



CITY of NOVI CITY COUNCIL

Agenda Item P
June 16, 2014

SUBJECT: Approval of a request from Shastco, LLC for a variance from Chapter 5, Section 2.2.4 (B)(7) of the Engineering Design Manual to allow the construction of a permanent storm water pump station to service a limited amount of drainage in the immediate area of the truck dock/service area of 22285 Roethel Drive, subject to the applicant meeting all requirements of said section of the Engineering Design Manual.

SUBMITTING DEPARTMENT: Department of Public Services, Engineering Division ^{BA} _{BT}

CITY MANAGER APPROVAL: 

BACKGROUND INFORMATION:

The applicant, Shastco LLC, is requesting a variance from Chapter 5, Section 2.2.4 (B)(7) of the Engineering Design Manual (which is adopted by reference in Section 11-93(a) of the Novi Code of Ordinances) to allow a pumped outlet for storm water for a 0.03 acre drainage area near the existing truck dock/service area of 22285 Roethel Drive. The applicant has submitted a site plan which proposes to retrofit the facility with a three foot deep truck well abutting the existing building envelope. The building and storm sewer system on this site were not originally designed to accommodate a recessed truck well, and the existing truck dock is not deep enough to allow storm water to flow by gravity. The applicant is looking to relocate from an existing facility on Regency Drive in Novi.

The Engineering Design Manual states that pumped outlets are not permitted absent a variance from City Council, which shall require demonstration that it is in the public interest and no feasible alternative exists. The applicant has demonstrated in their variance request that draining the proposed truck well via gravity is not feasible because the nearest storm sewer structure is not deep enough to serve the proposed drain. The bottom elevation of the proposed truck well is shown at 826.4 feet due to the grading requirements set by the existing building's first floor elevation (830.41 feet). The invert of the adjacent storm sewer set at 825.73 feet. Even if the minimum pipe were used at the minimum slope, the top of pipe at the proposed truck well drainage structure would be at approximately 826.92 feet, which is above the proposed elevation at the bottom of the truck well. As a safety measure, the applicant has proposed an overflow to the existing site storm sewer system at an elevation one foot below the finish grade of the existing building in addition to a forty-two inch high guardrail around the perimeter of the truck well.

There are several other requirements in the Engineering Design Manual that the applicant has agreed to provide as part of the variance application (see attached excerpt of the manual for the requirements). Among those requirements are a redundant pump, a back-up generator, a maintenance plan, and a maintenance agreement with the City that will be recorded.

The variance requests were reviewed by Community Development, the Landscape Architect, DPS Field Operations, DPS Engineering, City Attorney and Fire using the criteria stated for this section of the Engineering Design Manual and Section 11-10 of the ordinance (attached). Staff takes no exception to this request because the applicant has demonstrated that no feasible alternative exists for the conveyance of storm water from the proposed truck well. Given the small drainage area, Engineering is willing to support the request as long as the applicant meets all the requirements under this section of the Engineering Design Manual to protect the public should the system fail to function.

RECOMMENDED ACTION: Approval of a request from Shastco, LLC for a variance from Chapter 5, Section 2.2.4 (B)(7) of the Engineering Design Manual to allow the construction of a permanent storm water pump station to service a limited amount of drainage in the immediate area of the truck dock/service area of 22285 Roethel Drive, subject to the applicant meeting all requirements of said section of the Engineering Design Manual.

	1	2	Y	N
Mayor Gatt				
Mayor Pro Tem Staudt				
Council Member Casey				
Council Member Fischer				

	1	2	Y	N
Council Member Markham				
Council Member Mutch				
Council Member Wrobel				

DCS Variance Location Map

Shastco LLC Truck Well

Proposed Truck Well and Pump Station

50-22-35-127-018

Roethel Dr

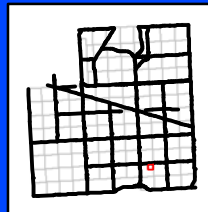
Ashbury Dr

Map Author: A. Wayne
 Date: June 6, 2014
 Project:
 Version #:

Amended By:
 Date:
 Department:

MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.



Map Legend

 Proposed Development



City of Novi

Engineering Division
 Department of Public Services
 26300 Lee BeGole Drive
 Novi, MI 48375
cityofnovi.org



1 inch = 121 feet

2. V-notch weirs, dual outlets, riser pipe or other designs shall be utilized to assure an appropriate detention time and maximum outlet rate for the 100-year flood and bankfull flood volumes as required above. Where orifice holes or restrictor pipes are provided to restrict the flow and the required size is less than 4-inches, maintenance provisions for preventing clogging of the restrictor hole should be provided.
3. The outlet will be well protected from clogging.
4. All outlets will be designed to be easily accessible for heavy equipment required for maintenance purposes.
5. Riser pipe designs shall meet the following requirements:
 - a. Flow restrictive devices shall be located inside a standpipe. One (1) inch holes, spaced a minimum of 4-inches apart shall be provided around the perimeter of the riser between the elevation of the permanent water and the 100-year storm event. The riser will not function to restrict flow but will prevent clogging of the internal restrictive device.
 - b. Hoods or trash racks shall be installed on the riser to prevent clogging.
 - c. The riser shall be placed near or within the embankment, to provide for ready maintenance access. Where the outlet structure is not located near enough to the bank to facilitate visual inspection of the structure, a stone bridge with a minimum top width of five (5) feet shall be provided.
 - d. The riser pipe shall be a minimum of three (3) feet in diameter and constructed of materials that will reduce future maintenance requirements.
 - e. Where feasible, a drain for completely de-watering the pond shall be installed for maintenance purposes.
6. Backwater on the outlet structure from the downstream drainage system will be evaluated when designing the outlet.
7. Pumped outlets are not permitted absent a variance from City Council, which shall require demonstration that it is in the public interest and no feasible alternative exists. IF City Council grants a variance to allow a pumped outlet, the following documentation shall be standards shall apply:
 - a. The pump(s) shall be designed to meet the maximum discharge rate and time requirements for the 100-year and bankfull flood events. Minimum and maximum system head curves and pump curves shall be provided to verify the operating duty points of the pump(s).
 - b. Pumps shall be of appropriate construction for conveying storm water.
 - c. A redundant pump shall be provided.
 - d. A generator shall be provided for the pump station. A permanent on-site generator shall be provided or a generator receptacle in combination with a portable generator shall be provided.

- e. A mechanism for determining failure of the pumps (alarm lights, water depth indicator, etc.) shall be provided. The mechanism shall be of a nature that ensures the ultimate property owner (filed with the Register of Deeds) will easily be able to identify a pump failure.
- f. An operation and maintenance plan shall be provided and a maintenance agreement shall be in place with the ultimate property owner (filed with the Register of Deeds).

D. Overflow

1. An emergency spillway with a defined downstream drainage path must be provided to allow discharge from the basin when the flows exceed the capacity of the outlet structure. Provisions for preventing erosion of the spillway shall be provided. The emergency spillway shall have sufficient capacity to convey the peak flow associated with a 100-year design storm. Methods for determining the 100-year storm peak flows are outlined in Section 2.1.1.

2.2.5 Additional Requirements

- A. Fencing around detention basins shall not be permitted to allow for steeper side slopes unless specifically approved by the City Engineer.
- B. A permanent buffer strip of natural vegetation with a minimum width of 25 feet shall be provided and maintained for the following and preferably around the entire perimeter of the basin. The buffer strip should be planted with native vegetation. Chemical lawn care applications and mowing are prohibited in the buffer. Buffers shall be provided as follows:
 - a. In residential developments, buffers should be provided around the perimeter of the basin.
 - b. In commercial and industrial developments, buffers shall be provided in areas where impervious surface is directed to the basin via surface flow.
 - c. Where elevations allow, a buffer shall be provided at the outlets to the detention basin.
- C. All detention basins must be permanently stabilized to prevent erosion. Basins must be stabilized prior to directing stormwater flow to them.
- D. Construction of pretreatment systems is required prior to commencement of any construction activities on site except clearing and grubbing operations. Sump manhole construction must be completed as soon as is practicable during construction of the storm sewer system. Removal of collected sediment from the pretreatment systems is required at regular intervals during the construction process or at the direction of the City such that the basins are maintained in working order at all times.
- E. Landscaping shall be provided as required by the City's Landscape Design manual and as directed by the City's Landscape Architect.

RECEIVED

MAY 20 2014

CITY OF NOVI
COMMUNITY DEVELOPMENT

City of Novi
45175 W. Ten Mile Road
Novi, Michigan 48375
RE: TRUCKWELL (22285 ROETHEL DRIVE), JSP14-26

May 19, 2014

To whom it may concern,

Shastco, LLC is asking for a city council variance per chapter 5 section 2.2.4 (b) (7) for proposed *Truckwell* at 22285 Roethel Drive. Due to the proposed Truckwell and the depth of adjacent storm system, no feasible alternative exists to convey storm water by gravity flow. We are requesting the use of pumps in accordance with city standards.

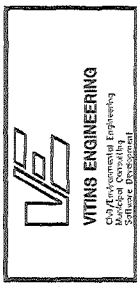
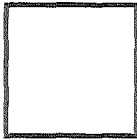
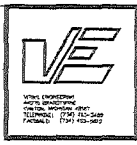
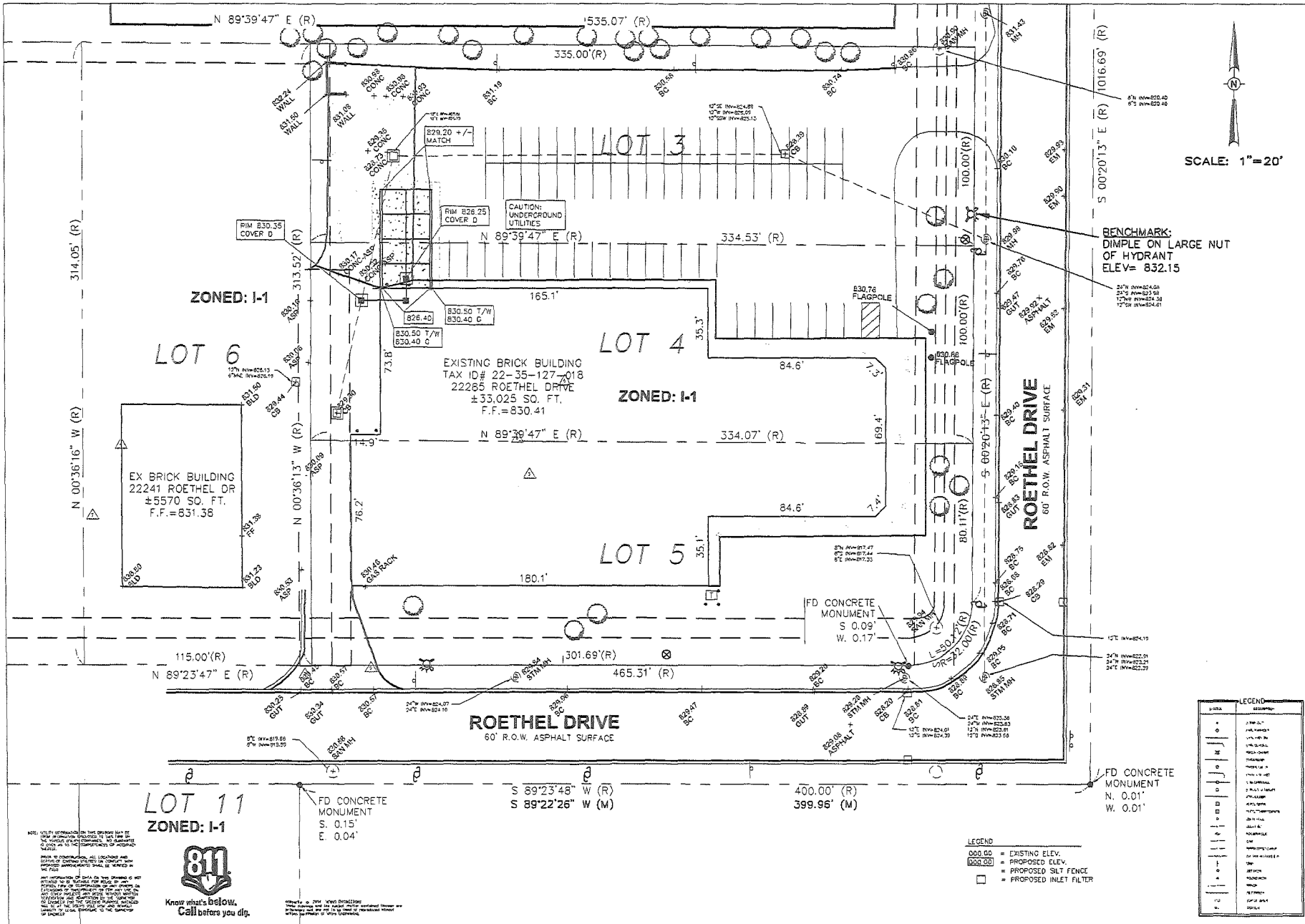
Shastco, LLC, (Signal Group) is currently located at 25225 Regency Drive, Novi will be requiring a larger facility. Our goal has always been to remain in Novi. The property at 22285 Roethel Drive meets our growing needs. Truckwell 's are a *MUST for us to purchase this property.*

We must vacate current location by November 14, 2014 and request approval as soon as possible, so as to purchase property and proceed with necessary upgrades. Again, our goal has always been to stay in Novi, purchasing this property would insure our success and growth in Novi.

Thank you in advance for your expedited consideration,



Mr. Tim McPherson
Shastco, LLC
1-248-505-0636

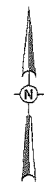


NO.	DATE	DESCRIPTION
1	11/15/23	PRELIMINARY DESIGN
2	11/15/23	REVISED DESIGN
3	11/15/23	REVISED DESIGN
4	11/15/23	REVISED DESIGN
5	11/15/23	REVISED DESIGN
6	11/15/23	REVISED DESIGN
7	11/15/23	REVISED DESIGN
8	11/15/23	REVISED DESIGN
9	11/15/23	REVISED DESIGN
10	11/15/23	REVISED DESIGN

SHASTCO, LLC TRUCKVEILL
 22265 ROETHEL DRIVE
 CITY OF NOVI
 OAKLAND COUNTY, MICHIGAN
 GRADING & SOIL EROSION
 CONTROL PLAN

PROJECT NUMBER
14040

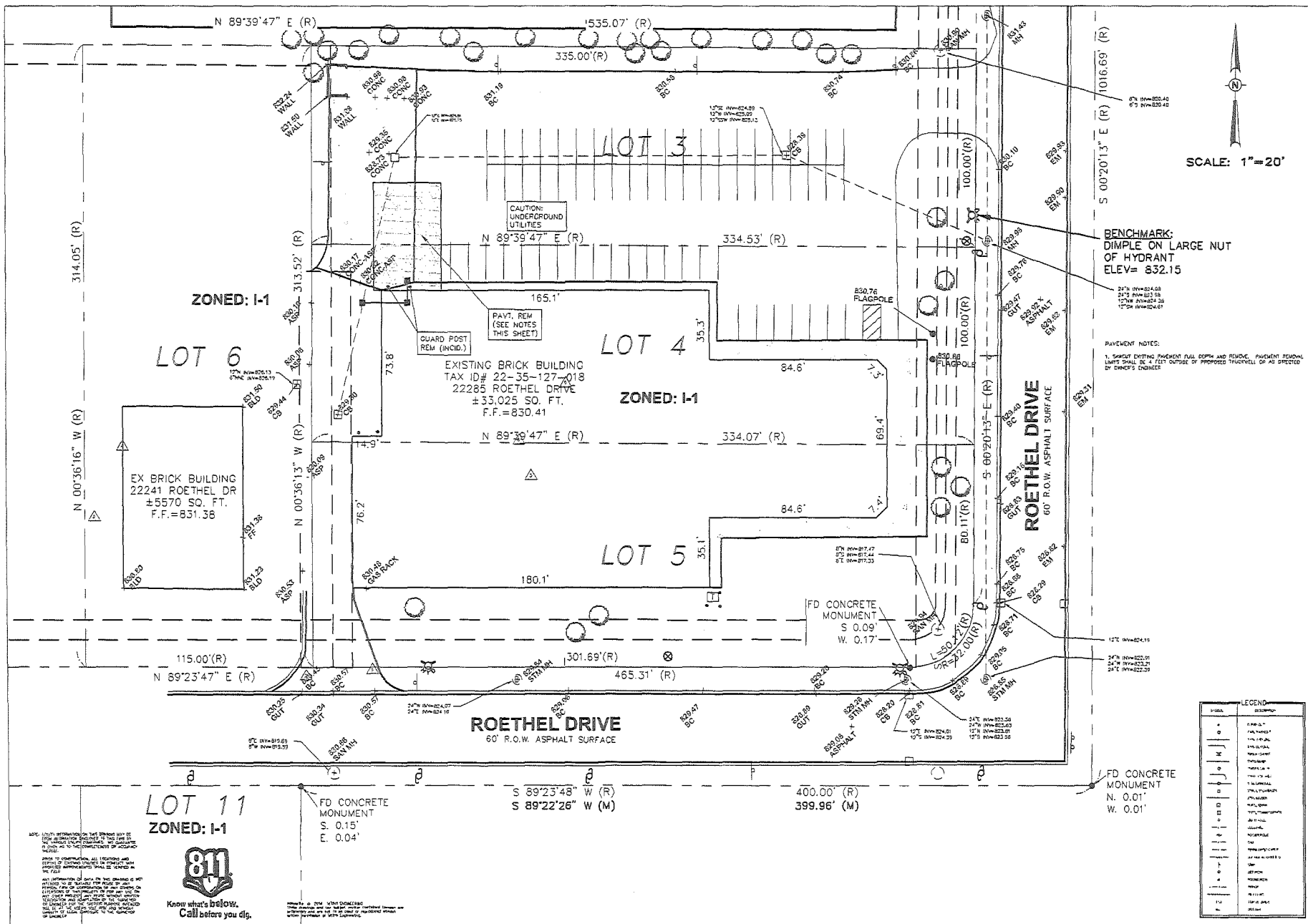
SHEET NUMBER
C-3



SCALE: 1" = 20'

BENCHMARK:
 DIMPLE ON LARGE NUT
 OF HYDRANT
 ELE V = 832.15

SYMBOL	DESCRIPTION
[Symbol]	2" DIA. 10' HIGH
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[Symbol]	6" DIA. 10' HIGH
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[Symbol]	12" DIA. 10' HIGH
[Symbol]	14" DIA. 10' HIGH
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[Symbol]	20" DIA. 10' HIGH
[Symbol]	22" DIA. 10' HIGH
[Symbol]	24" DIA. 10' HIGH
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[Symbol]	28" DIA. 10' HIGH
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[Symbol]	80" DIA. 10' HIGH
[Symbol]	82" DIA. 10' HIGH
[Symbol]	84" DIA. 10' HIGH
[Symbol]	86" DIA. 10' HIGH
[Symbol]	88" DIA. 10' HIGH
[Symbol]	90" DIA. 10' HIGH
[Symbol]	92" DIA. 10' HIGH
[Symbol]	94" DIA. 10' HIGH
[Symbol]	96" DIA. 10' HIGH
[Symbol]	98" DIA. 10' HIGH
[Symbol]	100" DIA. 10' HIGH





SCALE: 1" = 20'



VETS ENGINEERING
 Civil/Environmental Engineering
 Survey & Development

DATE	BY	REVISION

SHASTCO, LLC TRUCKWELL
 22265 ROETHEL DRIVE
 CITY OF NOVI
 OAKLAND COUNTY, MICHIGAN

DIMENSIONAL SITE PLAN

PROJECT NUMBER: **14040**

SHEET NUMBER: **C-5**

NOTICE: ANY INFORMATION ON THIS SHEET WAS OBTAINED FROM THE RECORD DRAWINGS AND FIELD SURVEY. THE ENGINEER HAS CONDUCTED VISUAL INSPECTIONS OF THE EXISTING CONDITIONS AND HAS FOUND THEM TO BE IN SUBSTANTIAL ACCORDANCE WITH THE RECORD DRAWINGS AND FIELD SURVEY. THE ENGINEER HAS CONDUCTED VISUAL INSPECTIONS OF THE EXISTING CONDITIONS AND HAS FOUND THEM TO BE IN SUBSTANTIAL ACCORDANCE WITH THE RECORD DRAWINGS AND FIELD SURVEY.



THESE ARE THE 811 TICKETS FOR THE PROJECT. THE ENGINEER HAS CONDUCTED VISUAL INSPECTIONS OF THE EXISTING CONDITIONS AND HAS FOUND THEM TO BE IN SUBSTANTIAL ACCORDANCE WITH THE RECORD DRAWINGS AND FIELD SURVEY.

CITY OF NOVI NOTES:

- ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF NOVI.
- THE CONTRACTOR SHALL CALL THE NATIONAL ONE-CALL DIALING NUMBER "811" OR THE NATIONAL ONE-CALL REFERRAL NUMBER 1-888-258-0808 AT LEAST 3 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
- ROOFTOP EQUIPMENT TO BE SCREENED. REFER TO ARCHITECT DRAWINGS.
- EXTERIOR SITE LIGHTING SHALL BE SHIELDED FROM ADJACENT PROPERTIES.
- ALL LANDSCAPE AREAS ARE TO BE PROVIDED WITH AN UNDERGROUND IRRIGATION SYSTEM.
- NO SIGNS ARE APPROVED AS PART OF THIS SITE PLAN APPROVAL AND NO GROUND MOUNTED SIGNS ARE PROPOSED AT THIS TIME. PRIOR TO ERECTING A SIGN, AN APPLICATION AND APPROPRIATE SUBMISSIONS SHALL BE MADE TO THE CITY OF NOVI FOR REVIEW, APPROVAL, AND ISSUANCE OF A SIGN PERMIT.

PERMITS:

- A SOIL EROSION AND SEDIMENTATION CONTROL PERMIT SHALL BE OBTAINED FROM THE CITY OF NOVI.
- CONTRACTOR SHALL OBTAIN A GRADING PERMIT FROM THE CITY OF NOVI AT THE PRE-CONSTRUCTION MEETING. PERMIT FEE TO BE PAID BY OWNER.

GENERAL NOTES:

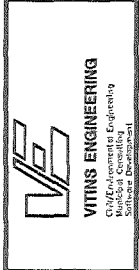
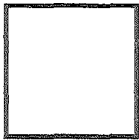
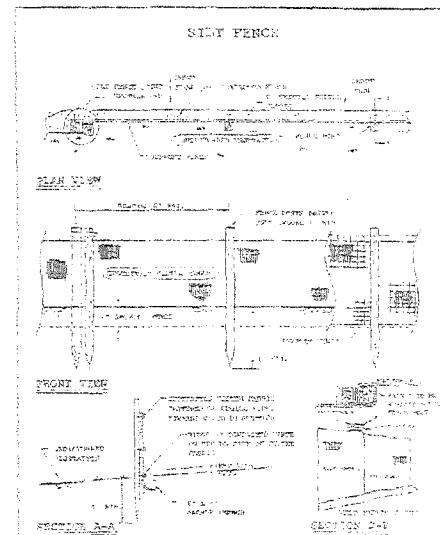
- THE SITE IMPROVEMENTS SHALL BE COMPLETED IN ACCORDANCE WITH THE PROPOSAL AND ACCOMPANYING SPECIFICATIONS FOR THIS PROJECT INCLUDING THE 2012 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CURRENT MICHIGAN MANUAL OF TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN ALL NECESSARY TEMPORARY TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH PART VI OF THE CURRENT MICHIGAN MANUAL OF TRAFFIC CONTROL DEVICES. COST OF TRAFFIC MAINTENANCE AND CONTROL SHALL BE INCLUDED IN THE CONTRACT UNIT PRICES BID FOR OTHER CONTRACT ITEMS.
- ALL UTILITY TRENCHES UNDER OR WITHIN 5 FEET OF PAVEMENT, EXISTING OR PROPOSED, SHALL BE BACKFILLED WITH SAND COMPACTED TO 95% MODIFIED PROCTOR DENSITY. PIPE BEDDING AND COMPACTED SAND BACKFILL SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR WATER MAIN OR SEWER.
- DEWATERING SYSTEMS USED BY THE CONTRACTOR WILL NOT BE PAID FOR SEPARATELY. PAYMENT FOR Dewatering WILL BE INCLUDED IN THE CONTRACT UNIT PRICES BID FOR OTHER CONTRACT ITEMS.
- ALL SOIL EROSION AND SILT MUST BE CONTROLLED AND CONTAINED ON SITE.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING INTEGRITY OF UTILITY POLES. COST OF SPECIAL CONSTRUCTION METHODS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICES BID FOR OTHER ITEMS.
- THE CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DISTURBED AREAS TO THE CONDITIONS THAT EXISTED PRIOR TO CONSTRUCTION.

REFERENCES:

- ALTA SURVEY PREPARED BY DIFFIN-JAKLOP & ASSOCIATES, JOB NO. 140301, DATED MARCH 24, 2014.

SESC GRADING REQUIREMENTS AND STANDARDS

- A project/property identifier must be posted and visible from the road at time of application in order to conduct a preliminary inspection which is required before a soil erosion and sedimentation control (SESC) permit may be issued.
- A copy of the SESC permit and approved plans shall be kept at the work site and visible from the road and available at time of inspection for the duration of the project or until the date of expiration.
- No earth moving activity can begin without a grading permit.
- Silt fencing, if required, must be trenched in and backfilled. The fencing may be trenched with saw gravel if installed in winter.
- Stone access drives must be installed prior to construction.
- Stockpiling of any excavated material must be kept away from sensitive areas and adequate covers must be in place.
- Catch basins, if installed, must be protected with silt socks.
- Dewatering operations must have some type of control, e.g., filter bag, vegetative filter area. There shall be no dewatering of untreated water.
- Erosion control blankets are required on slopes of 4:1 or steeper.
- Rack check dams are to be used instead of straw bales or silt fencing in concentrated flow locations such as ditches.
- Immediately after installation of stormwater outlets, rip rap must be installed.
- All areas of a project that are disturbed must be stabilized by December 1.
- All earth changes shall be designed, constructed and completed in such a manner which limits the exposed area of any disturbed land for the shortest possible period of time.
- Detention/retention/sedimentation ponds must be constructed and stabilized prior to other earth moving activities to collect sediment caused by erosion. This shall be designed and constructed to reduce the water flow to a non-erosive velocity (See Oakland County Drain Commissioner's Specifications).
- After all temporary erosion control measures have been installed, the owner/contractor shall call this office for an installation inspection.
- Vegetation shall be established within 5 days of final grade, or whenever disturbed areas will remain unchanged for 30 days or greater. 3"-4" of topsoil will be used where vegetation is required. All permanent erosion control measure shall be maintained a minimum of one (1) year after the final inspection date. A final inspection shall be scheduled by the owner/contractor.
- All soil, miscellaneous debris or other materials spilled, dumped or otherwise deposited on streets, highways, sidewalks or other thoroughfares during transit to or from the earth change site shall be removed promptly.



NO.	DATE	DESCRIPTION
1	1/2/2014	ISSUED FOR PERMIT
2	1/2/2014	ISSUED FOR PERMIT
3	1/2/2014	ISSUED FOR PERMIT

**SHASTCO, LLC TRUCKWELL
22285 ROETHEL DRIVE
CITY OF NOVI
OAKLAND COUNTY, MICHIGAN**

CONSTRUCTION NOTES & DETAILS

14040

C-6

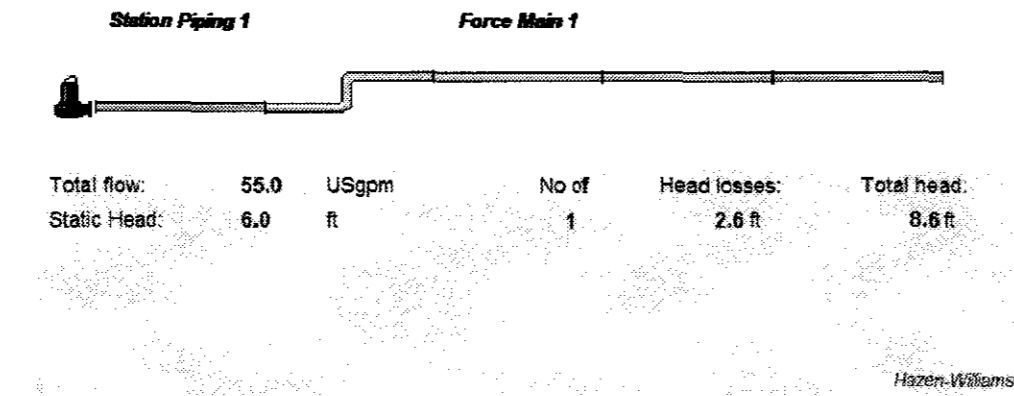
COPYRIGHT © 2014 VITINS ENGINEERING

Design pipe system

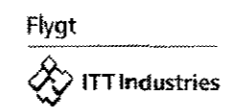
Project: SHASTCO TRUCK WELL - Case1
 Customer: 10 YR STORM
 Microsoft

Station Piping 1			
Length	10.0 ft	Discharge conn.	0.50 1
Material	Plastic	90° elbow	0.30 2
Pressure class	SCH40	Valve	1.00 1
Dimension	2 inch	Tee	0.60 1
C-factor	150,000	Check valve	1.50 1
Inner diam.	2.1 inch	Outlet	1.00 0
		Own	0.00 0
		Total:	4.20
Water velocity:	5.3 ft/s	Loss in pipe section:	2.3 ft

Force Main 1			
Length	22.0 ft	Discharge conn.	0.50 0
Material	Plastic	90° elbow	0.30 0
Pressure class	SCH80	Valve	1.00 0
Dimension	3 inch	Tee	0.60 0
C-factor	150,000	Check valve	1.50 0
Inner diam.	2.9 inch	Outlet	1.00 1
		Own	0.00 0
		Total:	1.00
Water velocity:	2.7 ft/s	Loss in pipe section:	0.3 ft



Total flow:	55.0 USgpm	No. of	Head losses:	Total head:
Static Head:	6.0 ft	1	2.6 ft	8.6 ft



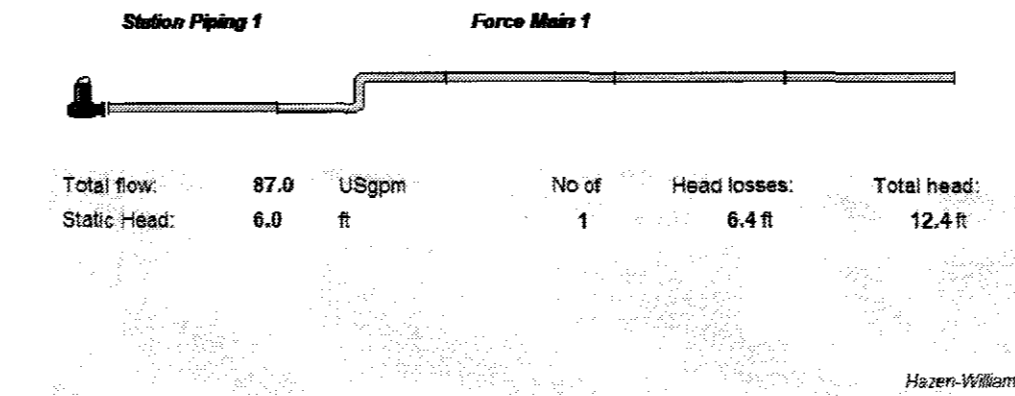
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Design pipe system

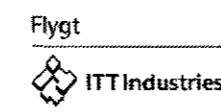
Project: SHASTCO TRUCK WELL - Case1
 Customer: 100 YR STORM
 Microsoft

Station Piping 1			
Length	10.0 ft	Discharge conn.	0.50 1
Material	Plastic	90° elbow	0.30 2
Pressure class	SCH40	Valve	1.00 1
Dimension	2 inch	Tee	0.60 1
C-factor	150,000	Check valve	1.50 1
Inner diam.	2.1 inch	Outlet	1.00 0
		Own	0.00 0
		Total:	4.20
Water velocity:	8.3 ft/s	Loss in pipe section:	5.6 ft

Force Main 1			
Length	22.0 ft	Discharge conn.	0.50 0
Material	Plastic	90° elbow	0.30 0
Pressure class	SCH80	Valve	1.00 0
Dimension	3 inch	Tee	0.60 0
C-factor	150,000	Check valve	1.50 0
Inner diam.	2.9 inch	Outlet	1.00 1
		Own	0.00 0
		Total:	1.00
Water velocity:	4.2 ft/s	Loss in pipe section:	0.7 ft



Total flow:	87.0 USgpm	No. of	Head losses:	Total head:
Static Head:	6.0 ft	1	6.4 ft	12.4 ft

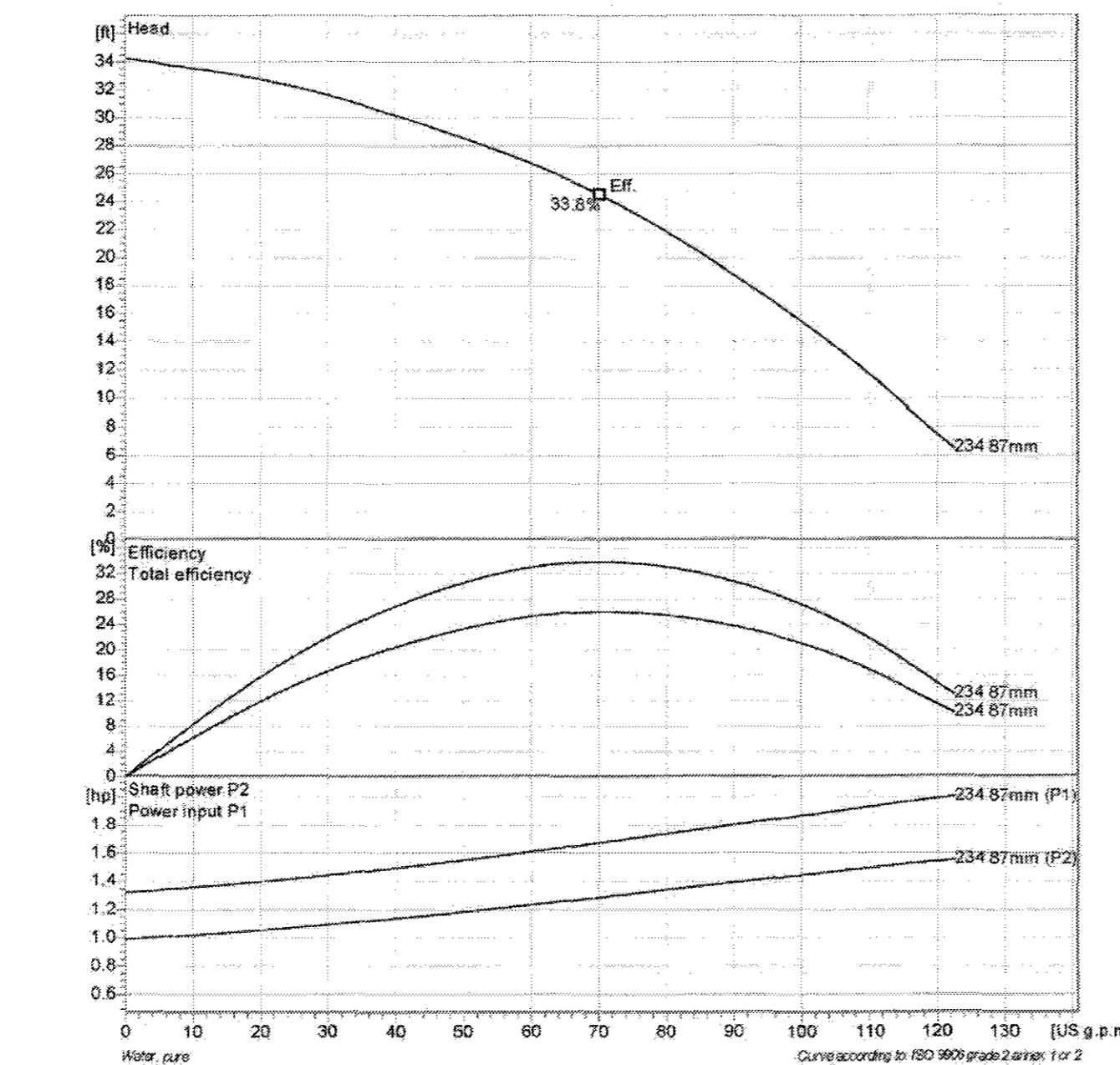


1(1)

xylem
Let's Solve Water

DF 3045 MT 3~ 234
Performance curve

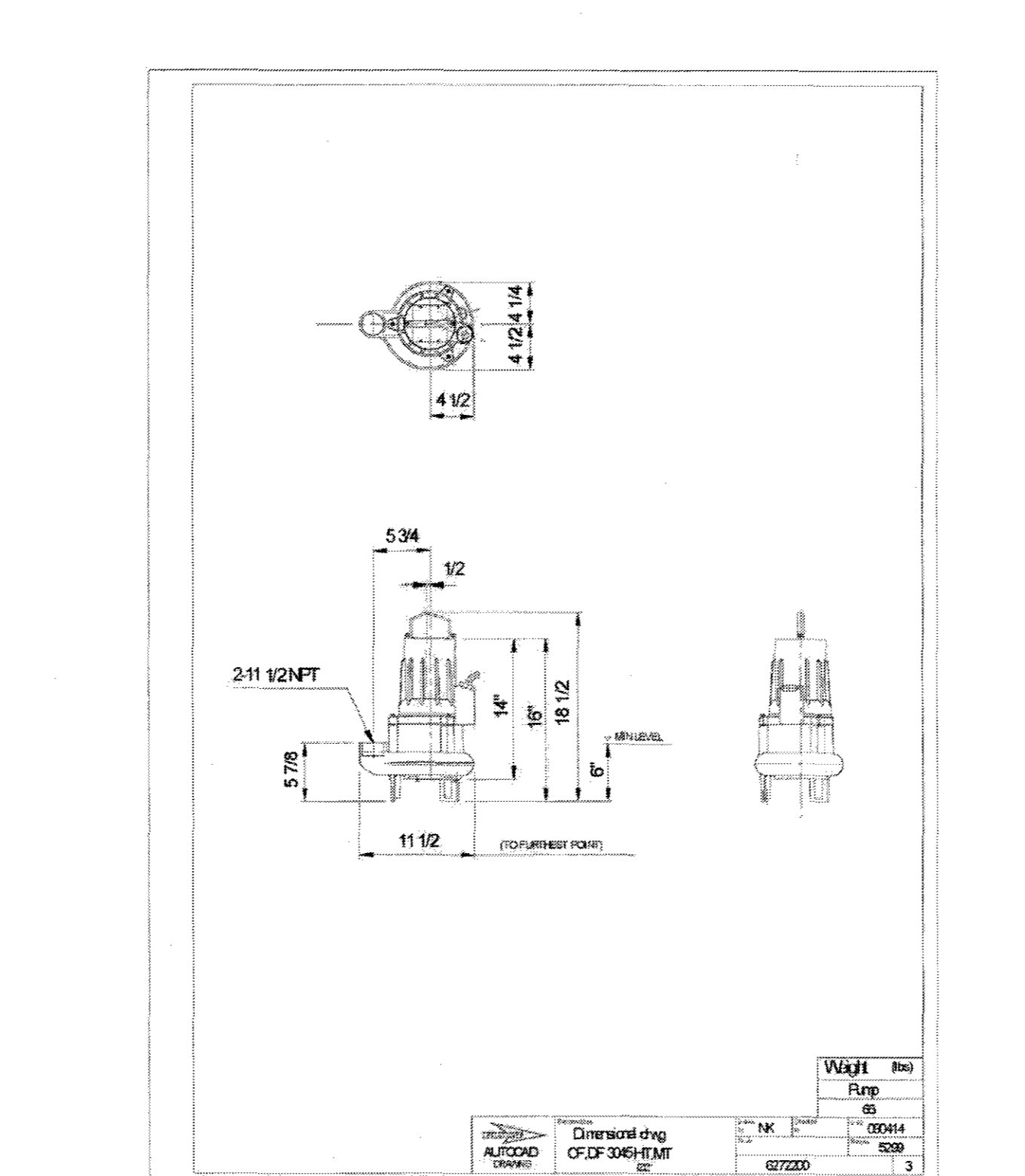
Pump		Motor	
Discharge Flange Diameter	1 15/16 inch	Motor #	D3045 1B1 12-08-20B-W1.8hp
Suction Flange Diameter	50 mm	Stator variant	4
Impeller diameter	3 1/2"	Frequency	60 Hz
Number of blades	6	Rated voltage	230 V
Throughlet diameter	1 7/8 inch	Number of poles	2
		Phase	3~
		Rated power	1.8 hp
		Rated current	5.2 A
		Starting current	39 A
		Rated speed	3390 rpm



Project	Project ID	Created by	Created on	Last update
			2014-05-19	

xylem
Let's Solve Water

DF 3045 MT 3~ 234
Dimensional drawing



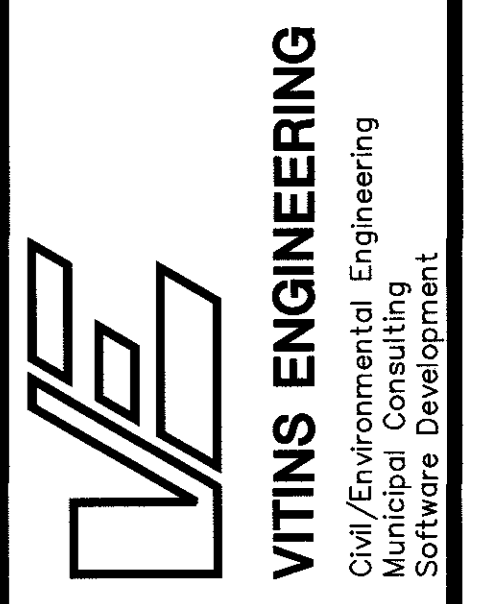
Project	Project ID	Created by	Created on	Last update
			2014-05-19	

STORMWATER MANAGEMENT CALCULATIONS

Drainage Area = 0.30 acres
 Runoff Coefficient C = 0.95
 T = 15 minutes (Time of Concentration)
 $I = 175/(T + 25) = 4.375$ in/hr (10 Year Intensity Storm)
 $I = 275/(T + 25) = 6.875$ in/hr (100 Year Intensity Storm)
 $Q = CIA$ (Rational Method)
 $Q = (0.95)(4.375)(0.30) = 0.125$ cfs (55 gpm) (10 Year Storm)
 $Q = (0.95)(6.875)(0.30) = 0.196$ cfs (87 gpm) (100 Year Storm)

PUMP STATION NOTES:

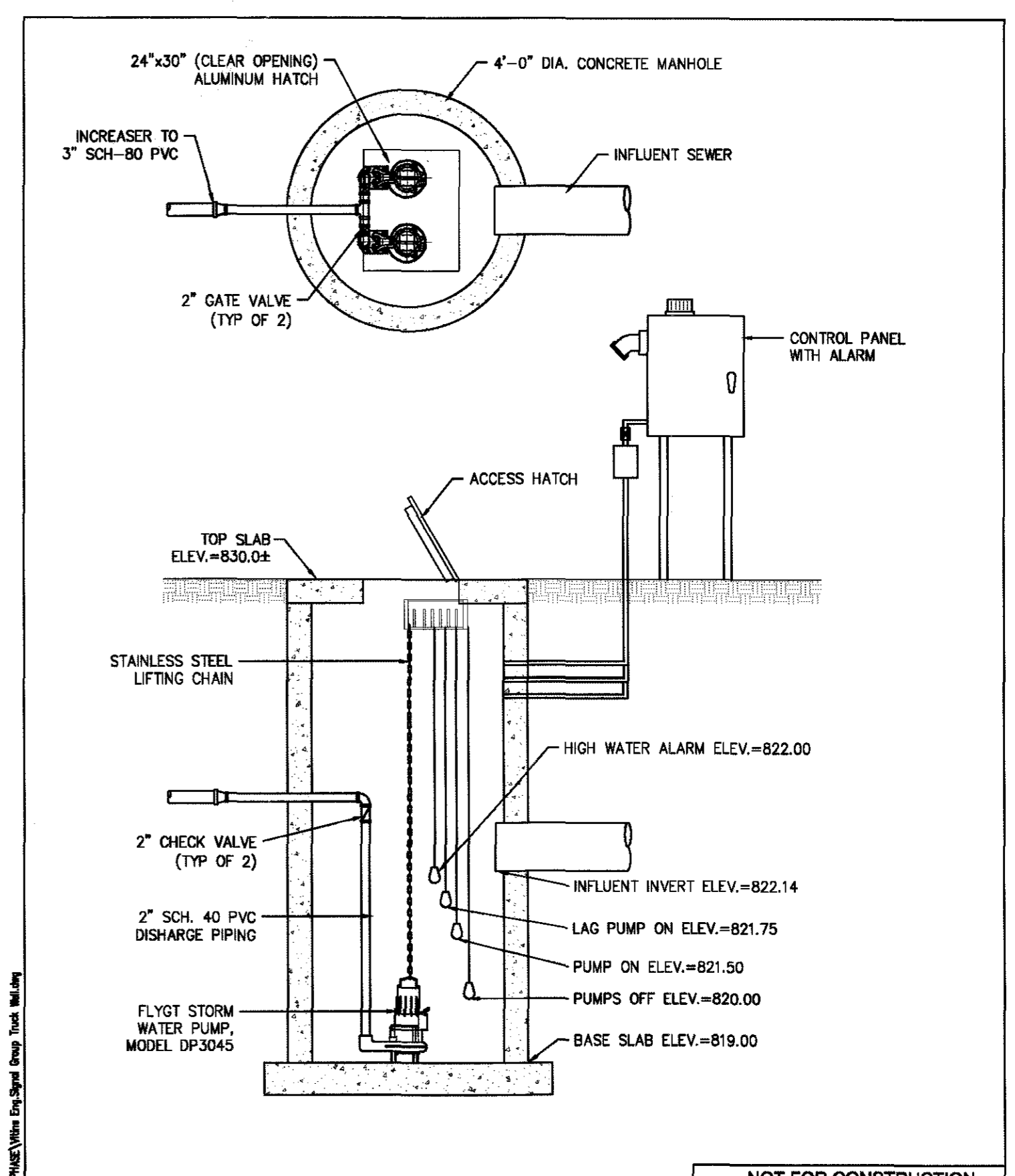
- PUMPS (2) SHALL BE FLYGT SUBMERSIBLE EFFLUENT PUMP MODEL DP3045, 234 IMPELLER, 1.8 HP, 3 PHASE, 230V WITH 2" DISCHARGE, PUMP FEET AND 30" CABLE.
- EACH PUMP RATED 87 GPM AT 12.4 TDH (100 YEAR INTENSITY STORM).
- PUMP STATION SHALL BE PROVIDED WITH STAINLESS STEEL LIFTING CHAIN AND QUICK LINKS.
- PUMPS SHALL ALTERNATE BETWEEN PRIMARY PUMP AND LAG PUMP AFTER EACH PUMPING CYCLE.
- DUPLEX CONTROL PANEL SHALL BE IN NEMA 4X FIBERGLASS ENCLOSURE WITH MOTOR STARTERS, PUMP DISCONNECT, H-O-A SWITCHES, CONTROL CIRCUITS, ALARM LIGHT AND HORN, AND A GENERATOR RECEPTACLE.
- ALARM SHALL BE PROVIDED FOR HIGH WATER AND PUMP FAILURE.
- PUMP STATION SHALL HAVE LOT MERCURY TYPE FLOAT SWITCHES AND STAINLESS STEEL SUPPORT BRACKET.
- 24" X 30" ALUMINUM ACCESS HATCH SHALL BE PROVIDED.
- CONTRACTOR SHALL PROVIDE INSTALLATION, SITE WORK, CONCRETE MANHOLE, ANCHOR BOLTS, PIPING, VALVES, CONDUIT, WIRING, JUNCTION BOXES, PADLOCKS OR KEYS INCIDENTAL TO THE UNIT PRICE BID FOR THE PUMP STATION.
- START UP ASSISTANCE SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR THE PUMP STATION.



ISSUE NO.	DATE ISSUED	DESCRIPTION
1	4/17/2014	SITE PLAN REVIEW
2	4/20/2014	ADDED PUMP STATION SKETCH
3	5/19/2014	REVISED PER CITY REVIEW

SHASTCO, LLC TRUCKWELL
 22285 ROETHHEL DRIVE
 CITY OF NOVI
 OAKLAND COUNTY, MICHIGAN
PUMP STATION CALCULATIONS, NOTES AND DETAILS

PROJECT NUMBER
14040
 SHEET NUMBER
C-7



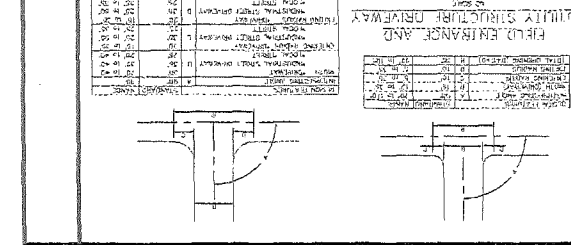
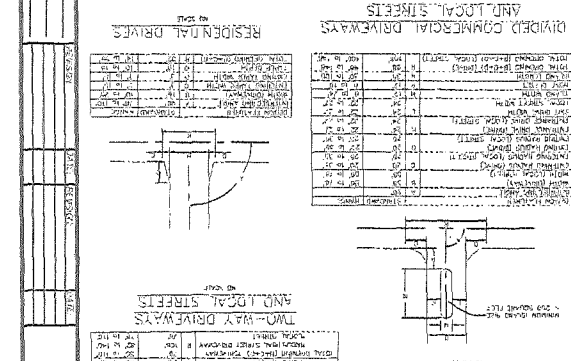
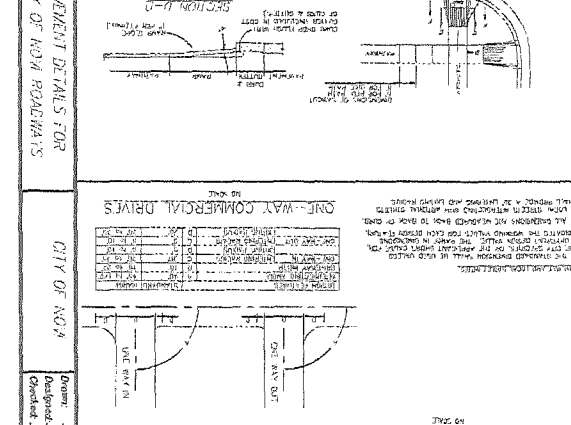
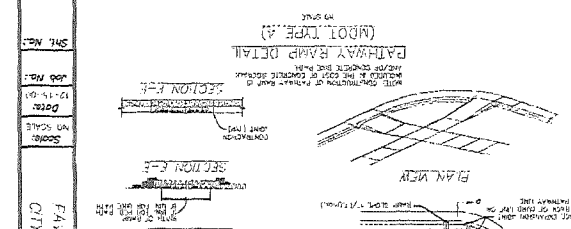
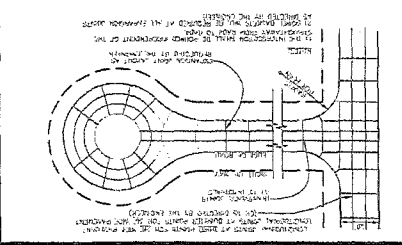
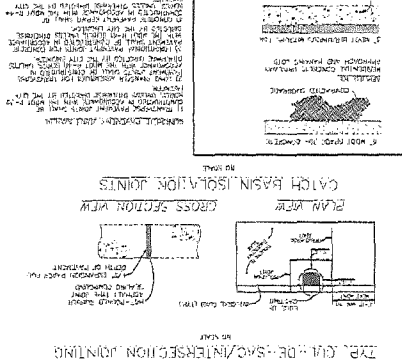
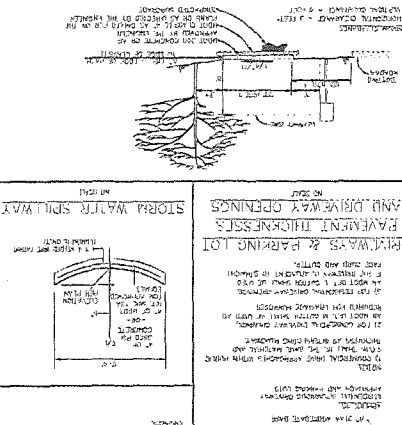
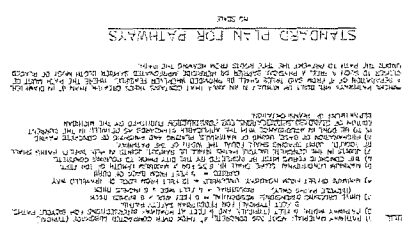
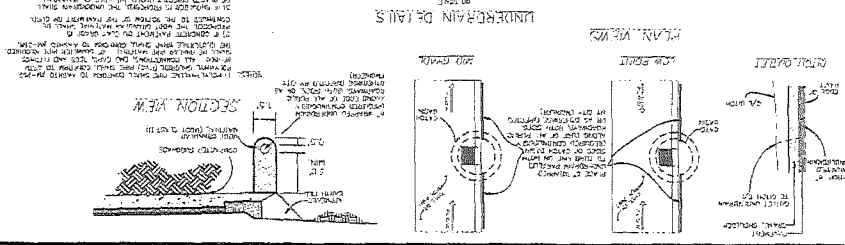
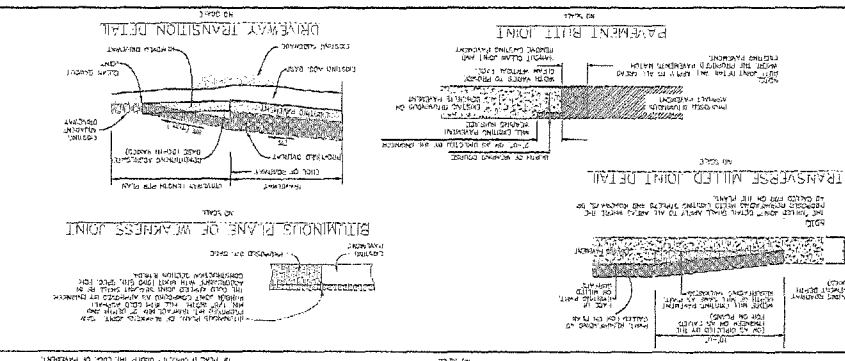
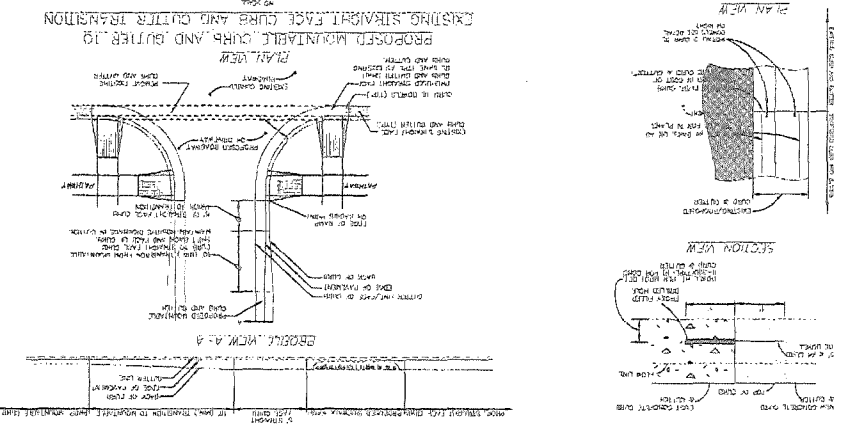
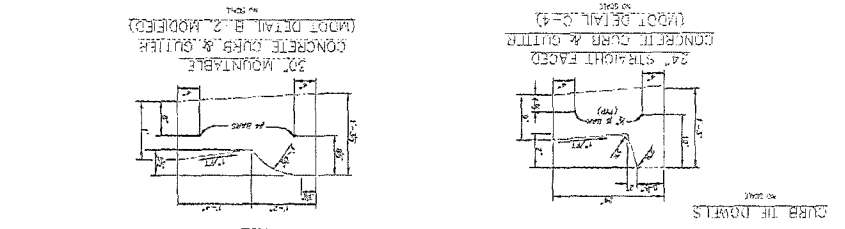
NOT FOR CONSTRUCTION

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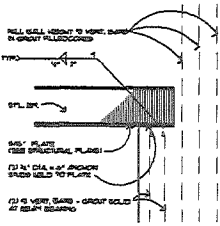
Kennedy Industries Inc.
PUMPS • VALVES • CONTROLS
4975 TECHNICAL DRIVE, P.O. BOX 809, MILFORD, MI 48361

CLIENT: VITINS ENGINEERING
 PROJECT: SHASTCO TRUCK WELL

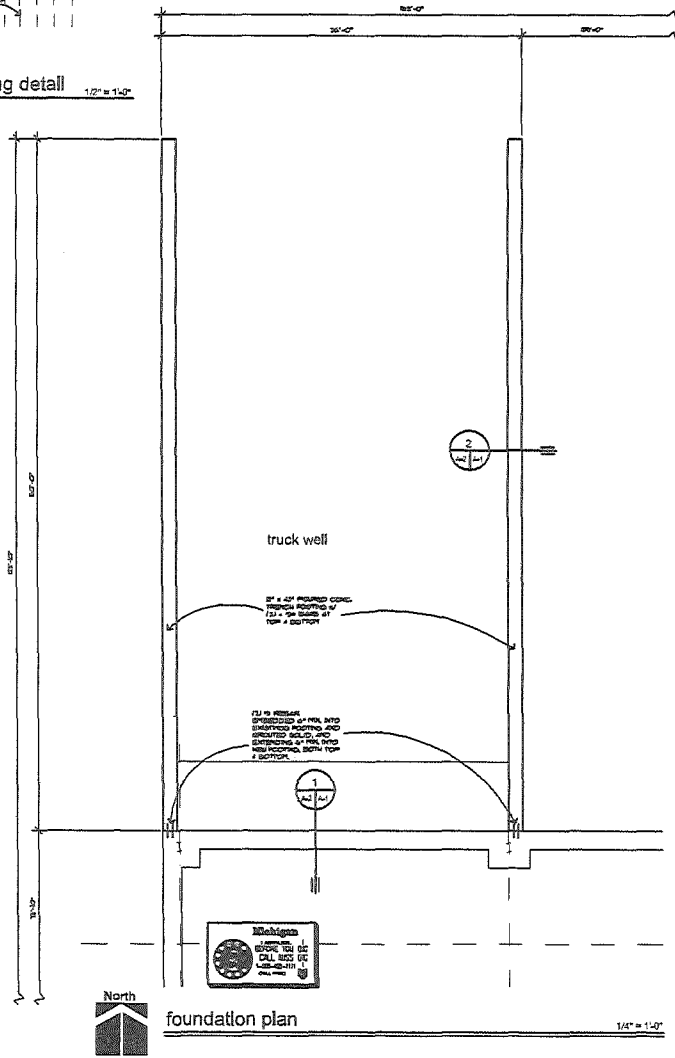
SCALE: NONE
 DATE: 05/19/14
 BY: A.K.M. REV: 2
 JOB #: 54105 REV: 2
 DWG: 1 OF: 1



Sheet No. 100
 Date 12-15-51
 Scale
 City of New Rochelle
 City of N.Y.C.
 Designer
 Checker

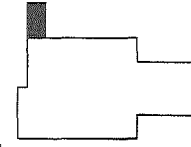


typ. beam bearing detail 1/2" = 1'-0"

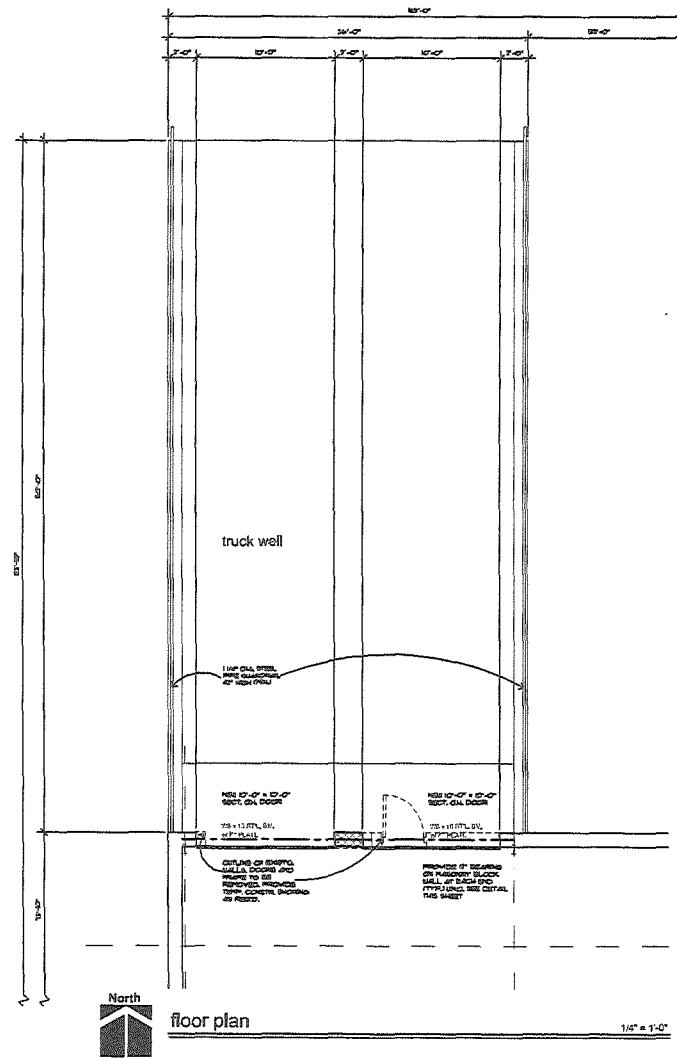


foundation plan

1/4" = 1'-0"



key plan no scale



floor plan

1/4" = 1'-0"

Frank Salamone
 architects
 engineers
 planners
 4870 Ingers Rd
 Novi, MI 48376
 248.337.0091

Architect

Date Issued: _____

 S.P.A. 04-105114

Project:
 Proposed Truckwell
 Addition for
**SHASTCO
 L.L.C.**
 23225 Reesdal Drive
 Novi, MI 48374

Client:
**SHASTCO
 L.L.C.**
 23225 Reesdal Dr.
 Novi, MI 48374
 (248) 476-2224

Sheet Title: _____
 PLANS
 Project Number: _____
 114-122
 Drawn By: _____
 JFN
 Checked By: _____
 F.S.

Contact:
 per drawing
 call 483.337.0091
 email

Sheet Number: _____



VITINS ENGINEERING

May 20, 2014

Ms. Kristen Kapelanski, AICP, Planner
City of Novi
45175 W. Ten Mile Road
Novi, Michigan 48375

RE: **Truckwell (22285 Roethel Drive), JSP14-26**
City of Novi, Oakland County, Michigan

Dear Ms. Kapelanski:

Enclosed for your approval are the following:

Number	Description
6 sets	Site Plan dated May 19, 2014
1 copy	Contractor's Cost Estimate

Thank you for your review comments in your Plan Review Center report. The following responses are in the same sequence as they appeared in your report, the consultant's letters, and city staff reports and memorandums.

Plan Review Center Report, Planning Review (April 29, 2014)

1. Responses to other review letters are noted below. Pre-construction meeting will be scheduled prior to the start of any site work.

Plan Review Center Report, Engineering Review (May 12, 2014)

General

1. Demolition Plan has been provided, Sheet C-5, Demolition Plan.
2. City of Novi's standard paving detail sheet is included.
3. Based on the ALTA Survey prepared by Diffin-Umlor, the proposed concrete trench footing should not interfere with any existing underground utilities. The existing storm sewer downstream of Catch Basin 1 will run through the proposed concrete trench footing.



VITINS ENGINEERING

Truckwell (22285 Roethel Drive), JSP14-26

May 20, 2014

Page 2

4. Variance will be requested for a pumped outlet from the City Council per Chapter 5 Section 2.2.4 (B)(7). No feasible alternative exists since the adjacent storm sewers are not deep enough to convey stormwater from the truckwell by gravity flow.

Since the truckwell stormwater management system is part of the conveyance system it has been designed for a 10 year storm per Section 1.4 of the Engineering Design Manual. The pumps are capable of pumping the 100 year storm event of 0.196 cfs at a head of 12.4 feet. However, the downstream storm sewer has been designed to only convey a 10 year intensity storm.

If the truckwell pumps are not operating the truckwell will overflow in the adjacent parking lot. Overflow elevation will be about 829.20 feet. Building finish floor elevation is about 830.40 feet. Building finish floor is about 1.2 feet above the overflow elevation. At the deepest point, the truckwell will have about 3 feet of standing water if the pumps are out of service.

- ✓ 5. Pump station details are included on Sheet C-7.
- ✓ 6. Storm sewer profile is shown on Sheet C-4.
- ✓ 7. Upstream and downstream inverts are provided for Catch Basin 1.

Stormwater Management Plan

- ✓ 8. Each pump has been sized for the 10 year storm event but the pump is also capable of pumping the 100 year storm event.
 - ✓ A portable generator shall be provided along with a generator receptacle in the control panel.
 - ✓ A high water alarm and pump failure alarm will be provided at the control panel inside the building.

Paving & Grading

- ✓ 9. Extent of the proposed paving is shown on Sheet C-2, Paving Plan.
- ✓ 10. Cross-section of the proposed pavement section is included on Sheet C-2, Paving Plan.

Additional Items

11. To the best of the engineer's knowledge, information, and belief, all changes to the final site plan have been discussed in this response letter.
12. Contractor's cost estimate has been provided.



VITINS ENGINEERING

Truckwell (22285 Roethel Drive), JSP14-26

May 20, 2014

Page 3

13. The Pump Maintenance Plan and Agreement will be provided to the City of Novi for review.
14. A pre-construction meeting will be scheduled prior to the start of construction.
15. Grading permit will be obtained from the City of Novi.
16. Material certifications shall be submitted to Spaulding DeDecker by the underground contractor for review prior to construction of the truckwell storm water management system.
17. Inspection fees will be paid by the Owner prior to construction.
18. Soil Erosion Control Permit to be obtained by the Contractor. Financial guarantee and inspection fees to be paid by the Owner.
19. Performance guarantee to be provided by Owner prior to issuance of a Temporary Certificate of Occupancy per the City of Novi's Performance Guarantee Ordinance.
20. Pump Maintenance Plan and Agreement shall be notarized by the City Attorney and City Engineer.
21. Record drawings to be prepared by Spaulding, DeDecker and Associates, Inc.
22. An up-to-date Title Policy shall be provided to the City of Novi dated within 90 days of City Council consideration of acceptance verifying that the parties signing the documents have the legal authority to execute the documents.



VITINS ENGINEERING

Truckwell (22285 Roethel Drive), JSP14-26

May 20, 2014

Page 4

Thank you for your help on this project. If you have any questions or require additional information, please feel free to call.

Enclosures

Very truly yours,
VITINS ENGINEERING

A handwritten signature in black ink, appearing to read 'Uldis G. Vitins', written in a cursive style.

Uldis G. Vitins, P.E.
Principal

Copies: SHASTCO, LLC
ATC Building Services
Frank Salamone Architect
file



JOHNSON ROSATI SCHULTZ JOPPICH PC

27555 Executive Drive Suite 250 ~ Farmington Hills, Michigan 48331
Phone: 248.489.4100 | Fax: 248.489.1726

Elizabeth Kudla Saarela
esaarela@jrsjlaw.com

www.johnsonrosati.com

May 28, 2014

Adam Wayne, Construction Engineer
City of Novi
45175 Ten Mile Road
Novi, Michigan 48375

Re: **Shastco, LLC – Truck Well (22285 Roethel)**
Variance from Design and Construction Standards

Dear Mr. Wayne:

Our office has reviewed the proposed request for a variance from the City's Stormwater Management Design Standards as set forth in the Engineering Design Manual for the purpose of constructing a truck well with a pump outlet. The property owner has requested a waiver from Section 2.2.4.B.7 of the Engineering Design Manual, which states in relevant part:

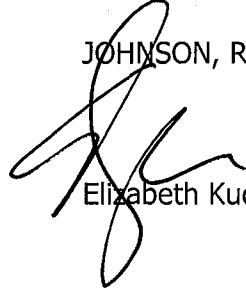
7. Pumped outlets are not permitted absent a variance from City Council, which shall require demonstration that it is in the public interest and no feasible alternative exists. IF City Council grants a variance to allow a pumped outlet, the following documentation shall be standards shall apply:
 - a. The pump(s) shall be designed to meet the maximum discharge rate and time requirements for the 100-year and bankfull flood events. Minimum and maximum system head curves and pump curves shall be provided to verify the operating duty points of the pump(s).
 - b. Pumps shall be of appropriate construction for conveying storm water.
 - c. A redundant pump shall be provided.
 - d. A generator shall be provided for the pump station. A permanent on-site generator shall be provided or a generator receptacle in combination with a portable generator shall be provided.

Adam Wayne, Construction Engineer
May 28, 2014
Page 3

If you have any questions regarding the above, please call me.

Very truly yours,

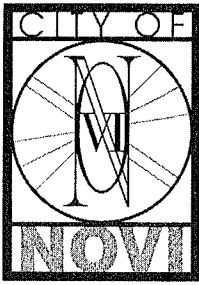
JOHNSON, ROSATI, SCHULTZ & JOPPICH, P.C.



Elizabeth Kudla Saarela

EKS
Enclosures

- C: Maryanne Cornelius, Clerk (w/Enclosures)
Charles Boulard, Community Development Director (w/Enclosures)
Matt Wiktorowski, Field Operations (w/Enclosures)
Brian Coburn, Engineering Manager (w/Enclosures)
David Beschke, Landscape Architect (w/Enclosures)
Jeff Johnson, Fire Department (w/Enclosures)
Thomas R. Schultz, Esquire (w/Enclosures)



cityofnovi.org

CITY OF NOVI
Engineering Department
MEMORANDUM

To: Charles Boulard, Community Development
 David Beschke, Landscape Architect
 Beth Saarela, Attorney
 Jeff Johnson, Fire Department
 Matt Wiktorowski, Filed Ops

From: Adam Wayne, Engineering

Date: May 20, 2014

Re: Variance from Design & Construction Standards
 Shastco, LLC.

Attached is a request for a Variance from the Chapter 5 Section 2.2.4 (B)(7) of the Engineering Design Manual for the City of Novi. Please review for a future City Council Agenda. In accordance with Section 11-10 of the Ordinance, the following three conditions **must be met** for a variance to be granted by Council:

- 1) A literal application of the substantive requirement would result in exceptional, practical difficulty to the applicant;
- 2) The alternative proposed by the applicant would be adequate for the intended use and would not substantially deviate from the performance that would be obtained by strict enforcement of the standards; and,
- 3) The granting of the variance would not be detrimental to the public health, safety or welfare, nor injurious to adjoining or neighboring property.

Following review of the variance, check the appropriate box below and provide your signature. If you have no basis for recommending either approval or denial, please check the "No Exceptions Taken" box. If you are recommending approval or denial of the request, **please also complete the matrix on the reverse of this form.** Please return to my attention by **Friday May 30th, 2014.**

ROUTING

Delivered To	Returned On	RECOMMENDED ACTION			Signature
		Approval*	Denial*	No Exceptions Taken	
Brian Coburn (Engineering)					
Charles Boulard (Comm Dev.)					
David Beschke (Landscape Arch)				✓	
Beth Saarela (City Attorney)					
Jeff Johnson (Fire Department)					
Matt Wiktorowski (Field Ops)					

*** SEE REVERSE**

If recommending approval or denial, please complete the following:

1. Would a literal application of the substantive requirement of the ordinance result in an exceptional, practical difficulty to the application? Yes No

Explain:

2. Would the alternative proposed by the applicant be adequate for the intended use and not deviate from the performance that would be obtained by strict enforcement of the standards? Yes No

Explain:

3. Would granting the variance not be detrimental to public health, safety, or welfare, and not injurious to adjoining or neighboring property? Yes No

Explain:
