Meeting Date: October 28, 2013
Agenda Item: #6

Mission Statement
Delivering quality services in a courteous, cost-effective and efficient manner

VILLAGE PLAN COMMISSION STAFF REPORT

REPORT TO: President Burt McIntyre and Village Plan Commission

REPORT FROM: Dave L. Wiese, Executive Director of Community Services

AGENDA ITEM: Site Plan review to construct a riders edge course at Vandervest Harley-Davidson, 1966 Velp Avenue (VH-2652)

ACTION REQUESTED: Approval of the proposed site plan.

POLICY ISSUE
Should the Village approve the proposed site plan as presented?

RECOMMENDED ACTION BY PLAN COMMISSION
It is recommended that the Plan Commission ask the applicant to explain the request in detail. The Plan Commission should review the applicant's request. Finally, if satisfied with the proposal, the Plan Commission should recommend approval with any specific conditions as may be necessary to address concerns voiced by staff or Commission members.

BASIC INFORMATION

Project Name	Vandervest CUP
Applicant	Lynn Vandervest
Phone	920-498-8822
Consultant/ Engineer	N/A
Parcel Size	8.08 Acres
Proposed Zoning	N/A
Current Zoning	Highway Commercial (B-2)
Land Map Designation	Neighborhood Commercial

ADJACENT LAND/ZONING MATRIX

	LAND USE	ZONING
North	Park, Vacant Land	B-2 & I-1
South	Business & Residential	B-2 & R-1
East	US 41	B-2
West	Business	B-2

BACKGROUND

The subject property is currently located on the north side of Velp Avenue and west of U.S. Hwy 41. The current use is Vandervest Harley Davidson dealership. The applicant is requesting site plan approval in order to construct a 20,000-square-foot paved motorcycle safety instruction course known as "Riders Edge." There will also be additional parking located on the east side of the existing parking area. The DOT is acquiring approximately 40 spaces on the south side of the existing parking. The property is currently zoned Business District (B-2.)

The facility will utilize the existing parking located to the south and east of the building. The existing single entrance into the site will remain.

The property will be landscaped with a mixture of trees and shrubs. The applicant is proposing to add 4 new trees and 10 new shrubs and plants.

IN THE FUTURE, a related multi-function building that will include a room for riders' edge instruction, toilet rooms for outdoor activities, a maintenance garage for the facility, and a storage area for winter storage of customer motorcycles will be constructed. The storage area is also planned to be used for events during the summer. A covered platform near the existing outdoor patio to be used for river viewing, weddings and live performances is also being planned. The buildings will be constructed of wood siding and shingled roof as well as vertical galvanized wall panel. The Plan Commission will have an opportunity to review a final site plan for the facility in the future.

ANALYSIS

1. **Zoning** The property is zoned B-2 Hwy Business use Motor vehicle repair shops and service centers is permitted

2. **Setbacks** The minimum setbacks are: 35 foot front (Velp Ave), 10 foot side and 15 foot rear. The proposed site plan is in compliance.

3. **Parking** 162 stalls have been provided. 8 parking spaces have been added to the site. Plus 76 overflow spaces on the riders edge course

4. **Floodplain, Shoreland Zoning & Stormwater Management**
(Not applicable)

5. **Land Division** A Certified Survey Map (CSM) has been completed and is on file.

6. **Lighting** N/A

7. **Fire Protection** This property is currently served by the municipal water system and is located approximately.5 from the nearest fire station.

8. **Signage** N/A

9. **Garbage/Recycling** The proposed garbage/recycling area is to be located on the east side of the new parking lot

POLICY ALTERNATIVE(S)

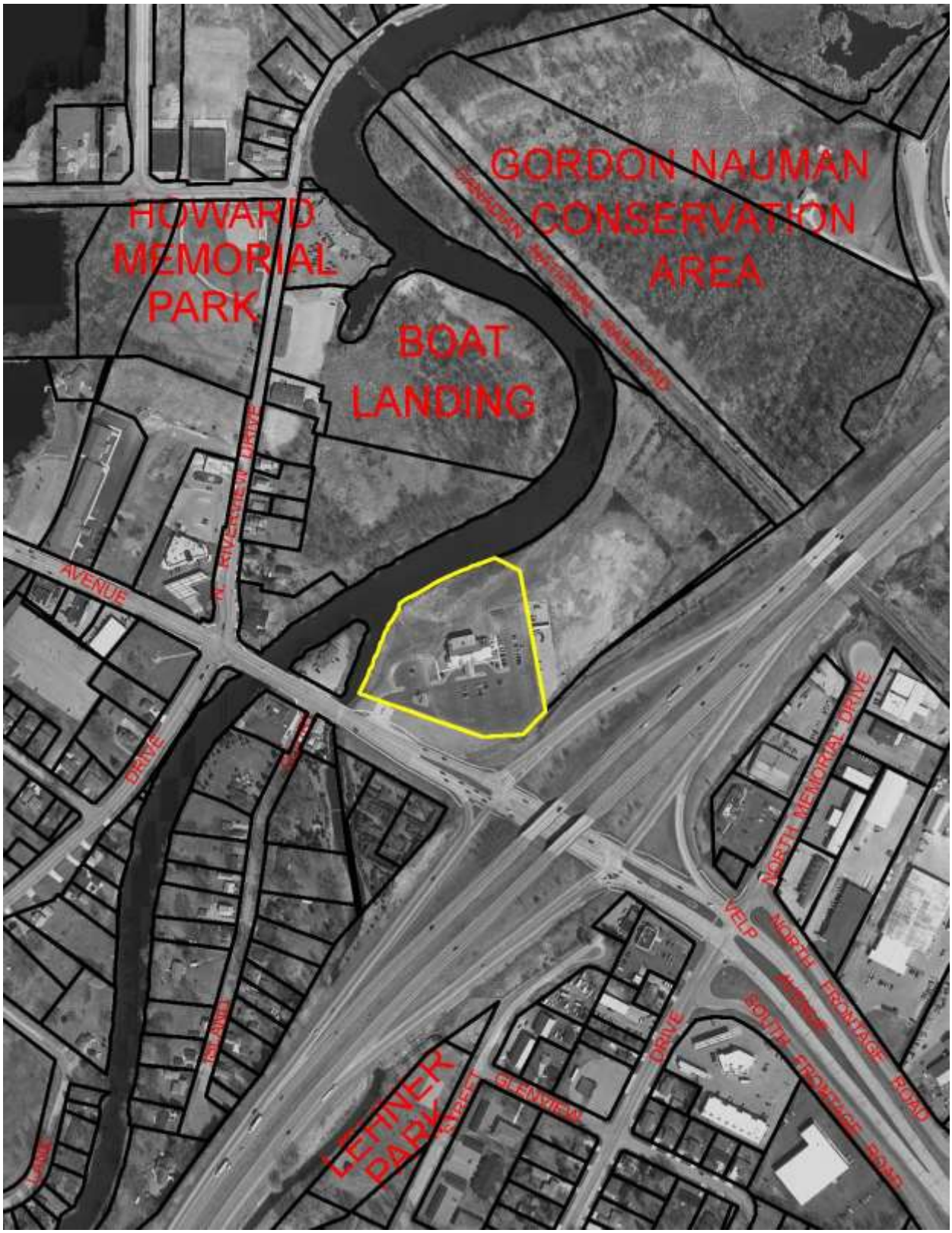
The Plan Commission could take the following action:

- Approve the request without conditions.
- Approve the request with conditions.
- Deny the request
- Table the request until a later meeting date

ATTACHMENTS

I Plat map of property
II Site Plan

ATTACHMENT I



PROPOSED SITE IMPROVEMENTS FOR:

VANDERVEST HARLEY DAVIDSON

1966 VELP AVE
VILLAGE OF HOWARD , WISCONSIN

SHEET INDEX

ARCHITECTURAL

PROJECT INFORMATION

PROJECT: VANDERVEST

ADDRESS: 1966 VELP AVE
VILLAGE OF HOWARD

USE: MERCANTILE , ASSEMBLY, STORAGE & BUSINESS

ZONING B-2

OWNER: ERIC VANDERVEST
1966 VELP AVE
VILLAGE OF HOWARD

CONTACT: ERIC VANDERVEST

DESIGNERS OF RECORD:

ARCHITECTURAL
FISHER & ASSOCIATES
ARCHITECTS / PLANNERS
215 PETERLYNN DRIVE
WEIGHTSTOWN, WI 54180
P.(920) 532-9199
F.(920) 532-9119

CONTACT: RICK FISHER

STRUCTURAL ENGINEERS:
LARSON ENGINEERING OF WISCONSIN
2801 ENTERPRISE AVE
APPLETON, WISCONSIN 54913
P.(920) 734-9867
F.(920) 734-9880

CONTACTS: BRIAN ENDTER

OCCUPANCY SI & B (NON-SEPARATED)
TYPE OF CONSTRUCTION: VB (WOOD FRAMED UNPROTECTED)
NON SPRINKLED

OCCUPANT LOAD:
CALCULATED LOAD 30
SEE PLAN

B USE: 20
SI USE: 10

EGRESS WIDTH REQUIRED
.2"/ OCCUPANT NON-SPRINKLED

40X.2=8"

EXIT ACCESS TRAVEL DISTANCE
250' PER TABLE 1004.2.4

TOILET FACILITIES PER TABLE 2902.1

ALLOWABLE AREA PER FLOOR
ASSEMBLY FI, SI & B NON-SEPARATED

PROJECT AREA

STORAGE BUILDING	5816 S.F.
VIEWING PLATFORM	450 S.F.

FIRE FIGHTING APPARATUS
THE BUILDING IS LIMITED IN AREA
THE FIRE LANE IS UNOBSTRUCTED

THE FIRE LANE IS WITHIN 150 ' OF ALL PARTS OF THE EXTERIOR WALL WITH A MIN. UNOBSTRUCTED HEIGHT OF 13'-6"

THE BUILDING IS 27'-8" TALL AT RIDGE

CONTROL AREAS
NO HAZARDOUS MATERIALS WILL BE STORED WITHIN THIS BUILDING PER TABLES 307.7(1) AND 307.7 (2)

GRADE PLAN DETERMINATION
THE GREATEST HGT. FROM GRADE TO TOP OF WALL IS 31'-0"
ALLOWABLE HEIGHT PER TABLE 503 IS 55'

NUMBER OF STORIES (1)
THIS BUILDING HAS ONE FLOOR LEVELS

RELEASED FOR SITE PLAN APPROVAL 10/9/12

REVISIONS:

FISHER & ASSOCIATES, LLC
Architects / Planners
215 PETERLYNN DRIVE WRIGHTSTOWN, WI 54180
Ph.(920) 532-9199 Fax (920) 532-9119
rfisher@fisherandassociatesllc.com

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PROPOSED SITE IMPROVEMENTS FOR
VANDERVEST HARLEY DAVIDSON
1966 VELP AVE
VILLAGE OF HOWARD WISCONSIN

DRAWN BY: RJF

CHK'D BY: RJF

JOB NUMBER: 13055

DATE: 9/30/13

C1.0

ARCHITECTURAL ABBREVIATIONS

A
A.B. ANCHOR BOLT
AC.FLR. ACCESS FLOOR
ACOUS. ACOUSTIC
ADA AMERICANS WITH DISABILITIES ACT
ADD. ADDENDUM
ADDL. ADDITIONAL
ADJ. ADJUSTABLE
ADJ. ADJACENT
ADMIN. ADMINISTRATION
A.F.F. ABOVE FINISHED FLOOR
AHU AIR HANDLING UNIT
ALT. ALTERNATE
ALUM. ALUMINUM
AMEND. AMENDMENT
ANNUN. ANNUNCIATOR
AP ACCESS PANEL
APPROX. APPROXIMATE
ARCH. ARCHITECTURAL
ATC ACOUSTIC TILE CEILING
AUTO. AUTOMATIC

B
BUL.BD. BULLETIN BOARD
BD. BOARD
BG BUMPER GUARD
BIT. BITUMINOUS
BKT. BRACKET
BLDG. BUILDING
BLKG. BLOCKING
BM. BEAM
BOT. BOTTOM
BRG. BEARING
BSMT. BASEMENT
BUL. BULLETIN

C
CAB. CABINET
CCTV CLOSED CIRCUIT TELEVISION
CD COILING DOOR
CEIL. CEILING
CG CORNER GUARD
CH COAT HOOK
C.J. CONSTRUCTION JOINT
CLG. CEILING
CLR. CLEAR
CM CONSTRUCTION MANAGER
CMU CONCRETE MASONRY UNITS
CO CLEAN-OUT
COL. COLUMN
COMB. COMBINATION
CONC. CONCRETE
CONF. CONFERENCE
CONN. CONNECTION
CONST. CONSTRUCTION
CONT. CONTINUOUS
CONTR. CONTRACTOR
COORD. COORDINATE
CORR. CORRIDOR
CPT. CARPET
CT CERAMIC TILE
CTR. CENTER
CTSK. COUNTERSINK
CUH CABINET UNIT HEATER
CW COLD WATER
CYL. CYLINDER

D
DEMO. DEMOLITION
DEPR. DEPRESSION
DEPT. DEPARTMENT
DTLS. DETAILS
DF DRINKING FOUNTAIN
DIA. DIAMETER
DIAG. DIAGONAL
DIFF. DIFFUSER
DIM. DIMENSION
DISP. DISPENSER
DIST. DISTRIBUTION
DIV. DIVISION
DN DOWN
DP. DEEP
DR. DOOR
DR. DRIVE
DS DOWNSPOUT
DW DISHWASHER
DWG. DRAWING
DWLS. DOWELS

E
E ELECTRIC
EA EXHAUST-AIR
EA. EACH
EC ELECTRICAL CABINET
EF EXHAUST FAN
EL. ELEVATOR
ELEC. ELECTRICAL
ELEV. ELEVATION
EMERG. EMERGENCY
ENCL. ENCLOSURE
ENTR. ENTRANCE
EO ELECTRICAL OUTLET
EP ELECTRIC PANEL
EQ. EQUAL
EQUIP. EQUIPMENT
EWC ELECTRIC WATER COOLER
EX. EXISTING
EXC. EXCAVATE
EXH. EXHAUST
EXIST. EXISTING
EXP. EXPANSION
EXT. EXTERIOR

F
FA FIRE ALARM
FB FIRE BLANKET
FD FIRE DAMPER
FD FLOOR DRAIN
FDN. FOUNDATION
FE FIRE EXTINGUISHER
FEC FIRE EXTINGUISHER CABINET
FH FIRE HOSE
FHC FIRE HOSE CABINET
FIN. FINISH
FIXT. FIXTURE
FLR. FLOOR
FLASH. FLASHING
FLEX. FLEXIBLE
FLG. FLANGE
FLUOR. FLUORESCENT
FM FACTORY MUTUAL
FP FIREPROOF
FRMG. FRAMING
FS FLOOR SINK
FT. FOOT/FEET
FTG. FOOTING
FTN. FOUNTAIN
FUT. FUTURE

G
G GAS
GA. GAUGE
GALV. GALVANIZED
GB GRAB BAR
GBC GENERAL BUILDING CONTRACTOR
GEN. GENERAL
GENER. GENERATOR
GL. GLASS
GR. GRADE
GYP. GYPSUM

H
H. HIGH
HB HOSE BIBB
HD HAND DRYER
HDCP. HANDICAP
HDR. HEADER
HDWD. HARDWOOD
HDWR. HARDWARE
HGT. HEIGHT
HM HOLLOW METAL
HORIZ. HORIZONTAL
HTR. HEATER
HVAC HEATING VENTILATING AIR-CONDITIONING
HW HOT WATER

I
I.D. INSIDE DIAMETER
IN. INCH
INSUL. INSULATION
INT. INTERIOR
ISO. ISOLATION

J
JAN. JANITOR
JB JUNCTION BOX
JST. JOIST
JT. JOINT

K
KO KNOCK OUT
KS KNEE SPACE
KW KILOWATT

L
L. LAVATORY
LAM. LAMINATE
LAV. LAVATORY
LB. POUND
LIN. LINEAR
LKR. LOCKER
LL LEAD LINED
LLH LONG LEG HORIZONTAL
LLV LONG LEG VERTICAL
LP LIGHT POLE
LVR. LOUVER

M
MAN. MANUAL
MATL. MATERIAL
MAX. MAXIMUM
MECH. MECHANICAL
MEMB. MEMBRANE
MTL. METAL
MEZZ. MEZZANINE
MFG. MANUFACTURING
MFR. MANUFACTURER
MH MANHOLE
MIN. MINIMUM
MIR. MIRROR
MISC. MISCELLANEOUS
M.O. MASONRY OPENING
MTD. MOUNTED

N
N/A NOT APPLICABLE
NEC NATIONAL ELECTRIC CODE
NIC NOT IN CONTRACT
NO. NUMBER
NOM. NOMINAL
NRC NOISE REDUCTION COEFFICIENT
NTS NOT TO SCALE

O
O.C. ON CENTER
O.D. OUTSIDE DIAMETER
OFF. OFFICE
OH. OVERHEAD
OPER. OPERATOR
OPNG. OPENING
OPP. OPPOSITE
ORD OVERFLOW ROOF DRAIN

P
PART. PARTITION
PB PASS BOX
PC PRECAST
PD PENCIL DRAWER
PH PANIC HARDWARE
PL. PLATE
PLAM. PLASTIC LAMINATE
PLAS. PLASTIC
PLAST. PLASTER
PLMB. PLUMBING
PLWD. PLYWOOD
PNL. PANEL
PR. PAIR
PRELIM. PRELIMINARY
PRV POWER ROOF VENTILATOR
PTN. PARTITION
PVC POLYVINYL CHLORIDE

Q
QT QUARRY TILE

R
R RADIUS
R. RISER
RA RETURN-AIR
RD ROOF DRAIN
REBAR REINFORCING ROD
REC. RECESSED
REF. REFERENCE
REFRIG. REFRIGERATOR
REINF. REINFORCING
REQD. REQUIRED
RET. RETAINING
REV. REVISION
RH ROOF HATCH
RM. ROOM
RO ROUGH OPENING
R&S ROD AND SHELF

S
S. SINK
SCHED. SCHEDULE
SD SMOKE DAMPER
SECT. SECTION
SF SQUARE FOOT/FEET
SH. SHELF
SHR. SHOWER
SHT. SHEET
SHTG. SHEATHING
SIM. SIMILAR
SPEC. SPECIFICATION
SQ. SQUARE
SS STAINLESS STEEL
SS STORM SEWER
ST. STAINLESS
ST. STREET
STD. STANDARD
STL. STEEL
STOR. STORAGE
STRUCT. STRUCTURAL
STWD. SOFTWOOD
SUPV. SUPERVISOR
SUSP. SUSPENDED
SW. SWITCH

T
T TOILET
T. TREAD
TAN. TANGENT
TC TIME CLOCK
TEL. TELEPHONE
TEMP. TEMPERED
TEMP. TEMPERATURE
TERR. TERRAZZO
T&G TONGUE AND GROOVE
THRES. THRESHOLD
TLT. TOILET
TRANS. TRANSFORMER
TS TUBE STEEL
TV TELEVISION
TYP. TYPICAL

U
UC UNDERCUT
UCR UNDERCOUNTER REFRIGERATOR
UL UNDERWRITERS LABORATORIES
UNFIN. UNFINISHED
UNO UNLESS NOTED OTHERWISE
UR. URINAL
UTIL. UTILITY

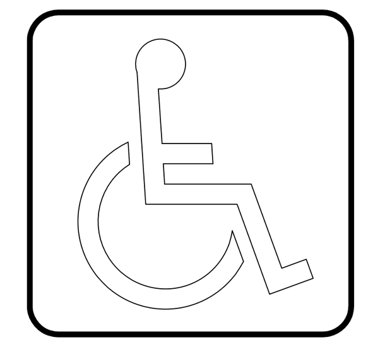
V
V VENT
VCT VINYL COMPOSITION TILE
VENT. VENTILATION
VERT. VERTICAL
VEST. VESTIBULE
VNL. VINYL
VTR VENT THROUGH ROOF
VWC VINYL WALL COVERING

W
W. WIDE
W/ WITH
W/O WITHOUT
WC WATER CLOSET
WD. WOOD
WDW. WINDOW
WF WIDE FLANGE
WGT. WEIGHT
W.H. WATER HEATER
WHCR. WHEELCHAIR
WP WATERPROOF
WS WEATHERSTRIP
WSCT. WAINSCOT
W.W.F. WELDED WIRE MESH

X
XFMR. TRANSFORMER

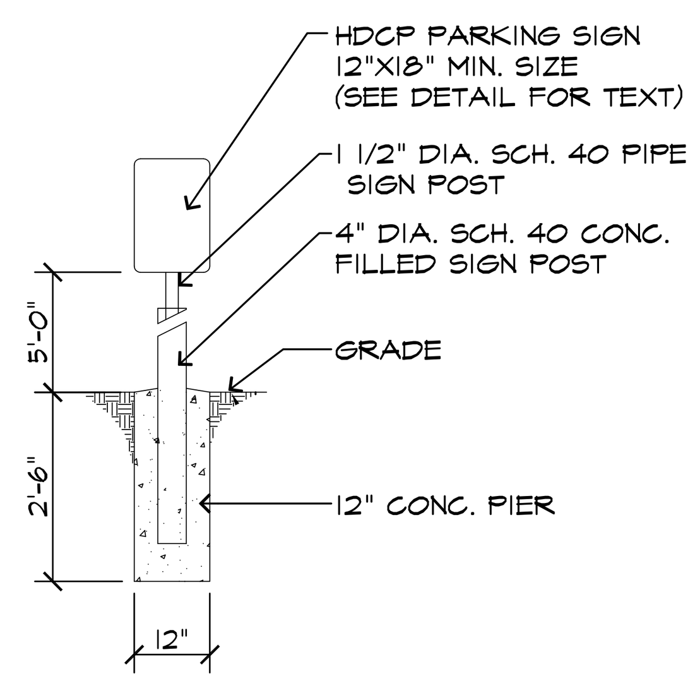
Y
YD. YARD

< ANGLE
@ AT
CL CENTER LINE
[CHANNEL

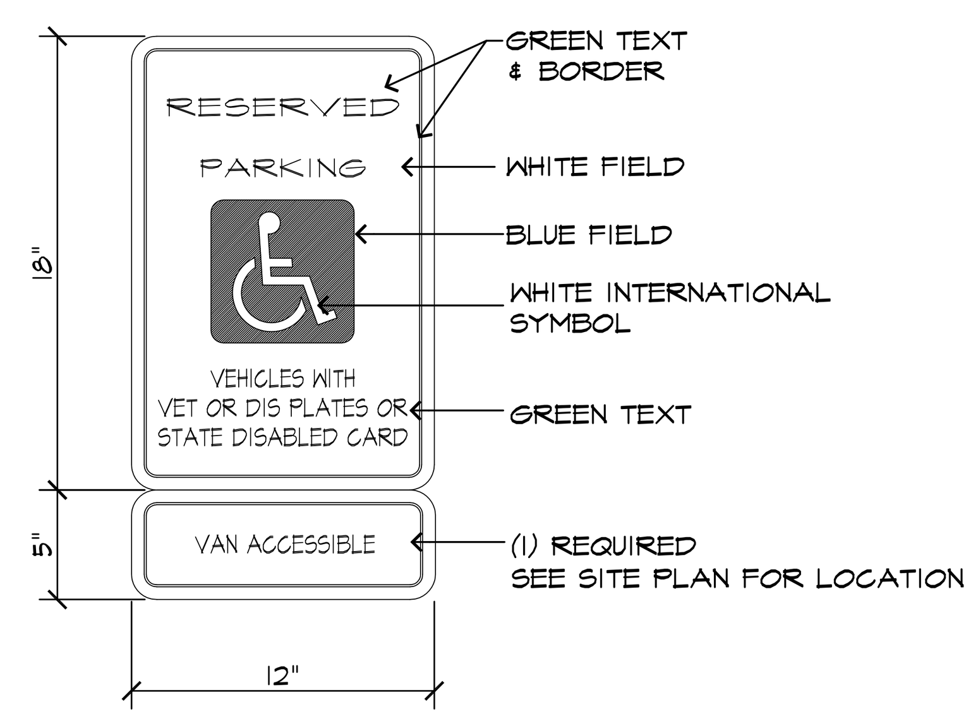


INTERNATIONAL SYMBOL OF ACCESSIBILITY

IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO INSTALL (WHERE SHOWN HEREON), BARRIER FREE PARKING SIGNS IN CONFORMITY TO WISCONSIN ADMINISTRATIVE CODE: TRANS #200.07



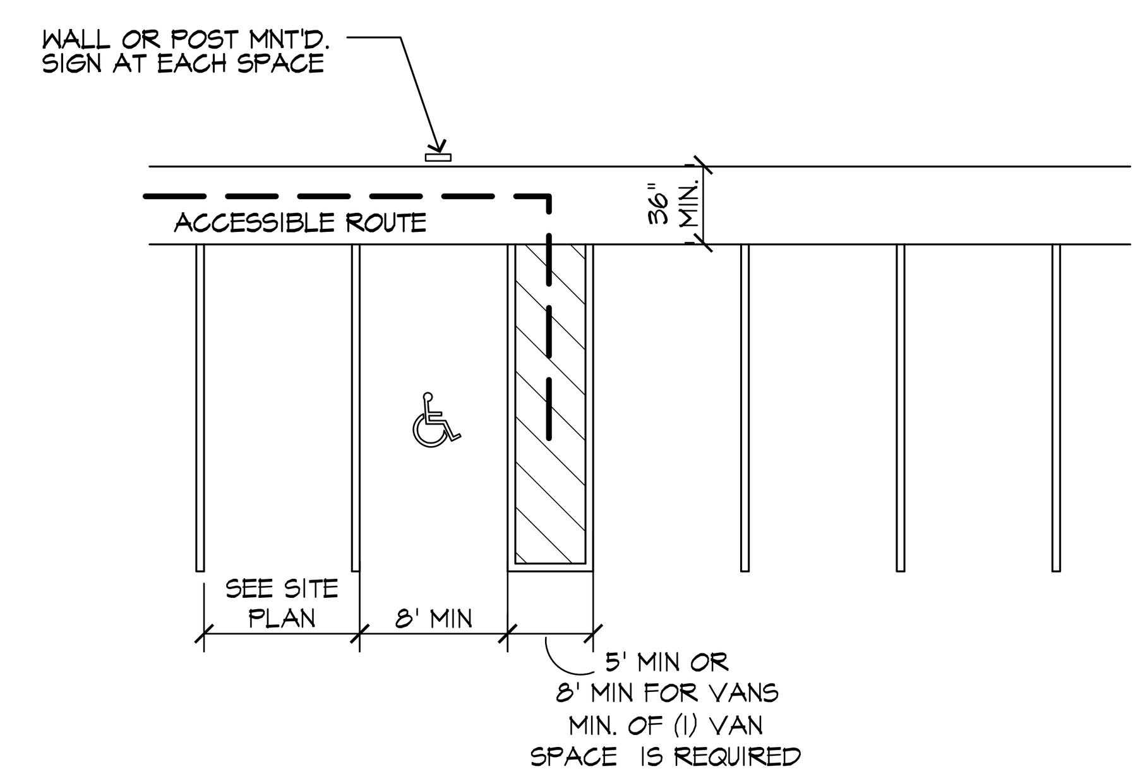
SIGN POST DETAIL



PARKING SIGN DETAIL

HANDICAP PARKING SIGN DETIALS

NOT TO SCALE

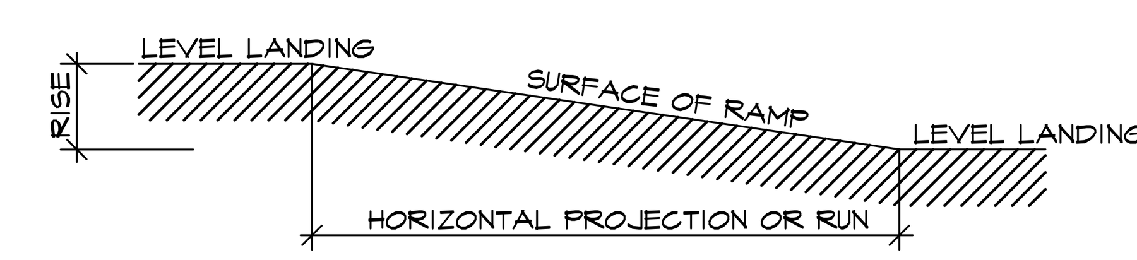


HANDICAPPED PARKING SPACES

THE MAXIMUM SLOPE AT PARKING SPACES IS 1:50 (4.6.2)

4.8.1* GENERAL.
ANY PART OF AN ACCESSIBLE ROUTE WITH A SLOPE GREATER THAN 1:20 SHALL BE CONSIDERED A RAMP AND SHALL COMPLY WITH 4.8.

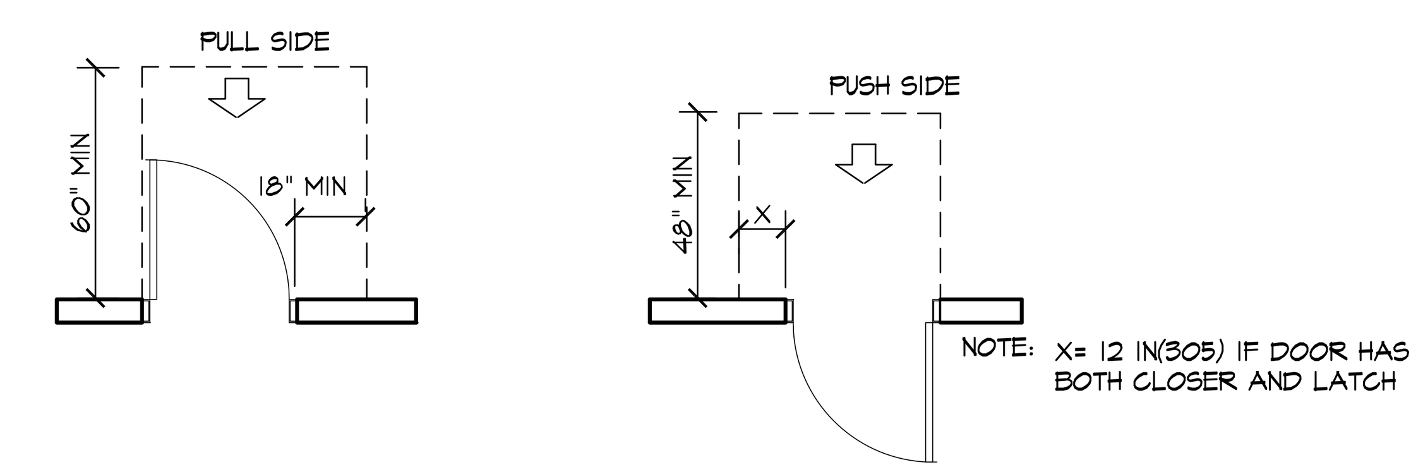
4.8.2* SLOPE AND RISE.
THE LEAST POSSIBLE SLOPE SHALL BE USED FOR ANY RAMP. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION SHALL BE 1:12. THE MAXIMUM RISE FOR ANY RUN SHALL BE 30 IN.(760MM) (SEE FIG. 16,). CURB RAMPS AND RAMPS TO BE CONSTRUCTED ON EXISTING SITES OR IN EXISTING BUILDINGS OF FACILITIES MUST HAVE SLOPES AND RISES AS ALLOWED IN 4.1.6(3)(A) IF SPACE LIMITATIONS PROHIBIT THE USE OF A 1:12 SLOPE OR LESS.



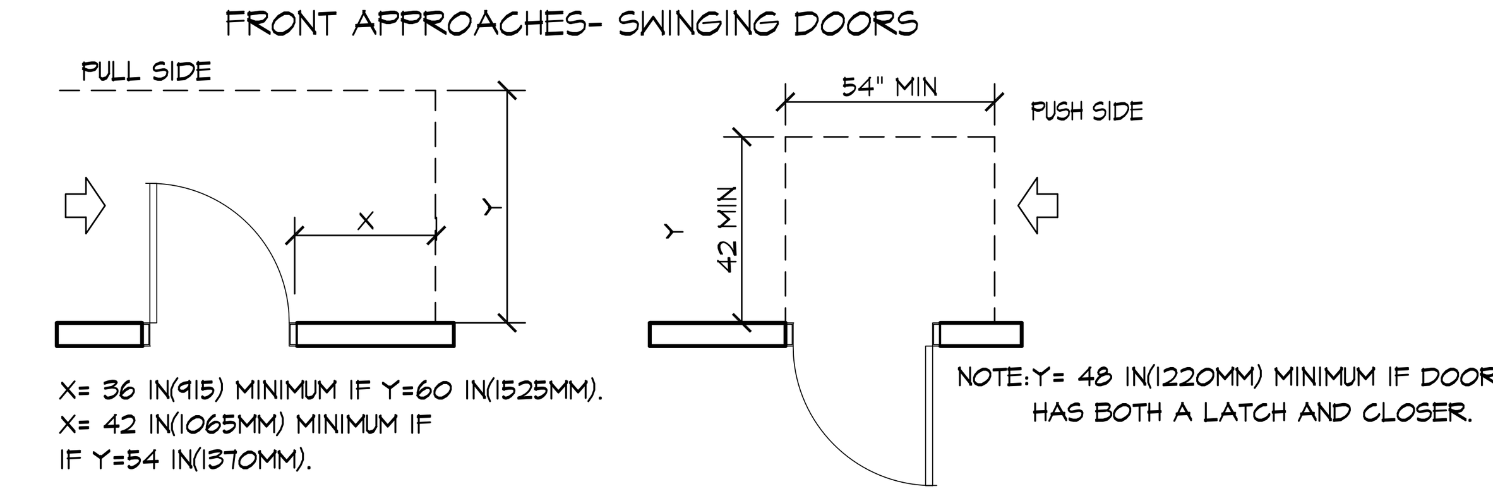
	MAXIMUM RISE	MAXIMUM HORIZONTAL PROJECTION
SLOPE	IN.	FT.
1:12 TO 1:16	30	30
1:16 TO 1:20	30	40

SINGLE RAMP RUN

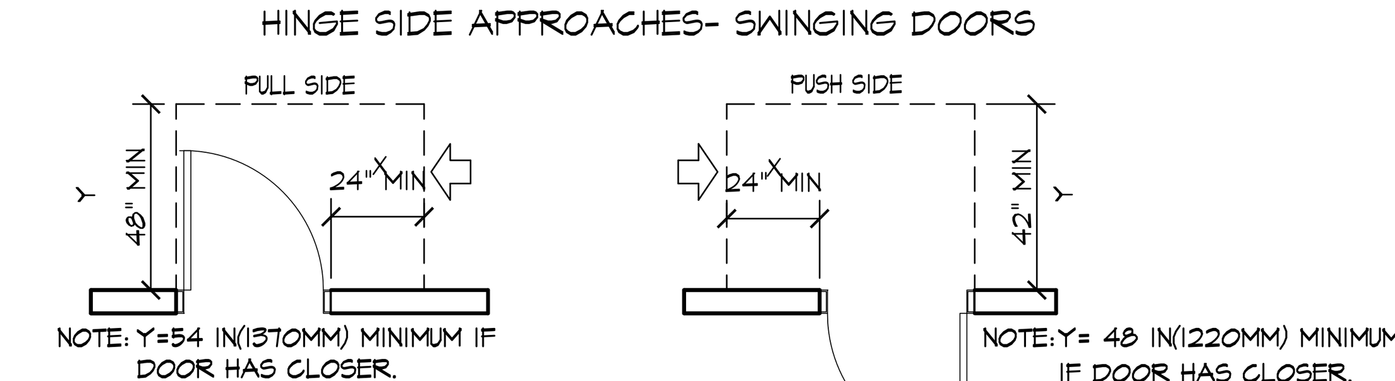
NO SCALE



FRONT APPROACHES- SWINGING DOORS



HINGE SIDE APPROACHES- SWINGING DOORS

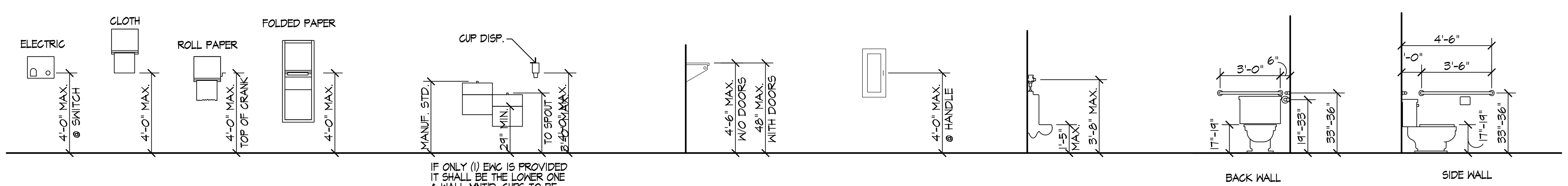


LATCH SIDE APPROACHES- SWINGING DOORS

NOTE: ALL DOORS IN ALCOVES SHALL COMPLY WITH THE CLEARANCE FOR FRONT APPROACHES

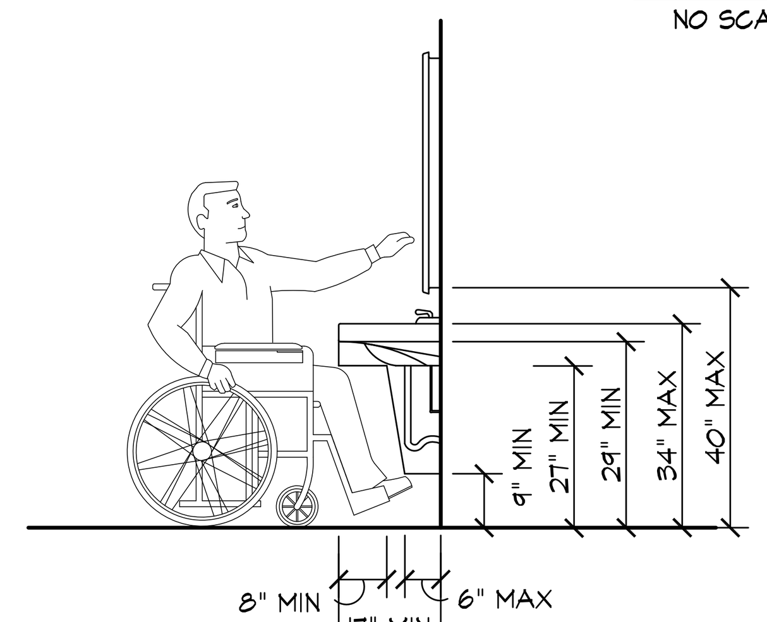
MANEUVERING CLEARANCES AT DOORS

NO SCALE

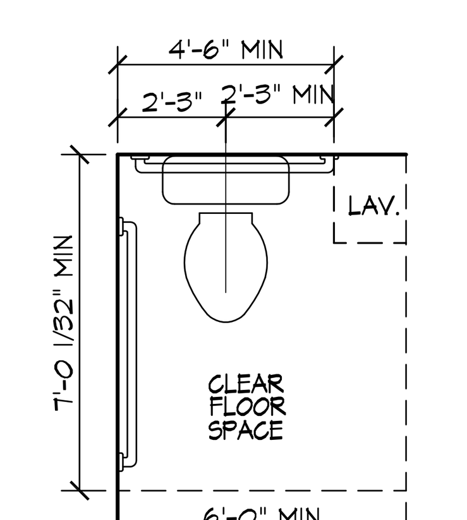


TOILET & BUILDING ACCESSORY MOUNTING HEIGHTS & CLEARANCES

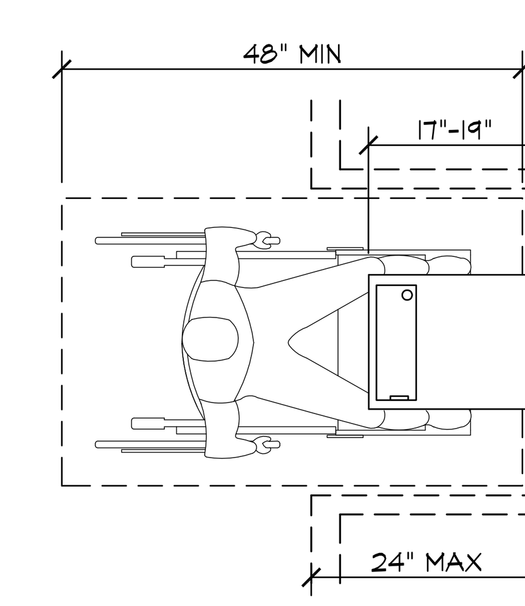
NOT TO SCALE



LAVATORY CLEARANCES



CLEAR FLOOR SPACE AT WATER CLOSET



CLEAR FLOOR SPACE

REVISIONS:

FISHER & ASSOCIATES, LLC
Architects / Planners
215 PETERLYNN DRIVE WRIGHTSTOWN, WI 54180
Ph.(920) 532-4144 Fax (920) 532-4114
rfisher@fisherandassociatesllc.com

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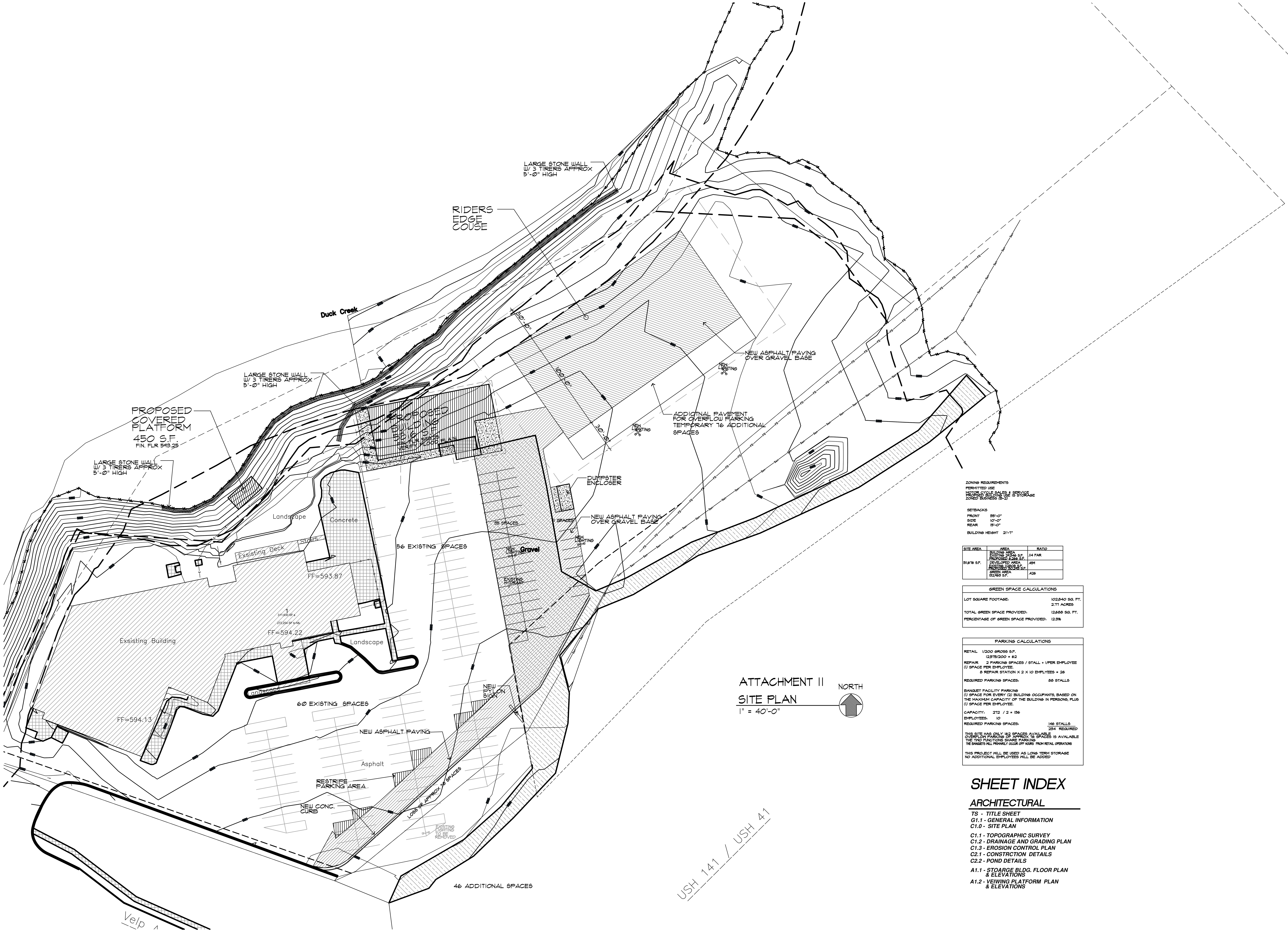
VANDERVEST HARLEY DAVIDSON
1966 VELP AVE
VILLAGE OF HOWARD
WISCONSIN

DRAWN BY: RJF
CHK'D BY: RJF
JOB NUMBER: 13055
DATE: 10/8/13

G1.1



ATTACHMENT II

SITE PLAN

1" = 40'-0"

ZONING REQUIREMENTS

PERMITTED USE

MOTOR CYCLE SALES & SERVICE
PROPSED BUILDING USE IS STORAGE
ZONED BUSINESS (B-2)

SETBACKS

FRONT 35'-0"
SIDE 10'-0"
REAR 15'-0"

BUILDING HEIGHT 21'-7"

SITE AREA	AREA	RATIO
311,676 S.F.	BUILDING AREA EXISTING 29,346 S.F. PROPOSED 6,266 S.F.	.114 FAR
	DEVELOPED AREA EXISTING 112808 S.F. PROPOSED 30,293 S.F.	.459
	GREEN AREA 132,963 S.F.	.426

GREEN SPACE CALCULATIONS	
LOT SQUARE FOOTAGE:	102,840 SQ. FT. 2.77 ACRES
TOTAL GREEN SPACE PROVIDED:	12,688 SQ. FT.
PERCENTAGE OF GREEN SPACE PROVIDED:	12.3%

PARKING CALCULATIONS

RETAIL 1/200 GROSS S.F.
12,575/200 = 62

REPAIR 2 PARKING SPACES / STALL + 1/PER EMPLOYEE
(1) SPACE PER EMPLOYEE.
8 REPAIR STATION X 2 X 10 EMPLYEES = 26

REQUIRED PARKING SPACES: 88 STALLS

BANQUET FACILITY PARKING
(1) SPACE FOR EVERY (2) BUILDING OCCUPANTS, BASED ON THE MAXIMUM CAPACITY OF THE BUILDING IN PERSONS, PLUS (1) SPACE PER EMPLOYEE.

CAPACITY: 272 / 2 = 136
EMPLOYEES: 10
REQUIRED PARKING SPACES: 146 STALLS
234 REQUIRED

THIS SITE HAS ONLY 162 SPACES AVAILABLE
OVERFLOW PARKING OF APPROX 76 SPACES IS AVALABLE
THE TWO FUNCTIONS SHARE PARKING
THE BANQUETS WILL PRIMARILY OCCUR OFF HOURS FROM RETAIL OPERATIONS

THIS PROJECT WILL BE USED AS LONG TERM STORAGE
NO ADDITIONAL EMPLOYEES WILL BE ADDED

SHEET INDEX

ARCHITECTURAL

REVISIONS:

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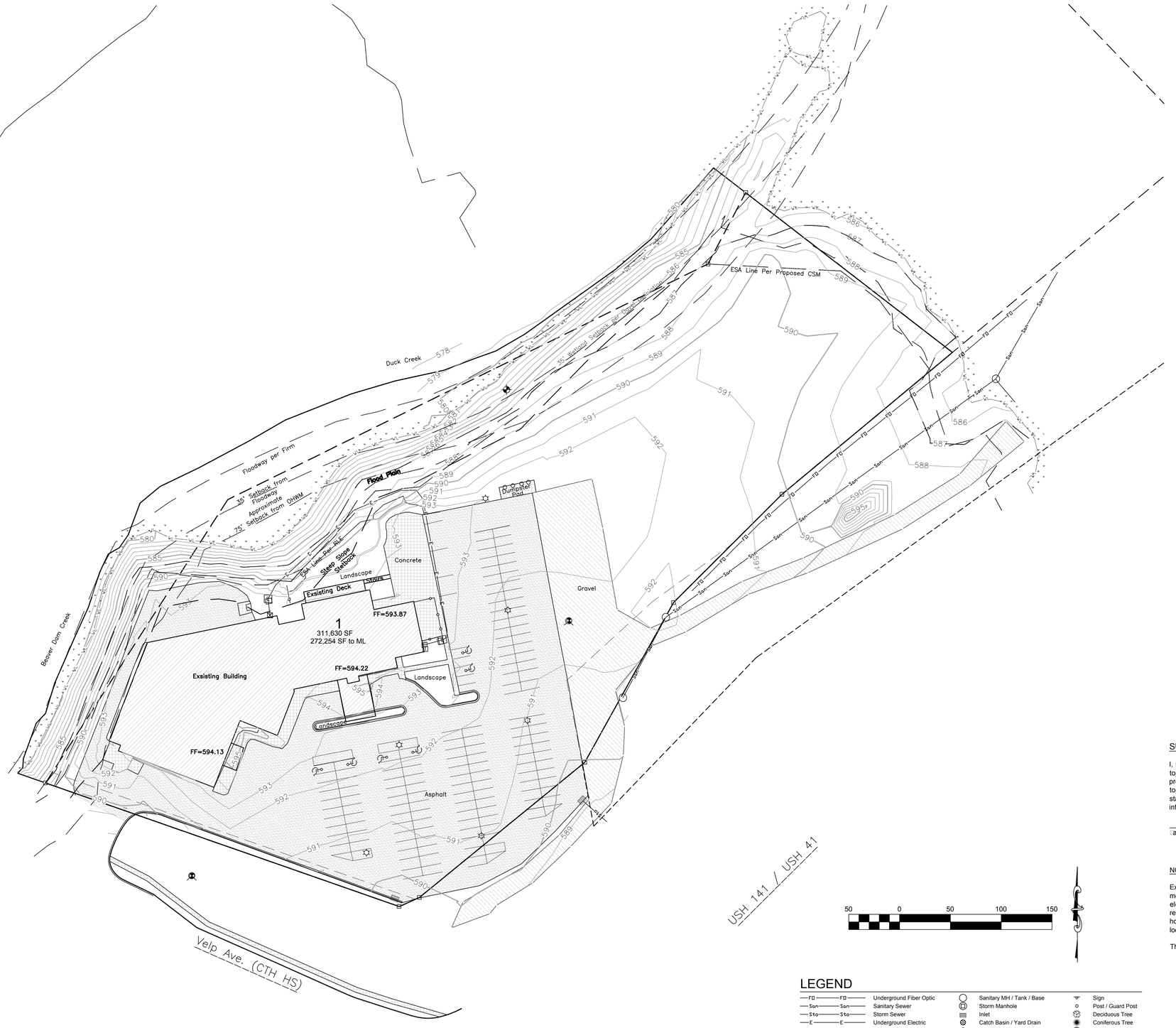
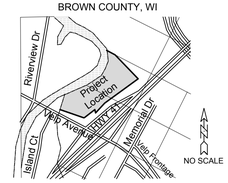


LOCATION MAP

VILLAGE OF HOWARD
BROWN COUNTY, WI



50 0 50 100 150

LEGEND

FO FO	Underground Fiber Optic		Sanitary MH / Tank / Base		Sign
San San	Sanitary Sewer		Storm Manhole		Post / Guard Post
Sto Sto	Storm Sewer		Inlet		Deciduous Tree
E E	Underground Electric		Catch Basin / Yard Drain		Coniferous Tree
W W	Water Main		Hydrant		Bush / Hedge
Fence - Steel			Utility Valve		Marsh
Fence - Wood			Utility Meter		Soil Boring
WL WL WL	Wetlands		Light Pole / Signal		Benchmark
	Treeline		Electric Pedestal		Asphalt Pavement
	Culvert	E	Electric Transformer		Concrete Pavement
800	Index Contour		Telephone Pedestal		
799	Intermediate Contour	+799.9	Ex Spot Elevation		

SURVEYOR'S CERTIFICATE

I, James R Sehloff, hereby certify that I have surveyed this property and this topographical map is a true representation thereof and shows the size and location of the property and the location of all apparent roadways. I hereby certify that said topographical survey and map were made in accordance with acceptable professional standards and that the information contained thereon is, to the best of my knowledge, information and belief, a true and accurate representation thereof.

James R Sehloff, Wisconsin Registered Land Surveyor No. S-2692 Date

NOTES

Existing utilities shown are indicated in accordance with available records and field measurements. The contractor shall be responsible for obtaining exact locations & elevations of all utilities, including sewer & water from the the property owners of the respective utilities. All utility the property owners shall be notified by the contractor 72 hours prior to excavation. Contact Digger's Hotline (1-800-242-8511) for exact utility locations.

This is not a boundary survey.

TOPOGRAPHIC SURVEY

DAVEL ENGINEERING & ENVIRONMENTAL, INC.
CIVIL ENGINEERING CONSULTANTS
1811 Racine Street Menasha, WI 54952
Ph: 920-991-1866 Fax: 920-830-9595
www.davel.pro

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Architects / Planners
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rfisher@fisherandassociatesllc.com

PROJECT:
PROPOSED SITE IMPROVEMENTS FOR
VANDERVEST HARLEY DAVIDSON
1966 VELP AVE
VILLAGE OF HOWARD
WISCONSIN

DRAWN BY: JRS
CHK'D BY:
JOB NUMBER: 4116Topo.dwg
DATE: 10/8/2013

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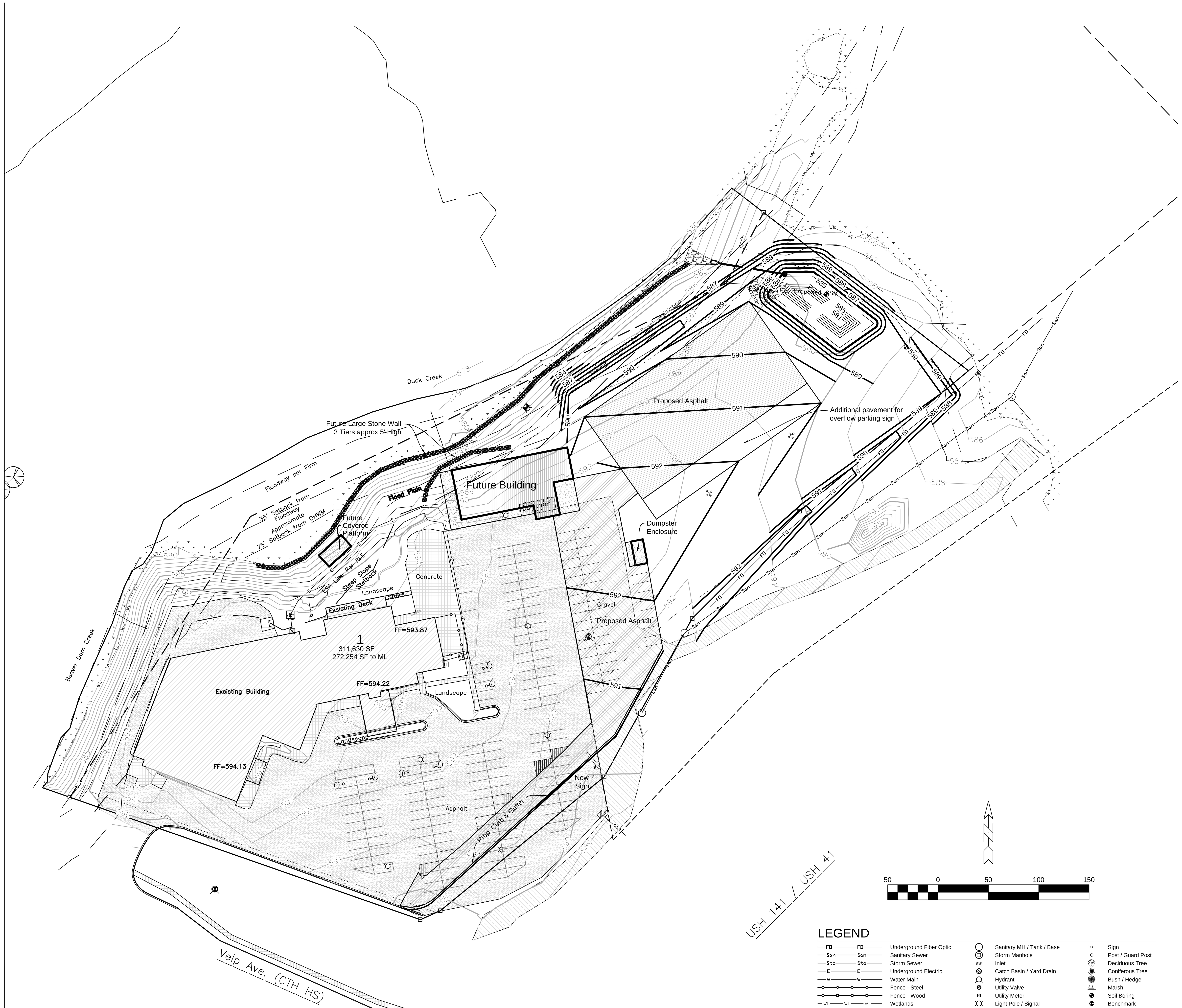
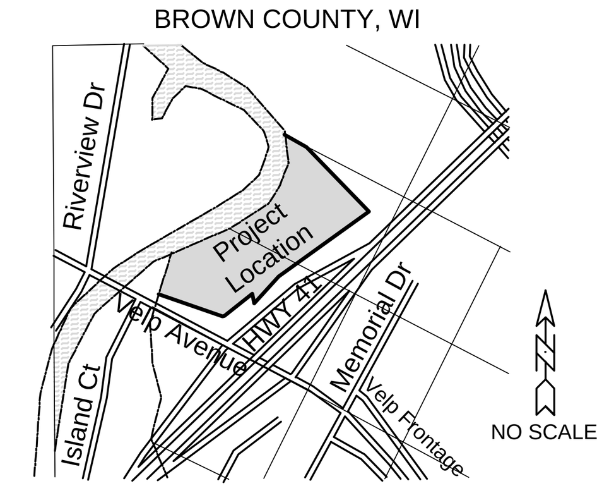


LOCATION MAP

VILLAGE OF HOWARD
BROWN COUNTY, WI



NOTES:

1. Existing utilities shown are indicated in accordance with available records and field measurements. The contractor shall be responsible for obtaining exact locations & elevations of all utilities, including sewer and water from the owners of the respective utilities. All utility owners shall be notified by the contractor 72 hours prior to excavation. Contact Digger's Hotline (1-800-242-8511) for exact utility locations.
2. The Contractor shall verify all staking and field layout against the plan and field conditions prior to constructing the work and immediately notify the Engineer of any discrepancies.
3. Silt fence shall be installed at the toe of all newly constructed fill slopes and shall be maintained until slope vegetation is established. Silt fence shall be installed prior to site grading.
4. Inlet protection shall be installed around the upstream end of new culvert pipes and inlets, in accordance with Wisconsin DOT Standard Detail Drawing 8E10-2.
5. Stone access shall be provided to the construction site. Tracking of mud on existing streets shall be cleaned up daily.
6. Vegetation beyond slopes shall remain.
7. The contractor shall minimize the area disturbed by construction as the project is constructed. Disturbed areas shall be seeded as soon as final grade is established. Contractor shall replace topsoil and then seed, fertilize and mulch all lawn areas within 1 week of topsoil placement.
8. Contractor shall remove all excess materials from the site. Earthwork contractors shall verify topsoil depth.
9. All sediment and erosion control devices and methods shall be in accordance with the Wisconsin DNR Technical Standards.
10. The contractor shall make weekly inspections and inspections within 1 day of any rainfall exceeding 0.5 inches of the sediment and erosion control devices throughout construction. The contractor shall repair or maintain erosion control devices as necessary. The inspection reports shall be made available to the owner at the end of the construction or upon demand during construction.
11. The outside services are shown to stop at a point 5 feet outside the foundation wall. The Contractor shall be responsible for coordination of continuation of the services into the building to properly coincide with the interior plumbing plans, and compliance with all plumbing permits.
12. Contractor is responsible for compliance with Department of Safety & Professional Services, Chapter SPS 382, for lateral construction and cleanout locations.
13. Updated survey and title search have not been authorized and the boundary and easements shown may be inaccurate or incomplete.
14. Parking lot striping shall be 4" painted safety yellow.

DRAINAGE PLAN CERTIFICATION:

I, John R. Davel, Professional Engineer, hereby certify that this Drainage Plan will meet or exceed the requirements of the requirements of the Village of Howard.

John R. Davel, P.E. E-25512 Date

LEGEND

Underground Fiber Optic	Sanitary MH / Tank / Base	Sign
Sanitary Sewer	Storm Manhole	Post / Guard Post
Storm Sewer	Inlet	Deciduous Tree
Underground Electric	Catch Basin / Yard Drain	Coniferous Tree
Water Main	Hydrant	Bush / Hedge
Fence - Steel	Utility Valve	Marsh
Fence - Wood	Utility Meter	Soil Boring
Wetlands	Light Pole / Signal	Benchmark
Treeline	Electric Pedestal	Asphalt Pavement
Culvert	Electric Transformer	Concrete Pavement
800 Index Contour	Telephone Pedestal	
799 Intermediate Contour	+799.9 Ex Spot Elevation	
Proposed Storm Sewer	Proposed Storm Manhole	
608 Proposed Contour	Proposed Curb Inlet	
Proposed Swale	Prop. Catch Basin / Yard Drain	
Proposed Culvert	Proposed Endwall	
×608.73 Prop. Flowline Spot Elev.	Proposed Rip Rap	
×608.73 TW Prop. Top of Walk Elev.	Prop. Drainage Direction	
+(608.7) Existing Grade	FF=000.0 Prop. Finished Floor Elev.	

DRAINAGE & GRADING PLAN

DAVEL ENGINEERING & ENVIRONMENTAL, INC.
CIVIL ENGINEERING CONSULTANTS
1811 Racine Street Menasha, WI 54952
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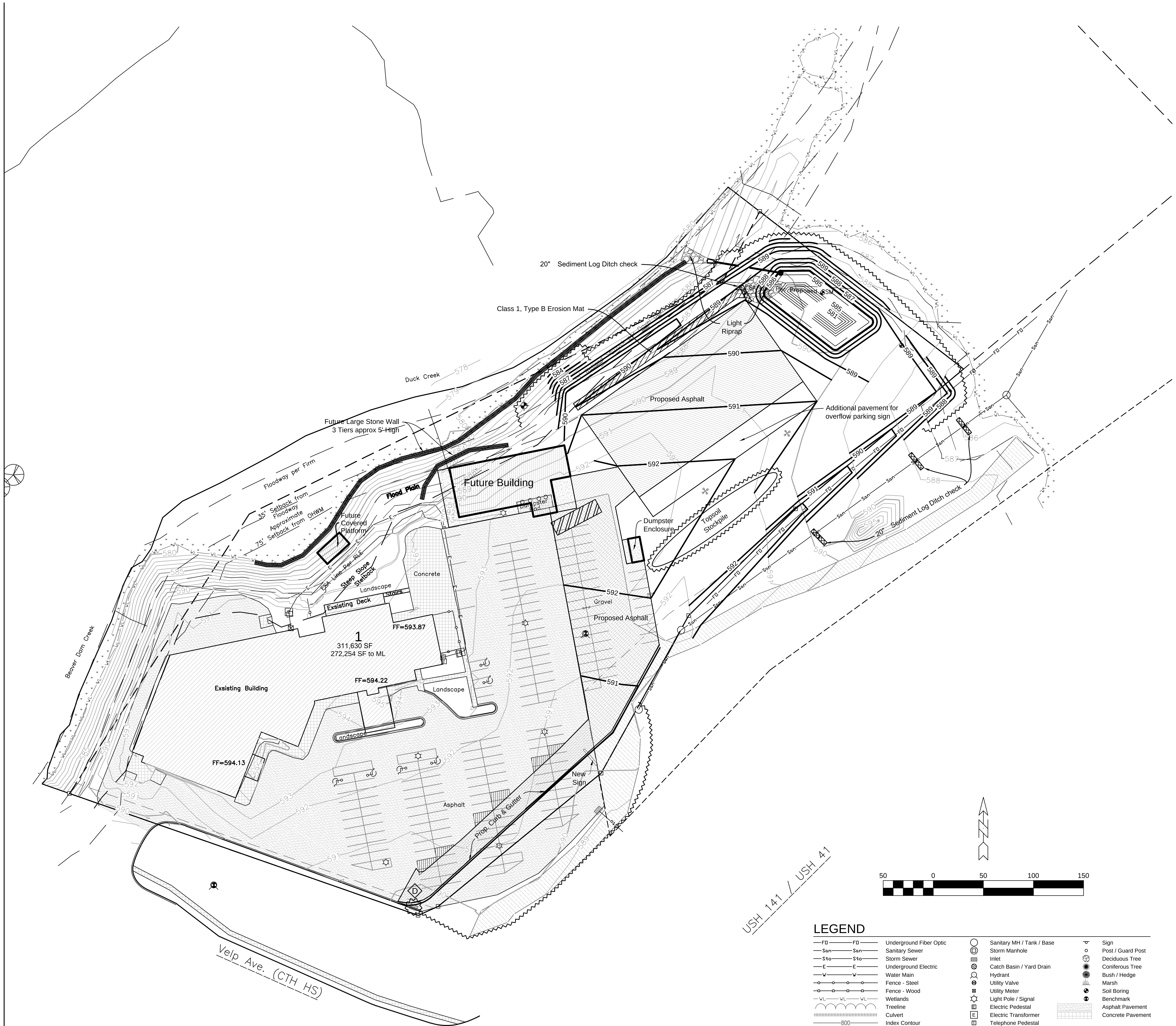
PROJECT:
PROPOSED SITE IMPROVEMENTS FOR
VANDERVEST HARLEY DAVIDSON
1966 VELP AVE
VILLAGE OF HOWARD
WISCONSIN

DRAWN BY: JRD
CHK'D BY:
JOB NUMBER: 4116Engr.dwg
DATE: 10/8/2013

C1.2



LEGEND

Underground Fiber Optic	Sanitary MH / Tank / Base
Sanitary Sewer	Storm Manhole
Storm Sewer	Inlet
Underground Electric	Catch Basin / Yard Drain
Water Main	Hydrant
Fence - Steel	Utility Valve
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Culvert	Electric Transformer
Index Contour	Telephone Pedestal
Intermediate Contour	Ex Spot Elevation
Proposed Storm Sewer	Proposed Storm Manhole
Proposed Contour	Proposed Curb Inlet
Proposed Swale	Prop. Catch Basin / Yard Drain
Proposed Culvert	Proposed Endwall
Proposed Silt Fence	Proposed Rip Rap
Prop. Drainage Direction	Prop. Sediment Log Ditch Check
Proposed Tracking Pad	Proposed Inlet Protection
	Type of Inlet Protection

Sign
Post / Guard Post
Deciduous Tree
Coniferous Tree
Bush / Hedge
Marsh
Soil Boring
Benchmark
Asphalt Pavement
Concrete Pavement

All erosion control practices shall be in place prior to disturbing the site. All sediment and erosion control devices and methods shall be in accordance with DNR Technical Standards and the WisDOT Erosion Control product acceptability lists (PAL). It is the responsibility of the Contractor to minimize the area disturbed and the duration of the disturbance. Erosion & sediment control measures shall be maintained on a continuing basis until the site is permanently stabilized. All applicable controls must be in place at the end of each work day. All off-site sediment deposits occurring as a result of construction work or a storm event shall be cleaned up at a minimum of the end of each day or as necessary. Flushing shall not be allowed.

1) Diverting Flow
   a) Permanent Diversion - Intended to divert runoff around disturbed areas to a location where the water can be discharged without adversely impacting the receiving area or channel. Permanent diversions will be used to route runoff to the detention area.
   b) Temporary Diversion - Intended to divert runoff around disturbed areas to a location where the water can be discharged without adversely impacting the receiving area or channel. Unlike a permanent diversion, the temporary diversion will be removed upon the completion of the project. Temporary diversions will be used upslope of any soil piles to reduce the amount of sediment transported. **All diversions shall be installed and maintained in accordance with DNR Technical Standard 1066.**
2) Overland Flow
   a) Silt Fence - Intended to provide a temporary barrier to the transportation of sediment offsite. Silt fence also reduces the velocity of sheet flow; thereby reducing the erosion potential of flowing water. Silt fencing is not to be used in areas of channelized flow and sediment deposits shall be removed when a 6 inch depth is reached. The silt fence shall be repaired or replaced as necessary to maintain a barrier. **All Silt Fence shall be installed and maintained in accordance with DNR Technical Standard 1056**. It will be placed at the following locations:
   i) along the site boundary where runoff will leave the site,
   ii) and at the toe of soil piles if the pile will remain in place for more than seven (7) days.
   b) Sediment Bale Barrier - Intended to intercept and detain small amounts of sediment from construction operations to prevent sediment from leaving the site. Sediment Bale Barriers are not to be used in areas of channelized flow. **All Sediment Bale Barriers shall be installed and maintained in accordance with DNR Technical Standard 1055**. Sediment Bale Barriers may be used in place of silt fence around soil stockpiles.
   c) Mulching and Erosion Mat - Intended to reduce the amount of erosion caused by raindrop impact, high overland and concentrated flow velocities and assist the establishment of both temporary and permanent vegetation. **All Erosion Mat shall be installed and maintained in accordance with DNR Technical Standards 1052 and 1053 and all Mulching with DNR Technical Standard 1058**. In addition to mulching, Erosion Mat is required per plan with installation per manufacturer specifications.
   d) Seeding - Intended to provide a reduction of overland flow velocities and stabilize disturbed areas. Seeding will be used on all disturbed areas within seven days of the completion of the activity that will disturb the area. **All seeding shall be in accordance with DNR Technical Standard 1059**. Seed mixture 20 (per WisDOT Specifications, Section 630) shall be applied at 3.5 pounds per 1000 square feet for permanent seeding prior to September 15th. If required, temporary seeding shall consist of Oats, Rye, Winter Wheat, and/or Annual Ryegrass applied at rates and during the season specified by the Technical Standard but no later than November 1st. Sod placement may occur at anytime sod is available and the sod and soil are not frozen.
3) Trapping Sediment in Channelized Flow
   a) Ditch Checks - Intended to settle suspended sediment in channelized flow by reducing the flow velocity. **All Ditch Checks shall be installed and maintained in accordance with DNR Technical Standard 1062**. Ditch Checks will be used where indicated on the plan as 20-inch diameter sediment logs. Additional ditch checks may be required in areas where erosion is occurring.
4) Permanent Channel Stabilization
   a) Armored Waterway - Intended to establish a non-erosive lining in the channel to prevent erosion. This can be accomplished using riprap. Riprap will be used in the following areas:
   i) drainage swales and pipe outfalls as indicated on the plans;
   b) Vegetated Waterway - Intended to establish permanent vegetation to reduce the velocity of concentrated runoff thereby protecting the waterway from erosion. The type of erosion mat used will depend upon the velocity of the runoff in the channel and are specified in accordance with DOT Erosion Control Product Acceptability Lists (PAL). Vegetated waterways will be used in the following areas:
   i) drainage swales as indicated on the plans;
5) Inlet Protection Barriers - Intended to prevent the sedimentation of storm water conveyance structures. **All Inlet Protection Barriers shall be installed and maintained in accordance with DNR Technical Standard 1060**. As required, inlet protection barriers will be used at all storm sewer inlets as indicated on the plans.
6) Stone Tracking Pad - Intended to reduce the amount of sediment transported onto public roads. **The Tracking Pad shall be installed and maintained in accordance with DNR Technical Standard 1057**. The existing pavements will be utilized for tracking. Provide daily clean up of sediment on paved surfaces.
7) Dust Control - Intended to reduce surface to air transport of dust during construction. **Dust control shall be implemented with use of methods provided in DNR Technical Standard 1068.** These methods include the use of polymers, seeding, and mulch.
8) Dewatering BMP - Intended to reduce the amount of sediment conveyed due to dewatering practices. **Dewatering practices require compliance with DNR Technical Standard 1061.** The use of geotextile bags is required to prevent sedimentation with non-erosive discharge.
9) Waste Material - All onsite waste and construction materials shall be handled and disposed of properly. No pavement material, runoff from concrete washout, or other waste material is allowed to enter the storm sewer system or receiving waters.

Sequence of Construction

1) Obtain plan approval and other applicable permits
2) Install & maintain all erosion & sediment control measures: October 2013.
3) Demolition, utility work and detention basin construction: October-November 2013.
4) Site grading: October-November 2013.
5) Grade and gravel construction: November 2013.
6) Stabilize lawn and ditch areas no later than one week after final grade is established. No later than June 15, 2014.
7) Remove all temporary measures, topsoil critical areas, and establish vegetation. Water if necessary to establish healthy and well rooted vegetation.

Note: The dates provided are approximate and subject to weather conditions and overall project schedule. Several work items as listed above may occur simultaneously with others.

Maintenance Plan

The contractor is responsible for inspection and maintenance of sediment and erosion control measures until the project is completed. The inspections shall be made every seven days or within 24-hours of a rainfall event of 0.50-inch or greater. Any practices that are damaged or not working properly shall be repaired by the end of the day. Accumulated sediment shall be removed when it has reached a height of one-half the height of the structure. In addition, the following measures shall be taken:

1) All seeded areas will be re-seeded and mulched as necessary according to the specifications in the planned practices to maintain a vigorous, dense vegetated cover.
2) Remove silt fence and temporary structures only after final stabilization and vegetative cover is established.
3) Avoid the use of fertilizers and pesticides in or adjacent to channels or ditches.
4) Construction and waste materials shall be properly disposed.

Weekly inspection reports shall be maintained by the contractor. These reports shall document inspections and maintenance performed. The date and time of the inspections, the inspector's name, and the status of construction and any maintenance performed. Refer to Appendix C or the DNR website for a template; http://dnr.wi.gov/runoff/stormwater/constrforms.htm#forms . Upon request, the inspection reports shall be made available to the owner, the engineer, the Wisconsin Department of Natural Resources, or the Village of Howard.

EROSION CONTROL PLAN

DAVEL ENGINEERING & ENVIRONMENTAL, INC.
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1811 Racine Street Menasha, WI 54952
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WISCONSIN

DRAWN BY: JRD
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JOB NUMBER: 4116Engr.dwg
DATE: 10/8/2013

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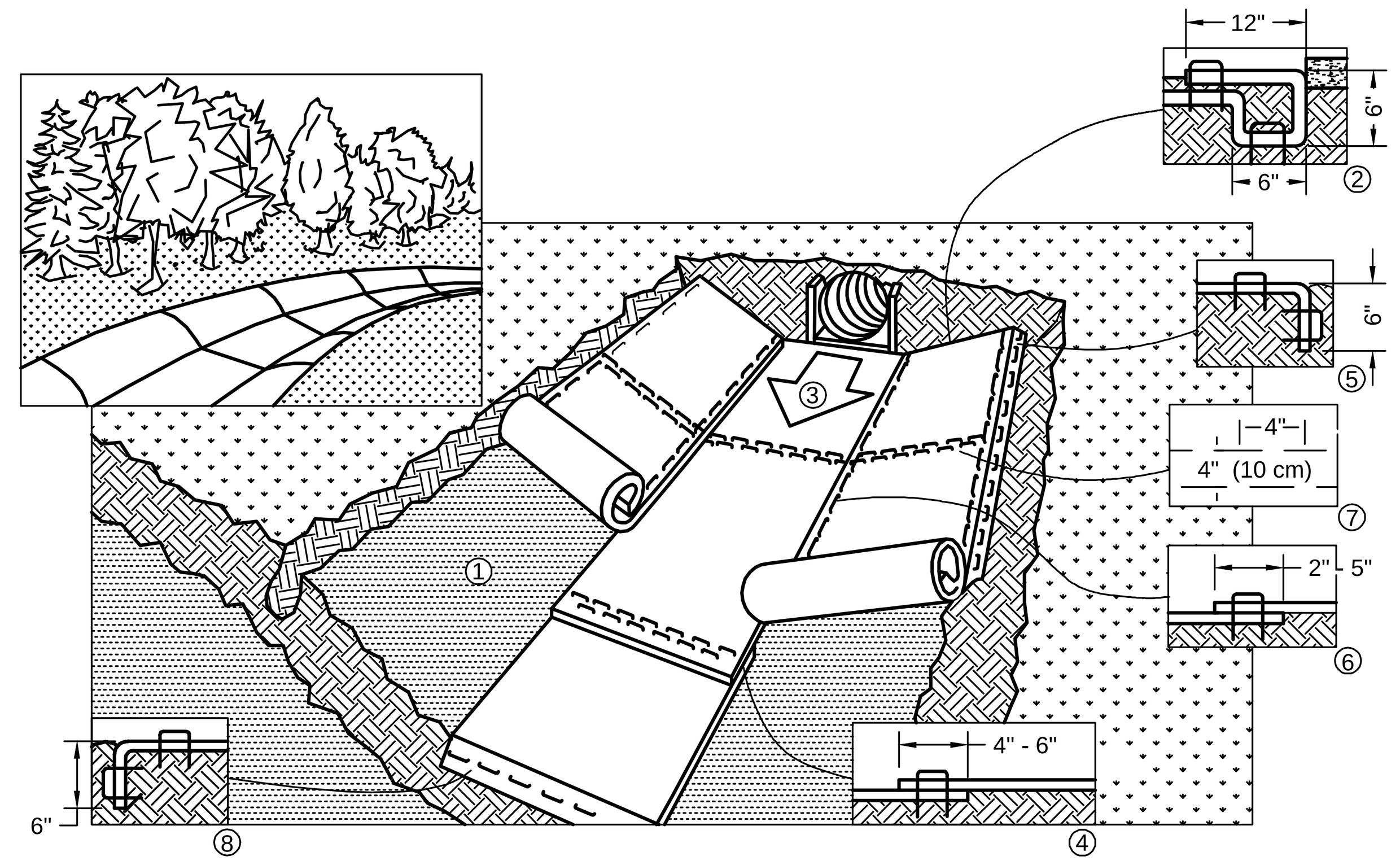
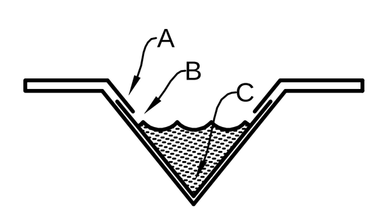


1. Prepare soil before installing Rolled Erosion Control Products (RECP's), including any necessary application of lime, fertilizer, and seed.
Note: When using cell-o-seed do not seed prepared area. Cell-o-seed must be installed with paper side down.
2. Begin at the top of the channel by anchoring the RECP's in a 6" (15 cm) deep x 6" (15 cm) wide trench with approximately 12" (30 cm) of RECP's extended beyond the up-slope portion of the trench. Anchor the RECP's with a row of staples/stakes approximately 12" (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to compacted soil and fold remaining 12" (30 cm) portion of RECP's back over seed and compacted soil. Secure RECP's over compacted soil with a row of staples/stakes spaced approximately 12" (30 cm) across the width of the RECP's.
3. Roll center RECP's in direction of water flow in bottom of channel. RECP's will unroll with appropriate side against the soil surface. All RECP's must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide. When using the DOT system, staples/stakes should be placed through each of the colored dots corresponding to the appropriate staple pattern.
4. Place consecutive RECP's end over end (shingle style) with a 4" - 6" (10 cm - 15 cm) overlap. Use a double row of staples staggered 4" (10 cm) apart and 4" (10 cm) on center to secure RECP's.
5. Full length edge of RECP's at top of side slopes must be anchored with a row of staples/stakes approximately 12" (30 cm) apart in a 6" (15 cm) deep x 6" (15 cm) wide trench. Backfill and compact the trench after stapling.
6. Adjacent RECP's must be overlapped approximately 2" - 5" (5cm - 12.5 cm) (depending on RECP's type) and stapled.
7. In high flow channel applications a staple check slot is recommended at 30 to 40 foot (9 M - 12 M) intervals. Use a double row of staples staggered 4" (10 cm) apart and 4" (10 cm) on center over entire width of the channel.
8. The terminal end of the RECP's must be anchored with a row of staples.stakes approximately 12" (30 cm) apart in a 6" (15 cm) deep x 6" (15 cm) wide trench. Backfill and compact the trench after stapling.
Note:
* In loose soil conditions, the use of staple or stake lengths greater than 6" (15 cm) may be necessary to properly anchor the RECP's.
9. Detail provided by North American Green (www.nagreen.com)

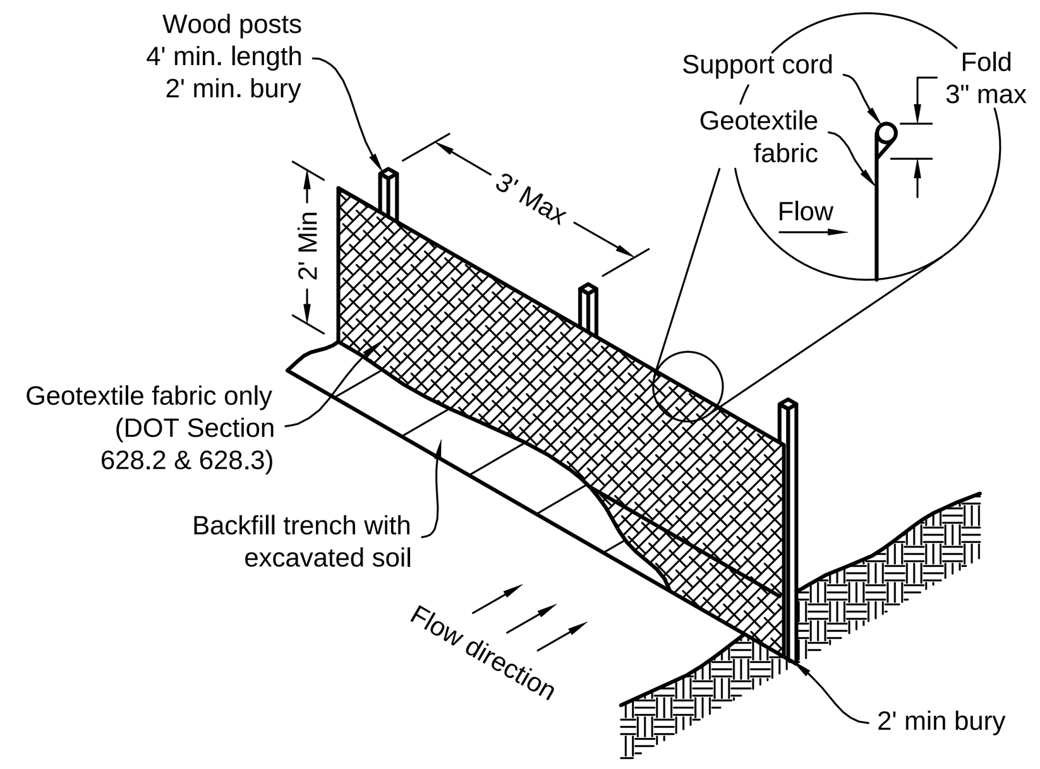


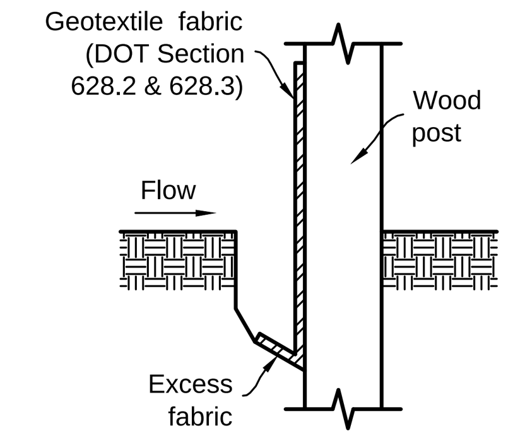
Critical Points
A. Overlaps and seams
B. Projected Water line
C. Channel Bottom/side slope vertices

Note:
* Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel surface.

** In loose soil conditions, the use of staple or stake lengths greater than 6" (15 cm) may be necessary to properly anchor the RECP's.

EROSION MAT CHANNEL INSTALLATION

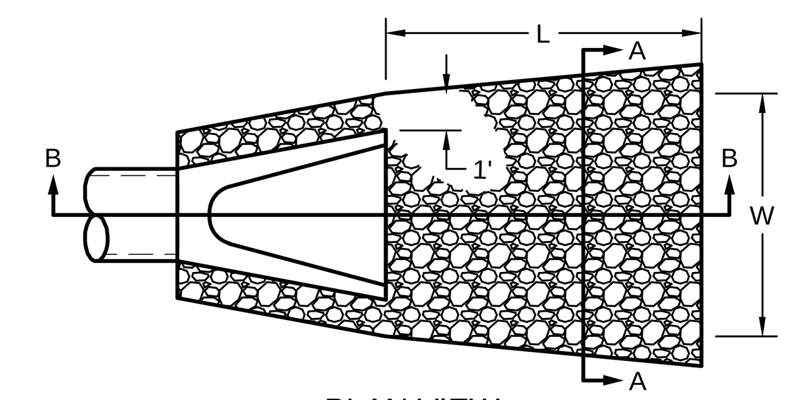




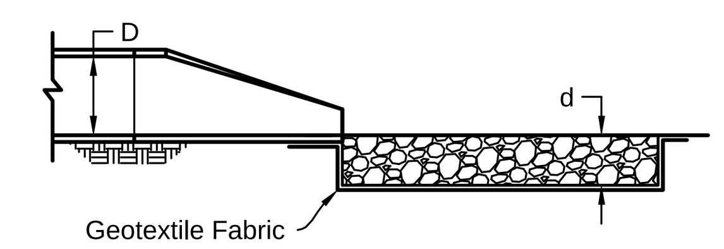
TRENCH DETAIL

Silt fence notes:
1. Detail of construction not shown on this drawings shall conform to criteria set by authorities having jurisdiction and by DNR Technical Standard 1056.
2. When possible, the silt fence should be constructed in an arc or horseshoe shape with the ends pointing upslope to maximize both strength and effectiveness.
3. Attach the fabric to the posts with wire staples or wooden lath and nails.
4. 8'-0" post spacing allowed if a woven geotextile fabric is used.
5. Trench shall be a minimum of 4" wide and 6" deep to bury and anchor the geotextile fabric. Fold material to fit trench and backfill and compact trench with excavated soil.
6. Geotextile fabric shall be reinforced with an industrial polypropylene netting with a maximum mesh spacing of 3/4" or equal. A heavy-duty nylon top support chord or equivalent is required.
7. Steel posts shall be studded "tee" or "u" type with a minimum weight of 128 lbs/lineal foot (without anchor). Fin anchors shall be a minimum size of 4" diameter or 1 1/2" x 3 1/2", except wood posts for geotextile fabric reinforced with netting shall be a minimum size of 1 1/8" x 1 1/8" oak or hickory.

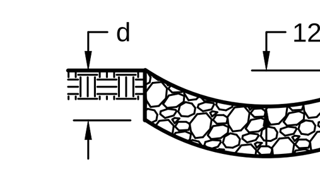
SILT FENCE INSTALLATION



PLAN VIEW



SECTION B-B

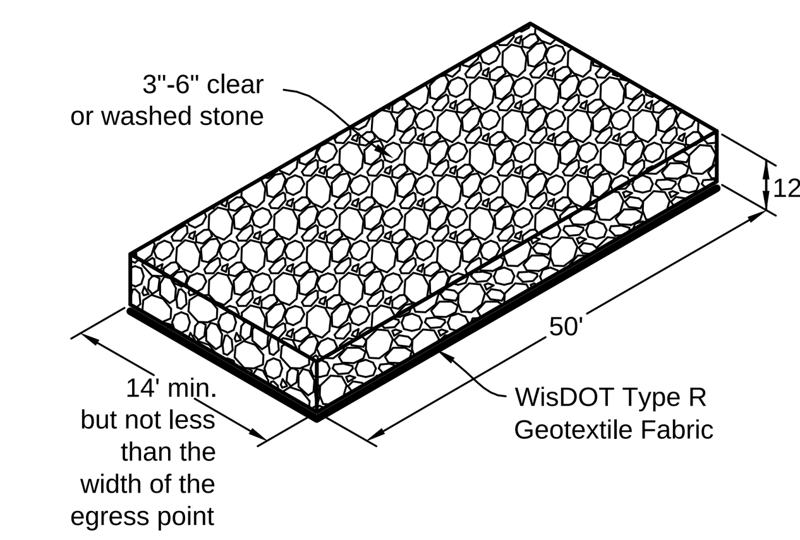


SECTION A-A

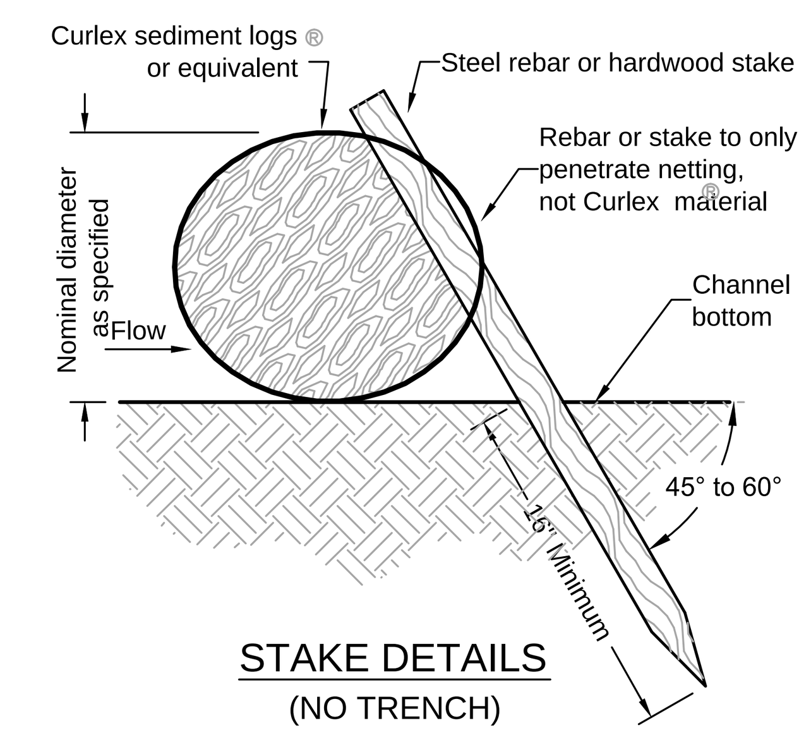
D	12"	15"	18"	21"	24"	30"	36"	42"	48"	54"	60"
L	10'	12'	18'	20'	20'	25'	28'	33'	37'	40'	45'
W	11'	13'	20'	22'	24'	28'	32'	38'	42'	45'	50'
d	12"	12"	12"	18"	18"	18"	24"	24"	24"	24"	24"
Riprap	Light	Light	Light	Med.	Med.	Med.	Heavy	Heavy	Heavy	Heavy	Heavy
cu yds	2.6	3.6	7.8	14.3	15.6	22.6	38.4	53.2	65.8	76.3	95.0

Notes:
1. Excavate below channel outlet and widen channel outlet to the required riprap thickness for each apron. Foundation to be set to zero grade and smoothed.
2. Place geotextile fabric on bottom and sides of prepared foundation. Fabric shall extend under endwall in accordance with DOT specifications. (DOT Section 628.2 & 628.3)
3. Exercise care in placement of riprap to avoid damage to filter fabric.
4. Use riprap conforming to Wisconsin DOT specifications. (DOT Section 606.2 & 606.3)
5. Use DOT Type R geotextile fabric for light riprap. Use Type HR for medium and heavy riprap. (DOT Section 606.2, 606.3, 628.2 & 628.3)
6. Use 12" dimension for pipes less than 12" in diameter.

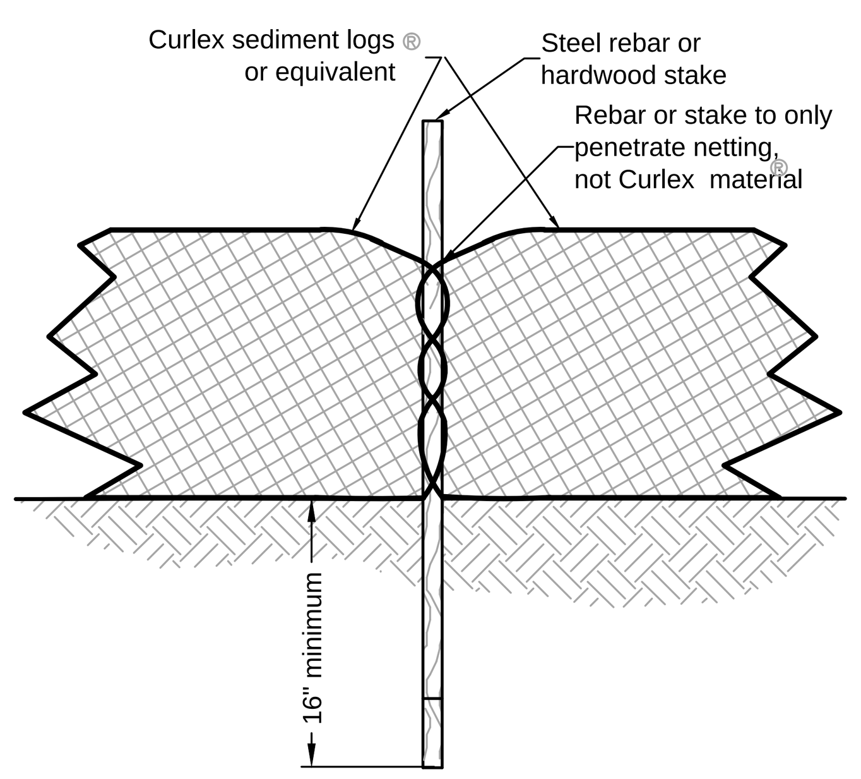
OUTLET PROTECTION



TRACKING PAD DETAIL

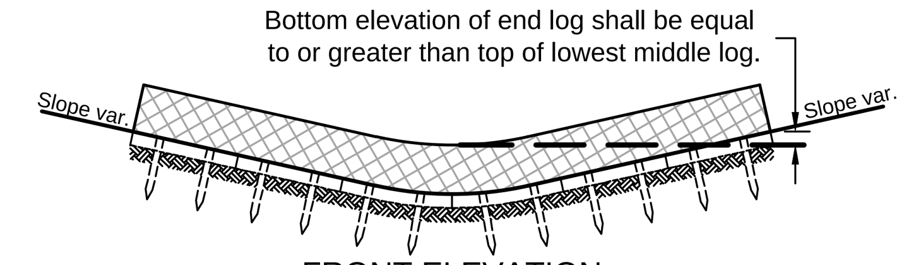


STAKE DETAILS
(NO TRENCH)



STAKE DETAIL
(FRONT VIEW)

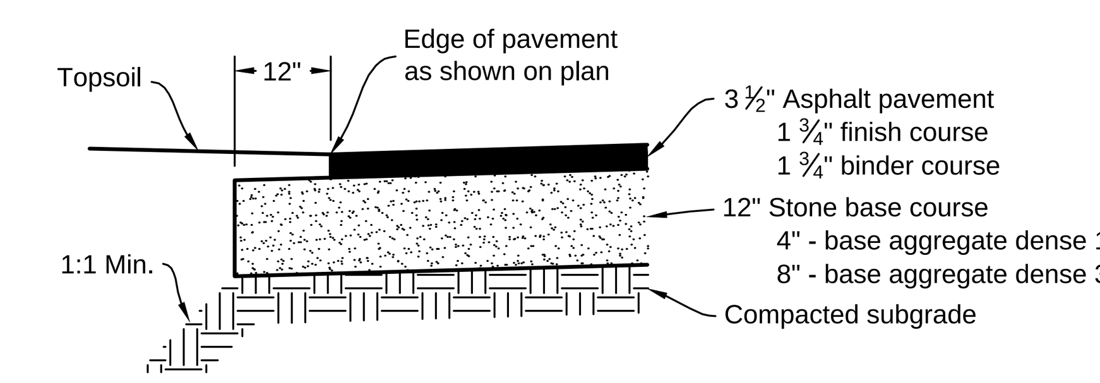
Bottom elevation of end log shall be equal to or greater than top of lowest middle log.



FRONT ELEVATION

NOTE:
Stake installation shall meet manufacturer's requirements in regard to spacing, material, size, and bury depth.

SEDIMENT LOG DETAIL



PAVEMENT SECTION

GENERAL NOTES:
Inlet protection devices shall be maintained or replaced at the direction of the engineer.

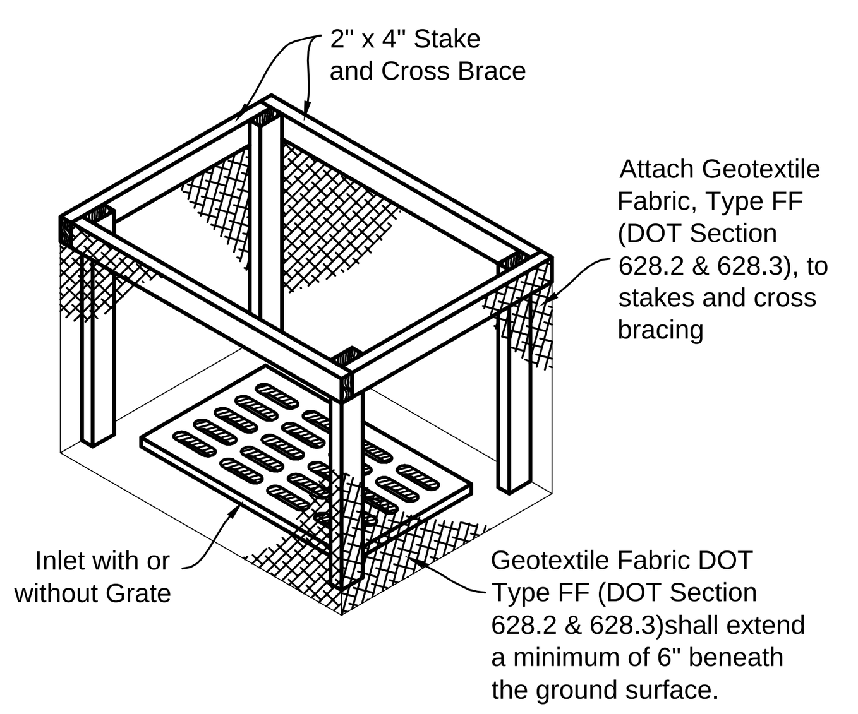
Manufactured alternatives approved and listed on the DOT Erosion Control Product Acceptability list may be substituted.

When removing or maintaining inlet protection, care shall be taken so that the sediment trapped on the geotextile fabric does not fall into the inlet. Any material falling into the inlet shall be removed immediately.

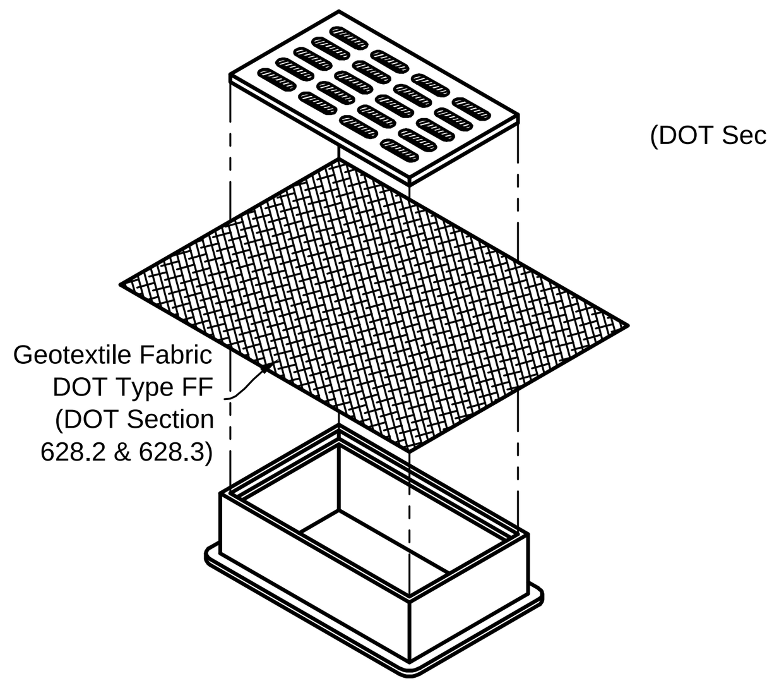
1. Finished size, including flap pockets where required, shall extend a minimum of 10" around the perimeter to facilitate maintenance or removal.

2. For inlet protection, Type C (with curb box), an additional 10" of fabric is wrapped around the wood and secured with staples. The wood shall not block the entire height of the curb box opening.

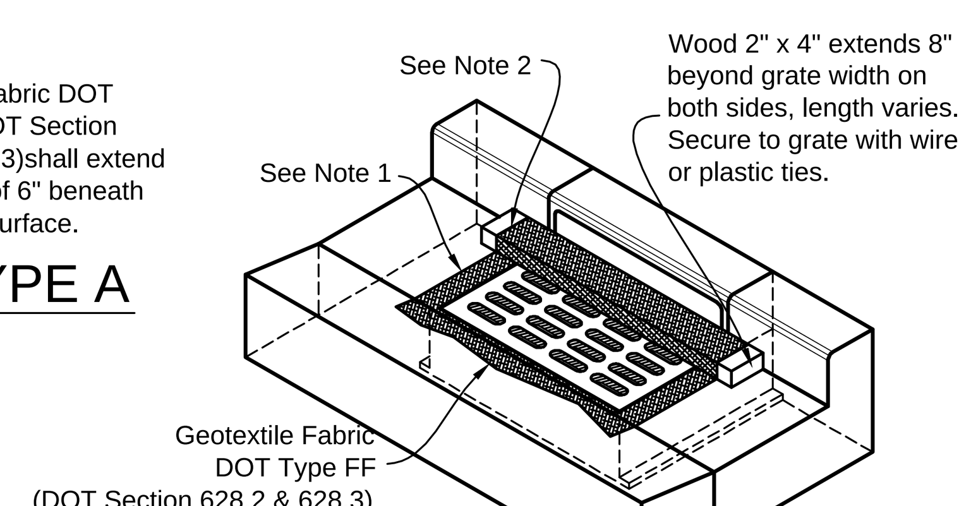
3. Flap pockets shall be large enough to accept wood 2x4.



INLET PROTECTION, TYPE A



INLET PROTECTION, TYPE B
(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C

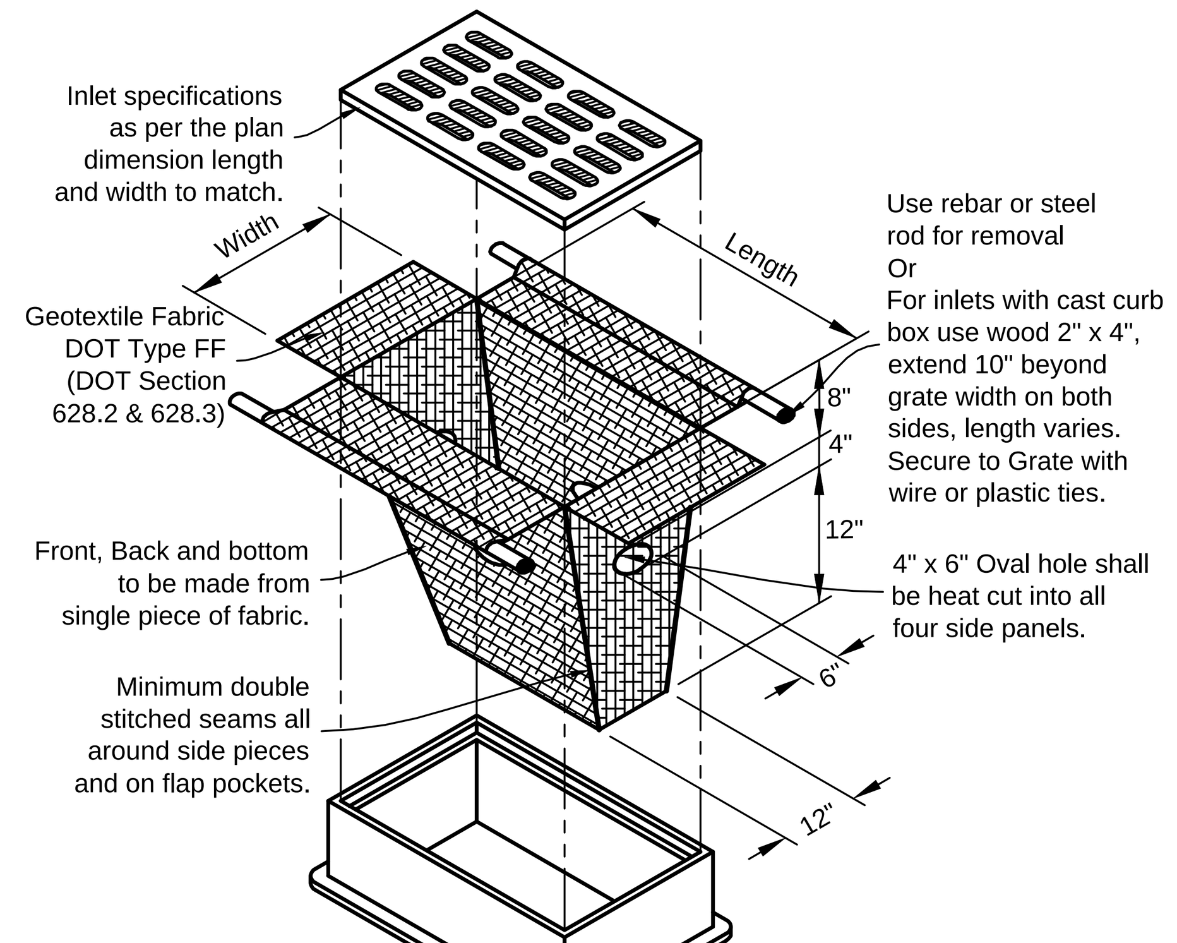
INSTALLATION NOTES:
Inlet protection Type A shall be utilized around field inlets until permanent stabilization methods have been established. Inlet protection Type A shall be utilized on pavement inlets prior to installation of curb and gutter or pavement.

Inlet protection Type B shall be utilized on street inlets without curb heads, once surrounding surface is in place.

Inlet protection Type C shall be utilized on street inlets with curb heads.

TYPE B & C
Trim excess fabric in the flow line to within 3" of the grate.

The contractor shall demonstrate a method of maintenance, using a sewn flap, hand holds, or other method to prevent accumulated sediment from entering the inlet.



INLET PROTECTION, TYPE D
(CAN BE INSTALLED IN ANY INLET WITH OR WITHOUT A CURB BOX)

INSTALLATION NOTES:
Do not install inlet protection type D in inlets shallower than 30", measured from the bottom of the inlet to the top of the grate.

Trim excess fabric in the flow line to within 3" of the grate.

The installed bag shall have a minimum side clearance between the inlet walls and the bag measured at the bottom of the overflow holes of 3". Where necessary, the contractor shall cinch the bag using plastic zip ties to achieve the 3" clearance. The ties shall be placed at a minimum of 4" from the bottom of the bag.

CONSTRUCTION DETAILS

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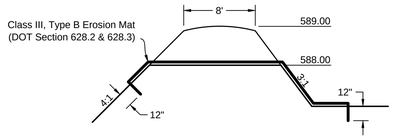
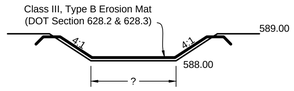
PROJECT:
PROPOSED SITE IMPROVEMENTS FOR
VANDERVEST HARLEY DAVIDSON
1966 VELP AVE
VILLAGE OF HOWARD
WISCONSIN

DRAWN BY: JRD
CHK'D BY:
JOB NUMBER: 4116Engr.dwg
DATE: 10/8/2013

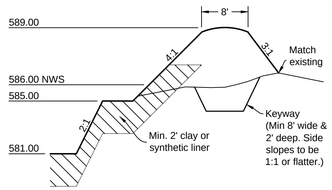
C2.1



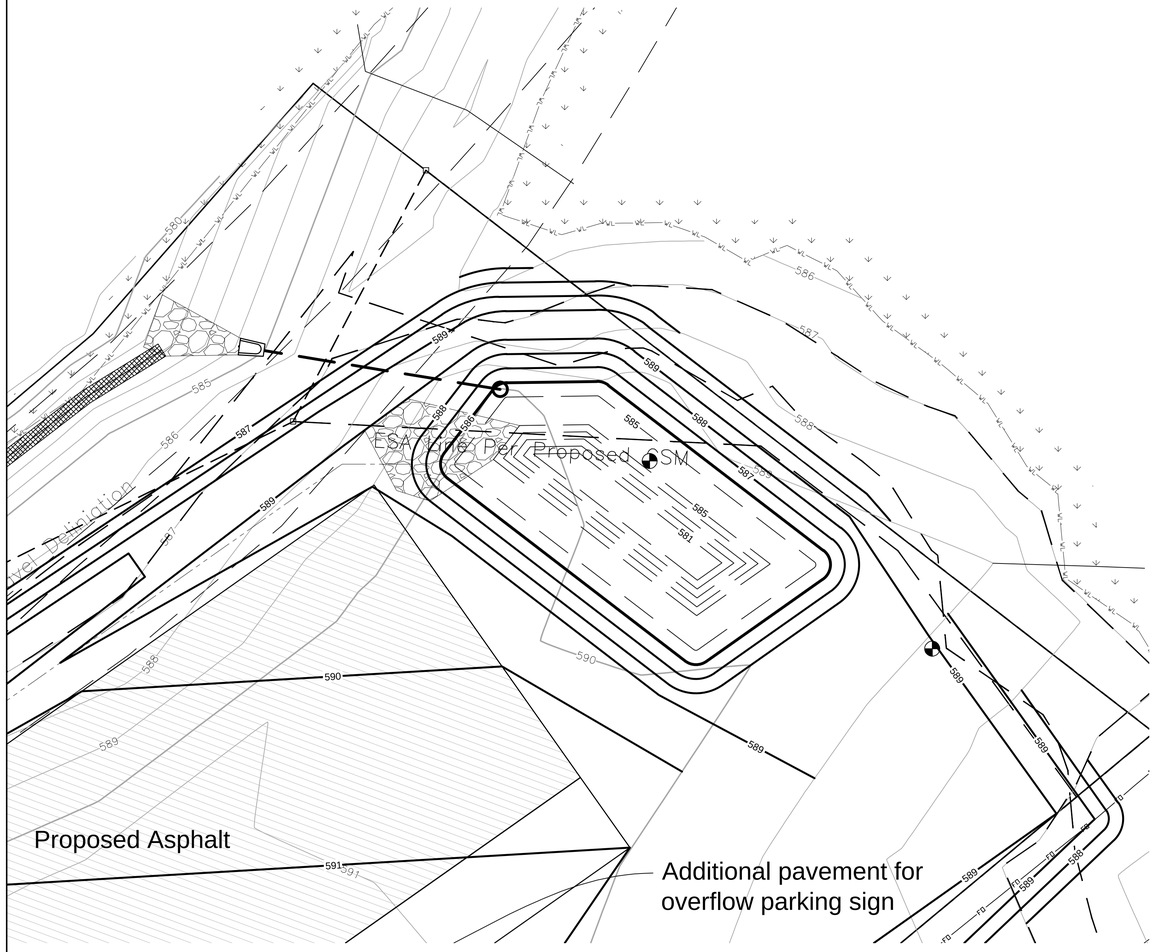
EMERGENCY SPILLWAY SECTION

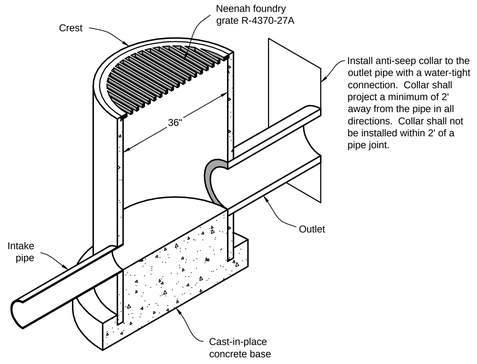


EMERGENCY SPILLWAY DETAIL



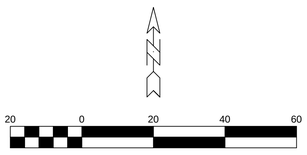
TYPICAL EMBANKMENT SECTION





STAND PIPE DETAIL

Outlet	
Size, in	?
Invert	100.00
Slope (%)	0.00
Intake pipe	
Size, in	?
Invert	100.00
Length, ft	0.00
Crest	
Elevation	100.00
Base	
Elevation	100.00



LEGEND

FO FO	Underground Fiber Optic		Sanitary MH / Tank / Base		Sign
San San	Sanitary Sewer		Storm Manhole		Post / Guard Post
Sto Sto	Storm Sewer		Inlet		Deciduous Tree
E E	Underground Electric		Catch Basin / Yard Drain		Coniferous Tree
W W	Water Main		Hydrant		Bush / Hedge
	Fence - Steel		Utility Valve		Marsh
	Fence - Wood		Utility Meter		Soil Boring
WL WL WL	Wetlands		Light Pole / Signal		Benchmark
	Treeline		Electric Pedestal		Asphalt Pavement
	Culvert	E	Electric Transformer		Concrete Pavement
800	Index Contour		Telephone Pedestal		
799	Intermediate Contour	+799.9	Ex Spot Elevation		
	Proposed Storm Sewer		Proposed Storm Manhole		
608	Proposed Contour		Proposed Curb Inlet		
	Proposed Swale		Prop. Catch Basin / Yard Drain		
	Proposed Culvert		Proposed Endwall		
×608.73	Prop. Flowline Spot Elev.		Proposed Rip Rap		
×608.73 TW	Prop. Top of Walk Elev.		Prop. Drainage Direction		
+(608.7)	Existing Grade	FF=000.0	Prop. Finished Floor Elev.		

Pond Notes:

1. The base of the embankment shall be stripped of all vegetation, stumps, topsoil and other matter. Stripping shall be to a minimum of 6 inches.
2. Embankments shall be constructed with non-organic soils and compacted to 90% standard proctor according to the procedures outlined in ASTM D-698. No tree stumps, or other organic material shall be buried in the embankment. The constructed embankment height shall be increased a minimum of 5% to account for settling.
3. All pipes extending through the embankment shall be bedded and backfilled with embankment or equivalent soils. The bedding and backfill shall be compacted in lifts and to the same standard as the original embankment. Excavation through a completed embankment shall have a side slope of 1:1 or flatter.
4. Topsoil shall be spread on all disturbed areas, except for elevations below the safety shelf, as work is completed. The minimum depth of topsoil shall be 4 inches.
5. All areas disturbed by pond construction shall be seeded as work is completed. Pond side slopes above permanent pool shall be temporarily seeded with annual rye or oats immediately after pond is "roughed in." This will require topsoil application. Slopes steeper than 10:1 but less than 4:1 will require properly anchored mulch in accordance with Section 627.1 of the DOT Standard Specifications for Highway and Structure Construction. DOT Class I, Type B erosion mat will be required on slopes steeper than 4:1 (Section 628.2 & 628.3).
6. Riprap at all inflow points shall extend a minimum of 18 vertical inches below the permanent pool. (Section 606.2 & 606.3)
7. Any rock encountered shall be excavated to a depth two feet deeper than the proposed pond grade.
8. The pond shall be constructed with a Type A Liner with the following WDNR specifications (Wet Detention Pond Technical Standard 1001). Liners include; Clay, High Density Polyethylene (HDPE), or Geosynthetic Clay Liners (GCL).

Clay liners specifications are as follows:

- 50% fines (200 sieve) or more.
- Hydraulic conductivity of 1 x 10-7 cm/sec or less.
- Average liquid limit of 25 or greater, with no value less than 10.
- Average PI of 12 or more, with no values less than 10.
- Clay installed wet of optimum if using standard proctor, and 2% wet of optimum if using modified proctor.
- Clay compaction and documentation as specified in NRCS Wisconsin Construction Specification 300, Clay Liners.
- Minimum thickness of 2 feet.
- If in-situ soils meet the above requirements of the specification for a Type A Clay Liner, including a minimum saturated hydraulic conductivity of 1 x 10-7 cm/sec to a depth of 4 feet below the pond bottom, the in-situ soils then satisfy the pond liner requirements.

HDPE liner specifications are as follows:

- Minimum thickness of 60 mils.
- Design according to the criteria in Table 3 of NRCS 313, Waste Storage Facility Technical Standard.
- Install according to NRCS Wisconsin Construction Specification 202, Polyethylene Geomembrane Lining.

GCL liner Specifications are as follows:

- Design according to the criteria in Table 4 of NRCS 313, Waste Storage Facility Technical Standard.
- Install according to NRCS Wisconsin Construction Specification 203, Geosynthetic Clay Liner.

8. The pond shall be constructed with a Type B Liner with the following WDNR specifications (Wet Detention Pond Technical Standard 1001). Liners include; Clay, High Density Polyethylene (HDPE), Polyethylene Pond Liner (PPL) or any liner satisfying Type A Liner criteria.

Clay liners specifications are as follows:

- 50% fines (200 sieve) or more.
- Hydraulic conductivity of 1 x 10-6 cm/sec or less.
- Average liquid limit of 16 or greater, with no value less than 14.
- Average PI of 7 or more, with no values less than 5.
- Clay compaction and documentation as specified in NRCS Wisconsin Construction Specification 204, Earthfill for Waste Storage Facilities.
- Minimum thickness of 2 feet.
- If in-situ soils meet the above requirements of the specification for a Type B Clay Liner, including a minimum saturated hydraulic conductivity of 1 x 10-6 cm/sec to a depth of 4 feet below the pond bottom, the in-situ soils then satisfy the pond liner requirements.

HDPE liner specifications are as follows:

- Minimum thickness of 40 mils.
- Design according to the criteria in Table 3 of NRCS 313, Waste Storage Facility Technical Standard.
- Install according to NRCS Wisconsin Construction Specification 202, Polyethylene Geomembrane Lining.

PPL liner Specifications are as follows:

- Minimum thickness of 30 mils.
- Design according to the criteria in Table 3 of NRCS 313, Waste Storage Facility Technical Standard.
- Install according to NRCS Wisconsin Construction Specification 202, Polyethylene Geomembrane Lining.

9. The pond shall be constructed with a Type C Liner with the following WDNR specifications (Wet Detention Pond Technical Standard 1001). Liners include; Silt/Clay, High Density Polyethylene HDPE (< 40 mil), Polyethylene Pond Liner PPL (20-24 mil), Polyvinyl Chloride PVC (30-40 mil), Ethylene Propylene Diene Monomer EPDM (45 mil), or any liner satisfying Type A or B Liner criteria.

Silt/Clay liners specifications are as follows:

- 50% fines (200 sieve), or 20% fines and a PI of 7.
- Clay compaction and documentation as specified in NRCS Wisconsin Construction Specification 204, Earthfill for Waste Storage Facilities.
- Minimum thickness of 2 feet.
- If in-situ soils meet the above requirements of the specification for a Type C Clay Liner, the in-situ soils then satisfy the pond liner requirements.

10. All liners must extend above the permanent pool up to the elevation of the 2-year, 24-hour rainfall event.

POND DETAIL

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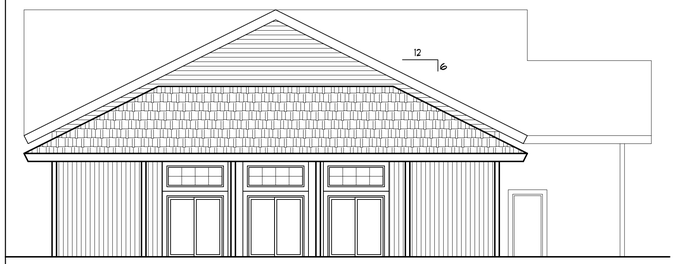
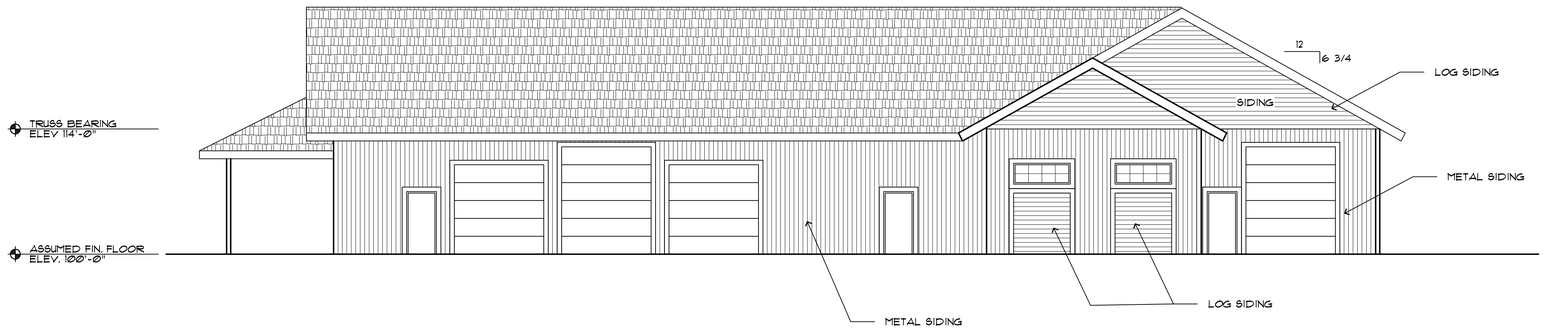
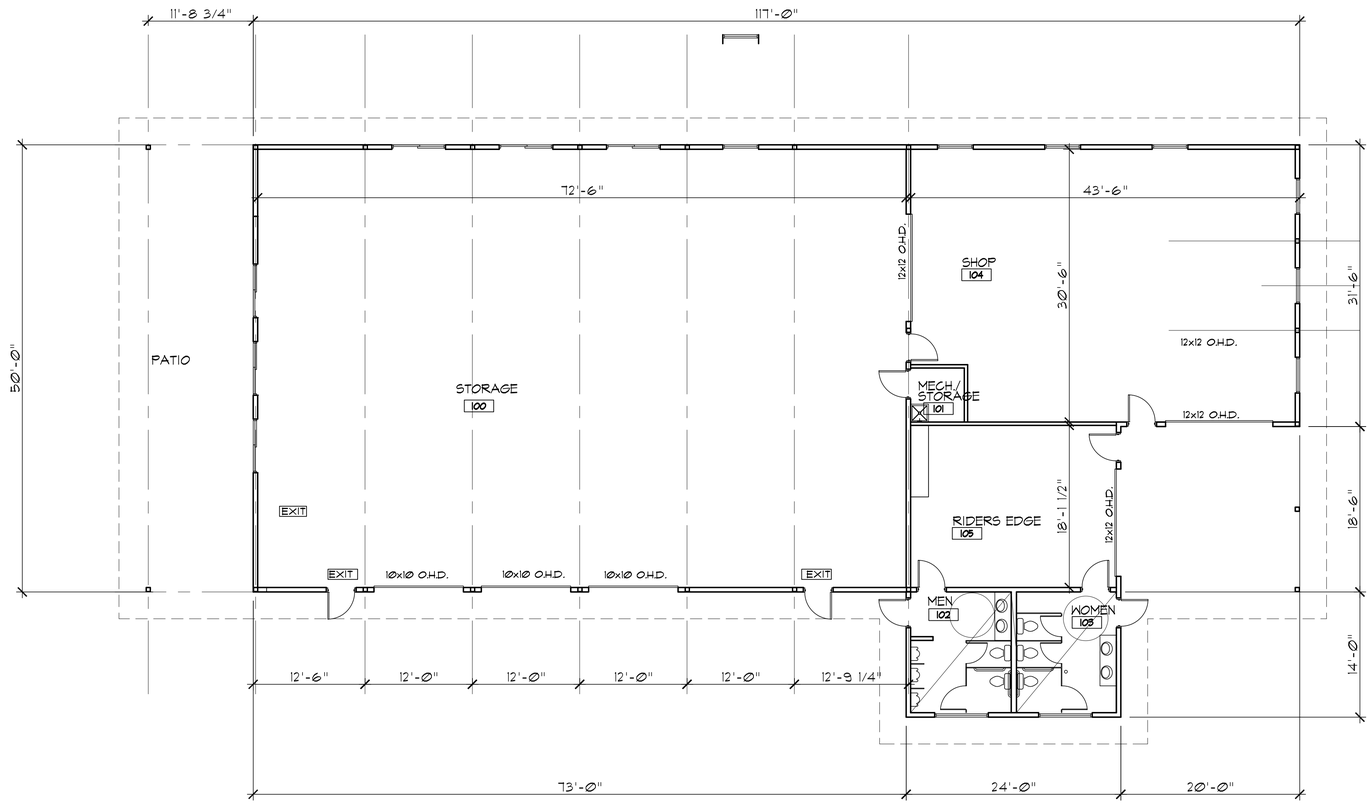


WEST ELEVATION
1/8" = 1'-0"



SOUTH ELEVATION
1/8" = 1'-0"



STORAGE BUILDING
FLOOR PLAN
1/8" = 1'-0"

PLAN NORTH

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DRAWN BY:	RJF
CHK'D BY:	RJF
JOB NUMBER:	13055
DATE:	9/30/13

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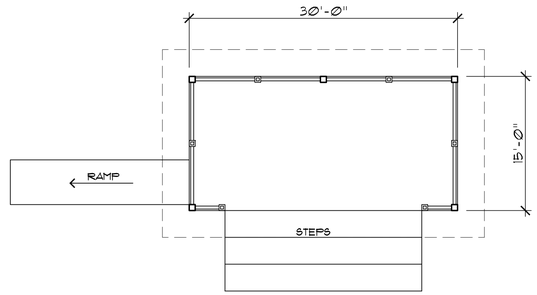
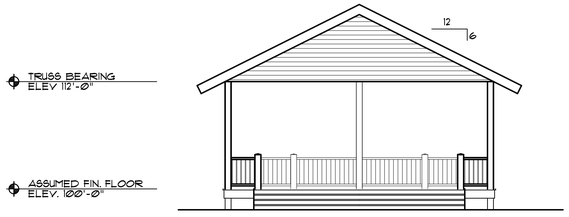


VEIWING PLATFORM FLOOR PLAN

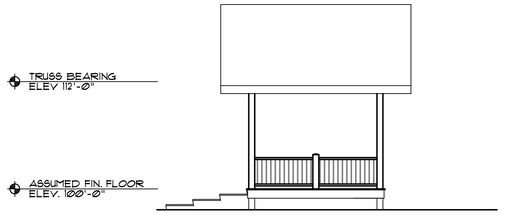
1/8" = 1'-0"

PLAN NORTH



FRONT ELEVATION

1/8" = 1'-0"



SIDE ELEVATION

1/8" = 1'-0"

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