

Meeting Announcement and Agenda
Building, Fire and Sanitary Sewer Board of Appeals
Thursday, December 4, 2023
4:00 p.m.
City Hall, Conference Room A

I. Roll Call: Cline, Fleming, Kridler, Nieporte, Sommer

II. Election of a Chair and Vice Chair

III. Approval of Agenda:

IV. Approval of Minutes:

A. April 12, 2022

V. Communications:

VI. New Business:

A. **Case #BFS-23-01 – 611 & 617 E. Broadway – Konwinski Construction.** The applicant is seeking relief from the City's Storm Water Ordinance as it pertains to storm water detention, allowable discharge rate, and pipe sizing.

VII. Other Business:

A. None

VIII. Old Business:

A. None

All interested persons may attend and participate. Persons with disabilities needing assistance to participate may call the Personnel Office at 779-5314. A 48-hour advance notice is necessary for accommodation.



Building, Fire & Sanitary Sewer Board of Appeals-Staff Report

Case Number BFS-23-01

December 5, 2023

Reviewer: Stacie Tewari, City Engineer

**APPLICANT/
PROPERTY
OWNER:**

Broadway 611 LLC

LOCATION:

611 E. Broadway and 617 E. Broadway

**LEGAL
DESCRIPTIONS**

KINNEY ADD LOT 7 BLOCK 14 E 1/2 LOT 8 BLOCK 14;
KINNEY ADD LOT 6 BLOCK 14

REQUESTS:

Requesting storm water management ordinance variance for a reduction in storm water detention volume required and an increase in allowable discharge rate due to site contamination

SITE AREA:

0.27 acres and 0.18 acres

ZONING DISTRICT:

CD-4 (General Urban)

**FUTURE LAND
USE:**

Commercial

PROJECT BACKGROUND:

The proposed project at 611/617 Broadway is to expand the existing dentist office building at the site, reconstruct the existing western parking lot, and construct new parking on the north side of the site. The city storm water management ordinance requires compliance with storm water detention requirements for any disturbed areas on the site which includes the building expansion and all parking lot reconstruction work. Detention volume is not required for the existing building to remain in place. The ordinance requires a maximum storm water discharge of 0.15 cfs/acre with a minimum 2" outlet restrictor to limit the rate of storm water discharge from the site.

City staff and the project design development team met with environmental staff from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to discuss existing Tetrachloroethylene (PCE), an acute vapor hazard chemical, contamination in the soils at the site due to leaking chemicals from an adjacent dry cleaner business. The highest concentration of the contamination on the project site is on the western side of the existing 611 E. Broadway

building. Per EGLE, excavation of the soils on the west side of the site could cause release of hazardous vapors. Per EGLE, this PCE contamination is in highest concentrations at 611 E. Broadway, 104 E. Broadway, and 120 S. Fancher. The storm water variance may be applicable to these sites only on a case by case basis.

Per plans submitted with the variance application, the following site designs are proposed to accommodate storm water management on the site while mitigating site contamination:

1. Reconstruct the existing west parking lot at 611 E. Broadway utilizing the existing on site storm sewer for drainage and outlet. Storm water detention storage would not be provided on the west side to limit the excavation in the area of highest contamination. The impervious area and storm water discharge rate from the western side would be the same as the existing conditions, but would not be improved to meet current storm water ordinance requirements. A variance is required for this proposed design.
2. Some storm water detention volume is proposed for the building expansion and proposed new parking lot on 617 E. Broadway on the north and east sides of the site along with storm piping storage. The amount of storm water detention proposed is lower than the volume required by ordinance in order to minimize excavation in contaminated soils. The allowable discharge rate will also be exceeded based on this design. A variance is required for this proposed design.
3. Storm water runoff will be collected on site for the entire project area and outletted to the existing city storm sewer system in Broadway Street. Storm water runoff will not be directed off site to neighboring properties.

Existing detention volume – 0 cft

Total detention volume proposed – 853 cft

Total detention volume required per ordinance – 2,100 cft

Outlet size proposed – 8” west side, 8” east side

Outlet restrictor required – one 2” outlet for whole site

Staff Recommendation:

Staff recommends approval of the variances for a reduction of the storm water detention volume requirements and an increase in the allowable storm water discharge rate from the site based on the proposed design plans submitted along with the variance application. Staff agrees that the proposed storm water management design balances mitigation of contamination with an overall improvement to the drainage conditions at the site from existing conditions.


OFFICE USE ONLY

 Filing Fee: **\$500.00**

Appeal # _____

Submission Date: _____

Hearing Date: _____

APPLICATION TO THE BUILDING, FIRE, STORM WATER & SANITARY SEWER BOARD OF APPEALS

City of Mt. Pleasant - Building Safety Department
 320 W. Broadway Street, Mt. Pleasant, MI 48858
 (989) 779-5347 • www.mt-pleasant.org

PROPERTY/APPLICANT INFORMATION				
Property Address: 611 & 617 E. BROADWAY, MT. PLEASANT, MI 48858				
Name of Company (if applicable): KONWINSKI CONSTRUCTION				
Name of Applicant: ANDY THEISEN				
Applicant's Address: 1900 GOVER PARKWAY			State: MI	Zip: 48858
Daytime Phone: 989-621-0325	Mobile: 989-621-0325		Fax Number:	
E-mail: andy@konwinskiconst.com				
BUILDING DATA				
Gross Floor Area				
<input type="checkbox"/> New building _____ <input checked="" type="checkbox"/> Addition <u>2116</u> sq. ft. <input type="checkbox"/> Alteration _____ <input type="checkbox"/> Repair _____ <input type="checkbox"/> Other _____				
Classification per Building Code				
Building Use <u>Business</u> Construction Type <u>V-B</u> No. of Occupants <u>41</u> Area/Floor <u>4096</u> No. of Floors <u>1</u>				
PERMIT HOLDER				
Name: <i>Konwinski Construction Inc</i>		Contact Person: <i>Andy Theisen</i>		Telephone Number: <i>989-621-0325</i>
Address: <i>1900 Gover Parkway</i>	City: <i>Mt. Pleasant</i>	State: <i>MI</i>	Zip: <i>48858</i>	Fax Number:
BUILDING OWNER				
Name: <i>BROADWAY 611 LLC</i>		Contact Person:		Telephone Number: <i>989-773-5299</i>
Address: <i>611 E. BROADWAY ST.</i>	City: <i>MT. PLEASANT</i>	State: <i>MI</i>	Zip: <i>48858</i>	Fax Number:
ENFORCING AUTHORITY				
Name: <i>Stacie Tewari</i>		Title: <i>City Engineer</i>		Telephone Number: <i>989-779-5404</i>
Address: <i>320 w. Broadway St.</i>	City: <i>Mt. Pleasant</i>	Zip: <i>MI</i>	Fax Number	
SUMMARY OF APPEAL (attach additional sheets if necessary)				
Code Under Which Appeal is Sought and Year in Effect:				
<input type="checkbox"/> BUILDING <input type="checkbox"/> FIRE <input type="checkbox"/> SANITARY SEWER <input checked="" type="checkbox"/> STORM WATER <input type="checkbox"/> OTHER				
DESIRED RELIEF SEE ATTACHED			Provide copies of the following as appropriate: <input checked="" type="checkbox"/> Statement of Facts and Reasoning <input checked="" type="checkbox"/> Copy of Enforcing Agency Determination <input type="checkbox"/> Supporting Material <input type="checkbox"/> Other	
BASIS OF APPEAL SEE ATTACHED				

ATTACHMENT TO

APPLICATION FOR BUILDING BOARD OF APPEALS

Statement of Facts and Reasoning, Desired Relief and Basis of Appeal:

The City has a Storm Water Ordinance. The goal of the Storm Water Ordinance is to efficiently and effectively manage storm water runoff within the City limits, utilizing Best Management Practices. Under normal site conditions, this is a practice that needs to be followed to reduce the impacts of flooding, overloading aging systems and minimize sedimentation that enters the storm water system. As part of the Best Management Practices, onsite detention is required. Storm water detention helps with recharge of the groundwater system. As more and more areas are sealed off with building and parking lots, the opportunity for storm water to enter the groundwater table is reduced. However, the site at 611/617 Broadway is in an area of known soil and groundwater contamination. The primary contaminant is Tetrachloroethylene (PCE). This contaminant is an acute vapor hazard chemical. The process of groundwater recharge from a detention basin or underground detention system moves more stormwater through the contaminated soils and into the groundwater table. As more water is introduced, the contaminants are pushed farther from the source, affecting a larger area. This project has been reviewed by The Department of Environment, Great Lakes & Energy (EGLE), Remediation and Redevelopment Division. In an email from Jeremy Boothroyd, Senior Geologist, EGLE-RRD-Bay City, he states "EGLE has reviewed the conditions in this location and have concerns that the installation of the underground storm water basin will cause a potential migration pathway for vapor intrusion which would be a violation of Section 324.20107a of Part 201 of NEREPa. Section 20107a specifically prohibits activities that would cause exacerbation of contamination."

Based on the comments by EGLE, the site plan has been redesigned to eliminate the underground detention and to avoid disturbing soils in the Western portion of the site which has tested substantially higher for the contaminant. The storm water system being proposed is designed to gather and convey the storm water off the site and limit its contact with contaminated soils and reduce the potential for ground water recharge. EGLE's Representative, Jeremy, has also reviewed the proposed revisions being presented to this Board for consideration. His email states, "I've reviewed the design and I'll preface this by stating that I'm not an engineer or experienced with blueprints like this, but I do not see anything that jumps out as an exacerbation of the current environmental issues."

It is our belief that we have complied with the requirements of Part 201 of NEREPa and that for this specific site location this is the Best Management Practices for the handling of storm water runoff.

Therefore, we are asking for relief from the City's Storm Water Ordinance as it pertains to storm water detention/retention and pipe sizing.

On behalf of our client, we appreciate your consideration.

Central Michigan Surveying & Development Company, Inc., and Konwinski Construction.

tbebee@cms-d.com

From: Andy Theisen <andy@konwinskiconst.com>
Sent: Monday, November 6, 2023 11:03 AM
To: tbebee@cms-d.com
Cc: info@cms-d.com
Subject: RE: Set as approved by Stacie

I think the only thing missing from the application is the 2 comments from EGLE listed below as the reason we are submitting for variance.

The comments in this statement by Jeremy Boothroyd of EGLE sent via email to Andy Theisen of KCI on October 4th 2023

Jeremy Boothroyd
Senior Geologist
Midland/Sanilac County Project Manager
EGLE-RRD-Bay City
989-891-6932
BoothroydJ@Michigan.gov

"The Department of Environment, Great Lakes & Energy, Remediation and Redevelopment Division recognizes the city's goal of efficiently and effectively managing storm water to meet the best management practices. The request for installation of a storm water basin in the location of 611/617 Broadway is in an area of known soil and groundwater contamination with the primary contaminant of Tetrachloroethylene (PCE) which is an acute vapor hazard chemical. EGLE has reviewed the conditions in this location and have concerns that the installation of the underground storm water basin will cause a potential migration pathway for vapor intrusion which would be a violation of Section 324.20107a of Part 201 of NEREPa. Section 20107a specifically prohibits activities that would cause exacerbation of contamination. "

As well as the following comment from Jeremy Boothroyd, in a 10-27-23 email to Andy Theisen in response to the latest revision of the Storm Water Plan revisions resulting from the October 12th meeting with EGLE and City of MP.

Jeremy Boothroyd
Senior Geologist
Midland/Sanilac County Project Manager
EGLE-RRD-Bay City
989-891-6932
BoothroydJ@Michigan.gov

"I've reviewed the design and I'll preface this by stating that I'm not an engineer or experienced with blueprints like this, but I do not see anything that jumps out as an exacerbation of the current environmental issues."



Andy Theisen
Vice President – Partner
Konwinski Construction Inc.
Mobile: 989-621-0325
www.konwinskiconst.com

From: tbebee@cms-d.com <tbebee@cms-d.com>
Sent: Tuesday, October 31, 2023 3:29 PM
To: Andy Theisen <andy@konwinskiconst.com>
Cc: info@cms-d.com
Subject: Set as approved by Stacie

Andy,

Stacie had one request. The storm line in the road right-of-way was upsized from 8" to 12".

This is the set that needs to go in for the variance. Has Shanee gotten you everything that you need on the application?

Tim Bebee

BROADWAY 611, LLC

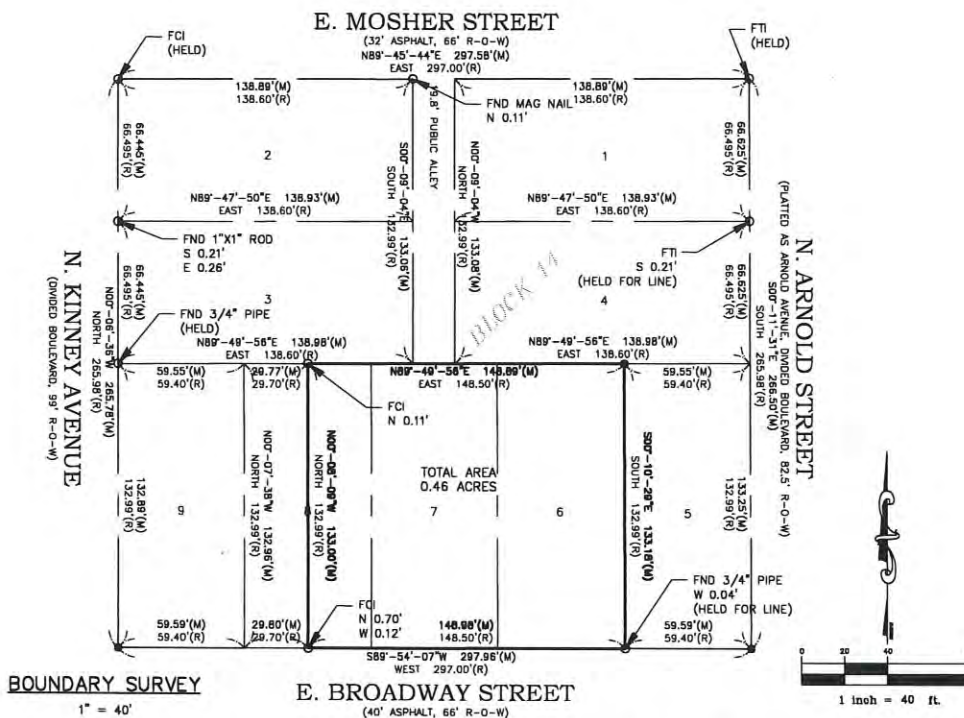
PROPOSED SITE & STORM WATER MANAGEMENT PLAN

611 & 617 E. BROADWAY STREET, MT. PLEASANT, MICHIGAN



LOCATION SKETCH

NOT TO SCALE



BOUNDARY SURVEY

1" = 40'

E. BROADWAY STREET

(40' ASPHALT, 66' R-O-W)

PARCEL DESCRIPTION: (WARRANTY DEED, LIBER 1808, PAGE 608 & LIBER 1894, PAGE 2704)

LOTS 6, 7, AND THE EAST 1/2 OF LOT 8 OF BLOCK 14 OF KINNEY'S ADDITION TO THE VILLAGE (NOW CITY) OF MT. PLEASANT, ACCORDING TO THE PLAT RECORDED IN LIBER 1 OF PLATS, PAGE 12 OF ISABELLA COUNTY RECORDS, CITY OF MT. PLEASANT, ISABELLA COUNTY, MICHIGAN.

CD-4 - GENERAL URBAN CHARACTER DISTRICT	
MAXIMUM FRONT YARD SETBACK	20 FT
MINIMUM SIDE YARD SETBACK	0 FT
MINIMUM REAR YARD SETBACK	3 FT (*)
MAXIMUM BUILDING HEIGHT	40 FT
MINIMUM LOT AREA	N/A
MAXIMUM LOT WIDTH	140 FT
MINIMUM LOT WIDTH	18 FT

* OR 15 FT MINIMUM FROM CENTER LINE OF REAR LANE OR ALLEY.

MISS DIG:
FOR PROTECTION OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL CALL "MISS DIG" 1-800-482-7171 A MINIMUM OF 3 WORKING DAYS PRIOR TO ANY EXCAVATION. ALL "MISS DIG" PARTICIPATING MEMBERS WILL BE APPROPRIATELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

UTILITY NOTE:
THE UTILITY LOCATIONS AS HEREON SHOWN ARE BASED ON FIELD OBSERVATIONS AND A CAREFUL REVIEW OF MUNICIPAL AND UTILITY COMPANY RECORDS. HOWEVER, IT IS NOT POSSIBLE TO DETERMINE THE PRECISE LOCATION AND DEPTH OF UNDERGROUND UTILITIES WITHOUT EXCAVATION. THEREFORE, WE CANNOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE BURIED UTILITY INFORMATION HEREON SHOWN. THE CONTRACTOR SHALL CALL "MISS DIG" (1-800-482-7171) PRIOR TO ANY EXCAVATION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THESE UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND SHALL MAKE EVERY EFFORT TO PROTECT AND OR RELOCATE THEM AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER/SURVEYOR AS SOON AS POSSIBLE IN THE EVENT A DISCREPANCY IS FOUND. UNDERGROUND SERVICE LEADS FOR GAS, ELECTRIC, TELEPHONE AND CABLE MAY BE ACROSS PROPERTY, NO INFORMATION AVAILABLE PLEASE CALL MISS DIG.

LEGEND

SYMBOLS

○ BOLLARD	☐ GAS RISER	⊙ SOIL BORING
☐ CATCH BASIN (CURB INLET)	☐ GUY ANCHOR	⊙ STORM SEWER MANHOLE
⊙ CATCH BASIN (ROUND)	☐ HYDRANT - EXISTING	⊙ TELEPHONE RISER
☐ CATCH BASIN (SQUARE)	☐ HYDRANT - PROPOSED	⊙ TREE - CONIFEROUS
⊙ CLEAN OUT	☐ LIGHT POLE	⊙ TREE - DECIDUOUS
☐ DRAINAGE FLOW	☐ MAILBOX	☐ UTILITY POLE
☐ ELECTRICAL BOX	☐ MONITORING WELL	☐ WATER MAIN VALVE
⊙ FOUND CONC. MONUMENT	☐ SANITARY SEWER MANHOLE	☐ WATER SHUT-OFF
⊙ FOUND IRON	☐ SET IRON	☐ FLOOD LIGHT
☐ GAS MAIN VALVE	☐ SIGN	☐ GAS METER

LINE TYPES

—ELEC—	BURIED ELECTRICAL CABLE
—PHONE—	BURIED TELEPHONE CABLE
—DITCH—CL—	CENTERLINE OF DITCH
—FM—	FORCE MAIN
—GAS—	GAS MAIN
—RD—CL—	ROAD CENTERLINE
—8" SAN—	SANITARY SEWER
—12" SS—	STORM SEWER
—EX-10S—	TOE OF SLOPE
—EX-10B—	TOP OF BANK
—ONE—ONE—	UTILITIES - OVERHEAD
—UTIL—	UTILITIES - UNDERGROUND
—12" WM—	WATER MAIN

HATCH PATTERNS

ASPHALT - EXISTING
ASPHALT - PROPOSED
CONCRETE
GRAVEL
LANDSCAPING
RIP-RAP
EXISTING BUILDING

SHEET INDEX

1	COVER SHEET
2	EXISTING TOPOGRAPHY & DEMOLITION
3	OVERALL SITE PLAN
4	SITE GRADING & STORM WATER PLAN
5	SOIL EROSION PLAN
6	DETAILS SHEET

BENCHMARK NOTE:

BM #1 SET RAILROAD SPIKE IN POWER POLE ±150' NORTH OF E. BROADWAY STREET, ±139' EAST OF N. KINNEY AVENUE, AND ±10' WEST OF THE CENTERLINE OF THE ALLEY OF BLOCK 14 OF KINNEY'S ADDITION, ELEVATION = 771.21

BM #2 "+" ON THE FIRST LIP ON THE WEST SIDE OF THE DECORATIVE BASE OF A LIGHT POLE ±27' NORTH OF THE CENTERLINE OF E. BROADWAY STREET AND ±132' EAST OF N. KINNEY AVENUE, ELEVATION = 770.44

BEARING BASIS:

PER RECORDED PLAT, THE NORTH LINE OF BLOCK 14 OF KINNEY'S ADDITION WAS DETERMINED TO BE N89°-45'-44"E.

SITE: 611 & 617 E. BROADWAY STREET

CLIENT: BROADWAY 611, LLC

C/O KONWINSKI CONSTRUCTION, INC.
1900 GOVER PARKWAY
MT. PLEASANT, MI 48858
CONTACT: ANDY THEISEN
PHONE: (989) 621-0325
EMAIL: andy@konwinskiconst.com

CONSULTANT: CENTRAL MICHIGAN SURVEYING & DEVELOPMENT CO., INC.
2257 E. BROOMFIELD ROAD
MT. PLEASANT, MI 48858
CONTACT PERSON: TIMOTHY E. BEBEE
PHONE: (989) 775-0756
FAX: (989) 775-5012
EMAIL: info@cms-d.com

CHARTER COMMUNICATIONS

915 E. BROOMFIELD STREET
MT. PLEASANT, MI 48858
(989) 621-4832
RANDY BUNKER
rbunker@chartercom.com

CONSUMERS ENERGY
1325 WRIGHT AVENUE
ALMA, MI 48801
(989) 466-4282
KIM STUDDT
kimberly.studdt@cmsenergy.com

FRONTIER
345 PINE AVENUE
ALMA, MI 48801
(989) 463-0392
MARK A. MARSHALL
Mark.Marshall@tr.com

DTE ENERGY
4420 44TH STREET S.E., SUITE B
KENTWOOD, MI 49512
(616) 954-4623
MARY JO WICKERSIE
mckeralen@dteenergy.com

MT. PLEASANT FIRE DEPARTMENT
804 E. HIGH STREET
MT. PLEASANT, MI 48858
(989) 779-5100 EXT 5122
LT. BRAD DOEPKER, FIRE MARSHALL
bdoepker@mt-pleasant.org

CITY OF MT. PLEASANT
PUBLIC WATER/PUBLIC SEWER
320 W. BROADWAY STREET
MT. PLEASANT, MI 48858
(989) 779-5404
STACIE TEWARI, CITY ENGINEER
stewari@mt-pleasant.org

CITY OF MT. PLEASANT
PLANNING & ZONING
320 W. BROADWAY STREET
MT. PLEASANT, MI 48858
(989) 779-5346
MANUELA POWDAYKO, CITY PLANNER
mpowdayko@mt-pleasant.org

DRAIN COMMISSIONERS OFFICE
ISABELLA COUNTY BUILDING
200 N. MAIN STREET ROOM 140
MT. PLEASANT, MI 48857

ROBERT WILLOUGHBY
drain@isabellacounty.org

ISABELLA COUNTY ROAD COMMISSION
2251 E. REMUS ROAD
MT. PLEASANT, MI 48858
(989) 773-7131 EXT 115
PATRICK GAFFNEY
pgaffney@isabellaroads.com

REVISIONS:

NO.	DATE	DESCRIPTION
1	10-3-22	SUBMITTAL TO ZONING BOARD OF APPEALS
2	12-2-22	SUBMITTAL TO CITY ENGINEER & PLANNING
3	6-21-23	SUBMITTAL TO CITY ENGINEER & PLANNING
4	10-23-23	SUBMITTAL TO CITY CONSTRUCTION
5	10-25-23	SUBMITTAL TO CITY OF MT. PLEASANT

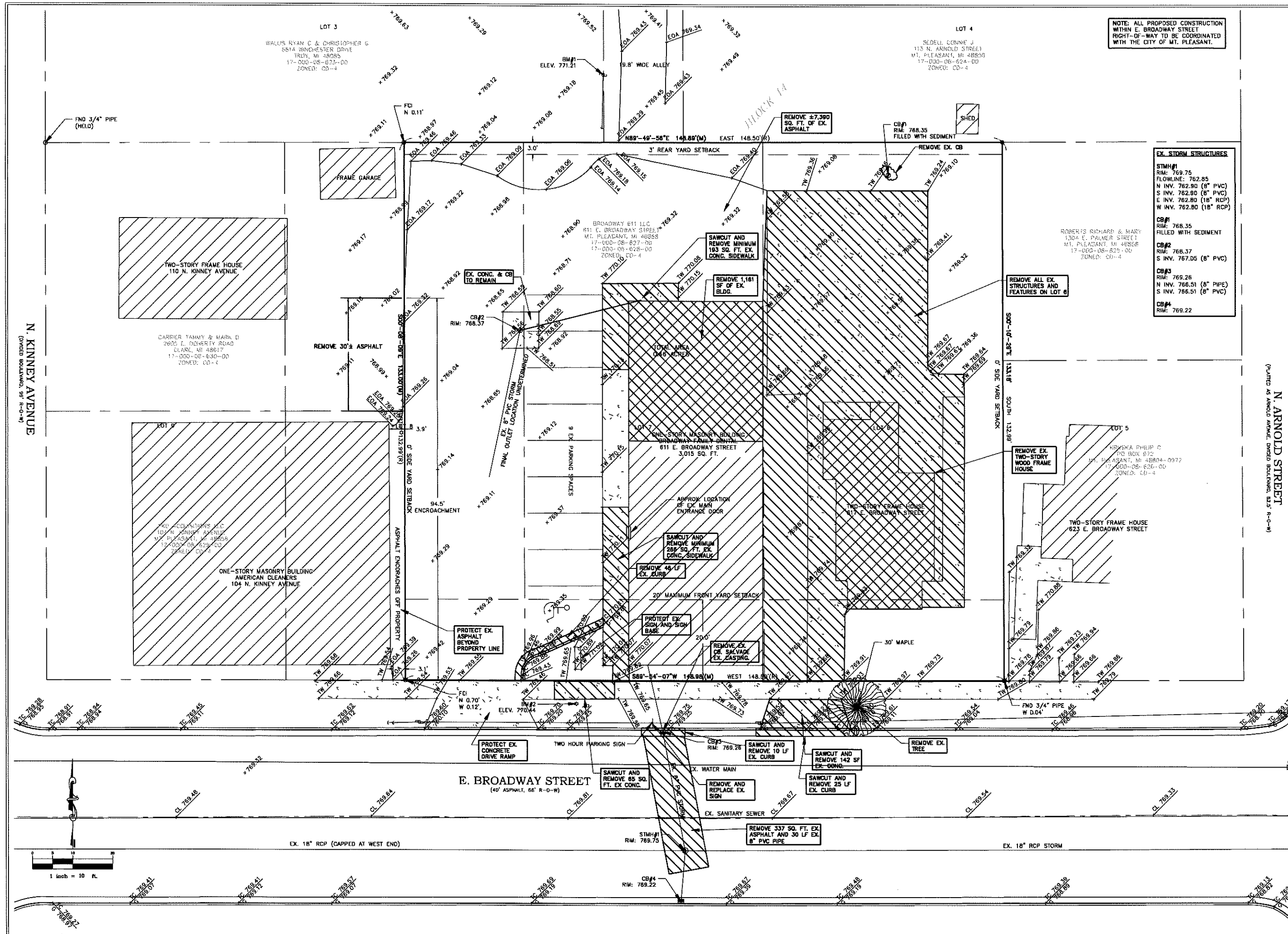
JOB NUMBER:	2208-114
DRAWN BY:	CDS
DESIGNED BY:	TELB
CHECKED BY:	TELB
SCALE:	N/A
SHEET NUMBER:	1 OF 6

CMS & D

SURVEYING / ENGINEERING
2257 E. BROOMFIELD ROAD
MT. PLEASANT, MICHIGAN 48858
PHONE: (989) 775-0756
FAX: (989) 775-5012
EMAIL: info@cms-d.com



COVER SHEET
BROADWAY 611, LLC
LOTS 6, 7, AND THE EAST 1/2 OF LOT 8 OF BLOCK 14
KINNEY'S ADDITION
CITY OF MT. PLEASANT, ISABELLA COUNTY, MICHIGAN



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EXISTING TOPOGRAPHY & DEMOLITION
BROADWAY 611, LLC
LOTS 6, 7, AND THE EAST 1/2 OF LOT 8 OF BLOCK 14
CITY OF MT. PLEASANT, ISABELLA COUNTY, MICHIGAN

REVISIONS:

10-3-23	SUBMITTAL TO ZONING BOARD OF APPEALS
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10-23-23	SUBMITTAL TO CITY OF MT. PLEASANT

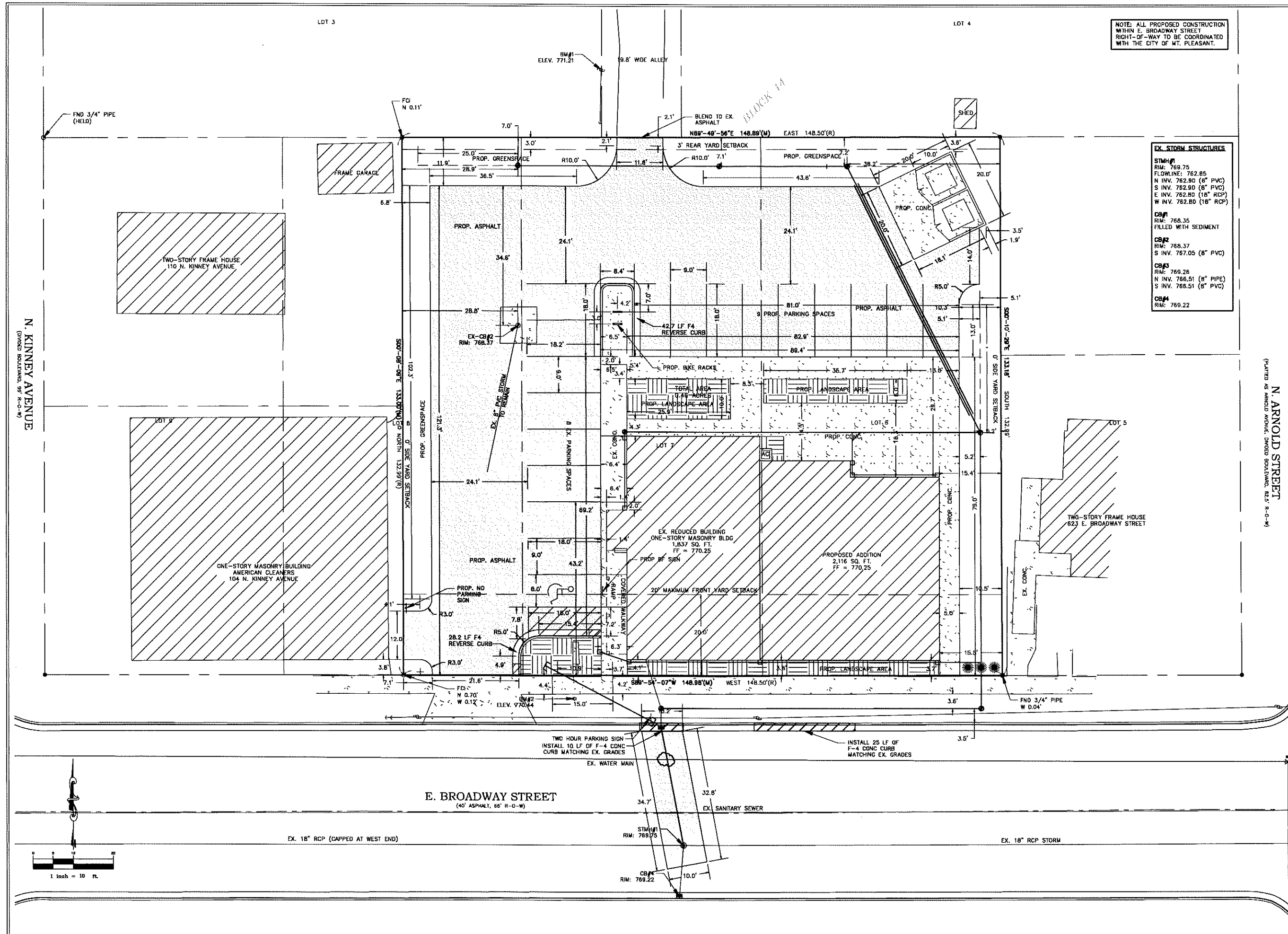
JOB NUMBER:
2208-114

DESIGNED BY:
CDS

CHECKED BY:
TELB

SCALE:
1" = 10'

SHEET NUMBER:
2 OF 6



NOTE: ALL PROPOSED CONSTRUCTION WITHIN E. BROADWAY STREET RIGHT-OF-WAY TO BE COORDINATED WITH THE CITY OF MT. PLEASANT.

EX. STORM STRUCTURES	
STM#1	RIM: 769.75 FLOWLINE: 762.85 N INV. 762.80 (8" PVC) S INV. 762.80 (8" PVC) E INV. 762.80 (18" RCP) W INV. 762.80 (18" RCP)
CB#1	RIM: 768.35 FILLED WITH SEDIMENT
CB#2	RIM: 768.37 S INV. 767.05 (8" PVC)
CB#3	RIM: 769.26 N INV. 766.51 (8" PIPE) S INV. 766.51 (8" PVC)
CB#4	RIM: 769.22

N. ARNOLD STREET
(PLATTED AS ARNOLD AVENUE, DIVIDED BOULEVARD, 65' R-O-W)

CMS & D
SURVEYING / ENGINEERING
2257 E. BROADFIELD ROAD
MT. PLEASANT, MICHIGAN 48858
PHONE: (989) 775-0756
FAX: (989) 775-5012
EMAIL: info@cms-d.com



OVERALL SITE PLAN
BROADWAY 611, LLC
LOTS 6, 7, AND THE EAST 1/2 OF LOT 8 OF BLOCK 14
KINNEY'S ADDITION
CITY OF MT. PLEASANT, ISABELLA COUNTY, MICHIGAN

REVISIONS:

NO.	DATE	DESCRIPTION
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3	10-25-23	SUBMITTAL TO CITY ENGINEER & PLANNING
4	10-25-23	SUBMITTAL TO CITY ENGINEER & PLANNING
5	10-25-23	SUBMITTAL TO CITY ENGINEER & PLANNING

JOB NUMBER: 2208-114	DESIGNED BY: CDS	CHECKED BY: TELB
DRAWN BY: CDS	DESIGNED BY: TELB	CHECKED BY: TELB

SCALE: 1" = 10'	SHEET NUMBER: 3 of 6
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DRAINAGE RISER #1 DETAIL
NOT TO SCALE

DRAINAGE RISER#2 DETAIL
NOT TO SCALE

STORAGE VOLUME CALCULATIONS

82 LF OVER SIZED 12" PIPE @ 0.785 CF/FT = $82 \times 0.785 = 84.4$ CF
64 LF OVER SIZED 18" PIPE @ 1.77 CF/FT = $64 \times 1.77 = 113.3$ CF

NORTHERN SWALE AREA WEST
 $1/3(10\text{FT} \times 40\text{FT} \times 1\text{FT}) = 133.3$ CF

NORTHERN SWALE AREA EAST
 $1/3(10\text{FT} \times 55\text{FT} \times 1\text{FT}) = 183.3$ CF

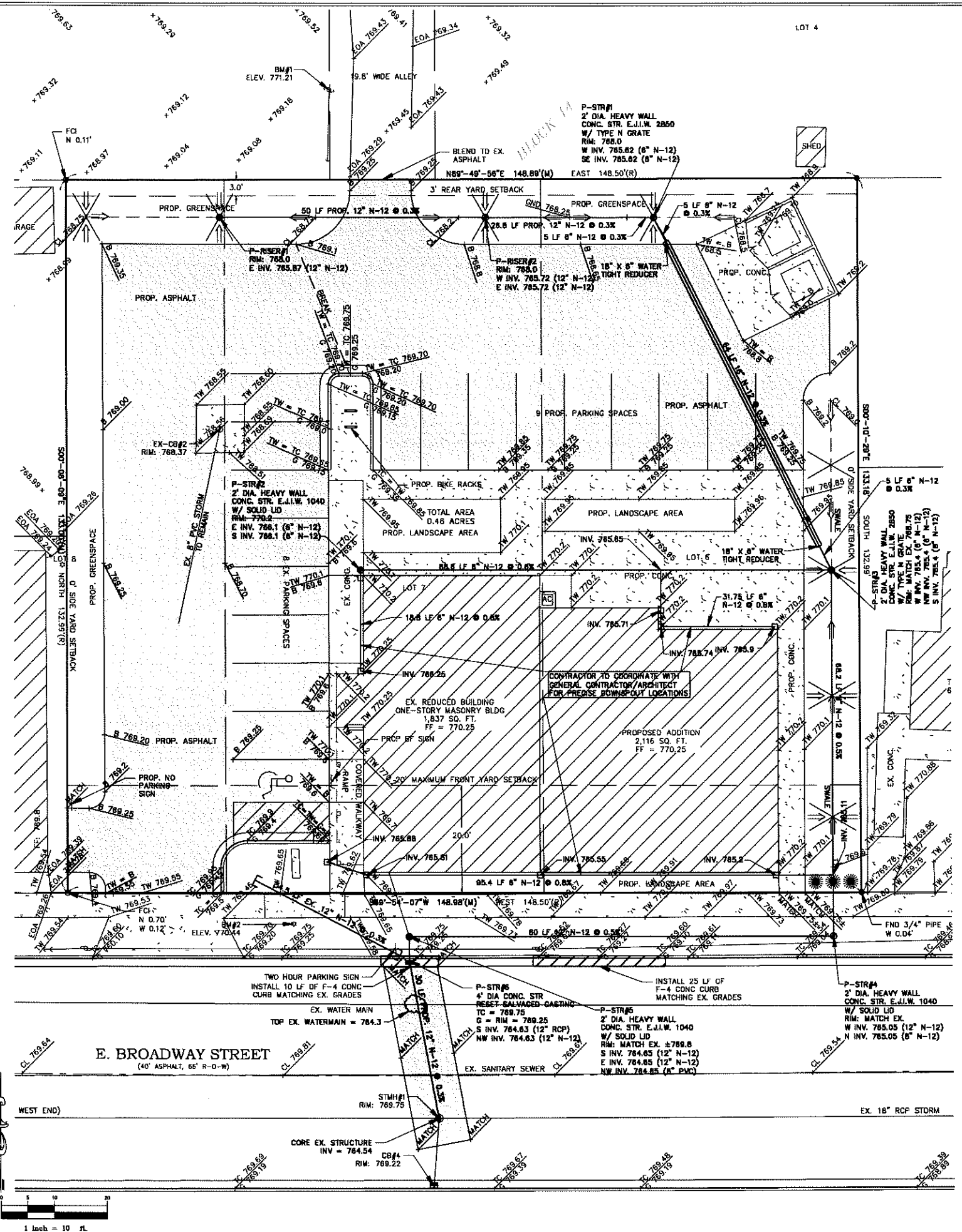
EASTERN SWALE AREA
 $1/3(8\text{FT} \times 90\text{FT} \times 1\text{FT}) = 240$ CF

(5) 2FT DIA STRUCTURES
AVG. DEPTH OF STORAGE = 1.5FT
 $(5)(3.14) \times 1.5 = 23.5$ CF

TOTAL 6" PIPING VOLUME
 $217\text{LF} @ 0.20 \text{ CF/FT} = 43.4$ CF

TOTAL 8" PIPING VOLUME
 $148\text{LF} @ 0.35 \text{ CF/FT} = 51.8$ CF

TOTAL STORAGE VOLUME = 853 CF



CMS & D
SURVEYING / ENGINEERING
2257 E. BROOMFIELD ROAD
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PHONE: (989) 775-0756
FAX: (989) 775-5012
EMAIL: info@cms-d.com



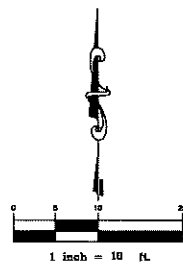
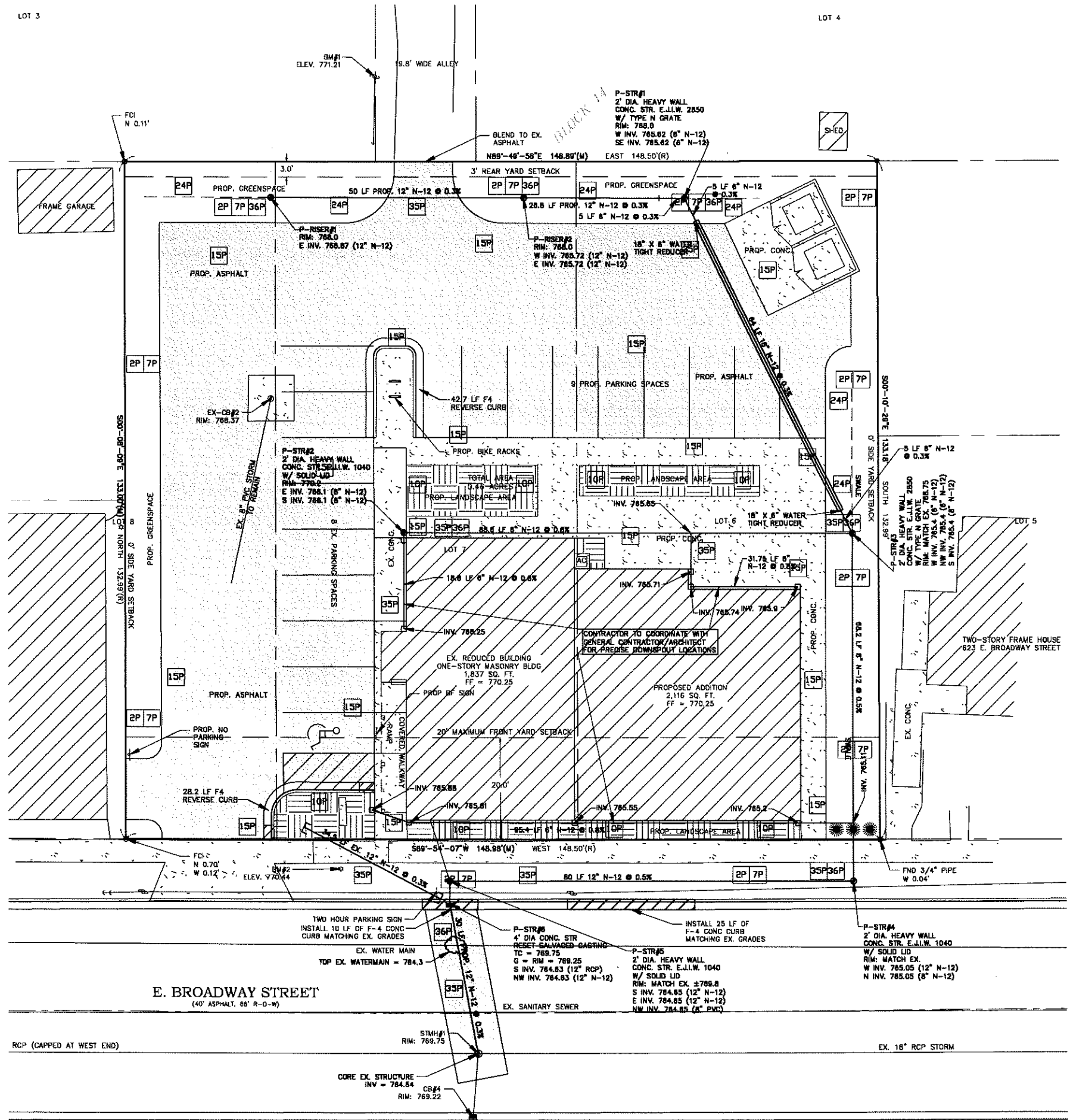
SITE GRADING & STORM WATER PLAN
BROADWAY 611, LLC
THE EAST 1/2 OF LOT 8 OF BLOCK 14
KINNEY'S ADDITION
CITY OF MT. PLEASANT, ISABELLA COUNTY, MICHIGAN

SUBMITTALS:	REVISIONS:
SUBMITTAL TO ZONING BOARD OF APPEALS 10-3-22	EGLE COMMENTS REGARDING CONTAMINATED SOILS SEPT/OCT 2023
SUBMITTAL TO CITY ENGINEER & PLANNING 12-2-22	
SUBMITTAL TO CITY ENGINEER & PLANNING 8-21-23	
SUBMITTAL TO CITY CONSTRUCTION EBA 10-23-23	
SUBMITTAL TO CITY OF MT. PLEASANT, 10-25-23	

SCALE $1" = 10'$	JOB NUMBER: 2208--114
	DRAWN BY: CDS
SHEET NUMBER 4 of 6	DESIGNED BY: TELB
	CHECKED BY: TELB

MICHIGAN UNIFIED KEYING SYSTEM
SOIL EROSION & SEDIMENTATION CONTROL MEASURES
P = PERMANENT T = TEMPORARY

KEY	DETAIL	CHARACTERISTICS
2	Sheet Piling & Shoring	Water can be stored to minimize erosion Pillar slopes show erosion problems
7	Hydro-seeding	Effective on large areas Much less expensive than grass seed Should include prepared layout plan
10	Mulching	Used to protect exposed areas for short periods Protects soil from impact of falling rain Preserves soil moisture and protects germinating seed from temperature extremes
15	Grass	Protects areas which cannot tolerate bare soil, but increases runoff Irregular surface also helps slow velocity
24	Grassed Waterway	Much more stable form of discharge than bare channel Grass tends to slow runoff and filter out sediment Used where bare channels would be avoided
35	Storm Sewer	System removes collected runoff from site, particularly from paved areas Can accept large concentrations of runoff Conduits runoff to municipal sewer system or stabilized natural location Use catch basins to collect sediment
36	Catch Basin, Drain Inlet	Collects high velocity concentrated runoff May use filter cloth over top



CMS & D
SURVEYING / ENGINEERING
2257 E. BROADWAY ROAD
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EMAIL: info@cms-d.com

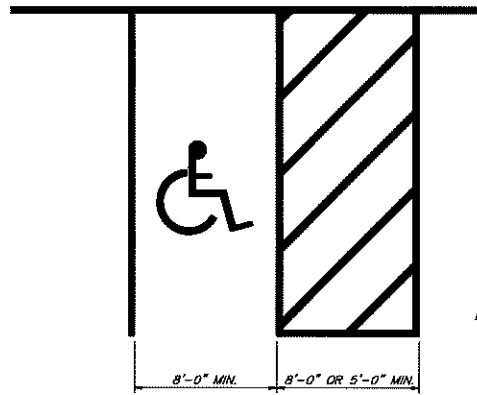
SOIL EROSION PLAN
BROADWAY 611, LLC
LOTS 6, 7, AND THE EAST 1/2 OF LOT 8 OF BLOCK 14
KINNEY'S ADDITION
CITY OF MT. PLEASANT, ISABELLA COUNTY, MICHIGAN

REVISIONS:
EGLE COMMENTS REGARDING CONTAMINATED
SOILS SEPT/OCT 2023

SUBMITTALS:
SUBMITTAL TO ZONING BOARD OF APPEALS 10-3-22
SUBMITTAL TO CITY ENGINEER & PLANNING 12-2-22
SUBMITTAL TO CITY ENGINEER & PLANNING 6-21-23
SUBMITTAL TO CITY CONSTRUCTION EBA 10-23-23
SUBMITTAL TO CITY OF MT. PLEASANT 10-25-23

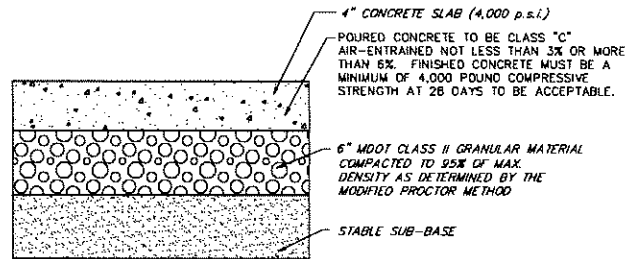
JOB NUMBER:
2208-114
DRAWN BY:
CDS
DESIGNED BY:
TELB
CHECKED BY:
TELB

SCALE:
1" = 10'
SHEET NUMBER:
5 of 6



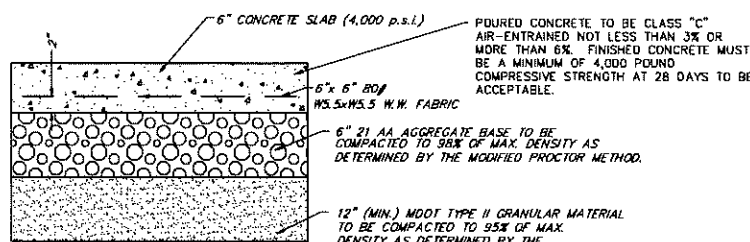
BARRIER FREE PARKING SPACES

NOT TO SCALE



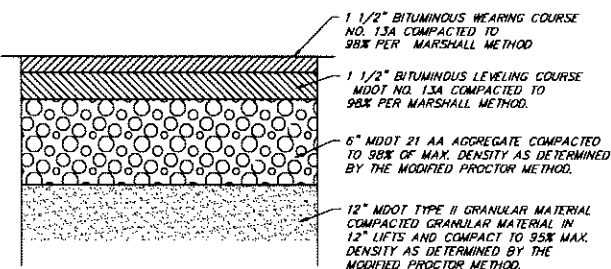
CONCRETE SIDEWALK CROSS-SECTION

NOT TO SCALE



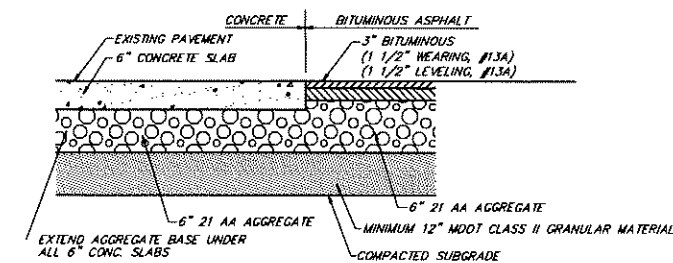
CONCRETE PAD CROSS-SECTION

NOT TO SCALE



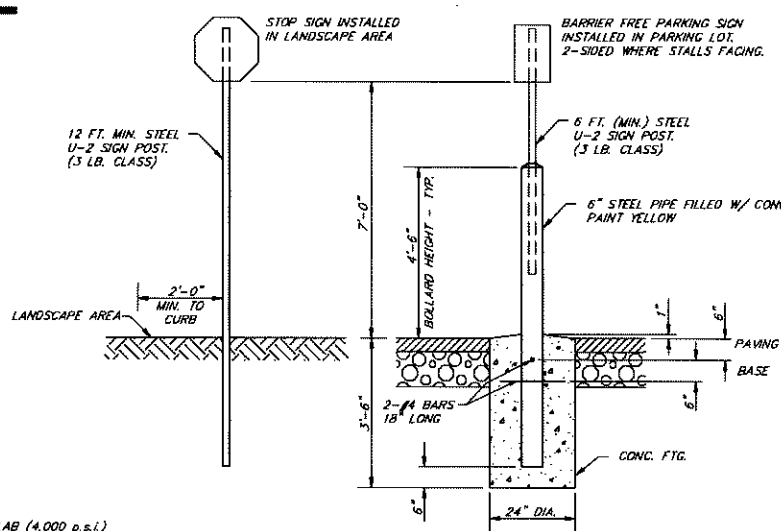
PARKING LOT ASPHALT PAVEMENT CROSS-SECTION

NOT TO SCALE



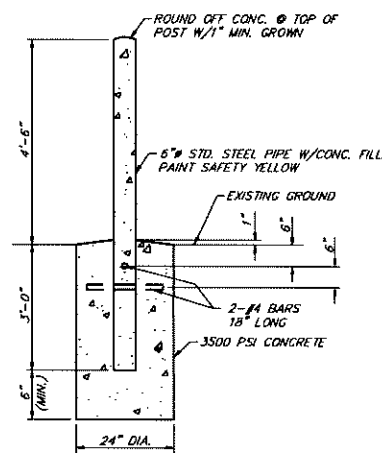
TYPICAL 6" CONCRETE SLAB CROSS-SECTION

NOT TO SCALE



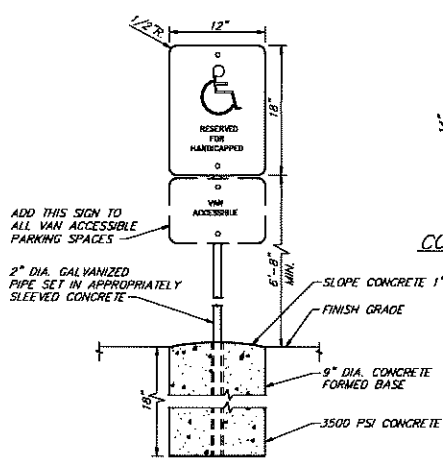
PARKING LOT SIGN POST DETAILS

NOT TO SCALE



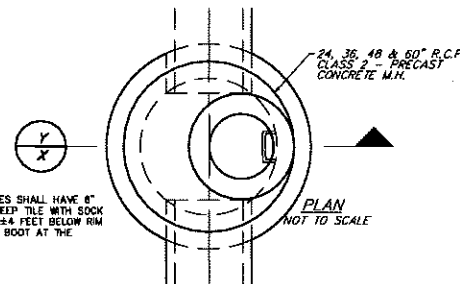
BOLLARD DETAIL

NOT TO SCALE



TYP. BARRIER FREE PARKING SIGN

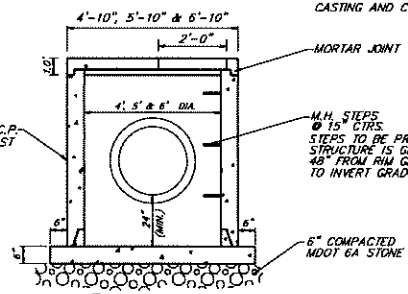
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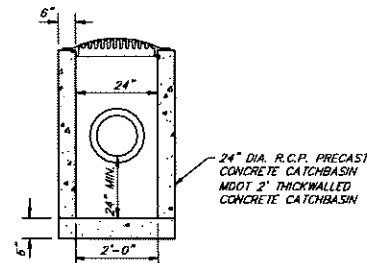
NOTE: ALL STRUCTURES SHALL HAVE 8" PERFORATED WEEP TILE WITH SOCK FINGER DRAIN 4" FEET BELOW RIM GRADE WITH A BOOT AT THE STRUCTURE.

NOTE: CONE SECTIONS MAY BE SUBSTITUTED WHERE DEPTH ALLOWS

NOTE: REFER TO SITE PLAN FOR CASTING AND COVER TYPE

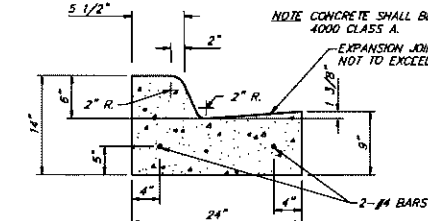


4', 5' & 6' DIA. COMBINATION M.H.-C.B.



2' DIA. CATCH BASIN DETAIL

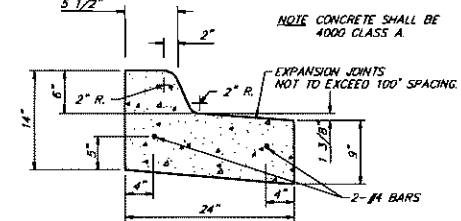
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CONCRETE F4 CURB AND GUTTER DETAIL

REGULAR PAN

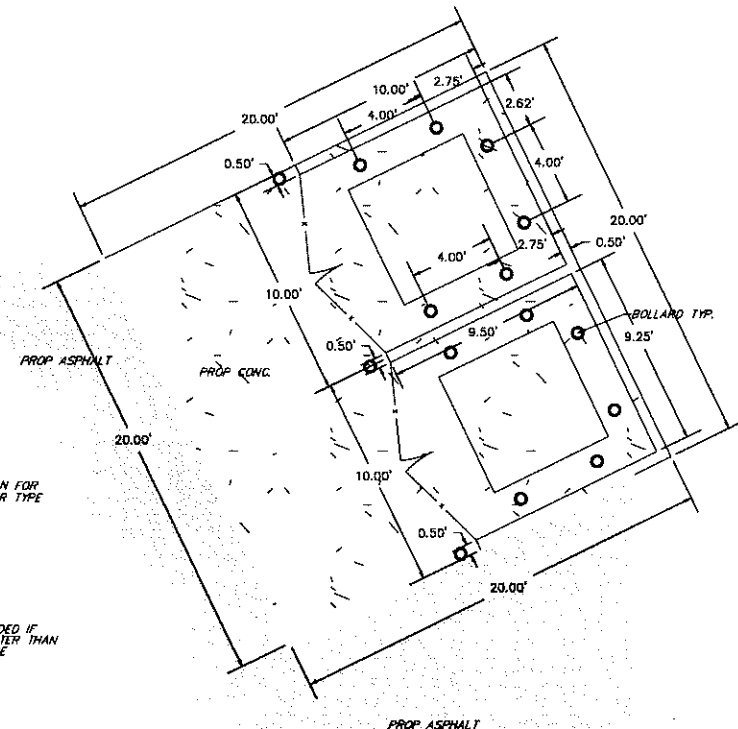
NOT TO SCALE



F4 CONCRETE CURB AND GUTTER DETAIL

REVERSE PAN

NOT TO SCALE



DUMPSTER DETAIL

NOT TO SCALE

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DETAILS SHEET
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REVISIONS:

NO.	DATE	DESCRIPTION
1	10-3-22	SUBMITTAL TO ZONING BOARD OF APPEALS
2	10-3-22	SUBMITTAL TO CITY ENGINEER & PLANNING
3	6-21-23	SUBMITTAL TO CITY ENGINEER & PLANNING
4	10-23-23	SUBMITTAL TO CITY CONSTRUCTION
5	10-25-23	SUBMITTAL TO CITY OF MT. PLEASANT

JOB NUMBER: 2208-114	SCALE: N/A
DRAWN BY: CDS	SHEET NUMBER: 6 of 6
DESIGNED BY: TELB	
CHECKED BY: TELB	