sooner per above.**
6. Utility Report states "The table below illustrated the theoretical capacity of the Summerset lift station and the proposed flows for each phase of Norman Ranch."
 - a. See above response related to theoretical capacity of the Summerset lift station.
7. Utility Report states "The 8" FM would meet the 2 ft/sec when approximately 50% of Phase 2 would be constructed."

- a. Are Norman Ranch LS improvements proposed during phase 2? If so, the timing does not match the table presented in the revised Utility Report where Norman Ranch LS improvements are not proposed until phase

The table below is an anticipated schedule of improvements based on the phasing for Norman Ranch.

Norman Ranch Sanitary Phasing Plan

Phase	Cumulative Sanitary Flows (GPM)		Schedule
	Average	Peak	
1A	14	58	To be constructed jointly
1B	27	108	
2	118	365	CWLS upgrades required
3	241	967	Norman Ranch Improvements

- b. **Norman Ranch Response: Yes, Improvements to the City of Summerset and Norman Ranch Lift Station are planned in Phase 2, to be designed during those phases.**
8. Utility Report states "A 6" FM was evaluated and the smaller size limited the pump availability to only service 1A & 1B only. The contributing flows for 1A & 1B would still not bring the velocities to 2ft/sec similarly to the 8" FM that is being proposed."
- a. The selected pump cannot serve phase 1A and 1B without peak equalization in the wetwell. A 6" forcemain has no affect on the current pumps ability to serve future phases, the pump is limited by a peak flow of 80 gpm for both scenarios.
- b. **Norman Ranch Response: Agree that the current limiting flow is due to the Summerset Lift Station and per the developers agreement understand that it will need to be upgraded with phase 2. The friction head loss within the 6" main begins to limit flow given currently available commercial pumps as flow increases.**
9. Exception Request states ""The requested exception would be a temporary allowance to operate the 8" FM at lower velocities until the upgrades to the existing Summerset lift station are constructed during Phase 2."
- a. Pipe velocities below 2.0 ft/s would remain until the pumping capacity is increased to 315 gpm or greater. Impacts to other infrastructure (gravity sewers and WWTP) have not been identified for this flow rate. For reference, the existing capacity of the WWTP is 0.53 MGD peak. A Norman Ranch Lift Station flow of 315 gpm equates to 0.45 MGD (85% of the total peak capacity).
- b. **Norman Ranch Response: Per the Developers agreement and discussion with the City that led to the design of a 10" main we understand and know that additional upgrades to the city's pump station will be required. If we select anything smaller than an 8" forcemain it ensures that we will also have to install a secondary forcemain with phase 2 due to the resultant friction loses in a 6" or smaller main. The current cost of the forcemain is nearly \$2,000,000 as bid. In order to provide the greatest regional good, and in accordance with the agreement, we believe that installing an 8" allows for the greatest benefit to the city of summerset, allows for reginal growth flexibility and allows the developers reasonable financial expectations to upgrade the existing city lift station with phase 2. A pigging station**

was added to the forcemain to help with maintenance and cleaning that may be expected with lower velocities. If the city has concerns with added maintenance I would also add that we could extend the warranty on the Norman Ranch Pump until Phase 2 beyond; the 2 year mark already provided in the developers agreement.

Norman Ranch Utility Report (11-01-24)

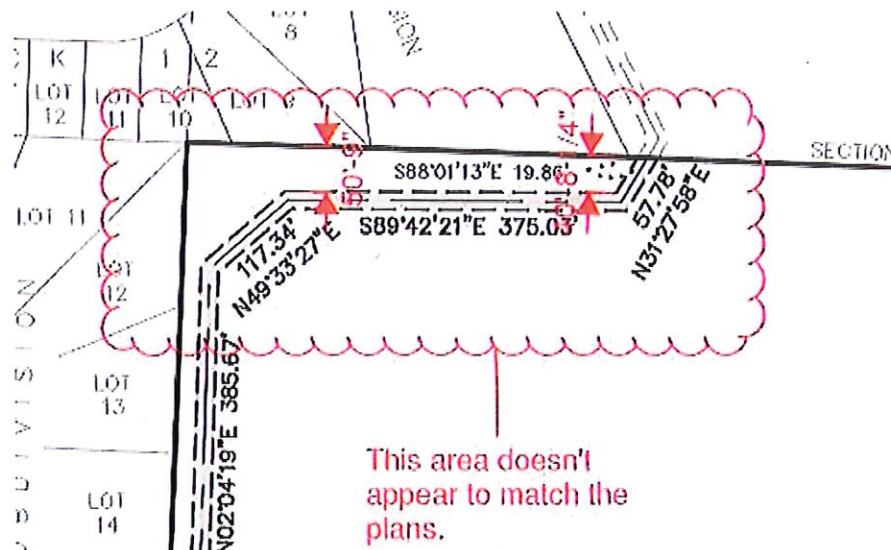
Review Comments (11/08/24)

10. A meeting took place where HDR suggested addressing a list of items associated with a lift station design. Items that were requested to be addressed but are either absent or lacking detail:
 - a. Odor control
 - b. Data for all proposed valves (check, isolation, air and vacuum)
 - c. Inclusion of a flow meter
 - d. Noise control
 - e. Power plan
 - f. Instrumentation and Controls (pump control logic, proposed instruments, plc inputs, alarms/communication)
 - g. Design FM to convey a pig (pig launch added at lift station but its unclear if valves are full port).
 - h. The proposed air release valve is for water and not appropriate for wastewater service. The valve is air release only, combination valves are anticipated to be required is some locations.

Norman Ranch Subdivision Sanitary Force Main & Water Main Plans (11-01-24)

Review Comments (11/08/24)

11. New aerial on Sheets 5.11-5.20, appears to be covering property line and topographic survey linework.
12. Missing a section of forcemain in profile view on Sheet 5.15.
13. Alignment of sewer in on the north side of Tract C of Lot 3 appears closer to the lot line than what is shown in the easement exhibit, confirm which alignment is correct and update documents, see below



This area doesn't appear to match the plans.

This is from Exhibit A for Tract C of Lot 3 of NE1/4 of SW1/4 of Section 31 (dated 6/5/2024), if there is a newer version that is correct, please submit.

14. Minimum bury depth for the 8" forcemain should be 6' currently showing less than this from ~Sta. 91+60 to Sta. 95+85. If this is to be left as shown Engineer should submit a design exception and should consider insulation where less than 6' of cover is provided.
15. Electrical plans are not included.
 - a. Will 3-phase power be available at the site?
 - b. Type and location of pump control panel enclosure?
 - c. Heated and air conditioned?
 - d. Alarms?
 - e. SCADA capabilities?
 - f. Generator specifications have not been provided.
 1. Potential concerns - sound enclosure, heated and ventilated, adequate foundation?
16. Pump specifications were not provided.
 - a. City to have ability to approve final pump selection?
 - b. What type of drive (constant speed or variable)?
17. A building has been added to the recent plan revisions. Building details and specification have not been provided.
 - a. An "Odor Control Dosing System" is called out on the lift station site drawing. No other information has been provided on the system. There does not appear to be access to the tank for exchange/refill. No pumps, controls, or other odor control system components are included.
18. Verify jib location and capacity.
 - a. Specifications for jib crane have not been provided.
 - b. Will this be able to lift the larger future pumps (Phase 2/3)?
19. Pig Launch Chamber opening is adjacent to the vault wall. Verify adequate space is provided for pig insertion.

Norman Ranch Phase 1A Plans (9-25-24)

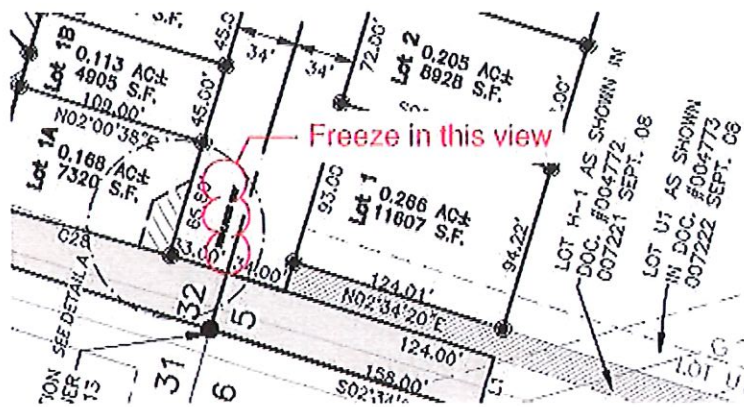
Review Comments (11/08/24)

20. Will need USACE jurisdiction determination/approval prior to 15" storm culvert and riprap from the pond, the 72" culverts and riprap and gravel road installation work in existing drainage.

Preliminary Plat Document Phase 1A Norman Ranch

Review Comments (11/08/24)

21. Freeze small "Highlands Way" text on overall plat, see below:



Outstanding Coordination Items

22. Permit for work in the RCPE Railroad right-of-way: Received filed permit needs to be finished by Contractor.
23. Meade County permit for utility work in Norman Ranch Rd. and Three Flags Ln.: Received filed permit, need final approved permit.
24. Approach Permit from Meade County: Received filed permit, need final approved permit.
25. Approval from SDDANR for Norman Ranch Subdivision: Approved with conditions.
26. Approval from SDDANR for Norman Ranch Sanitary Force Main and Water Main plans and specifications: Approved with conditions.
27. SDDANR Stormwater Discharge for Norman Ranch Subdivision: Received approved permit.
28. Correspondence from U.S. Army Corp of Engineers for work in the drainage/potential wetland area: Developer has indicated an environmental study is on-going.
29. Utility easements: Received Exhibit A for Tract C of Lot 3 of NE1/4 of SW1/4 of Section 31 (dated 6/5/2024) and Exhibit A for Lot 2B of Recreational Park Estates (dated 6/5/2024), will need finalized easement after City approval.
30. Approval from Black Hawk Water Users District: Received approval letter.
31. Approval from Black Hawk Volunteer Fire Department: Received approval letter.

32. Approval from SDDOT for work in I-90 and Sturgis Rd. right-of-way: Received correspondence between Developer and SDDOT, need approved permit.

This list is for tracking, we understand some of these are dependent on City's approval before they are finalized.



Memo

Date: Tuesday, November 19, 2024

Project: Norman Ranch Subdivision Review

To: Lisa Schieffer

From: Chris Robinson

Subject: Design Exception and Plan Approval Suggested Contingencies

HDR has prepared a list of suggested contingency items to assist the City with their review process for the proposed Norman Ranch development. The contingencies are intended to address two primary issues associated with the proposed development plans. First, a design exception is requested to operate a new force main at lower velocity than the minimum required by design standards. Second, due to funding deadlines, Norman Ranch is requesting approval prior to fully addressing all review comments or providing all project details to the City. Suggested contingencies are provided for each of the two items identified above.

1. Design Exception Request

Background and basis for contingencies:

The currently proposed phase 1A consists of 75 homes with an average daily flow of 14 gallons per minute.

An 8-inch forcemain is proposed in combination with a pumping rate of 80 gpm. The resulting pipeline velocity is 0.5 ft/s. The design criteria minimum for velocity is 2.0 ft/s.

Minimum pipeline velocities of 2.0 ft/s are required to prevent deposition of solids and allow settled solids to be resuspended. A velocity of 0.5 ft/s will result in solids settling within the pipeline and not being adequately conveyed to the discharge point.

A forcemain velocity design exception has been requested by Norman Ranch to accept 0.5 ft/s pipe velocity.

Norman Ranch is unwilling to install a smaller pipeline or parallel pipelines to achieve higher pipeline velocity due to the added costs. Norman Ranch's approach is to install a single 8-inch forcemain to serve all potential future phases of their development.

The 8" does not service phase 3. The forcemain was downsized from what was originally proposed to increase the velocity in the pipe per discussion at a meeting between Renner and HDR on 10-22-24 precisely to come to a design that HDR could support. A meeting in which we made changes for exactly that reason. The 10" would have served all potential future phases. The 8" does not serve the entire development but was substituted per the compromise discussed for the exception.



In exchange for accepting the design criteria exception request, Norman Ranch has agreed to make provisions to assist the City with the additional operating and maintenance costs.

Suggested contingencies related to accepting the pipeline velocity design exception include:

- The pipeline will be designed by Norman Ranch to accommodate pigging operations. A pig launch facility will be provided at the lift station. A hydrant and watermain extension will be provided at the lift station for a high-volume source of water.
- The forcemain will be downsized from 10" to 8" to increase the velocities in the pipe. The third phase will not be able to be accommodated in this force main velocity compromise.
- ~~Norman Ranch will be responsible for pigging costs until the pipeline velocity is increased to 2.0 ft/s. The City anticipates accepting ownership of the new facilities. As the system owner, the City will be responsible for completing the work and coordination with Norman Ranch for payment.~~
- ~~Pipeline cleaning will occur a minimum of twice a year or more often if required based on degradation of pumping system performance.~~

2. Plat Approval (Plans and Specifications)

Background and basis for contingencies:

A utility design report and construction plans have been submitted for the proposed Norman Ranch development. Several items associated with proper design and operation of a lift station and forcemain system have either not been provided or lack details.

All aspects of the design and reasoning have been discussed, thought through, and provided with action plans forward and are reported understood by Design Team and Review Team. Providing these details mentioned above require the definition of the force main size.

The current proposed drawings do not include plans or details for a proposed building nor do they include electrical or instrumentation and control drawings for the lift station. Project specifications for construction materials, equipment details, startup services, and closeout document requirements have not been provided.

All aspects of the design and reasoning have been discussed, thought through, and provided with action plans forward and are reported understood by Design Team and Review Team. Providing these details mentioned above require the definition of the force main size.

As described above related to the design exception request, an 8-inch pipeline is proposed. An 8-inch pipeline requires a flow rate of 315 gpm to achieve a minimum velocity of 2.0 ft/s. The initial proposed pumping rate is 80 gpm at 0.5 ft/s pipeline



velocity.

The current Summerset Lift Station peak daily inflow is calculated as 195 gpm. The pumping capacity of the lift station is 230 gpm. The pumping capacity has been revised upwards from 160 gpm after air release valves were serviced the pump test recalculated.

Capacity of the lift station was and is reported to be 275 gpm per the . Developers agreement identifies that city is responsible for achieving this flow rate per below:

VI. SANITARY SEWER AND LIFT STATION

- A. The City of Summerset will provide sanitary sewer treatment for the Property and subdivision.
- B. The Developer will install a new subdivision lift station and force main to connect to the existing City of Summerset infrastructure. The proposed lift station will be expandable to account for future growth in the sanitary sewer basin. The force main will be tied into the existing City of Summerset Lift Station and Recreation Drive.
- C. The ability of the existing force main to service subsequent phases of development is unclear at this time. Any repairs or upgrades due to malfunctions or blockage will be at the City's expense, while any other upgrades otherwise necessary will be at the expense of the Developer.
- D. The Developer agrees to upgrade the City's existing lift station on Recreational Drive to accommodate additional flow once necessitated by the Property development.

And From Summerset Lift Station Memorandum and basis of Developers agreement and design. That the flow rate

4.1. Summerset Lift Station

The capacity of the Summerset Lift Station was determined to be limited by the forcemain to approximately 160 gpm. The current pumping rate was verified by conducting a draw down test of the lift station wetwell. Review of the lift station's pump data and theoretical forcemain capacity leads to an expected pumping rate of 275 gpm; however, the actual field verified flow rate is 160 gpm. The lift station's pumps were recently replaced with no known operational issues. Because the pumps are in like new condition, the forcemain is assumed to have unidentified flow restrictions or other defects that are causing increased pumping head and lower flow rates.

The lift station is in good working order and can remain in service until incoming peak flows exceed the station's capacity. Forcemain improvements would likely free up capacity in the lift station and allow it to operate until peak inflows reach 275 gpm. The lift station pumps and wet well are limited to a peak flow of 275 gpm and a new station is recommended to be constructed to serve higher flow rates.

4.2. Summerset Forcemain

The existing 6-inch PVC forcemain that conveys lift station discharge to a downstream gravity sewer connection, appears to be limiting the overall pumping system capacity. Flow through the forcemain was determined to be approximately 160 gpm. At this flow rate the velocity is 2.1 feet per second. *Recommended Standards for Wastewater Facilities, Health Research Inc., 2014 Edition (Ten State Standards)* 49.1 recommends a cleansing velocity of 2 feet per second should be maintained but not to exceed 8 feet per second. All model results are within this range.

As discussed with the lift station recommendations, the forcemain should be improved prior to completion of Scenario #5 (Norman Ranch phase 1). Improvements to the forcemain will allow increased pumping rates from the lift station. Ultimately the forcemain and lift station will both require improvements to meet the wastewater demands associated with the Norman Ranch development.

The Capacity and limitations of the existing lift station where and have been defined and specified that it is the City's Responsibility to complete these upgrades.

The Summerset Lift Station is currently near maximum capacity and will not be capable of receiving the proposed inflow from phase 1 without risk of an overflow discharge.

Norman Ranch is unwilling to make improvements to the existing Summerset Lift Station until phase 2 of the development. This creates a bottleneck in the system. The new Norman Ranch Lift Station pumping rate or pumping time will need to be limited to prevent a potential overflow during peak events.

This is misleading. We have reported in person and in comment response that we are willing to follow the development and upgrade schedule provided in the developers agreement. This includes the city making upgrades for phase 1 and the developers making future upgrades. This is integral because it allows the developer to install infrastructure that accommodates future growth without making the project financially infeasible. This is once again, the basis of the Developers Agreement and all subsequent actions. Full design of future upgrades was also specifically discussed as impractical because of the changing nature and needs of the city. That future improvements are worked on to provide good for the entire community.

Suggested contingencies related to accepting the Norman Ranch plat (plans and specifications):

- ~~Norman Ranch to provide a Surety for delay of improvements to the Summerset Lift Station and Forcemain. If phase 1 overwhelms the existing system, the City would have Surety that the needed improvements will be constructed if phase 2 of the development does not occur.~~

This is not a Developer responsibility and should not be imposed with this phase of the project per the developers agreement.
- ~~The City will monitor wastewater levels in the Summerset Lift Station. If operating levels raise to the station alarm level, no additional occupancy permits will be issued. Issuance of occupancy permits will only resume after either improvements are made to the Summerset Lift Station to increase capacity or the City agrees to alternate approaches provided by Norman Ranch to reduce operating levels in the existing lift station.~~

This is not a Developer responsibility and should not be imposed with this phase of the project. In addition, due to the known treatment plant limitations we specifically anticipated this in the Developers Agreement as well to not have the development progress stopped or moratorium issued that could cause the failure of such a large and expensive development.

- ~~An odor control system will be provided by Norman Ranch with the initial construction of phase 1. System design calculations, equipment layout, and equipment specifications will be submitted to the City for approval. Design will consider odor control chemical hazards and provide adequate first aid measures. First aid measures are anticipated to include at a minimum an eye wash station and a sink.~~
- ~~Power plans and instrumentation and control plans will be developed by a licensed engineer and submitted to the City for approval.~~
- ~~The proposed building at the lift station site will be designed to current adopted building code. The building plans require approval from the City's building review authority.~~
- ~~The Norman Ranch Lift Station will be provided with pump alarms, high level alarms, generator alarms, and other typical lift station inputs required by the City. Alarm and operating outputs will be integrated into the City's SCADA system. The City will have the opportunity to review and approve alarm strategies.~~

These should be limited to Developer will complete the lift station design in accordance with Infrastructure design criteria manual requirements. Additional requirements are not justified. The timing and implementation of this has been discussed and agreed to with the Design Team and Review Team.

The Norman Ranch Lift Station should be Designed to IDCM standards.

- A flow meter will be provided on the discharge line of the Norman Ranch Lift Station and flow data will be integrated into the City's SCADA system.
- ~~A sound attenuation enclosure will be provided for the standby generator.~~ This is covered in the above. Developer to complete lift station design in accordance to IDCM requirements.
- Proper air valves will be specified. The current plans include valves that are not approved for wastewater service
This has been previously discussed and agreed to.
- Project specifications will be provided to the City for review and approval.
This has been previously discussed and agreed to.
- Proposed equipment and building materials that are not covered by the standard specifications will be submitted to the City for review and approval. Any equipment or building materials not approved by the City are subject to rejection.
This has been previously discussed and agreed to.
- USACE approval is required for work in the existing drainage.
This has been previously discussed and agreed to.

Proposed contingencies related to accepting the pipeline velocity design exception include:

- The pipeline will be designed by Norman Ranch to accommodate pigging operations. A pig launch facility will be provided at the lift station. A hydrant and watermain extension will be provided at the lift station for a high-volume source of water.
- The forcemain will be downsized from 10" to 8" to increase the velocities in the pipe. The third phase will not be able to be accommodated in this force main velocity compromise.
- Extend Warranty on Forcemain and Lift Station to 3 years

Proposed contingencies related to accepting the Norman Ranch plat (plans and specifications):

- The City will monitor wastewater levels in the Summerset Lift Station.
- The Norman Ranch Lift Station should be Designed to IDCM standards.
- A flow meter will be provided on the discharge line of the Norman Ranch Lift Station and flow data will be integrated into the City's SCADA system.
- Proper air valves will be specified.
- Project specifications will be provided to the City for review and approval.
- Proposed equipment and building materials that are not covered by the standard specifications will be submitted to the City for review and approval. Any equipment or building materials not approved by the City are subject to rejection.
- USACE approval is required for work in the existing drainage.