

# SOUTH DOUGLAS LONG PLAT DIVISION 4

**AS-BUILT DRAWINGS**  
A PORTION OF THE NE 1/4 OF SEC. 30, T. 39 N., R. 2 E., W.M.  
CLEARVIEW DRIVE, FERNDAL, WA

### LEGEND

- W WATER MAIN
- M WATER VALVE
- ⊙ FIRE HYDRANT
- ⊕ WATER METER
- ⋄ IRRIGATION SPRINKLER
- ⋈ SPIGOT
- SS SANITARY SEWER MAIN
- ⊙ SANITARY SEWER MANHOLE
- SD STORM DRAINAGE MAIN
- ⊕ CATCHBASIN
- ⊙ STORM DRAINAGE MANHOLE
- AREA DRAIN
- UGP UNDERGROUND POWER
- COMM COMMUNICATIONS LINE
- G NATURAL GAS LINE
- ⊕ POWER VAULT
- ⊙ LIGHT
- ⊕ TELEPHONE PEDESTAL
- ⊕ GAS METER OR VALVE
- ⊕ SIGN
- X FENCE
- EVERGREEN TREE
- DECIDUOUS TREE
- ▨ NO VEHICULAR (DRIVEWAY) ACCESS TO LOT (FROM SIDE INDICATED)

### ABBREVIATIONS

- ASTM AMERICAN SOCIETY OF TESTING AND MATERIALS
- CB CATCHBASIN
- CO CLEANOUT
- DIA & Ø DIAMETER
- EL ELEVATION
- EXST EXISTING
- FG FINISHED GRADE
- L LEFT
- MAX MAXIMUM
- MH MANHOLE
- MIN MINIMUM
- PVI POINT OF VERTICAL INTERSECTION
- R RADIUS
- R RIGHT
- SD STORM DRAINAGE
- SPEC SPECIFICATION
- SS SANITARY SEWER
- STA STATION
- STD STANDARD
- TYP TYPICAL
- WSDOT WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

### SURVEY INFORMATION

#### HORIZONTAL DATUM

WASHINGTON STATE PLANE NORTH ZONE (NAD 83/91) PER BENCHMARKS LISTED BELOW.

#### VERTICAL DATUM

NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29)

VERTICAL DATUM REFERENCE BENCHMARK: 2" BRASS DISK AT INTERSECTION OF CLEARVIEW ROAD AND AN UNNAMED ROAD APPROXIMATELY 112' SOUTH OF THE SOUTH LINE OF TRACT 'B', DOUGLAS LONG PLAT DIVISION 2, ELEVATION 57.01' (AS SHOWN ON DRAWING C2)

### PROJECT BENCHMARKS

#### FERN 07 COORDINATE


NORTH 679459.13  
EASTING 1211031.14  
ELEV 147.15'

#### FERN 10 COORDINATE

NORTH 673834.78  
EASTING 1210873.19  
ELEV 8.30'

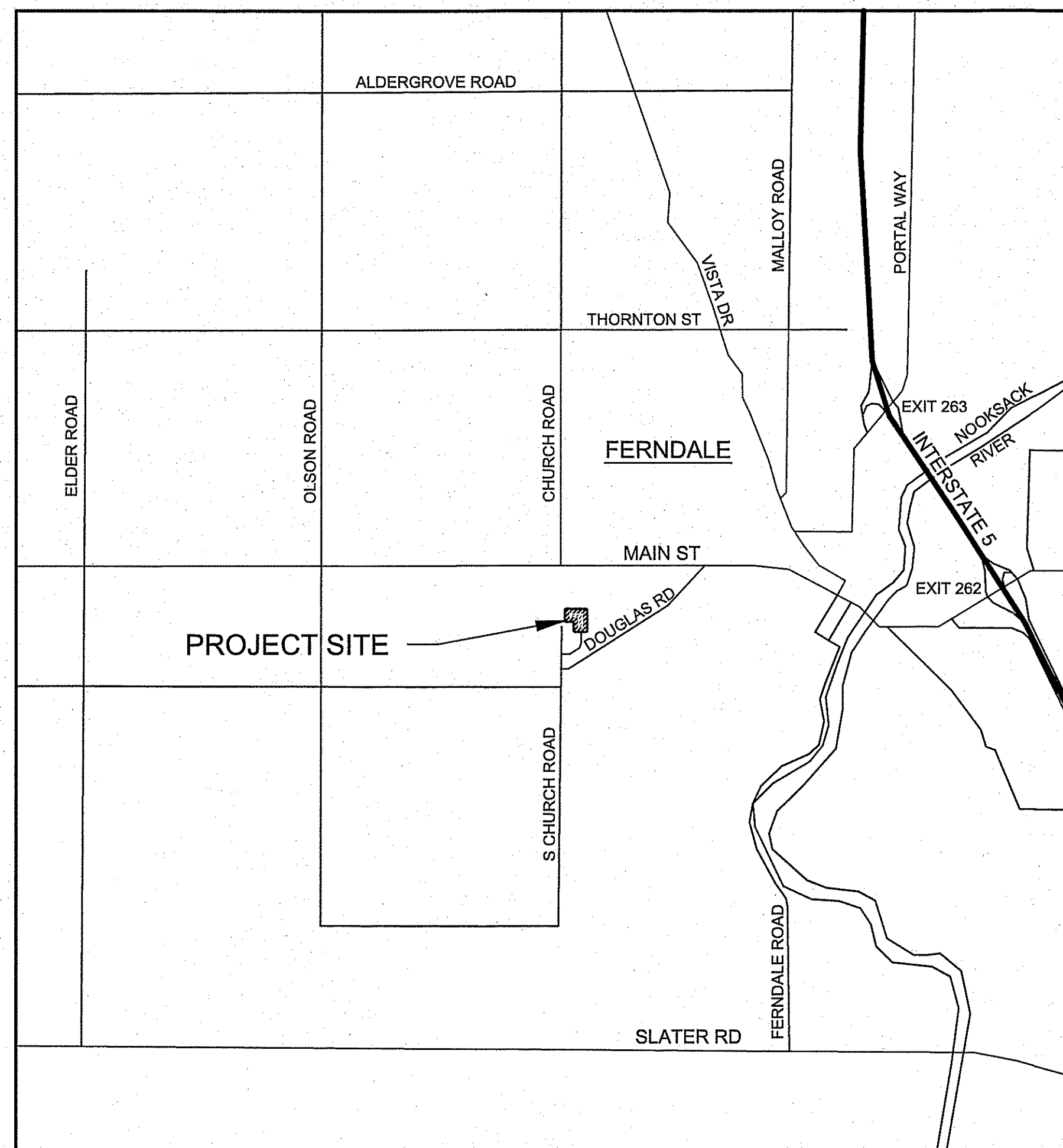
### APPROVED

JUN 21 2018

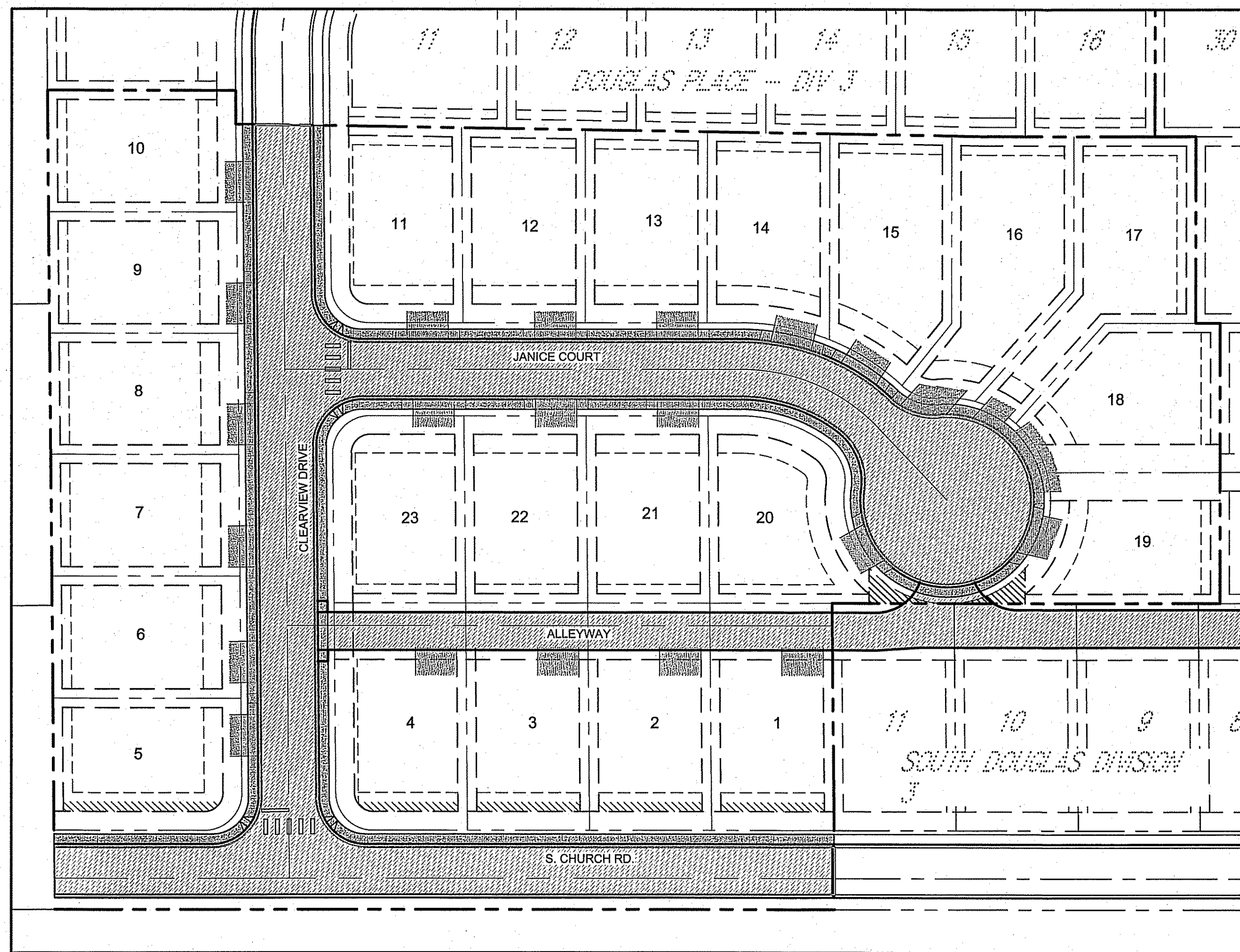
BY:   
CITY OF FERNDAL  
PUBLIC WORKS DEPARTMENT

### BURIED UTILITIES NOTE:

ALL UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE IN APPROXIMATE LOCATIONS ONLY AND THERE IS NO GUARANTEE THAT ALL UTILITIES ON THIS SITE ARE SHOWN. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTACT THE WASHINGTON STATE UTILITY LOCATE CENTER AT 8-1-1 AT LEAST 48 HOURS BEFORE CONSTRUCTION.



**VICINITY MAP - FERNDAL**  
NTS



**PROJECT OVERVIEW**  
1"=50'

### LOT CALCULATIONS

TOTAL PARCEL:	225,884 SF (5.18 ACRES)
RIGHT-OF-WAY:	61,125 SF
DEVELOPABLE AREA:	164,759 SF (3.78 ACRES)
TOTAL NEW LOT AREA:	164,787 SF
AVERAGE LOT AREA:	7,164 SF
LARGEST LOT:	8,366 SF
SMALLEST LOT:	6,500 SF
NUMBER OF LOTS:	23
RESULTING DENSITY:	10.37 LOTS PER ACRE (GROSS) 7.56 LOTS PER ACRE (NET)**

\* BASED ON TOTAL PARCEL  
\*\* BASED ON DEVELOPABLE AREA

### CONTACT INFORMATION

OWNER/DEVELOPER:	KRAMER CONSTRUCTION 1442 SUNSET AVENUE FERNDAL, WA 98248
ENGINEER & SURVEYOR:	RONALD T. JEPSON & ASSOCIATES, PS 222 GRAND AVE., SUITE C BELLINGHAM, WASHINGTON 98225 OFFICE: 360-733-5760 FAX: 360-647-8939
ASSESSORS NUMBERS:	390230 020468 0000

### LEGAL DESCRIPTIONS

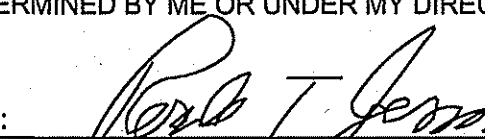
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SOUTH DOUGLAS, DIVISION 3, TRACT A1 - FUTURE PHASE AS FILED UNDER WHATCOM COUNTY AUDITOR'S FILE NO. 2150201460.  
  
SITUATE IN CITY OF FERNDAL, WHATCOM COUNTY, WASHINGTON.

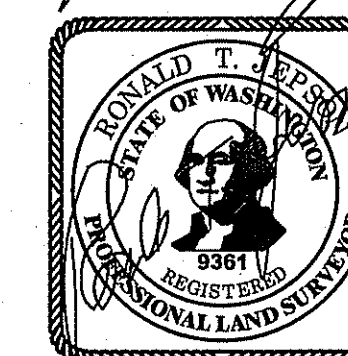
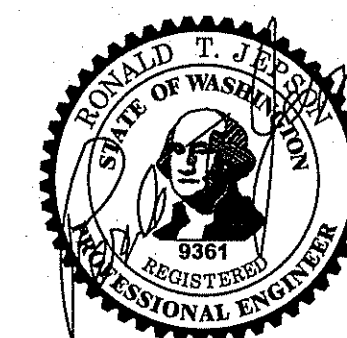
### SHEET INDEX

C1-AB	TITLE SHEET
C2-AB	EXISTING CONDITIONS & TESC
C3-AB	TESC DETAILS
C4-AB	SITE PLAN (LOT LAYOUT)
C5-AB	GRADING AND PAVING PLAN (W/ OVERALL UTILITIES LAYOUT)
C6-AB	STORM DRAINAGE (CLEARVIEW DRIVE) - PLAN & PROFILE
C7-AB	STORM DRAINAGE (CHURCH ROAD) - PLAN & PROFILE
C8-AB	STORM DRAINAGE (JANICE COURT) - PLAN & PROFILE
C9-AB	STORM DRAINAGE (ALLEYWAY) - PLAN & PROFILE
C10-AB	WATER & SANITARY SEWER (CLEARVIEW DRIVE) - PLAN & PROFILE
C11-AB	WATER & SANITARY SEWER (CHURCH ROAD) - PLAN & PROFILE
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C14-AB	ROAD DETAILS (2)
C15-AB	STORM DETAILS
C16-AB	SEWER DETAILS
C17-AB	WATER DETAILS
C18-AB	GENERAL NOTES
C-19-AB	DETENTION POND
C-20-AB	NORTH DRAINAGE CUT-OFF TRENCH
C-21-AB	SOUTH DRAINAGE CUT-OFF TRENCH

I HEREBY CERTIFY THAT THE IMPROVEMENTS FOR DOUGLAS PLACE LONG PLAT DIVISION 3 HAVE BEEN INSPECTED BY RONALD T. JEPSON & ASSOCIATES AND TO THE BEST OF MY KNOWLEDGE, HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE CITY OF FERNDAL DEVELOPMENT STANDARDS, THE CITY OF FERNDAL MUNICIPAL CODE, SUBSEQUENT STANDARDS ADOPTED BY REFERENCE THEREIN AND STANDARD ENGINEERING PRACTICE.

I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE:

DATED: 06/13/2018 SIGNATURE: 



AS-BUILT

REVISIONS

ID	ISSUE DATE	DESCRIPTION
AB1	2/15/2018	AS-BUILT DRAWING
A1	6/18/2018	CORR'S PER COF COMMENTS

RONALD T. JEPSON & ASSOC.  
CIVIL ENGINEERING - SURVEYING - LAND PLANNING  
222 GRAND AVENUE, SUITE C, BELLINGHAM, WASHINGTON 98225  
PH: 360-733-5760 EMAIL: RJEPSON@JEPSONENGINEERING.COM


PREPARED FOR: SOUTH DOUGLAS, LLC

COVER (AB)

LEGEND, ABBREVIATIONS, SHEET INDEX & GENERAL INFO  
CLEARVIEW DRIVE, FERNDAL, WA

APPROVED

JUN 21 2018

BY:   
CITY OF FERNDAL  
PUBLIC WORKS DEPARTMENT

BURIED UTILITIES NOTE:

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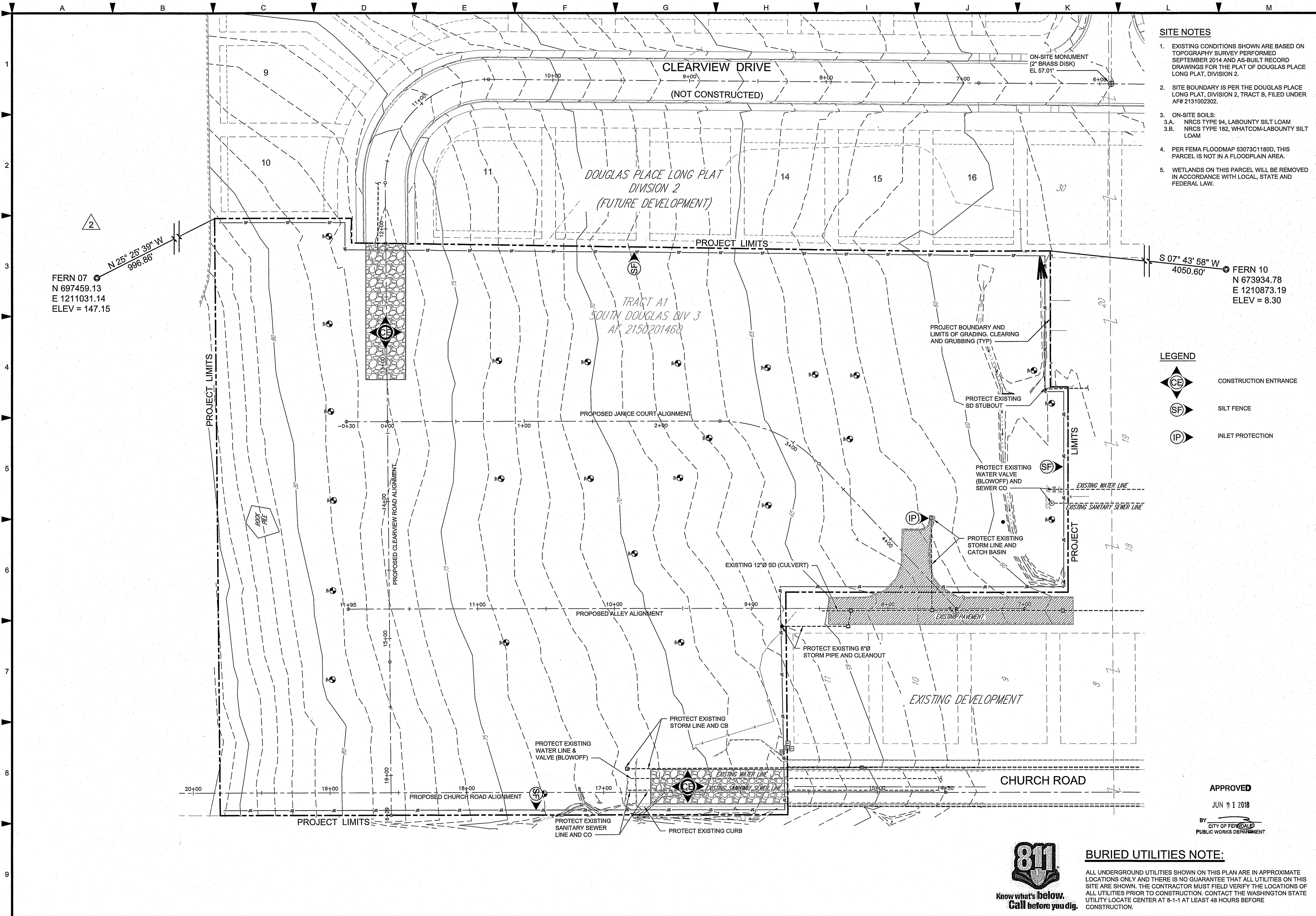
811  
Know what's below.  
Call before you dig.

PROJECT ID: 15043

ISSUE DATE: 6/18/2018

SHEET ID: C1-AB





- SITE NOTES**
- EXISTING CONDITIONS SHOWN ARE BASED ON TOPOGRAPHY SURVEY PERFORMED SEPTEMBER 2014 AND AS-BUILT RECORD DRAWINGS FOR THE PLAT OF DOUGLAS PLACE LONG PLAT, DIVISION 2.
  - SITE BOUNDARY IS PER THE DOUGLAS PLACE LONG PLAT, DIVISION 2, TRACT B, FILED UNDER AF# 2131002302.
  - ON-SITE SOILS:
    - NRCS TYPE 94, LABOUNTY SILT LOAM
    - NRCS TYPE 182, WHATCOM-LABOUNTY SILT LOAM
  - PER FEMA FLOODMAP 53073C11800, THIS PARCEL IS NOT IN A FLOODPLAIN AREA.
  - WETLANDS ON THIS PARCEL WILL BE REMOVED IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL LAW.

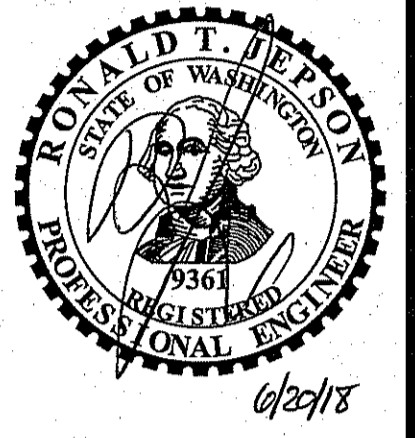
- LEGEND**
- CONSTRUCTION ENTRANCE
  - SILT FENCE
  - INLET PROTECTION

APPROVED  
 JUN 21 2018  
 BY  
 CITY OF FERDALE  
 PUBLIC WORKS DEPARTMENT

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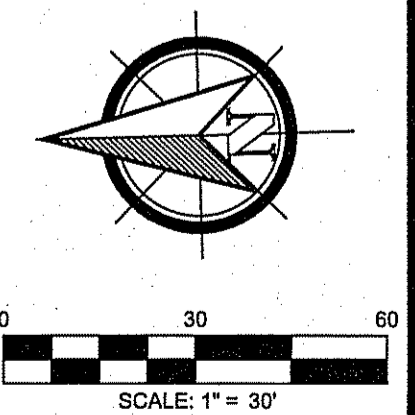
**AS-BUILT**

ID	ISSUE DATE	DESCRIPTION
AB	2/15/2018	AS-BUILT DRAWING
AT	6/18/2018	CORR'S PER COF COMMENTS



**RONALD T. JEPSON & ASSOC.**  
 CIVIL ENGINEERING - SURVEYING - LAND PLANNING  
 222 GRAND AVENUE, SUITE C, BELLEVUE, WASHINGTON 98005  
 PH: 866-753-3760 EMAIL: RJEPSON@JEPSONENGINEERING.COM

PREPARED FOR: DOUGLAS PLACE, LLC  
**EXISTING CONDITIONS (AB)**  
 TEMPORARY EROSION & SEDIMENTATION CONTROL  
 SOUTH DOUGLAS LONG PLAT DIVISION 4



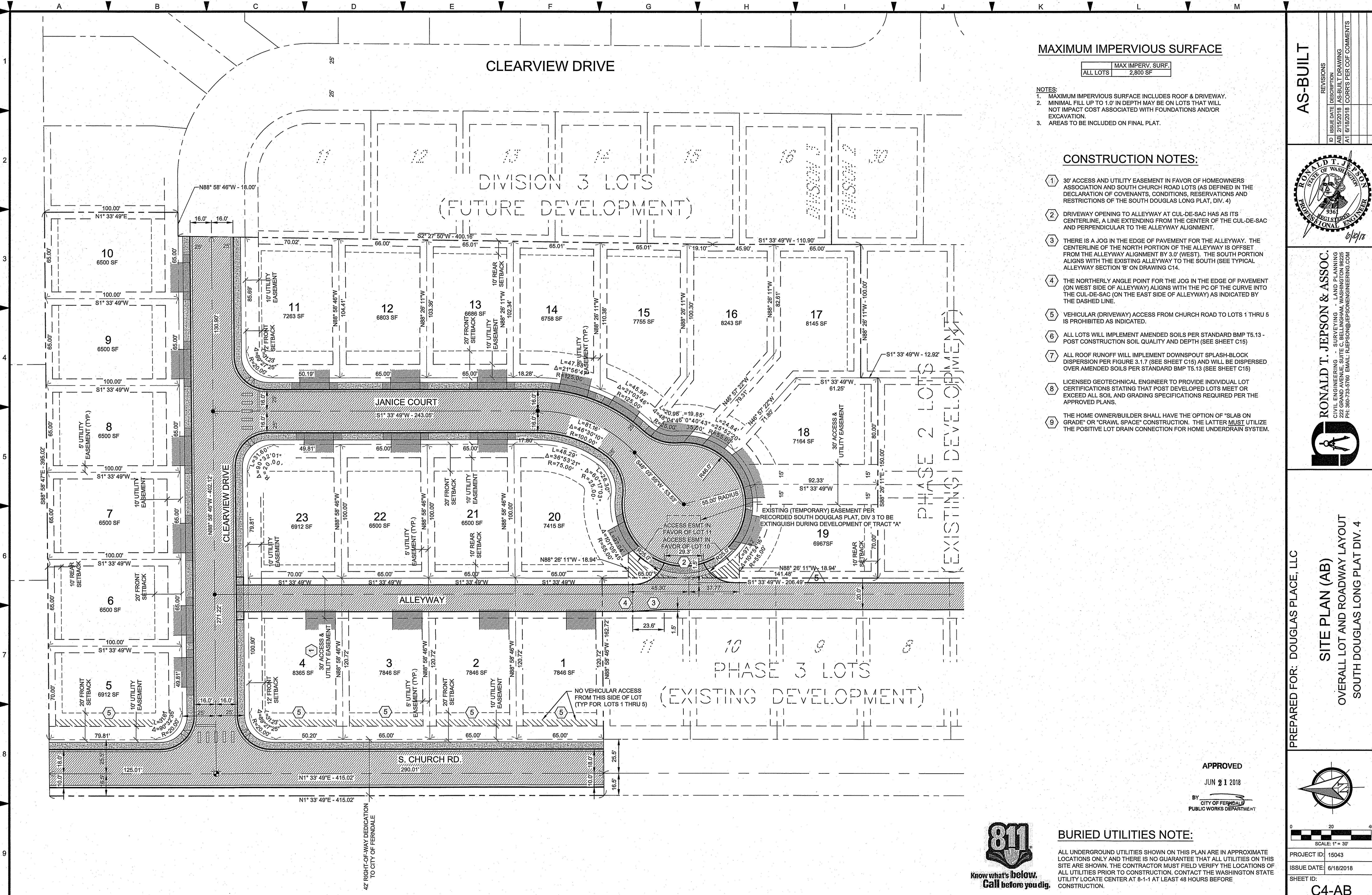
PROJECT ID: 15043  
 ISSUE DATE: 6/18/2018  
 SHEET ID: C2-AB











**MAXIMUM IMPERVIOUS SURFACE**

ALL LOTS	MAX IMPERV. SURF.
	2,800 SF

- NOTES:**
1. MAXIMUM IMPERVIOUS SURFACE INCLUDES ROOF & DRIVEWAY.
  2. MINIMAL FILL UP TO 1.0' IN DEPTH MAY BE ON LOTS THAT WILL NOT IMPACT COST ASSOCIATED WITH FOUNDATIONS AND/OR EXCAVATION.
  3. AREAS TO BE INCLUDED ON FINAL PLAT.

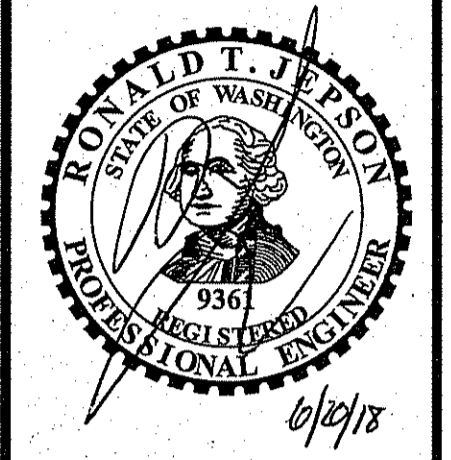
**CONSTRUCTION NOTES:**

1. 30' ACCESS AND UTILITY EASEMENT IN FAVOR OF HOMEOWNERS ASSOCIATION AND SOUTH CHURCH ROAD LOTS (AS DEFINED IN THE DECLARATION OF COVENANTS, CONDITIONS, RESERVATIONS AND RESTRICTIONS OF THE SOUTH DOUGLAS LONG PLAT, DIV. 4)
2. DRIVEWAY OPENING TO ALLEYWAY AT CUL-DE-SAC HAS AS ITS CENTERLINE, A LINE EXTENDING FROM THE CENTER OF THE CUL-DE-SAC AND PERPENDICULAR TO THE ALLEYWAY ALIGNMENT.
3. THERE IS A JOG IN THE EDGE OF PAVEMENT FOR THE ALLEYWAY. THE CENTERLINE OF THE NORTH PORTION OF THE ALLEYWAY IS OFFSET FROM THE ALLEYWAY ALIGNMENT BY 3.0' (WEST). THE SOUTH PORTION ALIGNS WITH THE EXISTING ALLEYWAY TO THE SOUTH (SEE TYPICAL ALLEYWAY SECTION 'B' ON DRAWING C14).
4. THE NORTHERLY ANGLE POINT FOR THE JOG IN THE EDGE OF PAVEMENT (ON WEST SIDE OF ALLEYWAY) ALIGNS WITH THE PC OF THE CURVE INTO THE CUL-DE-SAC (ON THE EAST SIDE OF ALLEYWAY) AS INDICATED BY THE DASHED LINE.
5. VEHICULAR (DRIVEWAY) ACCESS FROM CHURCH ROAD TO LOTS 1 THRU 5 IS PROHIBITED AS INDICATED.
6. ALL LOTS WILL IMPLEMENT AMENDED SOILS PER STANDARD BMP T5.13 - POST CONSTRUCTION SOIL QUALITY AND DEPTH (SEE SHEET C15)
7. ALL ROOF RUNOFF WILL IMPLEMENT DOWNSPOUT SPLASH-BLOCK DISPERSION PER FIGURE 3.1.7 (SEE SHEET C15) AND WILL BE DISPERSED OVER AMENDED SOILS PER STANDARD BMP T5.13 (SEE SHEET C15)
8. LICENSED GEOTECHNICAL ENGINEER TO PROVIDE INDIVIDUAL LOT CERTIFICATIONS STATING THAT POST DEVELOPED LOTS MEET OR EXCEED ALL SOIL AND GRADING SPECIFICATIONS REQUIRED PER THE APPROVED PLANS.
9. THE HOME OWNER/BUILDER SHALL HAVE THE OPTION OF "SLAB ON GRADE" OR "RAWL SPACE" CONSTRUCTION. THE LATTER MUST UTILIZE THE POSITIVE LOT DRAIN CONNECTION FOR HOME UNDERDRAIN SYSTEM.

**AS-BUILT**

REVISIONS

ID	ISSUE DATE	DESCRIPTION
AB1	2/15/2018	AS-BUILT DRAWING
A11	6/18/2018	CORR'S PER CDF COMMENTS



**RONALD T. JEPSON & ASSOC.**

CIVIL ENGINEERING - SURVEYING - LAND PLANNING  
 222 GRAND AVENUE, SUITE C, BELLEVUE, WA, WASHINGTON 98005  
 PH: 360-695-9760 EMAIL: rj@rtj-engineering.com

**PREPARED FOR: DOUGLAS PLACE, LLC**

**SITE PLAN (AB)**

OVERALL LOT AND ROADWAY LAYOUT  
 SOUTH DOUGLAS LONG PLAT DIV. 4

**APPROVED**

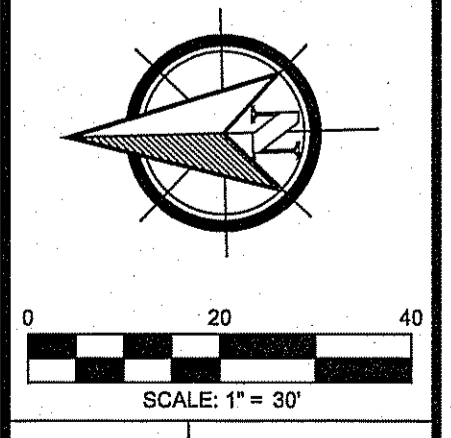
JUN 21 2018

BY CITY OF FERNDALE  
 PUBLIC WORKS DEPARTMENT



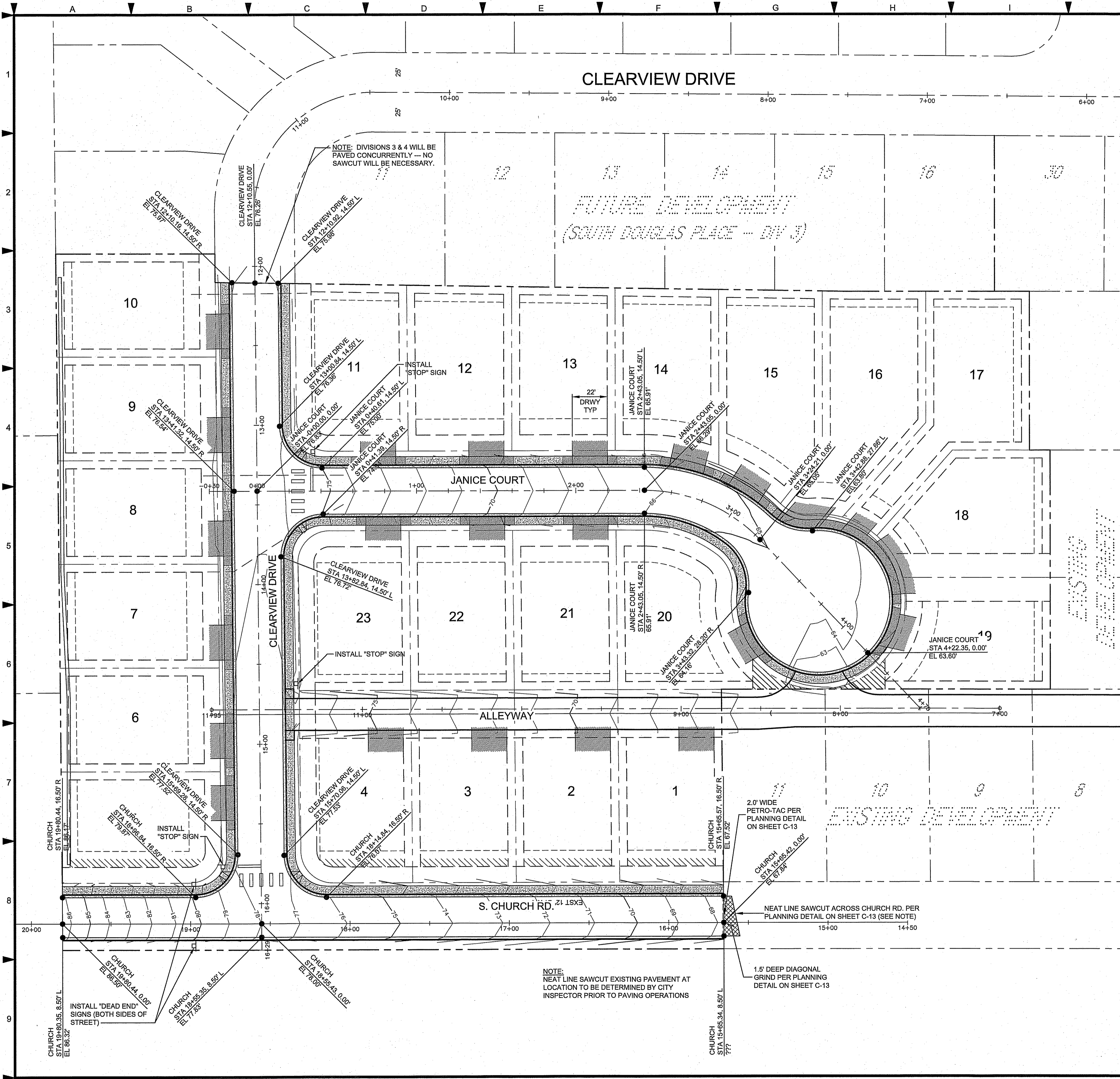
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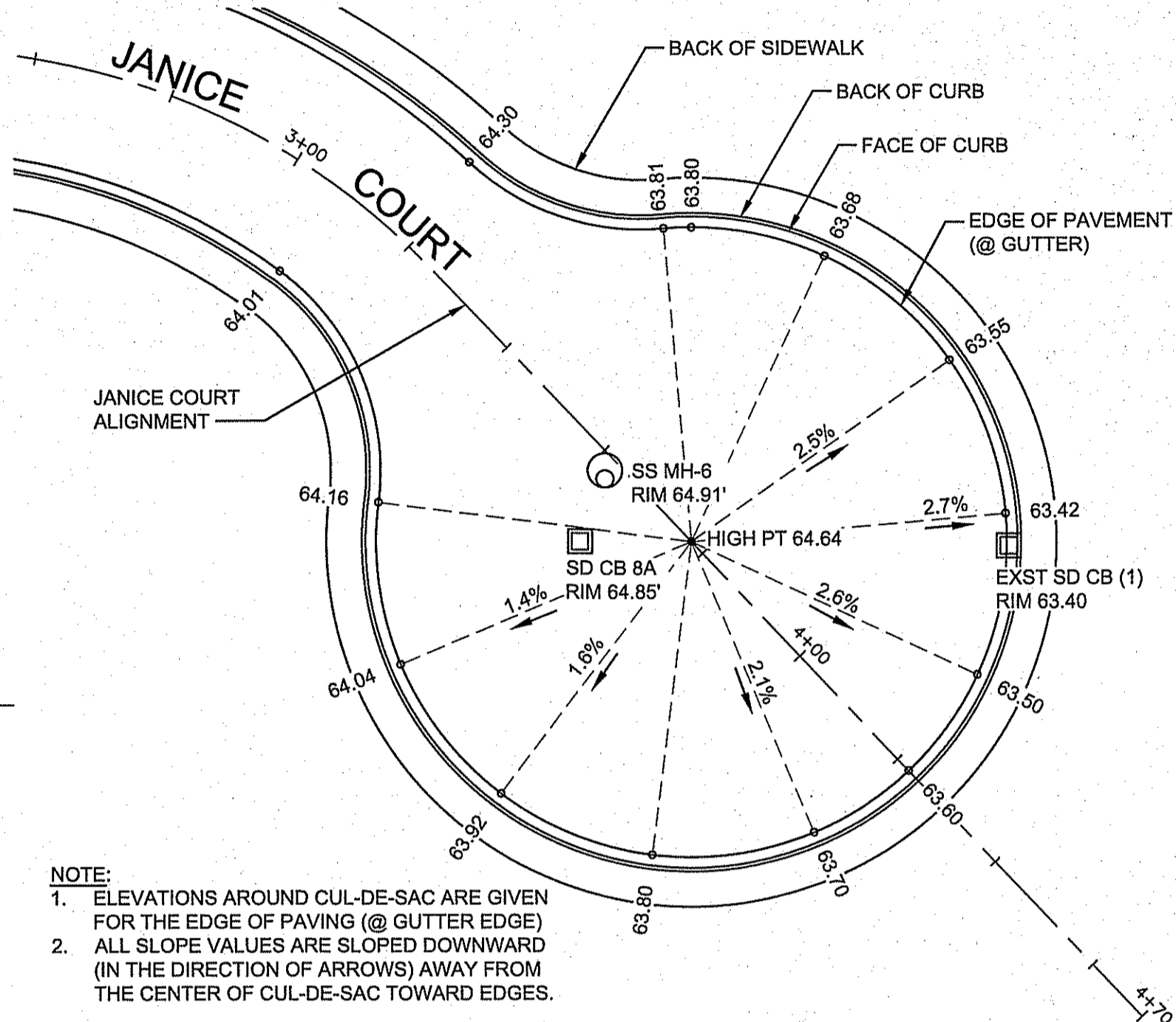
PROJECT ID: 15043  
 ISSUE DATE: 6/18/2018  
 SHEET ID: C4-AB





**CONSTRUCTION NOTES:**

- STATIONS AND ELEVATIONS SHOWN ARE GIVEN FOR THE STATIONING ALIGNMENT LINE(S) OR THE EDGE OF PAVEMENT (WHICH IS THE STREET SIDE EDGE OF THE GUTTER).
- LOCATION OF DRIVEWAYS MAY VARY AT CONSTRUCTION AS DETERMINED BY THE OWNER/CONTRACTOR.
- NO GRADING IS SHOWN FOR THE INDIVIDUAL LOTS WHICH IS TO BE DETERMINED LATER AT DISGRESSION OF OWNER(S).
- LOTS RECEIVING FILL REQUIRE A STRUCTURAL FILL CERTIFICATE NOTING (1) COMPACTION RECORDS AND (2) DEPTH OF FILL FROM THE GEOTECHNICAL AGENCY TO CERTIFY THE LOT IS APPROVED FOR RESIDENTIAL CONSTRUCTION. THE BUILDING ENVELOPE MUST BE DEFINED ON THE FINAL PLAT THAT INCLUDES THE LANGUAGE ABOVE.
- THE HOME OWNER/BUILDER SHALL HAVE THE OPTION OF "SLAB ON GRADE" OR "CRAWL SPACE" CONSTRUCTION. THE LATTER MUST UTILIZE THE POSITIVE LOT DRAIN CONNECTION FOR HOME UNDERDRAIN SYSTEM.

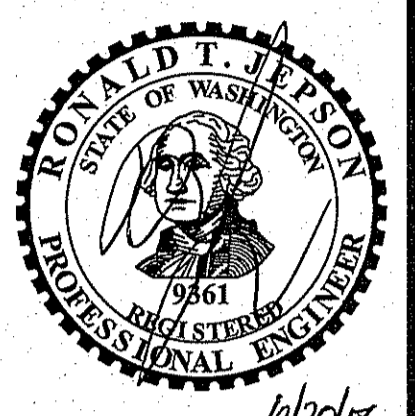


- NOTE:**
- ELEVATIONS AROUND CUL-DE-SAC ARE GIVEN FOR THE EDGE OF PAVING (@ GUTTER EDGE)
  - ALL SLOPE VALUES ARE SLOPED DOWNWARD (IN THE DIRECTION OF ARROWS) AWAY FROM THE CENTER OF CUL-DE-SAC TOWARD EDGES.

**JANICE COURT CUL-DE-SAC - GRADING DETAILS**  
SCALE: 1"=20'

AS-BUILT

NO.	REVISIONS	DATE	DESCRIPTION
1	AS-BUILT DRAWING	6/18/2018	
2	CORRS PEF COF COMMENTS		



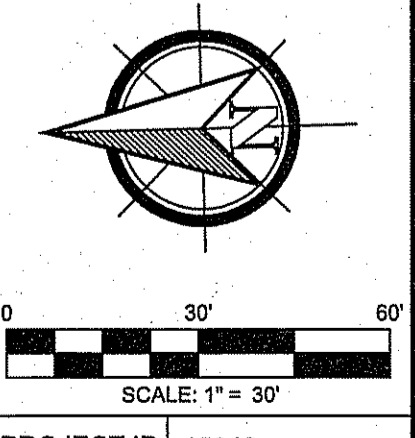
**RONALD T. JEPSON & ASSOC.**  
 CIVIL ENGINEERING SURVEYING LAND PLANNING  
 222 GRAND AVENUE, SUITE C, BELLEVUE, WASHINGTON 98005  
 PH: 360-733-5760 EMAIL: R.T.JEPSON@JEPSONENGINEERING.COM

PREPARED FOR: DOUGLAS PLACE, LLC  
**GRADING & PAVING PLAN (AB)**  
 (W/ OVERALL UTILITIES LAYOUT)  
 SOUTH DOUGLAS LONG PLAT DIV. 4

**APPROVED**

JUN 21 2018

BY: [Signature]  
 CITY OF FERNDALE  
 PUBLIC WORKS DEPARTMENT



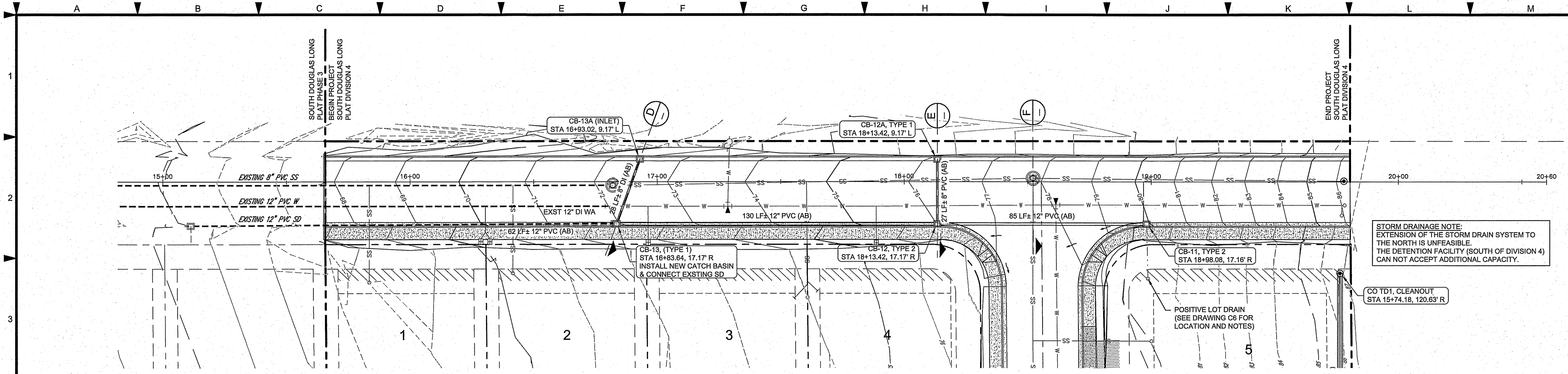
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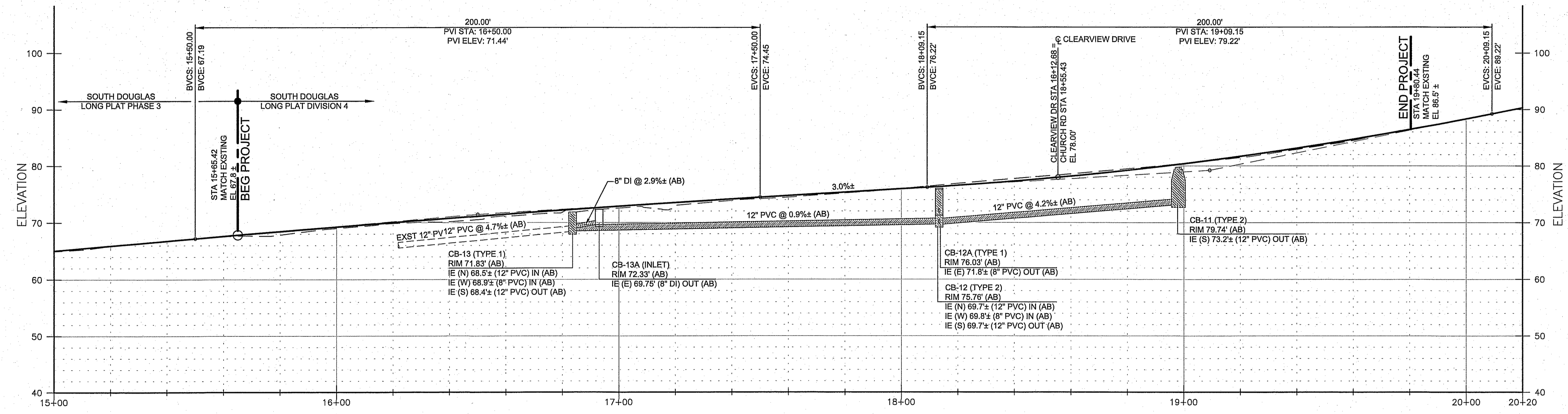






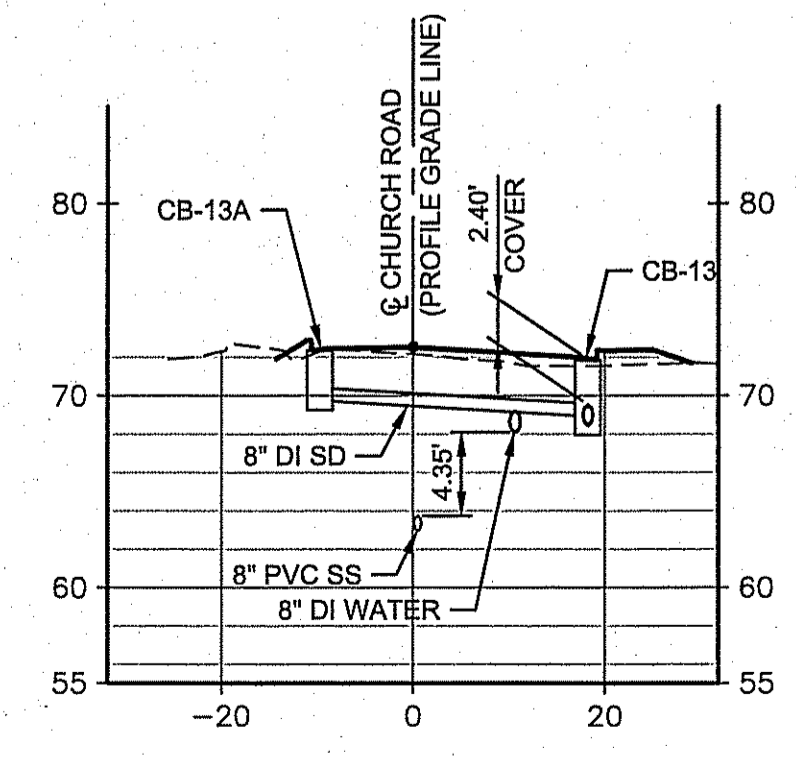


**CHURCH ROAD - STORM DRAINAGE PLAN**  
SCALE: 1"=20'

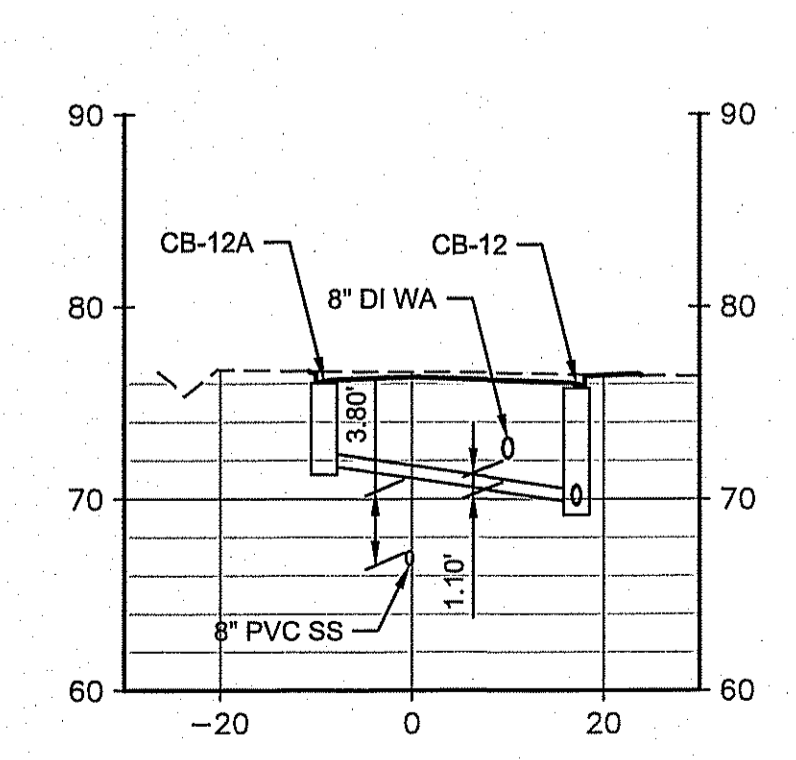


**CHURCH ROAD - STORM DRAINAGE PROFILE**  
SCALE: 1"=20' (H), 1"=10' (V)

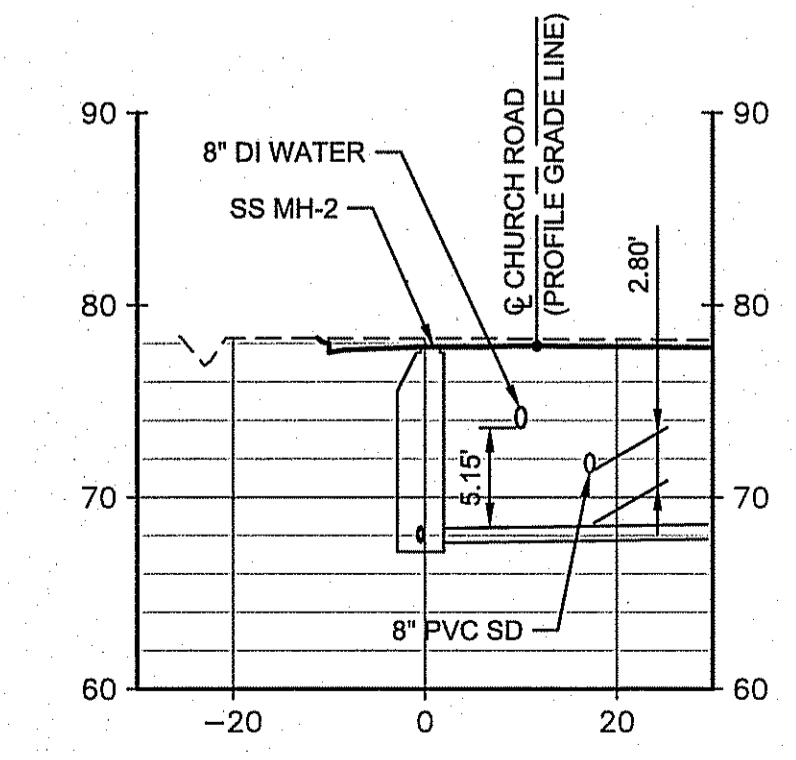
**STORM & UTILITIES SECTION**  
CHURCH STA 16+89.76



**STORM & UTILITIES SECTION**  
CHURCH STA 18+13.42



**STORM & UTILITIES SECTION**  
CHURCH STA 18+52.12



**LEGEND:**

— SD —	STORM WATER PIPE
— SS —	SANITARY SEWER PIPE
— W —	WATER PIPE
— P —	PERFORATED DRAIN PIPE (IN DRAINAGE TRENCH)
— A —	CROSS SECTION LINE
⊕	WATER METER
⊙	CLEANOUT (SANITARY SEWER & STORM WATER)
⊚	MANHOLE (SANITARY SEWER)
⊚	CATCH BASIN (STORM WATER)
⊚	WATER VALVE
⊚	WATER TEE CONNECTION (W/ THRUST BLOCK)
⊚	FIRE HYDRANT

**CONSTRUCTION NOTES:**

- BACK-OF-SIDEWALK DRAINS (DETAIL ST-15, DRAWING C15) SHALL BE USED TO COLLECT LOT SURFACE FLOW FOR ALL LOTS SLOPING TOWARD THE ROADWAY /SIDEWALK.
- POSITIVE LOT DRAINS STUB-OUTS (DETAIL ST-16, DRAWING C15) SHALL BE PROVIDED FOR CONNECTION TO ALL HOME CRAWL SPACE UNDERDRAINS.
- ROOF DRAINAGE SHALL BE CONVEYED VIA DOWNSPOUTS TO SPLASH BLOCKS (DETAIL 2, DRAWING C15) AND SPREAD OVER AMENDED SOIL AREAS (PER STORM REPORT).



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**APPROVED**  
JUN 9 1 2018  
CITY OF PERNDALE  
PUBLIC WORKS DEPARTMENT

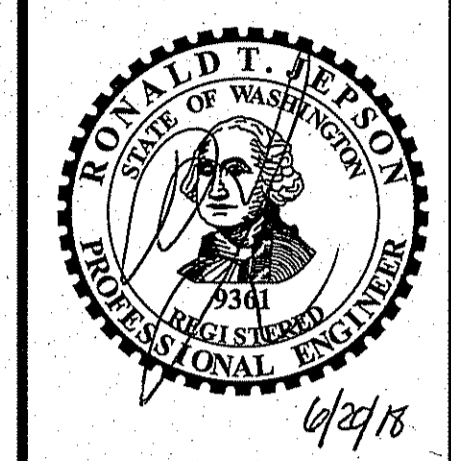
**WATER / STORM CROSSING**  
SCALE: 1"=20' (H), 1"=10' (V)

**WATER / SEWER / STORM CROSSING**  
SCALE: 1"=20' (H), 1"=10' (V)

**WATER / SEWER / STORM CROSSING**  
SCALE: 1"=20' (H), 1"=10' (V)

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AB	2/15/2018	AS-BUILT DRAWING
AT	6/18/2018	CORR'S PER COF COMMENTS



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222 GRAND AVENUE, SUITE C, BELLINGHAM, WASHINGTON 98225  
PH: 360-793-2760 EMAIL: RJEPSON@JEPSONENGINEERING.COM

PREPARED FOR: DOUGLAS PLACE, LLC  
**STORM DRAINAGE - CHURCH ROAD (AB)**  
PLAN AND PROFILE  
SOUTH DOUGLAS LONG PLAT DIVISION 4

PROJECT ID: 15043  
ISSUE DATE: 6/18/2018  
SHEET ID: C7-AB

0 20 40  
SCALE: 1"=20'





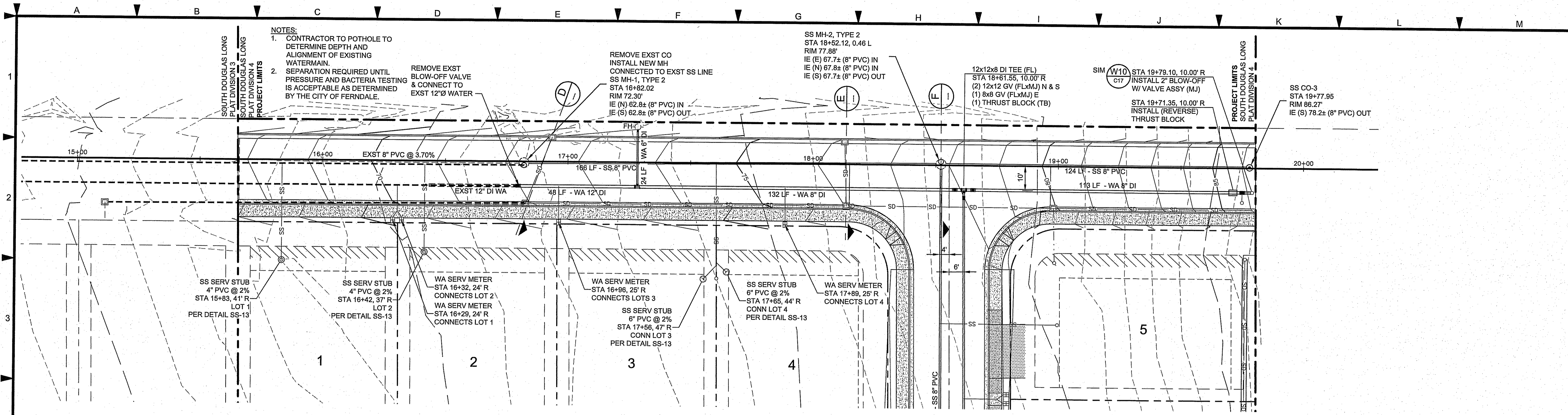




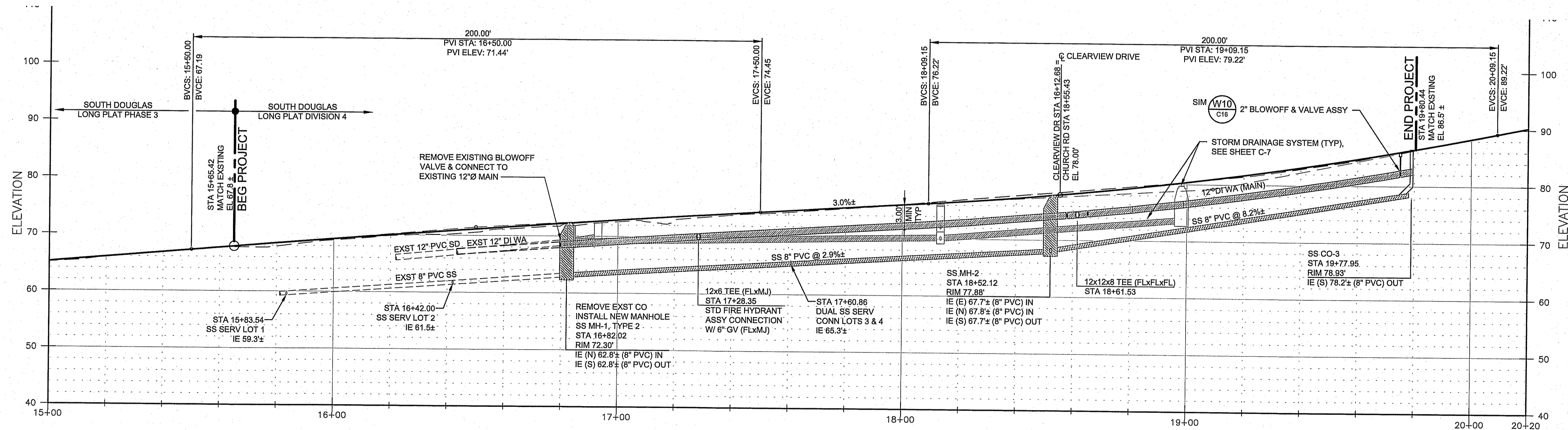




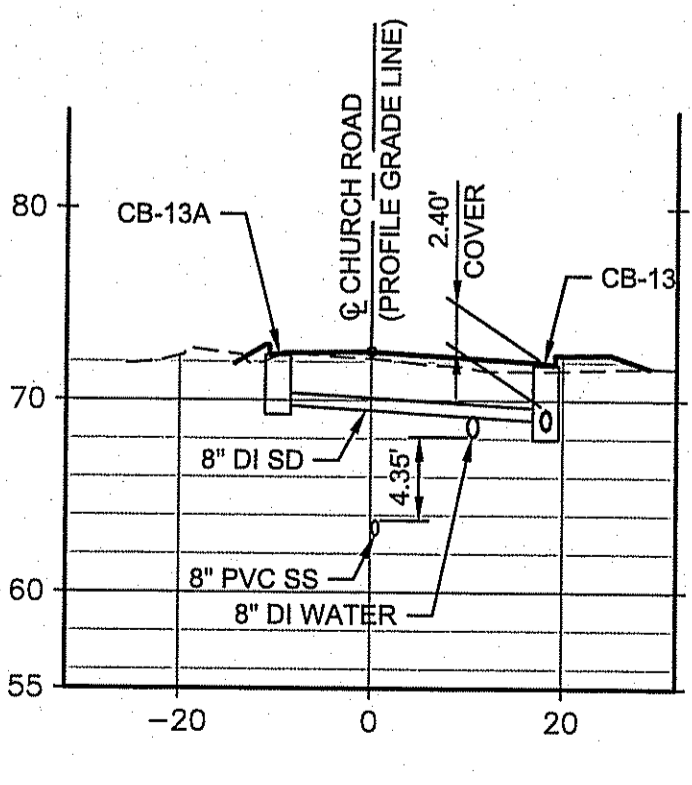




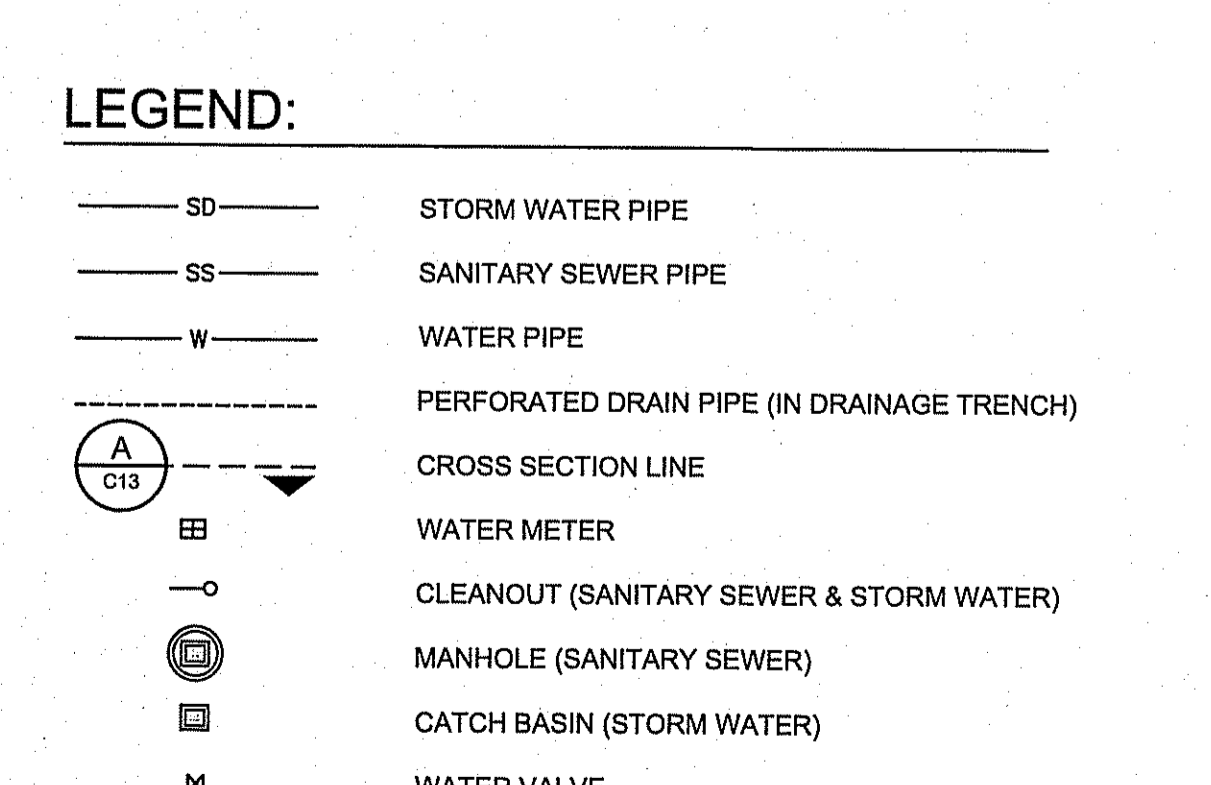
**CHURCH ROAD - WATER & SEWER PLAN**  
 SCALE: 1"=20'



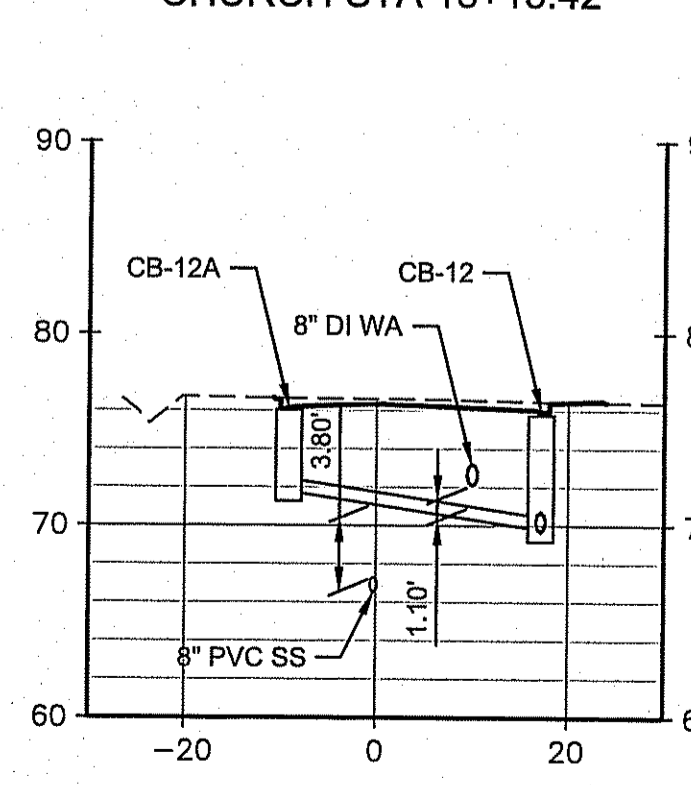
**STORM & UTILITIES SECTION**  
 CHURCH STA 16+89.76



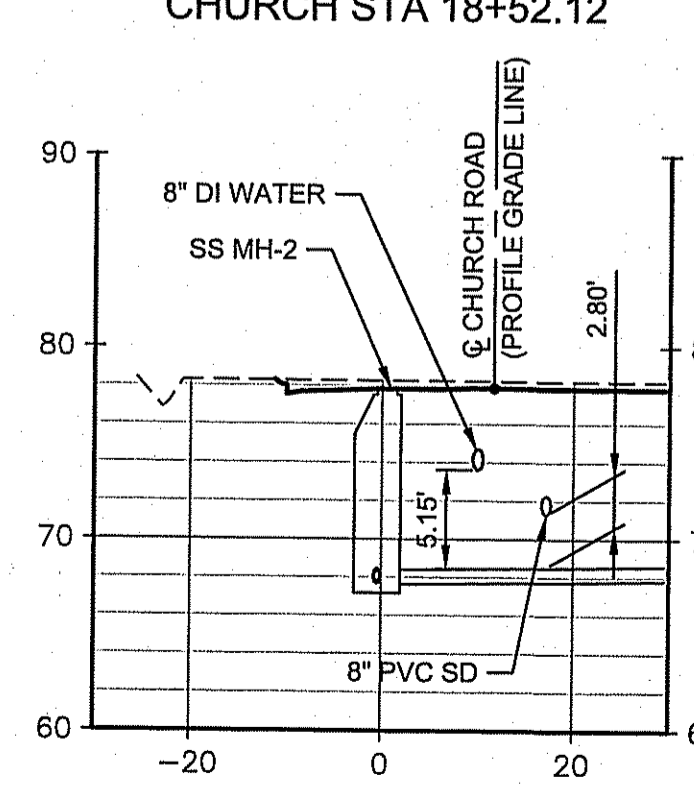
**CHURCH ROAD - WATER & SEWER PROFILE**  
 SCALE: 1"=20' (H), 1"=10' (V)



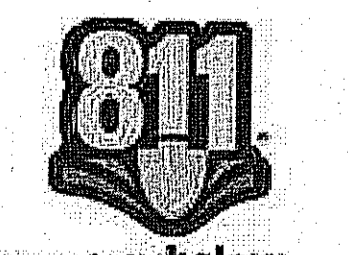
**STORM & UTILITIES SECTION**  
 CHURCH STA 18+13.42



**STORM & UTILITIES SECTION**  
 CHURCH STA 18+52.12



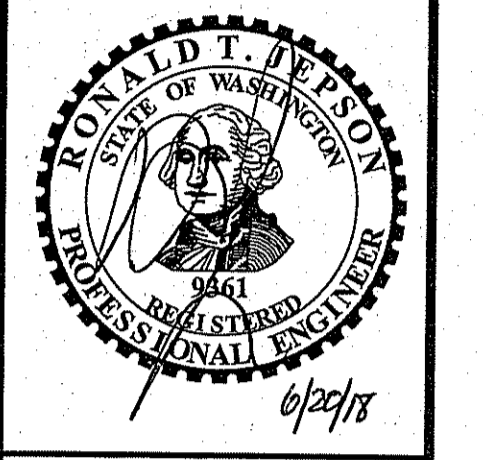
**APPROVED**  
 JUN 21 2018  
 BY CITY OF FERNDALE  
 PUBLIC WORKS DEPARTMENT



**BURIED UTILITIES NOTE:** Know what's below. Call before you dig.  
 ALL UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE IN APPROXIMATE LOCATIONS ONLY AND THERE IS NO GUARANTEE THAT ALL UTILITIES ON THIS SITE ARE SHOWN. THE CONTRACTOR MUST FIELD VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTACT THE WASHINGTON STATE UTILITY LOCATE CENTER AT 8-1-1 AT LEAST 48 HOURS BEFORE CONSTRUCTION.

**AS-BUILT**

NO.	DATE	DESCRIPTION
1	6/18/2018	AS-BUILT DRAWING
2	6/18/2018	CORRS PER CDF COMMENTS



**RONALD T. JEPSON & ASSOC.**  
 CIVIL ENGINEERING - SURVEYING - LAND PLANNING  
 222 GRAND AVENUE, SUITE C, BELLINGHAM, WASHINGTON 98225  
 PH: 360-733-9760 EMAIL: RJEPSON@JEPSONENGINEERING.COM

**PREPARED FOR: DOUGLAS PLACE, LLC**  
**WATER AND SEWER - CHURCH ROAD (AB)**  
 PLAN AND PROFILE  
 DOUGLAS PLACE LONG PLAT DIVISION 4

**APPROVED**  
 JUN 21 2018  
 BY CITY OF FERNDALE  
 PUBLIC WORKS DEPARTMENT

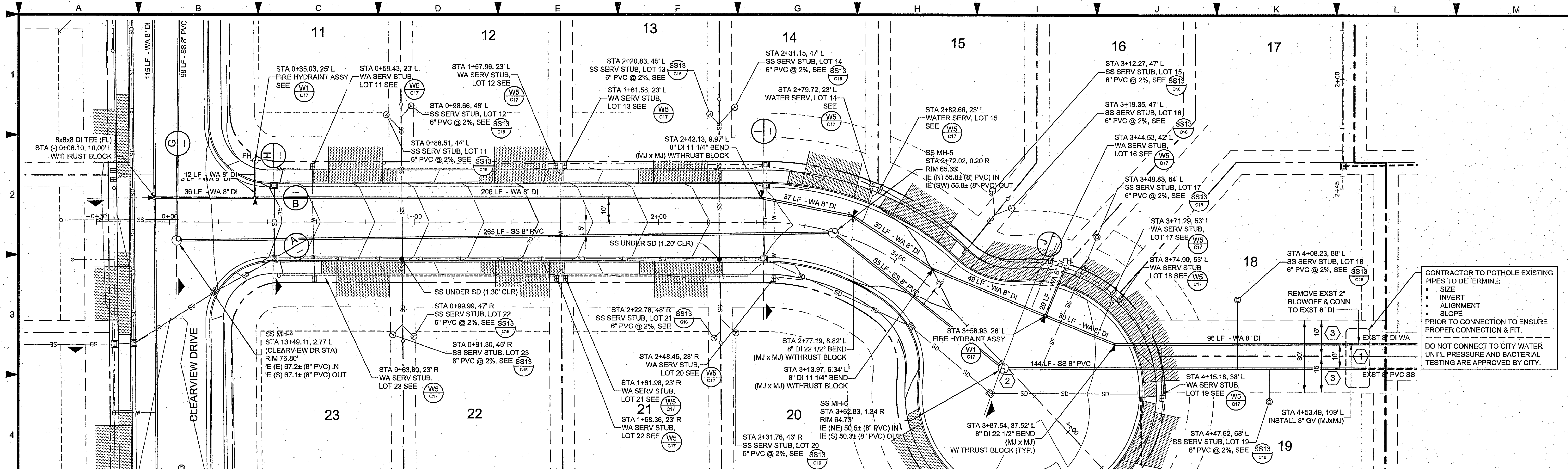
**811**

**BURIED UTILITIES NOTE:** Know what's below. Call before you dig.

SCALE: 1"=20'

PROJECT ID: 15043  
 ISSUE DATE: 6/18/2018  
 SHEET ID: C11-AB

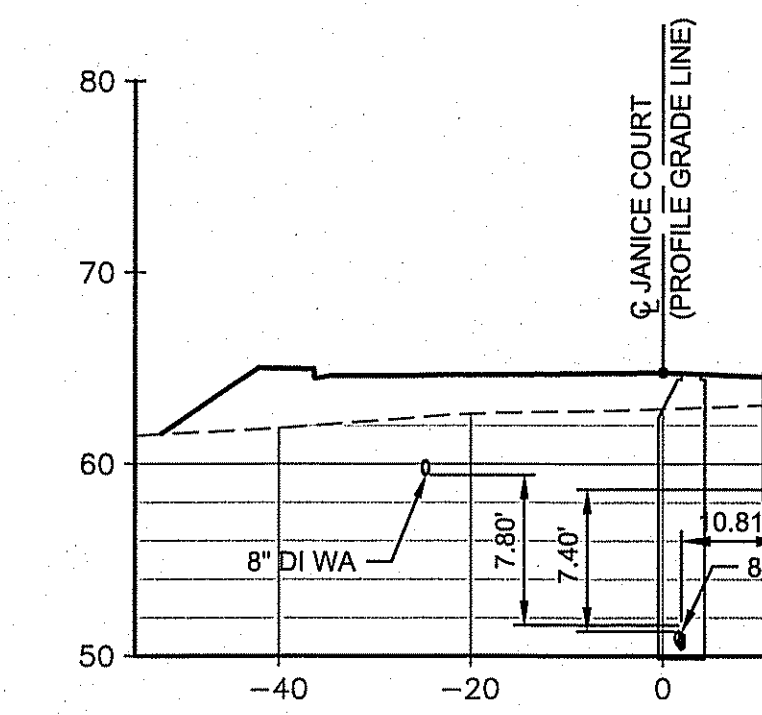
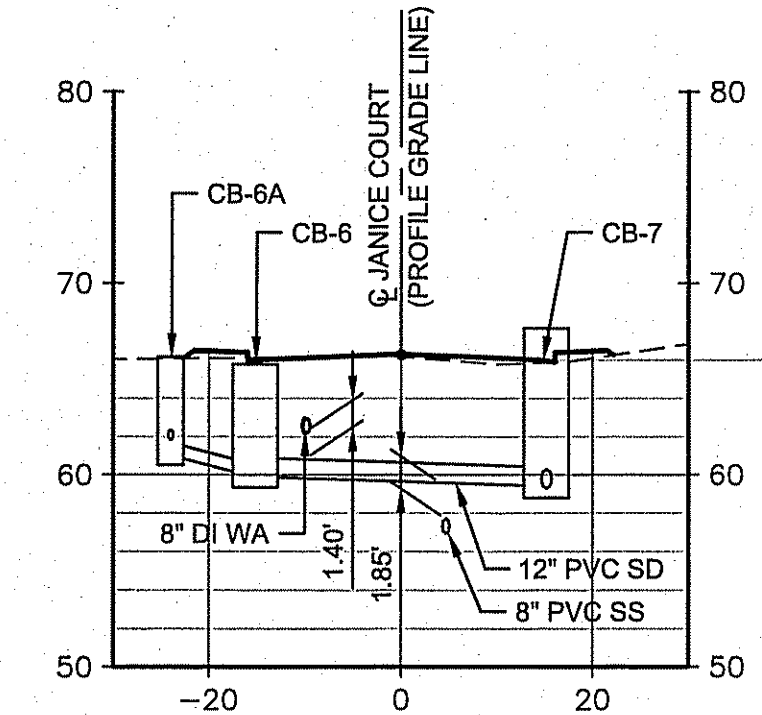
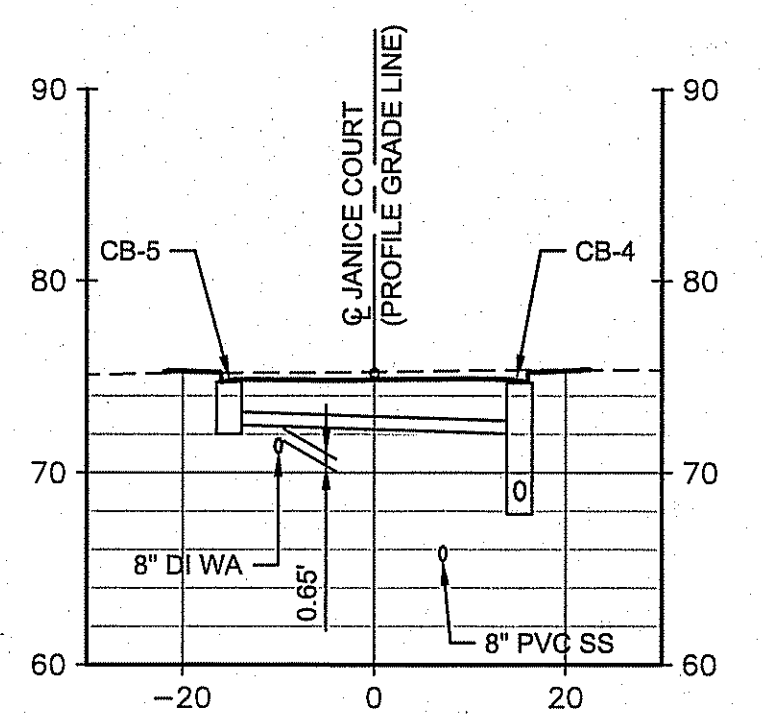




JANICE COURT STA 0+42.39

JANICE COURT STA 2+43.05

JANICE COURT STA 3+61.18



**JANICE COURT - WATER & SEWER PLAN**

SCALE: 1"=20'

**CONSTRUCTION NOTES:**

- EXISTING WATER AND SANITARY SEWER PIPE CONNECTION POINTS TO BE POTHOLED PER PLAN NOTE (ABOVE RIGHT).
- INVERTS AT SS MH-6 TO BE ADJUSTED AS NECESSARY SO THE SOUTH PIPE'S SLOPE MATCHES THE EXISTING 8" SS TO WHICH IT IS CONNECTING. THAT ADJUSTMENT MAY REQUIRE AN ADDITIONAL ADJUSTMENT IN THE (N) PIPE FROM NORTH TO MATCH THE SOUTH INVERT (PLUS ONE TENTH OF A FOOT DIFFERENCE) ACROSS THE MANHOLE.
- ALL STRUCTURES, INCLUDING BUILDING FOUNDATIONS ON LOTS 18 AND 19 MUST BE SET BACK A MINIMUM OF 15' FROM WATER AND SEWER MAINS. A MINIMUM SETBACK OF 10' MAY BE ALLOWED REGARDING LOT 19, CONTINGENT UPON A FOUNDATION DESIGN PROVIDED BY A STRUCTURAL ENGINEER ADDRESSING THE ADJACENT PUBLIC UTILITIES AND SUBMITTED TO THE CITY WITH THE BUILDING PERMIT FOR CITY REVIEW AND APPROVAL.

THIS NOTE IS TO APPEAR ON THE FINAL PLAT & CONSTRUCTION DRAWINGS.

**WATER / STORM CROSSING (H)**

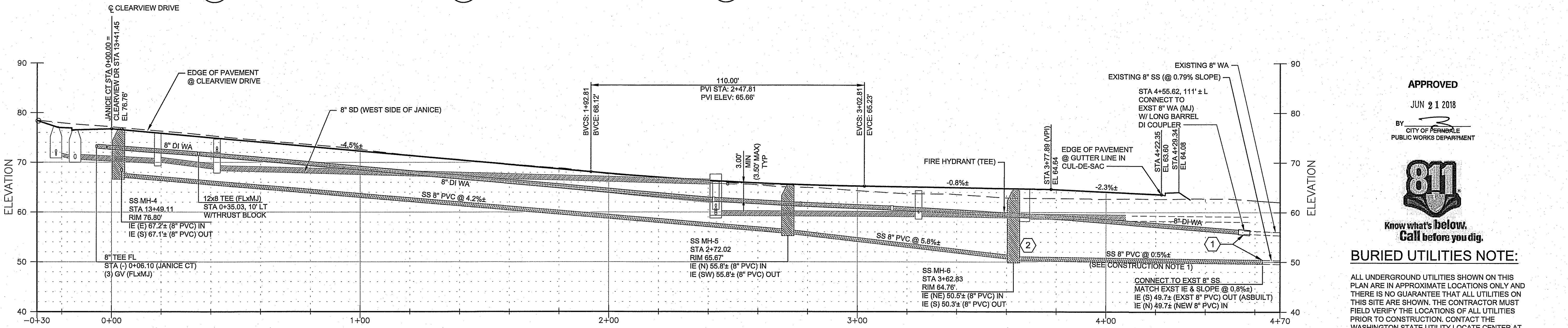
SCALES: 1"=20' (H), 1"=10' (V)

**WATER / STORM CROSSING (I)**

SCALES: 1"=20' (H), 1"=10' (V)

**WATER / STORM CROSSING (J)**

SCALES: 1"=20' (H), 1"=10' (V)



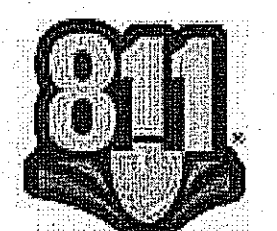
**JANICE COURT - WATER & SEWER PROFILE**

SCALE: 1"=20' (H), 1"=10' (V)

APPROVED

JUN 21 2018

CITY OF PERMABLE  
PUBLIC WORKS DEPARTMENT

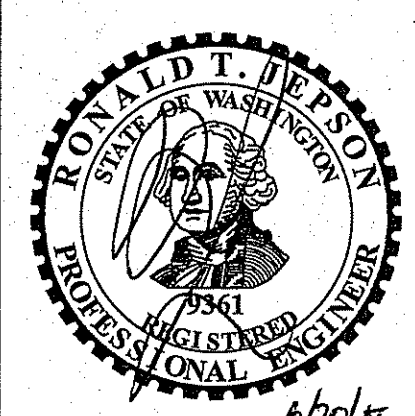


Know what's Below.  
Call before you dig.

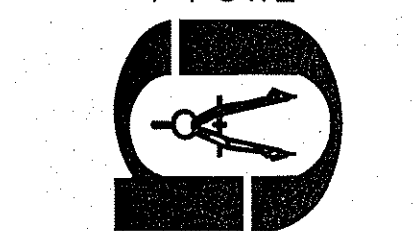
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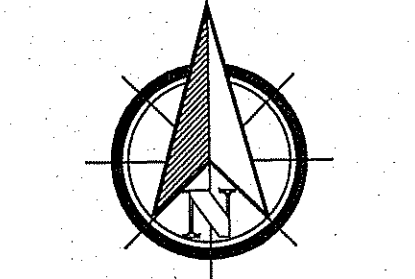
**AS-BUILT**



**RONALD T. JEPSON & ASSOC.**  
CIVIL ENGINEERING - SURVEYING - LAND PLANNING  
222 GRAND AVENUE, SUITE C, BELLINGHAM, WASHINGTON 98225  
PH: 360-734-5766 EMAIL: RJE@RONALDTJEPSONENGINEERING.COM

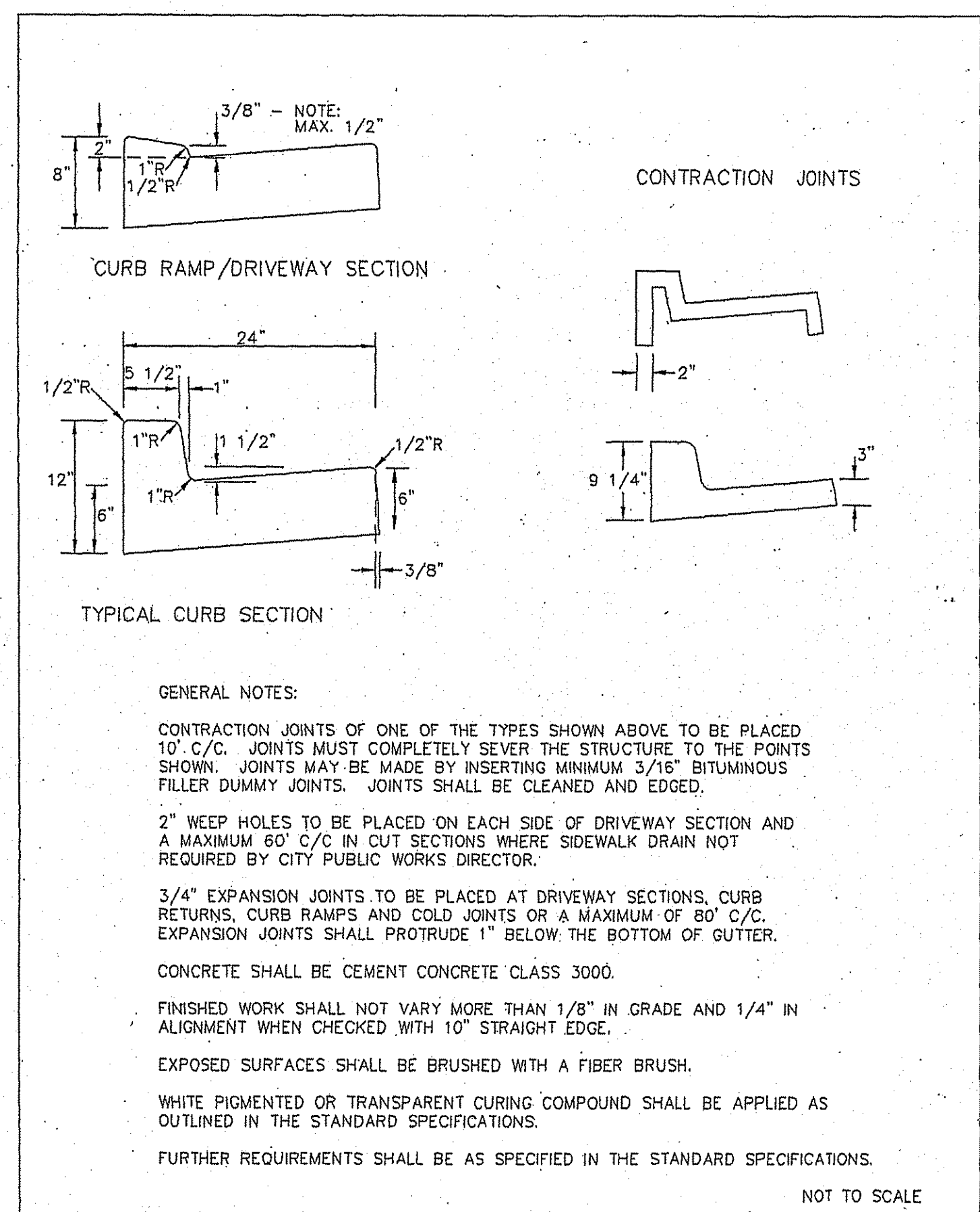


PREPARED FOR: DOUGLAS PLACE, LLC  
**WATER AND SEWER - JANICE COURT (AB)**  
PLAN AND PROFILE  
SOUTH DOUGLAS LONG PLAT DIVISION 4



PROJECT ID: 15043  
ISSUE DATE: 6/18/2018  
SHEET ID: C12-AB

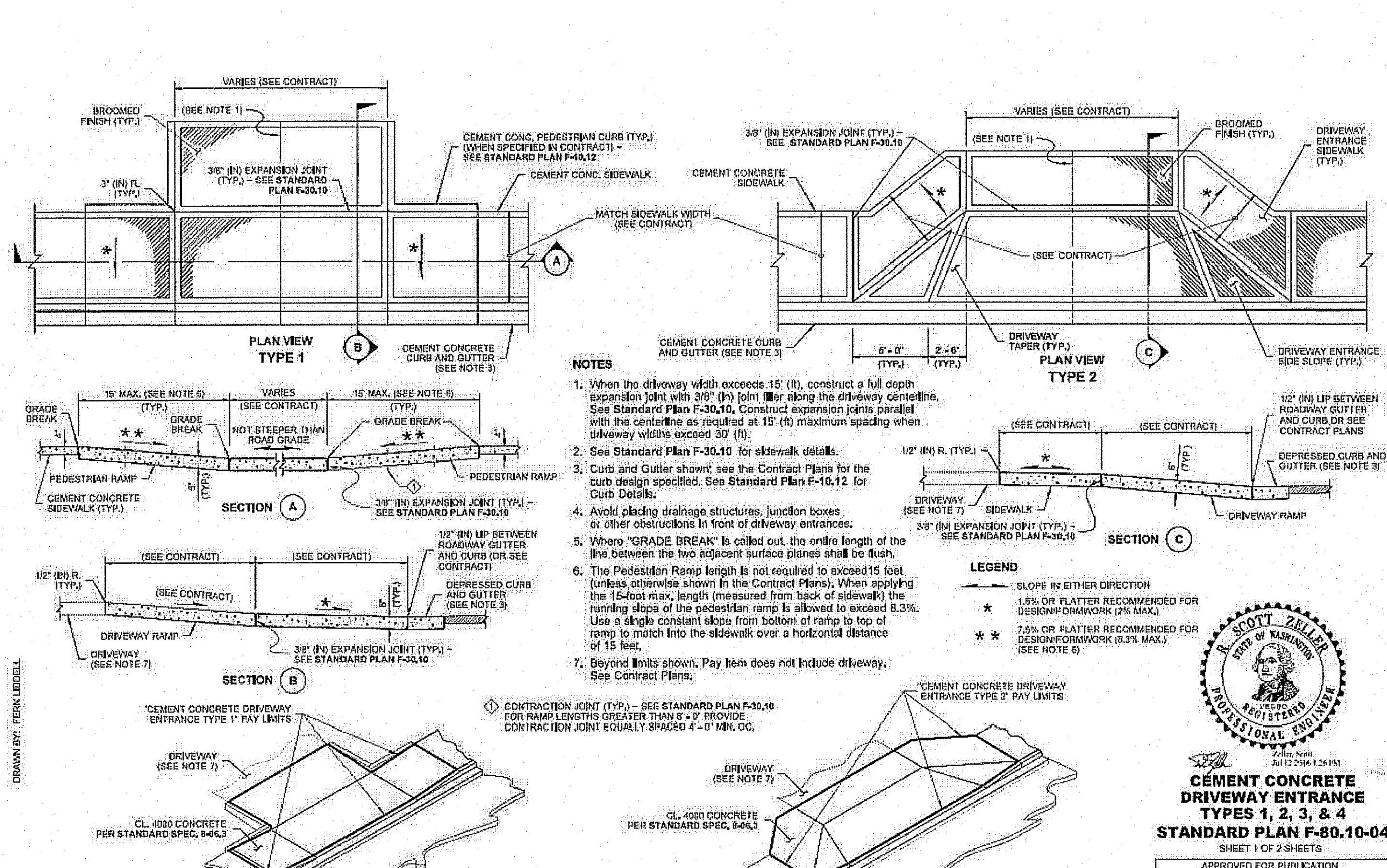




APPROVED: *John F. Egan* Date \_\_\_\_\_  
Public Works Director

CITY OF FERDALE CURB AND GUTTER DRAWING R-9

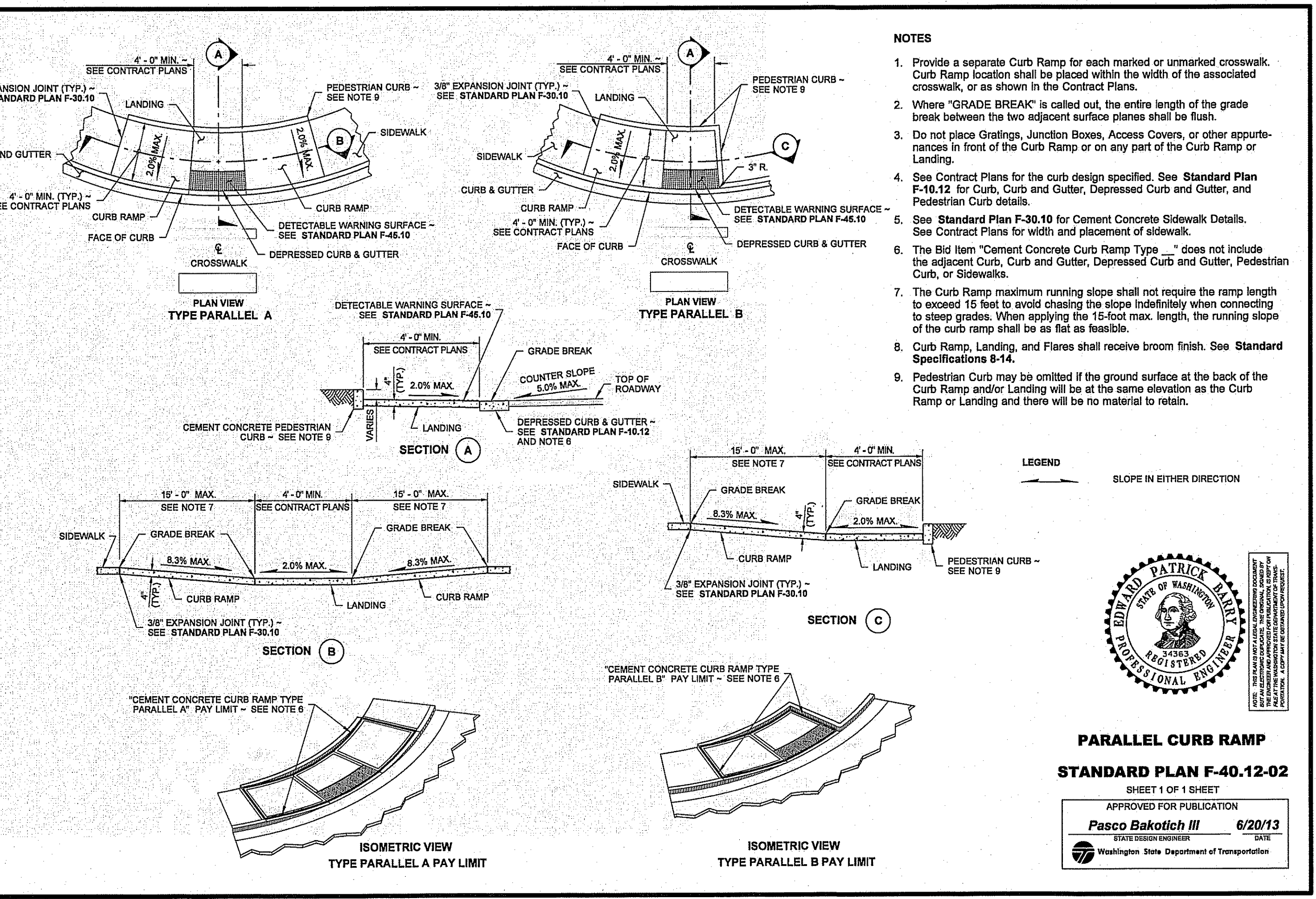
JUNE 1995 2091RD2A/R-9



APPROVED: *John F. Egan* Date \_\_\_\_\_  
Public Works Director

CITY OF FERDALE TYPICAL SIDEWALK PLAN AND CROSS SECTION DRAWING R-12

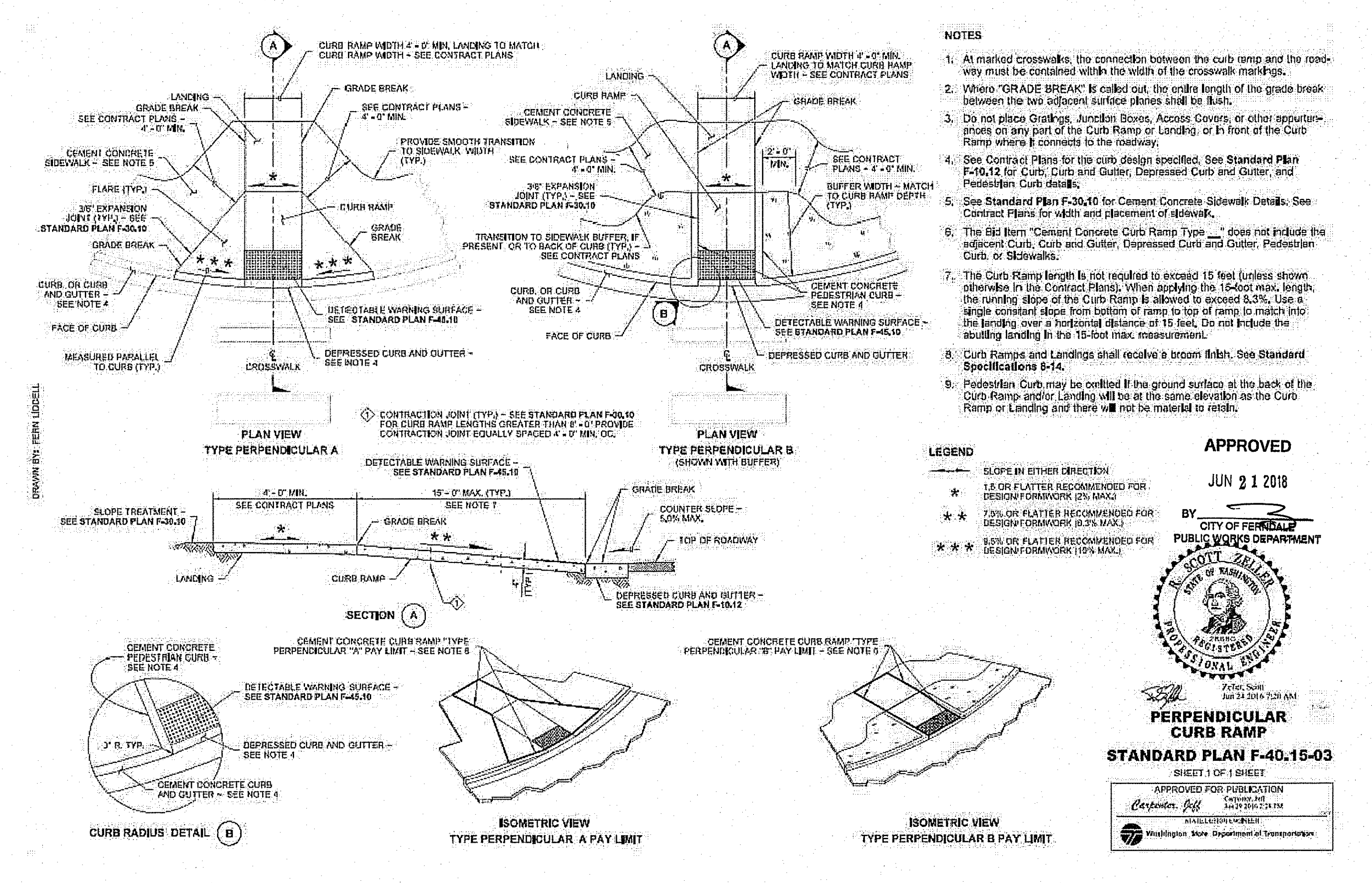
JUNE 1995 2091RD2A/R-12



APPROVED: *John F. Egan* Date \_\_\_\_\_  
Public Works Director

CITY OF FERDALE CURB AND GUTTER DRAWING R-9

JUNE 1995 2091RD2A/R-9



APPROVED: *John F. Egan* Date \_\_\_\_\_  
Public Works Director

CITY OF FERDALE TYPICAL SIDEWALK PLAN AND CROSS SECTION DRAWING R-12

JUNE 1995 2091RD2A/R-12

**AS-BUILT**

REVISIONS

ISSUE DATE: 6/18/2018  
DESCRIPTION: AS-BUILT DRAWING  
DATE: 6/18/2018  
CORR'S PER COF COMMENTS

**RONALD T. JEPSON & ASSOC.**  
CIVIL ENGINEERING - SURVEYING - LAND PLANNING  
222 GRAND AVENUE, SUITE C, BELLINGHAM, WASHINGTON 98225  
PH: 360-733-5760 EMAIL: RJE@RJEPSONENGINEERING.COM

**RONALD T. JEPSON**  
REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR: DOUGLAS PLACE, LLC

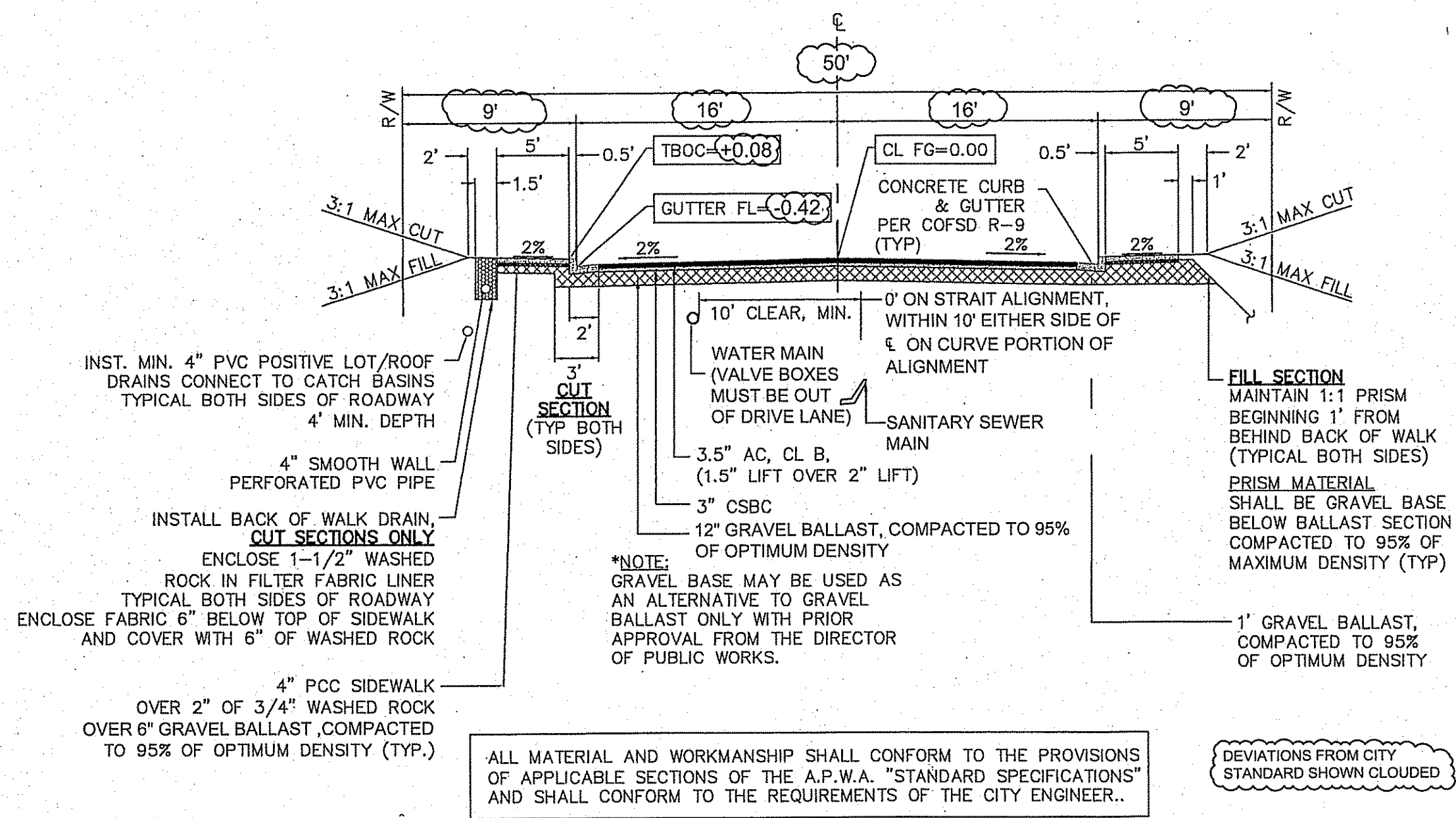
ROAD DETAILS (1) (AB)

SOUTH DOUGLAS LONG PLAT DIVISION 4

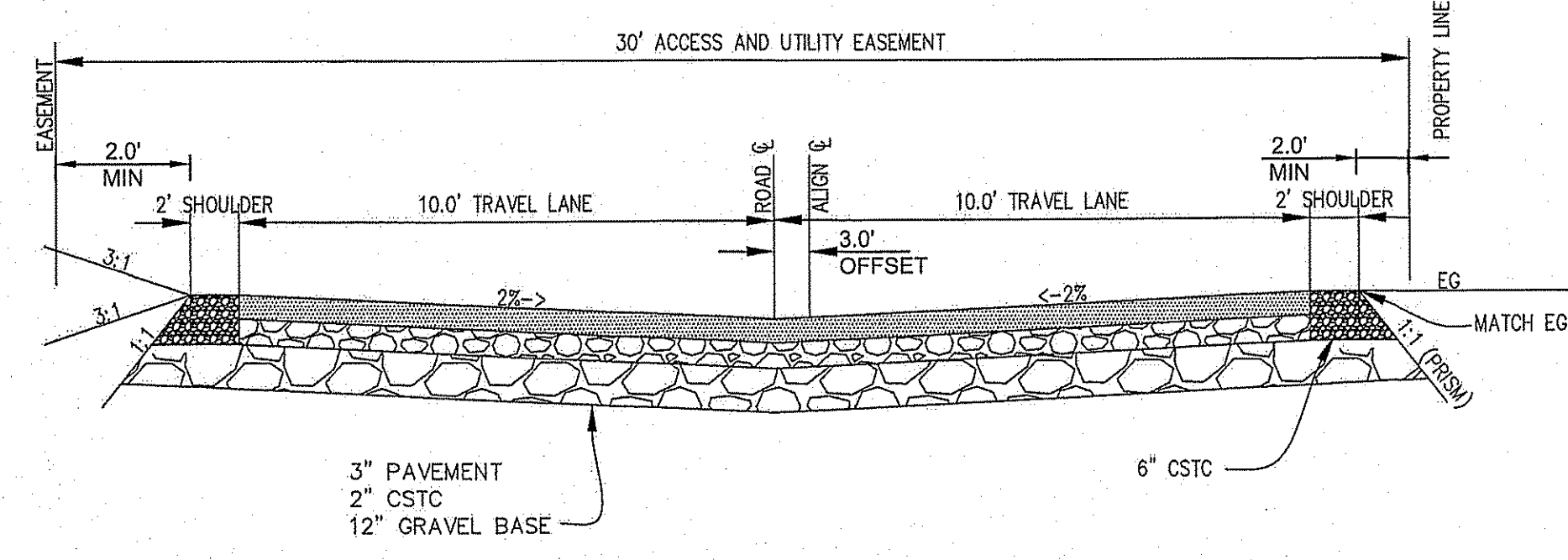
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ISSUE DATE: 6/18/2018  
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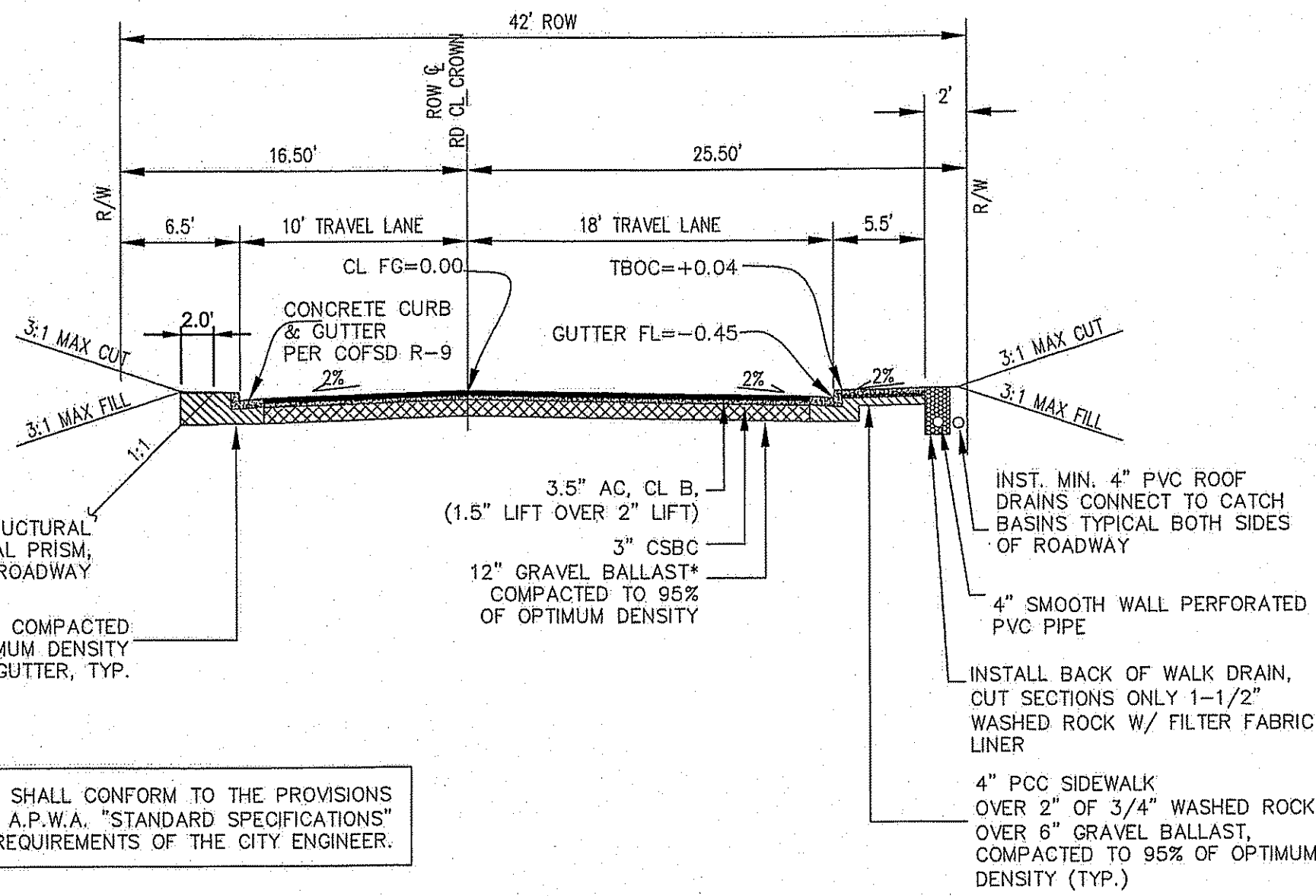
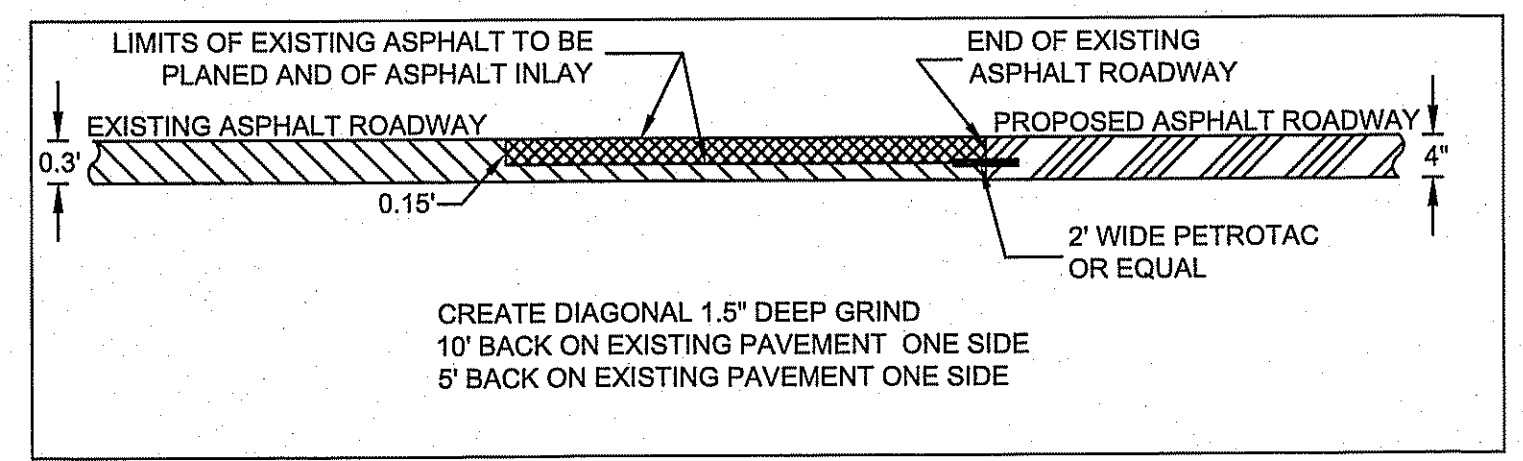




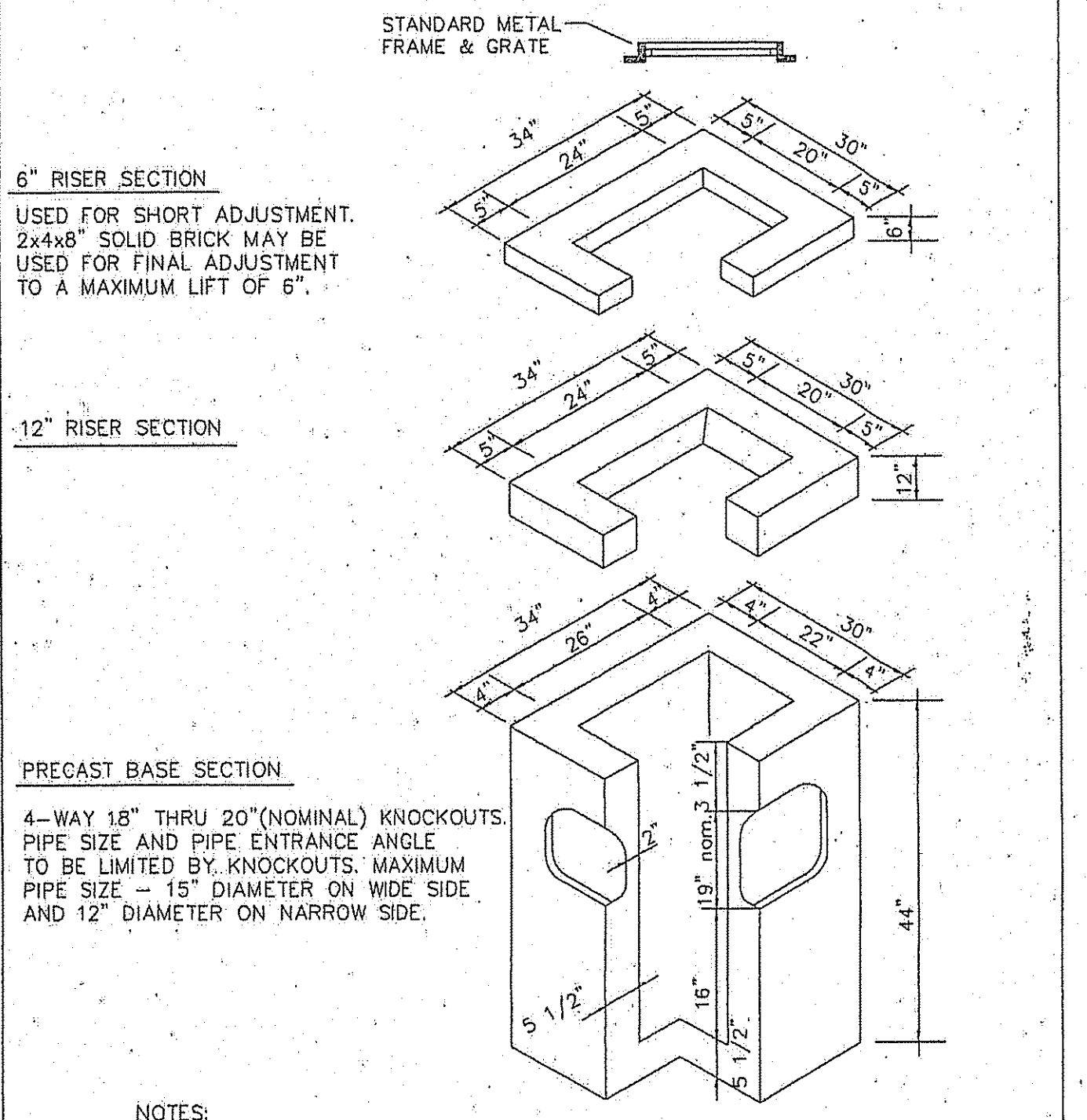
**TYPICAL ROADWAY ASPHALT CONCRETE SECTION (A)**  
 C5, C8



**TYPICAL ALLEYWAY ASPHALT CONCRETE SECTION (B)**  
 C9



**TYPICAL CHURCH ROAD ASPHALT CONCRETE SECTION (C)**  
 C5, C7



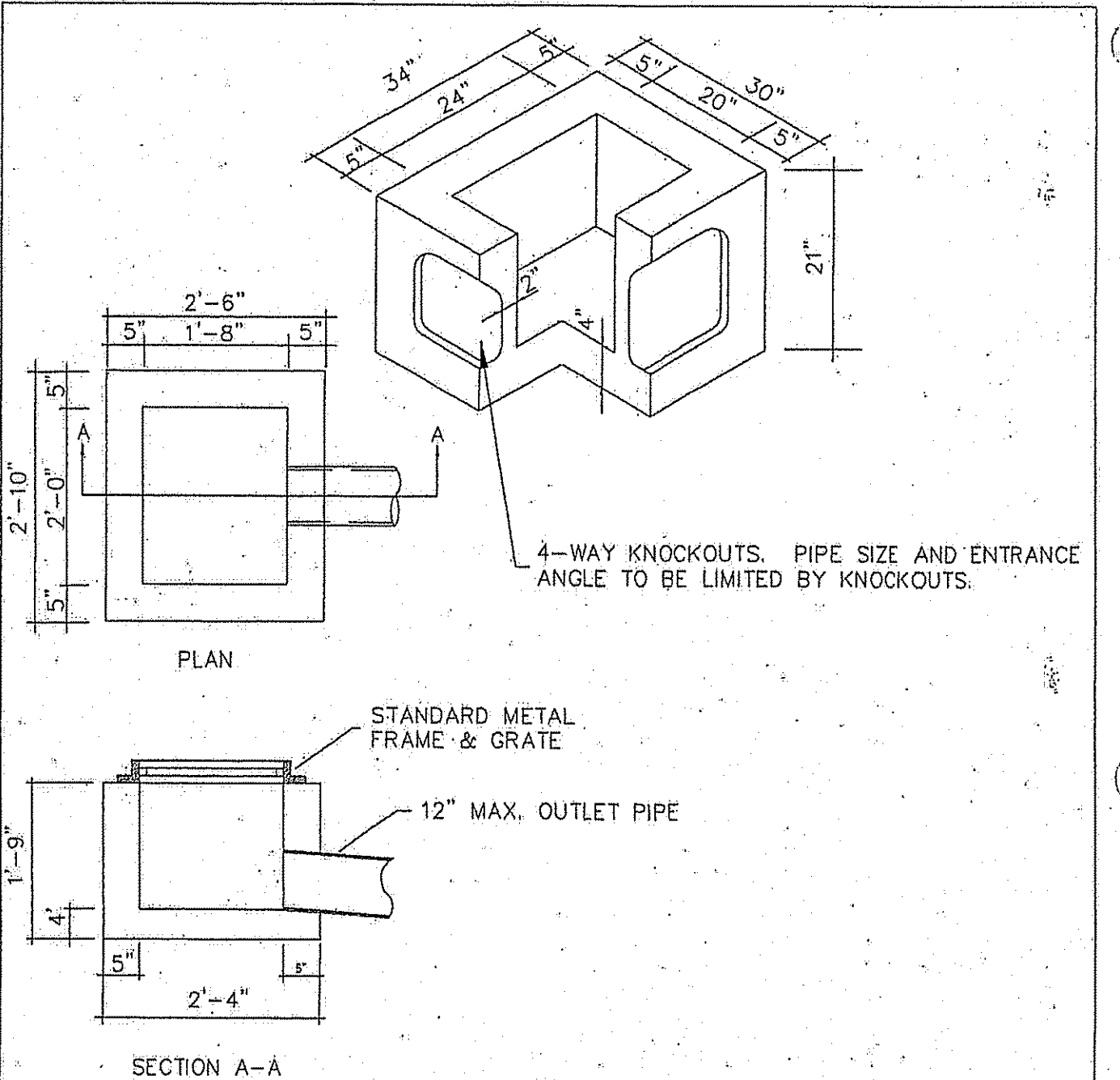
**NOTES:**

- CAST IN PLACE OR MASONRY CONSTRUCTION UNITS MAY BE SUBSTITUTED AS PER A.P.W.A. STANDARDS OR STATE STANDARDS. (B-1)
- FOR DETAILS OF REINFORCEMENTS AND INSTALLATION, SEE A.P.W.A. STANDARDS OR STATE STANDARDS.

APPROVED: *John & Eddy*  
 Public Works Director Date  
 JUNE 1995

CITY OF FERNDALE  
 CATCH BASIN, TYPE I

DRAWING  
 ST-1



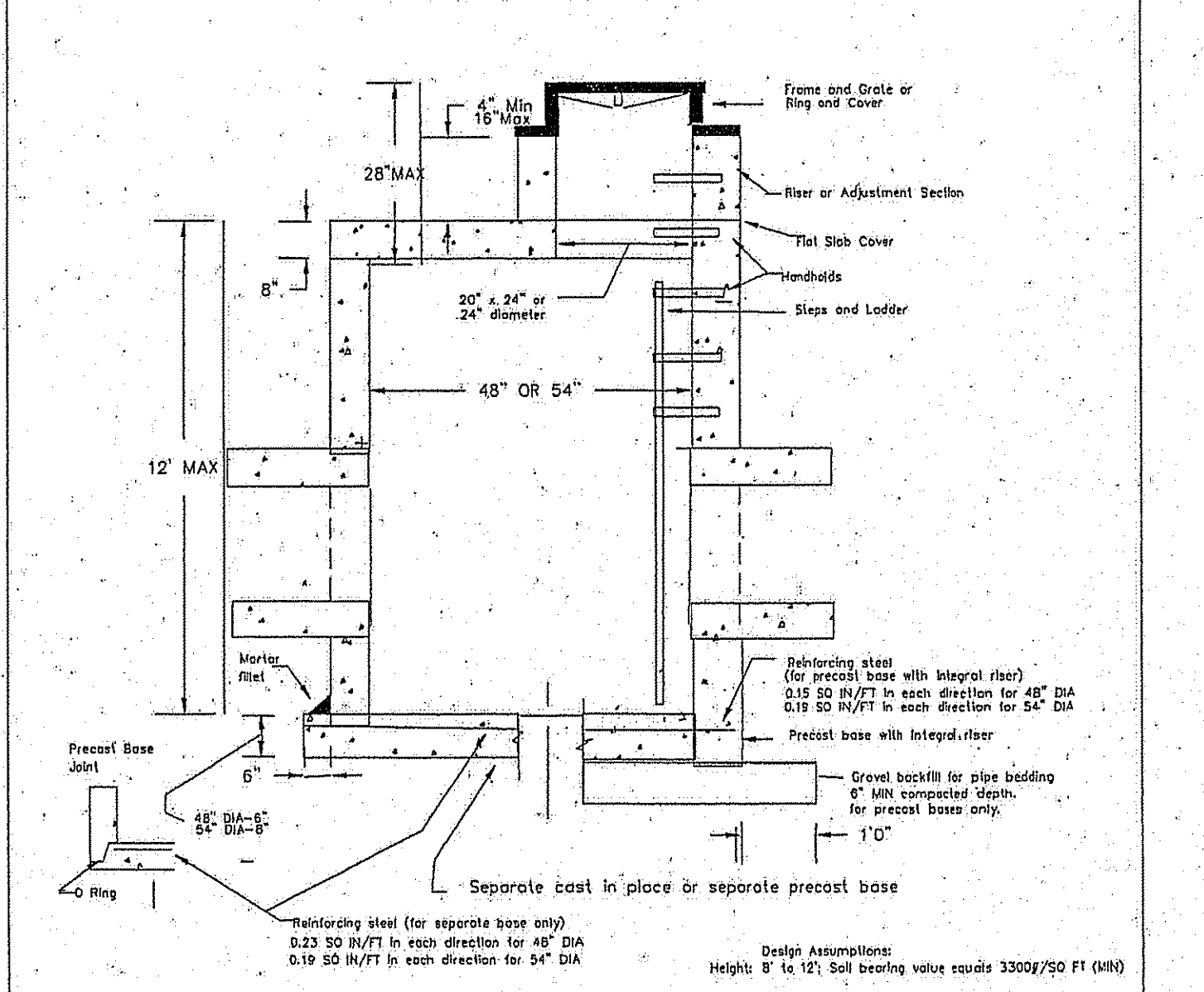
**NOTES:**

- UNIT IS DESIGNED TO PICK UP SURFACE DRAINAGE A SHORT DISTANCE FROM CATCH BASIN.
- CAST IN PLACE OR MASONRY CONSTRUCTION UNITS MAY BE SUBSTITUTED AS PER APWA STANDARDS OR STATE STANDARDS.
- FOR DETAILS OF REINFORCEMENT OR INSTALLATION SEE APWA STANDARDS OR STATE STANDARDS.

APPROVED: *John & Eddy*  
 Public Works Director Date  
 JUNE 1995

CITY OF FERNDALE  
 INLET DETAIL

DRAWING  
 ST-7



**NOTES:**

Catch basins to be constructed in accordance with ASTM C 478 (AASHTO M-199) C 890 unless otherwise shown on plans or noted in the standard specifications.

Handholds in riser or adjustment section shall have 3" minimum clearance. Steps in catch basin shall have 6" minimum clearance. No steps are required when height is 4' or less.

All reinforced cast in place concrete shall be Class A. Non-reinforced concrete in channel and shelf shall be Class C.

All precast concrete shall contain 4000 PSI @ 28 days.

Precast basins shall be furnished with cutout or knockouts. Knockouts shall have a wall thickness of 2" minimum. Knockout or cutout hole size is equal to pipe outer diameter plus catch basin wall thickness. Maximum hole size is 12" for 48" catch basin. Minimum distance between holes is 6".

Frame and grate or ring and cover shall be in accordance with standard specifications and meet the strength requirements of Federal Specification RR-1-B21D. Mating surfaces shall be finished to assure a non-rocking fit.

All base reinforcing steel shall have a minimum yield strength of 60,000 PSI and be placed in the upper half of the base with 1" minimum clearance.

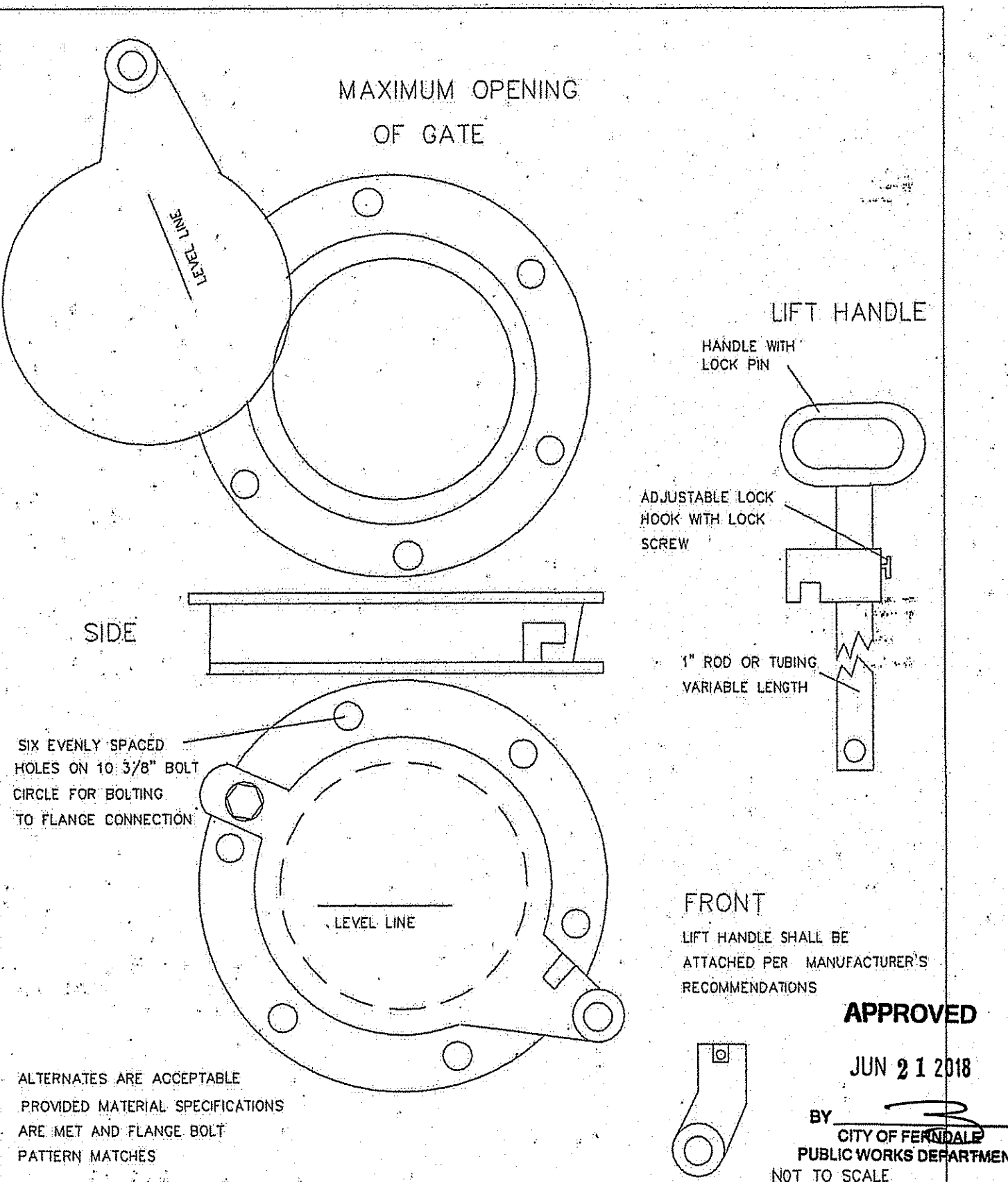
The bottom of the precast Catch Basin may be rounded. NOT TO SCALE

Frame and grate may be installed with flange down or cast into riser.

APPROVED: *John & Eddy*  
 Public Works Director Date  
 JUNE 1995

CITY OF FERNDALE  
 TYPE 2 CATCH BASIN  
 48" & 54"

DRAWING  
 ST-2



APPROVED: *John & Eddy*  
 Public Works Director Date  
 JUNE 1995

CITY OF FERNDALE  
 CLEANOUT/SHEAR GATE

DRAWING  
 ST-6

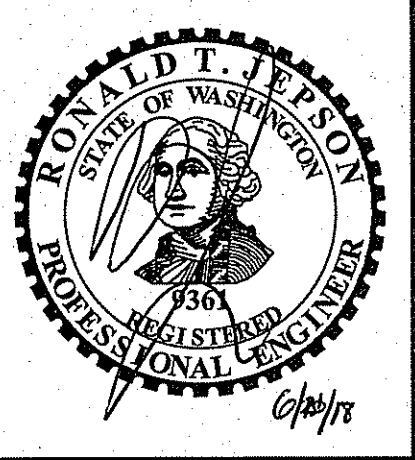
**AS-BUILT**

REVISIONS

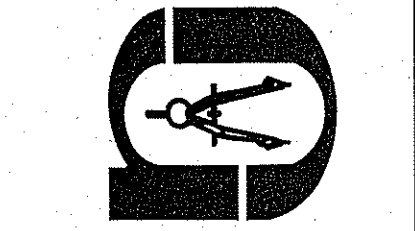
ID: ISSUE DATE: DESCRIPTION

AB: 2/15/2018 AS-BUILT DRAWING

AT: 6/18/2018 CORRS PER COF COMMENTS



**RONALD T. JEPSON & ASSOC.**  
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 222 GRAND AVENUE, SUITE C, BELLINGHAM, WASHINGTON 98225  
 PH: 360-733-5760 EMAIL: RJE@RONALDTJEPSONENGINEERING.COM



PREPARED FOR: DOUGLAS PLACE, LLC

**ROAD DETAILS (2) (AB)**

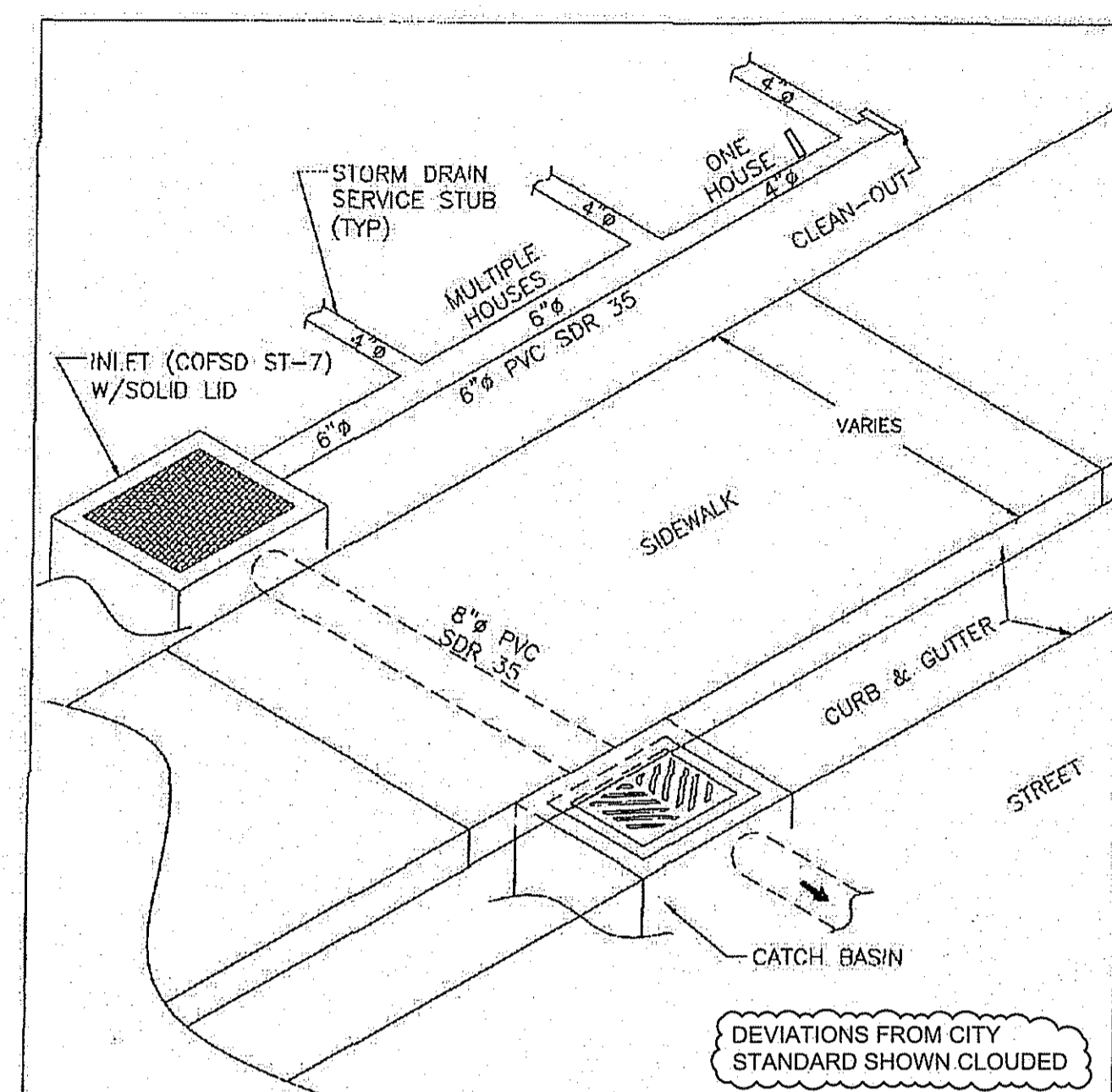
SOUTH DOUGLAS LONG PLAT DIVISION 4

PROJECT ID: 15043

ISSUE DATE: 6/18/2018

SHEET ID: C14-AB





**DEVIATIONS FROM CITY STANDARD SHOWN CLOUDED**

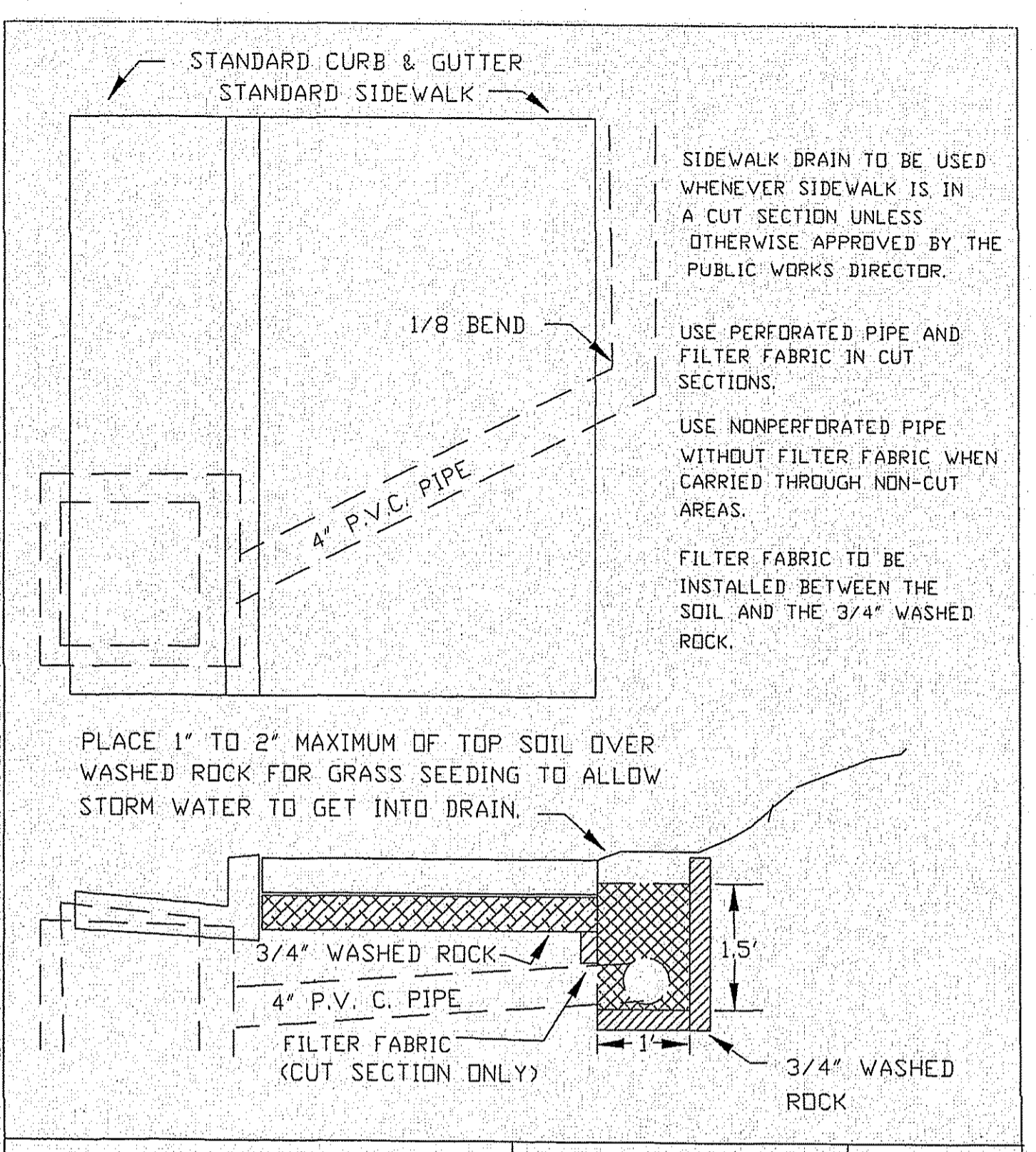
**NOTES:**

- ENGINEER SHALL DESIGN ALL STORM DRAIN SERVICE STUB INVERT ELEVATIONS TO FACILITATE 2% SLOPE FROM 2' BELOW THE LOWEST POINT OF THE BUILDING ENVELOPE OR A MINIMUM OF 4" DEEP PER R-4, WHICHEVER IS GREATER.
- STORM DRAIN SERVICE STUB SHALL BE 4" WHITE PVC PIPE ASTM D 3034 SDR 35.
- TRUNK LINE FOR MULTIPLE RESIDENTIAL STORM DRAIN SERVICE STUBS SHALL BE 6" WHITE PVC PIPE CONNECTED TO COPS ST-7 INLET.
- EACH COPS ST-7 INLET SHALL BE CONNECTED TO A NEARBY TYPE 1, TYPE 1L OR TYPE 2 CATCH BASIN WITH 8" WHITE PVC PIPE.
- EACH STORM DRAIN SERVICE STUB SHALL BE CAPPED WITH WATER TIGHT PLUG. EACH STUB SHALL BE MARKED FOR LOCATION WITH A 2" DIA. WHITE PVC PIPE (MIN. SCHEDULE 40) WITH THE TOP 18" STENCILED WITH THE WORD "DRAIN" AND THE PIPE INVERT INDICATED. THE LOCATION MARKER SHALL BE CONNECTED TO THE SERVICE STUB BY A #12 COPPER WIRE.
- 6" PVC SERVICE LINES WILL HAVE 42" MINIMUM COVER AND WILL HAVE THE SAME GRADE OF THE ROADWAY OR A MINIMUM OF 4" DEEP PER R-4, WHICHEVER IS GREATER.

APR 11, 2012

APPROVED: Public Works Director Date

**POSITIVE LOT DRAIN**  
STANDARD DETAIL ST-16  
NOT TO SCALE



SIDEWALK DRAIN TO BE USED WHENEVER SIDEWALK IS IN A CUT SECTION UNLESS OTHERWISE APPROVED BY THE PUBLIC WORKS DIRECTOR.

USE PERFORATED PIPE AND FILTER FABRIC IN CUT SECTIONS.

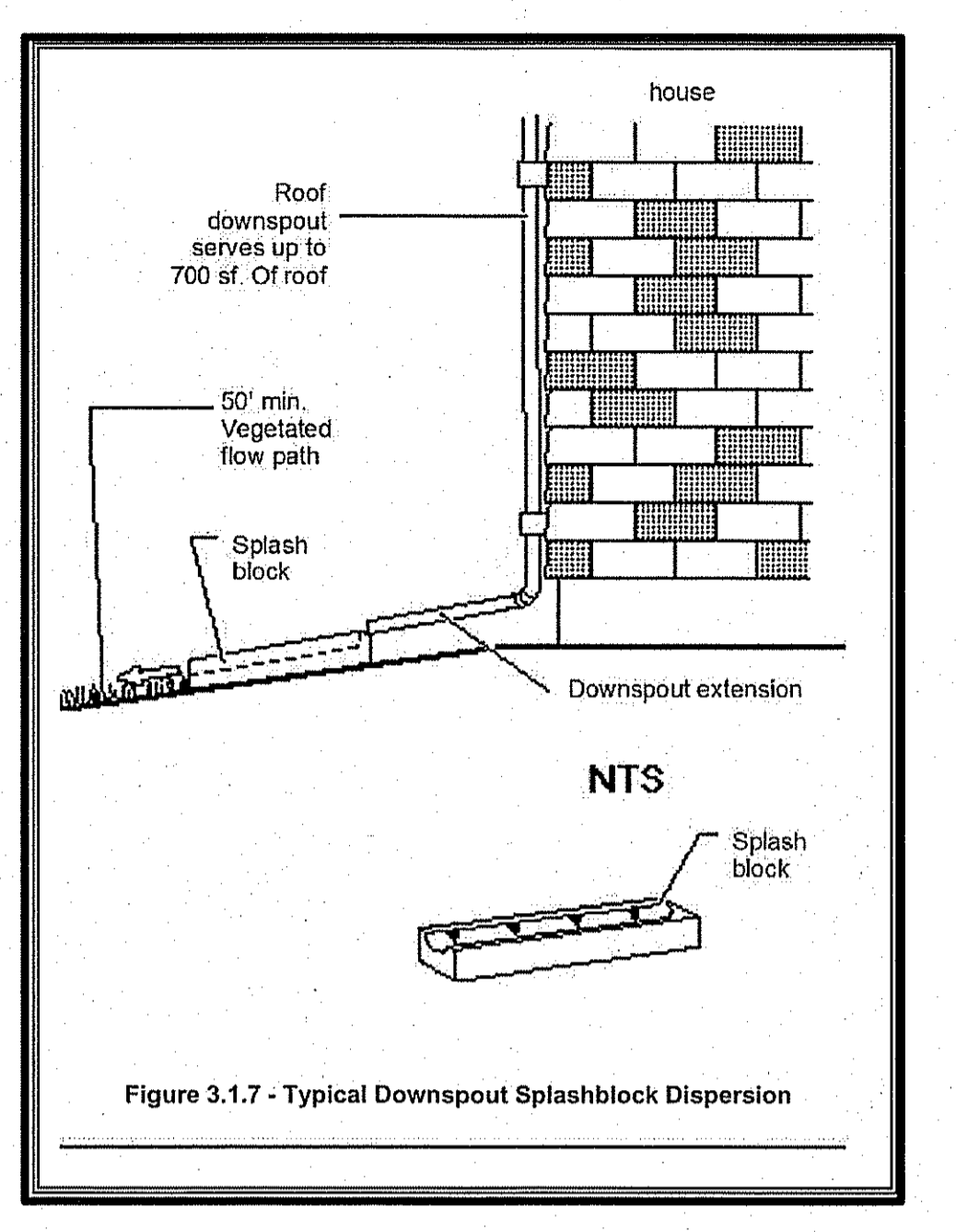
USE NONPERFORATED PIPE WITHOUT FILTER FABRIC WHEN CARRIED THROUGH NON-CUT AREAS.

FILTER FABRIC TO BE INSTALLED BETWEEN THE SOIL AND THE 3/4" WASHED ROCK.

PLACE 1" TO 2" MAXIMUM OF TOP SOIL OVER WASHED ROCK FOR GRASS SEEDING TO ALLOW STORM WATER TO GET INTO DRAIN.

APPROVED: Public Works Director Date

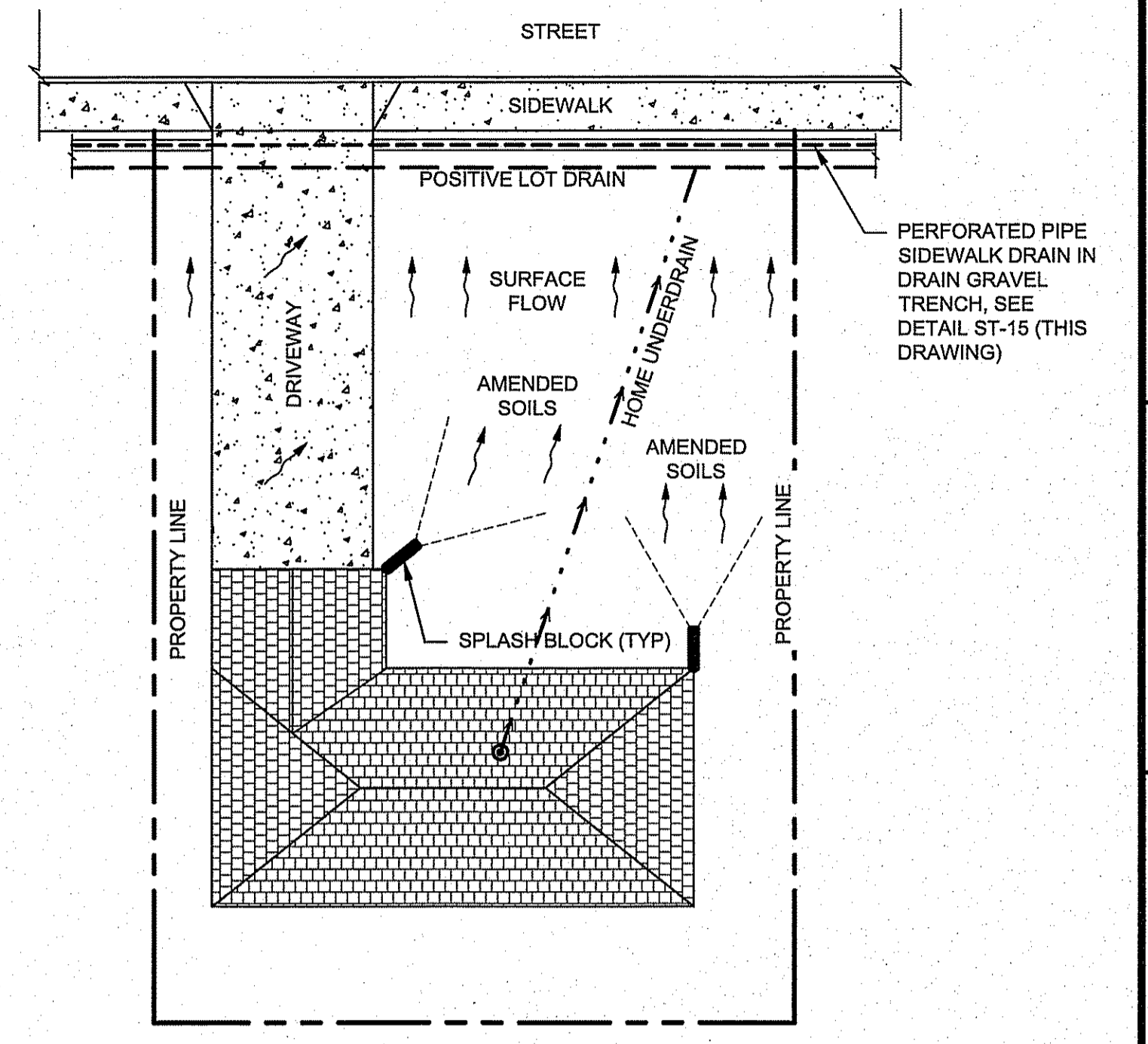
CITY OF FERDALE  
SIDEWALK DRAIN  
DRAWING ST-15  
JUNE 1995



**Figure 3.1.7 - Typical Downspout Splashblock Dispersion**

**SPLASH BLOCK NOTES:**

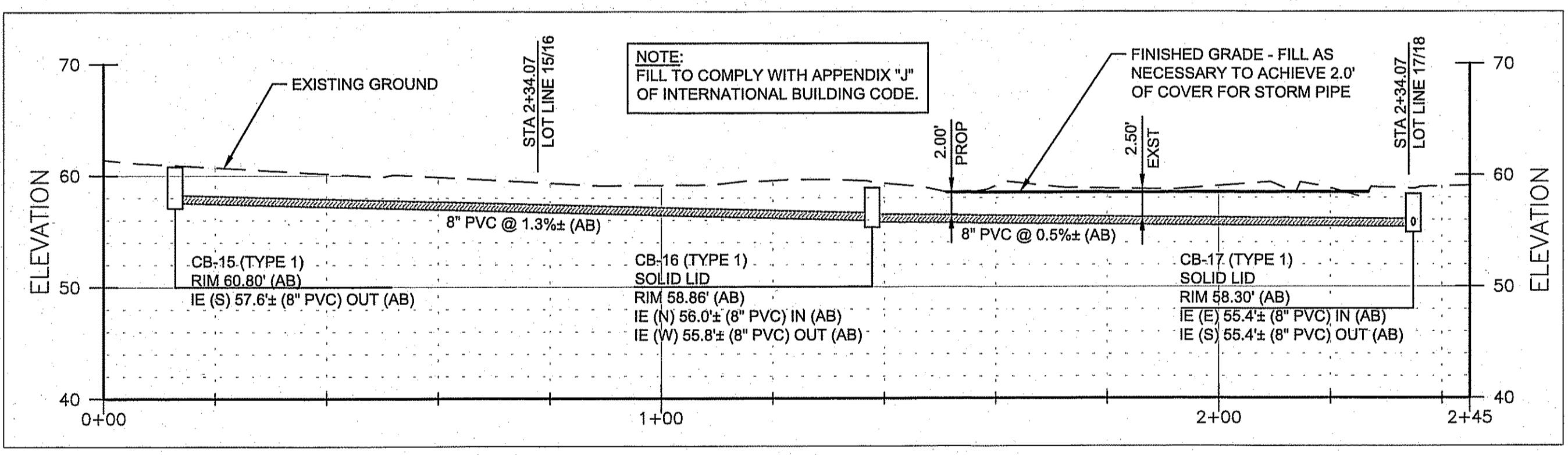
- A TYPICAL DOWNSPOUT SPLASHBLOCK IS SHOWN IN FIGURE 3.1.7 (ABOVE). THE INDIVIDUAL LOT GRADING IS TO BE SUBMITTED BY THE HOME BUILDER / CONTRACTOR TO ADEQUATELY DEMONSTRATE COMPLIANCE WITH THE USE OF BACK-OF-SIDEWALK DRAINAGE (FOR LOT SURFACE FLOW) AND HOME (CRAWL SPACE) DRAINAGE FOR UNDERDRAINS. SEE DETAIL 3 (THIS DRAWING) FOR SKETCH OF TYPICAL LOT SHOWING (1) DOWNSPOUT DISPERSION, (2) SURFACE FLOW CONVEYANCE AND (3) HOME (CRAWL SPACE) UNDERDRAIN CONVEYANCE.
- A LICENSED GEOTECHNICAL ENGINEER SHALL PROVIDE INDIVIDUAL LOT CERTIFICATIONS STATING THAT POST DEVELOPED LOTS MEET OR EXCEED ALL SOIL AND GRADING SPECIFICATIONS REQUIRED PER THE APPROVED PLANS.
- A MAXIMUM OF 700 SQUARE FEET OF ROOF AREA MAY DRAIN TO EACH SPLASHBLOCK.
- FOR PURPOSES OF MAINTAINING ADEQUATE SEPARATION OF FLOWS DISCHARGED FROM ADJACENT DISPERSION DEVICES, THE VEGETATED FLOWPATH SEGMENT FOR THE SPLASHBLOCK MUST NOT OVERLAP WITH OTHER FLOWPATH SEGMENTS, EXCEPT THOSE ASSOCIATED WITH SHEET FLOW FROM A NON-NATIVE PREVIOUS SURFACE.
- PLACE A SPLASHBLOCK OR A PAD OF CRUSHED ROCK (2 FEET WIDE BY 3 FEET LONG BY 6 INCHES DEEP) AT EACH DOWNSPOUT DISCHARGE POINT.



**LOT DRAINAGE NOTES:**

- ROOF DRAINAGE SHALL BE CONVEYED VIA SPLASH BLOCKS TO THE AMENDED SOILS WHERE IT WILL INFILTRATE THE GROUND (SEE DETAIL 2, THIS DRAWING & STORM REPORT).
- LOT (SURFACE) FLOW SHALL BE COLLECTED AT THE BACK OF WALK BY A SIDEWALK DRAIN (SEE DETAIL ST-15, THIS DRAWING).
- CRAWL SPACE DRAINAGE SHALL BE CONVEYED TO A POSITIVE LOT DRAINAGE SYSTEM LOCATED AT THE BACK OF THE WALK (SEE DETAIL ST-15, THIS DRAWING).

**TYPICAL LOT DRAINAGE SYSTEM** 3  
NO SCALE C4



**BACK OF LOT DRAINAGE SYSTEM (LOT 15 THRU LOT 17) - PROFILE** 1  
SCALE: 1"=20' (H) 1"=10' (V) C-8

**SPLASH-BLOCK DETAIL & DESIGN CRITERIA** 2  
NO SCALE C4

**BMP T5.13: POST-CONSTRUCTION SOIL QUALITY AND DEPTH:**

- SOIL RETENTION. RETAIN, IN AN UNDISTURBED STATE, THE DUFF LAYER AND NATIVE TOPSOIL TO THE MAXIMUM EXTENT PRACTICABLE. IN ANY AREAS REQUIRING GRADING REMOVE AND STOCKPILE THE DUFF LAYER AND TOPSOIL ON SITE IN A DESIGNATED, CONTROLLED AREA, NOT ADJACENT TO PUBLIC RESOURCES AND CRITICAL AREAS, TO BE REAPPLIED TO OTHER PORTIONS OF THE SITE WHERE FEASIBLE.
- SOIL QUALITY. ALL AREAS SUBJECT TO CLEARING AND GRADING THAT HAVE NOT BEEN COVERED BY IMPERVIOUS SURFACE, INCORPORATED INTO A DRAINAGE FACILITY OR ENGINEERED AS STRUCTURAL FILL OR SLOPE SHALL, AT PROJECT COMPLETION, DEMONSTRATE THE FOLLOWING:
  - A TOPSOIL LAYER WITH A MINIMUM ORGANIC MATTER CONTENT OF 10% DRY WEIGHT IN PLANTING BEDS, AND 5% ORGANIC MATTER CONTENT IN TURF AREAS, AND A pH OF THE UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS TO MEET CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE.
  - MULCH PLANTING BEDS WITH 2 INCHES OF ORGANIC MATERIAL.
  - USE COMPOST AND OTHER MATERIALS THAT MEET THESE ORGANIC REQUIREMENT REQUIREMENTS:
    - THE ORGANIC CONTENT FOR "PRE-APPROVED" AMENDMENT RATES CAN BE MET ONLY USING COMPOST MEETING THE COMPOST SPECIFICATION FOR BIORETENTION (BMP T7.30), WITH THE EXCEPTION THAT THE COMPOST MAY HAVE UP TO 35% BIOSOLIDS OR MANURE. THE COMPOST MUST ALSO HAVE AN ORGANIC MATTER CONTENT OF 40% TO 65%, AND A CARBON TO NITROGEN RATIO BELOW 25:1. THE CARBON TO NITROGEN RATIO MAY BE AS HIGH AS 35:1 FOR PLANTINGS COMPOSED ENTIRELY OF PLANTS NATIVE TO PUGET SOUND LOWLANDS REGION.

b. CALCULATED AMENDMENT RATES MAY BE MET THROUGH USE OF COMPOSTED MATERIAL MEETING (a.) ABOVE; OR OTHER ORGANIC MATERIALS AMENDED TO MEET THE CARBON TO NITROGEN RATIO REQUIREMENTS, AND NOT EXCEEDING THE CONTAMINANT LIMITS IDENTIFIED IN TABLE 220-B, TESTING PARAMETERS, IN WAC 173-350-220.

THE RESULTING SOIL SHOULD BE CONDUCTIVE TO THE TYPE OF VEGETATION TO BE ESTABLISHED.

- IMPLEMENTATION OPTIONS: THE SOIL QUALITY DESIGN GUIDELINES LISTED ABOVE CAN BE MET BY USING ONE OF THE METHODS LISTED BELOW:
    - LEAVE UNDISTURBED NATIVE VEGETATION AND SOIL, AND PROTECT FROM COMPACTION DURING CONSTRUCTION.
    - AMEND EXISTING SITE TOPSOIL OR SUBSOIL EITHER AT DEFAULT "PRE-APPROVED" RATES, OR AT CUSTOM CALCULATED RATES BASED ON TESTS OF THE SOIL AND AMENDMENT.
    - STOCKPILE EXISTING TOPSOIL DURING GRADIN, AND REPLACE IT PRIOR TO PLANTING. STOCKPILED TOPSOIL MUST ALSO BE AMENDED IF NEEDED TO MEET THE ORGANIC MATTER OR DEPTH REQUIREMENTS, EITHER AT A DEFAULT "PRE-APPROVED" RATE OR AT A CUSTOM RATE.
    - IMPORT TOPSOIL MIX OF SUFFICIENT ORGANIC CONTENT AND DEPTH TO MEET THE REQUIREMENTS.
- MORE THAN ONE METHOD MAY BE USED ON DIFFERENT PORTIONS OF THE SAME SITE. SOIL THAT ALREADY MEETS THE DEPTH AND ORGANIC MATTER QUALITY STANDARDS, AND IS NOT COMPACTED, DOES NOT NEED TO BE AMENDED.

- PLANTING**
- BIORETENTION CELLS WILL HAVE THREE PLANTING ZONES AS SHOWN IN THE DETAIL. SUGGEST PLANTS ARE EXAMPLES. A COMPLETE LIST IS AVAILABLE IN THE DEPARTMENT OF ECOLOGY 2012 LOW IMPACT DEVELOPMENT MANUAL, APPENDIX 1.
- ZONE 1: AREA OF PERIODIC OR FREQUENT STANDING WATER. USE DROUGHT-TOLERANT PLANTS THAT WILL NOT REQUIRE WATERING IN SUMMER.**  
SUGGESTED PLANTS:  
PACIFIC NINEBARK (*MYRICA CALIFORNICA*)  
DWARF ARCTIC WILLOW (*SALIX PURPUNEA NANA*)  
SLOUGH SEDGE (*CAREX OBLIPTA*)
  - ZONE 2: MOIST OR SATURATED DURING LARGER STORMS.**  
SUGGESTED PLANTS:  
BLACK SWAMP GOOSEBERRY (*RIBES LACUSTRE*)  
NOOTKA ROSE (*ROSA RUGOSA*)  
WESTERN COLUMBINE (*AQUILEGIA FORMOSA*)
  - ZONE 3: DRY SOILS. THIS AREA SHOULD BLEND WITH THE SURROUNDING LANDSCAPE.**  
SUGGESTED PLANTS:  
MOCK-ORANGE (*PHILADELPHUS LEVISII*)  
KINKKINNIK (*ARCTOSTAPHYLOS UVAURSII*)  
WESTERN YARROW (*ACHILLEA MILLEFOLIUM*)

- MULCHING**
- BIORETENTION AREAS CAN BE DESIGNED WITH OR WITHOUT A MULCH LAYER; HOWEVER, THERE ARE ADVANTAGES TO PROVIDING A MULCH APPLICATION OR A DENSE GROUND COVER. RESEARCH INDICATES THAT MOST ATTENUATION OF HEAVY METALS IN BIORETENTION CELLS OCCURS IN THE FIRST 1 TO 2 INCHES OF THE MULCH LAYER. THAT LAYER CAN BE EASILY REMOVED OR ADDED TO AS PART OF A STANDARD AND PERIODIC LANDSCAPE MAINTENANCE PROCEDURE. NO INDICATIONS OF SPECIAL DISPOSAL NEEDS ARE INDICATED AT THIS TIME FROM OLDER BIORETENTION FACILITIES IN THE EASTERN U.S. PROPERLY SELECTED MULCH MATERIAL ALSO REDUCES WEED ESTABLISHMENT, REGULATES SOIL TEMPERATURES AND MOISTURE, AND ADDS ORGANIC MATTER TO SOIL. WHEN USED, MULCH SHOULD BE:
- COMPOST IN THE BOTTOM OF THE FACILITIES (COMPOST IS LESS LIKELY TO FLOAT AND IS A BETTER SOURCE FOR ORGANIC MATERIALS) AND SHREDDED OR CHIPPED HARDWOOD OR SOFTWOOD IN SURROUNDING AREAS.
  - FREE OF WEED SEEDS, SOIL, ROOTS AND OTHER MATERIAL THAT IS NOT BOLE OR BRANCH WOOD AND BARK.
  - A MAXIMUM OF 2 TO 3 INCHES THICK (THICKER APPLICATIONS CAN INHIBIT PROPER OXYGEN AND CARBON DIOXIDE CYCLING BETWEEN THE SOILS AND ATMOSPHERE).
- MULCH SHOULD NOT BE:
- GRASS CLIPPINGS (DECOMPOSING GRASS CLIPPINGS ARE A SOURCE OF NITROGEN AND ARE NOT RECOMMENDED FOR MULCH IN BIORETENTION AREAS).
  - PURE BARK (BARK IS ESSENTIALLY STERILE AND INHIBITS PLANT ESTABLISHMENT).
- DENSE GROUND COVER ENHANCES SOIL STRUCTURE FROM ROOT ACTIVITY, DOES NOT HAVE THE TENDENCY TO FLOAT DURING HEAVY RAIN EVENTS, INHIBITS WEED ESTABLISHMENT, PROVIDES ADDITIONAL AESTHETIC APPEAL, AND IS RECOMMENDED WHEN HEAVY METAL LOADING IS NOT ANTICIPATED. MULCH IS RECOMMENDED IN CONJUNCTION WITH THE GROUND COVER UNTIL GROUND COVER IS ESTABLISHED.

**BEST MANAGEMENT PRACTICES (BMP) - T5.13**

JUN 21 2018  
CITY OF FERDALE  
PUBLIC WORKS DEPARTMENT

**AS-BUILT**

REVISIONS

ID	ISSUE DATE	DESCRIPTION
AB	2/15/2018	AS-BUILT DRAWING
AT	6/18/2018	CORR'S PER CDF COMMENTS

**RONALD T. JEPSON & ASSOC.**  
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222 GRAND AVENUE, SUITE C, BELLINGHAM, WASHINGTON 98226  
PH: 360-733-5760 EMAIL: RJEPSON@JEPSONENGINEERING.COM

**PROFESSIONAL ENGINEER**  
STATE OF WASHINGTON  
REG. NO. 33671

**PREPARED FOR: DOUGLAS PLACE, LLC**

**STORM DRAINAGE DETAILS (AB)**

**SOUTH DOUGLAS LONG PLAT DIVISION 4**

PROJECT ID: 15043  
ISSUE DATE: 6/18/2018  
SHEET ID: C15-AB



MANHOLE TYPE 1  
STANDARD PLAN B-15.20-01

NOTES  
1. Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum.  
2. For pipe allowances, see Standard Plan B-10.20.

MANHOLE DIMENSION TABLE				
DIAM.	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"

MANHOLE TYPE 1  
STANDARD PLAN B-15.20-01  
SHEET 1 OF 1 SHEET  
APPROVED FOR PUBLICATION  
Pasco Bakotich III  
STATE DESIGN ENGINEER  
Washington State Department of Transportation

BEDDING SPECIFICATIONS FOR PVC PIPE

THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS ARE TO BE USED IN CONJUNCTION WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, CURRENT EDITION:

BEDDING FOR SEWERS, DRAINS AND CULVERTS FOR PVC PIPE—  
BEDDING MATERIAL FOR PVC PIPE SHALL BE PEA GRAVEL CONFORMING TO THE FOLLOWING SPECIFICATIONS:  
PEA GRAVEL — PEA GRAVEL BEDDING SHALL BE A CLEAN MIXTURE FREE FROM ORGANIC MATTER AND CONFORMING TO THE FOLLOWING GRADATION WHEN TESTED IN ACCORDANCE WITH ASTM D422:

U.S. STANDARD SIEVE SIZE	PERCENTAGE PASSING, BY WT.
3/4"	100
3/8"	95-100
#8	0-10
#200	0-3

BACKFILL — WHENEVER A TRENCH IS EXCAVATED IN THE EXISTING OR PROPOSED ROADWAY, SIDEWALK OR OTHER AREAS WHERE SETTLEMENT WOULD BE DETRIMENTAL, THE ENTIRE TRENCH SHALL BE BACKFILLED WITH IMPORTED GRAVEL AND COMPACTED TO 95% OF MAXIMUM DENSITY.

APPROVED  
Public Works Director Date  
PVC PIPE BEDDING  
STANDARD DETAIL SS-1  
NOT TO SCALE

CAST IRON RING AND COVER

2" SQUARE CONCRETE BLOCK TO ENCASE CLEAN-OUT. IF CLEAN-OUT IS IN ASPHALT, THE BLOCK IS TO BE LEFT APPROXIMATELY 1-1/2" LOW TO ALLOW FOR AN ASPHALT TOPPING OF LIKE MIXTURE AS THE SURROUNDING AREA. IN ALL CASES THE CONCRETE BLOCK WILL BE 1-FOOT THICK AND FLUSH WITH THE SURROUNDING SURFACE.

4-6 INCH SPACING  
NOT NECESSARY TO BOND COVER PIPE TO RING AT THIS POINT. BUT TO RING AND ENCASE IN CONCRETE BLOCK.  
FIBER JOINT PACKING MINIMUM 3/4" CLEARANCE.  
45° BEND  
PLACE PIPE ON APPROVED BEDDING MATERIAL OR UNDISTURBED SOIL PER CITY STANDARD SS-1  
PLUG TO BE SEALED IN SAME MANNER AS MAIN SEWER JOINTS.

APPROVED  
Public Works Director Date  
8" CLEAN OUT  
STANDARD DETAIL SS-5

DEVIATIONS FROM CITY STANDARD SHOWN CLOUDED

NOT TO SCALE

2010

CITY OF FERDALE  
NORMAL INSTALLATION  
15" AND SMALLER SEWER MAINS

DETAIL  
SS-6

COVER SKID DESIGN DETAIL

SECTION A - A  
SECTION B - B  
TYPE 1 STANDARD

SECTION A - A  
SECTION B - B  
TYPE 2

BOLT DOWN/WATERTIGHT

NOT TO SCALE

2010

CITY OF FERDALE  
MANHOLE RING & COVER

DRAWING  
SS-9

SEWER SERVICE DETAIL

NOT TO SCALE

2010

CITY OF FERDALE  
DOUBLE SANITARY SEWER SERVICE  
(MODIFIED)

DETAIL  
SS-13

SEWER TRENCHING DETAIL

NOT TO SCALE

2010

CITY OF FERDALE  
TRENCHING DETAIL

DRAWING  
SS-15

AS-BUILT

REVISIONS

ISSUE DATE: 6/18/2018  
DESCRIPTION: AS-BUILT DRAWING  
DRAWN BY: JEPSON

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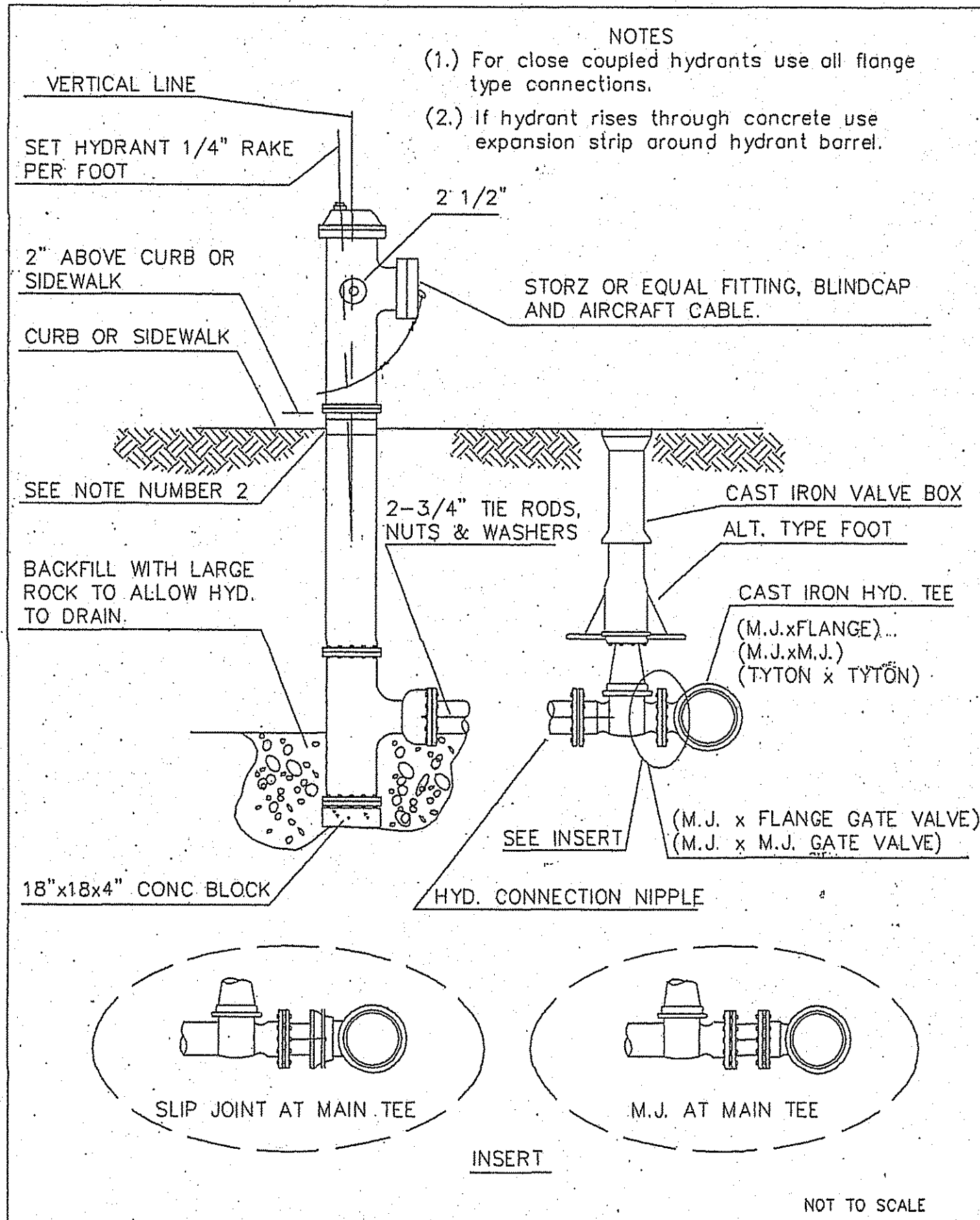
PREPARED FOR:  
CITY OF FERDALE  
PUBLIC WORKS DEPARTMENT

APPROVED  
JUN 21 2018

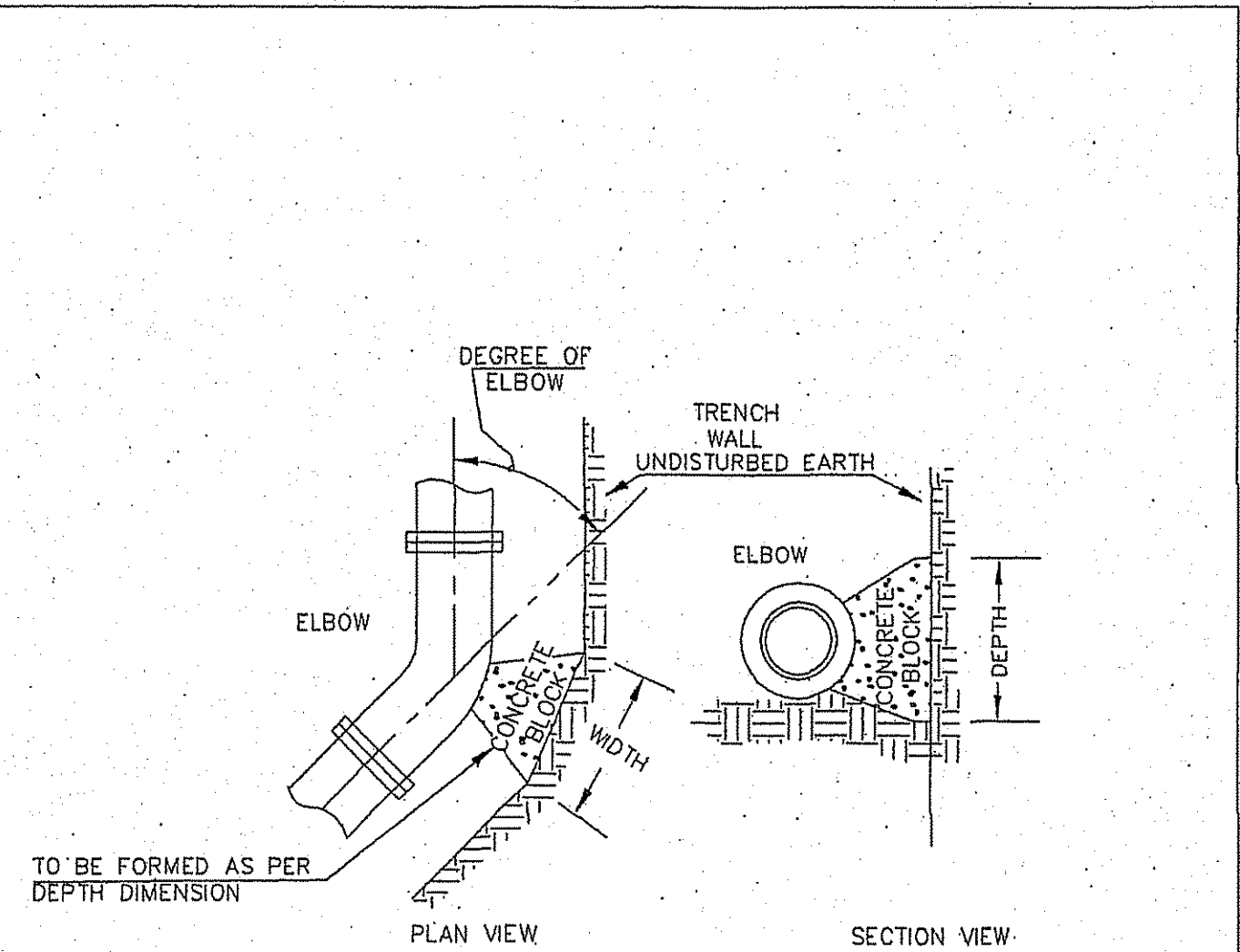
PROJECT ID: 15043  
ISSUE DATE: 6/18/2018  
SHEET ID: C16-AB

00543.016-7/25/18 JK





APPROVED *John & Ely*  
 Public Works Director Date  
 CITY OF FERDALE  
 FIRE HYDRANT ASSEMBLY  
 DRAWING W-1  
 JUNE 1995

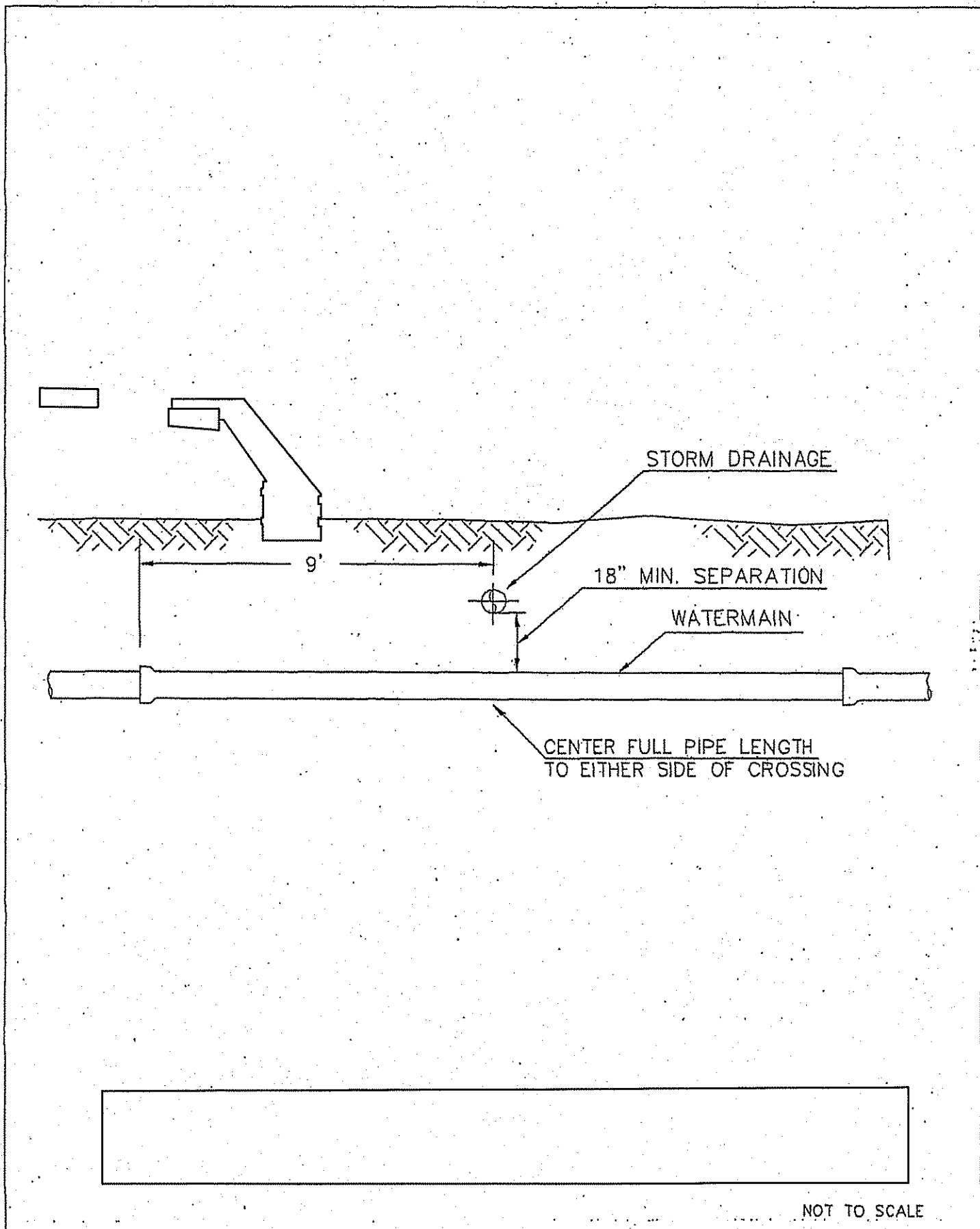


SIZE	11 1/4"		22 1/2"		45"		90"	
	W	D	W	D	W	D	W	D
6"	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	1'-6"	2'-3"	1'-6"
8"	1'-3"	1'-3"	1'-3"	1'-3"	1'-9"	1'-9"	3'-0"	2'-0"
10"	1'-9"	1'-6"	1'-9"	1'-6"	2'-3"	2'-3"	3'-6"	2'-6"
12"	2'-0"	1'-9"	2'-0"	1'-9"	2'-9"	2'-6"	4'-0"	3'-0"
16"	2'-9"	2'-3"	2'-9"	2'-3"	4'-0"	3'-0"	6'-3"	3'-6"
20"	3'-6"	2'-9"	3'-6"	2'-9"	4'-6"	4'-0"	8'-6"	4'-0"
24"	4'-6"	3'-0"	4'-6"	3'-0"	5'-6"	5'-0"	9'-9"	5'-0"

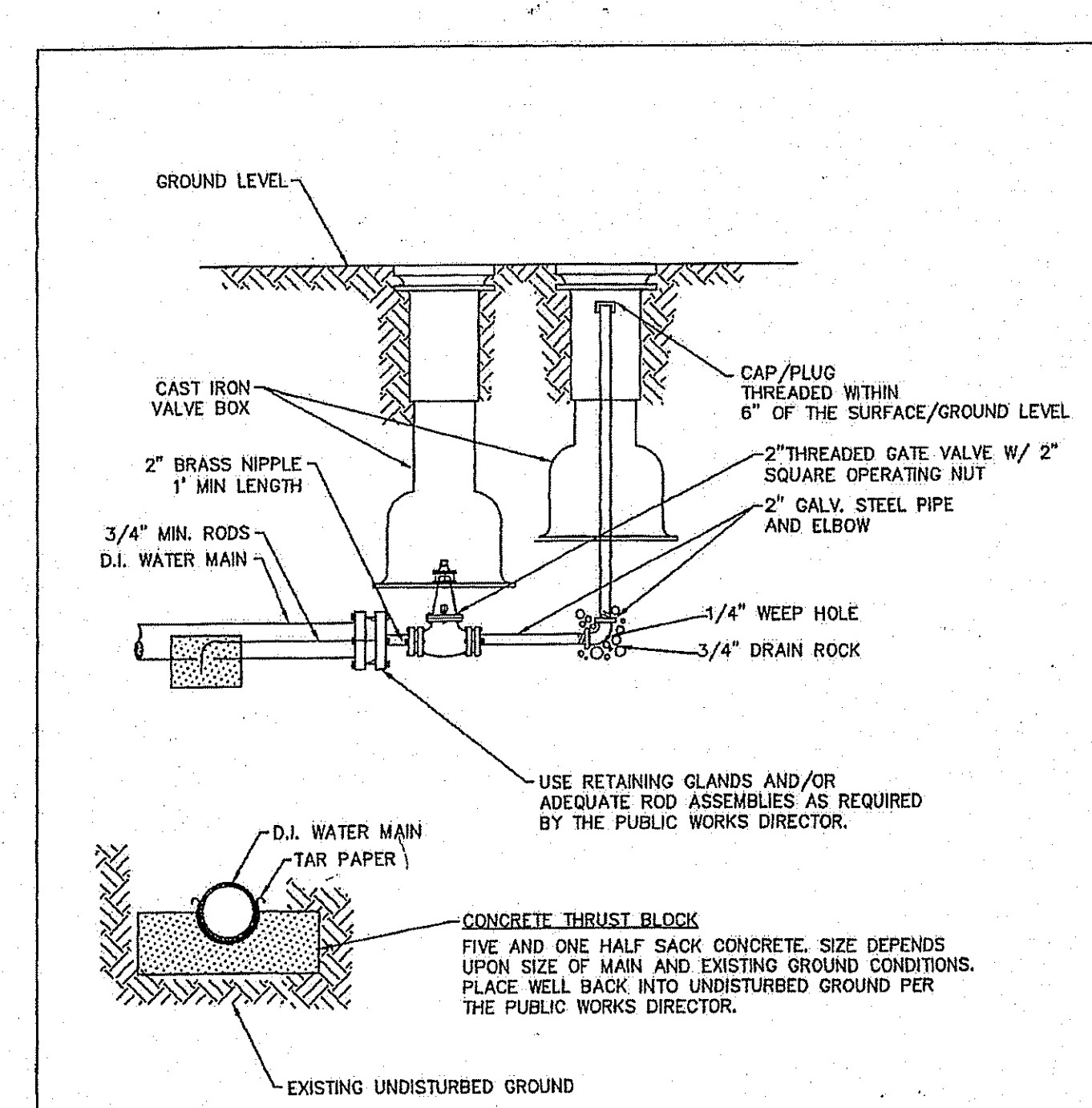
NOTE:  
 ALL ABOVE DIMENSIONS APPLY TO STABLE TRENCH WALLS, UNDER VARIABLE CONDITIONS SIZE OF THRUST BLOCK SHALL BE DETERMINED BY ENGINEER.

NOT TO SCALE

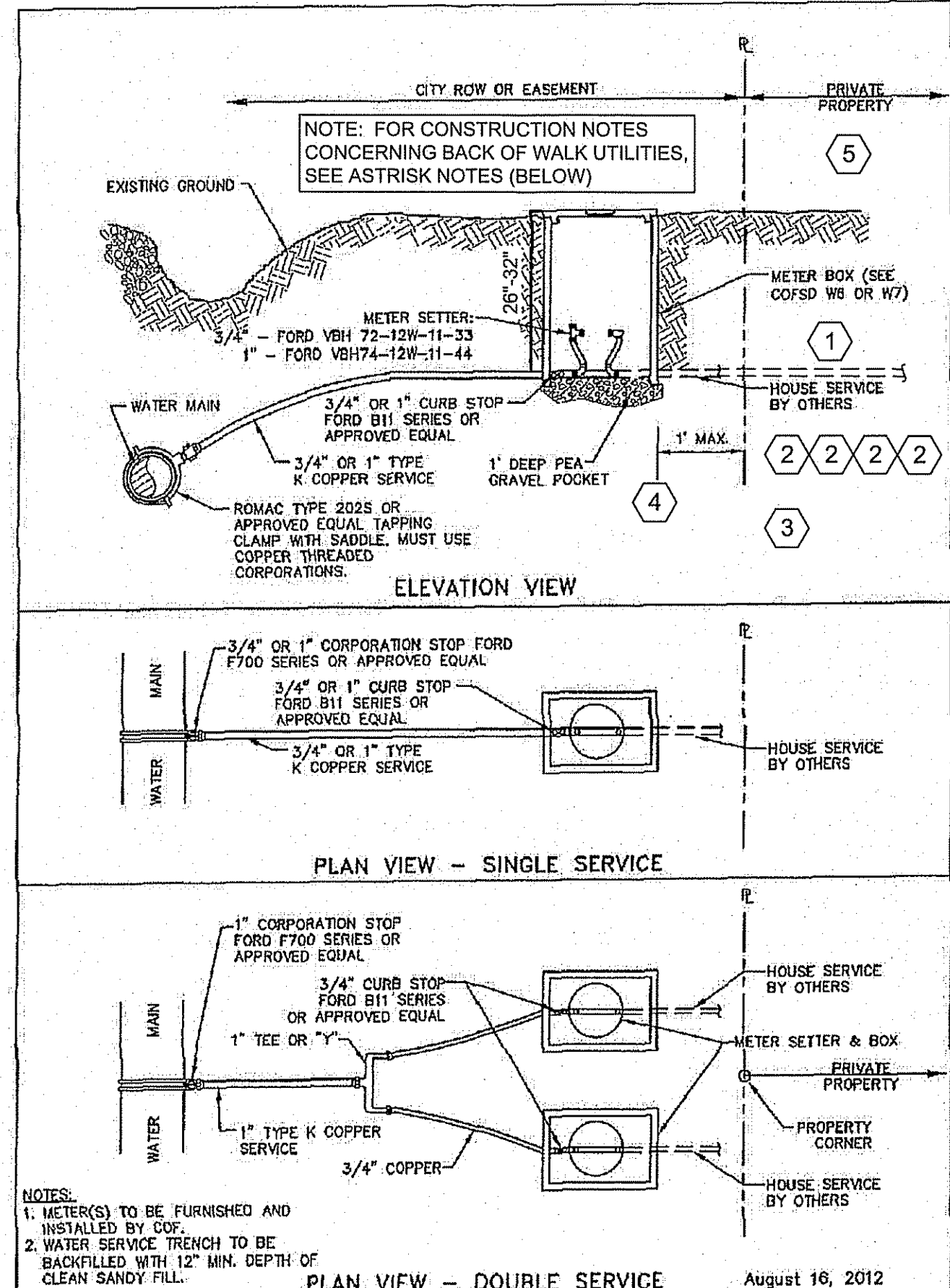
APPROVED *John & Ely*  
 Public Works Director Date  
 CITY OF FERDALE  
 THRUST BLOCKING ELBOWS  
 DRAWING W-2  
 JUNE 1995



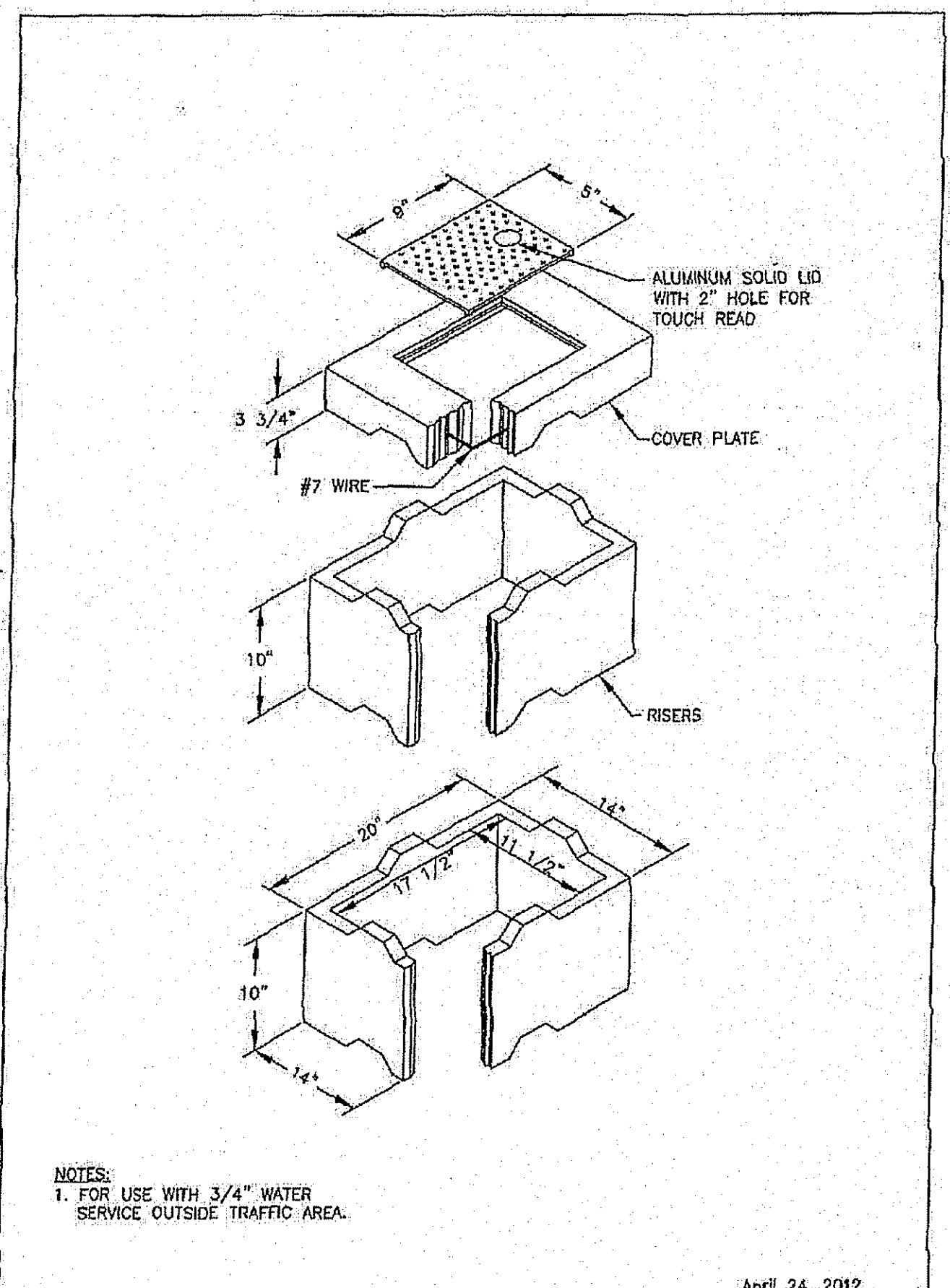
APPROVED *John & Ely*  
 Public Works Director Date  
 CITY OF FERDALE  
 WATER-CROSSING DETAIL  
 DRAWING W-12  
 JUNE 1995



APPROVED *John & Ely*  
 Public Works Director Date  
 CITY OF FERDALE  
 2" BLOW-OFF (ALTERNATE) WATER MAIN EXTENSION  
 DETAIL W-10  
 JUNE 1995



APPROVED *John & Ely*  
 Public Works Director Date  
 TYPICAL 3/4" AND 1" WATER SERVICE  
 STANDARD DETAIL W-5  
 NOT TO SCALE



APPROVED *John & Ely*  
 Public Works Director Date  
 3/4" CONCRETE METER BOX  
 STANDARD DETAIL W-6  
 NOT TO SCALE

CONSTRUCTION NOTES (BACK OF WALK)  
 TYPICAL UTILITIES AT BACK OF WALK  
 1 WATER SERVICE 18"-20" (TP) @ INSTALLATION.  
 2 DRY UTILITIES 24"-30" (TYP), ENGINEER & CONTRACTOR TO VERIFY.  
 3 STORM STUB 42" (TYP) @ 2% FROM POSITIVE LOT DRAIN.  
 4 POSITIVE LOT DRAIN PER ST-16.  
 5 TEN FOOT DRY UTILITY CORRIDOR.  
 NOTE: ENGINEER OF RECORD TO CONFIRM DEPTHS INDICATED ARE ACCEPTABLE TO THE DRY UTILITY PURVEYORS. OTHERWISE, DESIGN AND INSTALL THE DRY UTILITIES BELOW POSITIVE LOT DRAIN SYSTEM.

AS-BUILT

REVISIONS  
 ID ISSUE DATE DESCRIPTION  
 AB 2/15/2018 AS-BUILT DRAWING  
 AT 6/18/2018 CORRS PER CDF COMMENTS

RONALD T. JEPSON  
 PROFESSIONAL ENGINEER  
 9361  
 REGISTERED  
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APPROVED  
 JUN 21 2018  
 BY *John & Ely*  
 CITY OF FERDALE  
 PUBLIC WORKS DEPARTMENT

PROJECT ID: 15043  
 ISSUE DATE: 6/18/2018  
 SHEET ID: C17-AB

PREPARED FOR: DOUGLAS PLACE, LLC  
 WATER DETAILS (AB)  
 SOUTH DOUGLAS LONG PLAT DIVISION 4

00643.017-7/26/18 KB



GENERAL NOTES EARTHWORK STORM DRAINAGE WATER

- 1. ALL WORK AND MATERIALS SHALL CONFORM TO THESE PLANS AND TO THE REQUIREMENTS OF THE MOST CURRENT EDITION OF THE STATE OF WASHINGTON DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

- 1. THE CONTRACTOR SHALL CLEAR, GRUB, AND CLEAN UP THOSE AREAS SHOWN ON THE PLANS.

BASE COURSE AND CRUSHED SURFACING

- 1. GRAVEL BORROW AND CRUSHED SURFACING MATERIAL GRADATIONS SHALL MEET WSDOT STANDARD SPECIFICATIONS.

BASE COURSE AND CRUSHED SURFACING

- 1. ROADWAY EXCAVATION WITHIN THE ROADWAY PRISM SHALL BE CUT TO A UNIFORM GRADE. THE COMPLETED SUBGRADE SURFACE SHALL NOT VARY MORE THAN 0.10-FOOT FROM THE LOWER EDGE OF A 15-FOOT STRAIGHTEDGE PLACED ON THE SUBGRADE PARALLEL TO THE CENTERLINE UNLESS APPROVED BY THE ENGINEER.

- 1. ALL PIPE AND APPURTENANCES SHALL BE LAID ON A PROPERLY PREPARED FOUNDATION IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATIONS SECTION 7-08.3(1).

STORM DRAINAGE

- 1. DRAINAGE MATERIALS SHALL CONFORM TO WSDOT STANDARD SPECIFICATIONS SECTION 9-05.

SANITARY SEWER

- 1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH A.P.W.A. STANDARD SPECIFICATIONS, LATEST EDITION, AND SHALL BE SUBJECT TO APPROVAL BY THE CITY OF FERNDALE.

- 1. ALL WATERMAIN PIPE SHALL BE DUCTILE IRON, MINIMUM CLASS 50, PER AWWA STANDARDS H3-71 AND C151-71, WITH CEMENT LINING PER AWWA STANDARD C104-71.

WATER

- 1. MATERIAL FOR FITTINGS SUCH AS CROSSES, TEES, BENDS, REDUCERS AND SLEEVES SHALL BE DUCTILE IRON. JOINTS SHALL BE M.J., FLANGED OR PUSH-ON JOINTS AND SHALL CONFORM TO AWWA SPECIFICATIONS C-110-71 AND C-104-71.

CONSTRUCTION SEQUENCE

- 1. HOLD THE PRE-CONSTRUCTION MEETING.

BASE COURSE AND CRUSHED SURFACING

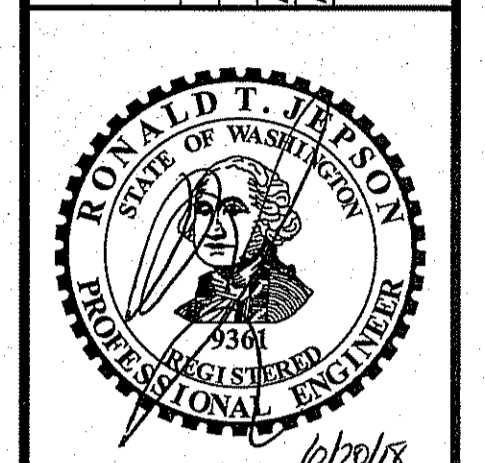
- 10.1. SOIL RESIDUAL HERBICIDE SHALL BE PLACED WITHIN 24 HOURS OF PAVING.



BURIED UTILITIES NOTE:

ALL UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE IN APPROXIMATE LOCATIONS ONLY AND THERE IS NO GUARANTEE THAT ALL UTILITIES ON THIS SITE ARE SHOWN.

Table with columns: REVISIONS, DESCRIPTION, DATE, DRAWN BY, CHECKED BY, COMMENTS.

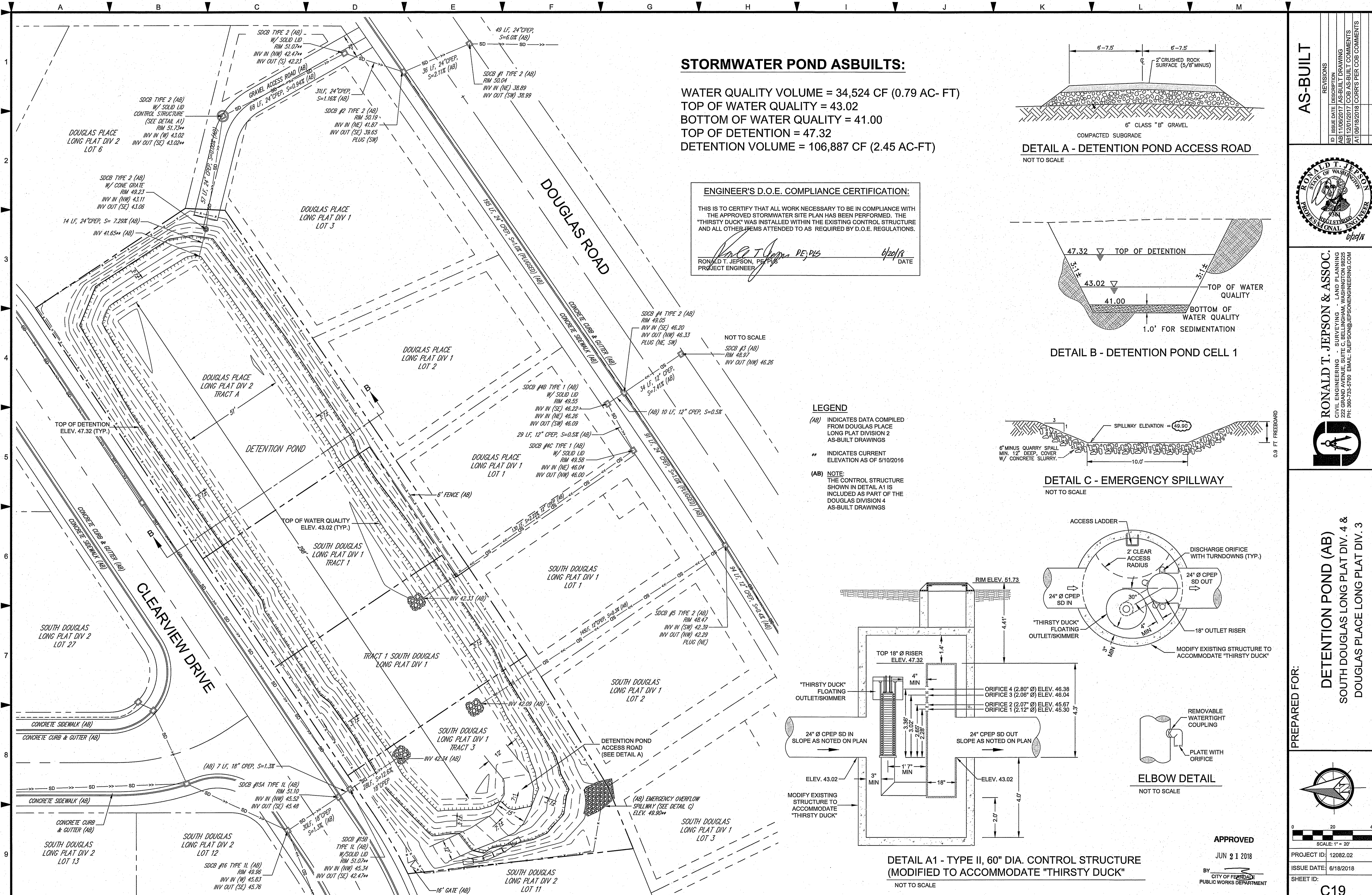


RONALD T. JEPSON & ASSOC. CIVIL ENGINEERING - SURVEYING - LAND PLANNING 222 GRAND AVENUE, SUITE C, BELLINGHAM, WASHINGTON 98225

PREPARED FOR: DOUGLAS PLACE, LLC GENERAL NOTES (AB) SOUTH DOUGLAS LONG PLAT DIVISION 4

APPROVED JUN 2 1 2018 BY [Signature] CITY OF FERNDALE PUBLIC WORKS DEPARTMENT PROJECT ID: 15043 ISSUE DATE: 6/18/2018 SHEET ID: C18-AB

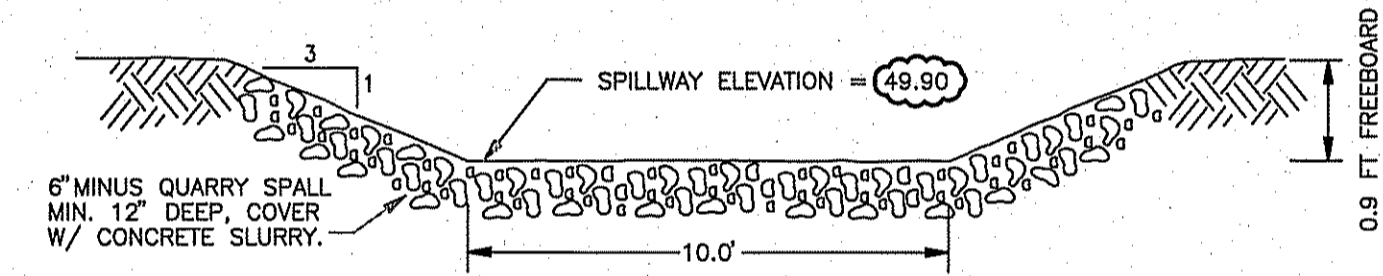
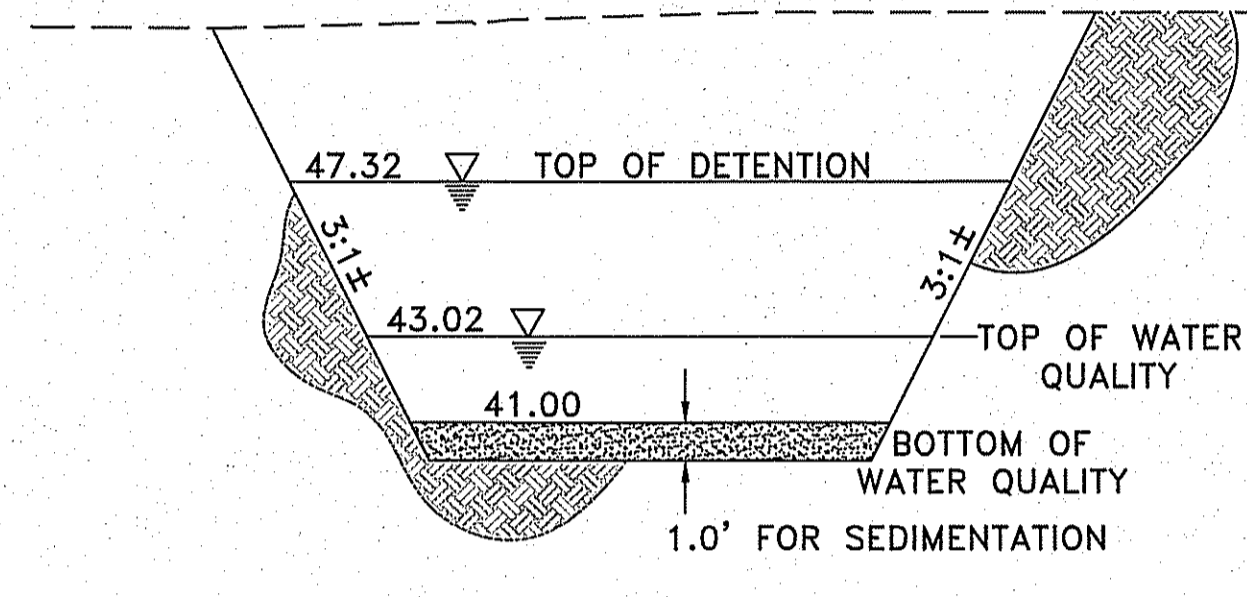
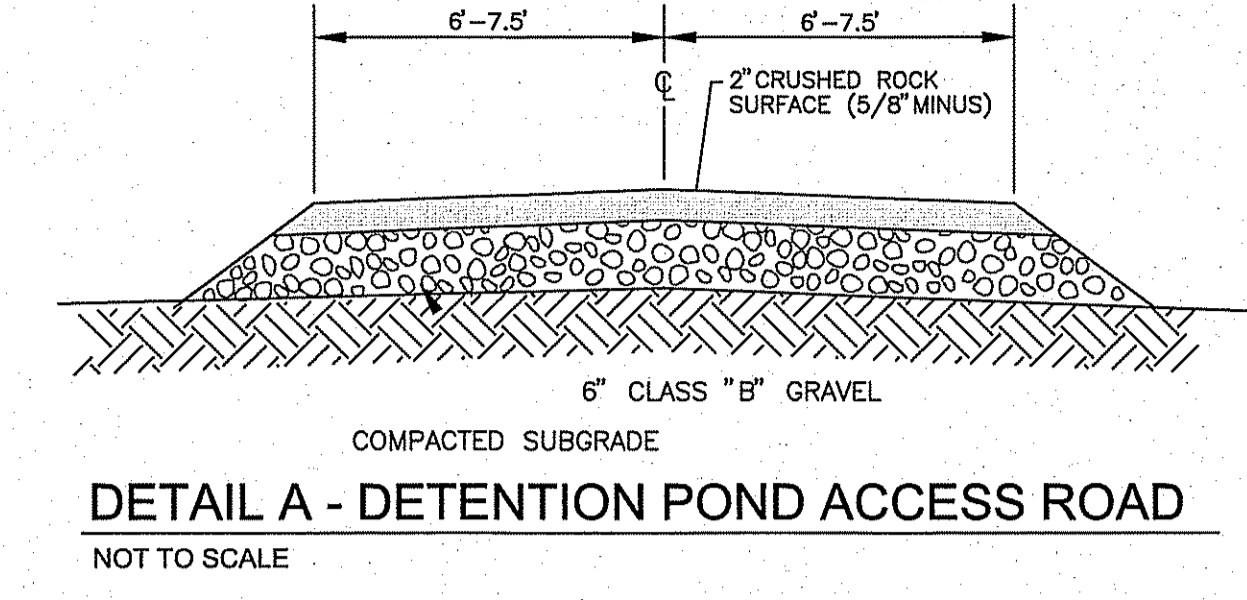




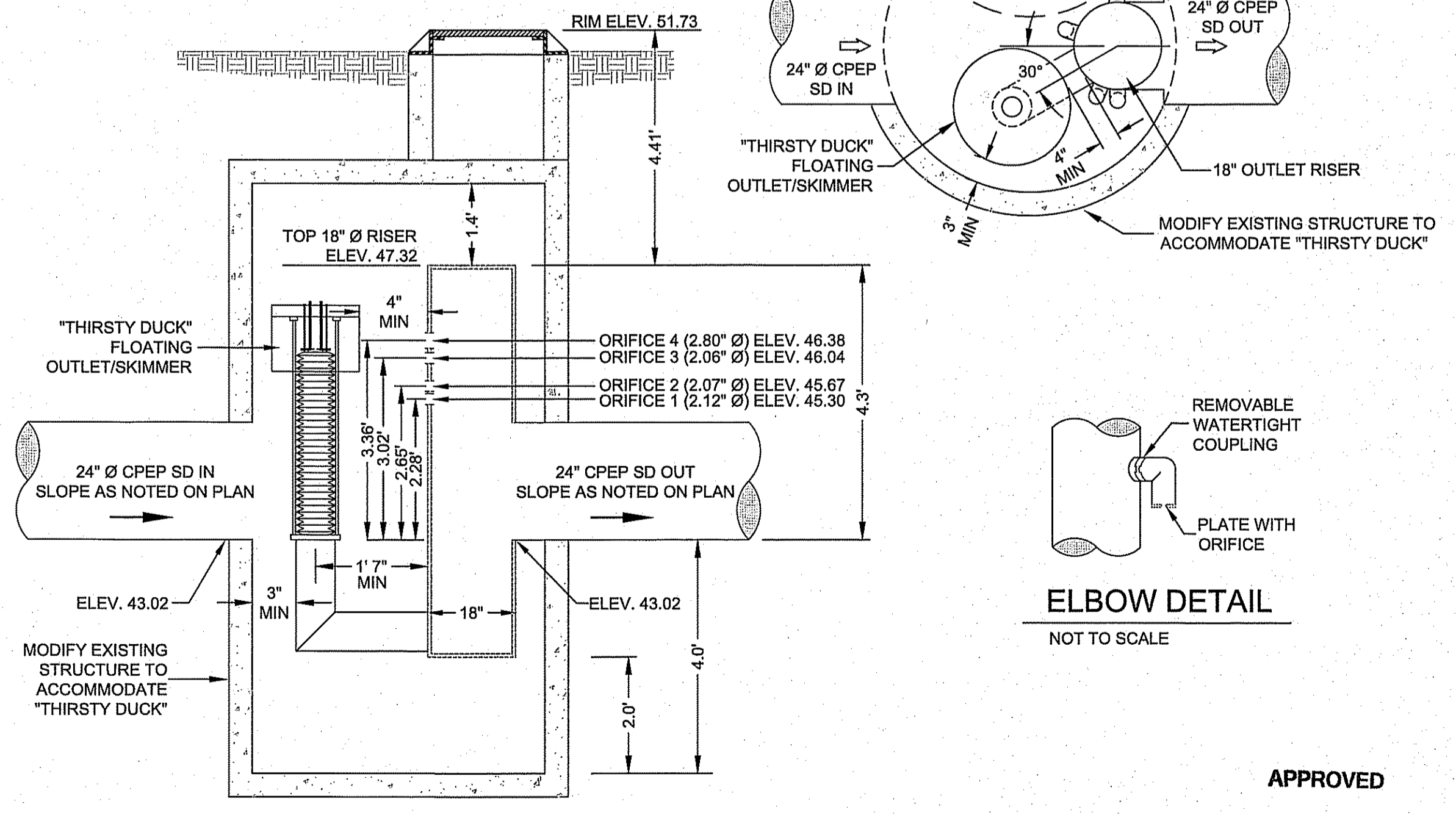
**STORMWATER POND ASBUILTS:**

WATER QUALITY VOLUME = 34,524 CF (0.79 AC- FT)  
 TOP OF WATER QUALITY = 43.02  
 BOTTOM OF WATER QUALITY = 41.00  
 TOP OF DETENTION = 47.32  
 DETENTION VOLUME = 106,887 CF (2.45 AC-FT)

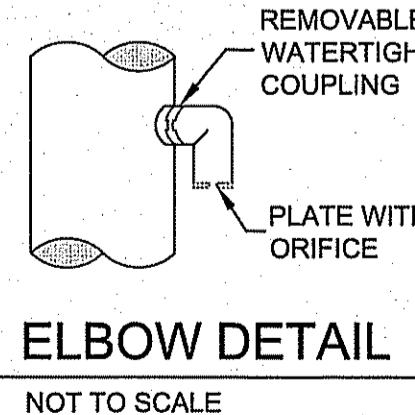
**ENGINEER'S D.O.E. COMPLIANCE CERTIFICATION:**  
 THIS IS TO CERTIFY THAT ALL WORK NECESSARY TO BE IN COMPLIANCE WITH THE APPROVED STORMWATER SITE PLAN HAS BEEN PERFORMED. THE "THIRSTY DUCK" WAS INSTALLED WITHIN THE EXISTING CONTROL STRUCTURE AND ALL OTHER ITEMS ATTENDED TO AS REQUIRED BY D.O.E. REGULATIONS.  
 Ronald T. Jepsen, PE, PLS DATE 6/20/18  
 RONALD T. JEPSON, PE, PLS PROJECT ENGINEER



**LEGEND**  
 (AB) INDICATES DATA COMPILED FROM DOUGLAS PLACE LONG PLAT DIVISION 2 AS-BUILT DRAWINGS  
 \*\* INDICATES CURRENT ELEVATION AS OF 5/10/2016  
 (AB) NOTE: THE CONTROL STRUCTURE SHOWN IN DETAIL A1 IS INCLUDED AS PART OF THE DOUGLAS DIVISION 4 AS-BUILT DRAWINGS



**DETAIL A1 - TYPE II, 60" DIA. CONTROL STRUCTURE (MODIFIED TO ACCOMMODATE "THIRSTY DUCK")**  
 NOT TO SCALE

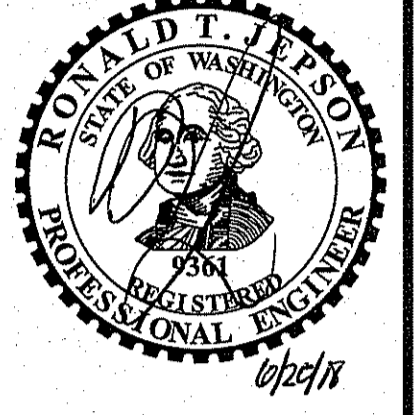


**ELBOW DETAIL**  
 NOT TO SCALE

**APPROVED**  
 JUN 21 2018  
 BY: [Signature]  
 CITY OF FERTILDALE  
 PUBLIC WORKS DEPARTMENT

**AS-BUILT**

NO.	DATE	DESCRIPTION
1	10/02/17	AS-BUILT DRAWING
2	12/01/17	COB AS-BUILT COMMENTS
3	01/02/18	CORRS PER COB COMMENTS

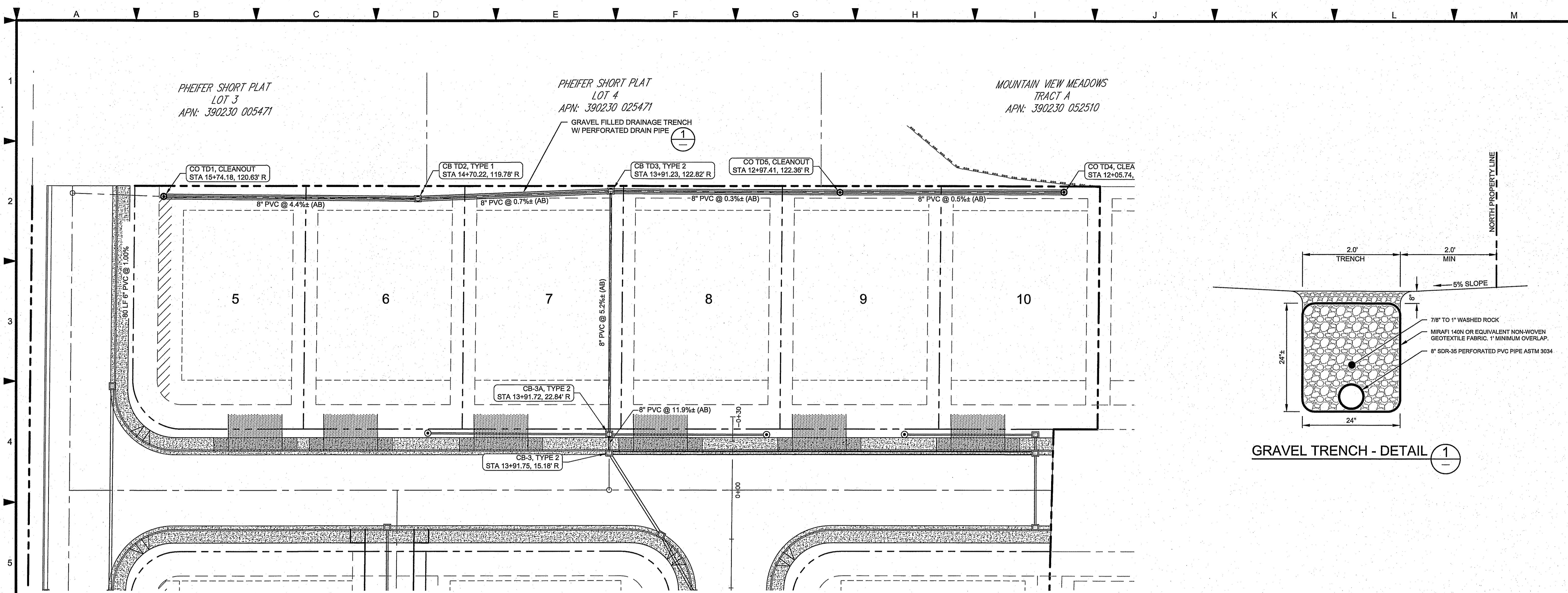


**RONALD T. JEPSON & ASSOC.**  
 CIVIL ENGINEERING SURVEYING LAND PLANNING  
 222 GRAND AVENUE, SUITE C, BELLINGHAM, WASHINGTON 98225  
 PH: 360-753-9760 EMAIL: RJE@RONALDJEPSONENGINEERING.COM

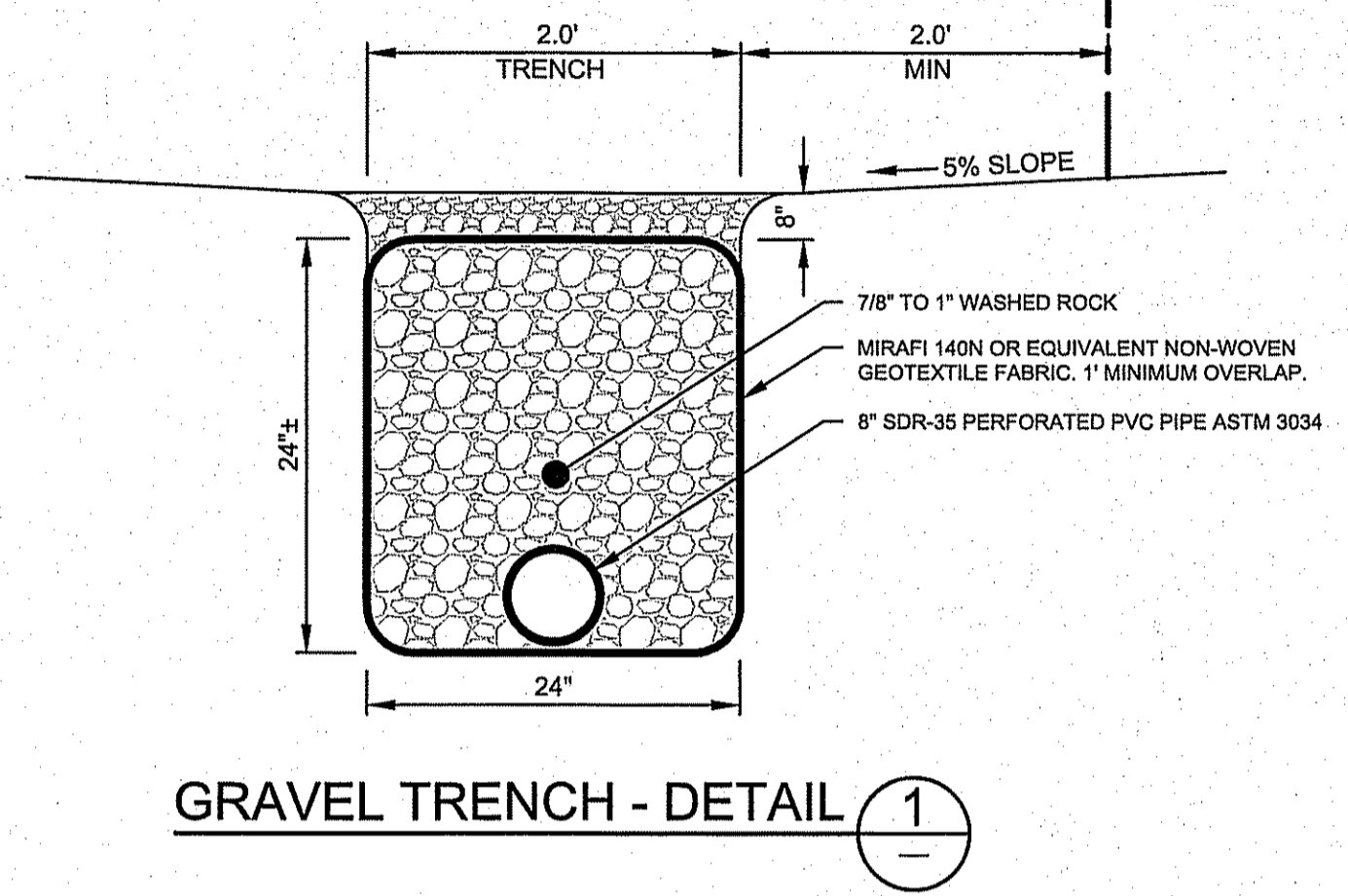
**PREPARED FOR:**  
**DETENTION POND (AB)**  
**SOUTH DOUGLAS LONG PLAT DIV. 4 & DOUGLAS PLACE LONG PLAT DIV. 3**

**SCALE: 1" = 20'**  
 PROJECT ID: 12082.02  
 ISSUE DATE: 6/18/2018  
 SHEET ID: **C19**





**DRAINAGE "CUT-OFF" TRENCH SYSTEM - PLAN**  
SCALE: 1"=20'



**GRAVEL TRENCH - DETAIL 1**

**LEGEND:**

	STORM WATER PIPE
	SANITARY SEWER PIPE
	WATER PIPE
	PERFORATED DRAIN PIPE (IN DRAINAGE TRENCH)
	WATER METER
	CLEANOUT (SANITARY SEWER & STORM WATER)
	MANHOLE (SANITARY SEWER)
	CATCH BASIN (STORM WATER)
	WATER VALVE
	WATER TEE CONNECTION (W/ THRUST BLOCK)
	FIRE HYDRANT

- GENERAL NOTES**
- THIS DRAWING HAS BEEN ADDED AS AN ADDENDUM TO THE DRAWING SET FOR SOUTH DOUGLAS DIVISION 4.
  - SEE DRAWING C6 FOR CLEARVIEW DRIVE DRAINAGE SYSTEM (PLAN AND PROFILE).
  - SEE DRAWING C7 FOR CHURCH ROAD DRAINAGE SYSTEM (PLAN AND PROFILE)

**BURIED UTILITIES NOTE:**  
ALL UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE IN APPROXIMATE LOCATIONS ONLY AND THERE IS NO GUARANTEE THAT ALL UTILITIES ON THIS SITE ARE SHOWN. THE CONTRACTOR MUST FIELD VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTACT THE WASHINGTON STATE UTILITY LOCATE CENTER AT 8-1-1 AT LEAST 48 HOURS BEFORE CONSTRUCTION.

**APPROVED**  
JUN 21 2018  
BY: [Signature]  
CITY OF FERNDALE  
PUBLIC WORKS DEPARTMENT

**811**  
Know what's below.  
Call before you dig.

**AS-BUILT**

REVISIONS	ISSUE DATE	DESCRIPTION
AB	2/15/2018	AS-BUILT DRAWING
A1	6/18/2018	CORR'S PER COF COMMENTS

**RONALD T. JEPSON & ASSOC.**  
CIVIL ENGINEERING - SURVEYING - LAND PLANNING  
222 GRAND AVENUE, SUITE C, BELLINGHAM, WASHINGTON 98225  
PH: 360-738-5760 EMAIL: RJEPSON@JEPSONENGINEERING.COM

**PREPARED FOR: DOUGLAS PLACE, LLC**

**NORTH DRAINAGE "CUT-OFF" TRENCH (AB)**  
PLAN AND PROFILE - ADDENDUM  
SOUTH DOUGLAS LONG PLAT DIVISION 4

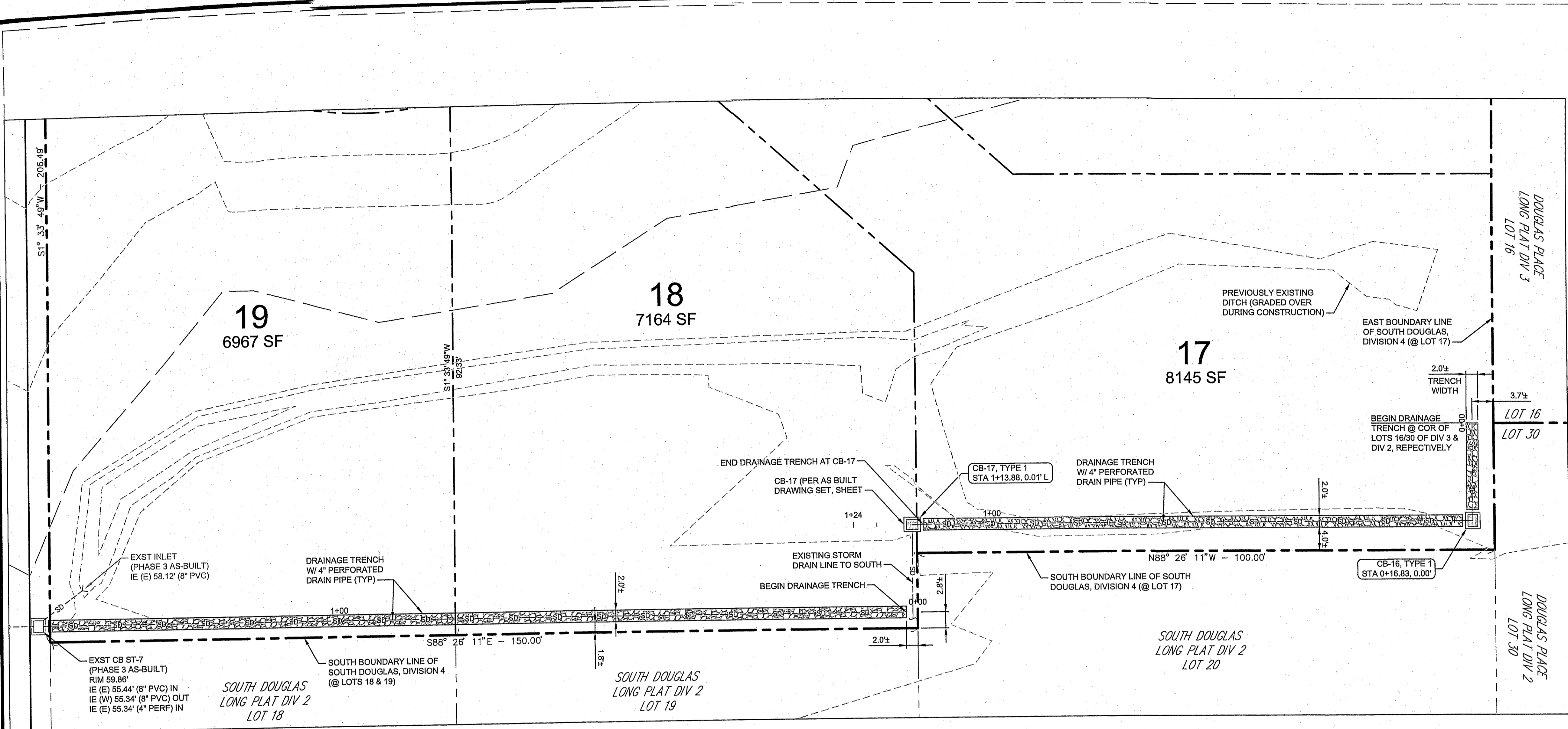
**CITY OF FERNDALE**

**811**  
Know what's below.  
Call before you dig.

PROJECT ID: 12082.03  
ISSUE DATE: 6/18/2018  
SHEET ID: C20-AB

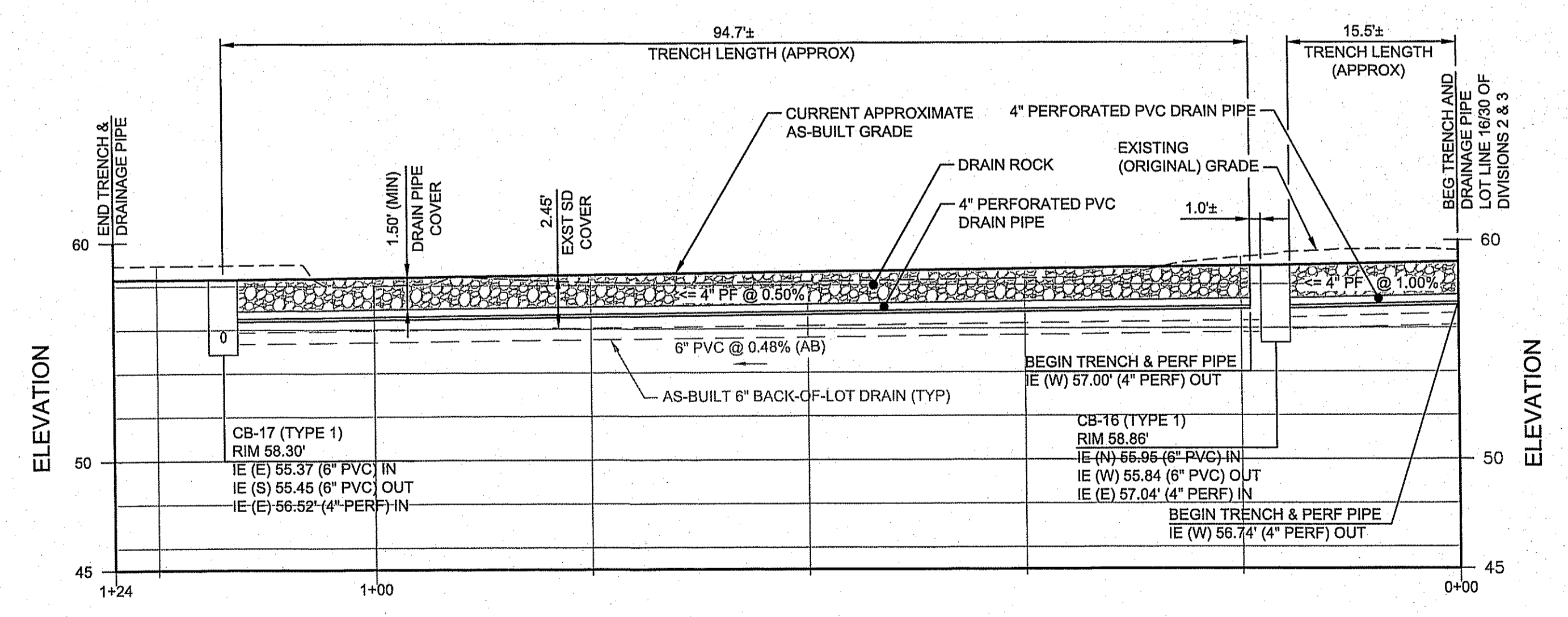
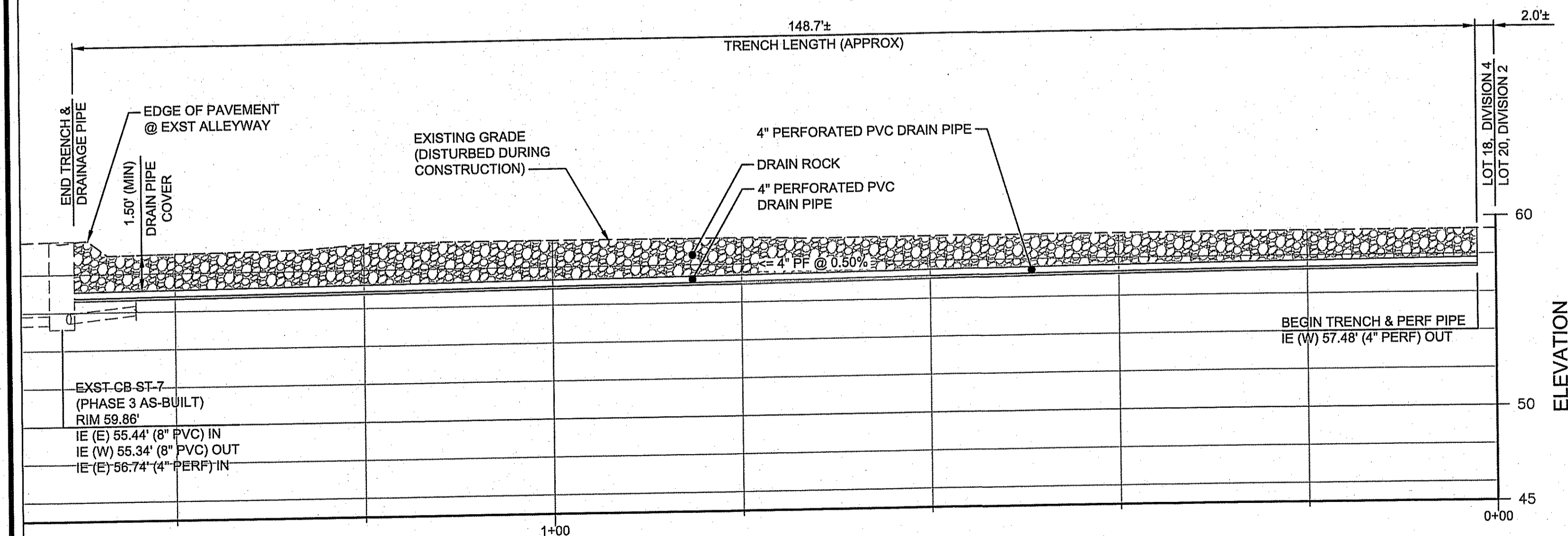
00649.020 7/26/18 KB





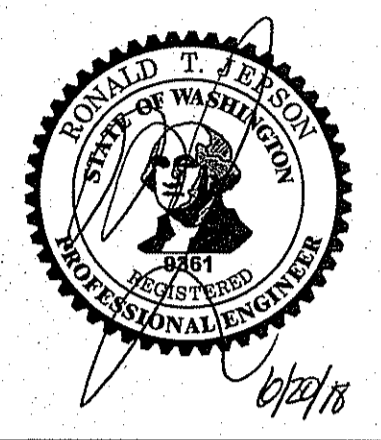
**CONSTRUCTION NOTES:**

1. THE SOUTH DRAINAGE TRENCH FOR LOT 17 IS TO BEGIN APPROXIMATELY 3.7' FROM ADJACENT CORNERS OF LOT 16 AND LOT 30 OF THE PROPERTIES OF DIVISION 3 AND DIVISION 2, RESPECTIVELY (AS SHOWN).
2. THE SOUTH DRAINAGE TRENCH FOR LOTS 18 & 19 IS TO BEGIN APPROXIMATELY 2.0' FROM THE EAST LINE OF LOT 18 AND 2.8' NORTH OF THE SOUTH LINE OF LOT 18 (AS SHOWN).
3. DRAINAGE TRENCHES ARE TO BE APPROXIMATELY 2' IN WIDTH AND FILLED WITH DRAIN ROCK.
4. PERFORATED 4" STORM DRAIN PIPES SHALL BE BEDDED ON A 2" LAYER OF SAND AT THE BOTTOM OF THE TRENCH AND COVERED WITH DRAIN ROCK.
5. ALL 4" PERFORATED DRAIN PIPES SHALL HAVE A MINIMUM OF 18" COVER AND A MINIMUM SLOPE OF 0.5% AND CONNECT TO AS-BUILT CB'S AT THEIR LOWER ENDS (INVERTS AS GIVEN ON DRAWING).
6. THE INVERTS GIVEN FOR THE EXISTING CATCH BASIN ARE PER THE AS-BUILT INFORMATION FOR DIVISION 3 AND SHOULD BE FIELD VERIFIED TO ASSURE THAT THE CALCULATED INVERT OF THE PERFORATED DRAIN PIPE AT THE CATCH BASIN IS HIGHER THAN THE EXISTING OUTFLOW INVERT.



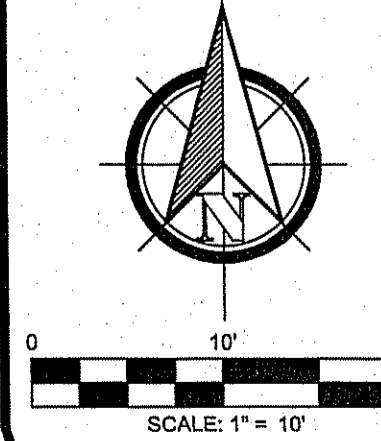
**AS-BUILT**

REVISIONS	ISSUE DATE	DESCRIPTION
A	6/18/2018	CORRECTIONS PER COE COMMENTS



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PREPARED FOR: DOUGLAS PLACE, LLC  
**SOUTH DRAINAGE "CUT-OFF" TRENCH (AB)**  
 PLAN & PROFILES - ADDENDUM 2  
 SOUTH DOUGLAS LONG PLAT DIVISION 4



**APPROVED**  
 JUN 21 2018  
 BY: [Signature]  
 CITY OF FERNDALE  
 PUBLIC WORKS DEPARTMENT

PROJECT ID: 15043  
 ISSUE DATE: 6/18/2018  
 SHEET ID: **C21**