CITY OF WILLMAR, MINNESOTA
REQUEST FOR COMMITTEE ACTION

Agenda Item Number: 4

Meeting Date:

Attachments: ☒ Yes No

CITY COUNCIL ACTION

Date:

☐ Approved ☐ Denied
☐ Amended ☐ Tabled
☐ Other

Originating Department: Willmar Fire Department

Agenda Item: Purchase of new Self Contained Breathing Apparatus (SCBA) and spare bottles

Recommended Action: Request a motion to approve the Willmar Fire Department to preorder new SCBA's and bottles, prior to the 2016 Capital Improvement Project (CIP) being formally adopted.

Background/Summary: The current SCBA's and bottles were purchased in 2001. Through a Assistance to Firefighters Grant (AFG) these SCBA's were upgraded to the NFPA 1981 standard (2007 edition) in 2010. In order to be DOT and NFPA compliant there is a useful life of 15 years, which expires on April 1, 2016. We have an opportunity to purchase new SCBA's and bottles to meet the NFPA 1981 standard (2013 edition), which was introduced January of 2015, and save about $15,000 versus ordering in 2016 and not having enough funding to order the required 50 SCBA's. The order must be placed by August 2015. The turnaround time on the order is about 120 days. We will be purchasing the equipment from Emergency Response Solutions who is allowing us to add onto a larger order so we can purchase additional equipment to update the ladder truck breathing air system and the Technical Rescue Team breathing air systems as well as fully equipping our Firefighter rescue (RIT) bags with upgraded air supply systems and still save approximately $10000. We will be purchasing the equipment through a national joint powers purchasing cooperative (H-GAC). This meets the state requirement for bids.

Alternatives: Order some of the equipment in January of 2016

Financial Considerations: There is a total of $340,000 budgeted in the 2016 Capital Improvements for these two projects.

Preparer: Chief Frank Hanson, Willmar Fire

Signature:

Comments:

WILLMAR

WILLMAR FIRE DEPARTMENT
FIRE CHIEF
515 SW 2ND ST

WILLMAR, MN 56201-0932
320-235-1354

Memorandum

TO: Kevin Halliday

FROM: Frank Hanson, Fire Chief

DATE: July 1st, 2015

RE: SCBA Purchase Options

2016 Capital Improvements includes $275,000.00 for Self Contained Breath Apparatus' (SCBA) and $65,000.00 for the SCBA bottles. Listed below are (2) purchase options for the replacement of our SCBA's, it is imperative that they are replaced by April, 1st 2016 as the 15 year life of the air bottles regulated by the Department of Transportation and National Fire Protection Association is expired. The lead time for delivery is a minimum of 120 days. The fire department is requesting permission to order by August 3rd, 2015 for an anticipated delivery in December of 2015, with billing being due in January 2016. We expect these units to be in service February 1st, 2016 due to inventory control and 10 – 12 hours of training per firefighter.

2015 Package pricing

- Emergency Response Solutions – 2015 Houston Galveston Area Council (H-GAC)
  50 High pressure packs @ $4,242.00 each for a total of $212,100.00
  80 - 30 minute bottles @ $675.44 each for a total of $54,035.20
  29 – 60 minute bottles@ $1,012.98 each for a total of $29,376.42
  61 Face pieces @ $244.08 each for a total of $14,888.88
  2 Rescue Air adapters @ $688.10 each for a total of $1376.20
  14 Air Purifying Respirator (APR) adapters @ $29.33 each for a total of $410.62
  10 Spectacle kits @ $74.06 each for a total of $740.60
  3 Full firefighter rescue kits (R.I.T.) @ $3,500.00 each for a total of $10,500.00
  1 - 25 foot rescue breathing hose @ $873.13
  2 Escape air bottles (Technical Rescue Team) @ $592.04 each for a total of $1,184.08
  12 Spare battery packs @ $134.66 each for a total of $1615.92
  5 Ladder truck airline adapters@ $551.52 each for a total of $2,757.60
  Miscellaneous adapters $954.01

  Total: $330,812.66

2015 Standard Pricing

- Emergency Response Solutions – 2016 Houston Galveston Area Council (H-GAC)
  50 High pressure packs @ $4,620.00 each for a total of $231,000.00
  80 - 30 minute bottles @ $735.63 each for a total of $58850.40
  29 – 60 minute bottles@ $1,103.24 each for a total of $31,993.96
  61 Face pieces @ $288.13 each for a total of $17,575.93
  2 Rescue Air adapters @ $854.50 each for a total of $1709.00
  14 Air Purifying Respirator (APR) adapters @ $29.33 each for a total of $410.62
  10 Spectacle kits @ $95.33 each for a total of $953.30
  3 Full firefighter rescue kits (R.I.T.) @ $4,282.35 each for a total of $12,847.05
  1 - 25 foot rescue breathing hose @ $1,135.23
  2 Escape air bottles (Technical Rescue Team) @ $629.04 each for a total of $1,258.08
  12 Spare battery packs @ $182.00 each for a total of $2,184.00
  5 Ladder truck airline adapters@ $582.16 each for a total of $2,910.80
  Miscellaneous adapters $1,159.83

Total: $363,988.28

2016 Standard Pricing

Add 4%- 6% to 2015 Standard pricing

Frank Hanson

From: Kevin Halliday
Sent: Monday, July 06, 2015 3:54 PM
To: Frank Hanson
Subject: FW: SCBA Purchase

Our attorney's comments.

From: Robert Scott [mailto:rtscott@flaherty-hood.com]
Sent: Monday, July 06, 2015 2:14 PM
To: Kevin Halliday
Subject: RE: SCBA Purchase

Kevin,

I have previously looked into HGAC and they appear to be a legitimate national joint powers purchasing cooperative, so the City may purchase equipment through it pursuant to under Minn. Stat. 471.345, subd. 15(b):

> Subd. 15. **Cooperative purchasing.** (a) Municipalities may contract for the purchase of supplies, materials, or equipment by utilizing contracts that are available through the state's cooperative purchasing venture authorized by section 16C.11. For a contract estimated to exceed $25,000, a municipality must consider the availability, price and quality of supplies, materials, or equipment available through the state's cooperative purchasing venture before purchasing through another source.
>
> (b) If a municipality does not utilize the state's cooperative purchasing venture, a municipality may contract for the purchase of supplies, materials, or equipment without regard to the competitive bidding requirements of this section if the purchase is through a national municipal association's purchasing alliance or cooperative created by a joint powers agreement that purchases items from more than one source on the basis of competitive bids or competitive quotations.

The City must still compare what it proposes to buy through a national purchasing cooperative like HGAC with what is available on through the state's cooperative purchasing venture under the highlighted language in subd. 15(a) above, but if the city in good faith determines that it is in its best interests to buy through HGAC it may do so under subd. 15(b).

Thanks,

Robert T. Scott, Senior Attorney
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525 Park Street, Suite 470
St. Paul, MN 55103
Phone (651) 225-8840
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www.flaherty-hood.com

FireRescue1 News

Product News

with Robert Avsec

06/10/2013

4 major NFPA changes to SCBA

Changes to NFPA standards mean a functionality revamping for the next generation of SCBA

The standard, it is a changin' — NFPA 1981: Standard on Open-Circuit Self-Contained Breathing Apparatus for Emergency Services, that is.

The 2007 edition of 1981 was slated for revision in 2012, but didn't hit the street until January 2013.

Why the delay?

The technical committee working on NFPA 1981's revisions needed additional time to ensure the accuracy and validity of testing done by NFPA's collaborative agencies — the NFPA Research Foundation, the National Institute for Standards and Technology, and the National Institute for Occupational Safety Health.

The committee's extra review activity ensured that new tests for SCBA components were valid and that SCBA manufacturers would be able to comply with new requirements. Getting it right before publication was important to ensure that fire departments would not be spending precious dollars today on technology that wouldn't work tomorrow.

Also, the revised NFPA 1981 comes with four pretty heady changes that will affect not only purchasing decisions, but also tactical fireground considerations for fire service leaders.

1. Low-air alarm

The NFPA 1981-2007 required the alarm to sound when 25 percent of the cylinder's available air was left. The 2013 edition ups that requirement to 33 percent of the cylinder's available air.

The 2013 edition is the first that specifies an EOSTI level for fire service SCBA. The 25 percent threshold commonly accepted for years by the fire service actually came from NIOSH.

And even NIOSH never had a hard and fast 25 percent; the NIOSH standard had always been a window of 20 percent to 25 percent of available air.

NFPA 1404: Standard for Fire Service Respiratory Protection Training, 2013 edition, contains several requirements for individual air management when using SCBA:

1. The individual shall exit from an IDLH atmosphere before consumption of reserve air supply begins.

2. The individual shall recognize that the low air alarm notification indicates that the member is consuming the reserve air supply.

The committee added the higher 33 percent threshold to NFPA 1981 to increase the reserve air supply available and be in line with the specifications of NFPA 1404. The major manufacturers of SCBA are saying that they can accomplish compliance for existing SCBA through firmware upgrades for electronic EOSTI and changing spring tension on audible alarms, or the low-air bell.

With all the discussions regarding air management in recent years, including whether or not 25 percent was enough of a reserve air supply, this is a step in the right direction.

2. Facepiece improvements

During its work, the committee became aware of several firefighter fatality incidents where thermal degradation of the facepiece lens was a factor. The committee members looked at what facepiece-lens requirements in NFPA 1981 had changed; they discovered that no changes had been made in the past 20 years.

So why were lens melting?

In 2012, UL released the results for its tests that compared fire behavior in legacy and modern homes. Those tests provided confirmation to what many of us have been saying for years: firefighters today are dealing with fuels, heat, flashover and chemicals that we'd never experienced before.

While the committee's research indicated that there wasn't a lens problem (from a standards perspective), the members felt that the lens standard had perhaps not kept pace with the changing fire environment.

NFPA requires the facepiece lens to be subjected to a test of radiant heat at 15 kW/m2. The previous lens testing specification focused on convected heat, prevalent in legacy home fires, rather than the impact of radiant heat present in homes with modern fuel loads.

The new test specifications also call for the entire SCBA assembly, mounted on a test manikin and breathing cylinder air, to be subjected to a 500-degree Fahrenheit oven test. This test helps determine whether the SCBA can survive a catastrophic event, like flashover, and still allow a firefighter to safely exit the building.

3. Voice intelligibility requirements

Verbal communication while using SCBA continues to be a challenge. Much of the previous testing efforts in other organizations have been done with real users.

While practical and easy to do, such research is very subjective so NFPA 1981 includes a new test, speech transmission index (STI). STI gives numerical values to sound and measures how a machine picks it up and receives it, so the evaluator can create a baseline that the SCBA must meet.

NFPA 1981 also includes a new requirement for all SCBA facepieces to have a mechanical speaking system. Electronically enhanced communication systems can be an accessory, but all units must have a mechanical one that works independent of any power source.

4. Emergency Breathing Safety Systems (EBSS)

NFPA 1981 finally provides legitimacy to EBSS — buddy breathers. Previous editions of NFPA 1981 did not include references for EBSS, and NIOSH has prohibited the use of buddy breathers since 1984. So while EBSS technically didn't exist, the reality was that manufacturers were designing accessories that were ultimately used as buddy breathers and firefighters were using them as such.

The committee members considered if the original prohibition by NIOSH was based on firefighter behavior or lack of an acceptable technical solution. They concluded that the original prohibition was technical, not behavioral.

Among several of the technical challenges was the ability to have twice the volume of airflow — to ensure adequate airflow to both users. Once the SCBA manufacturers were able to demonstrate a viable solution for that issue, the committee felt it appropriate to give EBSS a seat at the table.

NIOSH lifted the prohibition on buddy breathers for structural firefighting only. As far as NFPA 1981 is concerned, EBSS will be considered an accessory — they're not required — but if a department chooses to have them on their SCBA, they must perform to the new standard.

Now is a good time to get in contact with the manufacturer of your current SCBA to determine what needs to happen to bring your equipment into compliance with NFPA 1981. The sooner that conversation happens, the sooner you can put that information into budgeting and operational planning for your organization.

About the author

Battalion Chief Robert Avsec (Ret.) served with the Chesterfield (Va.) Fire & EMS Department for 26 years. He was an active instructor for fire, EMS, and hazardous materials courses at the local, state, and federal levels, which included more than 10 years with the National Fire Academy. Chief Avsec earned his bachelor of science degree from the University of Cincinnati and his master of science degree in executive fire service leadership from Grand Canyon University. He is a 2001 graduate of the National Fire Academy's Executive Fire Officer Program. Since his retirement in 2007, he has continued to be a life-long learner working in both the private and public sectors to further develop his "management sciences mechanic" credentials. He makes his home near Charleston, W.Va. Contact Robert at Robert.Avsec@FireRescue1.com

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Regulations (Standards - 29 CFR) - Table of Contents

- **Part Number:** 1910
- **Part Title:** Occupational Safety and Health Standards
- **Subpart:** I
- **Subpart Title:** Personal Protective Equipment
- **Standard Number:** 1910.134
- **Title:** Respiratory Protection.
- **Appendix:** A , B-1, B-2, C, D
- **GPO Source:** e-CFR

This section applies to General Industry (part 1910), Shipyards (part 1915), Marine Terminals (part 1917), Longshoring (part 1918), and Construction (part 1926).

1910.134(a)

Permissible practice.

1910.134(a)(1)

In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used pursuant to this section.

1910.134(a)(2)

A respirator shall be provided to each employee when such equipment is necessary to protect the health of such employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protection program, which shall include the requirements outlined in paragraph (c) of this section. The program shall cover each employee required by this section to use a respirator.

1910.134(b)

Air-purifying respirator means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

Assigned protection factor (APF) means the workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory protection program as specified by this section.

Atmosphere-supplying respirator means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

Canister or cartridge means a container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.

Demand respirator means an atmosphere-supplying respirator that admits breathing air to the facepiece only when a negative pressure is created inside the facepiece by inhalation.

Emergency situation means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an airborne contaminant.

Employee exposure means exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.

End-of-service-life indicator (ESLI) means a system that warns the respirator user of the approach of the end of adequate respiratory protection, for example, that the sorbent is approaching saturation or is no longer effective.

Escape-only respirator means a respirator intended to be used only for emergency exit.

Filter or air purifying element means a component used in respirators to remove solid or liquid aerosols from the inspired air.

Filtering facepiece (dust mask) means a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

Fit factor means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

Fit test means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative fit test QLFT and Quantitative fit test QNFT.)

Helmet means a rigid respiratory inlet covering that also provides head protection against impact and penetration.

High efficiency particulate air (HEPA) filter means a filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.

Hood means a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.

Immediately dangerous to life or health (IDLH) means an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

Interior structural firefighting means the physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage. (See 29 CFR 1910.155)

Loose-fitting facepiece means a respiratory inlet covering that is designed to form a partial seal with the face.

Maximum use concentration (MUC) means the maximum atmospheric concentration of a hazardous substance from which an employee can be expected to be protected when wearing a respirator, and is determined by the assigned protection factor of the respirator or class of respirators and the exposure limit of the hazardous substance. The MUC can be determined mathematically by multiplying the assigned protection factor specified for a respirator by the required OSHA permissible exposure limit, short-term exposure limit, or ceiling limit. When no OSHA exposure limit is available for a hazardous substance, an employer must determine an MUC on the basis of relevant available information and informed professional judgment.

Negative pressure respirator (tight fitting) means a respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.

Oxygen deficient atmosphere means an atmosphere with an oxygen content below 19.5% by volume.

Physician or other licensed health care professional (PLHCP) means an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by paragraph (e) of this section.

respirator.

Powered air-purifying respirator (PAPR) means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

Pressure demand respirator means a positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation.

Qualitative fit test (QLFT) means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

Quantitative fit test (QNFT) means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

Respiratory inlet covering means that portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both. It may be a facepiece, helmet, hood, suit, or a mouthpiece respirator with nose clamp.

Self-contained breathing apparatus (SCBA) means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

Service life means the period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer.

Supplied-air respirator (SAR) or airline respirator means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

This section means this respiratory protection standard.

Tight-fitting facepiece means a respiratory inlet covering that forms a complete seal with the face.

User seal check means an action conducted by the respirator user to determine if the respirator is properly seated to the face.

1910.134(c)

Respiratory protection program. This paragraph requires the employer to develop and implement a written respiratory protection program with required worksite-specific procedures and elements for required respirator use. The program must be administered by a suitably trained program administrator. In addition, certain program elements may be required for voluntary use to prevent potential hazards associated with the use of the respirator. The Small Entity Compliance Guide contains criteria for the selection of a program administrator and a sample program that meets the requirements of this paragraph. Copies of the Small Entity Compliance Guide will be available on or about April 8, 1998 from the Occupational Safety and Health Administration's Office of Publications, Room N 3101, 200 Constitution Avenue, NW, Washington, DC, 20210 (202-219-4667).

1910.134(c)(1)

In any workplace where respirators are necessary to protect the health of the employee or whenever respirators are required by the employer, the employer shall establish and implement a written respiratory protection program with worksite-specific procedures. The program shall be updated as necessary to reflect those changes in workplace conditions that affect respirator use. The employer shall include in the program the following provisions of this section, as applicable:

1910.134(c)(1)(i)

Procedures for selecting respirators for use in the workplace;

1910.134(c)(1)(ii)

Medical evaluations of employees required to use respirators;

1910.134(c)(1)(iii)

Fit testing procedures for tight-fitting respirators;

1910.134(c)(1)(iv)

Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations;

1910.134(c)(1)(v)

Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators;

1910.134(c)(1)(vi)

Procedures to ensure adequate air quality, quantity, and flow of breathing air for atmosphere-supplying respirators;

1910.134(c)(1)(vii)

Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations;

1910.134(c)(1)(viii)

1910.134(c)(1)(ix)

Procedures for regularly evaluating the effectiveness of the program.

1910.134(c)(2)

Where respirator use is not required:

1910.134(c)(2)(i)

An employer may provide respirators at the request of employees or permit employees to use their own respirators, if the employer determines that such respirator use will not in itself create a hazard. If the employer determines that any voluntary respirator use is permissible, the employer shall provide the respirator users with the information contained in Appendix D to this section ("Information for Employees Using Respirators When Not Required Under the Standard"); and

1910.134(c)(2)(ii)

In addition, the employer must establish and implement those elements of a written respiratory protection program necessary to ensure that any employee using a respirator voluntarily is medically able to use that respirator, and that the respirator is cleaned, stored, and maintained so that its use does not present a health hazard to the user. Exception: Employers are not required to include in a written respiratory protection program those employees whose only use of respirators involves the voluntary use of filtering facepieces (dust masks).

1910.134(c)(3)

The employer shall designate a program administrator who is qualified by appropriate training or experience that is commensurate with the complexity of the program to administer or oversee the respiratory protection program and conduct the required evaluations of program effectiveness.

1910.134(c)(4)

The employer shall provide respirators, training, and medical evaluations at no cost to the employee.

1910.134(d)

Selection of respirators. This paragraph requires the employer to evaluate respiratory hazard(s) in the workplace, identify relevant workplace and user factors, and base respirator selection on these factors. The paragraph also specifies appropriately protective respirators for use in IDLH atmospheres, and limits the selection and use of air-purifying respirators.

1910.134(d)(1)

General requirements.

1910.134(d)(1)(i)

The employer shall select and provide an appropriate respirator based on the respiratory hazard(s) to which the worker is exposed and workplace and user factors that affect respirator performance and reliability.

1910.134(d)(1)(ii)

The employer shall select a NIOSH-certified respirator. The respirator shall be used in compliance with the conditions of its certification.

1910.134(d)(1)(iii)

The employer shall identify and evaluate the respiratory hazard(s) in the workplace; this evaluation shall include a reasonable estimate of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form. Where the employer cannot identify or reasonably estimate the employee exposure, the employer shall consider the atmosphere to be IDLH.

1910.134(d)(1)(iv)

The employer shall select respirators from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.

1910.134(d)(2)

Respirators for IDLH atmospheres.

1910.134(d)(2)(i)

The employer shall provide the following respirators for employee use in IDLH atmospheres:

1910.134(d)(2)(i)(A)

A full facepiece pressure demand SCBA certified by NIOSH for a minimum service life of thirty minutes, or

1910.134(d)(2)(i)(B)

A combination full facepiece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.

1910.134(d)(2)(ii)

QuickTips TECHNICAL RESOURCES Safety

SCBA Cylinder Hydrostatic Testing

Quick Tips #307

Hydrostatic testing is the most common way to check an SCBA cylinder for leaks or flaws. During a hydrostatic test, the cylinder is examined to ensure it can safely hold its rated pressure. SCBA cylinder hydrostatic testing is crucial as such containers can explode if they fail when containing compressed gas.

A hydrostatic test consists of filling the cylinder with a nearly incompressible liquid—usually water—and examining it for leaks or permanent changes in shape. The test pressure is always considerably more than the operating pressure to give a margin for safety. Typically, 150% of the operating pressure is used. Water is commonly used as it is almost incompressible and will only expand by a very small amount. If high-pressure gas was used, the gas could expand up to several hundred times its compressed volume, running the risk of serious injury.

All SCBA cylinders require periodic hydrostatic testing as required by 49 CFR 180.205. The frequency of the maintenance depends upon the cylinder material.

- Steel cylinders should be tested every five years and have an indefinite service life until they fail a hydro test
- Aluminum cylinders (not including hoop-wrapped) should be tested every five years and have an indefinite service life until they fail a hydro test
- Hoop-wrapped cylinders should be tested every three years and have a 15-year service life.
- Fully wrapped fiberglass cylinders should be tested every three years and have a 15-year service life.
- Fully wrapped Kevlar cylinders should be tested every three years and have a 15-year service life.
- Fully wrapped carbon fiber cylinders should be tested every five years and have a 15-year service life.

Cylinders should not be filled if they have exceeded their valid service life or re-test dates. Cylinders which show evidence of exposure to high heat or flames (paint turned to a brown or black color, decals missing or gauge lens melted) need to be removed from service and re-hydrostatic tested prior to recharging. If there is any doubt about the suitability of the cylinder for recharge, it should be returned to a certified hydrostatic test facility for examination and retesting. Any evidence of a crack, defect or damage requires the cylinder to be removed from service.

Visual inspections should also be performed on a regular basis as recommended by the Department of Transportation (DOT). The visual inspection should include, but is not limited to, removing the cylinder valve, inserting a high-intensity light probe and angled mirror into the cylinder and examining the inner surfaces of the cylinder. This inspection is necessary to aide in identifying defects in the inner surfaces of the neck and shoulder area of the cylinder.

In addition to the mandatory SCBA cylinder hydrostatic testing and visual inspections, it is also suggested to submit cylinders for non-destructive testing in between the required hydrostatic testing. These types of tests are usually ultrasonic tests or eddy current tests.

The DOT requires that hydrostatic retesting and re-qualification be conducted by registered agents who have been certified by the DOT and who have been issued a valid Re-testers Identification Number (RIN) by the DOT Research and Special Programs Administration (RSPA). The recommended visual inspections do not have to be conducted by a DOT-certified RIN holder. However, the visual inspection should be performed by an individual who has the proper training and is competent in performing visual inspections.

Many fire departments have the equipment and trained personnel to perform the SCBA cylinder hydrostatic testing. The SCBA manufacturer or the distributor it was purchased through should be able to direct you to a test facility in your area.

Tools for Your Safety Program:

Industrial SCBA Equipment

SCBA and Breathing Air Cylinders

SCBA Accessories

You May Also Be Interested In:

Supplied Air Respirator Standards

Starting a Respiratory Program

SCBA Standards

AUTOMATIC FIRE CONTROL

1708 SE 22nd
Oklahoma City, OK, 73129
405-677-7485
800-369-5643

Since 1981

Hydrostatic Testing Services

Automatic Fire Control offers hydrostatic testing services of most types of D.O.T. rated cylinders, both steel and aluminum. At our facility, competent testing and safety are stressed. Quick turn-around time and careful handling of cylinders are also important considerations. Most cylinders can be tested and back in service in 2-3 working days. Our technicians are trained and certified to meet D.O.T. requirements and our facility is licensed, certified, and monitored by the U.S. Department of Transportation.

Hydrostatic testing is a nondestructive test required by the Department of Transportation to insure the integrity of pressurized cylinders. These include everything from small fire extinguishers, to Self Contained Breathing Apparatuses (SCBA) used by fire departments, to CO2 cylinders used for soft drinks, to medical and industrial oxygen cylinders, to Nitros cylinders used for race cars and SCUBA tanks used by divers.

Hydrostatic testing for different types of cylinders is required at different intervals.

All DOT-3AL marked CO_2 cylinders are to be inspected and hydrostatically tested every five years as required in CFR Title 49 Part 180.205(c). Cylinders still with charge at the time the 5 year test is due, do not have to be tested until the charge is used, but prior to the re-filling of the cylinders.

High pressure, fiber wrapped aluminum cylinders, such as those used by fire fighters must be tested every three years and must be decommissioned after 15 years.

Additional information can be found in the Code of Federal Regulations (CFR) 49, under "transportation".

Cylinder type	Testing Interval
SCBA bottles, composite	3 years (15 year life)
SCBA bottles, carbon composites by Luxfer	5 years
SCBA bottles, steel or aluminum	5 years
Oxygen bottle, steel or aluminum	5 years
CO2 bottles	5 years
A/C bottle, 4BA bottle	5 years

NFPA 10 lists these guidelines for portable fire extinguishers.

Extinguisher Type	Hydrostatic Testing Interval
Stored Pressure Water, Loaded	

Stream, and/or Antifreeze fire extinguishers	5 Years
Wetting Agent fire extinguishers	5 Years
AFFF (Aqueous Film Forming Foam) fire extinguishers	5 Years
FFFP (Film Forming Fluoroprotein Foam) fire extinguishers	5 Years
Dry Chemical With Stainless Steel Shells fire extinguishers	5 Years
Carbon Dioxide fire extinguishers	5 Years
Dry Chemical, Stored Pressure, with mild steel shells, brazed grass shells, or aluminum shell fire extinguishers	12 Years
Dry Chemical, Cartridge or cylinder operated, with mild steel shell fire extinguishers	12 Years
Halogenated Agent fire extinguishers	12 Years
FE-36 fire extinguishers	12 Years
Dry Powder, Stored Pressure, Cartridge or Cylinder-Operated, with mild steel shell fire extinguishers	12 Years

First, the cylinders are visually inspected. Visual inspection, at the time of hydrostatic testing, must be performed by a DOT licensed test agency. Visual inspection must be performed in accordance with CGA pamphlet C-6.1; Standards for Visual Inspection of High Pressure Aluminum Compressed Gas Cylinders. Internal and external visual inspection of a cylinder is performed prior to hydrostatic testing. The visual inspection includes: checking for cracks and fissures, sidewall stamps, rust, and verifying the correct tolerances for outside diameter, wall thickness, length and straightness.

Next, the cylinders are put under pressures of over 66% higher than their normal working pressure. Hydrostatic testing must be performed by a DOT licensed re-test agency. Hydrostatic testing must be performed in accordance with CGA Pamphlet C-1; Methods for Hydrostatic Testing of Compressed Gas Cylinders.

Once a cylinder has successfully passed all visual inspection and hydrostatic test requirements, it is to be permanently marked with the test date, month and year, and licensed test agency's number in the proximity of the previous hydrostatic test date. No cylinder is to be marked with the licensed test agency's number until the cylinder has passed all visual inspection and hydrostatic test requirements. No cylinder is to be marked with a licensed test agency number by any other person or agency other than the personnel of the licensed test agency.

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CITY OF WILLMAR, MINNESOTA
REQUEST FOR COMMITTEE ACTION

Agenda Item Number: 5

Meeting Date: July 14, 2015

Attachments: ☒ Yes No

CITY COUNCIL ACTION

Date: July 20, 2015

☐ Approved ☐ Denied
☐ Amended ☐ Tabled
☐ Other

Originating Department: Wastewater Treatment

Agenda Item: Request to Purchase/Replace one Biosolids Truck and Blade

Recommended Action: Approve the purchase/replacement of one Biosolids Pickup Truck and Blade.

Background/Summary: Staff is requesting replacement of one pickup truck and blade in accordance with the 2015 Capital Outlay Program and Vehicle Replacement Schedule. The new 2016 Ford F250 XL 4WD pickup with V plow would be purchased through Nelson Auto Center, Inc through the Southwest/West Central Service Cooperative in the total amount of $35,783.27.

Alternatives: Keep the current unit/s.

Financial Considerations: There are sufficient funds in the 2015 Wastewater Treatment Biosolids Budget to cover these purchases. The current unit/s will be sold on the City Auction.

Preparer: Sean Christensen, Public Works Director

Signature:

Comments: Vehicle/Equipment Replacement Policy objective is to reduce annual maintenance and replacement costs of all City equipment. These objectives will be met through the systematic maintenance, upgrade, and/or replacement of equipment.

WILLMAR

PUBLIC WORKS

DIRECTOR/CITY ENGINEER
City Office Building
Box 755 320-235-4202
STREET/PARK SUPERINTENDENT
801 W. Hwy. 40 320-235-3827
WASTEWATER TREATMENT
1400 SE 7th St. 320-235-4760
Willmar, Minnesota 56201
Fax 320-235-4917

TO: Kevin Halliday, Interim City Administrator

FROM: Sean Christensen, Public Works Director

DATE: July 2, 2015

RE: Purchase of WWTF Truck with Blade

Staff is in the process of proceeding with the purchase and replacement of one truck and blade in accordance with the 2015 Capital Outlay Program and 2015 WWTF Biosolids Budget.

I am requesting approval to replace a 2005 Ford F-250 Biosolids Truck and blade with a 2016 Ford F250 XL 4WD Truck with V plow from Nelson Auto Center under the Minnesota Service Cooperative Project # MSC Contract 13.5in the amount of $35,783.27. The truck being replaced will be placed on the city auction thereby eliminating the need for a trade-in.

Please be advised that the 2015 Biosolids Budget includes $45,000 for the replacement of the truck and $6,000 for the replacement of the blade totaling $51,000 available for these purchases.

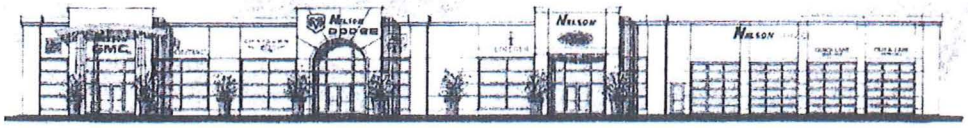
Please let me know if you concur with this submittal.

Ct

Approval:_____

Willmar
All-America City
2005

NELSON Auto Center



Fleet Department

2228 College Way • PO Box 338 • Fergus Falls, MN 56538-0338
218-998-8866 • 800-477-3013 Ext. 8866 • Fax 218-998-8813 • www.nelsonfergusfalls.com

VEHICLE INVOICE NUMBER F WillmarWWTF F2B

Sold To: Willmar, City of
Attn: Paul Marcus
Address: 1400 SE 7th
Willmar, MN 56201
pmarcus@willmarmn.gov

Date: 06/26/2015
Phone: 320-894-0963
FAX:
Salesperson: Gerry Worner
Key Code:Ignition/Door: 0

Stock No.	Year	Make	Model	New/Used	Vehicle ID Number
WillmarWWTF F2B	2016	Ford F250 XL	4WD RegCab	New	

Color: Blue Jeans Metallic /Gray Vinyl

Price of Vehicle $26,761.24

Options & Extras $9,022.03
Includes all std items for Ford F-250 w/vinyl seat, plus power windows/locks/mirrors & remote entry, chrome bumpers, Electric Shift 4wd, cruise control, snowplow prep. pkg., tailgate step & handle

Dealer installed Luverne running boards	$595.00
Dealer Installed 8' 2" Boss V-plow	$5,995.00
Ford splash guards FIA accessory	$130.00
MN motor vehicle excise tax @ 6.5%	$2,176.28
Tax exempt license plates & fees	$50.75
Document Administration Fee	$75.00
Delivery **FOB Fergus Falls**	

Subtotal $35,783.27

Trade - In $0.00

Total Cash Price **$35,783.27**

includes discount for payment at time of delivery; add daily charges at 1.5%/mo. if we receive payment later

Your Purchase Order # **Project #** **MSC Contract #13.5**

Thanks for your business!

Ship To / Lessee / End User: Willmar, City of
Paul Marcus
Waste Water Treatment Plant
1400 SE 7th
Willmar, MN 56201

Phone: 320-894-0963
FAX:

Signed_____ and initialed_____.

Printed Name_____ and Date_____

WillmaWWTP F2B.123 06/26/2015

• Equal Employment Opportunity/Affirmative Action Employer •

VEHICLE/EQUIPMENT CHANGE REQUEST FORM

Department Head - I am requesting the following to occur:

Check Applicable Box

Addition - *(To the overall number of vehicles in our fleet)*:			
Deletion - *(From the overall number of vehicles in our fleet and not to be replaced)*:			
Replacement - *(To be replaced by another vehicle)*:			✓
Replacement Adjustment - *(Move a budgeted vehicle to a different year in the schedule)*			
Re-assignment - *(Transfer to another City Dept.)*:			
Fixed Asset Number:	3018.00039		*Reminder to Attach Photo*
Vehicle Number:	056649	Replacement Cost:	$45,000

(Comments): THIS PICKUP IS IN NEED OF REPLACEMENT, IT WOULD REQUIRE A SIGNIFICANT AMOUNT OF MONEY TO PATCH TOGETHER

Initial SC

Operator or Supervisor *(comments if applicable)*:

The pickup is used as a plow truck in the Winter and a Field truck during the Spring & Fall hauling Season. The Engine has a Knock. CV Joints are shot, needs new tie Rod Ends and drivers window track

Initial JR

Mechanic *(comments if applicable)*:

This P.U. has knocking in the engine, leaks oil, Bad suspension, Needs all Tie rod ends, needs all brakes, calipers, Transmission is starting to slip, Constant velocity Joints are going to have to be replaced - cracking sound. Drivers door window Track is broken. 55,000 hard miles Initial R.M.

X ***APPROVED***	***DENIED***	D. Wyffels ***Vehicle/Equipment Committee***	04-03-14 ***Date***
X ***APPROVED***	***DENIED***	***City Administrator***	4-10-14 ***Date***

This document was last reviewed and approved on April 18, 2013

WWTF Biosolids Truck 3018.00039

VEHICLE/EQUIPMENT CHANGE REQUEST FORM

Department Head - I am requesting the following to occur:

Check Applicable Box

Addition - *(To the overall number of vehicles in our fleet)*:			
Deletion - *(From the overall number of vehicles in our fleet and not to be replaced)*:			
Replacement - *(To be replaced by another vehicle)*:			✓
Replacement Adjustment - *(Move a budgeted vehicle to a different year in the schedule)*			
Re-assignment - *(Transfer to another City Dept.)*:			
Fixed Asset Number:	3017.00021		*Reminder to Attach Photo*
Vehicle Number:	054478	Replacement Cost:	$6,000

(Comments): AFTER REVIEW EQUIPMENT, THIS PLOW IS IN NEED OF REPLACEMENT, IT IS NO LONGER FUNCTIONAL AS INTENDED

Initial SC

Operator or Supervisor *(comments if applicable)*:

the plow needs to be replaced, it is bent making Cutting Edge Replacement Difficult, the hydralic Ram has a Seal failure leaking hydralic Oil

Initial JR

Mechanic *(comments if applicable)*:

This plow needs to be upgraded to fit our needs. The plow is bent from hitting manholes which makes it difficult to replace the replaceble blade. The shoes are all Gone, The Hydralic Ram needs to be rebuilt. Initial P.M.

X ***APPROVED*** ____ ***DENIED*** ***Vehicle/Equipment Committee*** D. Waffels 04-03-14 ***Date***

X ***APPROVED*** ____ ***DENIED*** *City Administrator* 4-10-14 ***Date***

This document was last reviewed and approved on April 18, 2013

WWTF Plow Blade 3017.00021

CITY OF WILLMAR, MINNESOTA **REQUEST FOR COMMITTEE ACTION** **Agenda Item Number:** 6 **Meeting Date:** July 14, 2015 **Attachments:** ☒ Yes No	**CITY COUNCIL ACTION** **Date:** **July 20, 2015** ☐ Approved ☐ Denied ☐ Amended ☐ Tabled ☐ Other
Originating Department: Public Works	
Agenda Item: Old Rule Tire Building Parking Discussion	
Recommended Action: Receive for information only.	
Background/Summary: A new business owner who purchased a downtown building located at 102 6th Street SW has brought forth limited parking concerns, with the possibility of using City land for a parking lot for her customers as well as improving the beautification of the area.	
Alternatives: NA	
Financial Considerations: N/A	
Preparer: Sean E. Christensen, P.E. Public Works Director	**Signature:**
Comments:	

July 7, 2015

RE: Parking Lot Usage

To whom it may concern,

My name is Judy Lopez. I recently purchased a building in downtown Willmar. It is located at 102 Sixth Street Southwest. I am from the Willmar area and when I saw this property, I knew immediately what I wanted to do with it. The plan for this building is a combination of services that will be made available to the public.

My intention is to create an aesthetically pleasing grocery store, restaurant, and rentable venue. I have recently spoken to an architect to get some idea of the buildings potential. My goal would be to further enhance the overall look of the surrounding area of my building. I am excited about bringing a new and vibrant energy to this part of town. I also plan to support beautification efforts or projects to help improve the look of the area.

I am however faced with a dilemma, limited parking. I struggle with the fact that there will not be enough parking to accommodate customers and vendors. It was made known to me that there is the possibility of using some land that belongs to the City of Willmar. If I could be allowed to use that space for my customers, that would promote more business to that area and revive that section of Willmar.

I ask that you please consider my request. I feel it would help bring new commerce and vitality to that area. I welcome the opportunity to speak to you about my plans for both the business and the parking lot. I feel that it would be a good collaboration for us both. Thank you so much for both your time and consideration.

Sincerely,

Judy Lopez

CITY OF WILLMAR, MINNESOTA **REQUEST FOR COMMITTEE ACTION** **Agenda Item Number:** 7 **Meeting Date:** July 14, 2015 **Attachments:** ☒ Yes No	**CITY COUNCIL ACTION** **Date:** **July 20, 2015** ☐ Approved ☐ Denied ☐ Amended ☐ Tabled ☐ Other
Originating Department: Engineering	

Agenda Item: Water View Phase 2 School Project Infrastructure Improvements

Recommended Action: Receive for information only.

Background/Summary: Duininck first presented the information on the extension of 24th Avenue SE connecting to Lakeland Drive at the Public Works/Safety Committee Meeting on April 29, 2014. The parcel of land in this location has been identified as a possible site for the new elementary school and Duininck staff will present infrastructure needs to accommodate the school as well as the extension of the street.

Alternatives: NA

Financial Considerations: Unknown at this time

Preparer: Sean E. Christensen, P.E. Public Works Director	**Signature:**

Comments:

DUININCK
INCORPORATED

July 9, 2015

Sean Christensen
City of Willmar Public Work Director
333 6th St SW
Willmar, MN 56201

Re: Water View Phase 2 School Project Infrastructure Improvements

Dear Mr. Christensen:

As we spoke of recently, our company owns a parcel of land in the southeast side of Willmar that has recently been identified as one of two locations being considered for the new elementary school that Willmar Public School will be constructing. In light of this development, we are in the process of identifying the infrastructure needed to accommodate the school, as well as understand the potential impacts of this project. As part of this analysis, it seemed appropriate to include the City in the discussions surrounding this project. This proposal will give some relevant background information, describe the project along with the anticipated cost, identify project benefits, and suggest a cost-sharing arrangement between Duininck (as the developer) and the City. Please pass this proposal onto the City's public works committee for their review and recommendation.

Background

Over the last 50 years, Duininck has purchased several contiguous parcels in the southeast portion of Willmar, south of 19th Avenue and east of 1st Street. In 2006, Duininck worked cooperatively with the city to combine several of those parcels into a 115 acre commercial development that became known as the Water View Business Park. Development of this land was controlled by a development agreement entered into between the City of Willmar and Duininck Development. As part of this plat, right-of-way was dedicated to the city for 5th Street, 9th Street, and 24th Avenue. 5th Street was then constructed from 19th Avenue to 28th Avenue, 9th Street constructed from 19th Avenue to 24th Avenue, and 24th Avenue constructed from 1st Street to 9th Street. As part of the road construction project, large sanitary sewer interceptor lines were installed throughout the project, in order to serve areas well beyond the limits of the Water View development. One such line, a 21" sanitary sewer, terminates of the intersection of 9th Street and 24th Avenue. Additional right-of-way for 24th Avenue and adjacent lots were also included in the plat going to the east up to the TH 23/71 bypass and terminating roughly parallel to the TH 23/71 bypass at the edge of the "Bryant" parcel (owned by Duininck), which was intended to be a second phase to the Water View Business Park. In this second phase, we had planned

408 6th Street, PO Box 208
Prinsburg, MN 56281
(800)328-8949

An Equal Opportunity Employer

to continue 24th Avenue from the end of our plat northeast up to Lakeland Drive, in the area of 15th Street SE. Throughout the last 10 years, we have discussed several potential layouts of the infrastructure associated with this potential Phase 2 project with city staff and committees, albeit with the understanding that the ultimate final design would be dictated in large part by the needs of a potential future user of the land.

Willmar Public School Proposal

As you are aware, a referendum was recently passed by the voters of the City of Willmar to construct a new elementary school, addressing the overcrowding, accessibility, and functionality issues they currently have. Through that process, a potential site layout was developed by the school's architect to determine the feasibility of the Duininck site (Water View Phase 2 property) and to facilitate associated discussion. Through discussion with the architect and other school representatives, Duininck made some minor revisions to that layout to incorporate the infrastructure that would be needed to serve not only the school, but also the Water View development that this school would tie into, and the needs of the public that use the transportation and utility systems in this area of the City. As a result of the initial and revised layouts, a "Preliminary Site Layout – School Option 4" was developed and is included with this proposal. This layout shows the "on-site" improvements, including the school building, parking lots, bus/car drop-off areas, playground area, 2 soccer/football fields, 3 softball/baseball fields, and the necessary ponding, all located mainly on the Water View Phase 2 area, but also partially on Block 6, Lot 7 of the initial Water View plat. In total, the school will use approximately 23 acres.

It also shows the "off-site" improvements, which include the road and the associated utilities located in the road right-of-way. Adjacent to the school, 24th Avenue will extend through the eastern edge of the property, parallel and adjacent to the TH 23/71 bypass, up to Lakeland drive, which will also change the intersection of 15th Street and 19th Avenue as indicated. The new street will be named Lakeland Drive, changing to 24th Avenue to the west of 9th Street, as it is currently named. Naming the streets in this way would provide for logical traffic patterns and avoid any change to current addresses, simplifying the process. The width of the new Lakeland Drive from 9th Street to the school entrance would be consistent with the width of the current 24th Avenue from 1st Street to 9th Street (60 ft). It would then taper down to the width of Lakeland Drive going to the northeast (42 ft). A center turn lane could be provided along the entire stretch, or dedicated turn lanes could also be developed if more appropriate. Additionally, a right turn lane could be provided into the school property, enhancing safety. A sidewalk would also be provided along the west side of the road. It would also be anticipated that the 21" sanitary sewer that currently terminates at the intersection of 24th Avenue and 9th Street, along with the necessary water and other utility lines, would be extended along the entire new alignment to serve the area to the north and northeast, beyond the limits of our property.

Benefits

Many parties will benefit by developing a school on this property. The following is a partial list of benefits that we would anticipate being realized by the City.

- Provides consistency through Lakeland Drive / 24th Ave Corridor (eliminates the business-residential-business use sequence that currently exists)
- Removes traffic pressure through the Dana Heights / Pleasantview residential area
- Increases safety through the entire corridor (especially through the current residential area)
- Increases safety for students walking to school by diverting traffic to the south and east of the potential school property
- Promotes residential development in the area around the school (mainly north)
- Continues good access to the 19th Street business
- Provides good access into the heart of the Water View business district
- Opens up new area for development (east side of Water View Business Park)
- Increased tax base from the new commercial development area and accelerated development of the first phase of the Water View Business Park.

Cost Share Agreement

The cost of the "on-site" improvements will be negotiated between the school and Duininck. However, we anticipate the total cost of the "off-site" infrastructure needed to support this project, as shown on the attached map, will be in the neighborhood of $2.0 – 2.4 million. Because of the benefits that the city will realize through this project, the "trunk costs" of developing larger roads and utilities than are needed for the school project in order to serve the greater public good, as well as the fact that the project only allows for developer costs to be borne by the property on one side of the newly-developed street, we believe that it is prudent for the City to equally participate in the cost of constructing these improvements. Thus, we would respectfully request that the city pay for 50% of the costs of constructing this infrastructure, with Duininck covering the remainder. While the details of exactly how the work would be completed and the project financed can be worked out through the development agreement, what we are asking for at this time is agreement in principle on a 50% cost-share arrangement. We believe that this is the most fair and equitable way to divide the costs associated with this project.

Thank you for the opportunity to submit this proposal. Please contact me if you have questions.

Sincerely,

Jason Ver Steeg, P.E.
Duininck, Inc.

DATE	REVISIONS	NO.	BY

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DUININCK

P.O BOX 208
408 SIXTH STREET
PRINSBURG, MN 56281
PHONE: (320) 978-6011
FAX: (320) 978-4978

SCALE 1" = 100'
DRAWN BY: JVS
CHECKED BY: JVS
SURVEYED BY: DK

WATERVIEW – PHASE 2
PRELIMINARY SITE LAYOUT
SCHOOL OPTION 4

WILLMAR, MN

DATE JULY 8, 2015

SHEET 1 OF 1